

**2054, 2056, 2058,  
2064 and 2066  
Combines**

**John Deere Werke Zweibrücken  
OMZ92125 Issue A3**

**European Edition  
Printed in Germany  
ENGLISCH**

# Introduction

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (P.I.N.) in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

SETTING FUEL DELIVERY BEYOND PUBLISHED factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for the first 20 to 50 hours, schedule an after-sale inspection with your dealer to ensure best performance.

THIS COMBINE IS DESIGNED SOLELY for use in customary agricultural or similar operations ("INTENDED USE").

Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS COMBINE SHOULD BE OPERATED, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this combine will relieve the manufacturer of all liability for any resulting damage or injury.

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*All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.*

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A John Deere ILLUSTRATION™ Manual

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# Identification View



-JUN-22MAY95  
ZX004251

ZX,OMXZC0001970-19-13NOV92

# Safety

## RECOGNIZE SAFETY INFORMATION

This is the safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.



DX,ALERT -19-04JUN90

T81389 -UN-07DEC88

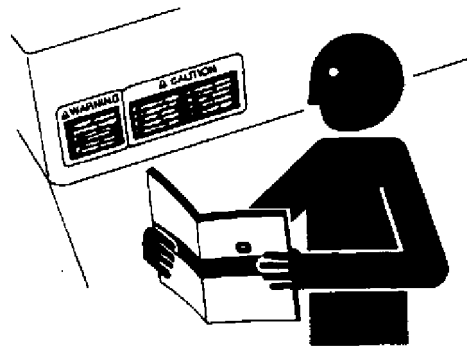
## FOLLOW SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.



DX,READ -19-04JUN90

TS201 -UN-23AUG88

## UNDERSTAND SIGNAL WORDS

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.



DX,SIGNAL -19-09JAN92

TS187 -19-30SEP88



## OBSERVE ROAD TRAFFIC REGULATIONS

Always observe local road traffic regulations when using public roads.



H28930 -UN-30JUN89

FX,ROAD -19-01MAY91



**CAUTION: Avoid possible injury or death from machinery runaway.**

**Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.**

**NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.**

DX,BYPAS -19-26JAN90

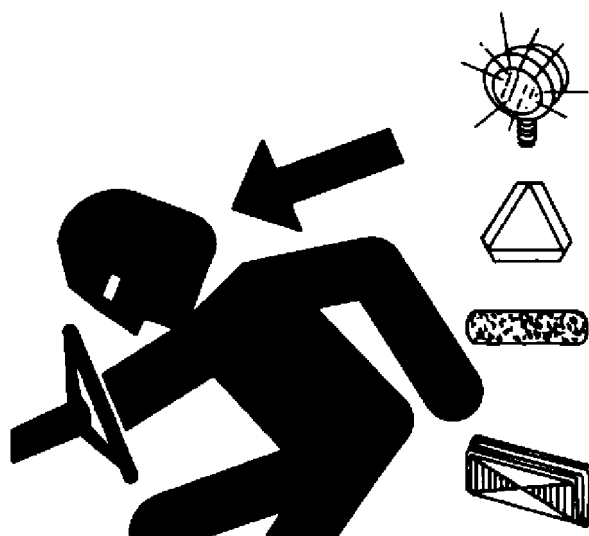


## USE SAFETY LIGHTS AND DEVICES

Slow moving tractors, self-propelled equipment and towed implements or attachments can create a hazard when driving on public roads. They are difficult to see, especially at night. Avoid personal injury or death resulting from collision with a vehicle.

If legally permitted, use flashing warning lights or rotary beacons whenever driving on public roads. To increase visibility, use the lights and devices provided with your machine. For some equipment, install additional flashing warning lights.

Keep safety items in good condition. Replace missing or damaged items. An implement safety lighting kit is available from your John Deere dealer.



TS951  
-UN-12APR90

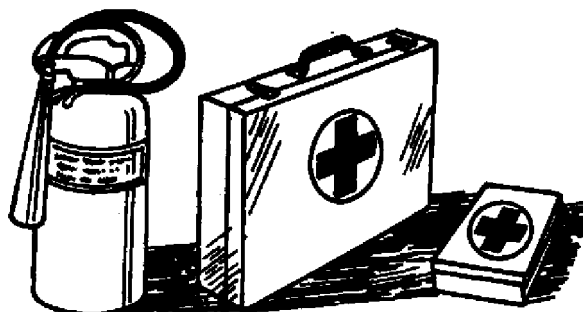
ZX,FLASH -19-01OCT91

## PREPARE FOR EMERGENCIES

Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



TS291  
-UN-23AUG88

DX,FIRE2 -19-04JUN90



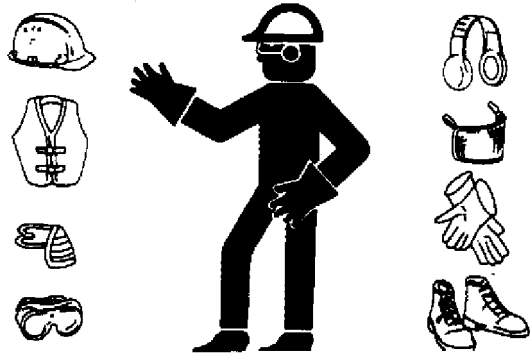
## WEAR PROTECTIVE CLOTHING

Wear close fitting clothing and safety equipment appropriate to the job.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.



DX,WEAR -19-10SEP90

TS206 -UN-23AUG88

## HANDLE FUEL SAFELY—AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



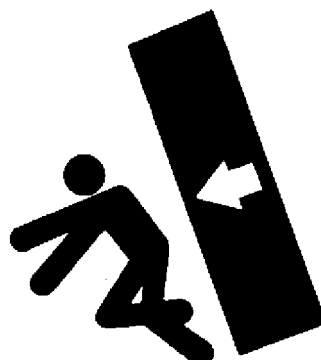
DX,FIRE1 -19-04JUN90

TS202 -UN-23AUG88

## STORE ATTACHMENTS SAFELY

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.



DX,STORE -19-04JUN90

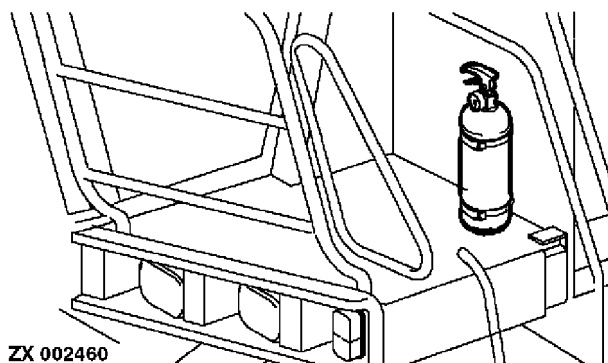
TS219 -UN-23AUG88



## FIRE EXTINGUISHER LOCATION

Keep the engine clean and free of dust, chaff and straw to prevent the possibility of a fire.

A 6 kg (18 lb) general purpose fire extinguisher (type A, B and C) should be installed on the left-hand side of the operator's platform.



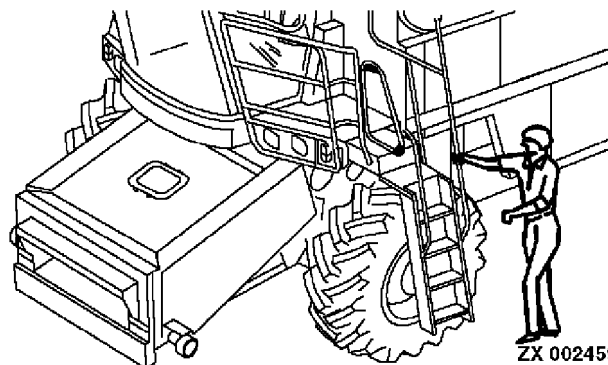
## CHECK MACHINE SAFETY

Always check the road and general operating safety of the machine before using.

FX, READY -19-28FEB91

## MOUNT AND DISMOUNT SAFELY

Use handrail when mounting or dismounting the combine.



## RIDERS

Only allow the operator and one rider on the machine.

Other riders are subject to injury such as being thrown off the machine and obstruct the operator's view resulting in the machine being operated in an unsafe manner.

One rider is permitted, since the machine is equipped with a factory-approved passenger seat.



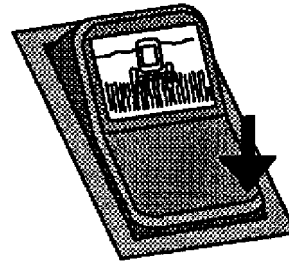
ZX, PASSENGER -19-02OCT91



## ROAD SAFETY SWITCH

**IMPORTANT:** Before driving combine on public roads, make sure that road safety switch is in road position. Also move harvesting unit and unloading auger to transport position.

This ensures that all hydraulic functions — with exception of the steering system — are not working.



ZX 002458

ZX, SWITCHXZCO -19-27JAN92

-UN-23OCT00  
ZX002458

## DRIVING THE COMBINE

Operate machine only when all guards are correctly installed.

Before moving away, always check immediate vicinity of machine (e.g. for children). Ensure adequate visibility. Use the horn as a warning immediately before moving away.

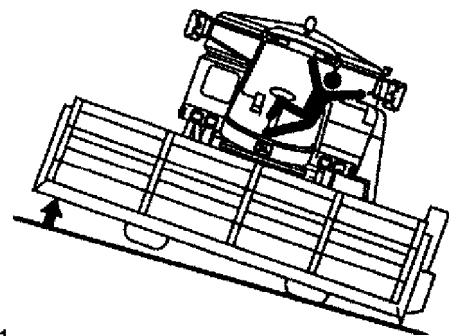
Always adapt ground speed to road or field conditions. Avoid making sharp turns when driving up or down slopes or when driving across a slope. Be especially careful when turning on slopes with full grain tank.

Attach harvesting units and other implements to combine with extreme care.

When making turns, always take into consideration the width of the attachment and the fact that the rear end of the combine swings out. Attachments and ground conditions affect the driving characteristics of the combine.

Reduce ground speed when driving on slopes or over uneven ground and before making sharp turns. Before descending a steep hill, shift to a lower gear.

Avoid holes, ditches and obstructions which may cause the combine to tip, particularly on hillsides.



ZX002461

ZX, DRIVEXZCO -19-27JAN92

-UN-16JUN95  
ZX002461

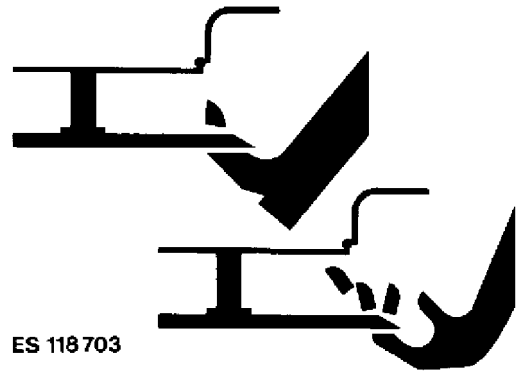


## GUARDS AND SHIELDS

Keep guards and shields in place at all times. Ensure that they are serviceable and installed correctly.

Always disengage main clutch, shut off engine and remove key before removing any guards or shields.

Keep hands, feet and clothing away from moving parts.



ES 118 703

FX,DEVICE -19-04DEC90

ES118703 -UN-21MAR95

## STAY CLEAR OF HARVESTING UNITS

Cutterbar, auger, reel and feed rolls cannot be completely shielded due to their function. Stay clear of these moving elements during operation. Always disengage main clutch, shut off engine and remove key before servicing or unclogging machine.



ES 118 704

FX,CUT -19-21DEC90

ES118704 -UN-21MAR95

## STAY CLEAR OF ROTATING DRIVELINES

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

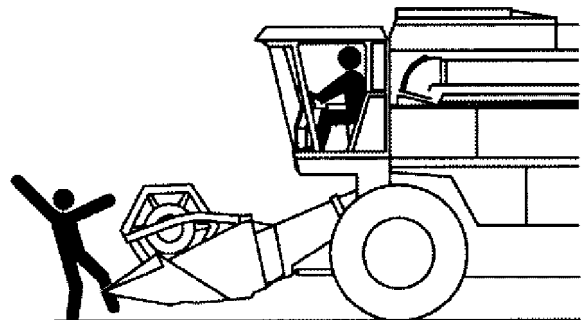


DX,PTO -19-04JUN90

TS198 -UN-23AUG88

## TRANSPORT WITH HARVESTING UNIT INSTALLED

Before driving combine on public roads, harvesting unit must be raised and secured in this position. It must not, however, obstruct operator's view of the road. Remove crop dividers (if equipped) and install protective cover.



ZX002462

ZX,HEADERXZCO -19-27JAN92

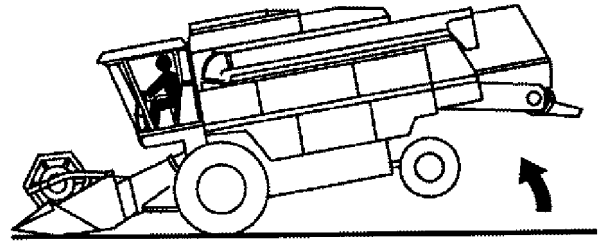
ZX002462 -UN-16JUN95





## BALLASTING FOR SAFE GROUND CONTACT

Operating, steering and braking performance of the combine can be considerably affected by attachments which alter the center of gravity of the machine. To maintain safe ground contact, ballast the combine at the rear end as necessary. Observe the maximum permissible axle loads and total weights.



ZX002463

ZX,WEIGHTXZCO -19-27JAN92

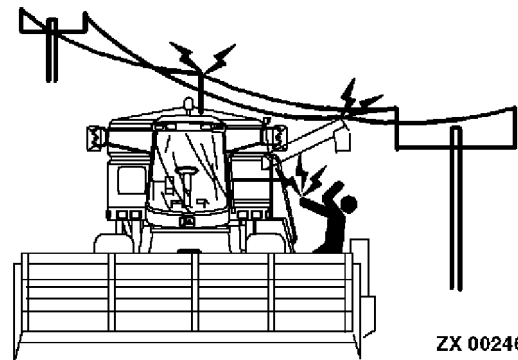
ZX002463 -UN-16JUN95

## RADIO AERIAL

If radio aerial is not secured in its transport position before driving on public roads, it may come into contact with low-hanging electrical cables. This would result in the operator suffering a severe electrical shock.

To avoid electrical shock, no portion of the machine should be higher than 4 m.

Before transporting machine, bend aerial or remove it.



ZX 002464

ZX,ANTENNAZCO -19-27JAN92

ZX002464 -UN-16JUN95

## PARKING AND LEAVING THE COMBINE

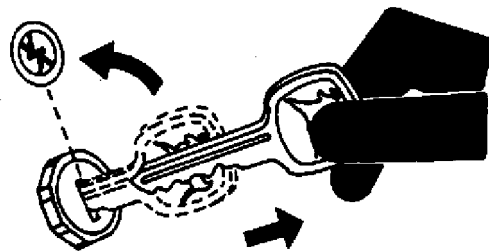
Lower harvesting unit to the ground.

Before leaving the combine, disengage harvesting unit and separator. Shut off engine and move gear shift lever to neutral. Apply parking brake, remove key and lock the operator's cab. Position chock blocks.

*NOTE: Use only chock blocks provided with the machine.*

Never leave combine unattended as long as engine is running.

Never leave the operator's cab when driving.



ZX,PARKXZCO -19-13APR92

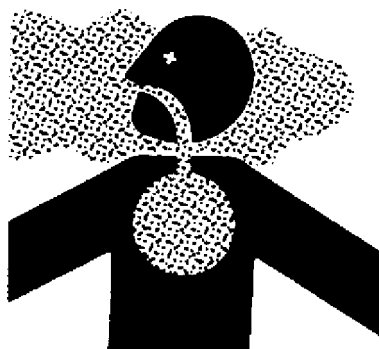
T5230 -UN-24MAY89



## WORK IN VENTILATED AREA

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.



DX,AIR -19-04JUN90

TS220 -UN-23AUG88

## PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate or service machine while it is moving. Keep hands, feet, and clothing from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.



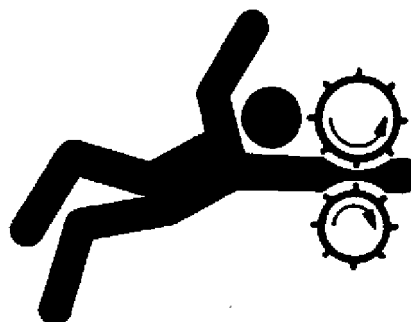
DX,SERV -19-04JUN90

TS218 -UN-23AUG88

## SERVICE MACHINES SAFELY

Tie long hair behind your head. Do not wear a necktie, scarf, loose clothing, or necklace when you work near machine tools or moving parts. If these items were to get caught, severe injury could result.

Remove rings and other jewelry to prevent electrical shorts and entanglement in moving parts.



DX,LOOSE -19-04JUN90

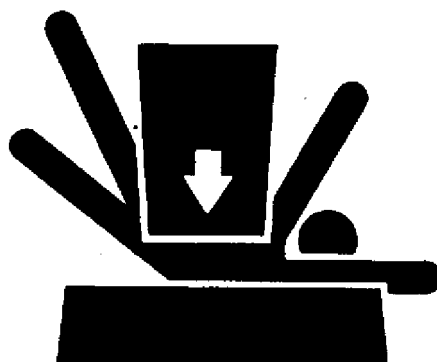
TS228 -UN-23AUG88



## SUPPORT MACHINE PROPERLY

Always lower the attachment or implement to the ground before you work on the machine. If you must work on a lifted machine or attachment, securely support the machine or attachment.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

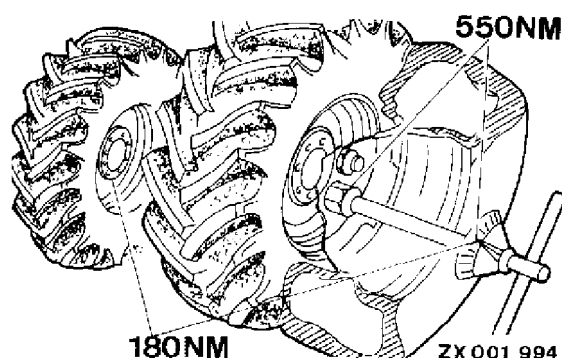


DX,LOWER -19-04JUN90

-UN-23AUG88  
TS229

## RETORQUE WHEEL NUTS

Retorque wheel nuts as specified in Sections "Wheels and Ballast" and "Lubrication, Periodic Services". Failure to do this could result in a wheel falling off during operation, causing the machine to tip over with serious injury to the operator and extensive damage to the machine.



ZX.NUTS -19-11MAY92

-UN-03APR95  
ZX001994



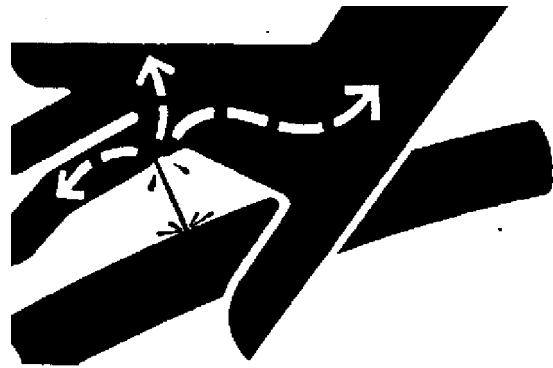
## AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811 -UN-23AUG88

DX,FLUID -19-09AUG91

## PREVENT BATTERY EXPLOSIONS

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt-meter or hydrometer.

Do not charge a frozen battery; it may explode. Warm battery to 16°C (60°F).



TS204 -UN-23AUG88

DX,SPARKS -19-04JUN90



## PREVENT ACID BURNS

Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

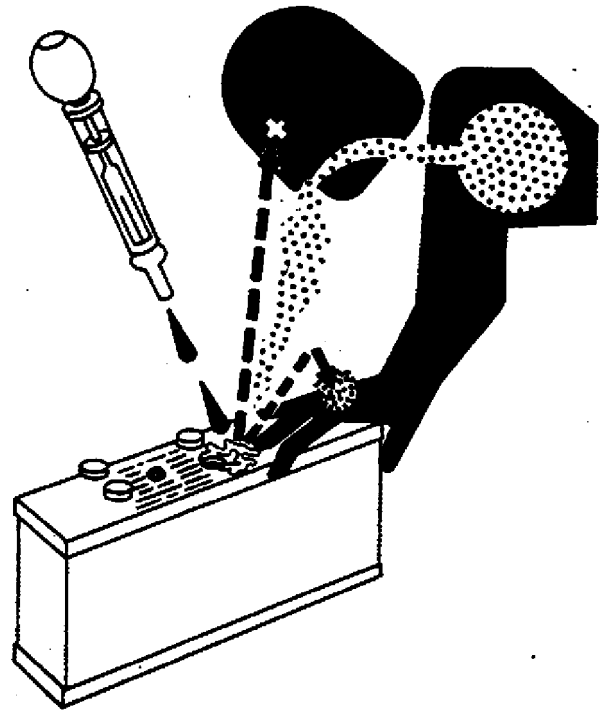
1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10—15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.



DX,POISON -19-04JUN90

TS203 -UN-23AUG88



## SERVICE TIRES SAFELY

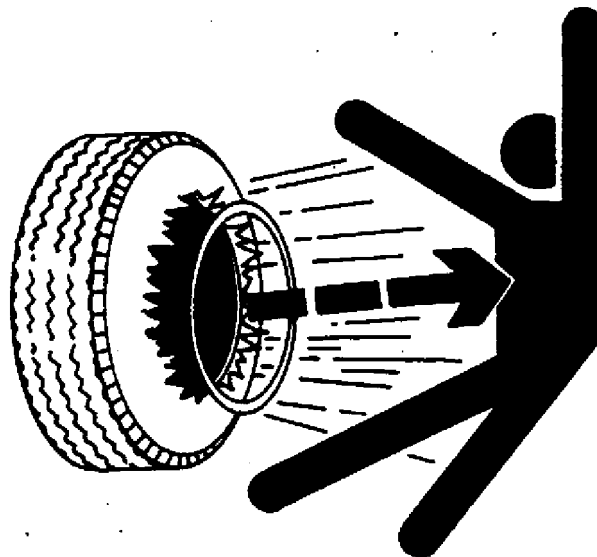
Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.



DX,RIM -19-24AUG90

TS211 -UN-23AUG88

## SERVICE COOLING SYSTEM SAFELY

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



DX,RCAP -19-04JUN90

TS281 -UN-23AUG88



## DISPOSE OF WASTE PROPERLY

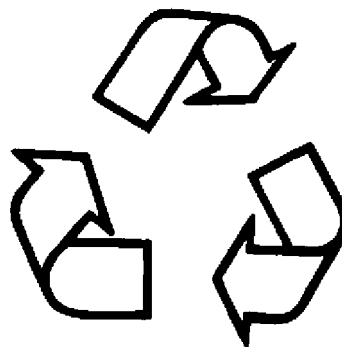
Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with John Deere equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leakproof containers when draining fluids. Do not use food or beverage containers that may mislead someone into drinking from them.

Do not pour waste onto the ground, down a drain, or into any water source.

Air conditioning refrigerants escaping into the air can damage the Earth's atmosphere. Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your John Deere dealer.



TS1133 -UN-26NOV90

DX.DRAIN -19-09AUG91

# Safety Decals

## PICTORIAL SAFETY SIGNS

At several important places of this machine safety signs are affixed intended to signify potential danger. The hazard is identified by a pictorial in a warning triangle. An adjacent pictorial provides information how to avoid personal injury. These safety signs, their placement on the machine and a brief explanatory text are shown below.

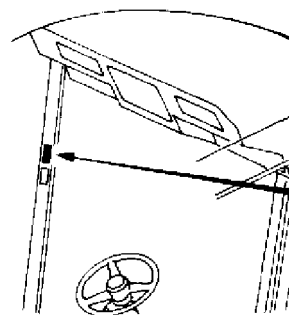


FX,WBZ -19-19NOV91

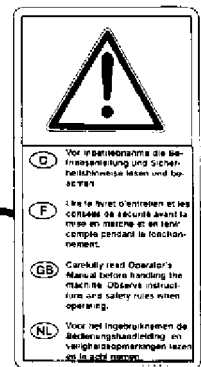
TS231 -19-07OCT88

## OPERATOR'S MANUAL

This operator's manual contains all important information necessary for safe machine operation. Carefully observe all safety rules to avoid accidents.



ZX 002470 - 29

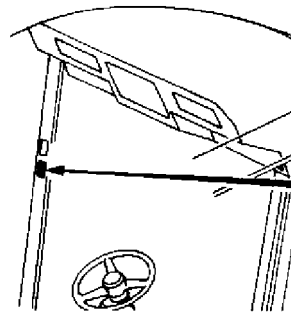


ZX,OM -19-12JUN92

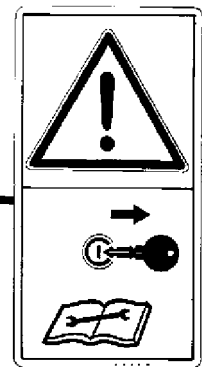
-19-25AUG00  
ZX002470

## REPAIR AND MAINTENANCE

Before carrying out repair and maintenance work, shut off engine and remove key.



ZX 002471

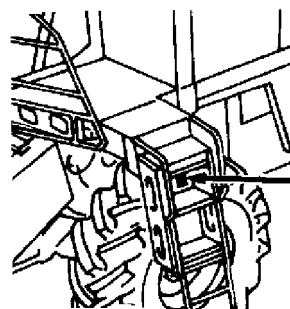


ZX,MAINTENANCE -19-13APR92

-UN-22MAY95  
ZX002471

## FRONT ACCESS LADDER AND PLATFORM

Do not allow riders on access ladder or platform.



ZX 002495



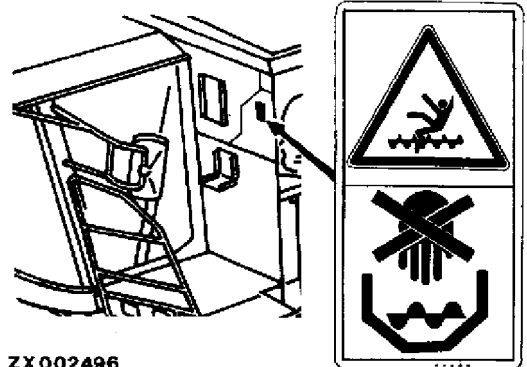
ZX,RIDER1 -19-13APR92

-UN-22MAY95  
ZX002495



### GRAIN TANK

Never reach into grain tank or enter tank when the engine is running.



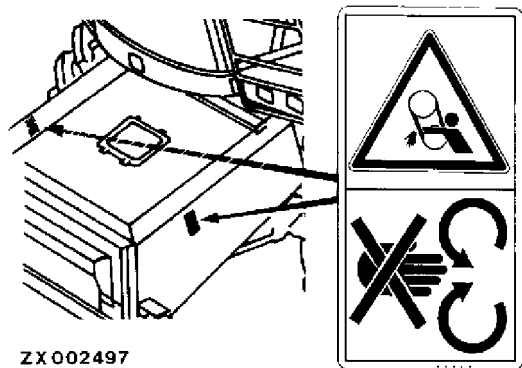
ZX002496

ZX.GRAINTANK -19-13APR92

ZX002496 -UN-23OCT00

### FEEDER HOUSE DRIVE, RIGHT AND LEFT-HAND SIDE

Do not open or remove guard when the engine is running.



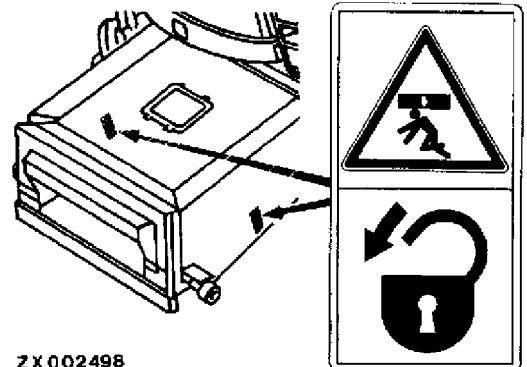
ZX 002497

ZX.FEEDER1 -19-13APR92

ZX002497 -UN-22MAY95

### BELOW FEEDER HOUSE

Before entering area of potential hazard, engage safety lock.



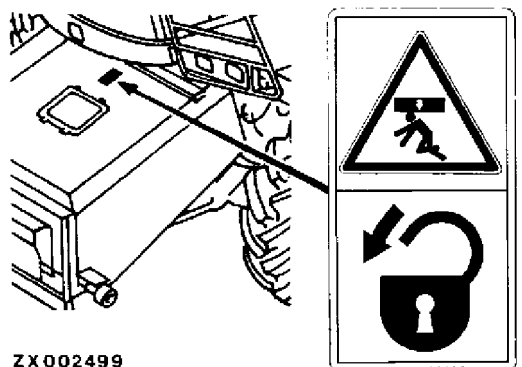
ZX 002498

ZX.FEEDER2 -19-13APR92

ZX002498 -UN-23OCT00

### BETWEEN FEEDER HOUSE AND OPERATOR'S PLATFORM

Before entering area of potential hazard, close accumulator shut-off valve.



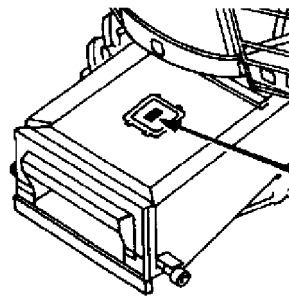
ZX002499

ZX.FEEDER3 -19-13APR92

ZX002499 -UN-22MAY95

### FEEDER HOUSE CONVEYOR CHAIN

Potential hazard caused by rotating machine parts.



ZX002500

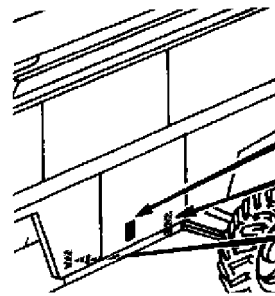


ZX,FEEDER4 -19-13APR92

ZX002500 -UN-22MAY95

### LEFT-HAND SIDE GUARD, FAN AND WALKER DRIVE GUARD

Do not open or remove guard when the engine is running.



ZX002501

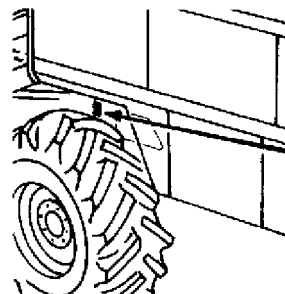


ZX,LEFTSIDE -19-13APR92

ZX002501 -UN-22MAY95

### HEADER DRIVE GUARD

Do not open guard when the engine is running.



ZX002502

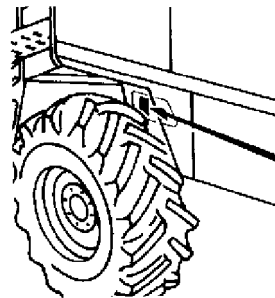


ZX,FRONTEND -19-13APR92

ZX002502 -UN-22MAY95

### THRESHING CYLINDER SERVICE COVER, LEFT-HAND SIDE

Potential hazard caused by rotating machine parts.



ZX002503

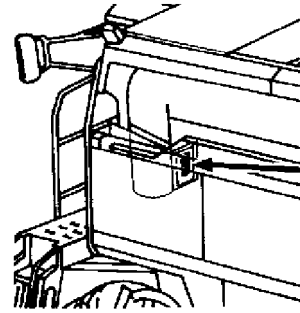


ZX,RASPBAR1 -19-13APR92

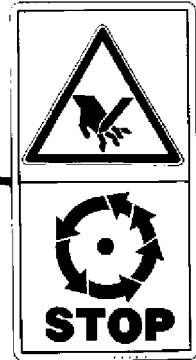
ZX002503 -UN-22MAY95

**CLEANING COVER, GRAIN TANK UNLOADING AUGER**

Do not touch any moving machine parts. Wait until all moving parts have stopped.



ZX 002504

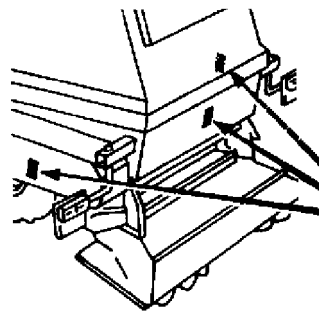


ZX.CLEANING -19-13APR92

ZX002504 -UN-22MAY95

**STRAW CHOPPER AND CHAFF SPREADER**

Do not touch any moving machine parts. Wait until all moving parts have stopped.



ZX 002505

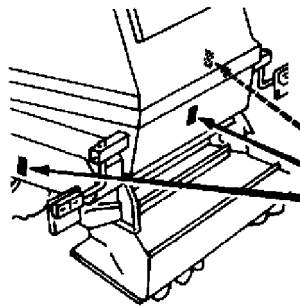


ZX.STRAW1 -19-13APR92

ZX002505 -UN-22MAY95

**STRAW CHOPPER AND CHAFF SPREADER**

Stay clear of these components when the engine is running.



ZX 002506

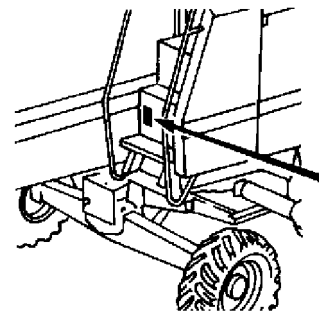


ZX.STRAW2 -19-13APR92

ZX002506 -UN-22MAY95

**REAR ACCESS LADDER AND SERVICE PLATFORM**

Do not allow riders on access ladder or platform.



ZX 002507

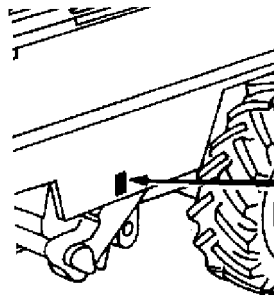


ZX.RIDER2 -19-13APR92

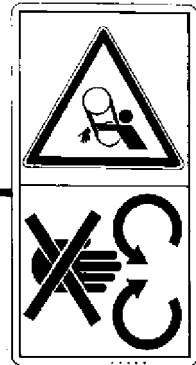
ZX002507 -UN-22MAY95

### RIGHT-HAND SIDE GUARD

Do not open or remove guard when the engine is running.



ZX 002508

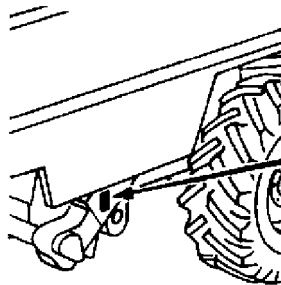


ZX,RIGHTSIDE -19-13APR92

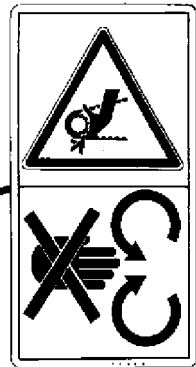
ZX002508 -UN-22MAY95

### ELEVATORS

Do not open or remove guard when the engine is running.



ZX 002509

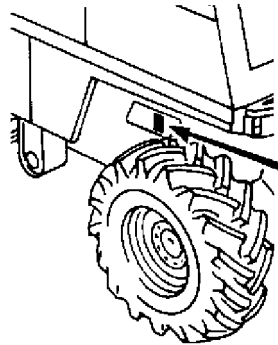


ZX,ELEVATOR -19-13APR92

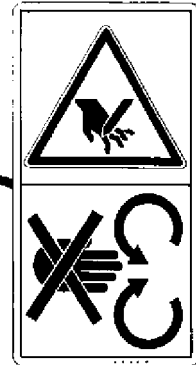
ZX002509 -UN-22MAY95

### THRESHING CYLINDER SERVICE COVER, RIGHT-HAND SIDE

Potential hazard caused by rotating machine parts.



ZX 004279

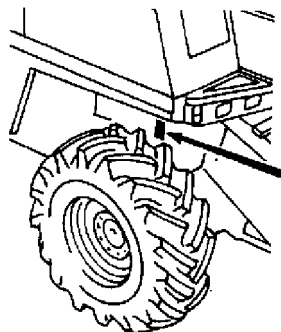


ZX,RASPBAR2 -19-13NOV92

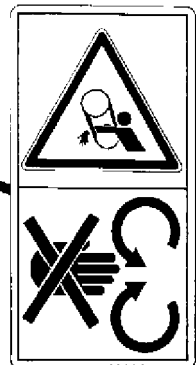
ZX004279 -UN-22MAY95

### CYLINDER DRIVE GUARD RIGHT-HAND SIDE

Never open or remove the guard while the engine is running.



ZX 004276

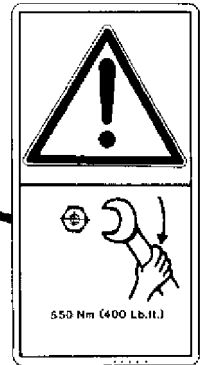
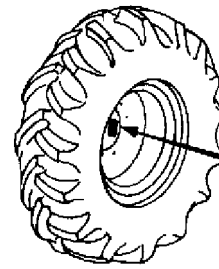


ZX,RASPBAR3 -19-13NOV92

ZX004276 -UN-22MAY95

### FRONT WHEEL ATTACHING NUTS

Retighten front wheel attaching nuts at specified intervals.



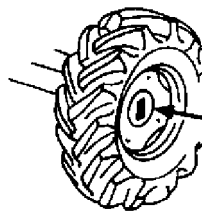
ZX 002481

ZX,FRONTWHEEL -19-13APR92

ZX002481 -UN-25AUG00

### REAR WHEEL ATTACHING BOLTS

Retighten rear wheel attaching bolts at specified intervals.



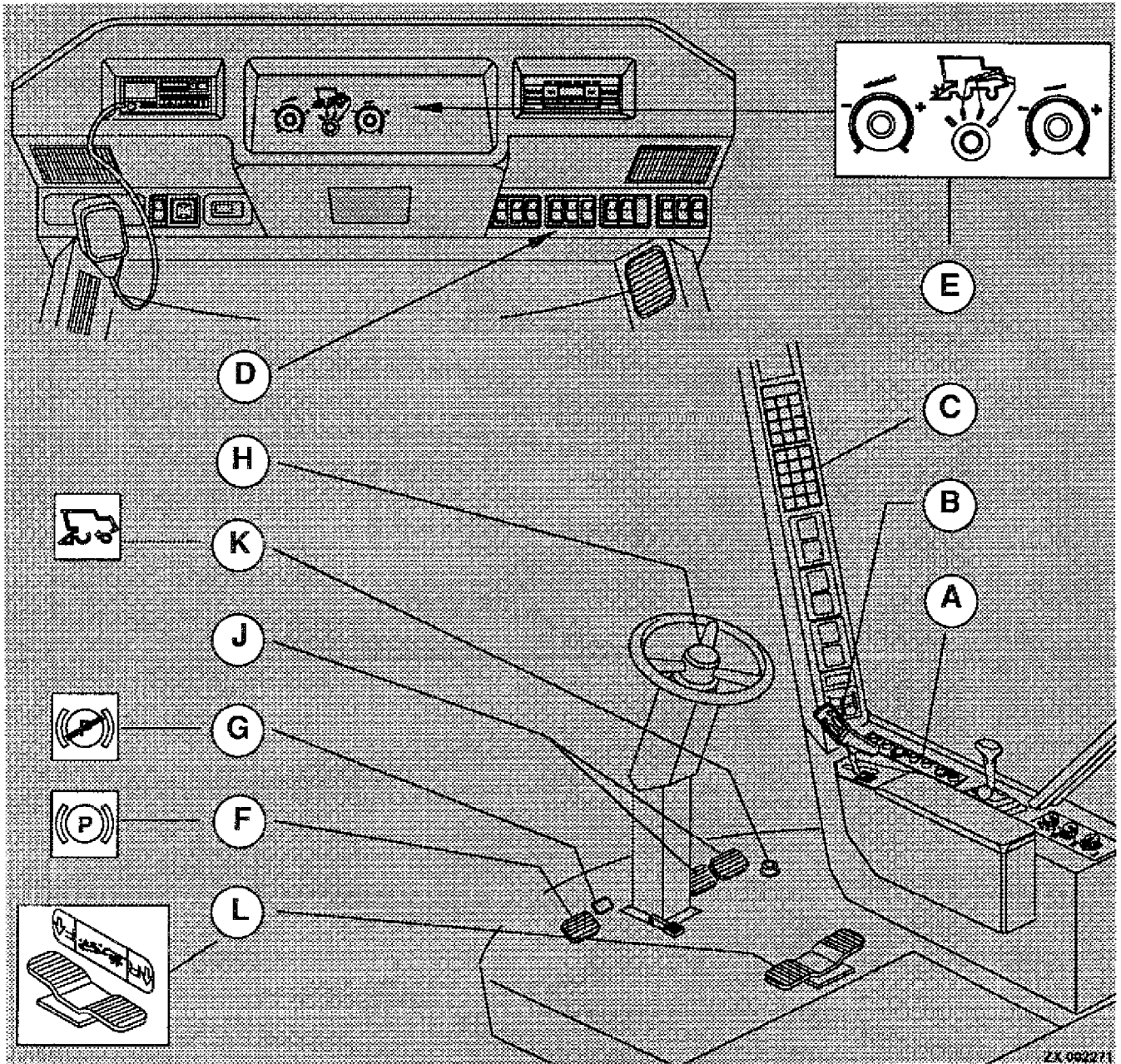
ZX 002482

ZX,REARWHEEL -19-13APR92

ZX002482 -UN-22MAY95

# Controls and Instruments

## GENERAL VIEW OF CONTROLS AND INSTRUMENTS



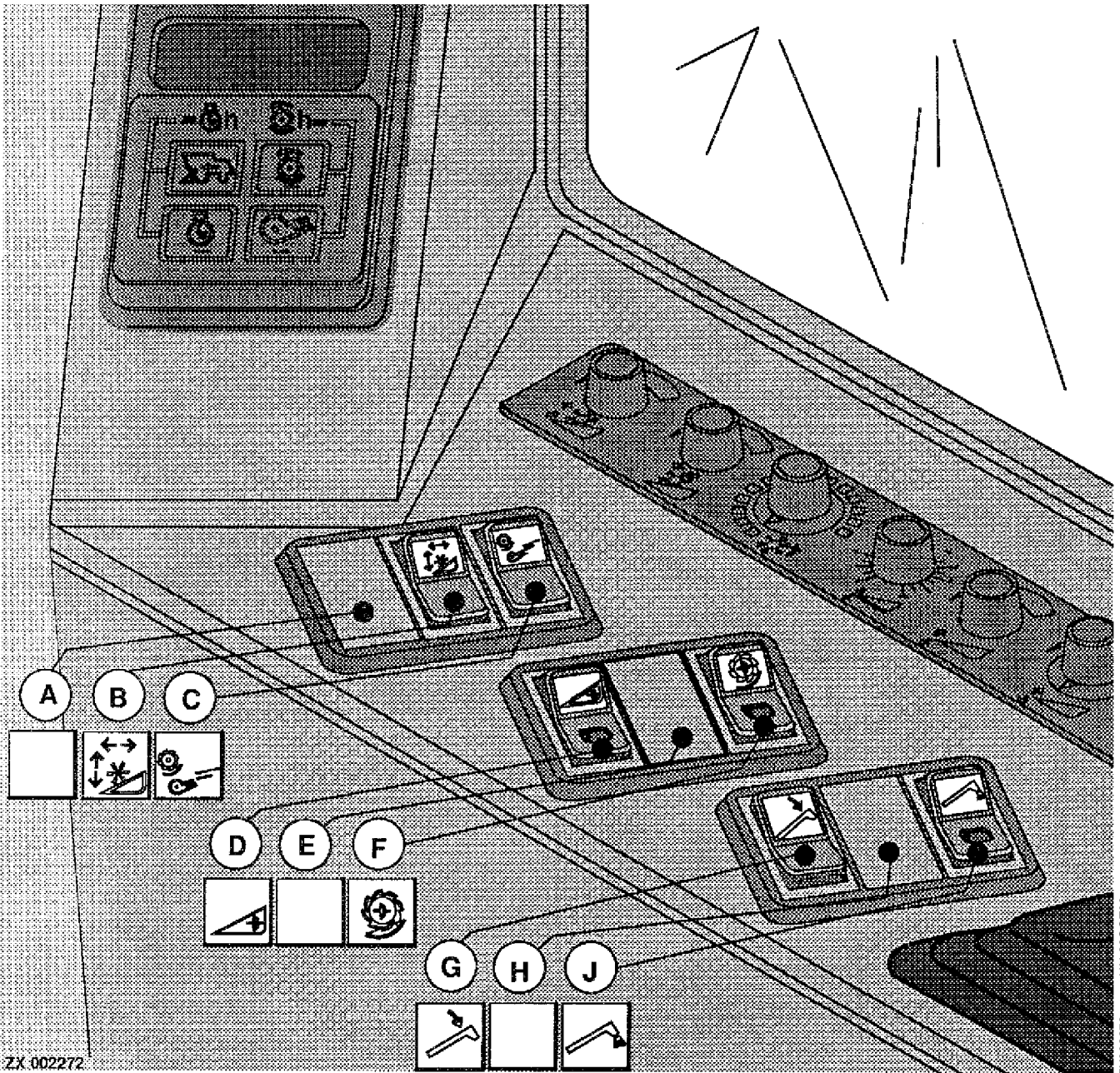
A—Switch console  
B—Multi-function lever  
C—Corner post instruments  
D—Roof switch console

E—Harvest performance monitor  
F—Parking brake

G—Parking brake release pedal  
H—Steering column

J—Foot brakes  
K—Four-wheel-drive  
L—Reverser

**SWITCH CONSOLE**



ZX 002272

ZX002272 -JUN-23OCT00

A—Not used  
 B—Header function resume control switch (option)  
 C—Switch for automatic machine adjustments (option)

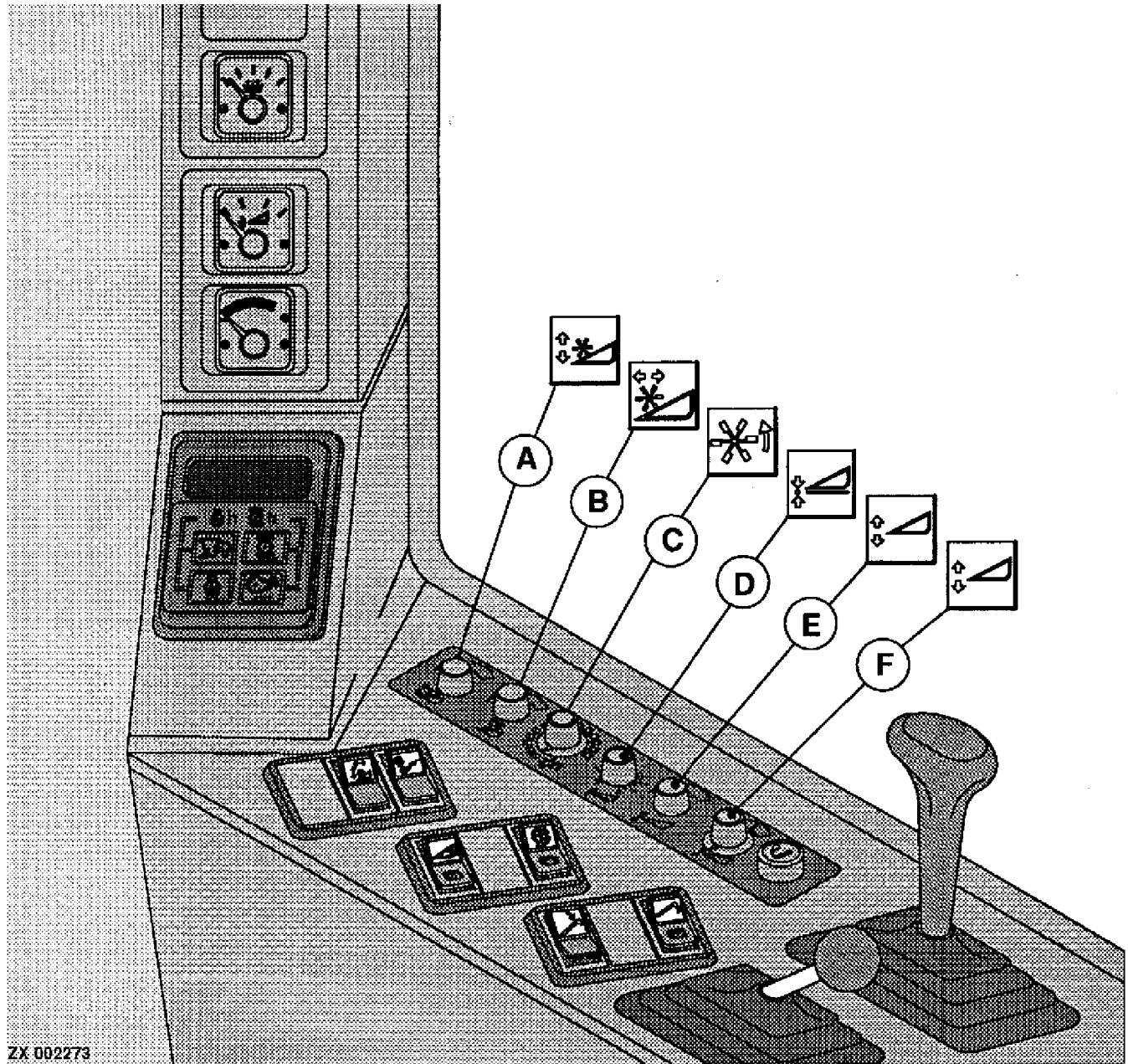
D—Header drive switch  
 E—Not used  
 F—Separator drive switch

G—Unloading auger swing switch  
 H—Not used

J—Unloading auger drive switch

ZX.OMXZC0001440-19-13NOV92

**SWITCH CONSOLE (CONTINUED)**



ZX 002273

ZX002273 -JUN-05DEC00

A—Potentiometer, reel height resume control  
 B—Potentiometer, reel fore-and-aft resume control

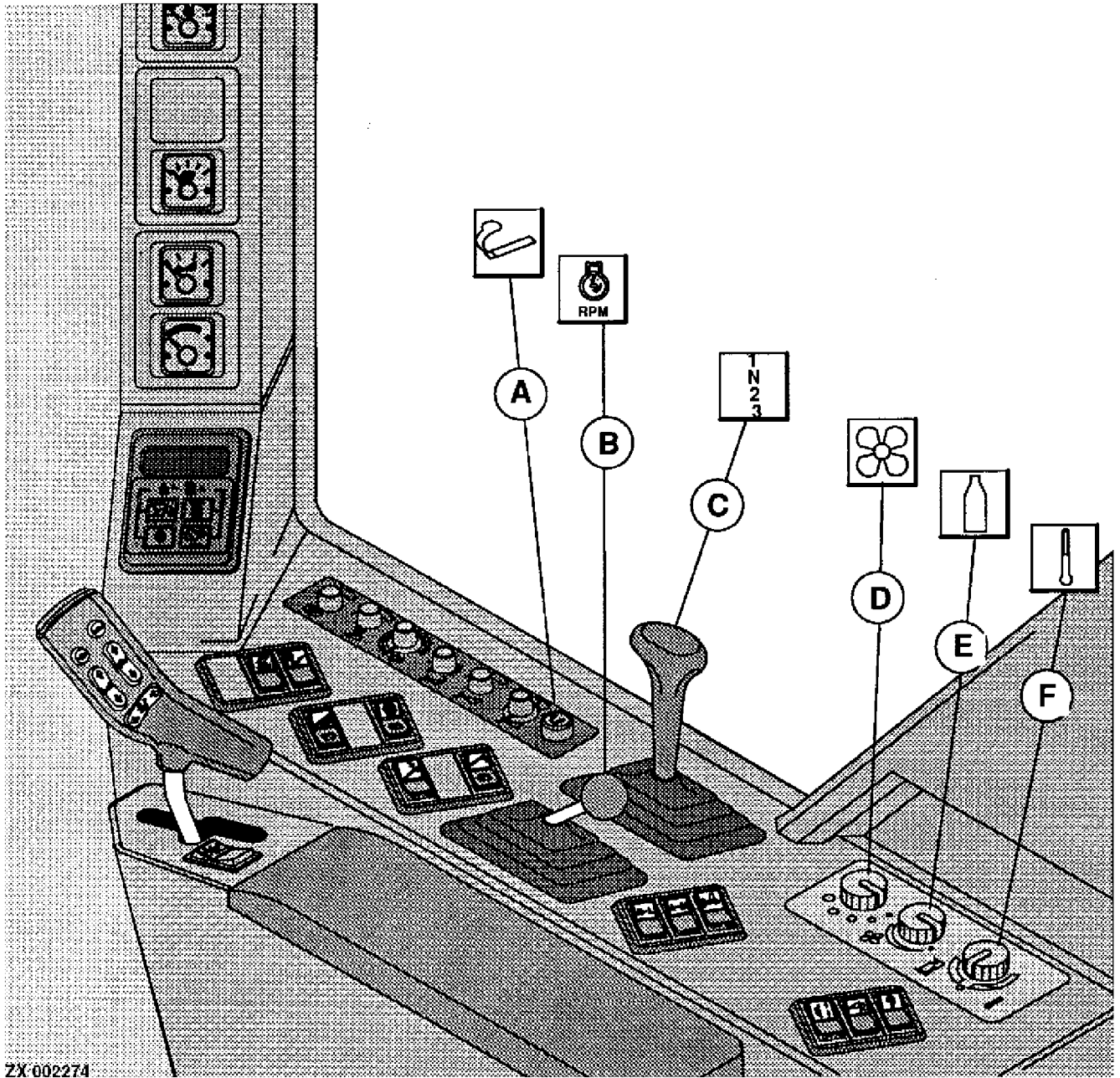
C—Switch, automatic reel speed control  
 D—Potentiometer, header float

E—Potentiometer, header height resume control  
 F—Switch, DIAL-A-MATIC™, automatic header height control

*NOTE: All of the above functions are optional.*



SWITCH CONSOLE (CONTINUED)



ZX:002274

ZX:002274 -UN-05DEC00

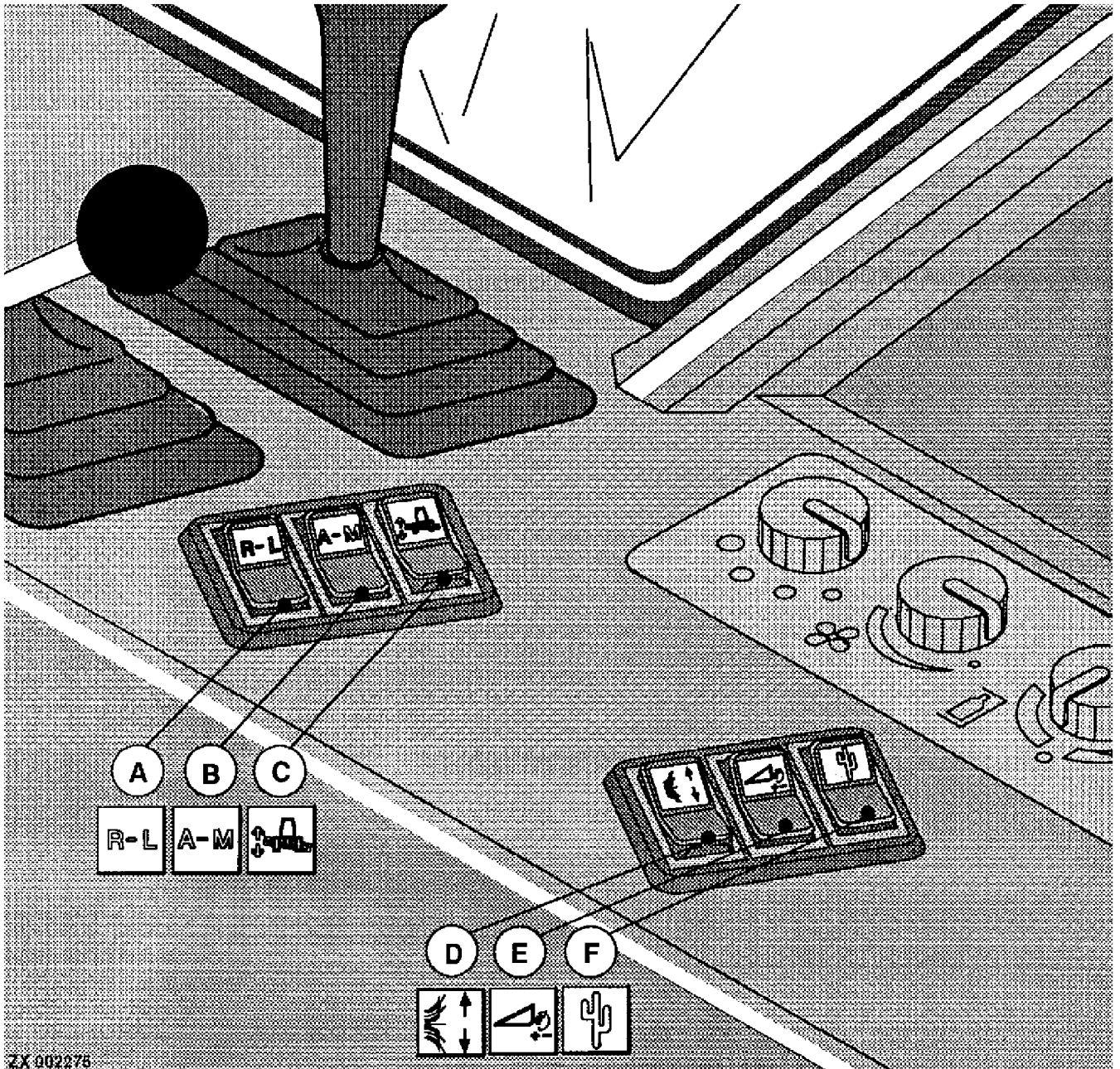
A—Cigarette lighter  
B—Throttle lever

C—Gear shift lever  
D—Fan switch

E—Cooling compartment  
switch

F—Air conditioner/heater  
switch

SWITCH CONSOLE (CONTINUED)



ZX 002275

ZX002275 -UN-05DEC00

A—Manual leveling control switch  
 B—Automatic leveling control switch

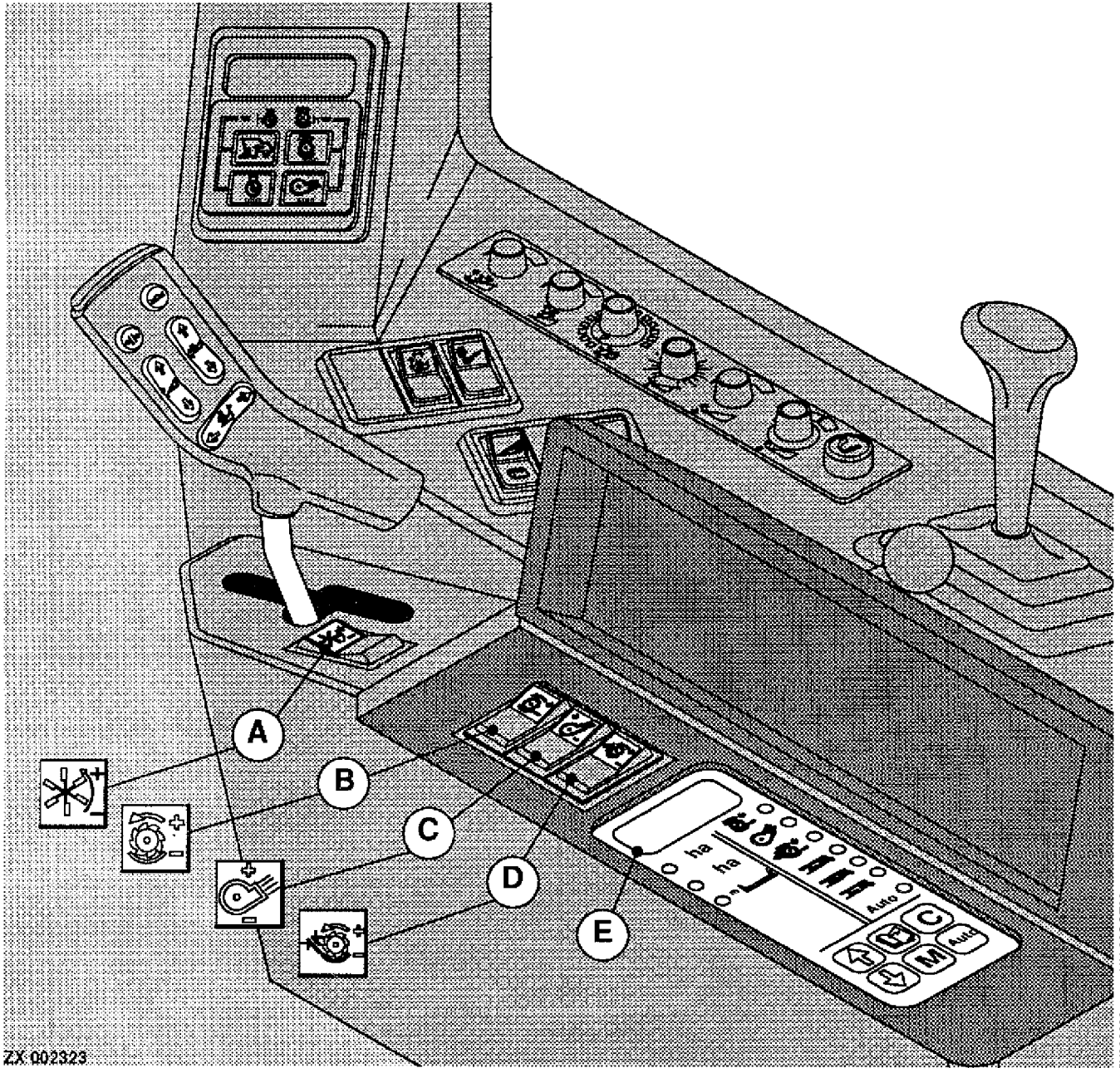
C—Switch, header parallel adjustment  
 D—Switch, chopper distributor adjustment

E—Selector switch, reel lift/feeder house variator

F—Demoisturizer switch

NOTE: All of the above functions are optional.

**SWITCH CONSOLE (CONTINUED)**



ZX 002323

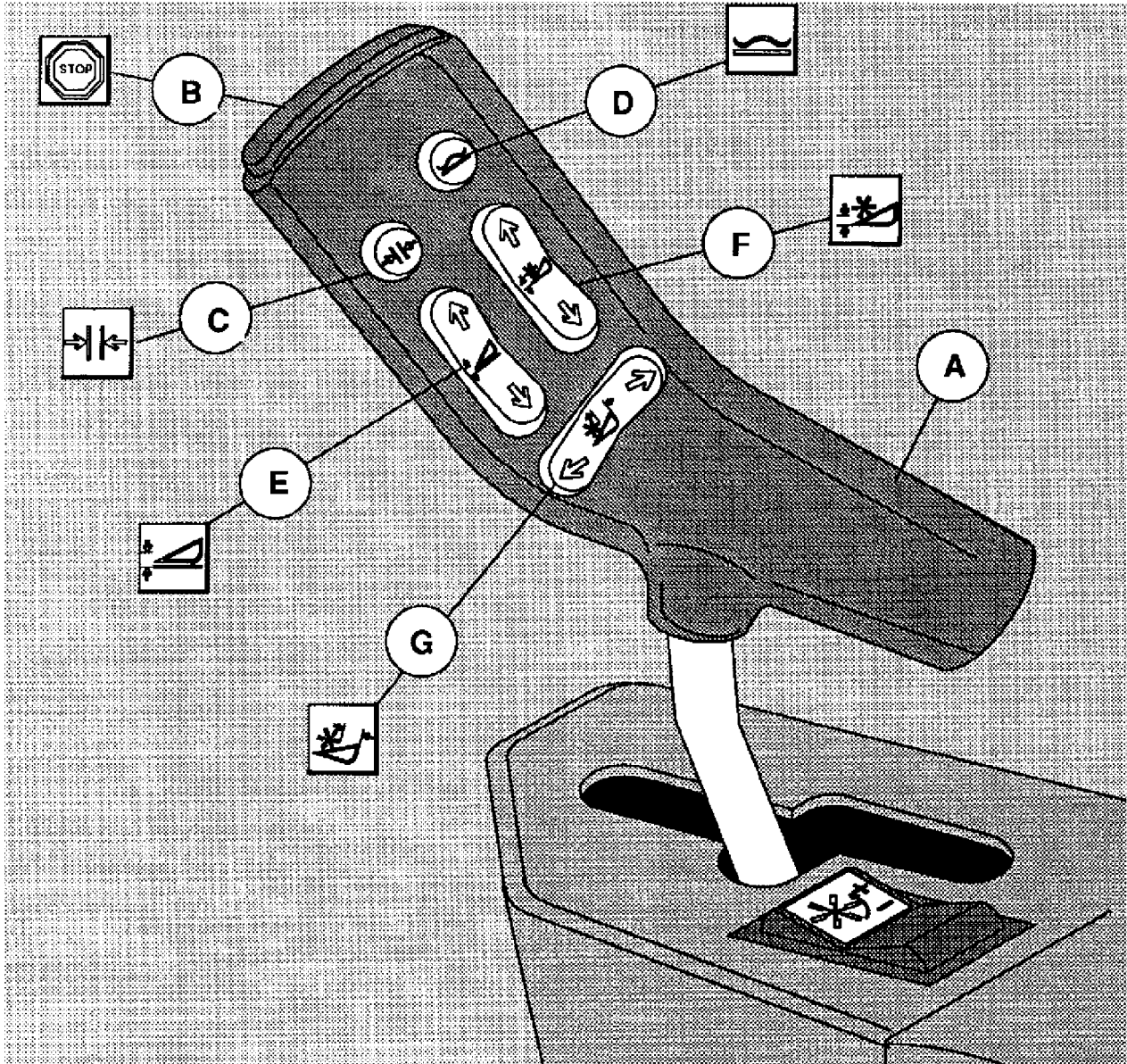
ZX002323 -JUN-23OCT00

A—Reel speed switch  
B—Threshing cylinder speed switch

C—Fan speed switch  
D—Concave clearance adjusting switch

E—Combine data center and area counter (option)

**MULTI-FUNCTION LEVER**



ZX002276

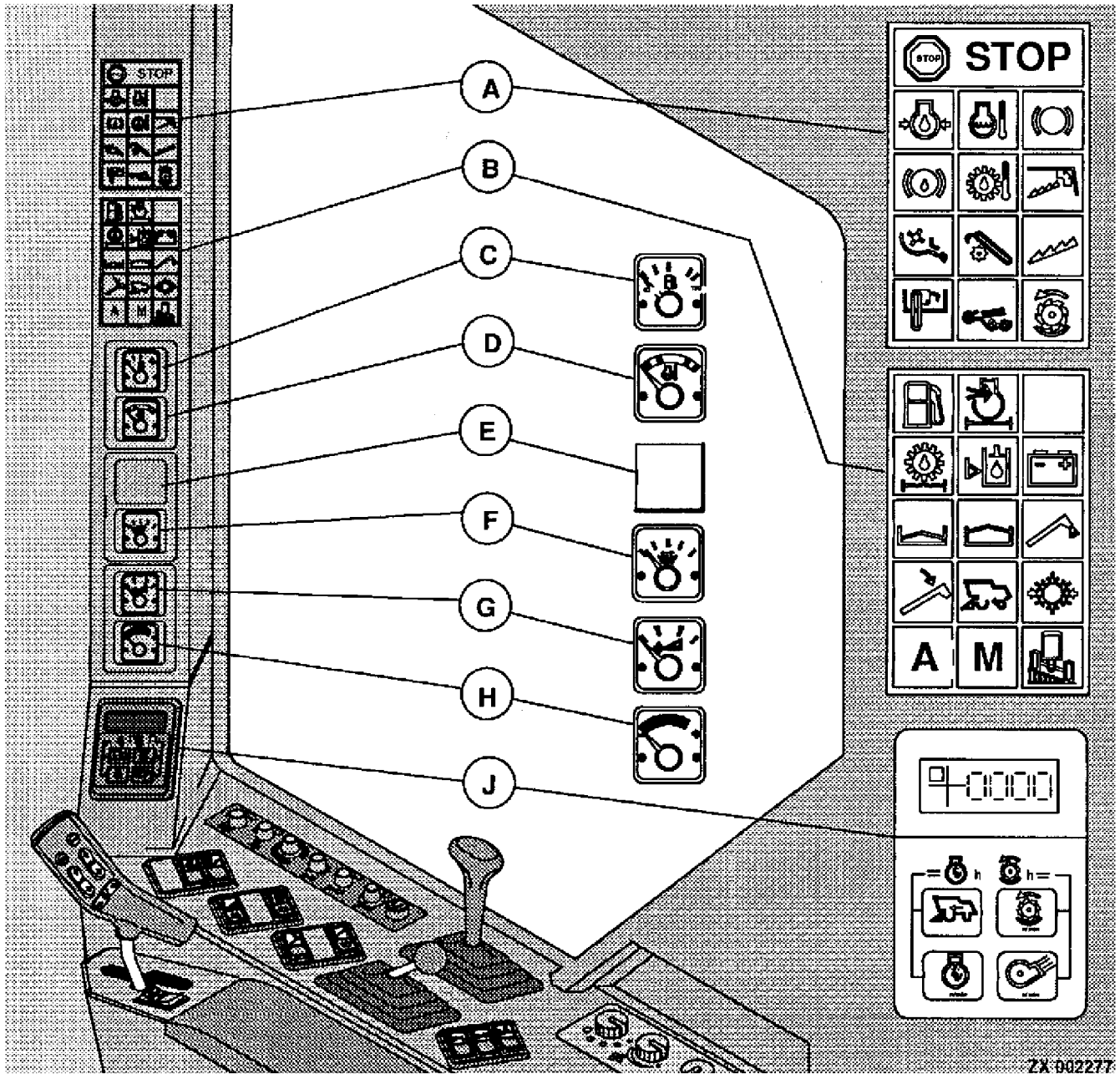
ZX002276 -UN-21JUN95

A—Forward/reverse lever  
 B—Emergency cut-off switch for automatic functions, header  
 C—Automatic function resume control (option) for:  
 •Reel height  
 •Reel horizontal position  
 •Header height

D—Header float control (option)  
 E—Raise/lower header (2 speeds)

F—Reel height adjustment  
 G—Reel fore-and-aft adjustment

CORNER POST



A—Indicator lights I  
 B—Indicator lights II  
 C—Fuel gauge

D—Coolant temperature gauge  
 E—Not used

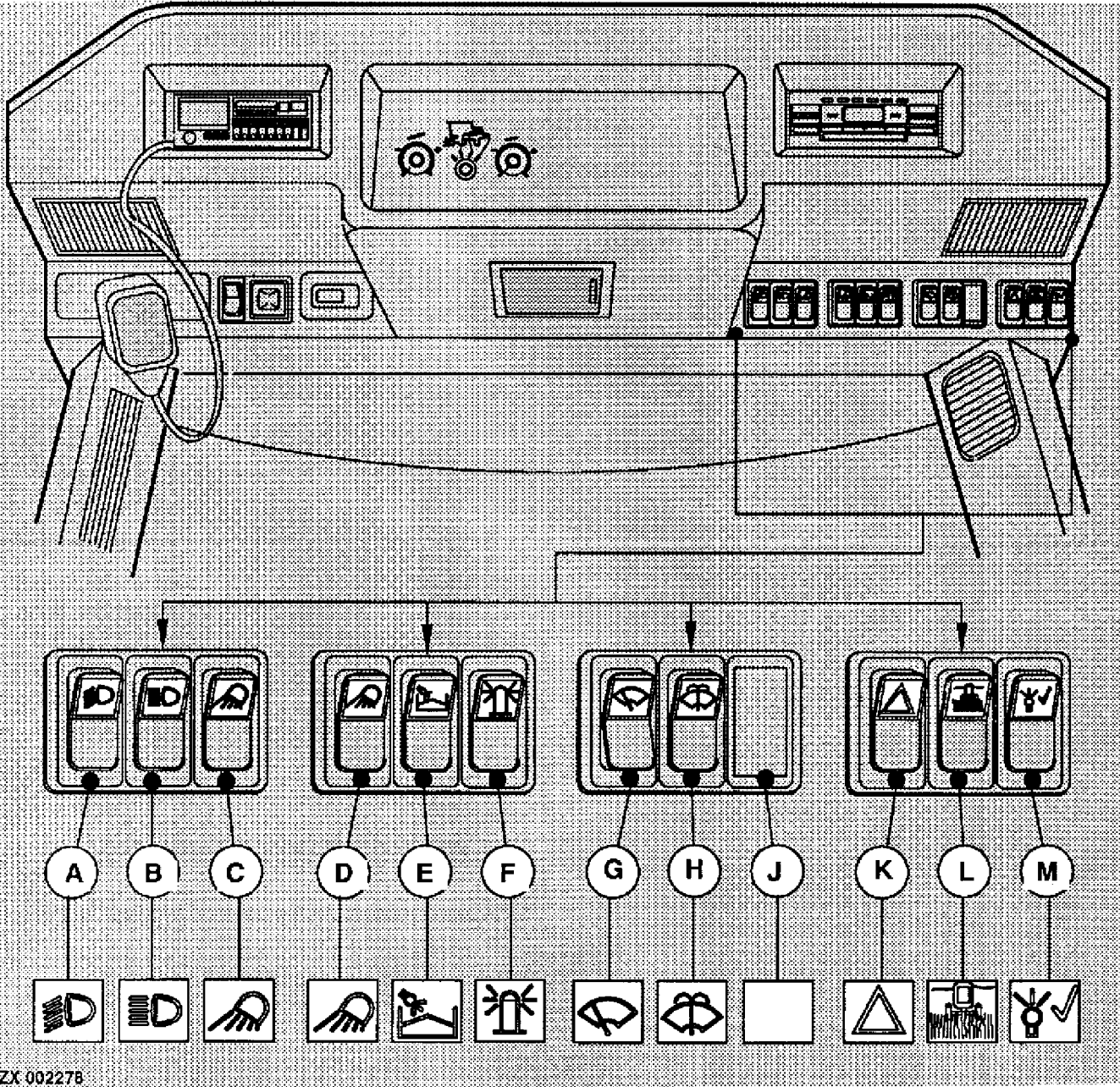
F—Distributor plate gauge (option)  
 G—Header height gauge

H—Harvest performance monitor gauge (option)  
 J—Infotrak monitor

ZX 002277

ZX002277 -UN-05DEC00

ROOF SWITCH CONSOLE



ZX 002278

ZX002278 -UN-05DEC00

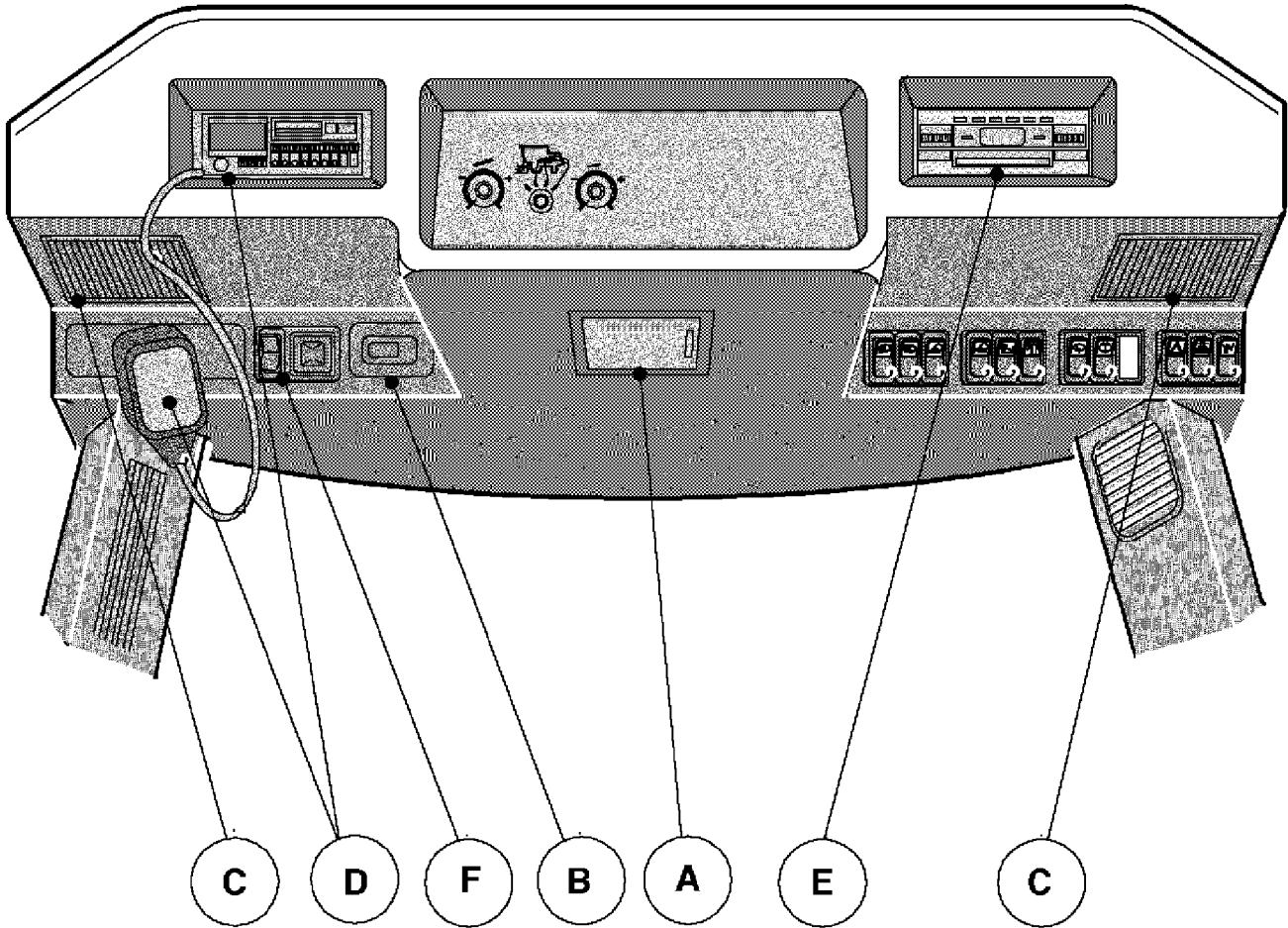
A—Parking/low-beam headlights  
 B—High-beam headlights  
 C—Cab roof work lights (option, on unloading auger)

D—Operator's platform/rear work lights (option, on mirror bracket)  
 E—Grain tank lighting

F—Revolving hazard warning light (option)  
 G—Windshield wiper  
 H—Windshield washer

J—Not used  
 K—Hazard warning lights  
 L—Road safety switch  
 M—Indicator light test

ROOF CONSOLE



ZX 002279

A—Interior lighting  
B—Digital clock

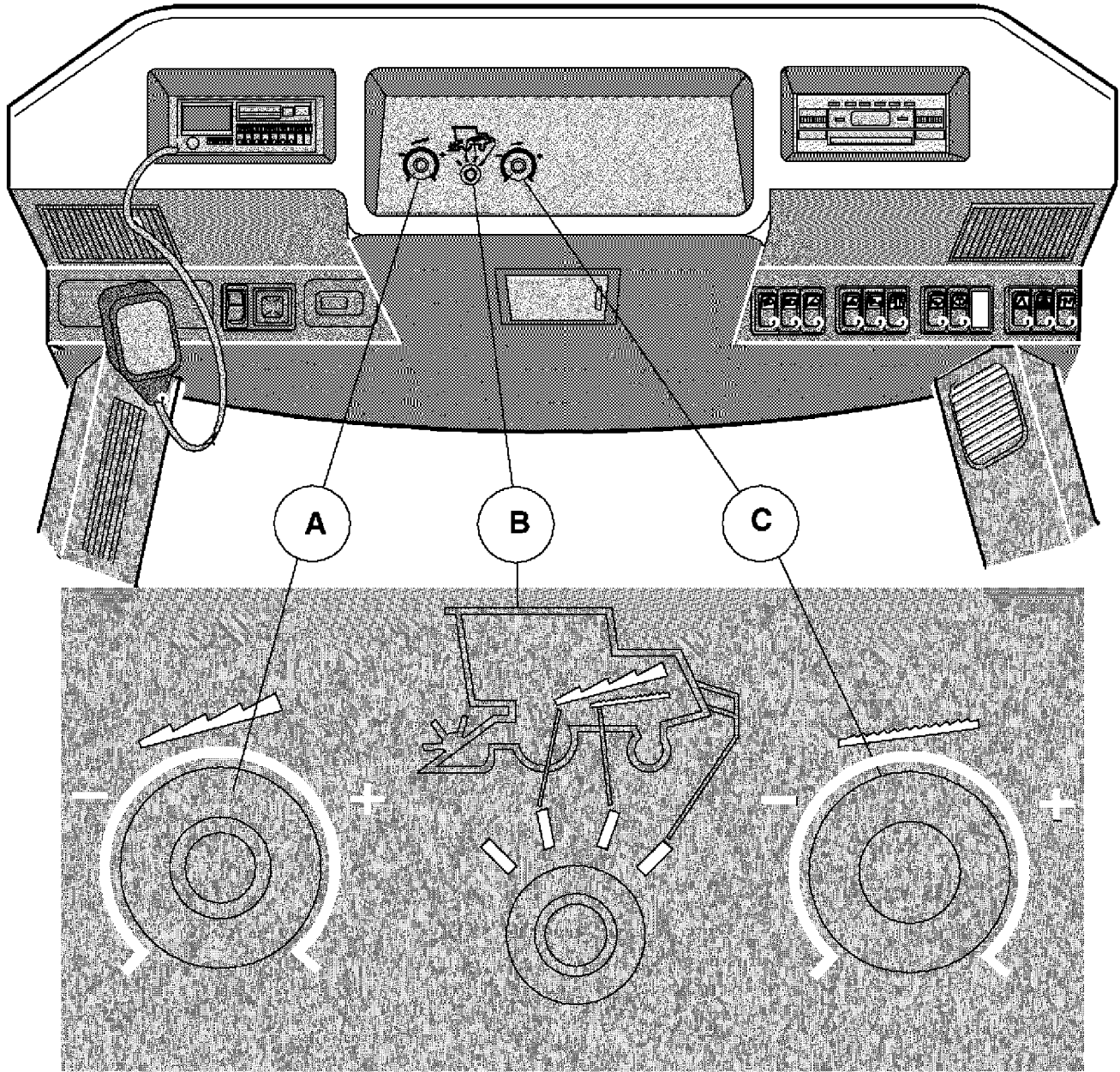
C—Loudspeakers  
D—Citizens' Band (option)

E—Radio (option)  
F—Electrically adjustable  
outside mirrors and  
mirror heater (option)

ZX0002279 -UN-16JUN95

ZX,OMXZCO001448-19-27JAN92

### HARVEST PERFORMANCE MONITOR (OPTION)



ZX 002280

**A—Potentiometer for sensitivity adjustment of straw walker sensors**

**B—Sensor selector switch:**

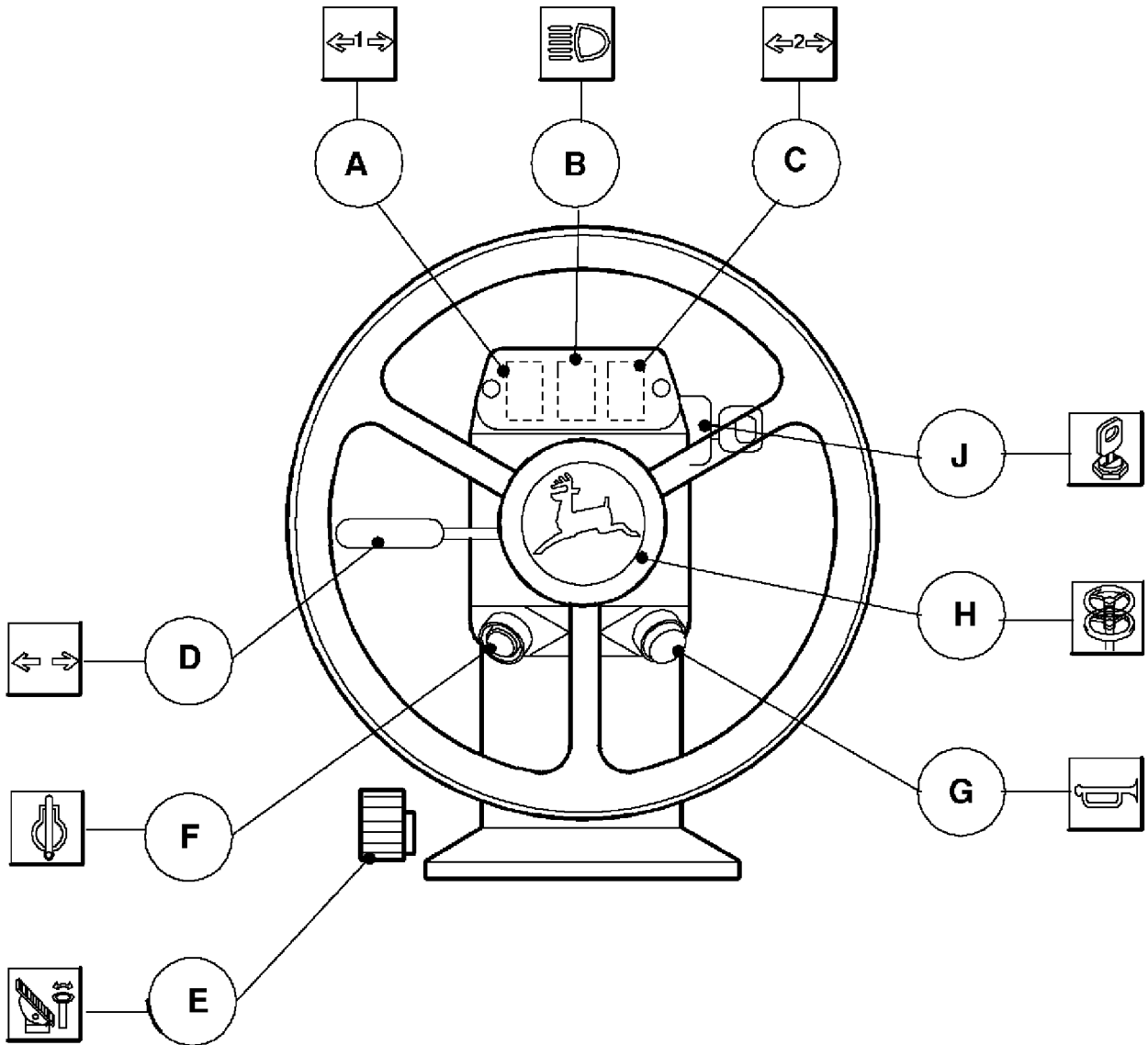
- Off
- Straw walker losses
- Cleaning shoe losses
- Straw walker and cleaning shoe losses (total losses)

**C—Potentiometer for sensitivity adjustment of cleaning shoe sensor**

ZX,OMXZCO001449-19-13NOV92



**STEERING COLUMN**



ZX 002298

ZX002298 -UN-03A PR85

A—Turn signal indicator light  
 B—Full-beam indicator light  
 C—Turn signal indicator light (trailer)

D—Turn signal switch  
 E—Pedal for horizontal steering column adjustment

F—Push button for ether starting aid  
 G—Push button for horn

H—Knob for vertical steering column adjustment  
 J—Starter switch

### HEADER FUNCTION RESUME CONTROL TUMBLER SWITCH (OPTION)

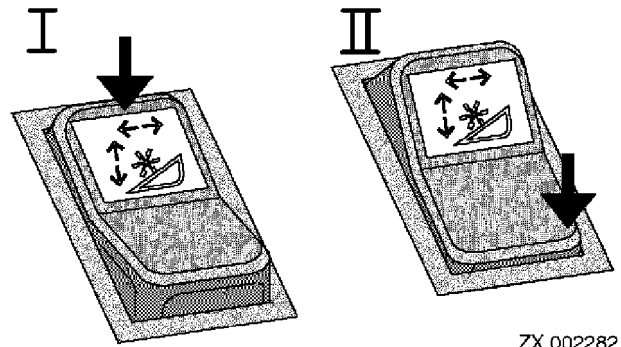
**Requirements:**

- Engine running
- Road safety switch in field position

Switch on resume control electronics.

**Possible Adjustments:**

- Reel height resume control
- Reel fore-and-aft resume control
- Header height resume control



ZX 002282

-JUN-16-JUN95  
ZX002282

I—On  
II—Off

ZX,OMXZC0001452-19-13NOV92

### TUMBLER SWITCH FOR AUTOMATIC MACHINE ADJUSTMENTS (OPTION)

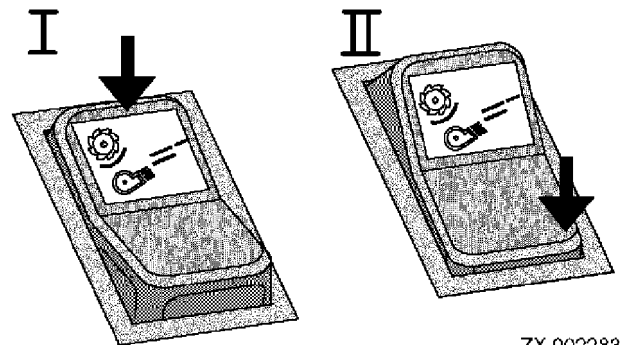
**Requirements:**

- Engine running (max. speed)
- Separator engaged

Switch on automatic machine adjustments.

**Possible Adjustments:**

- Threshing cylinder speed
- Fan speed
- Concave clearance



ZX 002283

-JUN-16-JUN95  
ZX002283

I—On  
II—Off

ZX,OMXZC0001453-19-13NOV92

### SEPARATOR TUMBLER SWITCH (WITH OPERATING LOCK)

**Requirements:**

- Engine running (low speed)
- Road safety switch in field position

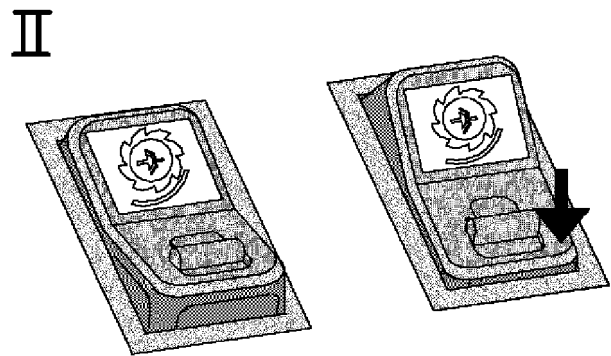
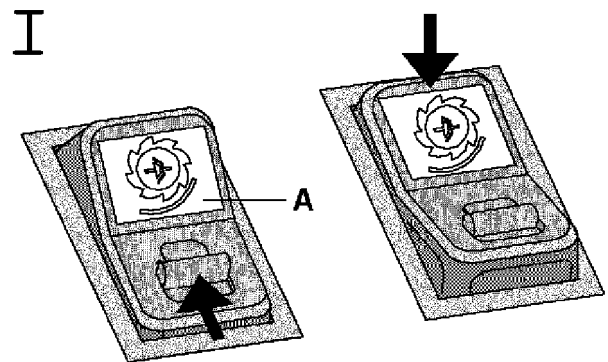
**Engaging Separator Drive (I):**

Push up operating lock (A) and depress top part of switch (symbol).

**Disengaging Separator Drive (II):**

Depress lower part of switch.

- I—On
- II—Off



ZX 002285

ZX,OMXZCO001455-19-20JUL92

-UN-16JUN95  
ZX002285

### HEADER DRIVE TUMBLER SWITCH (WITH OPERATING LOCK)

**Requirements:**

- Engine running (low speed)
- Road safety switch in field position
- Separator engaged

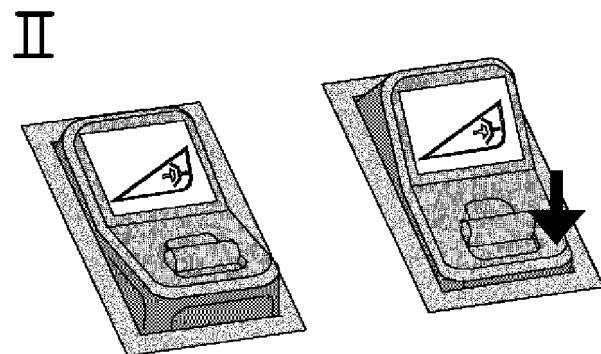
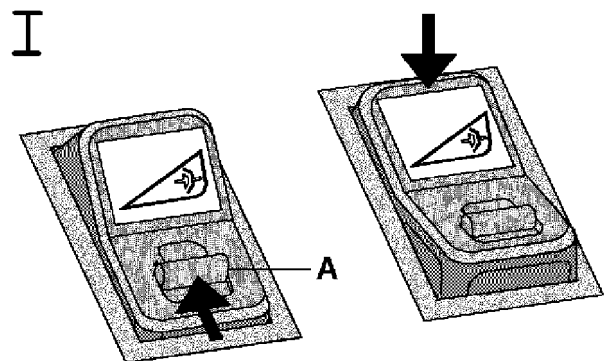
**Engaging Header Drive (I):**

Push up operating lock (A) and depress top part of switch (symbol).

**Disengaging Header Drive (II):**

Depress lower part of switch.

- I—On
- II—Off



ZX 002284

ZX,OMXZCO001454-19-20JUL92

-UN-16JUN95  
ZX002284

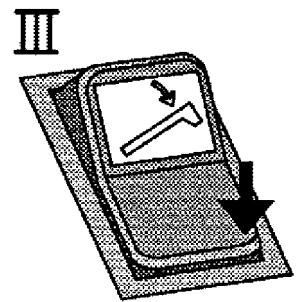
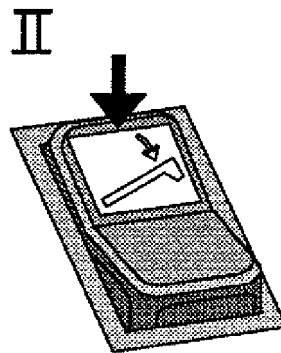
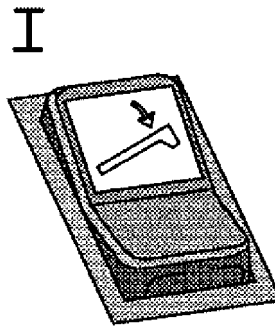
### UNLOADING AUGER SWING TUMBLER SWITCH (WITH CENTER POSITION)

**Requirements:**

- Engine running
- Road safety switch in field position

- I — Swing drive shut off
- II — Swing out unloading auger
- III — Swing in unloading auger

*NOTE: The swing drive is shut off automatically as soon as auger end positions are reached (after approx. 20 seconds). Auger motion can be stopped in any position by moving switch back to center position.*



ZX002286

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-UN-16JUN95  
ZX002286

### UNLOADING AUGER DRIVE TUMBLER SWITCH (WITH OPERATING LOCK)

**Requirements:**

- Engine running
- Road safety switch in field position

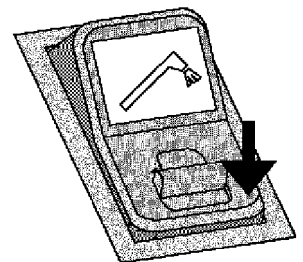
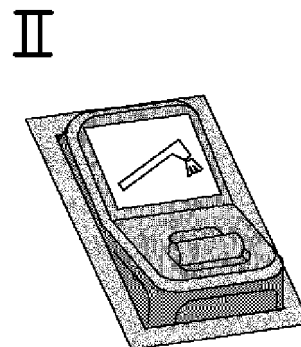
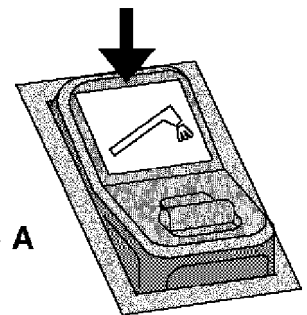
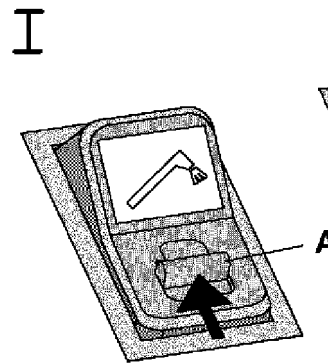
**Engaging Unloading Auger Drive (I):**

Push up operating lock (A) and depress top part of switch (symbol).

**Disengaging Unloading Auger Drive (II):**

Depress lower part of switch.

- I—On
- II—Off



ZX 002287

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-UN-16JUN95  
ZX002287

### POTENTIOMETER FOR REEL HEIGHT RESUME CONTROL (OPTION)

**Requirements:**

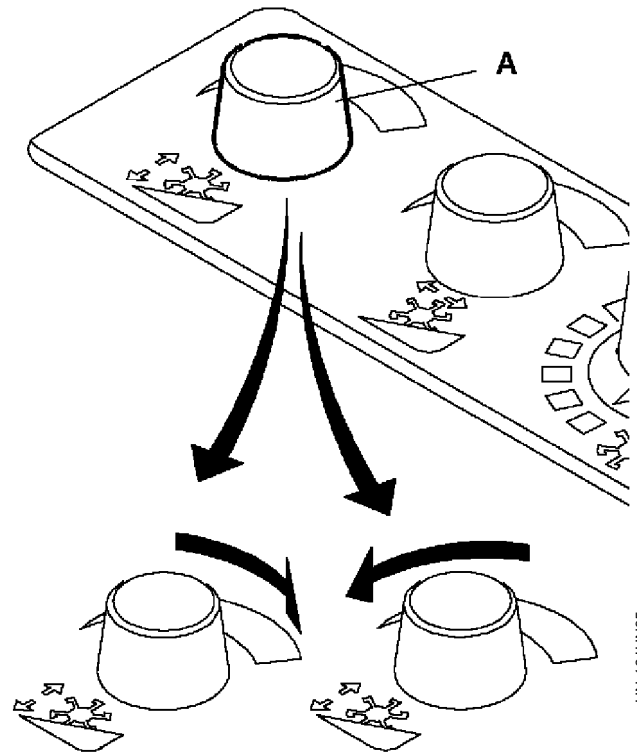
- Electronic system of header function resume controls must be switched on
- Resume controls must be activated

*NOTE: Once resume controls are activated, all three resume functions may be adjusted.*

**Adjustment:**

Use potentiometer (A) to obtain desired reel height resume setting.

- Turn clockwise — desired reel height position increases
- Turn counterclockwise — desired reel height position decreases



ZX 002290

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ZX0002290

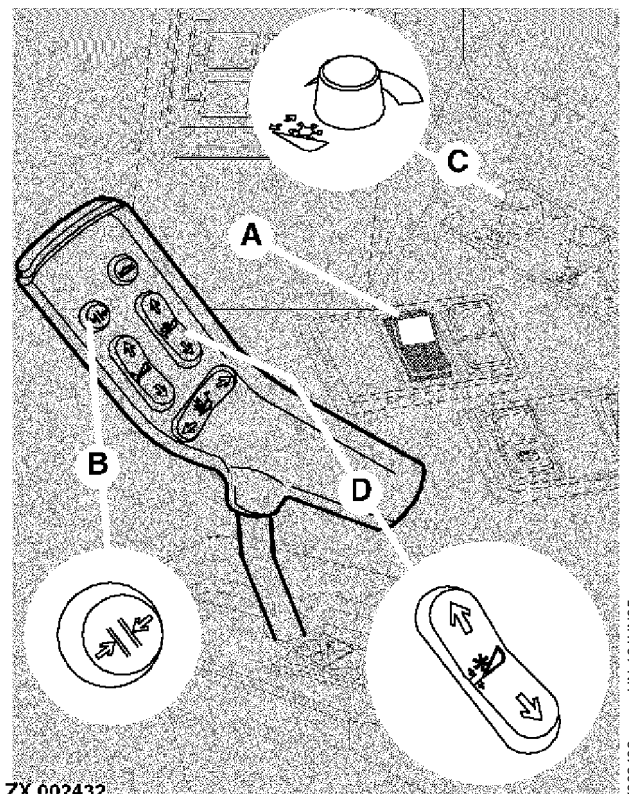
**Operation:**

Use switch (A) to switch on function resume controls and button (B) to activate the electronic system. Now move reel to desired position by means of potentiometer (C).

If switch (D) was pressed to change reel height, the reel position preselected by means of potentiometer (C) may be obtained again by pressing button (B).

*NOTE: Reel height resume function may be interrupted by actuating emergency cut-off switch (STOP) of multi-function lever.*

- A—Header function resume control switch
- B—Button for automatic resume control
- C—Potentiometer for reel height resume control
- D—Reel height adjusting switch



ZX 002432

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ZX0002432

### POTENTIOMETER FOR REEL FORE-AND-AFT RESUME CONTROL (OPTION)

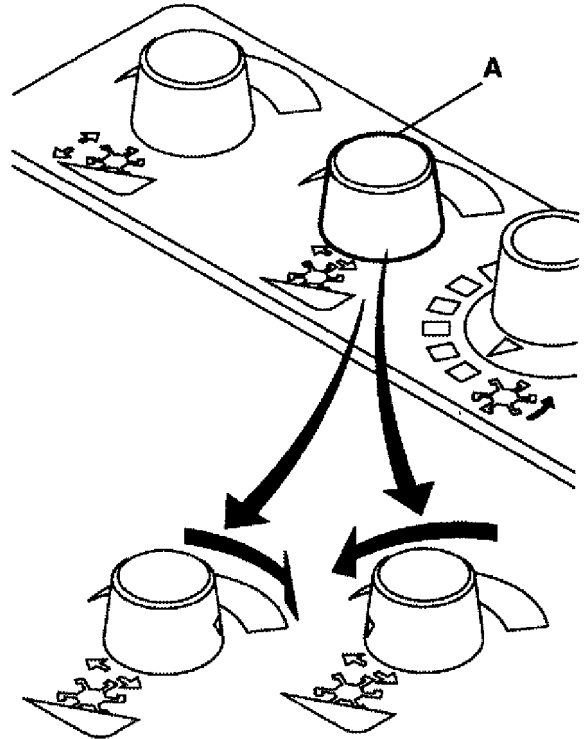
**Requirements:**

- Electronic system of header function resume controls must be switched on
- Resume controls must be activated

**Adjustment:**

Use potentiometer (A) to obtain desired reel fore-and-aft resume setting.

- Turn clockwise — reel is moved to the front
- Turn counterclockwise — reel is moved to the rear



ZX002291

ZX.OMXZC0001459-19-10JUN92

-UN-16JUN95  
ZX002291

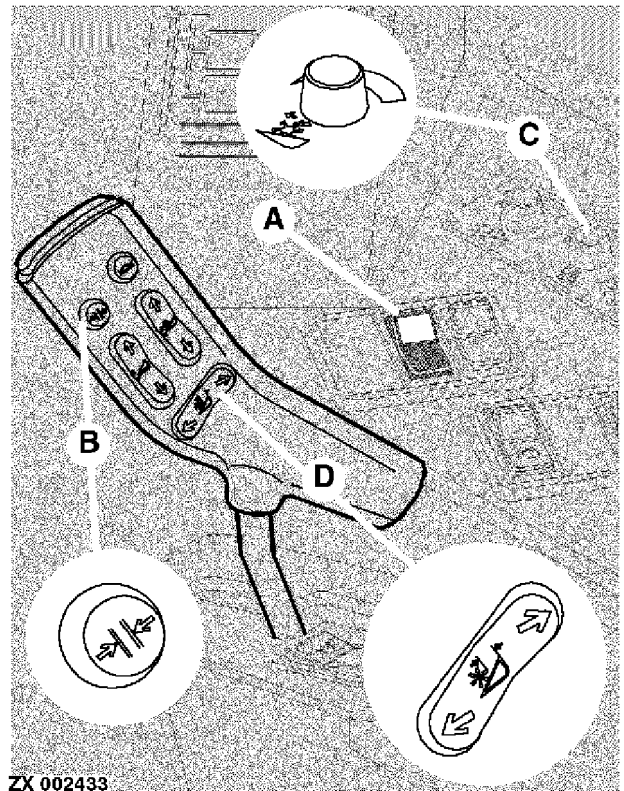
**Operation:**

Use switch (A) to switch on function resume controls and button (B) to activate the electronic system. Now move reel to desired horizontal position by means of potentiometer (C).

If switch (D) was pressed to change horizontal reel position, the reel position preselected by means of potentiometer (C) may be obtained again by pressing button (B).

*NOTE: Reel fore-and aft resume function may be interrupted by actuating emergency cut-off switch (STOP) of multi-function lever.*

- A—Header function resume control switch
- B—Button for automatic resume control
- C—Potentiometer for reel fore-and-aft resume control
- D—Switch for horizontal reel adjustment



ZX 002433

ZX.OMXZC0001787-19-24MAR92

-UN-16JUN95  
ZX002433

### ROTARY SWITCH FOR HEADER HEIGHT RESUME CONTROL (OPTION)

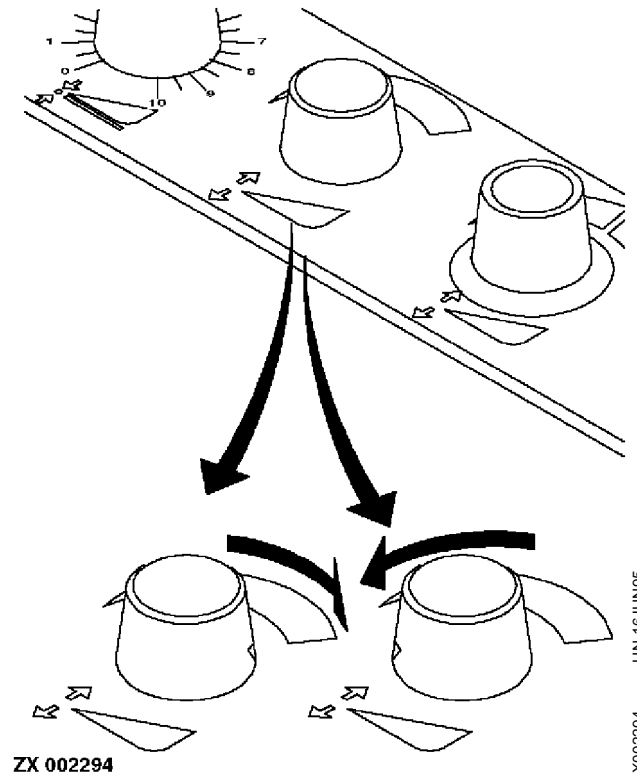
**Requirements:**

- Electronic system of header function resume controls must be switched on
- Resume controls must be activated
- Header must be within the range of header height gauge

**Adjustment:**

Use potentiometer (A) to obtain desired header height resume setting.

- Turn clockwise — desired header height position increases
- Turn counterclockwise — desired header height position decreases



ZX 002294

ZX.OMXZC0001462-19-10JUN92

-UN-16JUN95  
ZX002294

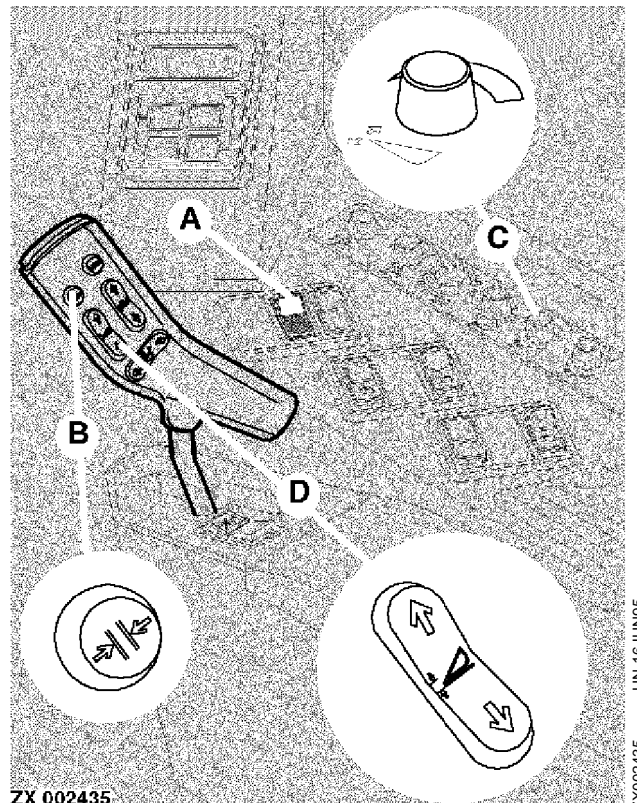
**Operation:**

Use switch (A) to switch on function resume controls and button (B) to activate the electronic system. Now move header to desired height position by means of potentiometer (C).

If switch (D) was pressed to change header height, the header position preselected by means of potentiometer (C) may be obtained again by pressing button (B).

*NOTE: Header height resume function may be interrupted by actuating emergency cut-off switch (STOP) of multi-function lever.*

- A—Header function resume control switch
- B—Button for automatic resume control
- C—Potentiometer for header height resume control
- D—Switch, raise/lower header



ZX 002435

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-UN-16JUN95  
ZX002435

### HEADER FUNCTION RESUME CONTROL BUTTON

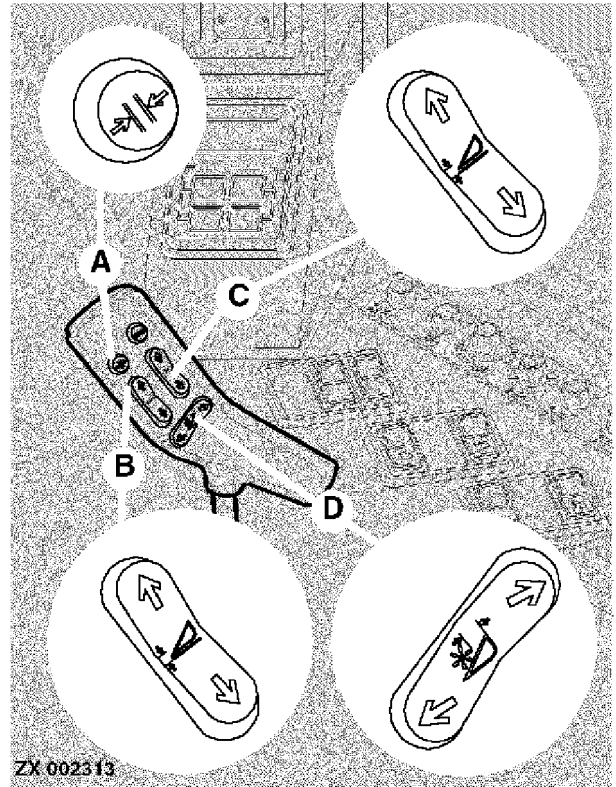
When pressing button (A), the following functions are performed:

- Reel height resume control
- Reel fore-and-aft resume control
- Header height resume control

The electronic control system will move reel and header back to preselected positions.

*NOTE: All reel and header positions obtained by pressing button (A) may be overcome by means of rocker switches (B, C and D).*

- A—Resume control button
- B—Rocker switch, raise/lower header
- C—Rocker switch, reel height adjustment
- D—Rocker switch, reel fore-and-aft adjustment



ZX 002313

-UN-16JUN95  
ZX002313

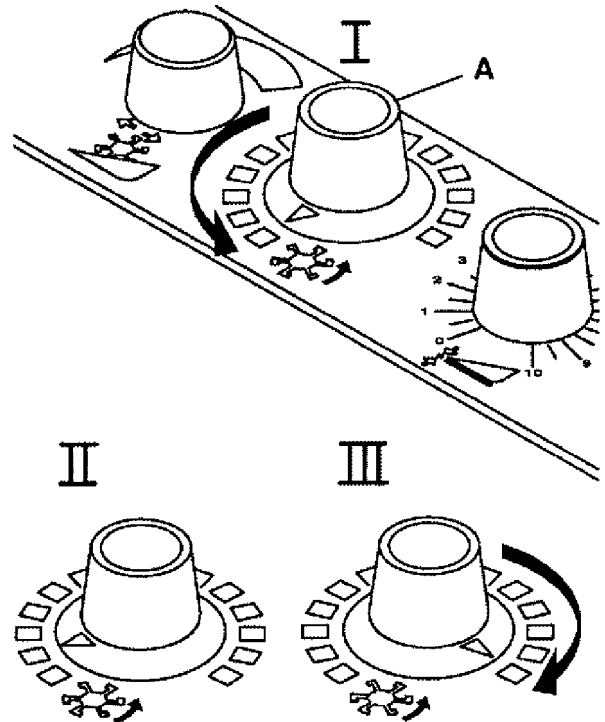
ZX,OMXZCO001486-19-27JAN92

### REEL SPEED CONTROL SWITCH (OPTION)

Ground speed-to-reel speed ratio may be preselected. Turning switch (A) clockwise changes ratio from 0.8—2.2. Turning switch all the way counterclockwise will deactivate reel speed control system.

*NOTE: Reel speed control system will only operate within a ground speed range from 1.2 km/h (0.75 mph) to approx. 10 km/h (6.25 mph).*

- I—Reel speed control off
- II—Switch position for diagnosis (refer to "Service-Electrical System")
- III—Reel speed is 2.2 times faster than ground speed



ZX002292

-UN-16JUN95  
ZX002292

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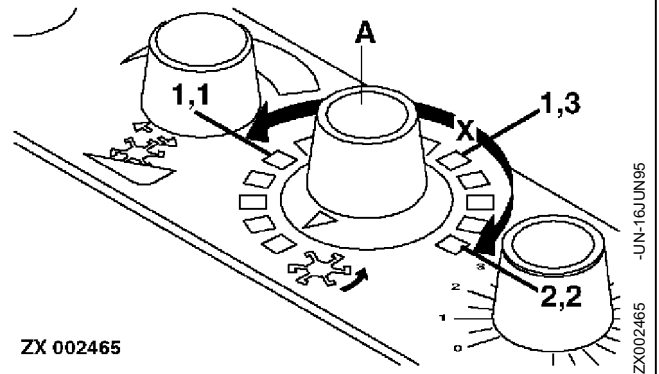


**Operation:**

During operation, reel speed may be adapted to harvesting conditions.

When working in down and tangled grain crops and a reel speed faster than ground speed is desired, move switch (A) to area (X) (from 1.1—2.2).

*NOTE: With reel speed control system activated, the reel will continue to rotate at slowest speed when ground speed drops below operating range.*



ZX,OMXZCO001831-19-24MAR92

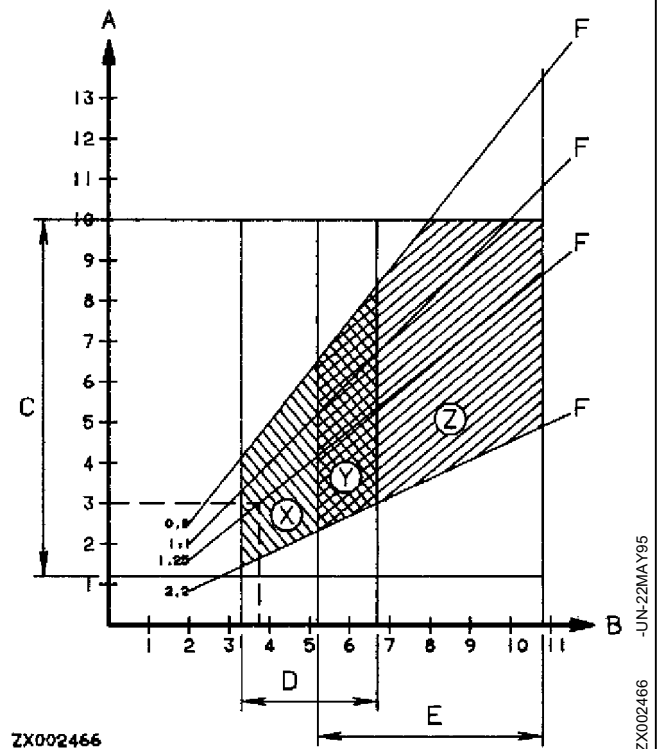
**OPERATING RANGE OF REEL SPEED CONTROL SYSTEM**

At a ground speed of 3 km/h (1.86 mph), it is not possible to operate with a speed ratio of 0.8. (Intersection of dotted horizontal line and speed ratio characteristic is not within the operating range of gears.)

When selecting a ratio of 1.25 (with the same ground speed), the intersection of characteristics is within operating range of gear T = 13. A reel speed of 3.75 km/h (2.33 mph) is obtained.

*NOTE: To change gears, refer to cutting platform operator's manual.*

- A—Combine ground speed (km/h)
- B—Peripheral reel speed (km/h)
- C—Ground speed range in which electronic reel speed control system is operating
- D—Reel speed range with gear T = 13
- E—Reel speed range with gear T = 21
- F—Characteristics of speed ratios
- X—Operating range of reel speed control system obtained with gear T = 13 ONLY
- Y—Operating range of reel speed control system obtained with BOTH gears (T = 13 and T = 21)
- Z—Operating range of reel speed control system obtained with gear T = 21 ONLY



ZX,OMXZCO001832-19-20JUL92

## HEADER AUTOFLOAT CONTROL (OPTION)

**IMPORTANT:** Readjust float whenever changing harvesting units or when ground conditions change.

### Requirements:

- Engine running (high speed)
- Road safety switch in field position

*NOTE: Do not adjust header float unless hydraulic oil is at operating temperature.*

### Autofloat Adjustment

Use potentiometer (A) to adjust desired header float.

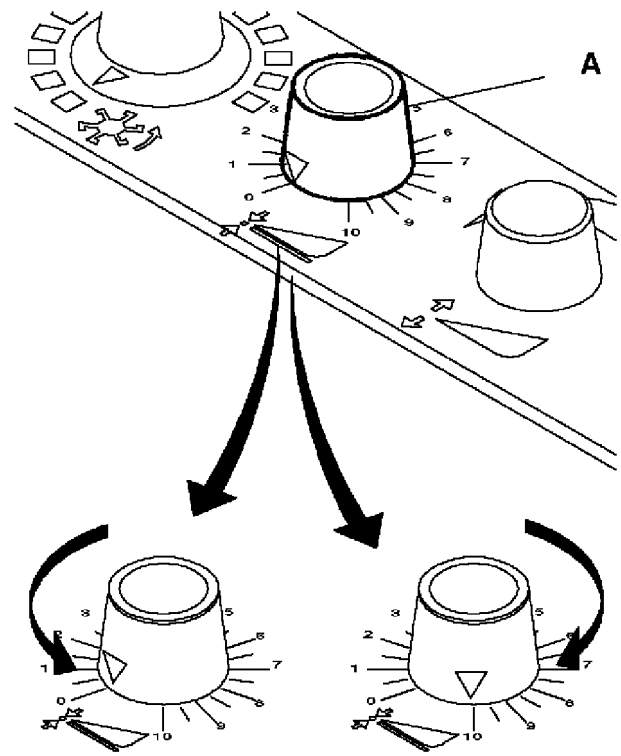
- Turn clockwise — Increase ground pressure (lower header)
- Turn counterclockwise — Reduce ground pressure (raise header)

*NOTE: When ground pressure is increased, header lowering speed will also increase.*

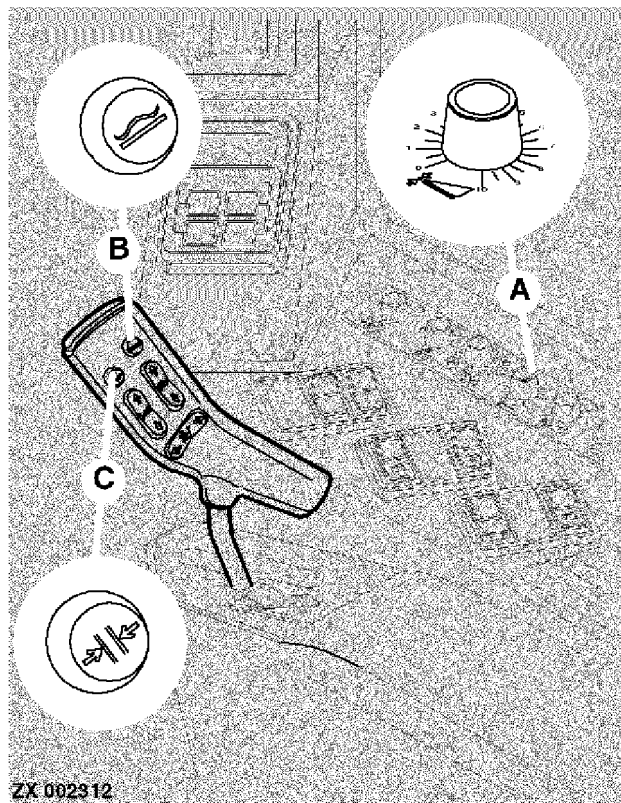
With autofloat system activated, the preselected ground pressure (float) may be obtained again by pressing button (B). The ground pressure setting will remain until button is released.

*NOTE: When header autofloat button (B) is pushed, header height resume control (C) will be overcome.*

- I—Autofloat system off
- II—Autofloat system on
- A—Header autofloat potentiometer
- B—Header autofloat button
- C—Header height resume button



ZX 002293



ZX 002312

-UN-16JUN95  
ZX002293

-UN-16JUN95  
ZX002312

**Operation:**

To adjust desired ground pressure (float), actuate switch (A) to lower header to the ground. Turn potentiometer (B) all the way clockwise.

Keep button (C) pressed and turn potentiometer (B) counterclockwise until header is just raised off the ground. Now turn potentiometer (B) clockwise until desired ground pressure has been obtained.

The selected ground pressure (float) may be changed any time during operation as described above.

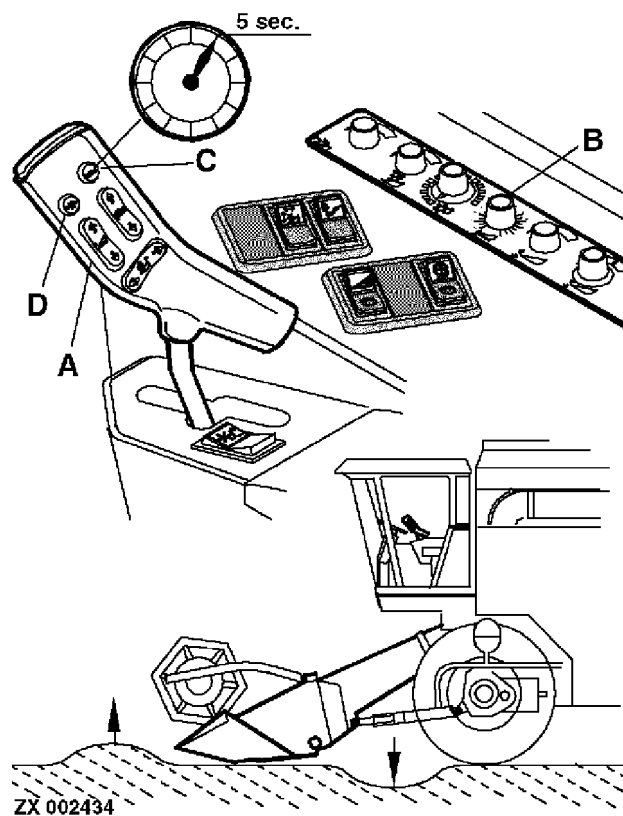
If necessary, press button (C) to obtain preselected ground pressure again (keep button pressed for approx. five seconds until adjusting procedure is completed):

- In case of ground depressions, the ground pressure will drop; header is automatically lowered to obtain preselected pressure once again.
- In case of obstacles, the ground pressure will increase; header is automatically raised to obtain preselected pressure once again.

**Example:**

At the end of the field, raise header by actuating switch (A). After changing direction of combine travel, lower header using switch (A) or button (D). Now press button (C) for at least five seconds to obtain float setting preselected by potentiometer (B).

*NOTE: Header autofloat system may be deactivated by switch (A). The header height resume control may also be deactivated by the autofloat system, i.e. a selected header height is changed with autofloat system activated.*



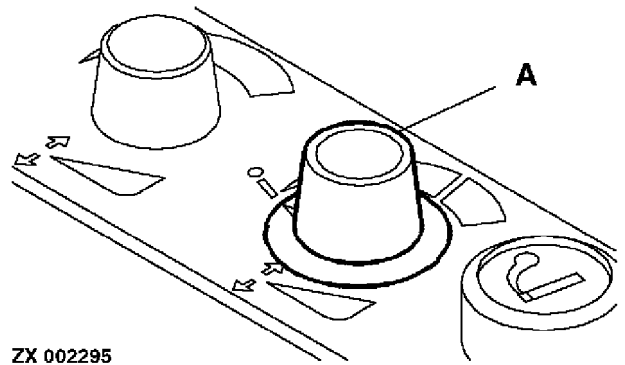
- A—Switch, raise/lower header
- B—Header autofloat potentiometer
- C—Header autofloat button
- D—Header height resume button

### DIAL-A-MATIC™ ROTARY SWITCH — AUTOMATIC HEADER HEIGHT CONTROL

DIAL-A-MATIC™ automatic header height control is designed for use with 900 Series Flex Platforms. The correct relation of header to ground is maintained automatically over uneven ground.

