# 1640, 2040 and 2040 S Tractors (From Serial No. 450,000 L)

JOHN DEERE

## OPERATORS MANUAL

1640, 2040 and 2040 S Tractors (From Serial No. 450,000 L)

OML40926 E6 English

**John Deere Werke Mannheim**
**OML40926 E6**

LITHO IN U.S.A.
ENGLISH

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OML40926 E6

## INSPECTIONS

We appreciate the confidence you have shown in John Deere and your John Deere dealer for the purchase of this equipment.

We want you to have the best performance from your new machine. To accomplish this, your dealer will perform a Predelivery Inspection and will familiarize you with the proper and safe operation of this machine.

After the machine has operated the first 100 hours, you should contact your dealer and arrange an appropriate date at which the After-Sale Inspection will be performed.It will be performed most effectively in the workshop of your dealer.

Your dealer completed the predelivery inspection according to the check list, while at the end of this manual you will find the After-Sale Inspection check list.

These check lists will be completed by your dealer while the inspections are being performed. He will then forward the original and one copy of each inspection list to the John Deere Sales Branch Service Department, retaining the second copy for his files. The dealer will confirm completion of these inspections on that portion of the check list which remains in this manual.

The After-Sale Inspection is an important prerequisit to assure best performance of your new machine. For this reason you should not miss THE OPPORTUNITY to make proper arrangements with your dealer to get this service done at the proper time.

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## SAFETY

**CAUTION: This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.**

**IMPORTANT: This machine is designed and manufactured according to JOHN DEERE specifications. To avoid accidents and to assure optimum performance the machine must not be modified or altered in ways not approved by JOHN DEERE, nor must it be used in conditions or for purposes it is not designed for.**

To assure safe operation of this machine, read and observe the Safety Rules on the first pages of this manual.

## MEASUREMENTS

Your operator's manual contains the international standardized SI metric measurement system.

## DIRECTION

Right-hand and left-hand sides of this machine are determined by facing in the direction of forward travel.

## SERIAL NUMBERS

Record the serial numbers of your machine in the spaces provided at the end of this manual and provide this information to your dealer when ordering spare parts.

All information, illustrations and specifications contained in this operators 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.

# Identification Views




L102773

L102773-1640ALE-010386




L32 209A

L32209A-1640ALE-010386

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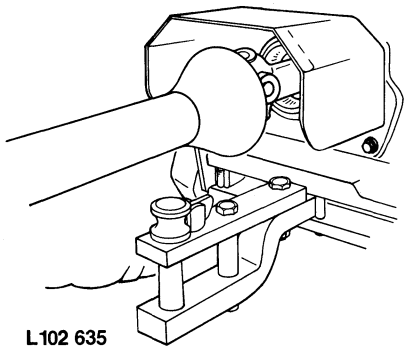
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## PTO DRIVE

High-inertia implements do not become stationary immediately when PTO control lever is shifted to disengaged position. Allow sufficient time for implement to "coast down" to a halt after having disengaged the PTO.
Make sure PTO drive shaft guards are installed.



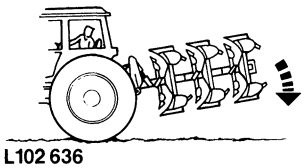
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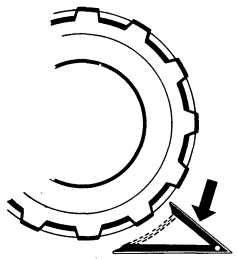
## PARKING THE TRACTOR

Before leaving the tractor lower any equipment to the ground.

When parking on a slope, place chock behind a rear wheel.



L102 636



L102 637 A

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## 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 the machine. Fill fuel tank outdoors.

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



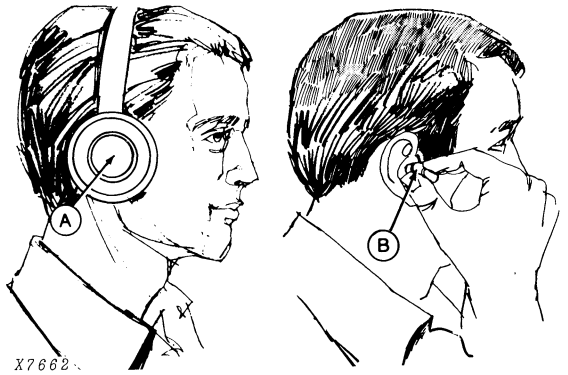
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## NOISE PROTECTION

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

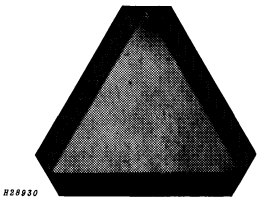
Wear a suitable hearing protective device such as ear-muffs (A) or earplugs (B) to protect against objectionable or uncomfortable loud noises.




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## SAFETY ON PUBLIC ROADS

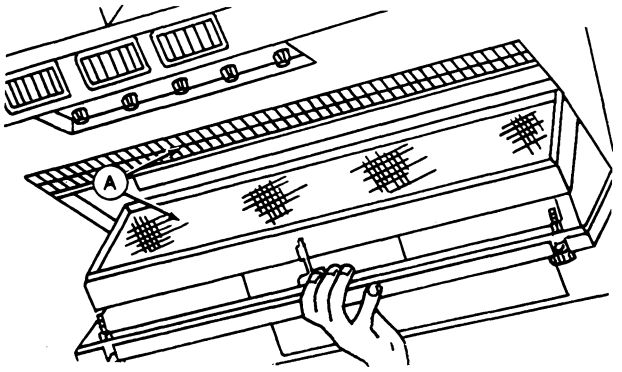
**CAUTION: Always comply with local traffic regulations when driving on public roads.**



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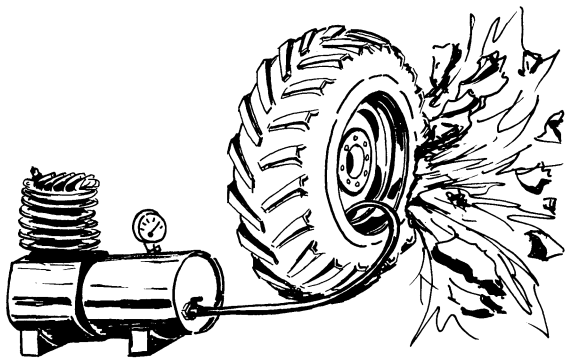
## HANDLE CHEMICALS PROPERLY

The operator's cab body air filters (A) are not designed to filter out harmful chemicals. Follow instructions given in the implement operator's manual and those given by the chemical manufacturer when using agricultural chemicals.




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## SERVICE TIRES SAFELY



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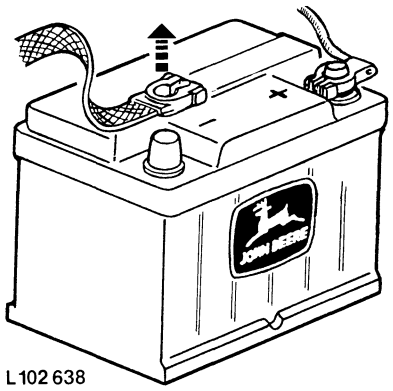
Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury or death. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your JOHN DEERE dealer or a qualified tire repair service.

When sealing 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, re-position tire, relubricate bead and reinflate.

Detailed agricultural tire mounting instructions, incl-uding necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your JOHN DEERE dealer. Such information is also available from your local tire manufacturer agents.

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## DISCONNECTING ELECTRICAL CIRCUIT



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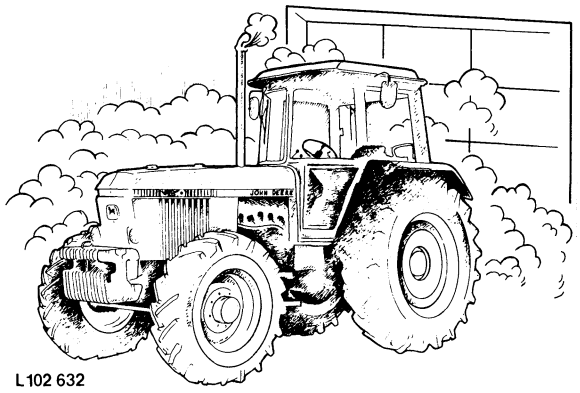
Disconnect battery ground strap before carrying out any electrical repairs on the tractor. See also under important notes for "Alternator" in section "Service – Electrical System".

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## OPERATING THE ENGINE

Never operate the engine in a closed building. Danger of asphyxiation!

When starting the engine rockshaft control lever must be in "lower" position.



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## DRIVING THE TRACTOR

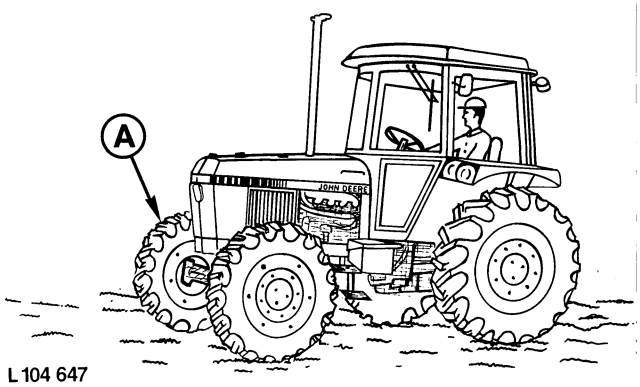
Reduce ground speed when driving the tractor on slopes or uneven ground and before making sharp turns. Before descending a steep hill, shift to a lower gear. Never coast downhill!

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

Front-wheel drive (A) greatly increases traction. This means that the tractor can be driven on steeper slopes, increasing the possibility of a tip over.

Never drive near the edge of a gully or steep embankment, it might cave in!

Driving forward out of a ditch or up a steep slope could cause tractor to tip over to the rear. Therefore reverse out of these situations whenever possible (B).




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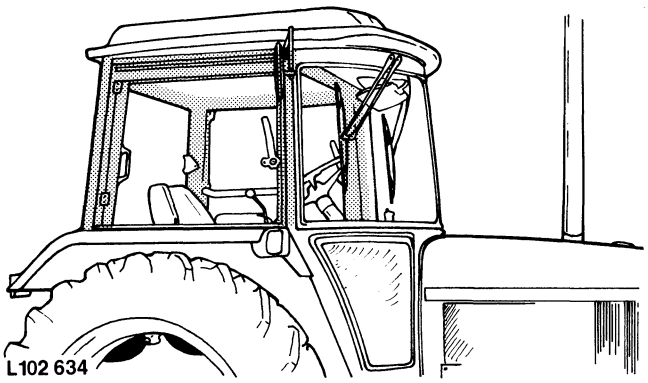



L 104 648

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## ROLL GUARD

A protective roll guard is incorporated in the operator's cab. On this construction, as well as on the roll guard on tractors without an operator's cab, do not, under any circumstances, modify structural members by welding on additional parts, drilling holes, grinding etc. Disregarding this instruction reduces stability of the roll guard.

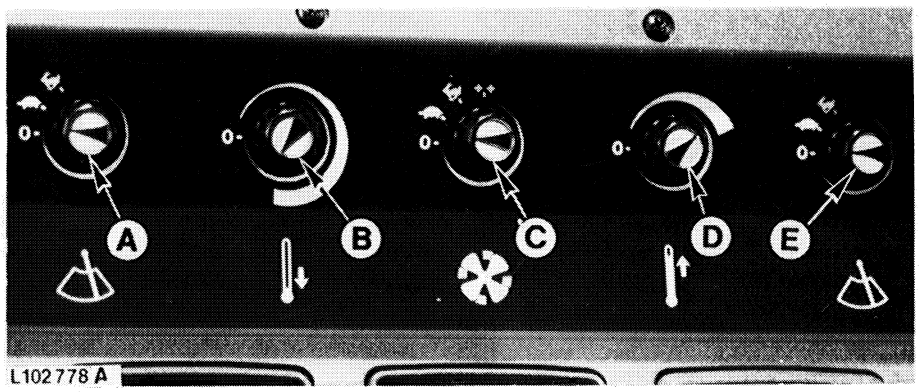


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### Tractors with SG2 Cab

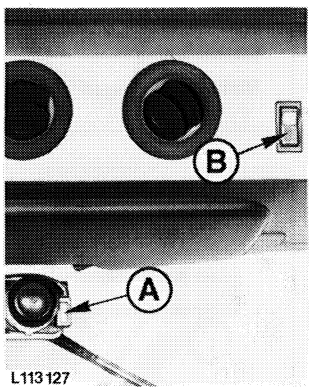
**A–Windshield wiper switch, left-hand**
**B–Air conditioning switch**
**C–Fan switch**
**D–Heater switch**
**E–Windshield wiper switch, right-hand**

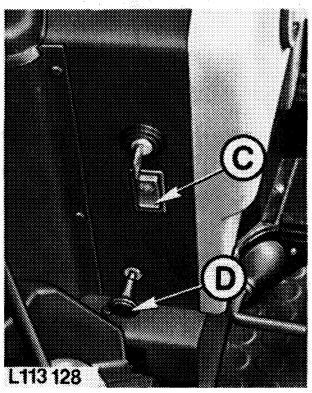



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### Tractors with MC1 Cab

**A–Windshield wiper switch**
**B–Fan switch (upper)**
**C–Fan switch (lower)**
**D–Heater switch**



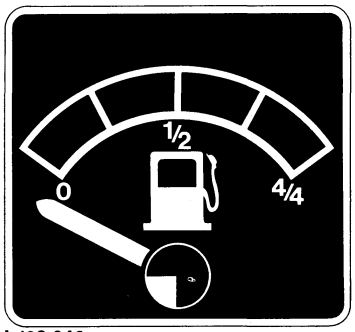




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## FUEL GAUGE

The fuel gauge shows the amount of fuel in tank, from "full" (4/4) to "empty" (0).

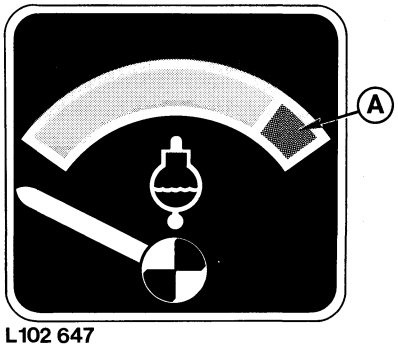
*NOTE: Never run fuel tank completely dry, otherwise you will have to bleed the fuel system.*




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## COOLANT TEMPERATURE GAUGE

Should the coolant gauge needle move into the red zone (A) the engine is overheating. Immediately reduce load or shift to a lower gear. Should the needle remain in the red zone, shut-off engine and determine cause of overheating (coolant level low or dirty radiator) .




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## SERVICE – GENERAL



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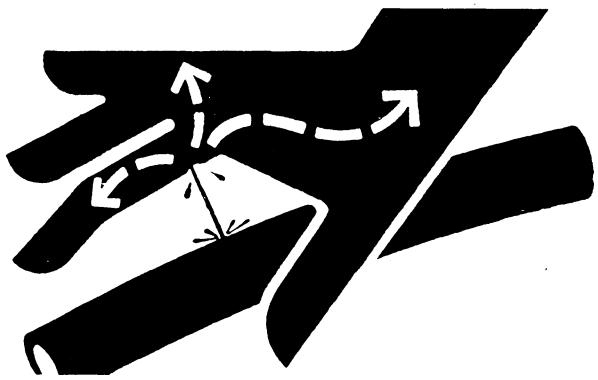
Do not service the tractor while the engine is running.

Reinstall all shields and guards removed for servicing and make sure they are in a servicable condition.

Have adjustments carried out by trained personnel only.

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## AVOID HIGH-PRESSURE FLUIDS



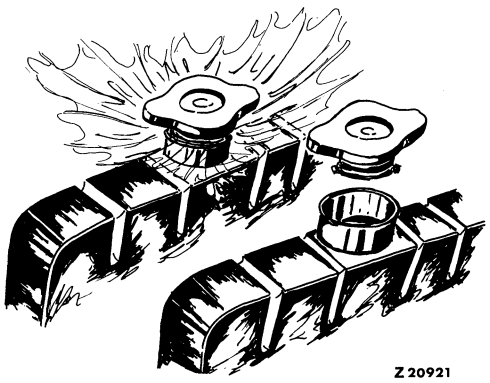
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Escaping fluid under pressure (fuel or hydraulic oil) can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pin holes and nozzles which eject fluids under high pressure. Use a piece of cardboard or wood to search for leaks. Do not use your hand.

If any fluid is injected into the skin, consult a doctor immediately, otherwise this may result in a serious infection.

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## SERVICE COOLING SYSTEM SAFELY



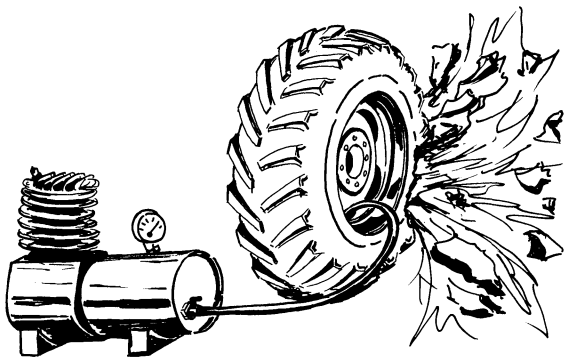
Z 20921

Remove radiator cap carefully when engine is hot. With engine shut off, turn radiator cap to first stop to relieve pressure before removing it completely.

Top up radiator with coolant with engine stationary.

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## SERVICE TIRES SAFELY



Z 20924

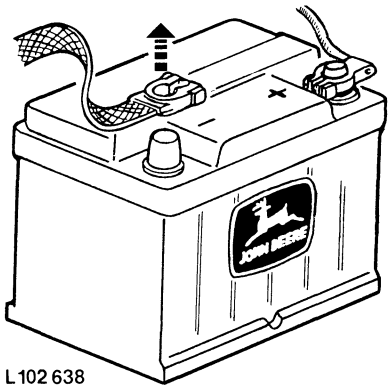
Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury or death. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your JOHN DEERE dealer or a qualified tire repair service.

When sealing 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, re-position tire, relubricate bead and reinflate.

Detailed agricultural tire mounting instructions, including necessary safety precautions, are contained in John Deere Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your JOHN DEERE dealer. Such information is also available from your local tire manufacturer agents.

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## DISCONNECTING ELECTRICAL CIRCUIT

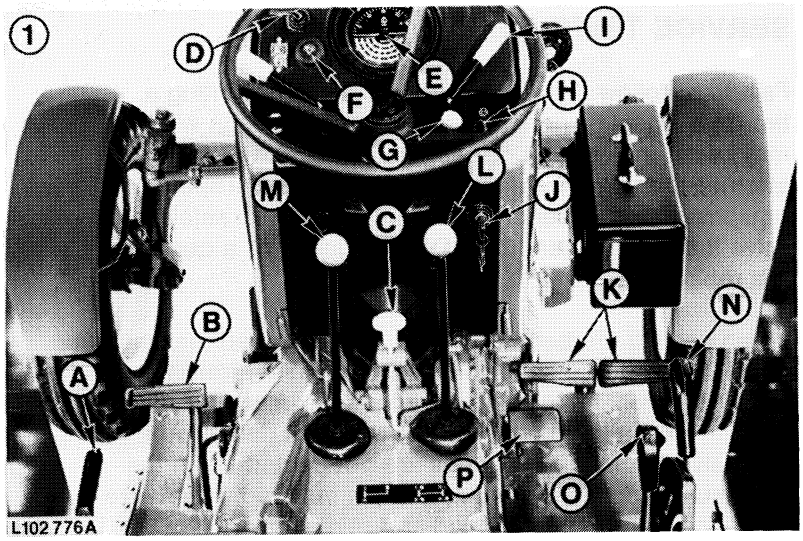


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Disconnect battery ground strap before carrying out any electrical repairs on the tractor. See also under important notes for "Alternator" in section "Service – Electrical System".

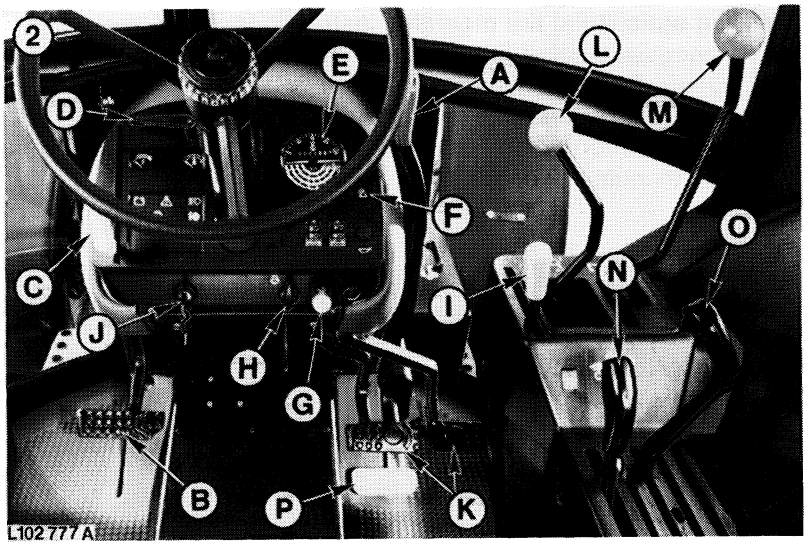
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# Controls and Instruments




*1–Standard Tractors or Tractors With MC1 Cab*

**A–Handbrake**
**B–Clutch pedal**
**C–PTO shift lever**
**D–Turn signal switch**
**E–Speed-hour meter**
**F–Hazard warning light switch**
**G–Engine shut-off knob**
**H–Starter switch**
**I–Hand throttle lever**
**J–Main switch**
**K–Brake pedals**
**L–Gear shift lever**
**M–Range shift lever**
**N–Rockshaft control lever**
**O–Selective control valve lever**
**P–Foot throttle**

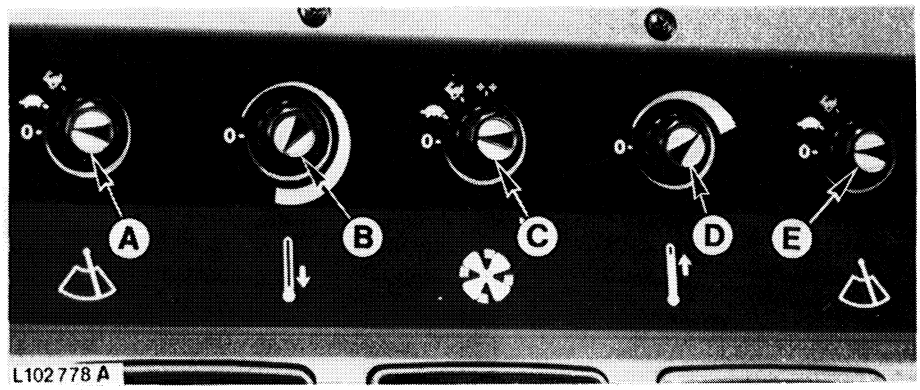



*2–Tractors With SG2 Cab*

L102776A,L102777A-1640ALE-010386

### Tractors with SG2 Cab

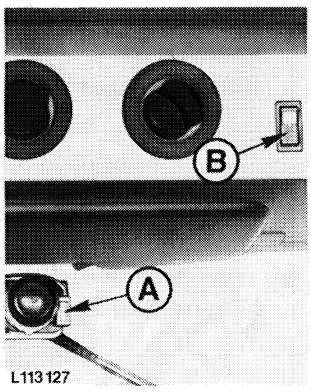
**A–Windshield wiper switch, left-hand**
**B–Air conditioning switch**
**C–Fan switch**
**D–Heater switch**
**E–Windshield wiper switch, right-hand**

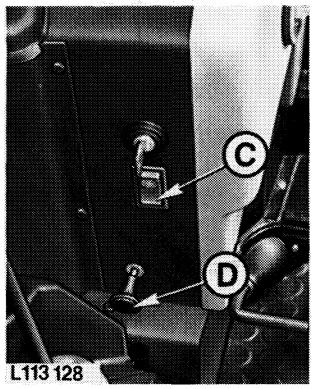



L102778A-1640ALE-010386

### Tractors with MC1 Cab

**A–Windshield wiper switch**
**B–Fan switch (upper)**
**C–Fan switch (lower)**
**D–Heater switch**



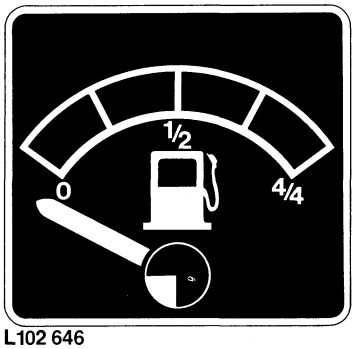




L113127,L113128-1640ALE-010386

## FUEL GAUGE

The fuel gauge shows the amount of fuel in tank, from "full" (4/4) to "empty" (0).

*NOTE: Never run fuel tank completely dry, otherwise you will have to bleed the fuel system.*

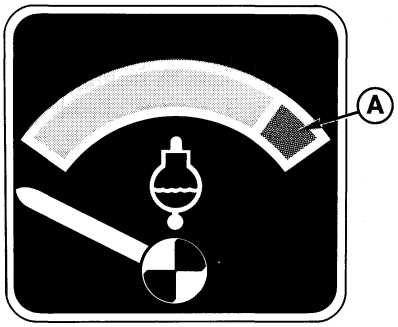



L102 646

L102646-2140ALE-010885

## COOLANT TEMPERATURE GAUGE

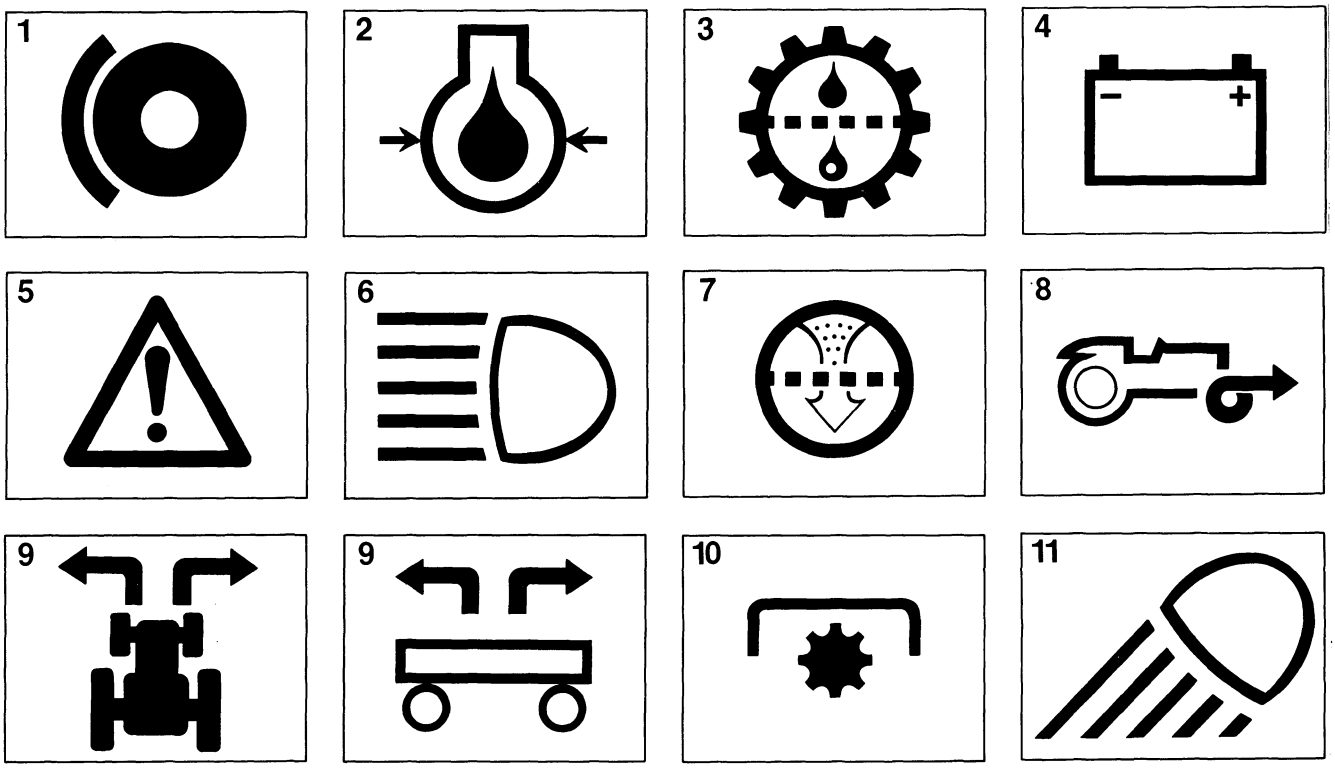
Should the coolant gauge needle move into the red zone (A) the engine is overheating. Immediately reduce load or shift to a lower gear. Should the needle remain in the red zone, shut-off engine and determine cause of overheating (coolant level low or dirty radiator) .




L102 647

L102647-2140ALE-010885

## CONTROL LIGHTS




L102 779

1 – The handbrake indicator light glows when handbrake is applied and main switch is turned on. In addition, an acoustical warning signal can be installed.
2 – If engine oil pressure indicator light glows with engine running, shut-off engine and check oil level.
3 – If transmission oil pressure indicator light glows during tractor operation, stop tractor and check transmission/hydraulic oil level. Should indicator light glow and oil level is correct, then oil filter is clogged. Replace filter.
4 – If alternator indicator light glows with engine running, this indicates a defect at alternator. Check alternator cable connections and tension of V-belt. If necessary, have alternator checked by your JOHN DEERE dealer.
5 – The warning light blinks when indicator lights 2, 3 or 4 glow or when the range shift lever is moved with the handbrake applied.
6 – The full-beam indicator light will glow as soon as the full-beam headlights are switched on.
7 – If air cleaner indicator light glows with engine running, the air cleaner element must be cleaned or replaced.
8 – The front wheel drive indicator light glows when the front wheel drive is engaged.
9 – The flashing indicator lights for tractor and trailer start flashing when turn-signal or hazard warning lights are switched on.
10 – The PTO speed indicator lights show speed of PTO engaged (hand shift PTO only).
11 – On tractors with operator's cab there can be one or two indicator lights with this symbol. They glow when work lights are switched on or with additional H3 headlights switched on (tractors with front hitch only).

*NOTE: Indicator lights 2, 3, 4 and 7 should glow as soon as the main switch is turned on. If this is not the case, a defective bulb or blown fuse may be the cause. Check and replace parts as necessary. On tractors equipped with collar-shift transmission, indicator light 3 glows only when a malfunction occurs.*

The indicator lights should go out as soon as the engine is running.

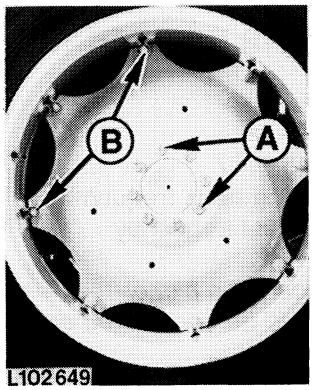
L102779-2140ALE-010885

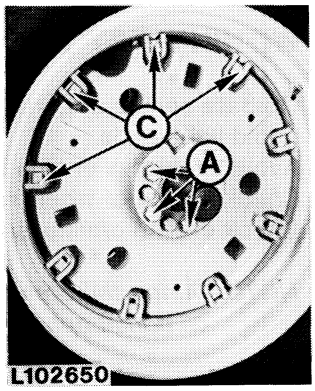
# Break-In Period

## AFTER FIRST 4 AND 8 HOURS OF OPERATION

**Tighten Rear Wheel Retaining Bolts.**
(bolt torques vary depending on tractor equipment)

**A–400 Nm (300 ft-lb)**
**B–250 Nm (185 ft-lb)**
**C–230 Nm (170 ft-lb)**

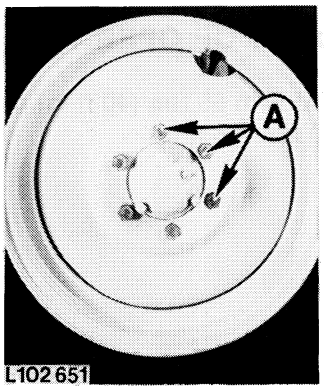


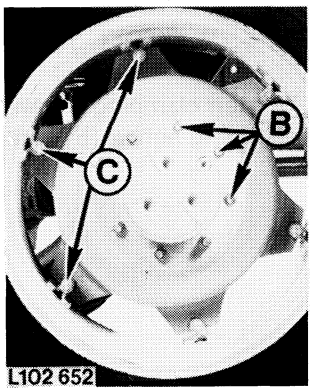




L1022649,L102650-2140ALE-010885

**Tighten Front Wheel Retaining Bolts.**
(bolt torques vary depending on tractor equipment)

**A–180 Nm (130 ft-lb)**
**B–300 Nm (220 ft-lb)**
**C–250 Nm (185 ft-lb)**

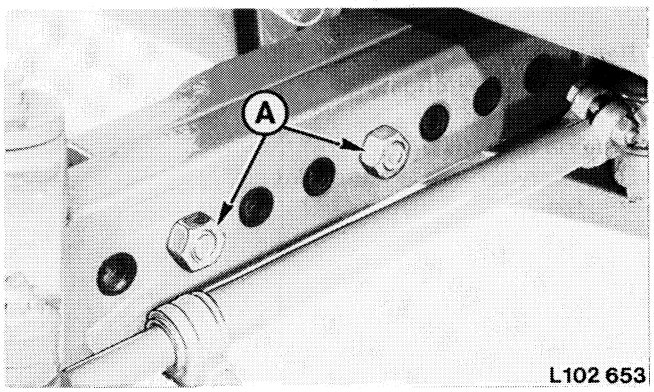



L102651,L102652-3040ALE-010285

**Adjustable Front Axle**

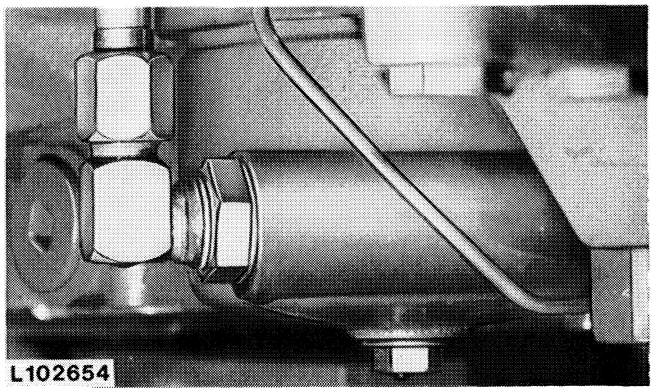
Tighten attaching screws (A) with 400 Nm (300 ft-lb) torque.




L102653-2140ALE-010885

## AFTER FIRST 50 HOURS OF OPERATION

Replace transmission oil filter (see "Service – Transmission/ Hydraulic System").




L102654-2140ALE-010885

## WITHIN FIRST 100 HOURS OF OPERATION

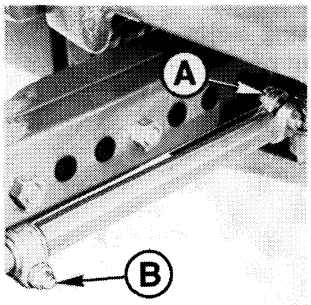
Operate engine at normal loads.
Avoid light loads.
Avoid excessive engine idling.
Check torque of wheel retaining bolts frequently.
Check engine crankcase oil level frequently.

*NOTE: During the break-in period a higher-than-usual oil consumption should be considered as normal.*

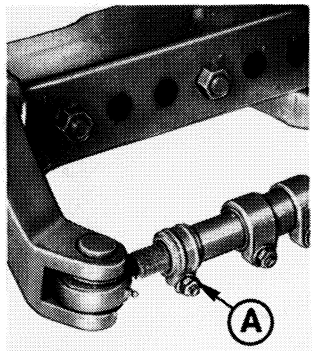
EINOM-2140ALE-010885

## AFTER FIRST 100 HOURS OF OPERATION

Tighten clamping screws (A) with 55 Nm (40 ft-lb) and clamping screw (B) with 90 Nm (65 ft-lb).




L102 656




L102657

Change engine oil.
See "Service – Engine".

Renew engine oil filter element.
See "Service – Engine".

Change front axle oil.
See "Service – Axles and Wheels".

L102656,L102657-1640ALE-010386

# Operating the Engine

## STARTING ENGINE WITH A SLAVE BATTERY

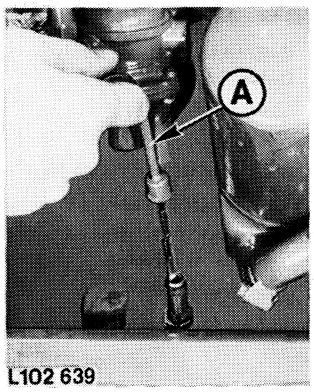
**IMPORTANT: If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the main switch before stopping the engine by means of the fuel injection pump shut-off cable. Do not raise engine speed above 1000 rpm. Furthermore, use additional current (lights) while engine is running. Insulate battery end of disconnected starter cable properly to avoid damage to both alternator and regulator.**

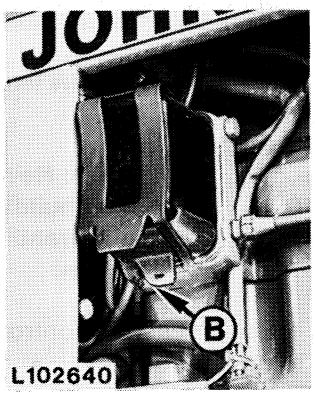
MOTOM-2140ALE-010885

## PRESTARTING CHECK

Engine oil level should be between both marks on dipstick (A). Do not start engine when oil level is below low mark on dipstick.

Drain water and sediment deposits from fuel filter at drain plug (B).

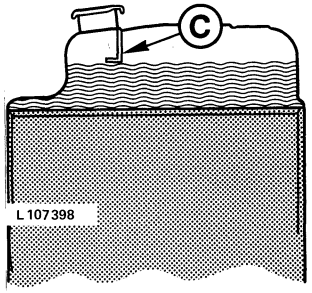


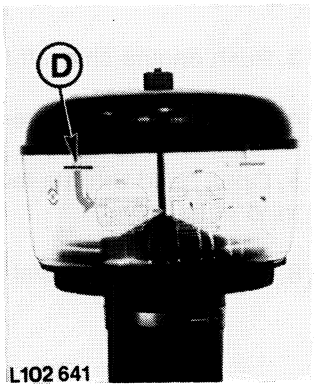




L102639,L102640-2140ALE-010885

Coolant should be level (not higher) with marker plate (C).

The pre-cleaner (when equipped) must be emptied as soon as collected dust reaches mark (D).

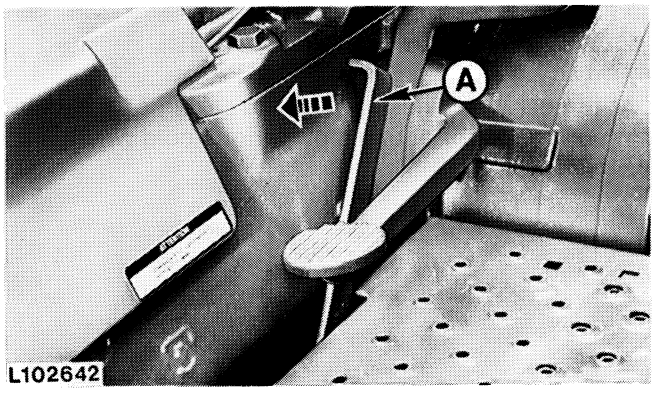



L107398,L103841-2140ALE-010885

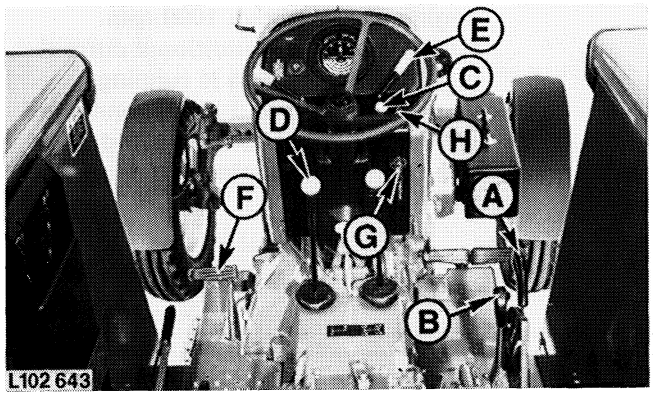
## CONTINUOUS RUNNING PTO (When Equipped)

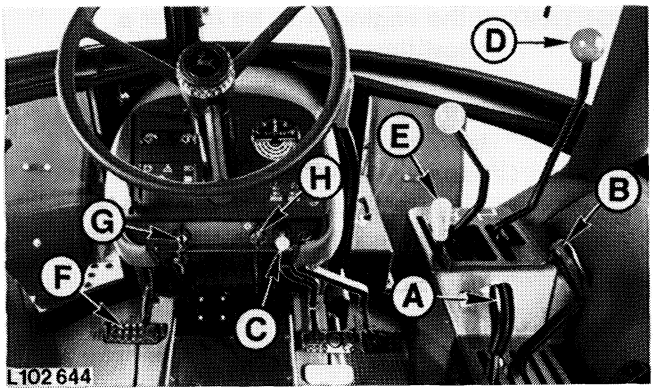
Before starting the engine shift PTO control lever (A) to "Off" position.




L102642-1640ALE-010386

## STARTING THE ENGINE




**A–Rockshaft control lever**
**B–Selective control valve lever**
**C–Engine shut-off knob**
**D–Range shift lever**
**E–Hand throttle lever**
**F–Clutch pedal**
**G–Main switch**
**H–Starter switch**

**CAUTION: Never operate the engine in a closed building. Make sure there is plenty of ventilation. Danger of asphyxiation!**

1. Shift rockshaft control lever (A) to "equipment lowered" position.

2. Shift selective control valve lever (B) to neutral position.

3. Push engine shut-off knob (C) all the way in.

4. Place range shift lever (D) in neutral position.

5. Open hand throttle lever (E) approximately one third of its travel.

6. Depress clutch pedal (F).

**On Tractors Without Starter Switch**

7. Turn key in main switch (G) clockwise to end position. Release key as soon as engine starts.

**On Tractors With Starter Switch**

7. Turn key in main switch (G) clockwise to first position.

8. Turn starter switch (H) clockwise. As soon as engine starts release starter switch.

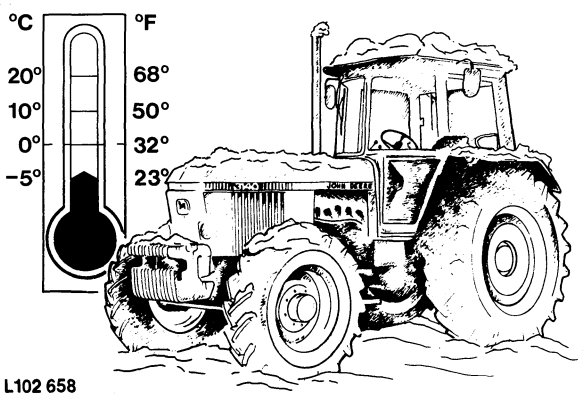
Do not operate starter more than 20 seconds at a time. Release starter switch. Turn main switch key to "zero" position and wait at least one minute before trying again.

Do not adjust hand throttle lever. Run engine for one to two minutes. With temperature below zero extend warm-up period to two to four minutes.

L102643,L102644-1640ALE-010386

## COLD WEATHER STARTING AIDS

At temperatures near or below freezing point, depending upon tractor equipment, various cold weather starting aids are available.




L102658-2140ALE-010885

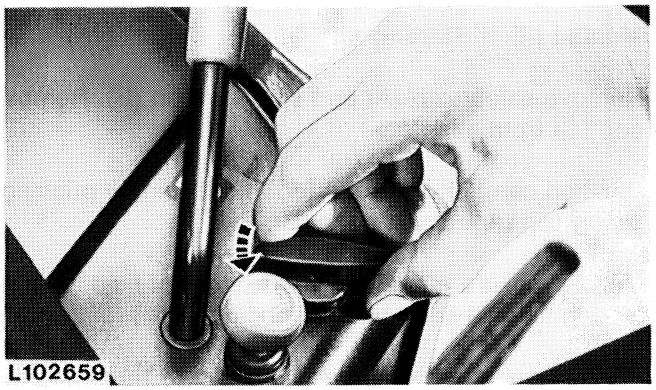
## THERMOSTART AID

Proceed as described under "Starting the Engine" under points 1 to 7. Then turn starter switch anti-clockwise to first position, and hold in this position for 10 to 15 seconds. Then turn switch further to end position. As soon as engine starts, turn starter switch back to first position and hold in this position until engine runs smoothly.

Do not operate starter more than 20 seconds at a time. If engine does not start, release starter switch. Turn main switch key to position "zero" and wait at least one minute before trying again.

Do not adjust hand throttle lever. Run engine for one to two minutes. At temperatures below freezing point this warm-up period must be extended to two to four minutes.

**CAUTION: Do not use starting fluid with Thermostart Aid as fluid will ignite with explosive force.**


L102659



L109562

L102659,L109562-2140ALE-010885

## ETHER STARTING AID

On tractors equipped with Ether starting aid, starting fluid can be injected into the intake manifold when starting the engine.

**CAUTION: Starting fluid is highly flammable.**

**IMPORTANT: Turn engine with starter one or two revolutions before injecting starting fluid. Inject starting fluid only while engine is turning. Inject starting fluid intermittently, not continuously.**

Starting fluid spray cans are available from your JOHN DEERE dealer.

ATHOM-2140ALE-010885

**Manual Ether Starting Aid**

Remove safety cap (A) and spray button (B). Remove cap (C) from adapter.

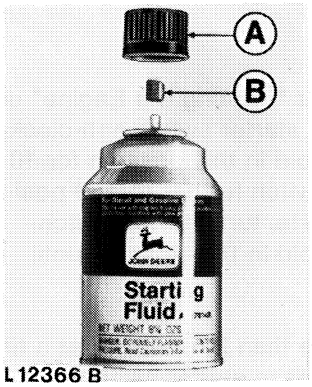
Position can (D) onto adapter. Inject fluid by pushing up on can for a short period.

Relax pressure on can between shots of fluid. Stop injecting fluid as soon as the engine starts.

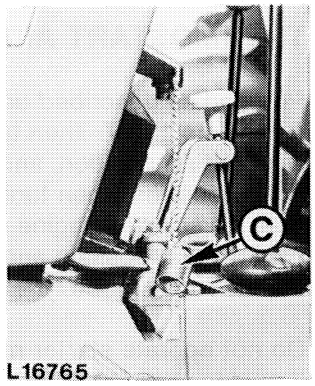
Run engine at medium speed for two to four minutes. If engine begins to die during the first few minutes of operation, inject another "shot" of fluid until engine runs smoothly.