Most adjustments can be made in the cab with switch (A).

Refer to the header Operator's Manual for additional information.



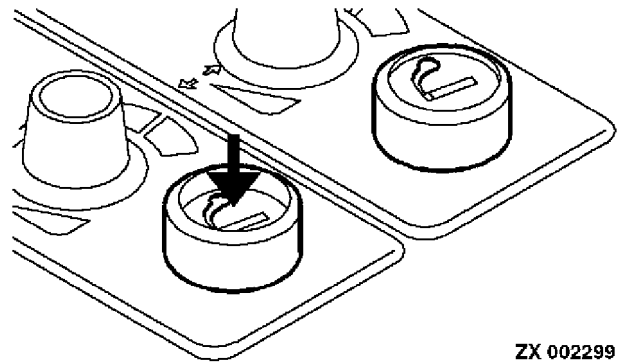
ZX 002295

-UN-16JUN95  
ZX002295

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### CIGARETTE LIGHTER

Press cigarette lighter insert into socket and wait until it is released automatically (only with ignition turned on).



ZX 002299

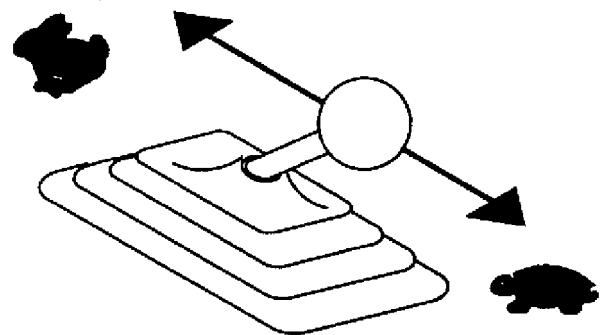
ZX,OMXZCO001464-19-27JAN92

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ZX002299

### THROTTLE LEVER

Push throttle lever forward  
— Increase engine speed (hare)

Pull throttle lever to the rear  
— Reduce engine speed (Tortoise)



ZX 002310

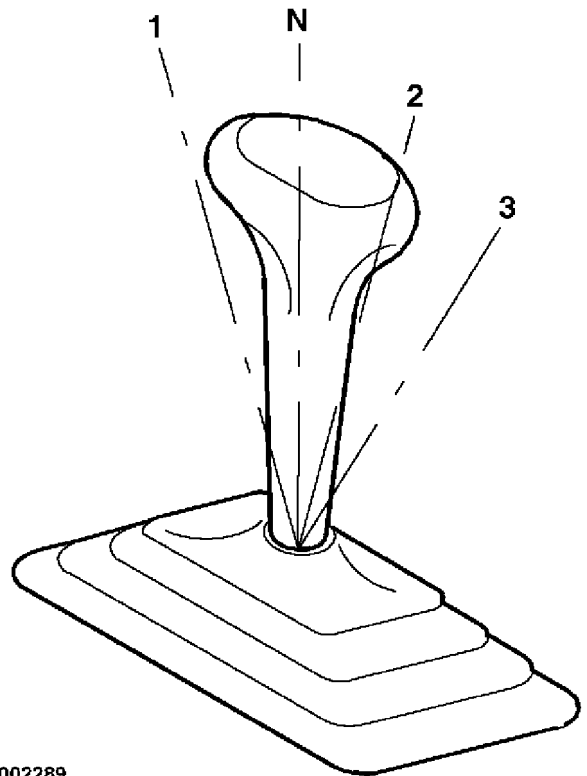
ZX,OMXZCO001465-19-27JAN92

-UN-24MAR95  
ZX002310

## GEAR SHIFT LEVER

Shift into desired gear with combine stationary (ground speed control lever in neutral position).

Select a suitable gear for road travel or field operation (in most cases the 2nd gear is best for harvesting).



ZX 002289

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ZX002289 -UN-16JUN95

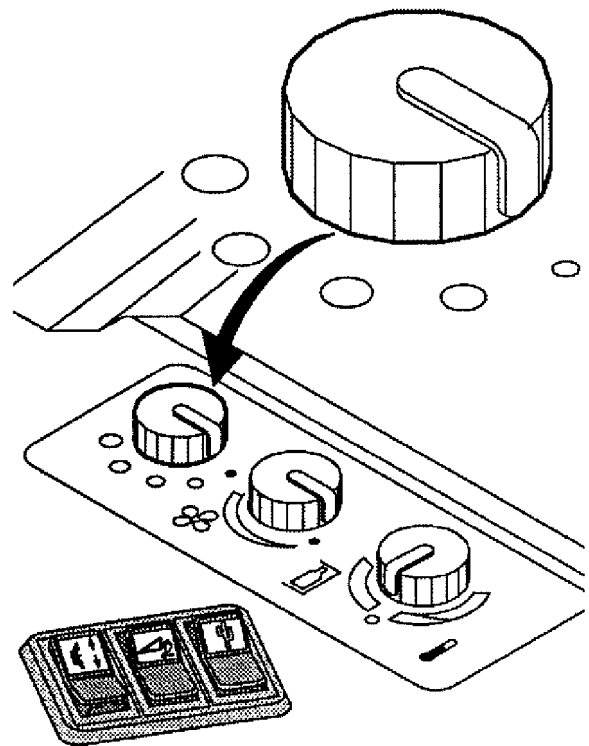
## ROTARY FAN SWITCH

**IMPORTANT:** Always switch on fan before heating or air conditioning system is set to work.

A four-speed rotary switch controls the fan which slightly pressurizes the cab. To switch on fan (only possible with ignition turned on), turn switch clockwise.

Position 0 — Fan off

Fan speed increases if switch is turned further to the right (clockwise).



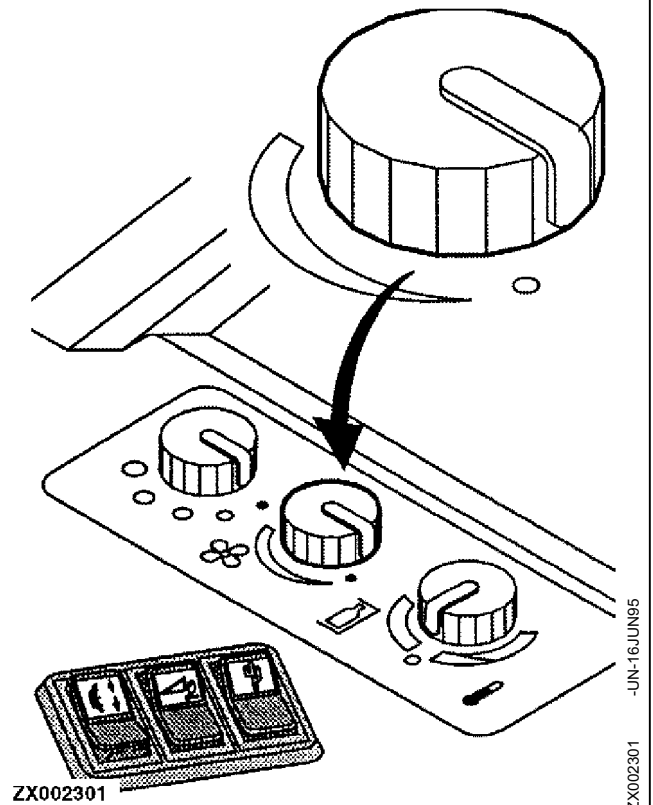
ZX002300

ZX,OMXZCO001467-19-27JAN92

ZX002300 -UN-16JUN95

### ROTARY SWITCH — COOLING COMPARTMENT (WITH AIR CONDITIONING ONLY)

A cooling compartment is located below the passenger seat. To increase cooling effect, turn switch clockwise.



ZX,OMXZCO001468-19-27JAN92

### ROTARY SWITCH — AIR CONDITIONING/HEATER

#### I — Air Conditioning System

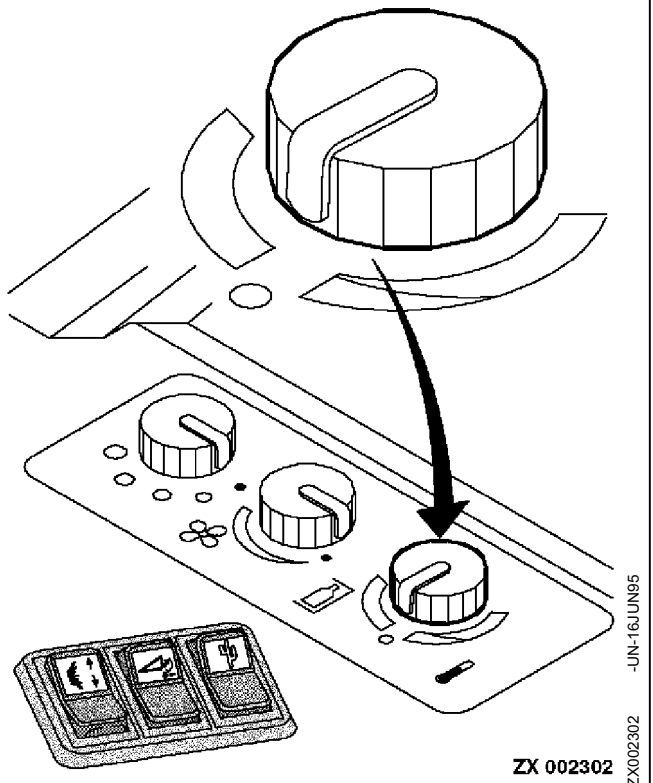
Before switching on the air conditioning system, the fan must be operating. Turn switch counterclockwise to switch on air conditioning. Turning switch all the way counterclockwise will give maximum cooling.

**IMPORTANT:** Operate air conditioning system several times each year — even in the cooler seasons — to lubricate all moving parts of the system.

#### II — Heater

Before switching on the heater, the fan must be operating. Turning switch clockwise will open heater valve. Turn switch all the way clockwise for maximum heating effect.

Also refer to “Demoisturizer Tumbler Switch”.



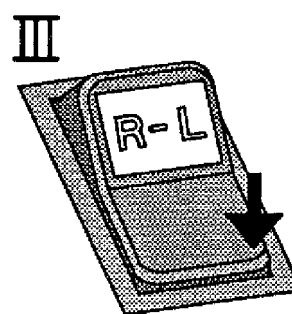
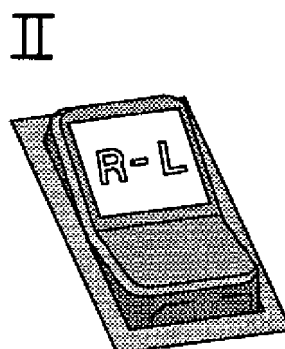
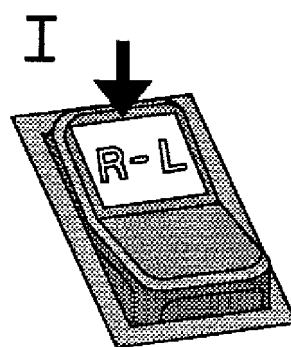
ZX,OMXZCO001469-19-27JAN92

### MANUAL LEVELING CONTROL ROCKER SWITCH (WITH CENTER POSITION) (SPECIAL EQUIPMENT)

Combine tilt adjustment is only possible with engine running and road safety switch in field position.

*NOTE: With automatic leveling control system activated, this switch can be used to overcome automatic functions, i.e. combine may be tilted manually to the left or right.*

- I—Combine tilts to the right
- II—Off
- III—Combine tilts to the left



ZX 002296

ZX.OMXZC0001470-19-27JAN92

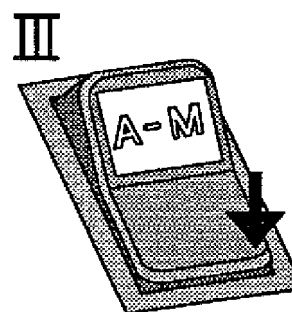
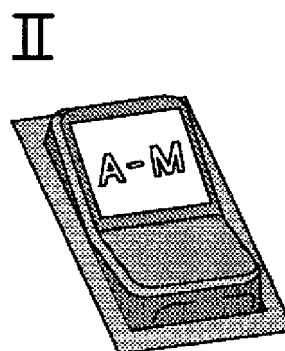
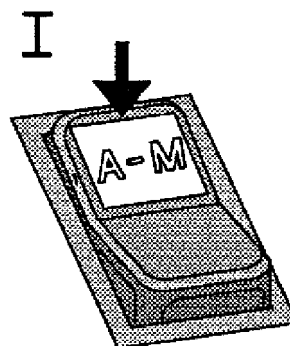
-JUN-23OCT00  
ZX002296

### AUTOMATIC LEVELING CONTROL TUMBLER SWITCH (SPECIAL EQUIPMENT)

The automatic leveling system will only operate with engine running and road safety switch in field position.

**CAUTION:** Before driving combine on public roads, move switch to position (III) to make sure that a transport height of 4 m (13.12 ft) is not exceeded.

- I—Automatic leveling system on (field travel)
- II—Automatic leveling system off (manual)
- III—Lowering position (changing from field operation to road travel)



ZX 002297

ZX.OMXZC0001471-19-13APR92

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ZX002297

### OPERATING WITH HILLMASTER LEVELING SYSTEM

**CAUTION:** Particular care must be taken when turning the combine on slopes. Never turn combine faster than the leveling system can keep combine in level position. Always turn uphill! When the yellow indicator light (C) glows (tilt limit has been reached), take extreme care!

**IMPORTANT:** Before actuating manual leveling control switch, make sure that parking brake is released.

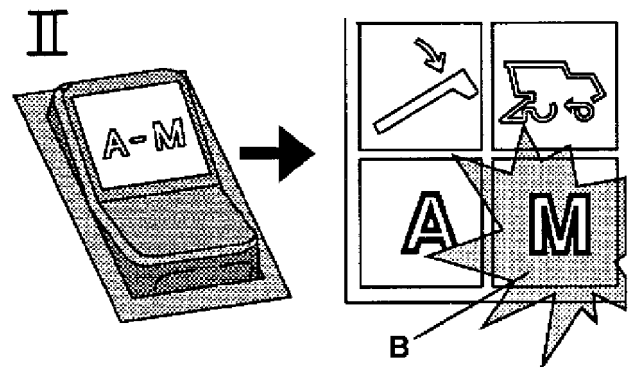
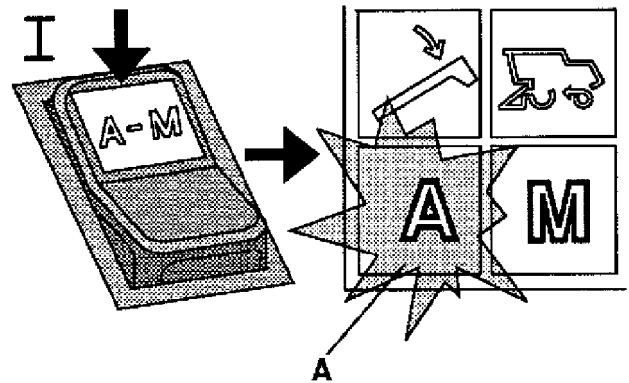
**IMPORTANT:** When parking the combine, do not park too close to other machines or walls of storage buildings. This is important as combine may tilt due to internal loss of oil pressure when parked for some time. This may cause damage to combine and adjacent machines or walls.

The hillmaster combine is designed for slopes up to 11%.

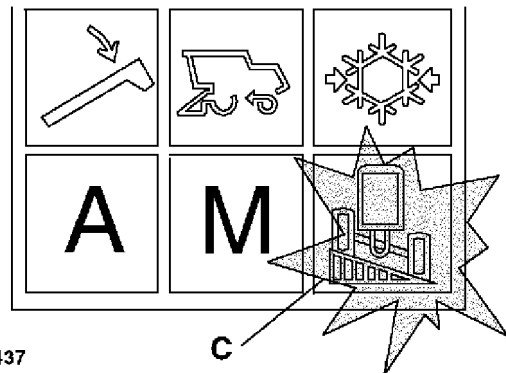
With automatic operation the green indicator light (A) of indicator light unit II will glow.

With manual operation the green indicator light (B) of indicator light unit II will glow.

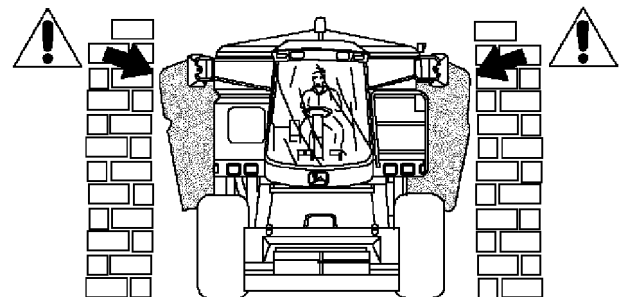
- I—Automatic operation
- II—Manual operation



ZX 002436



ZX 002437



ZX 002438

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ZX002436

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ZX002437

-JUN-16JUN95  
ZX002438

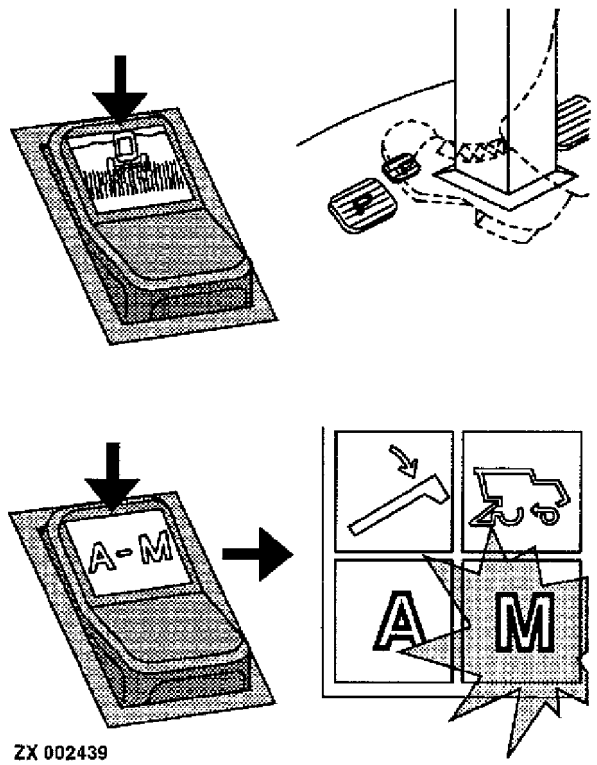


### DAILY PREPARATIONS BEFORE DRIVING HILLMASTER COMBINE

Before driving the hillmaster combine, the following tests have to be performed for safety reasons.

**Requirements:**

- Engine running (high speed)
- Road safety switch in field position
- Parking brake released
- Automatic leveling control switch in position for manual operation



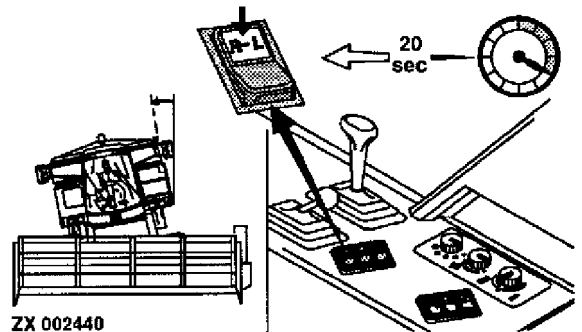
ZX 002439

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ZX002439

#### Test 1

Move manual leveling control switch to right-hand tilt position for 20 seconds — combine will tilt to the right



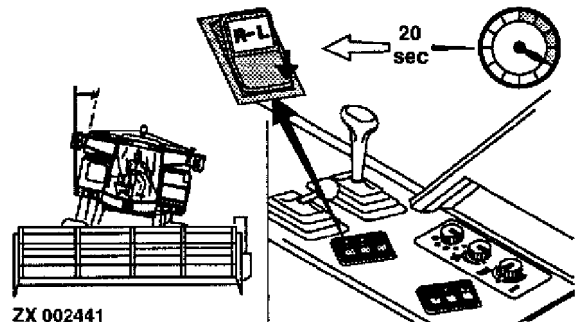
ZX 002440

ZX,OMXZCO001792-19-24MAR92

-UN-23OCT00  
ZX002440

#### Test 2

Move manual leveling control switch to left-hand tilt position for 20 seconds — combine will tilt to the left



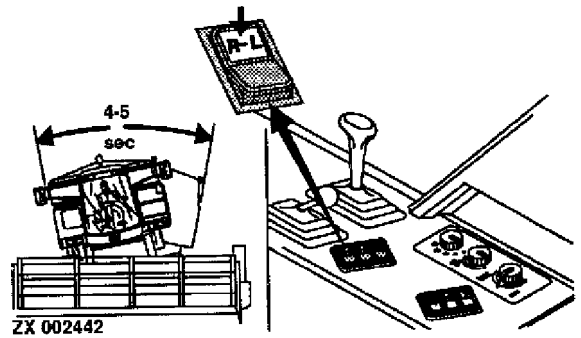
ZX 002441

ZX,OMXZCO001793-19-24MAR92

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ZX002441

**Test 3**

By operating manual leveling control switch, bring combine from maximum left tilt to maximum right tilt — the time required to do this should be 4—5 seconds.



ZX 002442

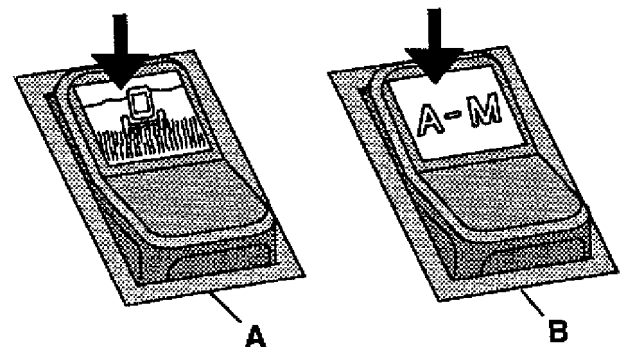
ZX.OMXZCO001794-19-24MAR92

-JUN-23OCT00  
ZX002442

**OPERATING WITH AUTOMATIC LEVELING CONTROL**

When working in the field, move road safety switch (A) to field position and leveling control switch (B) to position for automatic operation. Now the combine will automatically level on slopes up to 11%.

*NOTE: If hillmaster combine was in transport configuration, prepare combine for field operation. Refer to "Changing from Road Travel to Field Operation".*



ZX 002443

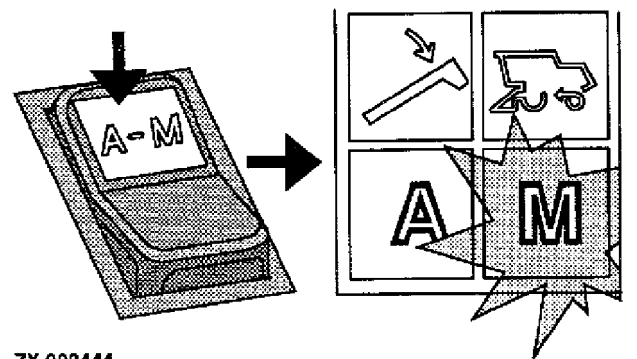
ZX.OMXZCO001795-19-24MAR92

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ZX002443

**OPERATING WITH MANUAL LEVELING CONTROL**

This function is used to change from:

- Road travel to field operation
- Field operation to road travel



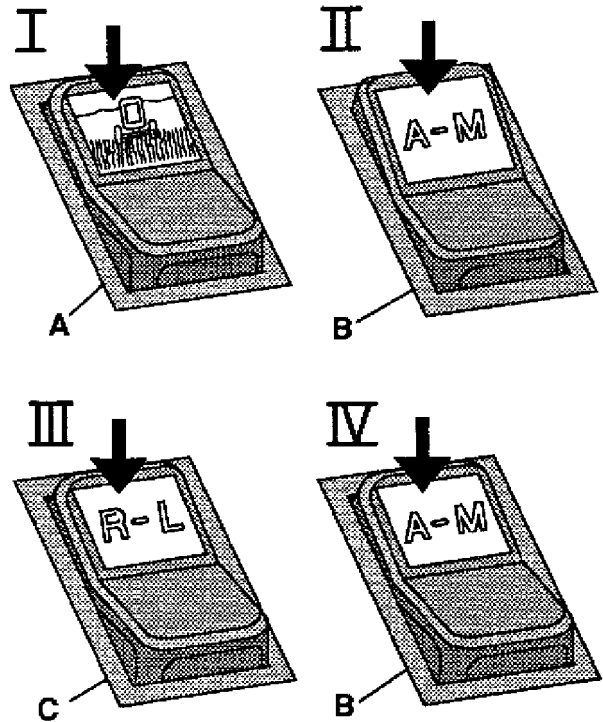
ZX 002444

ZX.OMXZCO001796-19-24MAR92

-JUN-23OCT00  
ZX002444

**Changing from Road Travel to Field Operation**

- I—Move road safety switch (A) from road to field position.
- II—Move leveling control switch (B) from lowering to manual position.
- III—Press manual leveling control switch (C) to move combine to maximum right-hand tilt position (keep switch pressed for approx. 20 seconds).
- IV—Move switch (B) to automatic position. Now the combine will level automatically.



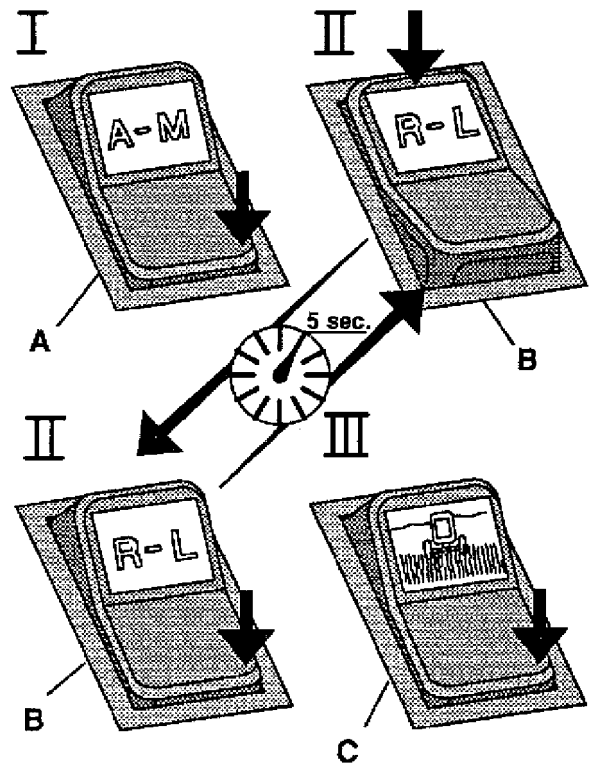
ZX 002445

ZX.OMXZC0001797-19-13APR92

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ZX002445

**Changing from Field Operation to Road Travel**

- I—Move leveling control switch (A) from automatic to lowering position.
- II—Using manual leveling control switch (B), lower combine. Alternately press top and bottom part of switch (B) for approx. 5 seconds until combine is completely lowered.
- III—Move road safety switch (C) from field to road position.



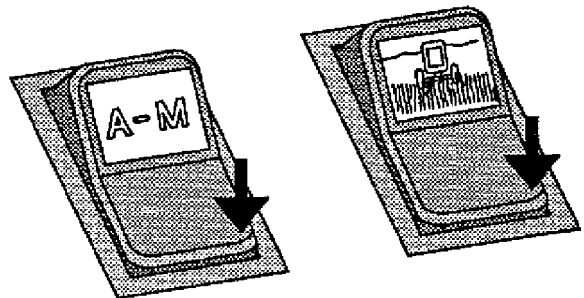
ZX 002446

ZX.OMXZC0001798-19-13APR92

-JUN-23OCT00  
ZX002446

### HILLMASTER COMBINE ROAD TRAVEL

**CAUTION:** When driving hillmaster combine on public roads, make sure that automatic leveling control switch is in “lowering” position and road safety switch in “road” position.



ZX 002447

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ZX002447

ZX.OMXZCO001799-19-13APR92

### HEADER PARALLEL ADJUSTMENT (ROCKER SWITCH WITH CENTER POSITION) (SPECIAL EQUIPMENT)

This function can only be activated with road safety switch in field position and engine running.

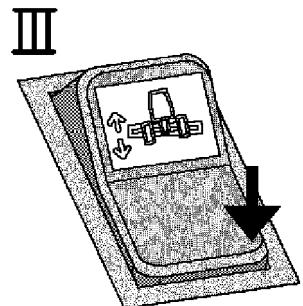
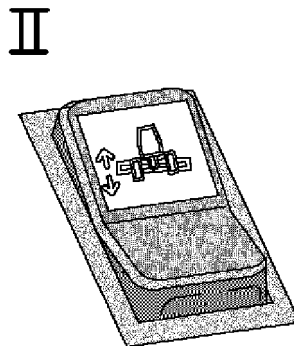
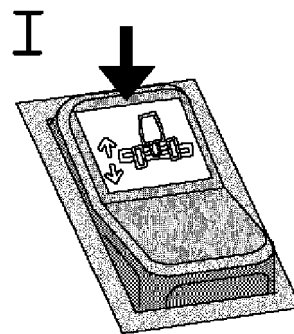
*NOTE: On combines without automatic leveling system, this switch is used for header parallel adjustment (for slopes up to 11%).*

**Operation:**

With leveling system activated, automatic header control may be overcome by actuating this switch. If, for example, the combine is working on a 6% slope and one wheel passes through a depression in the ground, the header is not able to follow ground contours automatically.

When using the parallel adjustment function, it is possible to manually adapt header position to ground contours regardless of combine tilt.

- I—Header tilts to the right
- II—Off
- III—Header tilts to the left



ZX 002303

-JUN-16JUN95  
ZX002303

ZX.OMXZCO001472-19-10JUN92

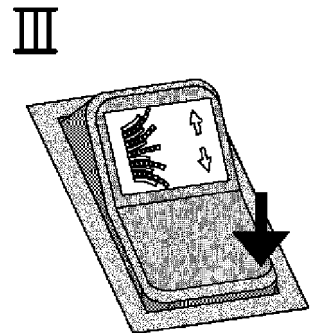
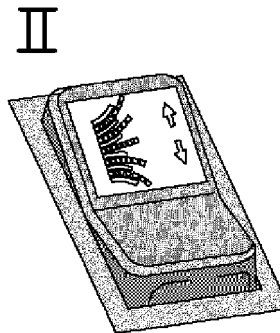
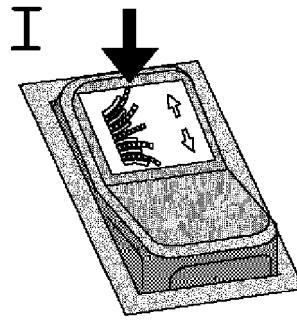
### CHOPPER DISTRIBUTOR ADJUSTMENT (ROCKER SWITCH WITH CENTER POSITION) (SPECIAL EQUIPMENT)

Adjustment is only possible with separator engaged.

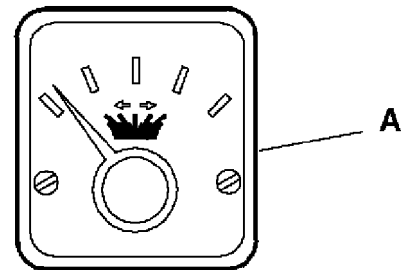
#### Operation:

In windy conditions and/or on slopes, straw distribution may be adapted to harvesting requirements after basic adjustment with regard to header width has been performed. When working on slopes, this switch is used to regulate the direction of straw distribution. This will avoid downhill straw accumulations. Corner post gauge (A) shows current direction of straw distribution.

- I—Material is thrown to the right
- II—Off
- III—Material is thrown to the left



ZX 002307



ZX 002448

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ZX002307

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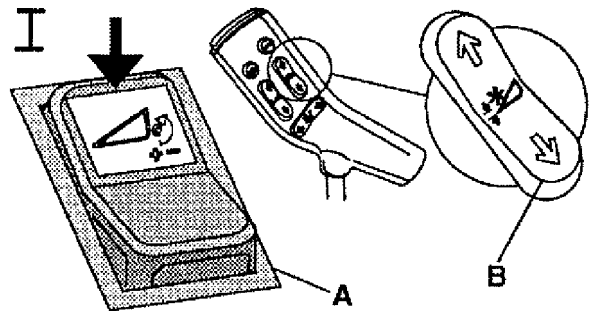
ZX002448

### REEL LIFT/FEEDER HOUSE VARIATOR TUMBLER SWITCH (SPECIAL EQUIPMENT FOR CORN)

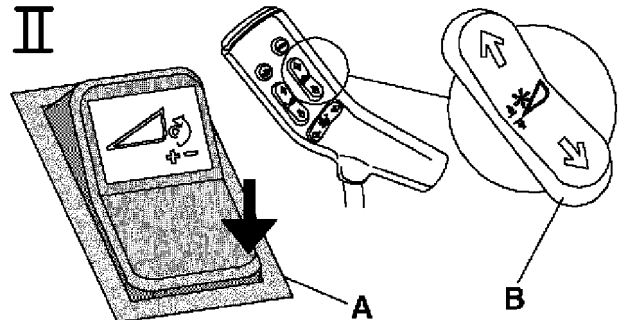
Use switch (A) to change function of switch (B):

- In position (I) of switch (A), feeder house and header speed are altered by means of switch (B) (corn harvest).
- In position (II) of switch (A), reel height is adjusted by means of switch (B) (grain harvest).

- I—Feeder house variator
- II—Reel lift



ZX002308



ZX 002449

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ZX002308

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ZX002449

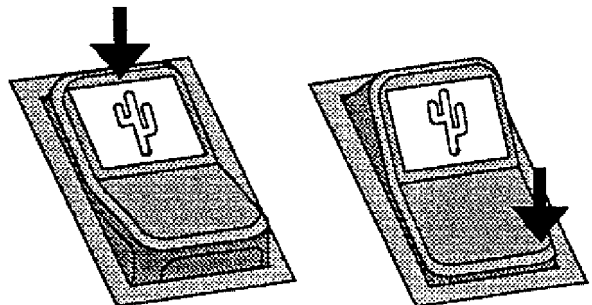
### DEMOISTURIZER TUMBLER SWITCH (OPTION)

*NOTE: Only with air conditioning system.*

With heater switched on, cab air can be demoisturized by switching on air conditioning. This is done by pressing demoisturizer switch (also refer to "Service - Air Conditioning System and Heater").

Cab air temperature can be regulated by means of rotary heater switch.

- I—Demoisturizer switch on
- II—Demoisturizer switch off



ZX002309

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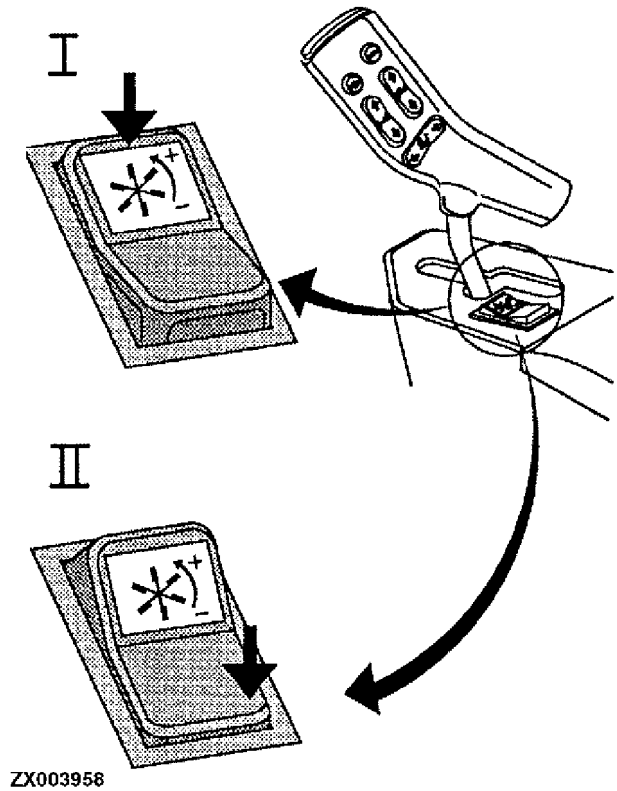
-UN-16JUN95  
ZX002309

### REEL SPEED ROCKER SWITCH (WITH CENTER POSITION)

**IMPORTANT:** Operate the switch only when the reel is rotating.

Reel speed adjustment is only possible with engine running, road safety switch in field position, separator engaged and header drive switched on.

- I—Increase reel speed
- II—Reduce reel speed



ZX003958

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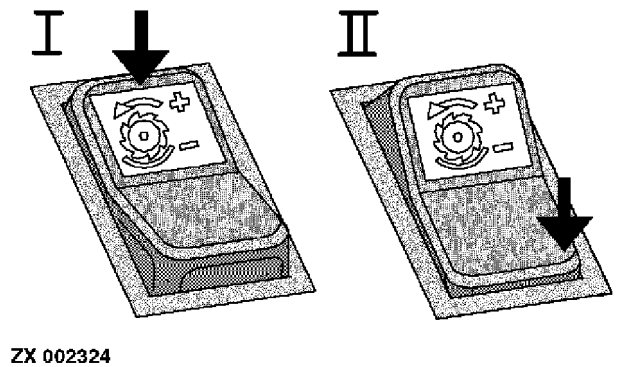
-UN-19JUN95  
ZX003958

### CYLINDER SPEED SWITCH

Cylinder speed adjustment is only possible with engine running, road safety switch in field position and separator engaged.

**IMPORTANT:** After changing cylinder speed, alarm speed must also be readjusted (refer to Section "Warning Devices and Monitors").

*NOTE:* The current cylinder speed can be displayed on the infotrak monitor.



ZX 002324

- I—Increase cylinder speed
- II—Reduce cylinder speed

ZX,OMXZC0001480-19-14NOV92

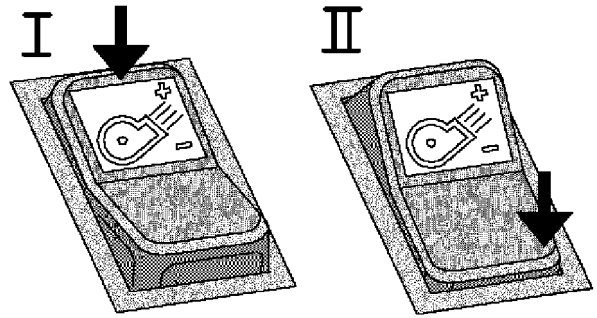
-UN-16JUN95  
ZX002324

### FAN SPEED SWITCH

Fan speed adjustment is only possible with engine running, road safety switch in field position and separator engaged.

**IMPORTANT:** After changing fan speed, alarm speed must also be readjusted (refer to Section "Warning Devices and Monitors").

*NOTE:* The current fan speed can be displayed on the infotrak monitor.



ZX 002326

I—Increase fan speed  
II—Reduce fan speed

ZX,OMXZC0001482-19-14NOV92

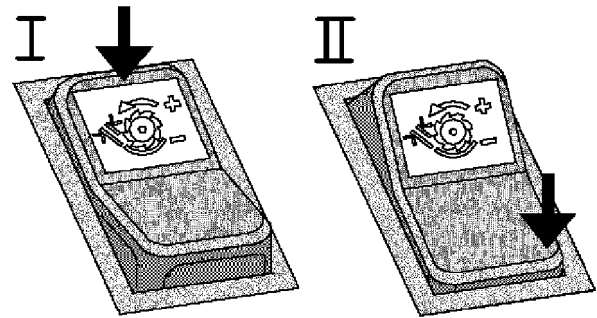
-UN-16JUN95  
ZX002326

### CONCAVE CLEARANCE ADJUSTING SWITCH

To adjust concave clearance, starter switch must be in position I or II.

*NOTE:* The current concave clearance in mm (inches) can be displayed on the infotrak monitor. Briefly touch switch (top or bottom part) to display actual setting for 5 seconds.

With manual adjustment, concave clearance is shown on infotrak monitor.



ZX 002325

I—Increase concave clearance  
II—Reduce concave clearance

ZX,OMXZC0001481-19-14NOV92

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ZX002325

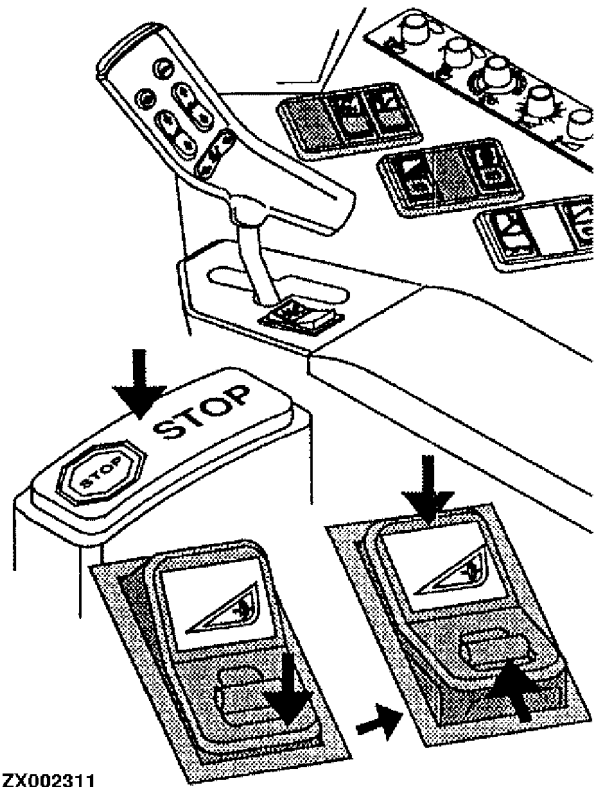


### EMERGENCY CUT-OFF SWITCH (STOP) IN MULTI-FUNCTION LEVER

**IMPORTANT:** Header drive can be disengaged by this switch in case of malfunctions.

When actuating cut-off switch, the automatic reel and header resume control functions are also interrupted.

To reengage header drive, first switch off header drive switch, then switch on again. Before doing so, make sure that the malfunction has been corrected.



ZX002311

ZX,OMXZC0001484-19-13NOV92

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ZX002311

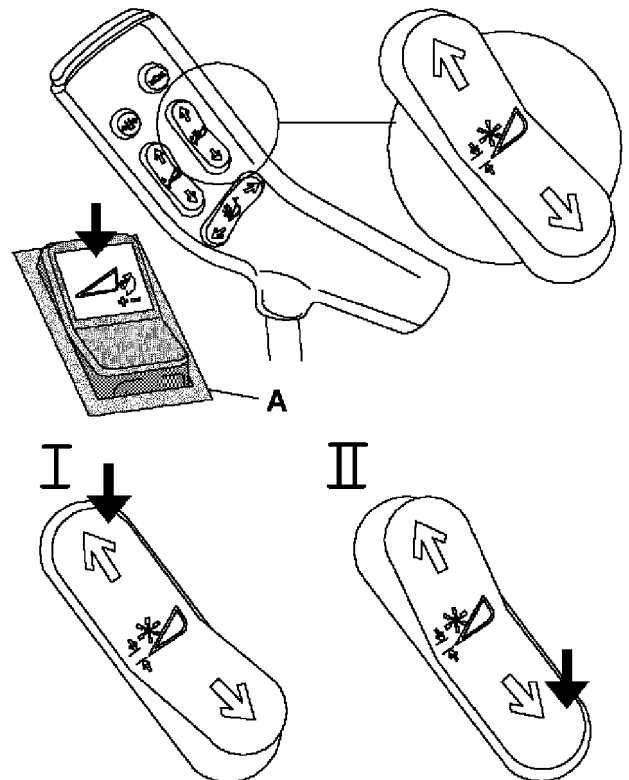
### ROCKER SWITCH, REEL HEIGHT ADJUSTMENT/FEEDER HOUSE VARIATOR

*NOTE: Setting feeder house variator by means of this switch is optional.*

Adjustment of reel height/feeder house and header speeds is only possible with engine running and road safety switch in field position.

#### Reel Height Adjustment Function for Grain Harvest

- A—Tumbler switch, reel lift/feeder house variator
- I—Raise reel
- II—Lower reel



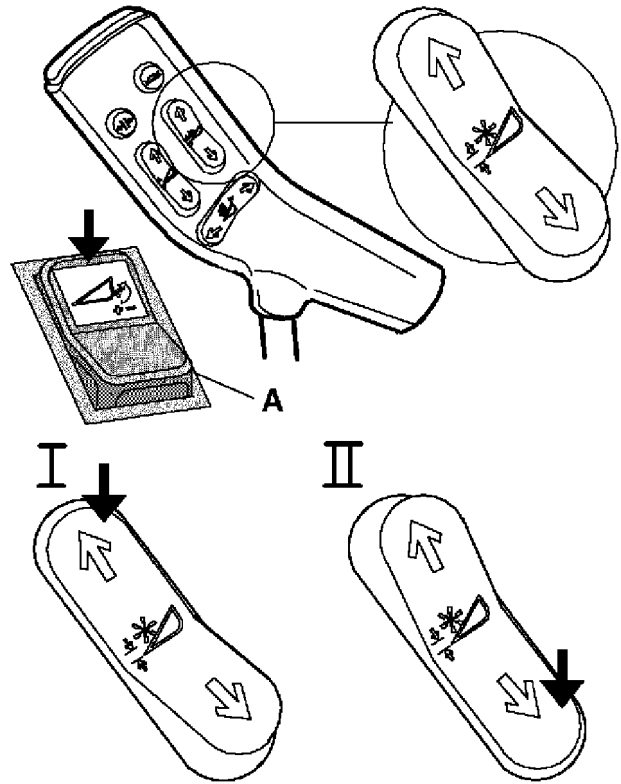
ZX 002314

ZX,OMXZC0001487-19-27JAN92

-UN-16JUN95  
ZX002314

**Feeder House Variator Function for Corn Harvest**

- A—Tumbler switch, reel lift/feeder house variator
- I—Increase feeder house speed
- II—Reduce feeder house speed



ZX 002450

ZX,OMXZCO001800-19-24MAR92

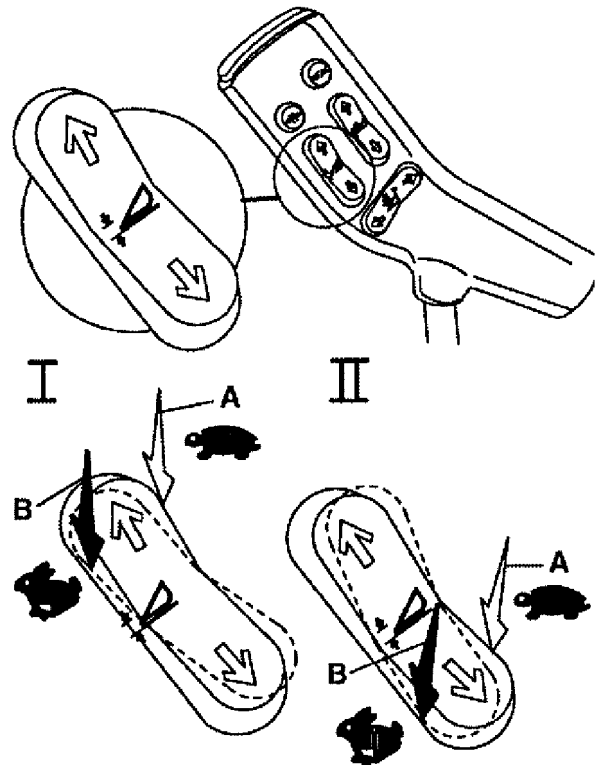
ZX002450 -UN-16JUN95

**ROCKER SWITCH, RAISE/LOWER HEADER**

Raising or lowering header is only possible with engine running and road safety switch in field position.

**Two speeds are available for raising and lowering header**

- I —Raise header
  - A—Slow speed (1st stage of switch)
  - B—Fast speed (2nd stage of switch)
- II—Lower header
  - A—Slow speed (1st stage of switch)
  - B—Fast speed (2nd stage of switch)



ZX002315

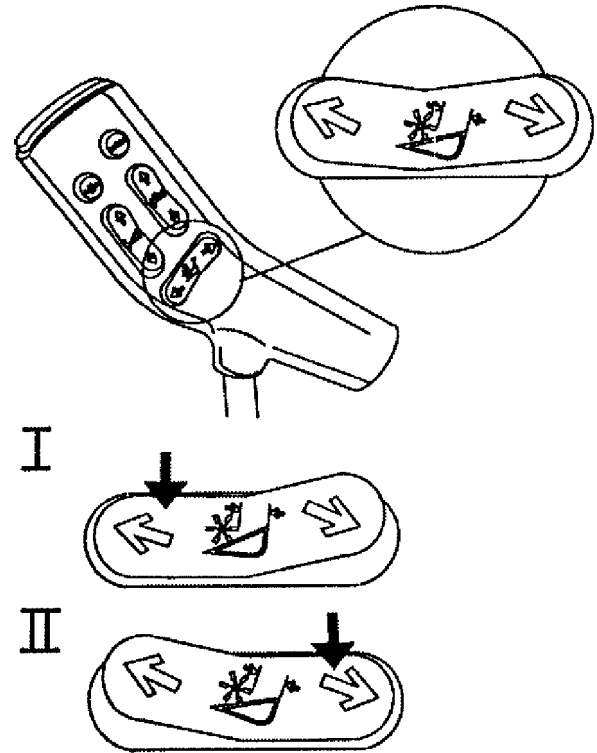
ZX,OMXZCO001488-19-27JAN92

ZX002315 -UN-16JUN95

### ROCKER SWITCH, REEL FORE-AND-AFT ADJUSTMENT

Reel fore-and-aft adjustment is only possible with engine running and road safety switch in field position.

- I—Move reel forward
- II—Move reel to the rear



ZX002316

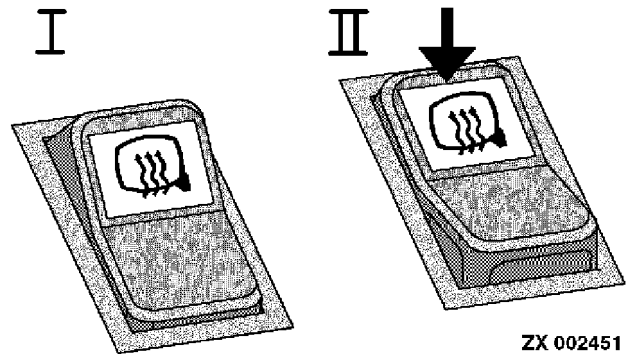
ZX,OMXZC0001489-19-27JAN92

-UN-16JUN95  
ZX002316

### MIRROR HEATER TUMBLER SWITCH (OPTION)

Switching on mirror heater is only possible when starter switch is in "On" position (turned to position I or further).

- I—Mirror heater off
- II—Mirror heater on



ZX 002451

ZX,OMXZC0001801-19-13NOV92

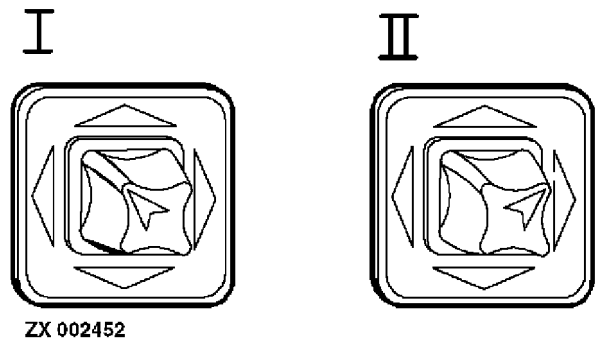
-UN-16JUN95  
ZX002451

### SWITCH FOR ELECTRICALLY ADJUSTABLE OUTSIDE MIRRORS (OPTION)

Mirror adjustment is only possible when starter switch is in "On" position (turned to position I or further).

Move mirrors up/down or to the right/left according to arrows on switch.

- I—Adjusting l.h. outside mirror
- II—Adjusting r.h. outside mirror



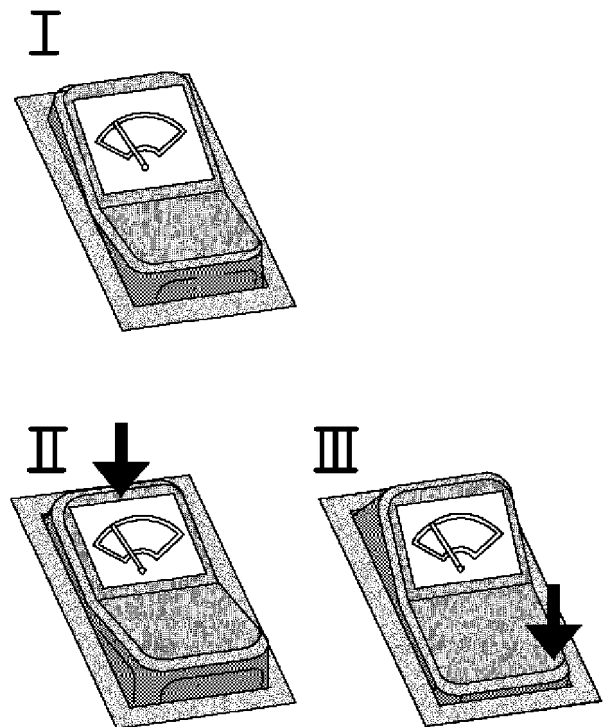
ZX002452 -JUN-16-JUN95

ZX,OMXZCO001802-19-10JUN92

### WINDSHIELD WIPER TUMBLER/ROCKER SWITCH

Ignition must be turned on for windshield wiper operation.

- I— Windshield wiper off
- II— Tumbler switch function  
Windshield wiper operates continuously.
- III— Rocker switch function  
Windshield wiper completes one cycle (briefly touch switch to activate this function).



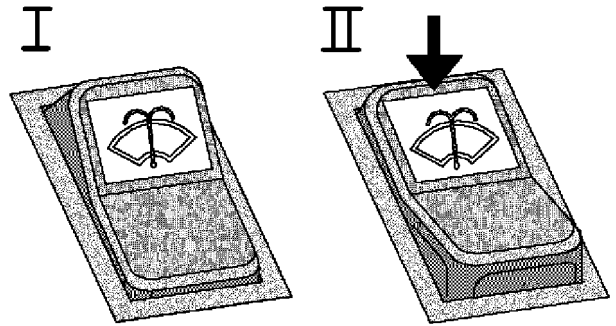
ZX002317 -JUN-16-JUN95

ZX,OMXZCO001490-19-27JAN92

### WINDSHIELD WASHER ROCKER SWITCH

Ignition must be turned on for windshield washer operation.

- I—Windshield washer off
- II—Windshield washer on



ZX 002318

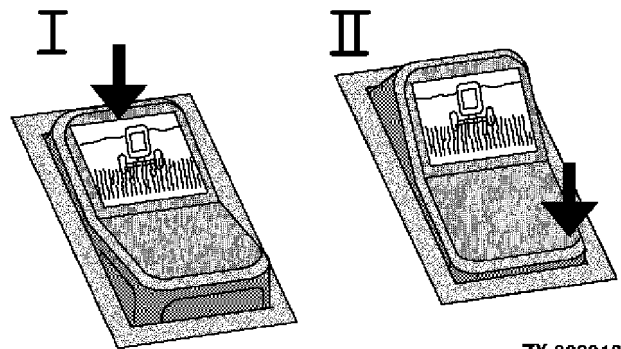
-UN-16JUN95  
ZX002318

ZX,OMXZCO001491-19-27JAN92

### ROAD SAFETY TUMBLER SWITCH

**IMPORTANT:** For road travel, road safety switch must be in road position (II). Before driving on public roads, also move header and unloading auger to transport position.

This ensures that all hydraulic functions — with the exception of the steering system — are not working. With road safety switch in road position, it is also not possible to engage separator and header drives.



ZX 002319

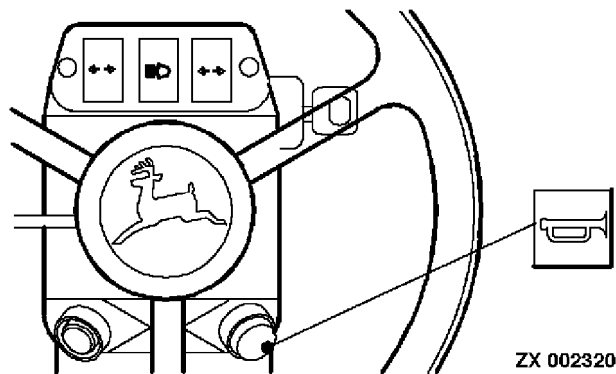
-UN-16JUN95  
ZX002319

- I—Field position
- II—Road position

ZX,OMXZCO001492-19-27JAN92

### HORN BUTTON

**CAUTION:** For safety reasons, sound horn before starting the engine or operating the combine.



ZX 002320

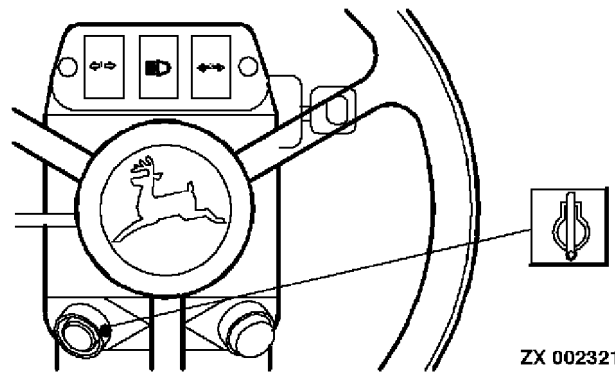
-UN-03APR95  
ZX002320

ZX,OMXZCO001493-19-13NOV92

### COLD WEATHER STARTING AID BUTTON

The starting aid will only operate with:

- Ground speed drive lever in neutral position
- Ignition turned on

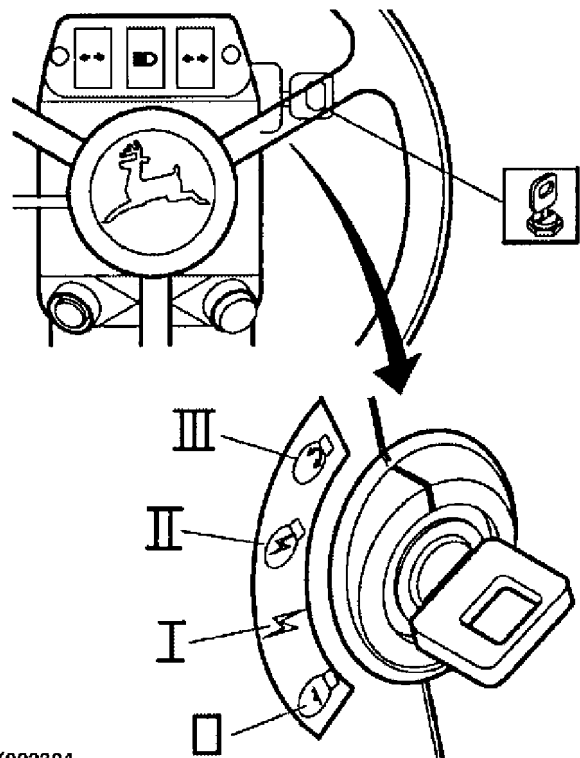


ZX,OMXZC0001494-19-04DEC92

### STARTER SWITCH

The starter switch has 4 positions:

- 0 — Off
- I — Circuits for electronic components, radio and Citizens' Band radio on
- II — Ignition on
- III — Start position



ZX,OMXZC0001495-19-04DEC92

## FEEDER HOUSE/HEADER REVERSER

**IMPORTANT:** Reel must be raised before engaging reverser. Backing out a crop “slug” into a turning reel will bend it.

I — Disengage header drive (using header drive switch or emergency cut-off switch) and back up combine 1—2 m (3—6 ft). Run engine at slow idle speed.

II — Step on left-hand side of reverser pedal and hold pedal down.

*NOTE: The pedal must be held down or it will not shift.*

III — Engage header drive. Run header and feeder house in reverse to free “slug”.

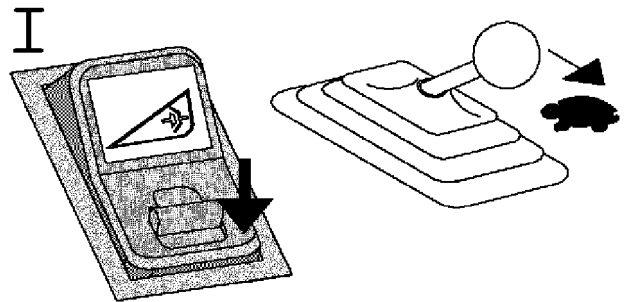
As soon as crop accumulations have been completely removed from machine, disengage header drive.

IV — Step on right-hand side of reverser pedal. Momentarily engage header drive to shift to forward operation again.

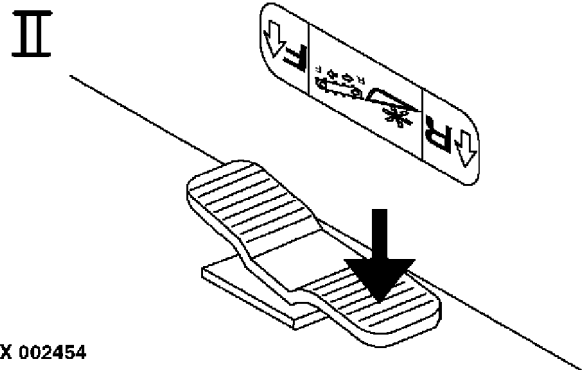
Repeat this procedure to shift to forward operation, if necessary.

Run engine at high speed and resume harvesting.

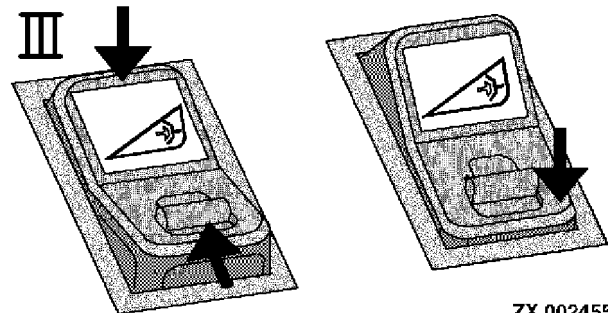
**IMPORTANT:** During reverser operation, never attempt to force “slugs” through combine by repeated cycling of reverser drive. Repeated cycling shortens the life of components.



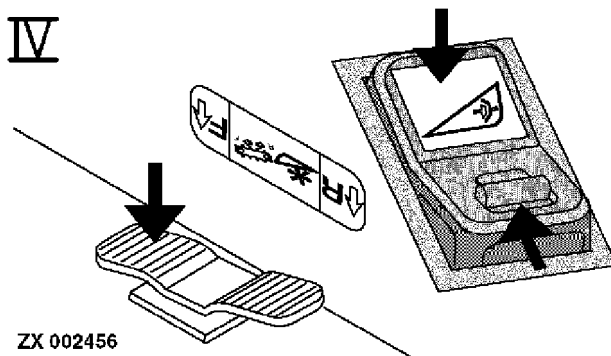
ZX 002453



ZX 002454



ZX 002455



ZX 002456

-UN-16JUN95

ZX002453

-UN-16JUN95

ZX002454

-UN-16JUN95

ZX002455

-UN-16JUN95

ZX002456

# Warning Devices and Monitors

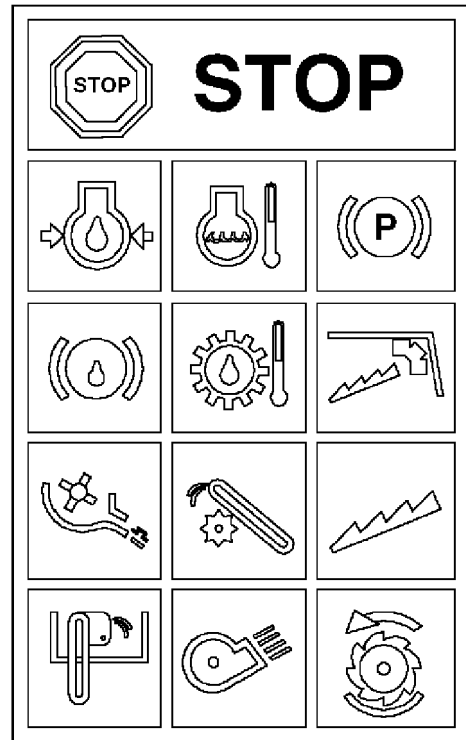
## INDICATOR LIGHTS I

These lights monitor the most important combine functions (road and operating safety, engine).

### Priority 1:

Red warning lights with continuous acoustical warning signal

As soon as one of the indicator lights glows, the "STOP" light will also glow and the buzzer will sound (continuous tone).



ZX 002330

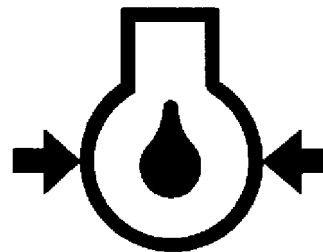
ZX,OMXZCO001496-19-27JAN92

ZX002330 -UN-16JUN95

## ENGINE OIL PRESSURE INDICATOR LIGHT

lights up if engine oil pressure drops below 80 kPa (0.8 bar = 11.6 psi).

- Stop engine immediately.
- Remedy the fault.



ZX 000331

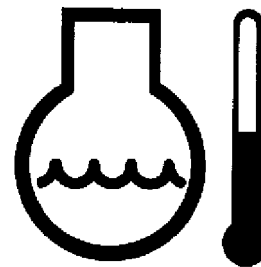
ZX,OMSPFH000169-19-26MAR91

ZX000331 -UN-03APR95

## COOLANT TEMPERATURE INDICATOR LIGHT

lights up if coolant temperature exceeds 108°C (226°F).

- Run engine without load for a short period. If temperature will not drop, stop engine and remedy the fault.



ZX 000332

ZX,OMSPFH000170-19-18JAN91

ZX000332 -UN-03APR95



### PARKING BRAKE INDICATOR LIGHT

lights up if parking brake is applied and ground speed lever is not in neutral position.



**ZX 000 333**

ZX,OMSPFH000171-19-18JAN91

-UN-03APR95

ZX000333

### BRAKE OIL INDICATOR LIGHT

lights up if brake oil level in reservoir is too low.

- Top up reservoir immediately.
- If a leak is the cause of brake oil loss, have it repaired at once.



**ZX 000 334**

ZX,OMSPFH000172-19-18JAN91

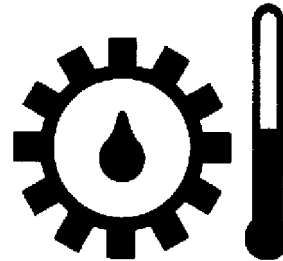
-UN-03APR95

ZX000334

### HYDRAULIC OIL TEMPERATURE INDICATOR LIGHT

lights up if oil temperature exceeds 88°C (190°F).

- Check reservoir oil level. Clean oil cooler, if necessary.
- Select a lower gear.



**ZX 000 335**

ZX,OMXZCO001497-19-27JAN92

-UN-03APR95

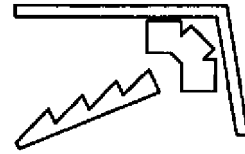
ZX000335

### STRAW WARNING DEVICE INDICATOR LIGHT

lights up if plugging occurs in the straw hood area.

**IMPORTANT:** In addition to the buzzer, the horn will also sound (continuous tone) until material accumulations have been removed.

- Disengage separator immediately.
- Shut off engine and wait until all moving parts have stopped, then remove accumulated material.



ZX 002331

-UN-02JUL96  
ZX002331

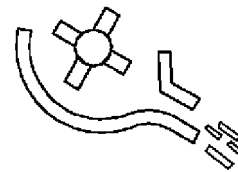
ZX,OMXZCO001498-19-27JAN92

### STRAW CHOPPER SPEED/CHAFF SPREADER INDICATOR LIGHT

lights up if a straw chopper malfunction (speed drop) occurs.

**With Engine Shut Off and Chopper Rotor Stopped:**

- Check belt tension.
- Check straw chopper for plugging.
- Check chaff spreader drive.



ZX 002332

-UN-16JUN95  
ZX002332

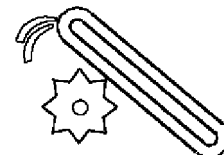
ZX,OMXZCO001499-19-13NOV92

### TAILINGS ELEVATOR INDICATOR LIGHT

lights up if a tailings elevator malfunction (speed drop) occurs.

**With Engine Shut Off and Separator Stopped:**

- Check drive.
- Check elevator and augers for plugging.



ZX 002333

-UN-16JUN95  
ZX002333

ZX,OMXZCO001500-19-10JUN92

### STRAW WALKER INDICATOR LIGHT

lights up if a straw walker malfunction (speed drop) occurs.

#### With Engine Shut Off and Straw Walkers Stopped:

- Check drive.
- Check for plugging.



ZX 002334

ZX.OMXZCO001501-19-10JUN92

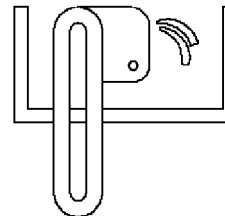
ZX002334  
-JUN-16JUN95

### CLEAN GRAIN ELEVATOR INDICATOR LIGHT

lights up if a clean grain elevator malfunction (speed drop) occurs.

#### With Engine Shut Off and Separator Stopped:

- Check drive.
- Check elevator and augers for plugging.



ZX 002335

ZX.OMXZCO001502-19-10JUN92

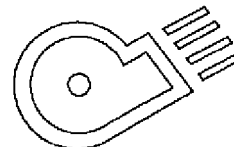
ZX002335  
-JUN-16JUN95

### FAN INDICATOR LIGHT

lights up if speed drops to alarm speed or even lower.

#### With Engine Shut Off and Separator Stopped:

- Check drive.
- Check for plugging
- Check alarm speed. Readjust, if necessary (see instructions in this Section).



ZX 002336

ZX.OMXZCO001503-19-10JUN92

ZX002336  
-JUN-16JUN95

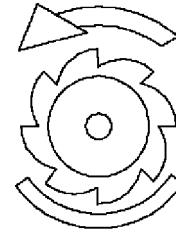
### THRESHING CYLINDER INDICATOR LIGHT

lights up if speed drops to alarm speed or even lower.

- Reduce ground speed.

**With Engine Shut Off and Separator Stopped:**

- Check drive.
- Check for plugging.
- Check alarm speed. Readjust, if necessary (see instructions in this Section).



ZX 002337

ZX.OMXZCO001504-19-10JUN92

-UN-16JUN95  
ZX002337

### INDICATOR LIGHTS II

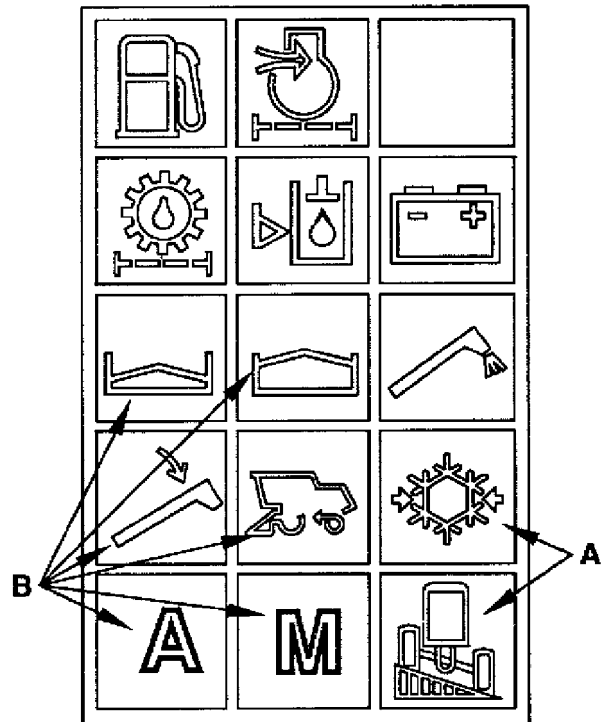
These indicator lights monitor combine functions with priority 2 and 3.

**Priority 2:**

Yellow warning lights with acoustical warning signal (5-second signal)

**Priority 3:**

Yellow warning lights (A) and green warning lights (B) without acoustical warning signal



ZX 002338

ZX.OMXZCO001505-19-10JUN92

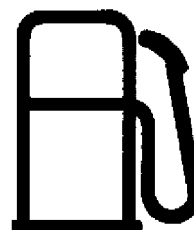
-UN-23OCT00  
ZX002338

### FUEL LEVEL INDICATOR LIGHT

lights up if fuel reserve in tank is approx. 50 L (13.2 U.S. gal).

— Fill fuel tank. Capacity:

- 2054: 350 L (92.5 U.S. gal)
- 2056, 2058, 2064: 450 L (119 U.S. gal)
- 2066: 550 L (145.3 U.S. gal)



ZX 000 340

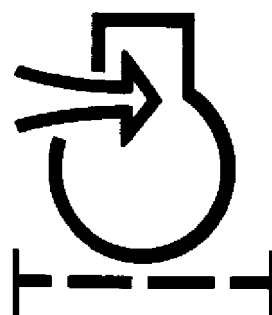
ZX,OMXZC0001506-19-13NOV92

ZX000340 -UN-03APR95

### AIR CLEANER INDICATOR LIGHT

lights up if air cleaner primary element is clogged and air flow restricted.

— Clean air cleaner element(s).



ZX 000 341

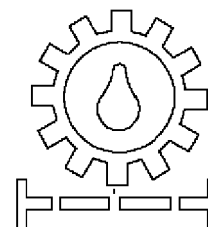
ZX,OMSPFH000180-19-18JAN91

ZX000341 -UN-03APR95

### HYDRAULIC OIL FILTER INDICATOR LIGHT

lights up if cleaning action of filters is not sufficient (i.e. if a pressure difference of 270 kPa (2.7 bar; 39.2 psi) occurs in the return line between the filter inlet and outlet).

— Change hydraulic oil filter at machines's solenoid valve block at the end of the working day.



ZX 002339

ZX,OMXZC0001507-19-04DEC92

ZX002339 -UN-16JUN95

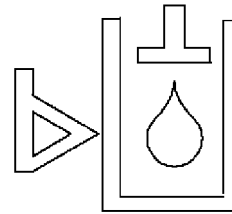
### HYDRAULIC OIL LEVEL INDICATOR LIGHT

lights up if hydraulic oil level drops below minimum.

— Add hydraulic oil.

If larger quantities of oil are lost suddenly (e.g by leakage) and hydraulic oil level drops below minimum, "STOP" light of indicator light unit I will glow and the buzzer will sound (continuous tone).

— Shut off engine immediately.



ZX 002340

ZX,OMXZCO001508-19-27JAN92

-UN-16JUN95

ZX002340

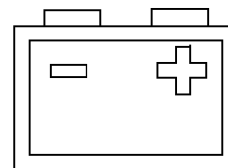
### ALTERNATOR INDICATOR LIGHT

lights up if alternator output voltage is not sufficient to charge the batteries.

— Check cables and connections at alternator and batteries.

— Check V-belt.

— Check voltage regulator of alternator.



ZX 002341

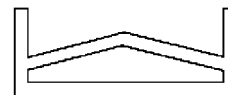
ZX,OMXZCO001509-19-27JAN92

-UN-16JUN95

ZX002341

### GRAIN TANK INDICATOR LIGHT (1/2)

lights up when grain tank is 1/2 full.



ZX 002342

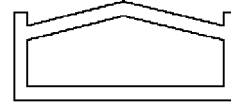
ZX,OMXZCO001510-19-27JAN92

-UN-16JUN95

ZX002342

### GRAIN TANK INDICATOR LIGHT (3/4)

lights up when grain tank is 3/4 full.



ZX 002343

ZX,OMXZCO001511-19-27JAN92

ZX002343 -UN-16JUN95

### GRAIN TANK INDICATOR LIGHT (FULL)

lights up when grain tank is completely filled. This will be indicated by a five-second warning signal.

— Empty the grain tank.



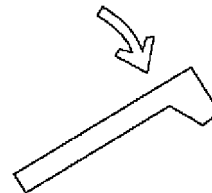
ZX 002344

ZX,OMXZCO001512-19-27JAN92

ZX002344 -UN-16JUN95

### UNLOADING AUGER INDICATOR LIGHT

lights up as soon as unloading auger is swung in or out. The light will go out after 22 seconds.



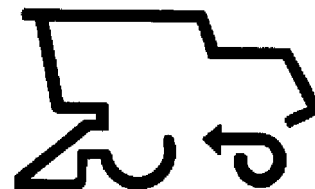
ZX 002348

ZX,OMXZCO001516-19-27JAN92

ZX002348 -UN-16JUN95

### FOUR WHEEL DRIVE INDICATOR LIGHT

lights up as soon as four wheel drive is switched on.



ZX 000349

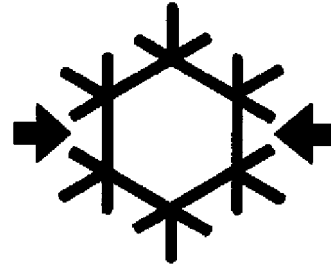
ZX,OMSPFH000187-19-18JAN91

ZX000349 -UN-03APR95

### AIR CONDITIONER INDICATOR LIGHT (HIGH PRESSURE)

lights up if system pressure exceeds 2400 kPa (24 bar = 350 psi)

— Switch off air conditioning system and remedy the fault.



ZX 000350

ZX,OMSPFH000188-19-26MAR91

ZX000350 -UN-03APR95

### LEVELING SYSTEM INDICATOR LIGHT (AUTOMATIC OPERATION)

lights up as soon as automatic leveling system is switched on.



ZX 002345

ZX,OMXZCO001513-19-27JAN92

ZX002345 -UN-16JUN95

### LEVELING SYSTEM INDICATOR LIGHT (MANUAL OPERATION)

lights up as soon as leveling system is switched to manual operation.



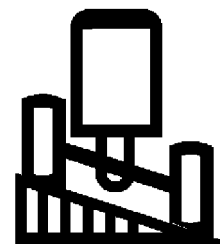
ZX 002346

ZX,OMXZCO001514-19-27JAN92

ZX002346 -UN-16JUN95

### TILT LIMIT INDICATOR LIGHT

lights up as soon as maximum tilt position has been reached (with leveling system switched on).



ZX 002347

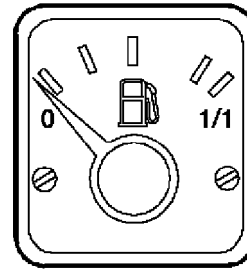
ZX,OMXZCO001515-19-27JAN92

ZX002347 -UN-16JUN95



### FUEL GAUGE

With ignition turned on, fuel level in tank is shown (0 — 1/1).



ZX 002467

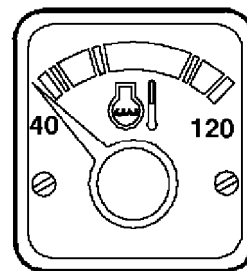
ZX,OMMD1 000516-19-25APR91

-UN-03APR95  
ZX002467

### COOLANT TEMPERATURE GAUGE

With ignition turned on, engine coolant temperature is shown. During operation, needle should be in the yellow/green zone (40°C — 105°C) (140°F — 221°F).

If needle is in orange zone (105°C — 120°C) (221°F — 248°F), run engine without load for a short time. Stop engine, if necessary, and remedy the fault.



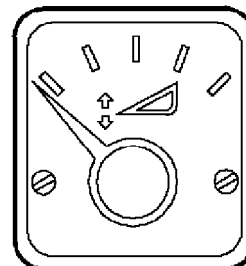
ZX 002468

ZX,OMXZCO001863-19-13APR92

-UN-03APR95  
ZX002468

### HEADER HEIGHT GAUGE

shows header height in relation to the ground.



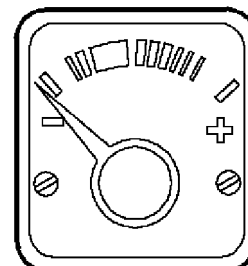
ZX 002349

ZX,OMXZCO001517-19-27JAN92

-UN-03APR95  
ZX002349

### HARVEST PERFORMANCE MONITOR GAUGE

For detailed information, refer to "Harvest Performance Monitor".



ZX 002350

ZX,OMXZCO001518-19-27JAN92

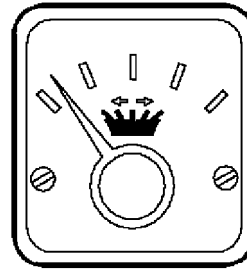
-UN-16JUN95  
ZX002350

## DISTRIBUTOR PLATE GAUGE

shows direction of straw distribution:

Needle in right-hand area = straw is thrown to the right

Needle in left-hand area = straw is thrown to the left



ZX 002457

ZX.OMXZC0001804-19-24MAR92

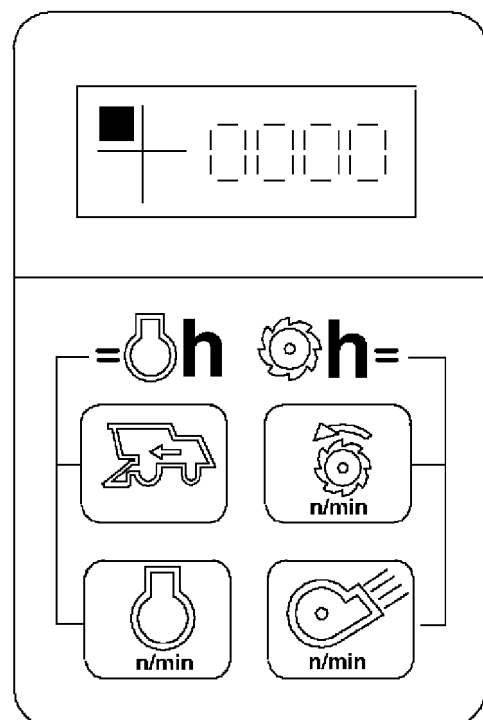
ZX002457 -UN-16JUN95

## INFOTRAK MONITOR

The infotrak monitor displays ground and other speeds, concave spacing, operating and working hours.

By inputting certain specific machine data, the infotrak monitor is adjusted to the requirements of the combine and combine data center (depending on equipment).

In addition, error codes and service intervals are displayed.



ZX 002351

ZX.OMXZC0001544-19-14NOV92

ZX002351 -UN-16JUN95

## INFOTRAK MONITOR FUNCTIONS

### A — Position Indicator:

shows relationship between display and key or key combination (I—VII) pressed previously.

When activating infotrak monitor (starter switch in position I or II), the position indicator will be in upper left-hand position.

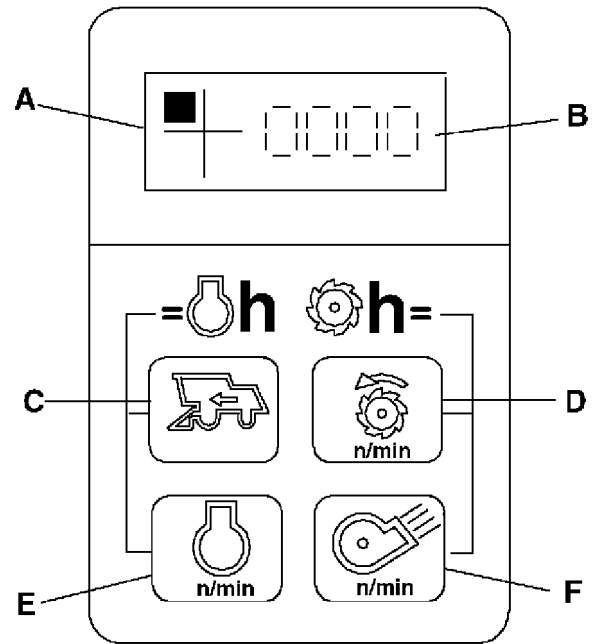
### B — Display Panel (4 Digits):

shows the figure called up previously.

Possibilities: Ground and other speeds, operating or working hours

Additional displays: SERVICE information "SEU" and concave spacing

Error codes: In the event of a malfunction or error by the operator when operating the combine or running an automatic function, a two or three-digit number followed by an **E** (Error) is displayed, e.g. 206**E**.



ZX 002352

**C** — Key for ground speed display (I)

**D** — Key for cylinder speed display (II)

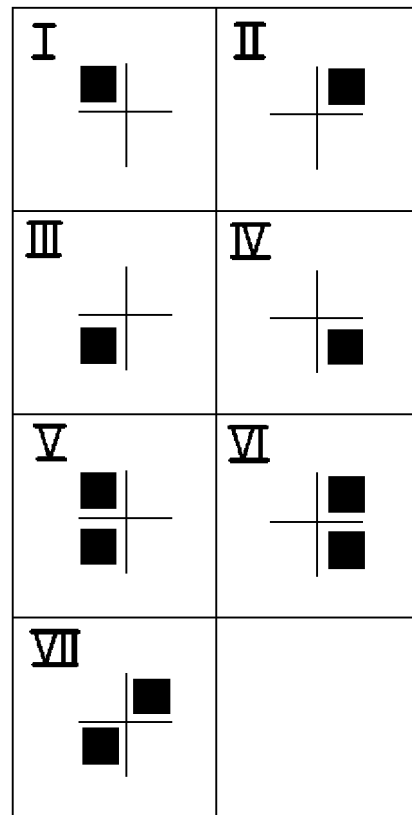
**E** — Key for engine speed display (III)

**F** — Key for fan speed display (IV)

**C + E** — Key combination for operating hour display (engine) (V)

**D + F** — Key combination for working hour display (cylinder) (VI)

**D + E** — Key combination for deleting SERVICE information "SEU" (VII)



ZX 002353

ZX,OMXZCO001519-19-14NOV92

## INPUT OF SPECIFIC MACHINE DATA

**IMPORTANT:** Each time different size drive wheels are installed or tire radius changes due to wear, the infotrak monitor must be calibrated accordingly. This will also ensure correct area counter operation.

### Activate Input Status

Press key combination (C + D) and simultaneously turn starter switch from position (0) to position (I). The position indicator will move to upper left-hand position.

### Data Input

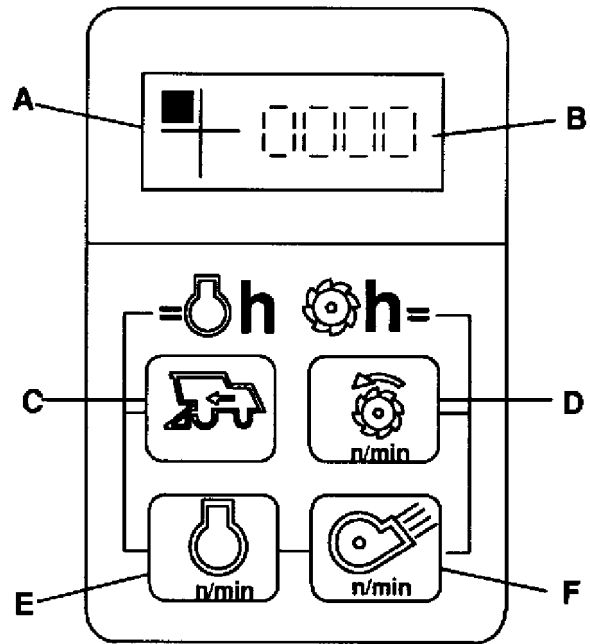
Press key (C): displayed value will increase.  
Press key (E): displayed value will decrease.

### Data Storage

Press key combination (D + F). At the same time the position indicator will move to another field (upper right-hand, lower right-hand, lower left-hand field).

### Deactivate Input Status

After input and storage of all data, turn starter switch to position (0).



ZX 002352

- A—Position indicator
- B—Display panel
- C—Key for ground speed display
- D—Key for cylinder speed display
- E—Key for engine speed display
- F—Key for fan speed display

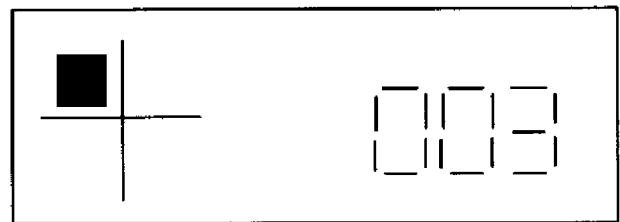
ZX,OMXZC0001834-19-14NOV92

-JUN-28APR95  
ZX002352

## MACHINE CODE

Input code for mph:  
03 — Combine

Input code for km/h:  
23 — Combine



ZX 002483

ZX,OMXZC0001835-19-13APR92

-JUN-28APR95  
ZX002483

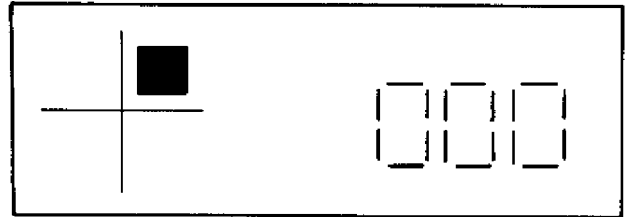
### TRANSMISSION SPEED RATIO CODE

00 — Final drive (85/11)  
Z12231 (I)

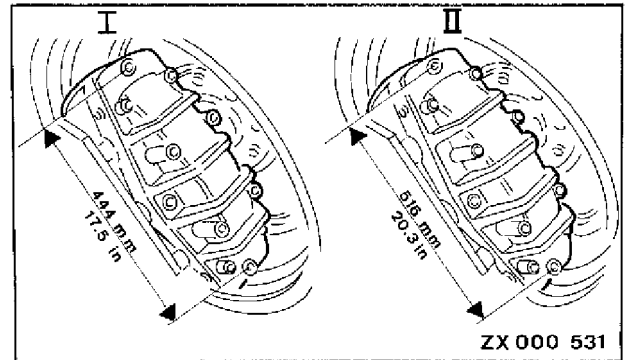
01 — Final drive (97/11)  
Z12232 (II)

02 — Planetary final drive

I—Final drive 85/11  
II—Final drive 97/11



ZX 000 843



ZX 000 531

ZX,OMXZC0001836-19-13APR92

-UN-28APR95

ZX000843

-UN-03MAY95

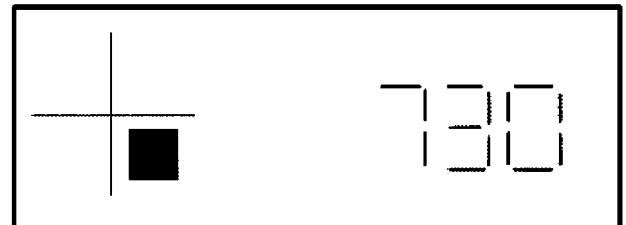
ZX000531

### TIRE RADIUS CODE

For input of tire radius code, use actual tire radius. For machines with machine code 03, the radius must be keyed in in inches. For machines with machine code 23, the radius must be keyed in in millimeters.

*NOTE: For new tires, refer to a tire chart for correct radius values.*

With worn tires, refer to the following instructions to determine tire radius.



ZX000532

ZX,OMXZC0001837-19-13APR92

-UN-16JUN95

ZX000532

## DETERMINING TIRE RADIUS

### Requirements:

- Combine on solid ground
- Correct tire pressures
- Combine steering wheels in straight-ahead position

Mark tire and ground with dashes.

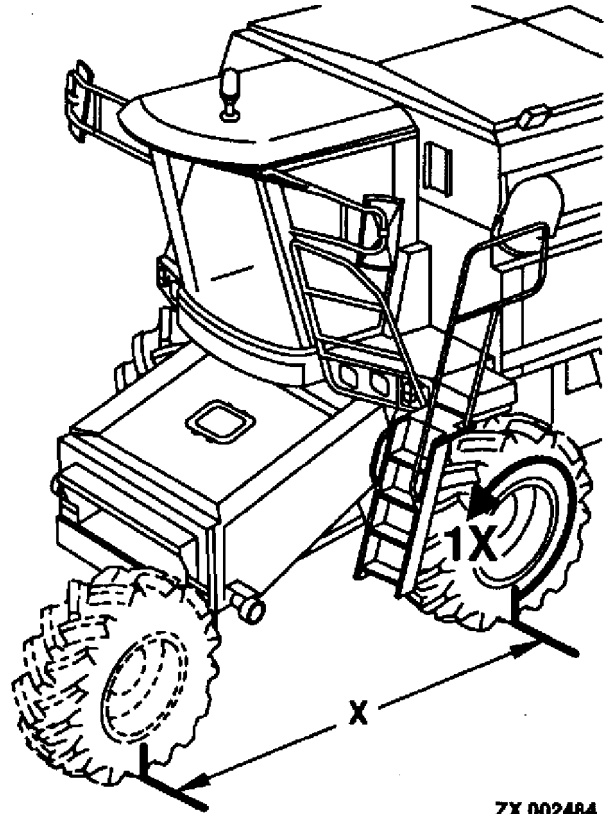
Drive combine until marked tire has completed one revolution.

Transfer tire mark to ground.

Measure distance (X) between ground marks.

Divide measured distance (X) by 6.28.

The value obtained is the tire radius for infotrak monitor input.



ZX 002484

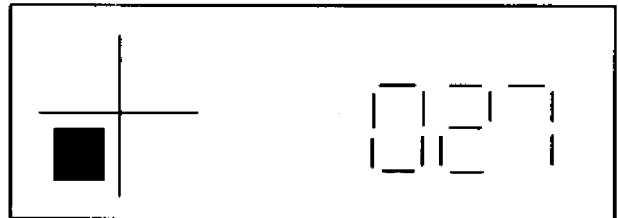
ZX,OMXZC0001838-19-14NOV92

ZX002484 -UN-28APR95

## ENGINE IMPULSE CODE

24 — 2054 combine

27 — 2056—2066 combines



ZX 002485

ZX,OMXZC0001839-19-13APR92

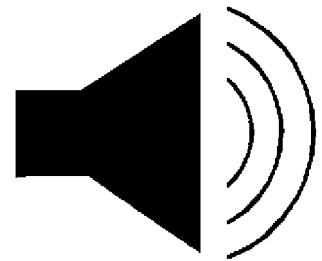
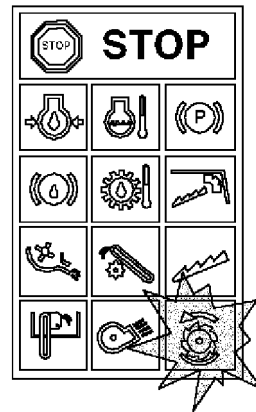
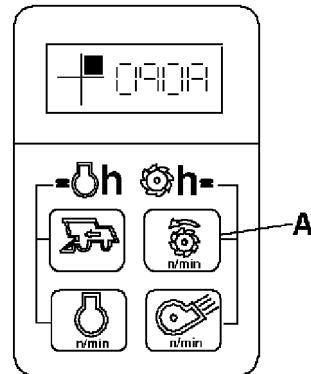
ZX002485 -UN-28APR95

### SETTING THRESHING CYLINDER ALARM SPEED

With engine running, engage separator.

Press key (A) to display cylinder speed. Continue to press key (A) (for approx. 2 seconds) until an "A" appears at the last digit of the displayed speed. Now alarm speed is 75% of the displayed speed.

If cylinder speed drops below alarm speed during operation, the cylinder speed indicator light will glow and a continuous warning signal will be heard.



ZX 002354

ZX,OMXZC0001520-19-14NOV92

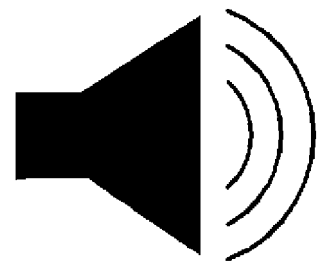
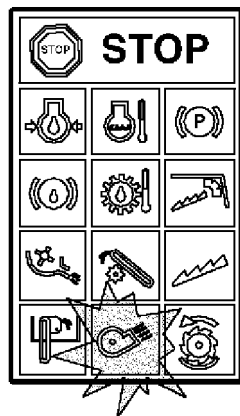
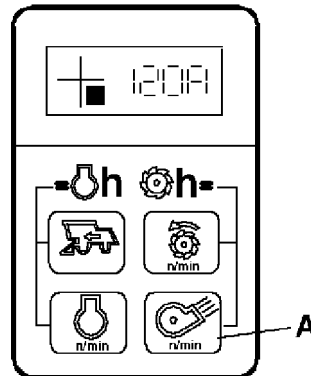
-UN-16JUN95  
ZX002354

### SETTING FAN ALARM SPEED

With engine running, engage separator.

Press key (A) to display fan speed. Continue to press key (A) (for approx. 2 seconds) until an "A" appears at the last digit of the displayed speed. Now alarm speed is 75% of the displayed speed.

If fan speed drops below alarm speed during operation, the fan speed indicator light will glow and a continuous warning signal will be heard.



ZX 002469

ZX,OMXZC0001833-19-14NOV92

-UN-16JUN95  
ZX002469

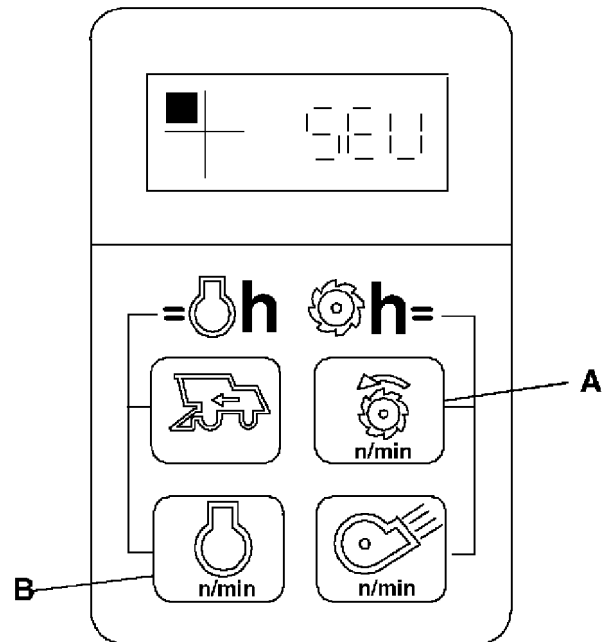
## INFOTRAK MONITOR SERVICE INFORMATION

Every 50 hours of operation the infotrak monitor will display a SERVICE information (SEU).

**IMPORTANT: Perform necessary service work, referring to “Periodic Services — Every 50 Hours of Operation”.**

Press any key to delete SERVICE information immediately (it will reappear when ignition is turned on next time).

To delete SEU display definitely (i.e. until next 50 operating hours are completed) after service work has been carried out, press keys (A+B) simultaneously while turning on ignition.



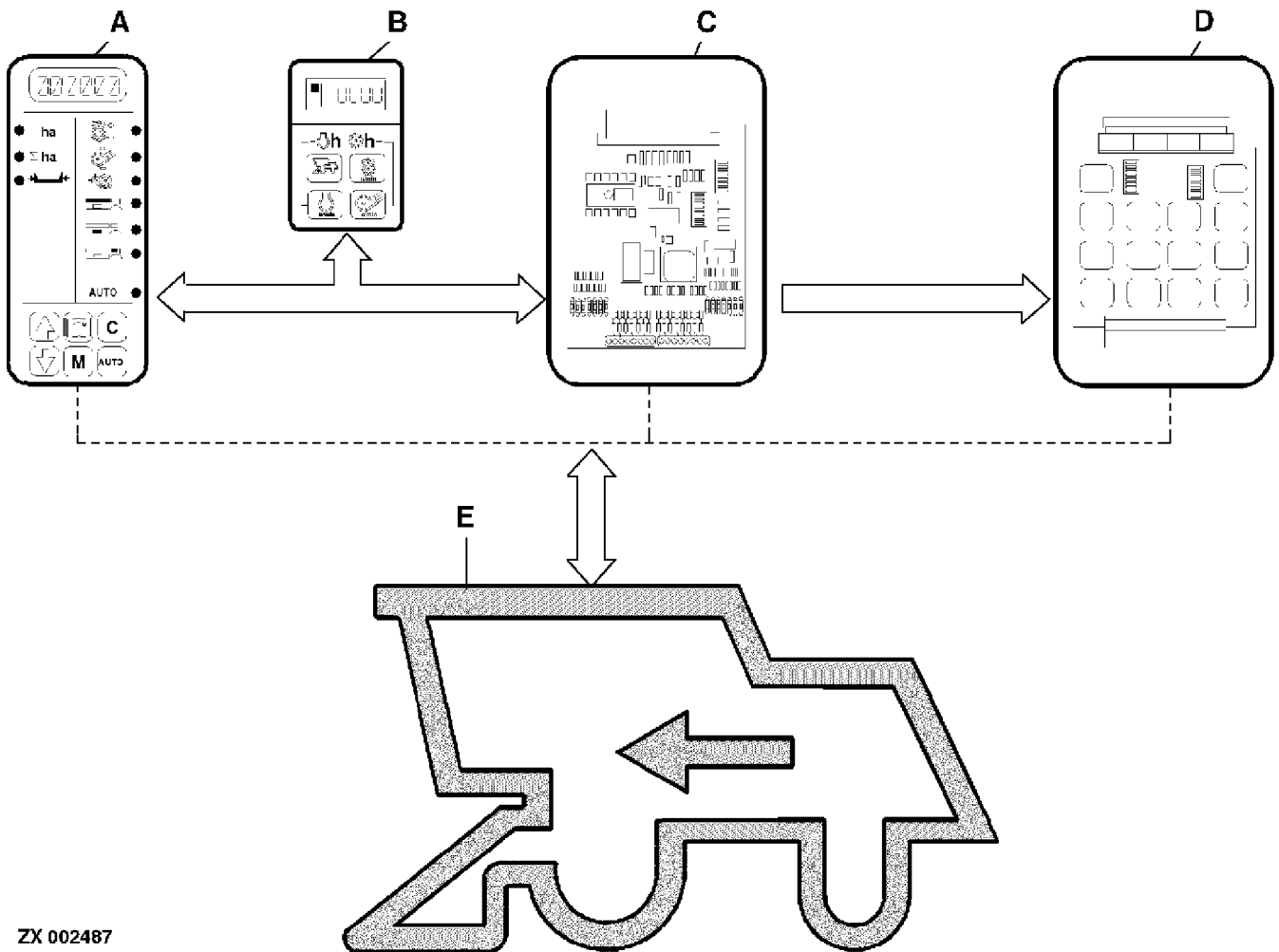
ZX 002355

ZX,OMXZC0001521-19-14NOV92

ZX002355 -UN-16JUN95



**SYSTEM COMPONENTS (“AREA COUNTER” AND “AUTOMATIC MACHINE ADJUSTMENTS”)**



ZX 002487

A—Combine data center  
 B—Infotrak monitor  
 C—Control board (for automatic machine adjustments only)

D—Relay board  
 E—Combine (Sensors, switches, solenoids, motors)

**General Information**

The harvesting area is calculated by using travel distance of combine and cutting width.

Automatic adjustments are carried out depending on the crop selected by the combine data center.

Data or signals are transferred between the above components. The actual values (speeds, spacing) and error codes (in case of malfunctions) are displayed on the infotrak monitor.

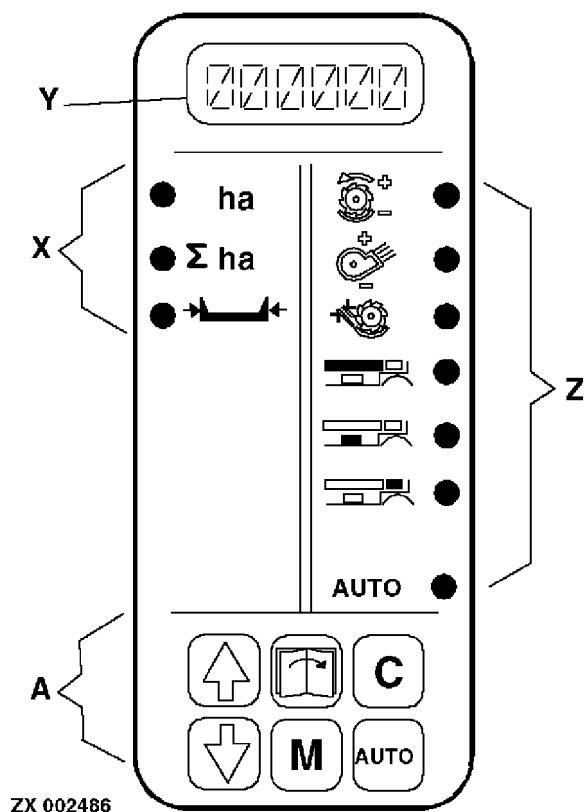
ZX.OMXZCO001840-19-14NOV92

### COMBINE DATA CENTER (OPTION)

Combine data center is switched on with starter switch in position (I).

**Functions:**

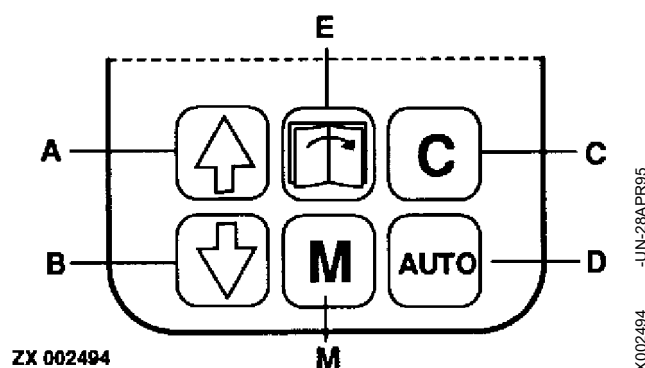
- A—Controls (6 keys)
- X—Area counter
- Y—Display (6 digits)
- Z—Setting unit



ZX,OMXZCO001841-19-20JUL92

### CONTROL KEYS

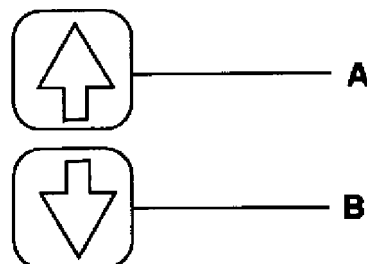
- A—Up
- B—Down
- C— • Clear
  - Calibrate
  - Cancel
- D—Automatic function (AUTO)
- E—Page change
- M— • Modify
  - Memory



ZX,OMXZCO001847-19-20JUL92

### Keys A and B

These keys are used to run through the various functions of area counter, display panel or setting unit. If "Modify" mode is activated by pressing key (M), displayed values may be increased or decreased at given increments by pressing these keys.



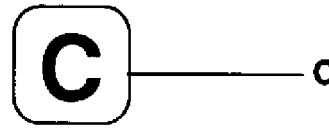
**ZX 002513**

ZX,OMXZCO001848-19-20JUL92

### Key C

This key is used to set data center displays to “zero” (e.g. area, header width) and to clear crop settings created by the operator.

This key is also used to interrupt automatic settings, to leave the automatic or modify mode and for input of partial header width.



**ZX 002516**

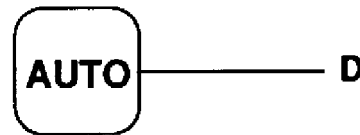
ZX,OMXZCO001851-19-20JUL92

-UN-27APR95  
ZX002516

### Key D

This key is used to activate automatic functions for setting combine components according to the values of the previously selected crop (cylinder speed, fan speed and concave spacing). During the setting procedure, the “AUTO” light of the setting unit will glow. The light will go out as soon as the setting procedure is completed.

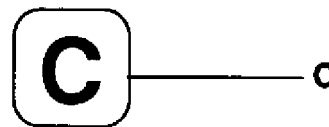
*NOTE: During the setting procedure, the automatic mode may be left by pressing key (C).*



**ZX 002517**

ZX,OMXZCO001852-19-20JUL92

-UN-28APR95  
ZX002517



**ZX 002516**

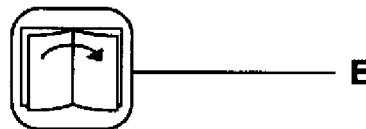
-UN-27APR95  
ZX002516

### Key E

This key is used to “jump” from one unit of combine data center to another:

- From area counter to display
- From display to setting unit
- From setting unit back to area counter

This key is also used for the “Select Language” mode.



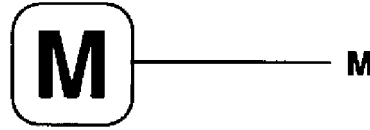
**ZX 002514**

ZX,OMXZCO001849-19-20JUL92

-UN-27APR95  
ZX002514

**Key M**

If a certain setting (e.g. fan speed for a crop version created by the operator or header width) is to be changed, select the corresponding function and press key (M). Now the setting can be changed, using the "arrow" keys. The new setting is saved by pressing key (M) once again.



**ZX 002515**

ZX,OMXZCO001850-19-20JUL92

ZX002515  
-UN-27APR95

## AREA COUNTER

### Requirements:

- Starter switch in position (I) or (II).
- Infotrak monitor correctly programmed
- Header within range of header height gauge (not necessary for reading display only).

### Setting Instructions

Display (A) of area counter always lights up when unit is switched on.

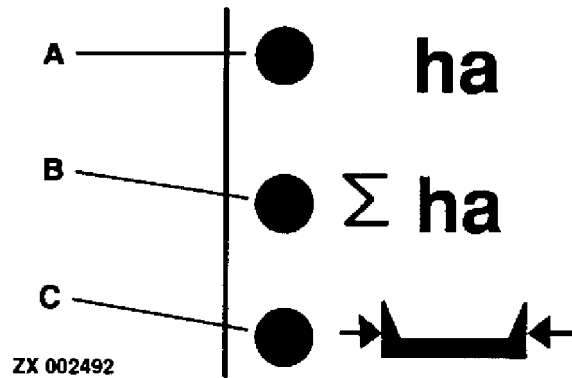
Area values can only be cleared, but not changed. Total area values can neither be cleared nor changed.

The smallest area that can be displayed is 0.1 hectare or 0.1 acre.

The smallest setting increment for header width is 0.1 m or 0.5 ft.

When full width of header is not used during operation, partial width may be set in 1/4 increments. Header width will return to the previously saved value if header moves out of range of header height gauge.

*NOTE: The displayed measurement units for width and area are determined by infotrak monitor programming (see this Section).*



- A—Area function light
- B—Total area function light
- C—Header width function light

ZX002492 -UN-28APR95

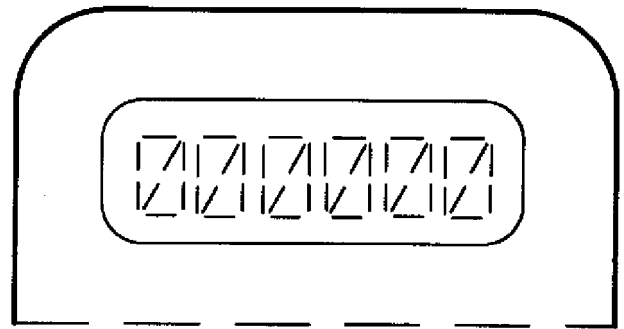
ZX,OMXZCO001845-19-14NOV92

## DISPLAY

With ignition turned on, the following data are displayed:

- Preloaded settings for various crops
- Area counter data (area, total area, header width)
- Preloaded crops (9), crops created by the operator (14)
- Languages available:

German	DEUTSC
French	FRANCA
Spanish	ESPANI
Italian	ITALIA
Dutch	NEDERL
Danish	DANSK
Swedish	SVENSK
English	ENGLIS



ZX 002488

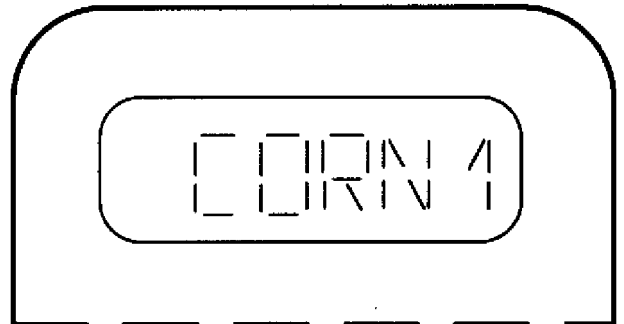
ZX002488 -UN-28APR95

ZX,OMXZCO001842-19-20JUL92

## Factory-Loaded Crops

- Barley
- Corn
- Beans
- Peas
- Wheat
- Rye
- Sunflowers
- Oats
- Rape

*NOTE: The names of the factory-loaded (permanent memory) crops end with a number 1.*



ZX 002489

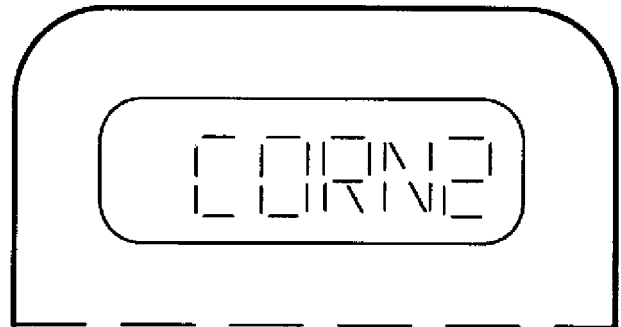
ZX002489 -UN-28APR95

ZX,OMXZCO001843-19-20JUL92

### Crop Codes Created by the Operator

For each of the previously mentioned crops (all of which are entered into the memory at the factory), the operator may enter one modified crop into the data center memory, including all necessary settings according to harvesting conditions. The names of these crop versions, created by the operator, end with a number 2.

*NOTE: The crops entered into data center memory by the operator may be recorded on the bottom of right-hand armrest.*



ZX 002490

ZX002490 -UN-28APR95

ZX,OMXZCO001844-19-13NOV92

### Special Crops

The operator may enter five additional special crops into the data center memory. These crops are named CROP2, CROP3—CROP6.

*NOTE: The crops entered into data center memory by the operator may be recorded on the bottom of right-hand armrest.*



ZX 002491

ZX002491 -UN-28APR95

ZX,OMXZCO001910-19-20JUL92

## SETTING UNIT

### Requirements:

To start automatic setting of functions (A, B and C):

- Engine must be running (throttle lever pushed all the way forward)
- Separator must be engaged
- Switch for automatic machine adjustments must be ON

### Setting Instructions

Values of functions (A—F) for the previously selected crop are displayed and may be changed as follows:

Function	Increments	Setting range
A	10 rpm	0—2550 rpm
B	10 rpm	0—2550 rpm
C	1 mm (1/16 in.)	0—50 mm (0—3-1/8 in.)
D	1 mm (1/16 in.)	0—50 mm (0—3-1/8 in.)
E	1 mm (1/16 in.)	0—50 mm (0—3-1/8 in.)
F	1 mm (1/16 in.)	0—50 mm (0—3-1/8 in.)

Values of functions (A—F) for crops ending with a number “1” (e.g. “CORN1”) are factory loaded (permanent memory) and cannot be changed.

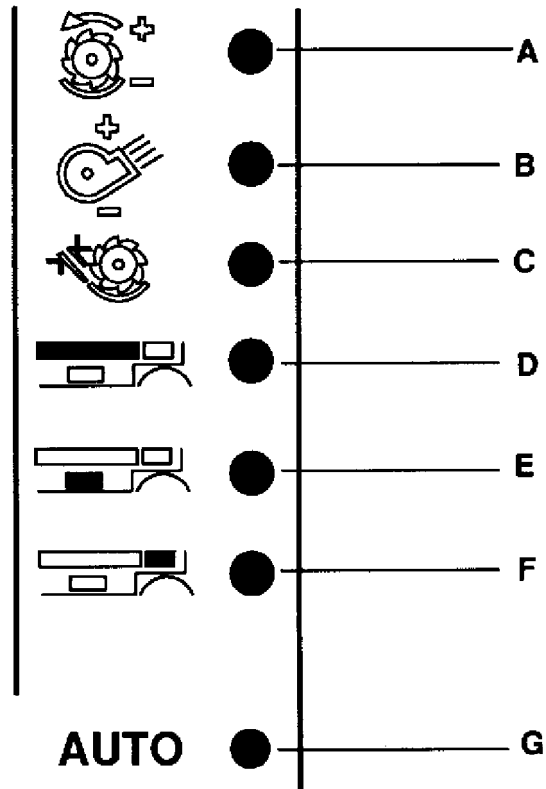
Values of functions (A—F) for crops ending with a number “2” (e.g. “CORN2”) may be cleared or changed.

Values of functions (A—F) for “CROP2” to “CROP6” may also be cleared or changed.

Functions (A—C) are set automatically by pressing the “AUTO” key (if the above requirements are met).

Values of functions (D—F) are only displayed. Setting must be carried out manually.

Lights (A—C) and (G) will glow during automatic setting procedure.



- A—Cylinder speed function light
- B—Fan speed function light
- C—Concave spacing function light
- D—Chaffer function light
- E—Sieve function light
- F—Chaffer extension function light
- G—Automatic function light

ZX 002493

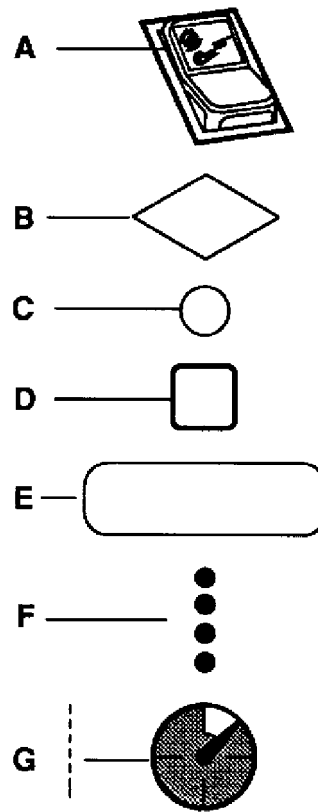
ZX002493 -UN-28APR95



## OPERATIONAL DIAGRAMS

### Explanation of Symbols:

- A—Switch on automatic machine adjustments
- B—Shows the combine data center unit to be selected:
  - X-Area counter
  - Y-Display
  - Z-Setting unit
- C—Shows individual functions of area counter/setting unit (blue light)
- D—Shows the key to be pressed (bold enclosure)
- E—Display information
- F—Shows possible choices
- G—Shows time required for individual procedure



ZX 002518

ZX,OMXZCO001853-19-20JUL92

ZX002518 -UN-28APR95

### SELECTING COMBINE DATA CENTER UNITS

- Turn starter switch to position (I).

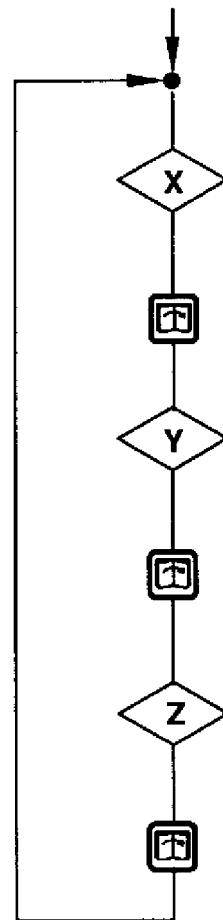
Combine data center will switch to area counter (X).

- Press "PAGE" key.

Combine data center will switch to display (Y).

- Press "PAGE" key.

Combine data center will switch to setting unit (Z).



ZX 002328

ZX002328 -UN-28APR95

ZX,OMXZCO001854-19-20JUL92

## SELECTING AREA COUNTER FUNCTIONS

- Select "Area Counter" unit.

Light of "Area" function will glow.

The harvesting area (for each day) is displayed.

- Press "Down" key.

Light of "Total Area" function will glow.

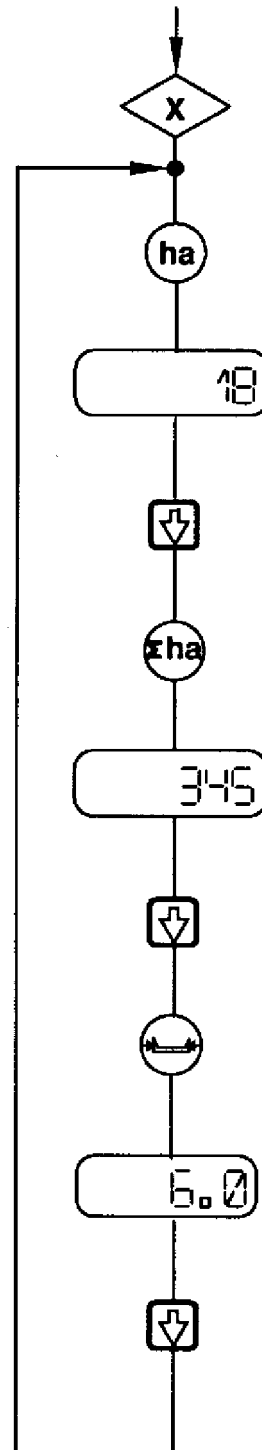
The total harvesting area is displayed.

- Press "Down" key.

Light of "Header Width" function will glow.

Header width (cutting width) is displayed.

*NOTE: Running through the various crop displays or setting unit functions is done in a similar way as described above.*



ZX 002519

ZX002519 -JUN-03MAY95

ZX,OMXZCO001983-19-20JUL92

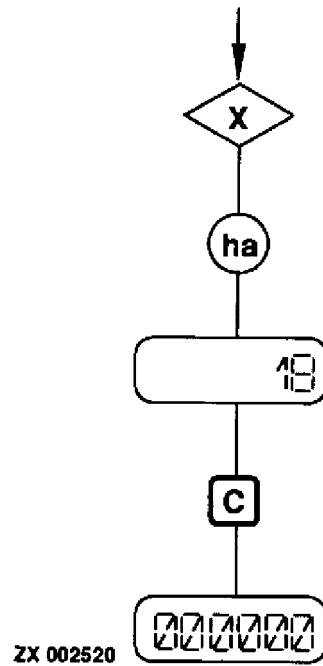
### CLEARING "AREA" DISPLAY

- Select "Area Counter" unit.
- Select "Area" function.

The harvesting area for the day will be displayed.

- Press key (C) ("Clear").

Display will change to "zero".



ZX002520 -JUN-28APR95

ZX,OMXZCO001855-19-20JUL92

## CHANGING HEADER WIDTH

- Select "Area Counter" unit.
- Select "Header Width" function.

The current header width (cutting width) will be displayed.

- Press "Modify" key (M).

An "M" will appear at the left of the display.

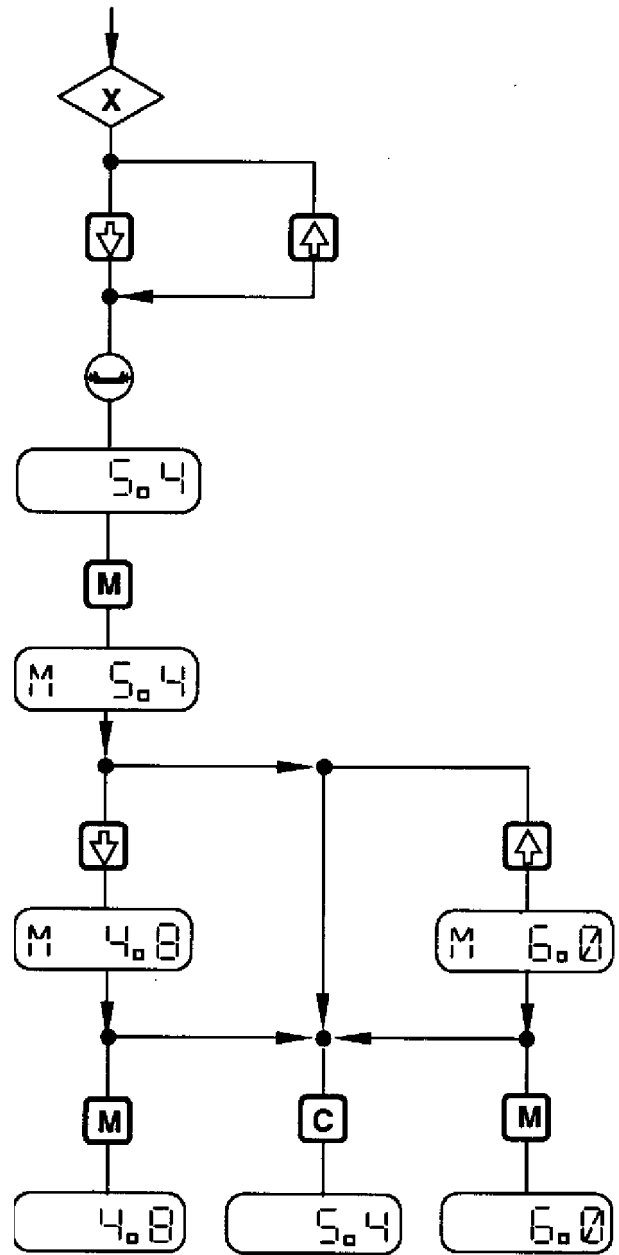
- Press "Up" or "Down" key.

The changed header width will be displayed.

- Press key (M) again.

The displayed setting is saved; the "M" at the left of the display will disappear.

*NOTE: After pressing the "M" key, it is always possible to interrupt the setting of the new header width by pressing "Cancel" key (C). The previous header width will be displayed once again.*



ZX 002521

ZX002521 -JUN-28A-PR95

ZX,OMXZCO001984-19-20JUL92

### SETTING PARTIAL HEADER WIDTH

- Select "Area Counter" unit.
- Select "Header Width" function.

The current header width will be displayed.

- Press "Calibrate" key (C).

"3/4" will be displayed = 3/4 of the previous header width (cutting width).

- Press "Calibrate" key (C).