Remove can from adapter and replace cap on adapter. Replace spray button and safety cap, Store starting fluid cans where they will not be subject to extreme cold or heat.

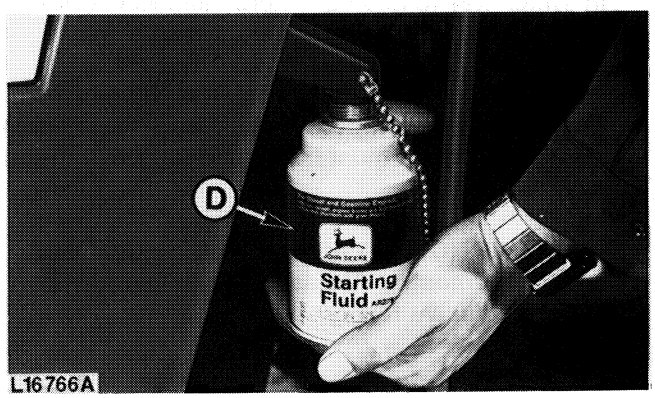
**CAUTION: Before discarding used starting fluid cans, empty them completely in a well ventilated area, at a safe distance from sparks or an open fire.**



L12366 B



L16765



L16766A

L12366B,L16765,L16766A-1640ALE-010386

**Electrical Ether Starting Aid**

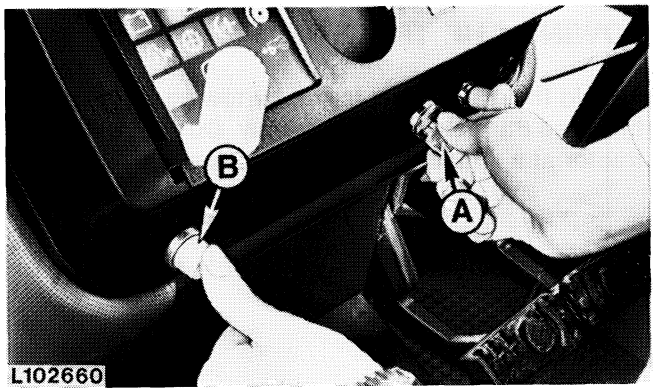
Turn main swith key (A) to start position and depress starting aid button (B). Stop injecting fluid as soon as engine starts.

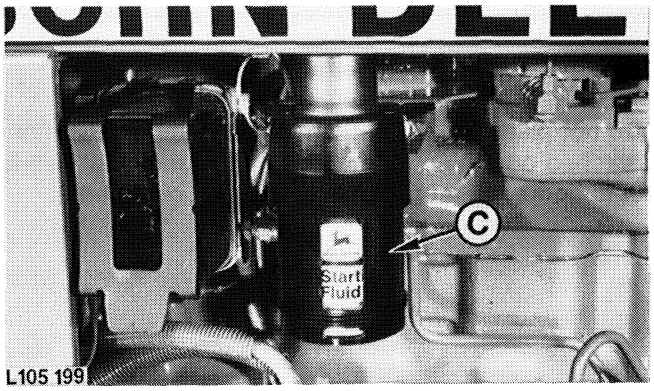
Run engine at medium speed for two to four minutes. If engine begins to die during the first few minutes of operation, inject another shot of fluid until engine runs smoothly.

To install a new can, remove safety cap and spray button from the can. Loosen thumb wheel (C), replace can and then tighten thumb wheel securely.

**IMPORTANT: Prevent dust and dirt from being drawn into the engine. Make sure fluid can is always attached to the adapter.**

Store staring aid fluid cans where they will not be subject to extreme cold or heat.



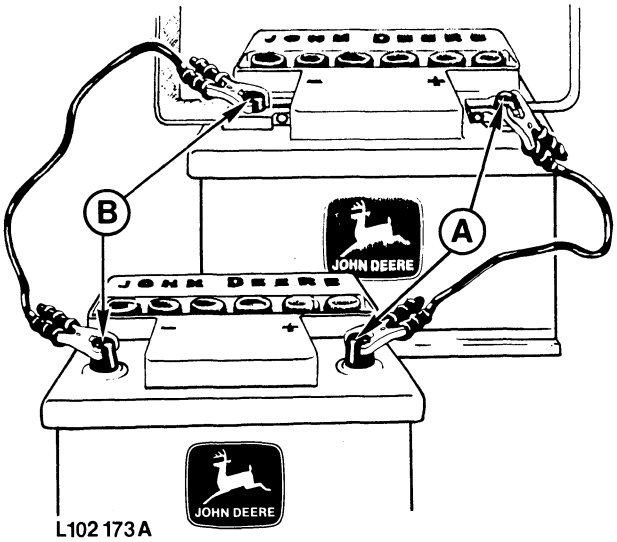

L102660,L105199-3040ALE-010285

## STARTING WITH A BOOSTER BATTERY

Starting the engine can be made easier by connecting an additional 12-volt battery in parallel. First connect positive cable (A) and then negative cable (B).

**CAUTION: Gas given off by batteries is explosive. Keep sparks and flames away from batteries. Be sure polarity is correct before making connections.**

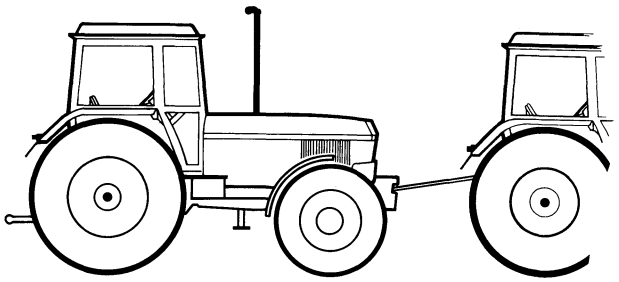
**Reversed polarity will damage electrical system. Always connect the positive cable first and then the negative cable.**




L102173A-3040ALE-170883

## TOWING THE TRACTOR TO START

Should the tractor be started by towing or pushing, then use 6th, 7th or 8th gear only. Do not tow the tractor at a speed greater than 15 km/h (10 mph) .



L102 662

L102662-2140ALE-010885

## ENGINE WARM-UP PERIOD

Do not place tractor under full load until engine has reached operating temperature. Run engine at half load until operating temperature has been obtained.

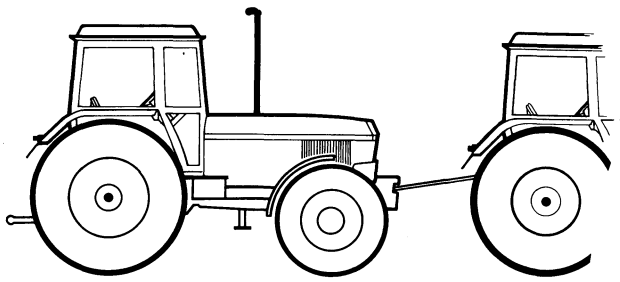
MOTOM-2140BLE-010885

## TOWING THE TRACTOR

Shift both gear and range shift levers to neutral position.

**CAUTION: Never tow the tractor at a speed greater than 15 km/h (10 mph).**

**IMPORTANT: With engine running, switch off front wheel drive. With engine not running, disconnect universal-jointed drive shaft.**



L102 662

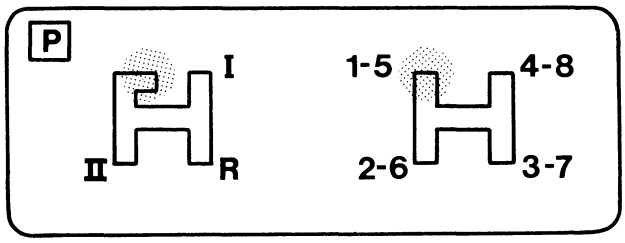
L102662-3040ALE-230485

## PARKING THE TRACTOR

Apply handbrake firmly or engage parking lock.

**CAUTION: The tractor must be stationary before engaging the parking lock.**

To engage the parking lock, first engage the gear and then range shift lever in the positions shown.




L102 645

L102645-2140ALE-010885

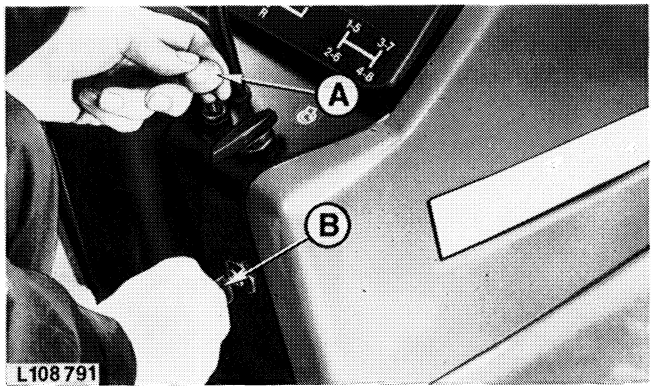
## STOPPING THE ENGINE

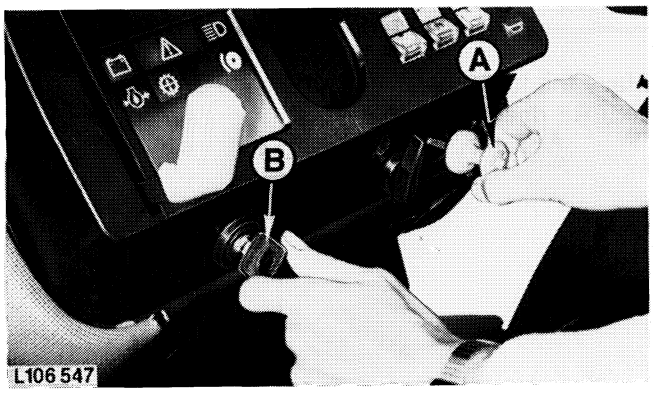
Stop tractor. Apply handbrake firmly.

Run engine for one to two minutes in slow idle. Pull shut-off knob (A). After engine has stopped push shut-off knob all the way in. Turn main switch (B) to "off" position.

**CAUTION: Before leaving the tractor lower equipment to the ground and remove key from main switch.**

When engine is stationary make sure that exhaust stack is closed. This will prevent water and dirt from entering the engine.



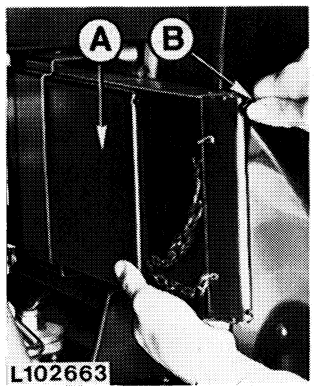



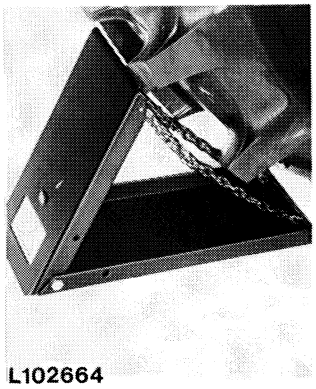

L108791,L106547-3040ALE-010285

## CHOCK BLOCK

When parking the tractor on sloping ground, proceed as follows:

1. Press chock block (A) together
2. Unhook clip (B)
3. Pull chock block out of holder
4. Place chock block in front or behind the rear wheel.



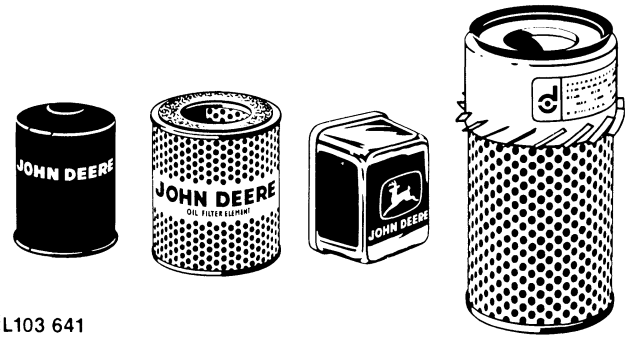

L102663,L102664-2140ALE-010885

# Operating the Tractor

## REDUCE FUEL CONSUMPTION

**Service Correctly**

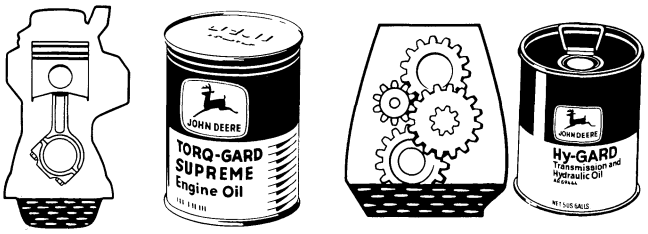
Replace air, fuel, engine oil and transmission/hydraulic oil filter elements at correct specified service periods (see section "Service").




L103 641

L103641-3640ALE-260484

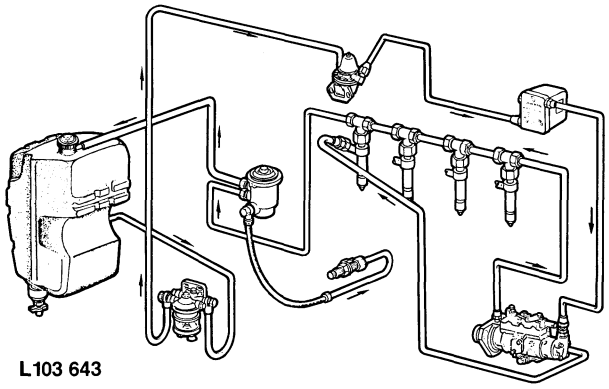
Use recommended oils and lubricants only (see section "Fuel, Lubricants, Hydraulic Oil and Coolant").




**L103 642**

L103642-2140ALE-010885

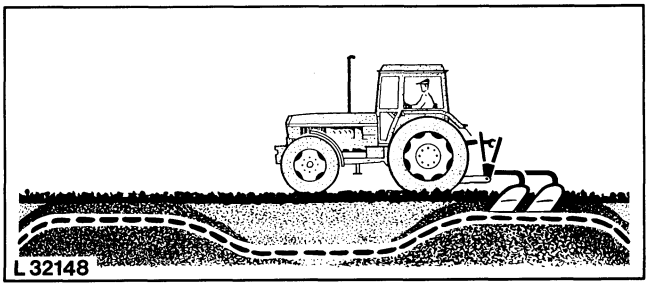
Have the fuel system checked regularly by your JOHN DEERE dealer.



L103 643

L103643-2140ALE-010885

Have function of rockshaft "MAX" load control checked regularly by your JOHN DEERE dealer .

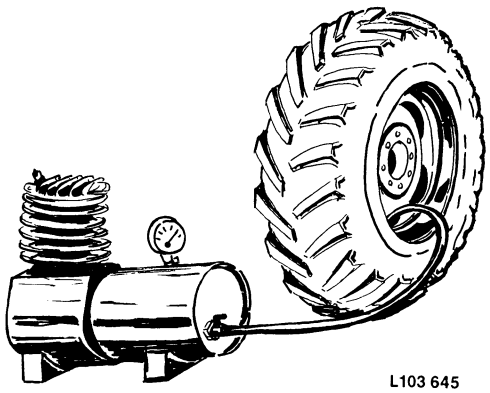


L32148

L32148-2140ALE-010885

**Drive with Correct Tire Pressures**

Adapt tire pressures to type of work and ground conditions (consult your JOHN DEERE dealer or local tire agent).

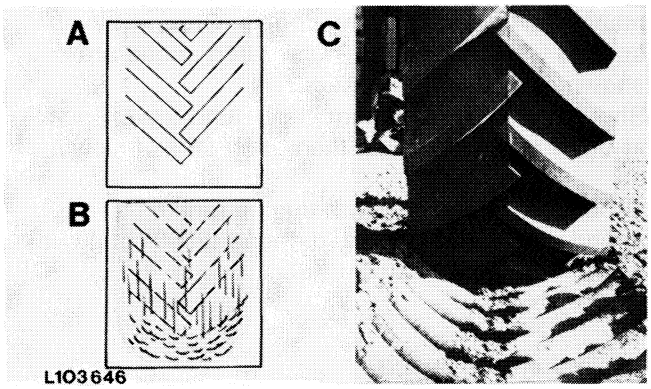


L103 645
L103645-3640ALE-260485

**Choose Correct Ballast**

Choose ballast to obtain 10 to 15% wheel slip.Use no more ballast than necessary, reduce ballast for light work.

**A–Too much ballast**
**B–Too little ballast**
**C–Correct ballast**



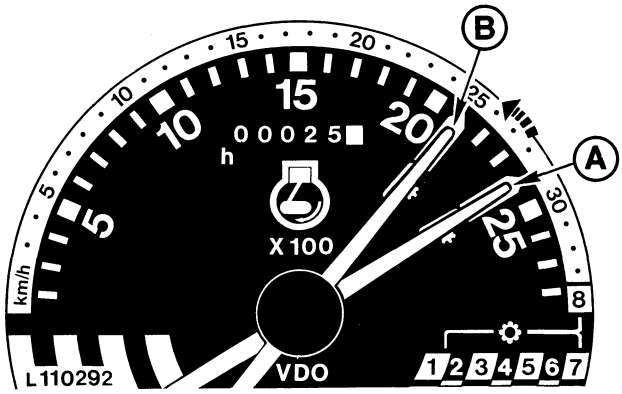

L103646-3640ALE-260484

**Select Correct Gear**

Always drive in the highest possible gear with reduced engine speed.

Choose a gear so that engine speed (A) with engine not under load, drops 150 to 250 rpm with tractor operating and engine under load (B).

*NOTE: With light work reduce engine speed below 2000 rpm. Select a gear so that engine speed drops 200 to 300 rpm when operating.*




L110292-2140ALE-010885

## SELECT CORRECT GROUND TRAVEL SPEED

Number of gears on tractors with:

Collar Shift and Synchronized Transmission:
8 forward gears, 4 reverse gears

Hi-Lo Shift Unit:
16 forward gears, 8 reverse gears

Creeper Transmission:
12 forward gears, 8 reverse gears

Gears should be selected so as to avoid a permanent overloading of the engine. Ground travel speeds with engine running at rated speed are shown on the following pages.
Should you wish to determine ground travel speed at other engine speeds, then proceed as follows:

Ground travel speeds with engine running at a speed different to the rated speed (2500 rpm) can be worked out as follows:

$$\frac{\text{Desired engine speed}}{2500\ \text{rpm}} = \text{Conversion factor}$$

The conversion factor multiplied by the speed shown in the table opposite gives the ground travel speed at the desired engine speed.

Example:
Ground travel speed at rated speed (2500 rpm) according to table opposite 9.3 km/h; Desired engine speed: 1300 rpm

$$\frac{1300\ \text{rpm}}{2500\ \text{rpm}} = 0.52$$

$$9.3\ \text{km/h} \times 0.52 = 4.8\ \text{km/h}$$

Should you wish to determine engine speed at a desired ground travel speed, proceed as follows:

$$\frac{\text{Desired ground travel speed}}{\text{Desired ground travel speed in table opposite}} = \text{Conversion factor}$$

The conversion factor multiplied by the rated speed gives you the desired engine rpm.

Example:

$$\frac{5\ \text{km/h}}{9.3\ \text{km/h}} = 0.54$$

$$2500\ \text{rpm} \times 0.54 = 1350\ \text{rpm}$$

FAHOM-2140ALE-010885

**1640 AND 2040 TRACTORS WITH COLLAR SHIFT TRANSMISSION UP TO 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | | 13.6-36 | | 13.6-38 | | 14.9-38 | | 15.5-38 | | 16.9-30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 | L | 1,7 | 1.0 | 1,7 | 1.1 | 1,8 | 1.1 | 1,7 | 1.1 | 1,6 | 1.0 |
| | H* | 2,1 | 1.3 | 2,2 | 1.4 | 2,3 | 1.4 | 2,2 | 1.4 | 2,0 | 1.3 |
| 2 | L | 2,4 | 1.5 | 2,4 | 1.5 | 2,5 | 1.6 | 2,5 | 1.5 | 2,3 | 1.4 |
| | H* | 3,0 | 1.9 | 3,1 | 1.9 | 3,2 | 2.0 | 3,1 | 1.9 | 2,9 | 1.8 |
| 3 | L | 3,5 | 2.2 | 3,6 | 2.3 | 3,8 | 2.3 | 3,7 | 2.3 | 3,4 | 2.1 |
| | H* | 4,5 | 2.8 | 4,6 | 2.9 | 4,8 | 3.0 | 4,6 | 2.9 | 4,3 | 2.7 |
| 4 | L | 4,9 | 3.0 | 5,1 | 3.2 | 5,2 | 3.3 | 5,1 | 3.2 | 4,8 | 3.0 |
| | H* | 6,2 | 3.9 | 6,5 | 4.0 | 6,7 | 4.1 | 6,5 | 4.0 | 6,1 | 3.8 |
| 5 | L | 6,5 | 4.0 | 6,7 | 4.2 | 6,9 | 4.3 | 6,8 | 4.2 | 6,3 | 3.9 |
| | H* | 8,3 | 5.1 | 8,5 | 5.3 | 8,8 | 5.5 | 8,6 | 5.3 | 8,0 | 5.0 |
| 6 | L | 9,3 | 5.8 | 9,6 | 6.0 | 9,9 | 6.2 | 9,7 | 6.0 | 9,0 | 5.6 |
| | H* | 11,8 | 7.3 | 12,2 | 7.6 | 12,6 | 7.8 | 12,3 | 7.6 | 11,5 | 7.1 |
| 7 | L | 13,8 | 8.5 | 14,2 | 8.8 | 14,7 | 9.1 | 14,3 | 8.9 | 13,4 | 8.3 |
| | H* | 17,5 | 10.9 | 18,1 | 11.3 | 18,7 | 11.6 | 18,2 | 11.3 | 17,0 | 10.6 |
| 8 | L | 19,2 | 11.9 | 19,9 | 12.4 | 20,6 | 12.8 | 20,0 | 12.5 | 18,7 | 11.6 |
| | H* | 24,5 | 15.2 | 25,3 | 15.7 | 26,2 | 16.3 | 25,5 | 15.8 | 23,8 | 14.8 |
| R 1 | L | 1,9 | 1.2 | 2,0 | 1.2 | 2,1 | 1.3 | 2,0 | 1.2 | 1,9 | 1.2 |
| | H* | 2,4 | 1.5 | 2,5 | 1.6 | 2,6 | 1.6 | 2,5 | 1.6 | 2,4 | 1.5 |
| R 2 | L | 2,7 | 1.7 | 2,8 | 1.8 | 2,9 | 1.8 | 2,9 | 1.8 | 2,7 | 1.7 |
| | H* | 3,5 | 2.2 | 3,6 | 2.2 | 3,7 | 2.3 | 3,6 | 2.3 | 3,4 | 2.1 |
| R 3 | L | 4,1 | 2.5 | 4,2 | 2.6 | 4,4 | 2.7 | 4,2 | 2.6 | 4,0 | 2.5 |
| | H* | 5,2 | 3.2 | 5,4 | 3.3 | 5,5 | 3.4 | 5,4 | 3.4 | 5,0 | 3.1 |
| R 4 | L | 5,7 | 3.5 | 5,9 | 3.7 | 6,1 | 3.8 | 5,9 | 3.7 | 5,5 | 3.4 |
| | H* | 7,2 | 4.5 | 7,5 | 4.7 | 7,8 | 4.8 | 7,6 | 4.7 | 7,0 | 4.4 |

**L 102750**

*L–Low*
*H–High*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit.*

L102750-1640ALE-010386

**1640 AND 2040 TRACTORS WITH SYNCHRONIZED TRANSMISSION UP TO 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-36 | | 13.6-38 | | 14.9-38 | | 15.5-38 | | 16.9-30 | | 16.9-34 | | 18.4-30 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,1 | 1.3 | 2,1 | 1.3 | 2,2 | 1.4 | 2,1 | 1.3 | 2,0 | 1.2 | 2,1 | 1.3 | 2,0 | 1.2 |
| H* | 2,6 | 1.6 | 2,7 | 1.7 | 2,8 | 1.7 | 2,7 | 1.7 | 2,5 | 1.6 | 2,6 | 1.6 | 2,6 | 1.6 |
| Cr | 0,55 | 0.34 | 0,57 | 0.35 | 0,59 | 0.37 | 0,57 | 0.35 | 0,53 | 0.33 | 0,55 | 0.34 | 0,53 | 0.33 |
| 2 L | 2,8 | 1.7 | 2,9 | 1.8 | 3,0 | 1.9 | 3,0 | 1.9 | 2,8 | 1.7 | 2,9 | 1.8 | 2,8 | 1.7 |
| H* | 3,6 | 2.2 | 3,8 | 2.4 | 3,9 | 2.4 | 3,8 | 2.4 | 3,5 | 2.2 | 3,6 | 2.3 | 3,5 | 2.2 |
| Cr | 0,76 | 0.47 | 0,79 | 0.49 | 0,81 | 0.50 | 0,79 | 0.50 | 0,74 | 0.46 | 0,76 | 0.47 | 0,74 | 0.46 |
| 3 L | 4,1 | 2.5 | 4,2 | 2.6 | 4,4 | 2.7 | 4,3 | 2.7 | 4,0 | 2.5 | 4,1 | 2.6 | 4,0 | 2.5 |
| H* | 5,2 | 3.2 | 5,4 | 3.4 | 5,6 | 3.5 | 5,4 | 3.4 | 5,1 | 3.2 | 5,2 | 3.3 | 5,1 | 3.1 |
| Cr | 1,09 | 0.68 | 1,13 | 0.70 | 1,17 | 0.73 | 1,14 | 0.71 | 1,06 | 0.66 | 1,10 | 0.68 | 1,06 | 0.66 |
| 4 L | 5,5 | 3.4 | 5,7 | 3.5 | 5,9 | 3.7 | 5,7 | 3.5 | 5,4 | 3.4 | 5,6 | 3.4 | 5,4 | 3.3 |
| H* | 7,0 | 4.3 | 7,3 | 4.5 | 7,5 | 4.7 | 7,3 | 4.5 | 6,8 | 4.2 | 7,1 | 4.4 | 6,8 | 4.2 |
| Cr | 1,47 | 0.91 | 1,52 | 0.94 | 1,57 | 0.98 | 1,53 | 0.95 | 1,43 | 0.89 | 1,48 | 0.92 | 1,43 | 0.89 |
| 5 L | 7,1 | 4.4 | 7,3 | 4.5 | 7,6 | 4.7 | 7,4 | 4.6 | 6,9 | 4.3 | 7,1 | 4.4 | 6,9 | 4.3 |
| H* | 9,0 | 5.6 | 9,3 | 5.8 | 9,6 | 6.0 | 9,4 | 5.8 | 8,7 | 5.4 | 9,0 | 5.6 | 8,7 | 5.4 |
| 6 L | 9,8 | 6.1 | 10,1 | 6.3 | 10,4 | 6.5 | 10,2 | 6.3 | 9,5 | 5.9 | 9,8 | 6.1 | 9,5 | 5.9 |
| H* | 12,4 | 7.7 | 12,9 | 8.0 | 13,3 | 8.3 | 12,9 | 8.0 | 12,1 | 7.5 | 12,5 | 7.8 | 12,1 | 7.5 |
| 7 L | 14,0 | 8.7 | 14,5 | 9.0 | 15,0 | 9.3 | 14,6 | 9.1 | 13,6 | 8.5 | 14,1 | 8.8 | 13,6 | 8.5 |
| H* | 17,8 | 11.1 | 18,5 | 11.5 | 19,1 | 11.9 | 18,6 | 11.6 | 17,3 | 10.7 | 18,0 | 11.2 | 17,4 | 10.8 |
| 8 L | 18,9 | 11.7 | 19,6 | 12.2 | 20,2 | 12.6 | 19,7 | 12.2 | 18,4 | 11.4 | 19,0 | 11.8 | 18,4 | 11.4 |
| H* | 24,1 | 15.0 | 24,9 | 15.5 | 25,7 | 16.0 | 25,1 | 15.6 | 23,4 | 14.5 | 24,2 | 15.0 | 23,4 | 14.5 |
| R 1 L | 3,2 | 2.0 | 3,3 | 2.1 | 3,4 | 2.1 | 3,3 | 2.1 | 3,1 | 1.9 | 3,2 | 2.0 | 3,1 | 1.9 |
| H* | 4,0 | 2.5 | 4,2 | 2.6 | 4,3 | 2.7 | 4,2 | 2.6 | 3,9 | 2.4 | 4,1 | 2.5 | 3,9 | 2.4 |
| Cr | 0,84 | 0.52 | 0,87 | 0.54 | 0,90 | 0.56 | 0,88 | 0.55 | 0,82 | 0.51 | 0,85 | 0.53 | 0,82 | 0.51 |
| R 2 L | 4,4 | 2.7 | 4,5 | 2.8 | 4,7 | 2.9 | 4,6 | 2.9 | 4,3 | 2.7 | 4,4 | 2.7 | 4,3 | 2.6 |
| H* | 5,6 | 3.5 | 5,8 | 3.6 | 6,0 | 3.7 | 5,8 | 3.6 | 5,4 | 3.4 | 5,6 | 3.5 | 5,4 | 3.4 |
| Cr | 1,16 | 0.72 | 1,21 | 0.75 | 1,25 | 0.78 | 1,22 | 0.76 | 1,13 | 0.70 | 1,17 | 0.73 | 1,13 | 0.70 |
| R 3 L | 6,3 | 3.9 | 6,5 | 4.0 | 6,7 | 4.2 | 6,5 | 4.0 | 6,1 | 3.8 | 6,3 | 3.9 | 6,1 | 3.8 |
| H* | 8,0 | 5.0 | 8,3 | 5.2 | 8,6 | 5.3 | 8,3 | 5.2 | 7,8 | 4.8 | 8,1 | 5.0 | 7,8 | 4.8 |
| Cr | 1,68 | 1.04 | 1,74 | 1.08 | 1,79 | 1.11 | 1,75 | 1.09 | 1,63 | 1.01 | 1,69 | 1.05 | 1,63 | 1.01 |
| R 4 L | 8,5 | 5.3 | 8,8 | 5.5 | 9,1 | 5.6 | 8,8 | 5.5 | 8,2 | 5.1 | 8,5 | 5.3 | 8,2 | 5.1 |
| H* | 10,8 | 6.7 | 11,2 | 7.0 | 11,5 | 7.2 | 11,2 | 7.0 | 10,5 | 6.5 | 10,9 | 6.7 | 10,5 | 6.5 |
| Cr | 2,26 | 1.40 | 2,34 | 1.45 | 2,42 | 1.50 | 2,35 | 1.46 | 2,20 | 1.37 | 2,27 | 1.41 | 2,20 | 1.37 |

**L102751**

*L–Low*
*H–High*
*Cr–Creeper*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit*

L102751-1640ALE-010386

**1640 AND 2040 TRACTORS WITH SYNCHRONIZED TRANSMISSION ABOVE 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-36 | | 13.6-38<br>15.5-38 | | 14.9-38 | | 16.9-30 | | 16.9-34 | | 18.4-30 | | 23.1-26 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,5 | 1.6 | 2,6 | 1.6 | 2,7 | 1.7 | 2,4 | 1.5 | 2,3 | 1.5 | 2,3 | 1.4 | 2,4 | 1.5 |
| H* | 3,2 | 2.0 | 3,3 | 2.1 | 3,4 | 2.1 | 3,1 | 1.9 | 3,0 | 1.9 | 2,9 | 1.8 | 3,0 | 1.9 |
| Cr | 0,67 | 0.42 | 0,70 | 0.43 | 0,72 | 0.45 | 0,65 | 0.41 | 0,63 | 0.39 | 0,60 | 0.38 | 0,63 | 0.39 |
| 2 L | 3,5 | 2.2 | 3,6 | 2.2 | 3,7 | 2.3 | 3,4 | 2.1 | 3,2 | 2.0 | 3,1 | 1.9 | 3,3 | 2.0 |
| H* | 4,4 | 2.8 | 4,6 | 2.9 | 4,7 | 2.9 | 4,3 | 2.7 | 4,1 | 2.6 | 4,0 | 2.5 | 4,2 | 2.6 |
| Cr | 0,93 | 0.58 | 0,96 | 0.60 | 0,99 | 0.62 | 0,90 | 0.56 | 0,86 | 0.54 | 0,84 | 0.52 | 0,88 | 0.54 |
| 3 L | 5,0 | 3.1 | 5,2 | 3.2 | 5,4 | 3.3 | 4,9 | 3.0 | 4,7 | 2.9 | 4,5 | 2.8 | 4,7 | 2.9 |
| H* | 6,4 | 4.0 | 6,6 | 4.1 | 6,8 | 4.2 | 6,2 | 3.8 | 5,9 | 3.7 | 5,7 | 3.6 | 6,0 | 3.7 |
| Cr | 1,34 | 0.83 | 1,39 | 0.86 | 1,43 | 0.89 | 1,30 | 0.81 | 1,24 | 0.77 | 1,20 | 0.75 | 1,26 | 0.78 |
| 4 L | 6,7 | 4.2 | 7,0 | 4.4 | 7,2 | 4.5 | 6,6 | 4.1 | 6,3 | 3.9 | 6,1 | 3.8 | 6,4 | 4.0 |
| H* | 8,6 | 5.3 | 8,9 | 5.5 | 9,2 | 5.7 | 8,3 | 5.2 | 8,0 | 5.0 | 7,7 | 4.8 | 8,1 | 5.0 |
| Cr | 1,80 | 1.12 | 1,87 | 1.16 | 1,93 | 1.20 | 1,75 | 1.09 | 1,67 | 1.04 | 1,62 | 1.00 | 1,70 | 1.05 |
| 5 L | 8,6 | 5.4 | 9,0 | 5.6 | 9,2 | 5.7 | 8,4 | 5.2 | 8,0 | 5.0 | 7,8 | 4.8 | 8,1 | 5.1 |
| H* | 11,0 | 6.8 | 11,4 | 7.1 | 11,8 | 7.3 | 10,7 | 6.6 | 10,2 | 6.4 | 9,9 | 6.1 | 10,4 | 6.4 |
| 6 L | 11,9 | 7.4 | 12,4 | 7.7 | 12,8 | 7.9 | 11,6 | 7.2 | 11,1 | 6.9 | 10,7 | 6.7 | 11,2 | 7.0 |
| H* | 15,2 | 9.4 | 15,8 | 9.8 | 16,2 | 10.1 | 14,8 | 9.2 | 14,1 | 8.8 | 13,7 | 8.5 | 14,3 | 8.9 |
| 7 L | 17,1 | 10.7 | 17,8 | 11.1 | 18,3 | 11.4 | 16,7 | 10.4 | 16,0 | 9.9 | 15,4 | 9.6 | 16,2 | 10.0 |
| H* | 21,8 | 13.6 | 22,7 | 14.1 | 23,3 | 14.5 | 21,2 | 13.2 | 20,3 | 12.6 | 19,6 | 12.2 | 20,6 | 12.8 |
| 8 L | 23,1 | 14.4 | 24,0 | 14.9 | 24,7 | 15.4 | 22,5 | 14.0 | 21,5 | 13.4 | 20,8 | 12.9 | 21,8 | 13.5 |
| H* | 29,4 | 18.3 | 30,5 | 19.0 | 31,5 | 19.6 | 28,6 | 17.8 | 27,4 | 17.0 | 26,4 | 16.4 | 27,7 | 17.2 |
| R 1 L | 3,9 | 2.4 | 4,0 | 2.5 | 4,1 | 2.6 | 3,8 | 2.3 | 3,6 | 2.2 | 3,5 | 2.2 | 3,6 | 2.3 |
| H* | 4,9 | 3.1 | 5,1 | 3.2 | 5,3 | 3.3 | 4,8 | 3.0 | 4,6 | 2.8 | 4,4 | 2.8 | 4,6 | 2.9 |
| Cr | 1,03 | 0.64 | 1,07 | 0.67 | 1,10 | 0.69 | 1,0 | 0.62 | 0,96 | 0.60 | 0,93 | 0.58 | 0,97 | 0.60 |
| R 2 L | 5,3 | 3.3 | 5,6 | 3.5 | 5,7 | 3.6 | 5,2 | 3.2 | 5,0 | 3.1 | 4,8 | 3.0 | 5,0 | 3.1 |
| H* | 6,8 | 4.2 | 7,1 | 4.4 | 7,3 | 4.5 | 6,6 | 4.1 | 6,3 | 3.9 | 6,1 | 3.8 | 6,4 | 4.0 |
| Cr | 1,43 | 0.89 | 1,48 | 0.92 | 1,53 | 0.95 | 1,39 | 0.86 | 1,33 | 0.82 | 1,28 | 0.80 | 1,35 | 0.84 |
| R 3 L | 7,7 | 4.8 | 8,0 | 5.0 | 8,2 | 5.1 | 7,5 | 4.6 | 7,2 | 4.4 | 6,9 | 4.3 | 7,2 | 4.5 |
| H* | 9,8 | 6.1 | 10,2 | 6.3 | 10,5 | 6.5 | 9,5 | 5.9 | 9,1 | 5.7 | 8,8 | 5.5 | 9,2 | 5.7 |
| Cr | 2,05 | 1.27 | 2,13 | 1.32 | 2,19 | 1.36 | 1,99 | 1.24 | 1,91 | 1.19 | 1,84 | 1.15 | 1,93 | 1.20 |
| R 4 L | 10,4 | 6.4 | 10,8 | 6.7 | 11,1 | 6.9 | 10,1 | 6.3 | 9,6 | 6.0 | 9,3 | 5.8 | 9,8 | 6.1 |
| H* | 13,2 | 8.2 | 13,7 | 8.5 | 14,1 | 8.8 | 12,8 | 8.0 | 12,4 | 7.6 | 11,9 | 7.4 | 12,4 | 7.7 |
| Cr | 2,76 | 1.72 | 2,87 | 1.78 | 2,96 | 1.84 | 2,69 | 1.67 | 2,57 | 1.60 | 2,48 | 1.54 | 2,6 | 1.62 |

**L 102752**

*L–Low*
*H–High*
*Cr–Creeper*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit*

L102752-1640ALE-010386

**1640 AND 2040 TRACTORS WITH COLLAR SHIFT TRANSMISSION ABOVE 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-36 | | 13.6-38<br>15.5-38 | | 14.9-38 | | 16.9-30 | | 16.9-34<br>23.1-26 | | 18.4-30 | | 16.9-24 | | 21.5L-16.1 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,0 | 1.2 | 2,1 | 1.3 | 2,1 | 1.3 | 1,9 | 1.2 | 1,9 | 1.2 | 1,8 | 1.1 | 1,7 | 1.1 | 1,3 | 0.8 |
| H* | 2,5 | 1.6 | 2,6 | 1.6 | 2,7 | 1.7 | 2,4 | 1.5 | 2,4 | 1.5 | 2,3 | 1.4 | 2,2 | 1.4 | 1,7 | 1.1 |
| 2 L | 2,8 | 1.8 | 2,9 | 1.8 | 3,0 | 1.9 | 2,7 | 1.7 | 2,6 | 1.0 | 2,5 | 1.6 | 2,4 | 1.5 | 1,9 | 1.2 |
| H* | 3,6 | 2.2 | 3,7 | 2.3 | 3,8 | 2.4 | 3,5 | 2.2 | 3,4 | 2.1 | 3,2 | 2.0 | 3,1 | 1.9 | 2,4 | 1.5 |
| 3 L | 4,2 | 2.6 | 4,4 | 2.7 | 4,5 | 2.8 | 4,1 | 2.5 | 3,9 | 2.4 | 3,8 | 2.3 | 3,6 | 2.3 | 2,8 | 1.8 |
| H* | 5,3 | 3.3 | 5,5 | 3.4 | 5,7 | 3.5 | 5,2 | 3.2 | 5,0 | 3.1 | 4,8 | 3.0 | 4,6 | 2.9 | 3,6 | 2.2 |
| 4 L | 5,9 | 3.6 | 6,1 | 3.8 | 6,3 | 3.9 | 5,7 | 3.5 | 5,5 | 3.4 | 5,3 | 3.3 | 5,1 | 3.2 | 4,0 | 2.5 |
| H* | 7,5 | 4.6 | 7,7 | 4.8 | 8,0 | 5.0 | 7,2 | 4.5 | 7,0 | 4.3 | 6,7 | 4.2 | 6,5 | 4.0 | 5,1 | 3.1 |
| 5 L | 7,8 | 4.8 | 8,1 | 5.0 | 8,3 | 5.2 | 7,5 | 4.7 | 7,3 | 4.5 | 7,0 | 4.3 | 6,7 | 4.2 | 5,3 | 3.3 |
| H* | 9,9 | 6.1 | 10,3 | 6.4 | 10,6 | 6.6 | 9,6 | 6.0 | 9,3 | 5.7 | 8,9 | 5.5 | 8,6 | 5.3 | 6,7 | 4.2 |
| 6 L | 11,1 | 6.9 | 11,5 | 7.2 | 11,9 | 7.4 | 10,8 | 6.7 | 10,4 | 6.5 | 10,0 | 6.2 | 9,6 | 6.0 | 7,5 | 4.7 |
| H* | 14,1 | 8.8 | 14,7 | 9.1 | 15,1 | 9.4 | 13,7 | 8.5 | 13,2 | 8.2 | 12,7 | 7.9 | 12,2 | 7.6 | 9,6 | 5.9 |
| 7 L | 16,5 | 10.2 | 17,1 | 10.6 | 17,6 | 10.9 | 16,0 | 9.9 | 15,4 | 9.6 | 14,8 | 9.2 | 14,3 | 8.9 | 11,2 | 6.9 |
| H* | 20,9 | 13.0 | 21,7 | 13.5 | 22,4 | 13.9 | 20,4 | 12.7 | 19,6 | 12.2 | 18,8 | 11.7 | 18,2 | 11.3 | 14,2 | 8.8 |
| 8 L | 23,0 | 14.3 | 23,9 | 14.8 | 24,6 | 15.3 | 22,4 | 13.9 | 21,5 | 13.4 | 20,7 | 12.8 | 19,9 | 12.4 | 15,6 | 9.7 |
| H* | 29,3 | 18.2 | 30,4 | 18.9 | 31,3 | 19.5 | 28,4 | 17.7 | 27,4 | 17.0 | 26,3 | 16.4 | 25,4 | 15.8 | 19,9 | 12.3 |
| R 1 L | 2,3 | 1.4 | 2,4 | 1.5 | 2,5 | 1.5 | 2,2 | 1.4 | 2,2 | 1.3 | 2,1 | 1.3 | 2,0 | 1.2 | 1,6 | 1.0 |
| H* | 2,9 | 1.8 | 3,0 | 1.9 | 3,1 | 1.9 | 2,8 | 1.8 | 2,7 | 1.7 | 2,6 | 1.6 | 2,5 | 1.6 | 2,0 | 1.2 |
| R 2 L | 3,3 | 2.0 | 3,4 | 2.1 | 3,5 | 2.2 | 3,2 | 2.0 | 3,1 | 1.9 | 3,0 | 1.8 | 2,8 | 1.8 | 2,2 | 1.4 |
| H* | 4,2 | 2.6 | 4,3 | 2.7 | 4,5 | 2.8 | 4,1 | 2.5 | 3,9 | 2.4 | 3,8 | 2.3 | 3,6 | 2.3 | 2,8 | 1.8 |
| R 3 L | 4,9 | 3.0 | 5,1 | 3.1 | 5,2 | 3.2 | 4,7 | 2.9 | 4,6 | 2.8 | 4,4 | 2.7 | 4,2 | 2.6 | 3,3 | 2.1 |
| H* | 6,2 | 3.9 | 6,4 | 4.0 | 6,6 | 4.1 | 6,0 | 3.7 | 5,8 | 3.6 | 5,6 | 3.5 | 5,3 | 3.3 | 4,2 | 2.6 |
| R 4 L | 6,8 | 4.2 | 7,1 | 4.4 | 7,3 | 4.5 | 6,6 | 4.1 | 6,4 | 4.0 | 6,1 | 3.8 | 5,9 | 3.7 | 4,6 | 2.9 |
| H* | 8,7 | 5.4 | 9,0 | 5.6 | 9,3 | 5.8 | 8,4 | 5.2 | 8,1 | 5.0 | 7,8 | 4.8 | 7,5 | 4.7 | 5,9 | 3.7 |

**L 102753**

*L–Low*
*H–High*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit.*

L102753-1640ALE-010386

**2040 S TRACTORS WITH SYNCHRONIZED TRANSMISSION**
**UP TO 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-38 | | 14.9-38 | | 15.5-38<br>16.9-34 | | 18.4-30 | |
|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,1 | 1.3 | 2,1 | 1.3 | 2,1 | 1.3 | 2,0 | 1.2 |
| H* | 2,6 | 1.6 | 2,7 | 1.7 | 2,6 | 1.6 | 2,6 | 1.6 |
| Cr | 0,55 | 0.34 | 0,67 | 0.35 | 0,55 | 0.34 | 0,53 | 0.33 |
| 2 L | 2,8 | 1.8 | 2,9 | 1.8 | 2,9 | 1.8 | 2,8 | 1.7 |
| H* | 3,6 | 2.3 | 3,7 | 2.3 | 3,6 | 2.3 | 3,5 | 2.2 |
| Cr | 0,76 | 0.47 | 0,79 | 0.49 | 0,76 | 0.47 | 0,74 | 0.46 |
| 3 L | 4,1 | 2.5 | 4,2 | 2.6 | 4,1 | 2.6 | 4,0 | 2.5 |
| H* | 5,2 | 3.2 | 5,4 | 3.3 | 5,2 | 3.3 | 5,1 | 3.1 |
| Cr | 1,09 | 0.68 | 1,13 | 0.70 | 1,10 | 0.68 | 1,06 | 0.66 |
| 4 L | 5,5 | 3.4 | 5,7 | 3.5 | 5,6 | 3.4 | 5,4 | 3.3 |
| H* | 7,0 | 4.4 | 7,3 | 4.5 | 7,1 | 4.4 | 6,8 | 4.2 |
| Cr | 1,47 | 0.91 | 1,52 | 0.94 | 1,48 | 0.92 | 1,43 | 0.89 |
| 5 L | 7,1 | 4.4 | 7,3 | 4.5 | 7,1 | 4.4 | 6,9 | 4.3 |
| H* | 9,0 | 5.6 | 9,3 | 5.8 | 9,0 | 5.6 | 8,7 | 5.4 |
| 6 L | 9,8 | 6.1 | 10,1 | 6.3 | 9,8 | 6.1 | 9,5 | 5.9 |
| H* | 12,4 | 7.7 | 12,8 | 8.0 | 12,5 | 7.8 | 12,1 | 7.5 |
| 7 L | 14,0 | 8.7 | 14,5 | 9.0 | 14,1 | 8.8 | 13,6 | 8.5 |
| H* | 17,8 | 11.1 | 18,4 | 11.5 | 18,0 | 11.2 | 17,4 | 10.8 |
| 8 L | 18,9 | 11.7 | 19,5 | 12.1 | 19,0 | 11.8 | 18,4 | 11.4 |
| H* | 24,0 | 14.9 | 24,9 | 15.4 | 24,2 | 15.0 | 23,4 | 14.5 |
| R 1 L | 3,2 | 2.0 | 3,3 | 2.0 | 3,2 | 2.0 | 3,1 | 1.9 |
| H* | 4,0 | 2.5 | 4,2 | 2.6 | 4,0 | 2.5 | 3,9 | 2.4 |
| Cr | 0,84 | 0.52 | 0,87 | 0.54 | 0,85 | 0.53 | 0,82 | 0.51 |
| R 2 L | 4,4 | 2.7 | 4,5 | 2.8 | 4,4 | 2.7 | 4,3 | 2.6 |
| H* | 5,6 | 3.5 | 5,8 | 3.6 | 5,6 | 3.5 | 5,4 | 3.4 |
| Cr | 1,17 | 0.72 | 1,21 | 0.75 | 1,17 | 0.73 | 1,13 | 0.70 |
| R 3 L | 6,3 | 3.9 | 6,5 | 4.0 | 6,3 | 3.9 | 6,1 | 3.8 |
| H* | 8,0 | 5.0 | 8,3 | 5.1 | 8,1 | 5.0 | 7,8 | 4.8 |
| Cr | 1,68 | 1.04 | 1,73 | 1.08 | 1,69 | 1.05 | 1,63 | 1.01 |
| R 4 L | 8,5 | 5.3 | 8,8 | 5.4 | 8,5 | 5.3 | 8,2 | 5.1 |
| H* | 10,8 | 6.7 | 11,1 | 6.9 | 10,9 | 6.7 | 10,5 | 6.5 |
| Cr | 2,26 | 1.40 | 2,34 | 1.45 | 2,27 | 1.41 | 2,20 | 1.37 |