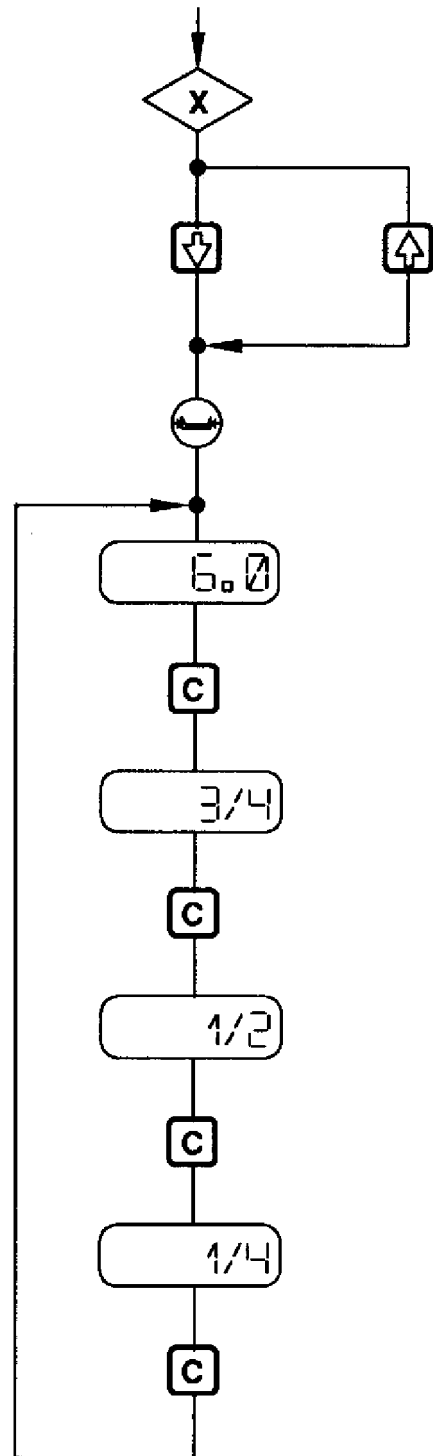
"1/2" will be displayed = 1/2 of the previous header width (cutting width).

- Press "Calibrate" key (C).

"1/4" will be displayed = 1/4 of the previous header width (cutting width).

- Press "Calibrate" key (C).

The cutting width saved previously will be displayed.



ZX 002522

ZX002522 -JUN-03MAY95

ZX,OMXZCO001856-19-20JUL92

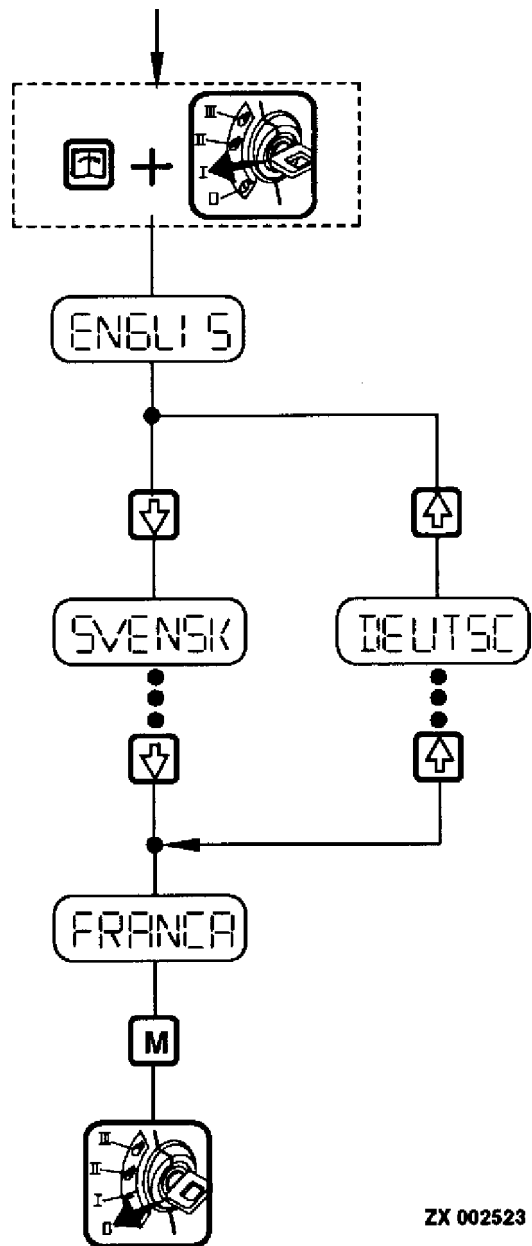
## SELECTING LANGUAGE

- Press “Page” key while turning starter switch to position (I).

The language saved previously will be displayed.

- Press “Up” or “Down” key until desired language is displayed.
- Press “Memory” key (M).
- Turn starter switch to position (0).

The desired language is saved.



ZX 002523

ZX,OMXZCO001857-19-20JUL92

ZX002523 -UN-28APR95

## SELECTING CROP

*NOTE: This procedure is required to start automatic settings and to change to a different crop.*

- Select "Display" unit.

The crop selected previously will be displayed.

- Press "Up" or "Down" key until desired crop is displayed.

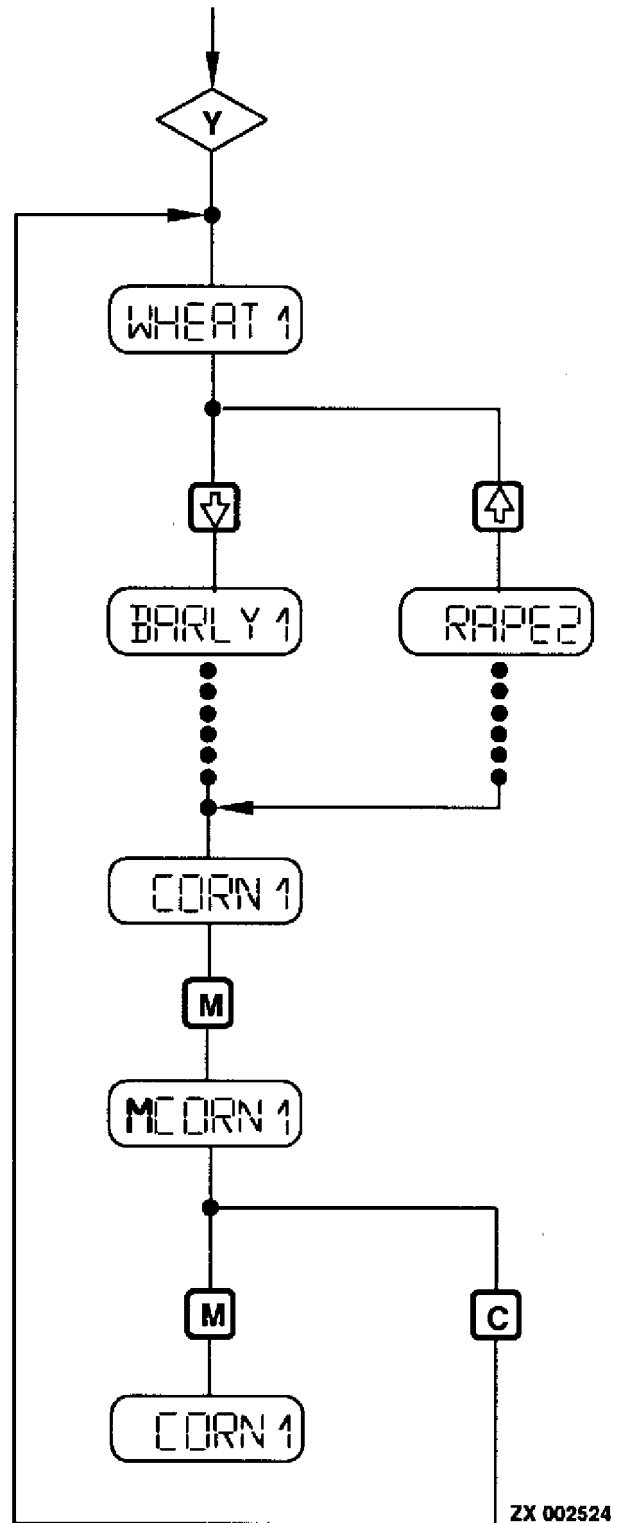
- Press "Modify" key (M).

A flashing "M" will appear at the left of the display.

- Press key (M) again.

The selected crop is saved; the "M" at the left of the display will disappear.

*NOTE: After pressing the "M" key, it is possible to interrupt crop selecting procedure by pressing "Cancel" key (C).*



ZX 002524

-JUN-03MAY95  
ZX002524



### AUTOMATIC MACHINE SETTING ACCORDING TO CROP SELECTED

- Separator must be engaged.
- Switch on function "Automatic Machine Adjustments".
- Select "Display" unit.

The selected crop will be displayed.

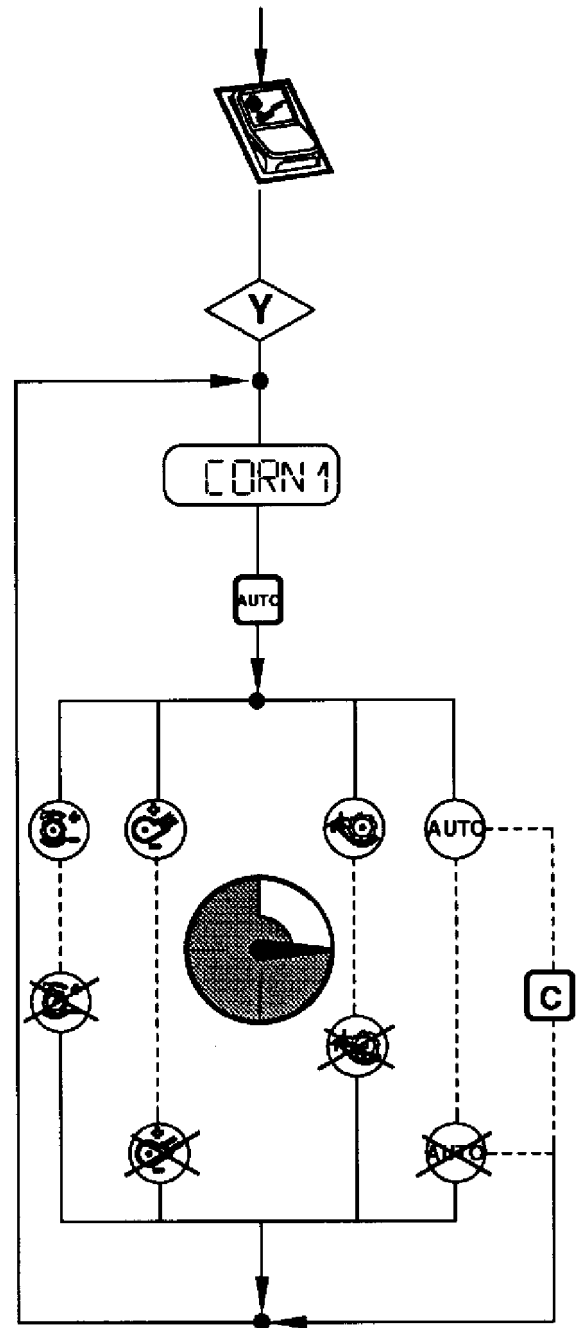
- Press "AUTO" key.

Lights of functions

- Cylinder speed
  - Fan speed
  - Concave spacing and
  - Automatic operation ("AUTO")
- will glow until the corresponding setting is completed.

After setting procedure for all functions is completed, the "AUTO" light will go out.

*NOTE: It is possible to interrupt setting procedure by pressing "Cancel" key (C).*



ZX 002525

ZX002525 -JUN-28APR95

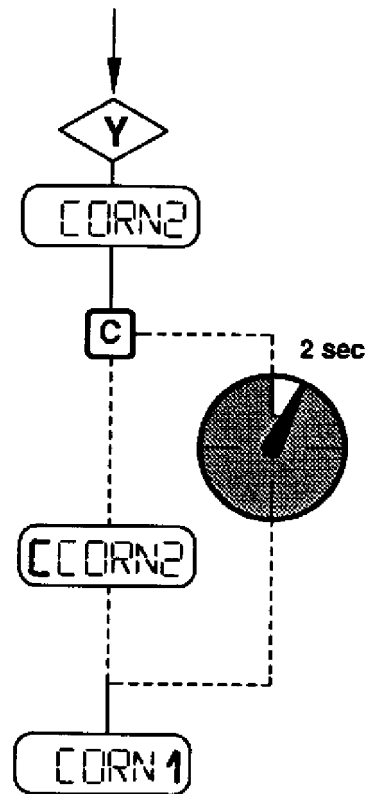
ZX,OMXZCO001960-19-20JUL92

### CLEARING CROPS CREATED BY THE OPERATOR

- Select "Display" unit.
- Select crop to be cleared (ending with a number "2" or named "CROP2"—"CROP6").
- Press "Clear" key (C) for 2 seconds.

For 2 seconds, a "C" will appear at the left of the display.

Display will change to crop version ending with a number "1".



ZX 002526

ZX002526 -UN-28APR95

ZX,OMXZCO001986-19-20JUL92

### READING SETTINGS FOR SELECTED CROP

- Select "Display" unit.

The previously selected crop will be displayed.

- Select "Setting Unit" function.

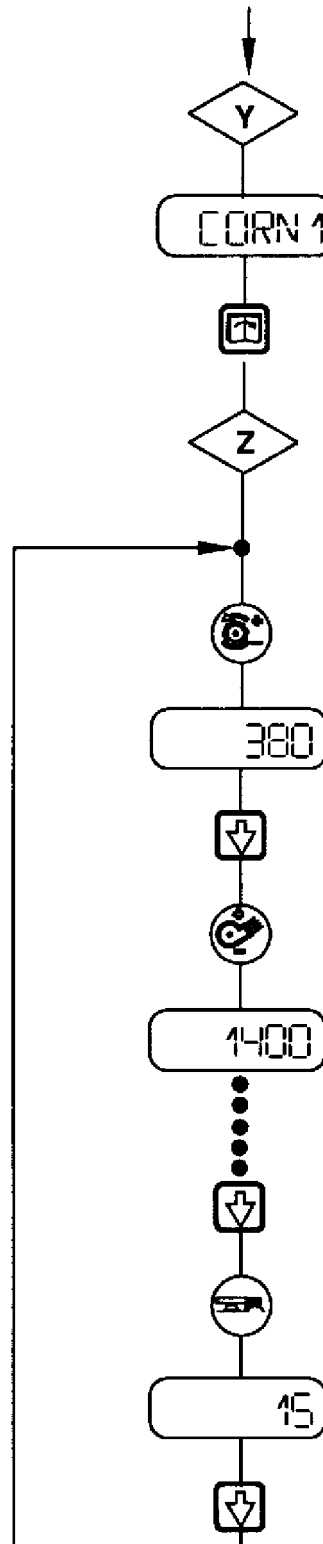
- Select "Cylinder Speed" function.

The cylinder speed for the selected crop is displayed.

- Select "Fan Speed" function.

The fan speed for the selected crop is displayed.

*NOTE: The remaining settings may be displayed in the same way.*



ZX 002527

ZX002527 -JUN-02MAY95

ZX,OMXZCO001858-19-20JUL92

## CHANGING CROP SETTINGS

### (Crops Created by the Operator)

- Select "Display" unit.

The previously selected crop will be displayed.

- Select "Setting Unit" function.

- Select "Cylinder Speed" function.

The cylinder speed for the selected crop is displayed.

- Press "Modify" key (M).

An "M" will appear at the left of the display.

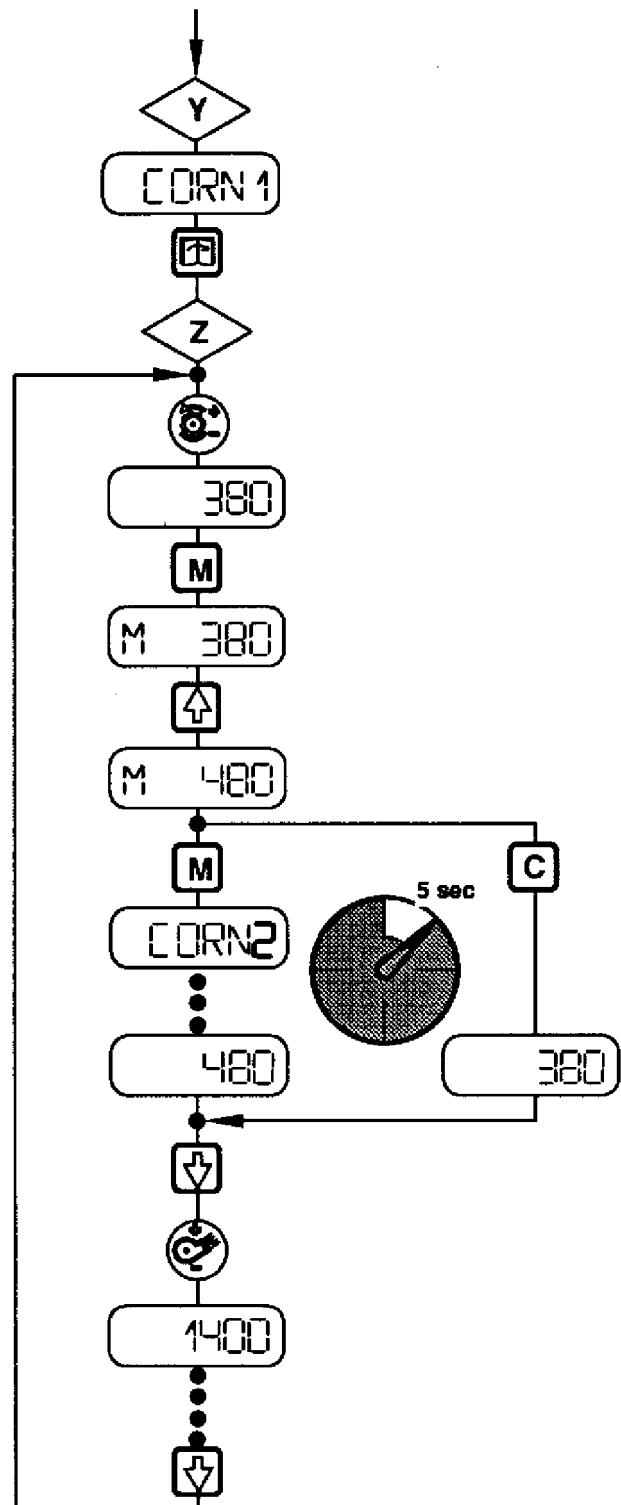
- Press "Up" or "Down" key until desired display appears.

*NOTE: At this time it is possible to interrupt changing procedure by pressing "Cancel" key (C).*

- Press key (M) again.

The crop created by the operator is saved (indicated by a "2" behind the crop name); the "M" at the left of the display will disappear.

*NOTE: The values for the remaining functions are changed in the same way.*



ZX 002528

-JUN-03MAY/95  
ZX002528

ZX,OMXZCO001987-19-20JUL92

### INDIVIDUAL SETTING OF CHANGED VALUES (AUTOMATIC SETTING)

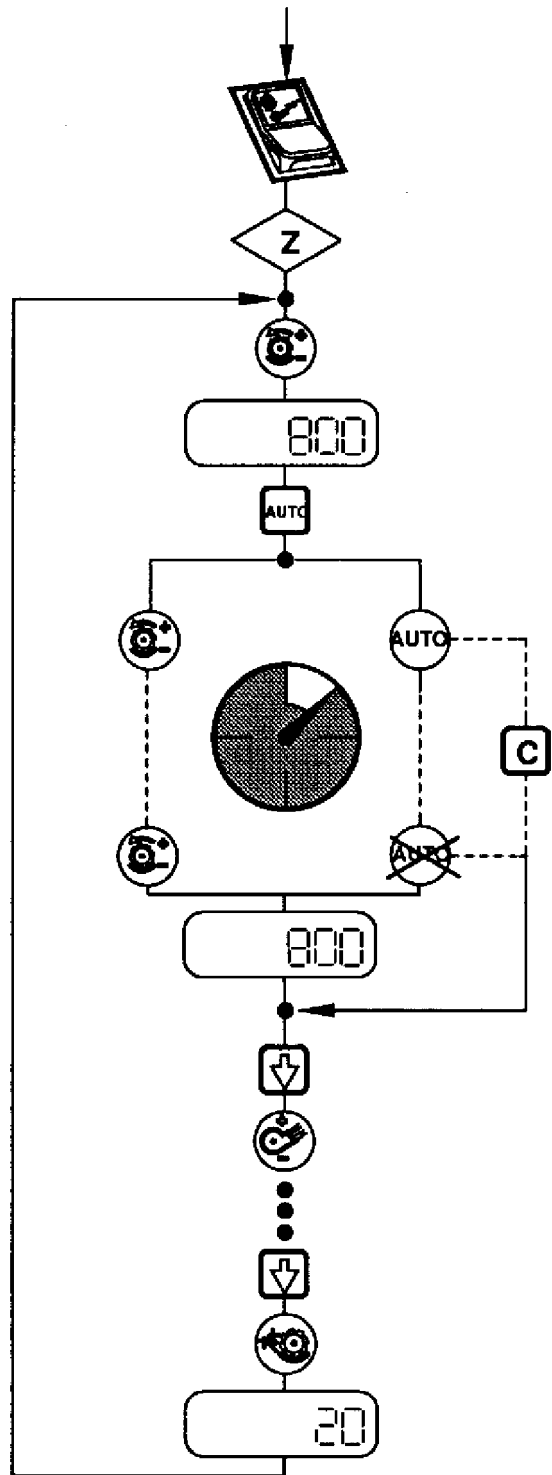
- Separator must be engaged.
- Switch on function "Automatic Machine Adjustments".
- Select "Setting Unit" function.
- Select "Cylinder Speed" function.

The corresponding value is displayed.

- Press "AUTO" key.

The light of the selected function and the "AUTO" light will glow during automatic setting procedure.

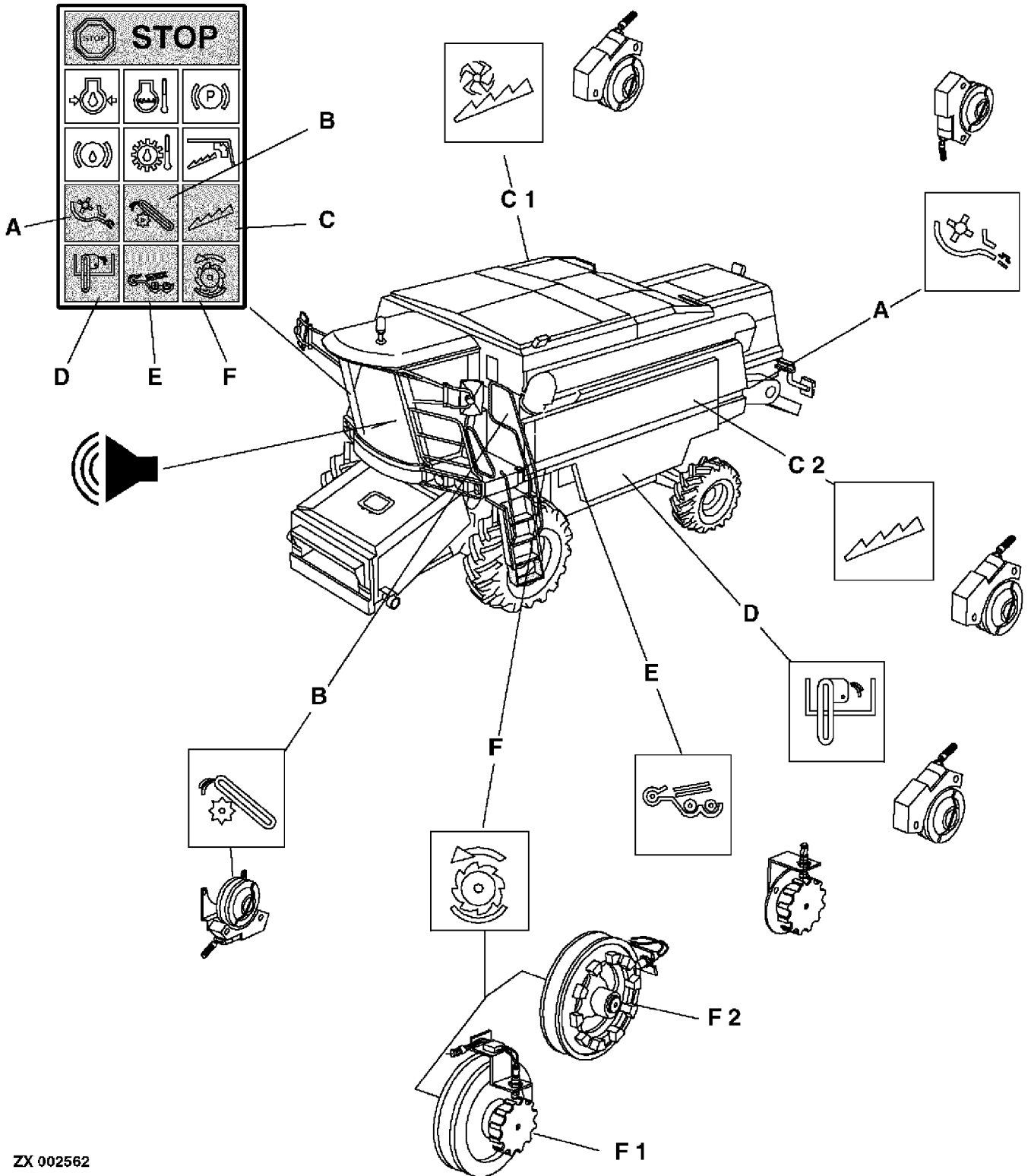
*NOTE: It is possible to interrupt setting procedure by pressing "Cancel" key (C).*



ZX 002529

ZX002529 -JUN-03MAY95

### LOW SHAFT SPEED MONITOR SYSTEM — PROTECTED COMPONENTS



ZX 002562

ZX,OMXZCO001971-19-20JUL92

## Warning Devices and Monitors

A—Straw chopper/chaff  
spreader (option)  
B—Tailings elevator  
C—Straw walkers

C1—With cross-shaker  
C2—Without cross-shaker  
D—Clean grain elevator

E—Fan  
F—Threshing cylinder  
F1—Second cylinder with  
constant speed

F2—Second cylinder with  
variable speed

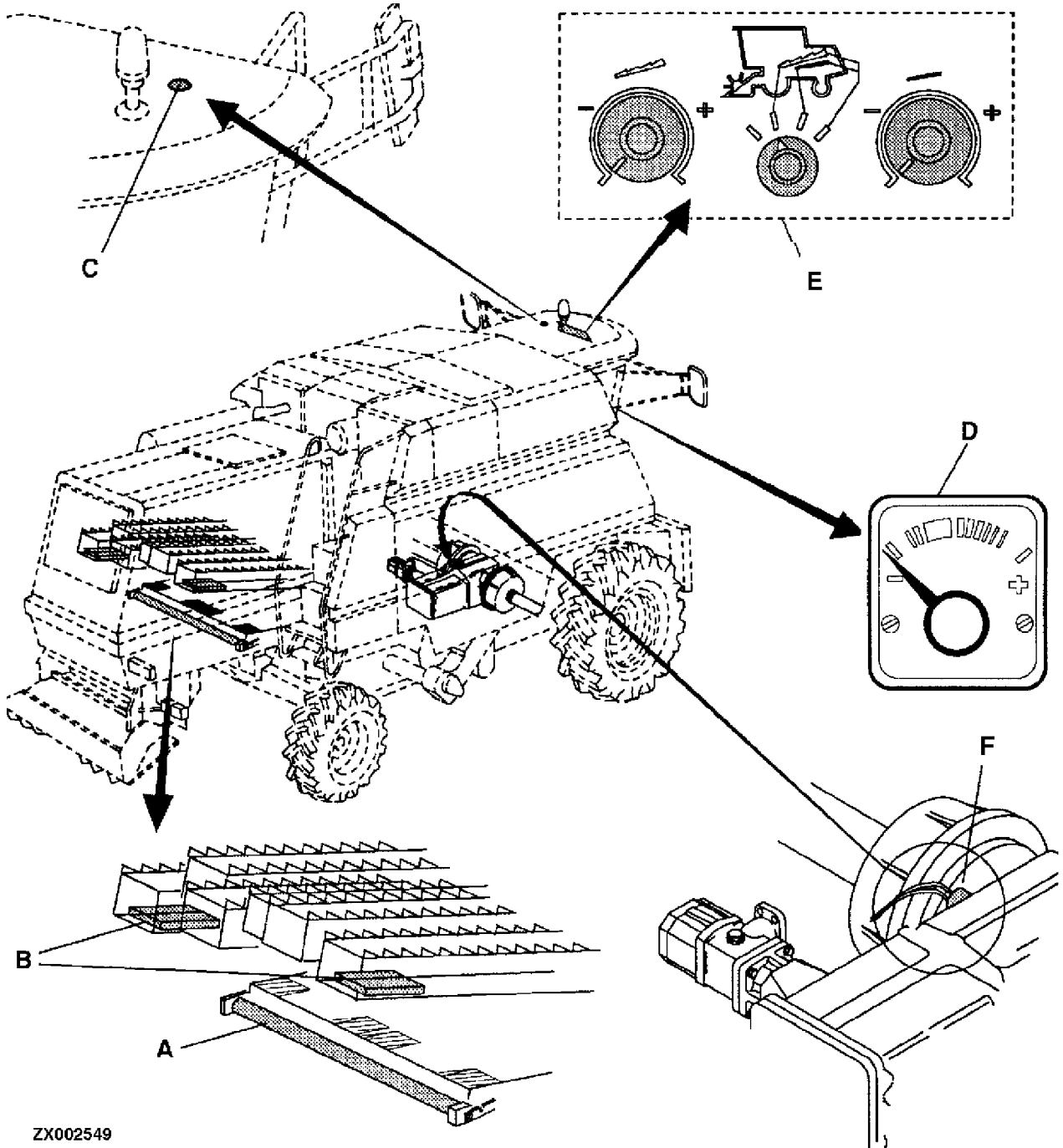
In the event of a malfunction, the low shaft speed monitor system activates corner post indicator lights and a continuous acoustic warning signal.

*NOTE: Reset the alarm threshold at the infotrak monitor every time the threshing cylinder and/or fan speed are altered.*

With engine shut off, electrical circuit on and separator engaged, all five or six indicator lights must glow and the warning signal must sound. With engine running (at fast idle) and separator engaged, all indicator lights should go out and the warning signal cease.

ZX,OMXZC0001988-19-13NOV92

### HARVEST PERFORMANCE MONITOR



ZX002549

A—Cleaning shoe sensor  
B—Straw walker sensors

C—Light sensor  
D—Display unit

E—Adjusting/selecting unit

F—Ground speed sensor

-UN-19MAY95  
ZX002549

ZX,OMXZC0001973-19-13NOV92



**General Description**

The harvest performance monitor records the amount of grains that hit its sensors at the cleaning shoe (A) and straw walkers (B). Ground speed is measured via sensor (F) and the light conditions (day/night) and moisture via sensor (C). Once these factors have been taken into account, the loss rate is displayed at display unit (D). Display unit (D) indicates the loss level that is acceptable to the user in relation to the area harvested.

The performance monitor enables the operator to use maximum combine capacity within the performance

range selected by him. After the operator has adjusted the combine and cutting platform to suit the harvesting conditions, he must set the monitor to these conditions by means of the adjusting/selecting unit (E).

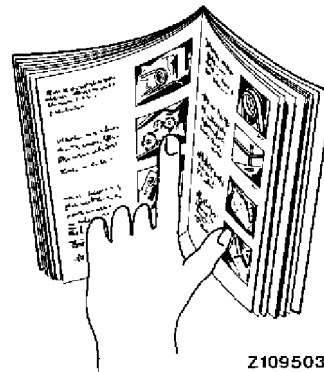
Incorrect adjustment and inadequate servicing of the combine always result in grain loss and reduced harvester performance. The causes of grain loss are dealt with in detail in the "Preparations and Field Operation" section. Particular attention should be paid to the information provided on "Determining Grain Losses" and "Prevention of Grain Losses — General".

ZX,OMXZC0001974-19-04DEC92

**PRELIMINARY ADJUSTMENTS ON COMBINE HARVESTER**

Before performing any adjustments on the harvest performance monitor, adjust the combine so that it is operating at peak efficiency. The adjustments must correspond to the relevant crop and field conditions.

For details, see "Preparations and Field Operation" section.



-JUN-22MAY95

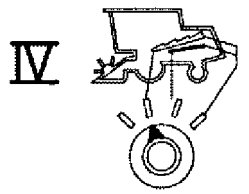
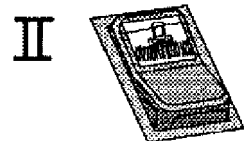
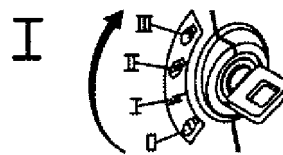
Z109503

ZX,OMXZC0001975-19-13NOV92

**SWITCHING ON THE HARVEST PERFORMANCE MONITOR**

The system can operate only when the

- engine is running (I)
- road safety switch is in the field position (II)
- threshing unit is engaged (III)
- harvest performance monitor is switched on (IV)



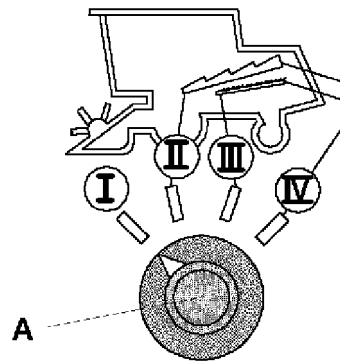
-JUN-19JUN95  
ZX002563

ZX,OMXZC0001976-19-13NOV92

## ADJUSTING/SELECTING UNIT

Switch (A) is for selecting the sensors at positions (II), (III) and (IV).

- A—Switch for selecting sensors
- I—Off position
- II—Straw walker losses
- III—Cleaning shoe losses
- IV—Straw walker and cleaning shoe losses



ZX 002569

ZX.OMXZC0001979-19-13NOV92

ZX002569 -JUN-19-JUN95

## OPERATIONAL ADJUSTMENT OF HARVEST PERFORMANCE MONITOR

Precondition: combine harvester is adjusted to peak efficiency.

While threshing, adjust potentiometers (A) and (B) one after the other so that the needle on display unit (C) moves to the center of the green sector (X) when there are grain losses.

I — Set potentiometer for straw walker losses:

- Put selector switch (D) in position (II).
- Use potentiometer (A) to bring the needle into the green sector (X).

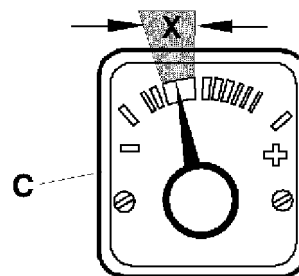
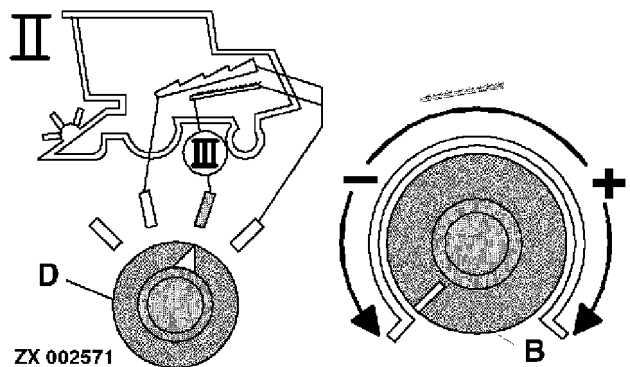
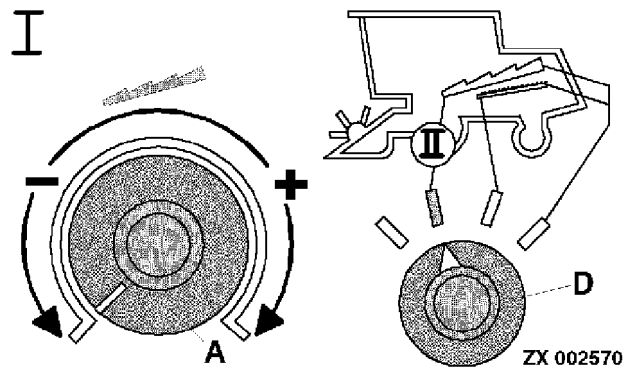
II — Set potentiometer for cleaning shoe losses:

- Put selector switch (D) in position (III).
- Use potentiometer (B) to bring the needle into the green sector (X).

Grain losses vary all the time. This means that the sensors on the cleaning shoe and straw walkers will transmit signals of varying intensity to the display unit. If these signals rise or fall in relation to the preset value, the needle on the display unit will swing to the left or right.

*NOTE: If no losses occur (and therefore none are displayed) even at maximum sensitivity, leave the two potentiometers (A) and (B) set no higher than the "two o'clock" position.*

- A—Potentiometer for straw walker sensitivity
- B—Potentiometer for cleaning shoe sensitivity
- C—Display unit
- D—Selector switch
- X—Green sector



## OPERATIONAL ADJUSTMENT OF HARVEST PERFORMANCE MONITOR (CONTINUED)

1. If the needle moves towards “—” and stays there for more than 20 seconds, the combine harvester’s ground speed is too low, i.e the harvester is not working hard enough. In this case, increase the combine harvester’s ground speed until the needle returns to the center of the green sector.

2. If the needle moves towards “+” and stays there for more than 20 seconds, the combine harvester’s ground speed is too high and grain losses are increasing. Reduce the combine harvester’s ground speed until the needle returns to the green sector.

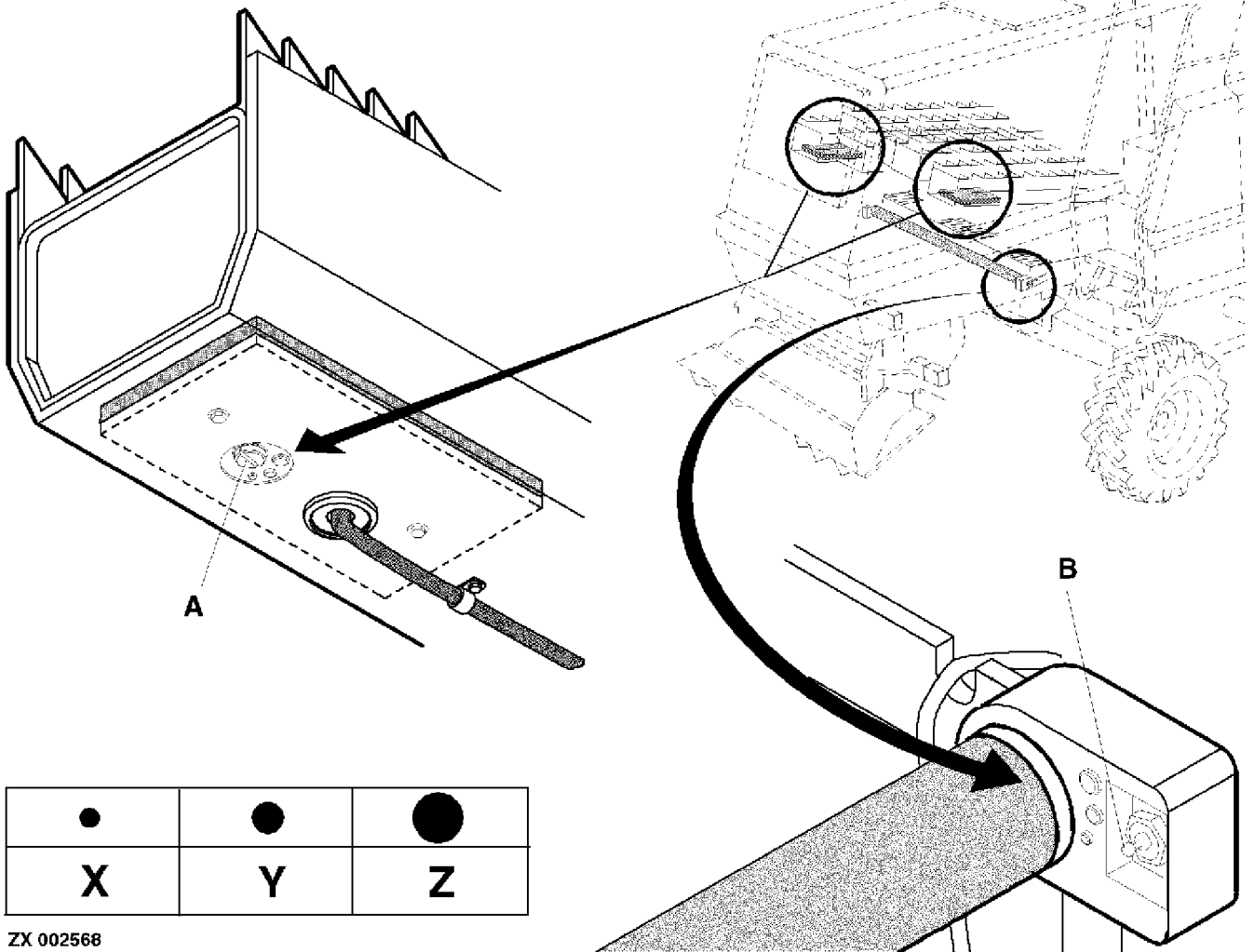
3. If the needle remains in the “+” sector even after ground speed has been reduced, this may be due to plugging at the straw walkers or sieve (cleaning

shoe). In this case, check which of these components is causing the blockage by selecting them with the selector switch. If necessary, clean the relevant component. Once an acceptable performance level has been achieved, adjust the potentiometers of the display unit as described above.

4. If the harvesting conditions change during the course of the day (straw lying down or damp), re-adjust the performance monitor. Measure the losses from time to time to determine whether the combine harvester needs to be re-adjusted. Changes in the moisture of the straw which occur at dusk and during night operations are compensated for by the light sensor.

ZX,OMXZC0001981-19-13NOV92

**SETTING SENSOR SENSITIVITY**



ZX 002568

X — Higher sensor sensitivity for finer grain crops  
 Y — Medium sensor sensitivity for medium grain crops (covers a wide range of standard crops)

Z — Lower sensor sensitivity for coarse grain crops

ZX,OMXZCO001978-19-13NOV92

ZX002568 -JUN-19-JUN95

## OPERATIONAL CHECK OF HARVEST PERFORMANCE MONITOR

**CAUTION:** Before carrying out the operational check, remove fuse F23. This prevents the cylinder from being switched on while at the same time ensuring that the harvest performance monitor is supplied with power.

Start the engine.  
Put road safety switch in field position.  
Switch threshing unit to ON position.

### I — Check straw walker sensors:

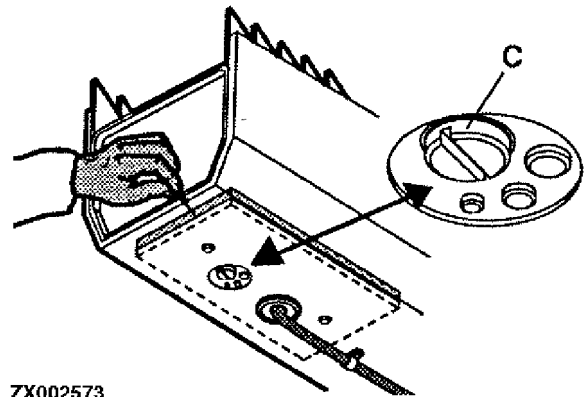
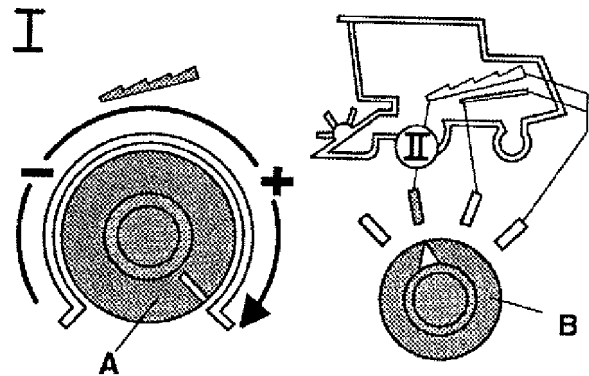
- Turn potentiometer (A) clockwise as far as it will go.
- Set selector switch (B) to position (II) (straw walkers).
- Rotary switch (C) should be in the medium position at both sides.
- Actuate the left and right straw walker sensors by tapping them lightly with a hard object or by dropping kernels on them. A second person is required to observe the needle at the display. The needle must be seen to move.

### II — Check cleaning shoe sensor:

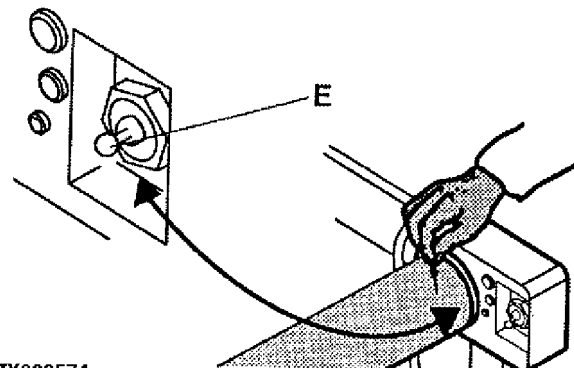
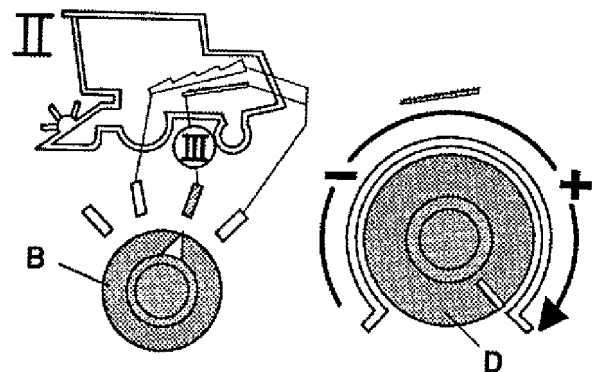
- Turn potentiometer (D) clockwise as far as it will go.
- Set selector switch (B) to position (III) (cleaning shoe).
- Tumbler switch (E) should be in the middle position.
- Check cleaning shoe sensor in the same way as the straw walker sensors.
- Switch on the parking light and check whether the display light is on.
- Switch off the parking light. Disengage the threshing unit and remove the switch key.
- If a fault occurs during the check described above, have the fault rectified by your John Deere dealer.

**NOTE:** Once the operational check is completed, put fuse F23 back in place.

- A—Potentiometer for straw walker sensitivity
- B—Selector switch
- C—Rotary switch
- D—Potentiometer for cleaning shoe sensitivity
- E—Tumbler switch



ZX002573



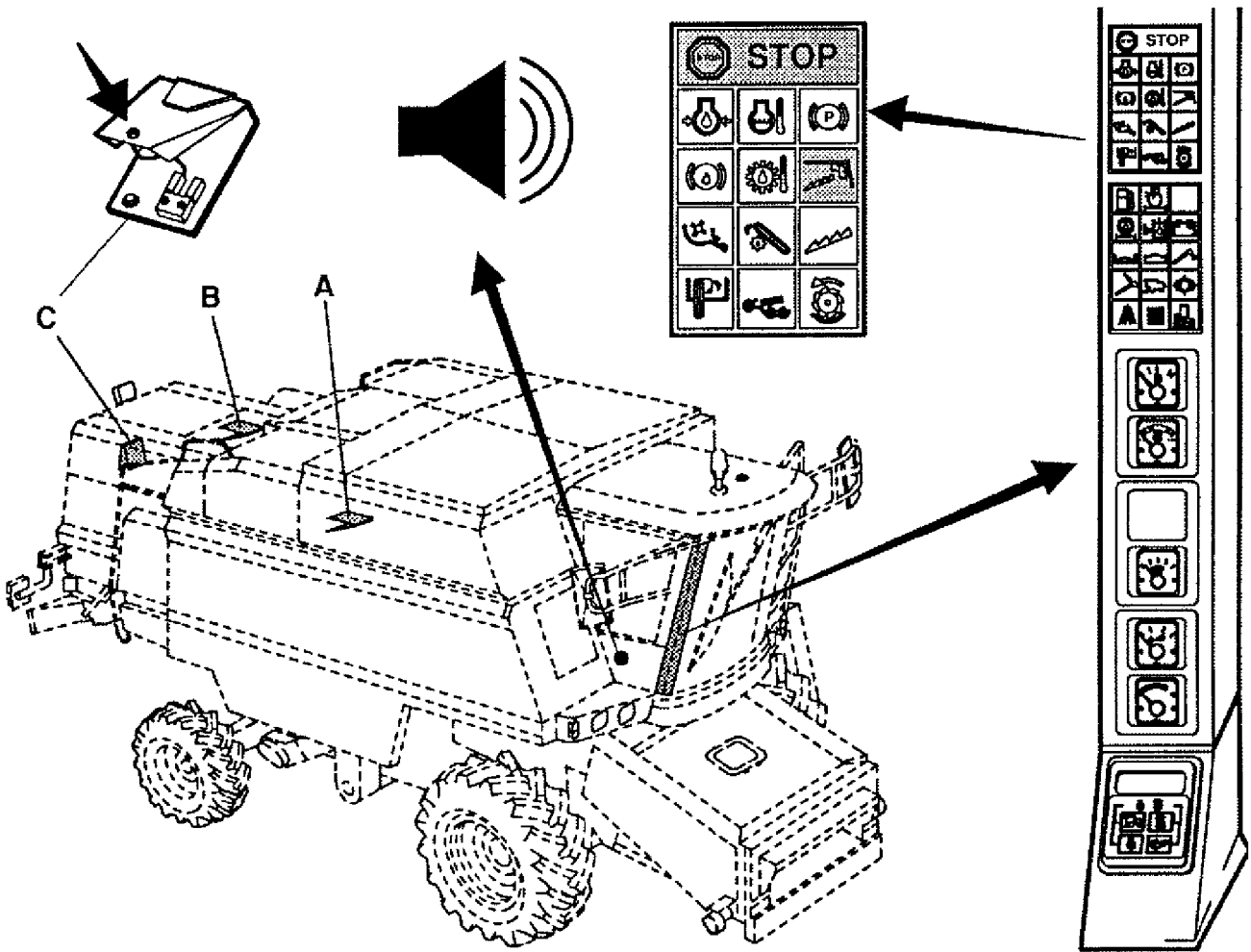
ZX002574

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ZX002573

-UN-19JUN95  
ZX002574

ZX,OMXZC0001982-19-13NOV92

**STRAW WARNING DEVICE**



ZX002548

A—Sending unit above straw walkers, below engine compartment

B—Sending unit above straw walkers, in front of cross shaker

C—Sending unit above straw deflector (chopper) at end of straw hood

**Daily Checks**

Check straw warning device daily with engine shut off and ignition turned on before operating the combine.

Press contacts by hand, moving them against solenoid to make sure signal sounds correctly.

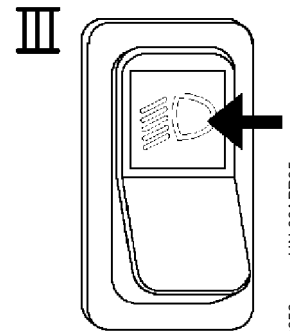
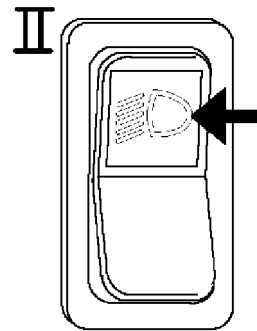
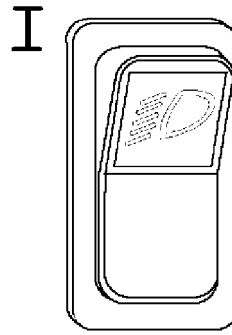
ZX002548 -UN-16JUN95

ZX,OMXZCO001972-19-20JUL92

# Lighting System and Signals

## PARKING LIGHT AND LOW-BEAM TUMBLER SWITCH

- I—Light functions off
- II—Parking lights, indicator and instrument lighting on, plus clearance lights in certain countries only
- III—Low-beam on, at starter switch positions I + II (ignition) only



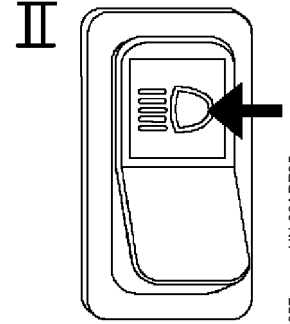
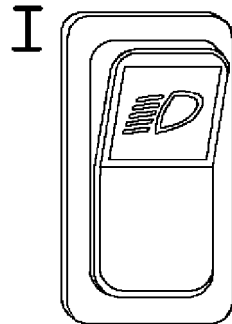
ZX 002356

-UN-03APR95  
ZX002356

ZX,OMXZC0001522-19-01AUG92

## FULL-BEAM TUMBLER SWITCH

- I—Full-beam off
- II—Full-beam on (only when low-beam is selected)



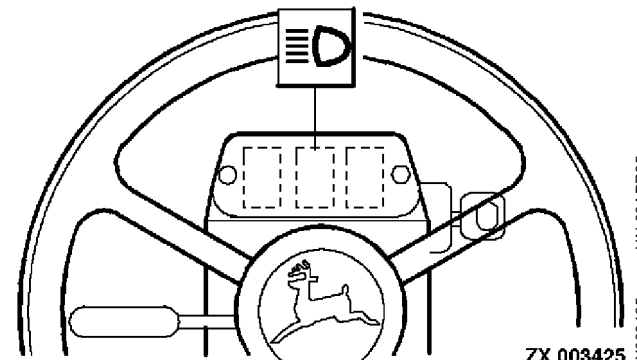
ZX 002357

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ZX002357

ZX,OMXZC0001523-19-01AUG92

## FULL-BEAM INDICATOR LIGHT

The full-beam indicator light comes on when full-beam is selected.



ZX 003425

-UN-03APR95  
ZX003425

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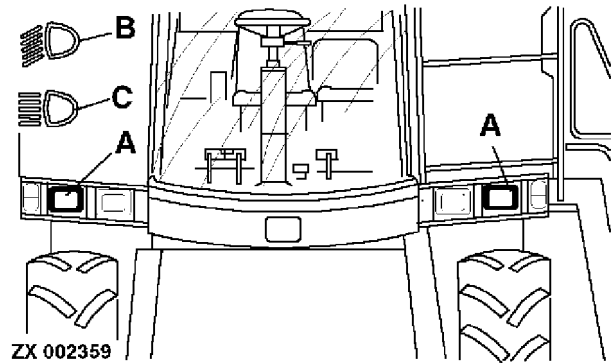


### HEADLIGHTS

Low and full-beam headlights are provided.

Always switch to low-beam when oncoming traffic appears.

- A—Headlights
- B—Low-beam
- C—Full-beam



ZX 002359

-UN-16JUN95  
ZX002359

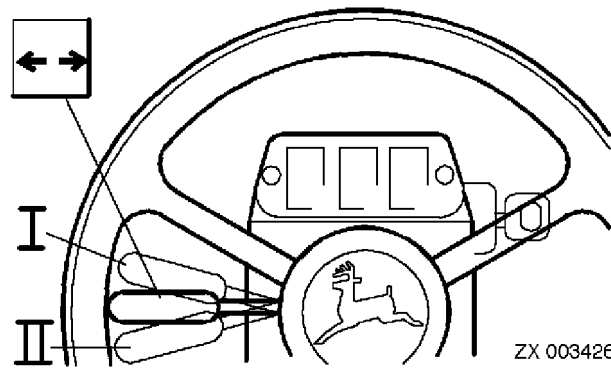
ZX.OMXZC0001525-19-01AUG92

### TURN-SIGNAL SWITCH

Use the turn-signal switch when driving on public roads.

*NOTE: The turn-signal switch is not self-cancelling.*

- I—Right-hand turn
- II—Left-hand turn

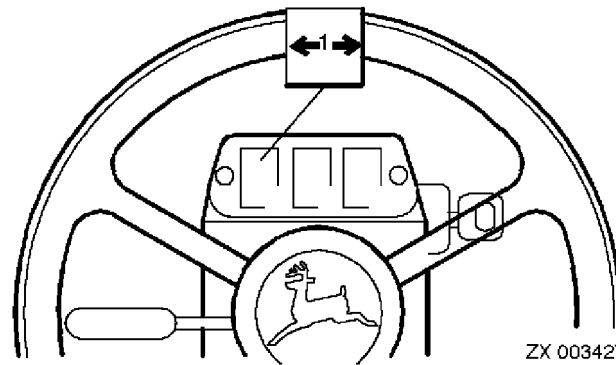


ZX 003426

-UN-03APR95  
ZX003426

ZX.OMXZC0001526-19-01AUG92

### TURN-SIGNAL INDICATOR LIGHTS

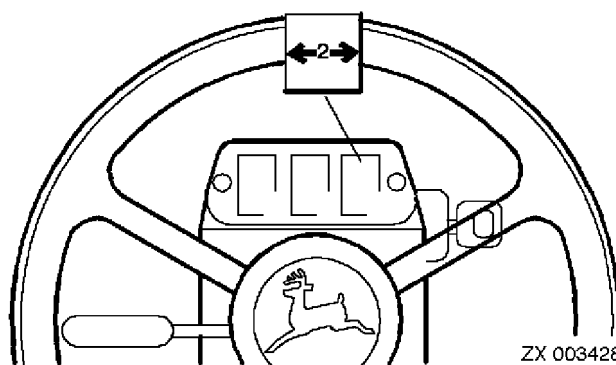


ZX 003427

-UN-03APR95  
ZX003427

ZX.OMXZC0001527-19-01AUG92

### TRAILER TURN-SIGNAL INDICATOR LIGHTS



ZX 003428

-UN-03APR95  
ZX003428

ZX.OMXZC0001528-19-01AUG92

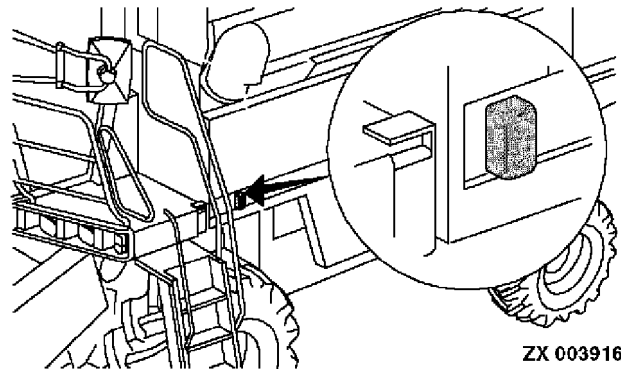
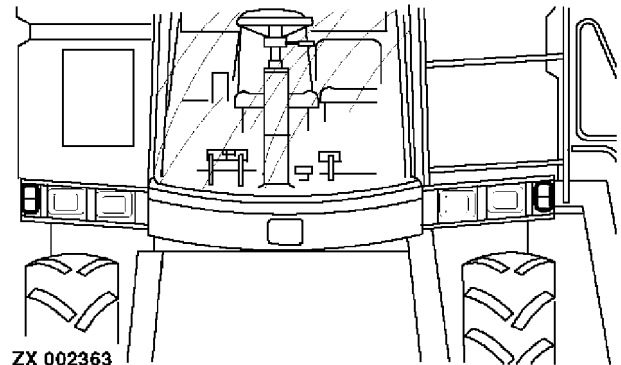
## FRONT TURN-SIGNAL AND CLEARANCE LIGHTS

### Clearance Lights

The clearance lights light up as soon as parking lights, low-beam headlights or full-beam headlights are selected.

### Turn-Signal Lights

The turn-signal lights light up when the turn-signal switch or hazard warning switch are operated.



ZX,OMXZC0001529-19-01AUG92

## REAR TURN-SIGNAL LIGHTS, TAIL LIGHTS AND STOP LIGHTS

### Turn-Signal Lights

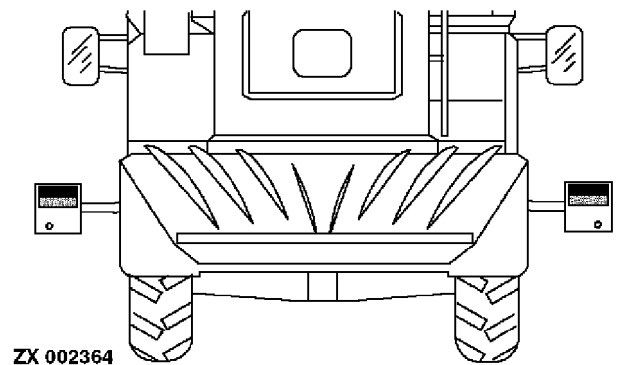
The turn-signal lights light up when the turn-signal switch or hazard warning switch are operated.

### Tail Lights

The tail lights light up as soon as parking lights, low-beam headlights or full-beam headlights are selected.

### Stop Lights

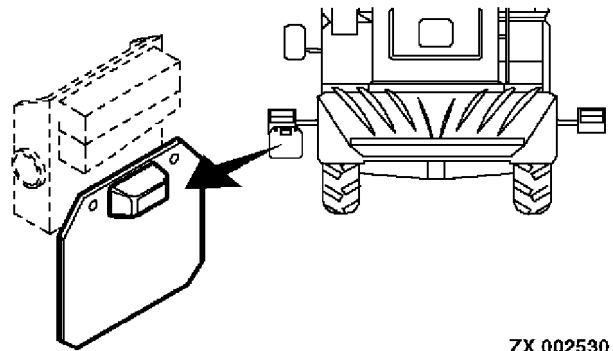
The stop lights light up when the brake pedals are depressed, provided the ignition is switched on.



ZX,OMXZC0001530-19-01AUG92

### REGISTRATION PLATE LIGHT (CERTAIN COUNTRIES ONLY)

The registration plate light always lights up when parking lights, low-beam headlights or full-beam headlights are selected.



ZX 002530

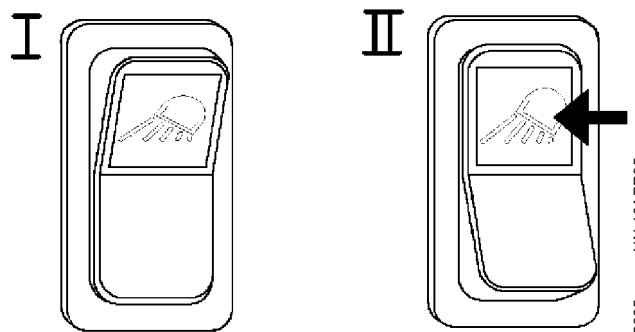
ZX.OMXZC0001961-19-01AUG92

-JUN-16-JUN95  
ZX002530

### TUMBLER SWITCH FOR WORK LIGHTS ON CAB ROOF AND UNLOADING AUGER

The work lights on the cab roof and at the unloading auger can only be switched on when the engine is running and the parking lights are switched on.

- I—Work lights off
- II—Work lights on



ZX 002365

ZX.OMXZC0001531-19-01AUG92

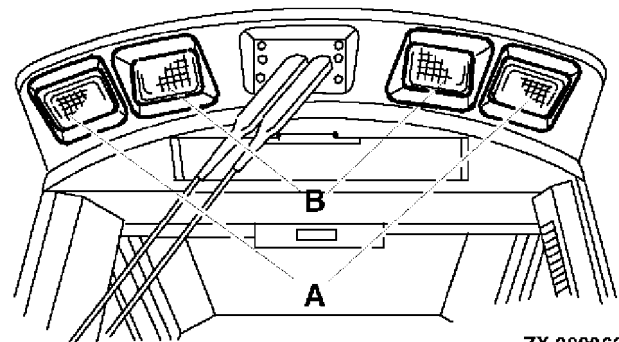
-JUN-10-APR95  
ZX002365

### WORK LIGHTS ON CAB ROOF AND UNLOADING AUGER

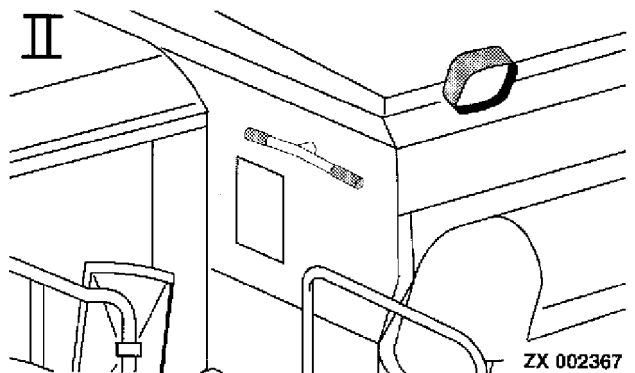
The two outer work lights (A) are set to a width of 6.10 m (20 ft.) before leaving the factory. If necessary, reset the width to match that of the harvesting unit. See "Service — Electrical System".

Work lights (B) illuminate the center of the harvesting unit.

- I—Work lights on cab roof
- II—Work light at unloading auger



ZX 002366



ZX 002367

ZX.OMXZC0001532-19-01AUG92

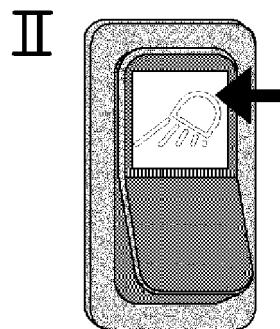
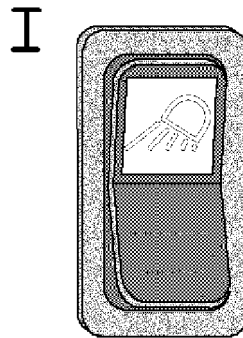
-JUN-16-JUN95  
ZX002366

-JUN-23-OCT00  
ZX002367

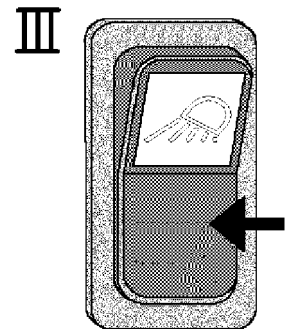
### TUMBLER SWITCH FOR WORK LIGHTS ON OPERATOR'S PLATFORM AND MIRROR ARMS AND FOR REAR LIGHTS

The two additional work lights on the operator's platform (inner lights), the work lights on the mirror arms and the rear lights can only be switched on when the road safety switch is in the off-road position.

- I—Off
- II—Work lights on operator's platform and rear lights on
- III—Work lights on mirror arms on



ZX 002368

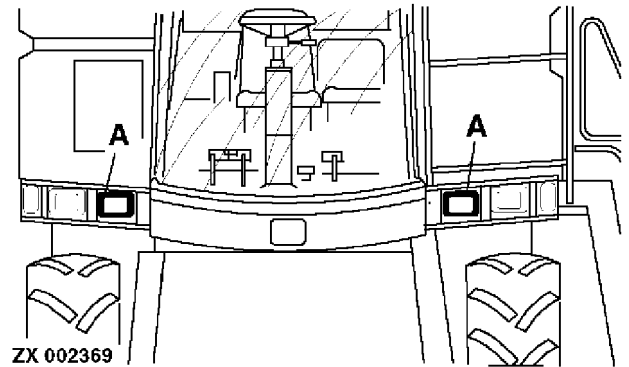


ZX,OMXZC0001533-19-01AUG92

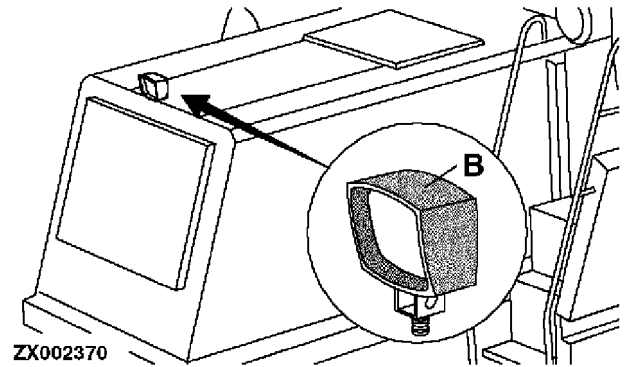
ZX002368 -UN-16JUN95

### WORK LIGHTS ON OPERATOR'S PLATFORM AND MIRROR ARMS, AND REAR LIGHTS

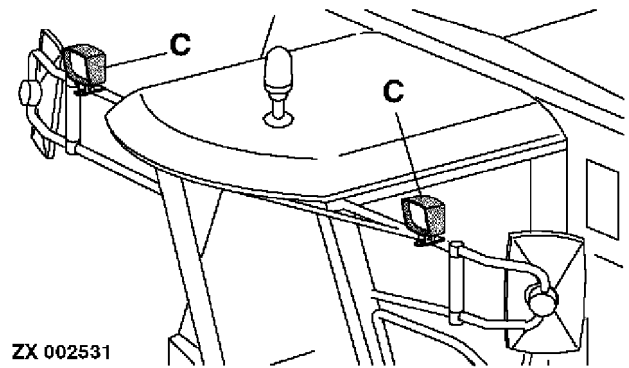
- A—Work lights on operator's platform
- B—Rear lights
- C—Work lights on mirror arms (primarily for maize harvesting)



-UN-16JUN95  
ZX002369



-UN-16JUN95  
ZX002370



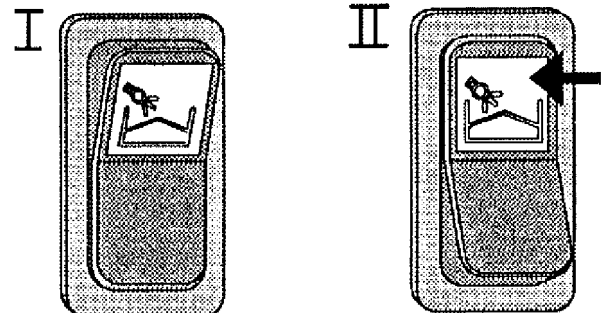
-UN-16JUN95  
ZX002531

ZX,OMXZC0001534-19-01AUG92

### ROCKER SWITCH FOR GRAIN TANK LIGHTING

Grain tank lighting may be selected whenever the ignition is switched on.

- I—Grain tank light off
- II—Grain tank light on

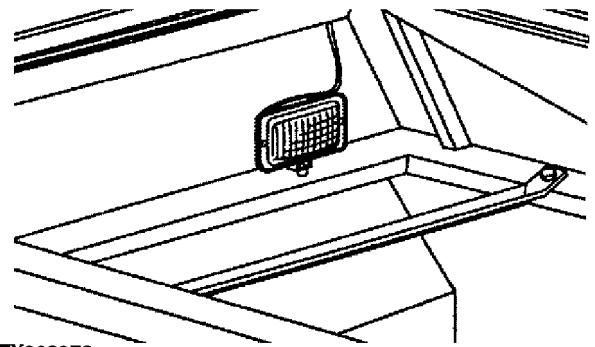


ZX002371

-UN-16JUN95  
ZX002371

ZX,OMXZC0001535-19-01AUG92

### GRAIN TANK LIGHTING



ZX002372

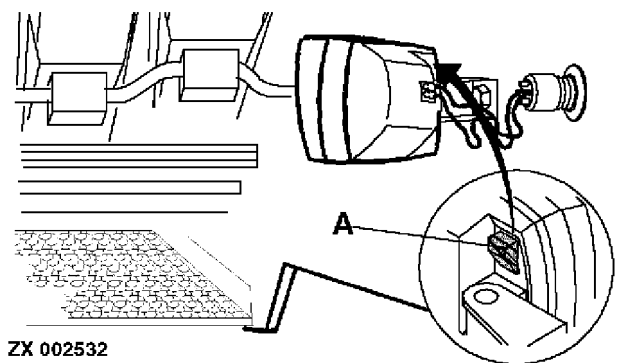
ZX,OMXZC0001536-19-01AUG92

-UN-16JUN95  
ZX002372

### LIGHT INSIDE STRAW HOOD

**IMPORTANT:** Switch on light inside straw hood only to perform service or maintenance work. It represents a FIRE HAZARD.

Switch (A) at the rear of the light can be used to select the light only when the ignition is switched on.



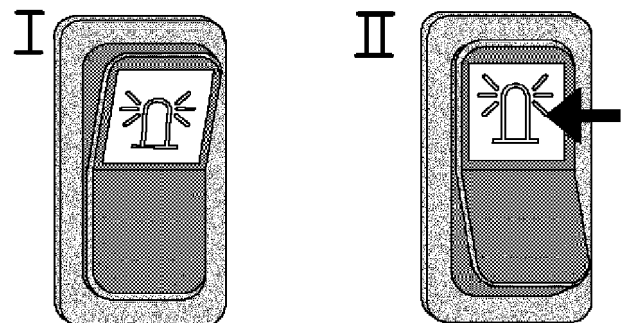
ZX 002532

ZX,OMXZC0001962-19-01AUG92

-UN-16JUN95  
ZX002532

### TUMBLER SWITCH FOR BEACON LIGHTS

- I—Beacon lights off
- II—Beacon lights on (only with ignition on)



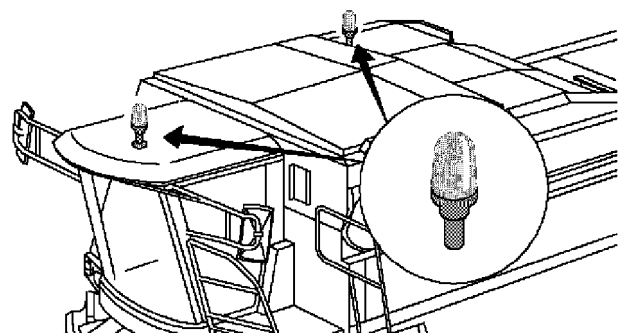
ZX 002373

ZX,OMXZC0001537-19-01AUG92

-UN-16JUN95  
ZX002373

### BEACON LIGHT FOR DRIVING ON PUBLIC ROADS

In certain countries, the beacon lights must be switched on when driving on public roads.



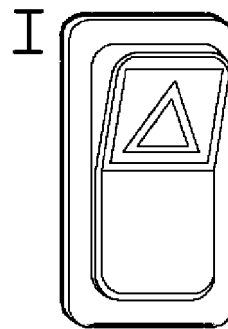
ZX 002374

ZX,OMXZC0001538-19-01AUG92

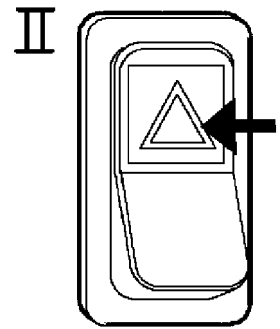
-UN-16JUN95  
ZX002374

### TUMBLER SWITCH FOR HAZARD WARNING LIGHTS

- I—Hazard warning lights off
- II—Hazard warning lights on



ZX 002375



ZX002375 -UN-05APR95

ZX,OMXZC0001539-19-01AUG92

### USING HAZARD WARNING LIGHTS

Road traffic regulations in some countries require that the hazard warning lights must be switched on whenever the combine is stopped at the side of the road.

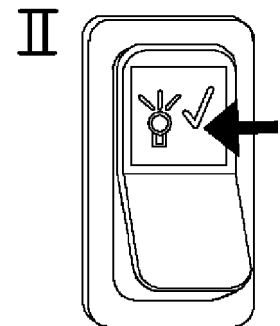
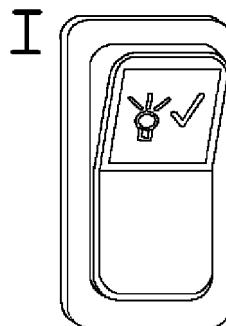
ZX,OMXZC0001540-19-01AUG92

### ROCKER SWITCH FOR INDICATOR LIGHT BULB TEST

This test can be performed only when the ignition is switched on.

Indicator light blocks (I) and (II) are tested.

- I—Indicator light bulb test off
- II—Indicator light bulb test on



ZX 002376

ZX002376 -UN-03APR95

ZX,OMXZC0001541-19-01AUG92

# Operator's Cab

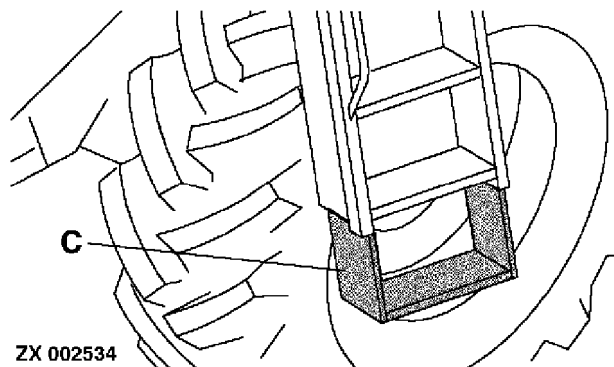
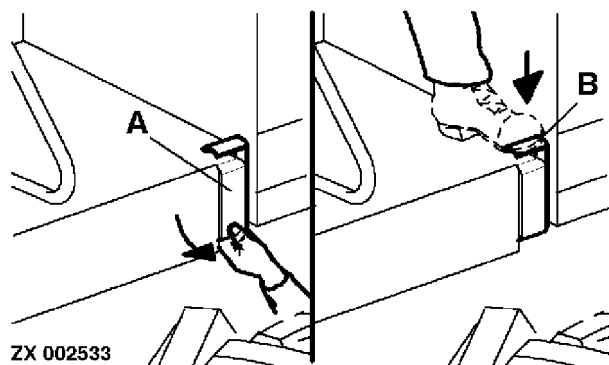
## ACCESS LADDER TO OPERATOR'S CAB

**CAUTION:** Do not ascend or descend the ladder while the combine is in motion.

The access ladder may be turned forward or to the side either from the operator's platform or from ground level.

- From ground level: pull up flap (A) and turn access ladder.
- From operator's platform: press flap (B) and turn access ladder.

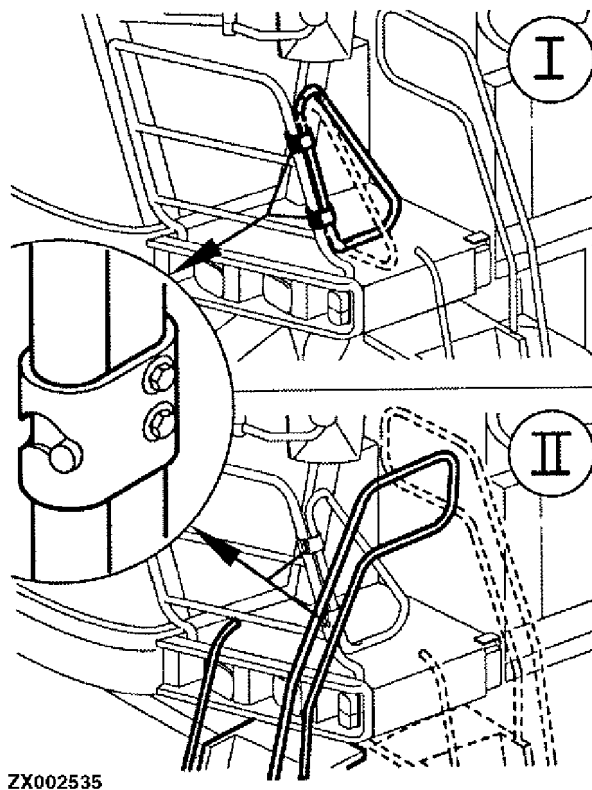
In muddy conditions, the distance between the bottom of the ladder and the ground may be altered by removing the lowest step (C).



ZX,OMXZC0001963-19-01AUG92

## POSITIONS OF ACCESS LADDER AND HANDRAIL

- I—Position for operations in the field
- II—Position for driving on roads and transport on a flatbed carrier



ZX,OMXZC0001964-19-01AUG92



### POSITIONS OF ACCESS LADDER IN RELATION TO TIRE SIZES

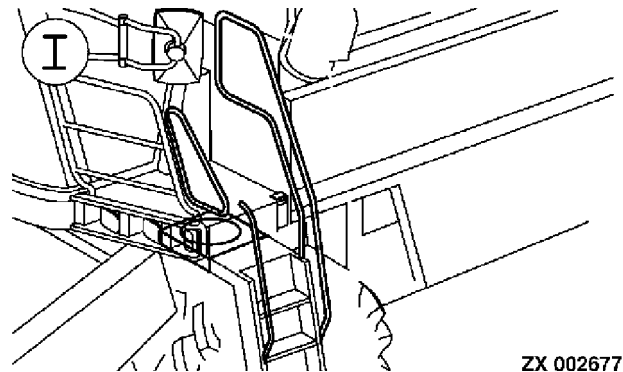
I — Position for combines with overall width less than 3 m (9.8 ft) with 18.4-30, 18.4-34 and 20.8-34 tires. 150 mm (5.9 in.) further in than Position (II).

II — Position for combines with overall width up to 3.3 m (10.8 ft).

III — Position for combines with dual tires or Terra Tires. 40 mm (1.57 in.) further out than Position II.

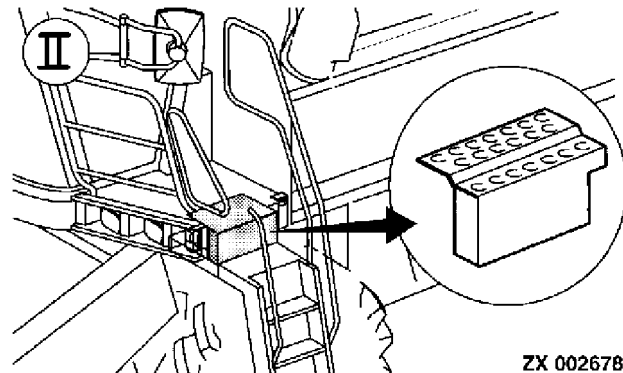
*NOTE: Additional handrails (A) and (B), right-angled profile (C) (2 x) and cover (D) must be fitted when dual wheels and Terra Tires are used.*

- A—Front handrail
- B—Rear handrail
- C—Right-angled profile
- D—Cover



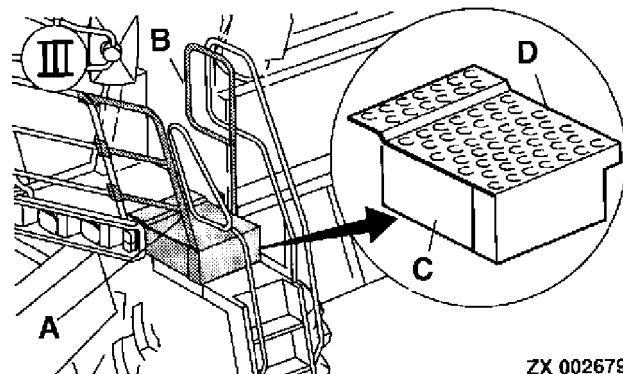
ZX 002677

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ZX002677



ZX 002678

-UN-05DEC00  
ZX002678



ZX 002679

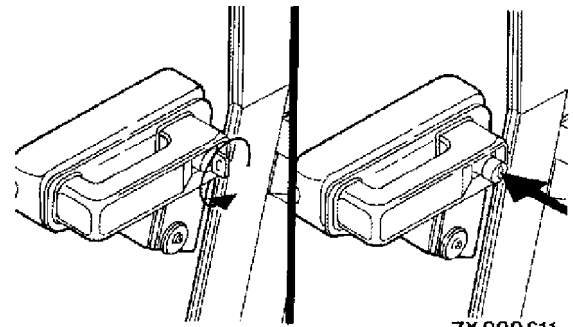
-UN-05DEC00  
ZX002679

ZX,OMXZC0001989-19-13NOV92

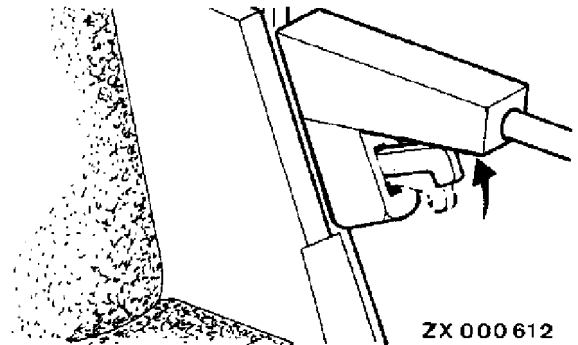
## OPENING CAB DOOR

**From outside:** Unlock door with the ignition key. Press button and open door.

**From inside:** Pull up the door-opening lever.



-UN-03APR95  
ZX000611



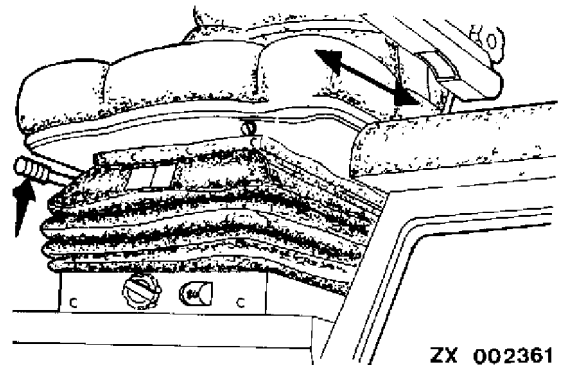
-UN-03APR95  
ZX000612

ZX,OMXZC0001998-19-01AUG92

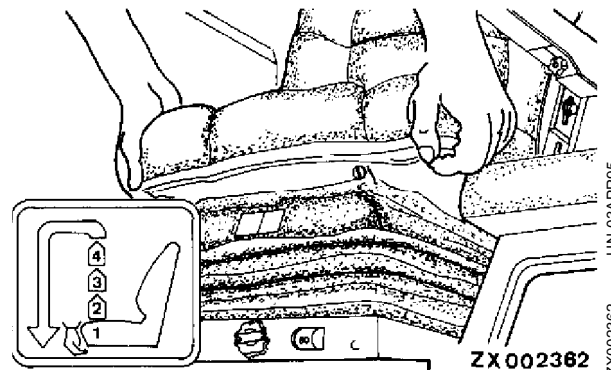
## ADJUSTING OPERATOR'S SEAT POSITION

Pull up locking lever and slide seat forward or backward.

To adjust height of seat, grip seat with both hands and lift upward (three detent positions). Should the seat be raised above the third detent position, it will return to lowest position.



-UN-03APR95  
ZX002361



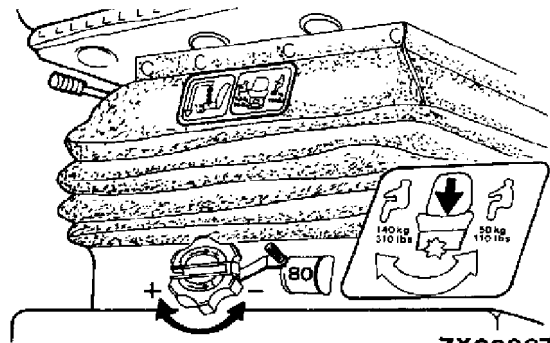
-UN-03APR95  
ZX002362

ZX,OMSPFH000230-19-11MAY92

## ADAPTING SEAT TO OPERATOR'S WEIGHT

The seat can be adapted to the operator's weight.

Turn the crank until the operator's weight is shown on the scale.



ZX002377

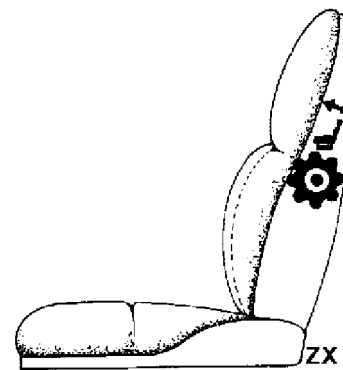
ZX.OMXZC0001542-19-01AUG92

-UN-03APR95  
ZX000616

## ADJUSTING LUMBAR SUPPORT

An adjustable lumbar support is incorporated in backrest of operator's seat.

Use l.h. or r.h. handwheel to adjust lumbar support according to operator's requirements.



ZX 000 616

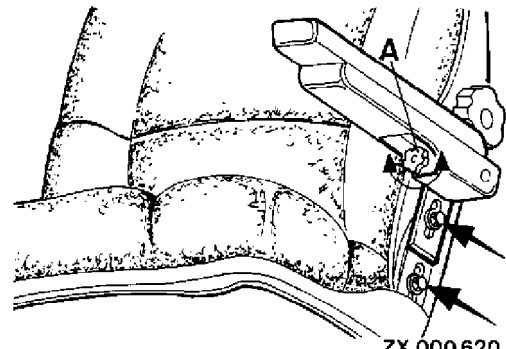
ZX.OMSPFH000232-19-26MAR91

-UN-03APR95  
ZX000620

## ADJUSTING THE ARMREST

Adjust armrest angle by means of wheel (A).

Armrest height can also be adjusted at the hinge.



ZX 000 620

ZX.OMXZC0001999-19-01AUG92

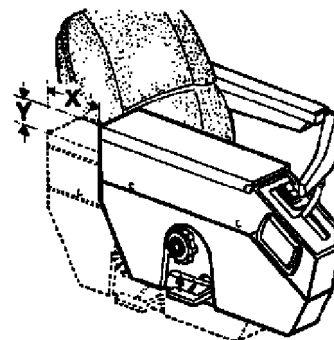
-UN-10APR95  
ZX000621

## R.H. ARMREST — FORE-AND-AFT ADJUSTMENT

From the rear position, the armrest can be moved approx. 160 mm (6.3 in.) forward (X).

In addition, armrest height is altered by approx. 80 mm (3.1 in.) (Y).

Raise locking lever. Move armrest into desired position and release locking lever.



ZX000621

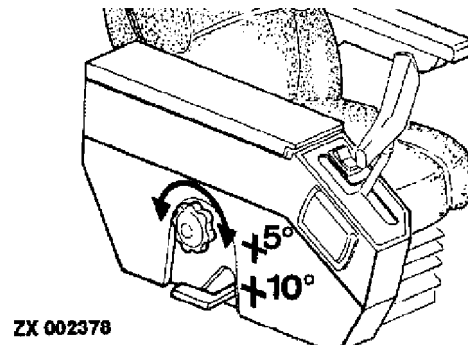
ZX.OMSPFH000235-19-26MAR91

-UN-03APR95  
ZX000621

### R.H. ARMREST — TILT ANGLE ADJUSTMENT

From the horizontal position, the armrest can be lowered twice, each time by 5°.

To do so, turn the wheel forward.

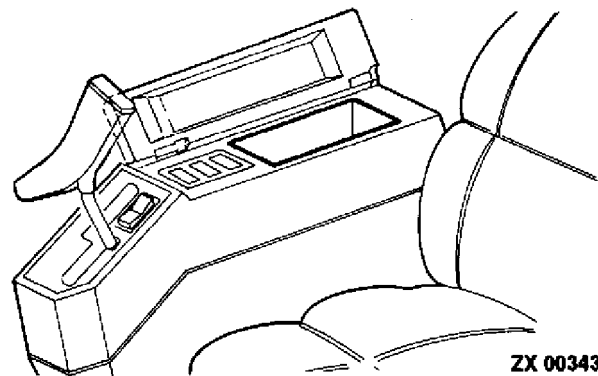


ZX.OMXZC0001543-19-01AUG92

ZX002378 -UN-03APR95

### R.H. ARMREST STORAGE COMPARTMENT

Combines without combine data center.



ZX.OMXZC0001990-19-01AUG92

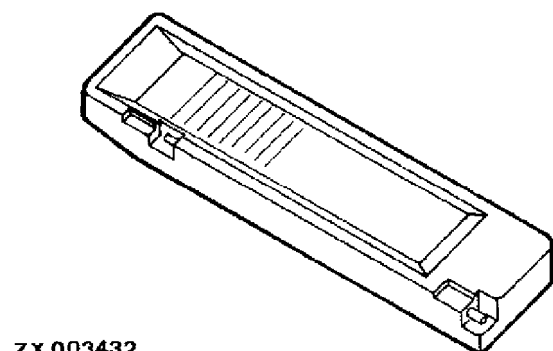
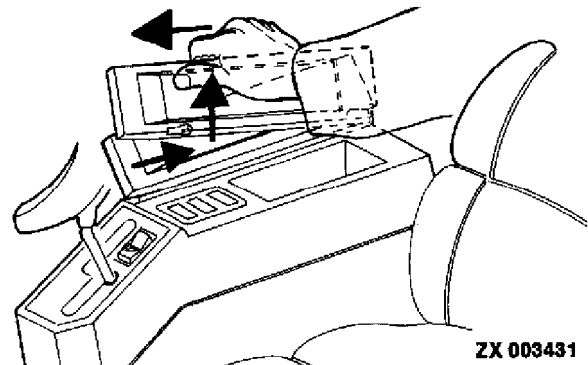
ZX003430 -UN-03APR95

### COVER OF R.H. ARMREST

Armrest cover can easily be removed to make notes:

Open cover, grip at the front, press back, raise at the front and pull out.

The notes made with a pencil on the bottom of the cover may be removed by means of an eraser.

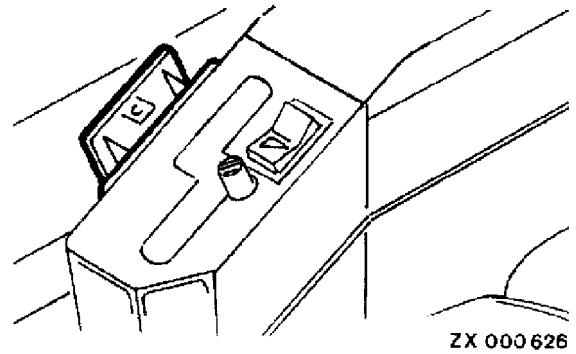


ZX.OMSPFH000238-19-11MAY92

ZX003431 -UN-03APR95

ZX003432 -UN-03APR95

### ASHTRAY



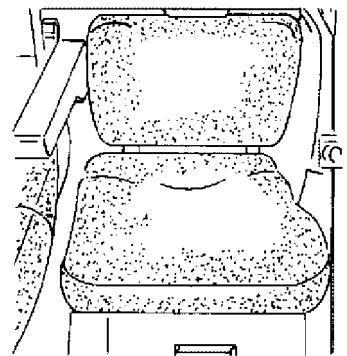
ZX 000 626

ZX,OMSPFH000239-19-26MAR91

-UN-03APR95  
ZX000626

### PASSENGER SEAT

During operation, only the operator and an additional person are allowed in the cab.



ZX 000 628

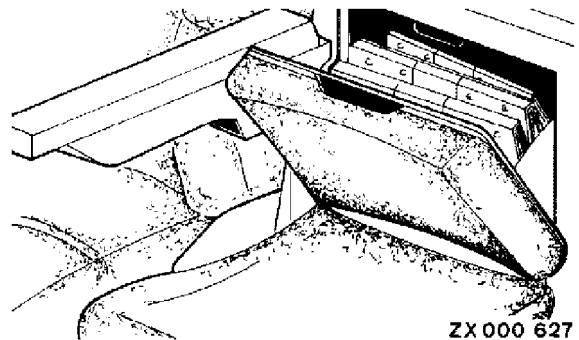
ZX,OMSPFH000240-19-26MAR91

-UN-03APR95  
ZX000628

### STORAGE COMPARTMENT FOR OPERATOR'S MANUALS

This storage compartment is located in the passenger seat backrest.

For access to compartment, pull backrest forward.



ZX 000 627

ZX,OMSPFH000241-19-26MAR91

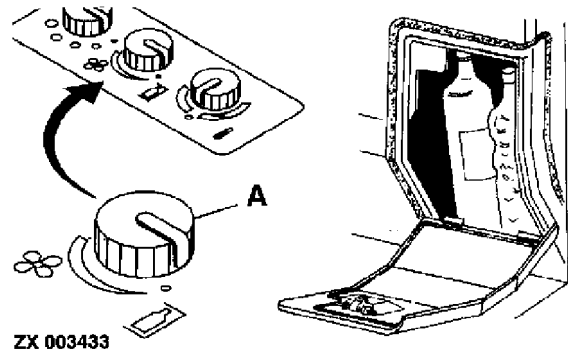
-UN-03APR95  
ZX000627

## COOLING COMPARTMENT

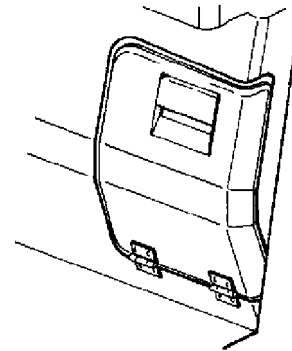
The cooling compartment is located below the passenger seat and provides space for bottles etc. (e.g. two 1.5-L bottles).

To increase cooling effect, turn rotary switch (A) clockwise (also refer to "Controls and Instruments" section).

- I—Open cooling compartment
- II—Close cooling compartment



ZX 003433



ZX 003434

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-UN-19APR95

ZX003433

-UN-03APR95

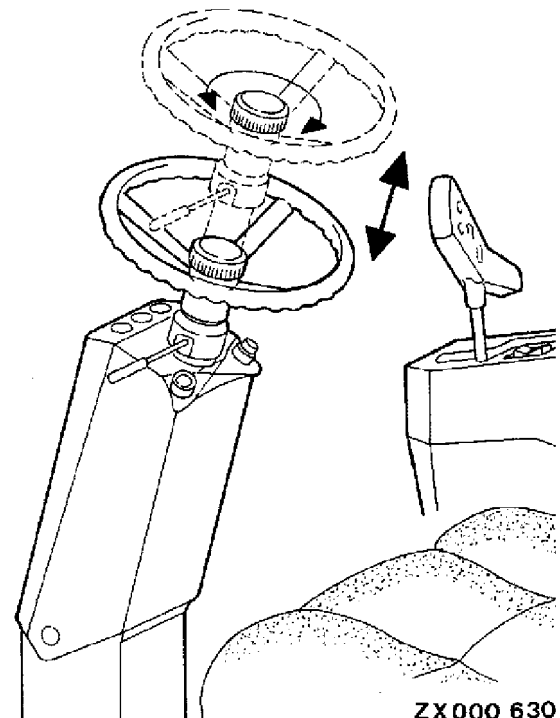
ZX003434

## STEERING WHEEL HEIGHT ADJUSTMENT

**CAUTION:** Adjust steering wheel only when machine is stopped.

Loosen hub. Push or pull wheel to position. Tighten hub to lock.

Only a slight tightening of the hub is needed to hold steering wheel in position.



ZX000 630

ZX.OMSPFH000261-19-26MAR91

-UN-03APR95

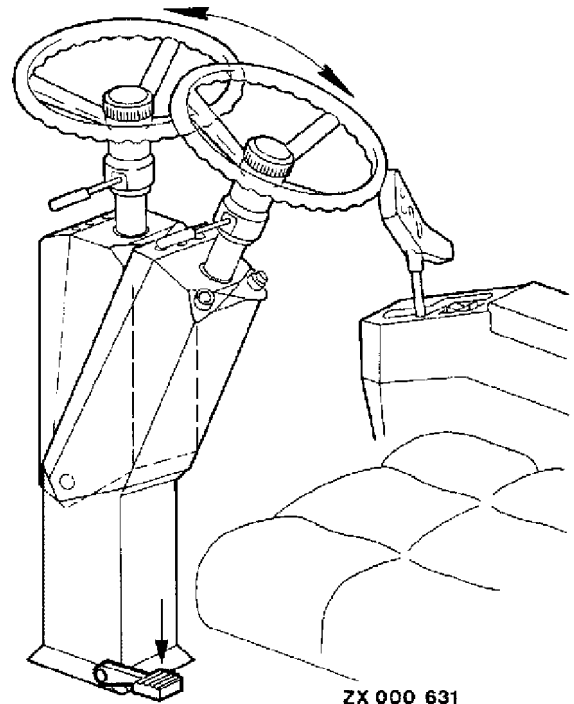
ZX000630

## STEERING COLUMN TILT ADJUSTMENT

**CAUTION:** Adjust column only when machine is stopped.

Column is spring loaded to the upright position. Do not step on pedal without holding steering wheel in both hands.

Press pedal to release lock on steering column. Put column in desired position. Column locks when pedal is released.



ZX 000 631

ZX.OMSPFH000262-19-26MAR91

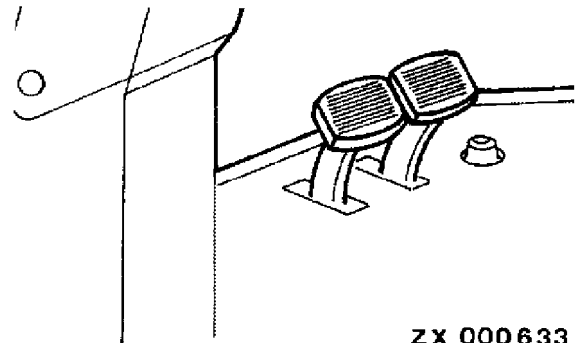
ZX000631 -UN-03APR95

## FOOT BRAKES

For road travel, couple brake pedals.

For field operation, uncouple brake pedals.

For details refer to Section "Driving and Transporting".



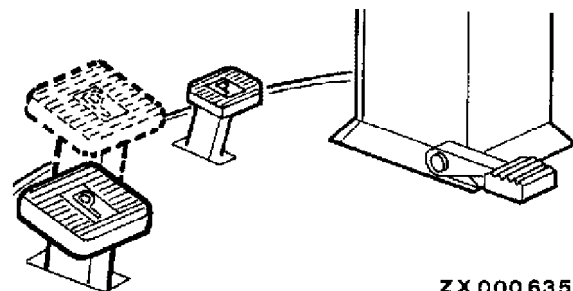
ZX 000 633

ZX.OMSPFH000243-19-02OCT91

ZX000633 -UN-03APR95

## PARKING BRAKE

Apply parking brake when stopping combine harvester and when starting engine.



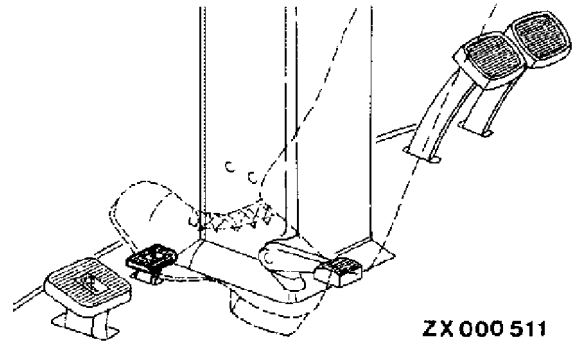
ZX 000 635

ZX.OMXZCO002365-19-13NOV92

ZX000635 -UN-03APR95

### RELEASING PARKING BRAKE

To release parking brake, depress release pedal.

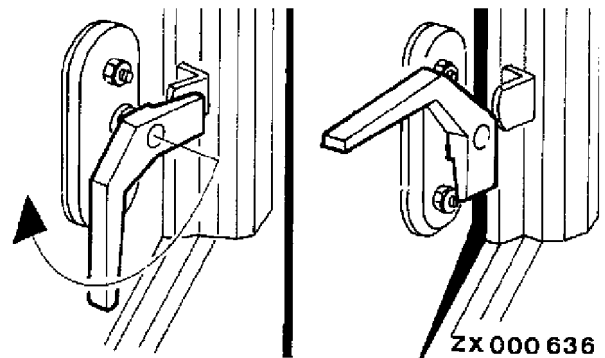


ZX,OMSPFH000245-19-26MAR91

ZX000511 -UN-03APR95

### CAB SIDE WINDOW

To open, unlatch window.



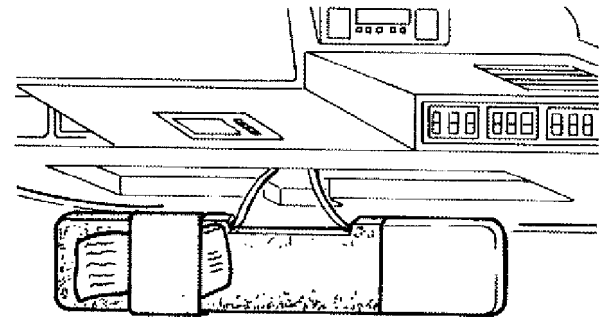
ZX,OMSPFH000246-19-18JAN91

ZX000636 -UN-05APR95

### SUN VISOR

Notes etc. may be stored on back sun visor.

Adjust sun visor to suit conditions.



ZX002537

ZX,OMXZC0001991-19-01AUG92

ZX002537 -UN-16JUN95



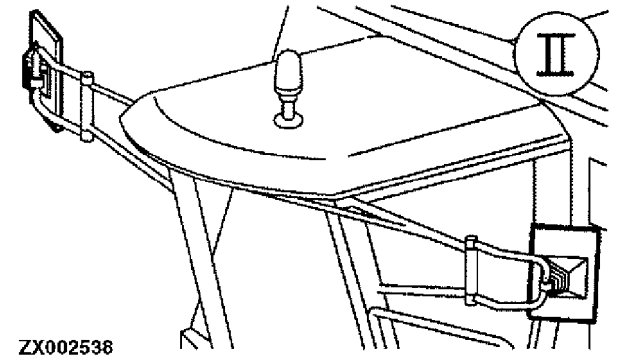
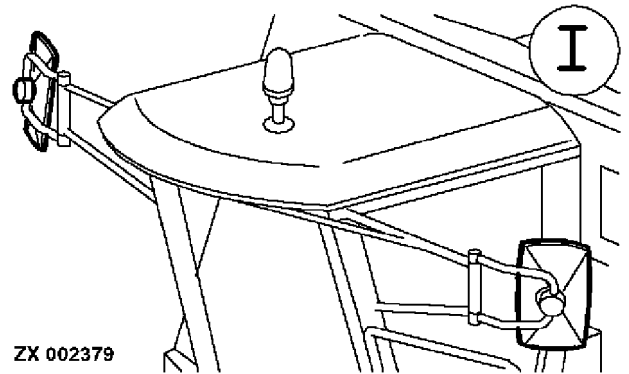
## OUTSIDE MIRRORS

Adjust outside mirrors as necessary.

Electrically-adjustable outside mirrors are available as an option at either side.

*NOTE: Details of how to operate the electrically-adjustable outside mirrors are provided in the "Controls and Instruments" section.*

- I—Hand-adjustable outside mirrors
- II—Electrically-adjustable outside mirrors

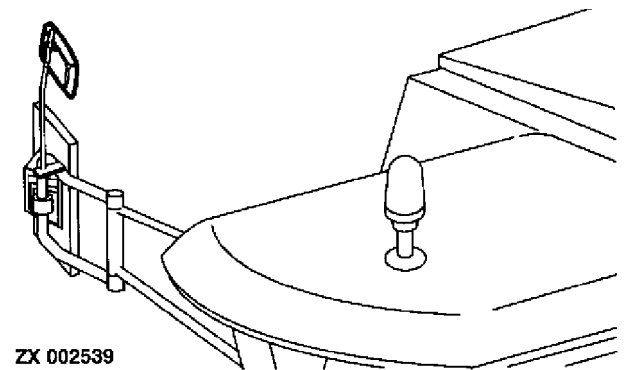


ZX,OMXZC0001546-19-01AUG92

## CURB MIRROR (CERTAIN COUNTRIES ONLY)

If overall weight exceeds 12 t (26 455 lb), a mirror must be fitted to the right-hand side allowing a view of the curb.

Adjust the curb mirror as necessary.

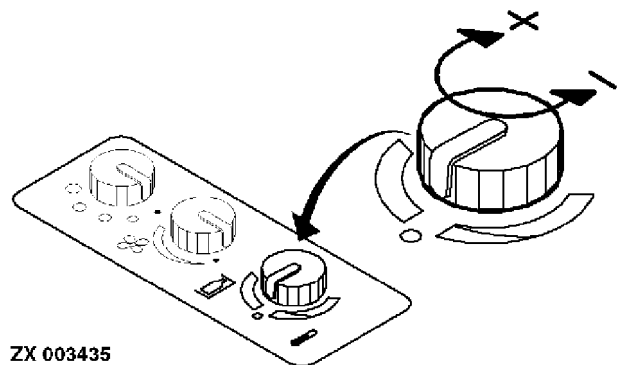


ZX,OMXZC0001965-19-01AUG92

## TURN ON HEATER

**IMPORTANT:** Always turn on fan before heater is set to work.

For temperature control, adjust knob.



ZX,OMSPFH000251-19-11MAY92

### ADJUSTABLE AIR LOUVERS

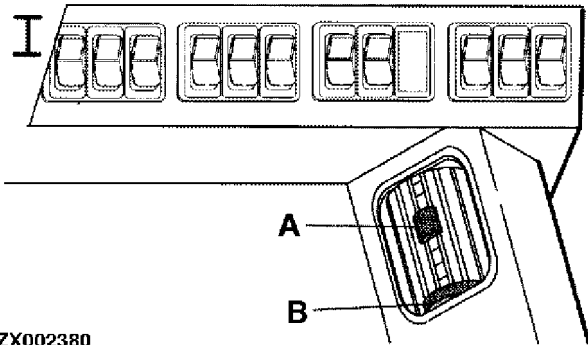
Adjust air louvers to prevent misting of windows.

#### I — Air louver for r.h. side window

- A — Wheel to regulate amount of air
- B — Air deflector screen adjustment

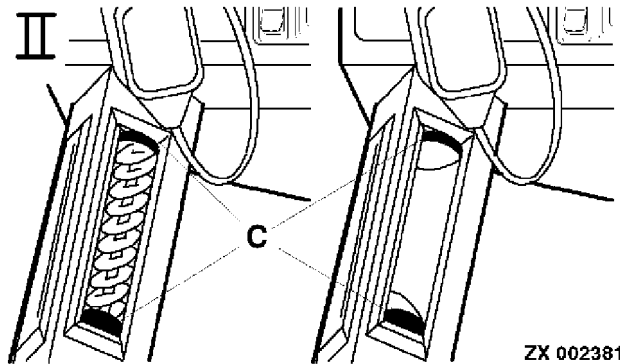
#### II — Air louvers for windshield

- C — Wheel to regulate amount of air and to deflect airflow



ZX002380

-UN-27JUN95  
ZX002380



ZX 002381

-UN-16JUN95  
ZX002381

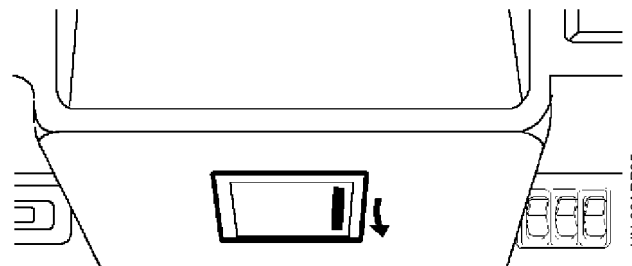
ZX,OMXZC0001548-19-13NOV92

### INTERIOR LIGHTING

Turn knurled wheel forward — on

Knurled wheel in center position — off

Turn knurled wheel backward — on



ZX 002560

-UN-03APR95  
ZX002560

ZX,OMXZC0001992-19-01AUG92

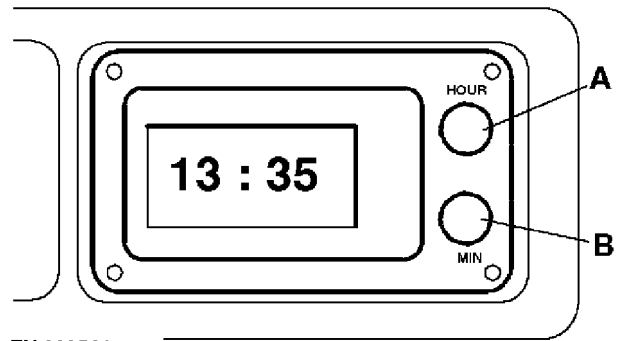
### DIGITAL CLOCK

The time is displayed whenever the ignition is switched on.

The time display can be set by means of buttons (A) and (B).

*NOTE: The time display becomes dimmer when the parking lights are switched on.*

*The digital clock must be reset every time the battery is disconnected.*



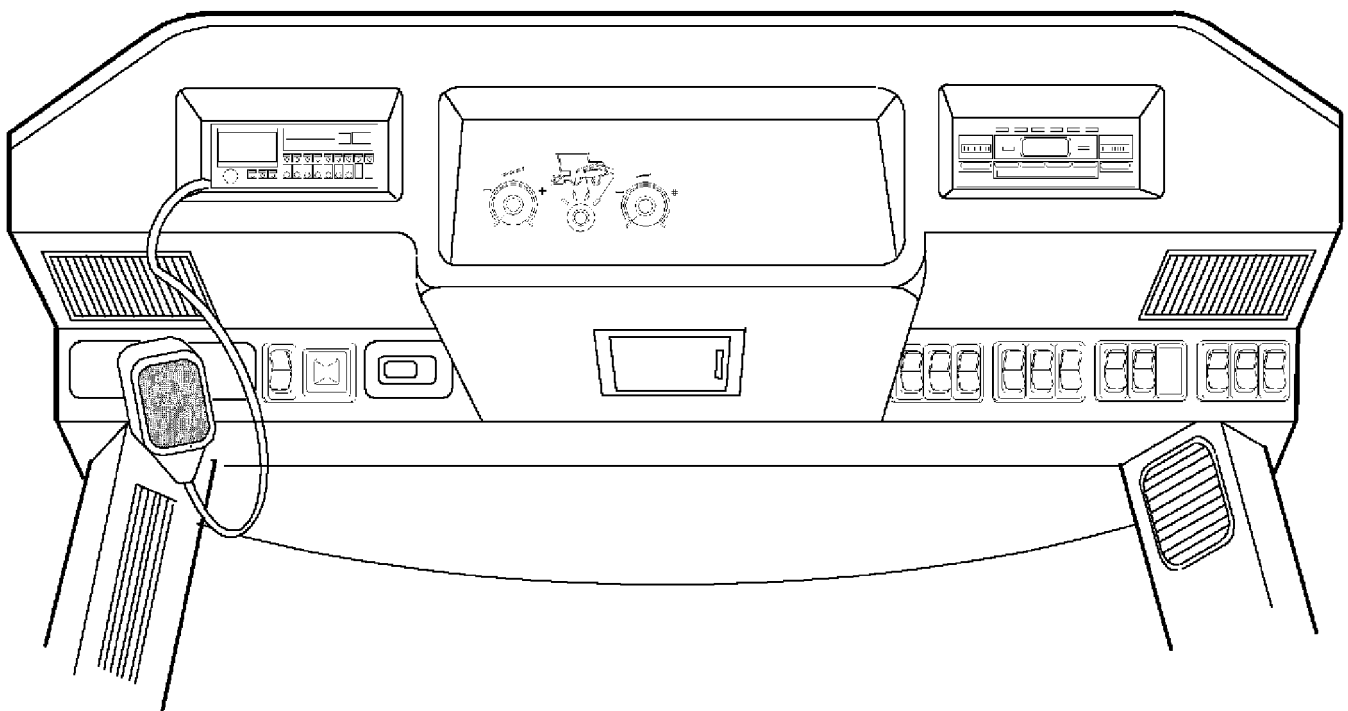
ZX 002561

A—Hour setting  
B—Minute setting

ZX,OMXZC0001993-19-01AUG92

-JUN-03APR95  
ZX002561

### RADIO AND CITIZENS' BAND RADIO (SPECIAL EQUIPMENT)



ZX 002382

The combine can be fitted with a radio and citizens' band radio as special equipment.

For operation, refer to manufacturer's instructions.

*NOTE: A radio installation kit including two loudspeakers and an aerial is available as special equipment.*

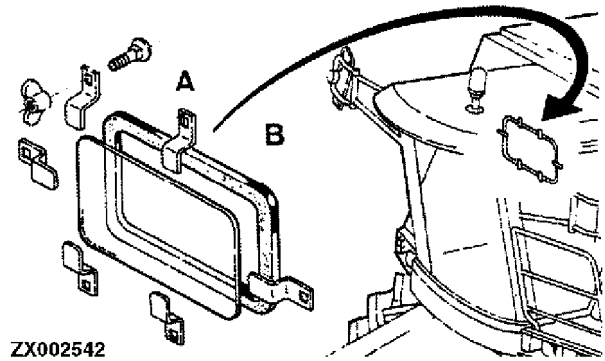
ZX,OMXZC0001549-19-01AUG92

-JUN-16JUN95  
ZX002382

### CLEANING REAR WINDOW OF CAB THROUGH THE GRAIN TANK

**CAUTION:** Shut off engine (first empty grain tank, if necessary). Remove battery cable from negative terminal, and switch off battery main switch if necessary.

Release clamps (A) and take out panel (B), then clean the outside of the cab window.



ZX002542

ZX.OMXZC0001966-19-13NOV92

ZX002542 -JUN-16/JUN95

# Pre-Starting Checks

## DAILY CHECKS

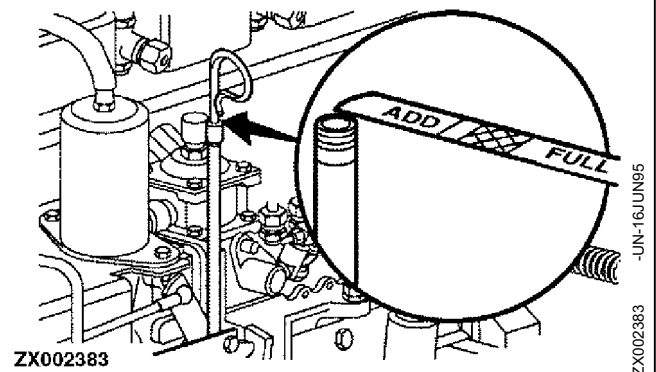
- Engine
- Hydraulic system
- Radiator screen
- Cooling system
- Tires
- Hydrostatic system
- Fuel system
- Indicator light test
- Light functions
- Brakes
- Straw warning device

ZX.OMXZC0001551-19-01AUG92

## ENGINE OIL LEVEL

Do not operate the engine when oil level is below the low level mark on the dipstick.

The oil level should be kept between the upper and lower marks. Always check oil level with combine parked on level ground.

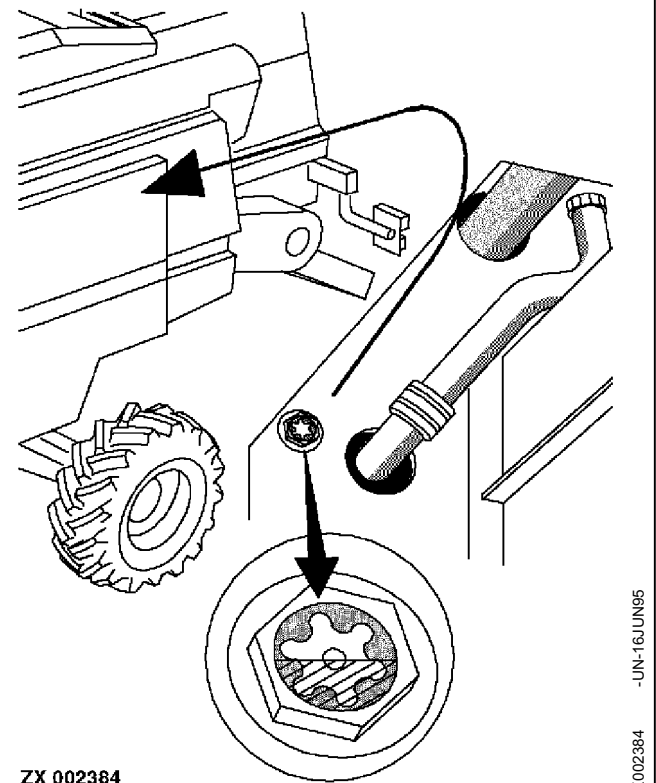


ZX.OMXZC0001552-19-01AUG92

## HYDRAULIC OIL LEVEL

Retract all hydraulic cylinders and lower header to the ground.

Oil must be visible at sight glass.

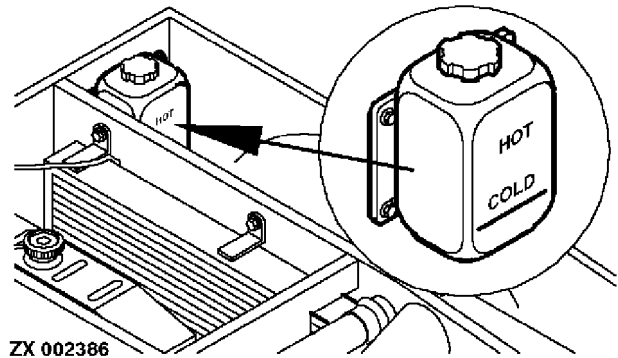


ZX.OMXZC0001553-19-13NOV92

## Pre-Starting Checks

### COOLANT LEVEL

Allow the engine to cool. Coolant level should be at the COLD mark.



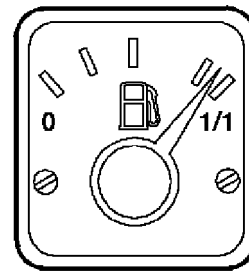
ZX 002386

ZX.OMXZC0001555-19-01AUG92

-UN-16JUN95  
ZX002386

### FUEL LEVEL

Turn the ignition on and check fuel level at the fuel gauge.



ZX 002387

ZX.OMXZC0001556-19-01AUG92

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ZX002387

### AFTER LONG STORAGE PERIOD

Bleed fuel system.

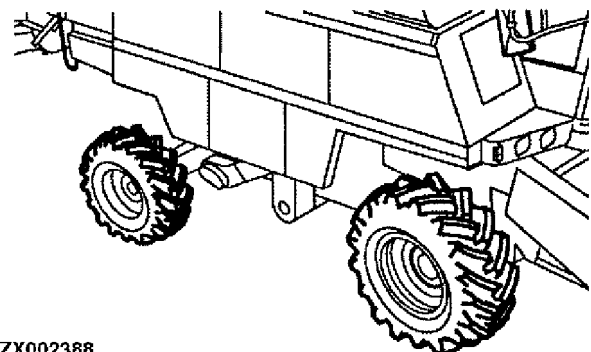
Refer to "Service - Engine".

ZX.OMSPFH000105-19-01OCT91

### TIRES

Check tires daily for cuts or tears and obvious signs of low pressure.

Measure the tire pressure at least once a week using an accurate tire pressure gauge.



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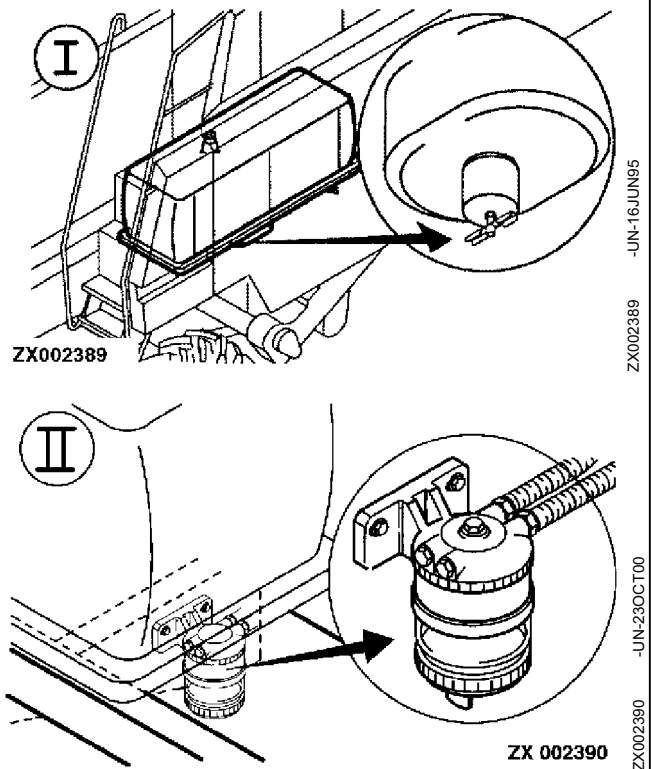
-UN-16JUN95  
ZX002388

## FUEL SYSTEM

If necessary, drain water and sediment deposits from fuel system.

See "Service — Engine" section.

- I—Fuel tank separator
- II—Water trap



ZX,OMXZC0001558-19-13NOV92

## LUBRICATE COMBINE

Proceed according to the lubrication chart.

ZX,OMXZC0001559-19-01AUG92

## CHECKS IN OPERATOR'S CAB

For indicator light and light function checks, refer to "Lighting System and Signals" section.

ZX,OMXZC0001560-19-01AUG92

# Operating the Engine

## BREAKING IN THE ENGINE

The engine is ready for normal operation. However, be extra cautious during the first 100 operating hours.

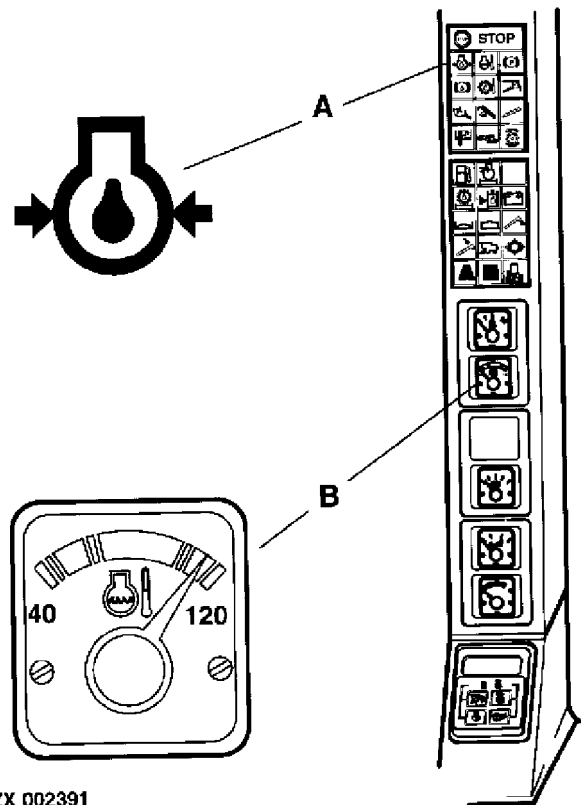
### Observe the following points:

- Watch engine oil pressure (A) and coolant temperature (B) closely. If needle goes into the orange zone, reduce engine load immediately. Unless needle quickly drops, stop the engine and determine the cause.

**CAUTION:** Never remove radiator filler cap when engine is hot. Stop engine and wait until engine has cooled down.

Turn filler cap to first stop to relieve pressure before removing cap completely (see "Service — Engine" section).

- Check engine oil level periodically, watching for any signs of leaks (see "Service — Engine" section).
- Until you become thoroughly familiar with the sound and feel of your new combine harvester, stay extra attentive and alert.
- During the first 20 operating hours, avoid high engine loads and do not idle the engine for more than 5 minutes.



ZX,OMXZC0001561-19-01AUG92

## SAFETY RULES FOR STARTING ENGINE

**CAUTION:** Make sure that everybody is clear of the combine harvester. Sound the horn to warn other persons.

Never run the engine in a closed building without using an exhaust pipe extension.

Make sure there is plenty of ventilation.



Z19828

ZX,OMXZC0001562-19-01AUG92



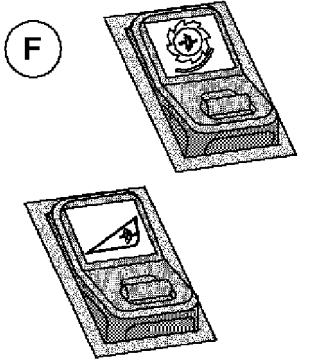
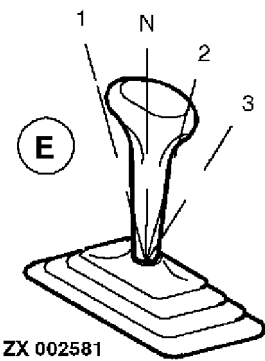
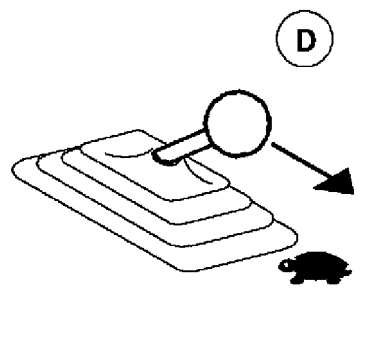
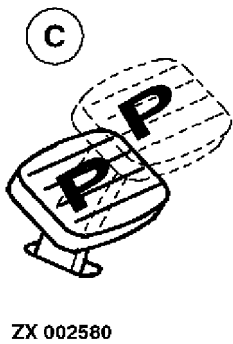
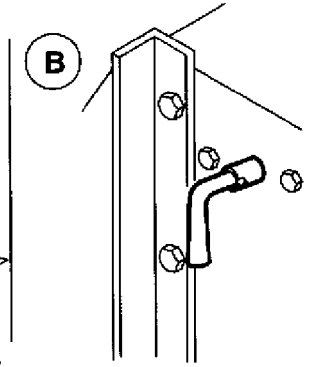
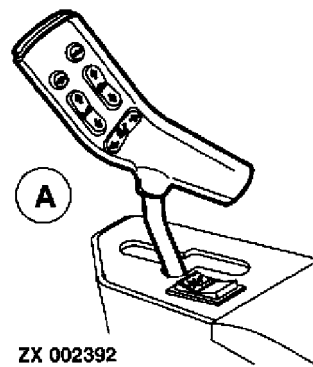
### BEFORE STARTING THE ENGINE

The forward/reverse lever must be in neutral (A).

Battery main switch (optional equipment) must be on (B).

Other control positions:

- Apply parking brake (C)
- Pull throttle lever all the way back (D)
- Put gear shift lever in neutral (E)
- Disengage separator and cutting platform (F)



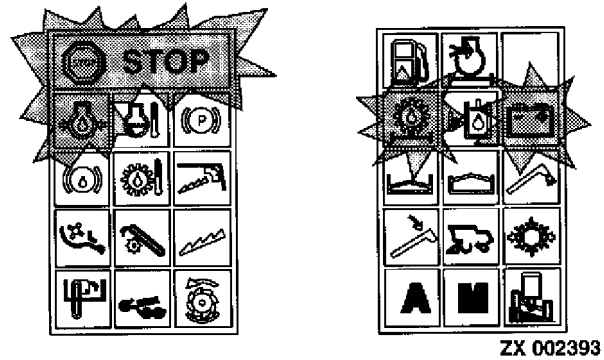
ZX,OMXZC0001563-19-01AUG92

## TURN ON IGNITION

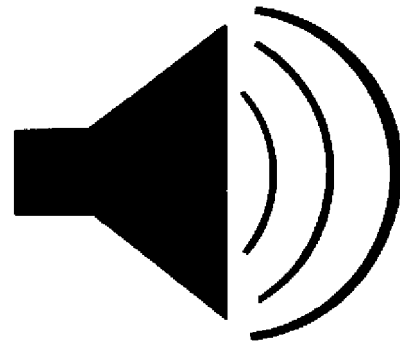
The following **indicator lights** will glow:

- Warning (STOP) light
- Engine oil pressure
- Alternator indicator light
- Hydraulic/hydrostatic oil filter

In addition, the **buzzer** will sound (continuous signal).



ZX 002393



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Z22052

## STARTING THE ENGINE

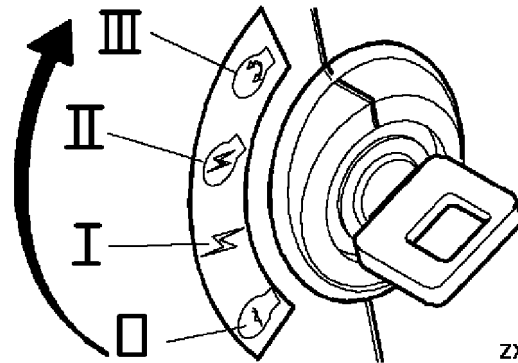
**CAUTION:** Start engine from operator's seat only.

Turn starter switch to position III. As soon as engine starts, release key. Never hold the key in the starting position for longer than 20 seconds.

If key switch is released to position I before engine starts, wait until engine stops turning before trying again.

**IMPORTANT:** If engine does not start within 20 seconds, wait at least two minutes before trying again. Do not try to start engine more than four times.

*NOTE:* At ambient temperatures below 5°C (40°F), use the cold weather starting aid (see instructions in this Section).



ZX 002403

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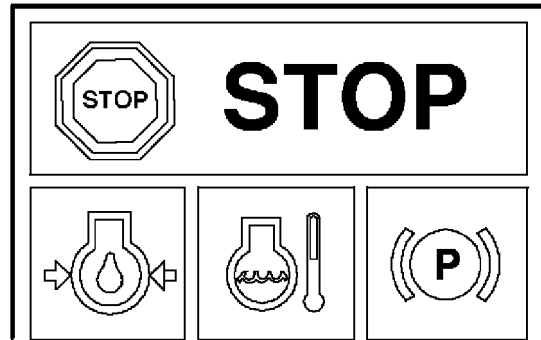
-UN-03APR95

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### ENGINE OIL PRESSURE INDICATOR LIGHT

Immediately after starting the engine, check that this indicator light goes out. If not, stop engine immediately and remedy the fault.

The other indicator lights should also go out.



ZX 002395

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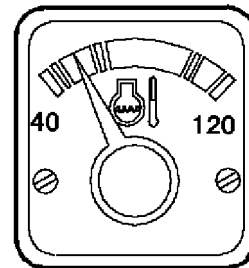
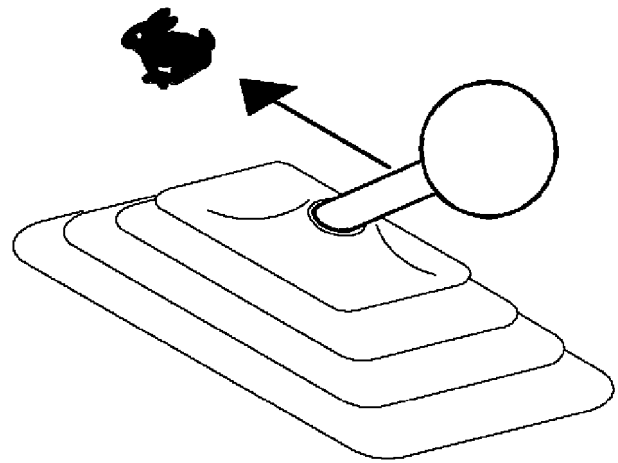
### WARMING UP ENGINE

Move throttle lever forward until a speed of approx. 1200 rpm has been obtained.

Run a cold engine for approx 1—2 minutes at this speed. At ambient temperatures below freezing, extend this warming up period to 2—4 minutes.

**IMPORTANT: Never run engine without load for more than 5 minutes.**

Do not increase engine speed to maximum rpm unless needle of coolant temperature gauge is in the yellow-green zone.



ZX 002396

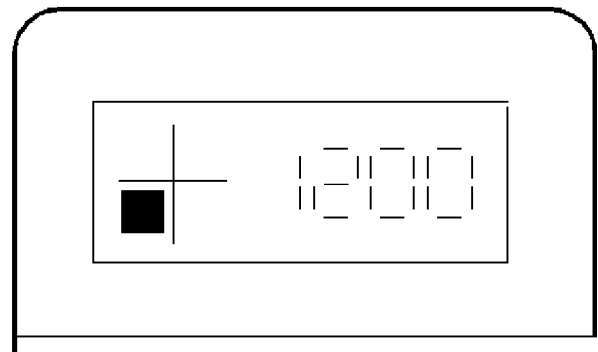
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### IDLING THE ENGINE

Allowing the engine to idle at low rpm uses fuel inefficiently and can cause a build-up of carbon in the engine.

If harvester must be left with the engine idling for more than 3—4 minutes, minimum engine speed should be 1200 rpm.



ZX 002397

ZX,OMXZC0001568-19-01AUG92

ZX002397 -UN-03APR95

## COLD WEATHER STARTING AIDS

With the ether starting aid system, ether starting fluid is injected into the intake manifold while cranking the engine.

Ether has a low ignition point and heat generated in the combustion chamber is able to ignite it. Heat from this ignition then ignites the fuel-air mixture (diesel fuel) and normal combustion takes place.

ZX,E291 -19-26MAR91

## COLD WEATHER STARTING PROCEDURE WITH ETHER STARTING AID



**CAUTION:** Starting fluid is highly flammable. **DO NOT** use near fire, sparks or flames. Read the caution information on the container. Protect container against damage. **DO NOT** carry extra or empty ether cans inside the operator's cab.

**IMPORTANT:** To assure proper lubrication, operate engine at approximately 1200 rpm with no load for 1 to 2 minutes. Extend this period to 2 to 4 minutes when operating at temperatures below freezing point.

If starting fluid has not been used for several days, remove the fluid can. Check fluid and valve operation by reinstalling and depressing the spray nozzle. If no fluid is emitted, use a new can.

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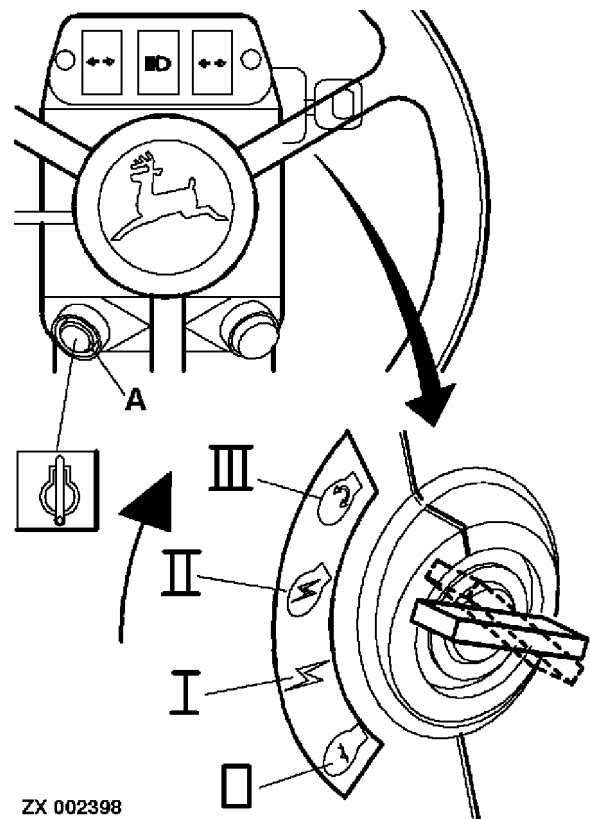
### INSTRUCTIONS FOR USING COLD WEATHER STARTING AID

Turn starter switch to position II (ignition).

**IMPORTANT: To prevent damage to the engine, inject starter fluid into the engine only when the engine is turning over.**

Turn starter switch to position III. As soon as the engine starts to turn over, press ether starting aid button (A).

As soon as the engine catches, release both the starter switch and the ether starting aid button.



ZX 002398

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## ELECTRICAL COOLANT PREHEATER

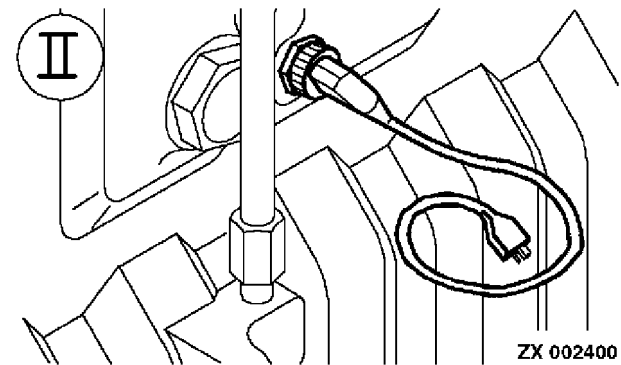
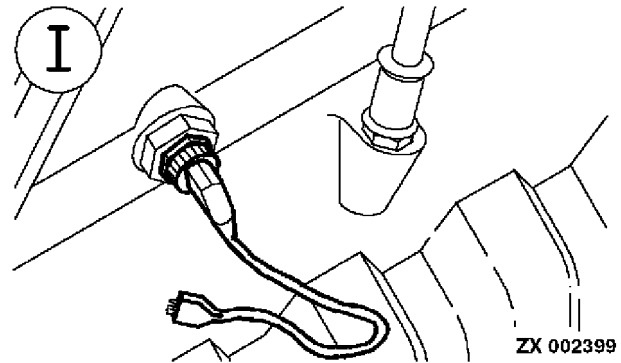
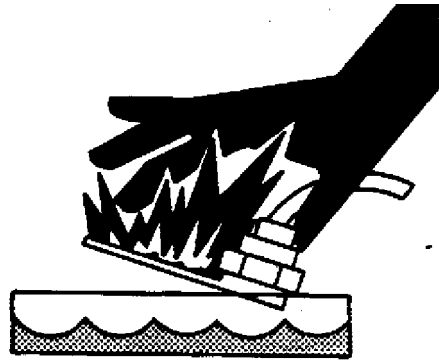
**CAUTION:** To avoid shock, always use a 3-wire, heavy-duty electrical cord when connecting up the coolant preheater. Also ensure it is properly grounded.

**NEVER** energize the coolant preheater unless it is first submerged in coolant. If the heater is energized in the air, the element sheath could burst causing personal injury.

Connect coolant heater to a 220-volt electrical outlet.

In extremely cold weather, it may take as long as 5 to 8 hours to heat the engine. The coolant heater has a 1000-watt heating element.

- I—6.8 L (414 cu in.)
- II—7.6 L (466 cu in.)



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TS210

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ZX002400

## STARTING THE ENGINE BY MEANS OF A BOOSTER BATTERY

In very severe cold weather it may be necessary to connect an additional 12-volt battery in parallel with the harvester's batteries.

**CAUTION:** Gas given off by batteries is explosive. Avoid sparks or open flames near the batteries. Make sure batteries are properly connected (ground cable to negative pole and starter cable to positive pole).

**IMPORTANT:** Reversed polarity between the battery and alternator may result in severe damage to the electrical system. Always connect ground cable to negative pole last.



TS204  
-UN-23AUG88

ZX,OMXZC0001994-19-13NOV92

## OPERATING IN TROPICAL CONDITIONS

For composition and use of engine coolant, refer to "Fuel, Lubricants, Coolant and Capacities".

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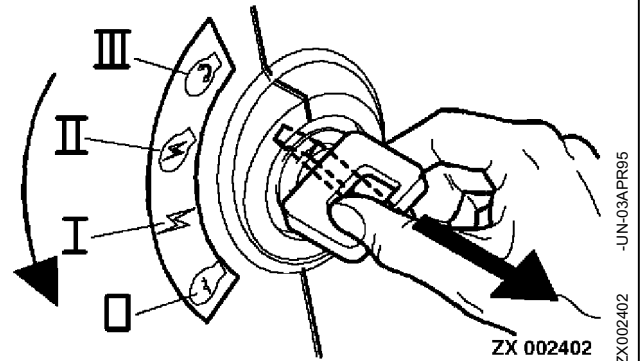
## STOPPING THE ENGINE

**IMPORTANT:** Before finally shutting off the engine, run at slow idle for 1—2 minutes to allow engine to cool.

Put forward/reverse lever in neutral.  
Disengage all drives.  
Put gear shift lever in neutral.  
Apply parking brake.  
Lower header to ground.  
Set throttle lever to idle.

Turn starter switch to Position "0".

**CAUTION:** Always remove key before leaving operator's cab.



ZX.OMXZC0001571-19-01AUG92

## STALLING OF ENGINE

**IMPORTANT:** If engine stalls at operating temperature, restart it immediately to prevent overheating of certain engine parts. Before finally shutting off the engine, run at slow idle for 1-2 minutes.

ZX.OMSPFH000120-19-22DEC91

## COLD WEATHER OPERATION

Fill the fuel tank at the end of each day's operation and especially at the end of the harvesting season. This will prevent condensation of water.

When operating in the cold season with ambient temperatures below 10°C (50°F), use special winter fuel.

For composition and use of engine coolant, refer to "Fuel, Lubricants, Coolant and Capacities".

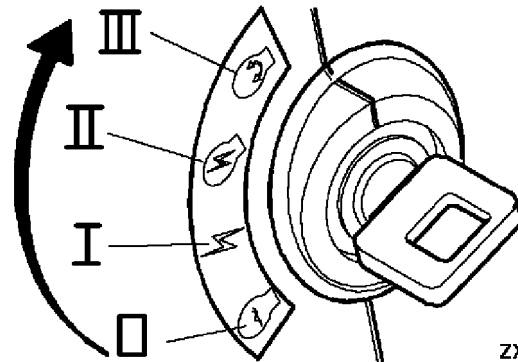
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# Driving and Transporting Harvester

## STARTING THE ENGINE

For details, refer to "Operating the Engine" section.



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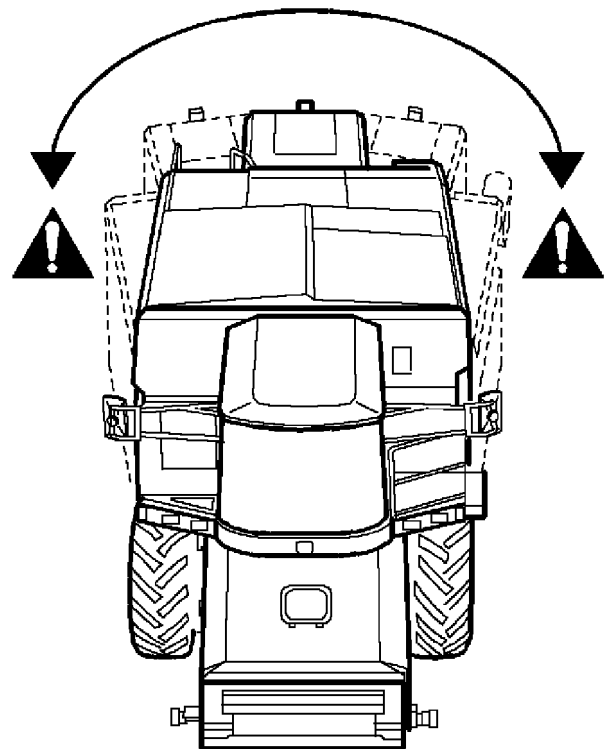
ZX.OMXZC0001572-19-01AUG92

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ZX002403

## STEERING AND DRIVING

**CAUTION:** Combine harvester swings out when changing direction. Take care on bends.

The steering wheels are located at the rear of the combine harvester. Therefore, familiarize yourself with the different steering characteristics.

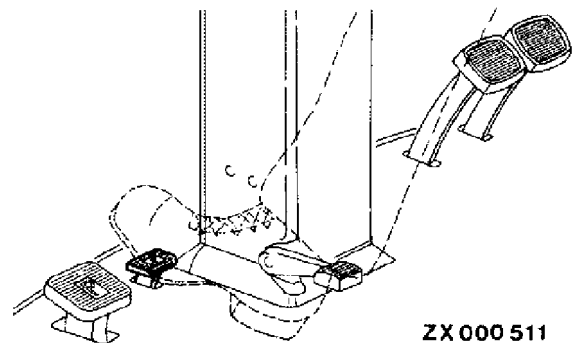


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ZX002404

## RELEASING PARKING BRAKE



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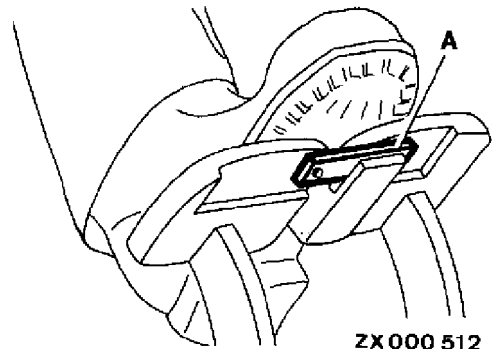
ZX.OMSPFH000124-19-26MAR91

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ZX000511

## OPERATING THE FOOT BRAKES

### During road travel

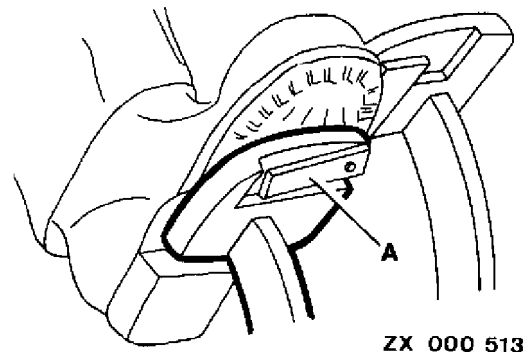
- CAUTION:** For safety reasons, always couple brake pedals by means of pedal coupler (A) when driving on public roads. This ensures the brakes are actuated together.



### During field travel

- CAUTION:** When stopping the combine harvester, always depress both pedals simultaneously.

When negotiating sharp turns, use individual brakes to assist steering. For this purpose, disengage pedal coupler (A).



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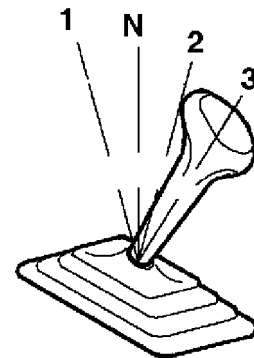
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## ENGAGING A GEAR

Engage 3rd gear for road travel.

Select any suitable gear for field operation.



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-UN-03APR95

ZX002405

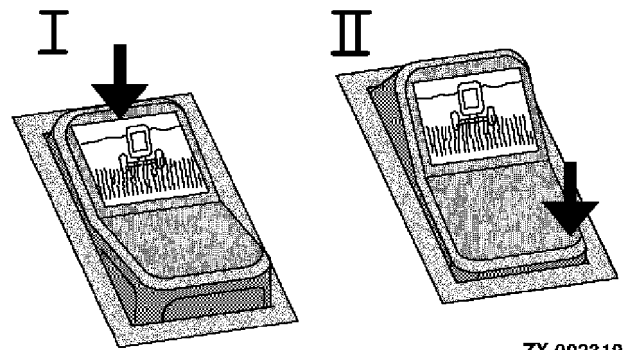
### ROAD SAFETY SWITCH

Move header, unloading auger, grain tank cover and straw chopper to their transport positions.

**IMPORTANT:** During road travel, road safety switch must be in position (II).

Thus all hydraulic functions with the exception of the steering system are shut off.

- I—Field position
- II—Road position



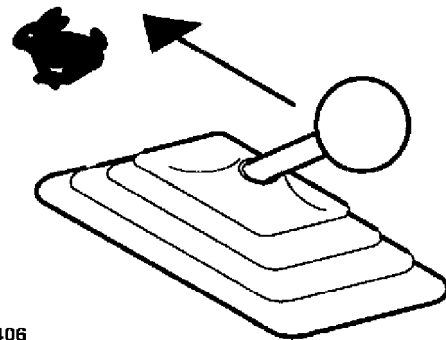
ZX 002319

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ZX002319

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### ADJUSTING ENGINE SPEED

Move throttle lever forward to obtain maximum engine speed.



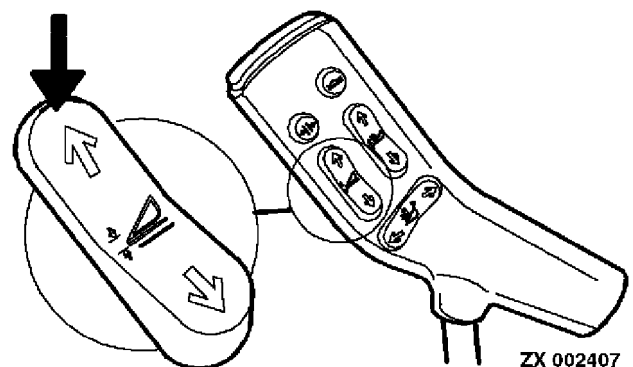
ZX002406

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ZX002406

ZX,OMXZC0001577-19-01AUG92

### RAISING HEADER

Raise header to highest position.



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ZX002407

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## FORWARD AND REVERSE TRAVEL

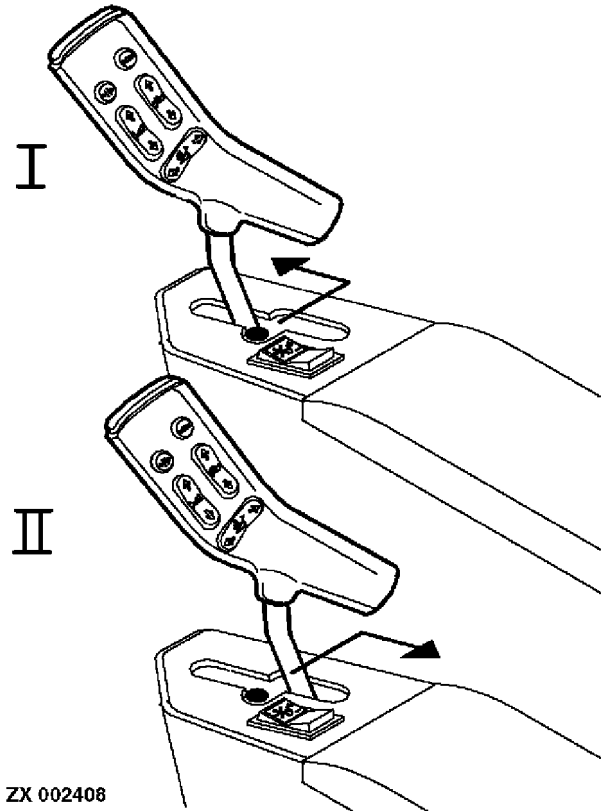
**CAUTION:** Always adapt ground speed of harvester to road or field conditions.

### Forward travel (I)

Slowly push forward/reverse lever from "Neutral" to "Forward".

### Reverse travel (II)

Slowly pull forward/reverse lever from "Neutral" to "Reverse".



ZX 002408

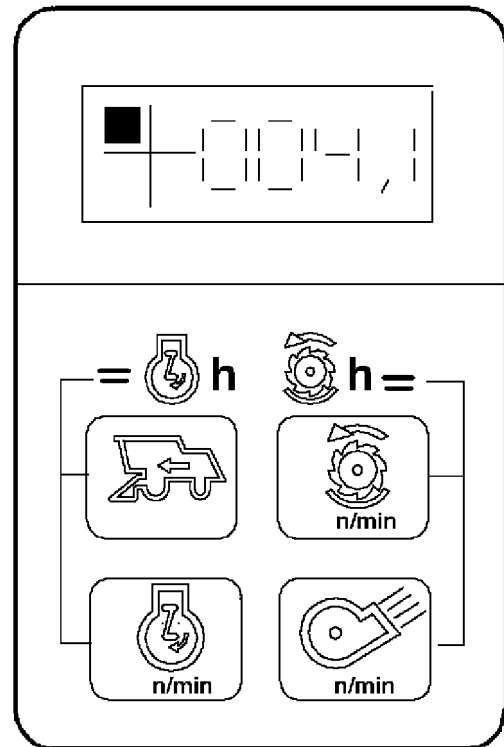
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ZX002408

## CHOOSING CORRECT GROUND SPEED

Never select a speed lower than the minimum speed for the individual speed range. For the minimum continuous speed, see "Specifications".

It is always better to choose a lower speed range as this will give a more efficient hydrostatic drive performance.



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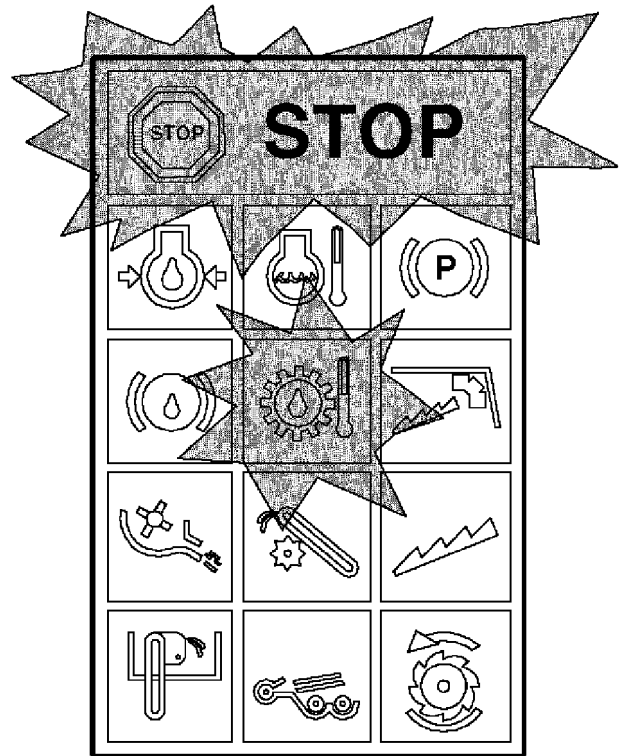
## AVOID OVERHEATING OF HYDROSTATIC SYSTEM

When hydrostatic oil temperature is too high, indicator light (A) and warning light (STOP) will glow, and at the same time the buzzer will be activated (continuous warning signal).

In this case select a lower speed range, giving more efficient hydrostatic system operation and reducing the oil temperature.

**IMPORTANT:** If the ground speed drive stalls, never wait more than 5 seconds before shifting the control lever back to "Neutral". Then select a lower speed range.

**NOTE:** Drive wheel torque depends on oil pressure in hydrostatic system. If the pressure requirement exceeds the pressure in the hydrostatic system, a relief valve will open and the combine harvester will stop. As soon as the pressure requirement drops (i.e. a lower speed range is selected), the combine harvester will travel normally again.



ZX 002410

ZX002410 -JUN-16JUN95

ZX,OMXZC0001581-19-01AUG92

## FOUR-WHEEL DRIVE

The 4-wheel drive system is designed for use in conditions where traction is poor or when needed to improve steering control.

To engage the drive, depress the foot switch.

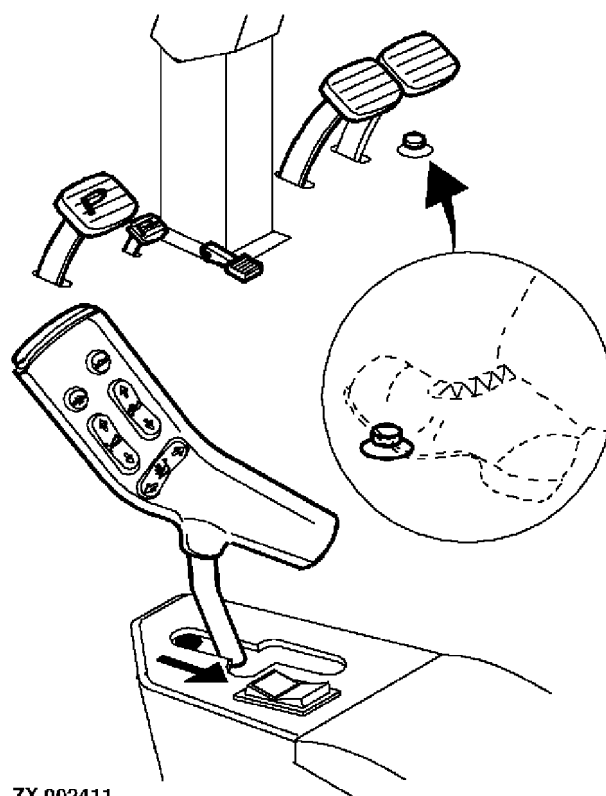
To disengage the drive, depress foot switch once again.

It is not necessary to engage 4-wheel drive when driving the combine harvester unless conditions are soft or muddy.

In most conditions, it is normal for front wheels to spin before rear wheels spin. When this occurs, shift into 3rd gear. In extremely muddy conditions, it may be necessary to apply both brakes momentarily to increase hydrostatic pressure.

**IMPORTANT: Do not switch 4-wheel drive on or off while driving in 3rd gear (road gear) at maximum travel speed.**

**Move ground speed control lever to a position midway between neutral and max. speed before switching 4-wheel drive on or off.**



ZX,OMXZC0001582-19-01AUG92

ZX002411 -UN-16JUN95

## TRANSPORT INFORMATION

**CAUTION:** To reduce risk of electrical shock, no portion of machine should exceed a height of 4 m (13 ft).

**CAUTION:** Check local governmental regulations regarding driving or towing equipment on public roads. Use auxiliary lights and devices available from your John Deere dealer to warn other road users.

The combine harvester can be transported on a flatbed truck or by towing.

When towing, place the gear shift lever in neutral.

Do not exceed a maximum speed of 25 km/h (15 mph), or 20 km/h (12 mph) in Germany.

ZX,OMXZC0001996-19-01AUG92

## TRANSPORTING UNDER OWN POWER

Remove **header**, if overall width exceeds the legal limits (for details of removal, see relevant operator's manual). Move the feeder house to transport position.

Move **straw chopper distributor plate** to transport position.

Empty the **grain tank**.

Bring in the **unloading auger**.

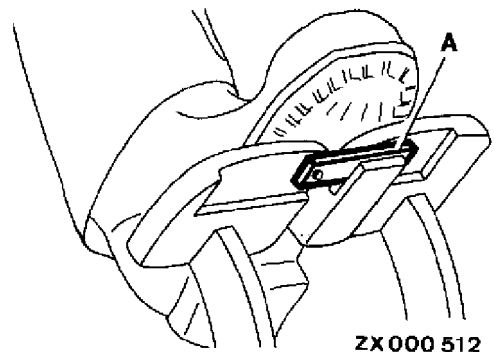
Pivot and secure the **access ladder**.

Switch on the **lights**, if necessary.

For general information on driving, see this Section.

ZX.OMXZC0001583-19-01AUG92

**CAUTION:** For safety reasons, always couple brake pedals by means of pedal coupler (A) when driving on public roads. This ensures the brakes are actuated together.



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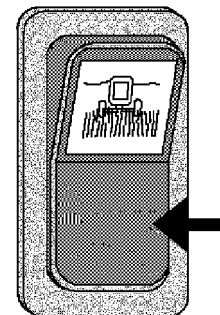
ZX.OMXZC0001585-19-01AUG92

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## ROAD SAFETY SWITCH

**IMPORTANT:** During road travel, the road safety switch must be in the "road" position.

Thus all hydraulic functions with the exception of the steering system are shut off.



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## TOWING THE HARVESTER

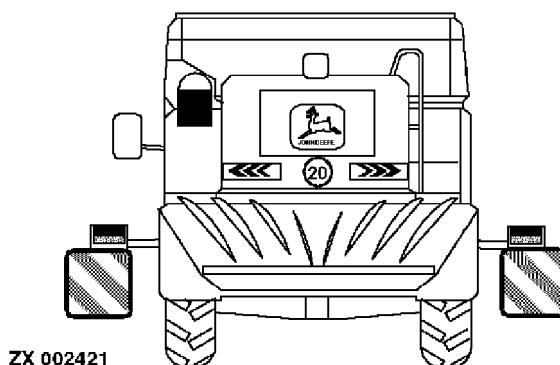
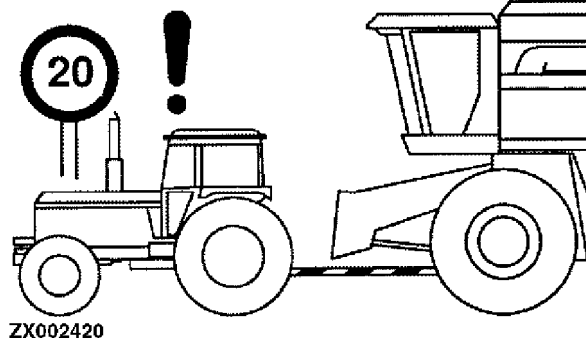
Prepare harvester as shown under "Transporting under Own Power".

**CAUTION:** Never tow harvester with a wire rope. Always use a suitable towbar. Connect towbar to towing eye on front axle.

Tow harvester at a safe and suitable speed, not to exceed 20 km/h (12.4 mph).

**IMPORTANT:** Towing at speeds higher than 20 km/h (12.4 mph) could damage tires, transmission and final drives.

Comply with local traffic regulations when towing the harvester, e.g. turn on flashing warning lights, display warning signs etc.



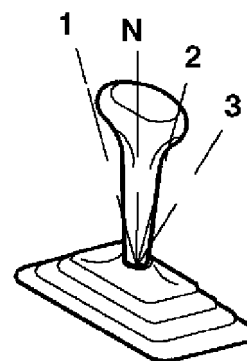
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ZX002420

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ZX002421

**Place gear shift lever in neutral position**

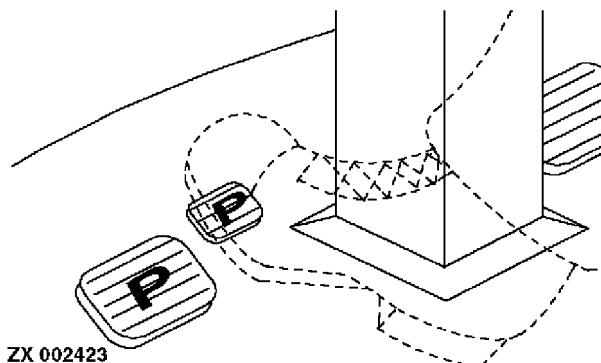
**IMPORTANT:** During towing, it is essential that the three-speed transmission is in neutral.



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ZX002422

**Release parking brake**



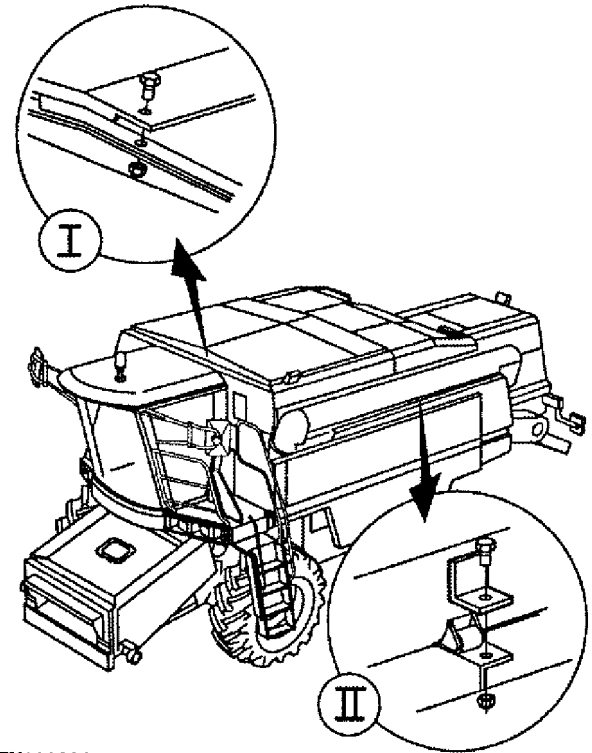
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ZX002423



## GUARDS FOR TRANSPORT ON TRUCK

Attach guards (I) and (II) before transporting the harvester on a truck. Remove guards when no longer needed.



ZX003921

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ZX003921 -JUN-19-JUN95



# Wheels and Axles

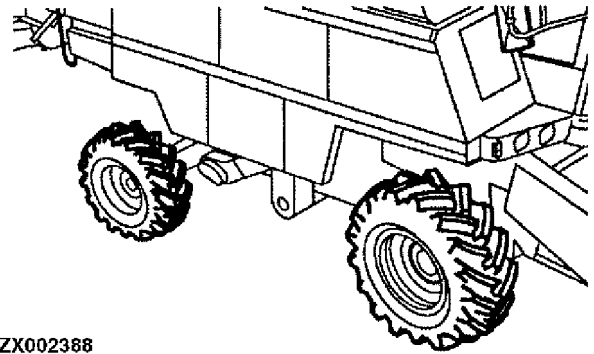
## TIRE MAINTENANCE

Check tires daily for damage and correct tire pressure. Long life and satisfactory performance depend on proper tire inflation.

Have cuts or tears repaired as soon as possible, or change tire.

Protect tires from unnecessary exposure to sunlight, petroleum products and chemicals.

Drive carefully. Try to avoid rocks and sharp objects.



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## TUBELESS TIRES

The majority of front wheel tires and all rear wheel tires (except drive tires) are tubeless. A small puncture in a tubeless tire can be repaired without disassembling the wheel, thus avoiding down time.

**IMPORTANT: A permanent, inside-out repair should be made as soon as possible to prevent any further tire damage.**

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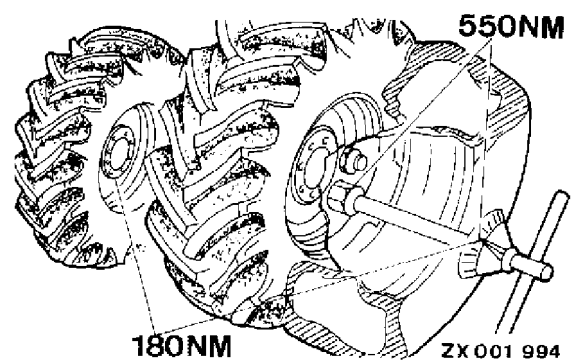
## WHEEL BOLTS AND NUTS

### Rear wheels

After the first hour of operation and again after the first 20 to 25 hours of operation, check and tighten rear wheel bolts to 180 N·m (130 lb-ft).

### Front wheels

After the first hour of operation and again after the first 20 to 25 hours of operation, check and tighten front wheel nuts to 550 N·m (400 lb-ft).



180NM

550NM

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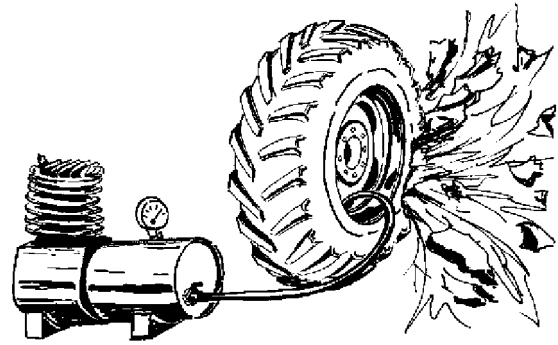
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## MOUNTING TIRES

**CAUTION:** Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified tire repair service.

When seating tire beads on rims, never exceed maximum inflation pressures specified by tire manufacturers for mounting tires. Inflation beyond this maximum pressure may break the bead, or even the rim, with dangerous explosive force. If both beads are not seated when the maximum recommended pressure is reached, deflate, reposition tire, relubricate bead and reinflate.

Detailed agricultural tire mounting instructions, including the necessary safety precautions, are available from your local tire manufacturer agents.



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**IMPORTANT:** Never operate combine harvester with tires at shipping pressure. Keep valve caps screwed down on valve stems to prevent foreign material from accumulating in the valve core.

Check tire pressure frequently, referring to tire pressure charts. Required pressure may vary as load changes with the installation of different header units.

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## **CHANGING TIRES**

**IMPORTANT:** When changing drive wheels, tire radius may also change. If so, the infotrak monitor must be adjusted to the new tire radius.

For input of specific machine data, see “Warning Devices and Monitors” section.

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**DRIVE WHEELS FOR 2054, 2056 AND 2058 COMBINES  
AND HILLMASTERS**

SIZE	CODE NO.	2054	2054 HM	2056	2056 HM	2058	2058 HM	FINAL DRIVE	WIDTH mm (ft)
18.4-30	16 PR	•	•	•	•			85/11	3000 (9.8)
18.4-34	16 PR					•	•	97/11	3000 (9.8)
20.8-34*	14 PR	•	•	•	•	•	•	97/11	3000 (9.8)
20.8-34	14 PR	•	•	•	•	•	•	97/11	3300 (10.8)
23.1-26	14 PR	•		•	•		•	85/11	3300 (10.8)
	16 PR	•		•	•		•	85/11	3300 (10.8)
	16 PR (RICE)	•		•				85/11	3300 (10.8)
24.5-32	12 PR	•	•	•	•	•	•	97/11	3500 (11.5)
	12 PR	•		•		•		Planetary	3850 (12.6)
28.1-26	16 PR	•	•	•	•			85/11	3725 (12.2)
	16 PR (RICE)	•		•				85/11	3725 (12.2)
30.5-32	10 PR	•	•	•	•	•	•	97/11	3792 (12.4)
	10 PR	•		•		•		Planetary	3850 (12.6)
	12 PR	•	•	•	•	•	•	97/11	3792 (12.4)
	12 PR	•		•		•		Planetary	3850 (12.6)
66X43.00-25	10 PR	•		•		•		Planetary	4584 (15.0)

\* Combines with overall width less than 3 m (9.8 ft) only.

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**DRIVE WHEELS FOR 2054, 2056 AND 2058 COMBINES  
AND HILLMASTERS (CONTINUED)**

**RADIAL TIRES**

SIZE	CODE NO.	2054	2054 HM	2056	2056 HM	2058	2058 HM	FINAL DRIVE	WIDTH mm (ft)
23.1 R 26	166 A8	•	•	•	•			85/11	3300 (10.8)
28.1 LR 26	157 A8	•	•	•	•			85/11	3725 (12.2)
620/75 R34	170 A8	•	•	•	•	•	•	97/11	3300 (10.8)
	170 A8	•	•	•	•	•	•	97/11	3468 (11.4)
	170 A8	•		•		•		Planetary	3850 (12.6)
24.5 R 32	159 A8	•	•	•	•	•	•	97/11	3500 (11.5)
	159 A8	•		•		•		Planetary	3850 (12.6)
30.5 LR 32	167 A8	•	•	•	•	•	•	97/11	3792 (12.4)
	167 A8	•		•		•		Planetary	3850 (12.6)

**DUAL TIRES**

SIZE	CODE NO.	2054	2054 HM	2056	2056 HM	2058	2058 HM	FINAL DRIVE	WIDTH mm (ft)
18.4-38 with 24.5-32	14	•		•		•		97/11 HM	4610 (15.1)
18.4-38 mit 620/75 R34	14	•		•		•		97/11 HM	4578 (15.0)

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**DRIVE WHEELS FOR 2064 AND 2066 COMBINES AND HILLMASTERS**

SIZE	CODE NO.	2064	2064 HM	2066	2066 HM	FINAL DRIVE	WIDTH mm (ft)
18.4-34	16 PR	•		•		97/11	3000 (9.8)
	16 PR		•		•	97/11 HM	3000 (9.8)
24.5-32	12 PR	•		•		97/11	3500 (11.5)
	12 PR		•		•	97/11 HM	3500 (11.5)
	12 PR	•		•		Planetary	3850 (12.6)
30.5-32	12 PR	•		•		97/11	3792 (12.4)
	12 PR		•		•	97/11 HM	3792 (12.4)
	12 PR	•		•		Planetary	3850 (12.6)
66X43.00-25	10 PR	•		•		Planetary	4584 (15.0)

**RADIAL TIRES**

SIZE	CODE NO.	2064	2064 HM	2066	2066 HM	FINAL DRIVE	WIDTH mm (ft)
620/75 R 34*	170 A8	•		•		97/11	3300 (10.8)
	170 A8		•		•	97/11 HM	3300 (10.8)
620/75 R 34	170 A8	•		•		97/11	3468 (11.4)
	170 A8		•		•	97/11 HM	3468 (11.4)
	170 A8	•		•		Planetary	3850 (12.6)
24.5 R 32	159 A8	•		•		97/11	3500 (11.5)
	159 A8		•		•	97/11 HM	3500 (11.5)
	159 A8	•		•		Planetary	3850 (12.6)
30.5 LR 32	167 A8	•		•		97/11	3792 (12.4)
	167 A8		•		•	97/11 HM	3792 (12.4)
	167 A8	•		•		Planetary	3850 (12.6)

\* Combines with cylinder drive reduction gear only



**DRIVE WHEELS FOR 2064 AND 2066 COMBINES AND HILLMASTERS (CONTINUED)**

**DUAL TIRES**

SIZE	CODE NO.	2064	2064 HM	2066	2066 HM	FINAL DRIVE	WIDTH mm (ft)
18.4-38 with 24.5-32	14	•		•		97/11	4610 (15.1)
18.4-38 with 620/75 R34	14	•		•		97/11	4578 (15.0)

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*Wheels and Axles*

**STEERED WHEELS FOR 2054, 2056, 2058, 2064 AND 2066 COMBINES AND HILLMASTERS**

SIZE	CODE NO.	2054	2054 HM	2056	2056 HM	2058	2058 HM	COMMENT
10.5/80-18	10 PR	•	•	•	•			
12.5-80-18	10 PR	•	•	•	•			
14.5/75-20	8 PR	•	•	•	•	•	•	
16.0/70-20	10 PR	•	•	•	•	•	•	
14.9-24	8 PR	•	•	•	•			
	8 PR	•	•	•	•			4WD only
	8 PR	•	•	•	•	•	•	
	8 PR	•	•	•	•	•	•	4WD only
16.9-24	8 PR	•	•	•	•	•	•	
	8 PR	•	•	•	•	•	•	4WD only
500/60-22.5	10 PR	•	•	•	•	•	•	

SIZE	CODE NO.	2064	2064 HM	2066	2066 HM	COMMENT
14.5/75-20	8 PR	•	•	•	•	
16.0/70-20	10 PR	•	•	•	•	
14.9-24	8 PR	•	•	•	•	
	8 PR	•	•	•	•	4WD only
16.9-24	8 PR	•	•	•	•	Rigid axle, valve on inside
	8 PR	•	•	•	•	4WD only
500/60-22.5	10 PR	•	•	•	•	

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*Wheels and Axles*

**TIRE PRESSURE**

**FRONT WHEELS**

SIZE	CODE NO.	kPa	bar	psi
18.4-30	16 PR	360	3.6	52.2
18.4-34	16 PR	350	3.5	50.8
20.8-34	14 PR	290	2.9	42.1
23.1-26	14 PR	250	2.5	36.3
	16 PR	290	2.9	42.1
	16 PR (RICE)	290	2.9	42.1
24.5-32	12 PR	210	2.1	30.5
28.1-26	16 PR	250	2.5	36.3
	16 PR (RICE)	250	2.5	36.3
30.5-32	10 PR	120	1.2	17.4
	12 PR	140	1.4	20.3
66X43.00-25	10 PR	170	1.7	24.7
23.1 R 26	166 A8	240	2.4	34.8
28.1 LR 26	157 A8	190	1.9	27.6
620/75 R 34	170 A8	190	1.9	27.6
24.5 R 32	159 A8	190	1.9	27.6
30.5 LR 32	167 A8	190	1.9	27.6
18.4-38	14	320	3.2	46.4

**REAR WHEELS**

SIZE	CODE NO.	kPa	bar	psi
10.5/80-18	10 PR	370	3.7	53.7
12.5/80-18	10 PR	250	2.5	36.3
14.5/75-20	8 PR	180	1.8	26.1
16.0/70-20	10 PR	200	2.0	29.0
14.9-24	8 PR	180	1.8	26.1
	8 PR	210	2.1	30.5
16.9-24	8 PR	170	1.7	24.7
500/60-22.5	10 PR	150	1.5	21.8

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# Preparations and Field Operation

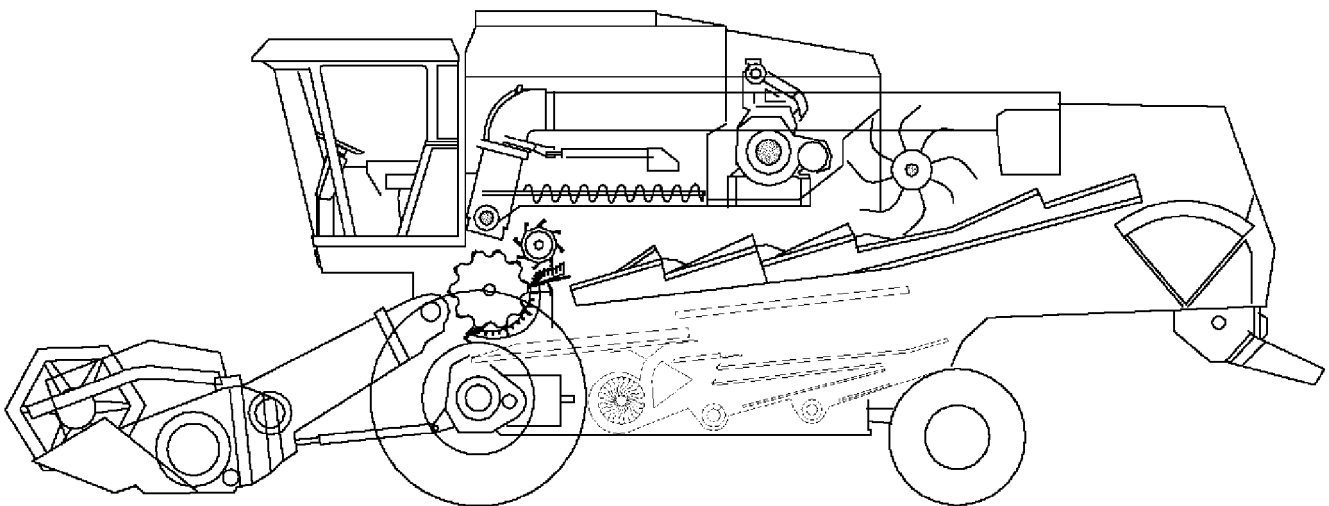
## CHOICE OF HARVESTING TIME

Make sure the crop is ripe enough to be harvested.

Unripe crops impair the harvesting operation and may result in faults in the machine.

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## AVOIDING GRAIN LOSSES



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Loss of grain or grain damage contribute to loss of profits. Depending upon the harvesting conditions and crop moisture content, perform all necessary adjustments.

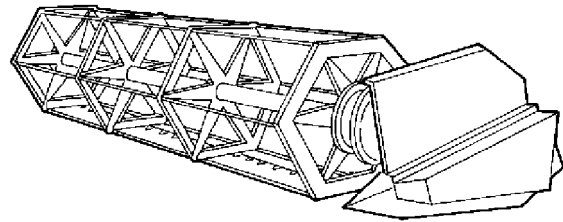
Pay particular attention to the following:

- Grain losses in front of cutting platform
- Excessive tailings
- Cracked grain in grain tank
- Chaff in grain tank
- Grain loss from straw walkers
- Grain loss from sieve
- Grain losses on the ground
- Unthreshed grain

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### CUTTING PLATFORM OPERATION

Cutting platform operation is described in a separate operator's manual.



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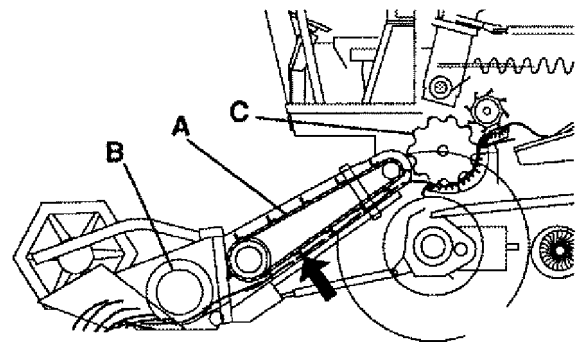
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### FEEDER HOUSE OPERATION

Conveyor chain (A) receives the crop from auger (B) and forwards it to the cylinder (C).

(For feeder house adjustment, see "Service — Feeder House" section.)



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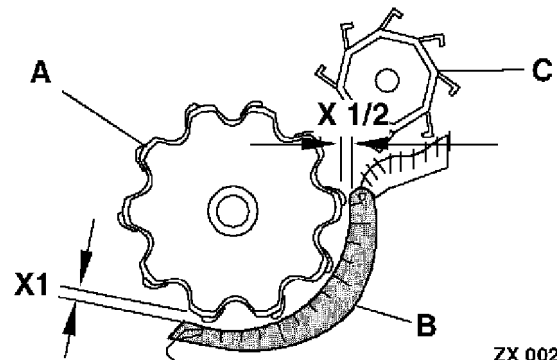
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### SEPARATOR

The separator is the most important component of the combine.

Always take great care when adjusting the separator. See "Separator and Cleaning Unit" section for details.

- A—Cylinder
- B—Concave
- C—Second cylinder



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### ADJUSTMENT OF CYLINDER AND CONCAVE

- High cylinder speed  
+ narrow concave spacing

= Good threshing action

Extreme adjustment:

- Cylinder speed too high
- + concave spacing too narrow

= Overthreshing

- Low cylinder speed  
+ wide concave spacing

= Poor threshing action

Extreme adjustment:

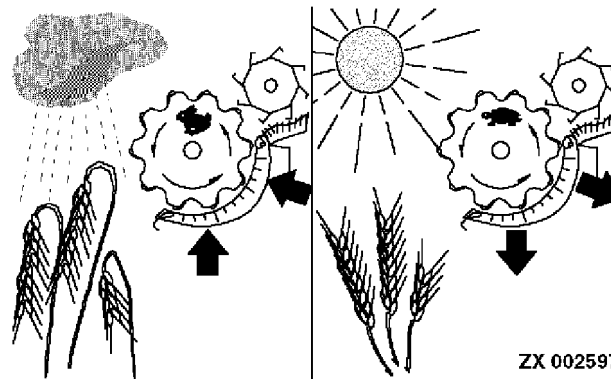
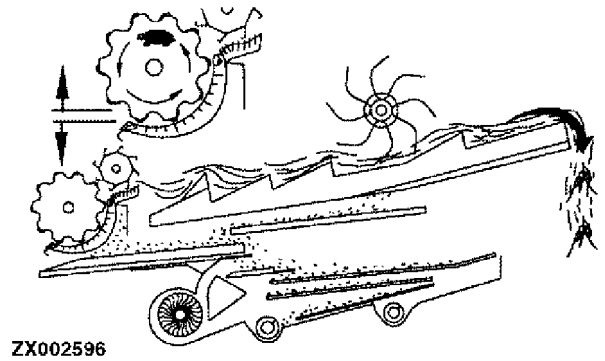
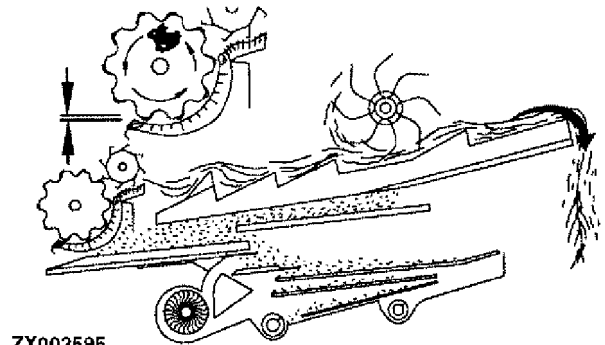
- Cylinder speed too low
- + concave spacing too wide

= Underthreshing

3. Basic adjustment:

- Moist crop: Increase cylinder speed and/or reduce concave spacing.
- Dry crop: Reduce cylinder speed and/or increase concave spacing.

**IMPORTANT: Cylinder speed and concave adjustments are the most important factors in obtaining good harvesting results.**

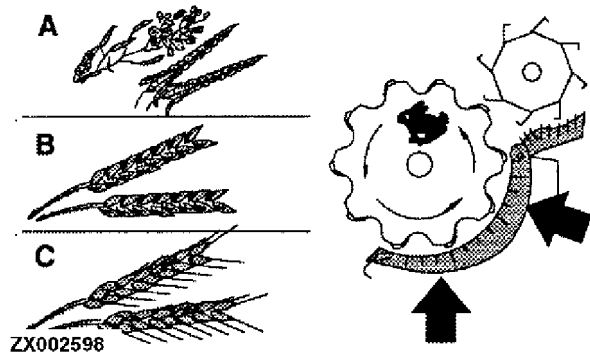


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### ADJUSTING CYLINDER SPEED AND CONCAVE FOR NORMAL CROP

Fine seeds and normal grain crops:  
High cylinder speed and narrow concave spacing.

- A—Rape
- B—Wheat
- C—Barley

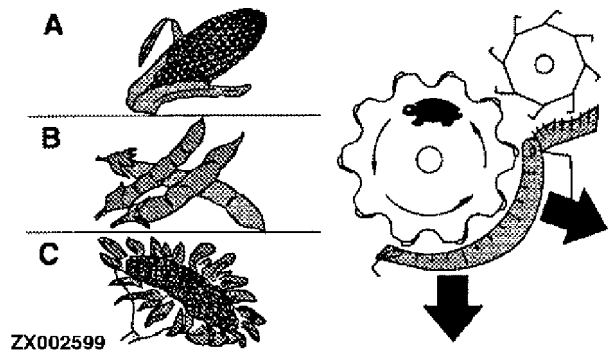


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### ADJUSTING CYLINDER SPEED AND CONCAVE FOR COARSE CROP

Coarse crop:  
Low cylinder speed and wide concave spacing.

- A—Maize
- B—Beans
- C—Sunflowers



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### SEPARATING PROCESS

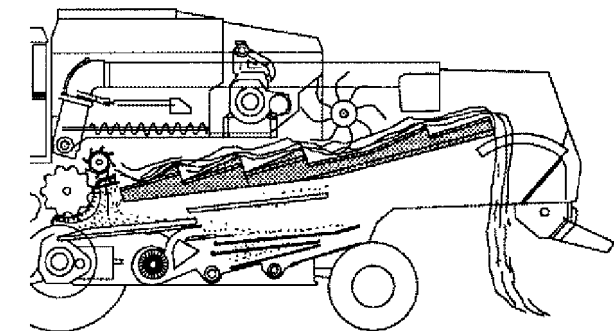
Threshed straw and any remaining grain are threshed again by the second cylinder, then deflected and thrown onto the straw walkers. The agitating straw walker action removes the remaining grain which falls onto the grain pan.

After the first third of straw walker length, the straw is agitated and spread by the cross shaker. This action results in the saving of additional grain. Finally, the straw reaches the last walker step and falls to the ground.

Avoid “underthreshing”, whereby the straw walkers become overloaded and the separating action is too fast. As a result, grain passes over the straw walkers and out of the combine with the mass of the straw.

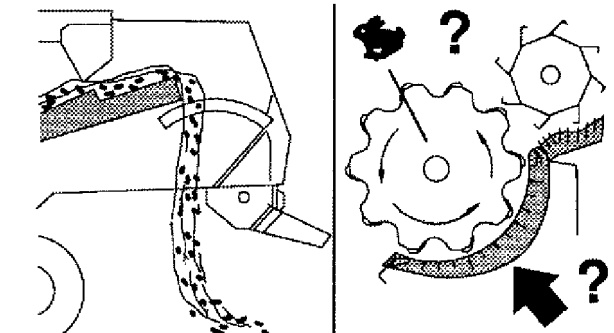
Check:

- Concave spacing narrow enough?
- Cylinder speed high enough?



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## GRAIN CLEANING PROCESS

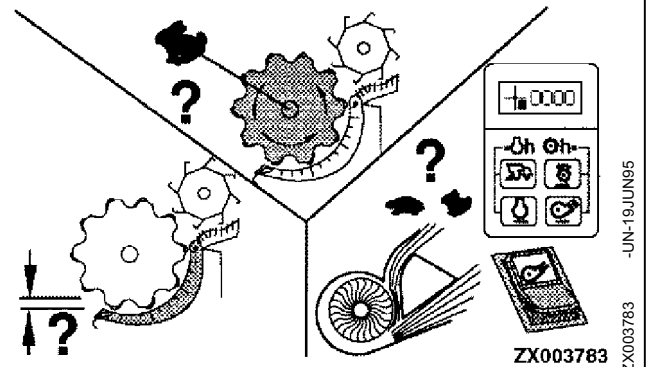
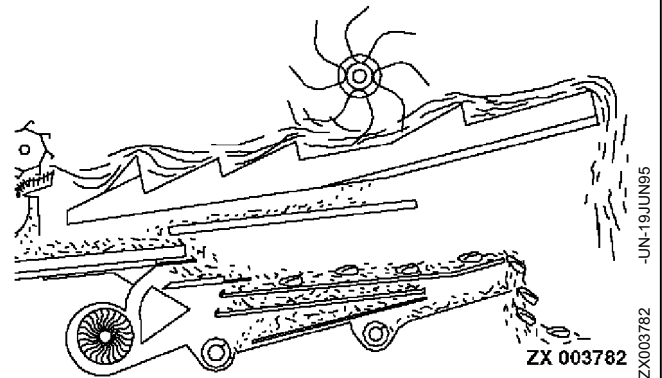
The effectiveness of the chaffer and grain sieve separating action is increased by an intensive fan blast. Thus the chaff, which is lighter than grain, is blown to the rear.

*NOTE: The blast should be as strong as possible, but grain loss should be kept to a minimum.*

As a result of “overthreshing”, the cleaning unit becomes overloaded, resulting in poor separation of the grain from the chaff. A considerable amount of grain is lost, dropping to the ground with the straw at the rear of the combine.

Check:

- Concave spacing too narrow?
- Cylinder speed too high?
- Is intensity of blast adapted to sieve load?

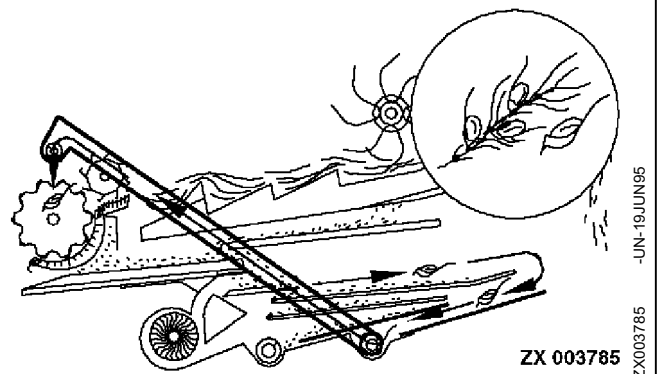
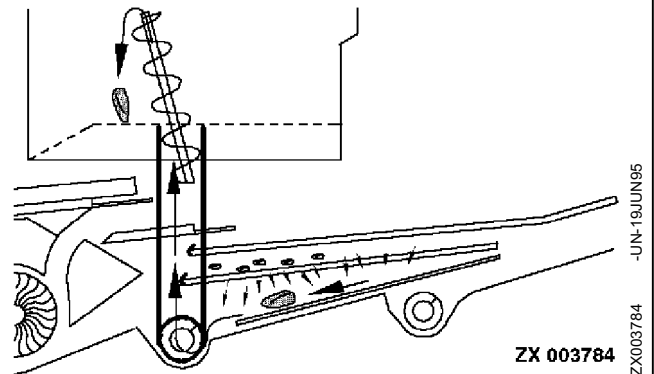


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## GRAIN RECOVERY PROCESS

The grain falls onto the grain pan, primarily in the first half of the grain sieve, and is passed on to the clean grain auger and grain elevator before finally entering the grain tank.

Unthreshed grain heads and a small amount of chaff move over the end of the grain sieve and are forwarded to the lower tailings auger via the return pan. The tailings elevator conveys this material back to the center of the threshing cylinder, where it is rethreshed.



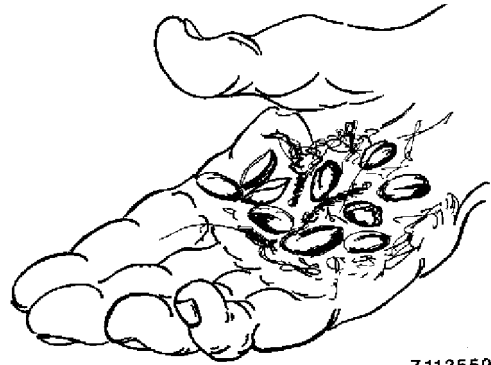
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## EVALUATING THRESHING ACTION

To evaluate threshing action, pay attention to the following:

- Threshed straw
- Grain losses at rear of combine
- Grain tank sample
- Tailings



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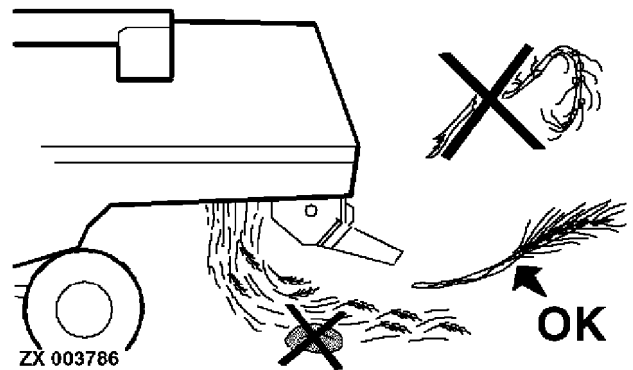
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## EXAMINING THRESHED STRAW AND GRAIN LOSSES AT REAR OF COMBINE

Straw should not be broken or chewed.

A minimum amount of grain on the ground.



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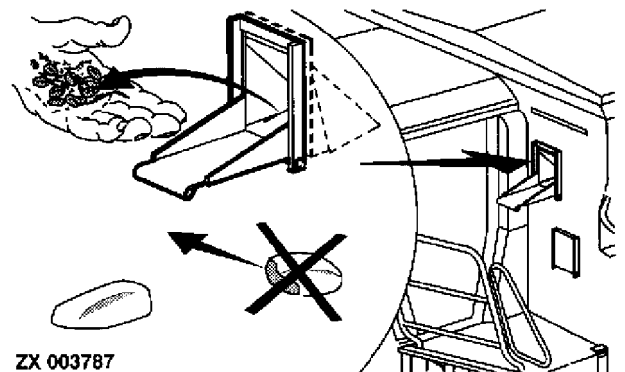
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## GRAIN TANK SAMPLE

Open grain sample flap and take a sample.

Should the grain sample include too many cracked grains, check the following points:

- Excessive tailings?
- Cylinder speed too high?
- Concave spacing too narrow?



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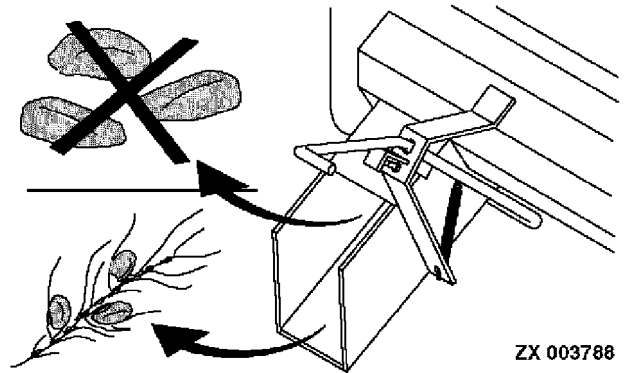
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### CHECKING TAILINGS

Each paddle on the tailings elevator should convey only a small amount of tailings (no more than half a handful).

The tailings should consist mainly of unthreshed heads.

The tailings should not consist of loose grain, straw or chaff.



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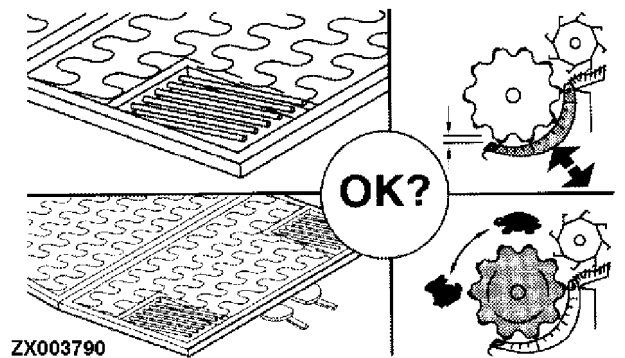
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ZX003788

### TAILINGS PROBLEMS

Check the following:

- Correct number of insert fingers in chaffer extension?
- Correct sieve adjustment?
- Position of chaffer extension correct?
- Position of concave correct?
- Cylinder speed correct?



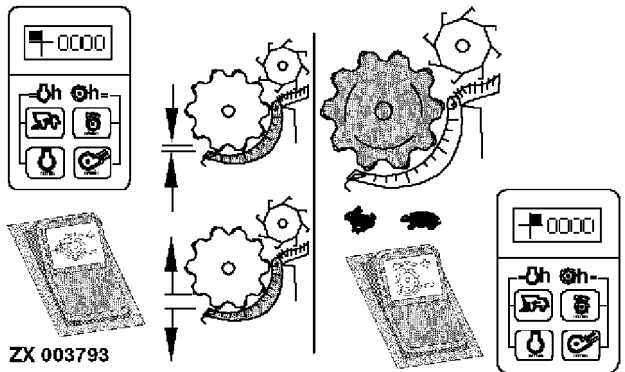
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### IDENTIFYING THRESHING PROBLEMS

If threshing action is not satisfactory (regardless of whether this is due to excessive tailings, incorrect adjustment of cleaning unit or other problems) refer to the following pages.



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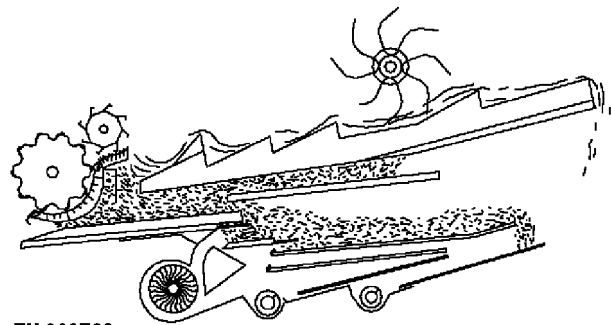
## OVERTHRESHING

Overthreshing is caused by too high cylinder speed and too narrow spacing between cylinder and concave.

Overthreshing may be reduced by slowing the cylinder by about 5%. Check the result of this change before trying any other adjustments. If reducing the cylinder speed by 10% does not help, try opening the concave slightly.

If overthreshing cannot be reduced by these measures, try slowing down the ground speed. Too much material causes overloading of the cylinder and may also cause overthreshing.

**IMPORTANT: Always check the result of one change at a time, before carrying out the next adjustment.**



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## UNDERTHRESHING

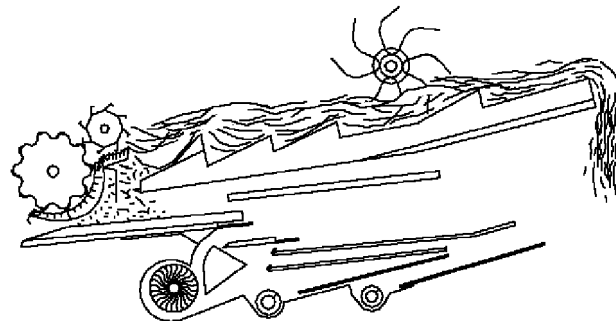
Undertreshing is caused by too slow cylinder speed and excessively wide concave spacing. Try increasing the cylinder speed by about 5%.

If this does not correct the problem, narrow the concave spacing slightly.

Check result after each adjustment.

Under certain harvesting conditions (not enough straw), it is possible that these adjustments will not be sufficient. If this is so, increase ground speed of combine.

**IMPORTANT: Always check the result of one change at a time, before carrying out the next adjustment.**



ZX 003799

ZX003799 -UN-19JUN95

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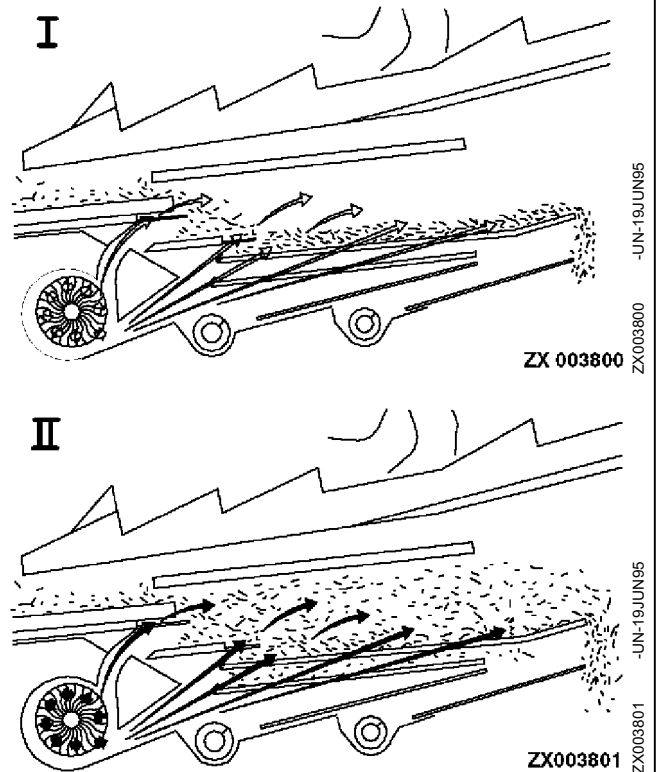
## ADJUSTING FAN SPEED

Before adjusting the fan speed, open chaffer and sieve to the maximum recommended openings for the crop being harvested (see "Combine Settings" chart). Then start with the lowest fan speed suggested and gradually increase the speed until the maximum amount of chaff is expelled without blowing grain out of the combine or into the tailings return.

Check the results carefully. After reaching the maximum acceptable fan speed, continue to make minor adjustments to the chaffer. If necessary, keep changing the fan speed until the best result is achieved.

**IMPORTANT: Always check the result of one change at a time, before carrying out the next adjustment.**

- I—Fan blast too low, insufficient cleaning
- II—Fan blast too strong, grain is being lost



ZX,OMXZC0002031-19-13NOV92

## ADJUSTING THE CHAFFER

Set the chaffer just wide enough to ensure that the grain falls through before passing the length of the chaffer. If the chaffer is opened too wide, it may overload the sieve with chaff and straw and increase the tailings. If the chaffer is not opened wide enough, excess grain will be moved to the tailings and some will be lost out of the rear of the combine.

Grain losses in the cleaning unit may be caused by:

1. Too little fan blast or too narrow chaffer openings, which results in a layer of straw or chaff on top of the grain.
2. Too much fan blast, which blows the grain out of the combine.

It is important to know which of these reasons is causing the cleaning shoe losses, as this will enable appropriate action to be taken.

Re 1.) The problem may be caused by overthreshing as well as too little air from the fan. Check the amount and condition of the straw.

If the straw appears to be excessively broken or chewed, the cylinder and concave must be adjusted to reduce overthreshing.

If the straw is whole and unbroken, then more air is needed to suspend the straw and chaff so that the grain can drop through the sieve, or the chaffer needs to be opened slightly.

**IMPORTANT: Always check the result of one change at a time, before carrying out the next adjustment.**

Re 2.) If too much fan blast is the problem, then there will be very little chaff and straw on the cleaning shoe. Reduce fan speed and check the results.

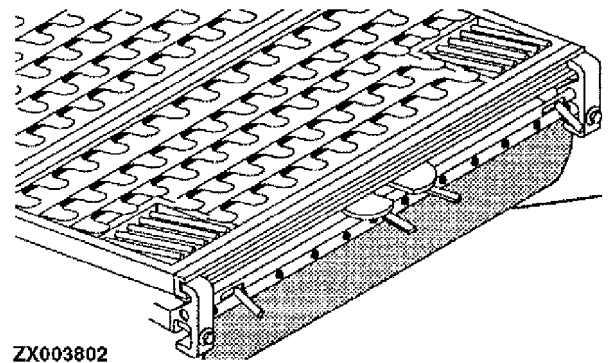
ZX,OMXZC0002032-19-13NOV92

## SLOPE MASTER SYSTEM

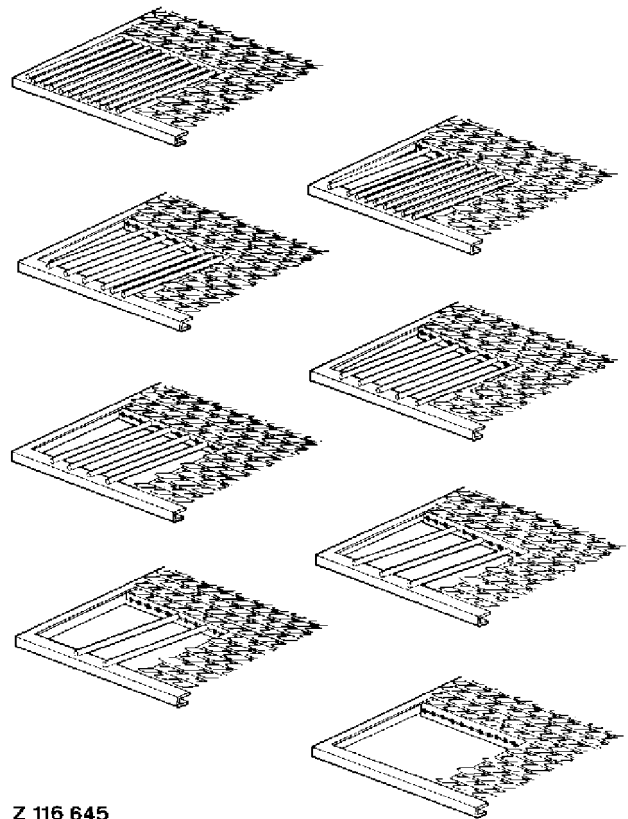
When operating the combine on a slope, special inserts at the left-hand and right-hand sides of the chaffer extension collect the grain rolling across the separator and return it via the tailings elevator.

Vary the openings in the inserts to suit the harvesting conditions, type of crop and combine tilt by adding or removing fingers. The combine is delivered from the factory with 11 fingers installed in the chaffer extension.

Any change in the number of fingers primarily affects the amount of tailings; i.e. if no fingers or only a few fingers are installed, a high percentage of tailings will occur; if all the fingers are installed, very little tailings occur.



ZX003802



Z 116 645

Possible installation positions

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ZX003802

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Z116645

## ADJUSTING THE SIEVE

Final cleaning is done by the sieve. It must be open far enough to allow the grain to fall through easily, but not so far that chaff and straw can fall through.

If the sieve is not open wide enough, the grain remains with the tailings. This leads to overthreshing and damages the grain excessively.

To adjust the sieve, open it until too much foreign material appears in the grain tank and then close the sieve slightly until the proportion of foreign material drops to an acceptable level.

ZX,OMXZC0002034-19-13NOV92

## ACCEPTABLE GRAIN LOSSES

Acceptable grain losses currently run at 1—1.5%. How this is calculated depends on the following factors:

- Harvesting conditions
- Urgency of harvest
- Time available for checking grain losses

ZX,OMXZC0002035-19-04DEC92

## WHAT DOES LOSS OF GRAIN REALLY MEAN?

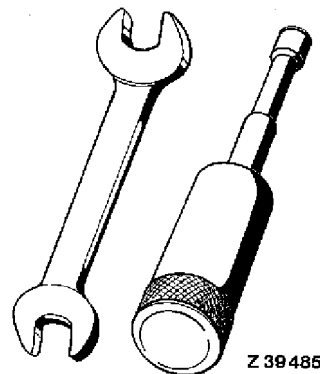
Given a grain yield of e.g. 5000 kg per hectare, a grain loss of 1% can mean a loss of 50 kg.

When a combine operates with a grain loss of 4% due to incorrect adjustments, this means that 200 kg of grain is lost per hectare.

ZX,OMXZC0002036-19-01AUG92

## Correct Adjustment = More Money

The examples show that thirty minutes spent in carrying out correct combine adjustments repays itself many times, as the above figures for just one hectare show.



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Z39485

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### DETERMINING GRAIN LOSSES

#### Example 1

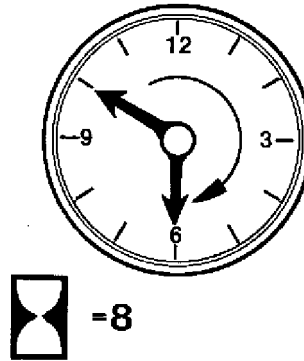
Combine operates with a loss of 4%. Better adjustment reduces grain loss by 1% to 3%. Average yield per hectare is 5000 kg.

Operating at a rate of 2 hectares per hour, the combine can cover 16 hectares in 8 hours.

4%    16 ha x 200 kg = 3200 kg

3%    16 ha x 150 kg = 2400 kg

800 kg less  
grain is lost



4%=3200 kg

3%=2400 kg

2%=1600 kg

1%= 800 kg

Z 19761

ZX,OMXZC0002038-19-01AUG92

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#### Example 2

The grain losses reduced to 3% in the first example are still too high. By reducing ground speed, losses can be reduced from 3% to 1.5%.

Operating at a rate of 1.8 hectares per hour, the combine can cover 16 hectares in 8-3/4 hours.

3.0%    16 ha x 150 kg = 2400 kg

1.5%    16 ha x 75 kg = 1200 kg

1200 kg less  
grain is lost

ZX,OMXZC0002039-19-01AUG92



**Explanation of Examples**

8 hr 16 ha 4.0% loss = 3200 kg  
 8-3/4 hr 16 ha 1.5% loss = 1200 kg

2000 kg less  
 grain is lost

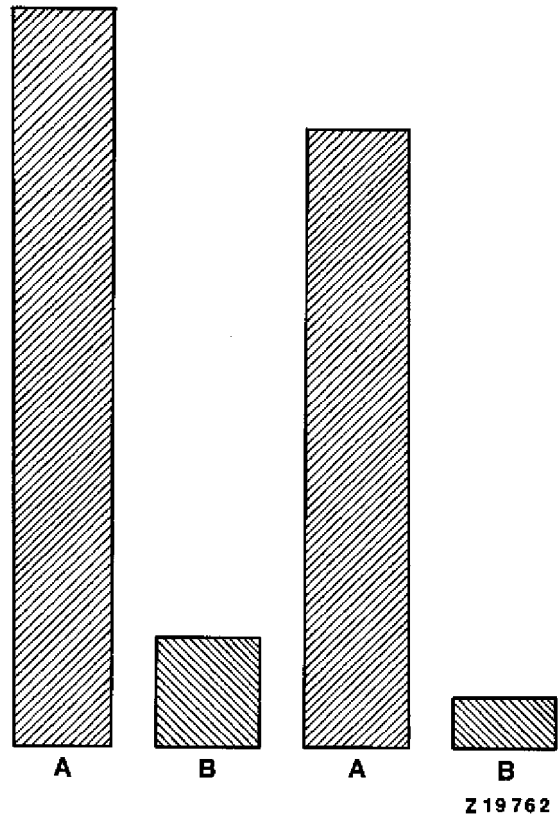
2000 kg of grain saved corresponds to approximately 3 to 4 hectares in terms of contracting charges.

Reducing ground speed to prevent grain losses may even justify somewhat higher contracting charges per hectare.

If the operator or another person checks grain losses three times daily and achieves a reduction of 1 to 1.5%, only thirty minutes is required for this purpose.

However, 1% less grain loss means approx. 800—1000 kg of grain can be saved in an 8-hour working day.

Naturally, the combine can operate even more economically (especially when several combines are working in one field) if one person is employed specifically to check grain losses at all the machines.



A—Area performance  
 B—Losses in %

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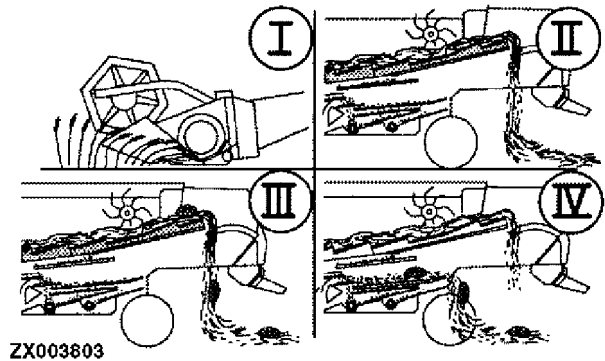
ZX,OMXZC0002040-19-01AUG92

## CAUSES OF GRAIN LOSSES

After adjusting the combine to get the best results, any further loss of grain can be categorized according to the area where it occurs.

Grain losses fall into four groups:

- I. Cutting platform losses
- II. Threshing unit losses
- III. Straw walker losses
- IV. Sieve losses



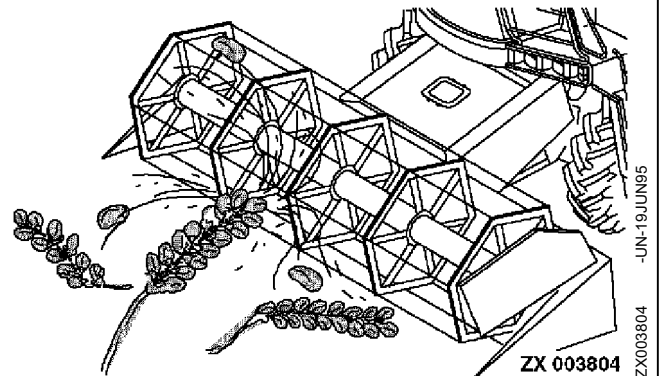
ZX,OMXZC0002041-19-13NOV92

## CUTTING PLATFORM LOSSES

Cutting platform losses are cut ears which fail to get picked up or grain shattered by the reel.

### Determining Losses

Compare the number of grains in a certain area before and after the cutting platform has passed through.



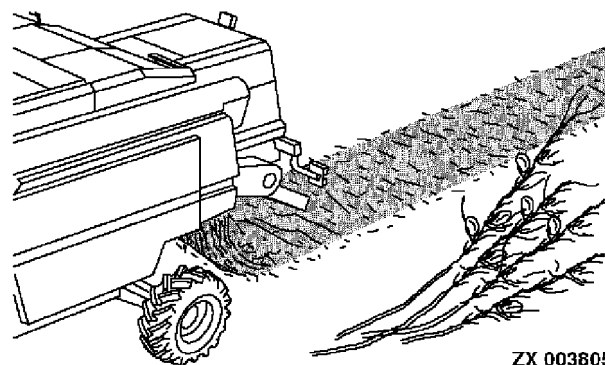
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## THRESHING UNIT LOSSES

Threshing unit losses are those grains which leave the rear end of the machine in partially threshed ears.

### Determining Losses

Pick up ten threshed ears behind the combine and count the number of grains still on the ears. If three grains are found, this corresponds to a loss of 1% (based on an average yield of 30 grains per ear).

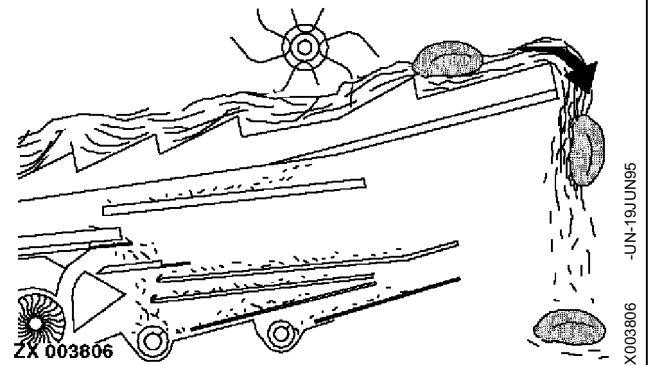


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### STRAW WALKER LOSSES

Straw walker losses are those grains carried with threshed straw over the straw walkers and out of the machine. Avoid underthreshing and excessive tailings.

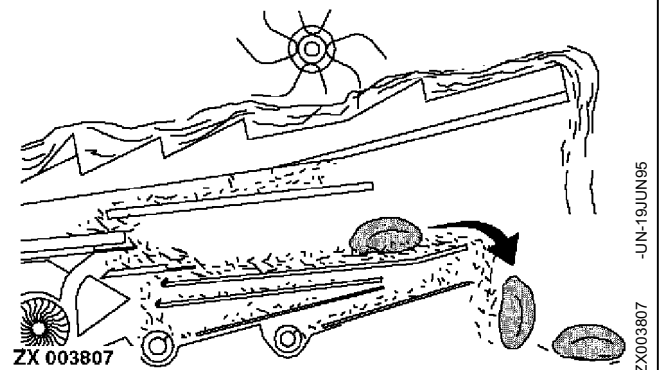
If straw walker losses are not reduced once the cylinder and concave have been adjusted, then reduce ground speed.



ZX.OMXZC0002044-19-13NOV92

### SIEVE LOSSES

Sieve losses are those grains that are carried over the sieve and fall onto the ground due to incorrect sieve adjustment. With correct sieve adjustment, losses will be small and remain constant.



ZX.OMXZC0002045-19-13NOV92

## PREVENTION OF GRAIN LOSSES — GENERAL

There is no patent remedy when it comes to preventing grain losses. The threshing process is so complex that a certain relationship between “adjustment” and “result” must be found.

The combine operator must try to obtain the best results by referring to the summary provided below and the “Combine Settings” chart.

**IMPORTANT: Grain losses rise with the amount of material passing along the straw walkers and therefore can be easily remedied by decreasing combine ground speed.**

**However, do not underestimate the effect of other combine adjustments.**

### Reduce straw walker losses as follows:

- Keep openings in straw walkers clean
- Reduce weeds and green material (raise cutting platform)
- Material overthreshed (reduce cylinder speed)
- Straw walkers overloaded (reduce ground speed)

### Reduce sieve losses as follows:

- Increase air blast from cleaning fan if layer of straws forms on sieves
- Reduce air blast (fan speed) if grain is blown over cleaning shoe
- Open lips of sieve
- Keep sieve clean
- Add or remove insert fingers when working on slope
- Reduce amount of chaff on sieves, avoid overthreshing
- Sieve overloaded, reduce amount of grain over sieves (reduce ground speed)

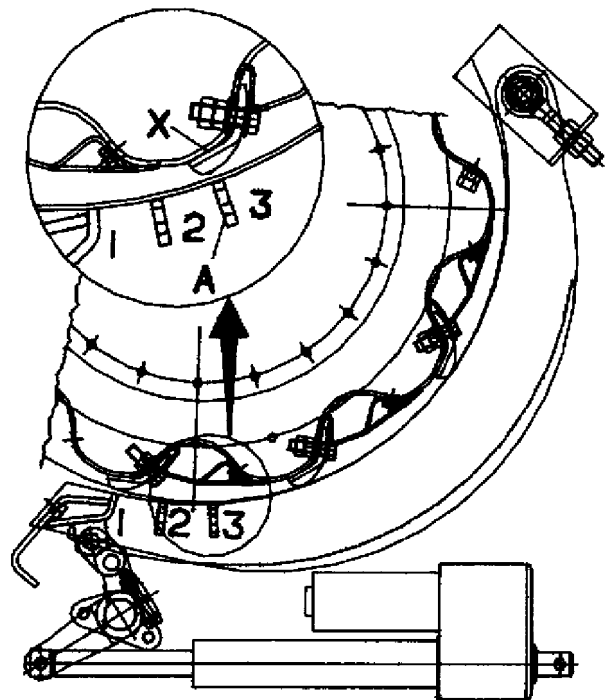
## THRESHING ADJUSTMENTS — GENERAL INFORMATION

**IMPORTANT:** The Combine Settings Chart applies only for average conditions. Varying field and crop conditions may make it necessary to change the settings.

The concave and cylinder settings are fundamental settings. They must be optimized to suit varying crop conditions.

When adjusting concave clearance, either automatically or by hand, the reference points are the 3rd bar (A) and the top cylinder rasp bar (identified by punch mark "X") respectively.

*NOTE: Use straw walker grids and sieves appropriate to the type of crop and harvesting conditions. See "Separator and Cleaning Unit" section.*



ZX004384

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ZX,OMXZC0002367-19-13NOV92

**COMBINE SETTINGS AND AUTOMATIC ADJUSTMENTS**

CROP	CYLINDER SPEED rpm	FAN SPEED rpm	CONCAVE SPACING mm (in.)	CHAFFER mm (in.)	GRAIN SIEVE mm (in.)	GRAIN SIEVE EXTENSION mm (in.)
Wheat	900	1400	10 (0.39)	12 (0.47)	5 (0.20)	16 (0.63)
Barley (winter)	950	1300	7 (0.28)	12 (0.47)	7 (0.28)	16 (0.63)
Rape	500	1000	30 (1.18)	5 (0.20)	1 (0.04)	5 (0.20)
Maize	360	1400	30 (1.18)	15 (0.59)	10 (0.39)	18 (0.71)
Peas	380	1300	25 (0.98)	10 (0.39)	7 (0.28)	12 (0.47)
Oats	950	1300	15 (0.59)	12 (0.47)	7 (0.28)	16 (0.63)
Pinto beans	380	1300	20 (0.79)	18 (0.71)	10 (0.39)	20 (0.79)
Rye	900	1300	15 (0.59)	10 (0.39)	5 (0.20)	14 (0.55)
Sun- flowers	320	900	30 (1.18)	10 (0.39)	3 (0.12)	15 (0.59)

ZX,OMXZC0002053-19-01AUG92

### ADDITIONAL COMBINE SETTINGS

CROP	CYLINDER SPEED rpm	FAN SPEED rpm	CONCAVE SPACING mm (in.)	CHAFFER mm (in.)	GRAIN SIEVE mm (in.)	CHAFFER EXTENSION mm (in.)
Broad beans	320	1450	20 (0.79)	14 (0.55)	10 (0.39)	18 (0.71)
Buckwheat	675	1470	14 (0.55)	14 (0.55)	10 (0.39)	18 (0.71)
Safflower	690	1300	14 (0.55)	10 (0.39)	5 (0.20)	12 (0.47)
Flax	860	800	6 (0.24)	10 (0.39)	5 (0.20)	12 (0.47)
Grass seed	810	670	6 (0.24)	12 (0.47)	5 (0.20)	16 (0.63)
Millet	860	880	10 (0.39)	10 (0.39)	5 (0.20)	12 (0.47)
Trefoil (bird's foot)	860	880	6 (0.24)	7 (0.28)	5 (0.20)	10 (0.39)
Clover	770	810	6 (0.24)	10 (0.39)	3 (0.12)	12 (0.47)
Caraway	590	810	20 (0.79)	6 (0.24)	3 (0.12)	10 (0.39)
Lespedeza (Japanese clover)	810	810	6 (0.24)	10 (0.39)	5 (0.20)	12 (0.47)
Lupins	400	1120	20 (0.79)	10 (0.39)	5 (0.20)	12 (0.47)
Alfalfa	810	670	6 (0.24)	8 (0.31)	3 (0.12)	10 (0.39)
Corn/cob mix (cracked grain)	750	1400	30 (1.18)	—	—	—
Corn/cob mix (whole grain)	450	1400	32 (1.26)	—	—	—

Continued on next page

### ADDITIONAL COMBINE SETTINGS (CONTINUED)

CROP	CYLINDER SPEED rpm	FAN SPEED rpm	CONCAVE SPACING mm (in.)	CHAFFER mm (in.)	GRAIN SIEVE mm (in.)	CHAFFER EXTENSION mm (in.)
Beet seed	630	980	16 (0.63)	14 (0.55)	10 (0.39)	18 (0.71)
Mustard	670	980	10 (0.39)	10 (0.39)	6 (0.24)	12 (0.47)
Sorghum	720	1200	12 (0.47)	12 (0.47)	6 (0.24)	16 (0.63)
Soya beans	550	1450	20 (0.79)	10 (0.39)	6 (0.24)	12 (0.47)
Vetch	680	980	16 (0.63)	14 (0.55)	10 (0.39)	18 (0.71)

ZX,OMXZC0002529-19-04DEC92

### PREPARATIONS BEFORE CHANGING CROP

Clean the combine thoroughly:

- Feeder house
- Separator
- Straw walkers
- Chaffers
- Elevators
- Grain tank

When changing the header, remember to alter width-of-cut at the combine data center.

*NOTE: Reset the alarm threshold at the infotrak monitor every time the threshing cylinder and/or fan speed are altered.*

ZX,OMXZC0002368-19-13NOV92

### PREPARATIONS FOR HARVESTING PEAS

Replace grain pan inserts and grain elevator inspection doors.

adjustments manually after reading the figures in the table in this section.

Set the combine for pea harvesting automatically by means of the combine data center or make the

ZX,OMXZC0002369-19-13NOV92



## PREPARATIONS FOR HARVESTING CORN

Change height setting of bottom feeder conveyor drum.

Remove stripper from cylinder inspection flap.

Install cylinder filler plates.

Concave: Install a corn concave or cover the rear section of the standard concave with special concave inserts.

Replace the straw walker grids.

Install a chaffer and chaffer extension as circumstances require.

Use a round-hole grain sieve.

Straw chopper: Install an additional belt pulley. Remove cross-strips and counterknives.

Set the combine for corn harvesting automatically by means of the combine data center or make the adjustments manually after reading the figures in the table in this section.

ZX,OMXZC0002370-19-13NOV92

## PREPARATIONS FOR HARVESTING CORN/COB MIX (CCM)

Convert bottom feeder conveyor drum, cylinder inspection flap, cylinder, concave and straw chopper as for harvesting corn.

Replace the second straw walker grid with a Graepel-type grid.

Remove the grain sieve.

Use a Graepel-type chaffer.

Replace the chaffer extension with a tine mounting.

Read the combine settings from the table in this section.

If the throughput rate is very high, it may be necessary to remove the blast deflector plate underneath the grain sieve.

ZX,OMXZC0002371-19-13NOV92

## PREPARATIONS FOR HARVESTING OIL SEED CROPS

**IMPORTANT: When harvesting oil seed crops (e.g. rape, sunflower), clean the combine's separator and cleaning unit thoroughly EVERY DAY.**

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## OPERATING THE COMBINE

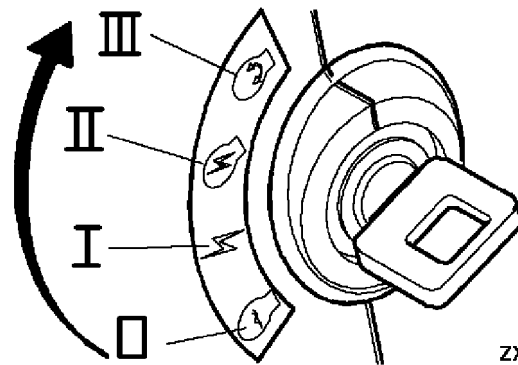
Prepare the combine for the type of crop to be harvested. See the information provided in this section.

Prepare and install the header required for the crop to be harvested. Read the operator's manual supplied with the header.

*NOTE: The following instructions apply to a combine equipped with all the options.*

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Start the engine and set it to a low rpm.



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ZX002403

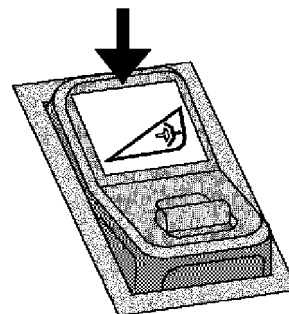
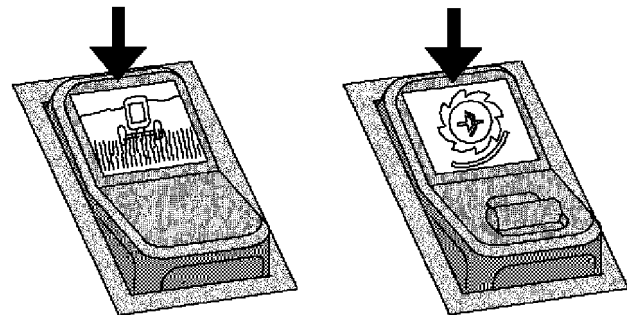
ZX.OMXZC0002374-19-13NOV92

Move road safety switch to field position.

**IMPORTANT: Switch on separator only when the engine is running at a low rpm.**

Switch on separator.

Switch on header.



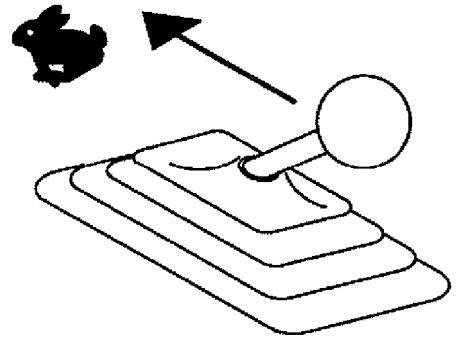
ZX 004374

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ZX004374

ZX.OMXZC0002375-19-13NOV92

Preparations and Field Operation

Set engine to maximum rpm.



ZX002406

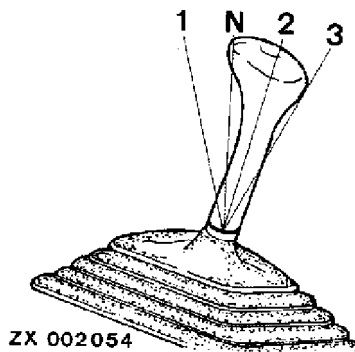
ZX.OMXZC0002376-19-13NOV92

ZX002406 -JUN-16JUN95

Engage a transmission gear.

*NOTE: The second gear is best for all-around field performance. Depending on field conditions and temperature, third gear (especially with rear wheel drive) can be used for field operations, but only if hydrostatic oil does not overheat.*

*Watch indicator light and listen for warning signal. Operation with overheated hydrostatic oil will cause serious damage.*



ZX 002054

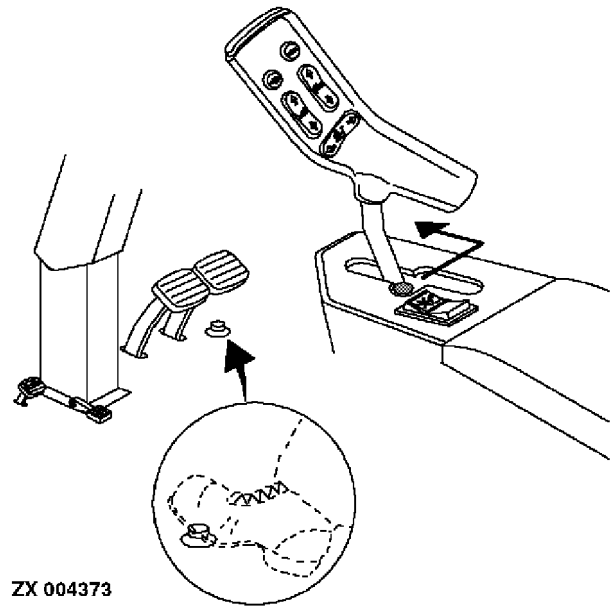
ZX.OMSPFH000544-19-01OCT91

ZX002054 -JUN-03APR95

Move ground speed control to adapt ground speed to the harvesting conditions.

**IMPORTANT: Hydrostatic stall conditions must be avoided, as they can cause the hydrostatic system to overheat in less than one minute.**

If necessary, select four-wheel drive (see "Driving and Transporting Harvester" section).



ZX004373 -JUN-19/JUN95

ZX,OMXZC0002377-19-13NOV92

## HEADER FLOAT CONTROL

Lower header to the ground (manual control).

Turn potentiometer (A) clockwise as far as it will go.

Press button (B) and hold it down.

Turn potentiometer (A) counterclockwise until the header slowly starts to rise from the ground.

Turn potentiometer back one or two marks until the header or lifting guards are touching the ground again.

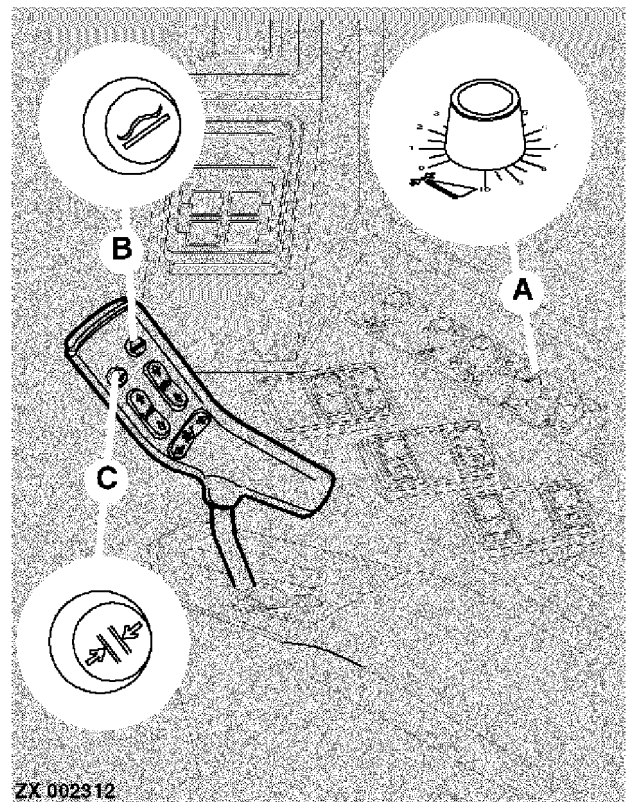
Release button (B).

During combine operations, adjust the float setting to suit the ground conditions.

The system is activated only when button (B) is depressed.

To resume the previously selected float height, hold down button (B) for at least 5 seconds.

On uneven ground, hold down button (B) for no longer than 1 minute, otherwise the preselected header height will be lost.



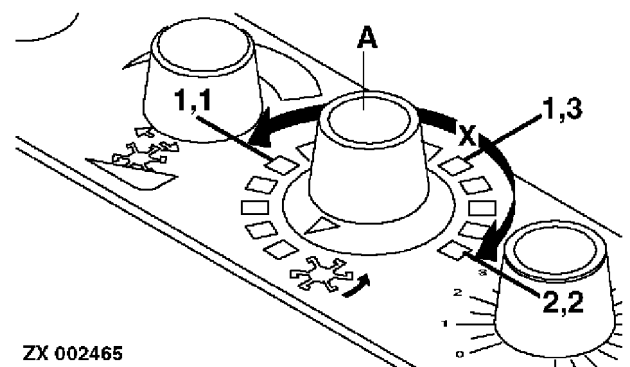
ZX 002312

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ZX002312

A—Header float control potentiometer  
B—Header float control button  
C—Header height resume control button

ZX,OMXZC0002128-19-13NOV92

Switch on the reel speed control and select the correct ratio.



ZX 002465

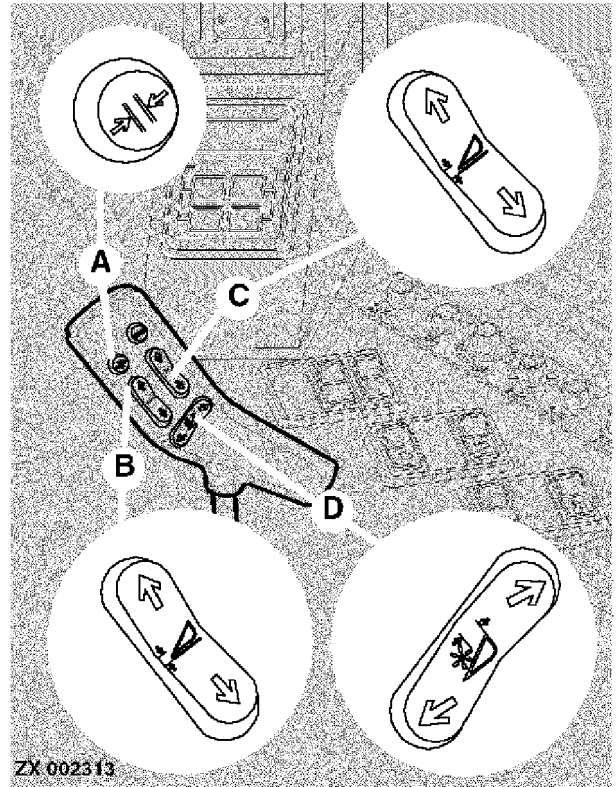
-UN-16JUN95  
ZX002465

ZX,OMXZC0002378-19-13NOV92

### ADJUSTING HEADER FUNCTION RESUME CONTROLS

- Reel height resume control
- Reel horizontal position resume control
- Header height resume control

- A—Header height resume control button
- B—Header raise/lower rocker switch
- C—Reel height control rocker switch
- D—Reel horizontal control rocker switch

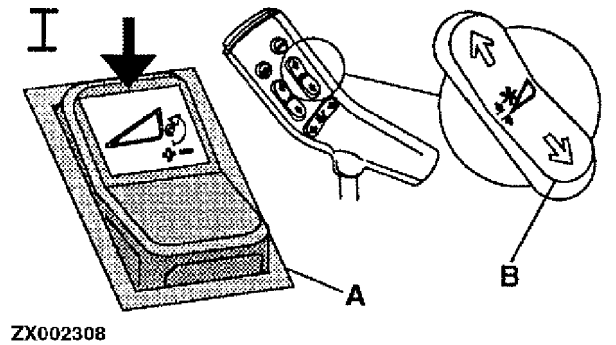


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ZX002313 -UN-16JUN95

On combines with feeder house variator, turn switch (A) to variator operation when harvesting corn.

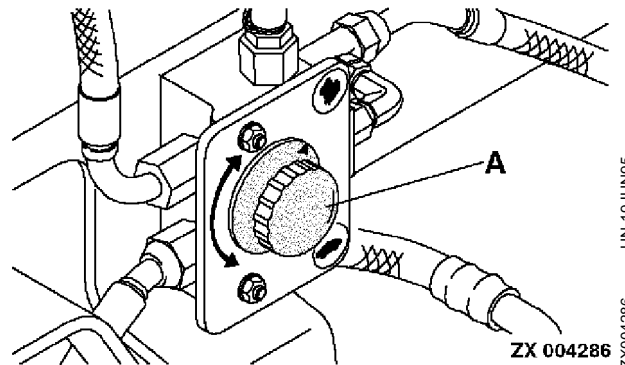
- I—Switch position for feeder house variator



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ZX002308 -UN-16JUN95

Adapt the throwing width of the chaff spreader to suit the width of the cutting platform.



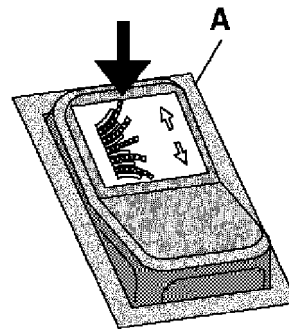
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ZX004286 -UN-19JUN95

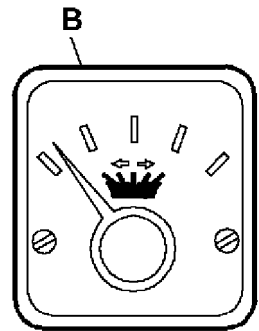
Preparations and Field Operation

Adjust straw chopper deflector to suit the conditions. The following equipment options are available:

- Individual adjustment of straw deflectors
- Mechanical adjustment, centrally
- Electrical adjustment, centrally
  - A—Rocker switch
  - B—Display unit



ZX 004015



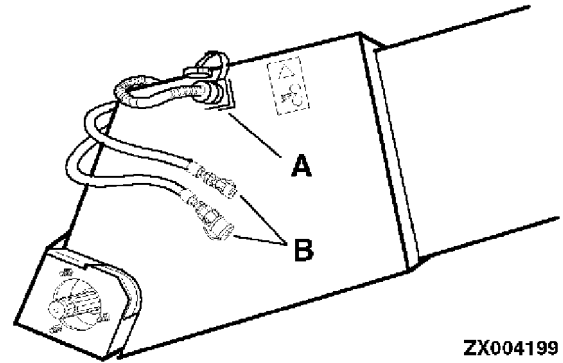
ZX004015 -UN-19JUN95

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# Feeder House

## ELECTRICAL AND HYDRAULIC CONNECTIONS FOR HEADERS

When header is removed, secure the electrical connection in socket (A) and the hydraulic hoses in clamps (B).



ZX004199

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-UN-19JUN95  
ZX004199

## SECURING HEADER LIFT CYLINDERS

**CAUTION:** Always insert the safety rail before working under the header.

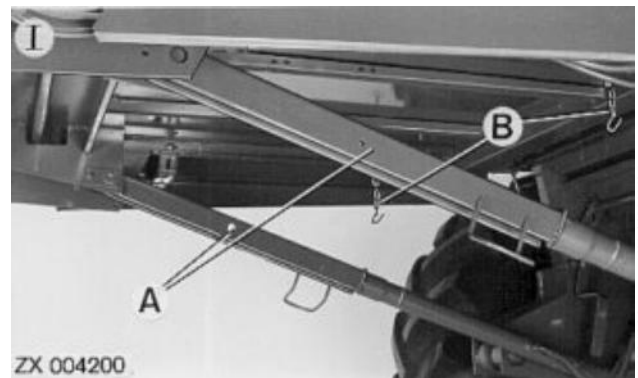
**IMPORTANT:** Insert safety rail only when header is fully raised.

Before working under the header, insert safety rail (A) above the lift cylinders.

Before commencing field operations, remove safety rail (A) and secure it in place with chain (B).

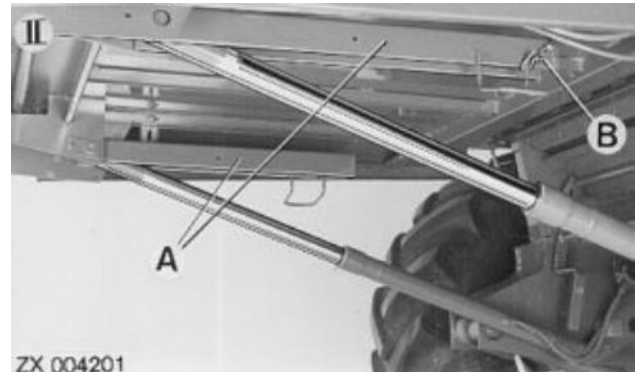
**NOTE:** One or two safety rails are fitted, depending on national equipment standards.

- A—Safety rail
- B—Chain
- I—Safety rail inserted
- II—Safety rail removed



ZX 004200

Safety rail inserted



ZX 004201

Safety rail removed

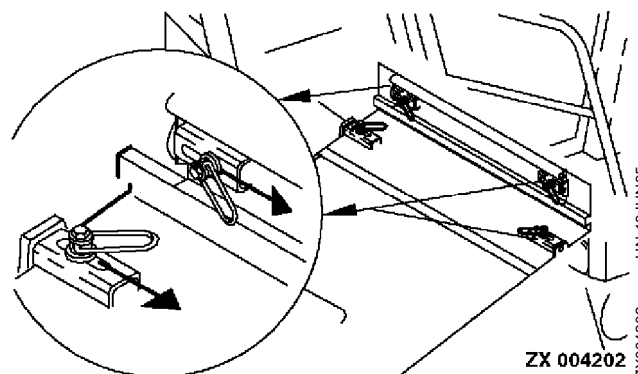
ZX,OMXZC0002267-19-05OCT92

-UN-19MAY95  
ZX004200  
ZX004201

## SERVICE FLAPS

**CAUTION:** Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

- A—Service flap, upper feeder house shaft
- B—Service flap, separator



ZX 004202

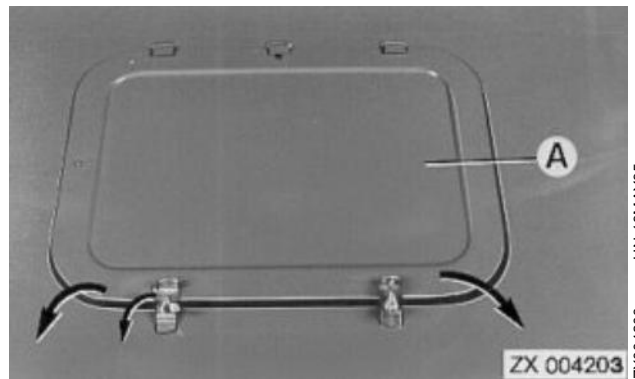
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ZX004202



## Feeder House

A—Service flap, feeder house center



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ZX004203 -UN-19MAY95

## TENSION OF FEEDER CONVEYOR CHAIN

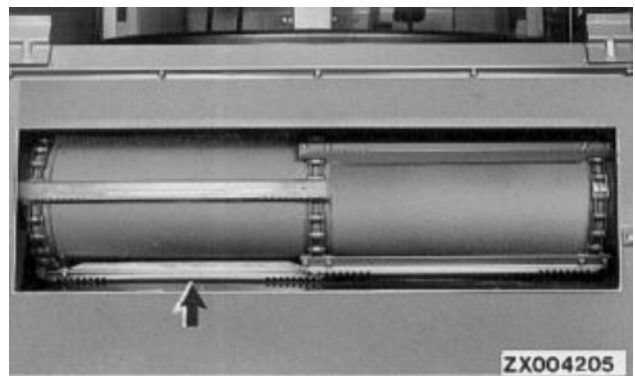
### Checking chain tension

Chain tension is correctly adjusted when the chain can be raised 30 to 40 mm (1-3/16 to 1-37/64 in.) by exerting a force of approx. 300 N (66 lb) halfway between upper and lower feeder conveyor shafts.

A further check is possible with the header removed. The third slat (as seen from the front) should lightly contact the floor of the feeder house.



ZX004204 -UN-19MAY95



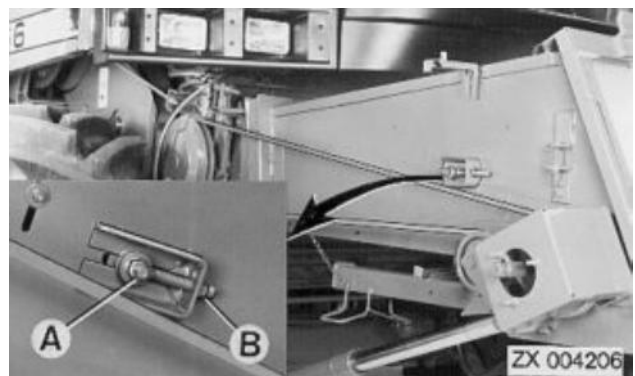
ZX004205 -UN-19MAY95

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## ADJUSTING TENSION OF FEEDER CONVEYOR CHAIN

**IMPORTANT:** This adjustment must be carried out equally on both sides.

To adjust tension of conveyor chain, loosen hex. nut (A) on both sides. Then turn adjusting nut (B) until correct chain tension has been obtained. Finally tighten all nuts.



ZX004206 -UN-19MAY95

ZX,OMXZC0002271-19-05OCT92

## ADJUSTING HEIGHT OF BOTTOM FEEDER CONVEYOR DRUM

**IMPORTANT:** This adjustment must be carried out equally on both sides.

The required height depends on the type of crop:

- Normal grain crops: Lower
- Corn, rape etc.: Higher

**IMPORTANT:** Adjust length (X):

- Normal grain crops: 58 mm (2.3 in.)
- Corn, rape etc.: 34 mm (1.3 in.)



X—Adjusted length

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ZX004207

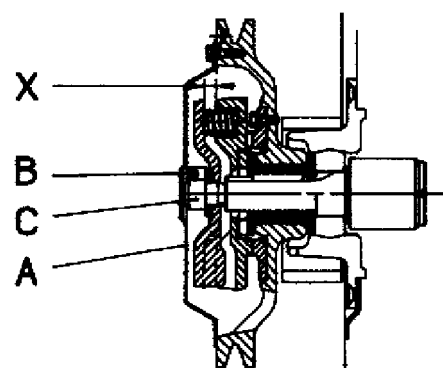
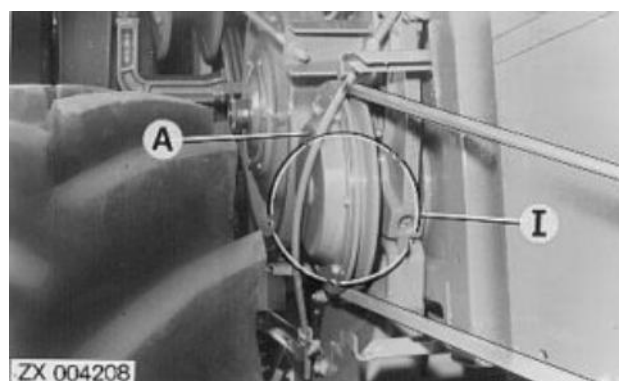
## SLIP CLUTCH ON UPPER FEEDER SHAFT

Remove cover (A).