**L 102754**

*L–Low*
*H–High*
*Cr–Creeper*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit*

L102754-1640ALE-010386

**2040 S TRACTORS WITH SYNCHRONIZED TRANSMISSION**
**ABOVE 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-38 | | 14.9-38 | | 15.5-38<br>16.9-34 | | 18.4-30 | |
|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,5 | 1.5 | 2,6 | 1.6 | 2,5 | 1.6 | 2,4 | 1.5 |
| H* | 3,2 | 2.0 | 3,3 | 2.0 | 3,2 | 2.0 | 3,1 | 1.9 |
| Cr | 0,66 | 0.41 | 0,69 | 0.43 | 0,67 | 0.42 | 0,65 | 0.40 |
| 2 L | 3,4 | 2.1 | 3,6 | 2.2 | 3,5 | 2.2 | 3,3 | 2.1 |
| H* | 4,4 | 2.7 | 4,5 | 2.8 | 4,4 | 2.7 | 4,3 | 2.6 |
| Cr | 0,92 | 0.57 | 0,95 | 0.59 | 0,92 | 0.57 | 0,89 | 0.56 |
| 3 L | 4,9 | 3.1 | 5,1 | 3.2 | 5,0 | 3.1 | 4,8 | 3.0 |
| H* | 6,3 | 3.9 | 6,5 | 4.0 | 6,3 | 3.9 | 6,1 | 3.8 |
| Cr | 1,32 | 0.82 | 1,36 | 0.85 | 1,33 | 0.83 | 1,28 | 0.80 |
| 4 L | 6,7 | 4.1 | 6,9 | 4.3 | 6,7 | 4.3 | 6,5 | 4.0 |
| H* | 8,5 | 5.3 | 8,8 | 5.5 | 8,5 | 5.3 | 8,3 | 5.1 |
| Cr | 1,78 | 1.11 | 1,84 | 1.14 | 1,79 | 1.11 | 1,73 | 1.08 |
| 5 L | 8,5 | 5.3 | 8,8 | 5.5 | 8,6 | 5.3 | 8,3 | 5.2 |
| H* | 10,9 | 6.8 | 11,2 | 7.0 | 10,9 | 6.8 | 10,6 | 6.6 |
| 6 L | 11,8 | 7.3 | 12,2 | 7.6 | 11,9 | 7.4 | 11,5 | 7.1 |
| H* | 15,0 | 9.3 | 15,5 | 9.6 | 15,1 | 9.4 | 14,6 | 9.1 |
| 7 L | 17,0 | 10.5 | 17,5 | 10.9 | 17,1 | 10.6 | 16,5 | 10.2 |
| H* | 21,6 | 13.4 | 22,3 | 13.9 | 21,7 | 13.5 | 21,0 | 13.0 |
| 8 L | 22,8 | 14.2 | 23,6 | 14.7 | 23,0 | 14.3 | 22,2 | 13.8 |
| H* | 29,1 | 18.1 | 30,1 | 18.7 | 29,3 | 18.2 | 28,3 | 17.6 |
| R 1 L | 3,8 | 2.4 | 4,0 | 2.5 | 3,9 | 2.4 | 3,7 | 2.3 |
| H* | 4,9 | 3.0 | 5,0 | 3.1 | 4,9 | 3.0 | 4,7 | 2.9 |
| Cr | 1,02 | 0.63 | 1,06 | 0.66 | 1,03 | 0.64 | 0,99 | 0.62 |
| R 2 L | 5,3 | 3.3 | 5,5 | 3.4 | 5,3 | 3.3 | 5,1 | 3.2 |
| H* | 6,7 | 4.2 | 7,0 | 4.3 | 6,8 | 4.2 | 6,5 | 4.1 |
| Cr | 1,41 | 0.88 | 1,46 | 0.91 | 1,42 | 0.88 | 1,37 | 0.85 |
| R 3 L | 7,6 | 4.7 | 7,9 | 4.9 | 7,7 | 4.8 | 7,4 | 4.6 |
| H* | 9,7 | 6.0 | 10,0 | 6.2 | 9,7 | 6.1 | 9,4 | 5.8 |
| Cr | 2,03 | 1.26 | 2,10 | 1.30 | 2,04 | 1.27 | 1,47 | 1.23 |
| R 4 L | 10,2 | 6.4 | 10,6 | 6.6 | 10,3 | 6.4 | 10,0 | 6.2 |
| H* | 13,0 | 8.1 | 13,5 | 8.4 | 13,1 | 8.2 | 12,7 | 7.2 |
| Cr | 2,73 | 1.70 | 2,82 | 1.75 | 2,75 | 1.71 | 2,66 | 1.65 |

**L 102755**

*L–Low*
*H–High*
*Cr–Creeper*

** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit*

L102755-1640ALE-010386

**2040 S TRACTORS WITH COLLAR SHIFT TRANSMISSION**
**ABOVE 25 km/h (15.5 mph) AT 2500 ENGINE RPM**

| | 13.6-38 | | 14.9-38 | | 15.5-38 16.9-34 | | 16.9-30 | | 18.4-30 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | km/h | mph | km/h | mph | km/h | mph | km/h | mph | km/h | mph |
| 1 L | 2,2 | 1.4 | 2,3 | 1.4 | 2,2 | 1.4 | 2,1 | 1.3 | 2,2 | 1.3 |
| H* | 2,8 | 1.8 | 2,9 | 1.8 | 2,8 | 1.8 | 2,7 | 1.7 | 2,8 | 1.7 |
| 2 L | 3,2 | 2.0 | 3,3 | 2.0 | 3,2 | 2.0 | 3,0 | 1.9 | 3,1 | 1.9 |
| H* | 4,0 | 2.5 | 4,2 | 2.6 | 4,1 | 2.5 | 3,8 | 2.4 | 3,9 | 2.4 |
| 3 L | 4,7 | 2.9 | 4,9 | 3.0 | 4,7 | 2.9 | 4,4 | 2.7 | 4,6 | 2.8 |
| H* | 6,0 | 3.7 | 6,2 | 3.9 | 6,0 | 3.8 | 5,6 | 3.5 | 5,8 | 3.6 |
| 4 L | 6,6 | 4.1 | 6,8 | 4.2 | 6,6 | 4.1 | 6,2 | 3.8 | 6,4 | 4.0 |
| H* | 8,4 | 5.2 | 8,7 | 5.4 | 8,4 | 5.2 | 7,9 | 4.9 | 8,2 | 5.1 |
| 5 L | 7,8 | 4.9 | 8,1 | 5.0 | 7,9 | 4.9 | 7,4 | 4.6 | 7,6 | 4.7 |
| H* | 10,0 | 6.2 | 10,3 | 6.4 | 10,0 | 6.2 | 9,4 | 5.8 | 9,7 | 6.0 |
| 6 L | 11,2 | 7.0 | 11,6 | 7.2 | 11,3 | 7.0 | 10,5 | 6.5 | 10,9 | 6.8 |
| H* | 14,2 | 8.9 | 14,7 | 9.1 | 14,3 | 8.9 | 13,4 | 8.3 | 13,9 | 8.6 |
| 7 L | 16,6 | 10.3 | 17,2 | 10.7 | 16,7 | 10.4 | 15,6 | 9.7 | 16,2 | 10.0 |
| H* | 21,1 | 13.1 | 21,8 | 13.6 | 21,3 | 13.2 | 19,8 | 12.3 | 20,6 | 12.8 |
| 8 L | 23,2 | 14.4 | 24,0 | 14.9 | 23,4 | 14.5 | 21,8 | 13.5 | 22,6 | 14.0 |
| H* | 29,5 | 18.4 | 30,5 | 19.0 | 29,7 | 18.5 | 27,7 | 17.2 | 28,7 | 17.9 |
| R 1 L | 2,6 | 1.6 | 2,7 | 1.7 | 2,6 | 1.6 | 2,4 | 1.5 | 2,5 | 1.6 |
| H* | 3,3 | 2.0 | 3,4 | 2.1 | 3,3 | 2.1 | 3,1 | 1.9 | 3,2 | 2.0 |
| R 2 L | 3,7 | 2.3 | 3,8 | 2.4 | 3,7 | 2.3 | 3,5 | 2.2 | 3,6 | 2.2 |
| H* | 4,7 | 2.9 | 4,9 | 3.0 | 4,7 | 2.9 | 4,4 | 2.7 | 4,6 | 2.8 |
| R 3 L | 5,5 | 3.4 | 5,7 | 3.5 | 5,5 | 3.4 | 5,1 | 3.2 | 5,3 | 3.3 |
| H* | 7,0 | 4.3 | 7,2 | 4.5 | 7,0 | 4.4 | 6,5 | 4.1 | 6,8 | 4.2 |
| R 4 L | 7,7 | 4.8 | 7,9 | 4.9 | 7,7 | 4.8 | 7,2 | 4.5 | 7,4 | 4.6 |
| H* | 9,7 | 6.1 | 10,1 | 6.3 | 9,8 | 6.1 | 9,1 | 5.7 | 9,5 | 5.9 |

**L 102756**

*L–Low*
*H–High*

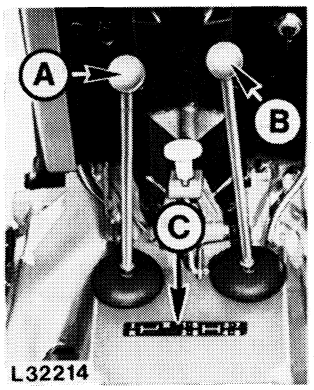
** Speeds shown under "High" also apply to tractors not equipped with Hi-Lo shift unit.*

L102756-1640ALE-010386

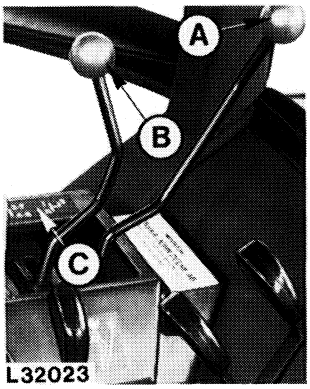
## SHIFTING TRANSMISSION GEARS

Transmission gears are shifted by means of range shift lever (A) and gear shift lever (B).

Shifting pattern decal (C) shows the possible shift positions.



L32214



L32023

L32214,L32023-2140ALE-010885

## SHIFT LEVER POSITIONS

With group I engaged, gears 1 to 4 can be engaged by means of the gear shift lever. With group II engaged, gears 5 to 8 can be engaged.

In reverse range, only gears 1 to 4 can be engaged.

In "park" (P) position (when equipped), the transmission is blocked.

FAHOM-2140BLE-010885

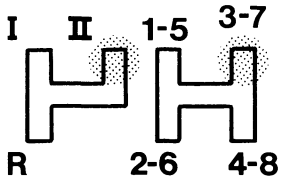
## SHIFTING FROM NEUTRAL

1. Depress clutch pedal.

2. Move range and gear shift levers to the desired position.

3. Gradually release clutch pedal. Do not allow clutch to slip longer than necessary when taking up load.


L102665



L102 666

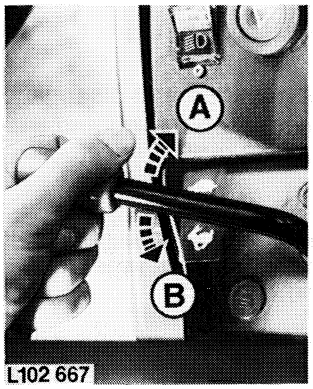
L102655,L102666-2140ALE-010885

## SHIFTING THE HI-LO SHIFT UNIT

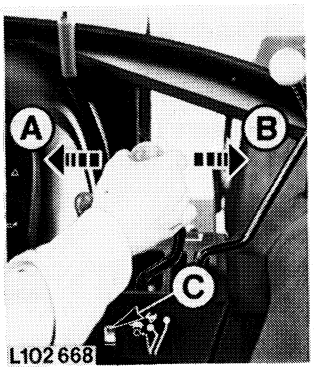
The operator can change in each gear from low speed (A) to high speed (B) and vice versa, without using the clutch.

Shifting from High to Low decreases the ground travel speed by 21% and provides up to 27% increase in pulling power in any of the travel speeds.

**A–Low speed**
**B–High speed**
**C–Indicator light for slow speed**



L102 667



L102 668

When shutting off the engine, the Hi-Lo shift unit automatically shifts to low speed.

**IMPORTANT: On tractors equipped with SG2 cab, the Hi-Lo shift unit cannot be shifted with clutch disengaged.**



L12488A

L102667,L102668,L12488A-2140ALE-010885

## ENGAGING CREEPER TRANSMISSION

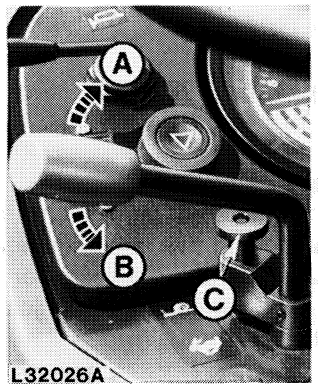
**CAUTION: Engage creeper transmission in I (Low) range or reverse range only.**

To engage or disengage the creeper transmission, depress clutch pedal and raise control lever lock (when equipped).

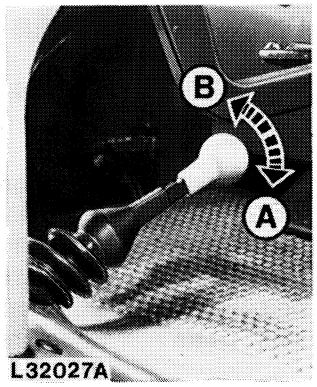
Never engage creeper transmission with engine speed higher than 1000 rpm.

Maximum permissible loads are the the same as for tractors with standard transmission.

**A–Creeper speed**
**B–High speed**
**C–Control lever lock**



L32026A



L32027A



L 14797A

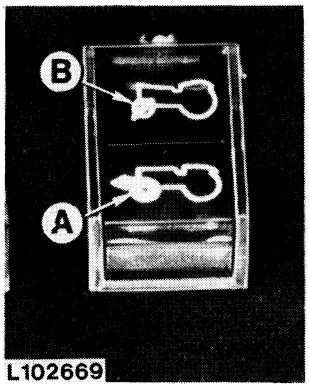
L32026A,L32027A,L14797A-2140ALE-010885

## ENGAGING FRONT WHEEL DRIVE

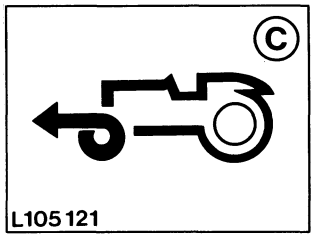
The front wheel drive can be engaged and disengaged in all gears (forward and reverse), on-the-go and under load, without using the clutch.

**A–Front wheel drive engaged**
**B–Front wheel drive disengaged**
**C–Indicator light (front wheel drive engaged)**

*NOTE: Disengage front wheel drive when driving at fast speeds on public roads.*



L102669



L105121

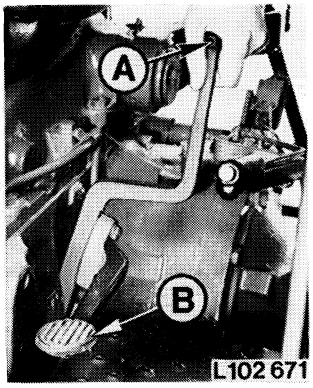
L102669,L105121-3040ALE-010285

## ENGAGING DIFFERENTIAL LOCK

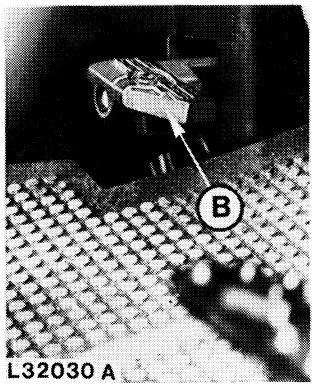
With unequal rear wheel slip, engage differential lock by means of hand lever (A) or pedal (B).

Should wheel slip vary greatly between both rear wheels or one wheel has become stationary, do not attempt to engage differential lock. In this case disengage clutch and engage differential lock and release lever or pedal. The differential lock will disengage automatically as soon as rear wheel traction has equalized.

**CAUTION: Do not attempt to turn the tractor with the differential lock engaged.**



L102671



L32030 A

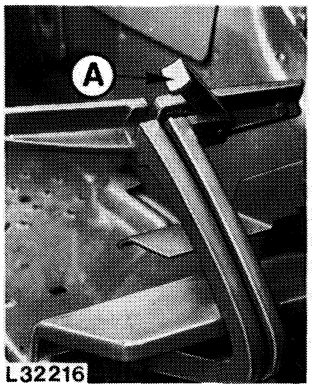
L102671,L32030A-1640ALE-010386

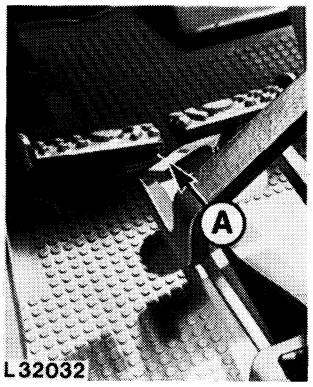
## HYDRAULIC FOOT BRAKES

**IMPORTANT: Brake pedals must be coupled together by means of pedal coupler (A) when driving on public roads.**

For field operation release pedal coupler (A). Use individual brakes to assist in making sharp turns. Use brake to assist steering at low tractor speeds only.

When stopping the tractor, press down on both brake pedals equally.



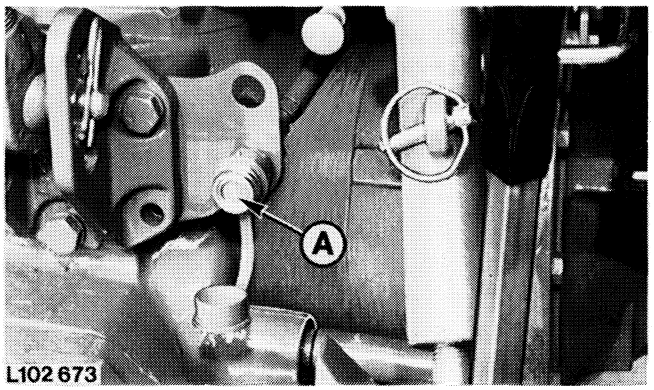




L32216,L32032-2140ALE-010885

## TRAILER BRAKES (When Equipped)

Remove cap (A) from trailer brake coupler. Connect pressure hose, making sure connections are absolutely clean.

Press down on brake pedals to operate hydraulic trailer brake. Braking action depends on pressure applied to brake pedals.

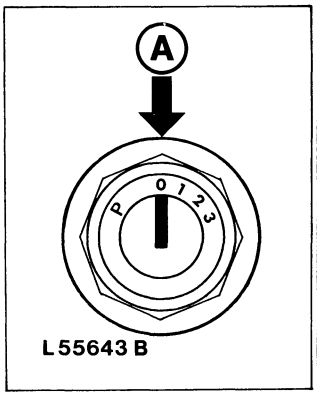


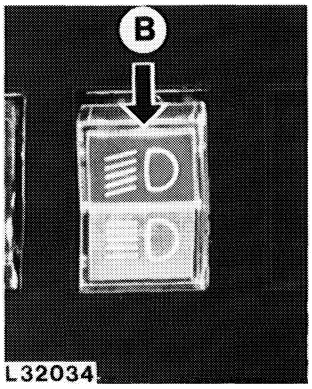

L102673-2140ALE-010885

## "BILUX" LIGHTING SYSTEM

Positions of main switch (A) are:

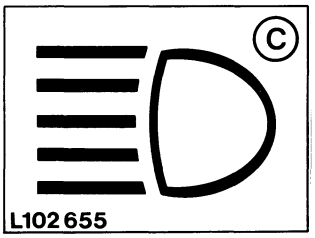
**O–Main switch in "off" position (key can be removed)**
**1–Lights "off"**
**2–Parking lights "on"**
**3–Full-beam or dipped headlights "on"**
**P–Parking lights "on"(key can be removed)**




Switch headlights to "full beam" or "dipped" position by means of switch (B).

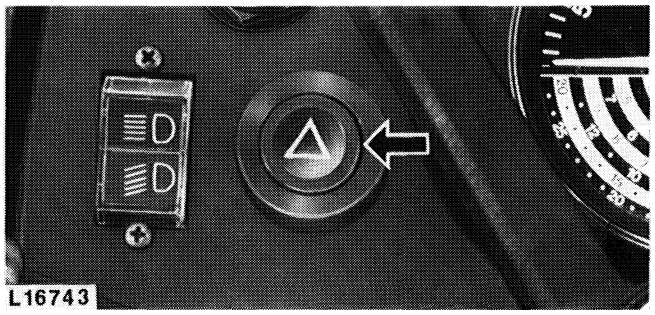
Indicator light (C) will glow when headlight switch is in "full-beam" position.




L55643B,L32034,L102655-2140ALE-010885

### Switching on Hazard Warning Light Switch

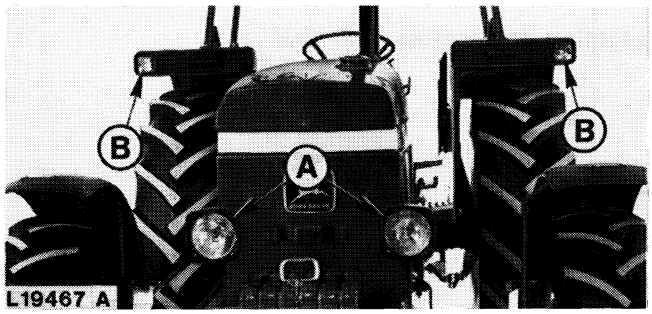
Whenever encountering any trouble on the tractor when driving on public roads, switch on hazard warning lights.



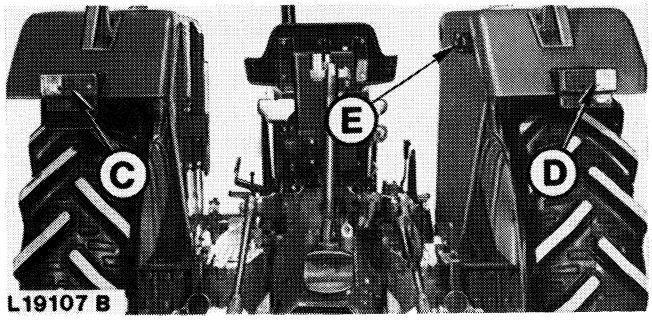

L16743-2140ALE-010885

## Lighting on Tractors Without Cab

**A–Headlights**
**B–Turn-signal and clearance lights**




**C–Tail, stop, turn signal and registration plate lights**
**D–Tail, stop and turn signal lights**
**E–Socket for trailer lighting**

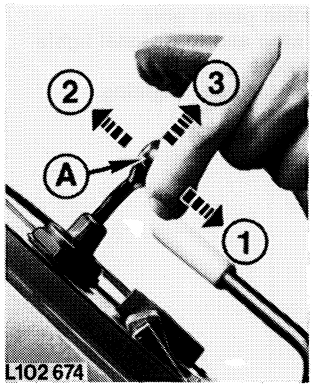


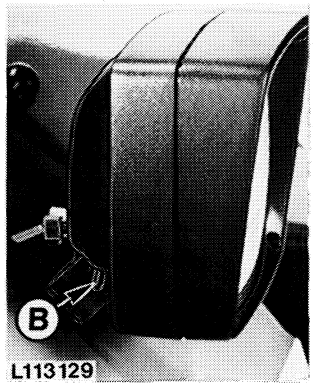

L19467A,L19107B-1640ALE-010386

Switch for Turn Signal Lights and Horn (A)

**1–Turn-signal, left-hand turn**
**2–Turn-signal, right-hand turn**
**3–Horn (pull upward to sound horn)**

Work Light Switch (B)



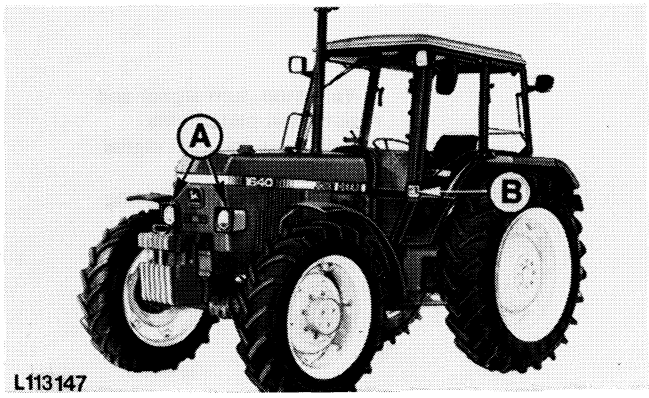




L102674,L113129-1640ALE-010386

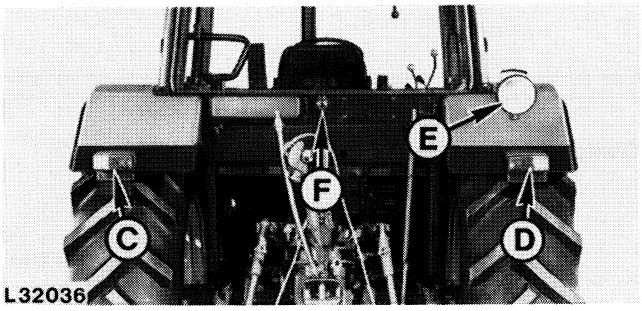
## Lighting on Tractors with Cab




**A–Headlights**
**B–Turn signal and clearance lights**




**C–Tail, stop,turn signal and registration plate lights**
**D–Tail, stop and turn signal lights**
**E–Work light**
**F–Socket for trailer lighting**

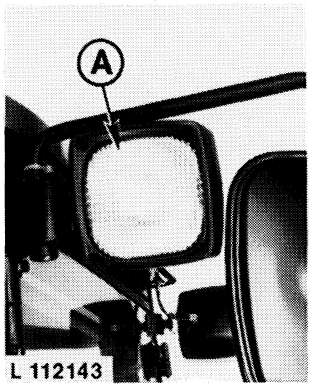


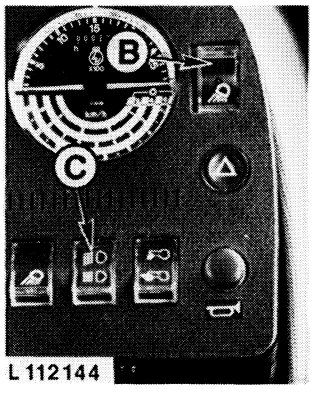

L32353,L32036-2140ALE-270583

## Additional Headlights

Tractors may be equipped with additional H3 or H4 headlights (A) installed on SG2 cab roof. Switch on additional headlights by means of switch (B) and dip H4 headlights with switch (C).

Because of lighting regulations in certain countries, the lighting system can be connected so that standard headlights are automatically switched off when additional headlights are switched on.

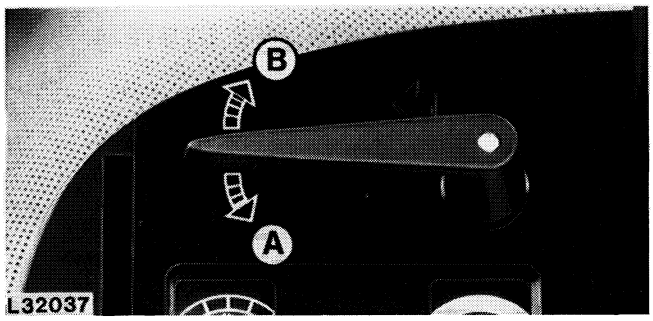



L112143,L112144-1640ALE-010386

## Turn Signal Switch

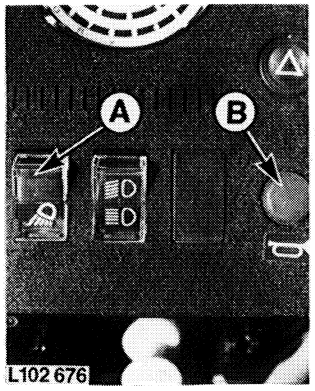
**A–Turn signal, left-hand turn**
**B–Turn-signal, right-hand turn**

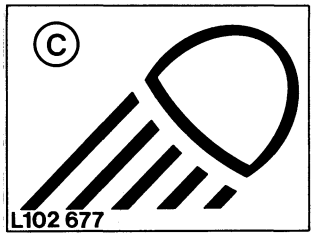



L32037-2140ALE-010885

## Switch for Work Lights and Horn

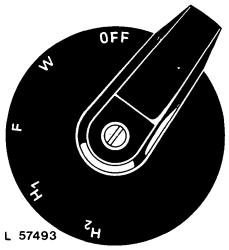
**A–Work light switch**
**B–Horn button**
**C–Indicator light for work lights**




L102676,L102677-2140ALE-010885

## "SEALED-BEAM" LIGHTING SYSTEM




Light switch positions are as follows:

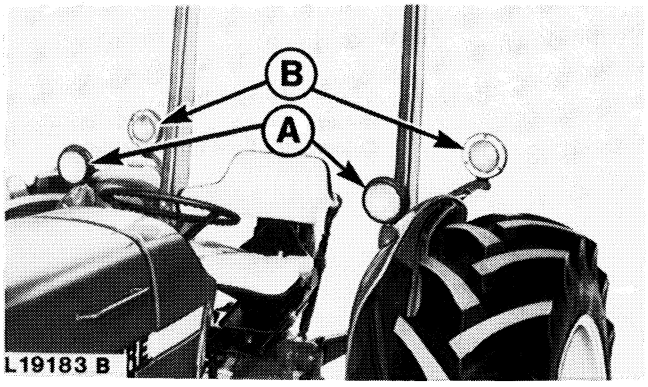
**OFF–All lights "Off"**
**W–Warning lights**
**F–Full beam headlights and work light**
**H1–Full beam headlights**
**H2–Dipped headlights, tail lights and warning lights**

When driving the tractor on public roads always comply with local traffic lighting regulations.

L57493-2140ALE-010885

### Front Lighting

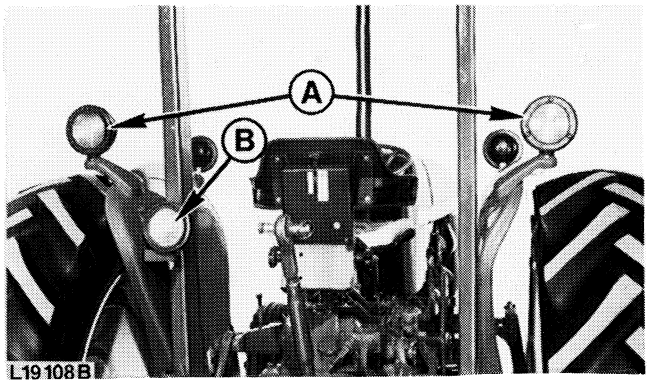
**A–Headlights**
**B–Tractor warning lights**




L19183B-2140ALE-010885

### Rear Lighting

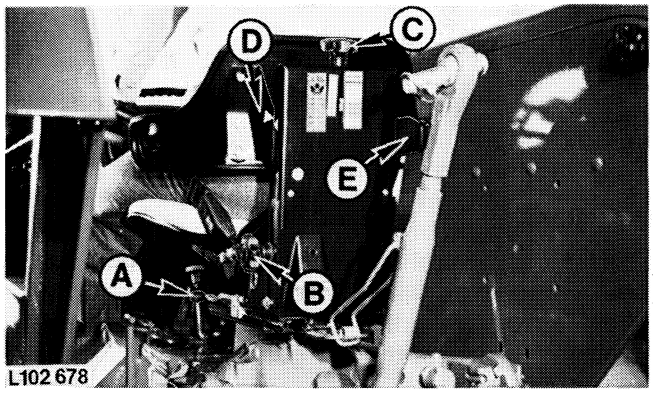
**A–Tractor warning lights**
**B–Work light and tail light**




L19108B-2140ALE-010885

## DE LUXE SEAT

**A–Catch for horizontal adjustment**
**B–Handwheel for height adjustment**
**C–Adjustment for operator's weight**
**D–Arrows must be in line when operator is seated**
**E–Release button for seat safety belt**

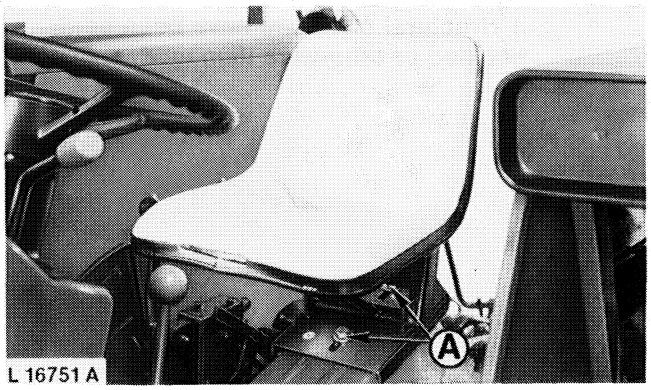



L102678-2140ALE-000486

## STANDARD SEAT

Loosen both screws (A) and adjust seat according to operator's height.

Adjust for operator's weight as for De Luxe seat.

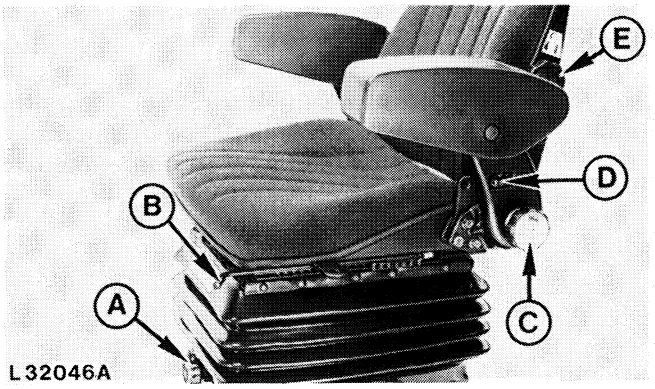



L16751A-2140ALE-270583

## SUPER DE LUXE SEAT

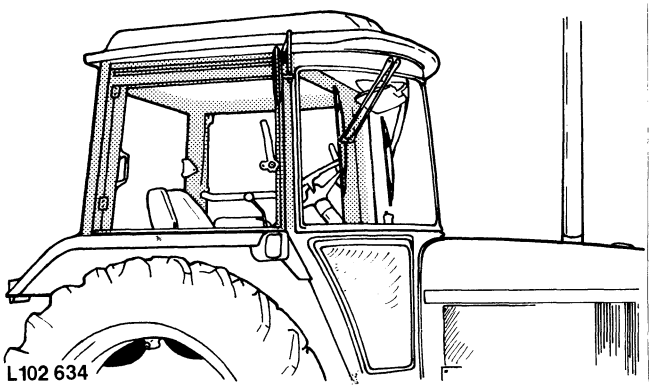
**A–Handwheel for seat adjustment according to operator's weight**
**B–Length adjustment**
**C–Back rest adjustment**
**D–Arm rest height adjustment**
**E–Lumbar support adjustment**

To raise seat, lift seat up until it is locked in position (a click must be heard). To lower seat, lift seat up to stop, then lower to desired position.




L32046A-2140ALE-010885

## ROLL GUARD

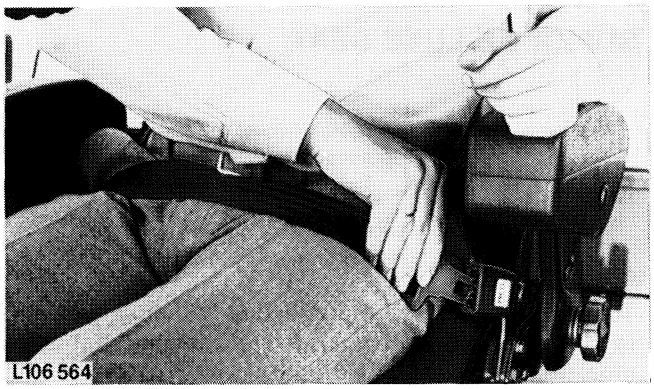



**CAUTION: A protective four-post roll-guard is incorporated in each operator's cab. On this construction, as well as roll guard on tractors not equipped with cab, do not, under any circumstances, modify structural members by welding on additonal parts, drilling holes, grinding etc. Disregarding this instruction can affect the rigidity of the roll-guard.**

**A tractor roll-over may place a severe stress on the roll guard. Therefore, replace if structural members have been bent, buckled or otherwise damaged.**

L102634-2140BLE-010885

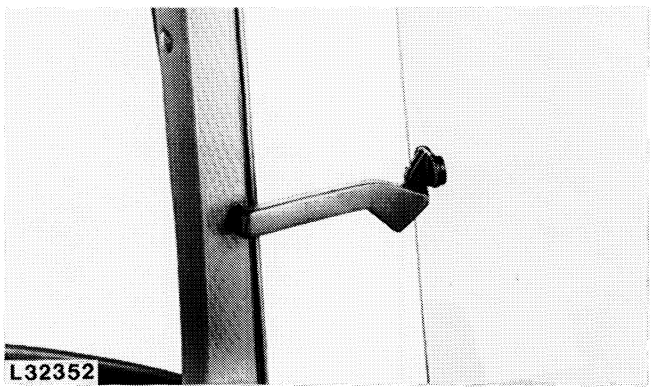
## SEAT BELT




**CAUTION: Always use a seat safety belt when a roll guard is installed or when tractor is equipped with an operator's cab.**

L106564-3040ALE-010285

## OPENING WINDOWS (SG2 CAB)

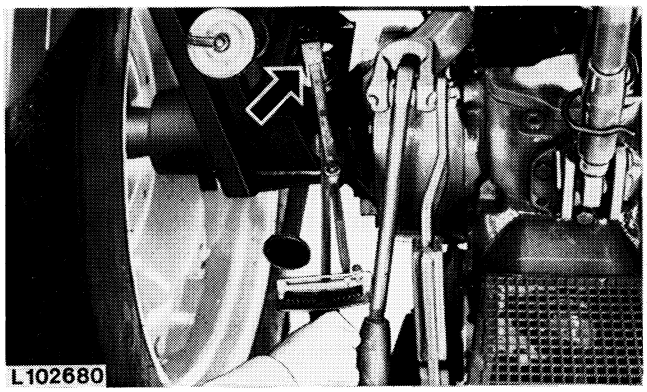



Side and rear windows can be opened for better ventilation.

To use a side window as an emergency exit, push against window stay to disconnect it from frame.

L32352-1640ALE-010386

## CHECKING TORQUES FOR HARDWARE




Periodically check all cab or roll guard attaching screws for tightness.

Specified torques are as follows:

- With SG2 cab: 200 Nm (145 ft-lb)
- With MC1 cab: 245 Nm (180 ft-lb)
- With two post roll guard: 230 Nm (170 ft-lb)

On tractors with four post roll guard, tighten cap screws as follows:

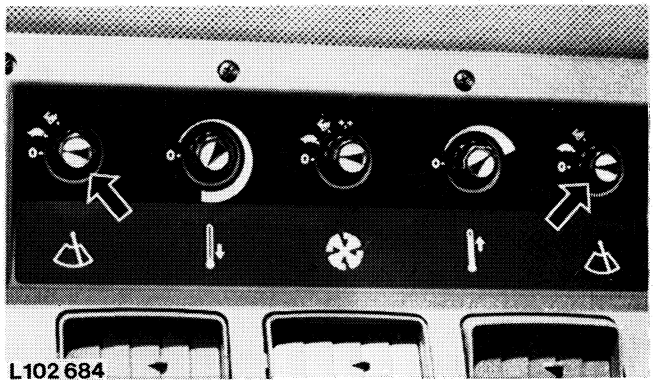
- Axle housing U-bolts: 130 Nm (95 ft-lb)
- Roll guard to fender: 160 Nm (115 ft-lb)
- Remaining cap screws: 70 Nm (50 ft-lb)

L102680-1640ALE-010386

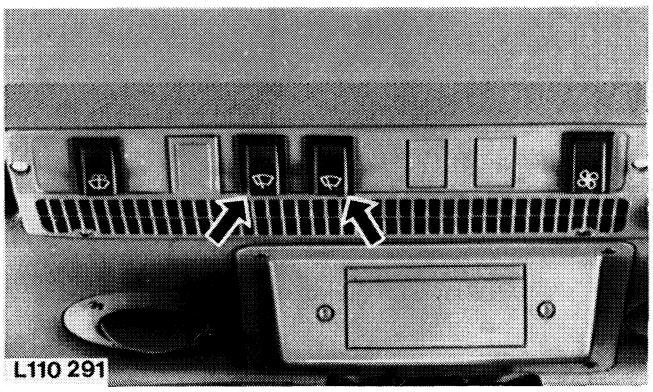
## WINDSHIELD WIPERS (SG2 CAB)

Both windshield wipers can be operated individually by means of two-speed switches.

*Standard Cab*




*Low Profile Cab*

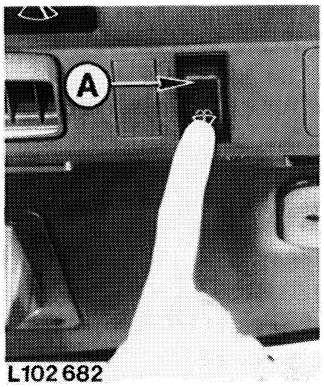


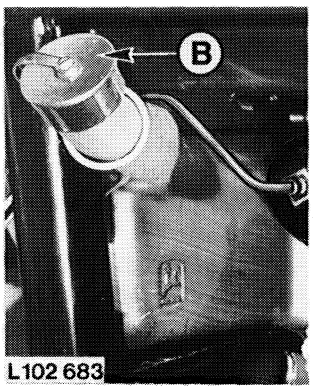

L102684,L110291-1640ALE-010386

## WINDSHIELD WASHER SYSTEM (SG2 CAB)

System is operated by means of switch (A).

Add a suitable anti-freeze solution to water in reservoir (B) if temperature is liable to drop below freezing point.



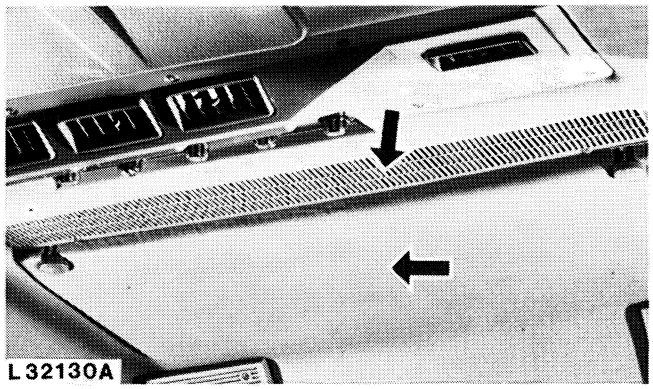




L102682,L102683-1640ALE-010386

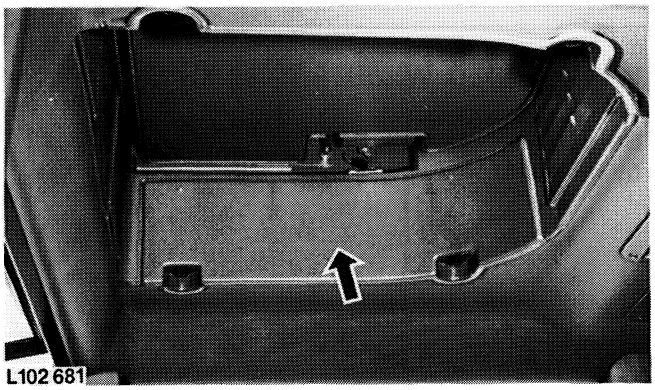
## CLEANING CAB AIR FILTERS (SG2 CAB)

Depending upon working conditions (amount of dust and use of ventilation system), remove and clean cab filters (See under "Service – Miscellaneous").

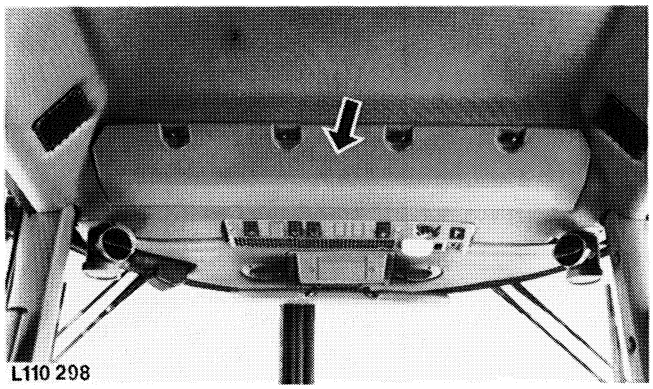
*Cab without Hatch*




*Cab with Hatch*




*Low Profile Cab*



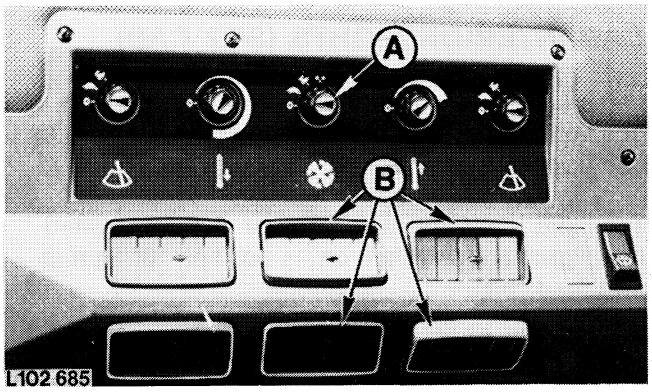

L32130A,L102681,L110298-1640ALE-010386

## FAN AND AIR LOUVERS (SG2 CAB)

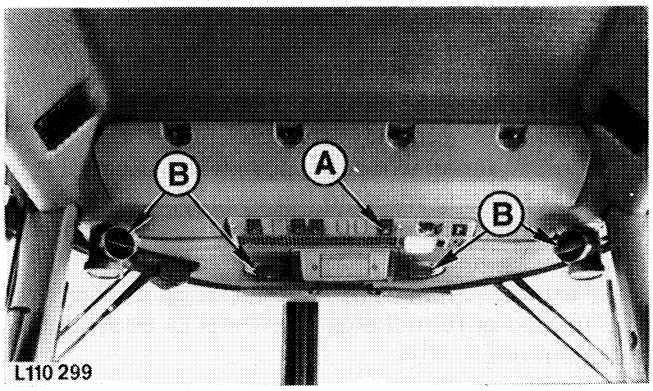
Fan speed is controlled by a two or three-speed switch (A) (depending on cab model).