**Adjust slip clutch:**

- Loosen clamping screw (B).
- Adjust length (X) to 12 mm (0.47 in.) at clamping nut (C).
- Tighten clamping screw (B).
- Install cover (A) and side guard.

- A—Cover
- B—Clamping screw
- C—Clamping nut
- X—Adjusted length 12 mm (0.47 in.)
- I—Slip clutch



ZX004209

Details of slip clutch

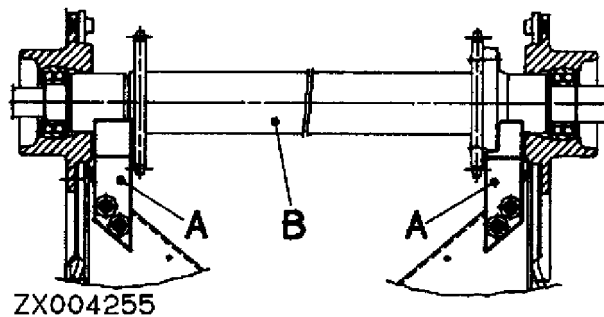
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ZX004208

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ZX004209

### STRIPPER ON TOP FEEDER HOUSE SHAFT

On both sides, adjust stripper (A) as closely as possible to top shaft (B).



ZX004255

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ZX004255

### TENSION ON DRIVE BELT OF TOP FEEDER HOUSE DRUM

Loosen stop (A).

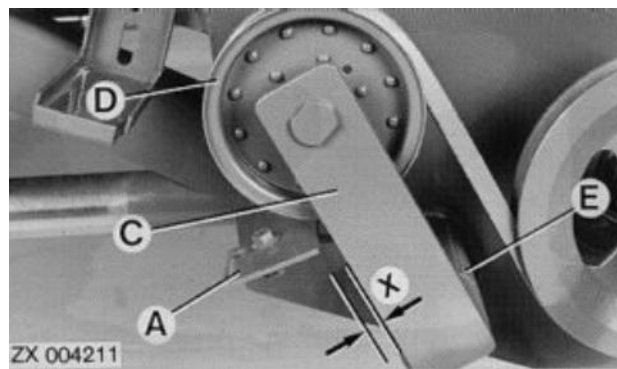
Loosen cap screw (B).

Bring tensioning roller (D) into contact with the toothed belt by means of tensioning arm (C).

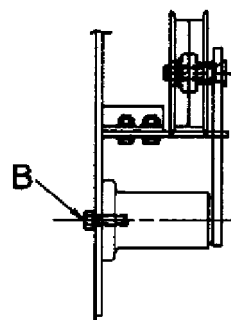
Using a 70 mm (2.76 in.) open-faced wrench, turn housing (E) one mark further on (turning from mark X1 to mark X2 corresponds to 15°).

Tighten cap screw (B) behind the plate of housing (E) to 210 N·m (152 lb-ft).

Adjust stop (A) so that a gap (X) of 2 mm (0.08 in.) is maintained between it and tensioning arm (C).



ZX 004211



ZX004212

- A—Stop
- B—Cap screw
- C—Tensioning arm
- D—Tensioning roller
- E—Housing
- X—Gap of 2 mm (0.08 in.)

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ZX004211

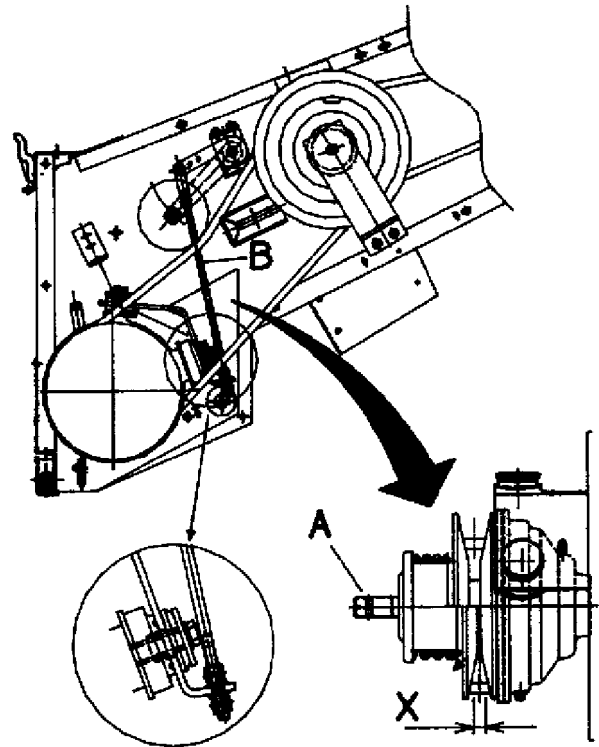
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ZX004212

## ADJUSTING BOTTOM UNIT OF FEEDER HOUSE VARIATOR

**CAUTION:** Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

Run the header drive shaft at the slowest speed.

With the combine stationary and all functions switched off, adjust gap (X) to 3 mm (0.12 in.) by means of tensioning device (B).



ZX004214

ZX,OMXZC0002276-19-05OCT92

ZX004214 -JUN-23OCT00

## ADJUSTING REVERSER SHIFTER FORK AND CONTROL CABLE

Sit in the operator's seat and depress the right side of the reverser pedal.

Raise feeder house and lower safety rail. All adjustments are made under the feeder house.

Remove cotter pin, pin (A) and washer from yoke (B).

Remove pin (C).

**⚠ CAUTION: Bellcrank is spring-loaded and could pinch fingers if released accidentally.**

Pull bellcrank (D) away and hold it firmly.

Using a suitable wrench, loosen lock nuts (E) and (F) on shifter fork (G).

Relax hold on bellcrank (D). Push shifter fork (G) in as far as possible.

Hold shifter fork (G) in firmly and screw down lock nut (F) until spacer (H) is tight against washer (J).

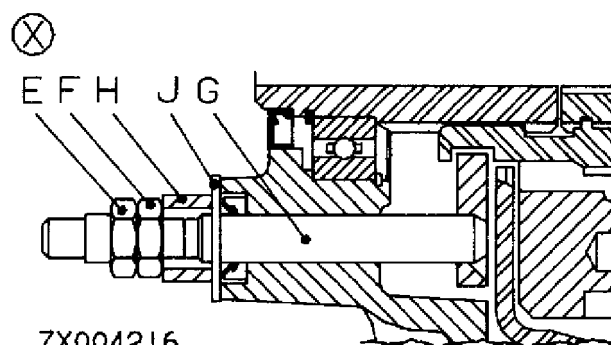
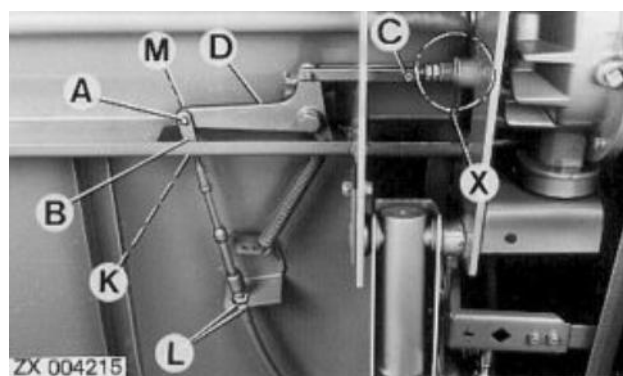
Tighten lock nut (F) further by one complete turn.

Tighten lock nut (E) with the wrench. Be careful not to turn lock nut (F).

Reinsert pin (C) through bellcrank (D) and shifter fork (G).

Use lock nut (K) on yoke or lock nuts (L) to adjust the yoke until the end of the slot furthest from nut (K) is aligned with hole (M) in the arm.

Reinstall pin (A), washer (J) and the cotter pin.



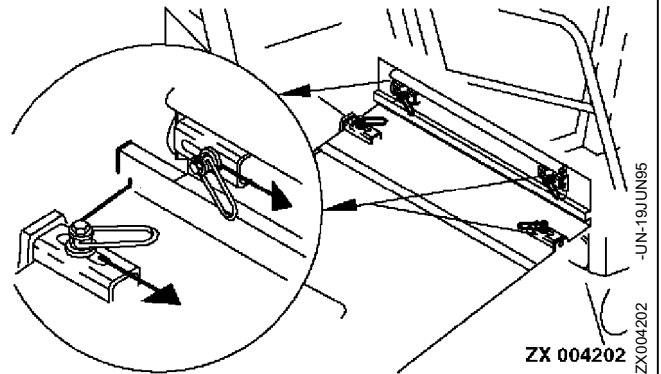
- A—Pin
- B—Yoke
- C—Pin
- D—Bellcrank
- E—Lock nut
- F—Lock nut
- G—Shifter fork
- H—Spacer
- J—Washer
- K—Yoke lock nut
- L—Cable lock nuts
- M—Hole in arm

# Separator and Cleaning Unit

## SERVICE FLAPS

**CAUTION:** Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

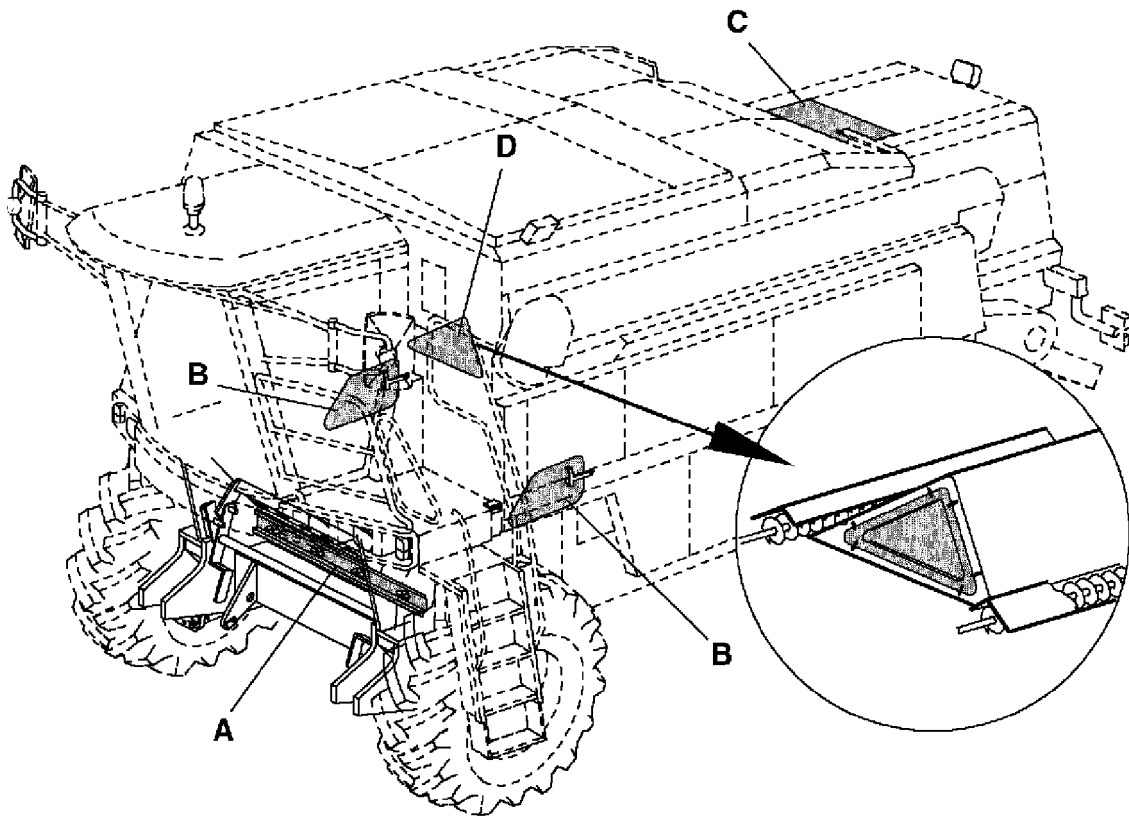
- A—Service flap, upper feeder house shaft
- B—Service flap, separator



ZX 004202

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ZX004202



ZX 004219

- A—Access to grain pan
- B—Access to concave and cylinder (left and right)
- C—Access to cross-shaker and rear straw walkers
- D—Access to curtain

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ZX004219

## OPENING STONE TRAP BOTTOM PLATE

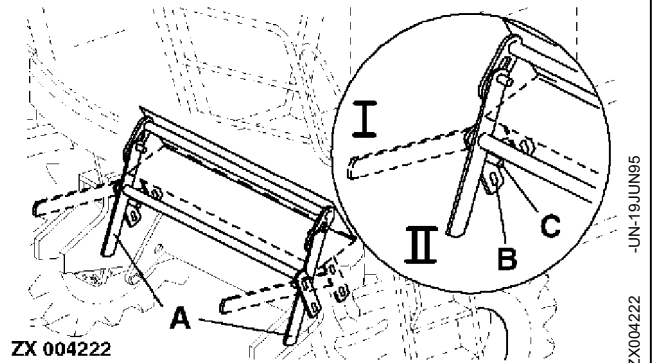
**CAUTION:** Watch for falling stones when bottom plate swings downward.

Remove any stones that have been collected.

Pull lever (A) upward. Access to the lever is from either side. The stone trap opens by itself.

When closing the stone trap, push lever (A) beyond the engagement point as far as stop (B).

The engagement point can be adjusted at slots (C).



- A—Lever
- B—Stop
- C—Slots
- I—Bottom plate closed
- II—Bottom plate open

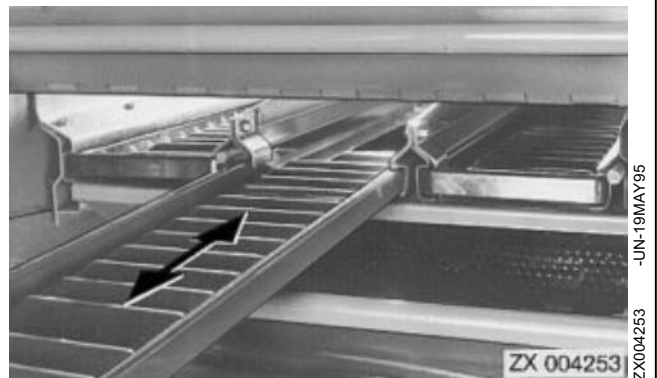
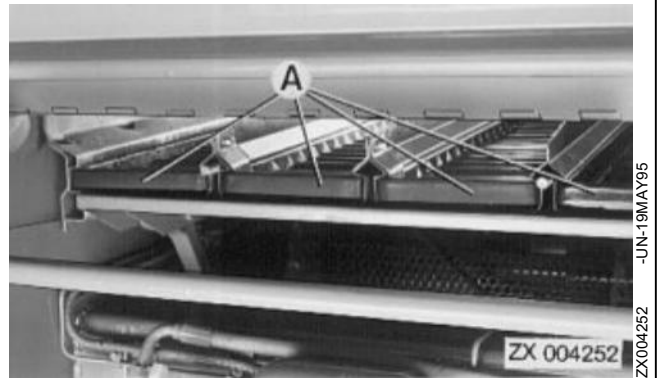
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## GRAIN PAN INSERTS

Open the grain pan cleaning flap, take out inserts (A) and clean them.

**IMPORTANT:** Before reinstalling the inserts, clean the surface of the grain pan thoroughly. On combine harvesters with 5 straw walkers, pay attention to the width of the inserts.

*NOTE: Special inserts are available for harvesting peas.*



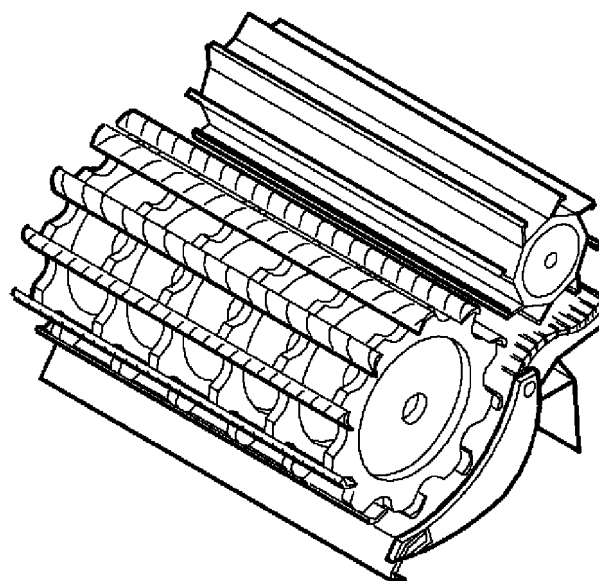
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## CYLINDER RASP BARS

The cylinder is equipped with right-serrated and left-serrated rasp bars, installed alternately. When replacing a rasp bar, replace the corresponding bar on the opposite side as well to maintain proper cylinder balance.

Rasp bars can be replaced without removing the cylinder.

**IMPORTANT:** After the first 10 hours of operating with new rasp bars, retighten the attaching screws to 50 N·m (35 lb-ft).



ZX 004254

ZX004254 -UN-19JUN95

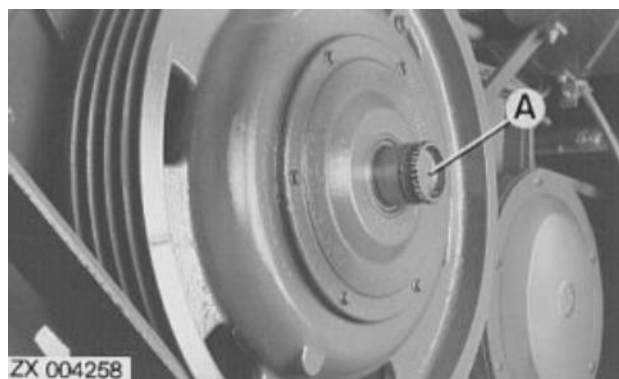
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## CYLINDER DRIVE REDUCTION GEAR (SPECIAL EQUIPMENT)

The cylinder drive reduction gear allows the cylinder speed to be reduced by about half. It is used to harvest corn and sunflowers.

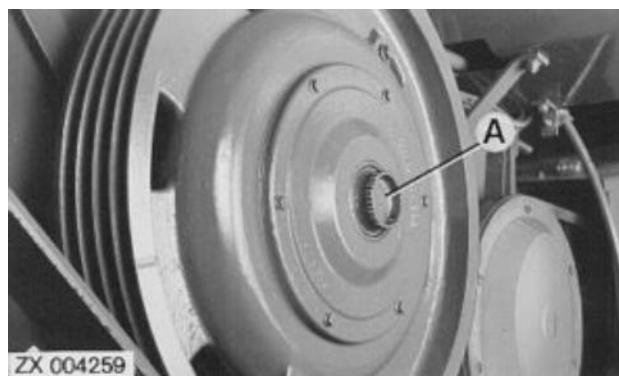
### Speeds:

- Pull out shifter sleeve (A) (reduction gear disengaged) for speeds in the 370—1110 rpm range
- Push in shifter sleeve (A) (reduction gear engaged) for speeds in the 150—440 rpm range.



ZX 004258

ZX004258 -UN-19MAY95



ZX 004259

ZX004259 -UN-19MAY95

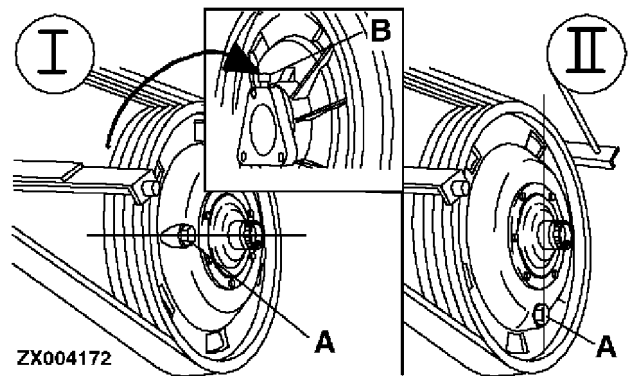
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### CYLINDER DRIVE REDUCTION GEAR

Change oil in cylinder drive reduction gear after the first 100 hours of operation, and thereafter every 1000 hours of operation or after each harvesting season (whichever occurs first). Check oil level after every 200 hours of operation.

- I—Filler neck and check screw
- II—Drain screw
- A—Filler neck, check and drain screw
- B—Bleed fitting



ZX.OMXZC0002284-19-04DEC92

### TURNING CYLINDER (SPECIAL EQUIPMENT)

**CAUTION:** Perform cleaning work only when the machine is stationary.

Open the inspection flaps at the front of the feeder house and cylinder.

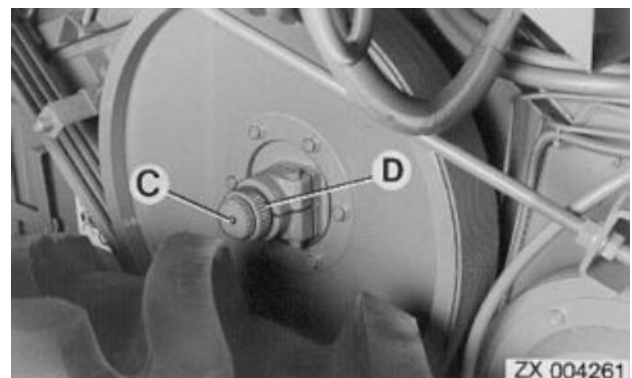
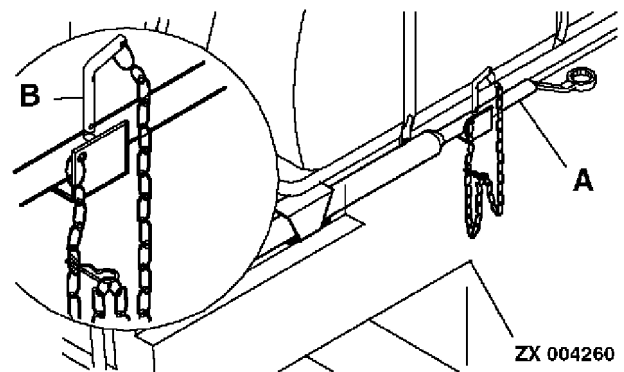
Unfasten retaining pin (B) and take out turning key (A) (located near fuel tank).

Insert turning key (A) onto the cylinder shaft stub (C).

**NOTE:** On combine harvesters without reduction gear, insert adapter (D) onto shaft stub (C). On combine harvesters with reduction gear, turning key (A) fits directly onto shifter sleeve (E).

Turn the cylinder as required.

- A—Turning key
- B—Retaining pin
- C—Shaft stub
- D—Adapter
- E—Shifter sleeve



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## CYLINDER FILLER PLATES

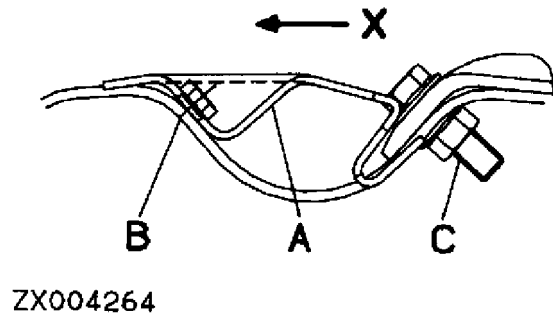
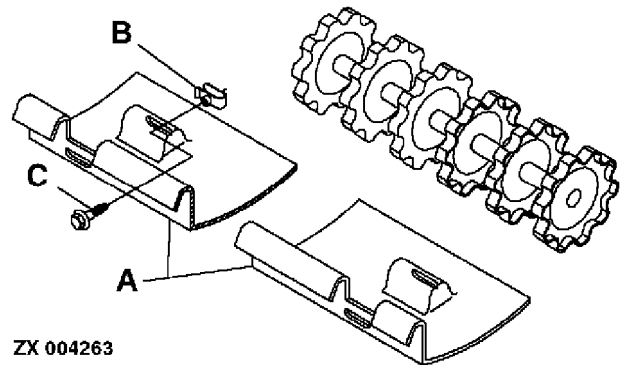
To harvest corn, the cylinder must be fitted with filler plates (A). These prevent cobs from clogging the rasp bars; they also deflect stones into the stone trap.

Tighten screws (C) to 50 N·m (35 lb-ft), and retighten them after the first half hour of operation.

**IMPORTANT:** Make sure the filler plates have been removed before harvesting grain crops.

*NOTE:* Leave clips (B) in place, as they suffer damage in the removal process.

- A—Filler plate
- B—Clip
- C—Cap screw
- X—Direction of rotation



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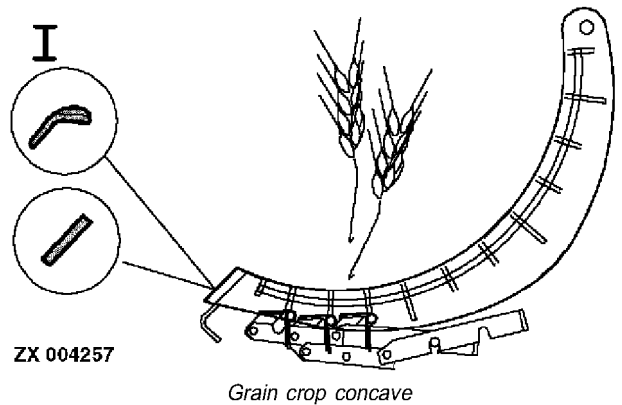
## CONCAVE

Three different concaves are available, providing ideal threshing and cleaning characteristics for every type of crop.

### I. Grain crop concave

Two-position (engaged/disengaged) de-awning plates are integrated into the grain crop concave.

Either a booster bar or a special rasp bar may be installed at the concave inlet.



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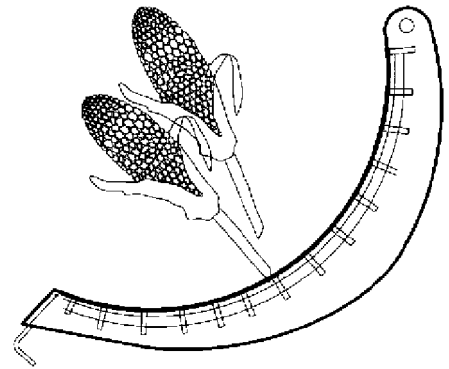
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ZX004257

## II. Corn concave

This concave may also be used for harvesting sunflowers.

II



Corn concave

ZX 004265

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ZX004265 -JUN-23OCT00

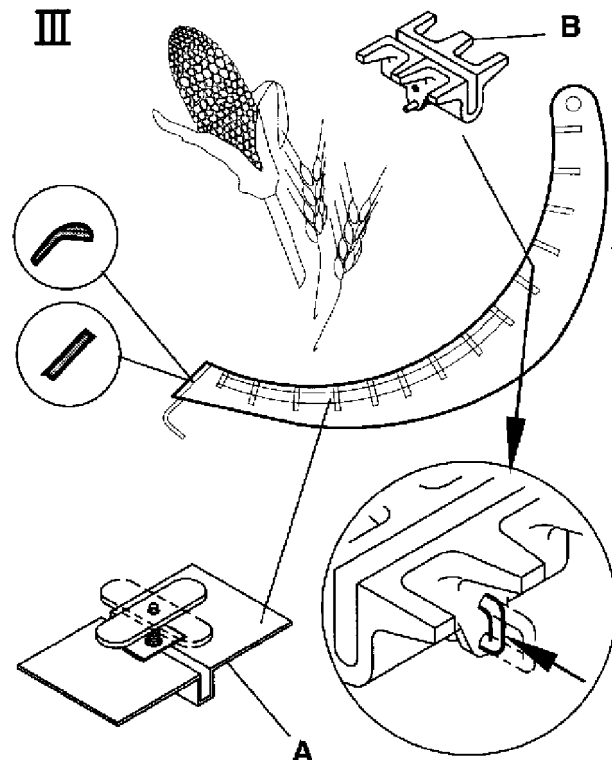
## III. Universal concave

Either a booster bar or a special rasp bar may be installed at the concave inlet.

The front can be equipped with de-awning plates (A).

The rear part of the concave can be shielded by concave inserts (B) for corn harvesting.

III



Universal concave

ZX 004266

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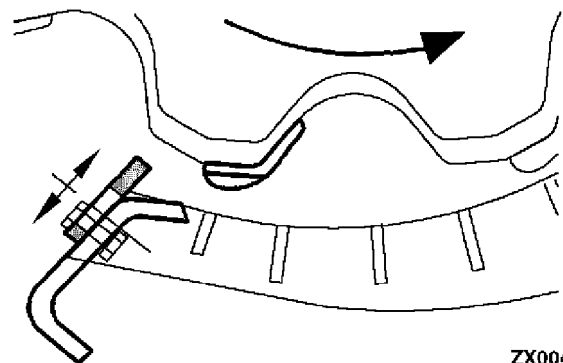
ZX004266 -JUN-23OCT00

## BOOSTER BAR

**! CAUTION:** Perform cleaning work only when the machine is stationary.

If the crop requires aggressive threshing, the booster bar can be moved closer to the drum.

If a gentler threshing is required, the booster bar can be moved back.



ZX004267

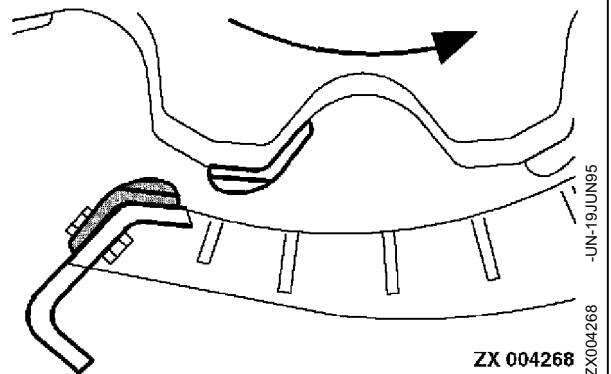
ZX.OMXZC0002290-19-05OCT92

ZX004267 -JUN-19JUN95

### SPECIAL RASP BAR

**CAUTION:** Perform cleaning work only when the machine is stationary.

When dealing with crops that are difficult to thresh, such as durum wheat and certain types of barley, a special rasp bar can help with de-awning.

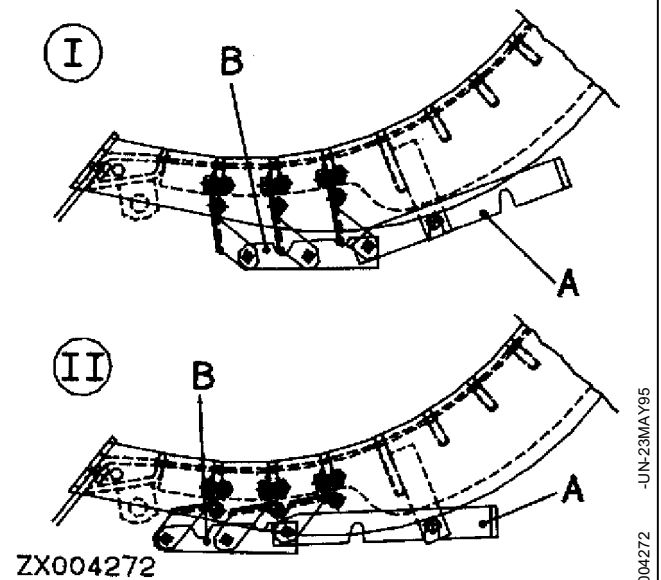
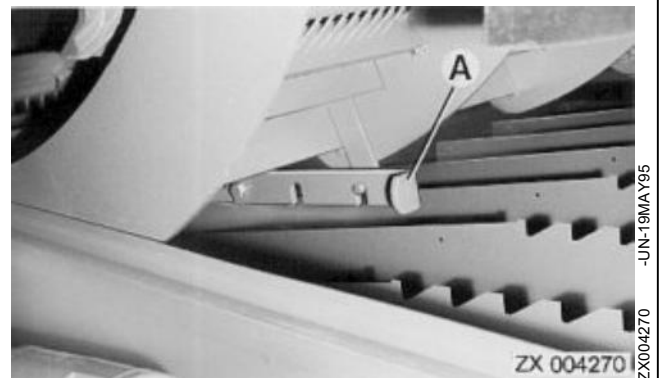


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### DE-AWNING PLATES ON GRAIN CROP CONCAVE

De-awning plates (B) can be moved into operating position or moved back by means of lever (A). The lever is reached through the left service opening on the concave.

- A—Lever
- B—De-awning plates
- I—De-awning plates moved back
- II—De-awning plates in operating position



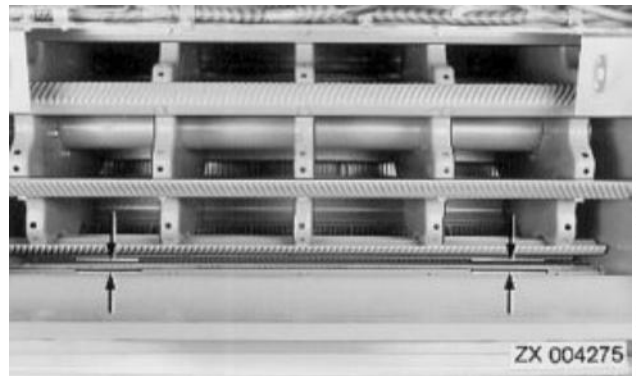
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## CONCAVE SETTINGS

### Horizontal setting

The concave leaves the factory in a horizontal position parallel to the cylinder.

Check the setting at regular intervals, also when fine adjustments have been carried out.



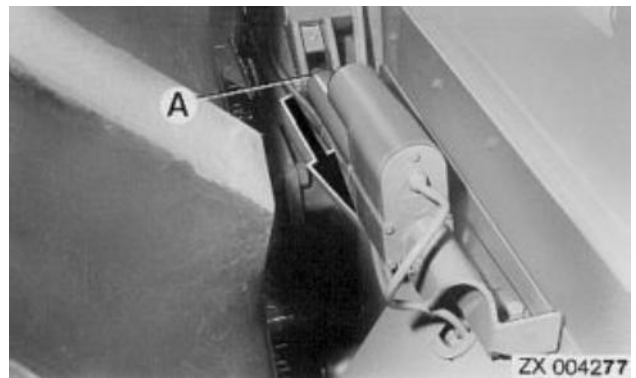
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ZX004275

## CHANGING THE CONCAVE

**IMPORTANT:** Before changing the concave, adjust it to give the minimum clearance (spindle (A) fully retracted).

Once it is removed, do not make any changes to the adjusting motor's spindle, either electrically or manually.

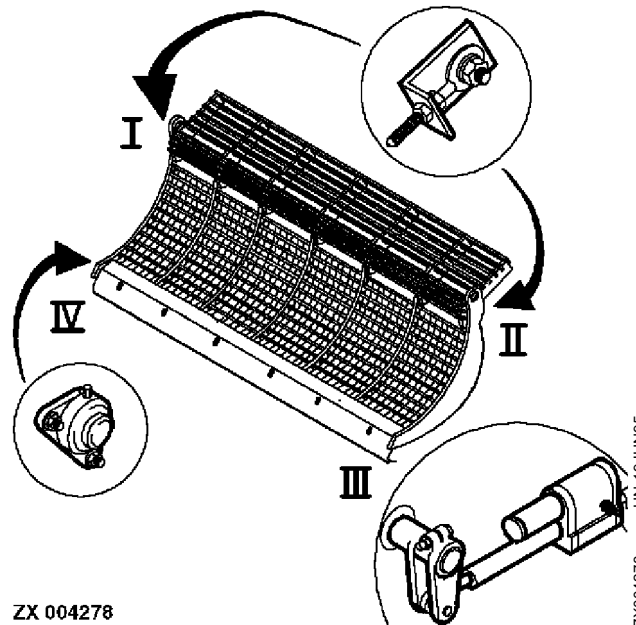


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ZX004277

## ADJUSTMENT POINTS FOR CONCAVE BASIC SETTING

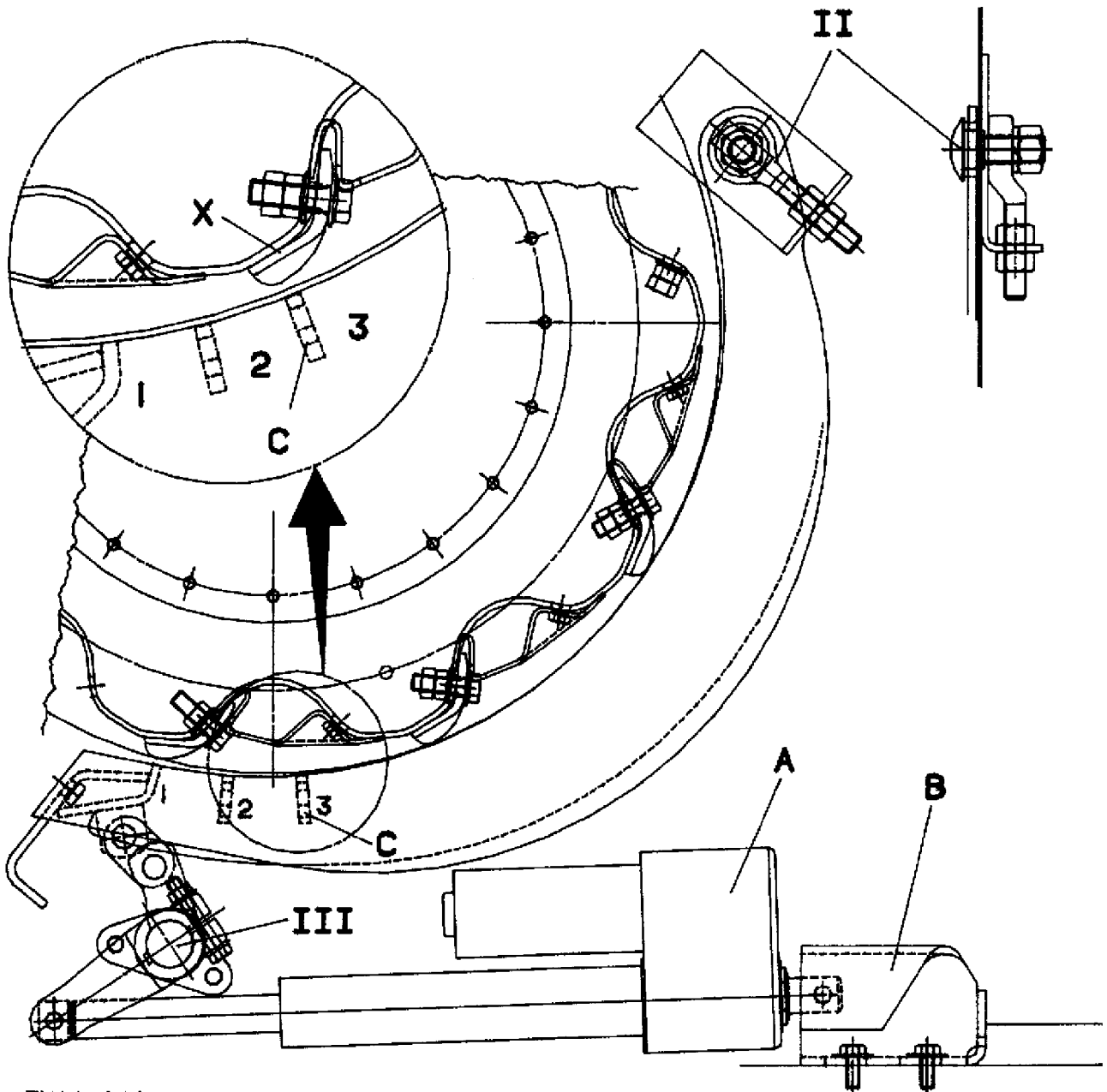
- I—Concave outlet, right
- II—Concave outlet, left
- III—Concave inlet, left
- IV—Concave inlet, right



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ZX004278

CONCAVE BASIC SETTING



ZX00428 I

A—Adjusting motor  
B—Holder

C—3rd rasp bar  
I—Adjusting point, rear right

II—Adjusting point, rear left  
III—Adjusting point, front left

IV—Adjusting point, front right

ZX004281 -JUN-23OCT00

ZX.OMXZC0002296-19-05OCT92

## CONCAVE BASIC SETTING (CONTINUED)

*NOTE: When measuring, select the highest rasp bar at either side. This rasp bar (or these rasp bars) are marked with an "X" punch-mark before leaving the factory.*

Install the concave and attach it at the adjusting points (see above). Attach with the slots in the center position.

Install adjusting motor (A).

At adjusting points I and II, set a gap of 3 mm (0.12 in.) in relation to the last rasp bar.

At adjusting point III, set a gap of 4 mm (0.18 in.) in relation to the 3rd rasp bar (C) by sliding holder (B) on the harvester's frame.

Check the settings at points I, II and III, and correct them if necessary until the proper gaps have been obtained.

At adjusting point IV, set a gap of 4 mm (0.18 in.) in relation to the 3rd rasp bar by sliding the aluminium bearing of the adjusting shaft up or down.

Check that the cylinder is free to rotate along its whole length. Repeat the adjustment if necessary.

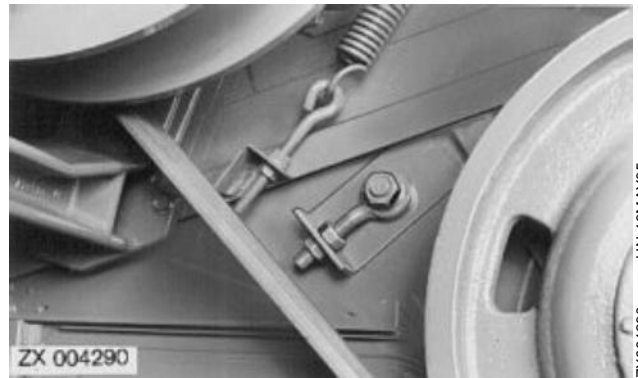
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## CONCAVE ADJUSTMENT

**IMPORTANT:** Concave must always be horizontal and parallel to cylinder. Speed and clearance determine effectiveness of threshing.

*NOTE: Under certain circumstances, it may be a good idea to open the rear of the concave further at the two adjusting screws.*

OPENINGS	FRONT	REAR
MINIMUM NO.	4	3
MAXIMUM NO.	50	32

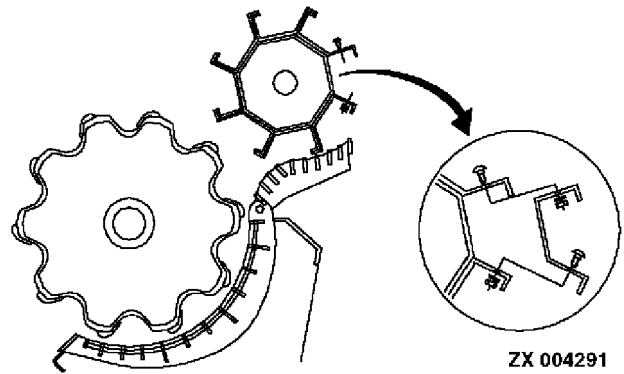


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## SECOND CYLINDER

To facilitate maintenance work, it is possible to remove the bolt-on element of the drum as one complete unit.

**IMPORTANT:** To avoid imbalance, use genuine screws only.



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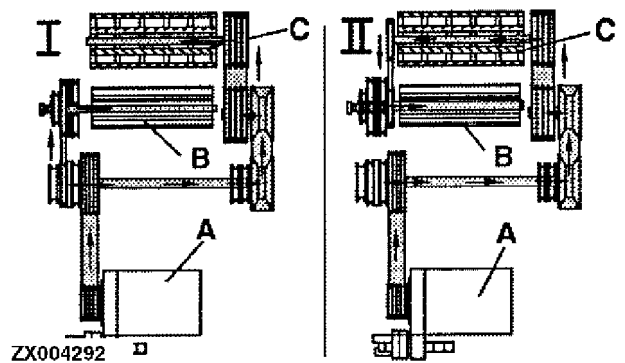
ZX004291 -UN-19JUN95

## POSSIBLE DRIVE SPEEDS FOR SECOND CYLINDER

I — Constant speed of 850 rpm

II — Single-speed relationship drive: the speed of the second cylinder is the same as that of the first cylinder (e.g. for harvesting peas).

A—Motor  
B—Second cylinder  
C—First cylinder



ZX004292

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ZX004292 -UN-19JUN95

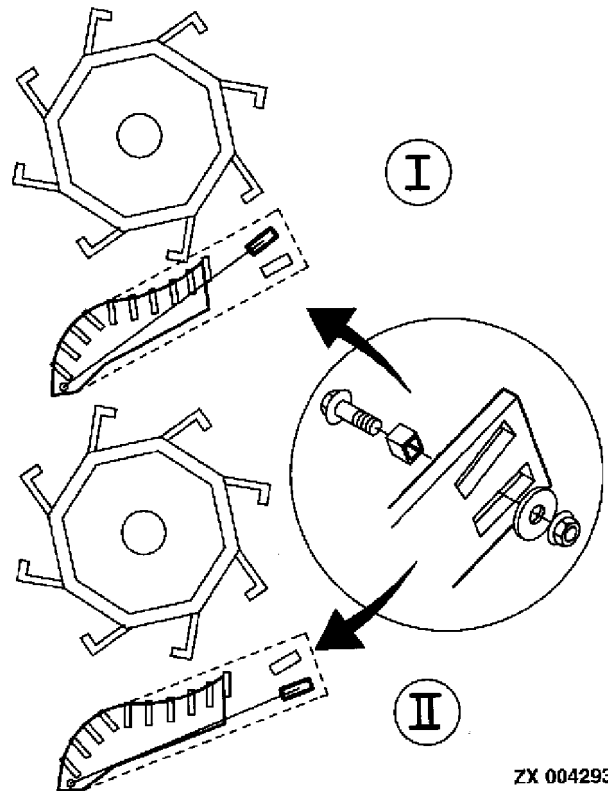
## SECOND CONCAVE

The gap to the cylinder can be adjusted to provide the most efficient throughput of material in relation to the harvesting conditions.

Moving the concave closer to the cylinder provides a higher degree of separation for crops that are hard to thresh.

If the concave is moved away from the cylinder, the crop material is threshed more gently.

I—Setting for grain crops  
II—Setting for corn



ZX 004293

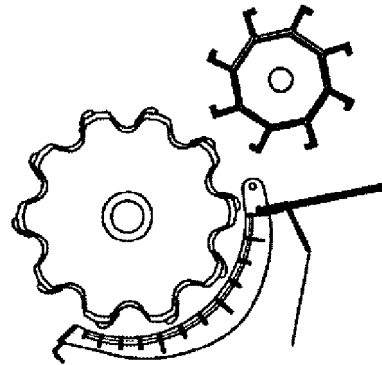
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ZX004293 -UN-23OCT00



## FINGER RAKE

For very dry, ripe grain crops, provided no further separation is required.



ZX004294

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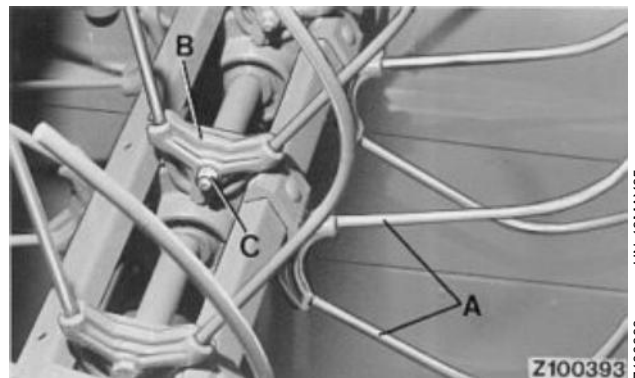
-UN-19JUN95  
ZX004294

## CROSS-SHAKER TINES

Check spring tines periodically for signs of wear. To replace a double spring tine (A), remove cast iron retainer (B).

**IMPORTANT:** After the first few hours of operation, tighten hex. nuts (C) of connecting bolts to 65 N·m (47 lb-ft).

- A—Double spring tine
- B—Retainer
- C—Hex. nut

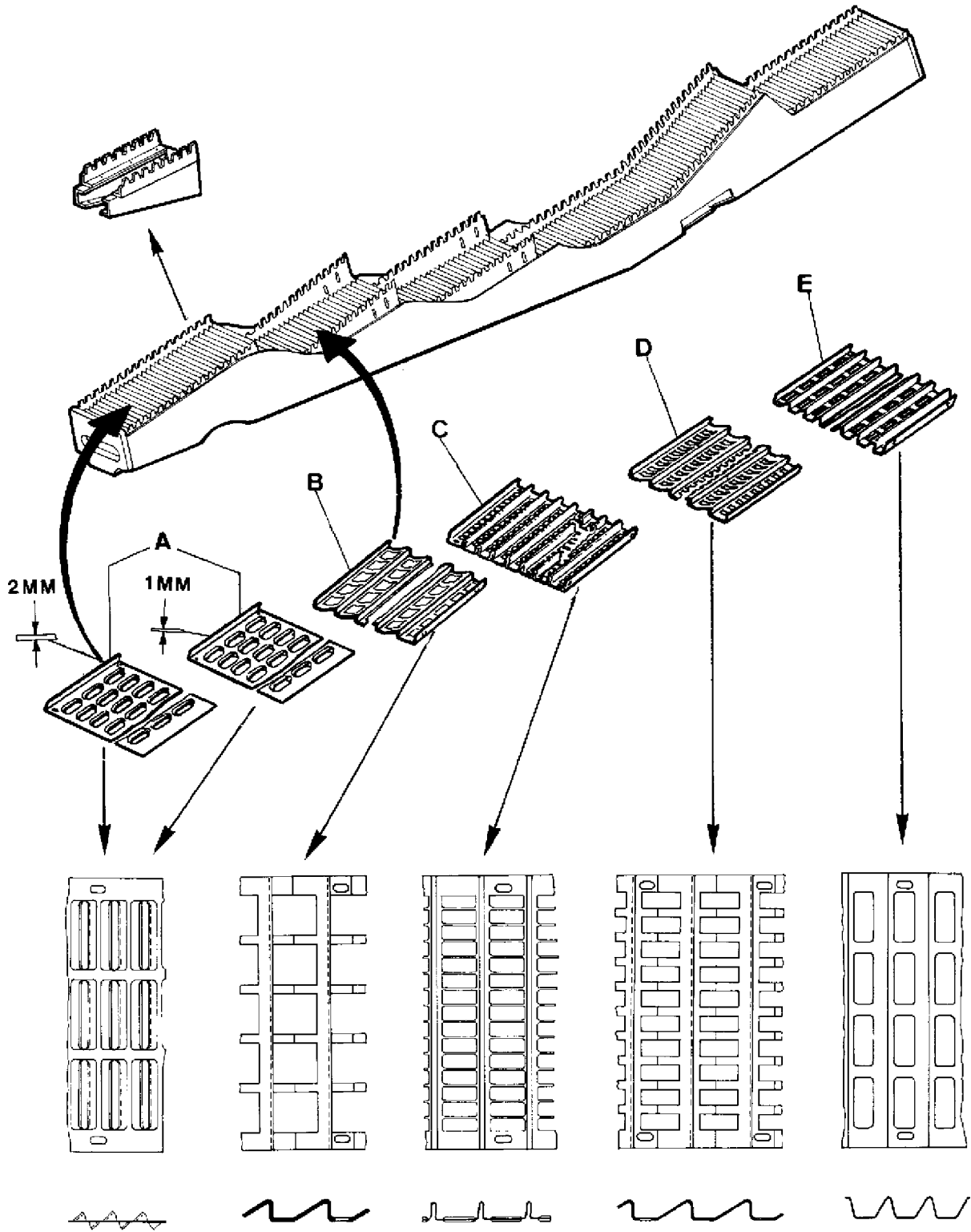


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Z100393

### STRAW WALKERS



ZX 004 295

ZX.OMXZC0002304-19-05OCT92

### STRAW WALKERS (CONTINUED)

*NOTE: If straw walker grids are used, they must be fitted in the order in which they are listed here.*

A — Lip-type grid

*NOTE: The 2 mm-thick lip-type grid is always fitted in the front position at the factory.*

B — Corn/cob mix (CCM) (Graepel-type)

*NOTE: Install behind the first steep step only.*

C — Rice, sunflowers, grain crops

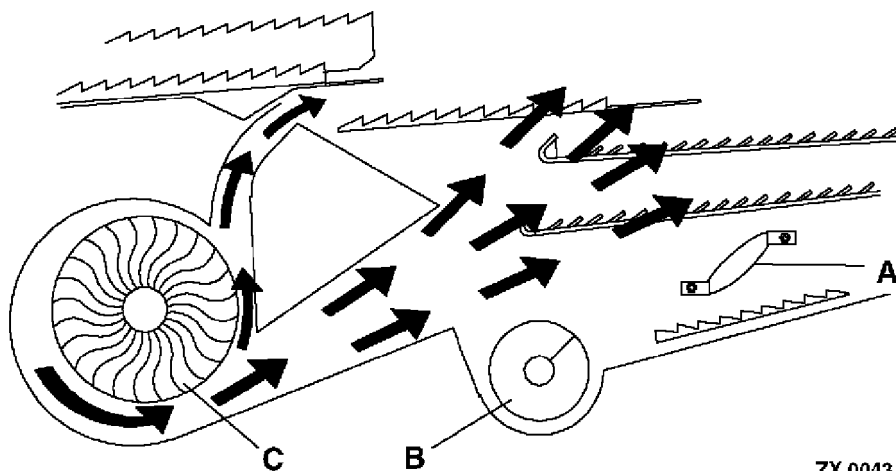
D — Corn, grain crops

E — Grain crops, rice

For service intervals, see lubricating chart in the "Lubricating Chart and Periodic Service" section.

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### FAN AND WINDBOARD



A—Windboard

B—Clean grain auger

C—Fan

ZX 004313

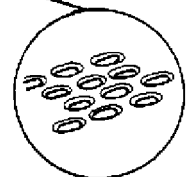
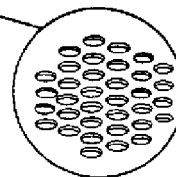
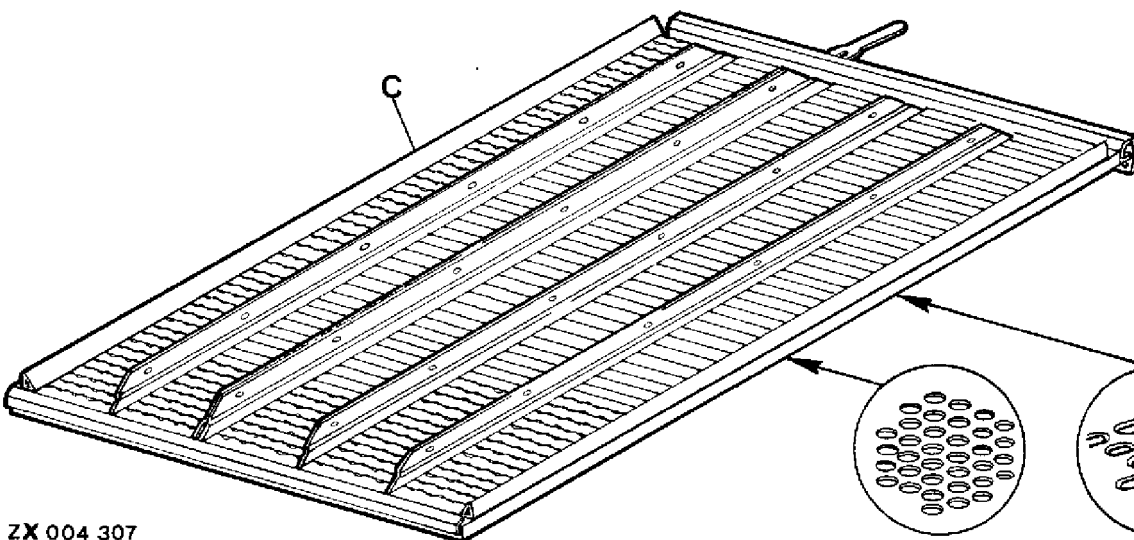
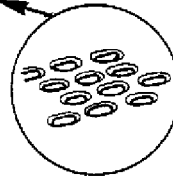
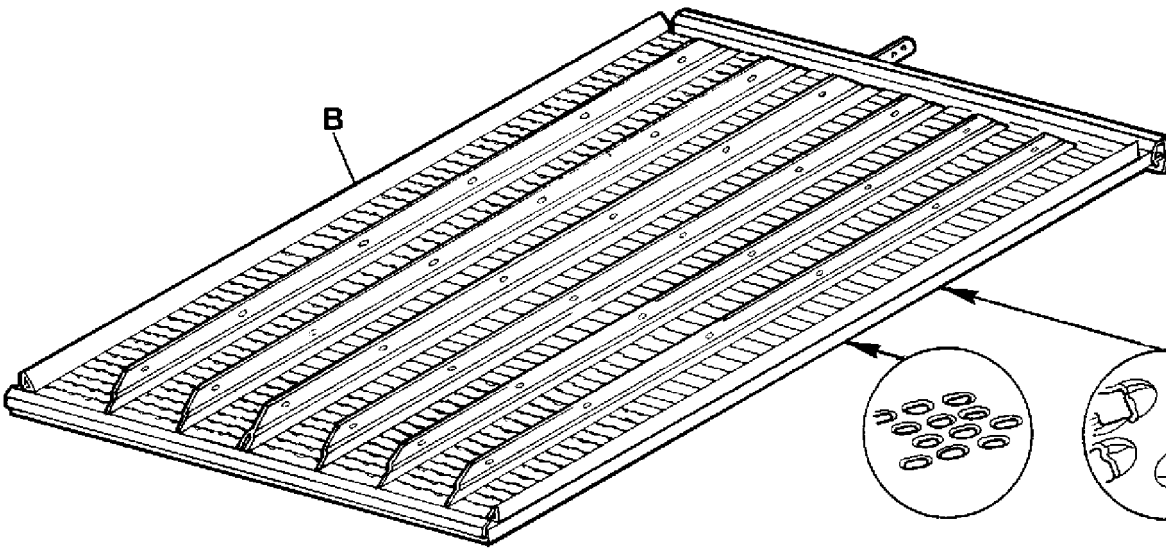
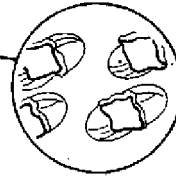
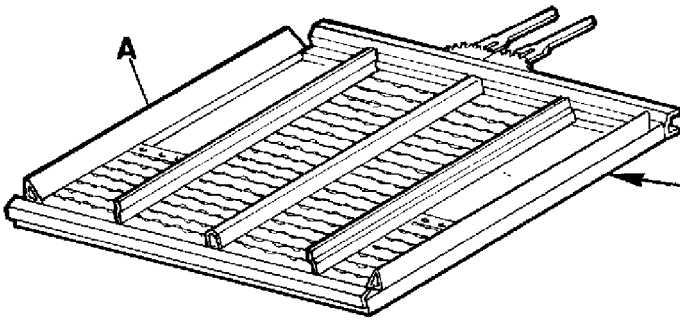
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ZX004313

When threshing corn/cob mix (CCM) at a very high throughput, it may be necessary to remove windboard (A).

**IMPORTANT: Remember to reinstall windboard (A) when harvesting grain crops.**

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SIEVES



ZX 004 307

ZX.OMXZC0002314-19-05OCT92

ZX004307 -UN-22MAY95

## SIEVES (CONTINUED)

### Variants available for each sieve

#### A — Chaffer extension

- Adjustable sieve
- Graepel-type sieve

#### B — Chaffer

- Adjustable sieve
- Graepel-type sieve
- Slotted sieve, 15 x 25 mm (0.59 in. x 0.98 in.)

#### C — Grain sieve

- Adjustable sieve
- Slotted sieves:
  - 4.5 x 25 mm (0.18 in. x 0.98 in.)
  - 15 x 25 mm (0.59 in. x 0.98 in.)
- Round-hole sieves:
  - 4 mm (0.16 in.)
  - 8 mm (0.32 in.)
  - 13.5 mm (0.53 in.)
  - 15 mm (0.59 in.)
  - 17 mm (0.67 in.)

ZX,OMXZC0002315-19-05OCT92

## SIEVE

When harvesting certain crops under certain conditions, it is a good idea to use round-hole sieves.

ZX,OMXZC0002340-19-05OCT92

## CHAFFER

When harvesting corn under wet conditions, use a slotted chaffer instead of a lip-type one.

In dry conditions, a Graepel-type chaffer has a higher sieve capacity than both the lip-type and slotted chaffers.

When harvesting corn/cob mix (CCM), use a Graepel-type chaffer rather than an adjustable one.

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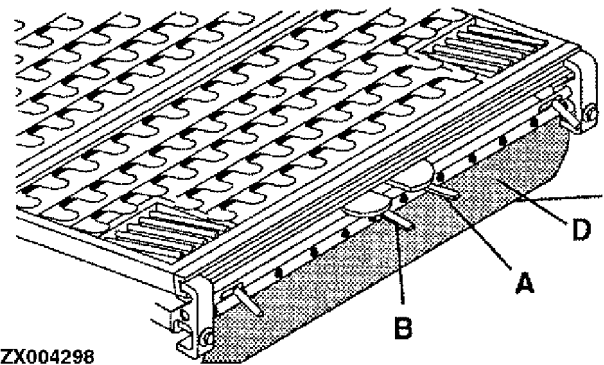
## CHAFFER AND SIEVE ADJUSTMENT

To adjust the sieves, harvesters with 5 straw walkers are equipped with one adjusting lever, while harvesters with 6 straw walkers have two adjusting levers.

Adjust sieve openings as required. See "Combine Settings" in "Preparations and Field Operation" section.

To gain access to adjusting lever (C), open rubber tailboard (D).

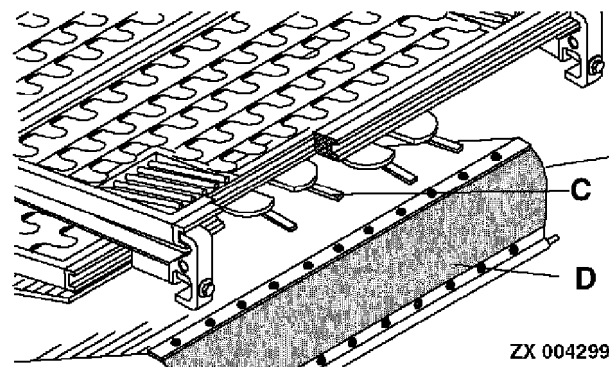
- A—Chaffer extension adjusting lever
- B—Chaffer adjusting lever
- C—Chaffer adjusting lever
- D—Rubber tailboard



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ZX 004299

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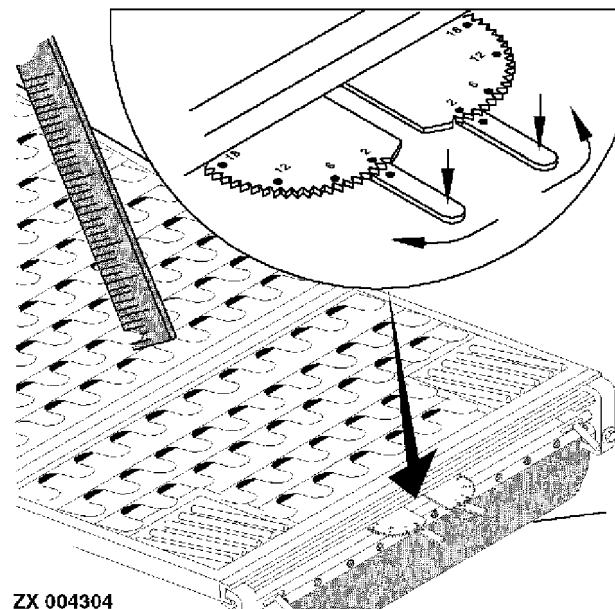
ZX004299

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## SIEVE ADJUSTMENT

Push the lever down a little and make the adjustment.

Even when the punch-marks are level with each other, the engraved figures do not provide accurate information. They are intended merely as a help in making adjustments. Check the setting with a feeler gauge, folding rule or similar instrument.



ZX 004304

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## ADJUSTING CHAFFER EXTENSION

Under certain harvesting conditions, it is necessary to improve the material flow by setting the chaffer extension at a flatter angle.

Open rubber tailboard (A) (two on harvesters with 6 straw walkers).

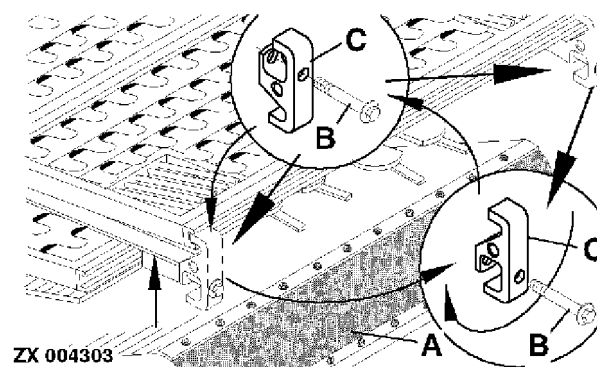
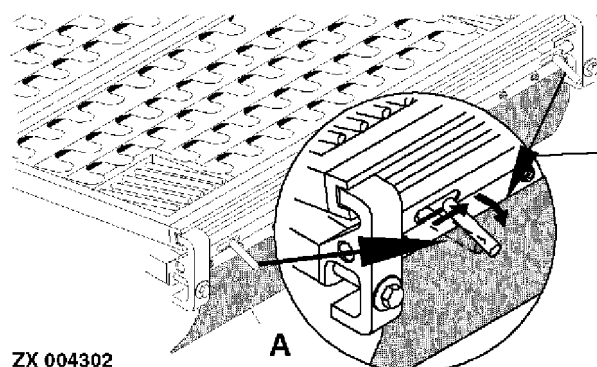
Clean the surfaces of the chaffer extension thoroughly.

Remove screws (B) and clamps (C) at both sides.

The chaffer extension is in the lower position when it is lying on top of the cleaning shoe.

Turn clamps (C) through 180° and lock them with screws (B).

Close rubber tailboard(s) (A).



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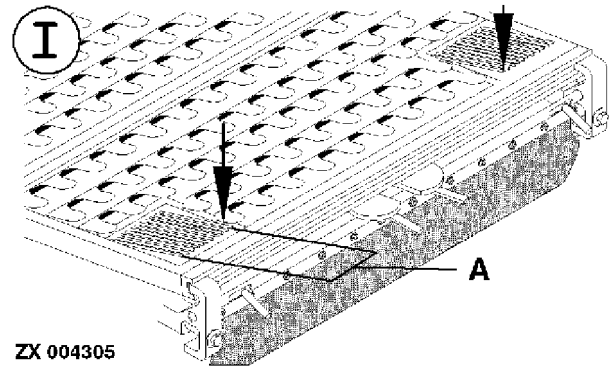
### CHAFFER EXTENSION INSERTS (SLOPE MASTER)

When the harvester is operating on a slope, special inserts at the left-hand and right-hand sides of the chaffer extension collect the grain rolling across the separator and return these via the tailings elevator.

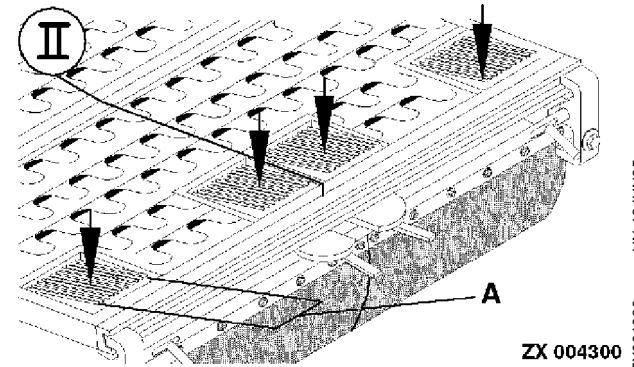
Vary the openings in the inserts to suit the harvesting conditions, type of crop and angle of harvester tilt by adding or removing fingers (A) after loosening wing nut (B).

**NOTE:** The harvester is delivered from the factory with 11 fingers installed in the chaffer extension.

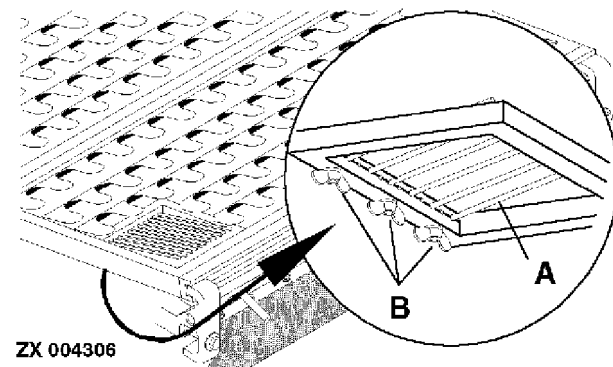
- A—Fingers
- B—Wing nuts
- I—Harvesters with 5 straw walkers
- II—Harvesters with 6 straw walkers



Harvesters with 5 straw walkers



Harvesters with 6 straw walkers



ZX 004306

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ZX004306



### REMOVING CHAFFER EXTENSION

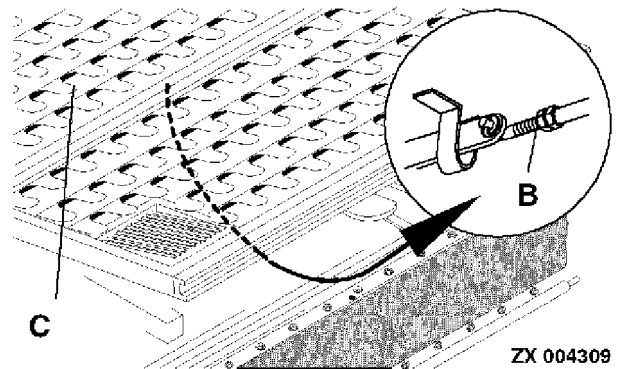
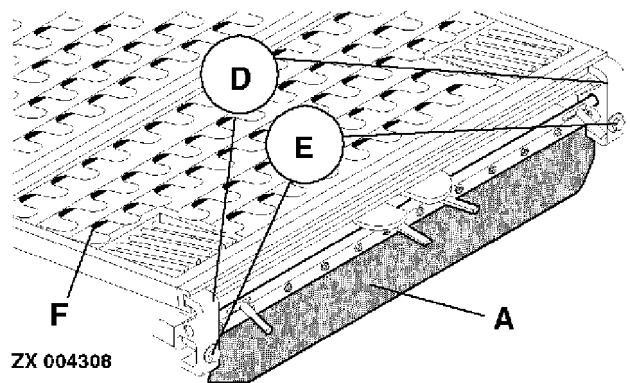
Unlock rubber tailboard (A) and fold it down.

Disengage linkage (B) from chaffer (C).

Remove clamps (D) and screws (E).

Pull out chaffer extension (F).

- A—Rubber tailboard
- B—Linkage
- C—Chaffer
- D—Clamps
- E—Screws
- F—Chaffer extension



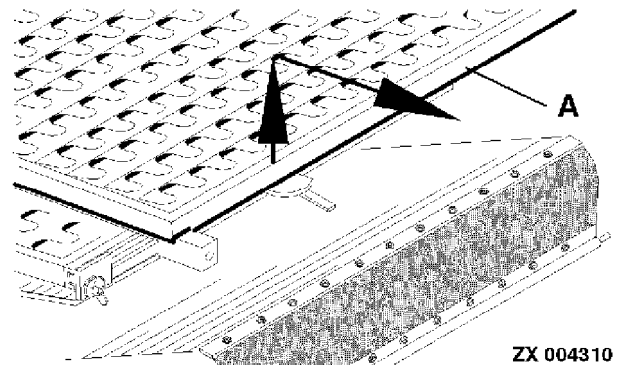
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### REMOVING CHAFFER

Raise chaffer (A) and pull it to the rear out of the harvester.

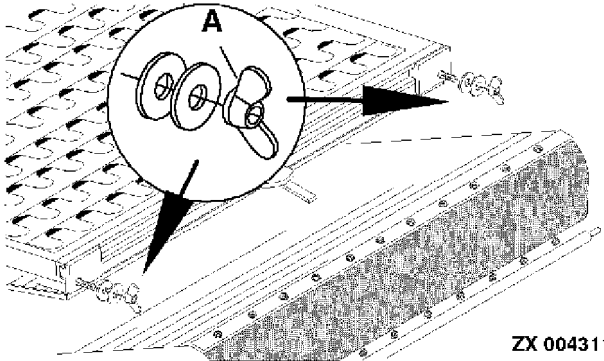


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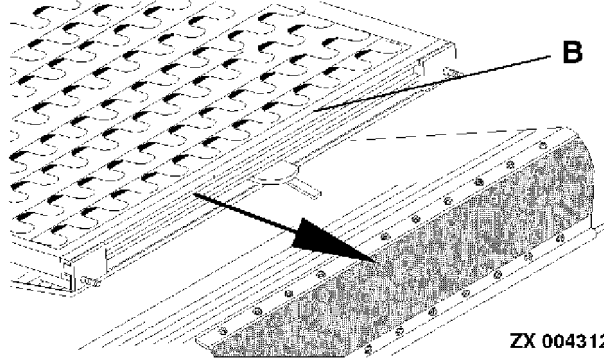
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**REMOVING SIEVE**

Unscrew wing nuts (A).  
Pull sieve (B) out to the rear.



ZX004311 -JUN-19/JUN95



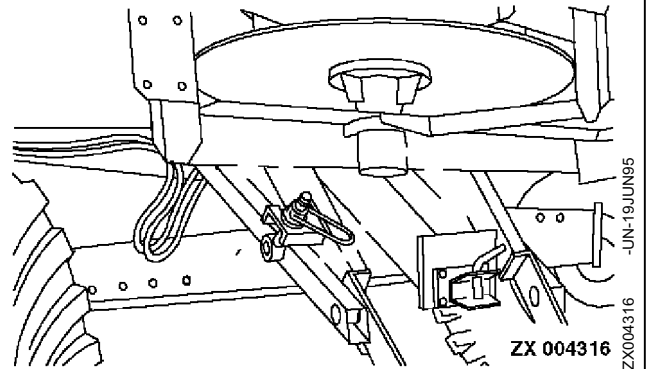
ZX004312 -JUN-19/JUN95

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# Chaff Spreader and Straw Chopper

## CHAFF SPREADER (SPECIAL EQUIPMENT)

The chaff spreader is recommended for crop types that result in a great deal of chaff (e.g. grain crops and soya beans). A chaff spreader is not recommended for harvesting corn.

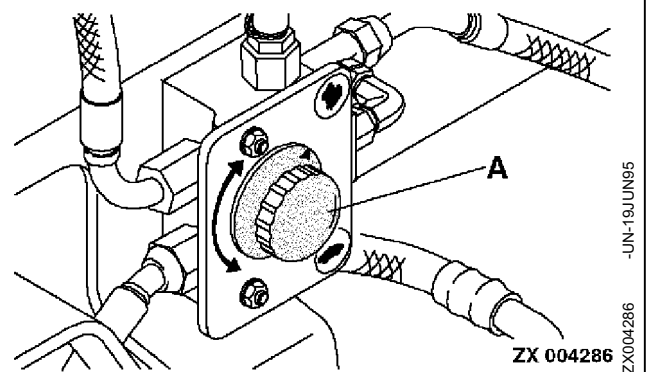


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## OPERATING THE CHAFF SPREADER

To operate the chaff spreader, turn button (A) to the right. Select a speed that allows the chaff to be spread as wide as the width of the header.

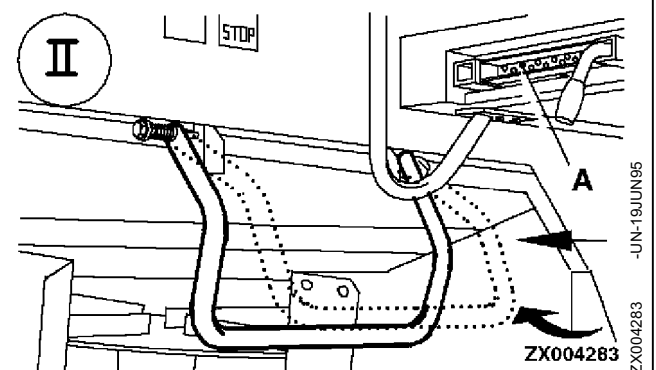
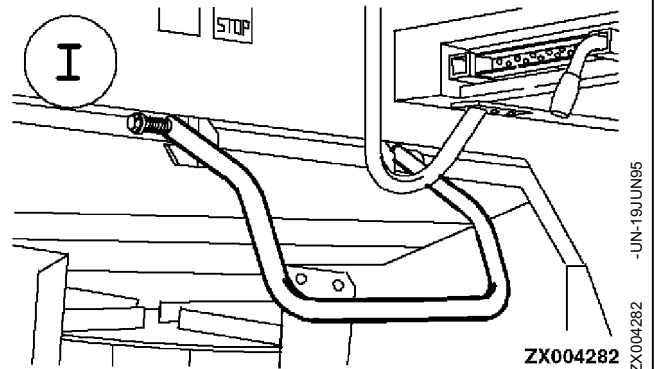
Check the area under the twin disks every day for accumulated waste, and clean as often as required.



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## GUARD RAIL

- I—Position of guard rail when chaff spreader is operating
- II—Guard rail position, chaff spreader not operating and to pull out ladder (A)

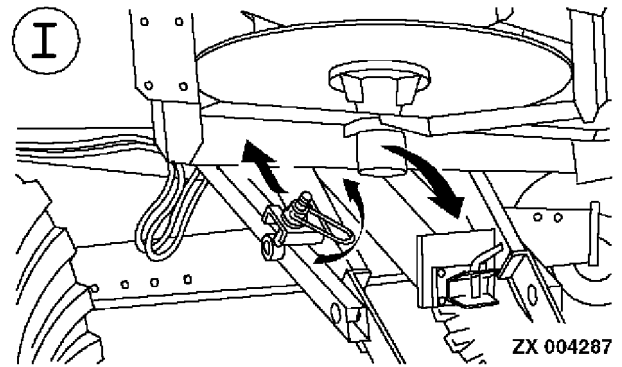


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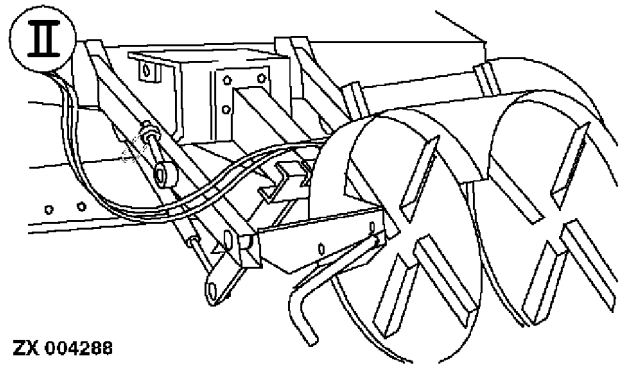
## FOLDING DOWN THE CHAFF SPREADER

To fold down chaff spreader, unfasten lock (A) and pull the chaff spreader down. Gas-filled dampers facilitate folding, allowing the sieves to be cleaned more easily.

- I—Chaff spreader in operating position
- II—Chaff spreader folded to allow sieves to be cleaned



Operating position



Folded

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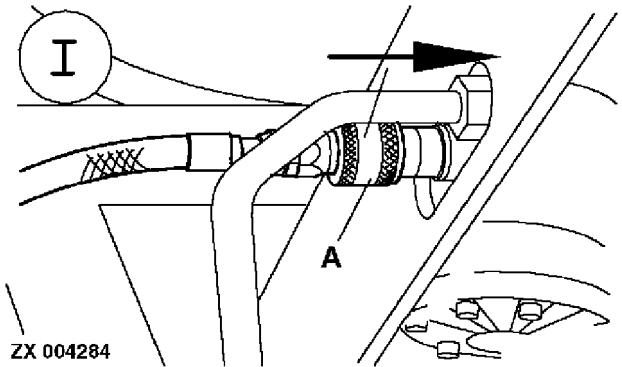
## HYDRAULIC CONNECTIONS

To disconnect the quick-couplers, pull the collar ring at pressure hose (A) to the rear, and pull the collar ring on return hose (B) to the front.

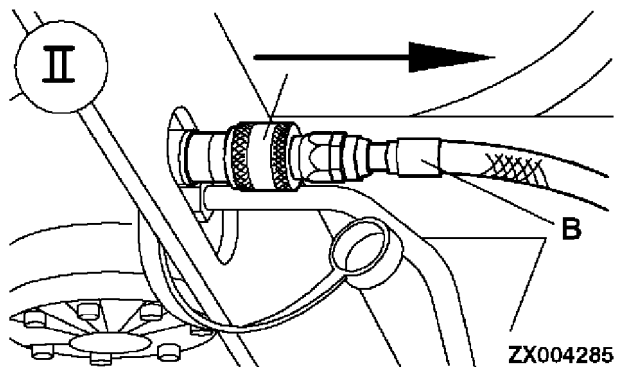
Insert the two ends of the hydraulic hoses together. This makes the chaff spreader inoperative.

Use the protective caps to prevent dirt from getting into the openings.

- I—Pressure connection
- II—Return connection
- A—Pressure hose
- B—Return hose



Pressure connection



Return connection

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## STRAW CHOPPER (SPECIAL EQUIPMENT)

**CAUTION:** Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

Never let anyone stand behind the straw chopper while it is running — it is **DANGEROUS** to do so!



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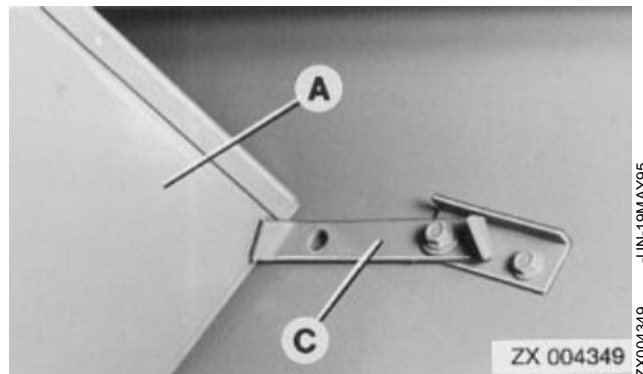
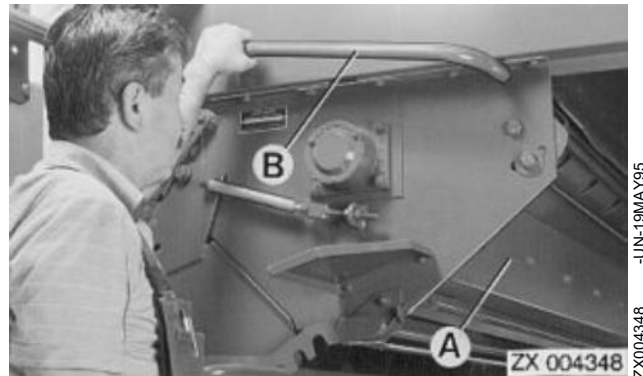
## SWITCHING STRAW CHOPPER ON AND OFF

**CAUTION:** Before switching the straw chopper on or off, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

Before switching on, fold deflector sheet (A) in the straw hood to the front by actuating lever (B).

Before switching off, fold deflector sheet (A) to the rear by actuating lever (B).

**NOTE:** When straw accumulates in the straw walker compartment, fold deflector sheet (A) all the way forward and remove the straw. To do this, slide stop (C) up at both sides.



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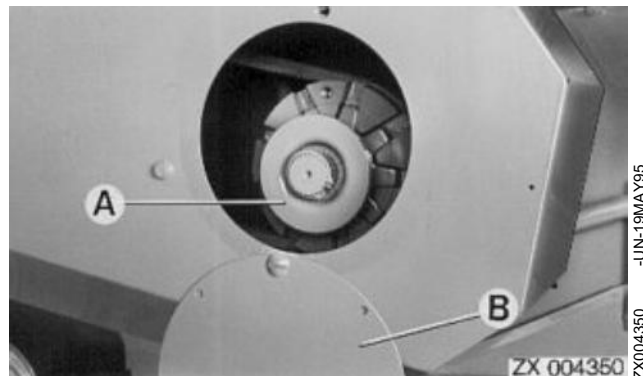
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ZX004348  
ZX004349

**CAUTION:** Before switching the straw chopper on or off, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

To switch on straw chopper, engage dog clutch (A).

To switch off straw chopper, disengage dog clutch (A).

Then close opening with cover (B).



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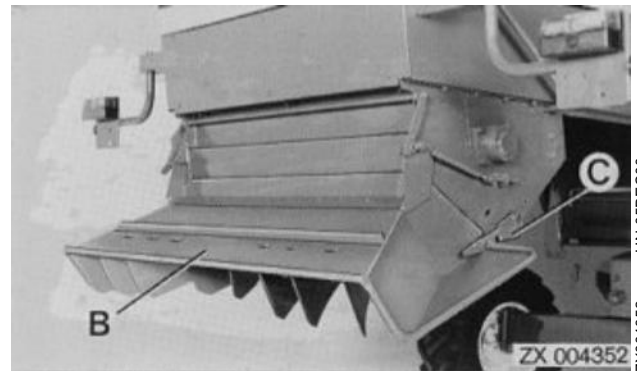
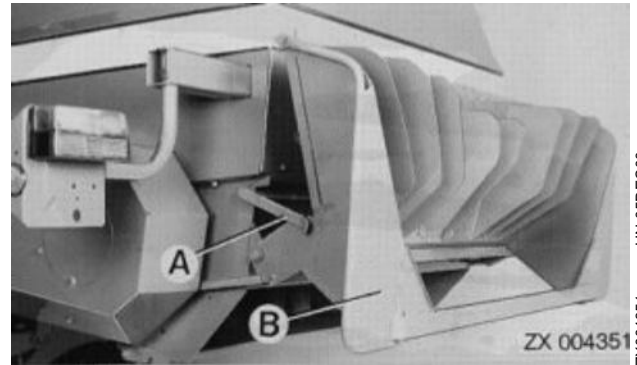
## FOLDING OUT THE STRAW DISTRIBUTOR BOX

Push up locking lever (A).

Fold down straw distributor box (B) and lock it at latch (C).

To fold up straw distributor box, disengage latch (C).

Push straw distributor box (B) up until locking lever (A) engages.

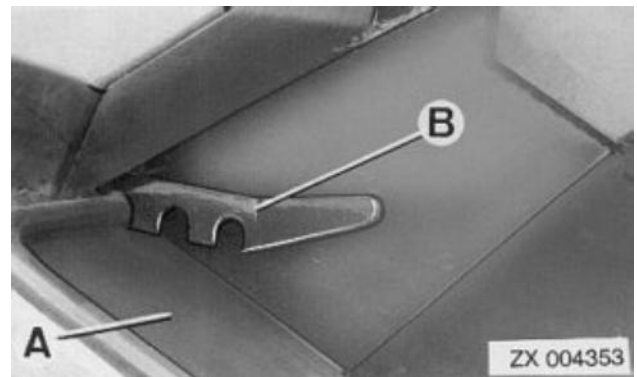


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## ADJUSTING STRAW DISTRIBUTOR BOX

Straw distributor box (A) can be set to any of three positions by means of detent lever (B).

Straw distributor box (A) is set higher to spread the straw wider. At a high setting, less chopped material is blown into the stubble.



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## DRIVING ON PUBLIC ROADS

**CAUTION:** It is forbidden to drive on public roads with the straw chopper switched on.

According to German road traffic regulations, for example, the straw distributor must be folded right down and be engaged in the front position.

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## ADJUSTING STRAW DEFLECTORS

Three different versions are available for adjusting the straw deflectors:

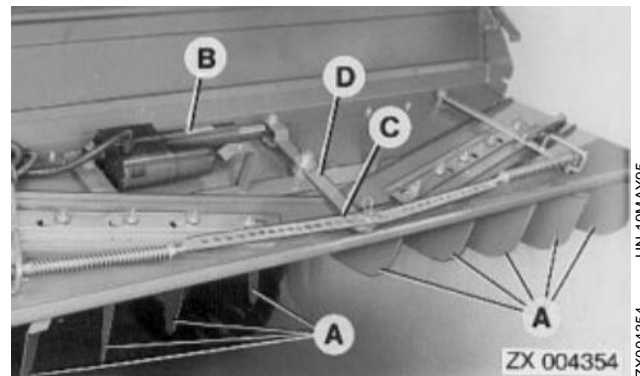
- Electrical adjustment, centrally
- Mechanical adjustment, centrally
- Separate adjustment at each deflector

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### ELECTRICAL ADJUSTMENT, CENTRALLY

Straw deflectors (A) are adjusted centrally by means of electric motor (B). The adjustment is made from the operator's cab.

If the moisture of the straw changes, the spreading width can be changed quickly by pulling slotted strips (C) at motor adjusting lever (D). Push slotted strips (C) outward for a wider spread, or inward for a narrower spread.

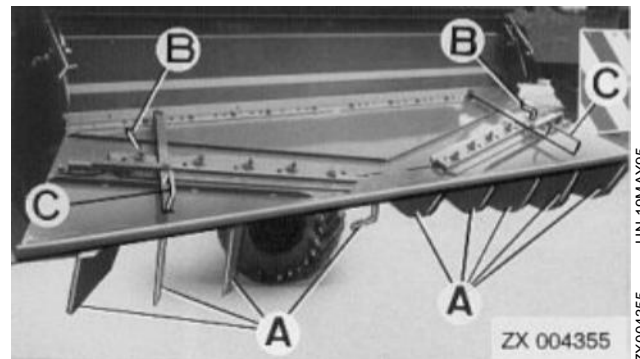


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### MECHANICAL ADJUSTMENT, CENTRALLY

Straw deflectors (A) are adjusted simultaneously by slackening off toggle nuts (B) and actuating the lever (C).

If the wind is blowing from the side, set deflectors (A) against the wind to prevent the standing crop from becoming covered with chopped material. This setting can be retained if the harvester drives around the field in a circle and not up and down its length.

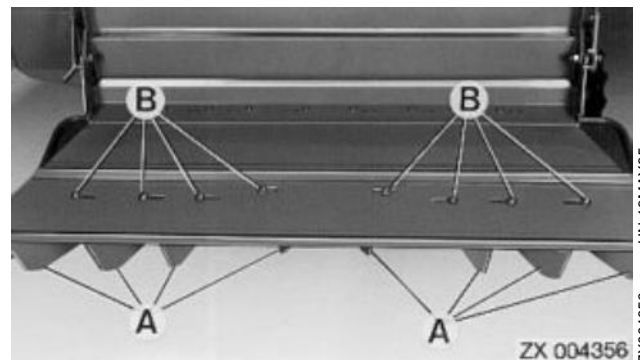


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### SEPARATE ADJUSTMENT OF EACH DEFLECTOR

Each straw deflector (A) can be adjusted individually. First slacken off nut (B).

The closer the top of deflectors (A) are to the middle, and the further apart they are at the bottom, the wider the spread of chopped material.



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## ADJUSTING COUNTER-KNIVES

The length of the chopped material can be modified by pivoting the counter-knives to a different angle.

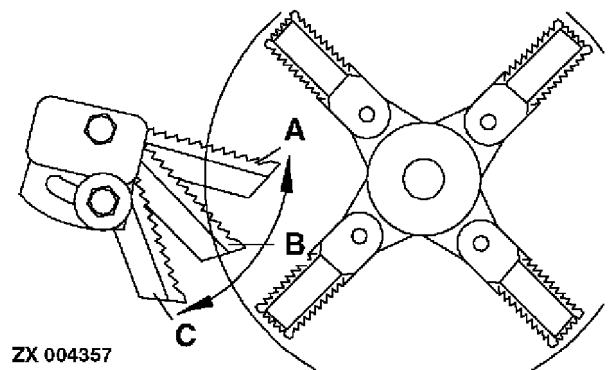
Recommended counter-knife positions:

A — Counter-knives flat for dry straw

B — Counter-knives at slight angle for damp straw and weeds

C — Counter-knives at extreme angle for rape and pea straw

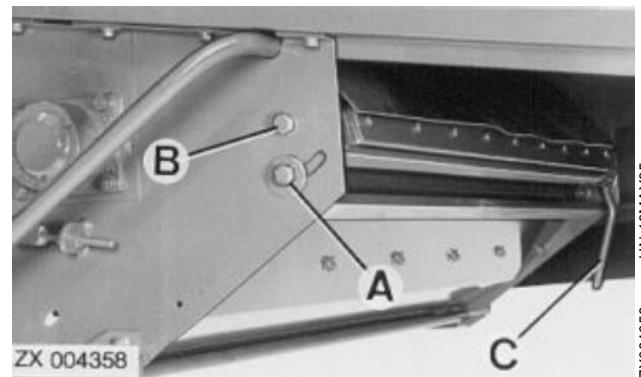
*NOTE: When chopping with serrated knives, pivot the counter-knives slightly to prevent straw deposits from building up on the knives.*



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To adjust the counter-knives, slacken off screws (A) and (B) at both sides.

Adjust the angle of the counter-knives at lever (C).



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## CHOPPING CORN AND SUNFLOWERS

**IMPORTANT:** To chop corn straw and sunflower stems, it is necessary to install a conversion kit that reduces the speed to 2720 rpm. All the counter-knives must be removed, but the counter-knife box must remain installed.

If cross-strips are fitted, they must be removed.

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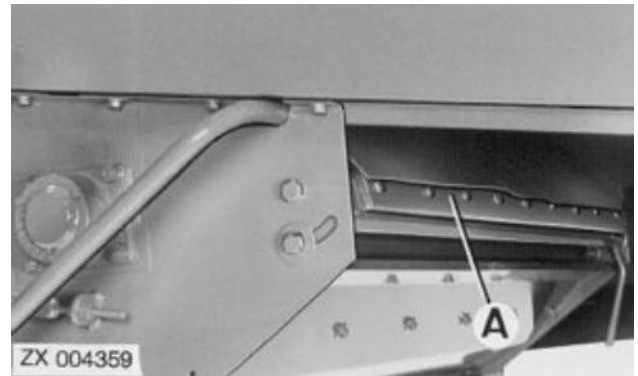


## REMOVING COUNTER-KNIVES

Unbolt the cover strip (A).

Pull out the counter-knives one by one.

Bolt cover strip (A) back in place.



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## SPLITTING AND CHOPPING (OPTIONAL EQUIPMENT)

**CAUTION:** It is vitally important to remove the cross-strips before harvesting corn or sunflowers.

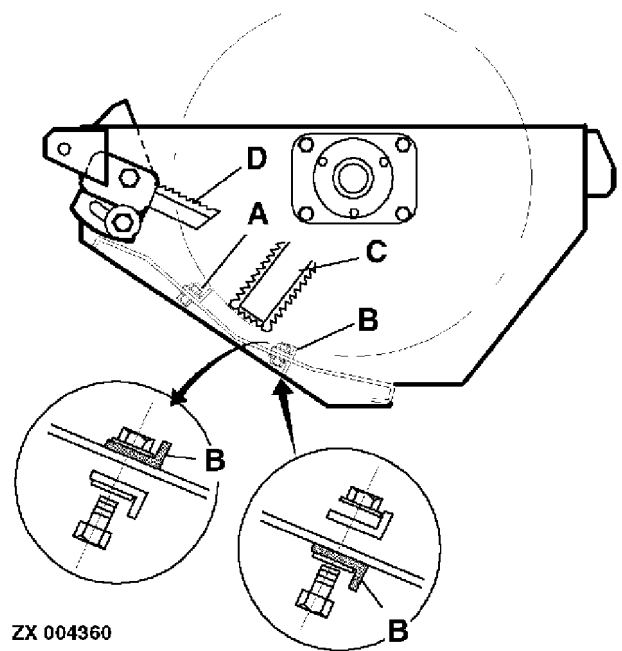
For a better chopping effect, it is possible to equip the chopper with serrated knives and cross-strips.

Cross-strip (A) is fitted before leaving the factory and serves as the first splitting stage.

For a better splitting effect, a second cross-strip (B) may be installed. The second cross-strip (B) is bolted onto the outside of the rotor housing.

Set the cross-strips close to rotating knives (C). Rotating knives (C) must never come into contact with the cross-strips.

Pivot the counter-knives (D) to suit the type of material being chopped.



A—Cross-strip  
B—Cross-strip  
C—Rotating knife  
D—Counter-knife

ZX.OMXZC0002336-19-05OCT92

ZX004360 -UN-19JUN95

## REPLACING ROTATING KNIVES

**CAUTION:** Always jam the rotor to prevent accidents when replacing rotating knives.

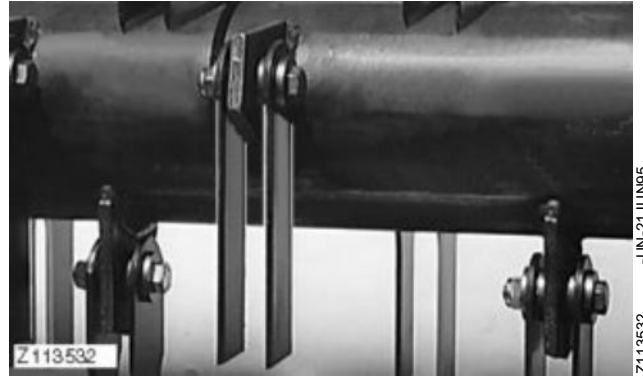
**IMPORTANT:** Note the following to avoid unbalancing the straw chopper:

Excessive vibration may be caused by broken knives. Remove the broken knife (together with the knife that is most nearly opposite) at once, and install replacements.

Do not sharpen knives that go dull. Instead, turn them round or replace them. This ensures that all the knives on the rotating knife shaft weigh approximately the same.

Always use M10x50 screws of 10.9 grade together with self-locking nuts. Tighten the cap screws to 65 N·m (47 lb-ft).

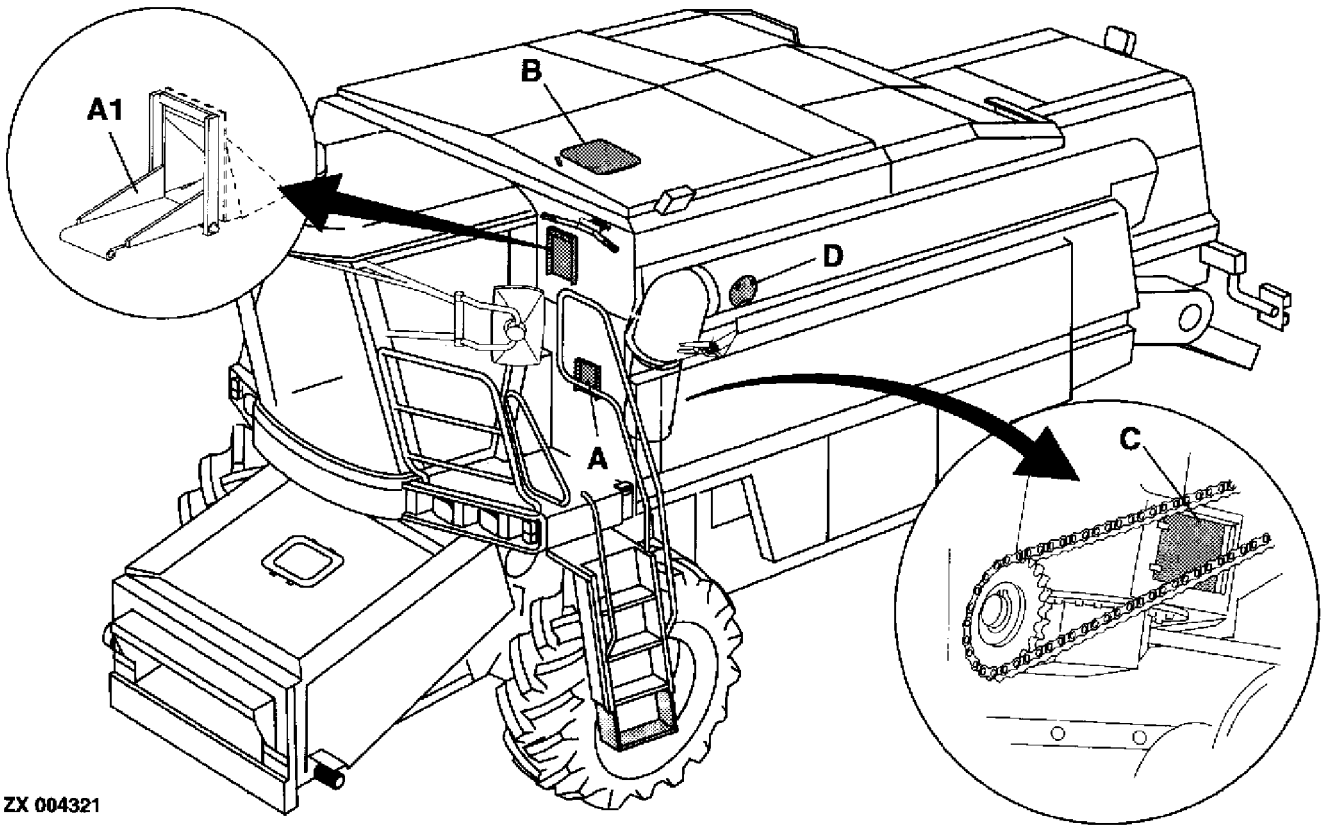
Install the screws from right to left (in direction of forward travel).



ZX,OMXZC0002339-19-04DEC92

# Grain Tank Loading and Unloading

## SERVICE OPENINGS I



ZX 004321

A—Access step  
A1—Access step and  
opening for grain tank  
sample

B—Access through grain  
tank cover

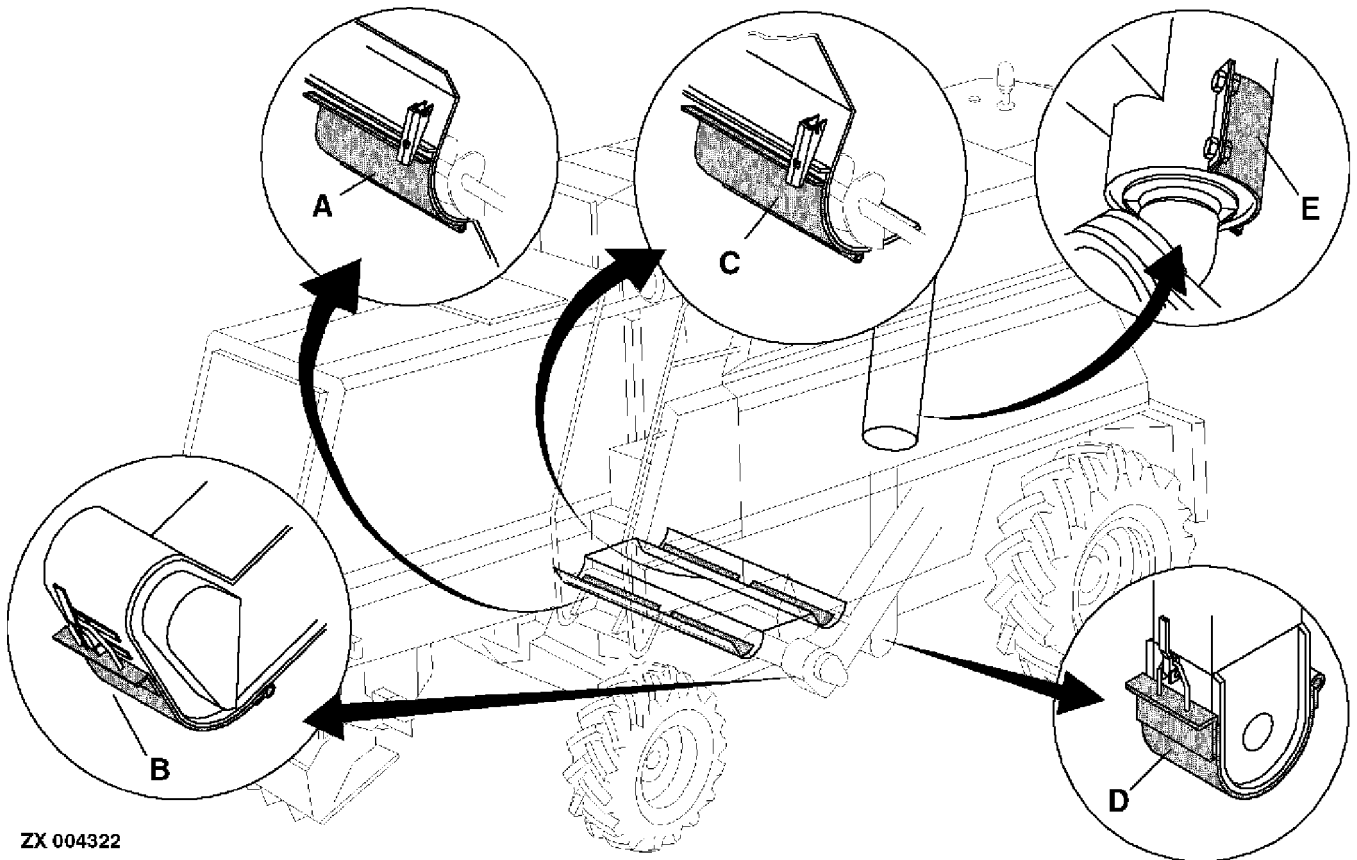
C—Grain tank unloading  
auger/riser tube

D—Discharge tube

ZX,OMXZC0002356-19-05OCT92

ZX004321 -UN-23OCT00

**SERVICE OPENINGS II**



ZX 004322

A—Tailings pan  
B—Tailings elevator

C—Grain pan

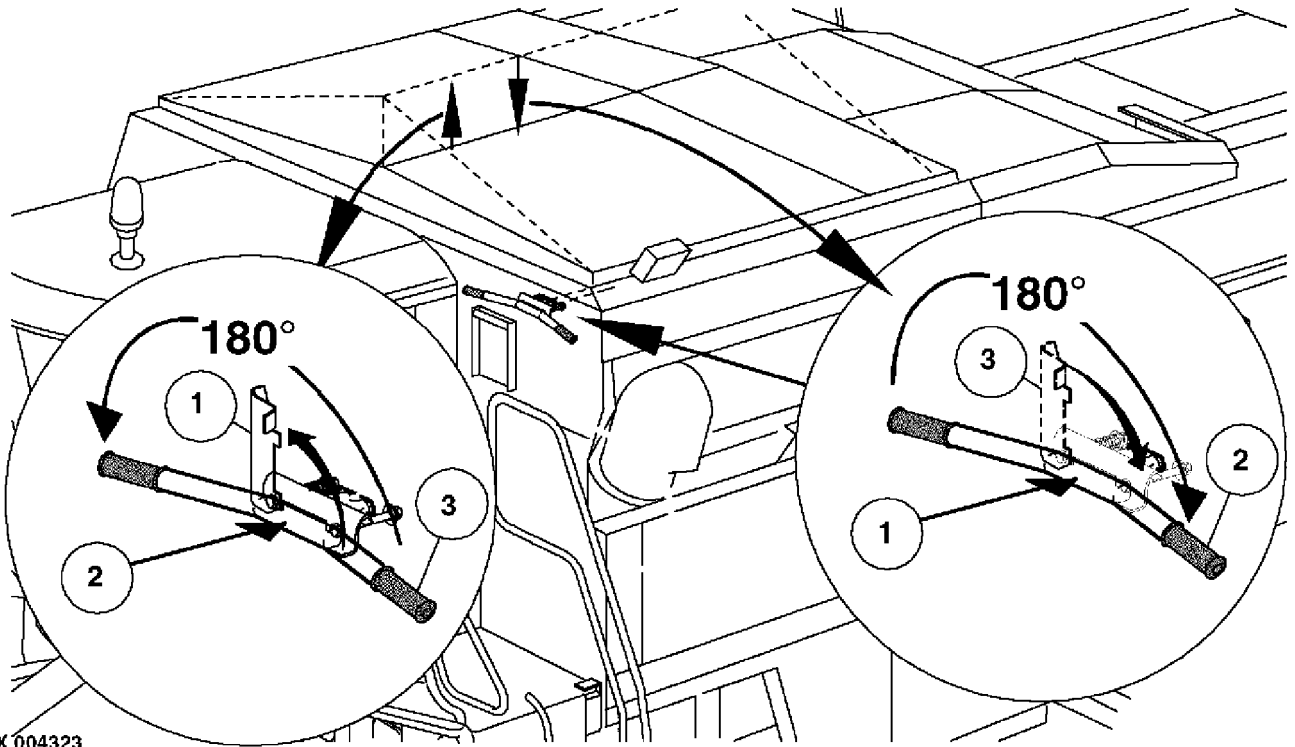
D—Clean grain elevator

E—Filler tube

ZX004322 -UN-21JUN95

ZX,OMXZC0002264-19-05OCT92

### GRAIN TANK COVER

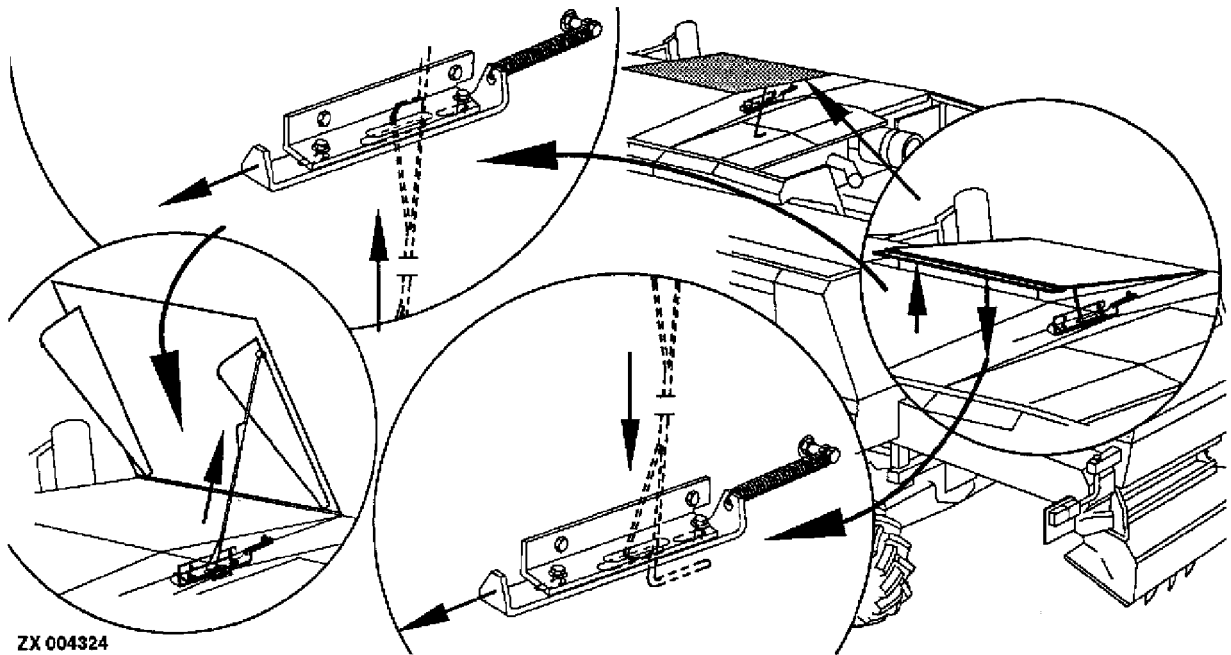


ZX 004323

ZX.OMXZC0002265-19-05OCT92

ZX004323 -UN-19JUN95

### OPENING GRAIN TANK COVER FROM REAR SERVICE PLATFORM



ZX 004324

ZX.OMXZC0002316-19-05OCT92

ZX004324 -UN-23OCT00

### CHECKING TENSION ON CONVEYOR CHAINS OF TAILINGS AND CLEAN GRAIN ELEVATORS

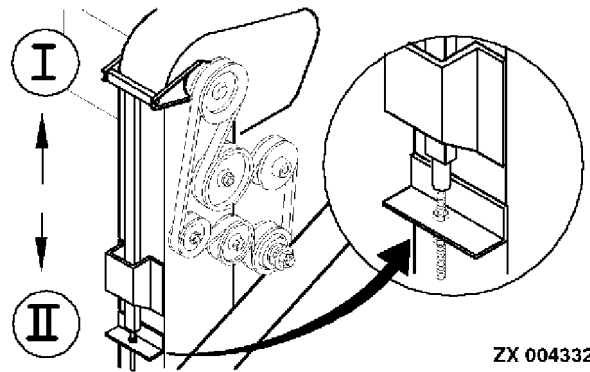
Set the tension on the elevator conveyor chains so that at the lower end of the elevator the first chain

link behind the sprocket can move 6—10 mm (1/4—3/8 in.).

ZX.OMXZC0002317-19-05OCT92

### TENSIONING CONVEYOR CHAIN OF CLEAN GRAIN ELEVATOR

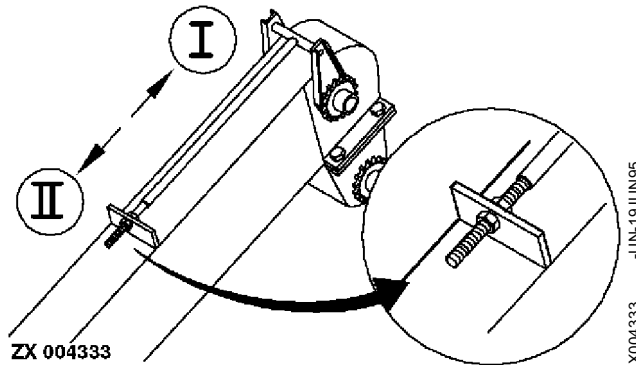
- I—Tightening conveyor chain
- II—Slackening conveyor chain



ZX.OMXZC0002318-19-05OCT92

### TENSIONING CONVEYOR CHAIN OF TAILINGS ELEVATOR

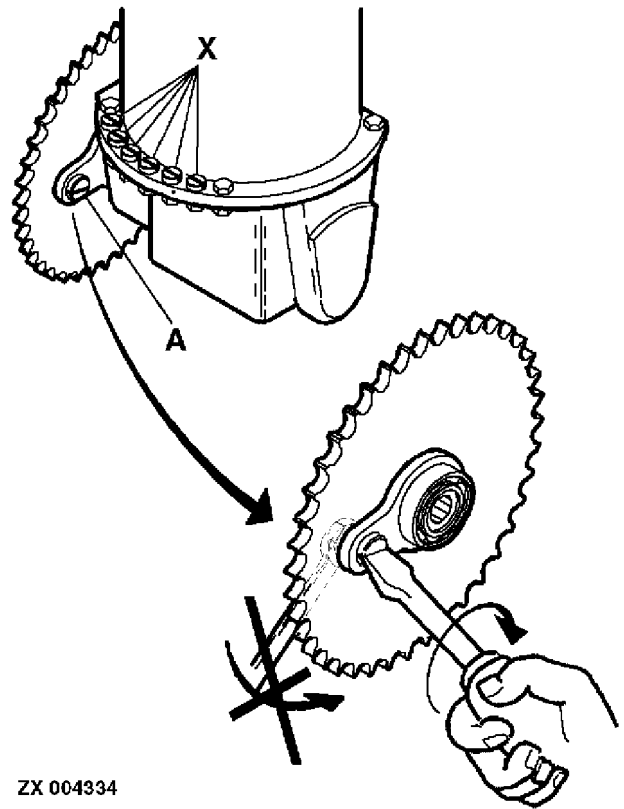
- I—Tightening conveyor chain
- II—Slackening conveyor chain



ZX.OMXZC0002319-19-05OCT92

## OVERLOAD PROTECTION ON UNLOADING DRIVE

**IMPORTANT:** Shear bolt (A) protects against overloading. Replace shear bolt with genuine spare part only. Six genuine shear bolts (X) are bolted inside the bevel gear housing as spares. Use a screwdriver to tighten the shear bolt. Hold the retaining nut on the other end of the bolt with a wrench. Do not turn the nut.



ZX 004334

ZX,OMXZC0002320-19-05OCT92

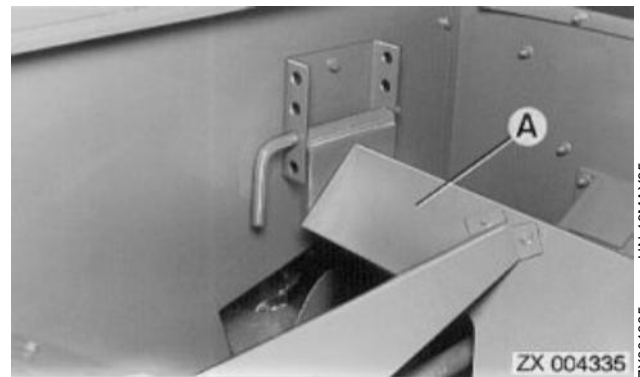
-JUN-19/JUN95  
ZX004334

## COVER FOR GRAIN TANK UNLOADING AUGER

Cover (A) can be adjusted to 4 positions on the left-hand side and 2 on the right-hand side.

Adjust the inlet opening to suit the type of crop and the degree of moisture.

Adjust the cover as required.



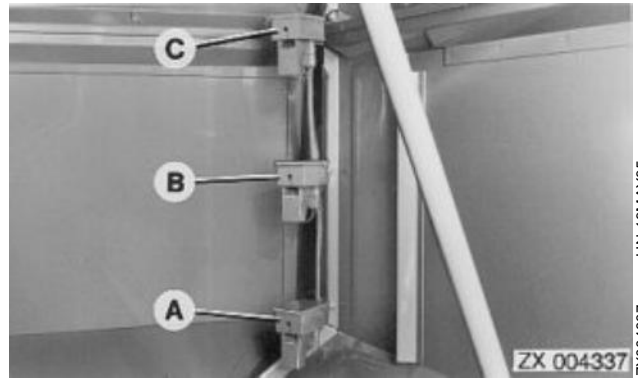
ZX,OMXZC0002321-19-05OCT92

-JUN-19/MAY95  
ZX004335

-JUN-19/MAY95  
ZX004336

### SENSOR FOR GRAIN TANK FILLER GAUGE

- A—Grain tank 1/2 full
- B—Grain tank 3/4 full
- C—Unloading grain tank

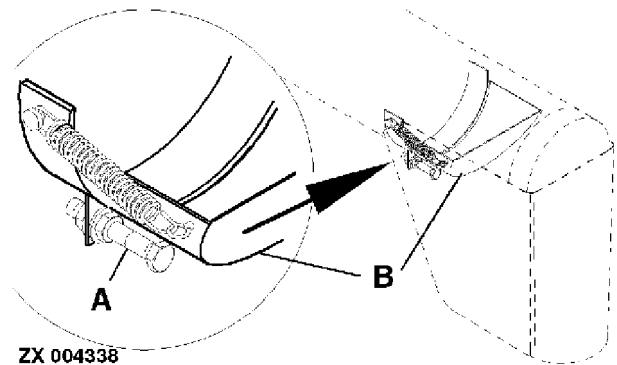


ZX004337 -UN-19MAY95

ZX.OMXZC0002322-19-05OCT92

### SPILL GUARD ON DISCHARGE TUBE OUTLET

Adjust stop screw (A) so that flap (B) closes automatically again as soon as unloading is completed.



ZX004338 -UN-19JUN95

ZX.OMXZC0002323-19-05OCT92



# Fuel, Lubricants, Coolant and Capacities

## FUEL

**CAUTION:** Never fill tank when engine is running. During filling of tank, smoking is strictly prohibited!

The quality and cleanliness of the fuel is an important factor in obtaining dependable performance and satisfactory engine life. Use commercial diesel fuel with low sulfur content.

Engine oil and oil filter change interval must be reduced by 50% if diesel fuel with a sulfur content greater than 0.5% is used. Bio Diesel (Rape Methyl Ester — RME) may also be used as an alternative to mineral oil-based diesel fuel.

Fill the fuel tank at the end of each day's operation to prevent condensation and freezing during cold weather.

In winter use special winter fuel or add an anti-gelling compound to the fuel to maintain its proper viscosity.

**IMPORTANT:** The fuel tank is vented through filler cap. If new filler cap is required, always replace it with an original vented cap.

FX,FUEL -19-06NOV91

## HANDLE FUEL SAFELY—AVOID FIRES

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.



DX,FIRE1 -19-04JUN90

TS202 -UN-23AUG88

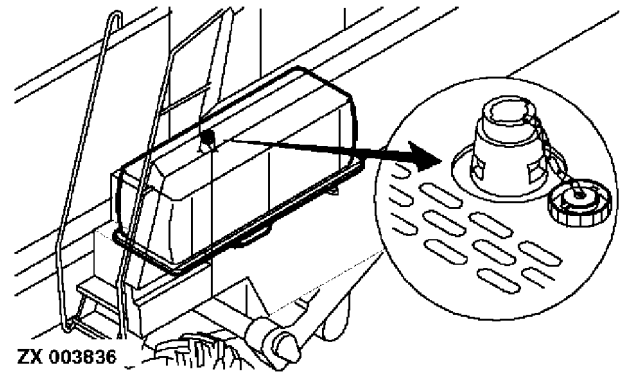
## FILLING FUEL TANK

**⚠ CAUTION: Handle fuel with care. Shut off engine. Do not smoke.**

Fill the tank at the end of each day's operation. This prevents condensation and freezing during cold weather.

Capacities:

- 2054 and 2054 Hillmaster: 350 L (92.5 U.S. gal)
- 2056 and 2056 Hillmaster: 450 L (119 U.S. gal)
- 2058 and 2058 Hillmaster: 450 L (119 U.S. gal)
- 2064 and 2064 Hillmaster: 450 L (119 U.S. gal)
- 2066 and 2066 Hillmaster: 550 L (145.3 U.S. gal)



ZX003836 -JUN-08MAY95

ZX,OMXZC0002059-19-01AUG92

## ENGINE OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oil is preferred:

- John Deere TORQ-GARD SUPREME PLUS-50™

The following oils are also recommended:

- John Deere TORQ-GARD SUPREME®
- John Deere UNI-GARD™

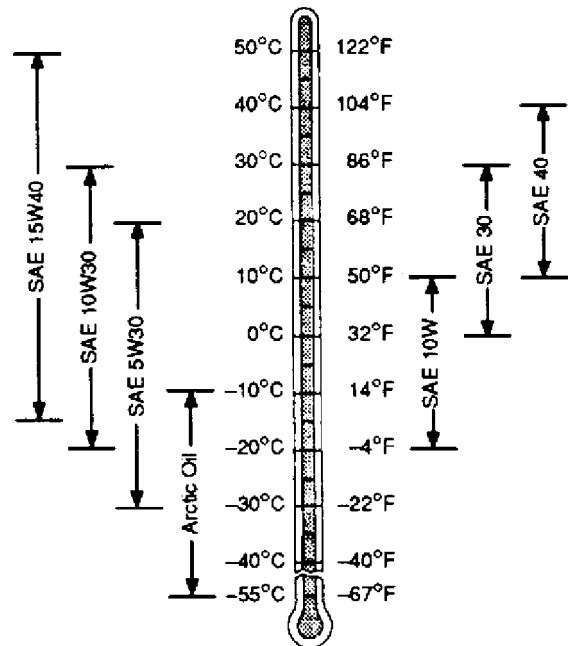
Other oils may be used if they meet one of the following:

- API Service Classification CE
- API Service Classification CD
- CCMC Specification D5
- CCMC Specification D4

If John Deere TORQ-GARD SUPREME PLUS-50 engine oil and a John Deere oil filter are used, the oil and filter service interval may be extended by 50 hours.

If diesel fuel exceeding 0.5% sulfur content is used, reduce the service interval for engine oil and filter by 50%.

Oils meeting Military Specification MIL-L-46167B may be used as arctic oils.



DX.ENOIL -19-11JUN92

-UN-29MAY92

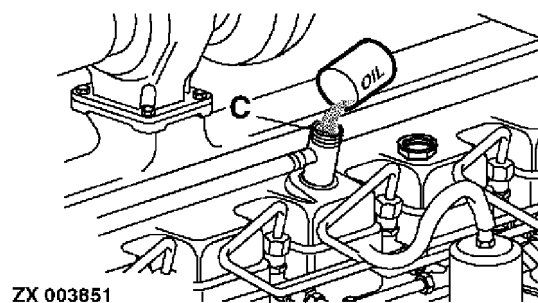
TS1411

## CRANKCASE CAPACITIES, INCLUDING FILTER CHANGE

### ENGINE OIL

6.8-L engine (414 cu in.):  
Crankcase capacity is 17 L (4.5 U.S. gal)

7.6-L engine (466 cu in.):  
Crankcase capacity is 25 L (6.6 U.S. gal)



ZX 003851

ZX.OMXZCO002060-19-01AUG92

-UN-19JUN95

ZX003851

## ENGINE COOLANT

John Deere COOL-GARD is filled into the cooling system at the factory. It protects against corrosion and against frost down to  $-36^{\circ}\text{C}$  ( $-35^{\circ}\text{F}$ ).

**IMPORTANT: Use only John Deere COOL-GARD in the cooling system, independent of the season. Drain system and refill with fresh coolant every 2 years.**

If no John Deere COOL-GARD is available, use independent of the season a mixture of 50% ethylene-glycol antifreeze/corrosion inhibitor and 50% clear, soft water. This mixture also provides protection against corrosion and against frost down to  $-36^{\circ}\text{C}$  ( $-35^{\circ}\text{F}$ ).