Desired direction of air flow is obtained by the adjustable air louvers (B).

*Standard Cab*



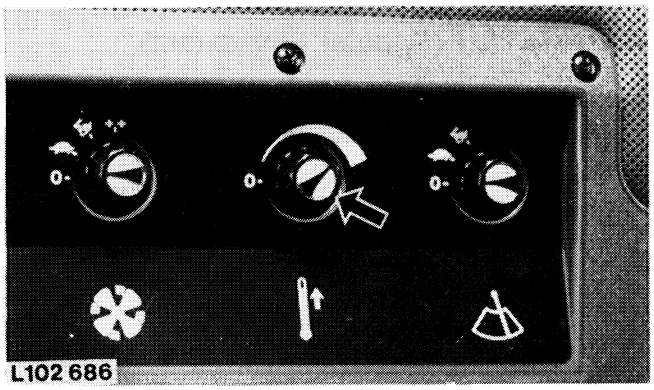

*Low Profile Cab*




L102685,L110299-1640ALE-010386

## HEATER (SG2 CAB)

Heating is infinitely adjustable by means of the heater switch. To increase heating affect, turn switch farther to the right.

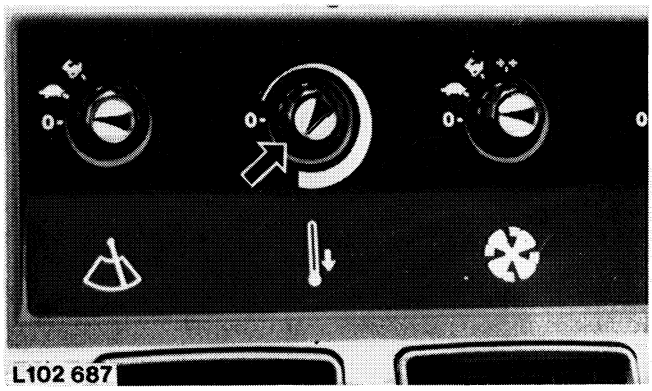



L102686-1640ALE-010386

## AIR CONDITIONING SYSTEM (Special Equipment)

The blower switch must be turned on before switching on the air conditioning system. To increase cooling effect, turn switch to the right.

*NOTE: Turning the heater on for a short period will help to control humidity, however under normal conditions the heater switch should be in "OFF" position when the air conditioning system is switched on.*

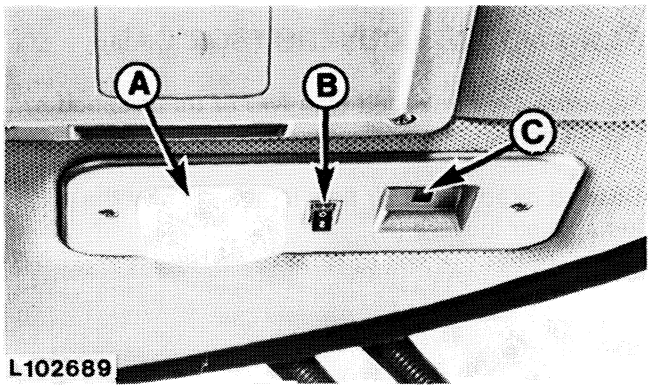



L102687-2140ALE-010885

## CAB INTERIOR LIGHTS (SG2 CAB)

Lamp (A) glows continuously when switch (B) is in position 1. In position 2 the lamp glows as soon as cab door is opened.

The lamp (C) illuminates the gear shift lever when headlights are switched on. In position "0" light is switched "off".

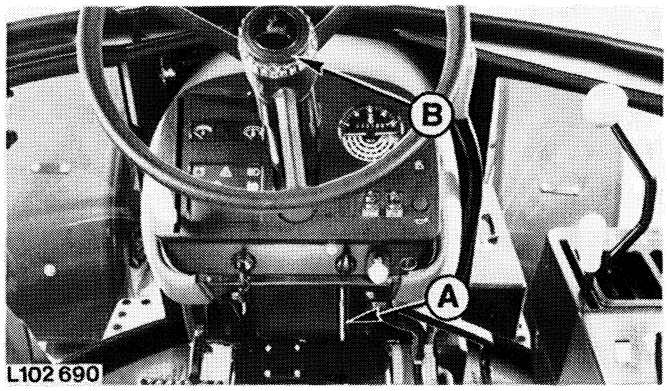



L102689-1640ALE-010386

## ADJUSTING STEERING WHEEL (SG2 CAB)

To adjust steering wheel tilt, pull lever (A) upward and shift steering wheel to the desired angle. Release lever and shift steering column until it is engaged.

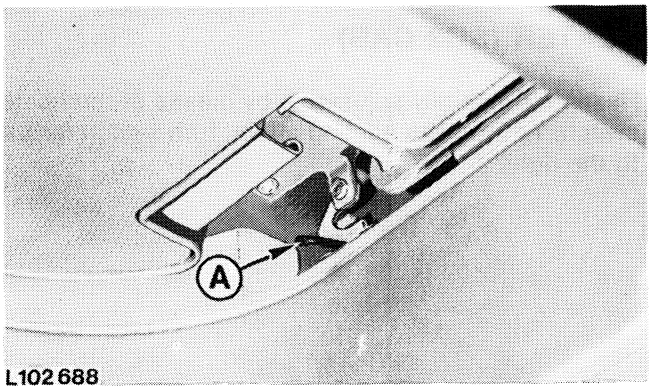
For height adjustment (when equipped), Loosen ring (B). Extend or retract steering wheel as desired and retighten ring.

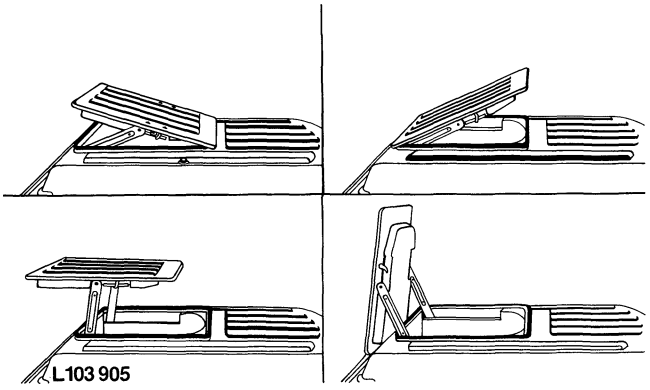



L102690-1640ALE-010386

## CAB HATCH (Special Equipment)

Release latch (A) and push hatch open to desired position.

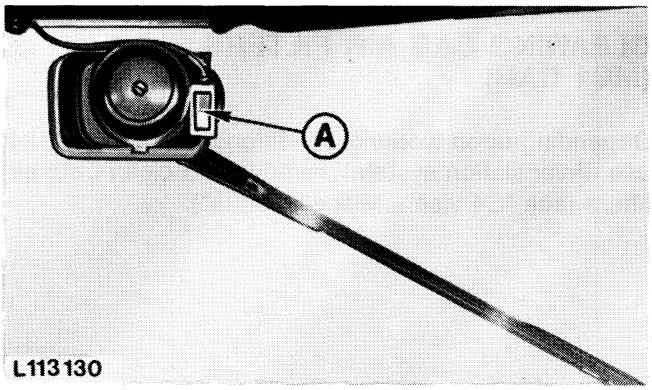



L102688,L103905-3040ALE-040783

## WINDSHIELD WIPER (MC1 CAB)

Switch on windshield wiper by means of switch (A).



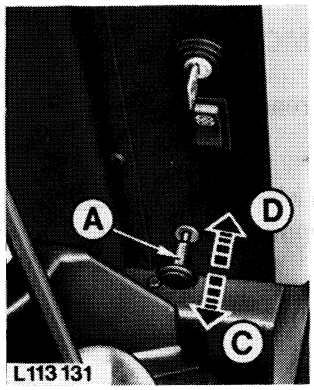

L113130-1640ALE-010386

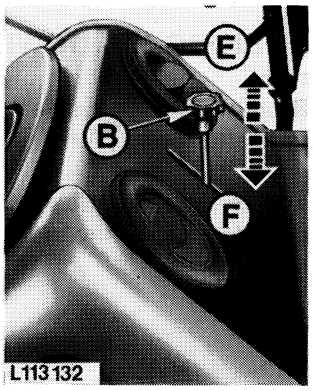
## HEATER (MC1 CAB)

Turn heater "On" and "Off" by means of pull-push switch (A).

For quicker warming of cab interior, push switch (B) downward to change from fresh air intake to recirculating cab air.

**A–Heater switch**
**B–Air flow selector switch**
**C–Heater "on"**
**D–Heater "off"**
**E–Fresh air intake**
**F–Circulating cab air**



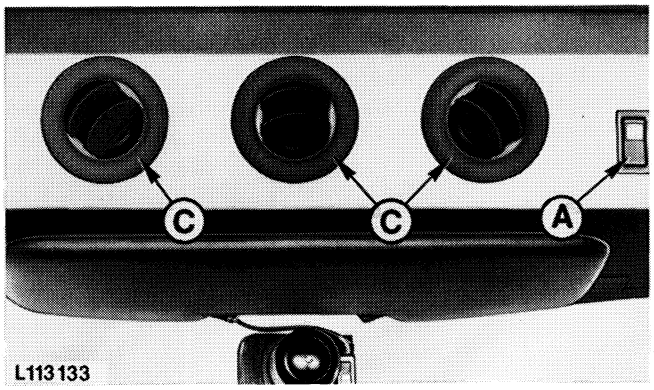



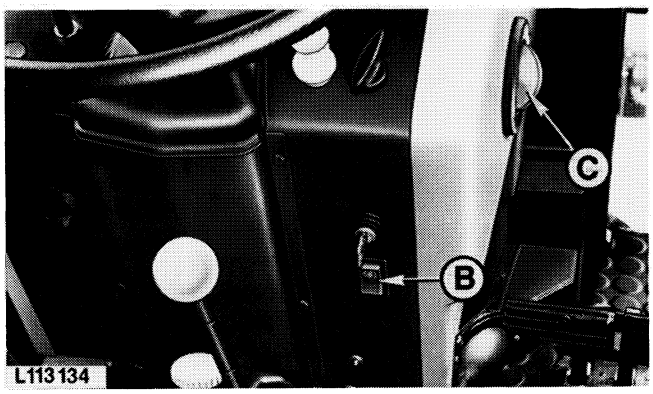

L113131,L113132-1640ALE-010386

## FANS AND AIR LOUVERS (MC1 CAB)

Switch on fan in roof by means of switch (A) and fan in dash with switch (B).

Desired direction of air flow is obtained by the adjustable air louvers (C).

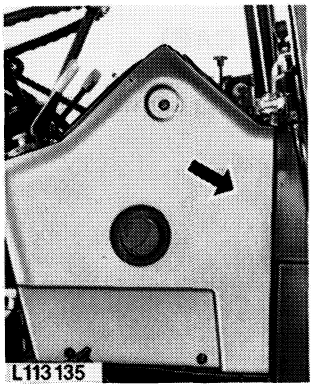


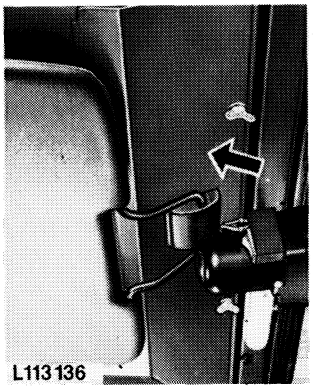




L113133-1640ALE-010386

## CLEANING CAB AIR FILTERS (MC1 CAB)

Depending upon working conditions (amount of dust and use of ventilation system), remove and clean both air filters (see "Service – Miscellaneous").



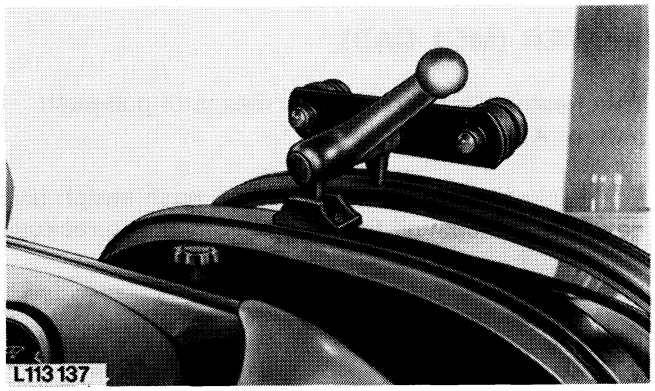



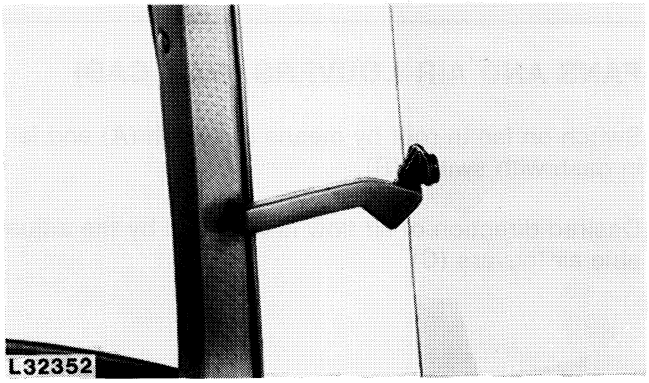

L113135-L113136-1640ALE-010386

## OPENING WINDOWS (MC1 CAB)

Front windscreen, side and rear windows can be opened for better ventilation.

To use a side window as an emergency exit, push against window stay to disconnect it from frame.




L113137,L32352-1640ALE-010386

# Wheel Treads, Tires and Ballast

## ADJUSTABLE FRONT AXLE (Tractors without Front Wheel Drive)

The front axle can be adjusted at each end in increments of 50 mm (2 in.). Maximum wheel tread is obtained by reversing the front wheels.

*NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).*

**IMPORTANT: To avoid excessive stress on axle bolts, do not separate axle halves beyond the specified limits.**

**Front Axle Limits**

| Tires | Wheel Disk Inward | Wheel Disk Outward |
|---|---|---|
| 6.00-16 | 1,26 m–1,92 m (49.6 in.–75.6 in.) | 1,39 m–2,06 m (54.7 in.–81.1 in.) |
| 7.50–16<br>7.50–18 | 1,36 m–1,87 m (53.5 in.–73.6 in.) | 1,50 m–2,00 m (59.0 in.–78.7 in.) |
| *7.50–16<br>7.50–18 | 1,46 m–1,87 m (57.5 in.–73.6 in.) | 1,60 m–2,00 m (63.0 in.–78.7 in.) |
| *10.00-16 | 1,51 m–1,92 m (59.4 in.–75.6 in.) | 1,55 m–1,96 m (61.0 in.–77.2 in.) |

* With hydrostatic steering

SPUOM-1640ALE-010386

## ADJUSTING FRONT WHEEL TREAD

Block up front end of tractor.
Do not place jack under engine oil pan!

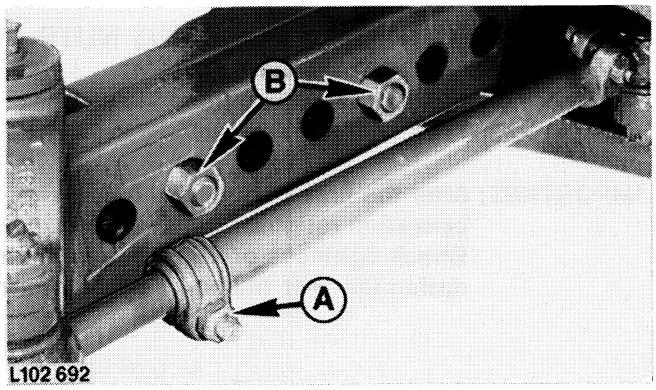
Remove tie rod clamp bolts (A) and axle bolts (B). Reposition axle ends to the desired front wheel tread. Reinsert axle bolts and tighten to 400 Nm (300 ft-lb) torque.

Adjust tie rods to front wheel tread, reinsert clamp bolts and tighten to the following torque:

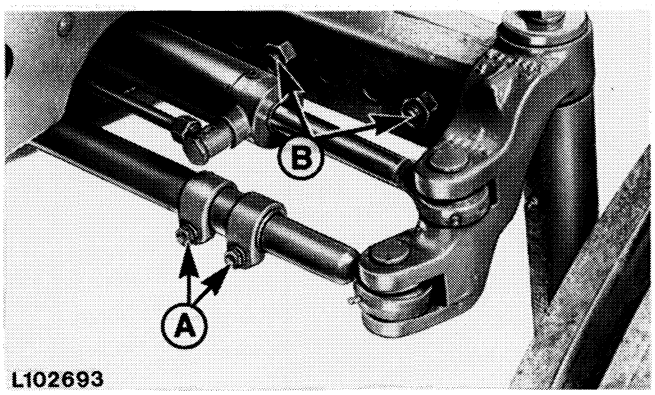
Tractors with hydrostatic steering – 55 Nm (40 ft-lb)

Tractors without hydrostatic steering – 90 Nm (65 ft-lb)

Check toe-in and adjust, if necessary.



L102 692



L102693

L102692,L102693-1640ALE-010386

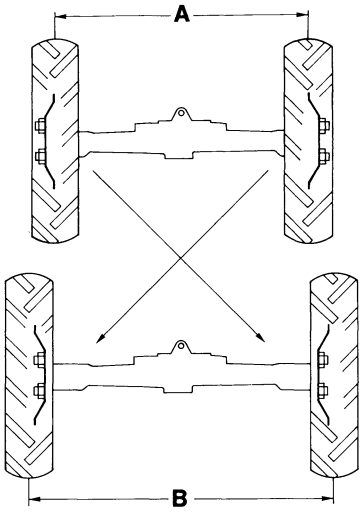
## ADJUSTING FRONT WHEEL TREAD (Tractors with Front Wheel Drive)

The tractor can be equipped with reversible or adjustable wheel rims.

**Adjusting Front Wheel Tread With Reversible Rims**

By reversing the complete front wheel two different wheel treads can be obtained. These are obtained by means of the cup shaped wheel disks. The cupped wheel disk facing outward gives the narrow tread and when facing inward the wider tread.

When changing to another tread, install left-hand wheel on right-hand side and right-hand wheel on left-hand side of tractor.



L 35167

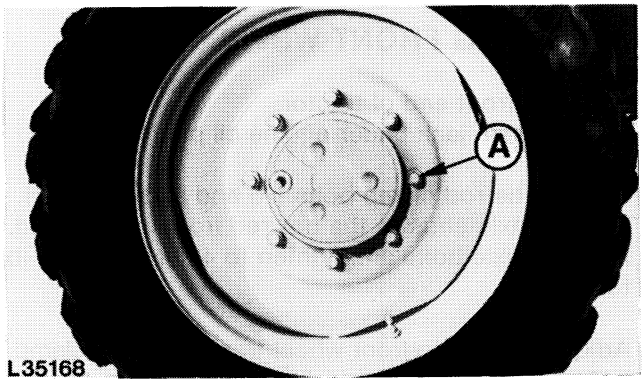
**A–Narrow tread:**
**1.50 m (59 in.) with 11.2-24 tires**
**1.60 m (63 in.) with 12.4-24 and 13.6-24 tires**
**B–Wide tread:**
**1.80 m (71 in.) with 11.2-24 tires**
**1.70 m (67 in.) with 12.4-24 and 13.6-24 tires**

L35167-1640ALE-010386

## TIGHTENING WHEEL ATTACHING NUTS

After having adjusted front wheel tread, tighten hex. nuts (A) to 300 Nm (220 ft-lb) torque.

**IMPORTANT: After the first 4 hours and 8 hours of operation retighten all wheel hex. nuts. Check tightness of these nuts frequently during the first 100 hours of operation.**



L35168

L35168-2140ALE-010885

## ADJUSTING FRONT WHEEL TREAD WITH ADJUSTABLE RIMS

Front wheel tread can be adjusted by repositioning or reversing the wheel rims.

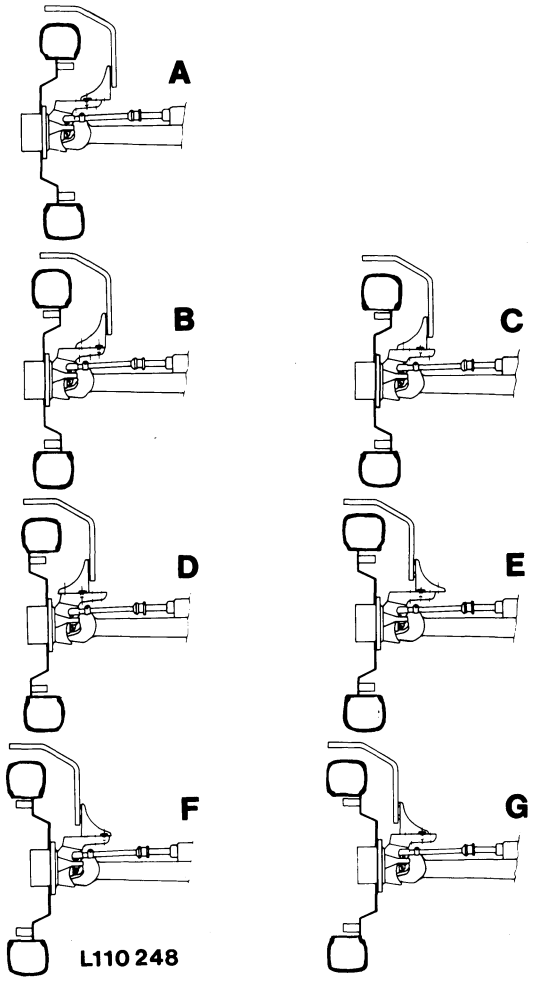
In addition the complete wheel can be reversed and installed on opposite side of tractor. The arrow on side wall of tire must then point in direction of forward travel.

*NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).*

| Positions of Rims and Wheel Disks | Tread Widths |
|---|---|
| A | not permissible |
| B | 1.50 m* (59 in.)* |
| C | 1.60 m (63 in.) |
| D | 1.70 m (67 in.) |
| E | 1.80 m (71 in.) |
| F | 1.90 m (75 in.) |
| G | 2.00 m (79 in.) |

*NOTE: If tractor is equipped with front wheel fenders, these must be installed as shown opposite after having adjusted the front wheel tread.*

* Steering angle must be limited



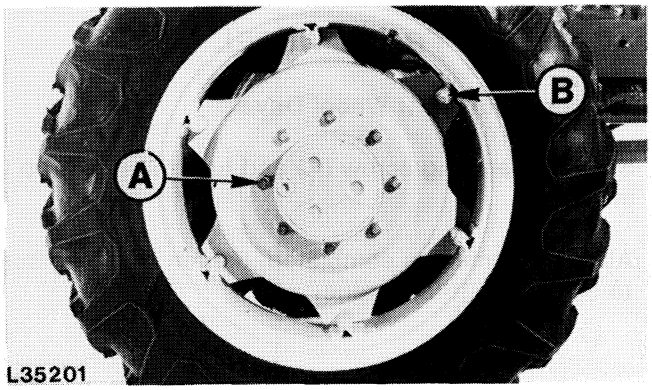

L110248-1640ALE-010386

## TIGHTENING FRONT WHEEL NUTS

After having adjusted front wheel tread, tighten front wheel attaching nuts to the following torques:

**A–300 Nm (220 ft-lb)**
**B–250 Nm (185 ft-lb)**

**IMPORTANT: After the first 4 hours and 8 hours of operation retighten all wheel hex. nuts. Check tightness of these nuts frequently during the first 100 hours of operation.**



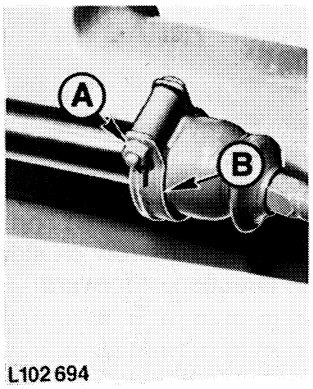

L35201-3040ALE-010285

## LIMITING FRONT WHEEL STEERING ANGLE

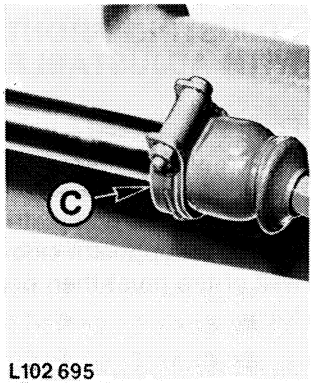
With certain wheel treads the front wheel steering angle must be limited to less than 50° (see opposite).

To limit steering angle, unscrew clamping scew (A) and remove stop clamp (B). Turn clamp so that longer side faces center of tractor (C). Install clamping screw.

*NOTE: Steering angle must be the same on both sides.*



L102 694



L102 695

| WITH TIRES | TRACTORS WITHOUT FRONT HITCH TREAD WIDTH | | | TRACTORS WITH FRONT HITCH TREAD WIDTH | | |
|---|---|---|---|---|---|---|
| | 1.50 m (59 in.) | 1.60 m (63 in.) | 1.70 m (67 in.) | 1.50 m (59 in.) | 1.60 m (63 in.) | 1.70 m (67 in.) |
| 11.2-24 | 40° | 50° | 50° | 40° | 50° | 50° |
| 11.2-28 | 35° | 50° | 50° | 35° | 40° | 50° |
| 13.6-24 | 40° | 50° | 50° | 30° | 35° | 45° |

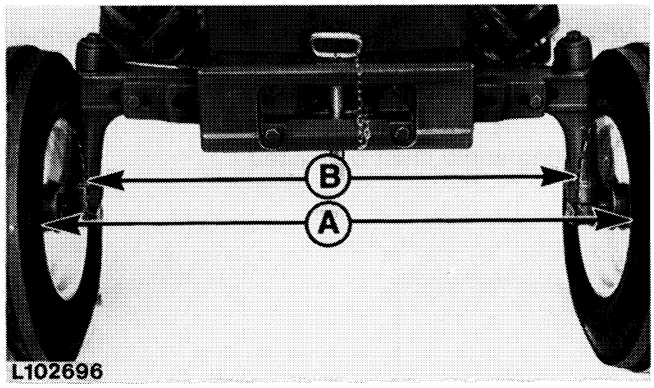
L102694,L102695-1640ALE-010386

## CHECK FRONT WHEEL TOE-IN

Measure front and rear of front wheels from rim flange to rim flange at hub height. Correct toe-in is:

– Tractors with front wheel drive:
0 to 3 mm ( 0 to 1/8 in.)

– Tractors without front wheel drive:
3 to 7 mm (1/8 to 1/4 in.)
less in front (A) than in rear (B).



L102696

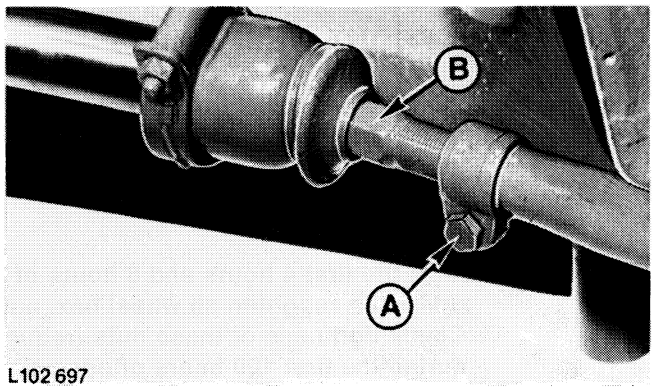
L102696-1640ALE-010386

## ADJUSTING FRONT WHEEL TOE-IN

**Tractors with Front Wheel Drive**

Slacken clamping screw (A) and turn threaded rod (B) in or out.

After adjustment is completed, tighten clamping screw to 50 Nm (35 ft-lb) torque.



L102 697

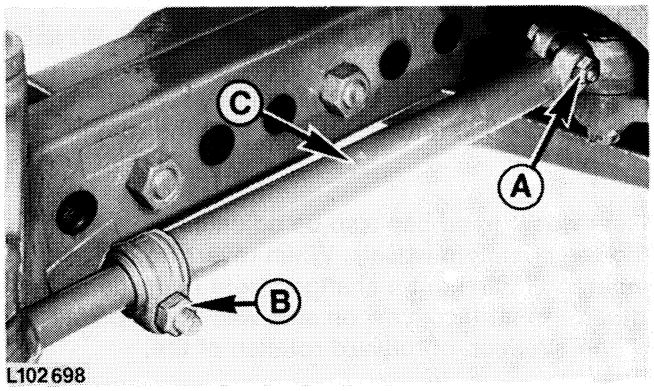
L102697-3040ALE-010285

## ADJUSTING FRONT WHEEL TOE-IN

**Tractors Without Front Wheel Drive, Without Hydrostatic Steering**

Slacken clamping screws (A). Remove locking screws (B). Turn tie-rod tubes (C) in or out.

After adjustment is completed, tighten clamping screws (A) to 55 Nm (40 ft-lb) torque and screws (B) to 90 Nm (65 ft-lb) torque.

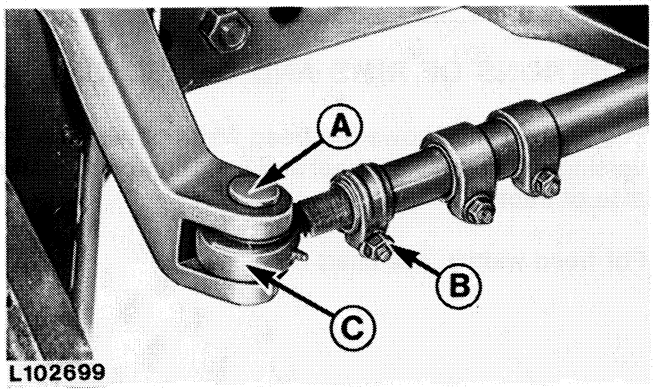


L102698

**Tractors without Front Wheel Drive, with Hydrostatic Steering**

Remove clevis pin (A) and disconnect tie-rod. Slacken clamping screw (B) and turn tie-rod end (C) in or out.

After adjustment is completed, tighten clamping screw to 55 Nm (40 ft-lb) torque. Secure tie-rod end to steering knuckle.



L102699

L102698,L102699-1640ALE-010386

## ADJUSTING REAR WHEEL TREAD WITH FLANGED AXLE

Rear wheel tread can be adjusted by repositioning or reversing the rims or by reversing the wheel disks.

Rear wheel tread can also be adjusted by reversing the complete wheels. When reversing the wheels, they must be changed from one side to the other so that the arrow on side wall of tire points in the direction of forward rotation of tire.

After adjustment has been completed, tighten wheel retaining bolts to specified torque (see "Break-In-Period").

The relationship of the rear wheel disk and rim in obtaining the different tread settings is shown in the following drawings. Study these drawings before attempting to change tread settings.

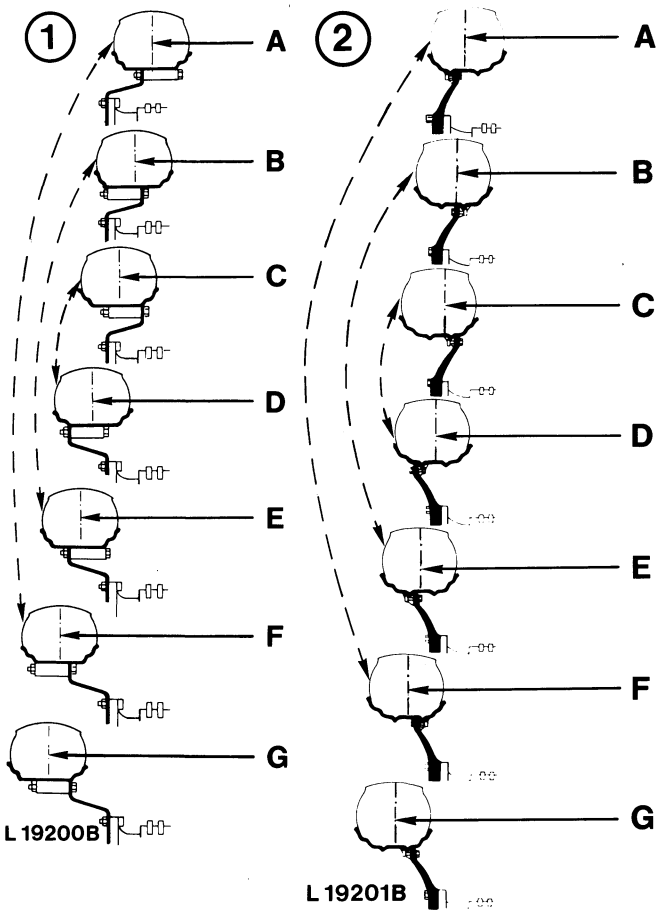
SPUOM-2140BLE-010885

## POSITIONS OF RIMS AND WHEEL DISKS

The dashed line shows the tread width obtained by reversing the complete wheel and installing on opposite side of tractor.

For tread widths, see chart on next page.

*I – Steel wheel disks*
*II – Cast wheel disks*




L19200B,L19201B-1640ALE-010386

## TREAD WIDTHS WITH FLANGED AXLE

| | Tire Size | Position of Rims and Wheel Disks A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|
| Steel Disks | | 1,40 m[1] (55 in.) | 1,50 m (59 in.) | 1,60 m (63 in.) | 1,70 m (67 in.) | 1,80 m (71 in.) | 1,90 m (75 in.) | 2,00 m (79 in.) |
| | 13.6-36 | x | x | x | x | x | x | x |
| | 13.6-38 | x | x | x | x | x | x | x |
| | 14.9-38 | x | x | x | x | x | x | x |
| | 15.5-38 | x | x[2] | x | x | x | x | x |
| | 16.9-24 | x | x[1] | x | x | x | x | x |
| | 16.9-30 | x | x[1] | x | x | x | x | x |
| | 16.9-34 | x | x[1] | x | x | x | x | x |
| | 18.4-30 | | x[1] | x | x | x | x | x |
| | 21.5L-16.1 | | | x | x | | | |
| | 23.1-26 | | | | x | | | |
| Cast Disks | | 1,45 m[1] (57 in.) | 1,55 m (61 in.) | 1,65 m (65 in.) | 1,70 m (67 in.) | 1,80 m (71 in.) | 1,95 m (75 in.) | 2,05 m (79 in.) |
| | 15.5-38 | x | x | x | x | x | x | x |
| | 16.9-30 | x | x | x | x | x | x | x |
| | | | 1,60 m (63 in.) | 1,70 m (67 in.) | 1,70 m (67 in.) | 1,80 m (71 in.) | 1,90 m (75 in.) | 2,00 m (79 in.) |
| | 16.9-34 | | x | x | x | x | x | x |
| | | | 1,60 m (63 in.) | 1,70 m (67 in.) | 1,80 m (71 in.) | 1,90 m (75 in.) | 2,00 m (79 in.) | 2,10 m (83 in.) |
| | 18.4-30 | | x | x | x | x | x | x |

*1. With shell-type fenders only*
*2. Tractors without cab*

SPUOM-1640BLE-010386

**Federal Republic of Germany Only**

Tractors with Ground Travel Speeds up to 30 km/h.:

When driving on public roads, tractor must have narrowest tread for tires installed (see table above).This must not be exceeded!

Tractors with Ground Travel Speeds up to 25 km/h.:

When driving on public roads, choose tread so that tail lights are within 400 mm from outside edge of tractor.

SPUOM-2140GLE-010885

## ADJUSTING WHEEL TREAD WITH RACK-AND-PINION AXLE

*NOTE: Adjustment of wheels is only possible when not more than two weights are attached to each wheel.*

1. Clean axle with a steel brush.

2. Jack up tractor and turn wheel so that rack on axle faces upward.

3. Loosen three attaching bolts completely.

4. Tighten two jack screws until screw heads are flush against face of wheel hub.

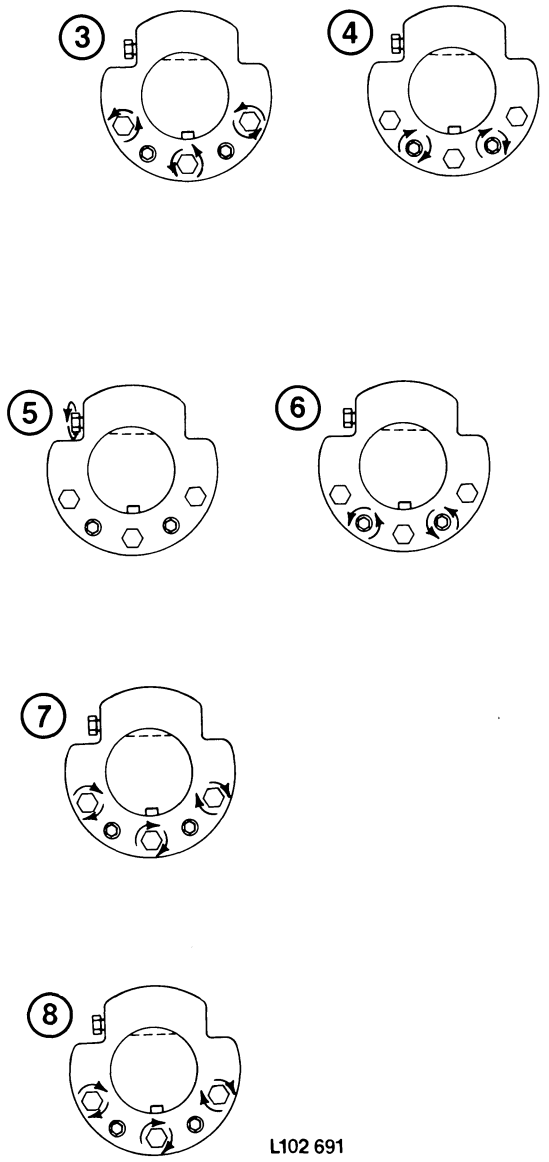
*NOTE: If sleeve is difficult to break loose, also loosen three special screws on inboard side of wheel. If sleeve still will not break loose, strike end of axle several times with a heavy hammer. Evenly retighten jack screws. It helps to soak sleeves with penetrating oil.*

5. Turn adjusting screw to slide wheel in or out until desired position is reached.

6. Back jack screws all the way out against stop, but do not use force.

7. Lubricate threads and tighten attaching bolts alternately to 400 Nm (300 ft-lb) torque. Retighten bolts several times until all three stay tightened to specified torque. With attaching bolts tightened to specified torque, jack screws should be free to turn. If this is not the case, loosen jack screws and retighten attaching bolts to specified torque.

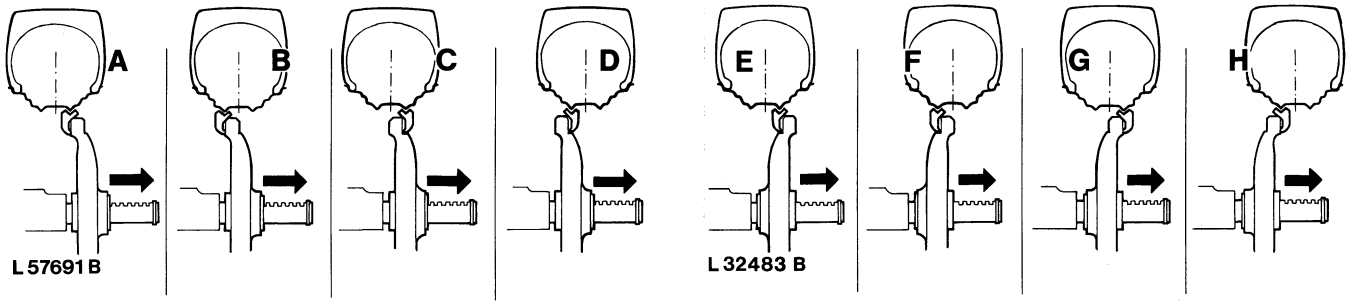
8. Having completed wheel tread adjustment, make sure that tires and wheel ballast weights do not rub against the tractor. Then drive tractor approx. 50 m (50 yds.), stop tractor and recheck torque of attaching bolts (400 Nm; 300 ft-lb). Check bolts after working 3 hours and again after 10 hours. Retighten if necessary with torque wrench.



L102 691

L102691-2140ALE-010885

## POSITION OF RIMS AND WHEEL DISKS WITH RACK-AND-PINION AXLE




L57691B,L32483B-2140ALE-010885

## TREAD WIDTHS WITH RACK-AND-PINION AXLE

| Tires | Position of Wheel Disks | Tractors without SG2 Cab | | | | Tractors with SG2 Cab | |
|---|---|---|---|---|---|---|---|
| | | Wide Fenders | | Shell-Type Fenders | | | |
| | | m | in. | m | in. | m | in. |
| 15.5 - 38 | Wheel Disk Inward | | | | | | |
| | A | 1,51 - 1,75 | 54 - 69 | 1,38 - 1,75 | 54 - 69 | 1,52 - 1,75 | 60 - 69 |
| | B | 1,51 - 1,95 | 57 - 77 | 1,44 - 1,95 | 57 - 77 | 1,53 - 1,95 | 60 - 77 |
| | C | 1,51 - 1,92 | 56 - 76 | 1,41 - 1,92 | 56 - 76 | 1,52 - 1,92 | 60 - 76 |
| | D | 1,61 - 2,12 | 63 - 83 | 1,61 - 2,12 | 63 - 83 | 1,61 - 2,12 | 63 - 83 |
| | Wheel Disk Outward | | | | | | |
| | A | 1,63 - 2,06 | 64 - 81 | 1,63 - 2,06 | 64 - 81 | 1,63 - 2,06 | 64 - 81 |
| | B | 1,84 - 2,27 | 72 - 89 | 1,84 - 2,27 | 72 - 89 | 1,84 - 2,27 | 72 - 89 |
| | C | 1,80 - 2,24 | 71 - 88 | 1,80 - 2,24 | 71 - 88 | 1,80 - 2,24 | 71 - 88 |
| | D | 2,01 - 2,44 | 79 - 96 | 2,01 - 2,44 | 79 - 96 | 2,01 - 2,44 | 79 - 96 |
| 16.9 - 30 | Wheel Disk Inward | | | | | | |
| | A | 1,55 - 1,75 | 61 - 69 | 1,41 - 1,75 | 56 - 69 | 1,55 - 1,75 | 61 - 69 |
| | B | 1,55 - 1,95 | 61 - 77 | 1,44 - 1,95 | 57 - 77 | 1,55 - 1,95 | 61 - 77 |
| | C | 1,55 - 1,92 | 61 - 76 | 1,41 - 1,92 | 56 - 76 | 1,55 - 1,92 | 61 - 76 |
| | D | 1,61 - 2,12 | 63 - 83 | 1,61 - 2,12 | 63 - 83 | 1,61 - 2,12 | 63 - 83 |
| | Wheel Disk Outward | | | | | | |
| | A | 1,63 - 2,06 | 64 - 81 | 1,63 - 2,06 | 64 - 81 | 1,63 - 2,06 | 64 - 81 |
| | B | 1,84 - 2,27 | 72 - 89 | 1,84 - 2,27 | 72 - 89 | 1,84 - 2,27 | 72 - 89 |
| | C | 1,80 - 2,24 | 71 - 88 | 1,80 - 2,24 | 71 - 88 | 1,80 - 2,24 | 71 - 88 |
| | D | 2,01 - 2,44 | 79 - 96 | 2,01 - 2,44 | 79 - 96 | 2,01 - 2,44 | 79 - 96 |

SPUOM-1640CLE-010386

## TIRE PRESSURES

Long life and satisfactory performance of the tires depend on proper tire inflation. Under-inflation of tires leads to rapid wear. Over-inflated tires reduce traction and increase wheel slippage.

As correct tire pressures depend on the one side from what type of working conditions and load, and on the other side from tractor model, tire size and manufacturer, we recommend you approach your JOHN DEERE dealer or tire company for advice. The tire pressures shown opposite should therefore be considered as a standard guide only. Tire pressures shown are for field operation. If you are operating 20% or more on roads, then increase tire pressures according to manufacturer's specifications.

**Rear Wheels**

23.1-26 tires: 110 kPa (1.1 bar; 16 psi)

All other tires: 140 kPa (1.4 bar; 20 psi)

**Front Wheels**

10.00-16 tires: 170 kPa (1.7 bar; 25 psi)

All other tires: 150 kPa (1.5 bar; 22 psi)

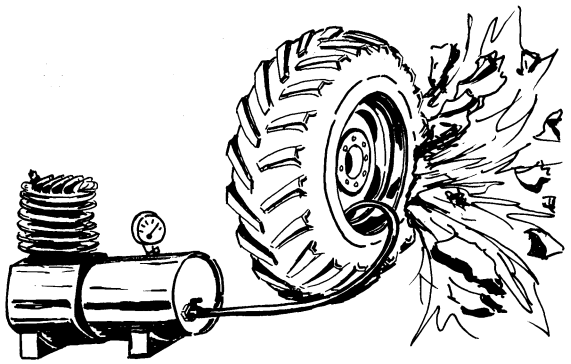
SPUOM-1640DLE-010386

## SERVICE TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious bodily injury or death. DO NOT attempt to mount a tire unless you have the proper equipment and experience to perform the job safely. Have it done by your JOHN DEERE dealer or a qualified tire repair service.

When sealing 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 necessary safety precautions, are contained in JOHN DEERE Fundamentals of Service (FOS) Manual 55, Tires and Tracks, available through your JOHN DEERE dealer. Such information is also available from tire manufacturer agents.



Z 20924

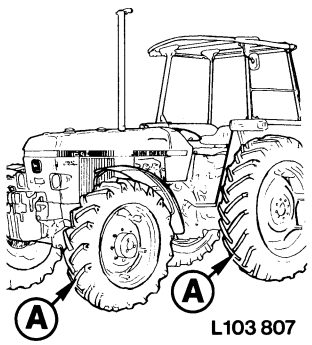
Z20924-2140ALE-010885

## DIRECTION OF TIRE ROTATION

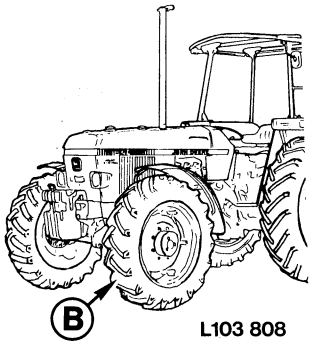
When mounting or changing tires, make sure arrow on flank of tires points in the direction of forward travel (A).

When on tractors with front wheel drive the main function is transport or front loader operation turn tires against usual rolling direction of tire lugs (B). Tire life is increased by 25 to 30% and better traction achieved.

Because of reduced traction and tire self-cleaning effect this arrangement is not recommended for field work under wet conditions.



L103 807



L103 808

L103807,L103808-2140ALE-080383

## TIRE COMBINATIONS (Tractors with Front Wheel Drive)

In order to achieve maximum drawbar pull and to maintain proper steerability it is absolutely necessary to comply with the tire combinations shown below. Apart from this, correct tire combinations reduce tire wear and fuel consumption. Should front wheel tires show excessive wear in comparison with the rear tires they must be replaced in order to maintain the predetermined tire ratio.

| Front Wheels | Rear Wheels | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 13.6-36 | 13.6-38 | 14.9-38 | 15.5-38 | 16.9-30 | 16.9-34 | 18.4-30 | 23.1-26 |
| 11.2-24 | x | – | – | – | x | – | – | – |
| 11.2-28 | – | x | x | – | – | x | – | x |
| 12.4-24 | – | – | – | – | – | – | x | – |
| 13.6-24 | – | x | – | x | – | x | – | x |

SPUOM-1640DLE-010386

## SELECTING BALLAST

Safety and performance of your tractor depend upon correct ballasting of front axle (front weights), and rear axle (wheel weights, filling tires with water).

**IMPORTANT: When determining front and rear axle ballast, make sure maximum permissible axle loads as well as maximum permissible machine weight are not exceeded (see Specifications).**
**Comply with local regulations regarding installation and maximum permissible number of weights.**

SPUOM-1640FLE-010386

## BALLASTING REAR WHEELS

Rear wheel ballast should be chosen so as to give 10 to 15% wheel slippage when operating. Field tests have shown that maximum horsepower available at the drawbar occurs in this range.

Ballast should never exceed the weight required to provide traction for loads within the 4th gear operating capacity of the tractor. Do not add too much ballast. Remove ballast if tractor engine labors when pulling heavy loads in 3rd gear.

Too little ballast leads to:

- Excessive wheel spin and thereby loss of power
- Increased tire wear
- High fuel consumption

Too much ballast leads to:

- Increased load and thereby loss of power
- Tire strain
- Soil compaction
- High fuel consumption

SPUOM-2140ELE-010885

## MEASURING REAR WHEEL SLIP

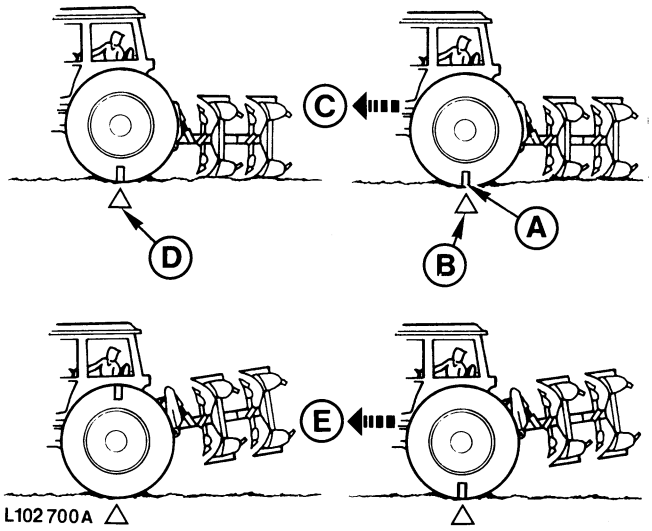
1. Mark tire (A)

2. Mark starting point on the ground (B)

3. Drive tractor forward with implement lowered until ten revolutions of the rear wheel have been made (C)

4. Again place a marker in the ground (D)

5. Now raise implement and drive again between the two markers on the ground. Note number of revolutions made between the two markers (E)




The number of revolutions give the following percentage of wheel slip:

10 revolutions = 0% wheel slip
9.5 revolutions = 5% wheel slip
9 revolutions = 10% wheel slip
8.5 revolutions = 15% wheel slip
8 revolutions = 20% wheel slip
7.5 revolutions = 25% wheel slip
7 revolutions = 30% wheel slip

L102700A-3040ALE-180883

## TYPES OF REAR WHEEL WEIGHTS

| | 1640 | 2040 | 2040 S |
|---|---|---|---|
| 13.6-36 | A, B | A, B | – |
| 13.6-38 | A, B | A, B | A, B |
| 14.9-38 | – | A, B | A, B |
| 15.5-38 | A, B | A, B, C, D | A, B |
| 16.9-24 | A | – | – |
| 16.9-30 | A, –, C | A, –, –, D | – |
| 16.9-34 | A, B | A, B | A, B |
| 18.4-30 | A | A | A |
| 23.1-26 | – | A | – |

L103916

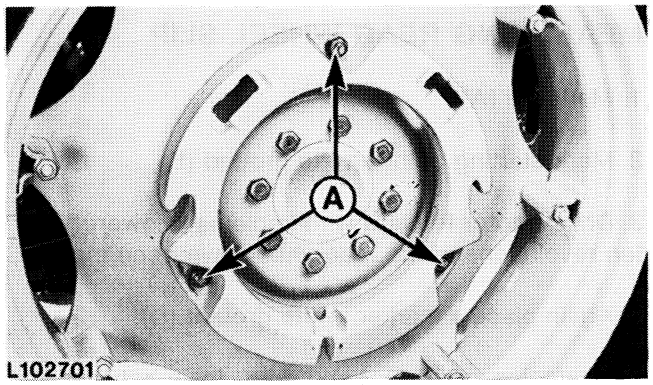
Weights for flanged axle:
A–1 set (2 used) = 77 kg (170 lb)
B–1 set (2 used) = 110 kg (242 lb)

Weights for rack-and-pinion axle:
C–1 set (2 used) = 110 kg (242 lb)
D–1 set (2 used) = 130 kg (286 lb)

L103916-1640GLE-010386

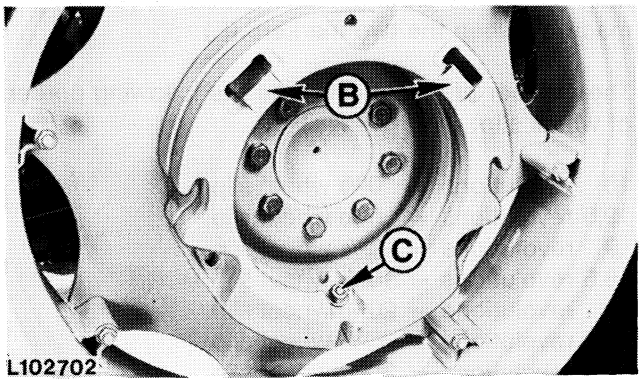
## INSTALLING WEIGHTS ON FLANGED AXLE

Attach first weight with three cap screws (A) to wheel disk.




When installing further weights, position wheel so that retainer jaws (B) are at the top. Hang weight in retainer jaws and secure with a cap screw (C) at the bottom.

**CAUTION: When installing and removing quick-tatch weights, always position wheels so that retainer jaws are at the top. Thus weights are prevented from falling when cap screw is removed.**

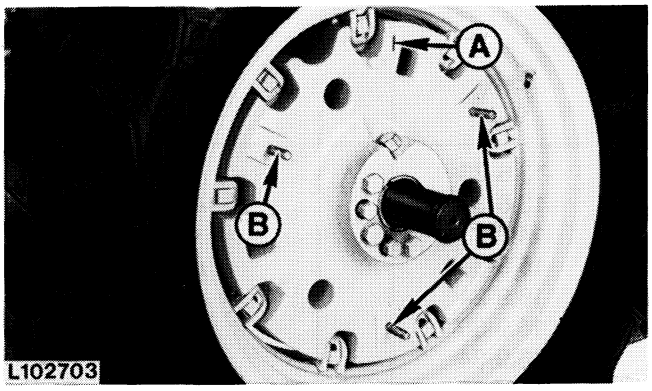



L102701,L102702-2140ALE-010885

## INSTALLING WEIGHTS ON RACK-AND-PINION AXLE

Position wheel so that rim mark (A) is at the top. Insert the special attaching bolts (B) from inner side of rim and drive outward.

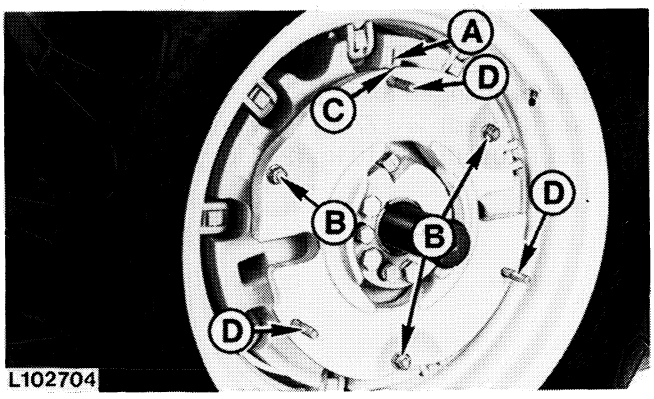
*NOTE: When installing more than one weight drive three special bolts through square countersunk bores from the inside of first weight to be installed. Install second weight so that notch on this weight is opposite notch on the first weight. Install third weight in same position as the first.*




Install weight so that notch (C) on weight is aligned with mark (A). Tighten special bolts (B) securely.

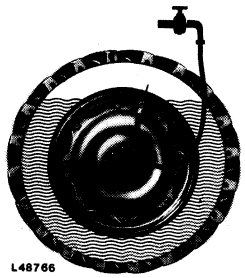
*NOTE: Bolts (D) shown in illustration are for the second weight.*

**A–Rim mark**
**B–Attaching bolts**
**C–Notch**
**D–Bolts for next weight**




L102703,L102704-1640ALE-010386

## FILLING TIRES WITH LIQUID BALLAST



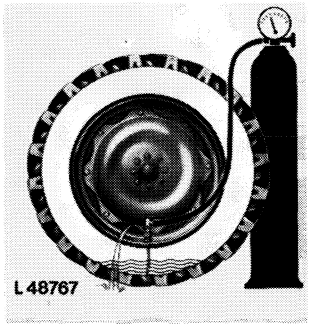

To fill a tire, jack up the wheel and turn it so that the tire valve is in top position. Remove the valve insert and screw water valve on valve stem. While the water enters, air escapes through the lateral bore in the water valve. Stop filling tire when water drains from the vent hole of the valve. Filling a tire takes 15 to 30 minutes, depending on tire size. Then remove the water valve and screw in air valve and pump tire to normal inflation pressure.

If low temperatures are expected, an anti-freeze solution should be used. Tire manufacturers recommend a mixture of water and magnesium chloride.

The anti-freeze solution may be sucked from an elevated tank. To speed up the filling operation, a pump may be used (flush pump with clear water afterwards). The quantities of water and magnesium chloride required are given in the chart on the next page. Put magnesium chloride into the water - not vice versa. Do not fill the radiator with this anti-freeze solution.

L48766-1640ALE-010386

## DRAINING THE TIRES




Jack up wheel. Remove the air valve and let the water run out.

In order to clear the remainder of the water from the tire, insert the drain tube with the hose extension and pump air into the tire. The air pressure will push the remainder of the water out of the tire.

L48767-2140ALE-010885

## WEIGHTS WITH LIQUID BALLAST

The weight ballast listed in the chart opposite is based on a filling with liquid up to the tire valve in top center position.

Weights shown refer to one tire.

| Tire Size | Increase in weight per 1 tire with water ballast | Information for preparing anti-freeze solution up to -20°C (–4°F) | | Increase in weight with anti-freeze per tire |
|---|---|---|---|---|
| | | Magnesium chloride required | Quantity of water required (U.S.gals. shown) | |
| 13.6-36 | kg 205<br>lb 452 | kg 87<br>lb 192 | Liter 149<br>U.S. gal. 39 | kg 236<br>lb 520 |
| 13.6-38 | kg 215<br>lb 474 | kg 91<br>lb 201 | Liter 156<br>U.S. gal. 41 | kg 247<br>lb 545 |
| 14.9-38 | kg 265<br>lb 584 | kg 113<br>lb 249 | Liter 193<br>U.S. gal. 51 | kg 306<br>lb 675 |
| 15.5-38 | kg 250<br>lb 551 | kg 108<br>lb 238 | Liter 184<br>U.S. gal. 49 | kg 292<br>lb 644 |
| 16.9-24 | kg 230<br>lb 507 | kg 98<br>lb 216 | Liter 167<br>U.S. gal. 44 | kg 265<br>lb 584 |
| 16.9-30 | kg 275<br>lb 606 | kg 117<br>lb 258 | Liter 200<br>U.S. gal. 53 | kg 317<br>lb 699 |
| 16.9-34 | kg 308<br>lb 679 | kg 131<br>lb 289 | Liter 224<br>U.S. gal. 59 | kg 355<br>lb 783 |
| 18.4-30 | kg 340<br>lb 750 | kg 145<br>lb 320 | Liter 247<br>U.S. gal. 65 | kg 392<br>lb 864 |
| 21.5L-16.1 | kg 285<br>lb 628 | kg 122<br>lb 269 | Liter 208<br>U.S. gal. 55 | kg 330<br>lb 728 |
| 23.1-26 | kg 485<br>lb 1069 | kg 206<br>lb 454 | Liter 352<br>U.S. gal. 93 | kg 558<br>lb 1230 |
| Up to -30°C (-22°F) add 25 % Magnesium Chloride and reduce water by 10 % | | | | |

SPUOM-1640ALE-010386

## INSTALLING FRONT WEIGHTS (Tractors Without Increased Lifting Capacity)

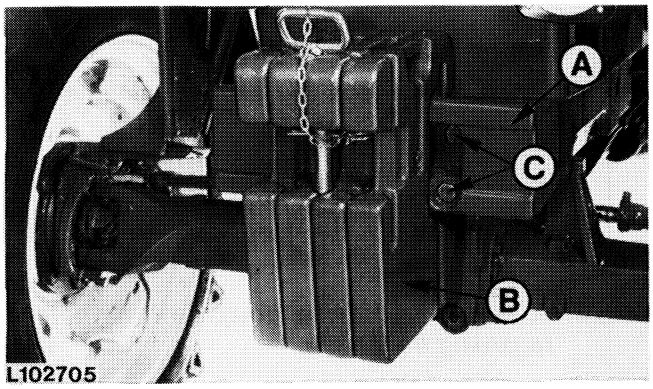
One basic weight (A) and up to eight front weights (B) can be installed on the tractor.

*NOTE: On 2040 S tractors up to ten front weights can be installed.*

**IMPORTANT: Tighten basic weight to attaching cap screws (C) to 400 Nm (300 ft-lb) torque.**

The basic weight weighs 80 kg (175 lb) and each front weight 42 kg (93 lb). Each additional 20 kg (22 lb) weight increase raises front axle load by approx. 12 kg (26.5 lb).

**IMPORTANT: When installing four or more weights they must be installed to form a jaw as shown opposite.**







L102705,L102706-1640ALE-010386

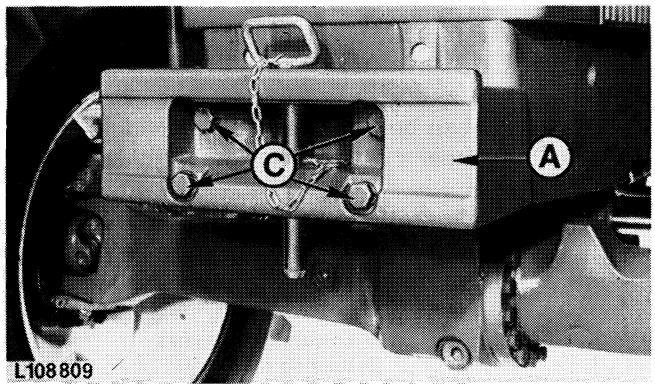
## INSTALLING FRONT WEIGHTS (Tractors With Increased Lifting Capacity)

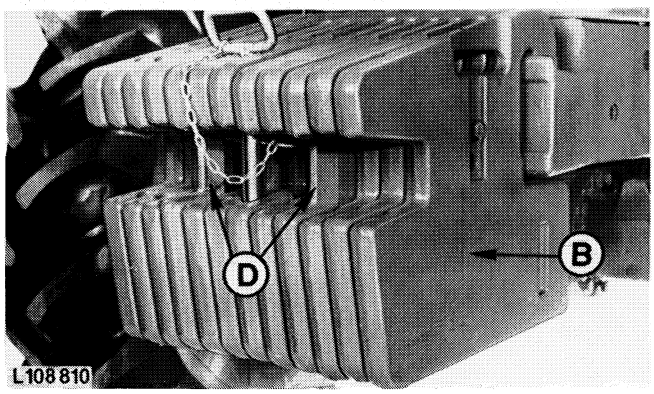
One basic weight (A) weighing 80 kg (175 lb) and up to twelve front weights (B) weighing 50 kg (110 lb) each can be installed on the tractor.

**IMPORTANT: Tighten basic weight to carrier attaching cap screws (C) to 570 Nm (420 ft-lb) torque.**

When installing six or more weights they must be installed to form a jaw as shown opposite.

*NOTE: Each additional 10 kg (22 lb.) weight increase raises front axle load by approximately 12 kg (26.5 lb.).*




L108809,L108810-2140ALE-000885

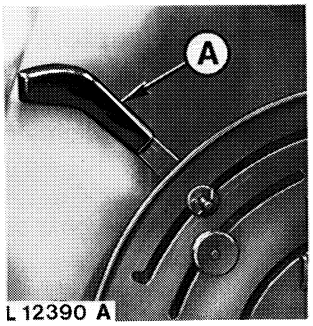
# Rockshaft and Three-Point Hitch

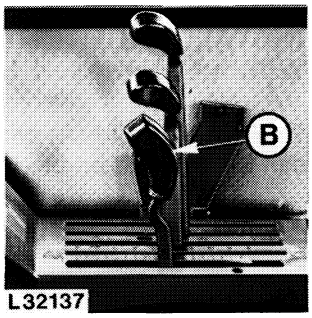
## CONTROL LEVER

The rockshaft gives precision control of mounted implements.

**A–Rockshaft control lever (tractor without SG2 cab)**
**B–Rockshaft control lever (tractor with SG2 cab)**

*NOTE: See under "Additional Equipment" for details regarding front hitch.*



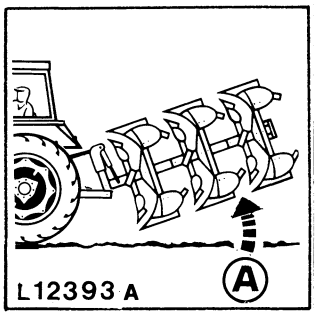



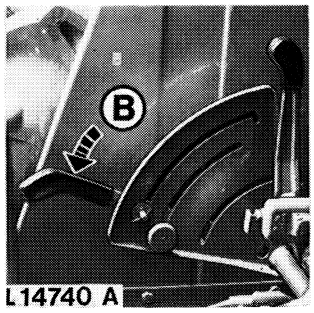

L12390,L32137-1640ALE-010386

## CONTROL LEVER POSITIONS

Control lever to the rear (A) – Raise implement

Control lever to the front (B) – Lower implement



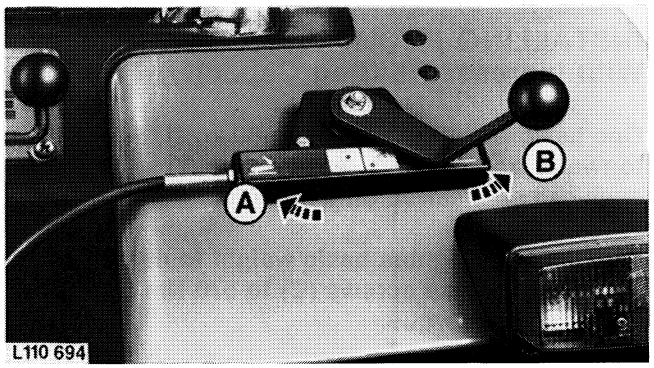

L12393A,L14740A-1640ALE-010386

## ROCKSHAFT REMOTE CONTROL LEVER (Special Equipment)

The rockshaft can be operated from outside the operator's cab by means of the remote control lever.

**IMPORTANT: Operating rockshaft with the remote control lever is only effective with rockshaft selector lever in "MIN" position.**

**A–Lowering draft links**
**B–Raising draft links**

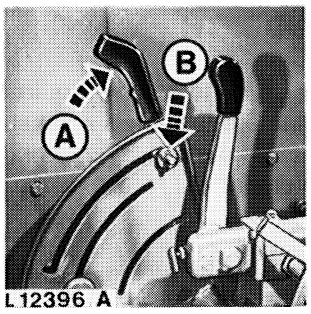


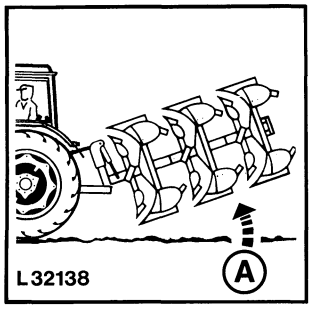

L110694-2140ALE-010885

## TRANSPORTING MOUNTED IMPLEMENTS (Tractors Without SG2 Cab)

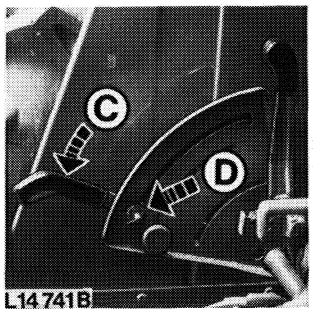
**CAUTION: Be sure to secure implement attached to three-point hitch by means of control lever to avoid unintentional lowering or raising of implement.**

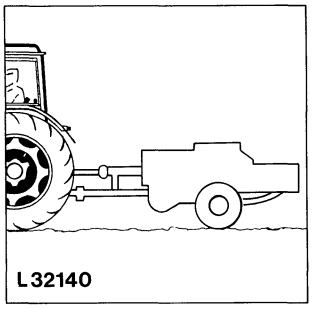
With a fully mounted implement, raise implement fully (A). Press guide pin down into recess (B).




With towed equipment connected to 3-point hitch or PTO, control lever in "lower" position (C), guide pin pressed upward into recess (D).



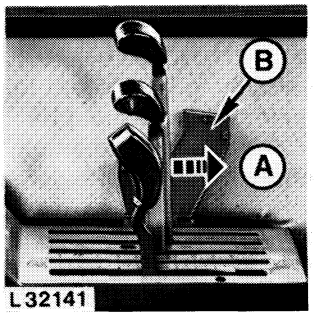



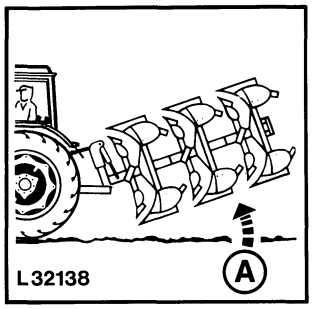

L12396A,L32138,L32140,L14741B-1640ALE-010386

## TRANSPORTING MOUNTED IMPLEMENTS (Tractors With SG2 Cab)

With fully mounted implement, raise fully. Engage control lever in rear recess (A).

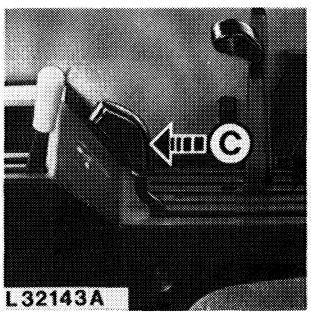
When equipped, swing transport lock (B) downwards.

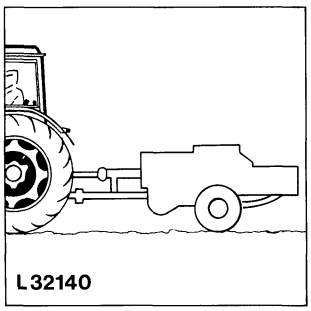



With towed equipment connected to 3-point hitch, lower control lever fully to position (C).

*NOTE: On tractors equipped with a front hitch, see "Transport Safety" under "Additional Equipment".*



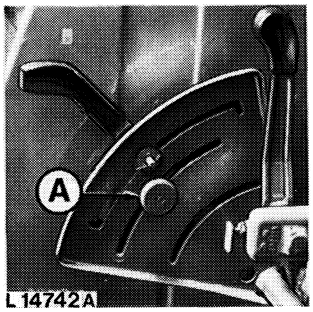



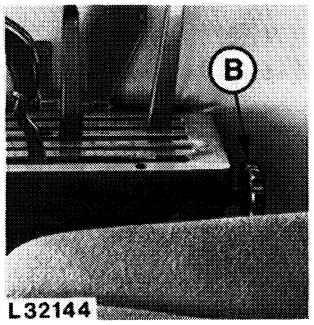

L32141,L32138,L32140,L32143A-3040ALE-010285

## ADJUSTING WORKING DEPTH

Move rockshaft control lever so as to obtain required working depth. Screw adjustable depth stop against control lever. Then each time the control lever is pulled forward to the stop, the implement will return to the exact depth chosen.

**A–Adjustable depth stop (tractor without SG2 cab)**
**B–Knob for adjustable depth stop (tractor with SG2 cab)**



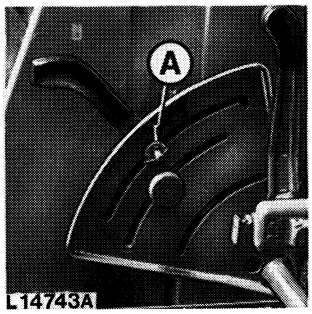



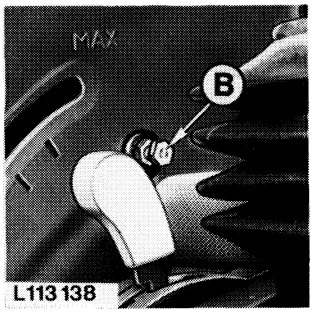

L14742A,L32144-1640ALE-010386

## ADJUSTING ROCKSHAFT CONTROL LEVER

During operation, the rockshaft control lever must stay in the chosen position. If this is not the case, add a shim to the guide pin (A) on tractors without SG2 cab.

On tractors with SG2 cab, the rockshaft control lever can be adjusted by means of adjusting screw (B), having slackened the lock nut.



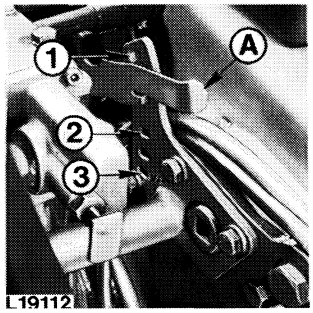



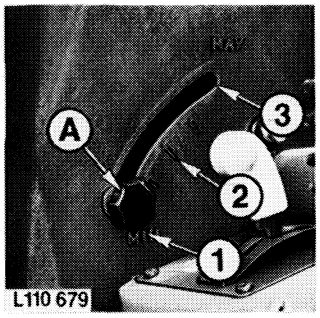

L14743A,L113138-1640ALE-010386

## ROCKSHAFT SELECTOR LEVER

**CAUTION: Before attaching implement to three point hitch, selector lever must be shifted to "Depth Control" (MIN) position, to prevent unintentional raising or lowering.**

**A–Selector lever**
**1–"MIN" = Depth control**
**2–Center position = Load-and-depth control**
**3–"MAX" = Load control**

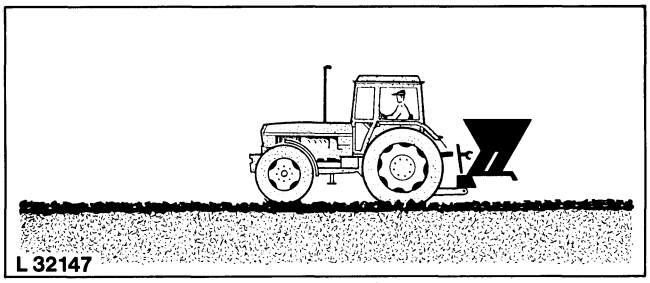



L19112,L110679-1640ALE-010386

## "MIN" – DEPTH CONTROL

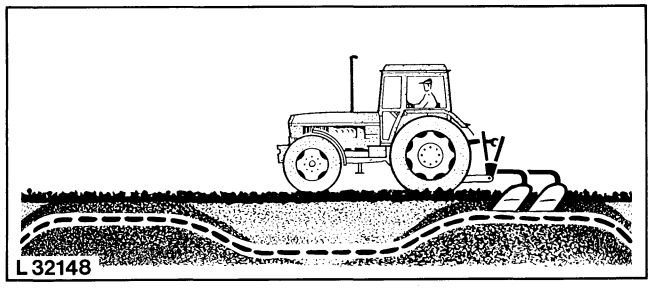
In this position the implement attached to the 3-point hitch will work at the depth selected by the rockshaft control lever.




L32147-2140ALE-010885

## "MAX" – LOAD CONTROL

In "Load" control (MAX) the rockshaft automatically raises the implements when the load, due to soil density or ground contour, increases, and lowers it, when the load decreases to maintain a constant load.

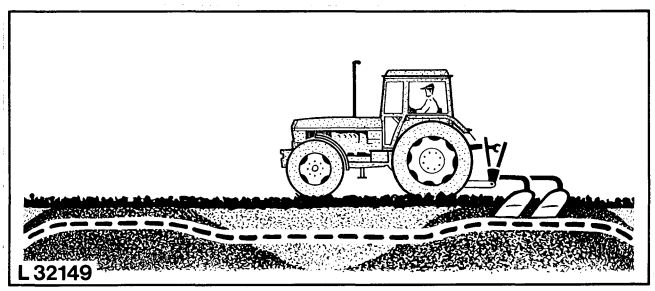



L32148-2140ALE-010885

## CENTER POSITION – LOAD-AND-DEPTH CONTROL

In "Load-and-Depth" control, the effect of both load control and depth control will be halved. With varying soils, the load and depth control affects the load control only slightly, i.e. it boosts traction with only a slight change in working depth, and with light soil, the load control prevents the implement from moving down beyond its required depth.

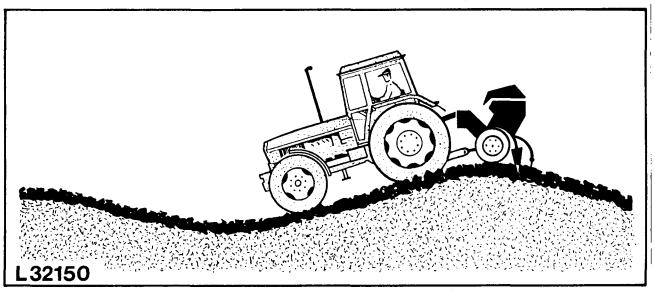
Additional notches for the rockshaft selector lever are provided on the quadrant. These extra notches are located between the notches for "depth control" and "load and depth control" and between "load and depth control" and "load control". They make it possible to control the implement's operation as the soil condition requires it: in one case more to "load", in another, more to "depth".




L32149-2140ALE-010885

## "FLOAT" POSITION

In "Float" position (for rockshaft controlled implements with gauge wheel) the implement can move freely up and down and thus follow the ground contours independent of the tractor. To obtain a "floating" action, place rockshaft selector lever in depth control ("MIN") position and push rockshaft control lever all the way forward.

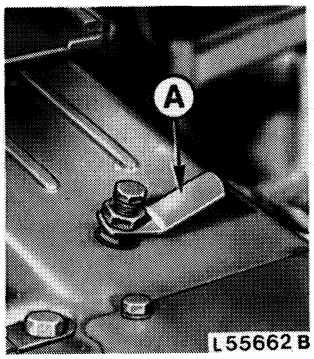


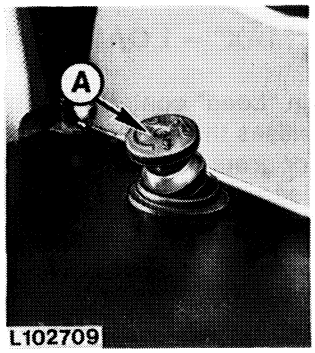

L32150-2140ALE-010885

## ADJUSTING RATE OF IMPLEMENT DROP

The rate at which the rockshaft and implement will drop is controlled – independent of the control lever – by adjusting the rate-of-drop screw (A).

The rate of drop should not be less than 2 seconds.



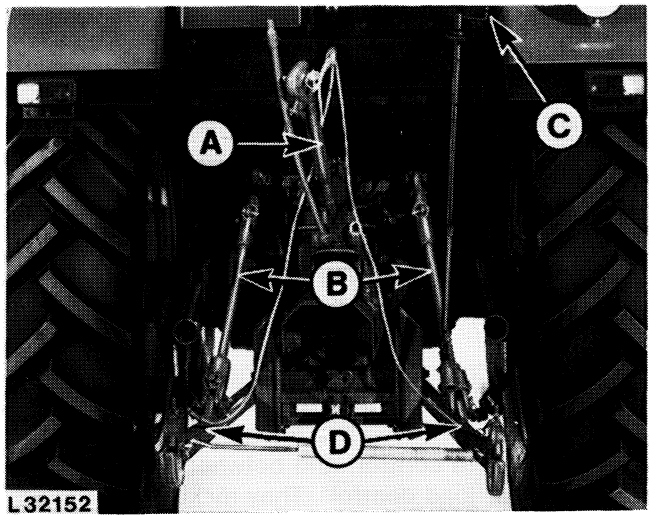

L55662B,L102709-2140ALE-010885

## THREE-POINT HITCH COMPONENTS

**A–Center link**
**B–Lift links**
**C–Adjusting handle for lift links**
**D–Draft links**

Rear-mounted implements can be attached and controlled precisely by means of the three-point hitch.

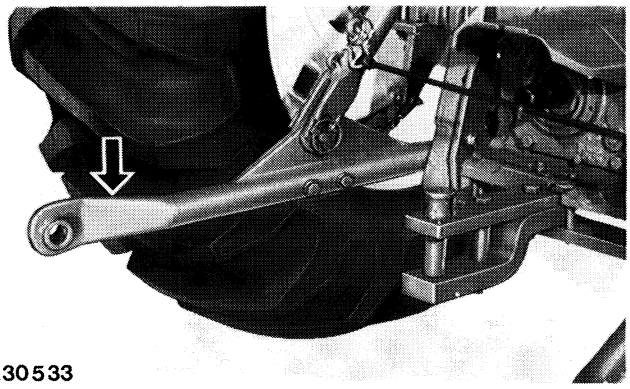
Tractors can be equipped with reversible draft links, telescopic draft links or quick-coupling (hook type) draft links.



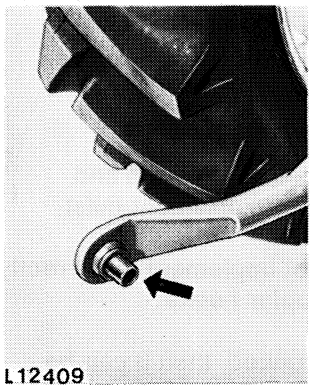

L32152-2140ALE-010885

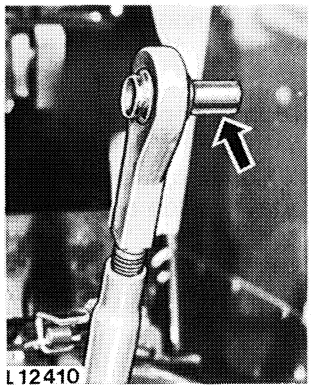
## REVERSIBLE DRAFT LINKS

Reversible draft links can be used for category I or II implements. Reverse the draft links if you wish to change from category I to II or vice versa.


L30533

When installing category I implements, install adapter bushings in draft links and center link.

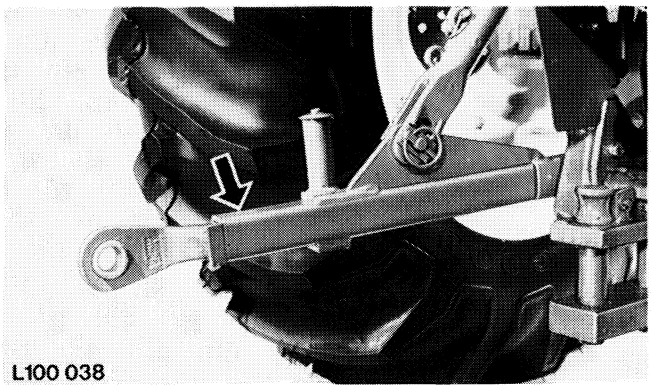

L12409


L12410

L30533,L12409,L12410-2140ALE-010885

## TELESCOPIC DRAFT LINKS

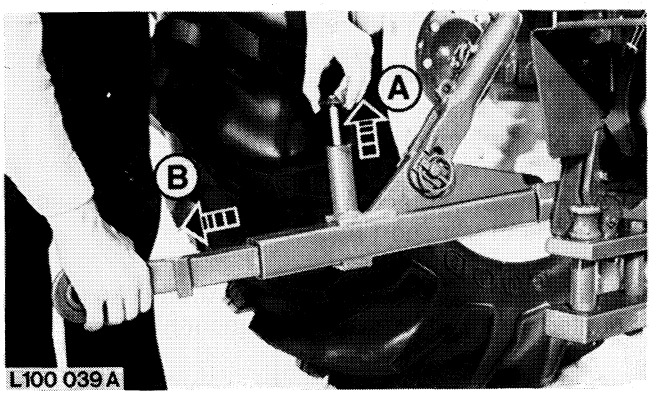
Telescopic draft links can be used for category II implements only.


L100 038

To facilitate hitching of implements, extend telescopic draft links to the rear.

1. Lift lock pin (A).
2. Pull telescopic draft links to the rear (B).

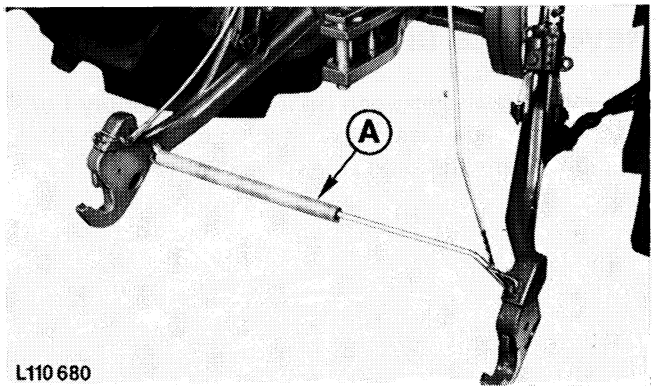
After attaching and securing implements to draft links, reverse tractor until the lock pins snap into place.



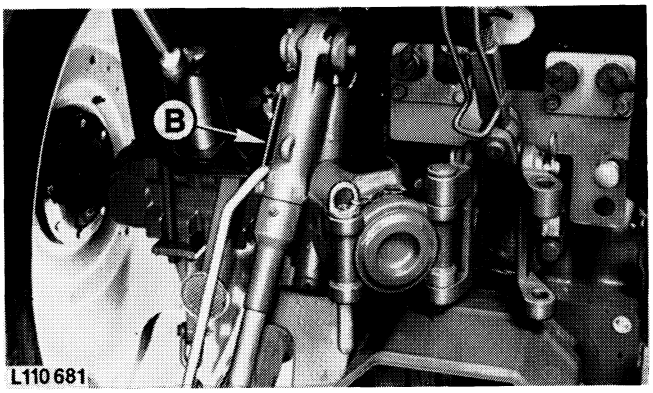
L100 039A

L100038,L100039A-2140ALE-010885

## QUICK-COUPLING (HOOK TYPE) DRAFT LINKS



L110680



L110681

These draft links are designed for category II implements. With this type of link the implement can be attached and removed from the operator's seat.

**Attaching Implement**

1. Adjust draft links by means of adjusting rod (A) to measurement for category II implements.

2. With draft links lowered, reverse tractor until coupler hooks are below implement hitch pins.

3. Slowly raise lift links until pins are engaged in coupler hooks and locked into position.

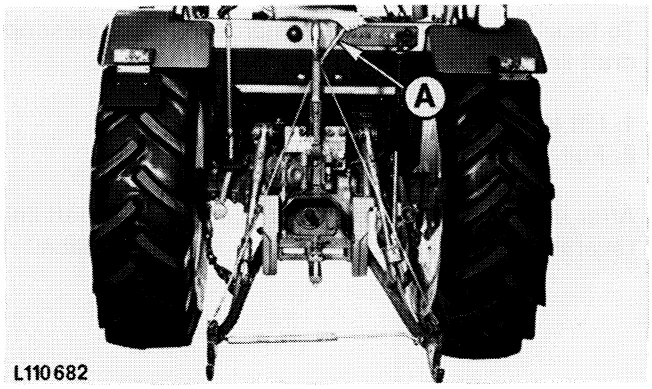
4. Adjust center link to the required length and attach to top attaching point of implement mast.

**IMPORTANT: Make sure that implement is correctly locked to coupler hooks.**

If adjusting rod (A) is not required, then it can be hooked into bracket (B) (on tractors with increased lifting capacity only). Thereby proceed as follows: Lower draft links completely. Adjust rod so that it reaches to lower end of bracket and then secure adjusting rod in bracket.

L110680,L110681-2140ALE-010885

**Removing Implement**



L110682

1. Lower implement to the ground.

2. Disconnect center link from implement and secure by means of transport hook.

3. Pull release cable (A) and lower draft links until coupler hooks are clear of implement hitch pins.

4. Drive tractor forward away from implement.

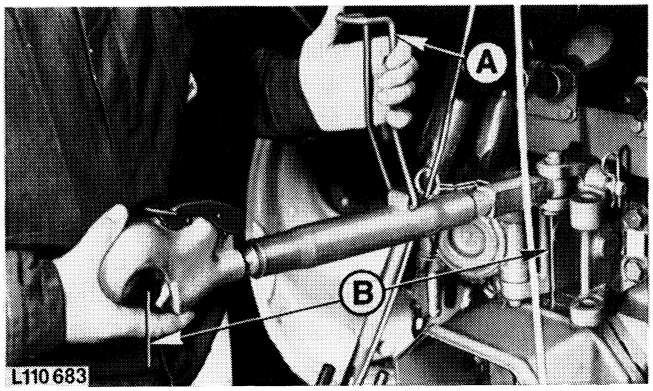
L110682-2140ALE-010885

## LEVELING IMPLEMENT

To level implement from side-to-side, adjust the right-hand lift link. Adjust the center link to level fore-and-aft.

REGOM-2140ALE-010885

## CENTER LINK ADJUSTMENT




Length of center link can be adjusted by means of the adjusting handle.

Raise adjusting handle (A) and turn to obtain the required length.

**Tractors Without Increased Lift Capacity**

The length (B) must be between 540 mm (21-1/4 in.) and 780 mm (30-23/32 in.).

**Tractors With Increased Lift Capacity**

The length (B) must be between 641 mm (25-15/64 in.) and 861 mm (33-57/64 in.).

Length of center link must be kept within specified limits.

After adjustment is completed, push handle down over center link. Insert attaching pin through implement mast and center link and secure.

L110683-2140ALE-010885

## LIFT LINK ADJUSTMENT (Tractors Without Increased Lift Capacity)

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

To level implement from side-to-side, only the right-hand link should be adjusted.

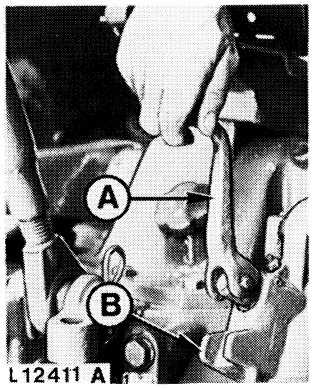
After adjustment is completed, place adjusting handle (A) in handle lock (B) or hook lock (C) in adjusting handle.

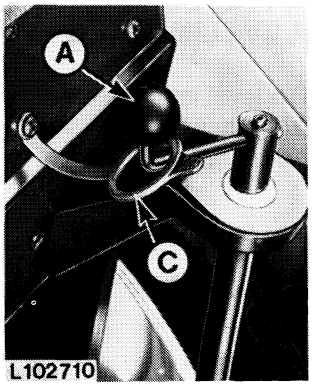
To adjust left-hand link, remove it from draft link and screw yoke end (D) of lift link in or out.

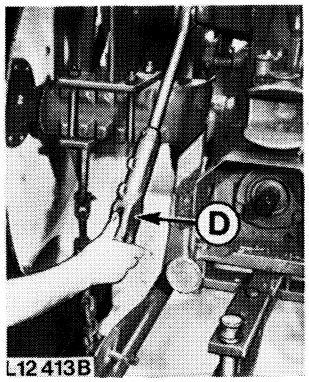
Length of links (E) must be kept within the following limits:

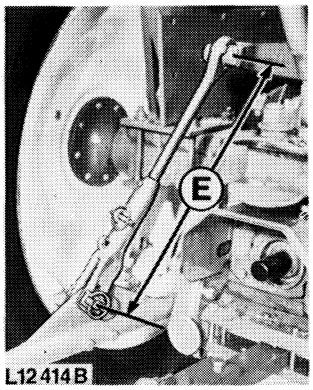
Minimum length: 566 mm (22-9/32 in.)
Maximum length: 684 mm (26-59/64 in.)

*NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).*




L12411A,L102710,L12414B,L12413B-1640ALE-010386

## LIFT LINK ADJUSTMENT (Tractors With Increased Lift Capacity)

A greater transport clearance is obtained by shortening the links. Extra working depth is obtained by lengthening the links.

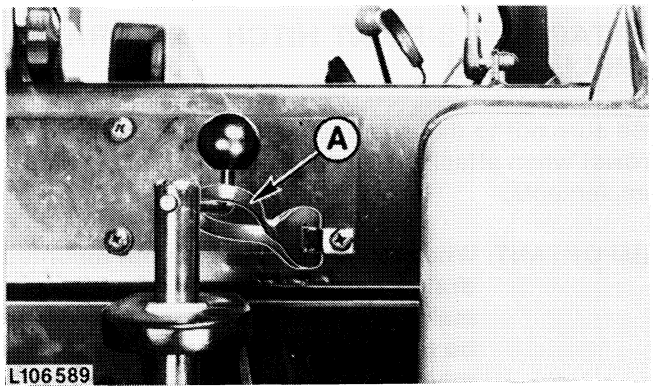
To level implement from side-to-side, only the right-hand link should be adjusted.