Never use any cooling system sealing additives.

### Operating in Tropical Conditions

If no John Deere COOL-GARD or antifreeze is available, use the following mixture when refilling the cooling system: Use clean soft water and add 3% John Deere ENGINE COOLANT CONDITIONER RE23182 (30 ml per liter of water).

**IMPORTANT: Drain system and refill with fresh coolant mixture every year. This coolant mixture protects the system against corrosion, but not against frost.**



ES111859 -UN-05JAN89

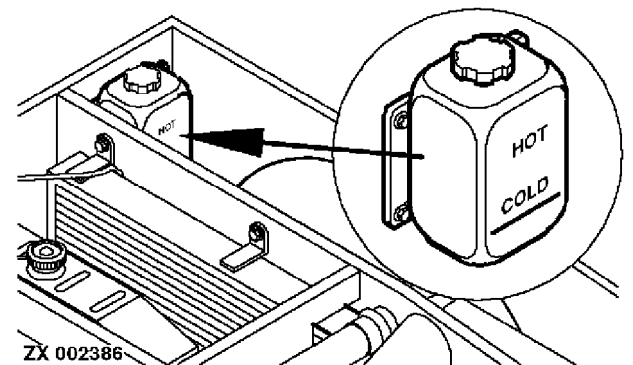
RC4690 -UN-14DEC88

FX.COOLG -19-06NOV91

## COOLING SYSTEM CAPACITY

### ENGINE COOLANT

6.8-L engine (414 cu in.) and  
7.6-L engine (466 cu in.):  
Capacity is 30 L (7.9 U.S. gal)



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ZX002386 -UN-08MAY95

## GEAR CASE OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

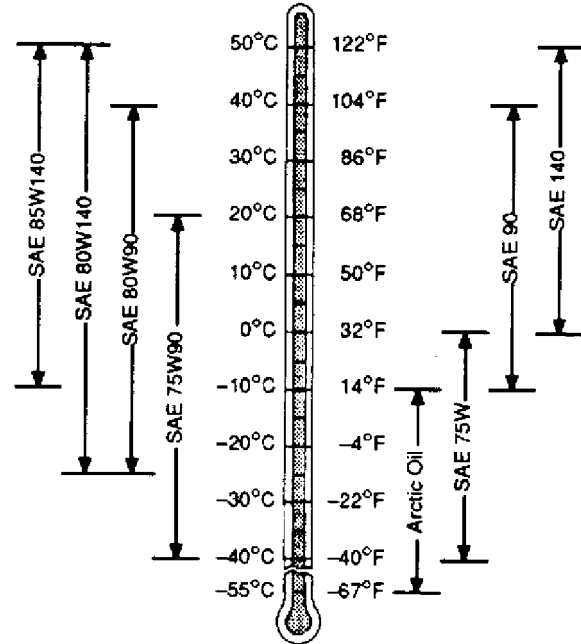
The following oils are preferred:

- John Deere EXTREME-GARD™
- John Deere GL-5 GEAR LUBRICANT

Other oils may be used if they meet the following:

- API Service Classification GL-5

Oils meeting Military Specification MIL-L-10324A may be used as arctic oils.



ZX,DX,GEOL -19-11JUN92

-UN-29MAY92

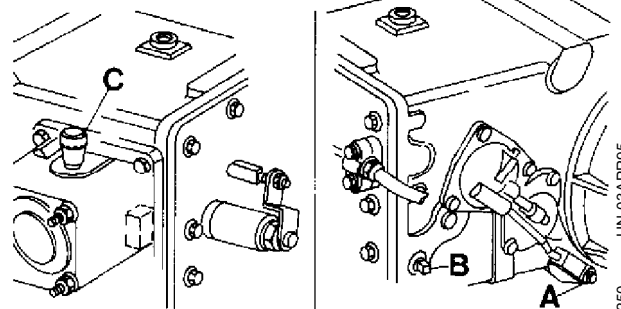
TS1416

## USE OF TRANSMISSION OIL

### Transmission

Capacity: 9.6 L (2.5 U.S. gal)

- A—Drain screw
- B—Level plug
- C—Filler/breather screw



ZX001250

ZX,OMXZC0002068-19-01AUG92

-UN-03APR95

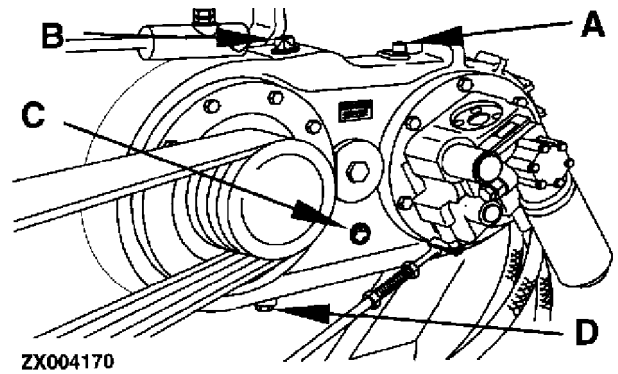
ZX001250

**Intermediate transmission**

Capacity: 2.4 L (0.63 U.S. gal)

*NOTE: Run the engine for one minute and then check the oil level with the engine shut off. Top up if necessary.*

- A—Breather plug
- B—Filler neck
- C—Sight glass
- D—Drain plug



ZX,OMXZC0002062-19-13NOV92

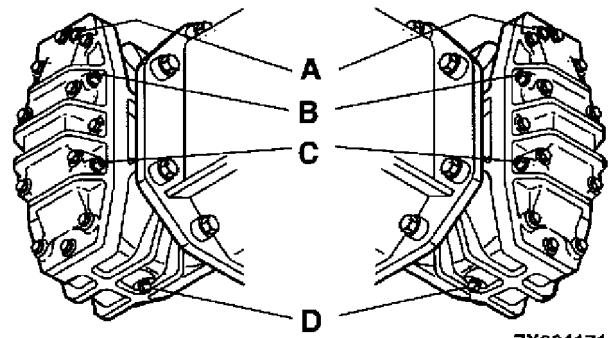
-JUN-23OCT00  
ZX004170

**Final drives**

Capacity (each):

- 85:11 — 4.9 L (1.29 U.S. gal)  
X — 444 mm (17.5 in.)
- 97:11 — 5.1 L (1.34 U.S. gal)  
X — 516 mm (20.3 in.)

*NOTE: On Hillmaster combines, perform the check with the hydraulic cylinder in the central (working) position.*



- A—Filler screw
- B—Breather screw
- C—Level plug
- D—Drain screw

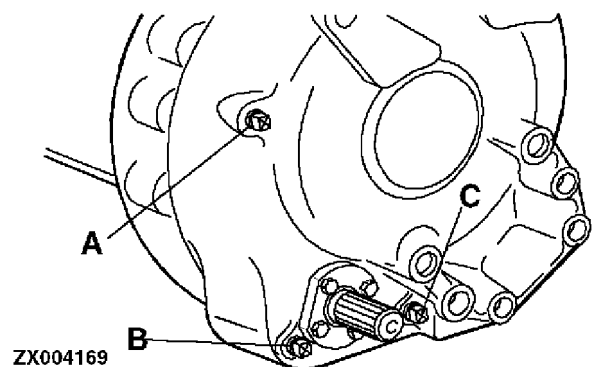
ZX,OMXZC0002063-19-13NOV92

-JUN-23OCT00  
ZX004171

**Planetary final drives**

Capacity: 6.2 L (1.64 U.S. gal)

- A—Breather/filler screw
- B—Level plug
- C—Drain screw



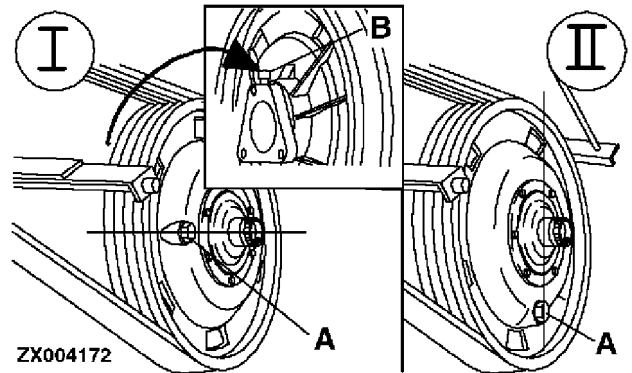
ZX,OMXZC0002064-19-01AUG92

-JUN-19JUN95  
ZX004169

### Cylinder drive gear

Capacity: 2.2 L (0.58 U.S. gal)

- I—Filler neck and checking screw
- II—Drain screw
- A—Filler neck, checking and drain screw
- B—Bleed nipple



ZX.OMXZC0002065-19-13NOV92

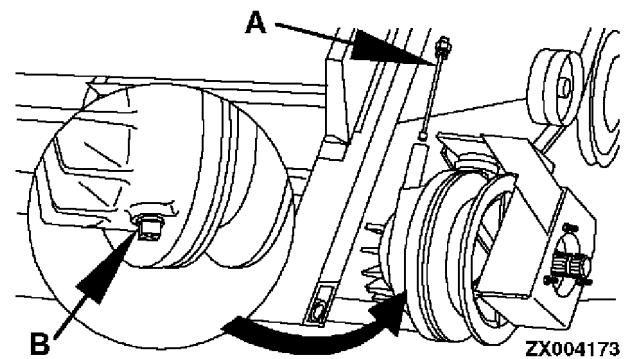
ZX004172 -UN-19JUN95

### Reverser

Capacity: 0.9 L (0.24 U.S. gal)

*NOTE: Before checking the oil level, extend the feeder house to its highest position.*

- A—Dipstick and filler neck
- B—Drain screw



ZX.OMXZC0002066-19-13NOV92

ZX004173 -UN-19JUN95

## TRANSMISSION OIL CHANGE

*NOTE: Change the oil in all the drives (see above) after the first 100 hours of operation.*

TRANSMISSION/ DRIVE	CAPACITY	INTERVAL (HOURS OF OPERATION)
3-speed trans- mission	9.6 L (2.50 U.S. gal)	1000
Intermediate transmission	2.4 L (0.63 U.S. gal)	500
11:85 final drive	4.9 L (1.29 U.S. gal)	1000
11:97 final drive	5.1 L (1.34 U.S. gal)	1000
Planetary final drive	6.2 L (1.64 U.S. gal)	1000
Threshing cyl- inder drive	2.2 L (0.58 U.S. gal)	1000
Reverser	0.9 L (0.24 U.S. gal)	1000

ZX,OMXZC0002364-19-13NOV92



## TRANSMISSION AND HYDRAULIC OIL

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere HY-GARD®
- John Deere Low Viscosity HY-GARD®

The following oil is also recommended:

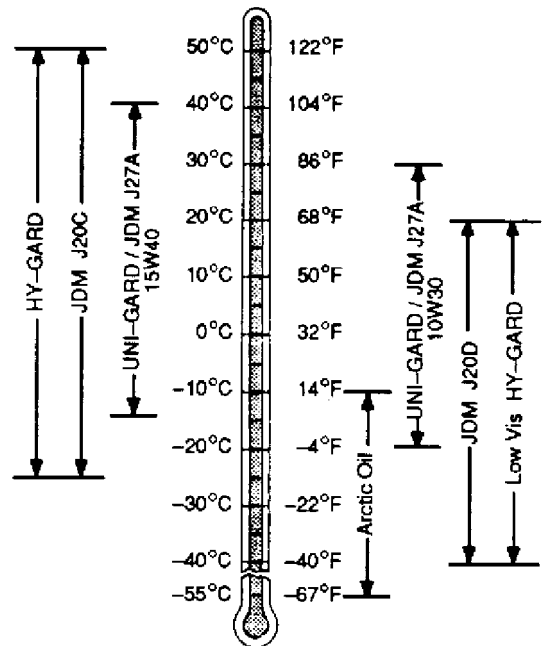
- John Deere UNI-GARD™

Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D
- John Deere Standard JDM J27A

**IMPORTANT: Do not use engine oil for this application.**

Oils meeting Military Specification MIL-L-46167B may be used as arctic oils.



DX,ANTI -19-11JUN92

-UN-29MAY92

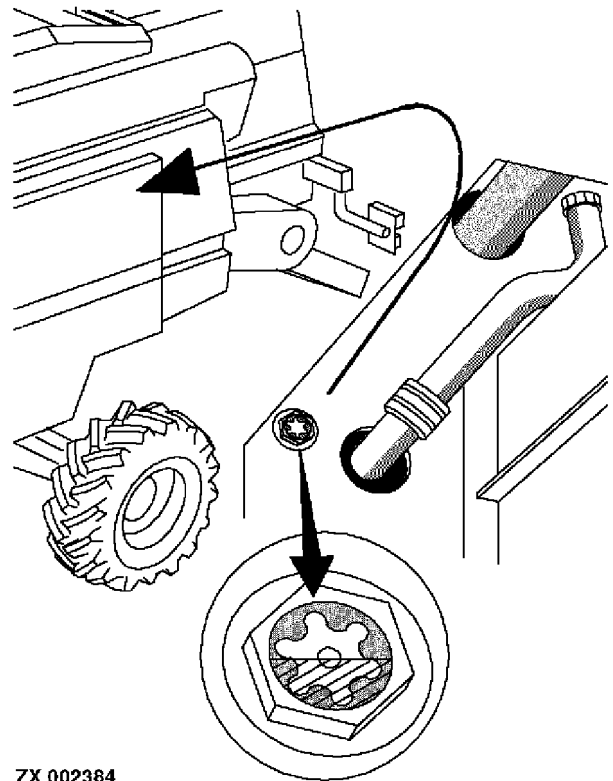
TS1413

## USE OF HYDRAULIC OIL

### Hydrostatic ground speed drive, lift and steering hydraulics

#### Capacities:

- Overall capacity of combine without four-wheel drive is 65 L (17.17 U.S. gal)
- Overall capacity of Hillmaster without four-wheel drive is 70 L (18.50 U.S. gal)
- Overall capacity of combine with four-wheel drive is 73 L (19.28 U.S. gal)
- Overall capacity of Hillmaster with four-wheel drive is 78 L (20.61 U.S. gal)
- Tank capacity up to center of sight glass is 33.4 L (8.82 U.S. gal)



-JUN-16JUN95  
ZX002384

ZX,OMXZC0002067-19-04DEC92

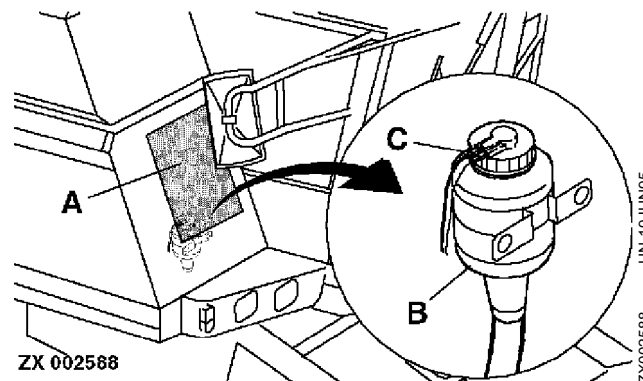
## BRAKE FLUID FOR BRAKE SYSTEM

### IMPORTANT: Use only brake fluid that meets SAE Standard J 1703 (DOT 4).

#### Capacity:

- Complete system 1.0 L (0.26 U.S. gal)
- Reservoir 0.5 L (0.13 U.S. gal)

- A—Service flap, vehicle electrics
- B—Brake fluid reservoir
- C—Reservoir cap with float



-JUN-19JUN95  
ZX002588

ZX,OMXZC0002385-19-04DEC92

## GREASE

Use grease based on the expected air temperature range during the service interval.

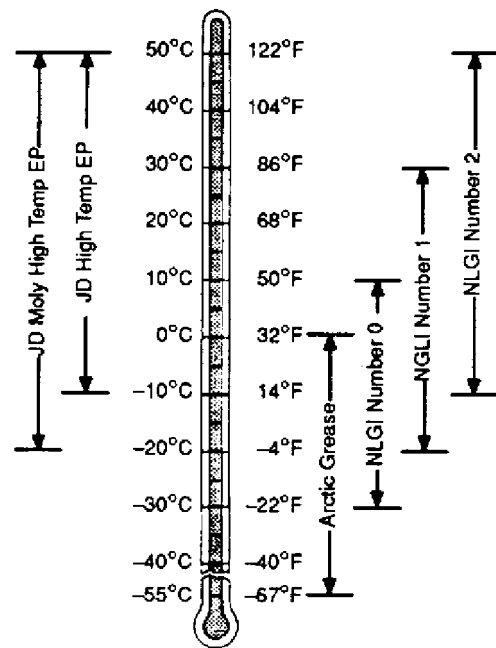
The following greases are preferred:

- John Deere MOLY HIGH TEMPERATURE EP GREASE
- John Deere HIGH TEMPERATURE EP GREASE
- John Deere GREASE-GARD™

Other greases may be used if they meet one of the following:

- SAE Multipurpose EP Grease with a maximum of 5% molybdenum disulfide
- SAE Multipurpose EP Grease

Greases meeting Military Specification MIL-G-10924F may be used as arctic grease.



DX,GREA1 -19-11JUN92

TS1417 -UN-29MAY92

## ALTERNATIVE AND SYNTHETIC LUBRICANTS

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this operator's manual. Some John Deere lubricants may not be available in your location. Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this operator's manual.

DX,ALTER -19-11JUN92

## MIXING OF LUBRICANTS

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements. Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

DX,LUBMIX -19-11JUN92

## LUBRICANT STORAGE

Your equipment can operate at top efficiency only if clean lubricants are used.

Use clean containers to handle all lubricants.

Whenever possible, store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

DX,LUBST -19-11JUN92

## USE GENUINE JOHN DEERE PARTS

Genuine John Deere parts have been specifically designed for John Deere machines.

Other parts are neither examined nor released by John Deere. Installation and use of such products could have negative effects upon the design characteristics of the machine and thereby affect its safety.

Avoid this risk by using only genuine John Deere parts.



**ES 118 837**

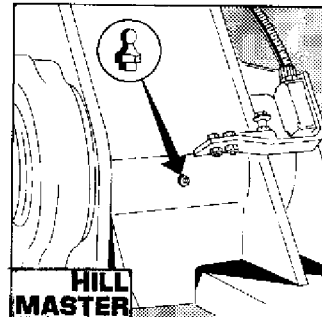
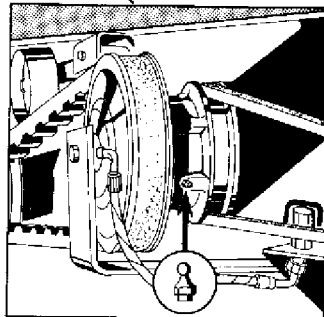
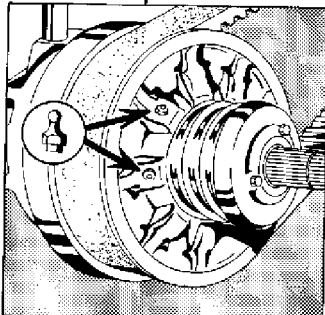
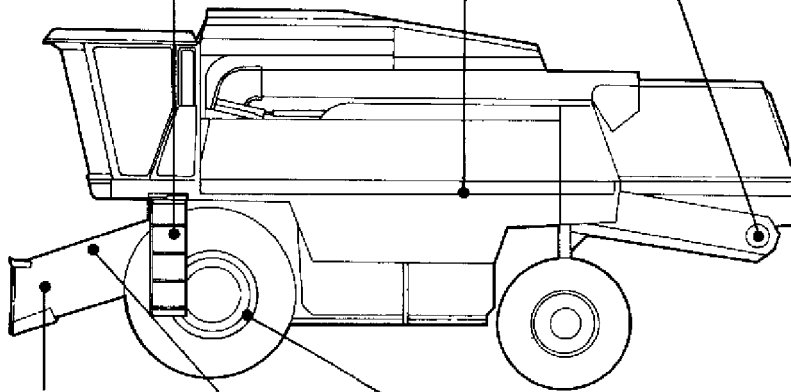
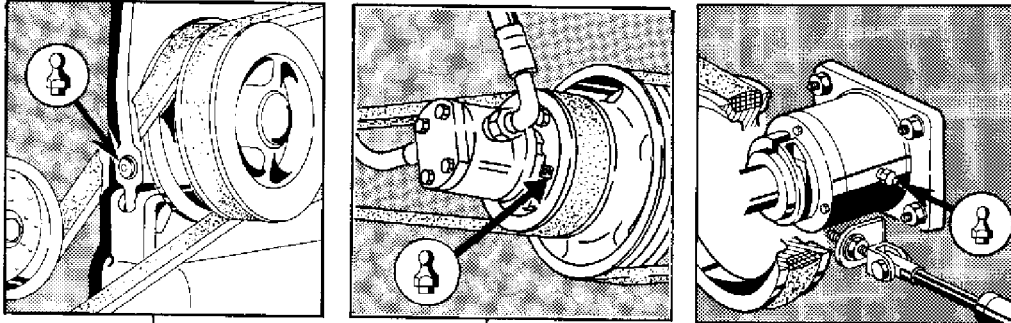
ES118837 -UN-04APR95

FX,ORI -19-04DEC90

# Lubrication Chart, Periodic Service



10

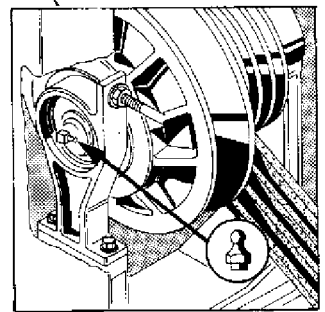
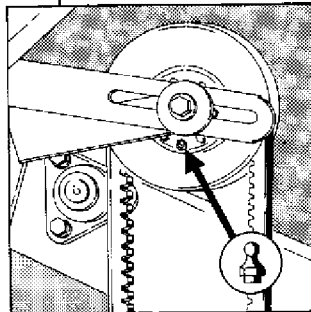
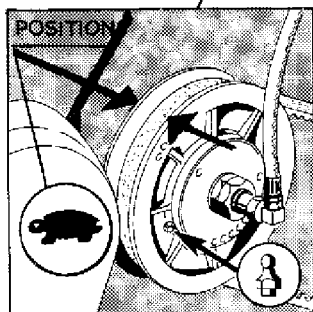
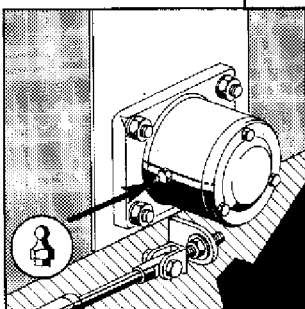
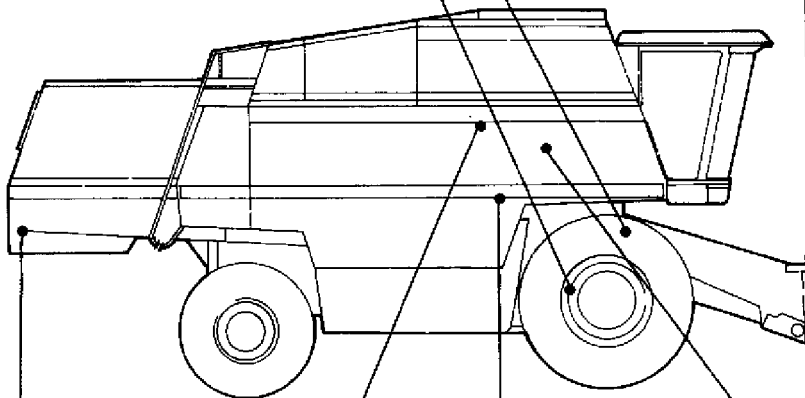
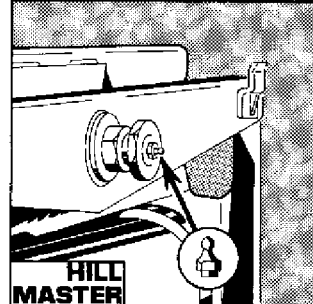
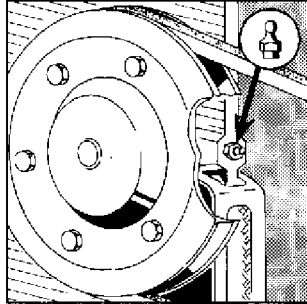
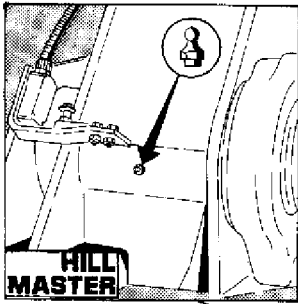


ZX002550  
ZX.OMXZC0002069-19-05OCT92

ZX002550 -UN-23OCT00

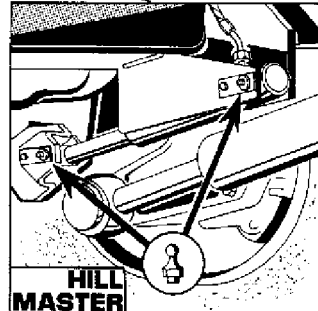
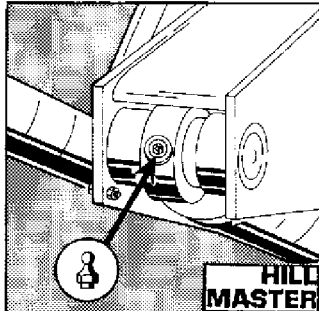
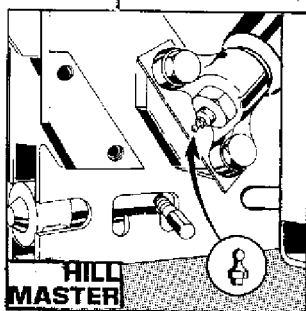
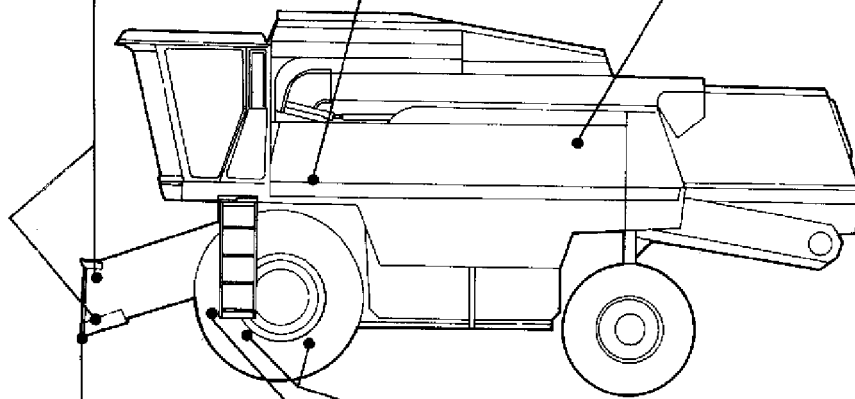
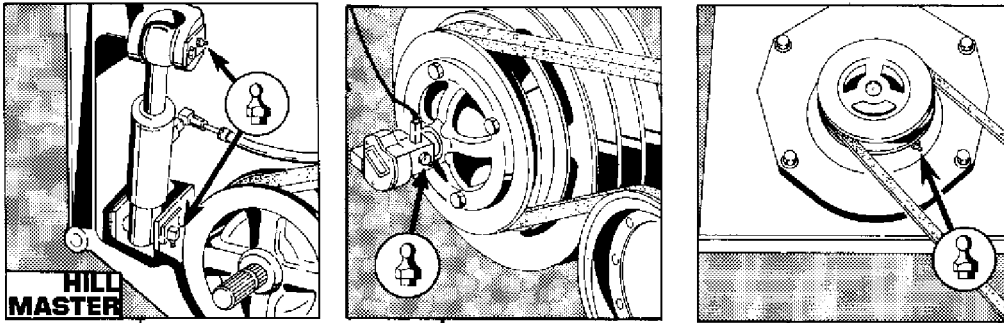


10



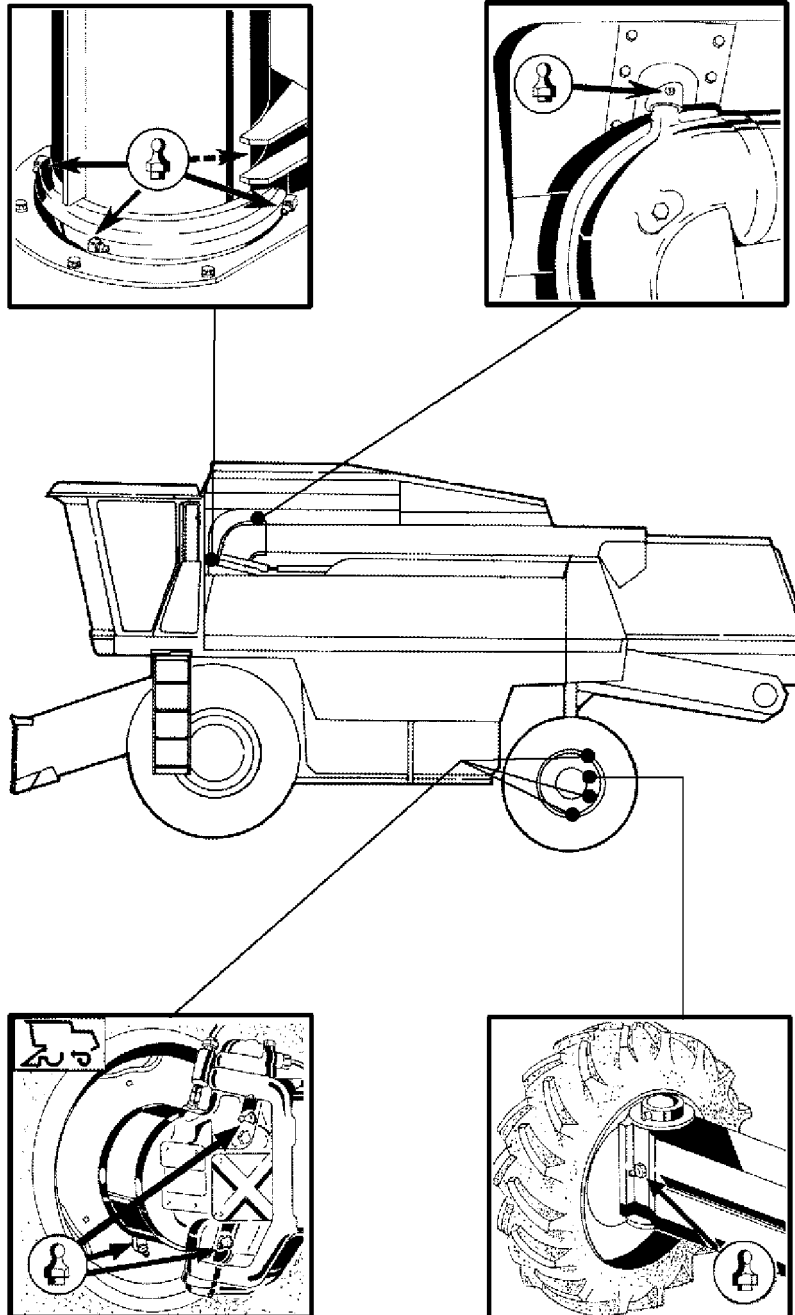
ZX002551

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ZX 00 2552  
ZX.OMXZC0002071-19-05OCT92

-JUN-23OCT00  
ZX002552

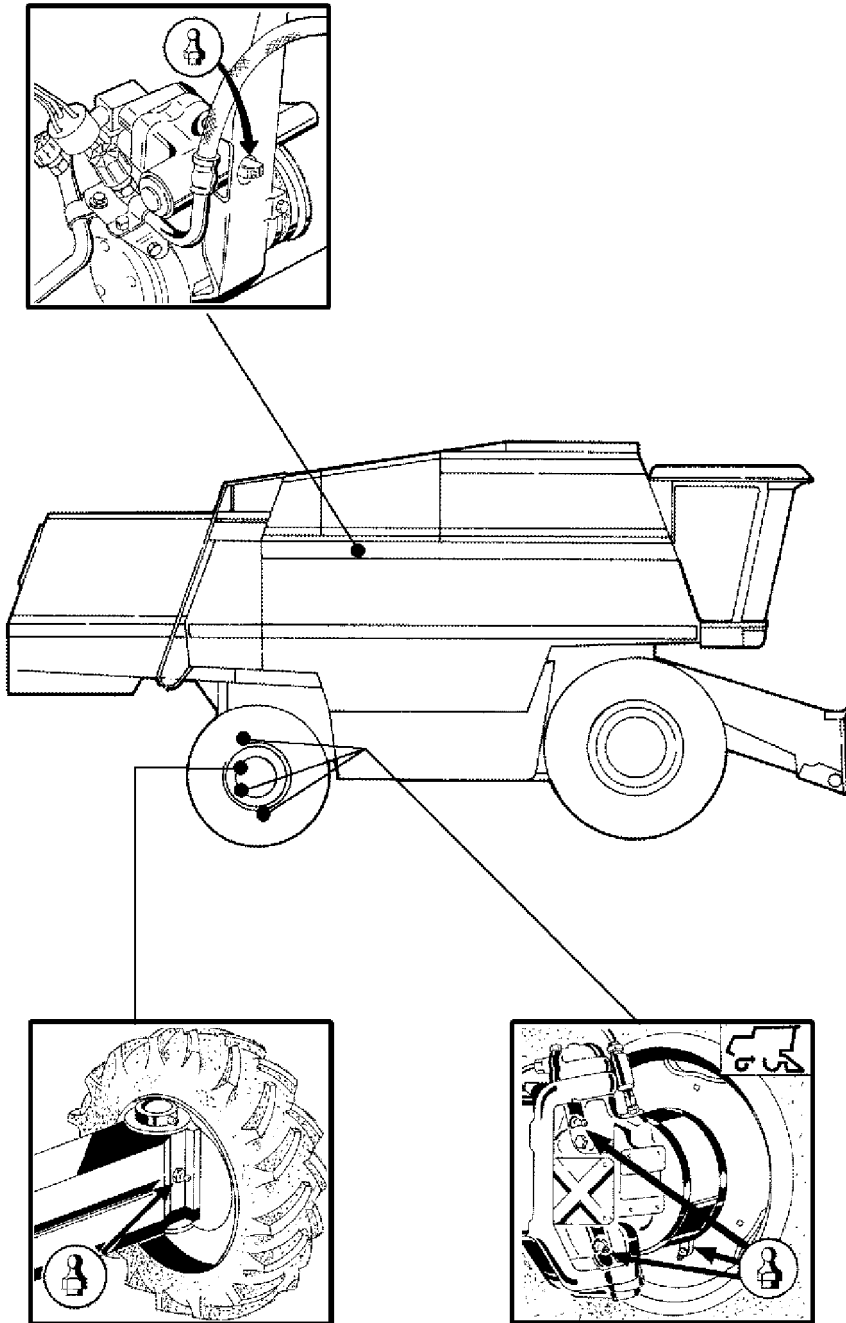


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ZX002553 -UN-21JUN95

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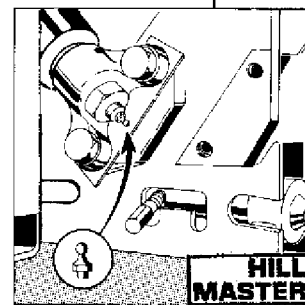
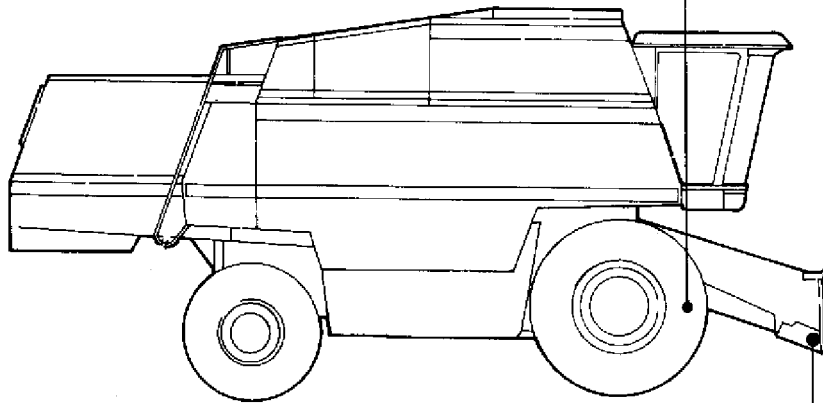
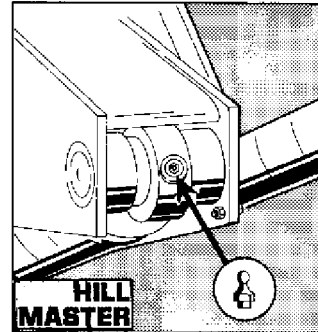




ZX002554

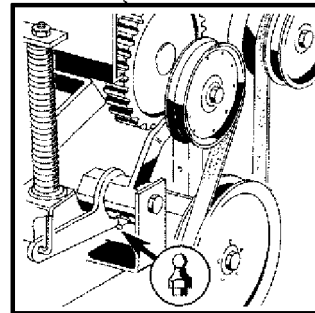
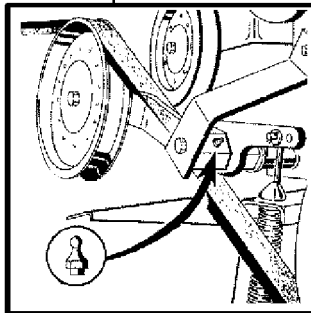
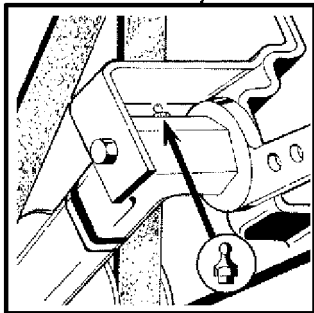
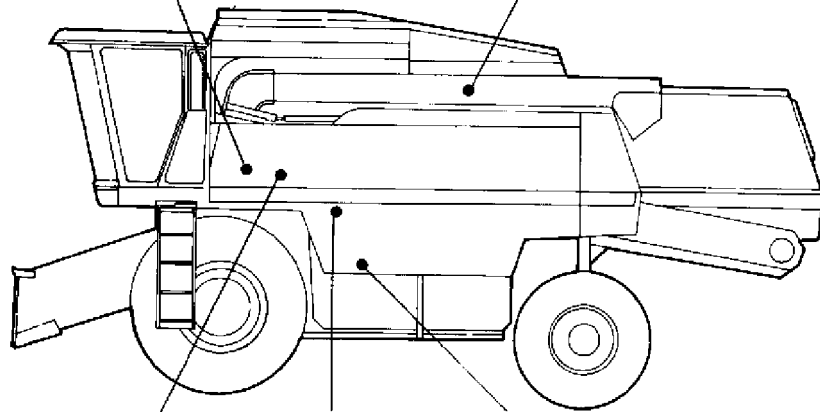
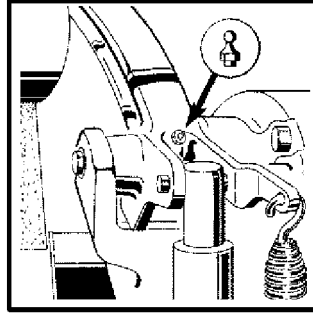
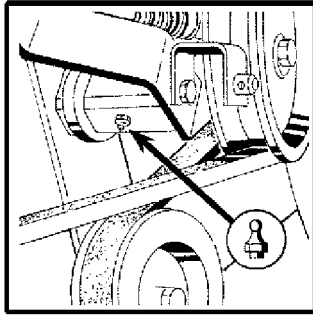
ZX002554 -UN-21 JUN95

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**ZX 002555**

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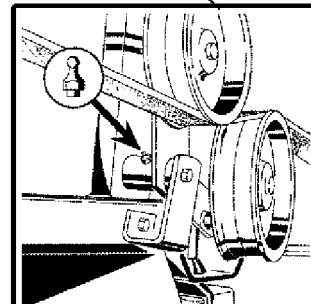
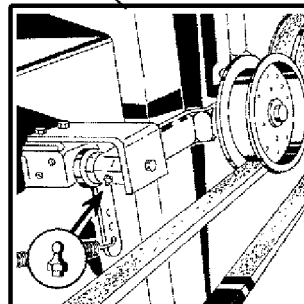
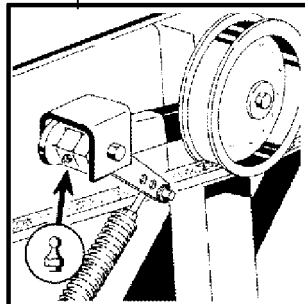
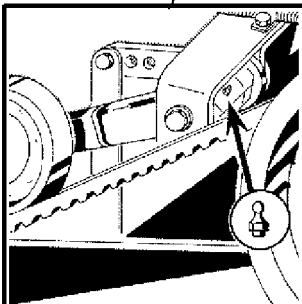
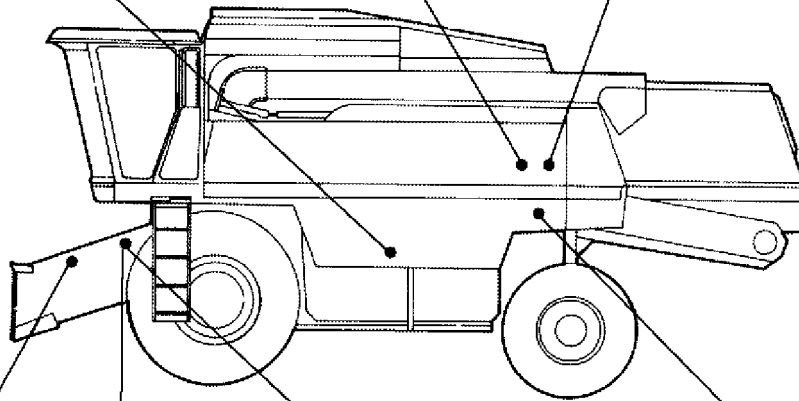
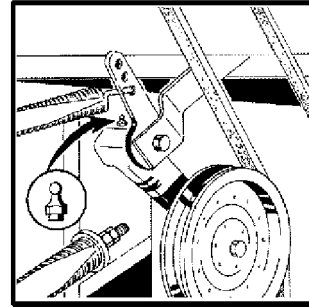
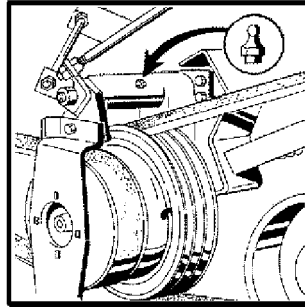
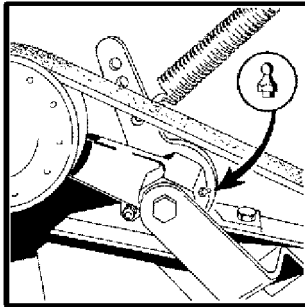


ZX002556

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ZX002556 -UN-16JUN95

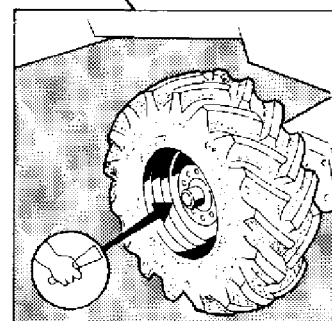
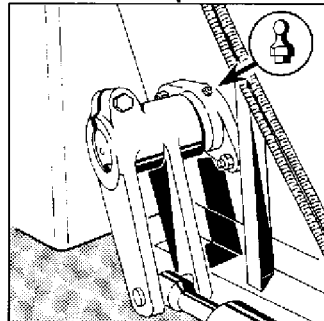
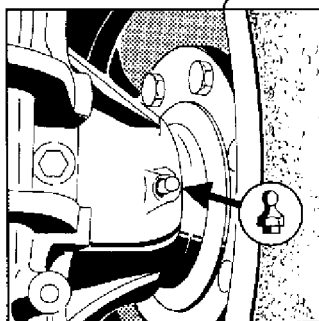
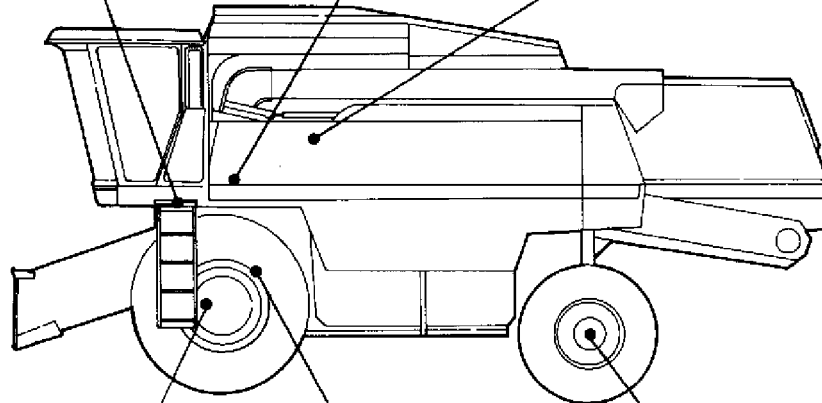
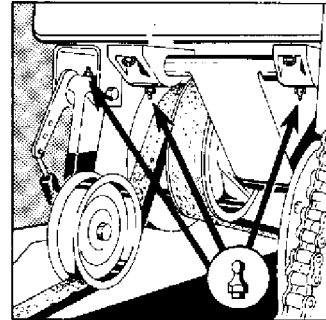
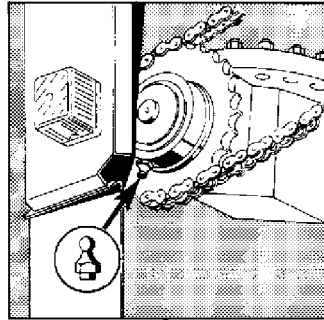
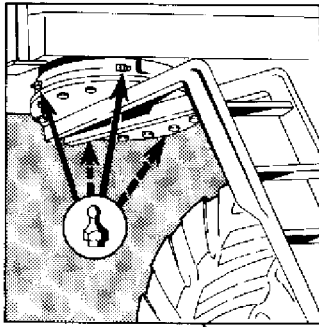
Lubrication Chart, Periodic Service



ZX002557

ZX002557  
-JUN-21JUN95

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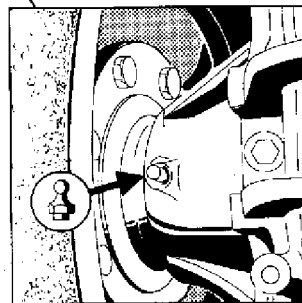
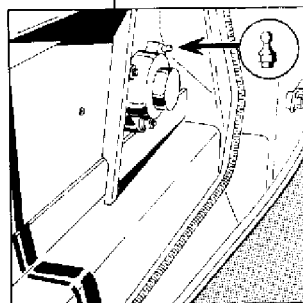
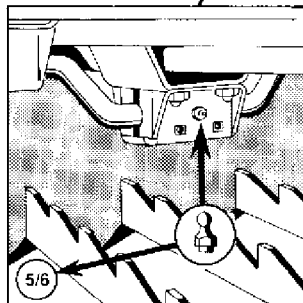
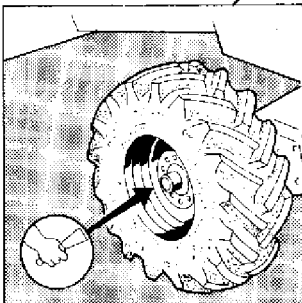
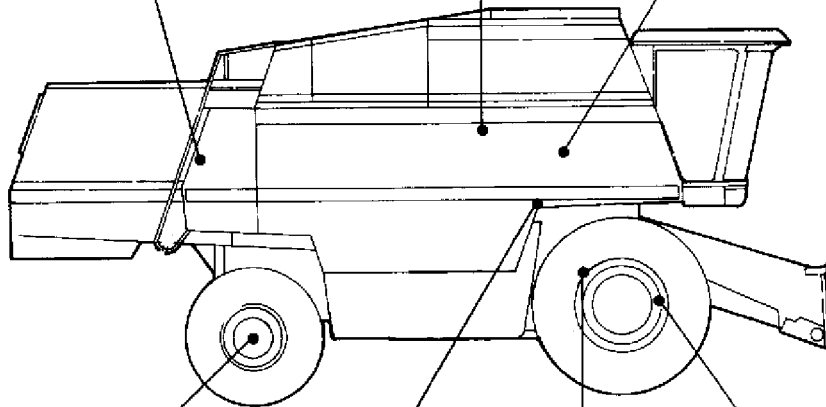
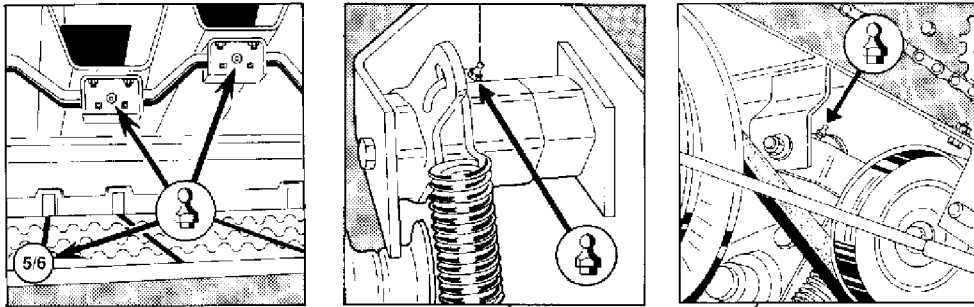


ZX 002558

ZX.OMXZC0002077-19-05OCT92

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ZX002558

Lubrication Chart, Periodic Service



ZX002559

ZX.OMXZC0002078-19-05OCT92

## SERVICE DURING THE BREAK-IN PERIOD

### DURING THE FIRST 100 HOURS OF OPERATION

- Perform service daily or once every 10 operating hours (see this section and “Fuel, Lubricants, Coolant and Capacities”).
- Do not idle the engine unnecessarily.
- Check coolant temperature repeatedly.
- Check engine oil and coolant level frequently. Look for signs of leaks.

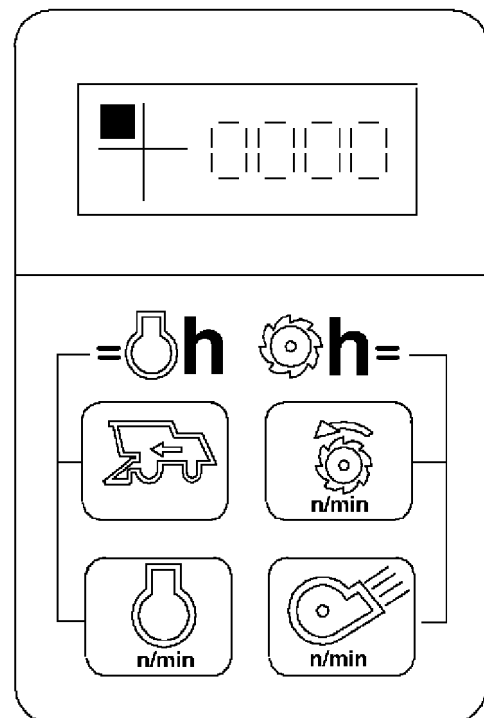
- If it becomes necessary to top up with engine oil during the break-in period, select an oil of a viscosity corresponding to the seasonal requirements and the information in the “Fuel, Lubricants, Coolant and Capacities” section.
- Check that the hoses and hose clamps in the air intake system are secure.
- Check drive belts and adjust if necessary.

ZX,OMXZC0002342-19-05OCT92

## SERVICE INTERVALS

Observe the infotrak monitor and perform all service work at the intervals stated in the following pages. Make use of the keys for SERVICE hours (see “Warning Devices and Monitors” section).

**IMPORTANT:** The service intervals recommended here apply for normal operating conditions. If the combine harvester is used in abnormally difficult conditions, carry out service work more often.



ZX 002351

ZX,OMXZC0002343-19-05OCT92

ZX002351 -JUN-16/JUN95

## EVERY 10 HOURS

- Engine, engine oil
- Hydraulic system
- Radiator screen
- Cooling system
- Tires
- Hydrostatic drive
- Fuel system
- Indicator light bulb test
- Light functions
- Eddy fan for cooling pack

### After first 10 hours only:

- Retighten retaining screws between steering cylinder mounting and rear axle.
- Retighten retaining screws between steering cylinder mounting and wheel motors (four-wheel drive).
- Retighten retaining screws between fork section of wheel motors (four-wheel drive) and sliding section of rear axle.

### Within the first 50 hours:

- Retighten front wheel nuts to 550 N·m (400 lb-ft).
- Retighten rear wheel nuts to 180 N·m (130 lb-ft).
- Retighten final drive retaining screws.
- Retighten retaining screws on 3-speed transmission.
- Retighten retaining screws on front axle.

ZX,OMXZCO002344-19-05OCT92

## AFTER THE FIRST 100 HOURS

Perform all the service jobs listed under "Every 10 Hours".

- Change engine oil and filter.
- Change transmission oil in transmission and all drives.
- Change transmission oil filter.

- Check drive belt tension and adjust if necessary.
- Check that the hoses and hose clamps in the air intake system are secure.
- Check connections on fuel injection lines.
- Check refrigerant level in air conditioning system.

ZX,OMXZCO002345-19-05OCT92



## EVERY 250 HOURS

Includes work described under "Every 10 Hours".

- Retighten front wheel nuts to 550 N·m (400 lb-ft).
- Retighten rear wheel nuts to 180 N·m (130 lb-ft).
- Tighten steering cylinder retaining screws to 240 N·m (170 lb-ft).
- Replace fuel filter.
- Drain engine oil from crankcase and fill with new engine oil.
- Replace engine oil filter.
- Check density of electrolyte in battery. Recharge battery if necessary, and top up with distilled water.
- Clean rocker arm cover vent.
- Check antifreeze mixture in cooling system, and top up with antifreeze if necessary.
- Correct setting of foot brake pedal.
- If necessary, re-adjust parking brake bowden cable.
- Check that screw unions and hose connection on turbocharger are secure.
- Clean paper elements of cab filter.
- Check oil level in 3-speed transmission.
- Check oil level in final drives.
- Check level of brake fluid.

ZX,OMXZC0002346-19-05OCT92

## EVERY 500 HOURS

Includes work described under "Every 10 Hours".

- Change hydraulic oil.
- Change transmission oil in intermediate gear.
- Clean mechanical fuel transfer pump.
- Change filter element in water trap.
- Clean air intake screen and radiator thoroughly.

ZX,OMXZC0002347-19-05OCT92

## EVERY 1000 HOURS

- Have valve tappet clearances checked by your John Deere dealer, and get him to adjust them if necessary.
- Get your John Deere dealer to change the hydraulic oil and hydraulic oil filter.
- Change oil in the 3-speed transmission.
- Change transmission oil in final drives.
- Change transmission oil in threshing cylinder drive.
- Change transmission oil in reverser.

ZX,OMXZC0002348-19-05OCT92

*Lubrication Chart, Periodic Service*

**EVERY 1500 HOURS**

Change air cleaner (primary) element and safety (secondary) element.

ZX,OMXZC0002349-19-05OCT92

**AS REQUIRED**

- Replace both air cleaner filter elements.
- Change cab air filters.
- Change transmission oil filter.
- Clean prefilter.
- Change hydraulic oil filter.
- Change fuel filter.
- Clean batteries.

ZX,OMXZC0002350-19-05OCT92

**EVERY YEAR**

- Have starting motor checked.
- Have alternator checked.
- Change brake fluid.
- Check air intake hose connections.

ZX,OMXZC0002351-19-05OCT92

**EVERY 2 YEARS**

- Clean cooling system, change filter on coolant conditioner and change thermostats.
- Check vibration damper.

ZX,OMXZC0002352-19-05OCT92

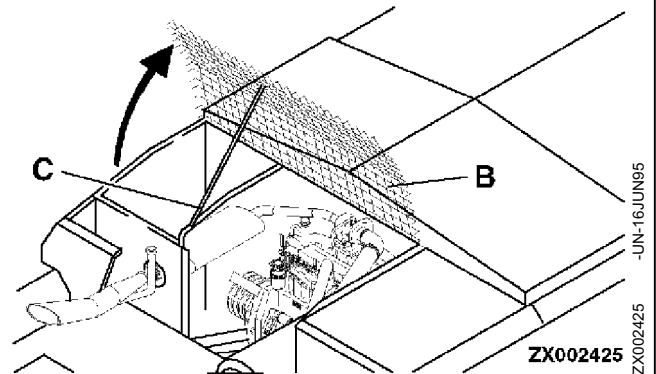
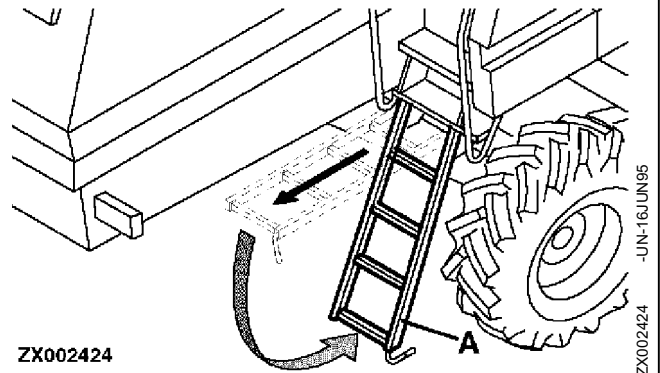
# Service — Engine

## ACCESS TO ENGINE

### Via rear service platform

Access to the engine is via the rear right service platform. First pull out ladder (A).

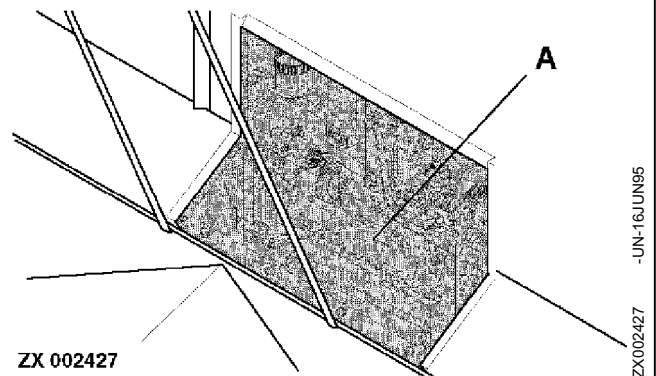
Lift up wire mesh guard (B) and secure with stay (C).



ZX,OMXZC0002079-19-01AUG92

### Via corn tank (2054)

Open service hatch (A) to gain access to the injection pump on the 2054 combine and 2054 Hillmaster.



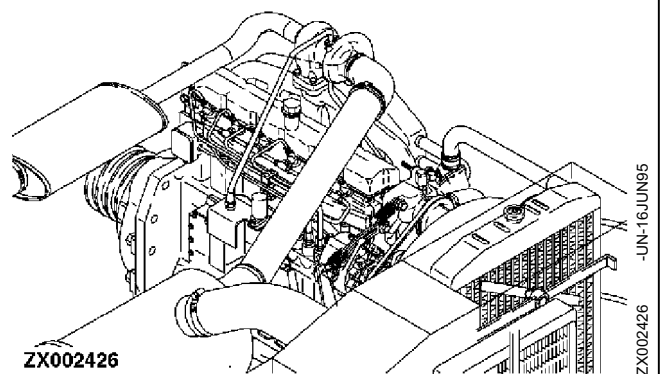
ZX,OMXZC0002080-19-01AUG92

## ENGINE COMPARTMENT

**CAUTION:** A combination of dirt, oil and chaff in the engine compartment represents a fire hazard.

Keep engine and engine compartment clean at all times.

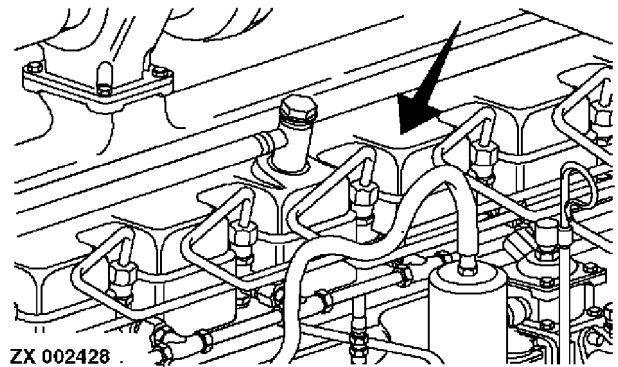
If necessary, clean engine compartment by blowing out dirt with compressed air. Wipe clean any soil deposits.



ZX,OMXZC0002081-19-01AUG92

## ADJUSTING ENGINE VALVE TAPPETS

After every 1000 hours of operation have valve tappet clearances checked by your John Deere dealer and get him to carry out any adjustments that might be necessary.



ZX.OMXZC0002082-19-01AUG92

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ZX002428

## CHECKING ENGINE CRANKCASE OIL LEVEL

To prevent interruption of lubrication oil circulation when the engine is in an inclined position, never allow oil to drop below minimum oil level.

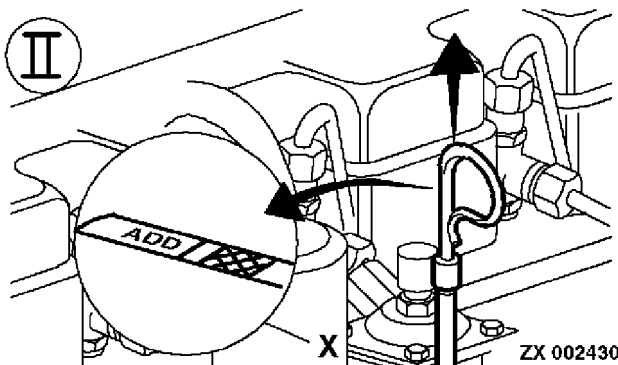
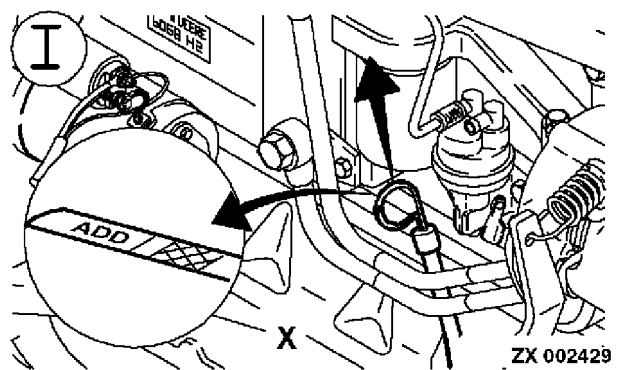
**IMPORTANT:** It is vital to maintain the engine oil at the correct level to ensure a long service life. Check oil level with combine standing on level ground.

Before removing dipstick, clean surrounding area thoroughly.

Check engine crankcase oil level after every 10 hours of operation.

Oil level should be between upper and lower marks on dipstick.

- I—6.8-L engine
- II—7.6-L engine
- X—Hatched area = Maximum
- ADD = Minimum



ZX.OMXZC0002083-19-01AUG92

-UN-16JUN95  
ZX002429

-UN-16JUN95  
ZX002430

## CHANGING OIL AND FILTER ON 6.8-L ENGINE

**IMPORTANT:** Observe the utmost cleanliness when installing replacement filter element.

Run the engine for approx. 5 minutes to heat up oil. Then shut engine off.

Drain oil while it is still warm.

Open oil drain valve (A) and drain oil from crankcase.

Remove oil filter (B).

Throw away sealing ring and clean mounting surface where sealing ring is fitted. Apply a thin coat of oil to new sealing ring and install it together with the new oil filter. When sealing ring is just touching the mounting surface, tighten filter manually by another 1/2 to 3/4 of a revolution. Do NOT overtighten filter.

Close oil drain valve again.

Fill engine crankcase housing with oil of the specified viscosity and quality at valve cap opening (C).

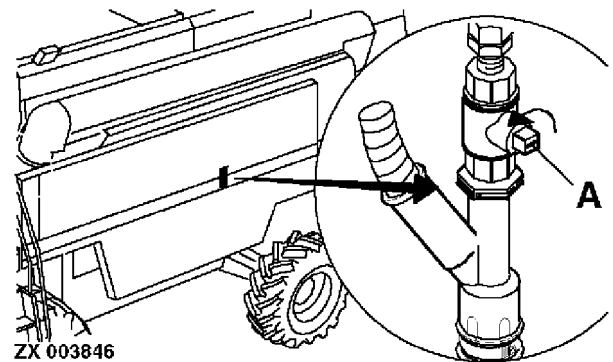
Capacity (with filter change): 17 L (4.5 U.S. gal)

*NOTE: The actual capacity may vary slightly from the figure stated above. Fill crankcase until the oil is up to the upper mark on the dipstick. Do not overfill!*

**IMPORTANT:** Directly after completing an oil change and/or filter change, remove fuse F16 and crank the engine for 30 seconds. This ensures that all the engine components are thoroughly lubricated when the engine is started. Put back fuse F16.

Start the engine and check for leaks.

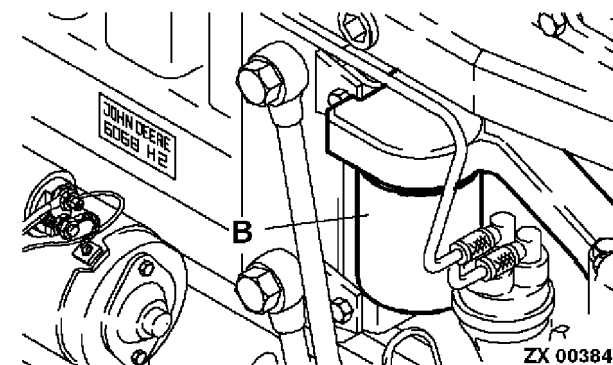
Shut off engine and wait 10 minutes before checking the oil level. The oil should still be up to the upper mark on the dipstick.



ZX 003846

-JUN-19JUN95

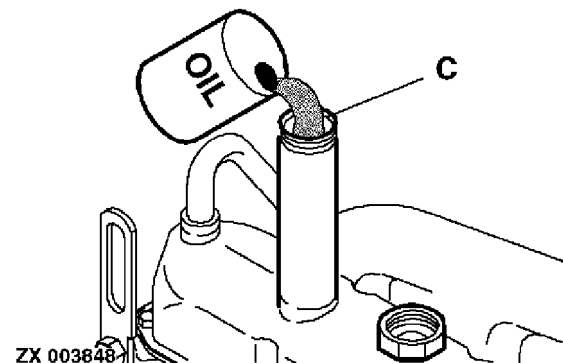
ZX003846



ZX 003847

-JUN-19JUN95

ZX003847



ZX 003848

-JUN-19JUN95

ZX003848

## CHANGING OIL AND FILTER ON 7.6-L ENGINE

**IMPORTANT:** Observe the utmost cleanliness when installing replacement filter element.

Run the engine for approx. 5 minutes to heat up oil. Then shut engine off.

Drain oil while it is still warm.

Open oil drain valve (A) and drain oil from crankcase.

Remove oil filter (B).

Throw away sealing ring and clean mounting surface where sealing ring is fitted. Apply a thin coat of oil to new sealing ring and install it together with the new oil filter. When sealing ring is just touching the mounting surface, tighten filter manually by another 1/2 to 3/4 of a revolution. Do NOT overtighten filter.

Close oil drain valve again.

Fill engine crankcase housing with oil of the specified viscosity and quality at valve cap opening (C).

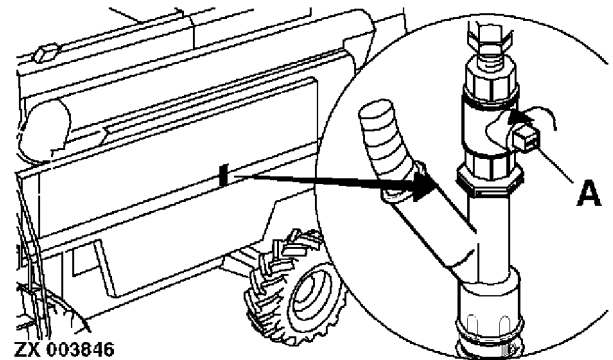
Capacity (with filter change): 25 L (6.6 U.S. gal)

*NOTE: The actual capacity may vary slightly from the figure stated above. Fill crankcase until the oil is up to the upper mark on the dipstick. Do not overfill!*

**IMPORTANT:** Directly after completing an oil change and/or filter change, remove fuse F16 and crank the engine for 30 seconds. This ensures that all the engine components are thoroughly lubricated when the engine is started. Put back fuse F16.

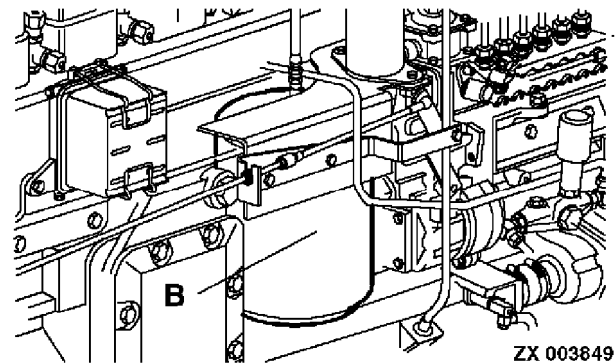
Start the engine and check for leaks.

Shut off engine and wait 10 minutes before checking the oil level. The oil should still be up to the upper mark on the dipstick.



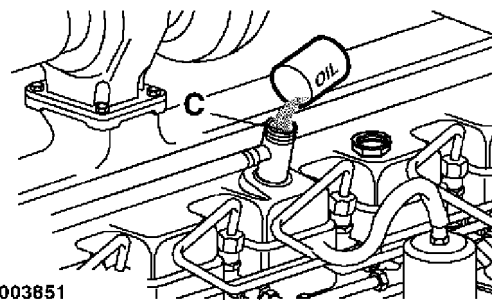
ZX 003846

-JUN-19/JUN95  
ZX003846



ZX 003849

-JUN-19/JUN95  
ZX003849

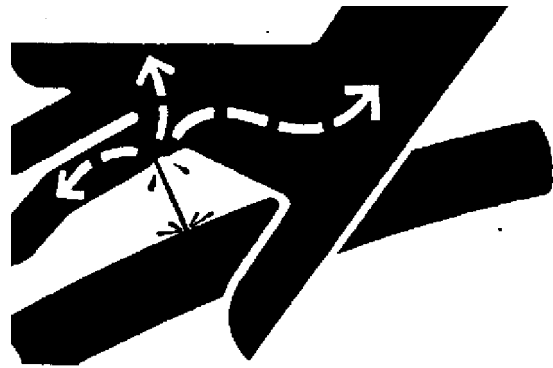


ZX 003851

-JUN-19/JUN95  
ZX003851

**CAUTION:** Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811  
-UN-23AUG88

DX,FLUID2 -19-09AUG91

## DO NOT MODIFY FUEL SYSTEM

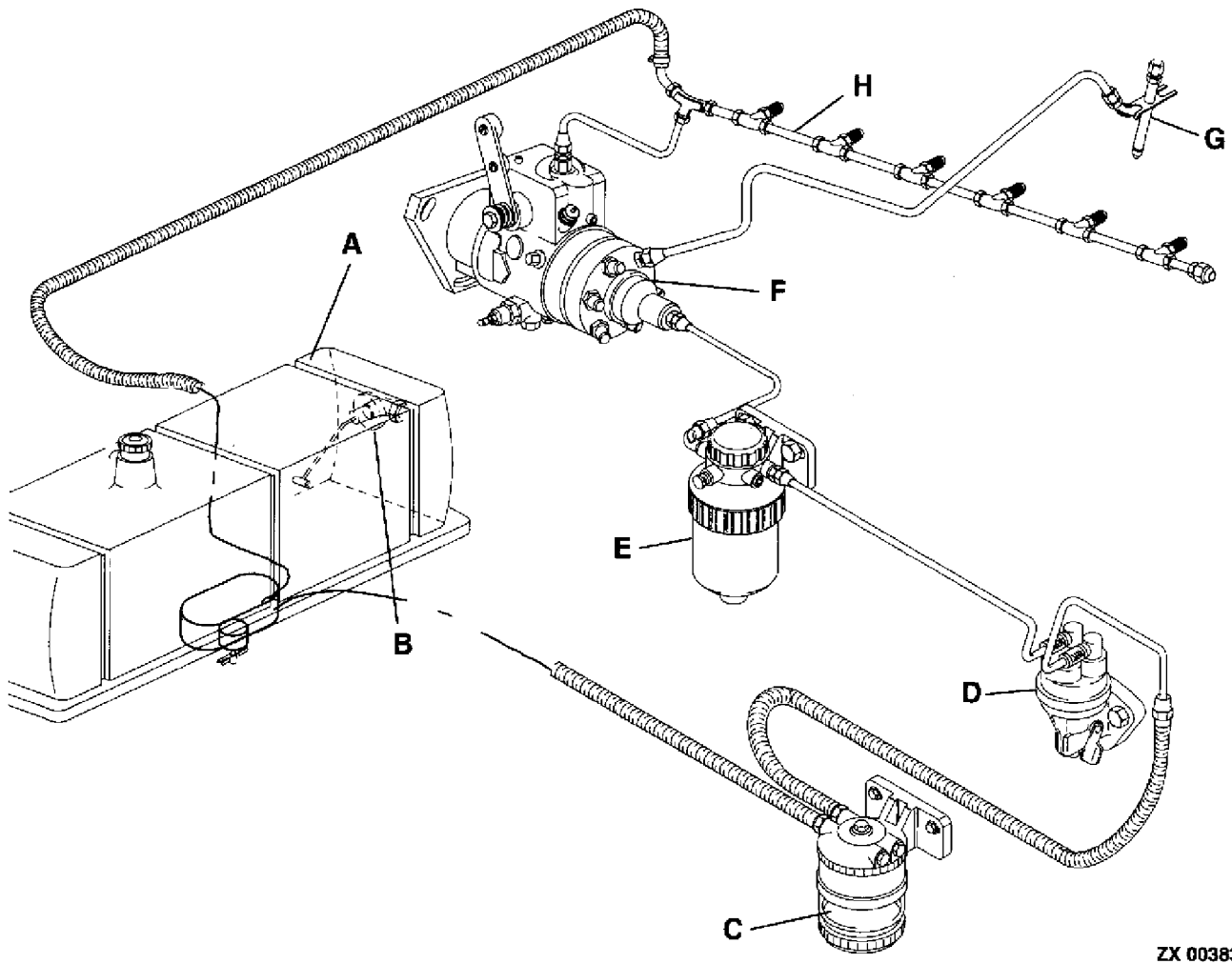
**IMPORTANT:** Modification or alteration of the injection pump, injection pump timing or fuel injectors in ways not recommended by the manufacturer will terminate the warranty obligation to the purchaser. See warranty information inside front cover.

Do not attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. See your John Deere dealer.

Never steam clean or spray water on a warm injection pump. This could cause damage to pump parts.

ZX,OMXZCO002086-19-01AUG92

### FUEL SYSTEM ON 6.8-L ENGINE



A—Fuel tank  
B—Fuel gauge sending unit  
C—Water trap

D—Mechanical fuel transfer pump

E—Fuel filter  
F—Injection pump

G—Injection nozzle  
H—Return line

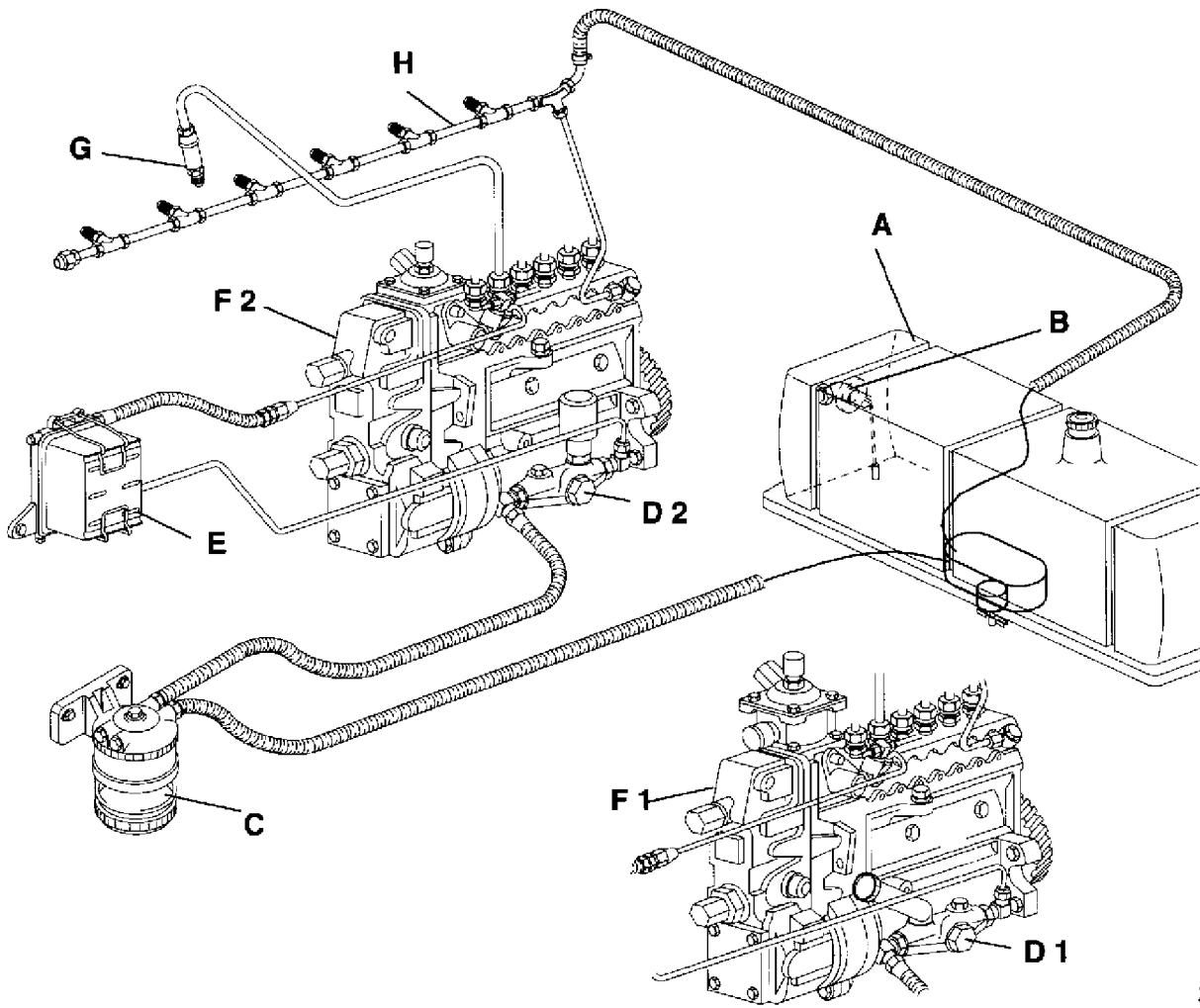
ZX 003838

ZX003838 -UN-23OCT00

ZX,OMXZC0002087-19-01AUG92



**FUEL SYSTEM ON 7.6-L ENGINE**



A—Fuel tank  
 B—Fuel gauge sending unit  
 C—Water trap  
 D1—Mechanical fuel transfer pump (2056)

D2—Mechanical fuel transfer pump (2058 to 2066)  
 E—Fuel filter

F1—Injection pump (2056)  
 F2—Injection pump (2058 to 2066)

G—Injection nozzle  
 H—Return line

ZX 003839

ZX003839 -UN-23OCT00

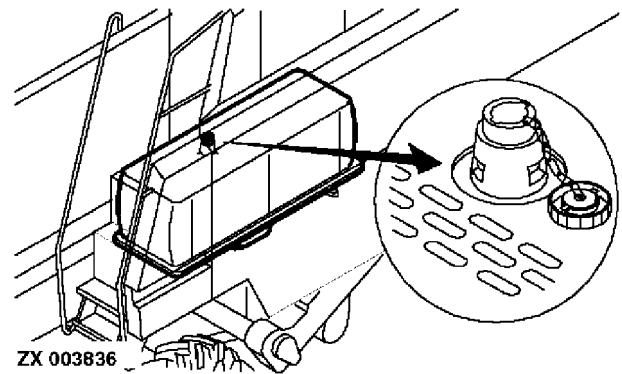
ZX,OMXZC0002088-19-13NOV92

## FUEL TANK FILLER NECK

The fuel tank filler neck is closed with a tank cap.

The fuel tank is vented through an opening in the cap.

Clean dust and chaff from the surrounding area before removing tank cap.



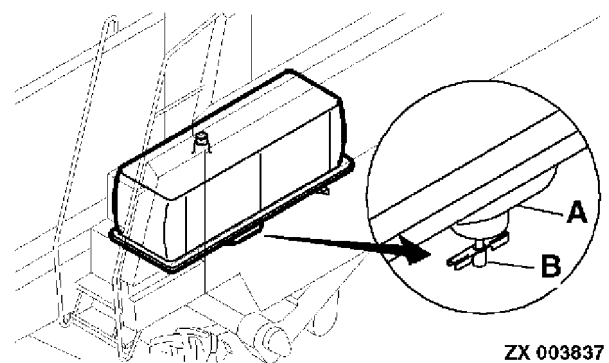
ZX.OMXZC0002089-19-13NOV92

## FUEL TANK WATER TRAP

**IMPORTANT: If the fuel is severely contaminated, drain water and sediment deposits into a suitable container. Do this several times daily if necessary.**

Water and sediment collect in water trap (A).

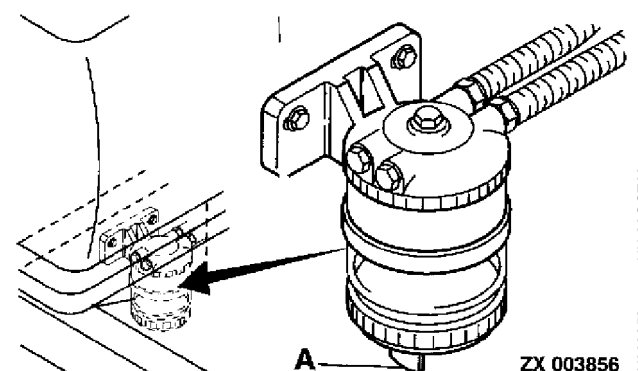
Every day before starting work, open drain valve (B) and drain water and sediment deposits until the fuel flowing out is clean. Close drain valve.



ZX.OMXZC0002090-19-01AUG92

## WATER SEPARATOR

Remove water and sediment from the separator once a day at drain screw (A).



ZX.OMXZC0002091-19-01AUG92

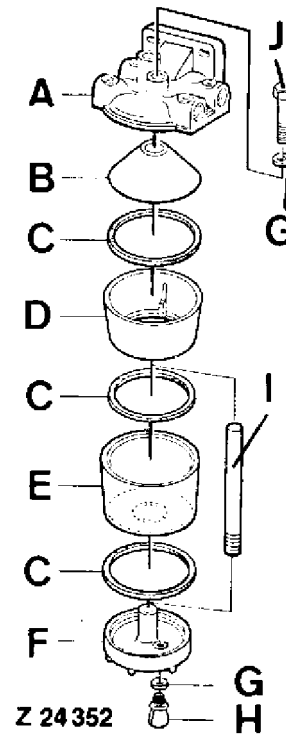
## CLEANING THE WATER SEPARATOR

If water and sediment deposits are visible, open drain screw (H) with the engine shut off. Dismantle water separator as shown in illustration. Proceed as follows:

- Unscrew and remove bleed screw (J) while holding filter base (F) stationary.
- Remove filter base (F) together with components (B), (C) and (D). Clean all components thoroughly with diesel fuel. Do not use petrol (gasoline).
- If necessary, use new sealing rings (C). The topmost ring has a blue mark. Make sure this mark faces upward.

After cleaning, reassemble water separator.

- A—Filter cover
- B—Bowl
- C—Sealing rings
- D—Filter body
- E—Sight glass
- F—Filter base
- G—Gasket
- H—Drain screw
- I—Threaded pipe
- J—Bleed screw



Z 24 352

ZX,OMXZC0002092-19-01AUG92

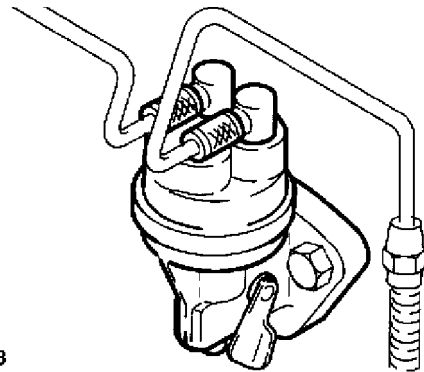
Z24352 -UN-28APR95

## MECHANICAL FUEL TRANSFER PUMP (6.8-L ENGINE)

This pump is maintenance-free.

If a defect occurs, consult your John Deere dealer.

ZX 003858



ZX,OMXZC0002093-19-01AUG92

ZX003858 -UN-23OCT00

### EMPTYING FUEL FILTER (6.8-L ENGINE)

**⚠ CAUTION:** Always remove ignition key before performing maintenance work on fuel filter. Avoid fire hazards!

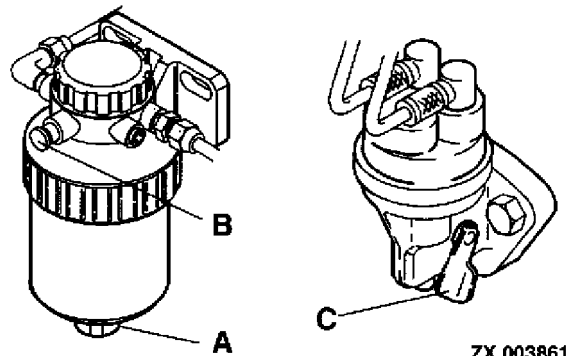
Slacken off drain screw (A).

Open bleed screw (B).

Retighten drain screw as soon as the water and sediment deposits have drained off.

Actuate pump lever (C), until the fuel filter has been completely purged of air.

Retighten bleed screw.



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ZX003861

ZX,OMXZC0002095-19-01AUG92

### REPLACING FUEL FILTER ELEMENT (6.8-L ENGINE)

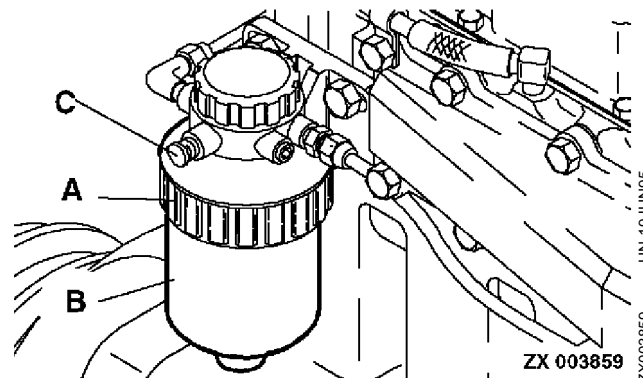
**⚠ CAUTION:** Always remove ignition key before performing maintenance work on fuel filter. Avoid fire hazards!

Replace filter elements after every 250 hours of operation or at the end of every harvesting season.

Unfasten ring (A) and remove filter element (B).

Insert new filter element and retighten ring (A).

Slacken off bleed screw (C) (see "Bleeding Fuel System"). Tighten bleed screw by hand.



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ZX003859

ZX,OMXZC0002094-19-01AUG92

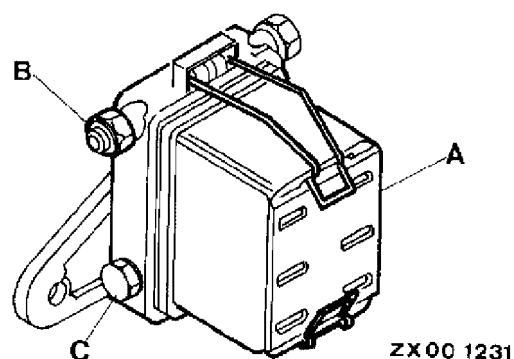
### EMPTYING FUEL FILTER (7.6-L ENGINE)

**CAUTION:** Always remove ignition key before performing maintenance work on fuel filter. Avoid fire hazards!

Slacken off drain screw (C).

Open bleed screw (B).

Water and sediment deposits flow out of filter (A).



ZX001231 -UN-10APR95

ZX.OMXZC0002096-19-01AUG92

### REPLACING FUEL FILTER ELEMENT (7.6-L ENGINE)

**CAUTION:** Always remove ignition key before performing maintenance work on fuel filter. Avoid fire hazards!

**IMPORTANT:** Impurities trapped in the groove or in the cavity of spring pin (C) might be flushed into the injection system where they could damage the pump or injectors.

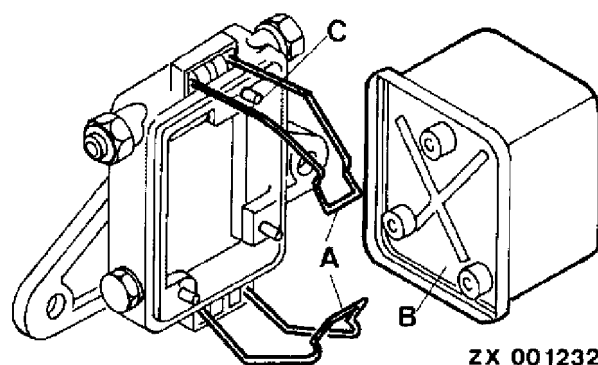
Replace filter elements after every 250 hours of operation or at the end of every harvesting season.

To empty filter element, slacken off bleed screw and remove drain screw.

Release retaining springs (A).

Pull off filter (B) and install new filter.

Bleed air from filter every time the filter is changed and whenever the fuel system has to be drained as a result of a fuel shortage.



ZX001232 -UN-03APR95

ZX.OMXZC0002097-19-01AUG92

## CHECKING INJECTION NOZZLES

**IMPORTANT:** Never attempt to remove injection nozzles. Special tools are required.

If the engine is running rough, this indicates that the injection nozzles are clogged or not operating properly. Consult your John Deere dealer.

ZX,OMXZC0002098-19-01AUG92

## BLEEDING THE FUEL SYSTEM

### General information

Bleed the fuel system:

- After every filter change
- Whenever the fuel tank has run dry

- After repair work on the fuel system
- If the engine has not been run for a while

ZX,OMXZC0002099-19-01AUG92

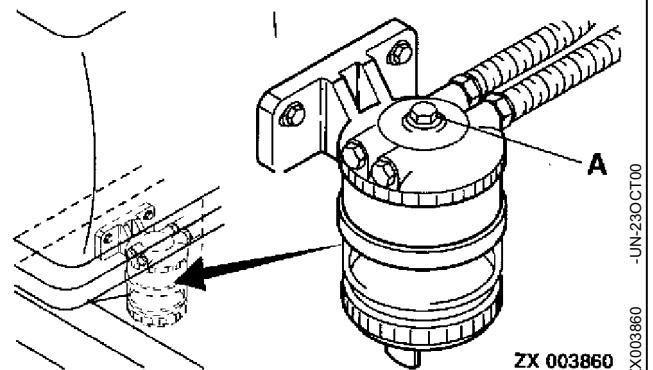
### Water separator

The fuel tank must be full.

Slacken off water separator bleed screw (A) and trap the fuel that flows out.

The fuel must be free of bubbles as it emerges.

Close bleed screw (A) again.



ZX,OMXZC0002100-19-01AUG92

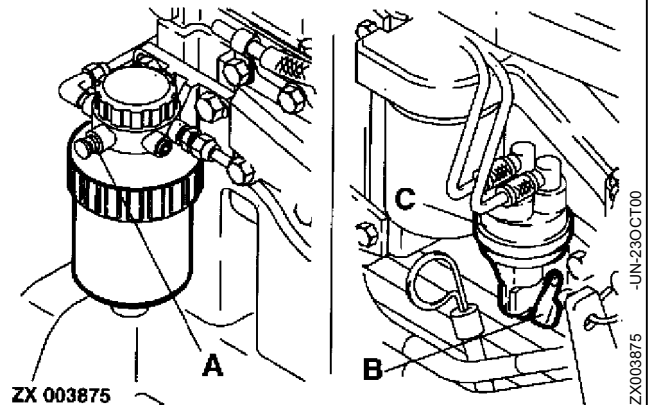
**Fuel filter (6.8-L engine)**

Slacken off bleed screw (A).

Operate primer piston (B) at fuel transfer pump (C) manually until the fuel emerging from bleed screw (A) is free of air bubbles.

Retighten bleed screw.

*NOTE: If no resistance is felt when moving the primer piston, turn engine over with starting motor to change position of primer pump cam.*



ZX.OMXZC0002101-19-13NOV92

**Fuel filter (7.6-L engine)**

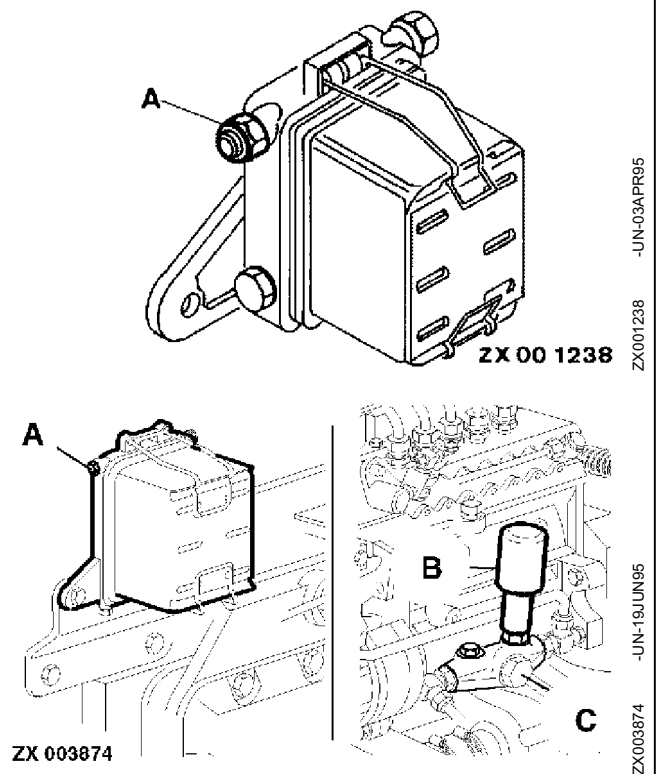
First bleed the water separator.

Then slacken off bleed screw (A).

Operate primer piston (B) manually at fuel transfer pump (C) until the fuel emerging from bleed screw (A) is free of air bubbles.

Then retighten bleed screw.

*NOTE: If no resistance is felt when moving the primer piston, turn engine over with starting motor to change position of primer pump cam.*

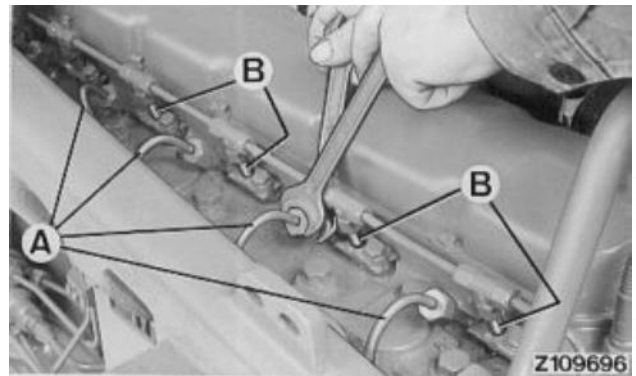


ZX.OMXZC0002102-19-01AUG92

### Behind fuel injection pump

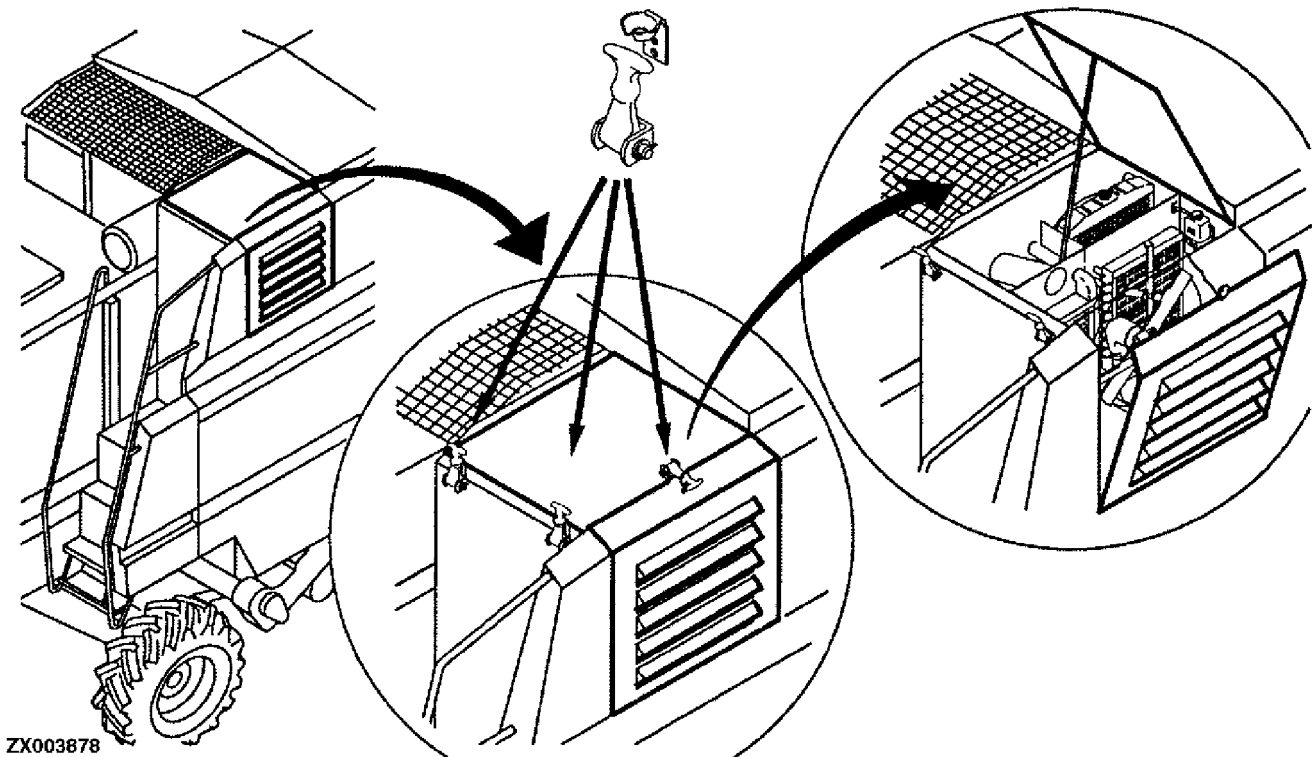
If the engine will still not start despite carrying out the previous steps, proceed as follows:

- Place hand throttle lever at “fast idle”.
- Using two open-ended wrenches, loosen fuel lines (A) on at least three injection nozzles (B).
- Turn over engine with starter motor until the fuel flowing out of the loosened fuel injector connections is free of air bubbles. Retighten connections.



ZX,OMXZC0002103-19-01AUG92

### ACCESS TO COOLING ELEMENTS

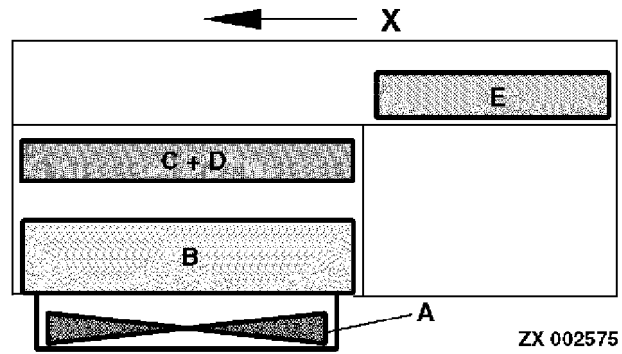


ZX,OMXZC0002104-19-01AUG92



**LAYOUT OF COOLING ELEMENTS (2054 AND 2066)**

- A—Fan
- B—Radiator
- C—Hydraulic oil cooler (top)
- D—Air conditioning condenser (below, when equipped)
- E—Intercooler
- X—Direction of travel



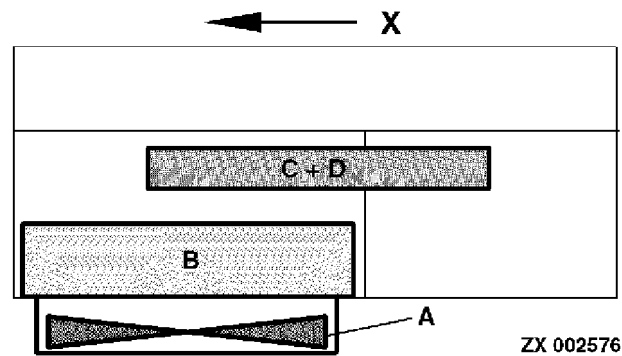
ZX 002575

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ZX002575

**LAYOUT OF COOLING ELEMENTS (2056—2064)**

- A—Fan
- B—Radiator
- C—Hydraulic oil cooler (top)
- D—Air conditioning condenser (below, when equipped)
- X—Direction of travel



ZX 002576

ZX,OMXZC0002106-19-13NOV92

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ZX002576

## ENGINE COOLANT

**CAUTION:** Danger of scalding. Do not loosen or remove the radiator filler cap when coolant temperature is near or above boiling point. Always loosen the cap slightly to relieve pressure before removing cap completely.

Add coolant only when the engine is shut off.

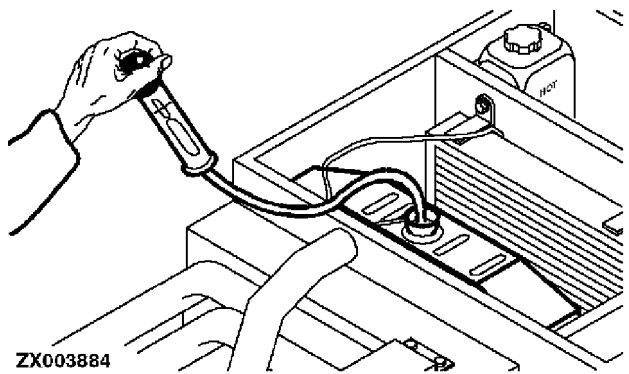
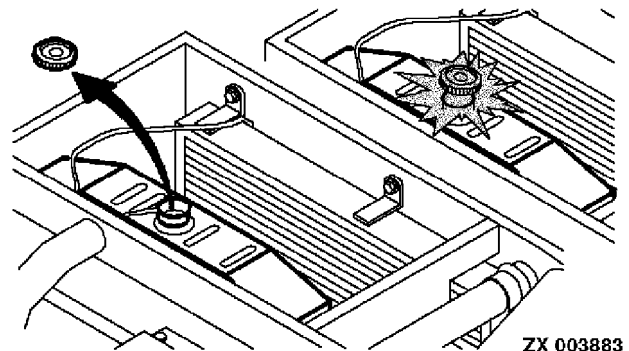
When the engine is cool, the coolant level should be up to the “COLD” mark.

### Checking coolant quality

**IMPORTANT:** Regardless of the season, use only John Deere COOL-GARD in the cooling system. Drain cooling system and refill with fresh coolant every 2 years.

Check condition of coolant mixture before the winter season. Coolant should protect engine against frost down to  $-36^{\circ}\text{C}$  ( $-35^{\circ}\text{F}$ ).

Never use any cooling system sealing additives.

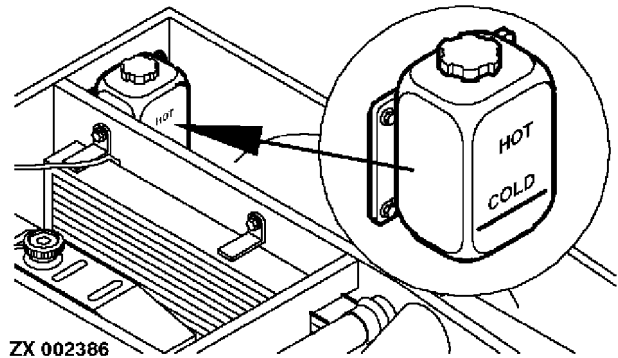


## ADDING COOLANT

**CAUTION:** Danger of scalding. Do not loosen or remove the radiator filler cap when coolant temperature is near or above boiling point. Always loosen the cap slightly to relieve pressure before removing cap completely.

**IMPORTANT:** Add a recommended coolant (see “Fuels, Lubricants, Hydraulic Oil, Coolant and Capacities”). Never use a cooling system sealing additive. Never pour cold liquid into a hot engine, as this may crack the cylinder head or block. Never operate engine without coolant.

When the system is cool, coolant level should be up to the “COLD” mark on the expansion tank.



ZX,OMXZC0002108-19-01AUG92

## FLUSHING SEQUENCE — COOLING SYSTEM

Drain and flush the cooling system at least every two years.

Having drained off all coolant, close drain tap or replace plug. Fill system with clean water.

Start engine and run until it reaches operating temperature.

Turn cab heater on and leave on until cleaning of cooling system is finished.

Stop engine and drain system immediately before rust and sediment deposits settle.

Close drain tap or replace plug. Clean system with commercial cooling system cleaner, following the instructions supplied with the cleaner.

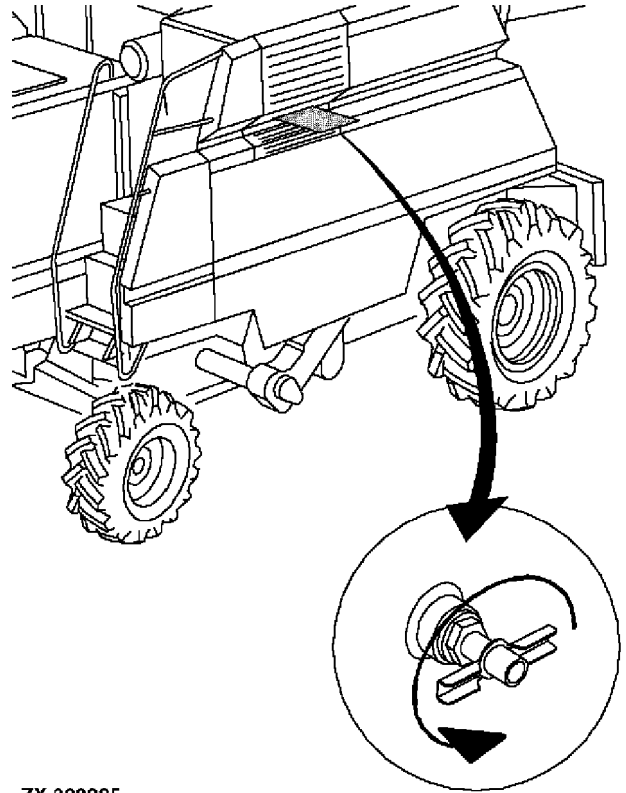
Drain cooling system cleaner and refill system again with clean water. Shut off engine when water reaches operating temperature and drain system again.

Refill system with the specified coolant (see “Engine Coolant”).

**IMPORTANT:** The cooling system must always be filled with John Deere COOL-GARD, irrespective of the season.

ZX,OMSPFH001283-19-01NOV91

### DRAIN VALVE FOR ENGINE COOLANT AT RADIATOR



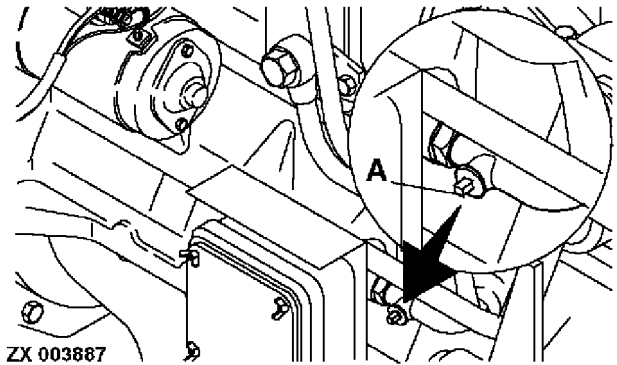
ZX 003885

ZX,OMXZC0002109-19-01AUG92

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ZX003885

### DRAIN PLUG FOR ENGINE COOLANT (6.8-L ENGINE)

A—In oil cooler inlet line



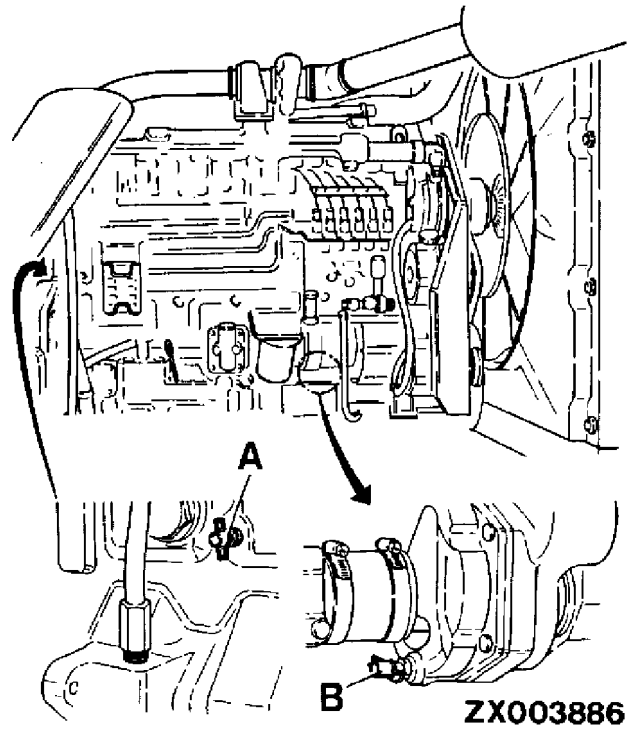
ZX 003887

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ZX003887

### DRAIN VALVES FOR ENGINE COOLANT (7.6-L ENGINE)

- A—At r.h. side of cylinder block
- B—At coolant pump



ZX003886 -UN-28JUN95

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## REPLACING THERMOSTATS

Replace thermostats when changing the coolant.

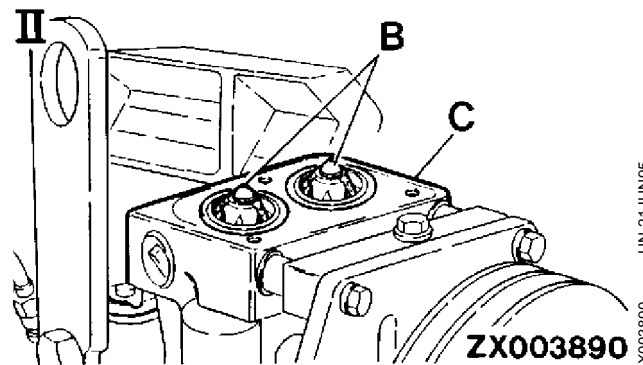
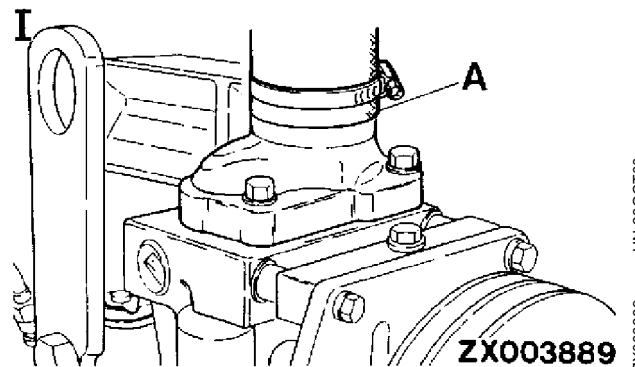
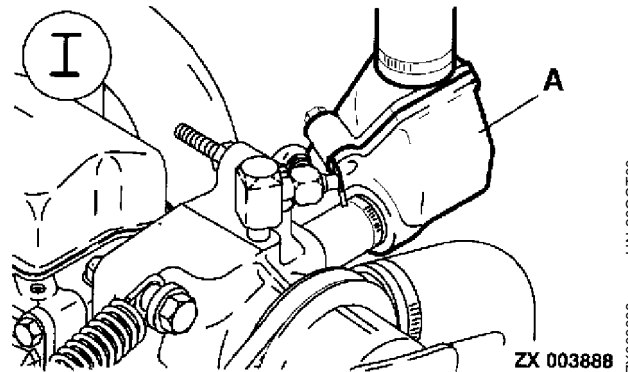
To change the thermostats, take out cap screws and remove thermostat cover (A).

Remove and discard thermostats (B) and all gasket material (C).

Coat new gasket with sealant, and install.

Install new thermostats and cover. Tighten all cap screws to 47 N·m (35 lb-ft).

- I—Thermostat housing (6.8-L engine)
- II—Thermostat housing (7.6-L engine)



ZX,OMXZC0002112-19-13NOV92

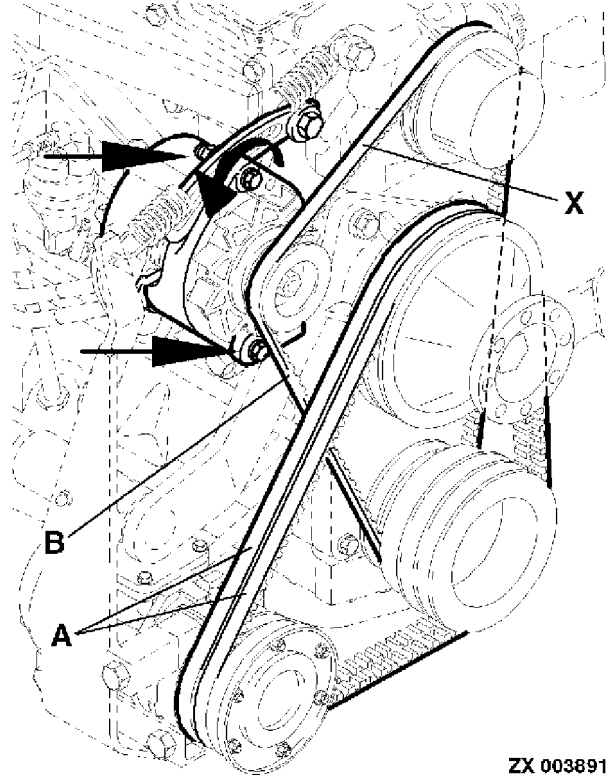
### DRIVE BELTS (6.8-L ENGINE)

**IMPORTANT:** Belts must be cool when tension is adjusted. Exert pressure on mounting brackets only.

To retension, slacken off attaching and adjusting screws. Pull alternator outwards. Tighten screws.

Check tension of belt (B) at point (X). Flexion on the belt should not exceed 5 mm (0.2 in.).

- A—Drive belts for fan (2 x) and air conditioning compressor (if equipped)
- B—Drive belts for coolant pump and alternator



ZX 003891

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ZX003891

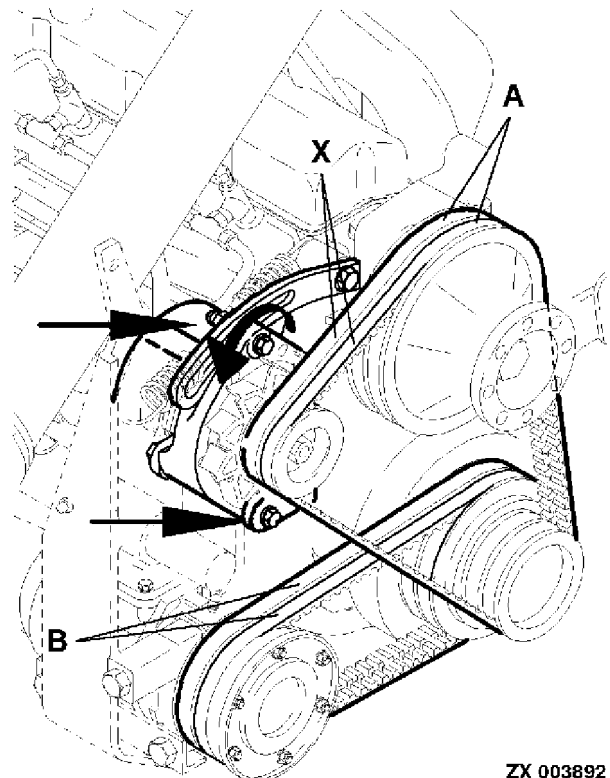
### DRIVE BELTS (7.6-L ENGINE)

**IMPORTANT:** Belts must be cool when tension is adjusted. Exert pressure on mounting brackets only.

To retension, slacken off attaching and adjusting screws. Pull alternator outwards. Tighten screws.

Check tension of belt (A) at point (X). Flexion on the belt should not exceed 5 mm (0.2 in.).

- A—Drive belt for fan and alternator
- B—Drive belt for air conditioning compressor (if equipped)

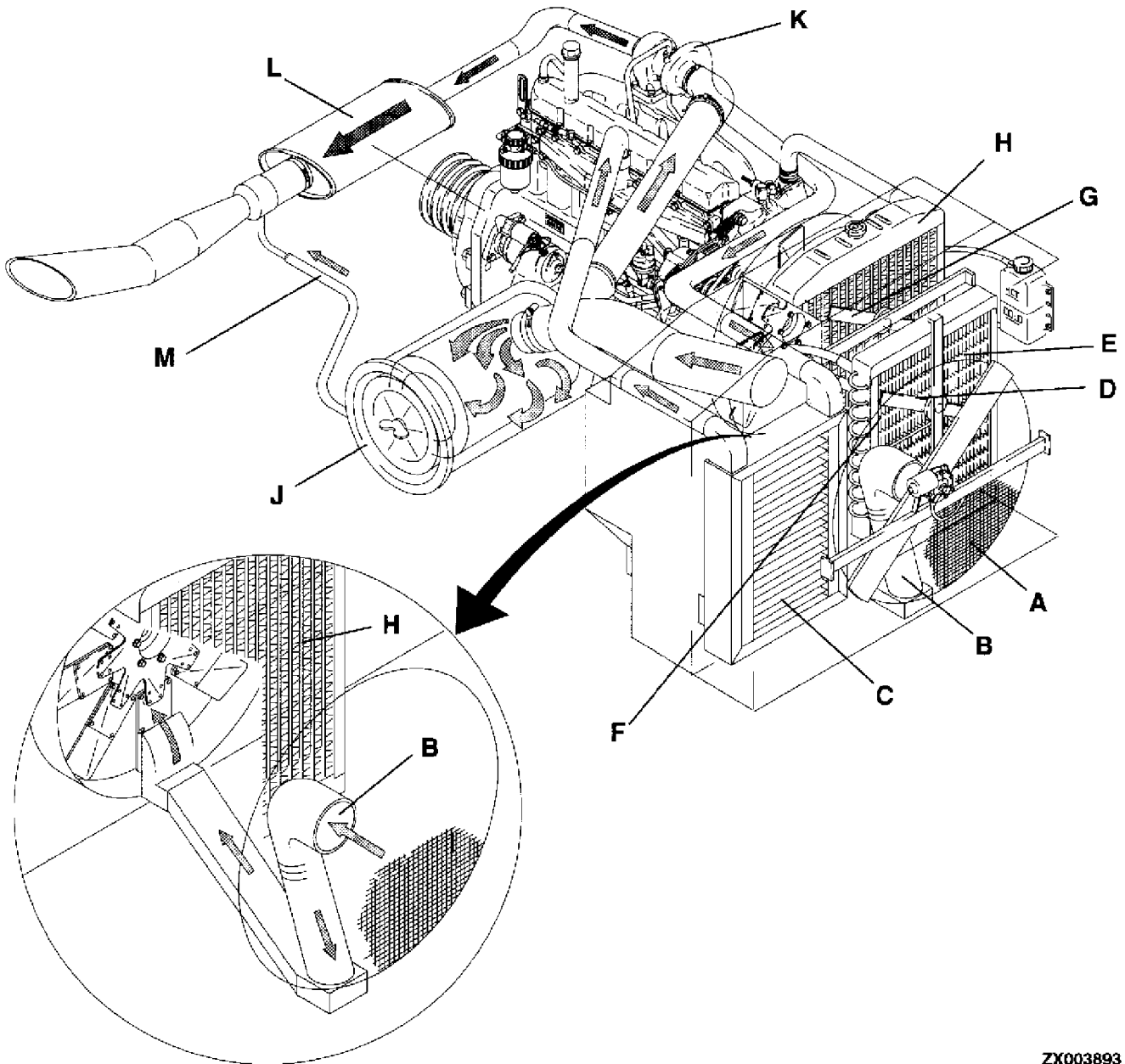


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-UN-19JUN95  
ZX003892

**AIR INTAKE SYSTEM WITH AIR-TO-AIR INTERCOOLER**



- |  |  |                                   |                            |
|--|--|-----------------------------------|----------------------------|
| A—Stationary radiator screen with driven cleaning fan      | C—Air-to-air intercooler                   | G—Eddy fan for radiator           | K—Turbocharger             |
| B—Suction pipe and channel from stationary radiator screen | D—Eddy fan for oil cooler/condenser        | H—Radiator                        | L—Muffler                  |
|  | E—Hydraulic oil cooler                     | J—Air cleaner with safety element | M—Air cleaner suction pipe |
|  | F—Air conditioning condenser (if equipped) |                                   |                            |

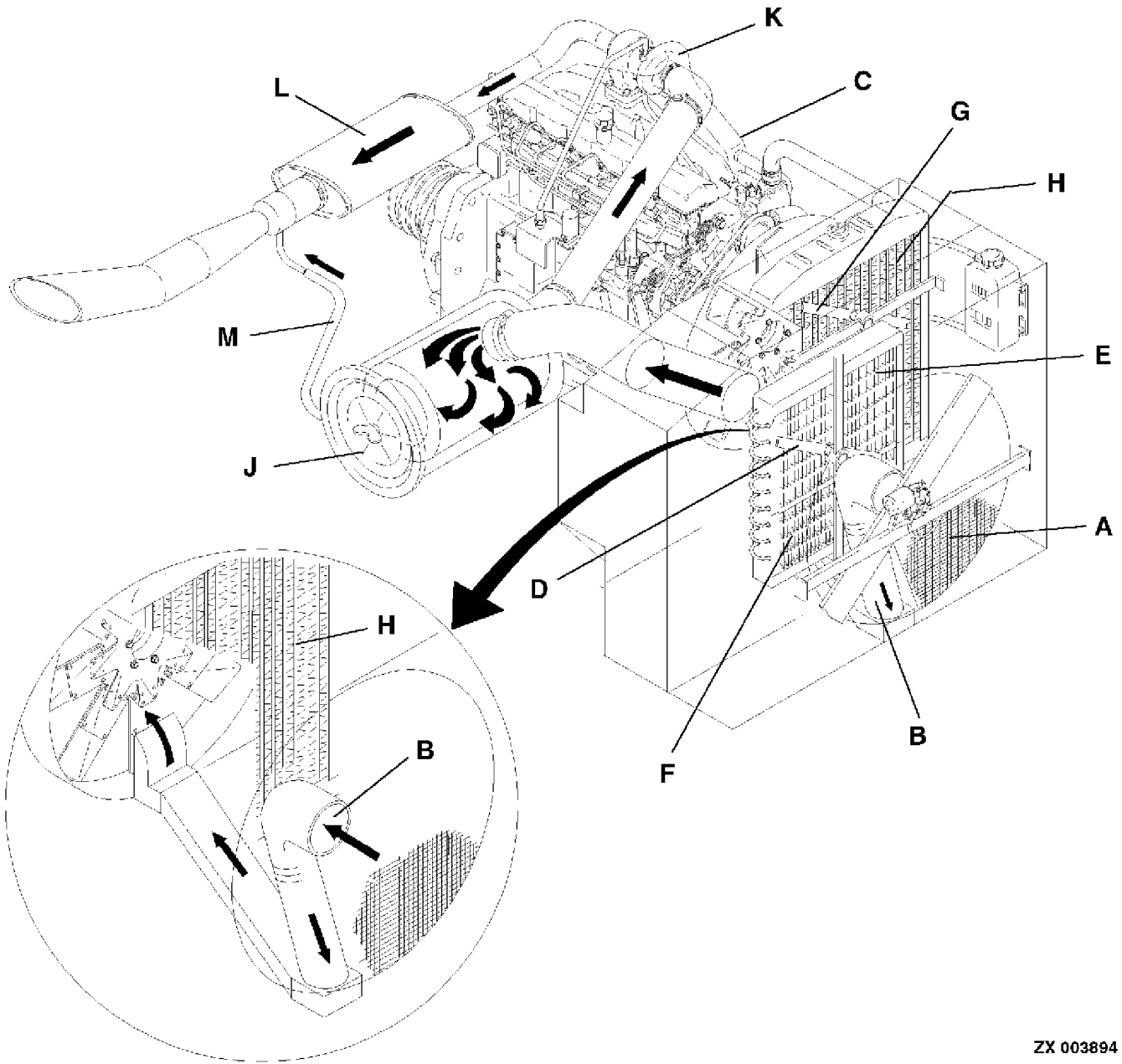
ZX003893

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**AIR INTAKE SYSTEM WITH WATER-TO-AIR INTERCOOLER**



- |  |  |  |   |
|--|--|--|---|
| <p><b>A</b>—Stationary radiator screen with driven cleaning fan</p> <p><b>B</b>—Suction pipe and channel from stationary radiator screen</p> | <p><b>C</b>—Water-to-air intercooler</p> <p><b>D</b>—Eddy fan for hydraulic oil cooler/condenser</p> <p><b>E</b>—Hydraulic oil cooler</p> <p><b>F</b>—Air conditioning condenser (if equipped)</p> | <p><b>G</b>—Eddy fan for radiator</p> <p><b>H</b>—Radiator</p> <p><b>J</b>—Air cleaner with safety element</p> | <p><b>K</b>—Turbocharger</p> <p><b>L</b>—Muffler</p> <p><b>M</b>—Air cleaner suction pipe</p> |
|--|--|--|---|

ZX 003894

ZX003894 UN-19JUN95

ZX.OMXZC0002116-19-13NOV92

### REMOVING AIR CLEANER (PRIMARY) ELEMENT

**IMPORTANT:** Remove and clean air cleaner element only when the red “air cleaner” indicator light glows.

Remove wing nut (A).