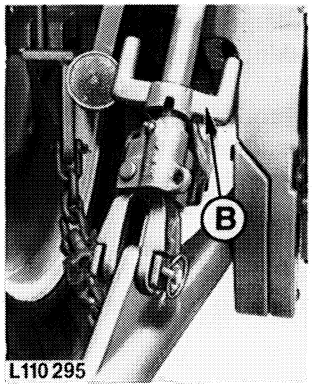
After adjustment is completed, place handle lock (A) in adjusting handle. Adjust left-hand lift link by means of adjusting handle (B).

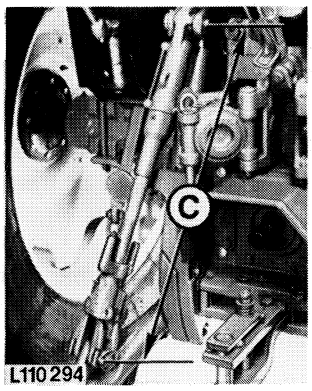
Length of links (C) must be kept within the following limits:

Minimum length: 628 mm (24-23/32 in.)
Maximum length: 729 mm (28-45/64 in.)

*NOTE: The lift link dimensions quoted above are with lift links locked in draft links (no vertical float).*



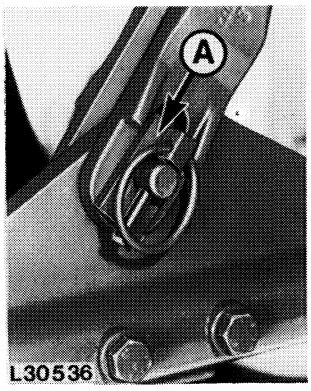



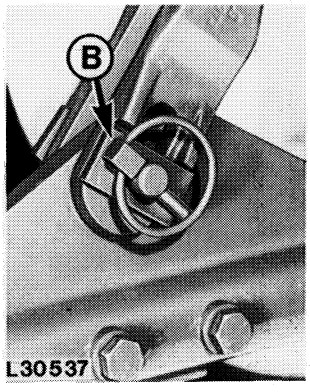

L106589,L110294,L110295-2140ALE-010885

## ADJUSTING FOR VERTICAL FLOAT

Depending on the position of the steel plate, draft links can be adjusted to allow for vertical float or to lock out float.

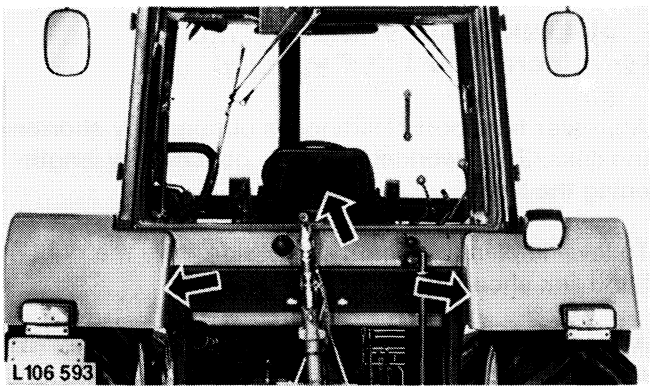
**A–Steel plate adjusted for vertical float**
**B–Steel plate adjusted for no float**




L30536,L30537-2140ALE-010885

## ATTACHING 3-POINT HITCH AND DRAWN IMPLEMENTS




Be sure not to damage exposed parts of cab (see arrows) when attaching 3-point hitch mounted or drawn implements.

**IMPORTANT: When attaching 3-point hitch mounted or drawn implements for the first time, make a trial to be sure the cab will not be damaged in any position of the implement. With hitch-mounted implements pay attention to the highest lift position, with drawn implements be careful when driving and making sharp turns.**

**CAUTION: Do not stand between tractor and implement unless handbrake is firmly applied or transmission in "Park" (P) position.**

If a swinging drawbar is installed, set it in the front, short position. It can also be swung to the left or right and secured.

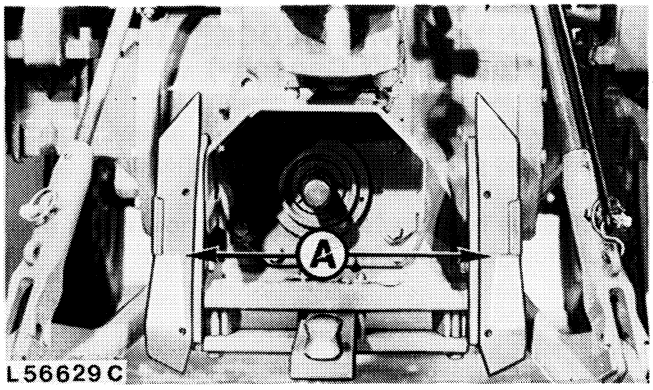
When attaching an implement, make sure rockshaft selector lever is set in "depth control" (MIN) position.

L106593-2140ALE-010885

## POSITIONING SWAY BLOCKS (Tractors Without Increased Lift Capacity)

The sway blocks (A) are used to limit sideways motion of draft links during operation and transport.

Attach sway blocks in lower position when connecting or attaching implements which are to follow exactly the tracks of the tractor. In this position the sway blocks lock out draft link sway during transport and operation.

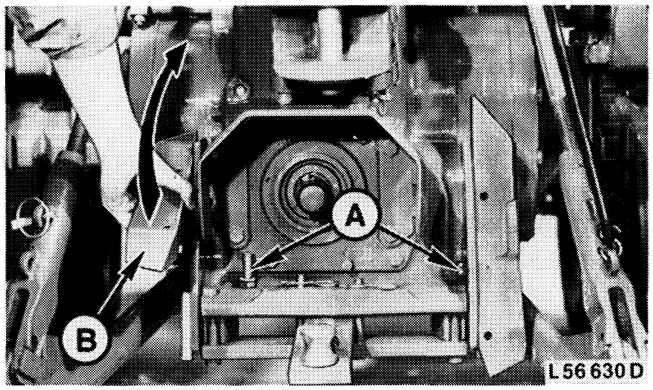



L56629C-2140ALE-010885

Move sway blocks into upper position if more sideways motion is desired for the attached implement (plow, disk harrow) during operation.

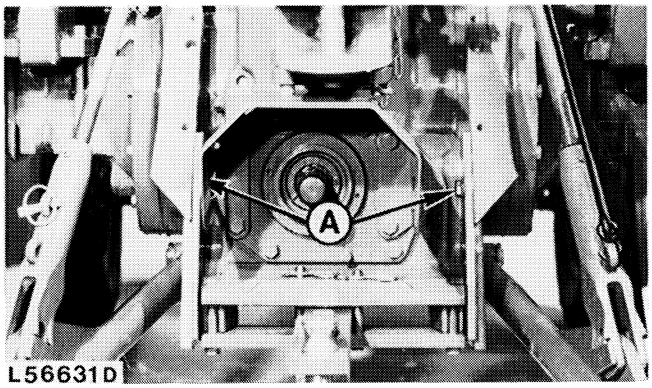
1. Remove attaching screws (A).

2. Lift sway block (B) slightly from dowel pin, rotate upwards and reinsert in dowel pin.




3. Insert attaching screws (A) in top bores and secure sway blocks to support.

With sway blocks in this position, draft links will sway in operating position. However, sway is locked out in transport position.

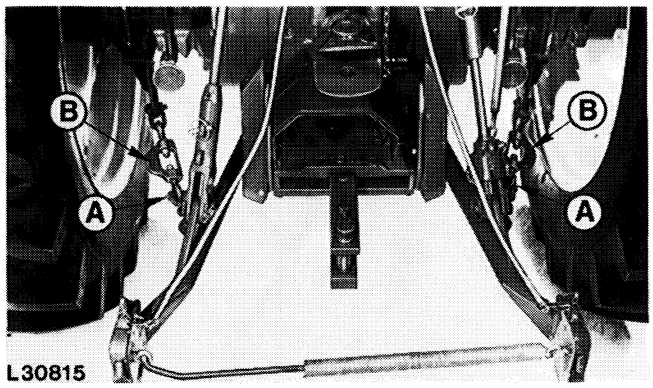



L56630D,L56631D-1640ALE-010386

## STABILIZER CHAINS

With these chains, draft links can be stabilized. This chain adjustment can be carried out without using any tools.

**A–Stabilizer chains**
**B–Tensioners**




L30815-2140ALE-010885

## POSITIONING SWAY BLOCKS (Tractors With Increased Lift Capacity)

The sway blocks (A) are used to limit sideways motion of draft links during operation and transport.

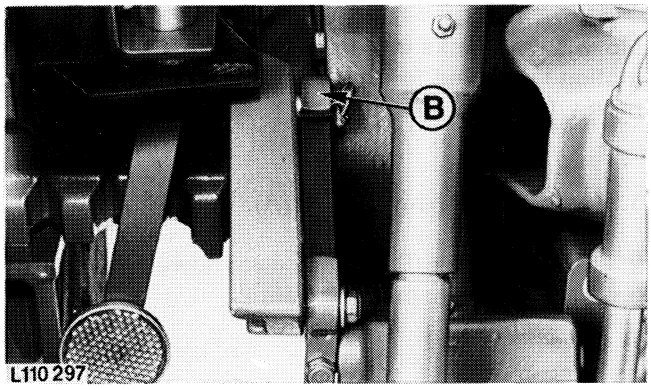
Attach sway blocks when attaching implements which should follow exactly tracks of the tractor.




L110296-2140ALE-010885

Remove sway blocks and store in bracket (B) if more sideways motion is desired for the attached implement plow, disk harrow) during operation.

With sway blocks in this position, draft links will sway in operating position. However, sway is locked out in transport position.




L110297-2140ALE-010885

# Additional Equipment

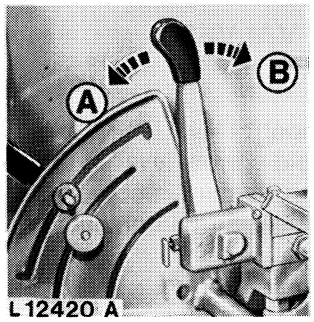
## SELECTIVE CONTROL VALVES – SPOOL TYPE

The less movement on the control lever, the slower the raise or lower movement. Hold control lever until required position has been reached, then return it to neutral.

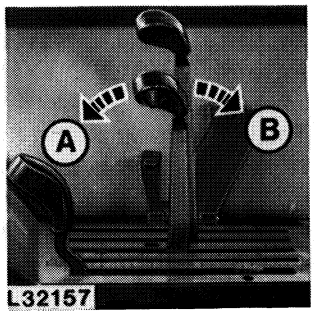
If control lever is moved fully forward or to the rear, so that it is locked in position, move it back to neutral when operation is completed.

**A–Lower implement**
**B–Raise implement**

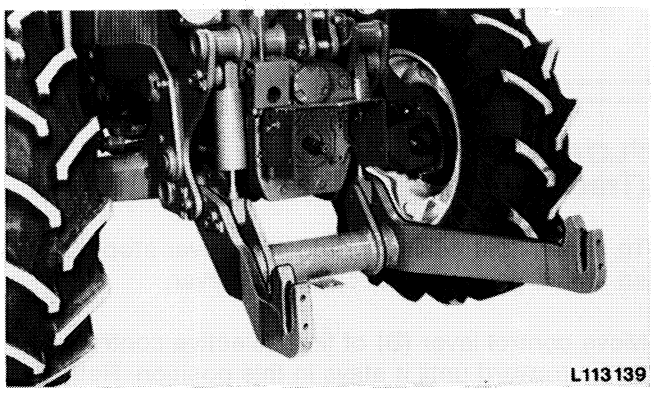
*NOTE: Should tractor be equipped with a front hitch, this will be operated with control lever of first selective control valve.*



L12420 A



L32157


L113139

L12420A,L32157,L113139-1640ALE-010386

## TRANSPORT LOCK

**CAUTION: When traveling on public roads with implement raised, the control lever must be locked in position to prevent accidental lowering of implement.**

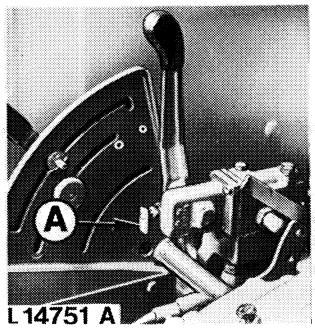
On tractors without SG2 cab, turn transport locking screw into control valve until resistance is felt and control lever is locked. To release transport locking screw, turn counter-clockwise 2-1/2 to 3 turns.

On tractors with SG2 cab, swing transport lock down into locking position.

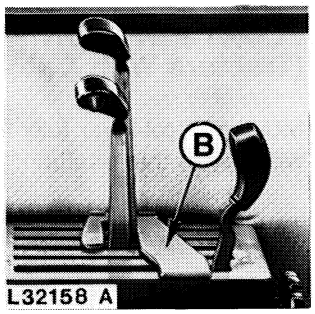
**Tractors With Front Hitch**

**CAUTION: When traveling on public roads with implement raised, the control lever must be locked in position to prevent accidental lowering of implement.**

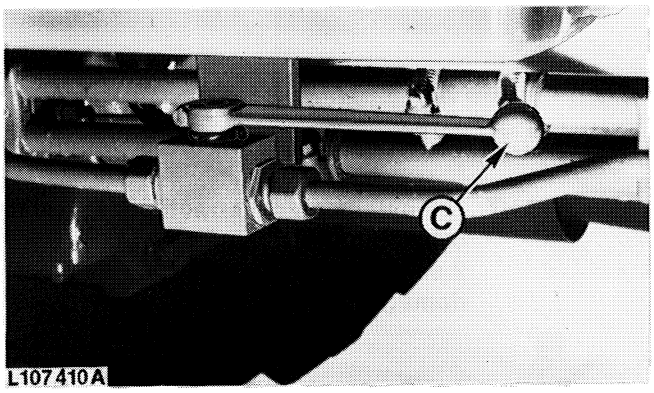
Raise front hitch and then close shut-off valve (C).



L14751 A



L32158 A



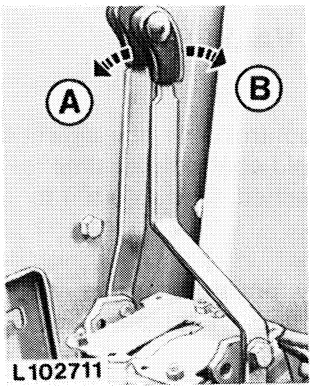
L107410A

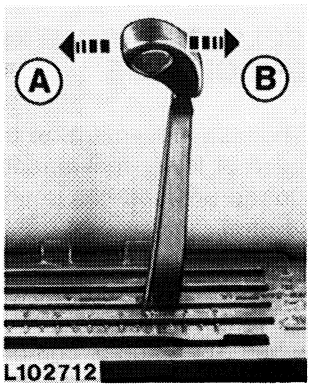
L14751A,L32158A,L107410A-1640ALE-010386

## SELECTIVE CONTROL VALVES – POPPET-VALVE TYPE

The less movement on the control lever, the slower the raise or lower movement. Hold control lever in desired position until raise or lower movement is completed , then let it go. Control lever will return automatically to neutral position.

**A–Lower implement**
**B–Raise implement**



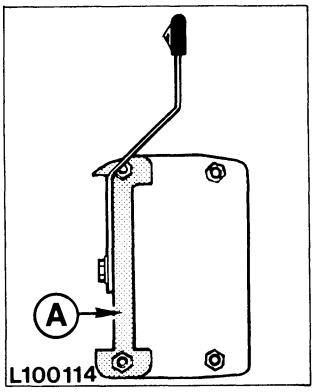



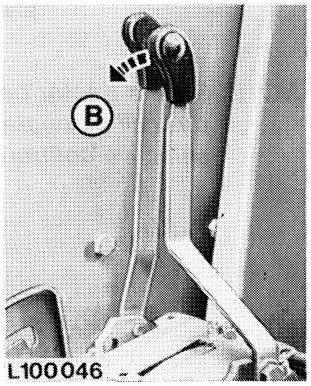

L102711,L102712-1640ALE-010386

## FLOAT POSITION (Tractors Without Cab)

To obtain float position, reposition lever stop plate (A) so that large recess faces control lever.

Move control lever (B) of first selective control valve so far forward until it stays in this position. Return lever when operating in "float" position is completed.



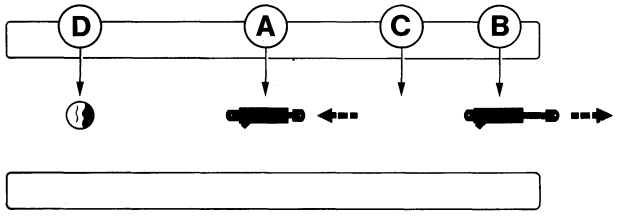




L100114,L100046-1640ALE-010386

## FLOAT POSITION (Tractors With Cab)

Move control lever fully forward (position D). The lever will stay in this position.

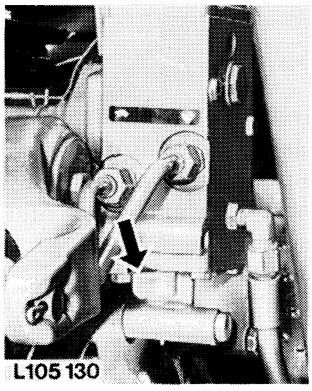
**A–Lower (Retract)**
**B–Raise (Extend)**
**C–Neutral position**
**D–Float position**

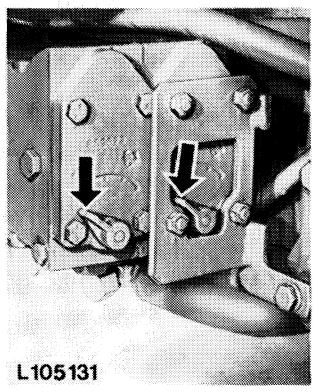



L32200-2140ALE-010885

## RATE OF CYLINDER OPERATION

**IMPORTANT: Full extension or retraction of a remote cylinder should require at least 1-1/2 to 2 seconds. Faster speeds may cause damage.**




L105130,L105131-3040ALE-010285

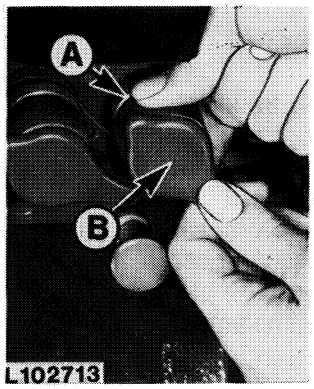
## HYDRAULIC HOSE COUPLERS

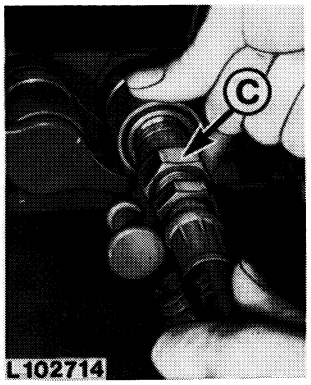
The tractor may be equipped with quick-couplers or breakaway couplers.

**CAUTION: The hydraulic system has a stand-by pressure of 19000 kPa (190 bar; 2750 psi). For your own protection and to assure proper functioning of the system, use only genuine JOHN DEERE parts..**

ZUSOM-2140ALE-010885

## QUICK-COUPLERS (Tractors Without Increased Lift Capacity)




### Connecting Implement Hydraulic Hoses

1. Shut off the engine.
2. Lower any mounted implement.
3. Move control lever to relieve pressure in system.
4. Slide coupler ring (A) forward, remove dust cap (B) and check connections for cleanliness.
5. Press hose connector (C) firmly into quick-coupler and release coupler ring.

*NOTE: When control lever is pushed to the rear, the implement will normally rise if hoses are attached properly.*

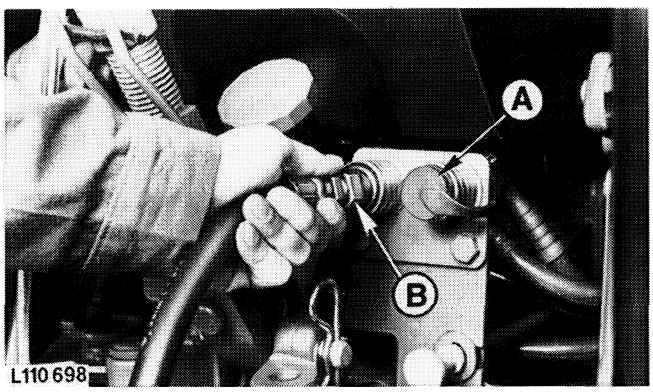
### Disconnecting Implement Hydraulic Hoses

1. Shut off the engine.
2. Lower any mounted implement.
3. Move control lever to relieve pressure in system.
4. Slide coupler ring (A) forward.
5. Pull out hose (C) and install dust cap (B).

Similarly insert dust plugs in implement hose ends.

L102713,L102714-2140ALE-010885

## QUICK-COUPLERS (Tractors With Increased Lift Capacity)




### Connecting Implement Hydraulic Hoses

1. Shut off the engine.
2. Lower any mounted implement.
3. Move control lever to relieve pressure in system.
4. Remove dust cap (A) and check connections for cleanliness.
5. Press hose connector (B) firmly into quick-coupler

*NOTE: When control lever is pushed to the rear, the implement will normally rise if hoses are attached properly.*

### Disconnecting Implement Hydraulic Hoses

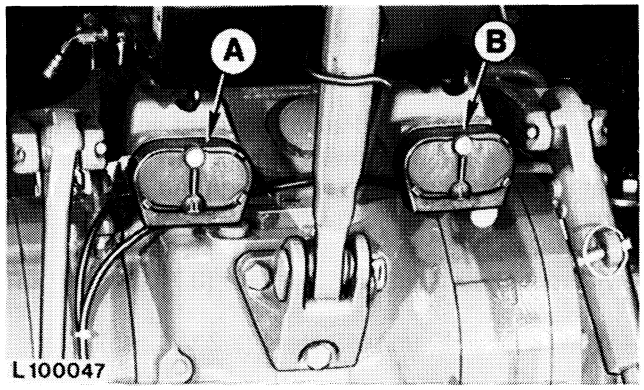
1. Shut off the engine.
2. Lower any mounted implement.
3. Move control lever to relieve pressure in system.
4. Pull out hose (B) and install dust cap (A).

Similarly insert dust plugs in implement hose ends.

L110698-2140ALE-010885

## BREAKAWAY COUPLERS

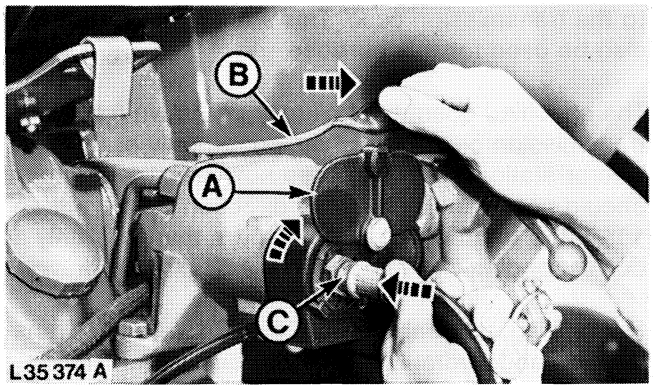
Breakaway couplers are used to couple or uncouple hoses under pressure without loss of oil, regardless of whether or not the tractor engine is running. They also safeguard the hoses by permitting them to be pulled loose from the tractor without damage if a drawn implement should become disconnected from the tractor.




**A–Left-hand breakaway coupler (for large implement cylinder**
**B–Right-hand breakaway coupler (for small or single-acting implement cylinder)**

### Connecting Implement Hydraulic Hoses

1. Swivel cover (A) upward.
2. Move lever (B) to the right to connect left-hand hose and to the left to connect right-hand hose.
3. Push hose connector end (C) firmly into coupler and release lever.




*NOTE: When the remote cylinder control lever is pushed to the rear, the implement will normally rise if the hoses are connected correctly.*

### Disconnecting Implement Hydraulic Hoses

Pull out hose and swivel cover downward.

**CAUTION: The hydraulic system has a stand by pressure of 19000 kPa (190 bar; 2750 psi). For your own protection and to assure proper functioning of the system, use only genuine JOHN DEERE parts.**

L100047,L35374A-2140ALE-010885

## MAXIMUM PERMISSIBLE OIL WITHDRAWAL

For operating large hydraulic cylinders such as used on tipping trailers, the following oil quantity may be drawn from the transmission case through the connecting lines:

– Without Hi-Lo shift unit: 14 liters (3.7 U.S.gal.)

– With Hi-Lo shift unit: 12 liters (3.2 U.S.gal.)

If required, 4 liters (1.1 U.S.gal.) of oil may be added to the transmission case. This additional quantity may also be used for this purpose.

The specified quantity of oil may be drawn from the transmission case for a short period only or with tractor stationary. In this case however, the tractor should not be inclined in any direction by more than 10°. If the tractor inclination is more than 10°, only a correspondingly lower quantity of oil may be drawn.

For refilling, use only JOHN DEERE Hy-GARD Transmission and Hydraulic Oil or its equivalent.

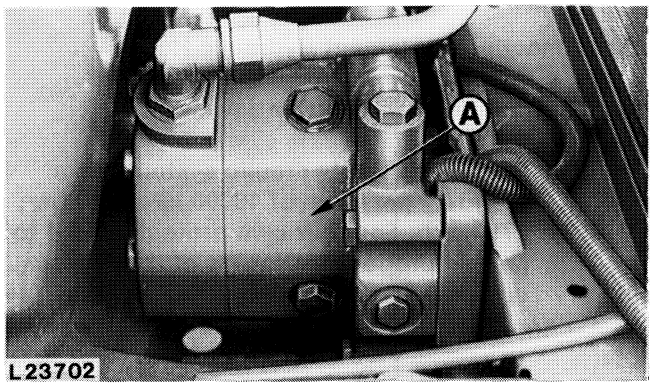
ZUSOM-2140BLE-010885

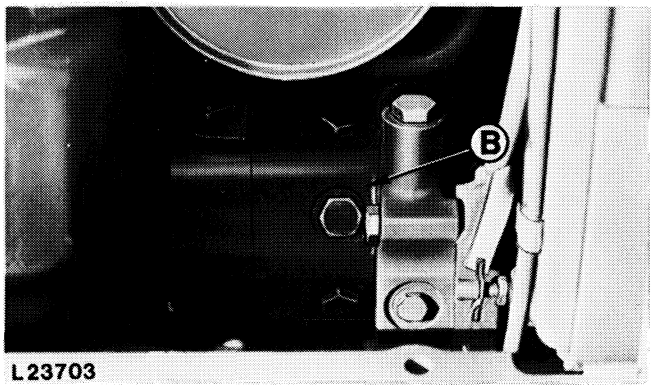
## OIL WITHDRAWAL WITH HYDRAULIC MOTOR

Maximum obtainable oil flow of transmission/hydraulic oil is dependent upon the type of hydraulic pump installed on the tractor. Flow is approximately:

– 4 piston hydraulic pump (A) – 22 liters/min. (5.8 gpm)

– 8 piston hydraulic pump (B) – 45 liters/min. (11.9 gpm)



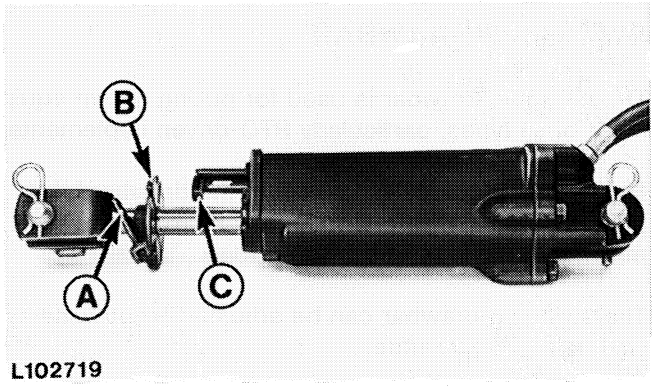

L23702,L23703-1640ALE-010386

## REMOTE HYDRAULIC CYLINDER

The total retract stroke may be varied from 0 to 203 mm (0 to 8 in.) by means of the adjustable stop.

*NOTE: Turn adjustable stop so that stop rod arm does not contact stop lever.*

**A–Stop lever**
**B–Adjustable stop**
**C–Stop rod arm**



L102719

After the adjustable stop contacts the stop rod arm, a further 38 mm (1.5 in.) of slow travel is gained if remote cylinder control lever is held in "retract" position.

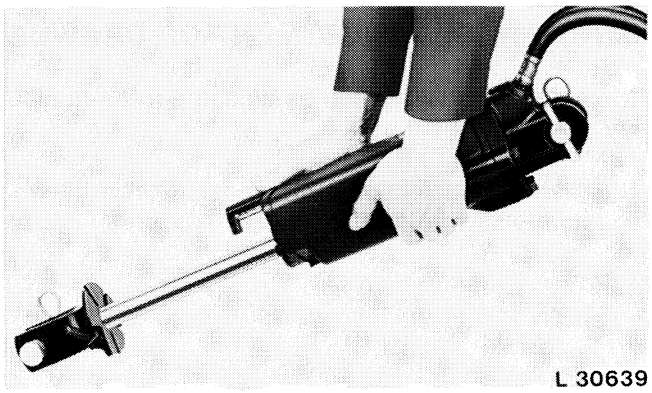
L102719-2140ALE-010885

## BLEEDING THE CYLINDER

1. Connect remote hydraulic cylinder to couplers.
2. Start engine.
3. Lift remote cylinder upward at an angle (piston downward) as shown opposite.
4. In this position move remote cylinder control lever back and forth seven or eight times to bleed the system.

When bleeding the remote cylinder, also check for leaks.

**IMPORTANT: If the implement has a locking device to hold it raised during transport, be sure to disengage the lock before operating cylinder. See your implement operator's manual.**


L 30639

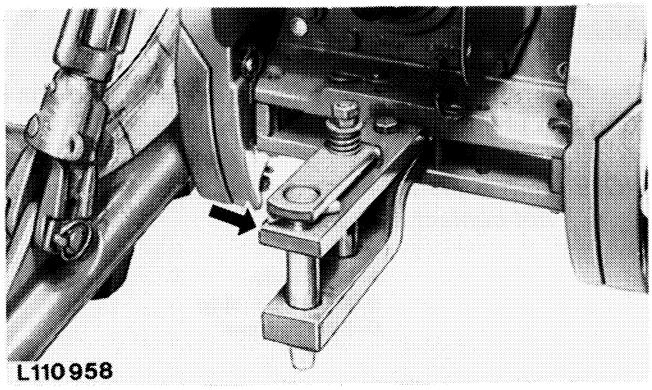
L30639-2140ALE-010885

## SWINGING DRAWBAR

The swinging drawbar is used for pulling drawn equipment of all types, particularly PTO-driven implements.

Through the favorable position of the drawbar hitch point an increase of rear axle load is obtained with a minimum decrease of front axle load.

The swinging drawbar can be adjusted lengthwise as well as swinging range.




L110958-2140ALE-010885

## LENGTHWISE ADJUSTMENT OF DRAWBAR

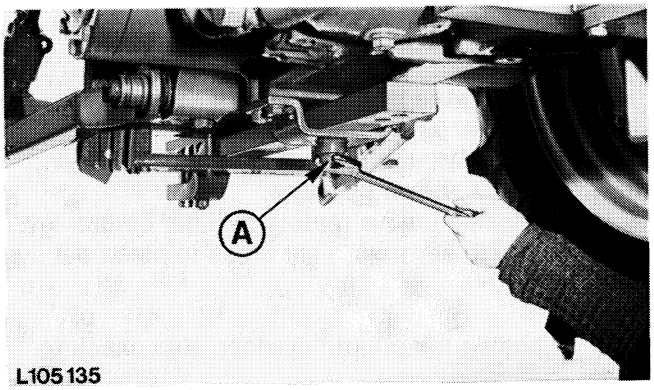
The swinging drawbar can be adjusted to three different positions.

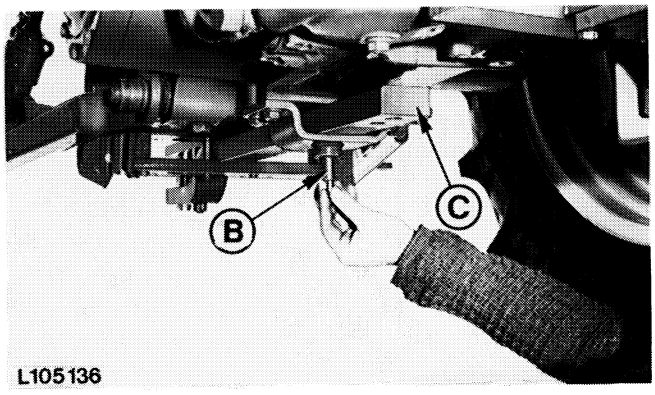
This allows for selection of the most suitable hitch point position relative to the PTO shaft connection.

1. Remove special plug (A).

2. Remove locking pin (B)

3. Adjust drawbar (C) and reinstall locking pin.



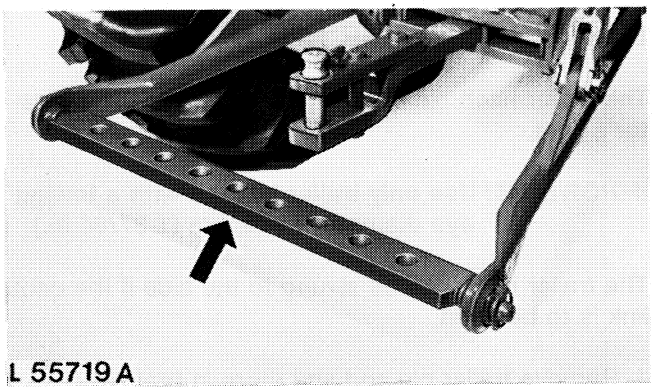



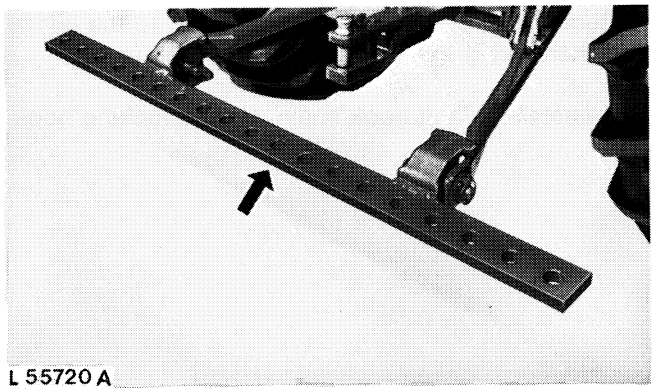

L105135,L105136-2140ALE-010885

## DRAWBAR FOR 3-POINT HITCH

Drawbars for implements of category I and II are available for your tractor.

The drawbar shown opposite is approved for drawing light implements only.


L 55719 A

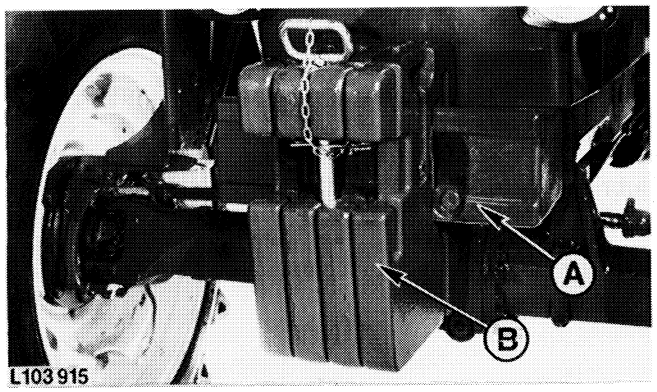

L 55720 A

L55719A,L55720A-2140ALE-010885

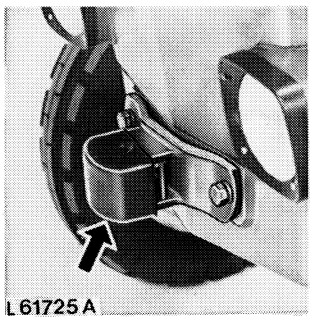
## FRONT TRAILER HITCH

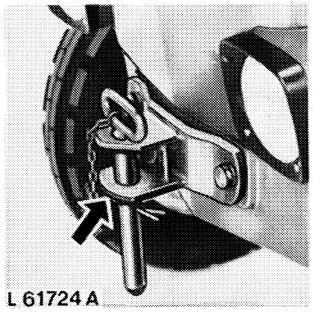
A jaw hitch is integrated in the basic weight (A) and additional weights (B).

On tractors without front ballast weights a front trailer hitch can be installed. The front trailer hitch must be covered with a guard when not in use.



L103915


L 61725 A


L 61724 A

L103915,L61724A,L61725A-2140ALE-010885

## SWINGING TRAILER HITCH

The trailer hitch pin can be removed from the operator's seat.

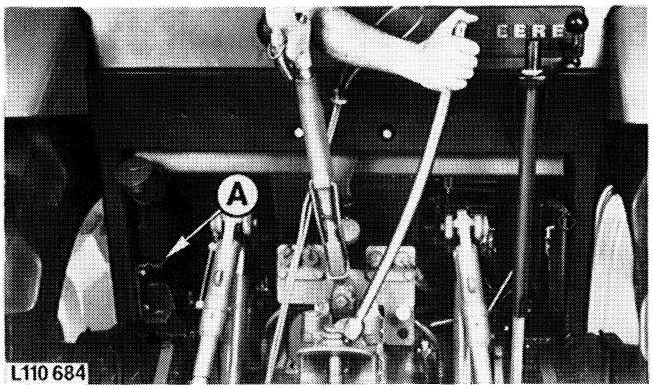
**IMPORTANT: Use only trailer hitches with a towing eye diameter of 40 mm (1-37/64 in.).**

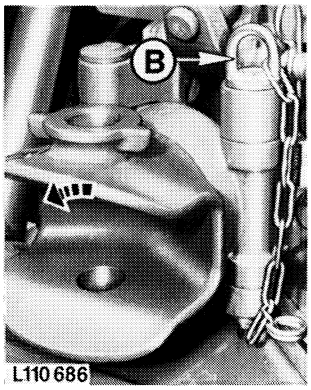
The trailer hitch can be swung to the side if the center link is to be used.

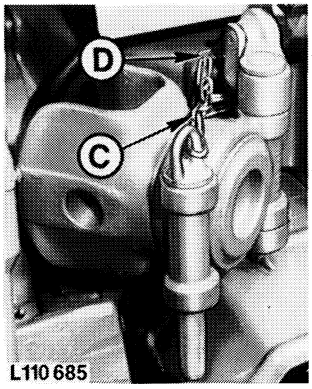
1. Remove trailer pin and and store in bracket (A).

2. Remove pin (B). Turn trailer hitch 90° to the left and then swing to the side.

3. Reinstall pin and hook chain (B) into locking hook (D).



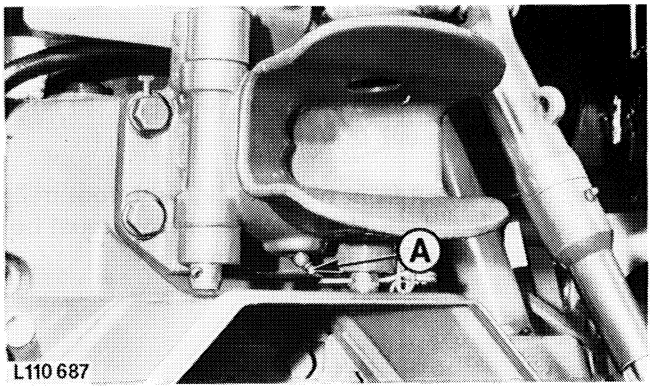




L110684,L110685,L110686-2140ALE-010885

## LUBRICATING HITCH JAW

Lubricate hitch jaw periodically at grease fitting (A).

To make sure that hitch jaw bearing is thoroughly lubricated, turn hitch jaw 180° when greasing.




L110687-2140ALE-010885

## HYDRAULIC TRAILER HITCH

This type of hitch can be operated by the rockshaft.

1. To relieve locking device, raise draft links to maximum height (A).

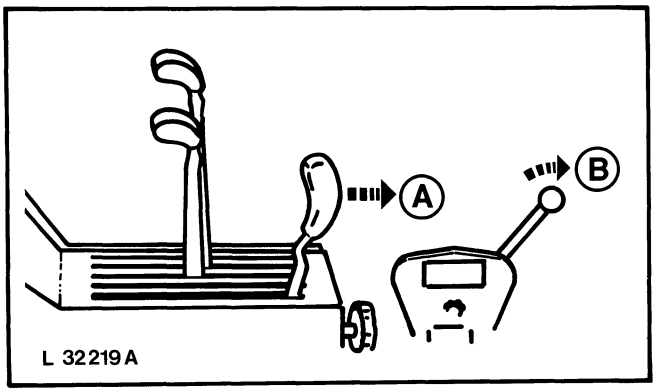
2. Press release lever to the rear (B).

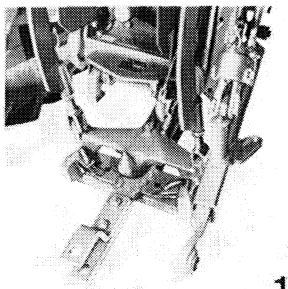
3. Lower draft links and therefore hitch to desired height.

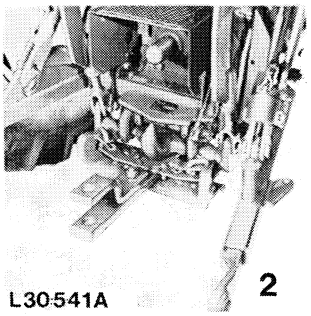
4. Reverse tractor and raise draft links so that hitch engages trailer towing eye.

5. Raise draft links until lock engages.

**1–Hitch lowered**
**2–Hitch in operating position**



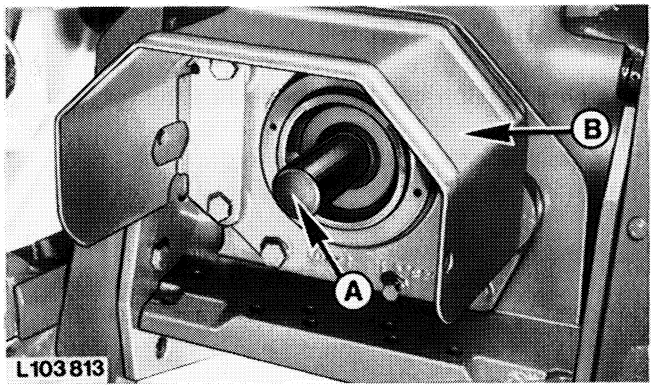


L30540A 1


L30541A 2

L32219A,L30541A,L30540A-2140ALE-010885

# Power Take-Off

## PTO GUARD




**CAUTION: Remove PTO guard (A) only when the PTO is to be used. As soon as PTO-driven implement has been removed, reinstall guard over PTO stub shaft!**

Master shield (B) may have to be removed when attaching certain implements to the PTO. Reinstall shield as soon as the implement is attached.

**CAUTION: Never operate PTO without the master shield having been installed.**

L103813-2140ALE-010885

## PTO OPTIONS

The tractor can be equipped with a 540 rpm PTO, an interchangeable 540/1000 PTO or a handshift 540/1000 rpm PTO.

In addition a 1000 rpm front PTO can be installed.

ZAPFOM-2140ALE-010885

## PTO SPEEDS

Standard PTO speeds are obtained with the following engine speeds:

Rear 540 rpm PTO : 2040 rpm
Rear 1000 rpm PTO: 2400 rpm
Front PTO (6 splines) : 2400 rpm
Front PTO (21 splines) : 2150 rpm

ZAPFOM-1640ALE-010386

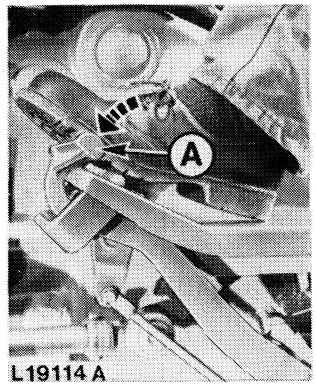
## OPERATION OF PTO (Continuous-Running)

1. Depress clutch pedal (A) completely (momentarily waiting for tractor motion to stop).

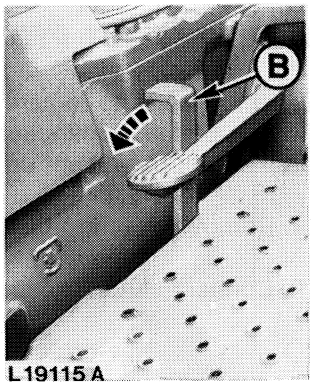
2. Shift PTO control lever (B) completely forward and slowly release clutch pedal.

To disengage the PTO, fully depress clutch pedal and shift PTO control lever to the rear.

**CAUTION: High-inertia implements do not become stationary immediately when PTO control lever is shifted to disengaged position. Allow sufficient time for implement to "coast down" to a halt after having disengaged the PTO.**



L19114 A

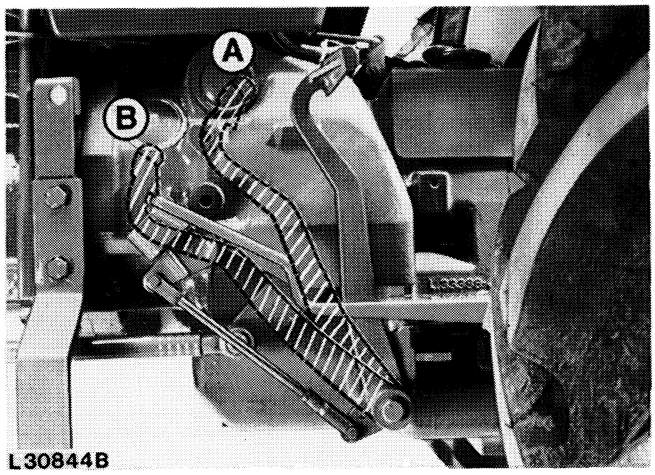


L19115 A

L19114A,L19115A-1640ALE-010386

## POSITIONING CLUTCH PEDAL FOR PTO OPERATION (Continuous-Running)

Depressing the clutch pedal to position (A) disengages the transmission and leaves PTO shaft in operation. If PTO operation must be stopped as well, then depress clutch pedal to position (B).



L30844B

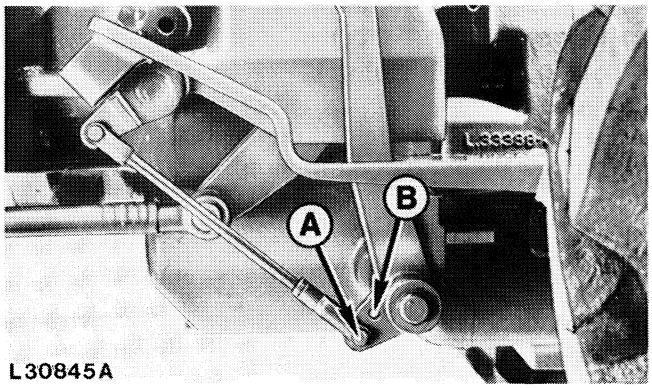
L30844B-1640ALE-010386

## LOCKING OUT PTO CLUTCH

When there is no requirement for PTO operation for a longer period, continuous-running PTO clutch can be locked out to prevent unnecessary clutch wear.