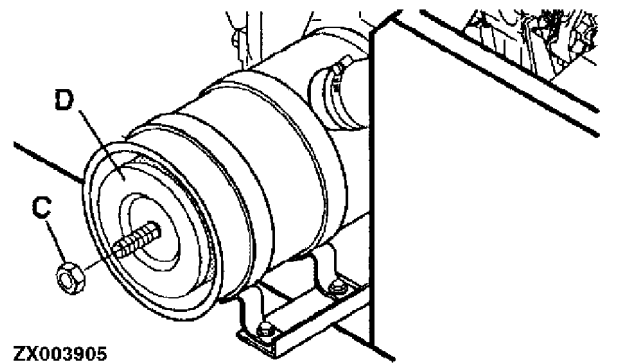
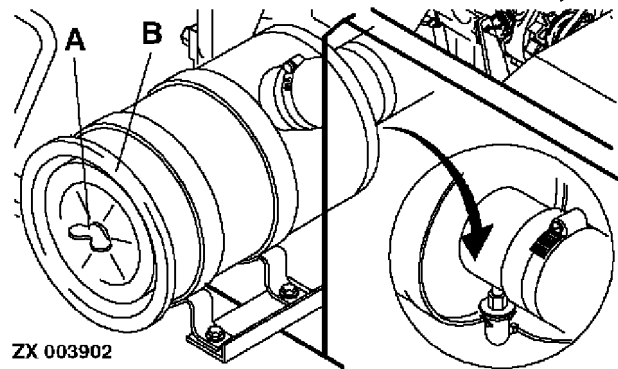
Lift off filter cover (B).

Remove hex. nut (C).

Lift out air cleaner element (D).

**IMPORTANT:** Never run the engine without air cleaner element installed.

- A—Wing nut
- B—Filter cover
- C—Hex. nut
- D—Air cleaner (primary) element



ZX,OMXZC0002117-19-01AUG92

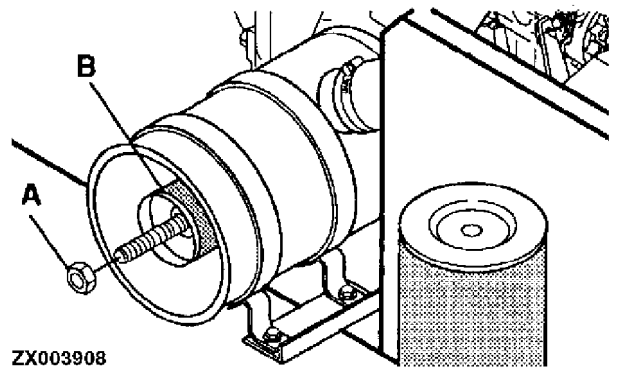
-UN-19JUN95  
ZX003902

-UN-08MAY95  
ZX003905

### REMOVING SAFETY (SECONDARY) ELEMENT

Take off hex. nut (A).

Lift out safety element (B).



ZX,OMXZC0002118-19-01AUG92

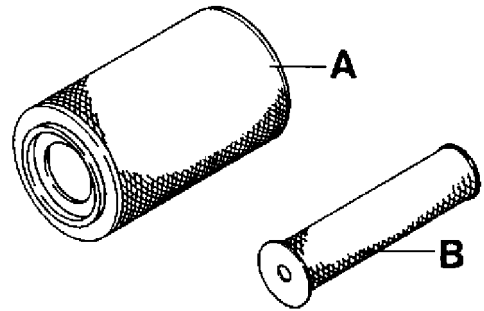
-UN-08MAY95  
ZX003908

### AIR CLEANER (PRIMARY) ELEMENT AND SAFETY (SECONDARY) ELEMENT

Each air cleaner has an air cleaner (primary) element (A) and a safety (secondary) element (B). The safety element retains dust that would otherwise pass into the engine if the primary element should rupture.

**IMPORTANT:** When installing primary and secondary elements, make sure that rubber sealing rings are seated correctly and absolutely clean. Replace both primary element and safety element after six washings.

**Never attempt to clean safety element.**



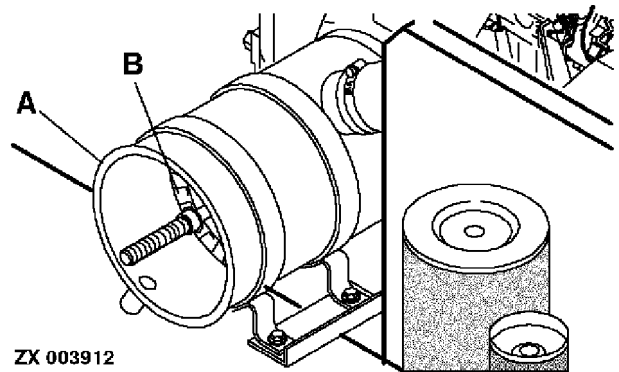
ZX001579

-UN-23MAR95  
ZX001579

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### CLEANING AIR CLEANER HOUSING

Before installing new or cleaned element, thoroughly clean inside of air cleaner housing (A) and turbulence ring (B) with a clean, dry cloth.



ZX 003912

-UN-19JUN95  
ZX003912

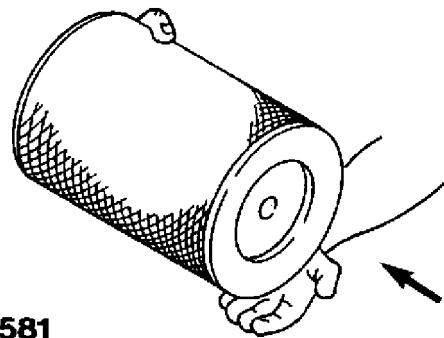
ZX,OMXZC0002119-19-01AUG92

### CLEANING AIR CLEANER PRIMARY ELEMENT

#### Provisional Field Cleaning

If the element has to be serviced on the field, tap it carefully on a soft surface (tire) or palm of your hand as a temporary measure.

**IMPORTANT:** Tap cleaner element on metal rim only.



ZX001581

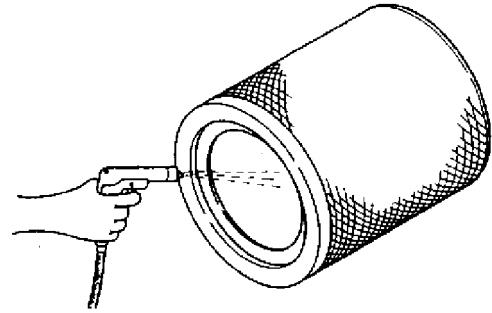
-UN-04APR95  
ZX001581

ZX,OMSPFH001304-19-01NOV91

### Cleaning with Compressed Air

Clean dry element with compressed air. Insert nozzle into element and blow from inside to outside. Pressure should not exceed 600 kPa (6 bar; 85 psi)

Clean with compressed air at least after approx. ten provisional cleanings.



ZX001582

ZX.OMSPFH001305-19-01NOV91

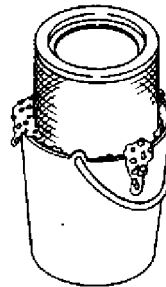
ZX001582 -UN-04APR95

### Washing Element

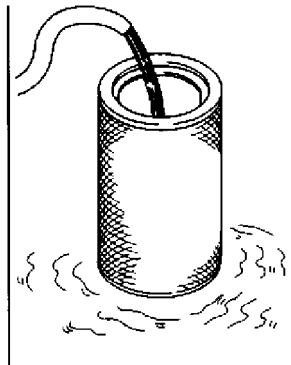
First rinse the filter element under running water to remove as much dirt as possible.

Then soak element for 15 minutes in lukewarm water, not above 32°C (90°F). If necessary, add a non-alkaline household detergent and wash filter.

Rinse filter element in clean running water with a pressure not exceeding 200 kPa (2 bar; 30 psi). Allow filter element to dry.



ZX001583



ZX001583 -UN-04APR95

**IMPORTANT: Never wash element in fuel or a strong cleaning agent.**

**Change both primary and secondary air cleaner elements at least every 1200 operating hours.**

ZX.OMSPFH001306-19-01NOV91

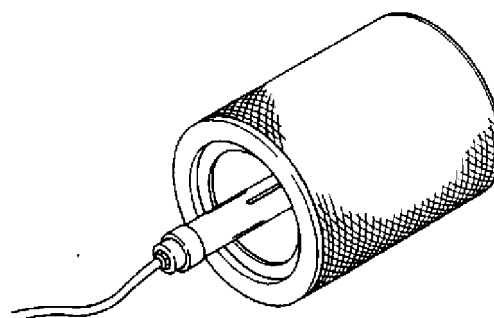
## INSPECTING ELEMENT

After cleaning the element, inspect it for damage by placing a bright light inside the filter.

Discard any filter that shows the slightest rupture.

Make sure that gasket is serviceable. Replace gasket, when necessary.

**IMPORTANT:** Never use a wet or damp element. Do not use compressed air to dry wet filter elements.



**ZX001584**

ZX001584 -UN-04APR95

ZX\_OMSPFH001307-19-01NOV91

## ELEMENT STORAGE

Store clean, dry element in a plastic bag to protect it against damage and dust.

ZX\_OMSPFH001308-19-01NOV91

## INSTALLING AIR CLEANER ELEMENT

**IMPORTANT:** Never use a wet or damp element.  
Make sure that rear rubber sealing rings are absolutely clean and seated correctly.

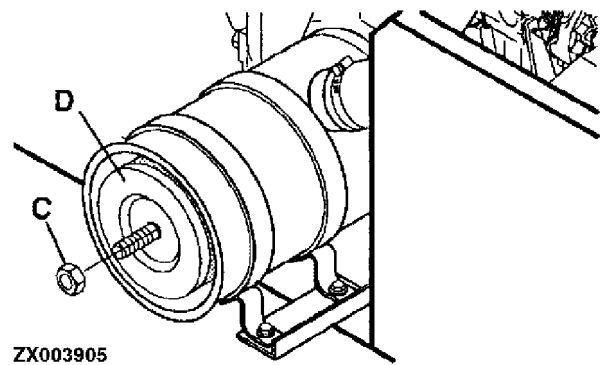
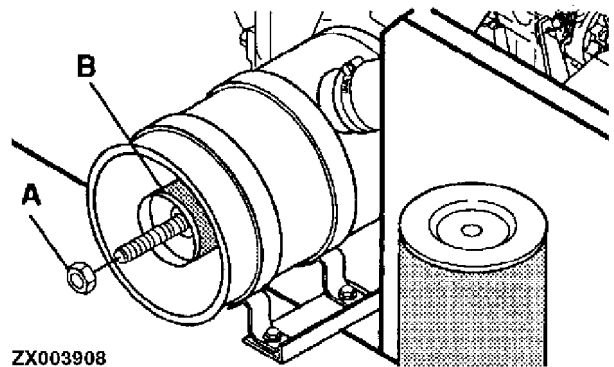
Install safety (secondary) element (B).

Tighten hex. nut (A).

Install primary element (D).

Tighten hex. nut (C).

- A—Hex. nut
- B—Safety (secondary) element
- C—Hex. nut
- D—Primary filter element



ZX,OMXZC0002120-19-01AUG92

-JUN-08MAY95

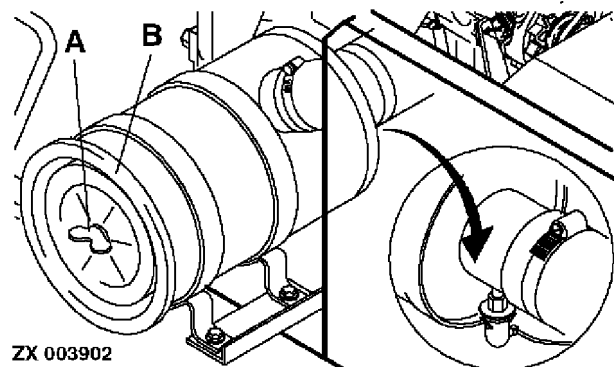
ZX003908

-JUN-08MAY95

ZX003905

## COMPLETING WORK ON AIR CLEANER

Put on filter cover (B) and secure with wing nut (A).



ZX,OMXZC0002121-19-01AUG92

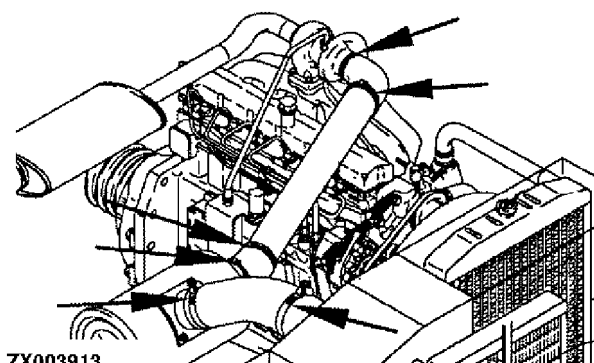
-JUN-19JUN95

ZX003902

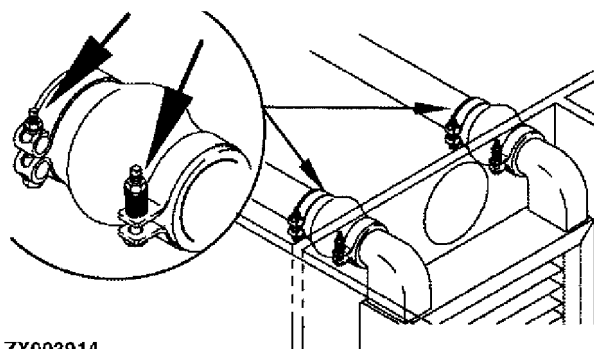
## AIR INTAKE LINES

Connections between steel tube and rubber hoses are sealed by hose clamps.

At least once a year, check and make sure that all hose clamps are seated and tightened correctly. When necessary, replace hoses or clamps.



ZX003913 -UN-19JUN95



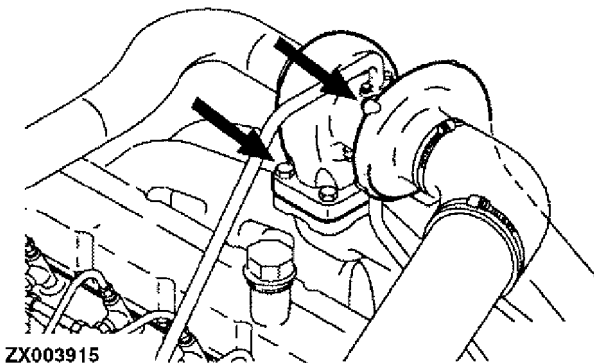
ZX003914 -UN-19JUN95

ZX,OMXZC0002122-19-01AUG92

## TURBOCHARGER

All engine types are equipped with a turbocharger.

Carefully check all connections and attaching points of the turbocharger every 200 hours. Any lube oil leaks at the turbocharger or its lube oil feed line must be rectified at once.



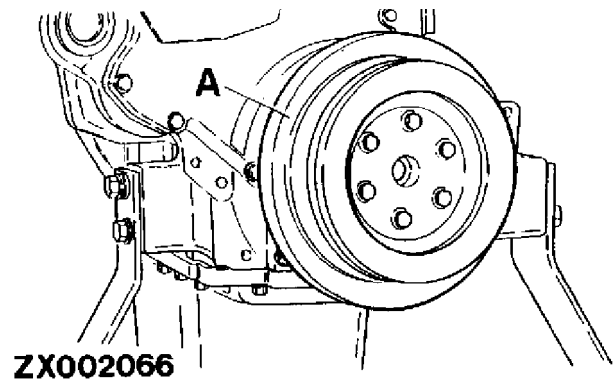
ZX003915 -UN-19JUN95

ZX,OMXZC0002123-19-01AUG92

## CHECKING CRANKSHAFT VIBRATION DAMPER

Grasp vibration damper (A) with both hands and attempt to turn it in both directions. If it rotates at all, the damper is defective and must be replaced.

**IMPORTANT:** The vibration damper assembly is not repairable and should be replaced by your John Deere dealer every five years or 4500 hours of operation, whichever occurs first.



ZX002066 -UN-04APR95

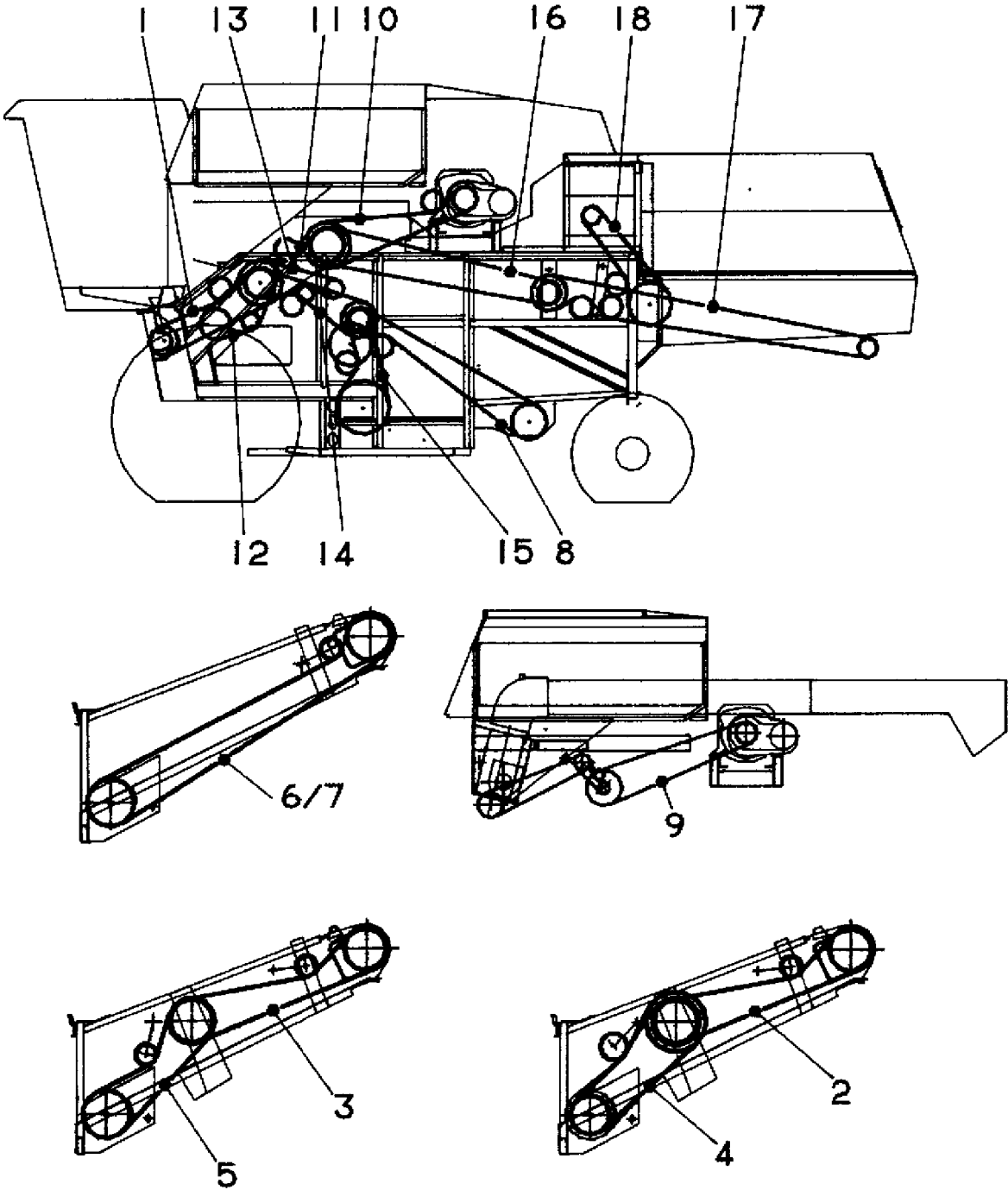
ZX,OMXZC0002124-19-01AUG92





# Service — Drives

## LAYOUT OF DRIVES ON LEFT-HAND SIDE



ZX003946

ZX003946 -UN-23OCT00

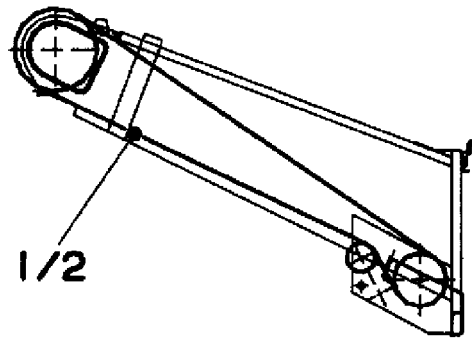
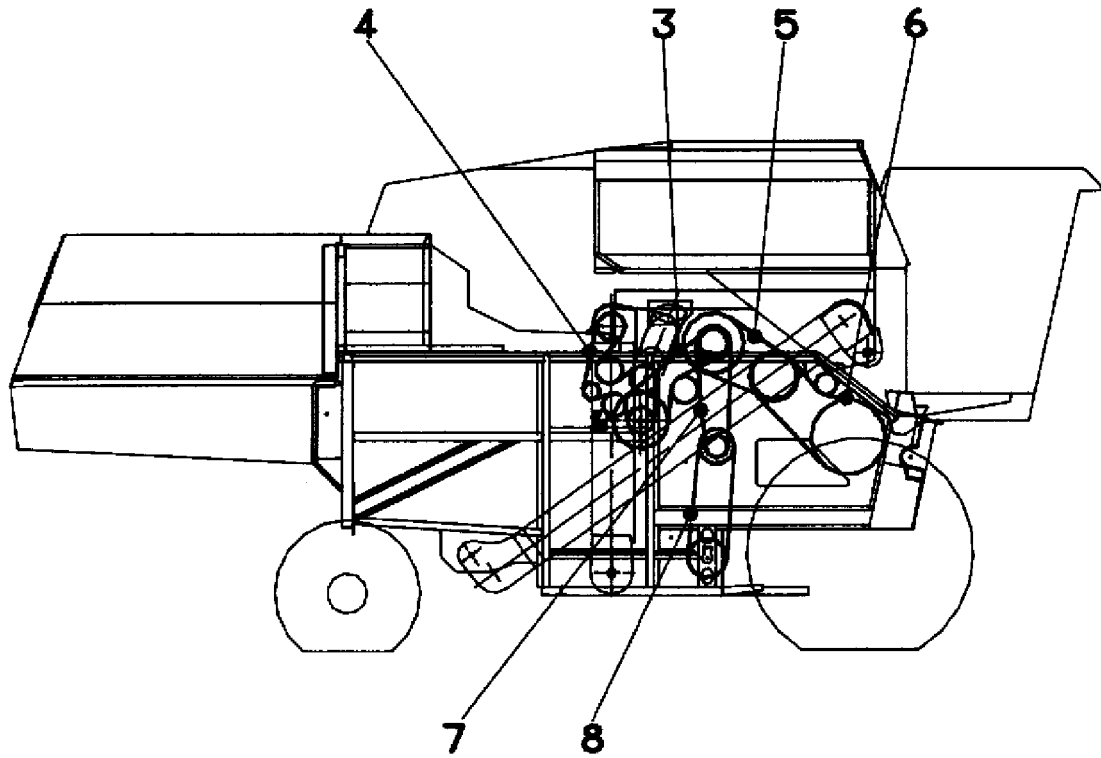
ZX.OMXZC0002246-19-05OCT92

**BELT SUMMARY, LEFT-HAND SIDE**

BELT	DESCRIPTION	BELT NUMBER
1	Header drive	Z59344
2	Feeder house drive with variator	Z54807
3	Hillmaster feeder house drive	Z58751
4	Feeder house drive with variator	Z54808
5	Hillmaster feeder house drive	Z55459
6	Feeder house drive	Z54406
7	Hillmaster feeder house drive	Z59419
8	Tailings drive	Z57235
9	Unloading drive	Z48212
10	Main countershaft drive	Z59255
11	2nd cylinder drive	Z52909
12	2nd cylinder variable drive	Z56421
13	Hydraulic reel drive	Z57084
14	Aux. countershaft drive, walkers	Z56959
15	Cleaning shoe drive	Z59322
16	Straw chopper countershaft drive	Z59286
17	Straw chopper drive	Z59342
18	Cross-shaker drive	Z59114

ZX,OMXZC0002247-19-05OCT92

LAYOUT OF DRIVES ON RIGHT-HAND SIDE



ZX003947

ZX003947 -UN-23OCT00

ZX.OMXZC0002248-19-05OCT92

### BELT SUMMARY, RIGHT-HAND SIDE

BELT	DESCRIPTION	BELT NUMBER
1	Feeder house drive	Z55801
2	Hillmaster feeder house drive	Z58752
3	Grain elevator drive countershaft	Z59556
4	Grain elevator drive	Z59557
5	Threshing cylinder drive	Z44936
6	Threshing cylinder drive	Z53515
7	Fan drive	Z56351
8	Fan drive	Z56352

ZX,OMXZC0002249-19-05OCT92

### PREPARATIONS FOR ADJUSTING BELT GUIDES ON MAIN COUNTERSHAFT AND UNLOADING DRIVE

Start the engine and allow pressure to build up in the hydraulic system.

Shut off engine.

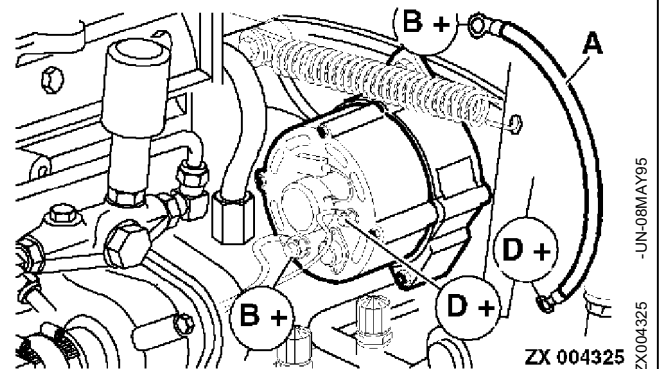
Attach bridge (A).

Put road safety switch in field position.

Switch on ignition.

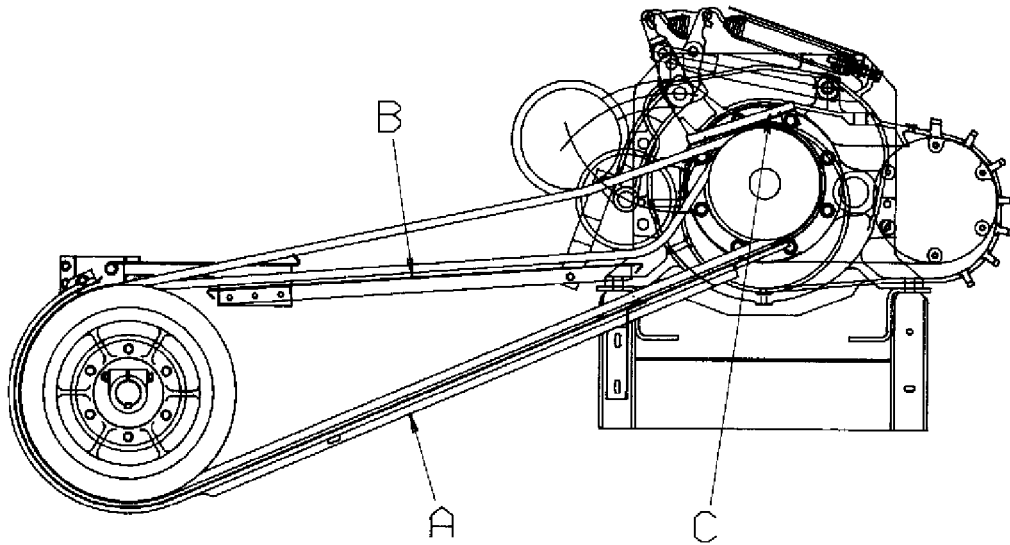
To adjust the belt guide on the main countershaft, press the separator switch on the switch console.

To adjust the belt guide on the unloading drive, press the unloading drive switch on the switch console.



ZX,OMXZC0002250-19-05OCT92

## MAIN COUNTERSHAFT DRIVE



ZX003948

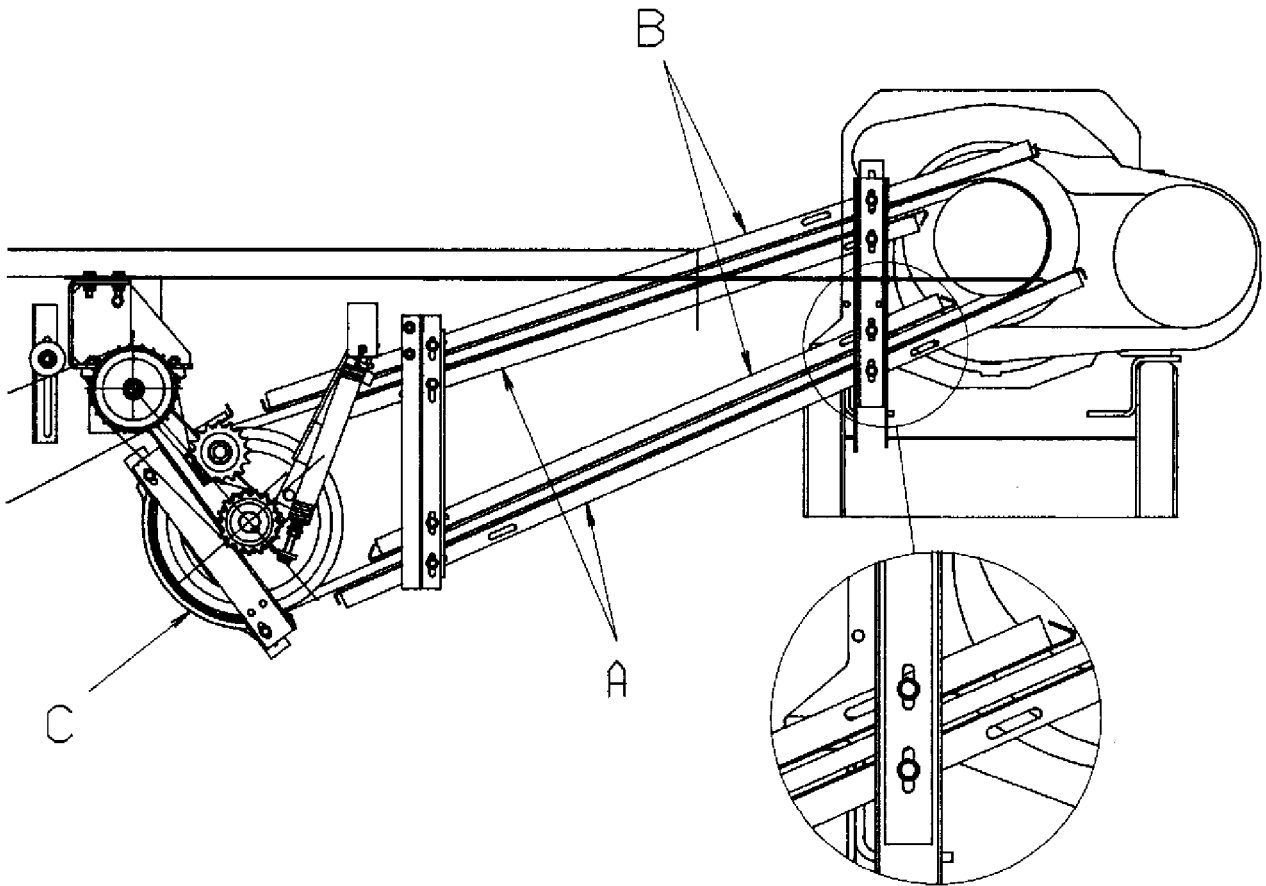
ZX003948  
-JUN-02MAY95

### Adjust belts:

- Tension belt with the machine stopped (see "Preparations for Adjusting Belts" in this section).
- Adjust belt guide (A) so that there is a gap of 4—6 mm (0.16—0.24 in.) between it and belt (B).
- Take tension off belt again.
- Adjust belt guide (C) so that a gap of approx. 5 mm (0.20 in.) remains between it and belt (B) when the tension is relaxed.
- Remove bridge from alternator.

ZX,OMXZC0002251-19-05OCT92

## UNLOADING DRIVE



ZX003949

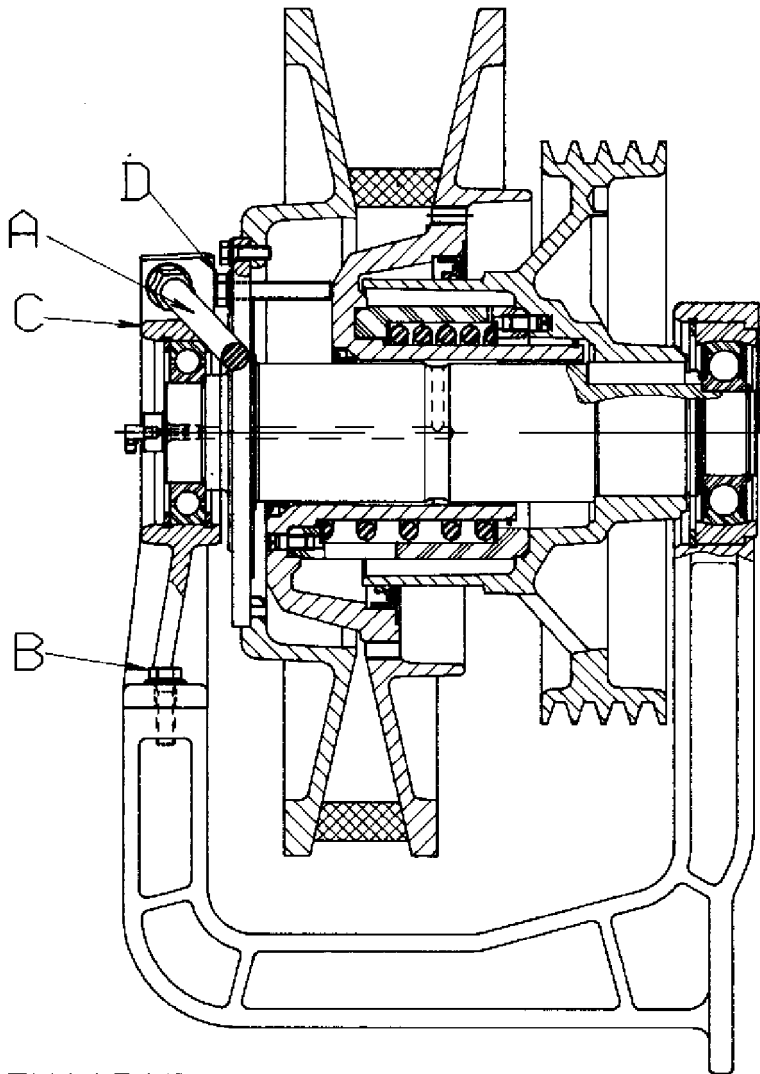
-UN-02MAY95  
ZX003949

### Adjust belts:

- Tension belt with the machine stopped (see "Preparations for Adjusting Belts" in this section).
- Adjust belt guides (A) and (C) so that there is a gap of approx. 5 mm (0.20 in.) between them and the belt.
- Take tension off belt again.
- Adjust belt guide (B) so that the belt does not become trapped when the clutch is released.
- Belt guides (A) and (B) must not collide with belt guide (C).
- Remove bridge from alternator.

ZX,OMXZC0002252-19-05OCT92

## CYLINDER DRIVE INTERMEDIATE COUNTERSHAFT



ZX003950

Change belt on intermediate countershaft:

- Move variator on main countershaft apart (at slow position).
- Dismantle torque strut (A).
- Remove screws (B) from bearing mount (C).
- Use M12x65 screws (D) to push variator plates apart.
- Turn bearing mount (C).
- Change belt.
- Reinstall bearing mount (C).
- Install torque strut (A) so that it is tension-free.
- Remove screws (D).

ZX.OMXZC0002253-19-05OCT92



## ADJUSTING FAN VARIATOR

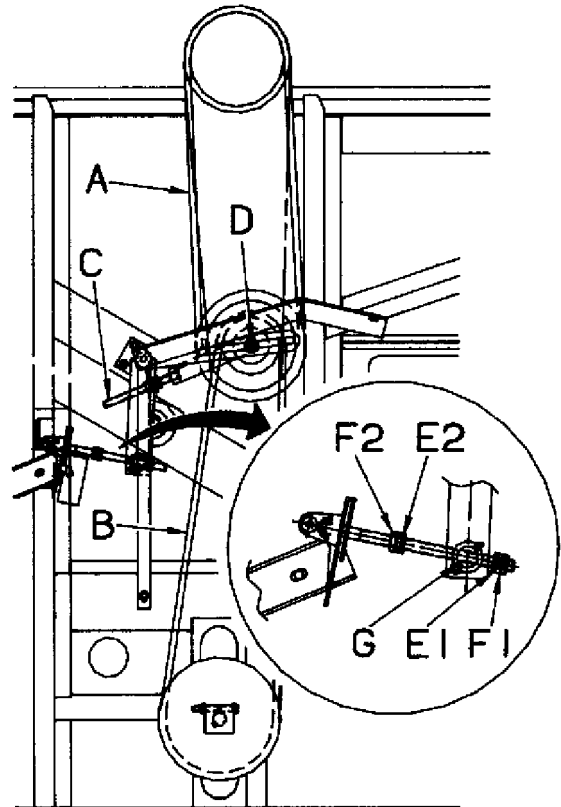
**CAUTION:** Before adjusting the machine or performing service work, always switch off all drives, shut off the engine and wait until all moving parts have come to a stop.

### Tension drive belts:

Once belts (A) and (B) are in position, tension the belts by means of fork (C). First slacken off screw (D).

### Variator stroke adjustment:

- Slacken off nuts (E) and lock nuts (F) fully.
- With the machine running, set variator to low speed until the middle disk moves outward.
- With the machine stopped, turn nut (E1) as far as pin (G). Tighten lock nut (F1).
- With the machine running, set variator to high speed until the middle disk moves inward.
- With the machine stopped, turn nut (E2) as far as pin (G). Tighten lock nut (F2).
- Set the variator to medium speed.
- With the machine stopped, turn nuts (E) and lock nuts (F) half a revolution in the direction of the arrow.



ZX003951

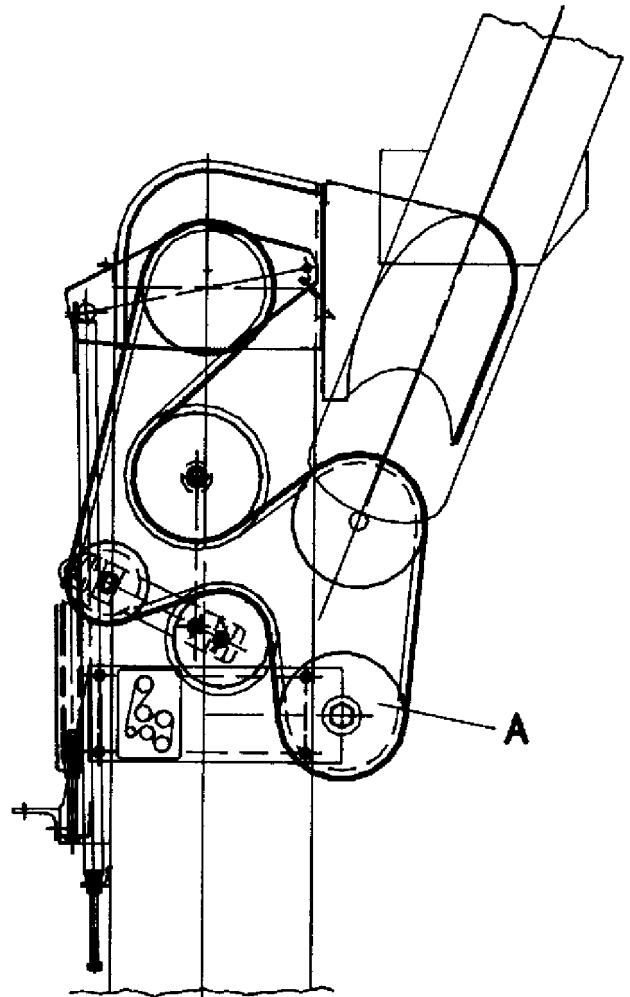
- A—Drive belt
- B—Drive belt
- C—Adjusting fork
- D—Screw
- E—Adjusting nuts
- F—Lock nuts
- G—Threaded pin

ZX,OMXZC0002254-19-05OCT92

ZX003951 -JUN-23MAY95

### LAYOUT OF DRIVE BELTS FOR CLEAN GRAIN ELEVATOR AND GRAIN TANK FILLING

A—Grain elevator countershaft



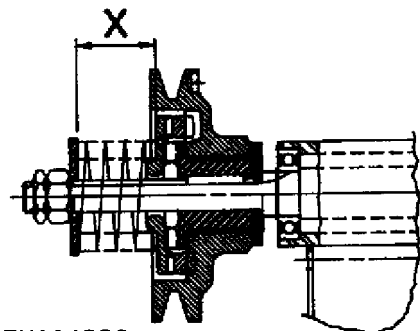
ZX003952

ZX,OMXZC0002255-19-05OCT92

ZX003952 -UN-23MAY95

### ADJUSTING COUNTERSHAFT FOR SLIP CLUTCH AND GRAIN ELEVATOR

X—Spring adjustment 62.5 mm (2.5 in.)



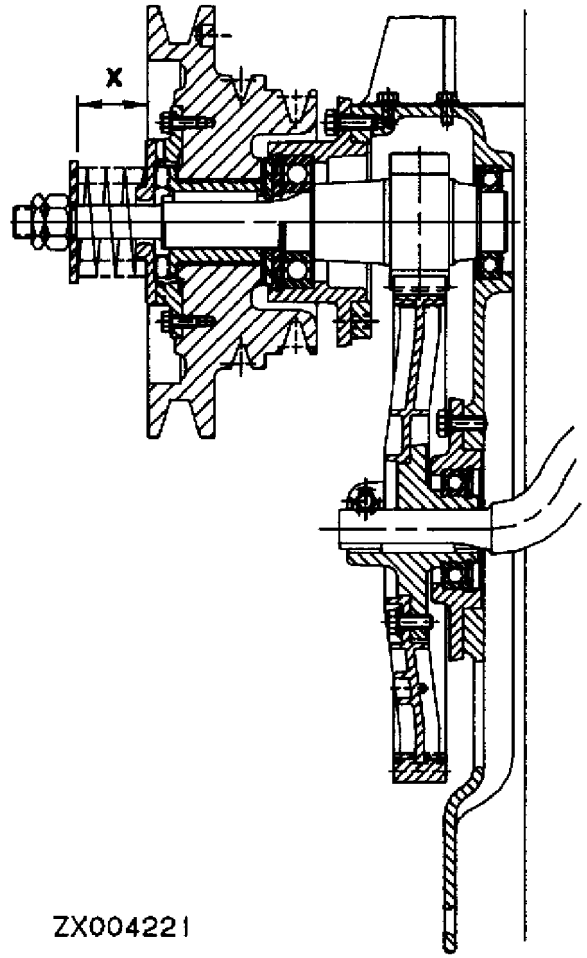
ZX004220

ZX,OMXZC0002256-19-05OCT92

ZX004220 -UN-23OCT00

### ADJUSTING SLIP CLUTCH FOR STRAW WALKER DRIVE

X—Spring adjustment 52 mm (2.05 in.)



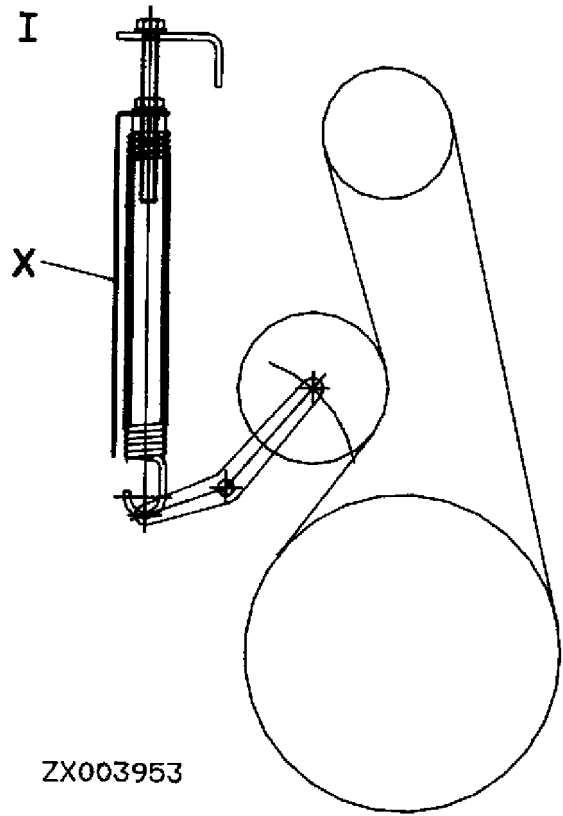
ZX004221

ZX004221 -UN-23OCT00

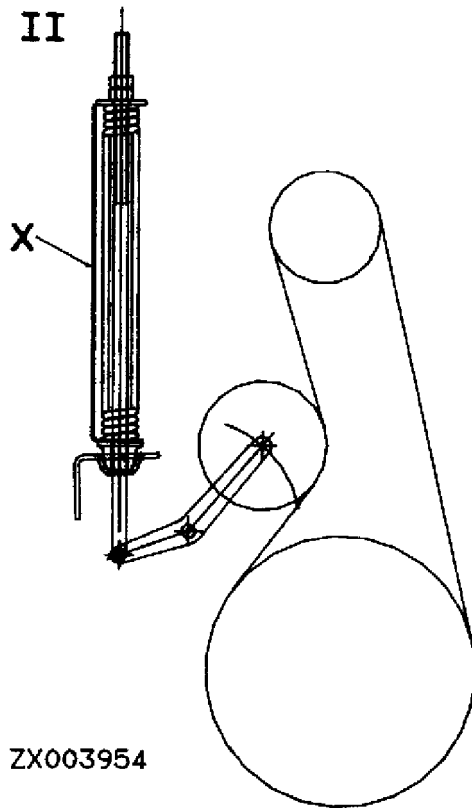
ZX,OMXZC0002257-19-05OCT92

### ADJUSTING THE BELT TENSIONERS

- I—Tension spring
- II—Compression spring
- X—Display adjustment



*Tension spring*



*Compression spring*

ZX.OMXZC0002258-19-05OCT92

ZX003953 -UN-22MAY95

ZX003954 -UN-22MAY95

## DRIVE CHAINS

### Checking chain tension

During the first few hours of operation, check that the tension on the chains is correct.

The flexion on a chain should be about 2% of the distance between the shafts of the drive sprocket and idler wheel, flexion being measured on section of chain opposite the tensioner. The chain must not hang on side with the tensioner.

Example: If the distance between the shafts of the drive sprocket and idler wheel is 250 mm (10 in.),

the chain should not hang by more than 5 mm (0.2 in.).

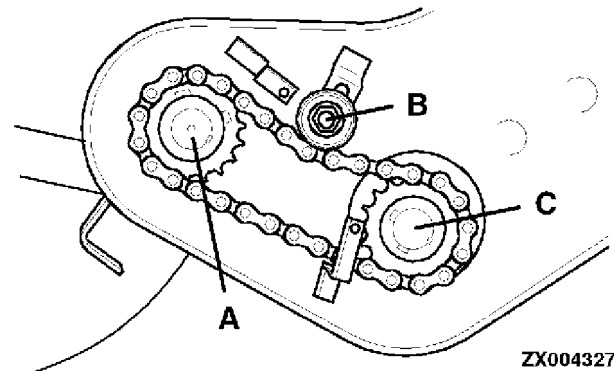
Loose chains cause premature and excessive wear on the roller elements of the chain links, the sprocket teeth and possibly the drive components of the machine.

Chains that are too tight cause excessive pressure on the chain, the bearings and the shafts.

ZX,OMXZC0002259-19-05OCT92

### TAILINGS ELEVATOR DRIVE CHAIN

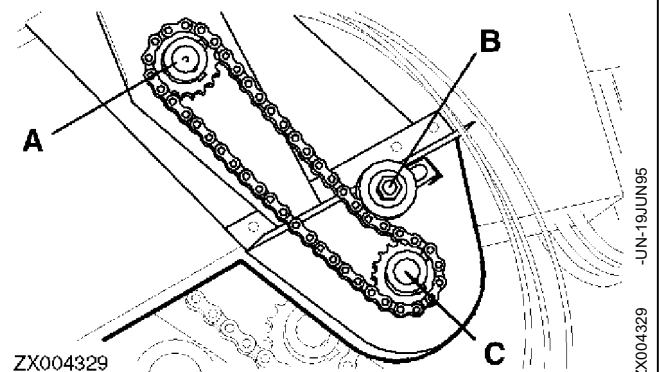
- A—Countershaft
- B—Tensioning roller
- C—Lower shaft, tailings elevator



ZX,OMXZC0002260-19-05OCT92

### TAILINGS AUGER DRIVE CHAIN

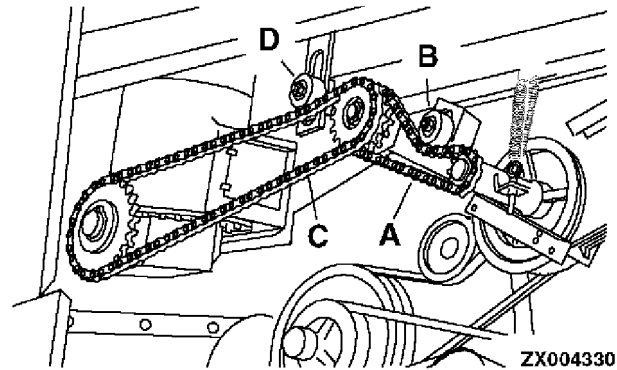
- A—Upper shaft, tailings elevator
- B—Tensioning roller
- C—Tailings auger



ZX,OMXZC0002261-19-05OCT92

## UNLOADING DRIVE COUNTERSHAFT

- A—Drive chain for unloading drive countershaft
- B—Tensioning roller for (A)
- C—Drive chain for riser tube and grain tank unloading
- D—Tensioning roller for (C)



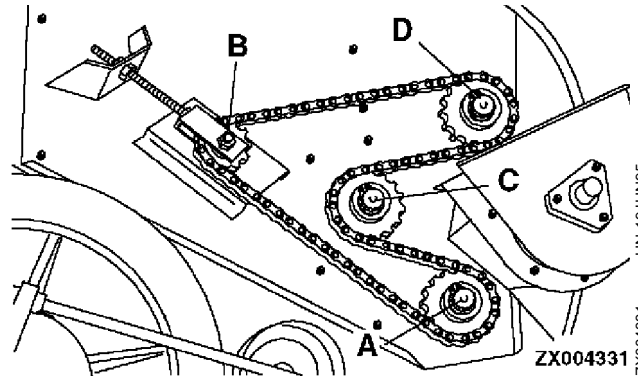
ZX004330

ZX.OMXZC0002262-19-05OCT92

-JUN-19JUN95  
ZX004330

## DRIVE CHAIN FOR GRAIN TANK UNLOADING

- A—Countershaft, grain tank unloading
- B—Tensioning roller
- C—Idler
- D—Grain tank unloading auger



ZX004331

ZX.OMXZC0002263-19-05OCT92

-JUN-19JUN95  
ZX004331

## V-BELTS

When installing V-belts, slacken belt tensioners. Never use force to pry the belt over the edge of a sheave as this will rupture one or more cords and weaken the belt. V-belts stretch when new. Therefore, check the tension of a new V-belt several times during the first few days of use. More belts fail from being too slack than from being too tight.

Never use an aggressive cleaner to clean V-belts. Do not use petrol, benzine, turpentine or similar cleaning solvents.

The recommended procedure is to use a rag dipped in:

- liquid ammonia,
- soap-suds, or a
- 1:10 mixture of glycerine spirit

The life of a V-belt also depends on the condition of the V-belt sheaves. A damaged sheave will also damage the V-belt.

Slight fraying of the belt covering does not indicate belt failure. The frayed ends should be cut off.

**IMPORTANT: At the end of the harvesting season, remove V-belts and store in a cool, dry place to prevent damage from the elements.**

ZX.OMXZC0002357-19-05OCT92

# Service — Electrical System

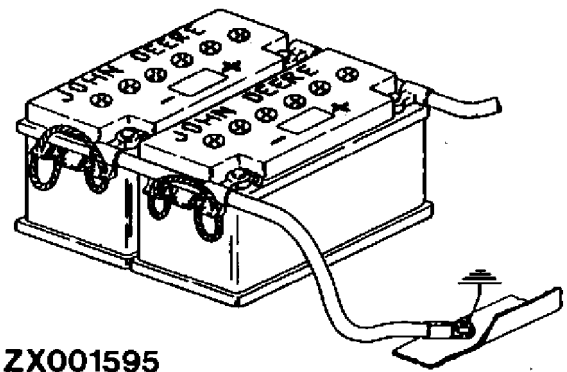
## SPECIFICATIONS, ELECTRICAL SYSTEM

Number of alternators	1
Output of alternator	95 A
Number of batteries	2
Battery voltage	12 V
Battery capacity	88 AH

ZX.OMXZC0002183-19-05OCT92

## BATTERIES

2054—2066 combine harvesters are equipped with two batteries, each of 12 V (88 AH). They are connected in parallel.



ZX001595

ZX.OMXZC0002184-19-05OCT92

ZX001595 -UN-04APR95

## DANGERS WHEN HANDLING BATTERIES

**CAUTION:** Any plastic bag or material must be removed from batteries to prevent a build-up of explosive gases.

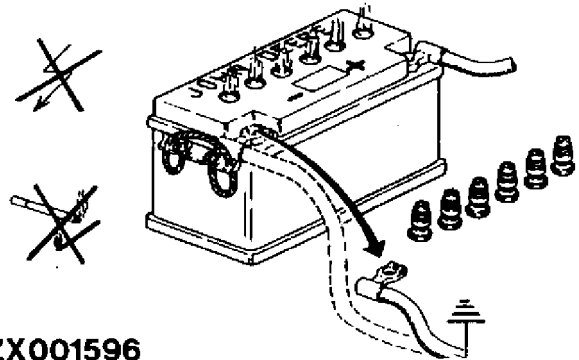
**IMPORTANT:** Always keep batteries clean and free from chaff.

Keep all sparks or open flames away from batteries as gas from electrolyte is highly flammable.

When servicing the electrical system or engine, always disconnect battery ground cables.

If a battery needs a quick recharge while still installed on harvester, always disconnect battery ground cable and remove battery cell filler caps before connecting the charger. This will prevent damage to the electrical system.

When removing batteries, always disconnect the ground cables first and then the positive cables.



ZX001596

ZX.OMSPFH001317-19-01NOV91

ZX001596 -UN-04APR95

## CLEANING BATTERIES

Wash batteries clean once a week.

Remove any terminal corrosion with a brush.

Coat battery terminals and cable clamps with petroleum jelly.

Make sure that filler cap vent holes are not plugged.

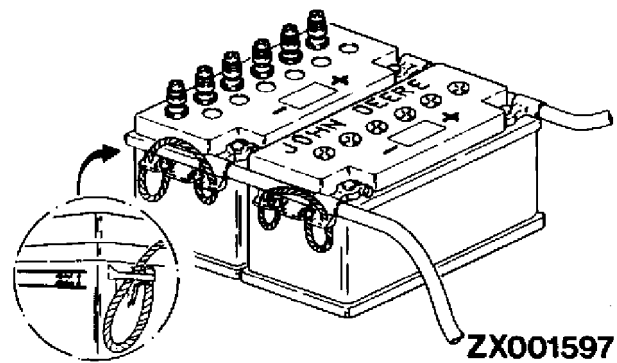
ZX.OMSPFH001318-19-01NOV91

## CHECKING ELECTROLYTE LEVEL

**CAUTION:** If distilled water is added in freezing weather, run engine approx. 30 minutes to assure thorough mixing of water and electrolyte.

Check electrolyte level every 250 hours of operation. Electrolyte level should be up to the mark.

If electrolyte level is low, add distilled water.



-UN-27MAR95  
ZX001597

ZX.OMSPFH001319-19-01NOV91

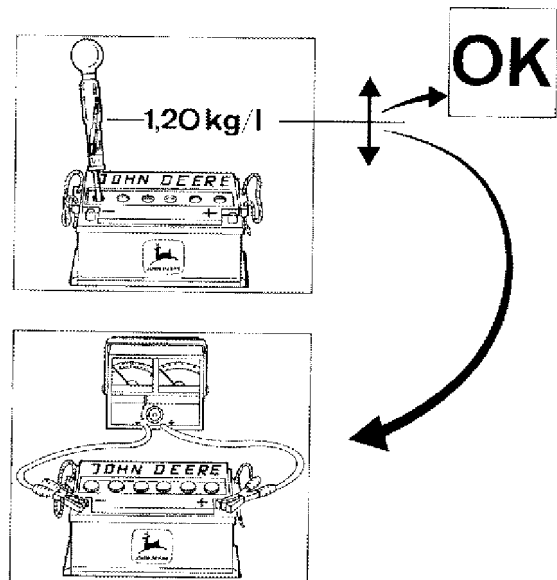
## CHECKING SPECIFIC GRAVITY

Check the specific gravity of the electrolyte using an accurate hydrometer.

A fully charged battery should have a specific gravity reading of 1.28.

Recharge battery if reading drops below 1.20.

*NOTE: A full battery charge in tropical areas is 1.23.*



ZX 001 598

-UN-03APR95  
ZX001598

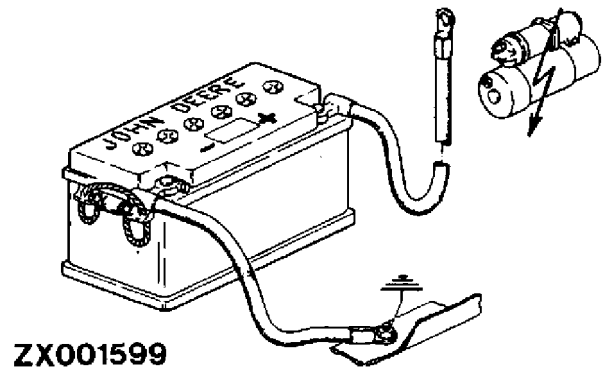
ZX.OMSPFH001320-19-01NOV91



## INSTALLING BATTERIES AND CONNECTING TO CORRECT POLES

**IMPORTANT:** Make sure batteries are connected to the correct poles. The positive cable (from starter motor) to the positive (+) poles, the negative cable (from ground) to the negative (—) poles.

Reversed polarity will result in permanent damage to the electrical system.



ZX001599 -UN-04APR95

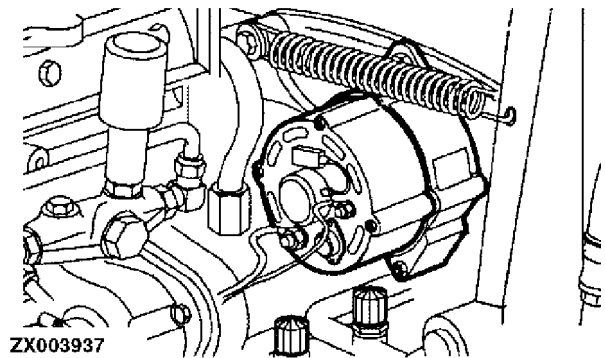
ZX,OMXZC0002185-19-05OCT92

## ALTERNATORS

**IMPORTANT:** When working on the electrical system, always disconnect the ground cable. This prevents damage from occurring.

*NOTE:* Tensioning of the drive belts is described in the "Service — Engine" section.

Have alternators checked by a specialist workshop once every year.



ZX003937 -UN-08MAY95

ZX,OMXZC0002186-19-05OCT92

## STARTING MOTOR

**IMPORTANT:** When working on the electrical system, always disconnect the ground cable. This prevents damage from occurring.

If the starting motor does not function or operates only sluggishly, the fault may lie not in the starting motor but in one of the causes suggested below.

If the remedies suggested fail to improve starting motor operation, see your local John Deere dealer. Have starting motor inspected by a specialist workshop once every year.

**Loose, dirty or corroded connections:** Clean and tighten all connections.

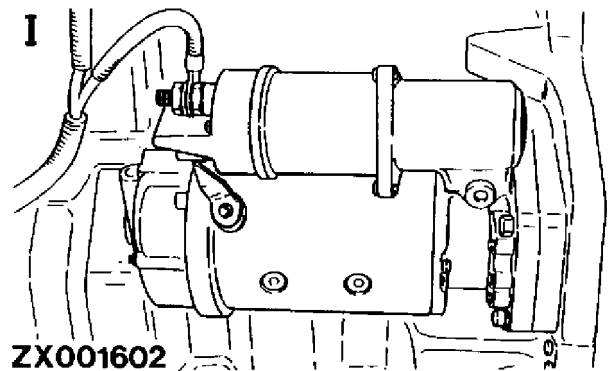
**Low battery output:** Check electrolyte level and specific gravity of batteries. Recharge batteries if necessary.

**Run down battery:** Recharge battery.

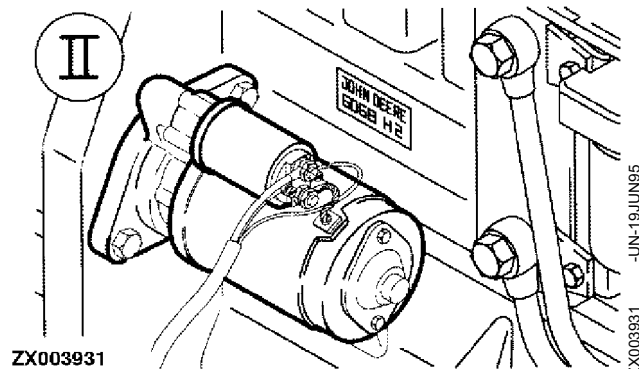
**Engine crankcase oil of wrong viscosity:** Drain and refill crankcase with specified oil.

**Low ambient temperature:** Use cold-weather starting aid.

**Defective start safety relay:** Replace relay.



From front, looking back

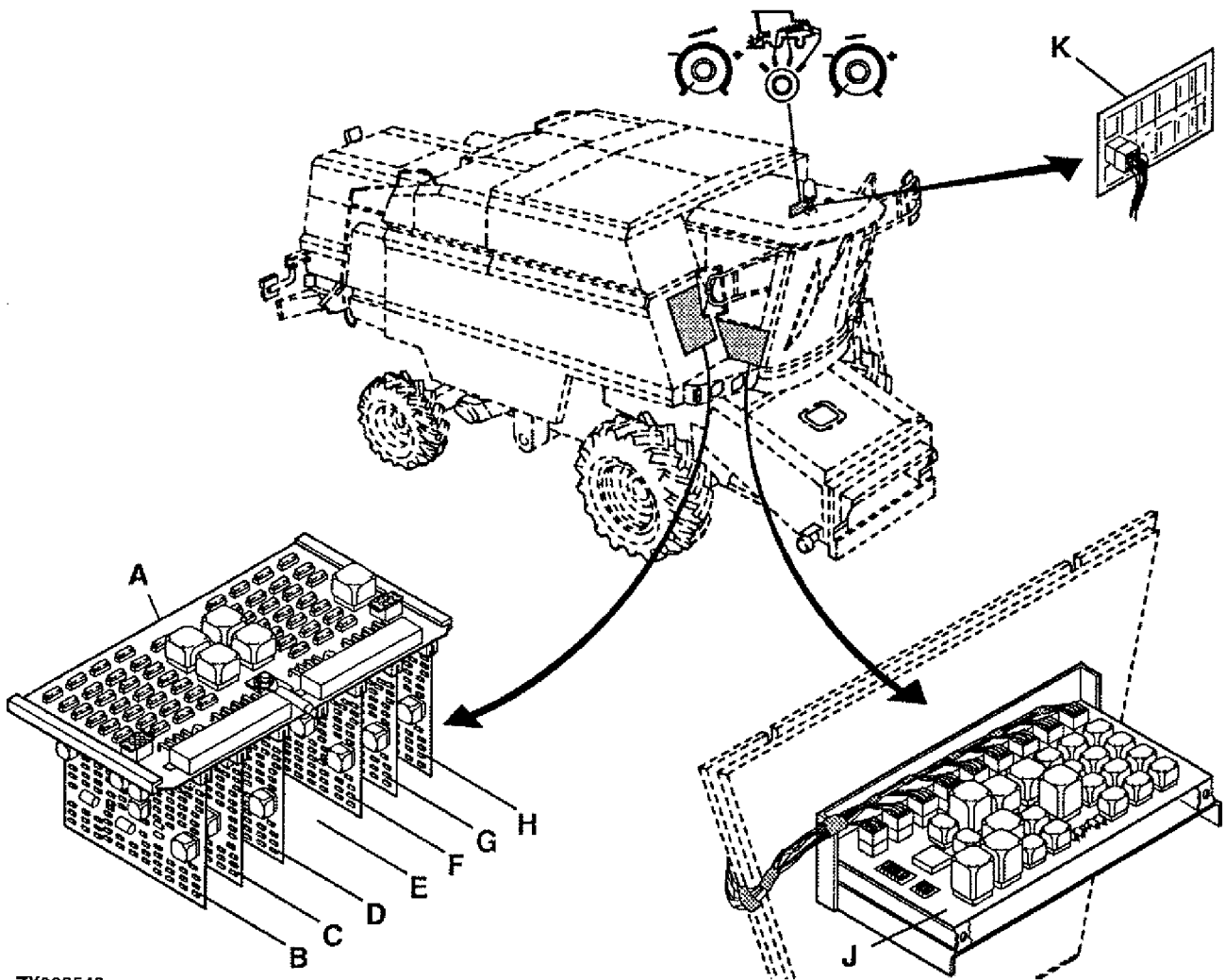


From rear, looking forward

I—7.6 L engine (466 cu in.)  
II—6.8 L engine (414 cu in.)

ZX,OMXZC0002187-19-05OCT92

**ELECTRONIC BOARDS**



ZX002543

A—Fuse board  
 B—Speed monitoring board  
 C—Header control board  
 D—DIAL-A-MATIC™ relay board

E—Not used  
 F—Reel speed board  
 G—Combine data center control board

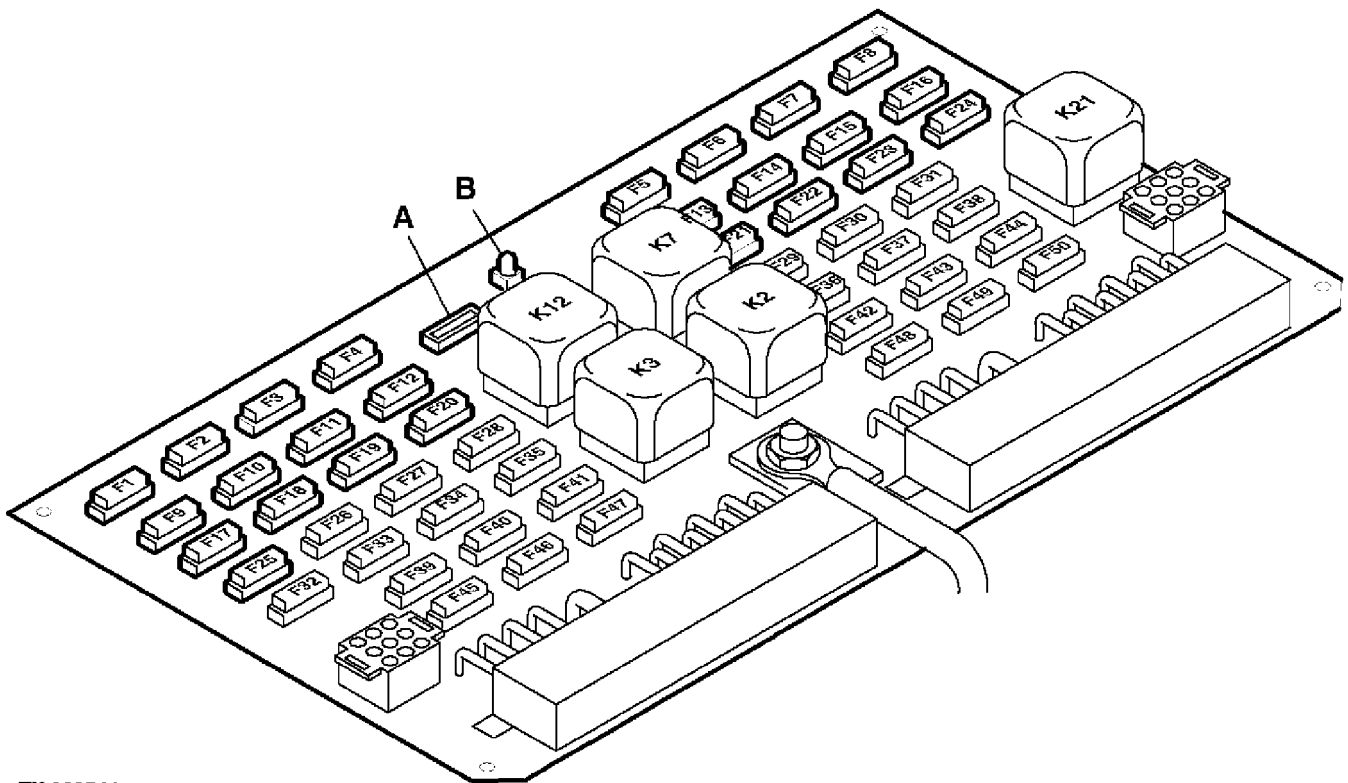
H—Relay board  
 J—Relay diode board

K—Harvest performance monitor board

ZX002543 -UN-16/JUN95

ZX,OMXZC0002188-19-05OCT92

## FUSES ON FUSE BOARD



ZX 002544

A—Fuse tester

B—Luminous diode

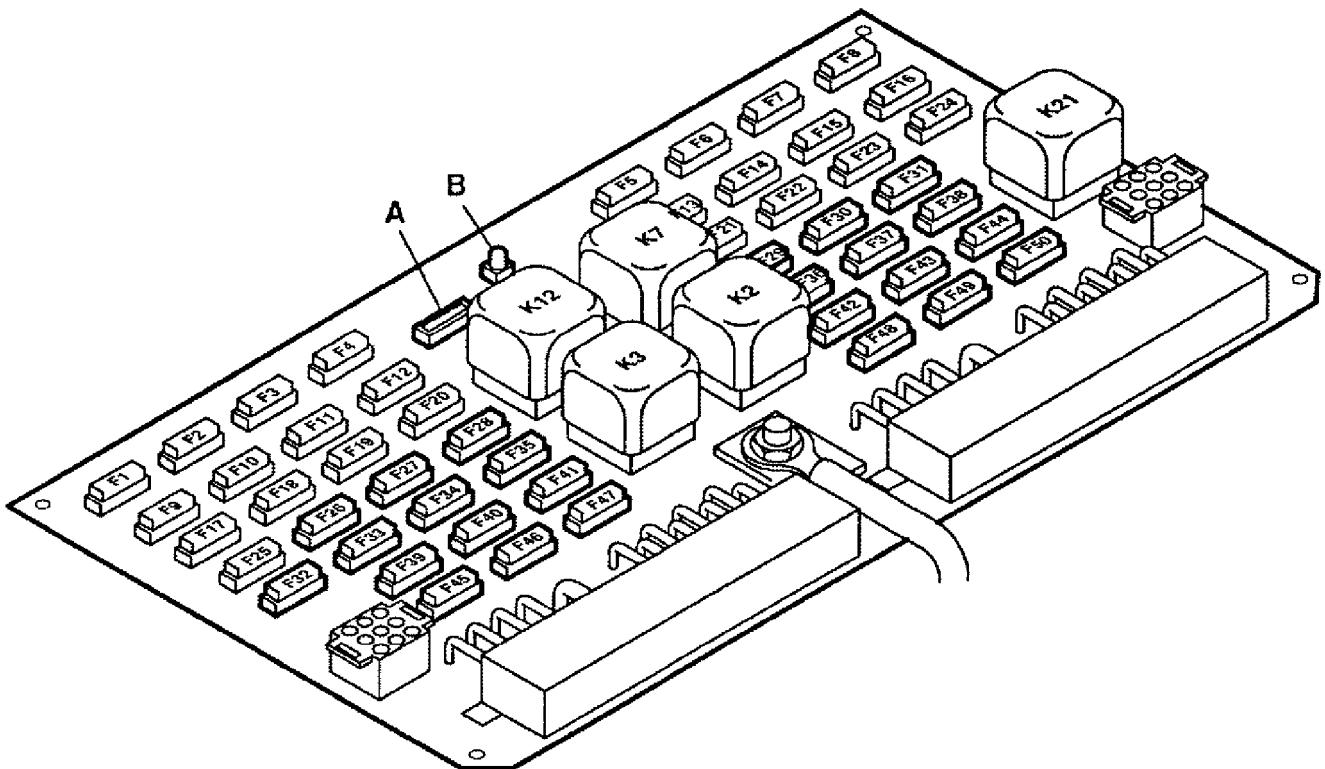
- F 1 — 7.5 A fuse, spare
- F 2 — 7.5 A fuse, spare
- F 3 — 7.5 A fuse, spare
- F 4 — 7.5 A fuse, spare
- F 5 — 15 A fuse, spare
- F 6 — 15 A fuse, spare
- F 7 — 30 A fuse, spare
- F 8 — 7.5 A fuse, fan and cylinder speed adjustment
- F 9 — 7.5 A, fuse, right parking light
- F 10 — 7.5 A fuse, left parking light
- F 11 — 30 A fuse, fan adjustment
- F 12 — 15 A fuse, brake lights, reel speed adjustment
- F 13 — 30 A fuse, work lights on cab roof
- F 14 — 7.5 A, fuse, straw warning device, electronic infotrak monitor
- F 16 — 7.5 A fuse, engine shut-off solenoid
- F 17 — 7.5 A fuse, dash panel lighting

- F 18 — 7.5 A fuse, radio, CB, clock
- F 19 — 30 A fuse, work lights on platform and rear lights
- F 20 — 7.5 A fuse, turn signals
- F 21 — 15 A fuse, radiator cleaner
- F 22 — 7.5 A fuse, radio, CB, clock
- F 23 — 15 A fuse, separator and header clutch
- F 24 — 7.5 A fuse, indicator lights, temperature gauge
- F 25 — 7.5 A fuse, left low-beam

**IMPORTANT:** Never use fuses stronger than those specified. If fuses keep blowing in one circuit, have the electrical system inspected by your John Deere dealer.

ZX.OMXZC0002189-19-05OCT92

FUSES ON FUSE BOARD (CONTINUED)



ZX002545

ZX002545 -UN-16/JUN95

A—Fuse tester

B—Luminous diode

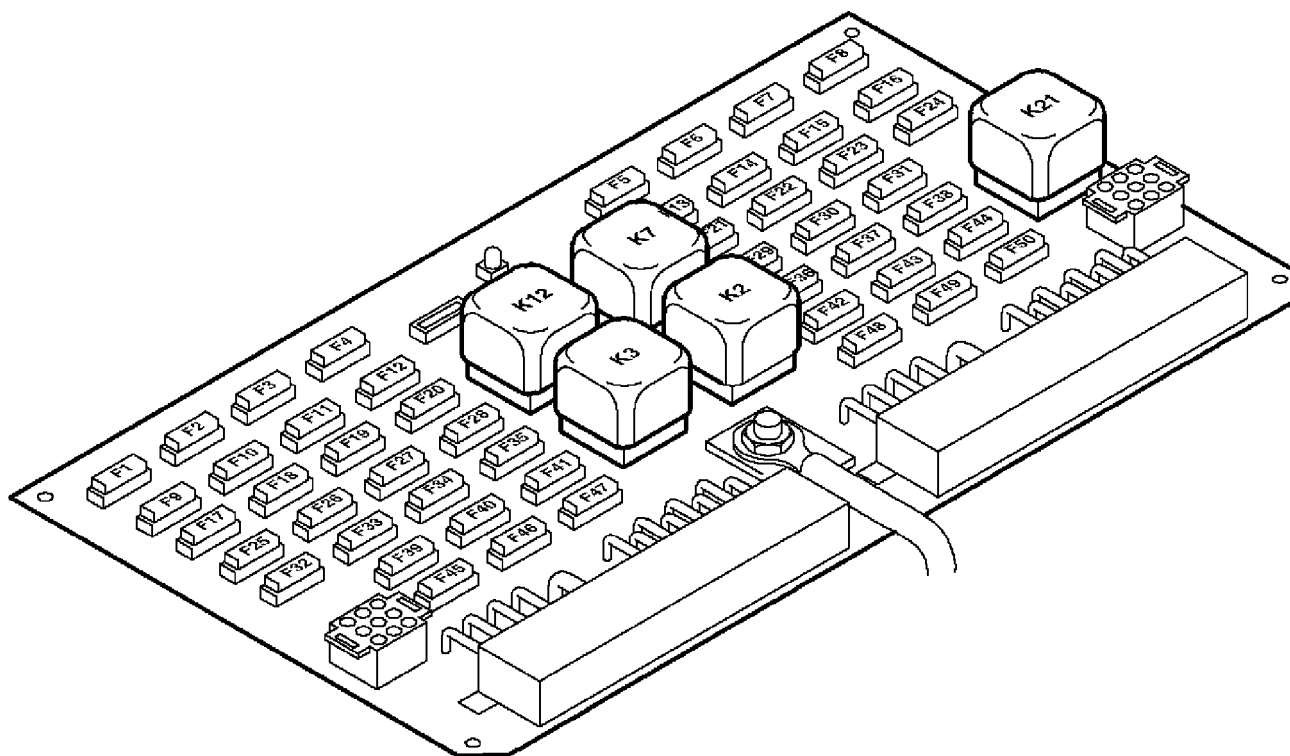
- F 26 — 7.5 A fuse, cutting platform controls
- F 27 — 15 A fuse, horn
- F 28 — 7.5 A fuse, combine data center
- F 29 — 15 A fuse, combine leveling system
- F 30 — 7.5 A fuse, four-wheel drive
- F 31 — 7.5 A fuse, speed monitoring system
- F 32 — 7.5 A fuse, right-hand low beam
- F 33 — 15 A fuse, raising/lowering header
- F 34 — 15 A fuse, hazard warning flashers
- F 35 — 15 A fuse, beacon lights
- F 36 — 15 A fuse, windshield wipers, grain tank light
- F 37 — 7.5 A fuse, adjustable mirror
- F 38 — 7.5 A fuse, harvest performance monitor
- F 39 — 15 A fuse, grain tank unloading system
- F 40 — 30 A fuse, starter switch

- F 41 — 15 A fuse, concave adjustment
- F 42 — 30 A fuse, air conditioning system
- F 43 — 7.5 A fuse, DIAL-A-MATIC™
- F 44 — 7.5 A fuse, left-hand high beam
- F 45 — 15 A fuse, reel control
- F 46 — 15 A fuse, starting aid
- F 47 — 15 A fuse, spare
- F 48 — 7.5 A fuse, D+ alternator
- F 49 — 15 A fuse, cigarette lighter, seat compressor
- F 50 — 7.5 A fuse, right-hand high beam

**IMPORTANT:** Never use fuses stronger than those specified. If fuses keep blowing in one circuit, have the electrical system inspected by your John Deere dealer.

ZX.OMXZC0002190-19-05OCT92

## RELAYS ON FUSE BOARD



ZX 002546

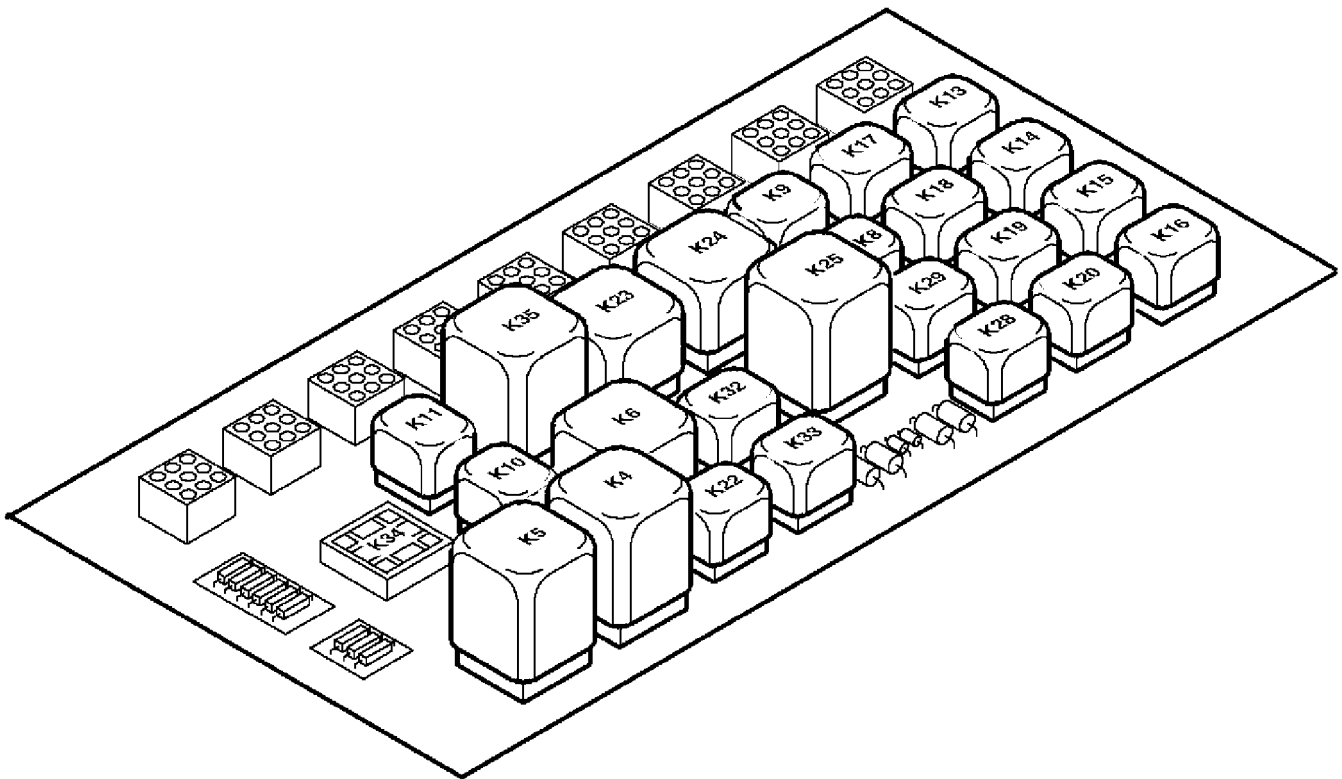
K 2 — Basic relay  
K 3 — Basic relay  
K 7 — Work light relay

K 12 — Field/road relay  
K 21 — Separator clutch relay

ZX,OMXZC0002191-19-05OCT92

ZX002546 -JUN-16-JUN-95

## RELAY AND DIODE BOARD



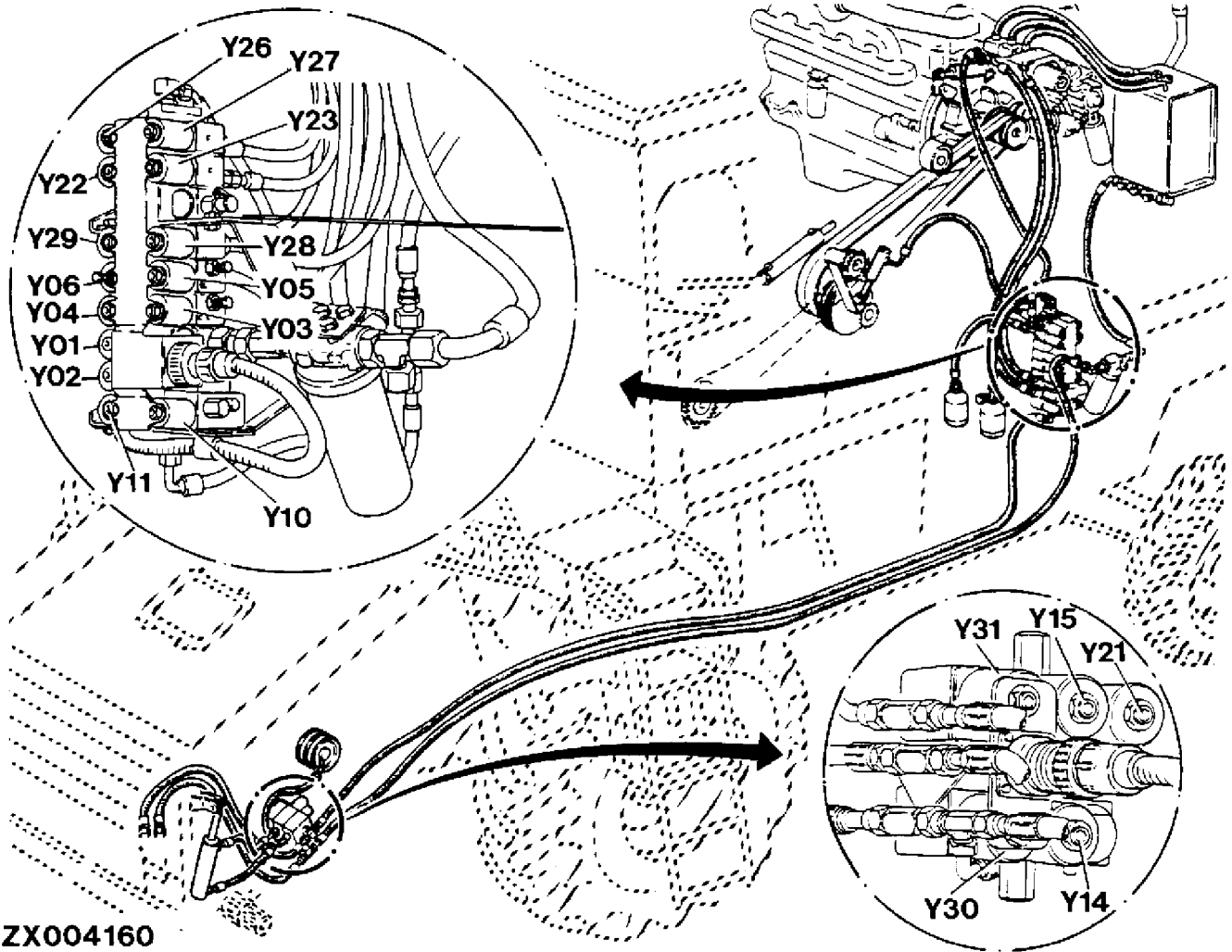
ZX 002547

- |  |   |
|--|---|
| K 4 — Buzzer timer relay               | K 18 — Relay, raising reel                    |
| K 5 — Flasher                          | K 19 — Relay, moving reel back                |
| K 6 — Straw warning relay              | K 20 — Relay, moving reel forward             |
| K 8 — Hillmaster relay, left           | K 22 — Straw warning relay                    |
| K 9 — Hillmaster relay, right          | K 23 — Header drive safety relay              |
| K 10 — Fan speed alarm relay           | K 24 — Unloading drive safety relay           |
| K 11 — Cylinder speed alarm relay      | K 25 — Timer relay, swinging unloading auger  |
| K 13 — Relay, rapid lowering of header | K 28 — Relay, adjusting feeder conveyor speed |
| K 14 — Relay, slow lowering of header  | K 29 — Relay, adjusting feeder conveyor speed |
| K 15 — Relay, rapid raising of header  | K 32 — Relay, adjusting reel speed            |
| K 16 — Relay, slow raising of header   | K 33 — Relay, adjusting reel speed            |
| K 17 — Relay, lowering reel            | K 35 — Timer relay, header drive              |

ZX002547 -JUN-16/JUN/95

ZX.OMXZCO002192-19-05OCT92

**SOLENOID VALVES — BASIC MACHINE**



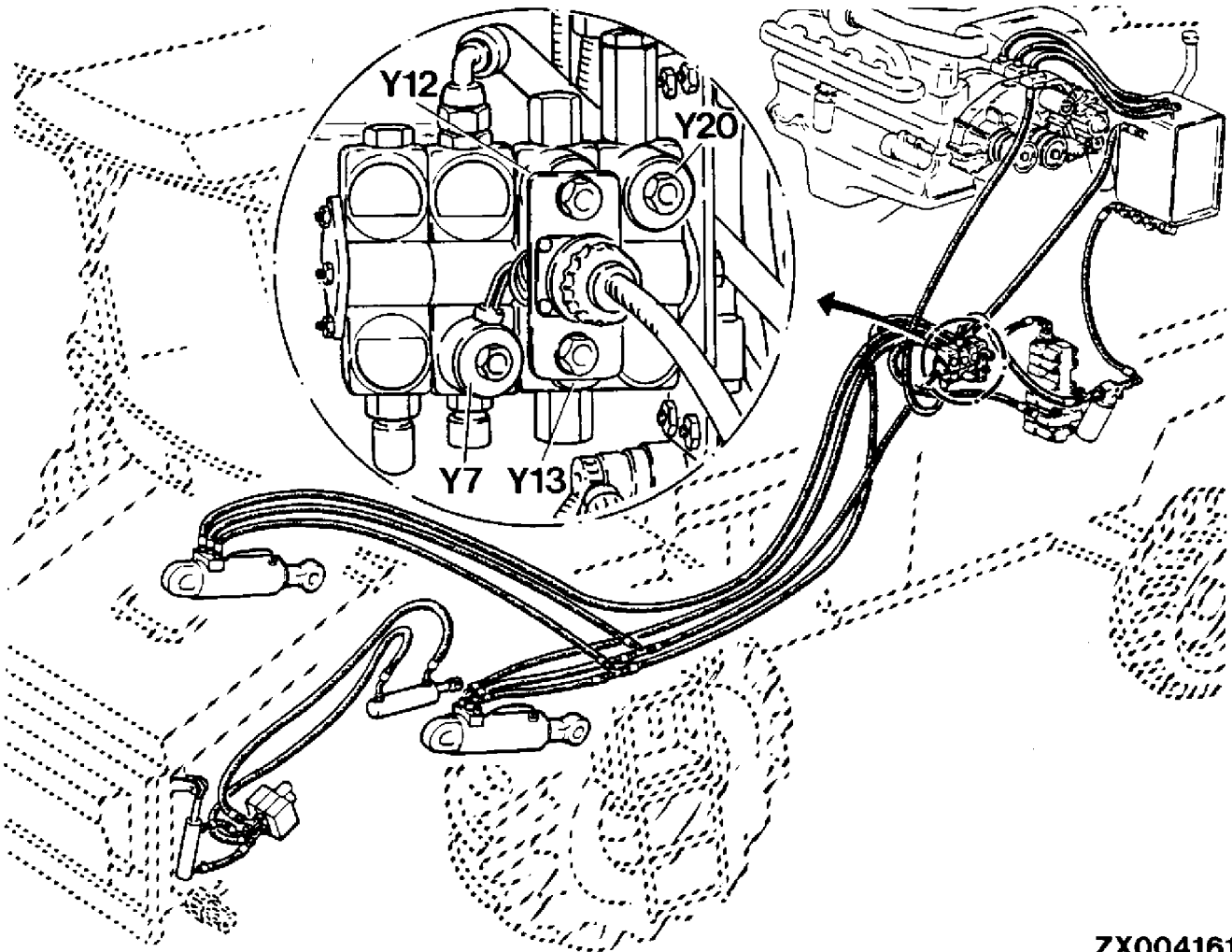
ZX004160

- |   |   |
|---|---|
| Y 1 — Pressure valve 1                        | Y 22 — Solenoid, switching on separator           |
| Y 2 — Pressure valve 2                        | Y 23 — Solenoid, switching on separator           |
| Y 3 — Solenoid, raising header                | Y 26 — Solenoid, unloading grain tank             |
| Y 4 — Solenoid, lowering header               | Y 27 — Solenoid, unloading grain tank             |
| Y 5 — Solenoid, raising header                | Y 28 — Solenoid, reducing cylinder speed          |
| Y 6 — Solenoid, lowering header               | Y 29 — Solenoid, increasing cylinder speed        |
| Y 10 — Solenoid, swinging in unloading auger  | Y 30 — Solenoid, reducing feeder conveyor speed   |
| Y 11 — Solenoid, swinging out unloading auger | Y 31 — Solenoid, increasing feeder conveyor speed |
| Y 14 — Solenoid, header leveling, left side   |   |
| Y 15 — Solenoid, header leveling, right side  |   |
| Y 21 — Solenoid not allocated                 |   |

ZX.OMXZCO002193-19-05OCT92



### SOLENOID VALVES — HILLMASTER



**ZX004161**

Y 7 — Pressure valve 3  
Y 12 — Solenoid, combine leveling  
system, left

Y 13 — Solenoid, combine leveling  
system, right  
Y 20 — Solenoid, lowering combine harvester

ZX,OMXZC0002194-19-05OCT92

ZX004161 -JUN-03MAY95

## ERROR CODES, INFOTRAK MONITOR

Whenever the infotrak monitor displays a three-digit number followed by an “E”, a malfunction or error by the operator is indicated. The cause of a machine malfunction may be a broken wire etc.

**IMPORTANT: If no solution is given or if the problem cannot be eliminated, consult your John Deere dealer.**

Error code	Problem	Solution
101E	Counter of engine operating hours in infotrak monitor is defective	
102E	Working hour counter of infotrak monitor is defective.	
122E	Concave cannot be adjusted, sensor signals not in correct area (too low)	Check fuse (F41)
123E	Concave cannot be adjusted, sensor signals not in correct area (too high)	Check fuse (F41)
128E	No reaction from infotrak monitor	
129E	No reaction from control board	

**ERROR CODES, INFOTRAK MONITOR (CONTINUED)**

Error code	Problem	Solution
130E	Adjusting motor cannot reduce fan speed to the desired rpm	Check fuses (F3, F25)
131E	Variator cannot reduce cylinder speed to the desired rpm	Check fuse (F3)
132E	Adjusting motor cannot reduce concave clearance to desired gap	Check fuse (F41)
135E	Adjusting motor cannot increase fan speed to the desired rpm	Check fuses (F3, F25)
136E	Variator cannot increase cylinder speed to the desired rpm	Check fuse (F3)
137E	Adjusting motor cannot increase concave clearance to desired gap	Check fuse (F41)

ZX,OMXZC0002195-19-05OCT92

## ERROR CODES, REEL SPEED CONTROL BOARD

0 — Luminous diode off  
X — Luminous diode on

**IMPORTANT: If no solution is given or if the problem cannot be eliminated, consult your John Deere dealer.**

Error code	Problem	Solution
A—0 B—0 C—0 D—0	No voltage	Check fuse (F36)
A—X B—0 C—0 D—0	No ground speed signal	Check sending unit at 3-speed transmission
A—0 B—X C—0 D—0	Ground speed signal not within operating range	See "Operating Range of Reel Speed Control System" in "Controls and Instruments" section
A—X B—X C—0 D—0	No reel speed signal	Check sending unit at cutting platform
A—0 B—0 C—X D—0	Reel speed signal not within operating range	See "Operating Range of Reel Speed Control System" in "Controls and Instruments" section
A—X B—0 C—X D—0	Error "Bit 1" at reel speed control switch	
A—0 B—X C—X D—0	Error "Bit 2" at reel speed control switch	

ZX,OMXZCO002200-19-05OCT92

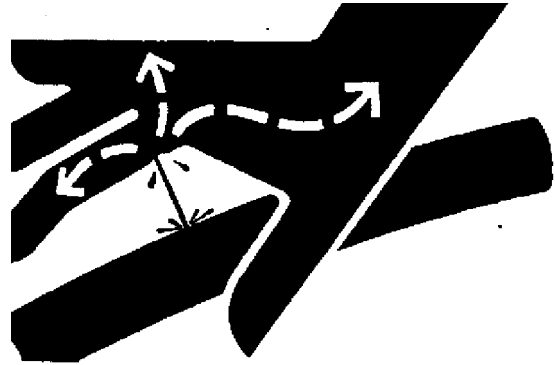
**ERROR CODES, REEL SPEED CONTROL BOARD (CONTINUED)**

Error code	Problem	Solution
A—X B—X C—X D—0	Error “Bit 4” at reel speed control switch	
A—0 B—0 C—0 D—X	Error “Bit 8” at reel speed control switch	
A—X B—0 C—0 D—X	Option A, electrical output 1 grounded	
A—0 B—X C—0 D—X	Option A, electrical output 2 grounded	
A—X B—X C—0 D—X	Reel does not accelerate	
A—0 B—0 C—X D—X	Reel does not decelerate	
A—X B—0 C—X D—X	Reel speed control switch not in diagnostic position	See “Reel Speed Control Switch” in “Controls and Instruments” section
A—0 B—X C—X D—X	Fault not found	
A—X B—X C—X D—X	All contacts to reel speed control switch open	

# Service — Hydraulic System

**CAUTION:** Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811  
-UN-23AUG88

DX,FLUID2 -19-09AUG91

## PRESSURE RELIEF VALVE

**IMPORTANT:** Have pressure relief valve serviced by your John Deere dealer only.

The l.h. side solenoid valve block is equipped with a pressure relief valve which has been tested and set at the factory.

If harvesting unit cannot be raised to desired height, pressure relief valve may be defective. If this or a similar defect occurs, consult your John Deere dealer.

ZX,OMSPFH001373-19-11MAY92

## SYSTEM DESCRIPTION

The machine is equipped with a so-called “open-center hydraulic system”, i.e. with engine running at constant speed the hydraulic pump conveys a constant amount of hydraulic oil.

The hydraulic pump is a triple pump:

### Standard machine:

- Pump (A) conveys 35 L/min. (9.2 gpm)
- Pump (B) conveys 25 L/min. (6.6 gpm)
- Pump (C) conveys 15 L/min. (4.0 gpm)

### Hillmaster:

- Pump (A) conveys 45 L/Min. (11.9 gpm)
- Pump (B) conveys 25 L/Min. (6.6 gpm)
- Pump (C) conveys 35 L/Min. (9.2 gpm)

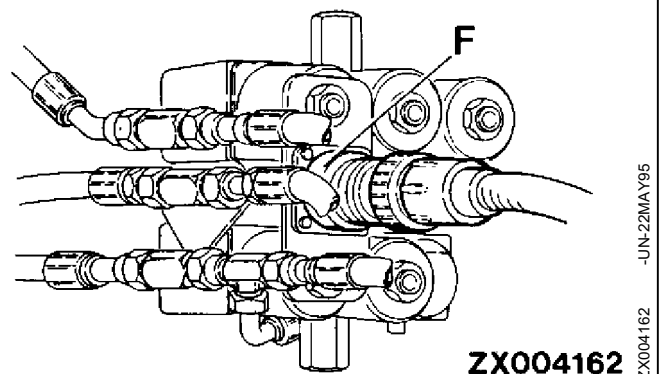
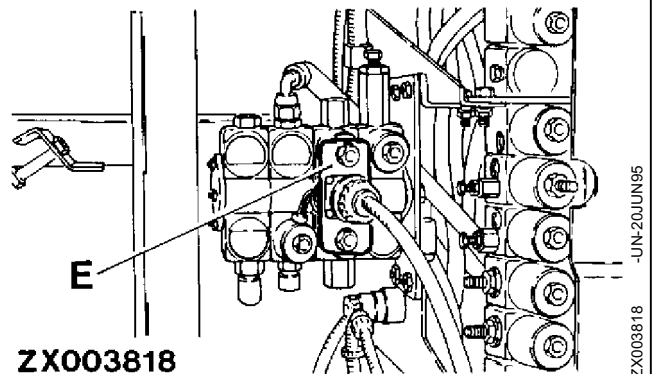
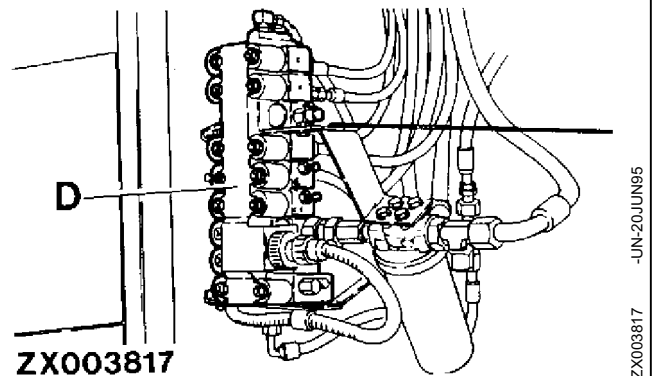
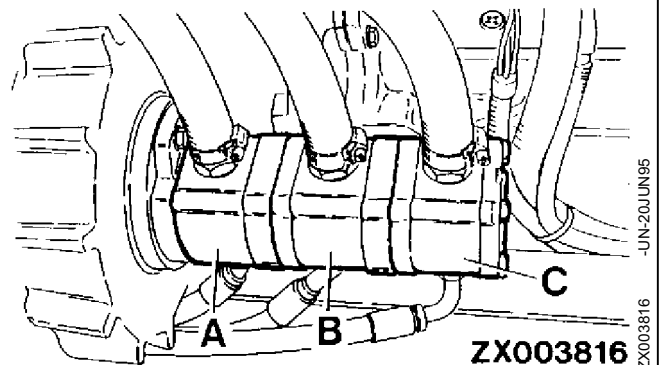
For pumps (A) and (C), one pressure valve each is located in the solenoid valve block (D). If no pressure oil is required, the pressure valves direct pressure-free oil back to the tank.

The hydraulic and hydrostatic systems both make use of oil from the hydraulic oil tank.

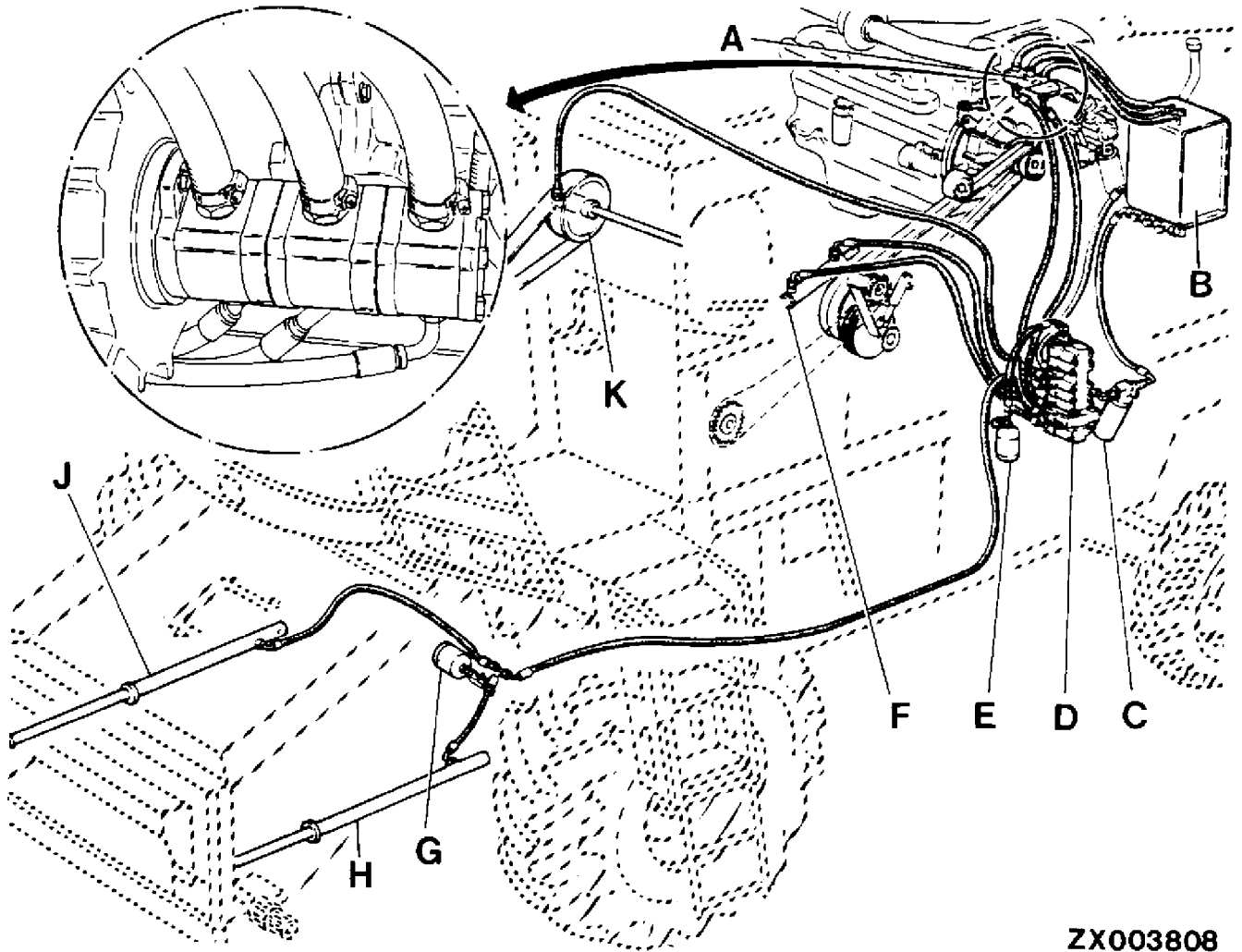
*NOTE: For a detailed list of the solenoid valves, see “Service — Electrical System”.*

*NOTE: The oil cooler for the entire hydraulic oil system is located in the hydrostatic circuit. See “Service — Ground Speed Drive”.*

- A—Pump (hydraulic system)
- B—Pump (hydraulic system)
- C—Pump (steering)
- D—Solenoid valve block, basic machine
- E—Solenoid valve block, Hillmaster
- F—Solenoid valve block, feeder house



**HYDRAULIC COMPONENTS I**



**ZX003808**

A—Triple hydraulic pump  
 B—Oil tank  
 C—Hydraulic oil filter  
 D—Solenoid valve block,  
 basic machine

E—Accumulator for (D)  
 F—Hydraulic cylinder,  
 unloading auger  
 G—Accumulator for  
 header-raise system

H—Cutting platform lift  
 cylinder, left  
 J—Cutting platform lift  
 cylinder, right

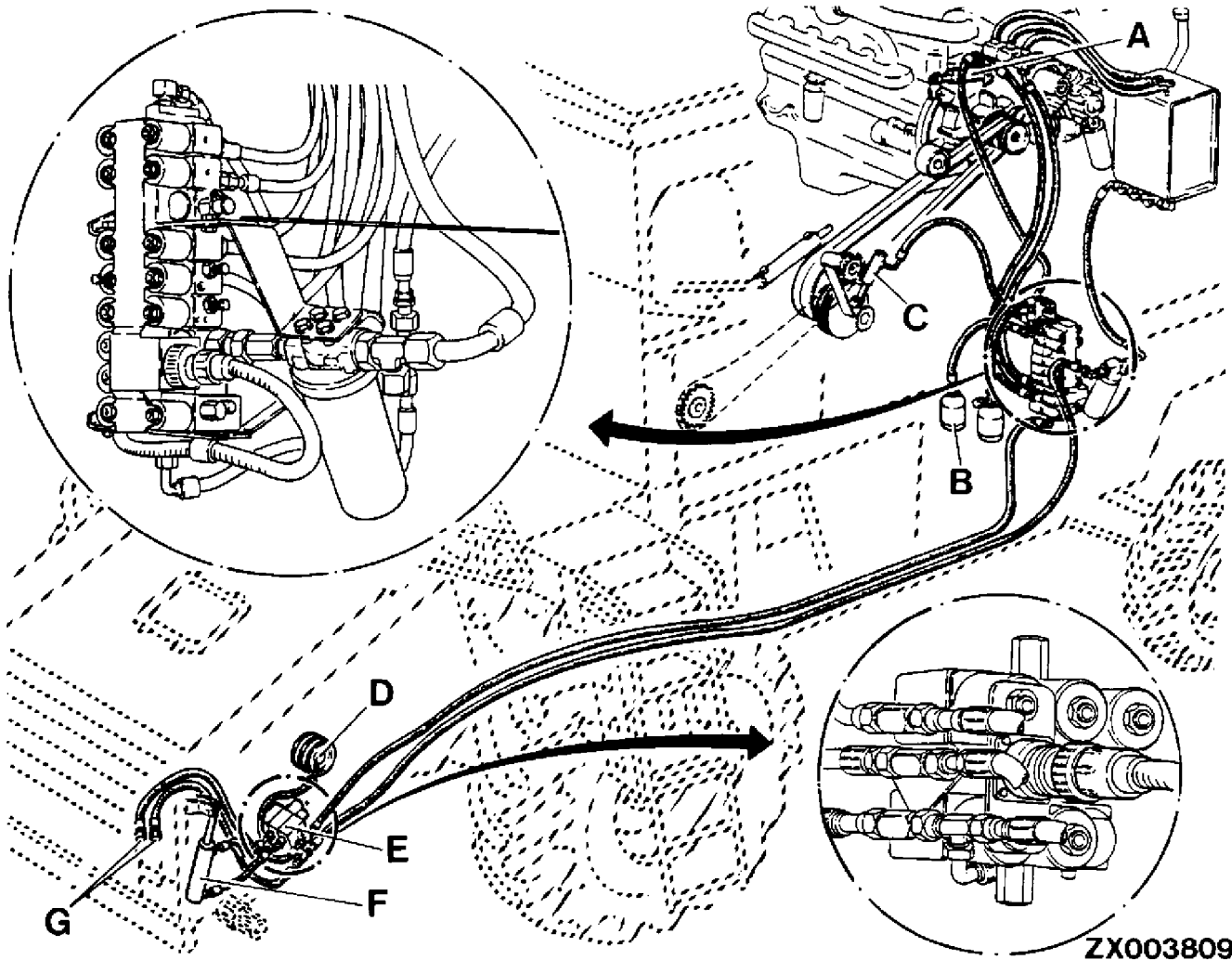
K—Variator main  
 countershaft

ZX,OMXZC0002202-19-05OCT92

ZX003808 -JUN-20-JUN95



HYDRAULIC COMPONENTS II



ZX003809

A—Main drive tensioning cylinder  
 B—Accumulator for tensioning cylinder (A)

C—Unloading drive tensioning cylinder  
 D—Feeder house variator (if equipped)

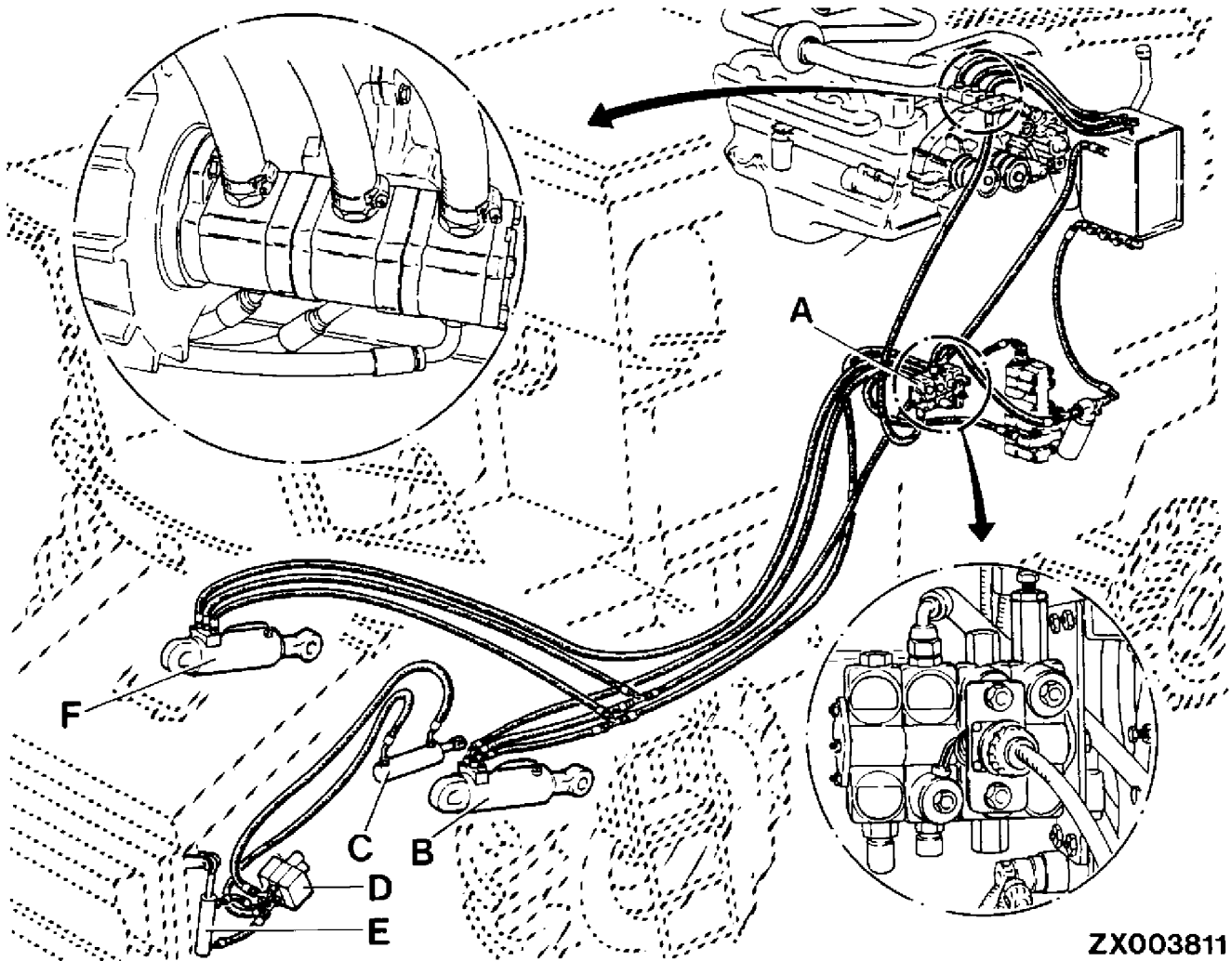
E—Solenoid valve block on feeder house  
 F—Slave cylinder, header leveling system

G—Pressure and return lines for header

ZX,OMXZC0002203-19-05OCT92

ZX003809 -JUN-20/JUN95

**HILLMASTER HYDRAULIC COMPONENTS**



A—Hillmaster solenoid valve block  
B—Leveling cylinder, left

C—Master cylinder, header leveling system  
D—Solenoid valve block on feeder house

E—Slave cylinder, header leveling system

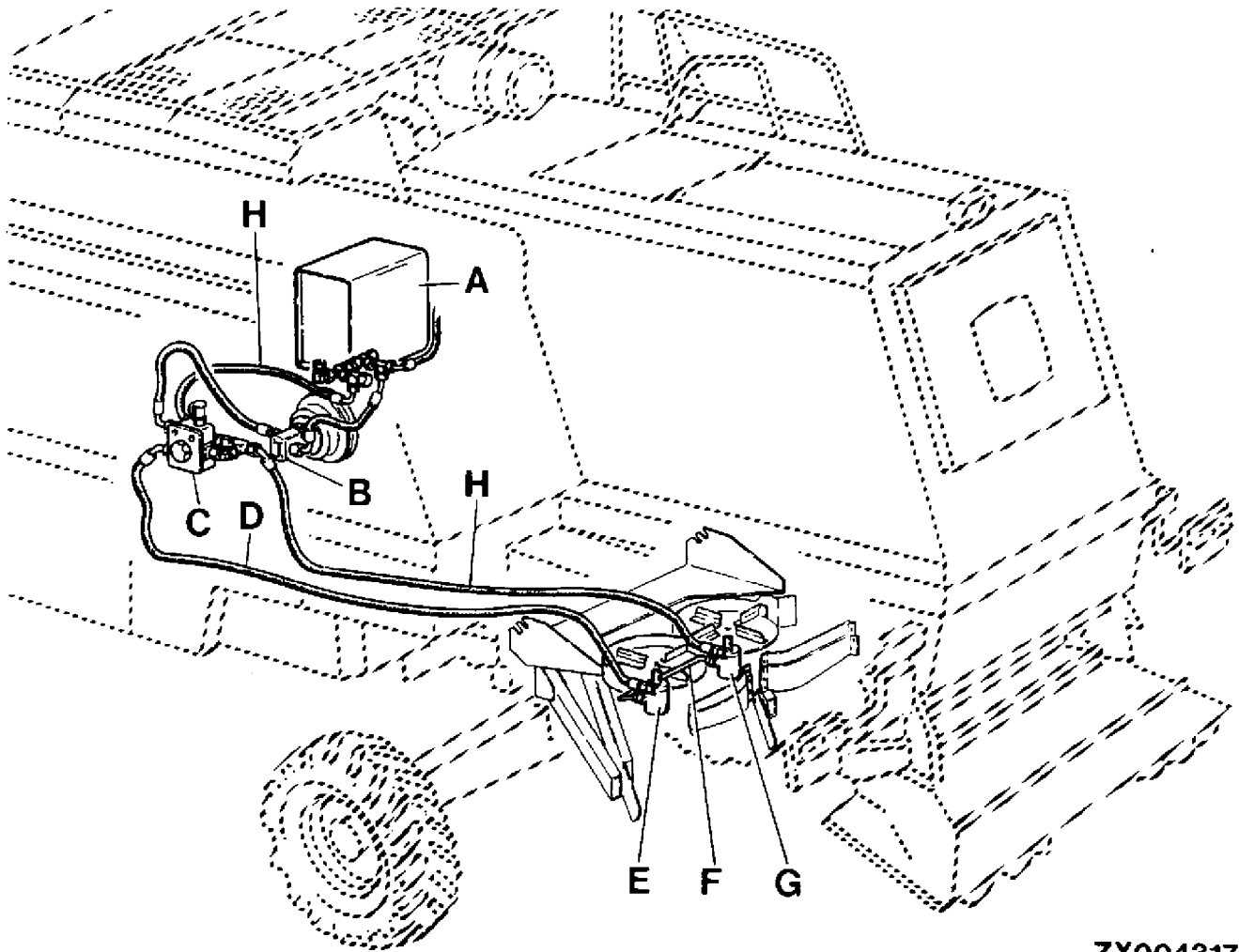
F—Leveling cylinder, right

**ZX003811**

ZX003811 -JUN-20JUN95

ZX,OMXZC0002204-19-05OCT92

### CHAFF SPREADER HYDRAULIC COMPONENTS



ZX004317

A—Hydraulic tank  
B—Chaff spreader pump

C—Pressure regulating valve  
D—Pressure hose

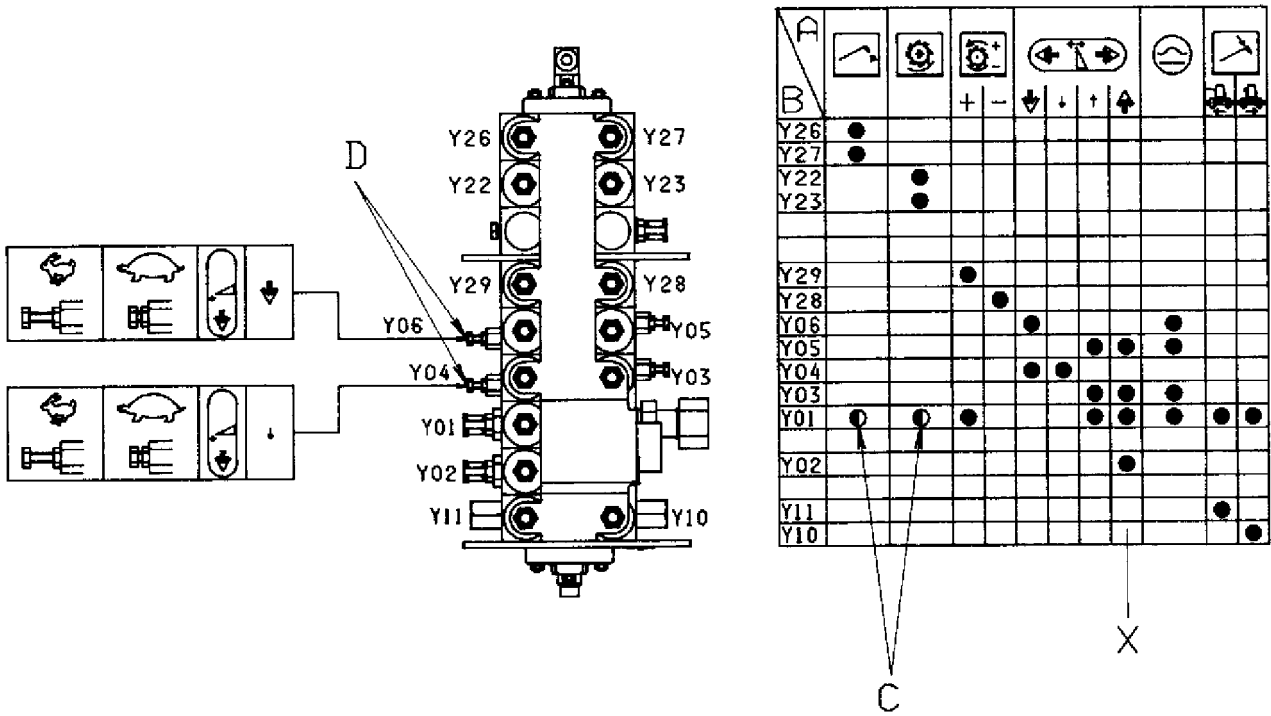
E—Hydraulic motor, left  
F—Connecting line

G—Hydraulic motor, right  
H—Return

ZX,OMXZC0002358-19-05OCT92

ZX004317 -JUN-20JUN95

**ACTUATION OF ELECTRO-MAGNETIC VALVES ON BASIC MACHINE**



ZX003810

This chart and the two following ones illustrate which electro-magnetic valves are actuated when each particular function is selected.

X — Example: Raise header rapidly  
Y01, Y02, Y03 and Y05 are actuated.

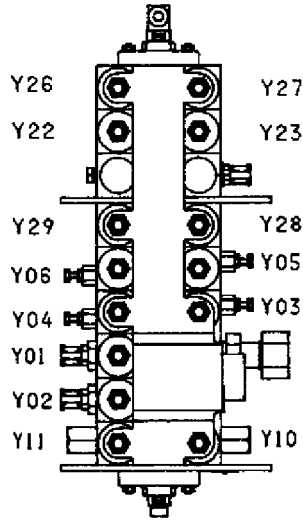
A — Function symbols

B — Electro-magnetic valves

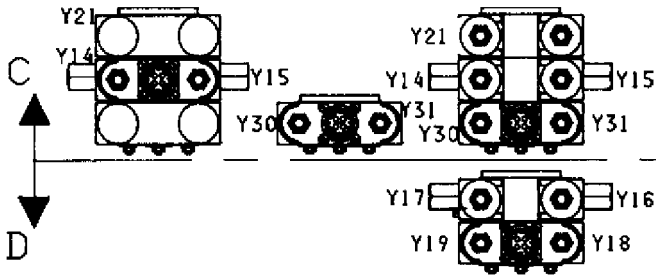
C — These symbols indicate that pressure begins to build up as soon as the road safety switch is actuated. Pressure is monitored by a pressure switch.

D — Adjusting screws: Re-adjust the rate of drop every time the header is changed.