1. Remove clutch rod from pedal lower bore (A).

2. Connect clutch rod in upper bore (B).



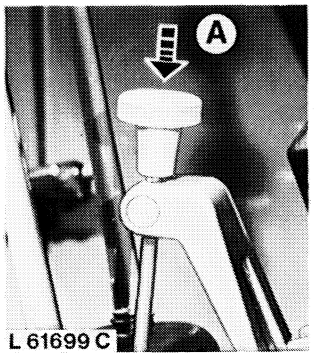

L30845A-1640ALE-010386

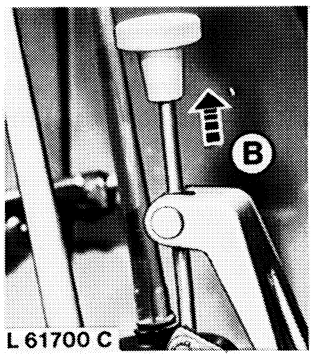
## OPERATION OF INDEPENDENT PTO

PTO can be engaged and disengaged without declutching and on the go.

*NOTE: On tractors with SG2 cab, raise control lever before shifting forward.*

**A–PTO disengaged**
**B–PTO engaged**




**CAUTION: Always disengage PTO when not required.**

**CAUTION: High-inertia implements do not become stationary immediately when PTO control lever is shifted to disengaged position. Allow sufficient time for implement to "coast down" to a halt after having disengaged the PTO.**



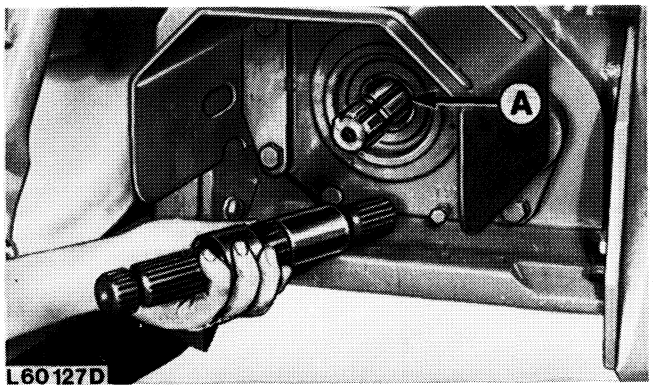

L61699C,L61700C,L102715-1640ALE-010386

## CHANGING INDEPENDENT PTO SHAFTS

The 540 rpm stub shaft has 6 splines. The 1000 rpm stub shaft has 21 splines. Clean stub shaft thoroughly before installing.

Remove snap ring (A).

Interchange PTO stub shaft quickly so that little oil is lost. Secure installed stub shaft with snap ring.

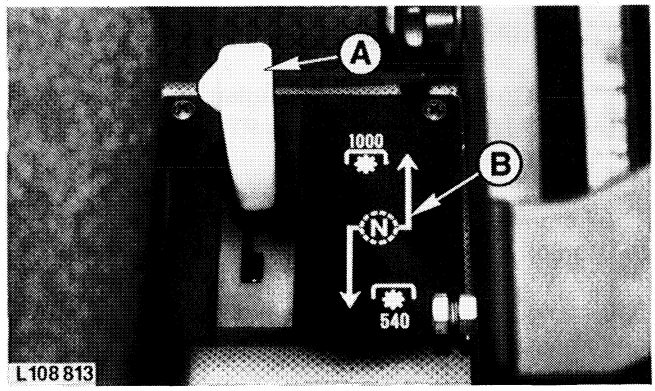



L60127D-2140ALE-010885

## HANDSHIFT PTO SPEED CHANGE

The PTO with handshift speed change is engaged and disengaged as described on previous page. The PTO must be disengaged before changing speed.

PTO speed is selected by means of lever (A) as shown on decal (B). The center (N) position being neutral.




**CAUTION: Before engaging the PTO make sure that selected PTO speed is correct for the implement attached. Otherwise incorrect speed can result in serious damage to the implement.**

## AVOID ACCIDENTS!

L108813-3040ALE-010285

## OPERATING FRONT PTO

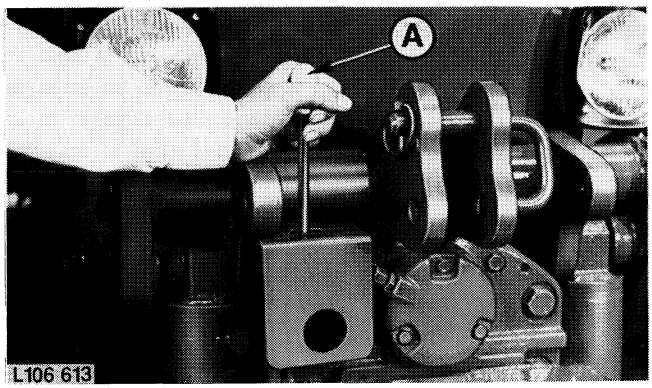
Should front PTO not be required for a longer period, the PTO transmission can be disengaged by means of lever (A).

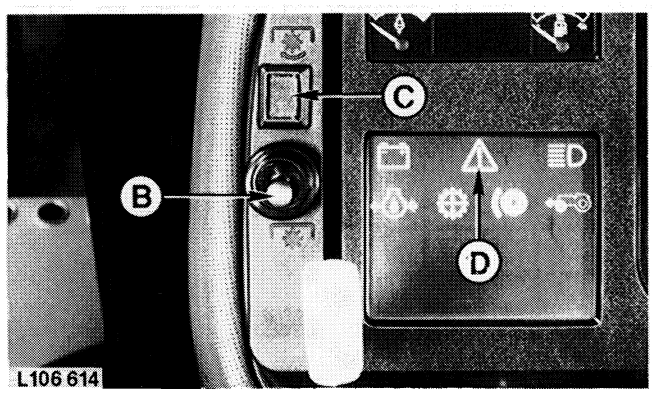
**IMPORTANT: Shut-off engine before engaging PTO drive.**

For normal operation, engage and disengage front PTO by means of tumbler switch (B) with engine running. To engage, raise tumbler switch and push forward.

The indicator light (C) glows when PTO is engaged.

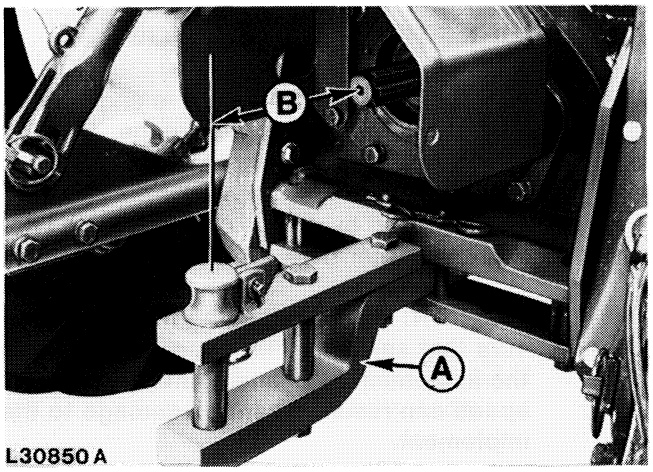
*NOTE: Should the engine be shut-off with front PTO engaged and then restarted, front PTO will not operate. In this case indicator light (C) glows and light (D) flashes. Press tumbler switch to "Off" position and re-engage PTO when required.*




L106613,L106614-1640ALE-010386

## ATTACHING PTO DRIVEN EQUIPMENT




**CAUTION: Shut off engine and disengage PTO before attaching PTO driven equipment.**

1. Align swinging drawbar with PTO shaft and lock in position

2. Distance from end of PTO shaft to hole in drawbar end should be:

540 rpm PTO : 355 mm (14 in.)

1000 rpm PTO: 406 mm (16 in.)

If PTO splines do not align, engage and disengage PTO control lever several times to relieve hydraulic pressure so that the PTO shaft may be turned and aligned by hand.

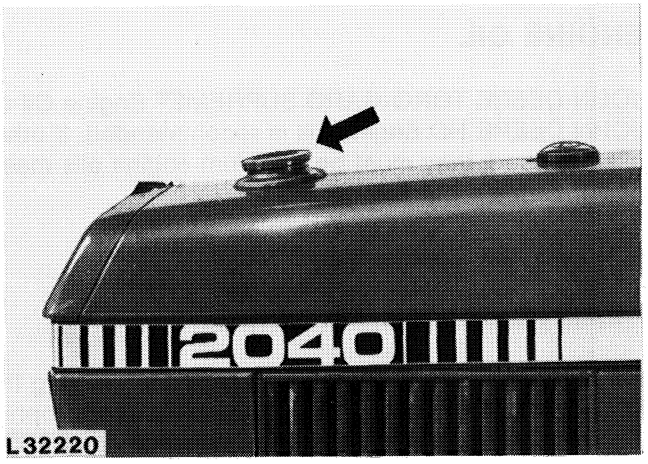
**CAUTION: High-inertia implements do not become stationary immediately when PTO control lever is moved to disengaged position. Allow sufficient time for implement to "coast down" to a halt after having disengaged the PTO.**

**CAUTION: Always make sure the tractor engine is stopped, equipment lowered to the ground, and PTO control lever is in disengaged position before attempting to clean out, adjust or lubricate a PT0 driven machine, hitch or universal joint.**

L30850A-2140ALE-010885

# Fuel, Lubricants, Hydraulic Oil and Coolant

## FUEL




The quality and cleaniness of fuel is an important factor in obtaining dependable performance and satisfactory engine life.

Use a commercial diesel (ISO 1585).

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 some 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.**

**CAUTION: Never fill tank when engine is running. During filling of tank, smoking is strictly prohibited!**

L32220-1640ALE-010386

## FUEL STORAGE

Importance of proper fuel storage cannot be stressed too highly. Many engine difficulties can be traced to dirty fuel and fuel that has been in storage too long. To keep fuel system in its most efficient condition, keep all dirt, scale, water, and other foreign matter out of fuel. Avoid storing fuel for a long period of time.

Fuel should be stored in a convenient place outside of buildings

BETOM-2140ALE-010885

## FLUID FOR HYDRAULICALLY OPERATED CLUTCH

Always use brake fluid Type FMVSS 116 DOT 4 in the hydraulically operated clutch system.

BETOM-3640ALE-210185

## ENGINE OIL

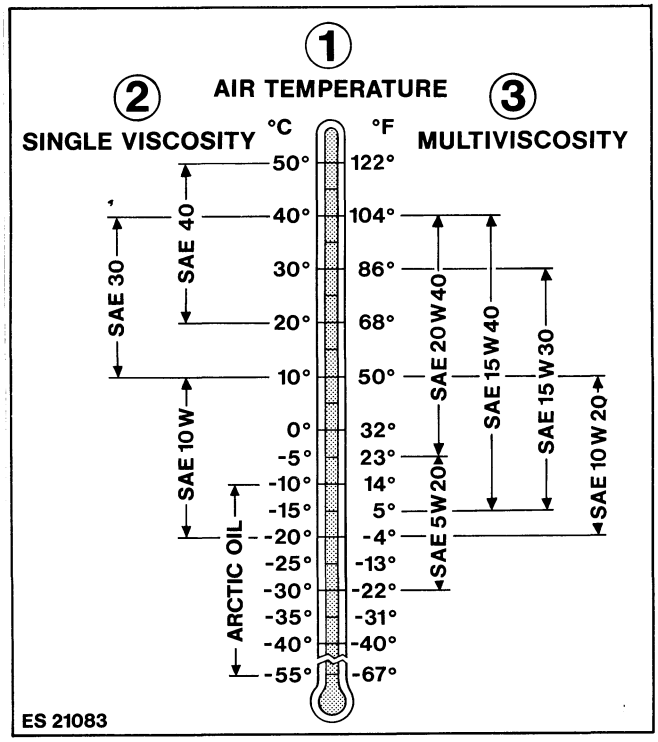
JOHN DEERE TORQ-GARD SUPREME® Engine Oil or JOHN DEERE HD Engine Oil is recommended. If other oils are used, they must be premium engine oils meeting performance requirements of:

– API Service Classification CD/SC
– Military Specification MIL-L-2104C
– Military Specification MIL-L-2104D

For low temperature operation, where oils meeting the above requirements may not be available in appropriate viscosity grade, oils meeting the performance requirements of API Service Classification CC/CS or Military Specification MIL-L-46152 or MIL-L-46167 (Arctic Oil) may be used but at shorter drain intervals.

Quality engine oils are blended, so additives are neither required nor recommended.

*NOTE: Some increase in oil consumption may be expected when SAE 5W-20 or Arctic Oil are used. Check oil level more frequently.*



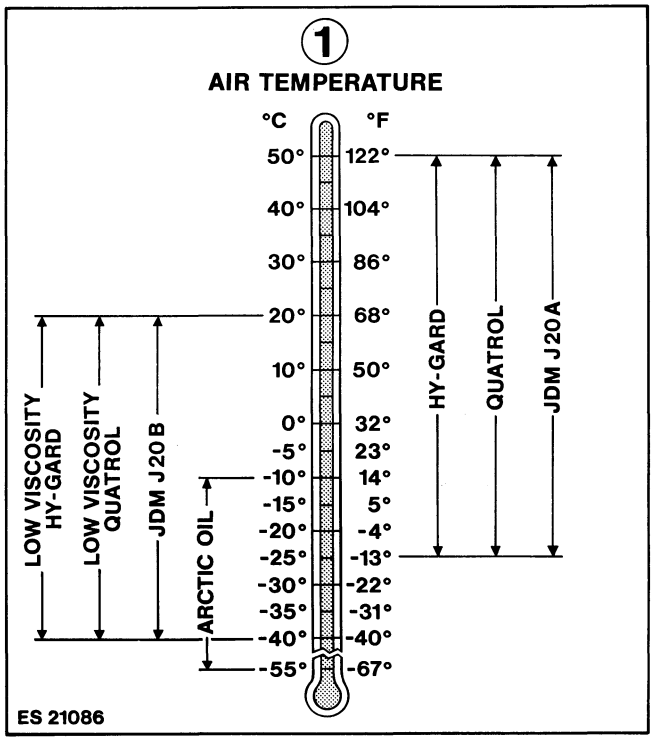

ES21083-3640ALE-210185

## TRANSMISSION/HYDRAULIC OIL

JOHN DEERE HY-GARD® Transmission and Hydraulic Oil is recommended.

You may also use QUATROL® oils, or other oils meeting JOHN DEERE Standard JDM J20A or JDM J20B.

For temperatures below –40°C (–40°F) use Arctic Oil (API-CC/SC, MIL-L-46167).




ES21086-2140ALE-010885

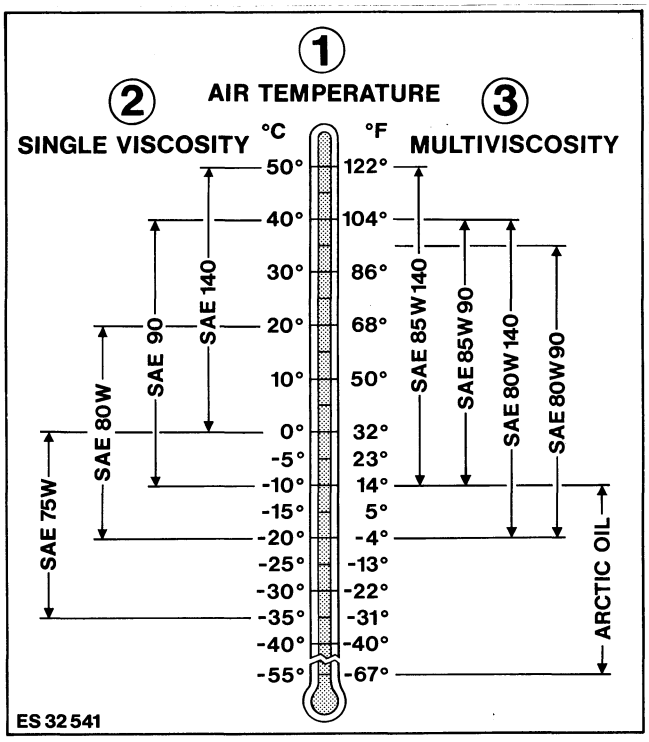
## TRANSMISSION OIL FOR MFWD FRONT AXLE

JOHN DEERE API GL-5 oil is recommended.

You may also use other EP transmission oils meeting performance requirements of:

– API Service Classification GL-5
– Military Specification MIL-L-2105B
– Military Specification MIL-L-2105C

At temperatures below –35°C (–31°F) use Arctic Oil (API-CC/SC, MIL-L-10324A).



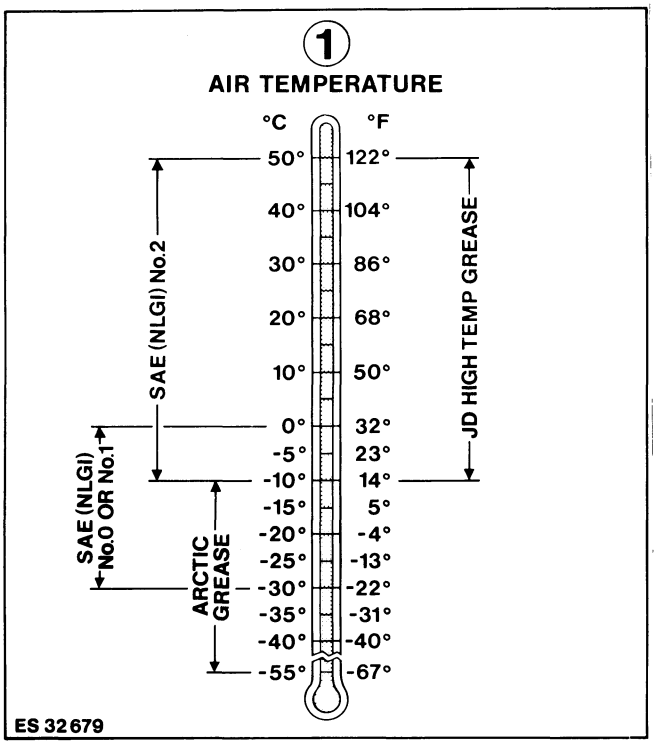

ES32541-1640ALE-070483

## EP MULTIPURPOSE GREASE

JOHN DEERE High Temperature EP Grease is recommended for all grease fittings. If other greases are used, use:

–SAE EP Multipurpose Grease

At temperatures below –30°C (–22°F) use Arctic Grease (MIL-G-10924 C).




ES32679-1640ALE-070483

## USING ALTERNATIVE LUBRICANTS

Conditions in certain geographical areas may require different lubricant recommendations than those printed in the operator's manual. Consult your JOHN DEERE dealer to obtain alternative lubricant recommendations.

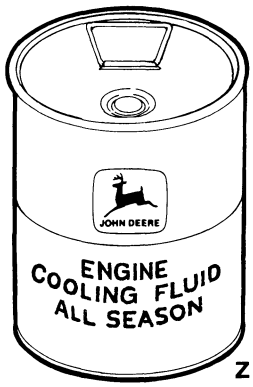
BETOM-1640CLE-070483

## STORING LUBRICANTS

Your tractor can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture, and other contamination.

BETOM-1640DLE-070483

## ENGINE COOLANT



Z 35129

JOHN DEERE Engine Cooling Fluid is filled into the cooling system at the factory. It protects against corrosion and against frost down to –36°C (–35°F).

**IMPORTANT: Use only JOHN DEERE Engine Cooling Fluid in the cooling system, independent of the season. Drain system and refill with fresh coolant every 2 years.**

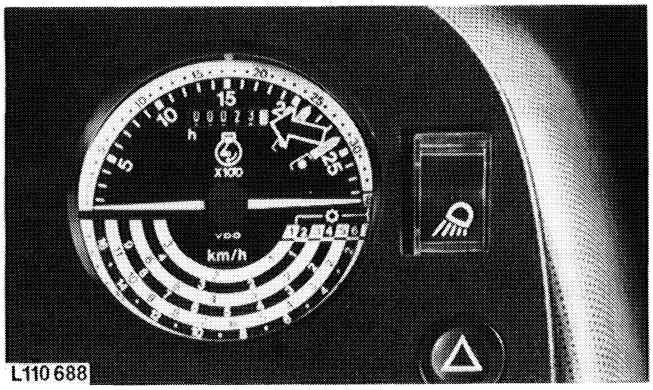
If no JOHN DEERE Engine Cooling Fluid is available use a mixture of 50% ethylene-glycol antifreeze/anticorrosion inhibitor and 50% clear, soft water. This mixture guarantees engine protection against corrosion and against frost down to –36°C (–35°F).

Never use any cooling system sealing additives.

Z35129-2140ALE-010885

# Lubrication and Periodic Service

## SERVICE INTERVALS




The intervals at which the various parts should be checked, lubricated, serviced or adjusted are based on the actual hours of operation as shown on the speed-hour meter. The meter operates whenever the engine is running and shows the accumulated hours of engine operation.

Always check to make sure that the speed-hour meter is serviceable.

The timeable for lubrication and periodic service intervals is for normal working conditions. The time period should be shortened when operating under adverse conditions.

**CAUTION: Do not lubricate or adjust the tractor while the engine is running.**

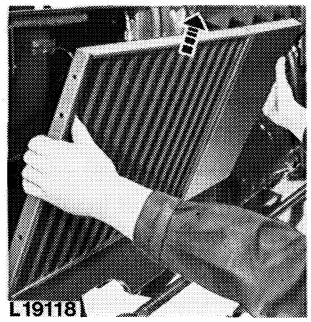
**IMPORTANT: After having serviced, cleaned or repaired your tractor, always reinstall any safety guards or shields removed before operating.**

L110688-2140ALE-010885

## REMOVING GRILLE SCREENS

Pull out slightly at top edge of each grille screen lift screens from machine and allow them to hang by the springs.

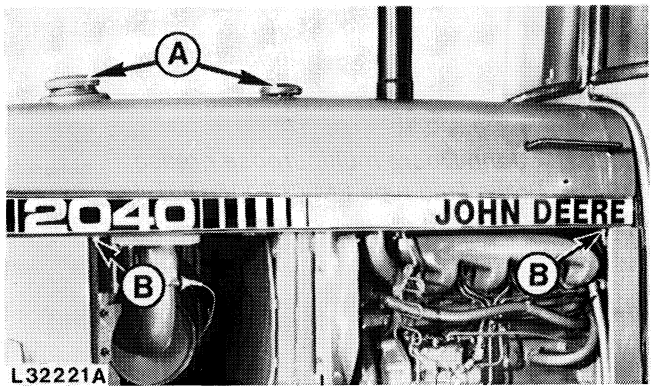



L19117,L19118-1640ALE-010386

## REMOVING HOOD

1. Remove radiator and fuel tank caps (A).
2. Remove muffler pipe and air pre-cleaner (when equipped).
3. Remove hex. nuts (B) on both sides.
4. Remove hood.
5. After having removed hood, install radiator cap and fuel tank cap to prevent dirt from entering system.




L32221A-1640ALE-010386

## LUBRICATION AND PERIODIC SERVICE TIMETABLE

| Component | Description | Lubricant | Section |
|---|---|---|---|
| **AS REQUIRED** | | | |
| Air cleaner | Clean primary filter element | | Air intake system |
| Cab filters | Clean | | Miscellaneous |
| Brakes | Bleed foot brakes and adjust handbrake | | Brakes |
| Operator's seat | Lubricate sliding surfaces | JDM[1]) | Miscellaneous |
| Air pre-cleaner (when equipped) | Clean | | Air intake system |
| Clutch | Check pedal free travel, on tractors with hydraulic operated clutch, check reservoir fluid level | BF[2]) | Miscellaneous |
| **DAILY OR EVERY 10 HOURS** | | | |
| Engine crankcase | Check oil level | E0[3]) | Engine |
| Radiator | Check coolant level | | Cooling system |
| Front axle and front wheels | Lubricate (only necessary when operating in extremely wet and muddy conditions) | JDM[1]) | Axles and wheels |
| Rear axle bearings | Lubricate (only necessary when operating in extremely wet and muddy conditions) | JDM[1]) | Axles and wheels |
| Fuel filter | Drain sediment and water deposits | | Fuel system |

*[1])JDM = John Deere multipurpose grease*
*[2])BF = Brake fluid type FMVSS 116 DOT 4*
*[3])EO = Engine oil*

SCHOM-2140ALE-010885

## LUBRICATION AND PERIODIC SERVICE TIMETABLE

| Component | Description | Lubricant | Section |
|---|---|---|---|
| **EVERY 50 HOURS**<br>**(in addition carry out 10 hours service)** | | | |
| Air cleaner unloading valve | Clean and check | | Air intake system |
| Transmission and hydraulic system | Check oil level and replace filter element after first 50 hours of operation | JDHG[1]) | Transmission |
| Tires | Check tire pressures and condition of tires | | Wheel treads, tires and ballast |
| Front axle and front wheels | Lubricate | JDM[2]) | Axles and wheels |
| **EVERY 100 HOURS**<br>**(in addition carry out 10 and 50 hour service)** | | | |
| Batteries | Check level of electrolyte, clean cable connections and batteries | | Electrical system |
| Front axle (tractors with F.W.D.) | Check oil level. Drain and refill with fresh oil after the first 100 hours of operation | EPTO[3]) | Axles and wheels |
| Hydraulic trailer hitch (when equipped) | Tighten attaching bolts | | Miscellaneous |
| Clutch | Lubricate release bearing | HEP[4]) | |

*[1])JDHG = John Deere Hy-GARD oil*
*[2])JDM = John Deere multipurpose grease*
*[3])EPTO = EP transmission oil*
*[4])HEP = High temperature John Deere EP multipurpose grease*

## LUBRICATION AND PERIODIC SERVICE TIMETABLE

| Component | Description | Lubricant | Section |
|---|---|---|---|
| **EVERY 200 HOURS (in addition carry out 10, 50 and 100 hour service)** | | | |
| Engine crankcase* | Drain and refill | EO[1] | Engine |
| Engine crankcase filter* | Replace filter element Replace with a JOHN DEERE element | | Engine |
| Alternator V-belt | Check belt tension | | Engine |
| Compressor V-belt | Check belt tension (tractors with air conditioning system only) | | Miscellaneous |
| 3-point hitch | Lubricate grease fittings | JDM[2]) | Miscellaneous |
| Front hitch | Lubricate grease fittings | JDM[2]) | Miscellaneous |
| Front PTO | Lubricate grease fittings | JDM[2]) | Miscellaneous |
| **EVERY 500 HOURS (in addition carry out 10, 50 and 100 hour service)** | | | |
| Fuel transfer pump | Clean strainer | | |
| Transmission/hydraulic oil filter* | Replace filter element | | Transmission |
| Air intake hoses | Check connections | | Air intake system |
| Rear axle bearings | Lubricate grease fittings | JDM[2]) | Axles and wheels |
| Engine speeds | Have engine speeds checked and if necessary, adjusted by your JOHN DEERE dealer | | Engine |
| Engine valves | Have valve tappet clearances checked | | |

** Replace crankcase filter element and oil after the first two 100 hours of operation. Thereafter replace filter element and oil after every 200 hours of operation.*

** Replace transmission/hydraulic filter element after the first 50 hours of operation*
*[1])EO = Engine oil*
*[2])JDM = John Deere multipurpose grease*

SCHOM-2140CLE-010885

## LUBRICATION AND PERIODIC SERVICE TIMETABLE

| Component | Description | Lubricant | Section |
|---|---|---|---|
| **EVERY 1000 HOURS (in addition carry out 10, 50, 100, 200 and 500 hour service)** | | | |
| Transmission and hydraulic system | Drain and refill with fresh oil | JDHG[1]) | Transmission |
| Front axle (tractors with F.W.D.) | Drain and refill with fresh oil | EPTO[2]) | Axles and wheels |
| Fuel filter | Replace filter element | | Fuel system |
| Hydrostatic steering (tractors without SG2 Cab) | Replace filter | | Miscellaneous |
| Front wheel bearings (tractors without F.W.D.) | Have bearings cleaned, repacked and adjusted by your JOHN DEERE dealer | | |
| Starting motor | Have starting motor checked by your JOHN DEERE dealer | | |
| Hydraulic pump | Have stroke control valve filter cleaned by your JOHN DEERE dealer | | |
| **EVERY 2000 HOURS (in addition carry out 10, 50, 100, 200, 500 and 1000 hour service)** | | | |
| Fuel injection nozzles | Have fuel injection nozzles checked by your JOHN DEERE dealer | | |
| **EVERY SPRING AND AUTUMN** | | | |
| Engine crankcase | Drain and refill with fresh oil. Replace filter element | EO[3]) | Engine |
| **EVERY TWO YEARS** | | | |
| Clutch (on tractors with hydraulic operated clutch | Have brake fluid replaced by your JOHN DEERE dealer | | |
| Thermostat | Have thermostat replaced by your JOHN DEERE dealer | | |
| Cooling system | Drain, flush and refill. Clean radiator screen. | | Cooling system |

*[1])JDHG = John Deere Hy-GARD oil*
*[2])EPTO = EP transmission oil*
*[3])EO = Engine oil*

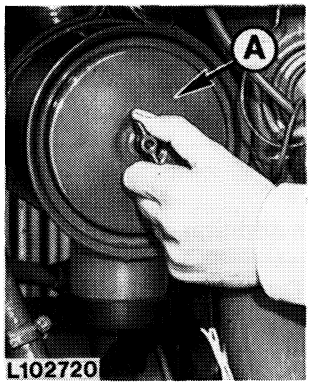
SCHOM-2140DLE-010885

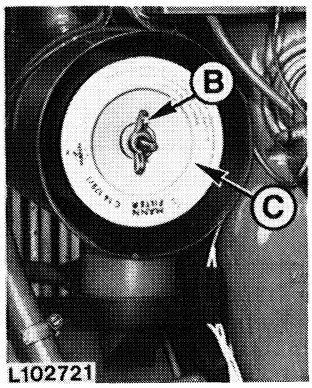
# Service - Air Intake System

## AIR CLEANER

If the air cleaner indicator light glows during operation, remove and clean filter element.

Remove cover (A). Unscrew wing nut (B) and lift out filter element (C).



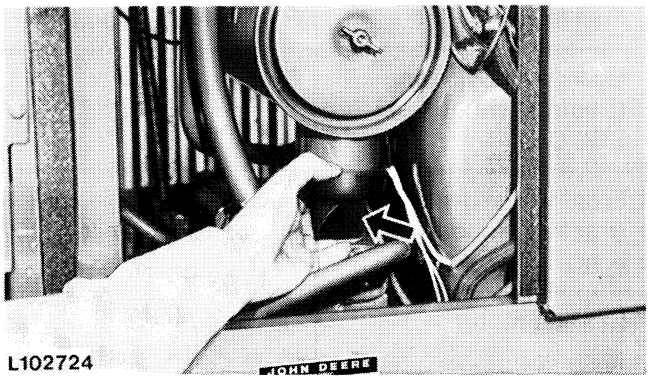




L102720,L102721-1640ALE-010386

When servicing the air cleaner always remove and clean the rubber dust unloading valve.

The valve must always be installed with slot facing direction of travel.

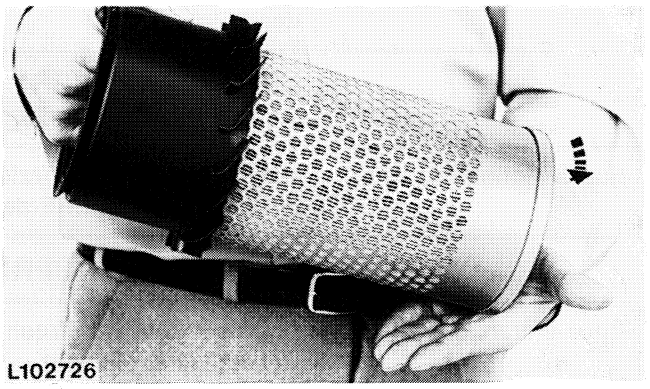
**IMPORTANT: Do not operate engine without air cleaner element or rubber dust unloading valve installed.**




L102724-2140ALE-010885

## CLEANING PRIMARY FILTER ELEMENT

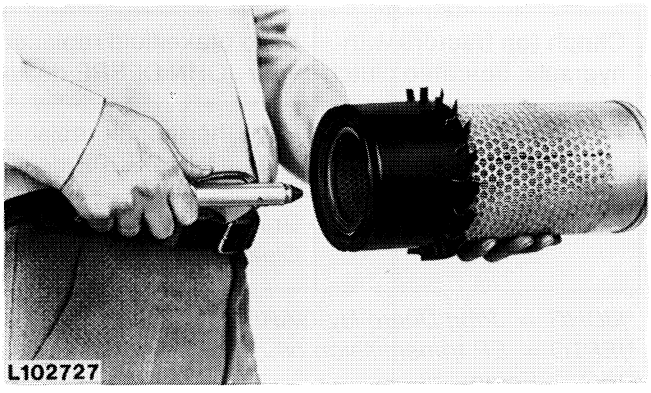
When the element must be serviced in the field, tap it on the palm of your hand as a temporary measure. Then thoroughly clean when you return to your service area.




L102726-1640ALE-010386

**Dusty Element**

If tapping element does not remove dust, blow out dust with compressed air (not to exceed 600 kPa; 6 bar; 85 psi) by inserting nozzle inside of element and blowing from the inside of the filter to the outside.




L102727-1640ALE-010386

**Oily or Sooty Element**

Wash element in a solution of lukewarm water and JOHN DEERE filter cleaner (R 36757).

Rinse element thoroughly as shown from the inside with clean water from hose having maximum water pressure of 300 kPa (3 bar; 43 psi). Shake excess water from element and allow it to dry approximately 24 hours at a temperature not above 80°C (176°F).

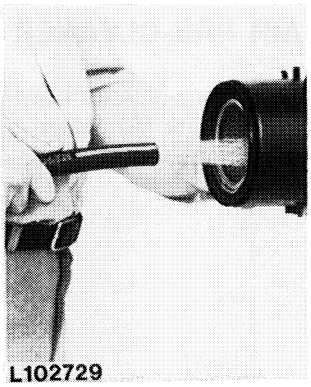
Install a replacement filter element for this period.

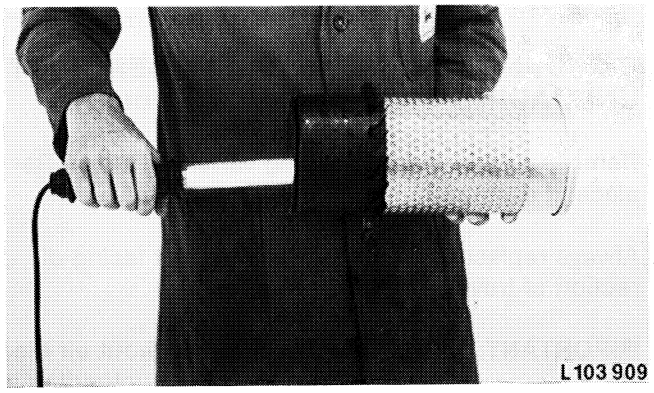
**IMPORTANT: Never install a damp element. Never use compressed air to dry a wet element.**

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 gasket is in a serviceable condition.

Replace filter element if the air cleaner indicator light continues to glow.


L102728


L102729

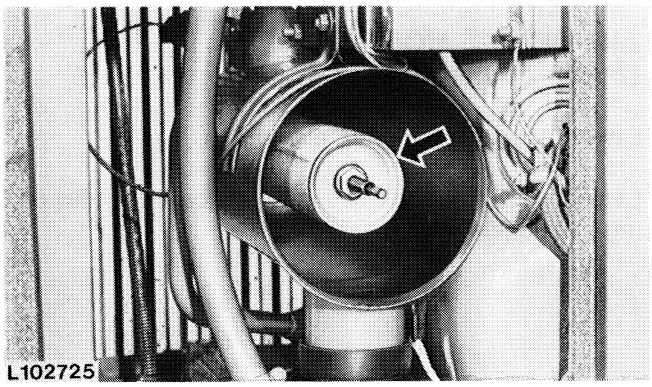

L103 909

L102728,L102729,L103909-1640ALE-010386

## SECONDARY (SAFETY) ELEMENT

This filter element must be changed when damaged, and with every third service of air cleaner primary element.

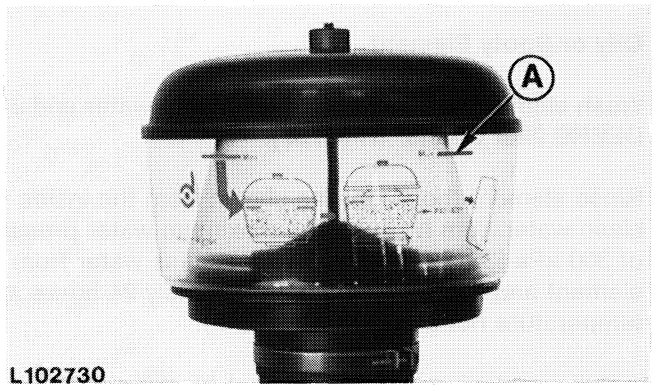
**IMPORTANT: Always replace secondary (safety) filter element, do not attempt to clean.**


L102725

L102725-1640ALE-010386

## AIR PRE-CLEANER (When Equipped)

Empty pre-cleaner bowl when dust accumulation is up to the mark (A). When operating under extremely dusty conditions, check pre-cleaner bowl several times daily.



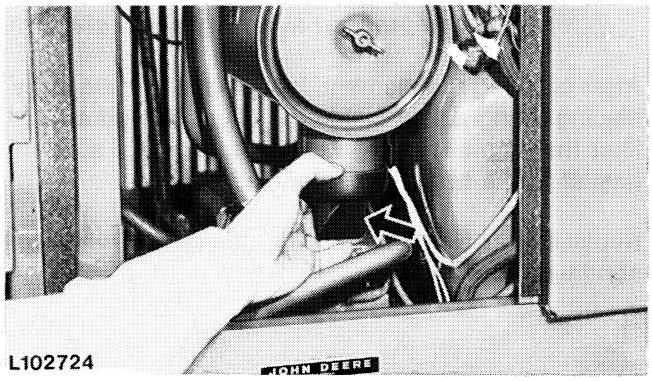

L102730-1640ALE-010386

## CLEANING AIR CLEANER RUBBER DUST UNLOADING VALVE (Every 50 Hours)

Remove rubber dust unloading valve and clean. Replace, if damaged.

Always replace unloading valve with slot facing direction of travel.

**IMPORTANT: Never operate engine without air cleaner element and rubber dust unloading valve installed.**

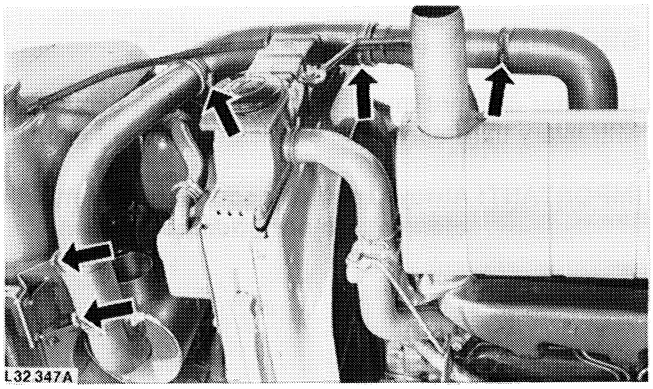



L102724-2140BLE-010885

## AIR INTAKE HOSES (Every 500 Hours)

Check hoses and tighten clamps.

Leaking or damaged hoses are the cause of dirt entering the engine.

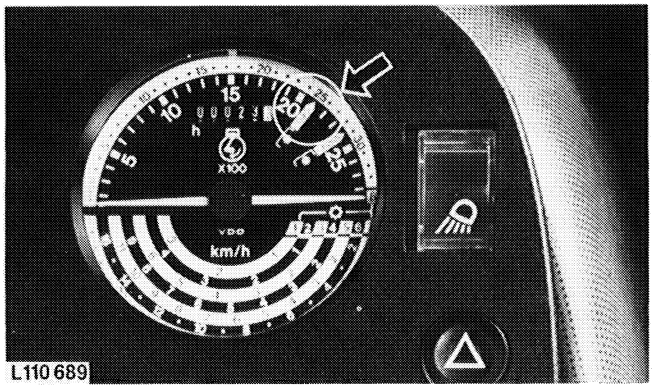



L32347A-1640ALE-010386

## BLEEDING BRAKES

Bleed brakes whenever braking is poor or uneven, or pedal action feels spongy.

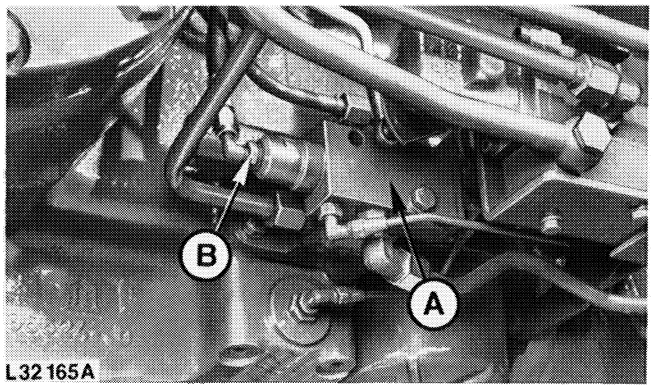
Before bleeding the brakes, start engine and run at 2100 rpm for 2 minutes. Thus making sure that brake reservoir is filled with oil. In addition, on tractors equipped with SG2 cab, turn steering wheel to-and-fro.



L110689

Bleed trailer brake valve (A) first on tractors equipped with a hydraulic trailer brake. Loosen hex. nut (B) slightly. This opens bleeding orifice which is sealed by means of an O-ring.

Operate right-hand brake pedal until oil being discharged is free from air bubbles. With brake pedal depressed, tighten hex. nut.



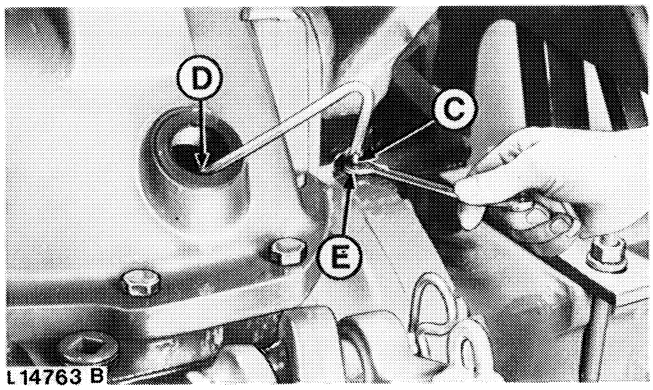
L32165A

1. Slide a transparent bleed tube over brake bleed screw.

2. Remove transmission oil filler cap and submerge other end of bleed tube in transmission oil (preventing air from being drawn into system).

3. Unscrew bleed screw 3/4 turn (E), slowly depress brake pedal on brake being bled and allow it to return slowly. Continue operating pedal until oil in tube is free from air bubbles.

With brake pedal depressed, close bleed screw. Remove bleed tube and repeat bleeding operation on other brake.



L14763B

If in any doubt, have brakes checked and bled by your JOHN DEERE dealer.

L110689,L32165A,L14763B-1640ALE-010386

## ADJUSTING HANDBRAKE

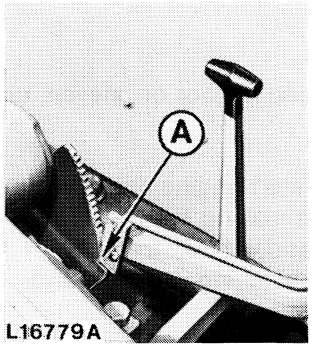
1. Before adjusting handbrake set brake lever in the lowest notch (A) of segment.

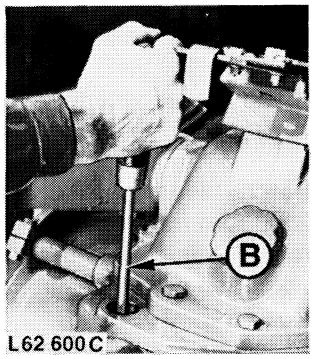
2. Remove plug and using a screwdriver, tighten brake band adjusting screw in transmission case handtight (B).

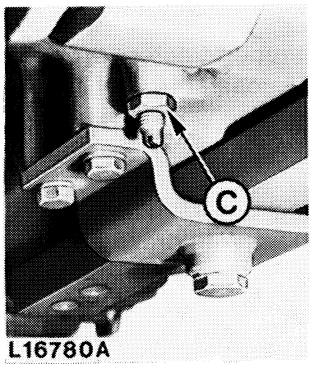
3. Loosen lock nut (C).

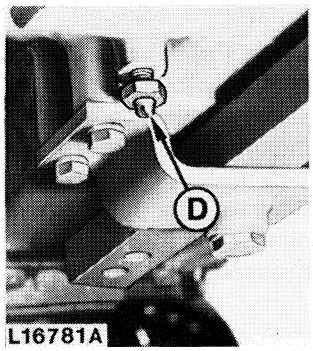
4. Tighten brake band stop screw (D) and then back off half a turn. Tighten lock nut with stop screw in this position.

5. Loosen brake band adjusting screw so far that with a force of 100 N (25 lb), lever engages 3rd or 4th notch.



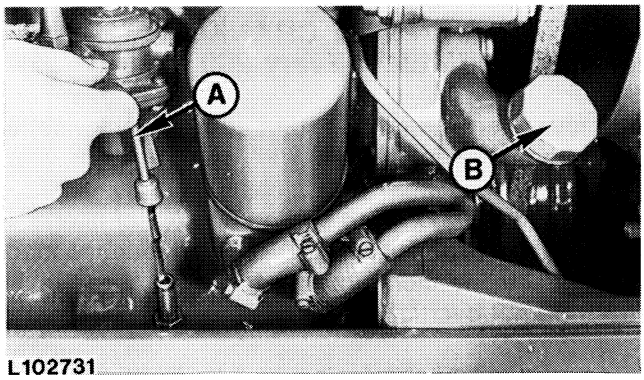

L16779A,L62600C,L16781A,L16780A-2140ALE-010885

## CHECKING ENGINE CRANKCASE OIL LEVEL (Every 10 Hours)

If oil level is at or below bottom mark on dipstick, add sufficient oil to bring level to top mark on dipstick.

Do not operate engine with oil level below bottom mark on dipstick.

**A–Dipstick**
**B–Oil filler cap**



L102731

L102731-2140ALE-010885

## CHANGING ENGINE OIL (Every 200 Hours)

Drain oil with engine shut-off, however with engine oil still warm.