**ACTUATION OF ELECTRO-MAGNETIC VALVES ON FEEDER HOUSE AND CUTTING PLATFORM**



A	Function symbols	Electro-magnetic valves							
B	↑ ↓	- +	+	-	↑ ↓	↑ ↓	↑ ↓	↑ ↓	↑ ↓
Y26									
Y27									
Y22									
Y23									
Y29									
Y28									
Y06									
Y05									
Y04									
Y03									
Y01	•	•	•	•	•			•	
Y02									
Y11									
Y10									



Y14		•							
Y15	•								
Y30						•			
Y31							•		
Y17					•				
Y16					•				
Y19								•	
Y18									•

ZX003812

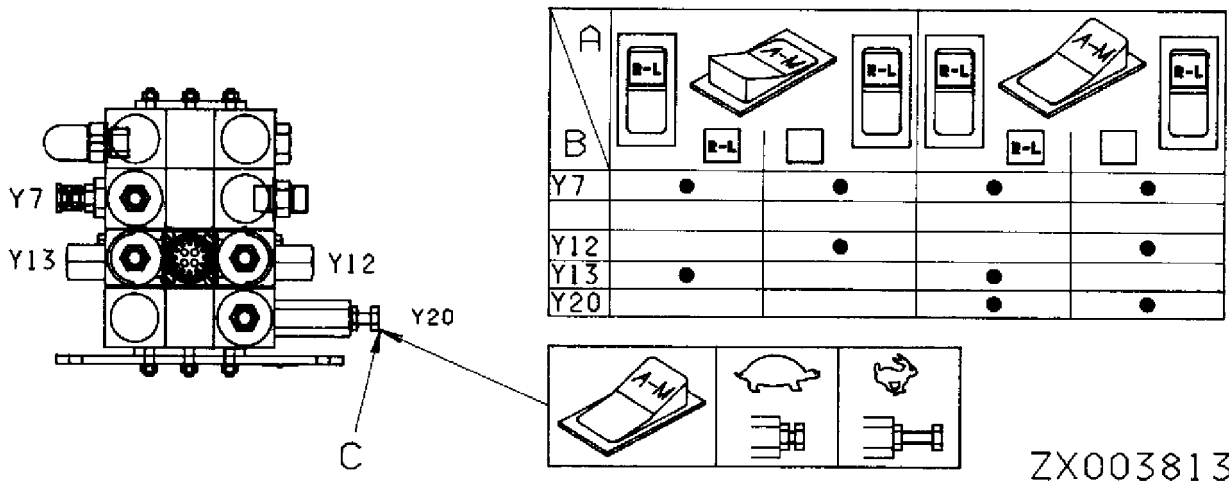
A — Function symbols  
B — Electro-magnetic valves

C — Valves on feeder house  
D — Valves on cutting platform

ZX,OMXZC0002206-19-05OCT92

ZX003812 -UN-23MAY95

## ACTUATION OF ELECTRO-MAGNETIC VALVES ON HILLMASTER



A — Function symbols  
B — Electro-magnetic valves

C — Adjusting screw: For adjusting the combine harvester's rate of drop in the transport position

ZX.OMXZC0002207-19-05OCT92

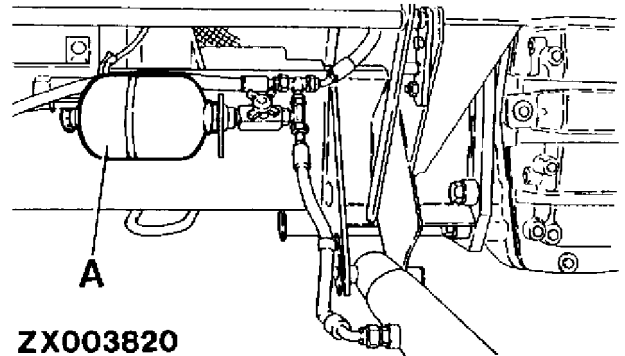
ZX003813 -UN-23MAY95

## ACCUMULATORS

**CAUTION:** If necessary, have accumulators changed by your local John Deere dealer.

### Header raising system (A)

The accumulator has a volume of 2 L (0.53 U.S. gal) and is charged to 3500 kPa (35 bar; 508 psi).

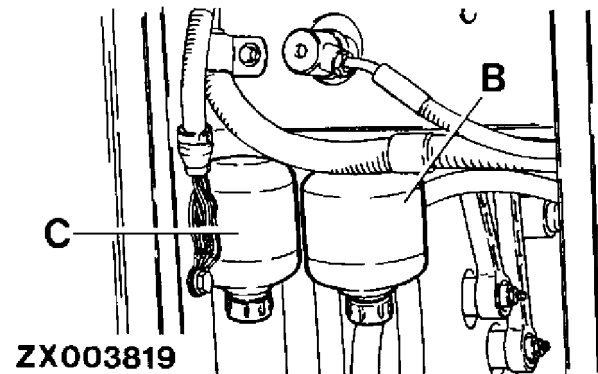


ZX003820

### Solenoid valve block on basic machine (B) and separator drive (C)

The accumulators have a volume of 0.35 L (0.09 U.S. gal) and are charged to 3800 kPa (38 bar; 551 psi).

The accumulators are maintenance-free and cannot be repaired if damaged.



ZX003819

ZX.OMXZC0002208-19-05OCT92

-UN-23OCT00

ZX003820

-UN-20JUN95

ZX003819

## DRAINING HYDRAULIC OIL

Drain oil from hydraulic system after every 500 hours of operation or at the end of the harvesting season, whichever occurs first.

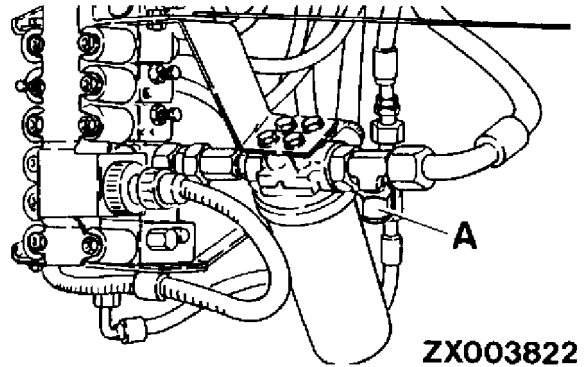
**IMPORTANT:** Have every second oil change (with filter) carried out after every 1000 hours of operation by your local John Deere dealer.

Only change oil when:

- Header is lowered
- Reel is lowered
- Unloading auger is swung in
- Separator drive and unloading drive are off

Drain oil into a suitable container.

Tighten drain plug (A) securely after oil has been drained.



ZX003822

A—Hydraulic oil tank drain plug

ZX003822 -UN-20JUN95

ZX,OMXZC0002209-19-05OCT92

## REPLACING HYDRAULIC OIL FILTER

**IMPORTANT:** Observe utmost cleanliness when installing filter.

Replace filter element after every 500 hours of operation or at the end of the harvesting season (whichever occurs first), or when the hydraulic oil filter indicator light comes on.

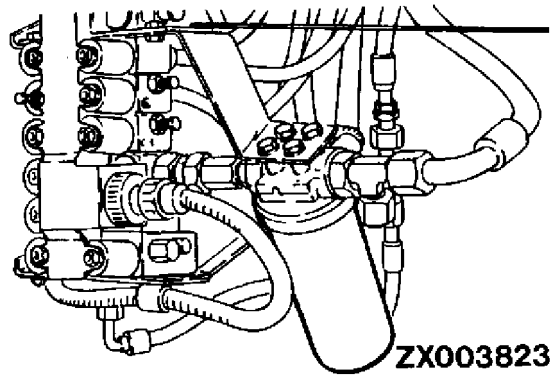
Loosen and remove filter.

Discard filter and replace with a genuine John Deere filter.

*NOTE: Combine harvesters with hydrostatic reel drive require a larger-volume filter.*

For installation of new filter, proceed as follows:

- Coat filter sealing surface with oil.
- Tighten filter element by hand until sealing ring touches filter housing sealing surface and then tighten a further 3/4 to 1-1/4 turns. Do not overtighten.
- Start engine and check for leaks. Retighten if necessary.



ZX003823

ZX003823 -UN-20JUN95

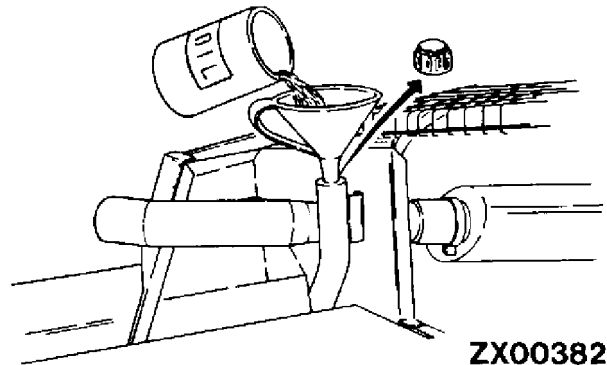
ZX,OMXZC0002210-19-05OCT92



## REFILLING HYDRAULIC OIL

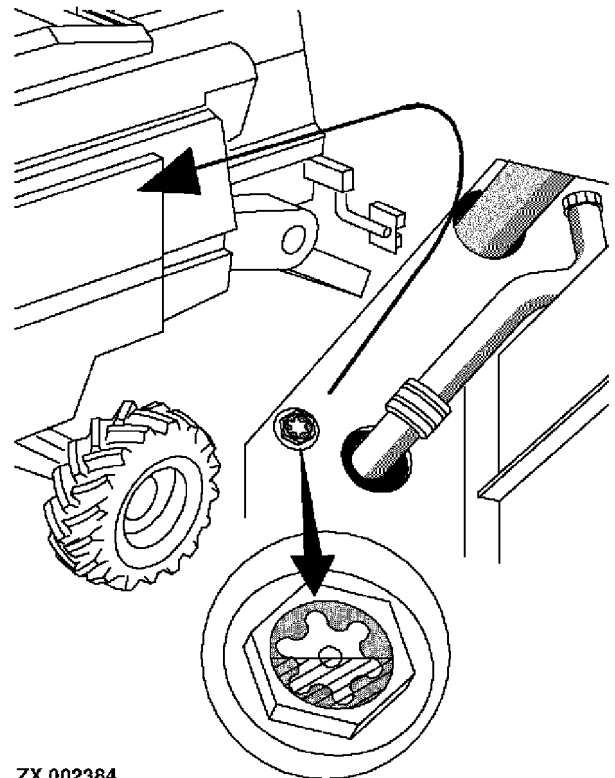
**IMPORTANT:** Always use specified oil (see “Fuel, Lubricants, Coolant and Capacities” section“). Carefully clean area around filler neck before filling with fresh oil.

Pour fresh hydraulic oil in at the filler neck until the oil comes up to the center of the sight glass.



ZX003824

-UN-20JUN95  
ZX003824



ZX 002384

-UN-16JUN95  
ZX002384

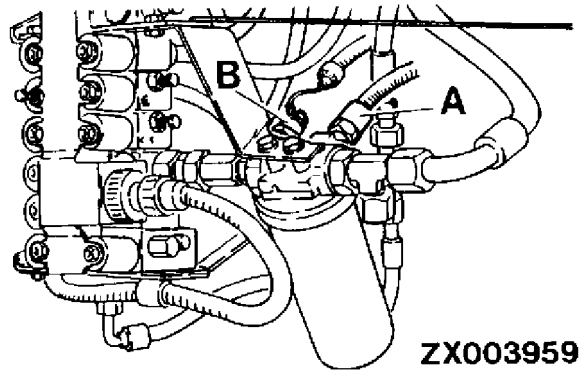
ZX,OMXZC0002211-19-04DEC92

### TEMPERATURE AND PRESSURE SENDING UNITS AT HYDRAULIC OIL FILTER

A — Temperature sending unit: If oil temperature exceeds 88°C (190°F), the temperature sending unit transmits a signal to the indicator light and buzzer.

B — Pressure sending unit: If the pressure differential in the return line exceeds 270 kPa (2.7 bar; 39.2 psi), the pressure sending unit transmits a signal to the indicator light.

*NOTE: For cleaning oil cooler, see "Service — Engine".*

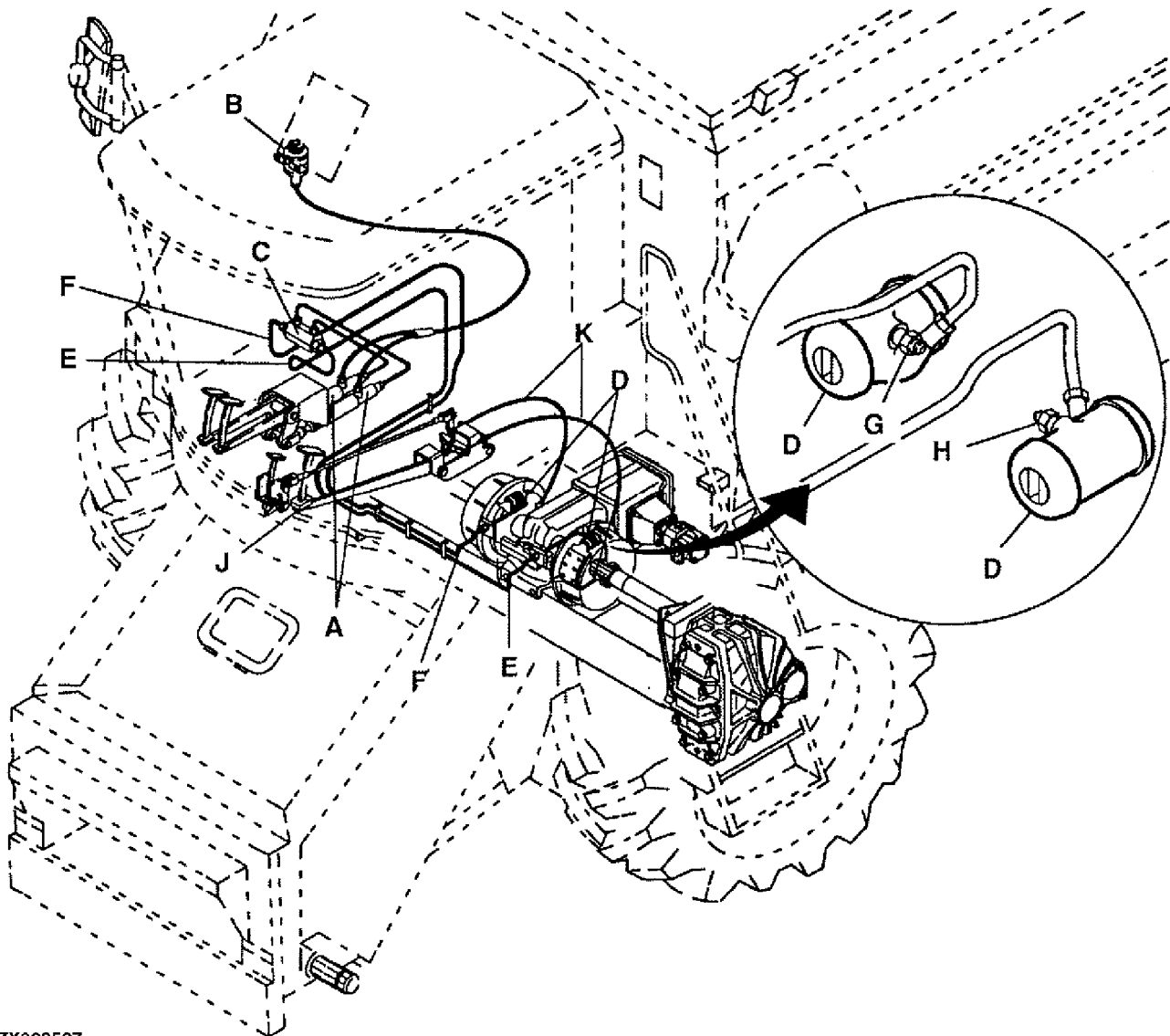


ZX003959 -UN-20JUN95

ZX.OMXZC0002212-19-05OCT92

# Service — Ground Speed Drive

## BRAKE SYSTEM



ZX002587

A—Brake master cylinder  
(2 used)  
B—Brake fluid reservoir  
C—Equalizing valve

D—Brake slave cylinder  
(2 used)  
E—L.h brake line  
F—R.h. brake line

G—R.h. bleed screw  
H—L.h. bleed screw  
J—Parking brake operating  
assembly

K—Parking brake bowden  
cables (2 used)

ZX,OMXZCO002213-19-05OCT92

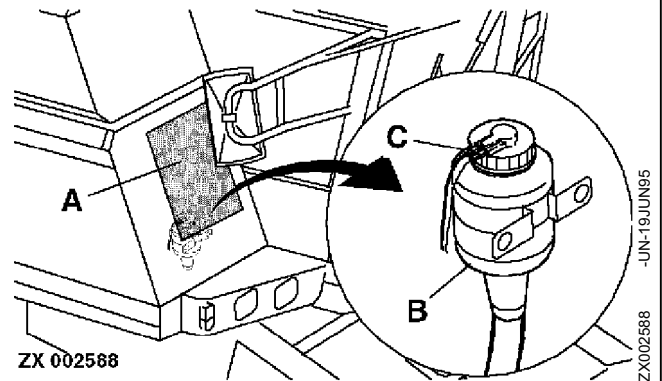
ZX002587 -UN-08MAY95

## BRAKE FLUID RESERVOIR

**CAUTION:** In the event of leakage, see your local John Deere dealer.

Top up with specified oil fluid only. The fluid level is monitored electrically by means of a float. Check the fluid level after every 200 hours of operation.

- A—Electrical system service flap
- B—Brake fluid reservoir
- C—Reservoir cap with float



ZX\_OMXZC0002214-19-05OCT92

## ADJUSTING FOOT BRAKES

**CAUTION:** In case of any leakage or malfunction of the brake system see your John Deere dealer.

When depressing brake pedals drum brake is adjusted automatically and thus further adjustment is not necessary.

ZX\_OMSPFH001384-19-01NOV91

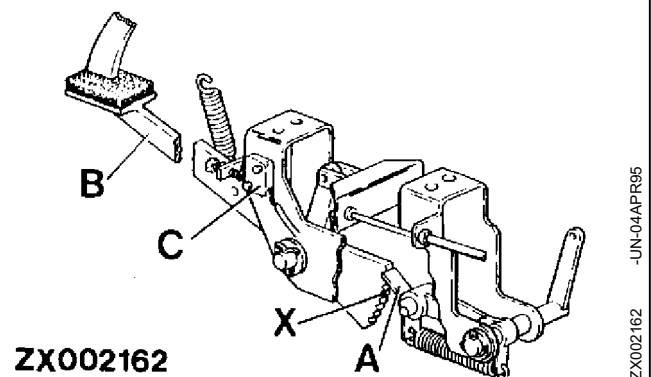
## PARKING BRAKE

### Basic Adjustment

With parking brake released the latch (A) of brake pedal (B) engages the first tooth of the quadrant and the pedal bottoms against cab floor. Maximum pedal travel should not go beyond the fourth tooth (X) of the brake quadrant.

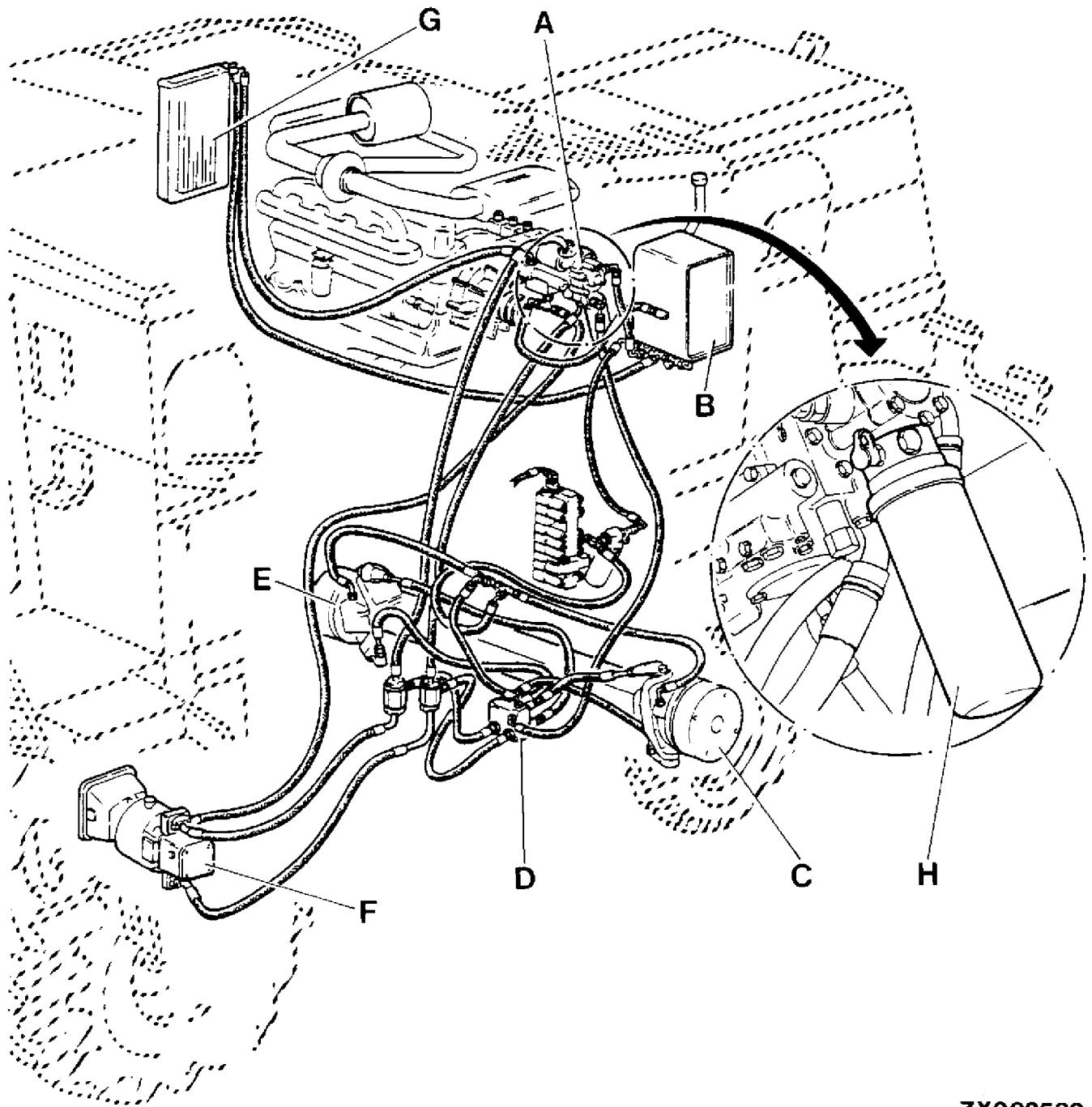
When parking brake is released, indicator light switch (C) is activated by the adjusting screw on the pedal.

- A—Latch
- B—Pedal
- C—Indicator light switch
- X—Max. position (fourth tooth of pedal)



ZX\_OMSPFH001385-19-01NOV91

### HYDROSTATIC DRIVE COMPONENTS



ZX002589

A—Variable pump  
B—Hydrostatic oil tank

C—L.h. wheel motor  
D—Four-wheel drive solenoid

E—R.h. wheel motor  
F—Fixed-displacement motor

G—Oil cooler  
H—Hydrostatic oil filter

ZX.OMXZC0002225-19-05OCT92

**HYDROSTATIC DRIVE OIL COOLER**

Regularly clean oil cooler fins.

See “Service — Engine”.

ZX.OMSPFH001387-19-01NOV91

## CHANGING HYDROSTATIC DRIVE OIL AND FILTER

Change oil and oil filter of hydrostatic system every **500 hours of operation** or at the start of each harvesting season (whichever occurs first).

### Oil change

See "Service — Hydraulic System".

### Filter change

**IMPORTANT: Observe utmost cleanliness when installing filter. Install the new filter immediately after removing the used one.**

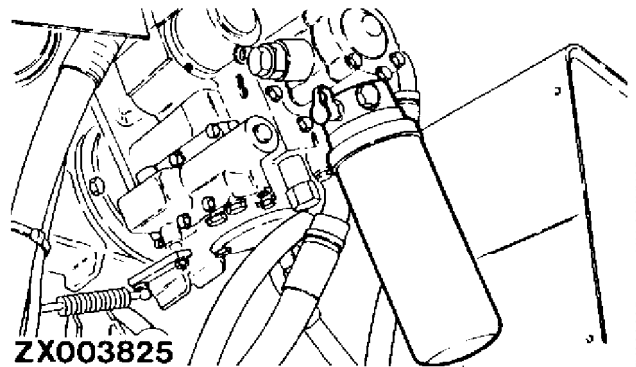
Loosen and remove filter.

Discard filter and replace with a genuine John Deere filter.

For installation of new filter, proceed as follows:

- Coat filter sealing surface with oil.
- Tighten filter element by hand until sealing ring touches filter housing sealing surface and then tighten a further 3/4 to 1-1/4 turns. Do not overtighten.
- Start engine and check for leaks. Retighten if necessary.
- Check level of hydraulic oil, and top up if necessary.

Change all oil in the hydrostatic system and the filter after every **1000 hours of operation**. Always have this done by your local John Deere dealer, who alone is familiar with the relevant rules and regulations.



## TRANSMISSION

Change oil after the first 100 hours of operation. Thereafter change oil every 1000 hours of operation or before every harvesting season (whichever occurs first).

Check oil level every 250 hours of operation.

**IMPORTANT: Always use specified oil.**

### Oil change

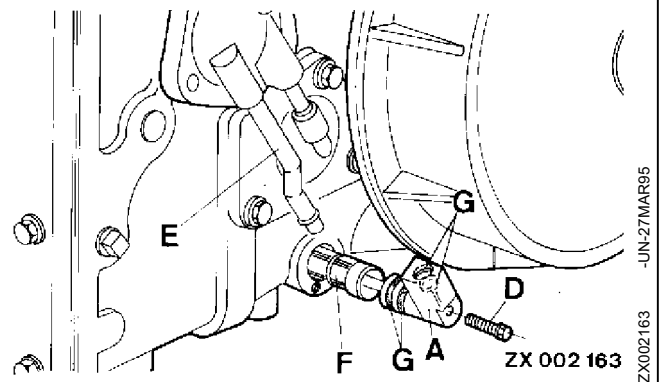
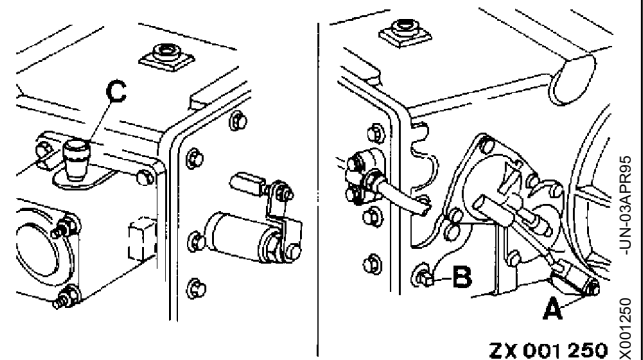
Remove cap screw (D).

Remove drain plug (A) from transmission housing and take out line (E).

Check filter (F) and O-rings (G), and replace if necessary.

**IMPORTANT: When reinstalling, make sure filter (F) is seated correctly in transmission housing.**

- A—Oil drain plug
- B—Check plug
- C—Filler and bleed plug
- D—Cap screw
- E—Line
- F—Screen
- G—O-rings



ZX,OMXZC0002227-19-05OCT92



## FINAL DRIVES

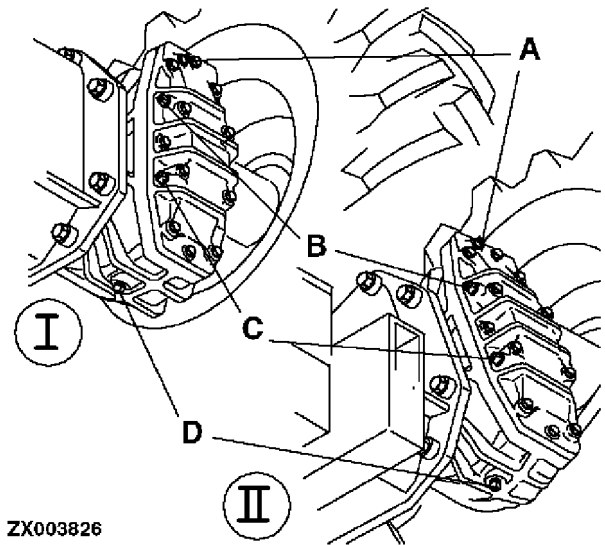
Change oil after the first 100 hours of operation. Thereafter change oil every 1000 hours of operation or before every harvesting season (whichever occurs first).

Check oil level every 250 hours of operation.

**IMPORTANT: Always use specified oil.**

*NOTE: On Hillmaster machines, check the oil only when the harvester is in its normal working position (equalizing cylinder in middle position).*

- I—Standard combine
- II—Hillmaster
- A—Filler plug
- B—Bleed screw
- C—Check plug
- D—Drain plug



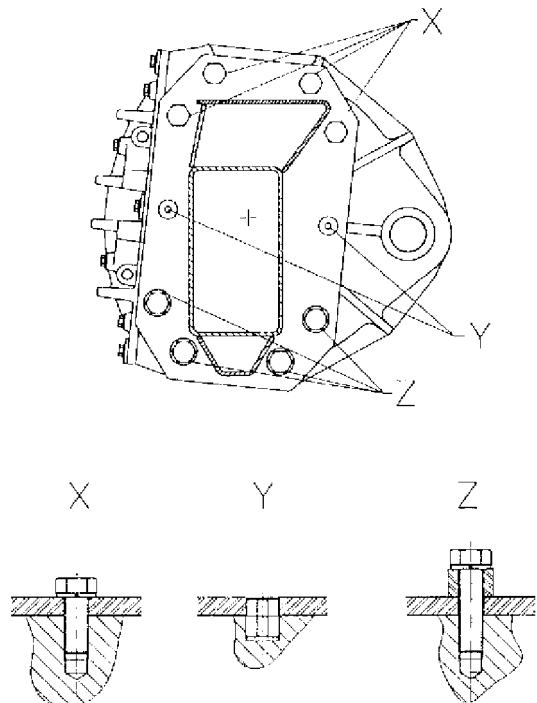
ZX,OMXZC0002216-19-05OCT92

ZX003826 -JUN-19-JUN95

## FINAL DRIVE ATTACHING SCREWS

At least every 10 hours within the first 50 hours of operation, tighten attaching screws at points (X) and (Z) to the following torque:

430 N·m (317 lb-ft)



ZX003827

ZX,OMXZC0002217-19-05OCT92

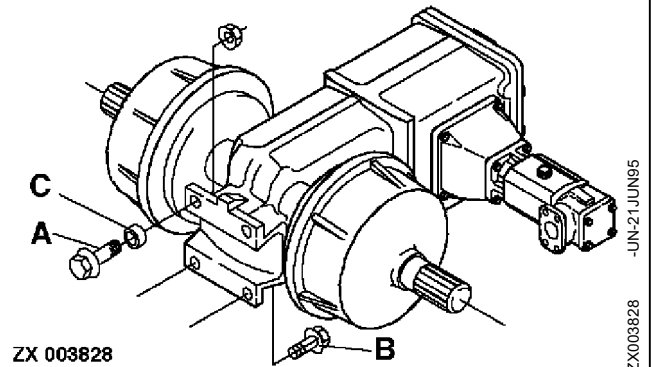
ZX003827 -JUN-02MAY95

### TRANSMISSION ATTACHING SCREWS TO FRONT AXLE

At least every 10 hours within the first 50 hours of operation, tighten attaching screws (A) and (B) to the following torque:

180 N·m (133 lb-ft)

*NOTE: Spacer bushings (C) (4 used) occur only on combines equipped with planetary final drives.*



ZX.OMXZC0002218-19-05OCT92

### REAR AXLE TOE-IN

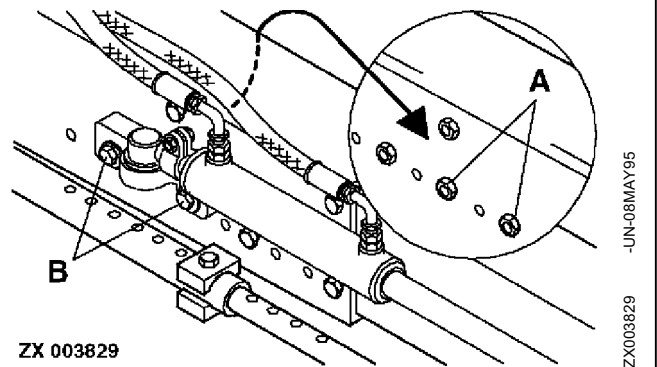
If the combine harvester is difficult to steer or if the rear tires begin to wear on one side, have toe-in checked by your John Deere dealer.

ZX.OMXZC0002219-19-05OCT92

### STEERING CYLINDER SUPPORT ATTACHING SCREWS TO REAR AXLE

After the first 10 hours of operation, tighten nuts of cap screws (A) at both sides to the following torque:

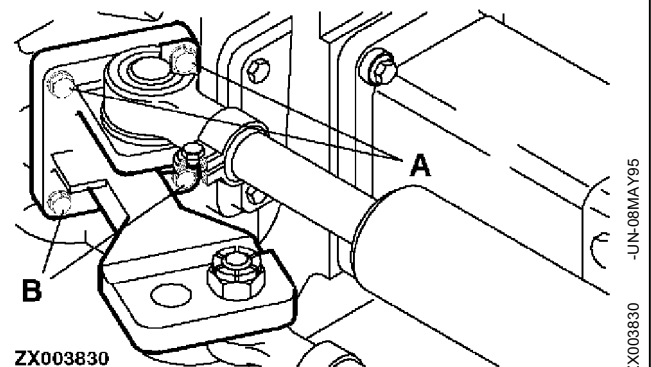
240 N·m (170 lb-ft)



ZX.OMXZC0002220-19-05OCT92

### STEERING CYLINDER SUPPORT ATTACHING SCREWS TO WHEEL MOTOR

After the first 10 hours of operation, tighten cap screws (A) at both sides to 325 N·m (240 lb-ft) and cap screws (B) to 163 N·m (120 lb-ft).

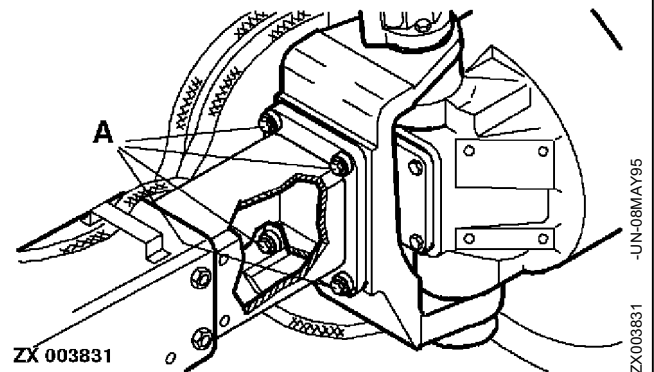


ZX.OMXZC0002221-19-05OCT92

### WHEEL MOTOR YOKE ATTACHING SCREWS TO REAR AXLE SLIDING SLEEVE

After the first 10 hours of operation, tighten cap screws (A) at both sides to the following torque:

575 N·m (424 lb-ft)



ZX.OMXZC0002222-19-05OCT92

### REAR WHEEL TREAD

Depending on the tires fitted, rear wheel tread can be varied from 2.364 m (7.76 ft) to 2.412 m (7.91 ft).

ZX.OMSPFH001398-19-01NOV91

## ADJUSTING REAR AXLE WIDTH

**CAUTION:** When changing axle width, rear frame of combine must be raised and supported properly.

Block up front wheels.

Raise rear axle until tire is approx. 2.5 cm (1 in.) off the ground.

Remove steering cylinder support attaching screws (A) and rear axle cap screws (B) on both sides.

Also take out tie rod bolt (C).

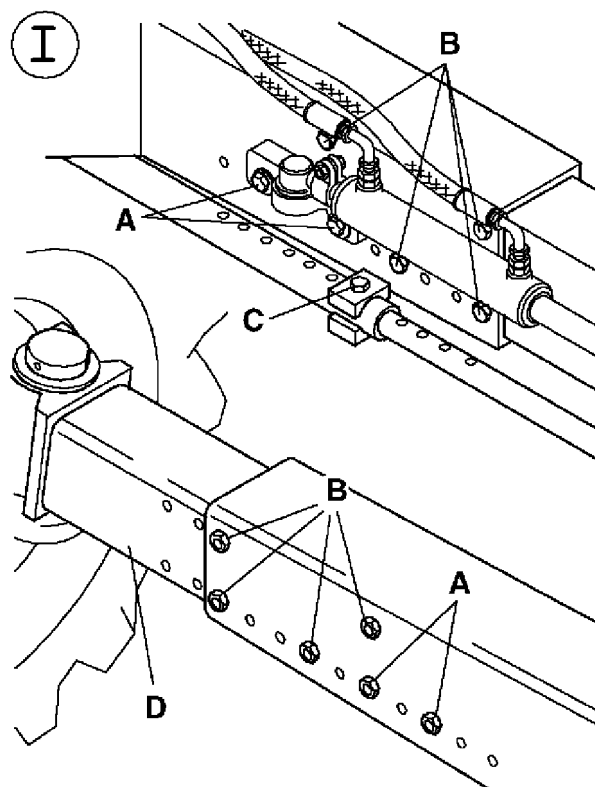
Pull out sliding sleeve (D) to the desired width.

Reinstall screws (A), (B) and (C) and tighten.

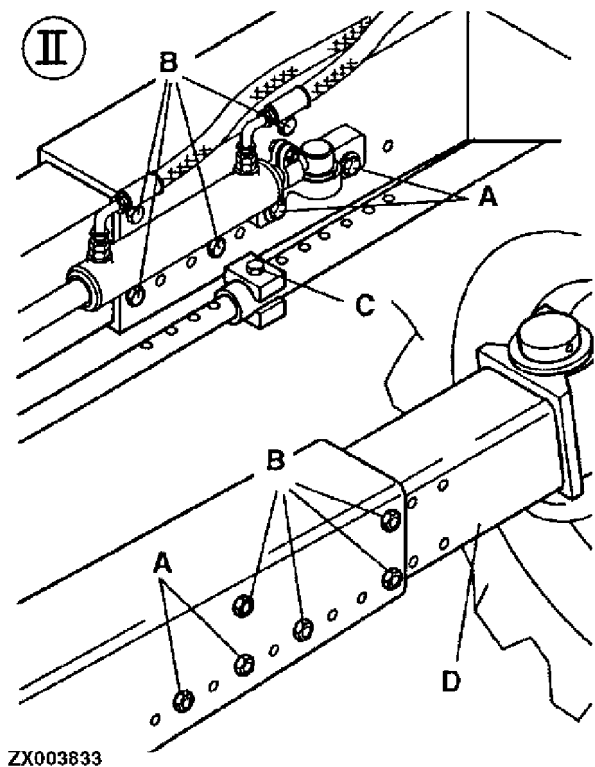
Lower rear axle.

Make sure screws (A) and (B) are tightened to 240 N·m (170 lb-ft).

- I—Left side
- II—Right side
- A—Steering cylinder support attaching screws
- B—Sliding sleeve attaching screws
- C—Tie rod bolt
- D—Sliding sleeve



ZX 003832



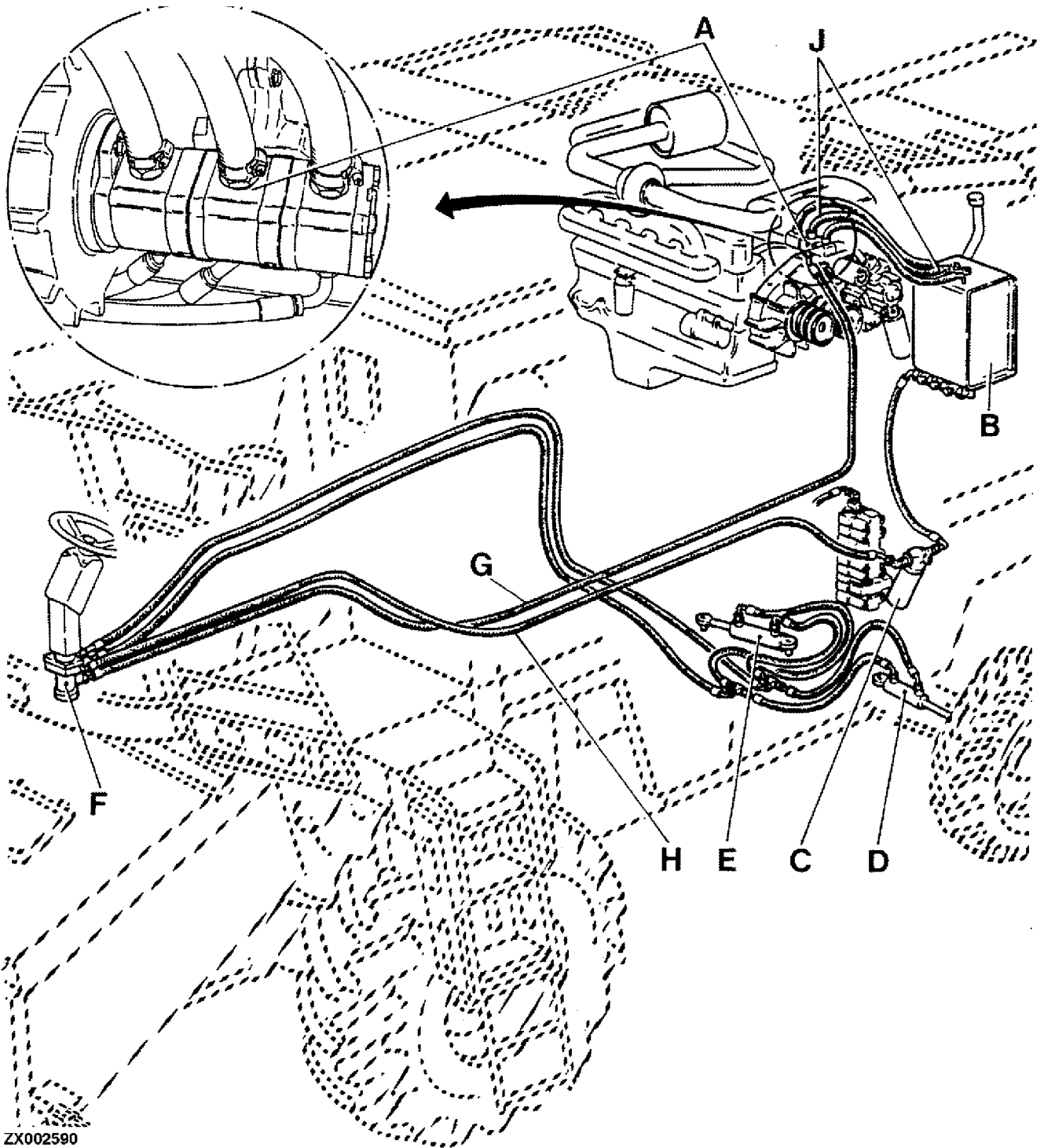
ZX003833

ZX003832 -UN-08MAY95

ZX003833 -UN-08MAY95

ZX.OMXZC0002223-19-05OCT92

### STEERING SYSTEM COMPONENTS



ZX002590

A—Hydraulic pump  
B—Hydraulic oil tank  
C—Hydraulic oil filter

D—L.h. steering cylinder  
E—R.h steering cylinder  
F—Steering pump

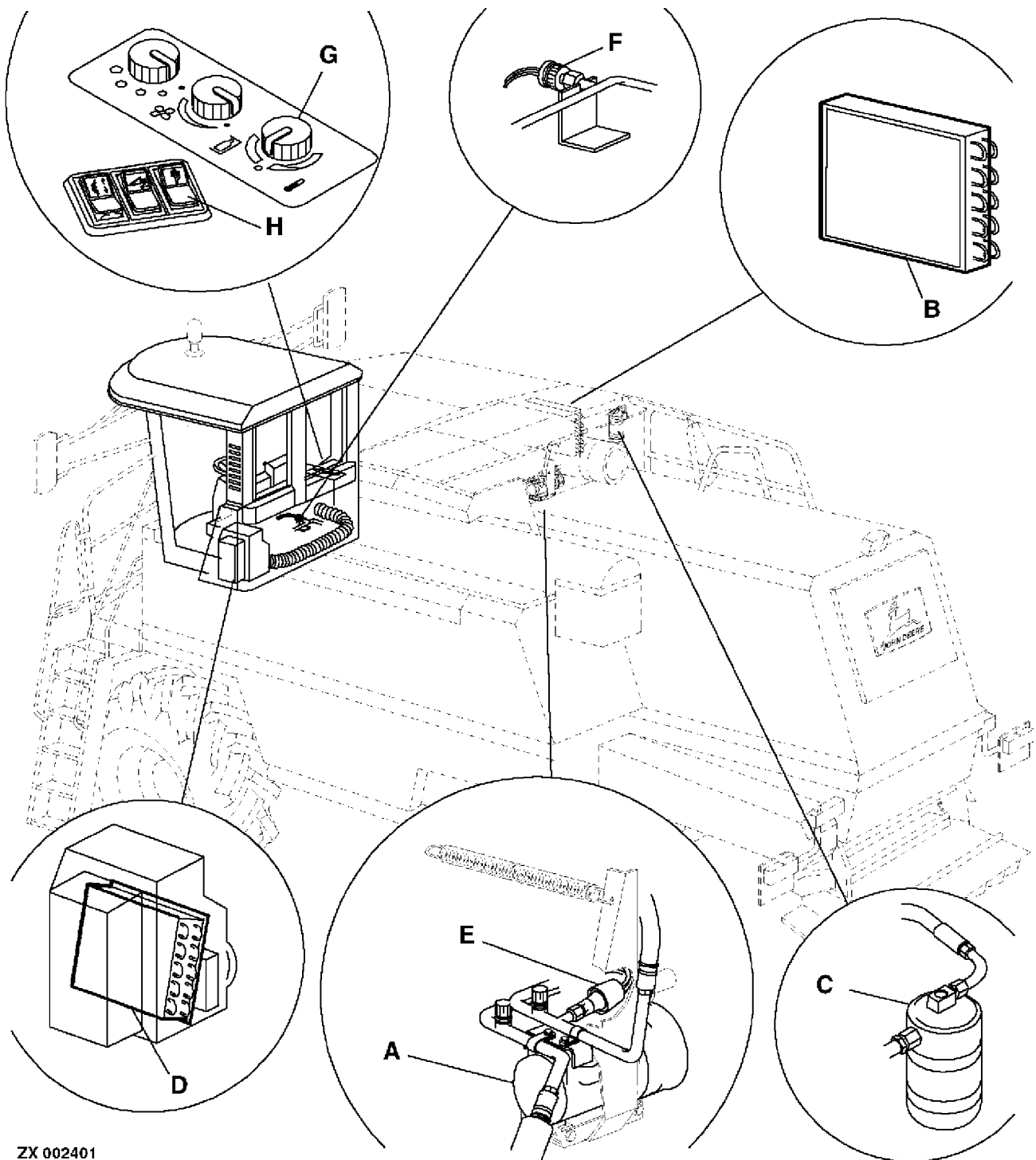
G—Steering pump oil supply line  
H—Steering pump return line

J—Hydraulic pump suction line

ZX.OMXZC000224-19-05OCT92

# Service — Air Conditioning and Heating

## AIR CONDITIONING SYSTEM COMPONENTS



ZX 002401

A—Compressor  
B—Condenser  
C—Receiver-drier

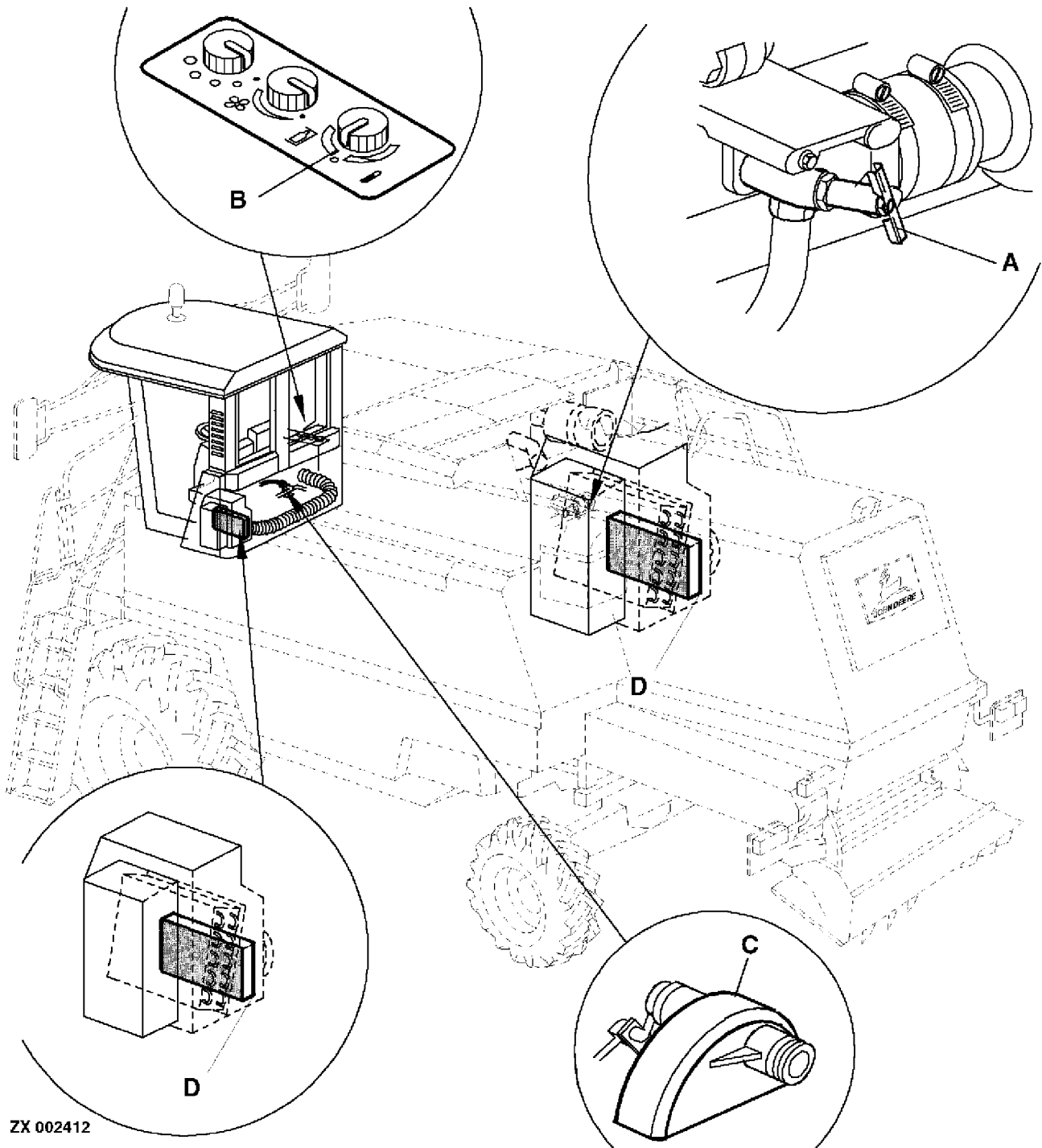
D—Evaporator  
E—High pressure switch

F—Low pressure switch  
G—Air conditioning/heater  
rotary switch

H—Demoisturizer switch

ZX,OMXZC0002228-19-05OCT92

### HEATER COMPONENTS



ZX 002412

A—Heater valve at cylinder block (7.6-L engine)

B—Air conditioning/heater rotary switch

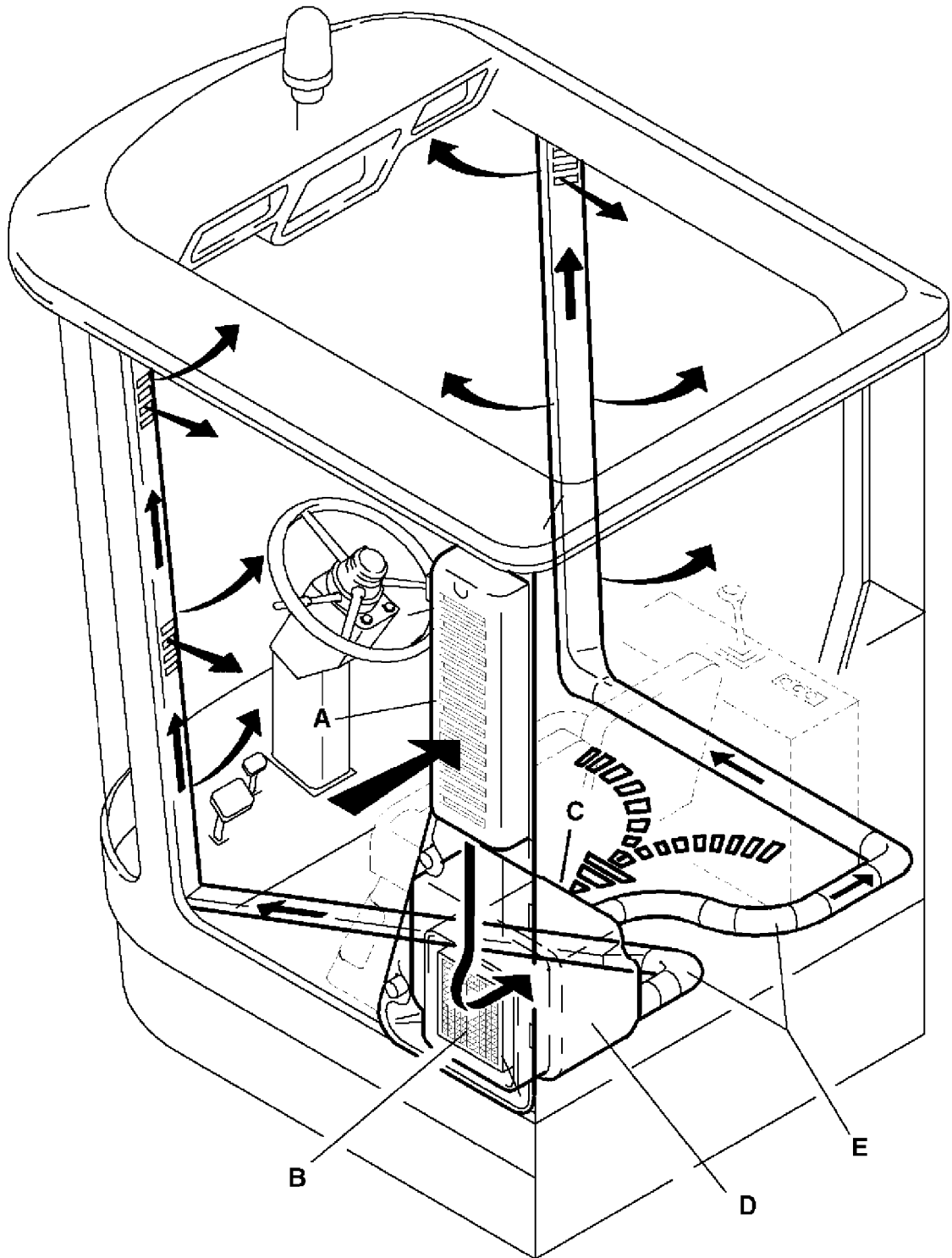
C—Heater valve in cab

D—Radiator

ZX002412 -UN-16JUN95

ZX,OMXZC0002229-19-05OCT92

### AIR INTAKE AND DISTRIBUTION



ZX 002413

A—Air intake channel  
B—Air (main) filter

C—Recirculating air filter

D—Fan

E—Air outlet channels

ZX002413 -JUN-08MAY95

ZX.OMXZC0002230-19-05OCT92



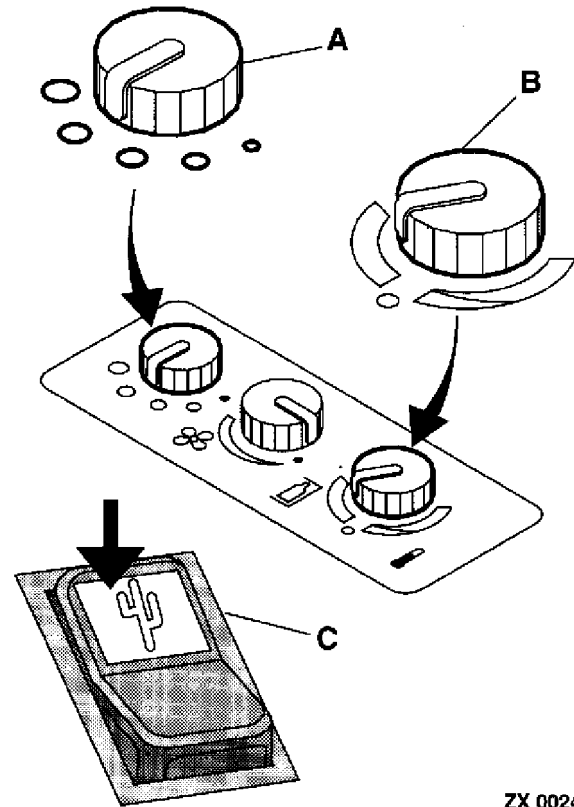
### OPERATING AIR CONDITIONING SYSTEM

With starter switch in position (II), fan can be switched on by means of rotary switch (A).

With fan running, the air conditioning system can be adjusted to the desired temperature by means of rotary switch (B).

Even if air conditioning system is switched off (for example with rotary switch (B) set at "Heating"), the system can still be switched to maximum output by means of switch (C).

*NOTE: This combination is used for e.g. reducing moisture content of air in cab when the windows are misted.*



ZX 002414

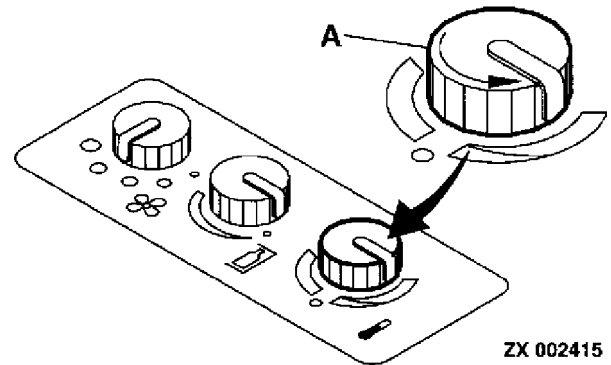
ZX,OMXZC0002231-19-05OCT92

ZX002414 -JUN-23OCT00

### COMBINES WITHOUT AIR CONDITIONING SYSTEM

On combine harvesters without an air conditioning system, the amount of fresh air entering the cab can be increased by means of switch (A).

The more switch (A) is turned counterclockwise, the greater the amount of fresh air entering the cab.



ZX 002415

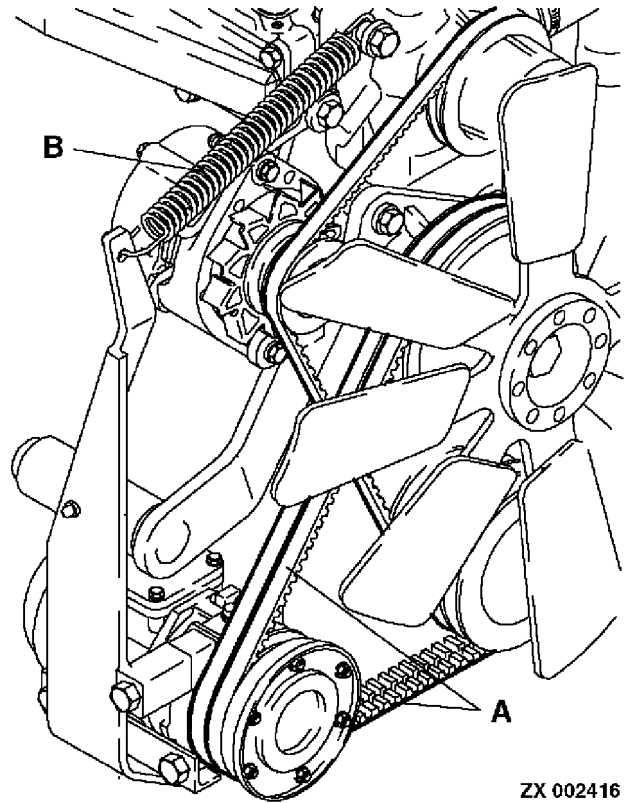
ZX,OMXZC0002232-19-05OCT92

ZX002415 -JUN-23OCT00

## COMPRESSOR DRIVE BELT

Tension of drive belt (A) is held constant by spring (B).

To replace drive belt (A), disconnect spring (B).



ZX 002416

ZX,OMXZC0002233-19-05OCT92

ZX002416 -UN-16JUN95

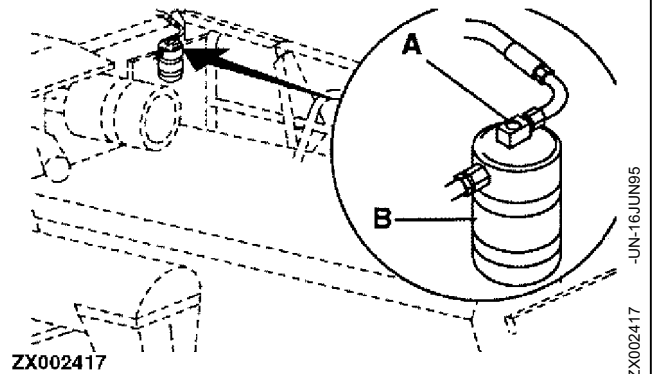
## CHECKING REFRIGERANT LEVEL

**IMPORTANT:** The air conditioning system operates using R134a refrigerant (tetrafluoroethane). This substance does not contain any chlorine atoms, so it does not have a detrimental effect on the ozone in the Earth's atmosphere.

Even so, the refrigerant must never be discharged straight into the air. It must be trapped in a recycling unit. For this reason, never separate any line connections, and always have service and repair work done only by a John Deere dealer who has the appropriate recovery and recycling equipment.

Check refrigerant level every 100 hours. With air conditioning system controls set for maximum cooling and with the engine running, check sight glass (A) at receiver-drier (B).

If refrigerant appears cloudy or foamy, refrigerant level is low and system should be recharged by your John Deere dealer.

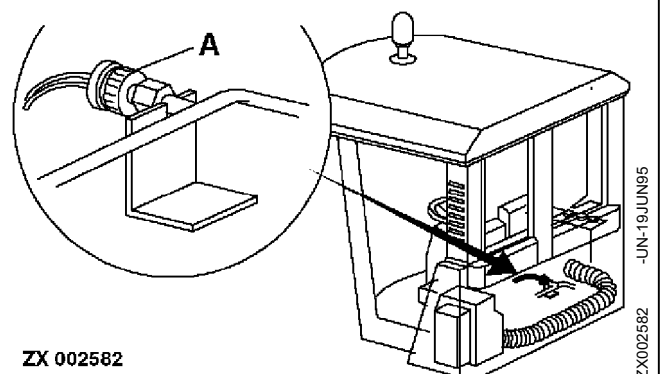


ZX,OMXZC0002234-19-05OCT92

## LOW PRESSURE SWITCH

**IMPORTANT:** Use the highest comfortable fan speed and adjust the air conditioning system to an intermediate setting. Do not operate the air conditioning system at maximum output when the fan is at its lowest speed setting.

The air conditioning system is equipped with a low pressure switch (A) which switches off the system in the event of a refrigerant leak. Some leakage through air conditioning hoses cannot be avoided. Check refrigerant level every 100 hours of operation. When necessary, have system recharged by your John Deere dealer.

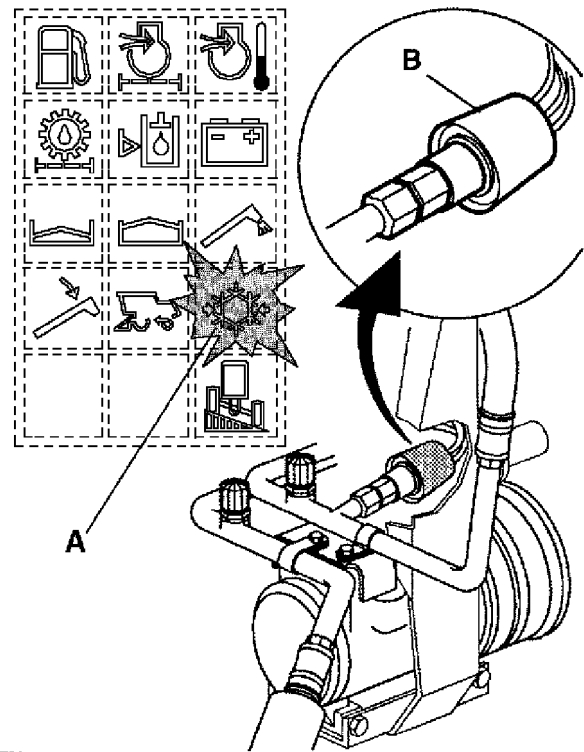


ZX,OMXZC0002235-19-05OCT92

## HIGH PRESSURE SWITCH

Light (A) indicates that the high pressure switch (B) has stopped the air conditioning system. Stop the combine harvester and clean the condenser (see “Service — Engine”).

If the indicator light remains on after the condenser has been cleaned, see your John Deere dealer.



ZX002583

ZX,OMXZC0002236-19-05OCT92

ZX002583 -JUN-19/JUN95

## CLEANING CONDENSER

Clean condenser from time to time (see “Service — Engine”).

ZX,OMSPFH001410-19-01NOV91

## CAB FILTER

The operator's cab is equipped with two reusable dry-type filter elements.

Clean these elements every 250 hours of operation or whenever air flow is noticeably reduced. The

recirculating filter may not require as frequent cleaning as the fresh air (main) filter.

Daily remove coarse dirt with hand brush furnished with the machine.

ZX,OMSPFH001411-19-01NOV91

## REMOVING PAPER (MAIN) FILTER ELEMENT

**IMPORTANT:** Thoroughly clean paper filter element (with compressed air) every 250 hours of operation. Clean more frequently when operating under dusty conditions (clean daily, if necessary).

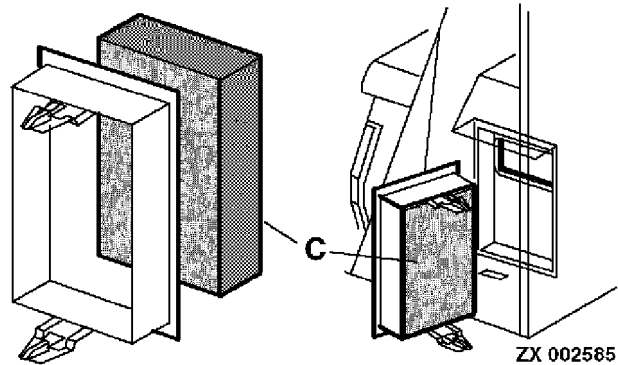
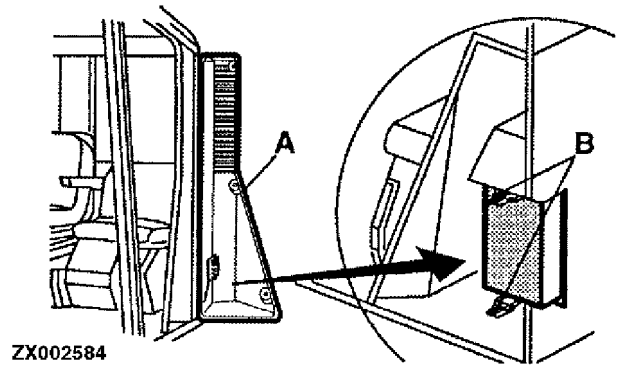
*NOTE:* Replace filter element after it has been washed six times.

Open service cover (A).

Disengage fasteners (B).

Lift out filter housing with element (C).

When reinstalling, make sure filter element is in correct position.



ZX,OMXZC0002237-19-05OCT92

-UN-19JUN95  
ZX002584

-UN-19JUN95  
ZX002585

## CLEANING PAPER FILTER ELEMENTS

### Provisional Cleaning by Tapping

As a provisional measure during operation, tap element on palm of hand or on a flat soft surface.



ZX,OMSPFH001413-19-01NOV91

-UN-04APR95  
Z63398

### Cleaning with Compressed Air

Direct compressed air through filter in opposite direction of arrows on filter [maximum pressure 200 kPa (2 bar; 30 psi)].



ZX,OMSPFH001414-19-01NOV91

-UN-04APR95  
Z63399

### Washing the Filter

**IMPORTANT:** Never wash element in fuel or strong detergents. Never install a wet or damp element.

Hold filter element under running water to remove any coarse dirt.

Soak element for approx. 15 min. in lukewarm water, using a mild non-sudsing detergent. Wash element.

Rinse element in warm water [pressure not exceeding 200 kPa (2 bar; 28 psi)]. Shake filter and allow to dry.



Z 63400

-JUN-04APR95

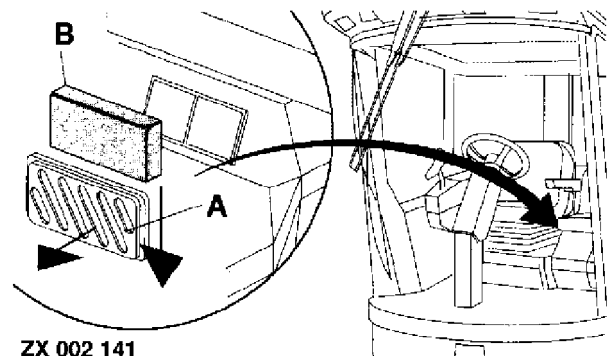
Z63400

ZX,OMSPFH001415-19-01NOV91

### REMOVING RECIRCULATING FILTER

Press down grille (A) and pull out to the top.

Lift out filter element (B).



ZX 002 141

-JUN-03APR95

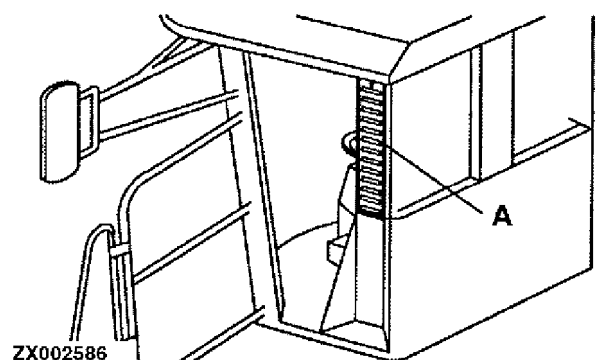
ZX002141

ZX,OMSPFH001416-19-01NOV91

### AIR INTAKE OPENING

A fine mesh screen (A) covers the air intake opening. Keep screen clear of chaff and leaves.

Use hand brush located in main filter service cover.



ZX002586

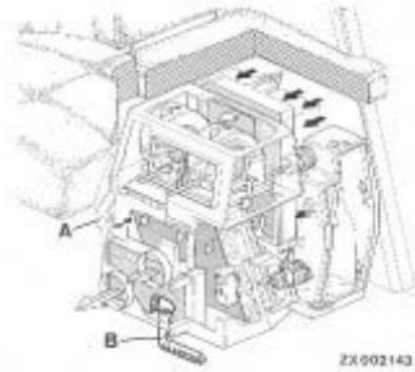
-JUN-19JUN95

ZX002586

ZX,OMXZC0002238-19-05OCT92

## CONDENSED-WATER DRAIN HOSE

If water is accumulating in housing (A) the condensed water drain hose (B) may be blocked. Check if hose is bent or blocked.



ZX.OMSPFH001418-19-01NOV91

ZX002143 -UN-05APR95

# Storage

## AFTER THE SEASON

If possible, store the combine harvester in a dry, sheltered place.

Clean the combine harvester thoroughly inside and out. Chaff and dirt will attract moisture, which leads to corrosion.

*NOTE: Should a high-pressure washer be used for cleaning, do not direct pressurized water at the bearings.*

Remove all V-belts.

Clean the drive belts thoroughly. Do not use aggressive cleaning agents. Do not use petrol, benzine, turpentine or similar cleaning solvents.

The recommended procedure is to use a rag dipped in:

- liquid ammonia,
- soap-suds, or a
- 1:10 mixture of glycerine spirit

Store drive belts in a dry, cool and dark area, avoiding distortion or tensioning of belts.

Thoroughly clean all drive chains and coat them with heavy oil to prevent corrosion.

Clean out augers and elevators, leaving upper flaps open.

Thoroughly clean grain tank and unloading auger. Thoroughly clean all sieves.

Grease feeder house conveyor bottom to prevent corrosion. Lubricate combine thoroughly as indicated in the lubricating charts. Grease threads of adjusting screws etc. Release tension in springs.

Touch up all parts where paint is damaged.

Support the header with blocks to level it or lower header onto a horizontal, dry base. Lower the feeder house.

Grease bare metal surfaces of hydraulic cylinder piston rods well and retract rods as far as possible.

Block up combine, taking the load off the tires. Leave tires inflated.

If combine is stored outside, jack it up on supports and remove wheels. Store wheels in a cool, dark and dry room.

Coat all lever linkages and bearing points without grease fittings with oil.

List all service work to be done before the next season and have it carried out in good time. Your John Deere dealer is in a better position to carry out necessary service and repairs during the off-season.

ZX,OMXZC0002239-19-05OCT92



## AFTER THE SEASON — ENGINE

If the combine harvester is to be stored for some time (during the winter months), metal parts of the engine must be protected from corrosion and the fuel system must be protected from gum-type deposits.

Protect engine, fuel system etc. as follows:

- Thoroughly clean outside of engine with a safe solvent.



### **CAUTION: Do not use petrol!**

- Drain, flush and refill cooling system with fresh coolant every two years (refer to “Fuel, Lubricants, Coolant and Capacities” section).

**IMPORTANT: Use only John Deere COOL-GARD in the cooling system, regardless of the season.**

- Swing rotary radiator screen away and carefully clean radiator fins, using compressed air or a weak water jet.
- Drain engine oil and replace filter element. Drain oil while still warm. Refill crankcase with oil of specified quality and viscosity. Operate engine for a few minutes before adding rust inhibitor.
- To protect engine and fuel system, use the rust inhibitor available from your John Deere dealer. The rust inhibitor set includes one can of rust inhibitor, masking tape and protective caps to cover engine openings.

Add rust inhibitor as follows:

- Add 600 cm<sup>3</sup> (36.6 cu in.) of rust inhibitor to engine oil and run engine for a few minutes.

*NOTE: This engine oil can be used again at the beginning of the next season for approx. 20—25 operating hours. Then drain the oil and refill crankcase with fresh engine oil of specified quality and viscosity.*

- Drain hydraulic oil reservoir and fill with fresh oil of specified quality. Add approx. 50 cm<sup>3</sup> (3.05 cu in.) of rust inhibitor.
- Drain fuel tank and pour 150 cm<sup>3</sup> (9.2 cu in.) of rust inhibitor into empty tank. Add about 10 L (2.6 U.S. gal) of fuel. Start engine and run at fast idle for 15—20 minutes to distribute the mixture in the complete fuel system.

With the engine running, operate all hydraulic functions several times.

- Stop the engine and allow it to cool for approx. 15—20 minutes.
- Remove plug from intake manifold or connecting pipe of starting aid adapter and inject approx. 90 cm<sup>3</sup> (5.5 cu in.) of rust inhibitor per cylinder into this opening. At the same time crank engine with starting motor. Remove fuse (F16).

Do not start engine after rust inhibitor has been added.

## AFTER THE SEASON — ENGINE (CONTINUED)

Furthermore, use rust inhibitor as follows:

- Disconnect turbocharger air intake line and inject 90 cm<sup>3</sup> (5.5 cu in.) of rust inhibitor into turbocharger intake side. Connect and tighten air intake line.
- Disconnect turbocharger exhaust line and inject 90 cm<sup>3</sup> (5.5 cu in.) of rust inhibitor into turbocharger outlet side. Connect and tighten exhaust line.

**IMPORTANT: Rust inhibitor agents evaporate very easily. For this reason, seal all openings after the inhibitor has been added. Also keep the inhibitor container closed at all times.**

Fill the fuel tank completely.

Remove and clean batteries. Store in a cool, dry place where they will not freeze. Charge batteries every three months to avoid damage to the plates.

Seal all openings with plugs or greaseproof paper. Remove muffler and seal manifold opening.

Place strips of strong paper between fan belt and pulleys to prevent sticking.

Thoroughly clean engine and spray with anti-rust fluid; then cover engine with a tight-fitting waterproof tarpaulin.

ZX,OMXZC0002241-19-05OCT92

## AFTER THE SEASON — AIR CONDITIONING SYSTEM

Clean condenser.

Remove compressor drive belt and store with the other belts.

ZX,OMXZC0002242-19-05OCT92

## REMOVING COMBINE FROM STORAGE

Before the beginning of each harvesting season, the combine harvester should undergo a thorough check. By ensuring that the machine is in really good condition, costly breakdowns will be avoided.

Thoroughly clean the combine harvester inside and out, if this was not done after the last harvesting season. Reinstall all belts and check belt tension.

Re-adjust chain tension and make sure the chains on the grain and tailings elevators are in a clean condition.

Clean the slip clutches. Then adjust the spring tension (see under "Slip Clutch" in the "Service — Drives" section).

Close elevator flaps.

Lubricate complete combine harvester in accordance with the lubrication charts.

Afterwards run combine harvester at half-speed for about an hour. Check all bearings for overheating.

Check tire inflation pressures.

Go over the complete combine harvester and make sure that all bolts are tight and cotter pins are in place.

ZX,OMXZC0002243-19-05OCT92

## REMOVING COMBINE FROM STORAGE — ENGINE

Remove engine tarpaulin, plugs from engine openings and paper strips between fan belt and pulleys.

Check all seals and coolant level. Antifreeze and rust inhibitor should be left in the cooling system during the summer months as a protection against corrosion.

If rust inhibitor was added to the engine oil before storing the combine harvester, this oil can be used for approx. 25 hours at the beginning of the new season. Otherwise, drain the oil and fill crankcase with fresh oil of specified quality and viscosity (see "Fuel, Lubricants, Coolant and Capacities" section).

Check batteries. Check battery charge and electrolyte level. Recharge batteries if necessary.

Before starting the engine after a protracted period in storage, remove fuse (F16). Crank engine for 30 seconds — or until engine oil pressure indicator light goes out. This will ensure proper lubrication of all engine parts during the starting procedure. Reinstall fuse (F16). Then start engine and run it for approx. 5 minutes at half-rated speed.

Check all lines and seals for leaks. See your John Deere dealer if necessary.

ZX,OMXZC0002244-19-05OCT92

## REMOVING COMBINE FROM STORAGE — AIR CONDITIONING SYSTEM

An annual service of the air conditioning system is necessary to assure satisfactory performance.

Clean or replace dry-type paper filter.

Clean or replace recirculating air filter.

Install and tension compressor drive belt.

Check refrigerant level in the sight glass.

A small amount of leakage is normal. Therefore it may be necessary to have your John Deere dealer

add refrigerant from time to time to assure proper performance.

It is a good idea to have your John Deere dealer check the entire system at the beginning of each season.



**CAUTION: The air conditioning system should be serviced only by your John Deere dealer.**

ZX,OMXZC0002245-19-05OCT92

# Specifications

## OPERATING SPEEDS FOR 2054, 2056, 2058, 2064 AND 2066 COMBINES AND HILLMASTERS

Speeds shown are average and can vary from machine to machine. Speeds are rated at high idle with separator engaged, no load.

### ENGINE

Slow idle . . . . .	1250 ± 50 rpm
Fast idle . . . . .	2350 + 50 rpm
Rated speed . . . . .	2200 rpm

### HYDROSTATIC DRIVE

Hydrostatic pump speed . . . . .	3385 rpm
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### SEPARATOR

Main countershaft speed . . . . .	1220 rpm
Primary cylinder speed range	
— without dual range drive . . . . .	370—1110 rpm
— with dual range drive	
• disengaged . . . . .	370—1110 rpm
• engaged . . . . .	150—440 rpm
Secondary cylinder speed . . . . .	910 rpm
Variable secondary cylinder speed . . . . .	370—1110 rpm

### FEEDER HOUSE LOWER SHAFT

Fixed speed . . . . .	520 rpm
Variable speed . . . . .	520—820 rpm

### STRAW WALKERS

Standard . . . . .	160 rpm
Optional . . . . .	170 rpm

### CROSS-SHAKER DRIVE SHAFT

Speed . . . . .	380 rpm
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### CLEANING TURBO FAN

Speed range . . . . .	670—1735 rpm
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### CHOPPER SPEED

For grain . . . . .	3615 rpm
For corn . . . . .	2720 rpm

## SPECIFICATIONS, 2054 COMBINE

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490—770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	optional

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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**SPECIFICATIONS, 2054 COMBINE (CONTINUED)**

**STRAW WALKERS**

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	6000 L (170 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

**SPECIFICATIONS, 2054 COMBINE (CONTINUED)**

**POWER PACK**

Engine type	CD6068HZ001
Number of cylinders	6
Displacement	6.8 L (414 cu in.)
Bore	106.50 mm (4.19 in.)
Stroke	127 mm (5 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	132 kW (180 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	350 L (92.5 U.S. gal)

**GROUND DRIVE**

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

**GROUND SPEED**

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)



**SPECIFICATIONS 2054 COMBINE (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 75.6 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

## SPECIFICATIONS, 2054 HILLMASTER

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	standard

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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## SPECIFICATIONS, 2054 HILLMASTER (CONTINUED)

### STRAW WALKERS

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

### CROSS-SHAKER

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

### CLEANING SYSTEM

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

### CLEANING TURBO FAN

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

### GRAIN TANK

Capacity	6000 L (170 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

## SPECIFICATIONS, 2054 HILLMASTER (CONTINUED)

### POWER PACK

Engine type	CD6068HZ001
Number of cylinders	6
Displacement	6.8 L (414 cu in.)
Bore	106.50 mm (4.19 in.)
Stroke	127 mm (5 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	132 kW (180 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	350 L (92.5 U.S. gal)

### GROUND DRIVE

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

### HILLMASTER LEVELLING SYSTEM

Automatic self-levelling on slopes up to 11%	standard
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### GROUND SPEED

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)

**SPECIFICATIONS, 2054 HILLMASTER (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 75.6 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

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## SPECIFICATIONS, 2056 COMBINE

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	optional

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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**SPECIFICATIONS, 2056 COMBINE (CONTINUED)**

**STRAW WALKERS**

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	6500 L (185 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

**SPECIFICATIONS, 2056 COMBINE (CONTINUED)**

**POWER PACK**

Engine type . . . . . RG6076AZ031  
Number of cylinders . . . . . 6  
Displacement . . . . . 7.6 L (466 cu in.)  
Bore . . . . . 116 mm (4.56 in.)  
Stroke . . . . . 121 mm (4.75 in.)  
Power (according to ECE-R24) at  
rated speed with direct fan drive . . . . . 151 kW (205 hp)  
Engine rated speed . . . . . 2200 rpm  
Radiator screen . . . . . self-cleaning  
Fuel tank capacity . . . . . 450 L (119 U.S. gal)

**GROUND DRIVE**

Transmission type . . . . . three-speed  
Foot brake type . . . . . 305 mm (12 in.) dia, hydraulically  
operated shoe type  
Parking brake . . . . . pedal, two brake circuits  
Rear axle . . . . . standard or adjustable, with or  
without rear wheel drive

**GROUND SPEED**

20 km/h (12.5 mph) version:

1st gear . . . . . 5 km/h ( 3.1 mph)  
2nd gear . . . . . 10 km/h ( 6.3 mph)  
3rd gear . . . . . 20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear . . . . . 6 km/h ( 3.7 mph)  
2nd gear . . . . . 12 km/h ( 7.5 mph)  
3rd gear . . . . . 25 km/h (15.5 mph)



**SPECIFICATIONS 2056 COMBINE (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 75.6 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

## SPECIFICATIONS, 2056 HILLMASTER

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	standard

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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## SPECIFICATIONS, 2056 HILLMASTER (CONTINUED)

### STRAW WALKERS

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

### CROSS-SHAKER

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

### CLEANING SYSTEM

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

### CLEANING TURBO FAN

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

### GRAIN TANK

Capacity	6500 L (185 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

## SPECIFICATIONS, 2056 HILLMASTER (CONTINUED)

### POWER PACK

Engine type	RG6076AZ031
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	151 kW (205 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	450 L (119 U.S. gal)

### GROUND DRIVE

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

### HILLMASTER LEVELLING SYSTEM

Automatic self-levelling on slopes up to 11%	standard
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### GROUND SPEED

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)

**SPECIFICATIONS, 2056 HILLMASTER (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 75.6 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page*

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## SPECIFICATIONS, 2058 COMBINE

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	optional

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26.8 in)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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**SPECIFICATIONS, 2058 COMBINE (CONTINUED)**

**STRAW WALKERS**

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	7000 L (198 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

**SPECIFICATIONS, 2058 COMBINE (CONTINUED)**

**POWER PACK**

Engine type . . . . . RG6076AZ030  
Number of cylinders . . . . . 6  
Displacement . . . . . 7.6 L (466 cu in.)  
Bore . . . . . 116 mm (4.56 in.)  
Stroke . . . . . 121 mm (4.75 in.)  
Power (according to ECE-R24) at  
rated speed with direct fan drive . . . . . 170 kW (230 hp)  
Engine rated speed . . . . . 2200 rpm  
Radiator screen . . . . . self-cleaning  
Fuel tank capacity . . . . . 450 L (119 U.S. gal)

**GROUND DRIVE**

Transmission type . . . . . three-speed  
Foot brake type . . . . . 305 mm (12 in.) dia, hydraulically  
operated shoe type  
Parking brake . . . . . pedal, two brake circuits  
Rear axle . . . . . standard or adjustable, with or  
without rear wheel drive

**GROUND SPEED**

20 km/h (12.5 mph) version:

1st gear . . . . . 5 km/h ( 3.1 mph)  
2nd gear . . . . . 10 km/h ( 6.3 mph)  
3rd gear . . . . . 20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear . . . . . 6 km/h ( 3.7 mph)  
2nd gear . . . . . 12 km/h ( 7.5 mph)  
3rd gear . . . . . 25 km/h (15.5 mph)



**SPECIFICATIONS, 2058 COMBINE (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 79.5 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

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## SPECIFICATIONS, 2058 HILLMASTER

### FEEDER HOUSE

Conveyor chains . . . . .	3
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	standard

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1400 mm (55 in.)
Concave length . . . . .	680 mm (26 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	0.9 m <sup>2</sup> (9.7 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1400 mm (55 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.53 m <sup>2</sup> (5.70 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	7
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**SPECIFICATIONS, 2058 HILLMASTER (CONTINUED)**

**STRAW WALKERS**

No. of walkers	5
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	6.4 m <sup>2</sup> (68.9 sq ft)
Comparable walker area	8.13 m <sup>2</sup> (87.50 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	5
No. of spring tines	40
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	2.76 m <sup>2</sup> (29.70 sq ft)
Grain sieve area	2.08 m <sup>2</sup> (22.40 sq ft)
Total cleaning area	4.84 m <sup>2</sup> (52.10 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 4 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	7000 L (198 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

## SPECIFICATIONS, 2058 HILLMASTER (CONTINUED)

### POWER PACK

Engine type	RG6076AZ030
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	170 kW (230 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	450 L (119 U.S. gal)

### GROUND DRIVE

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

### HILLMASTER LEVELLING SYSTEM

Automatic self-levelling on slopes up to 11%	standard
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### GROUND SPEED

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)

**SPECIFICATIONS, 2058 HILLMASTER (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with directive  
86/188 EEC. Measurement method  
in accordance with directive  
ISO5131 with cab closed  
(average value) . . . . . 79.5 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

## SPECIFICATIONS, 2064 COMBINE

### FEEDER HOUSE

Conveyor chains . . . . .	3 / 4
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	optional

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1670 mm (65.7 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	1.08 m <sup>2</sup> (11.60 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.63 m <sup>2</sup> (6.80 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	8
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**SPECIFICATIONS, 2064 COMBINE (CONTINUED)**

**STRAW WALKERS**

No. of walkers	6
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	7.67 m <sup>2</sup> (82.6 sq ft)
Comparable walker area	9.74 m <sup>2</sup> (104.8 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	6
No. of spring tines	48
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	3.32 m <sup>2</sup> (35.70 sq ft)
Grain sieve area	2.51 m <sup>2</sup> (27.00 sq ft)
Total cleaning area	5.83 m <sup>2</sup> (62.70 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 5 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	7000 L (198 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

**SPECIFICATIONS, 2064 COMBINE (CONTINUED)**

**POWER PACK**

Engine type	RG6076AZ030
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	170 kW (230 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	450 L (119 U.S. gal)

**GROUND DRIVE**

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

**GROUND SPEED**

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)



**SPECIFICATIONS 2064 COMBINE (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 77.2 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

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## SPECIFICATIONS, 2064 HILLMASTER

### FEEDER HOUSE

Conveyor chains . . . . .	3 / 4
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	standard

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1670 mm (65.7 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	1.08 m <sup>2</sup> (11.60 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.63 m <sup>2</sup> (6.80 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	8
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## SPECIFICATIONS, 2064 HILLMASTER (CONTINUED)

### STRAW WALKERS

No. of walkers	6
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	7.67 m <sup>2</sup> (82.60 sq ft)
Comparable walker area	9.74 m <sup>2</sup> (104.80 sq ft)
Open type walkers	yes

### CROSS-SHAKER

No. of rotating units	6
No. of spring tines	48
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

### CLEANING SYSTEM

Chaffer area incl. extension	3.32 m <sup>2</sup> (35.70 sq ft)
Grain sieve area	2.51 m <sup>2</sup> (27.00 sq ft)
Total cleaning area	5.83 m <sup>2</sup> (62.70 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

### CLEANING TURBO FAN

Type of fan	turbo 5 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

### GRAIN TANK

Capacity	7000 L (198 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

## SPECIFICATIONS, 2064 HILLMASTER (CONTINUED)

### POWER PACK

Engine type	RG6076AZ030
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	170 kW (230 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	450 L (119 U.S. gal)

### GROUND DRIVE

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

### HILLMASTER LEVELLING SYSTEM

Automatic self-levelling on slopes up to 11%	standard
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### GROUND SPEED

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)

**SPECIFICATIONS, 2064 HILLMASTER (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 77.2 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page*

## SPECIFICATIONS, 2066 COMBINE

### FEEDER HOUSE

Conveyor chains . . . . .	3 / 4
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490—770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	optional

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1670 mm (65.7 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	1.08 m <sup>2</sup> (11.60 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.63 m <sup>2</sup> (6.80 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	8
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**SPECIFICATIONS, 2066 COMBINE (CONTINUED)**

**STRAW WALKERS**

No. of walkers	6
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	7.67 m <sup>2</sup> (82.60 sq ft)
Comparable walker area	9.74 m <sup>2</sup> (104.80 sq ft)
Open type walkers	yes

**CROSS-SHAKER**

No. of rotating units	6
No. of spring tines	48
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

**CLEANING SYSTEM**

Chaffer area incl. extension	3.32 m <sup>2</sup> (35.70 sq ft)
Grain sieve area	2.51 m <sup>2</sup> (27.00 sq ft)
Total cleaning area	5.83 m <sup>2</sup> (62.70 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

**CLEANING TURBO FAN**

Type of fan	turbo 5 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

**GRAIN TANK**

Capacity	7500 L (212 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

**SPECIFICATIONS, 2066 COMBINE (CONTINUED)**

**POWER PACK**

Engine type	RG6076HZ031
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct fan drive	199 kW (270 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	550 L (145.3 U.S. gal)

**GROUND DRIVE**

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

**GROUND SPEED**

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)



**SPECIFICATIONS 2066 COMBINE (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 79.2 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page*

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## SPECIFICATIONS, 2066 HILLMASTER

### FEEDER HOUSE

Conveyor chains . . . . .	3 / 4
Slats . . . . .	bolted T-slats
Fixed speed (engine rated speed) . . . . .	490 rpm
Variable speed (engine rated speed) . . . . .	490 / 770 rpm
Header reverser . . . . .	mechanical
Pivoting feeder house front shield . . . . .	standard

### THRESHING UNIT

#### Primary Cylinder and Concave

Cylinder diameter . . . . .	660 mm (26 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of rasp bars . . . . .	10
Cylinder speed (engine rated speed) . . . . .	345—1040 rpm
Dual range speed (engine rated speed) . . . . .	140—1040 rpm
Circumferential velocity . . . . .	4.8—35.9 m/sec. (15.7—117.8 fps)
Cylinder speed adjustment . . . . .	hydraulic
Drive type . . . . .	POSI-TORQ™

#### Concave

No. of concave bars (small grain / corn) . . . . .	12 / 13
Concave width . . . . .	1670 mm (65.7 in.)
Concave length . . . . .	680 mm (26.8 in.)
Concave wrap . . . . .	121°
Concave area . . . . .	1.08 m <sup>2</sup> (11.60 sq ft)
Concave adjustment . . . . .	electric motor
No. of de-awning plates . . . . .	3

#### Secondary Cylinder and Concave

Cylinder diameter . . . . .	400 mm (15.7 in.)
Cylinder width . . . . .	1670 mm (65.7 in.)
No. of cylinder wings . . . . .	8
Constant cylinder speed (engine rated speed) . . . . .	850 rpm
Variable cylinder speed (optional) . . . . .	100% of primary cylinder speed
Concave area . . . . .	0.63 m <sup>2</sup> (6.80 sq ft)

#### Stone Trap

Actuation . . . . .	2 levers
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#### Grain Pan

No. of removable sections . . . . .	8
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## SPECIFICATIONS, 2066 HILLMASTER (CONTINUED)

### STRAW WALKERS

No. of walkers	6
No. of walker steps (without cross-shaker)	4 (5)
Walker length	4600 mm (181 in.)
Walker throw	150 mm (5.9 in.)
Walker speed (engine rated speed)	150 rpm
Walker area	7.67 m <sup>2</sup> (82.6 sq ft)
Comparable walker area	9.74 m <sup>2</sup> (104.8 sq ft)
Open type walkers	yes

### CROSS-SHAKER

No. of rotating units	6
No. of spring tines	48
Lateral tine kicks	720 pm
Rotating speed (engine rated speed)	17 rpm

### CLEANING SYSTEM

Chaffer area incl. extension	3.32 m <sup>2</sup> (35.70 sq ft)
Grain sieve area	2.51 m <sup>2</sup> (27.00 sq ft)
Total cleaning area	5.83 m <sup>2</sup> (62.70 sq ft)
Type of sieve	adjustable louver type
Shoe movement	reciprocating
Dual flow cleaning	pre-cleaning
Slope Master system	standard

### CLEANING TURBO FAN

Type of fan	turbo 5 rotors
Fan speed range (engine rated speed)	630—1630 rpm
Fan speed adjustment	electric, remote

### GRAIN TANK

Capacity	7000 L (198 bu)
Unloading auger swing range	110°
Unloading height, spout	320 cm (126 in.)
Unloading rate	4300 L/min. (122 bu/min.)

## SPECIFICATIONS, 2066 HILLMASTER (CONTINUED)

### POWER PACK

Engine type	RG6076HZ031
Number of cylinders	6
Displacement	7.6 L (466 cu in.)
Bore	116 mm (4.56 in.)
Stroke	121 mm (4.75 in.)
Power (according to ECE-R24) at rated speed with direct engine drive	199 kW (270 hp)
Engine rated speed	2200 rpm
Radiator screen	self-cleaning
Fuel tank capacity	550 L (145.3 U.S. gal)

### GROUND DRIVE

Transmission type	three-speed
Foot brake type	305 mm (12 in.) dia, hydraulically operated shoe type
Parking brake	pedal, two brake circuits
Rear axle	standard or adjustable, with or without rear wheel drive

### HILLMASTER LEVELLING SYSTEM

Automatic self-levelling on slopes up to 11%	standard
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### GROUND SPEED

20 km/h (12.5 mph) version:

1st gear	5 km/h ( 3.1 mph)
2nd gear	10 km/h ( 6.3 mph)
3rd gear	20 km/h (12.5 mph)

25 km/h (15.5 mph) version:

1st gear	6 km/h ( 3.7 mph)
2nd gear	12 km/h ( 7.5 mph)
3rd gear	25 km/h (15.5 mph)

**SPECIFICATIONS, 2066 HILLMASTER (CONTINUED)**

**ELECTRIC SYSTEM**

Alternator . . . . . 95 A / 12 V  
Batteries . . . . . 2, each 12 V, 88 AH, 395 A

**STEERING SYSTEM**

Type . . . . . hydrostatic  
Steering column . . . . . height and tilt adjustment

**SOUND LEVEL**

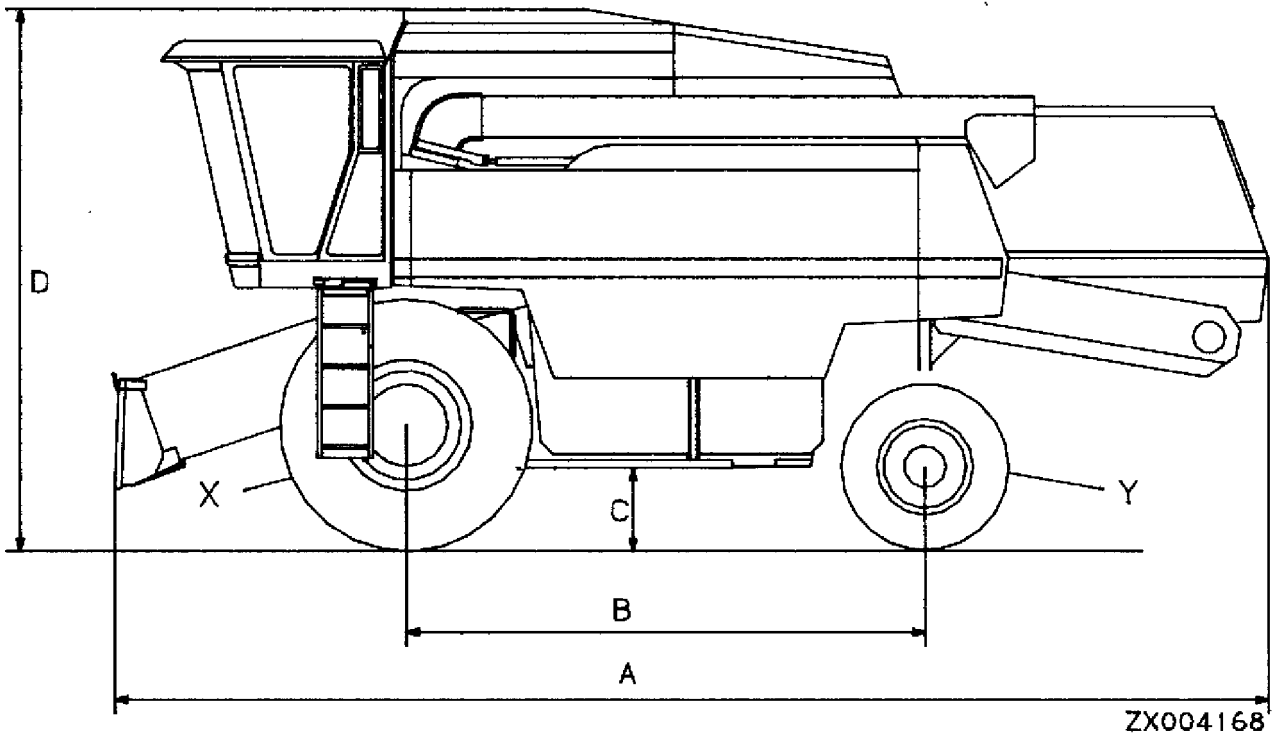
Max. sound level at operator's  
ear in accordance with Directive  
86/188 EEC. Measurement method  
in accordance with ISO5131  
with cab closed  
(average value) . . . . . 79.2 dB(A)

*NOTE: For measurements, weight and tire size see  
separate page.*

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Specifications

**DIMENSIONS, 2054 AND 2056 COMBINES AND HILLMASTERS**



A—Overall length  
B—Wheel base

C—Ground clearance  
D—Overall height

X—Front tires

Y—Rear tires

Side View

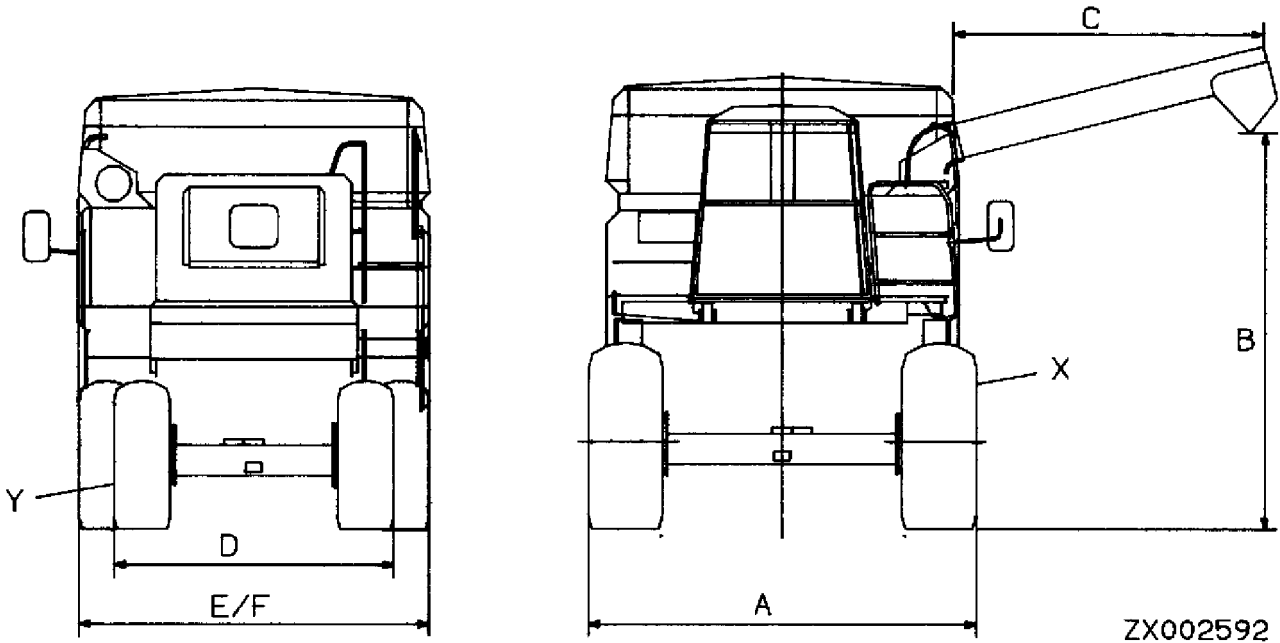
	X	Y	A	B	C	D
2054	620/75-R34	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3780 mm (12.40 ft)
	24.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	550 mm (1.80 ft)	3790 mm (12.43 ft)
2056	620/75-R34	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3840 mm (12.60 ft)
	24.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	550 mm (1.80 ft)	3850 mm (12.63 ft)
	30.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3840 mm (12.60 ft)

ZX004168 -JUN-23MAY95

ZX,MEAS1XZCO -19-01AUG92

Specifications

**DIMENSIONS, 2054 AND 2056 COMBINES AND HILLMASTERS (CONTINUED)**



ZX002592

- A—Front axle width
- B—Max. discharge height
- C—Outreach of unloading auger
- D—Width of standard (fixed) rear axle
- E—Width of adjustable rear axle
- F—Width of rear wheel drive axle
- X—Front tires
- Y—Rear tires

Front View

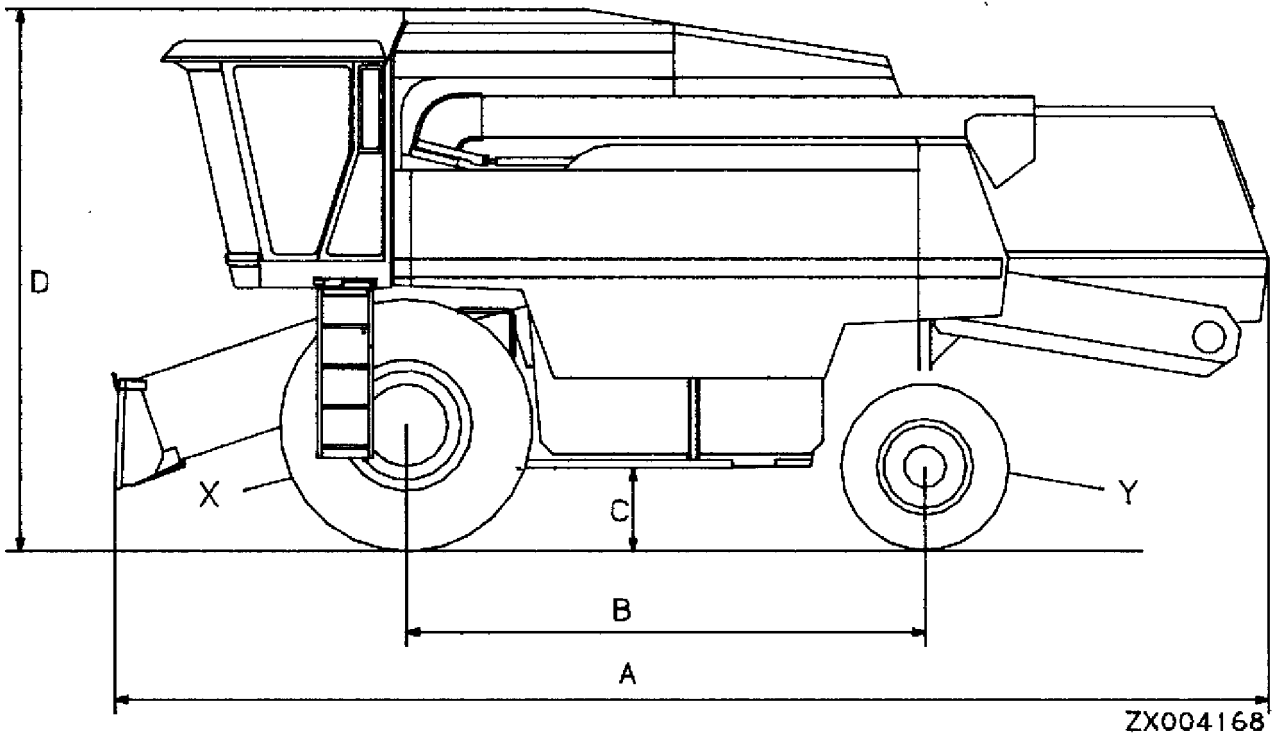
Rear View

	X	Y	A	B	C	D	E	F
2054	620/75-R34	14.9-24	3300 mm (10.83 ft)	3980 mm (13.06 ft)	2570 mm (8.43 ft)	2940 mm (9.65 ft)	2940—3530 mm (9.65—11.58 ft)	3110—3720 mm (10.20—12.20 ft)
	24.5-32	14.9-24	3500 mm (11.48 ft)	3960 mm (13.00 ft)				
2056	620/75-R34	14.9-24	3300 mm (10.83 ft)	3980 mm (13.06 ft)	2570 mm (8.43 ft)	2940 mm (9.65 ft)	2940—3530 mm (9.65—11.58 ft)	3110—3720 mm (10.20—12.20 ft)
	24.5-32	14.9-24	3500 mm (11.48 ft)	3960 mm (13.00 ft)				
	30.5-32	14.9-24	3800 mm (12.47 ft)	3980 mm (13.06 ft)				

ZX,MEAS2XZCO -19-13NOV92

Specifications

**DIMENSIONS, 2058 AND 2064 COMBINES AND HILLMASTERS**



A—Overall length  
B—Wheel base

C—Ground clearance  
D—Overall height

X—Front tires

Y—Rear tires

Side View

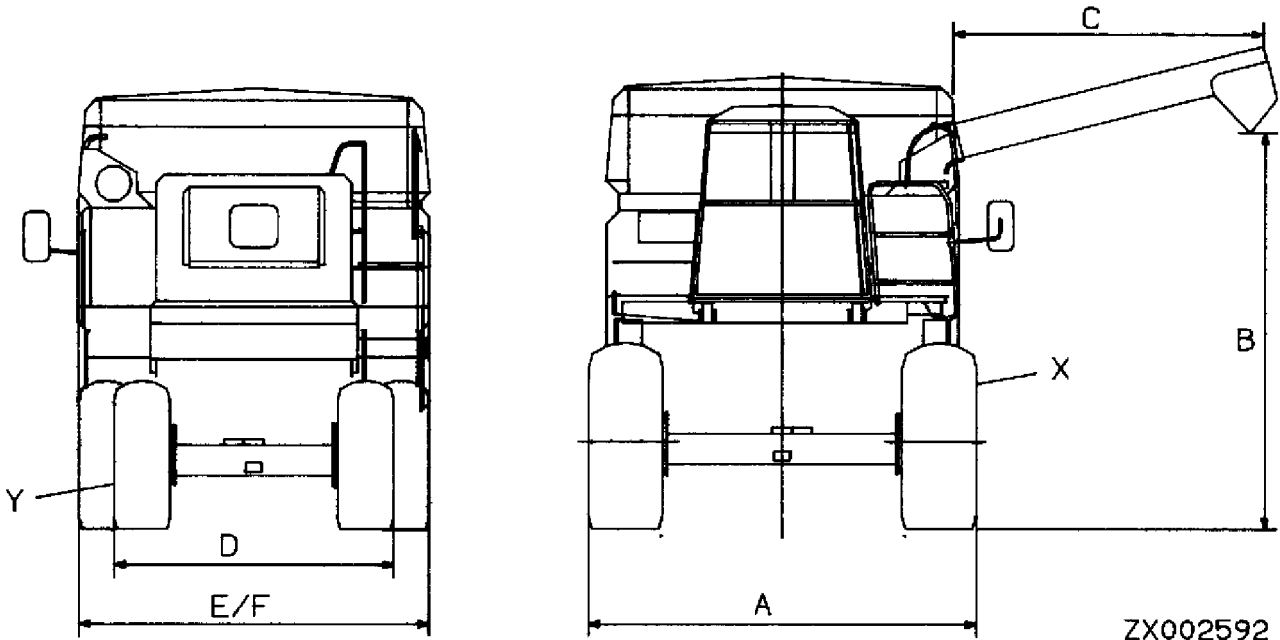
	X	Y	A	B	C	D
2058	620/75-R34	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3910 mm (12.83 ft)
	24.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	550 mm (1.80 ft)	3940 mm (12.93 ft)
	30.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3910 mm (12.83 ft)
2064	620/75-R34	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3910 mm (12.83 ft)
	24.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	550 mm (1.80 ft)	3940 mm (12.93 ft)
	30.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3910 mm (12.83 ft)

ZX,MEAS3XZCO -19-01AUG92



Specifications

**DIMENSIONS, 2058 AND 2064 COMBINES AND HILLMASTERS (CONTINUED)**



ZX002592

- A—Front axle width
- B—Max. discharge height
- C—Outreach of unloading auger
- D—Width of standard (fixed) rear axle
- E—Width of adjustable rear axle
- F—Width of rear wheel drive axle
- X—Front tires
- Y—Rear tires

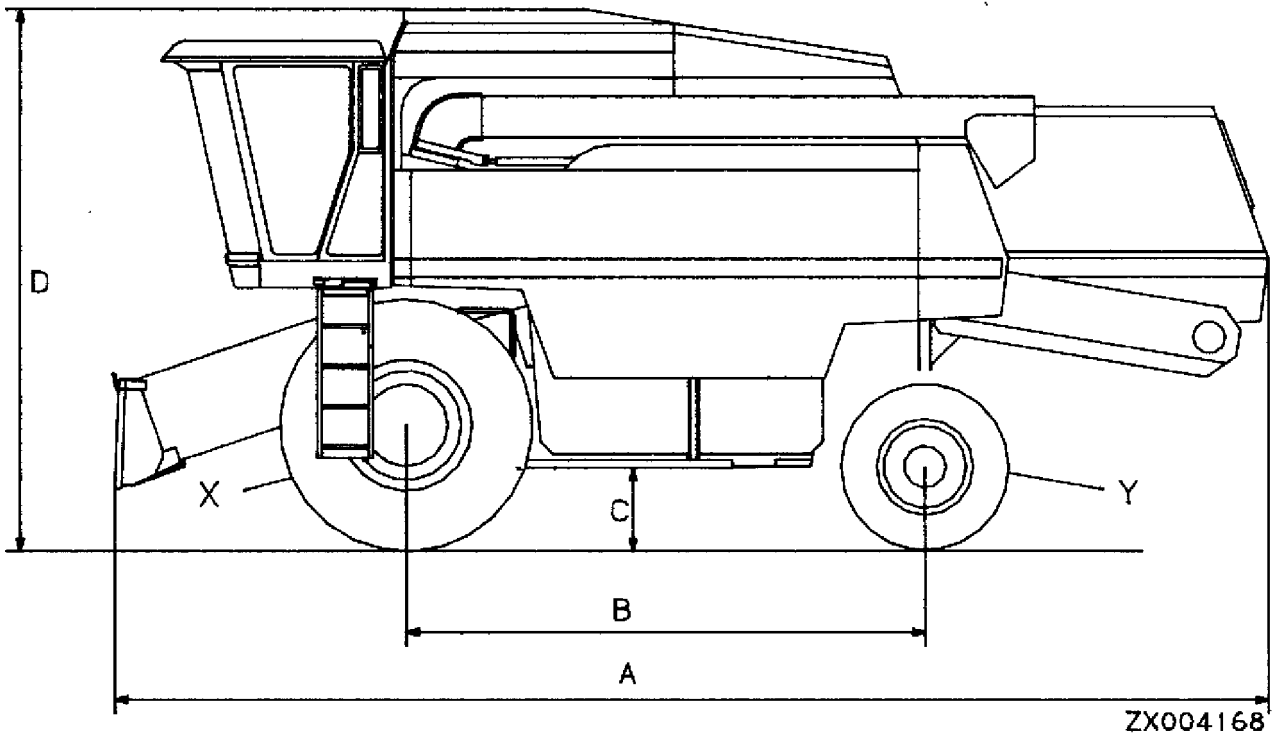
Front View

Rear View

	X	Y	A	B	C	D	E	F
2058	620/75-R34	14.9-24	3300 mm (10.83 ft)	3980 mm (13.06 ft)	2570 mm (8.43 ft)	2940 mm (9.65 ft)	2940—3530 mm (9.65—11.58 ft)	3110—3720 mm (10.20—12.20 ft)
	24.5-32	14.9-24	3500 mm (11.48 ft)	3960 mm (13.00 ft)				
	30.5-32	14.9-24	3800 mm (12.47 ft)	3980 mm (13.06 ft)				
2064	620/75-R34	14.9-24	3300 mm (10.83 ft)	3980 mm (13.06 ft)	2570 mm (8.43 ft)	2940 mm (9.65 ft)	2940—3530 mm (9.65—11.58 ft)	3110—3720 mm (10.20—12.20 ft)
	24.5-32	14.9-24	3500 mm (11.48 ft)	3960 mm (13.00 ft)				
	30.5-32	14.9-24	3800 mm (12.47 ft)	3980 mm (13.06 ft)				

ZX,MEAS4XZCO -19-13NOV92

**DIMENSIONS, 2066 COMBINE AND HILLMASTER**



A—Overall length  
B—Wheel base

C—Ground clearance  
D—Overall height

X—Front tires

Y—Rear tires

Side View

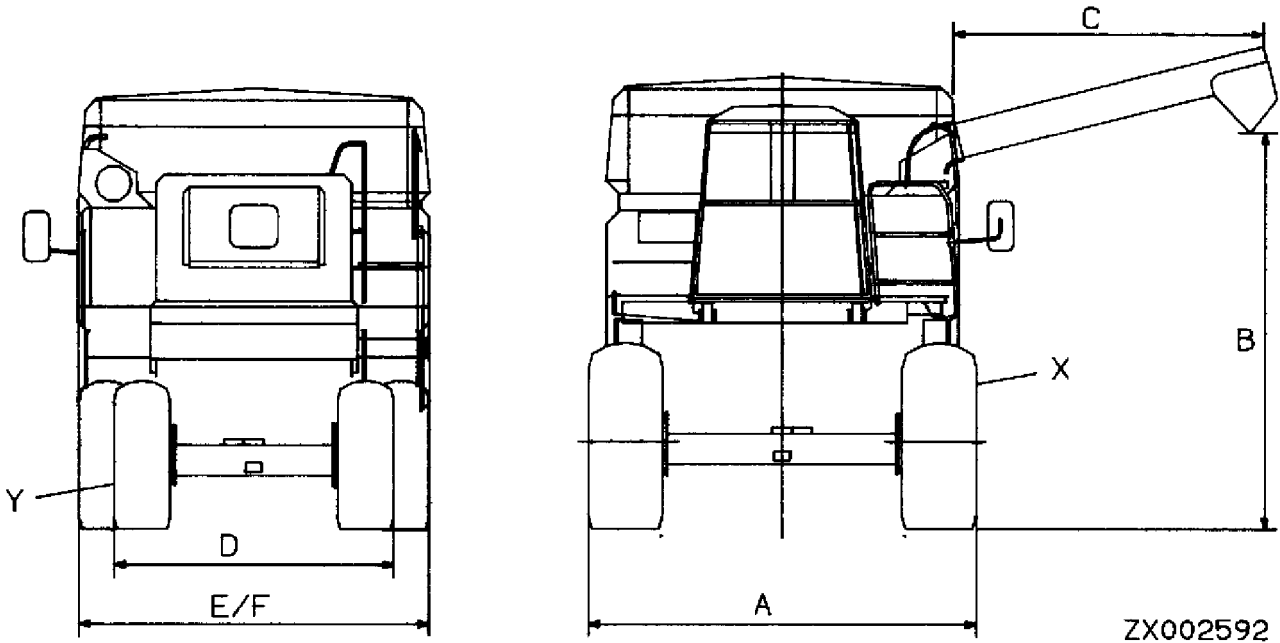
	X	Y	A	B	C	D
2066	620/75-R34	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3980 mm (13.06 ft)
	24.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	550 mm (1.80 ft)	4000 mm (13.12 ft)
	30.5-32	14.9-24	8630 mm (28.31 ft)	3820 mm (12.53 ft)	540 mm (1.77 ft)	3980 mm (13.06 ft)

ZX,MEAS5XZCO -19-01AUG92

ZX004168 -JUN-23MAY95

Specifications

**DIMENSIONS, 2066 COMBINE AND HILLMASTER (CONTINUED)**



ZX002592

- A—Front axle width
- B—Max. discharge height
- C—Outreach of unloading auger
- D—Width of standard (fixed) rear axle
- E—Width of adjustable rear axle
- F—Width of rear wheel drive axle
- X—Front tires
- Y—Rear tires

Front View

Rear View

	X	Y	A	B	C	D	E	F
2066	620/75-R34	14.9-24	3300 mm (10.83 ft)	3980 mm (13.06 ft)	2570 mm (8.43 ft)	2940 mm (9.65 ft)	2940—3530 mm (9.65—11.58 ft)	3110—3720 mm (10.20—12.20 ft)
	24.5-32	14.9-24	3500 mm (11.48 ft)	3960 mm (13.00 ft)				
	30.5-32	14.9-24	3800 mm (12.47 ft)	3980 mm (13.06 ft)				

ZX,MEAS6XZCO -19-13NOV92

ZX002592 -JUN-23MAY95

# Serial Numbers

## TYPE PLATES

Serial numbers identifying combine harvester components or assemblies are stamped on components or factory serial number plates.

These numbers and letters are required when ordering parts or components for the combine harvester.

To ensure that you always have these numbers at hand, enter the appropriate serial numbers in the spaces provided in each illustration.

ZX.OMXZC0002360-19-05OCT92

## PRODUCT IDENTIFICATION NUMBER

The product identification number is located on the front right side of the operator's platform.

*NOTE: In addition, the last six figures of the product identification number are stamped into the right-hand frame near the clean grain elevator.*



ZX.OMXZC0002361-19-05OCT92

## ENGINE SERIAL NUMBER — ENGINE TYPE 6068

The engine serial number is located near the fuel filter.

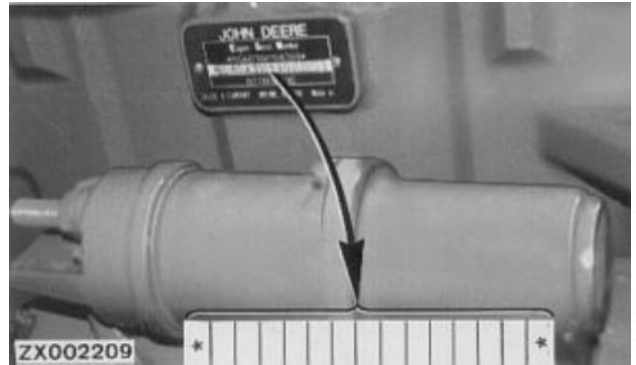


ZX.OMXZC0002362-19-04DEC92

## Serial Numbers

### ENGINE SERIAL NUMBER — ENGINE TYPE 6076

The engine serial number is located near the fuel injection pump.



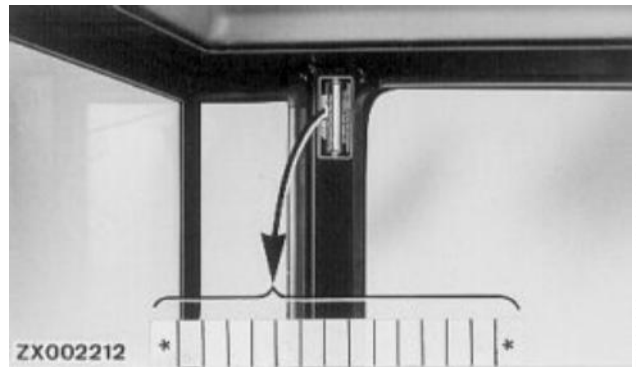
ZX\_OMSPFH001429-19-01NOV91

ZX002209 -UN-24MAR95

### OPERATOR'S CAB SERIAL NUMBER

The operator's cab serial number is located on the inside of the left-hand side panel.

*NOTE: The operator's cab serial number is the same as that for the air conditioning system.*

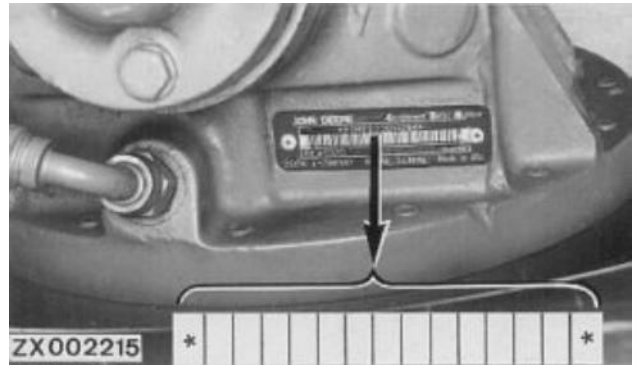


ZX\_OMSPFH001431-19-01NOV91

ZX002212 -UN-24MAR95

### FOUR WHEEL DRIVE MOTOR SERIAL NUMBER

The serial number of the four wheel drive motor is located on top of the motor.

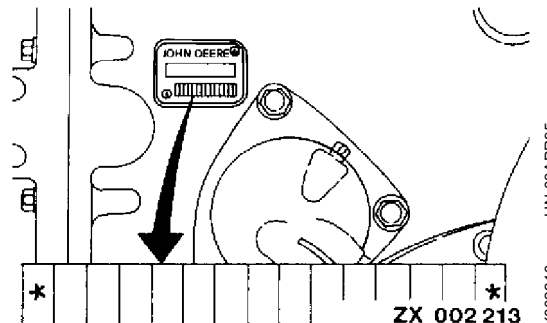


ZX\_OMSPFH001434-19-01NOV91

ZX002215 -UN-24MAR95

### THREE-SPEED TRANSMISSION SERIAL NUMBER

The three-speed transmission serial number is located on right-hand side of transmission.



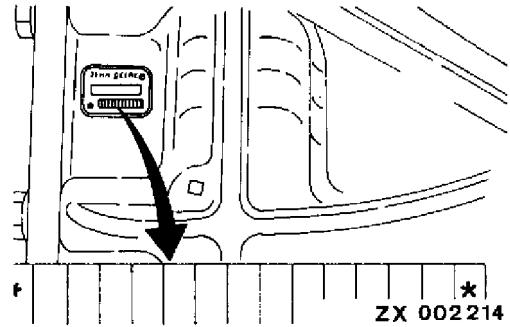
ZX\_OMSPFH001927-19-22MAY92

ZX002213 -UN-03APR95

### FINAL DRIVE SERIAL NUMBER

Location of final drive serial numbers:

- Right-hand side — on TOP of transmission case, next to the axle flange
- Left-hand side — on BOTTOM of transmission case, next to the axle flange

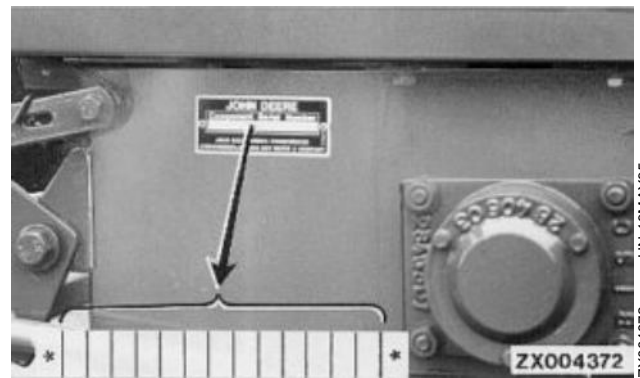


ZX002214 -JUN-03APR95

ZX,OMSPFH001923-19-22MAY92

### STRAW CHOPPER SERIAL NUMBER

The straw chopper serial number is located on the outside of the chopper, on the right.



ZX004372 -JUN-19MAY95

ZX,OMXZC0002363-19-05OCT92

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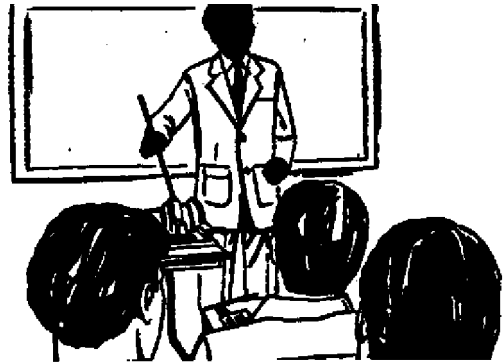
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