1. Remove crankcase drain plug (A).

2. While crankcase is draining, replace filter element.

3. Install drain plug (use new seal ring).

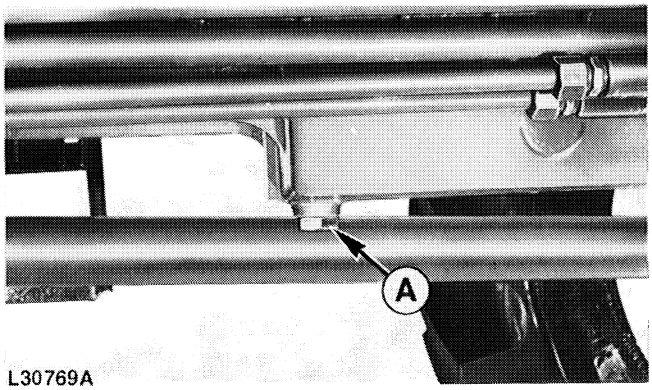
4. Fill crankcase with fresh oil of proper viscosity (see section "Fuel, Lubricants, Hydraulic Oil and Coolant") at filler neck (B). See "Specifications" for capacity.

5. Run engine for a short time and check for leaks at filter base and drain plug.

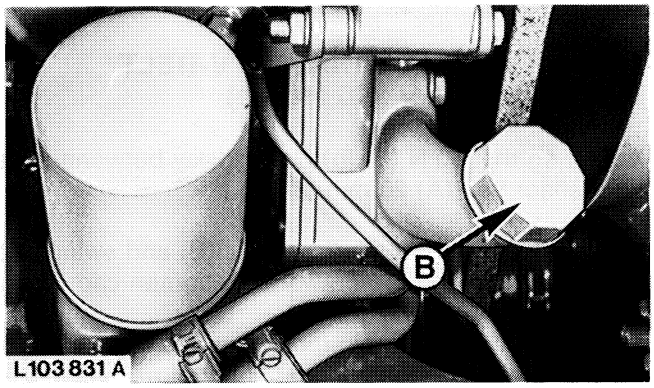
6. Shut off engine.

7. Check oil level.

**IMPORTANT: During cold weather operation with temperature below freezing point, change oil every 100 hours or every six weeks, whichever occurs first. Also change oil at any seasonal change in temperature when oil of a new viscosity is required.**



L30769A



L103831A

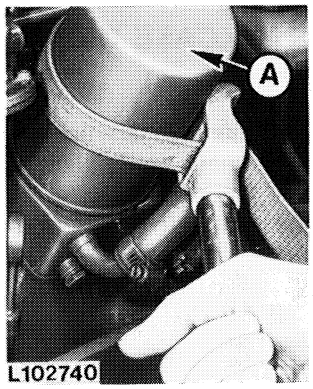
L30769A,L103831A-2140ALE-010885

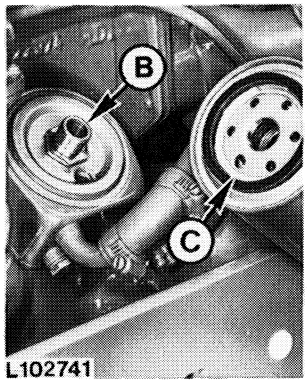
## CHANGING ENGINE CRANKCASE FILTER ELEMENT (Every 200 Hours)

Remove filter element (A) (turn counterclockwise) and clean mounting surface (B).

Apply a thin film of oil to sealing ring (C) of filter. Tighten filter element until sealing ring touches mounting surface and then turn an additional 1/2 to 3/4 turn. Do not overtighten!

Start engine and check filter seat for leaks.



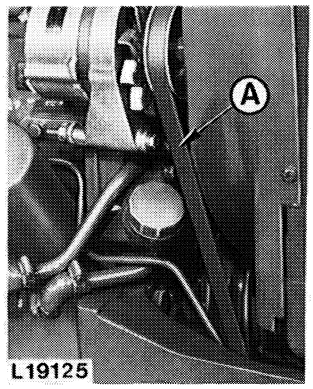

L102740,L102741-2140ALE-010885

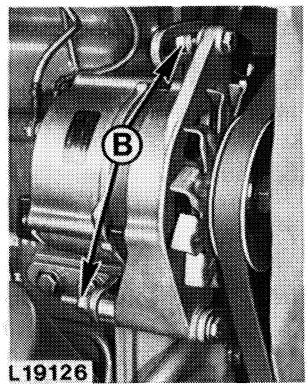
## ADJUSTING ALTERNATOR V-BELT TENSION (Every 200 Hours)

Adjust so that 90 N (20 lb) pull midway between pulleys will deflect belt (A) 20 mm (3/4 in.)

To adjust, loosen both cap screws (B) and swing out alternator from the top outward. Retighten cap screws.

New belts must be run in for at least 10 to 15 minutes. Then recheck belt tension and adjust if necessary.



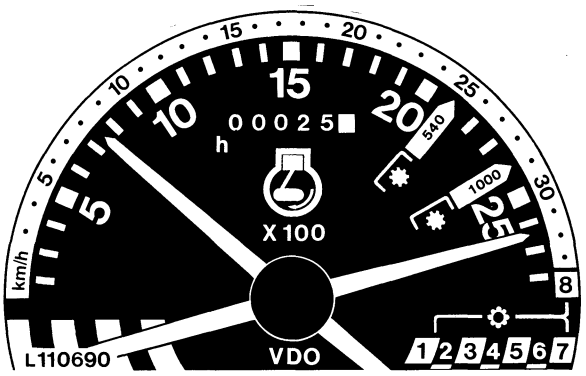

L19125,L19126-2140ALE-010885

## CHECKING ENGINE SPEEDS (Every 500 Hours)

Warm up engine and use speed-hour meter to check engine speeds.

Slow idle: approx. 750 rpm
Fast idle: approx. 2650 rpm

Have adjustments carried out by your JOHN DEERE dealer.




L110690-2140ALE-010885

## CHECKING COOLANT LEVEL (Every 10 Hours)

**CAUTION: Do not remove radiator filler cap until coolant temperature is below its boiling point. Danger of being scalded!**

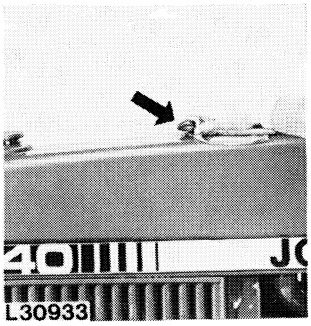
When the engine is hot, turn cap to the first stop to relieve pressure before removing it completely.

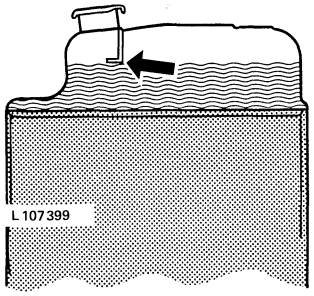
Coolant should be maintained at a level with marker plate (not higher).

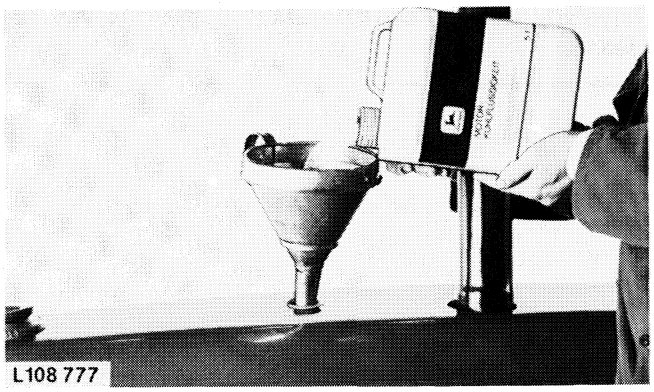
Shut-off engine, before topping up with coolant.

For correct coolant mixture, see under "Fuel, Lubricants, Hydraulic Oil and Coolant".

Check cooling system for leaks and clean radiator and grille screens.



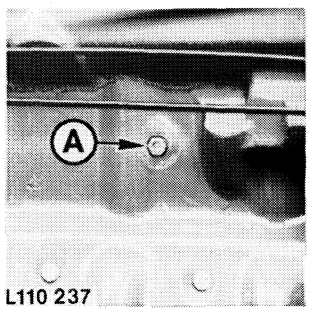



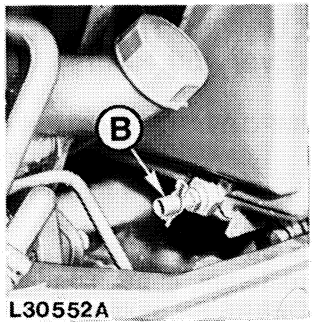



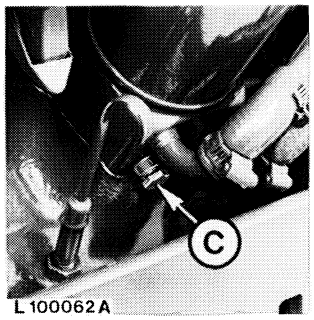

L30933,L107399,L108777-2140ALE-010885

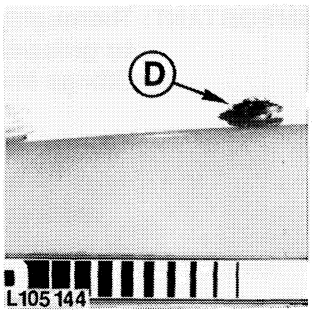
## REPLACING COOLANT (Every 2 Years)

**CAUTION: Remove radiator filler cap only when coolant temperature is below boiling point. Then loosen cap slightly to the stop to relieve pressure before removing cap completely.**




1. Tractors without SG2 cab: Open cylinder block drain tap (A). Tractors with SG2 cab: Turn heater switch fully to the right.

2. Open radiator drain tap (B).

3. Remove engine oil cooler drain plug (C).

4. Remove radiator filler cap (D).

As soon as system is empty, close cylinder block and radiator drain taps and install oil cooler drain plug. Fill system with clean water.

Run engine until it reaches operating temperature. Stop the engine and drain cooling system.

Again, close drain taps and reinstall oil cooler drain plug. Fill the cooling system with a commercial cooling system cleaner.

After cleaning the cooling system, again fill with water. Again run engine until it reaches operating temperature. Then stop engine and drain cooling system.

Again close drain taps and reinstall plug. Fill system with specified coolant (see "Fuel, Lubricants, Hydraulic Oil and Coolant" section).

Run the engine until it reaches operating temperature. This will allow thermostat to open and will assure that solution is circulated throughout entire cooling system.

Recheck coolant level. It should be up to level of marker plate in radiator (not higher).

For efficient operation, the radiator screen must be kept clean. Remove any dust or oil and carefully straighten any bent fins.

On tractors with air conditioning system also clean condenser.

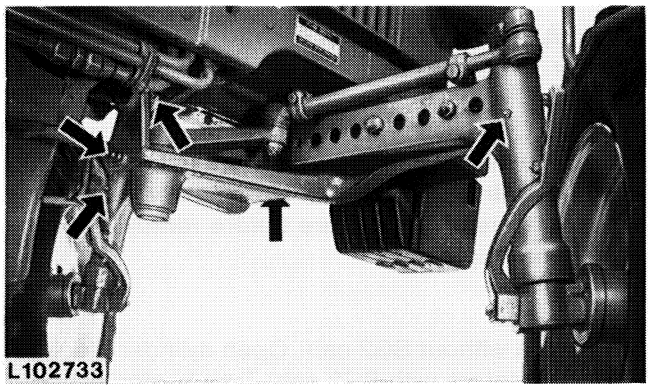
L110237,L30552A,L105144,L100062A-2140ALE-010885

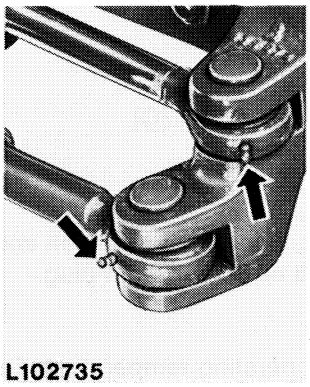
## LUBRICATING FRONT AXLE (Every 50 Hours)

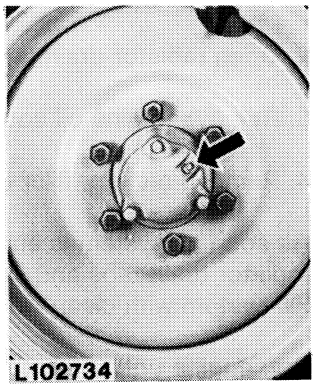
**IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.**

Lubricate front axle grease fittings as shown opposite (different, depending upon type of axle). Use JOHN DEERE EP multipurpose grease.

**IMPORTANT: Thoroughly clean all grease fittings prior to greasing and replace damaged grease fittings immediately.**

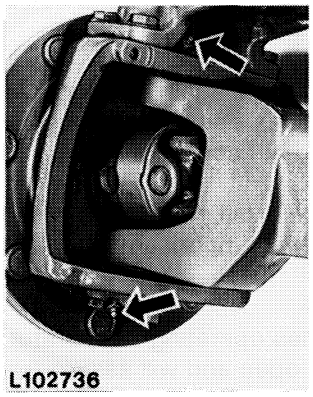

L102733

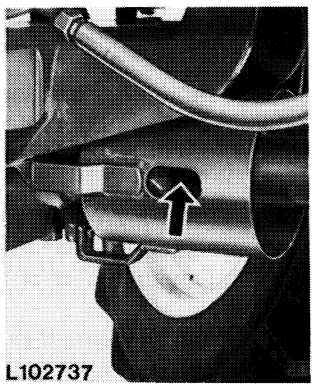

L102735


L102734

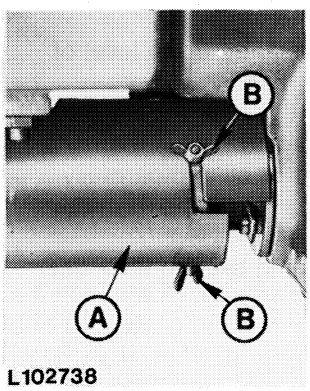
L102733,L102734,L102735-1640ALE-010386

On tractors equipped with front wheel drive, lubricate fittings shown opposite.

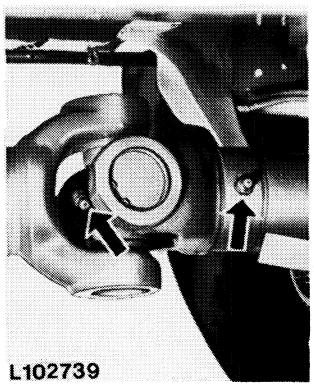

L102736


L102737

When front wheel drive is equipped with anti-wrap guards (A), remove wing nuts (B) and lift off guard. The rear universal joint grease fitting can now be lubricated.

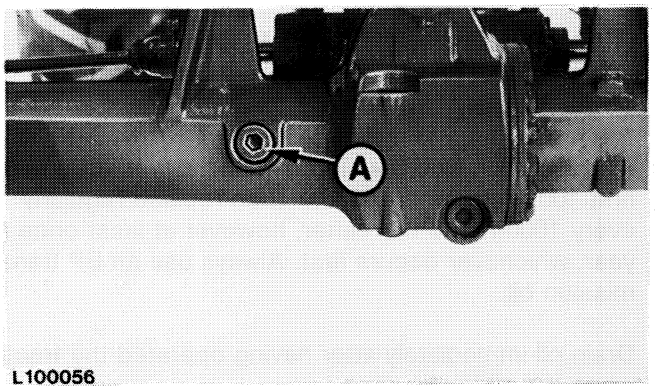


L102738


L102739

L102736,L102737,L102739,L102738-2140ALE-000885

## CHECKING FRONT AXLE OIL LEVELS (Tractors with Front Wheel Drive – Every 100 Hours)

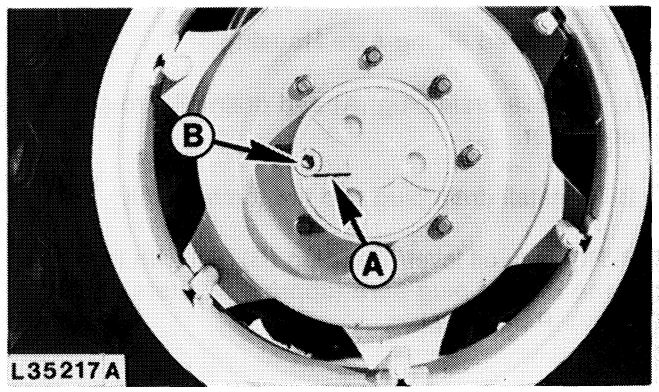



L100056-1640ALE-010386

### Axle Housing Oil Level

Remove level plug (A). Oil should be level with plug bore. If necessary, top up with oil. Always use an EP transmission oil.

### Final Drives Oil Level




1. Turn wheel until mark "ÖLSTAND" (A) is in level position.

2. Remove level plug (B). Oil should be level with plug bore.

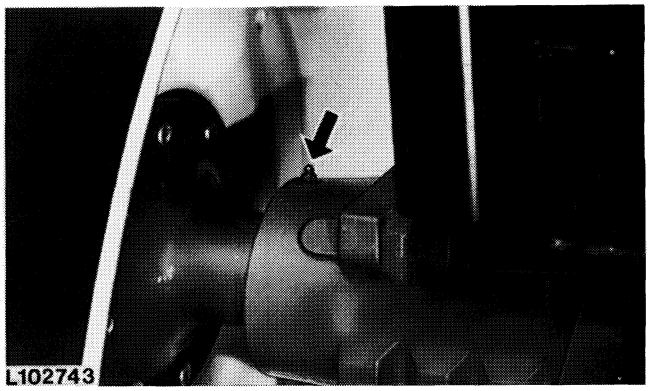
3. If necessary, top up with oil. Always use an EP transmission oil.

*NOTE: Replace oil in axle bridge housing and final drives after the first 100 hours of operation. Then replace after every 1000 hours of operation, however at least once a year.*

L35217A-3040ALE-010285

## LUBRICATING REAR AXLE BEARINGS (Every 500 Hours)

**IMPORTANT: Carry out this service after every ten hours of operation when working under very wet and muddy conditions.**




Lubricate both bearings with six to eight strokes of JOHN DEERE EP multipurpose grease.

L102743-2140ALE-010885

## CHANGING FRONT AXLE OIL (Tractors With Front Wheel Drive – Every 1000 Hours)

Replace oil in axle housing and final drives after the first 100 hours of operation. Then replace regularly every 1000 hours thereafter, however at least once a year, whichever occurs first. Always use an EP transmission oil.

Drain oil immediately after having operated the tractor when the oil is still warm.

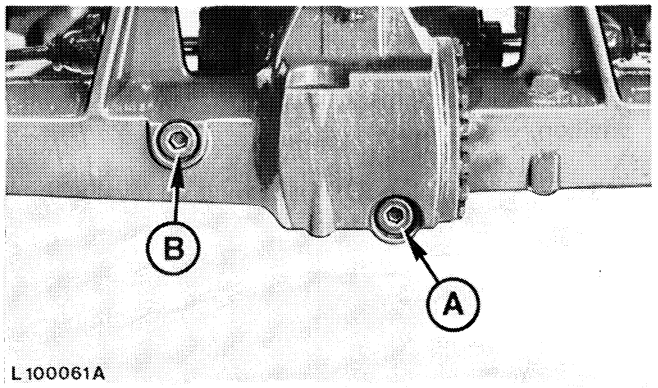
WAROM-1640ALE-010386

### Draining and Filling Axle Housing

1. Remove drain plug (A) and drain oil into a suitable container.

2. Reinstall drain plug and tighten securely.

3. Remove oil level/filler plug (B). Fill with fresh oil up to level of plug bore (approx. 5.0 liters; 1.3 U.S. gals.). Reinstall plug.



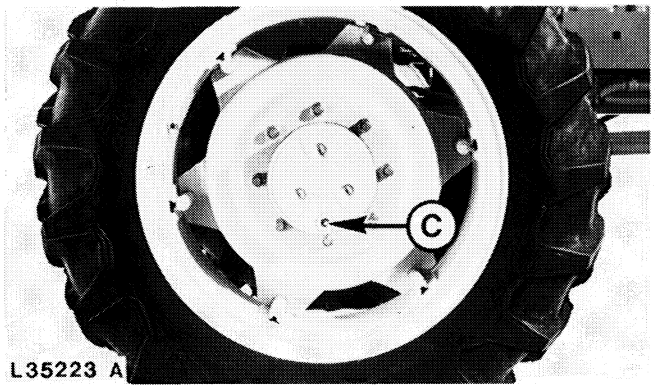
L100061A

### Draining and Filling Final Drives

1. Turn wheel until drain plug (C) is at the bottom. Remove drain plug and drain oil into a suitable container.

2. Turn wheel 180° and fill with fresh oil through drain plug bore (approx. 0.75 liters; 0.2 U.S. gals.).

3. Check oil level, reinstall plug and tighten securely.



L35223 A

L100061A,L35223A-1640ALE-010386

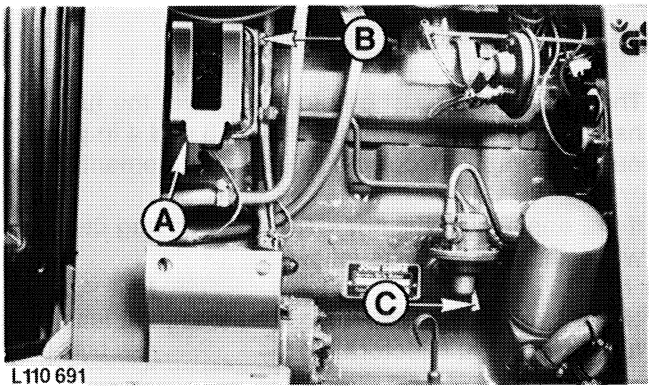
## CHECKING FUEL FILTER (Every 10 Hours)

Should water or sediment deposits have settled in filter, proceed as follows:

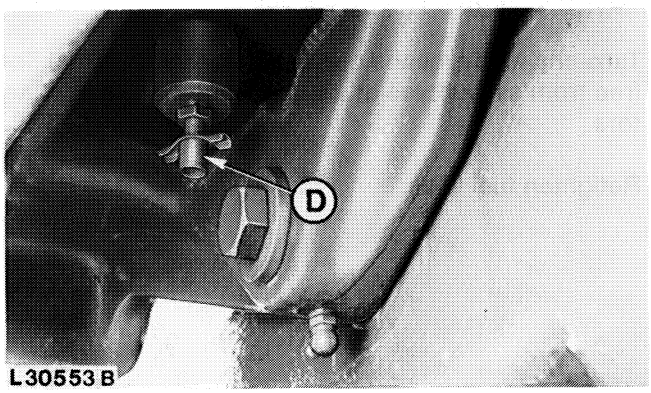
1. Loosen drain plug (A).
2. Loosen bleed screw (B).
3. Retighten drain plug as soon as soon as water and sediment deposits have drained off.
4. Pump fuel transfer pump primer lever (C) until all air has been bled from fuel filter.
5. Retighten bleed screw.

**A–Drain screw**
**B–Bleed screw**
**C–Transfer pump primer lever**
**D–Drain tap (fuel tank)**

If water was present in fuel filter, then also loosen drain tap (D) under fuel tank. Having drained off any water deposits, retighten drain taps.



L110 691



L30553 B

L110691,L30553B-2140ALE-010885

## REPLACING FUEL FILTER ELEMENT (Every 1000 Hours)

1. Unhook filter retaining spring (A) and remove filter (B).

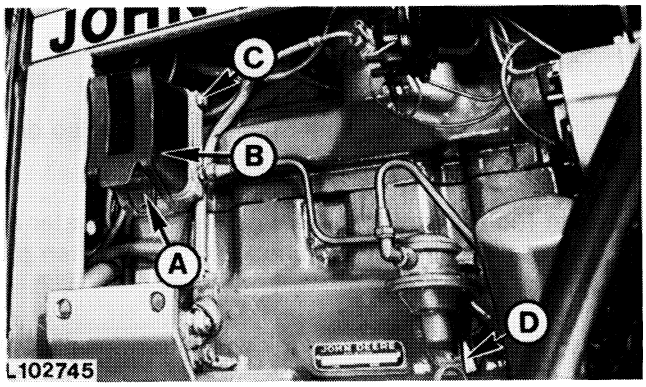
2. Place new filter element against filter body and install retaining spring.

3. Loosen bleed screw (C).

4. Pump fuel transfer pump primer lever (D) until fuel flows free from air bubbles. Tighten bleed screw.

**A–Filter retaining spring**
**B–Filter**
**C–Bleed screw**
**D–Transfer pump primer lever**

*NOTE: If the primer lever will not pump fuel and no resistance is felt at upper end of stroke, turn engine with starter to change position of fuel pump drive lobe on camshaft. When bleeding is completed, be sure to leave primer lever at lowest point of stroke.*



L102745

L102745-2140ALE-110286

## BLEEDING THE FUEL SYSTEM

The fuel system must be bled whenever the fuel tank has been run dry. Carry out points 3 and 4 in previous paragraph ("Replacing Fuel Filter Element") .

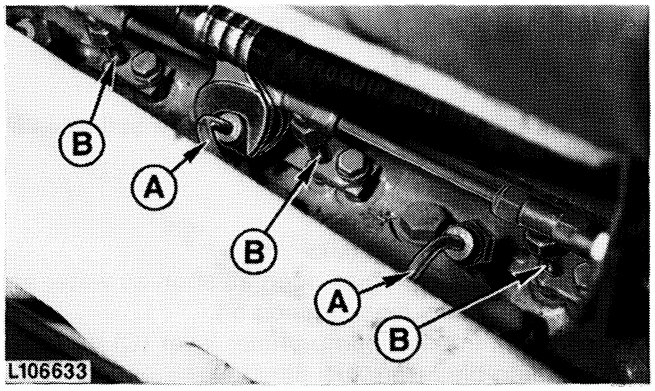
If the engine will still not start after carrying out this work, then proceed as follows:

Using two open-ended spanners, loosen at least three fuel lines (A) at injectors (B).

Set hand throttle at fast idle speed.

Turn engine by means of starting motor until fuel flows free from air bubbles at the loosened fuel line connectors.

Retighten fuel lines.



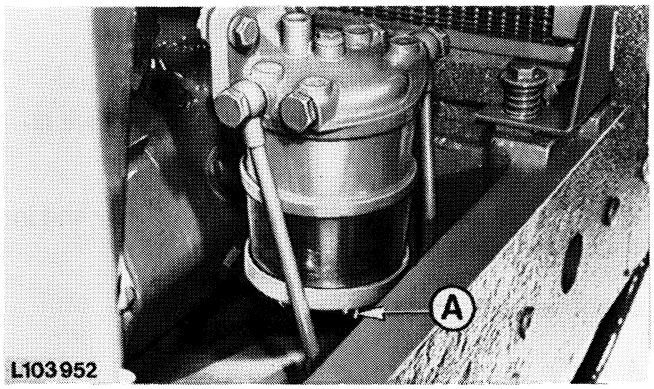

L106633-2140ALE-010885

## DRAINING WATER TRAP (Special Equipment)

When draining the fuel filter sediment bowl, also drain any water collected in the water trap.

Loosen (do not remove) drain plug (A) until water and sediment deposits have drained off. Then tighten plug finger tight.

It is advisable to visually check water trap for deposits when refilling fuel tank.




L103952-3040ALE-210783

# Service - Transmission/Hydraulic System

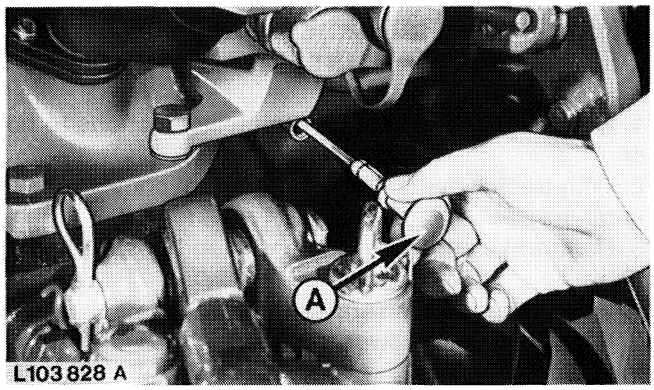
## CHECKING TRANSMISSION/HYDRAULIC SYSTEM OIL LEVEL (Every 50 Hours)

**IMPORTANT: Check oil level when oil is cold. When possible in the morning after the tractor has been standing all night.**

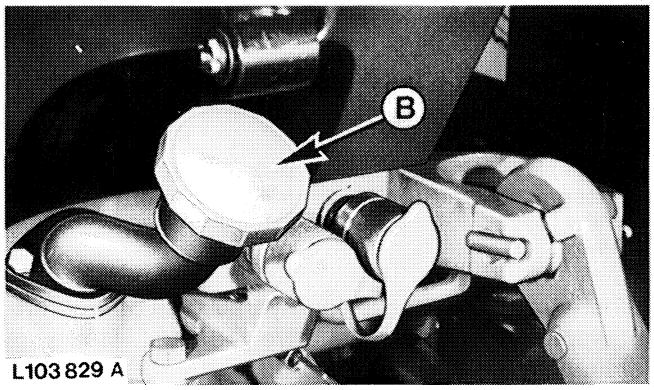
Run engine for 2 to 3 minutes. Check oil level with:
1. Tractor parked on level ground.
2. Engine running at slow idle (750 rpm).
3. Handbrake applied or transmission in park (P) position.
4. Draft links lowered.
5. Clutch engaged.
6. Pull out dipstick (A) and wipe clean.
7. Insert dipstick, remove and check oil level.

If oil level is down to bottom mark or below on dipstick, add oil through filler neck (B) to upper mark on dipstick.

*NOTE: Replace the transmission/hydraulic oil filter element after the first 50 hours of operation. Then replace filter after the first 500 hours of operation and regularly every 500 hours thereafter.*



L103828 A



L103829 A

L103828A-L103829A-2140ALE-010885

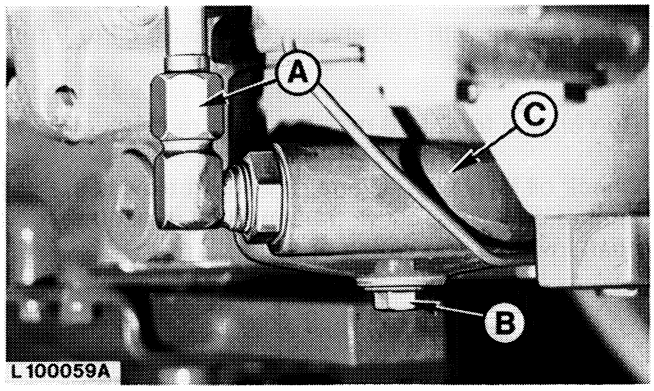
## REPLACING TRANSMISSION/HYDRAULIC SYSTEM FILTER ELEMENT (Every 500 Hours)

*NOTE: Replace the transmission/hydraulic oil filter element after the first 50 hours of operation. Then replace filter after the first 500 hours of operation and regularly every 500 hours thereafter.*

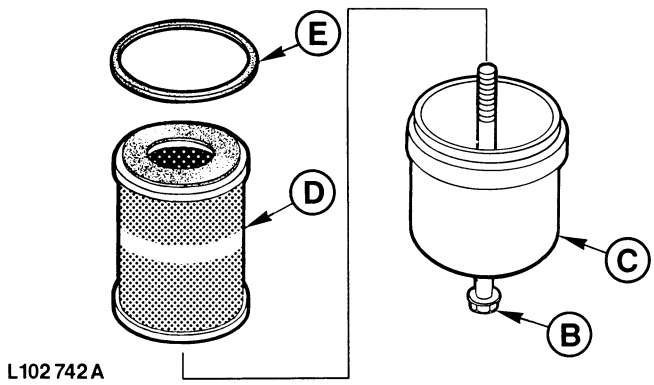
1. Remove return line (A) (when equipped).
2. Remove retaining screw (B) and lift out filter cover (C).
3. Remove filter element (D) and packing (E).
4. Carefully install new packing coated with grease in transmission case groove.
5. Insert new filter element and reinstall filter cover.
6. Tighten retaining screw.

Only use original JOHN DEERE filter elements!

**A–Return line**
**B–Retaining screw**
**C–Filter cover**
**D–Filter element**
**E–Packing**



L100059A



L102742A

L100059A,L102742-2140ALE-010885

## CHANGING TRANSMISSION/HYDRAULIC OIL (Every 1000 Hours)

1. Start engine and operate hydraulic functions to heat oil .
2. With tractor parked on level ground, shut-off engine.
3. Handbrake applied or transmission in park (P) position.
4. When equipped, disengage front PTO mechanically.
5. When equipped, lower front hitch.
6. Lower draft links.
7. Remove both transmission case drain plugs (A).
8. Replace transmission and hydraulic system filter element (B).
9. Remove plug (C), pull out intake screen and wash in fuel.

**A–Drain plugs**
**B–Transmission/hydraulic oil filter**
**C–Plug**
**D–Drain plug (clutch housing)**
**E–Dipstick**

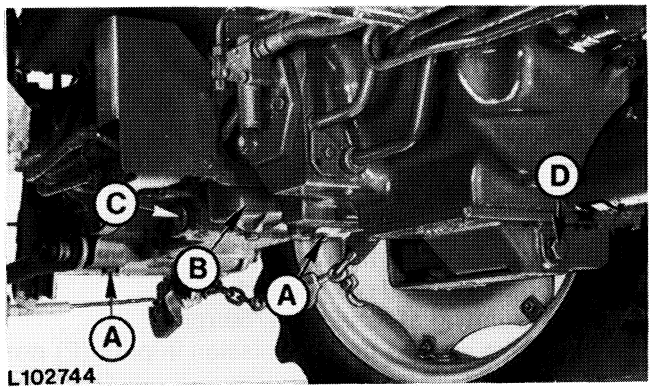
When draining transmission/hydraulic oil on tractors equipped with front wheel drive you must also remove drain plug (D) in clutch housing.

Before filling with fresh oil, reinstall clean intake screen and plugs.

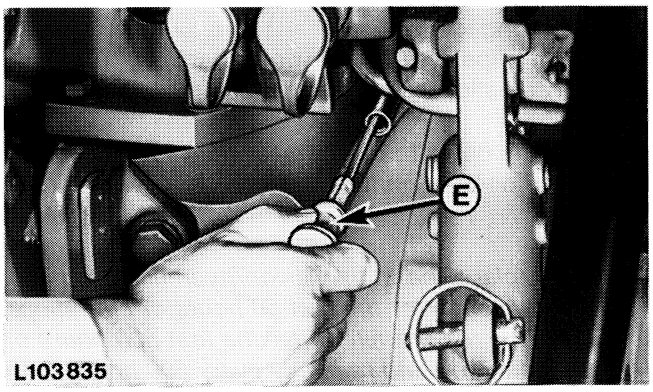
Refill system with transmission/hydraulic oil to top mark on dipstick (E).

Run engine for 2 to 3 minutes, then recheck oil level.

Check oil level with engine running at slow idle, tractor parked on level ground, transmission in neutral, rockshaft lowered and clutch engaged.



L102744



L103835

L102744,L103835-2140ALE-010885

# Service - Miscellaneous

## CHECKING CLUTCH PEDAL FREE TRAVEL (Mechanically Operated Clutch)

Periodically check clutch pedal free travel.

1. Clutch pedal free travel (A) should never be less than 13 mm (0.5 in.).

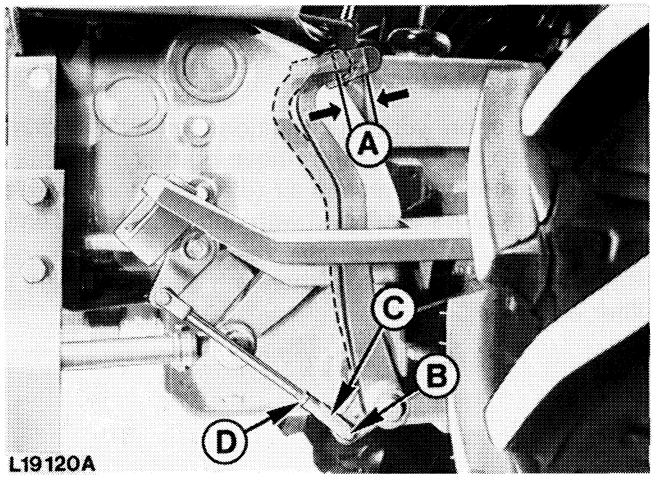
2. Remove clevis pin (B).

3. Turn yoke (C) on clutch operating rod anti-clockwise until a clutch pedal free travel of 25 mm (1 in.) has been obtained.

4. Tighten lock nut (D) to yoke after correct clutch pedal adjustment has been obtained.

Make sure that clutch is fully disengaged before pedal contacts clutch pedal stop bracket.

**A–Pedal free travel**
**B–Clevis pin**
**C–Yoke**
**D–Lock nut**



L19120A

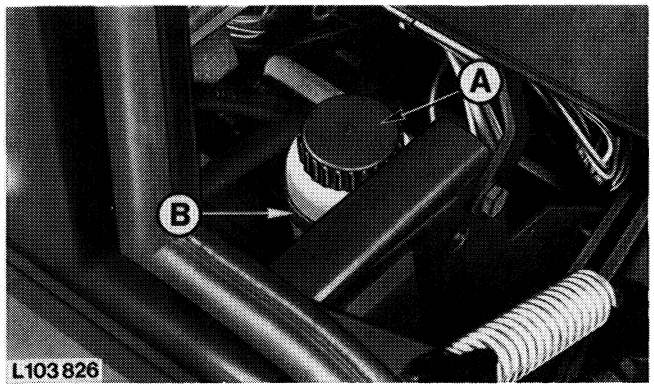
L19120A-1640ALE-010386

## CHECKING CLUTCH RESERVOIR FLUID LEVEL (Hydraulically Operated Clutch)

Periodically check clutch reservoir (A) fluid level. For this purpose, remove left-hand dash cover.

Level of brake fluid should be up to reservoir attaching strap (B).

Add brake fluid type FMVSS 116 DOT 4 when necessary.

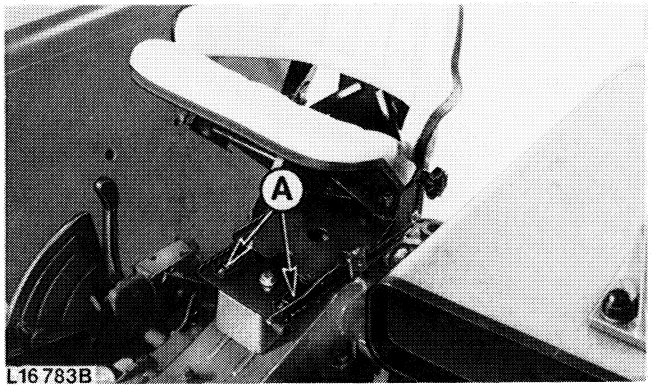


L103826

L103826-2140ALE-010885

## OPERATOR'S SEAT

Lubricate slide rails (A) with JOHN DEERE EP multi-purpose grease.

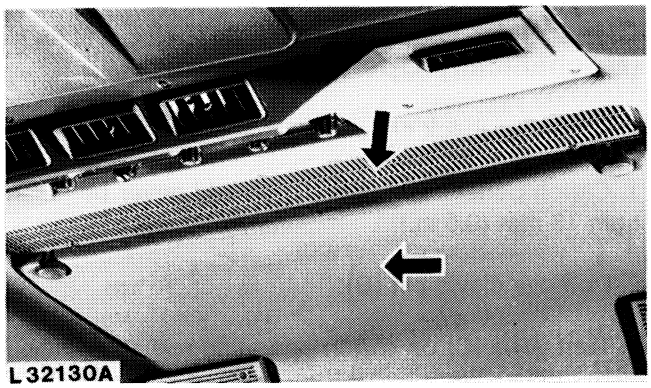


L16783B

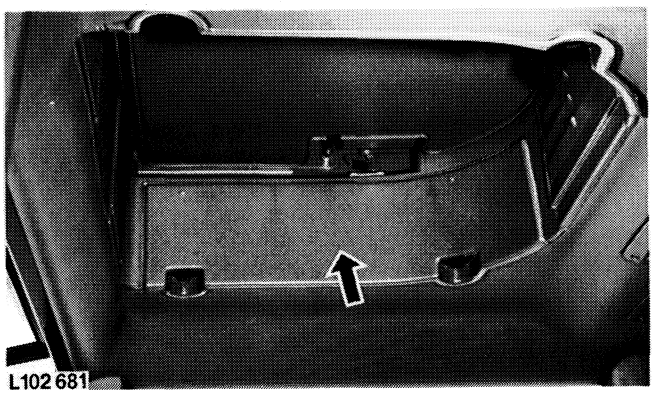
L16783B-1640ALE-010386

## CLEANING CAB AIR FILTERS (SG2 CAB)

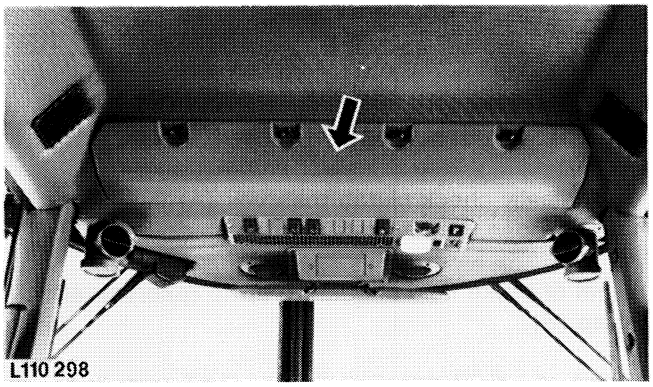
Depending upon working conditions (amount of dust and use of ventilation system), remove both cab air filters and clean with compressed air (directed from the clean side). On tractors equipped with cab hatch, also empty dust bowls.
Replace cab air filters together with engine primary air filter element.




*Cab without Hatch*




*Cab with Hatch*




*Low Profile Cab*

**IMPORTANT: When using the tractor to spray chemicals, replace cab air filters daily.**

L32130A,L102681,L110298-1640BLE-010386

## CLEANING CAB AIR FILTERS (MC1 CAB)

Depending upon working conditions (amount of dust and use of ventilation system), remove both cab air filters and clean with compressed air (directed from the clean side).

Replace cab air filters together with engine primary air filter element.

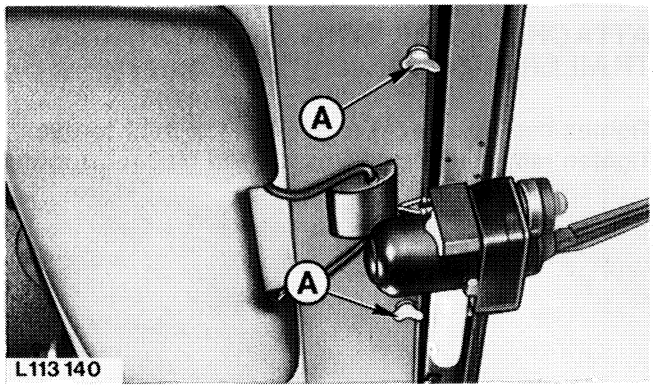
**Remove Upper Filter**

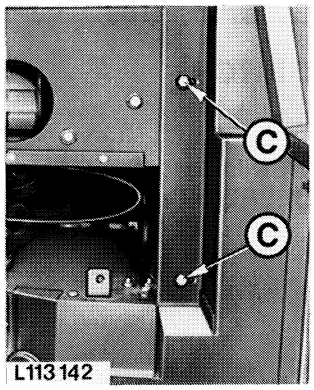
Remove wing screws (A) and lift off panel.

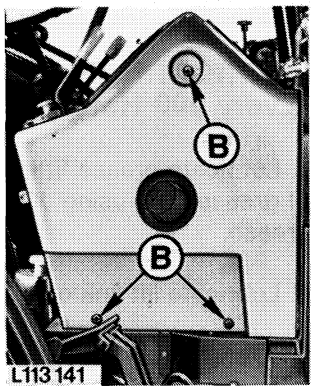
**Remove Lower Filter**

Remove screws (B). Lift out side cover. Remove screws (C) and lift out cover plate.

**IMPORTANT: When using the tractor to spray chemicals, replace cab air filters daily.**




L113140,L113141,L113142-1640ALE-010386

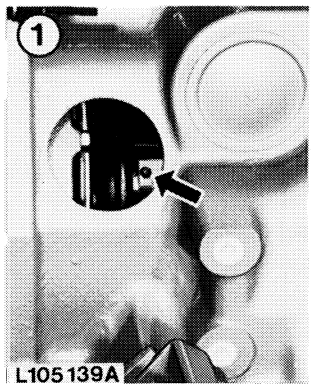
## LUBRICATING CLUTCH THROW-OUT BEARING (Every 100 Hours)

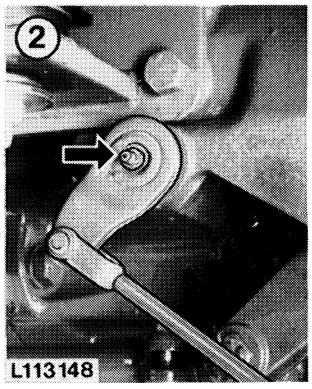
Lubricate with several strokes of grease gun, using a high temperature, JOHN DEERE EP multipurpose grease.

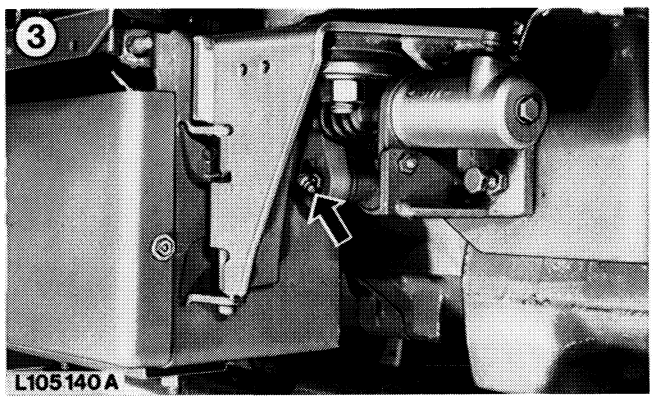
*1–Tractors without Cab*

*2–Tractors with MC1 Cab*

*3–Tractors with SG2 Cab*



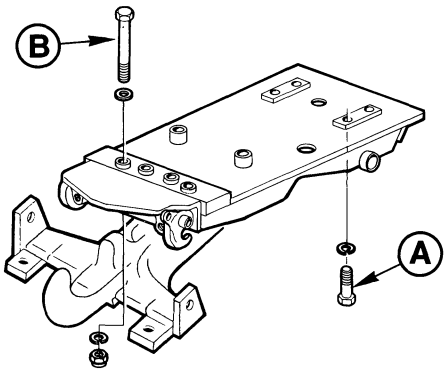




L105139A,L113148,L105140A-1640ALE-010386

## ATTACHING CAP SCREWS, HYDRAULIC TRAILER HITCH (Every 100 Hours)

Tighten cap screws (A) to 115 Nm (85 ft-lb) torque.
Tighten remaining screws to 135 Nm (100 ft-lb) torque.



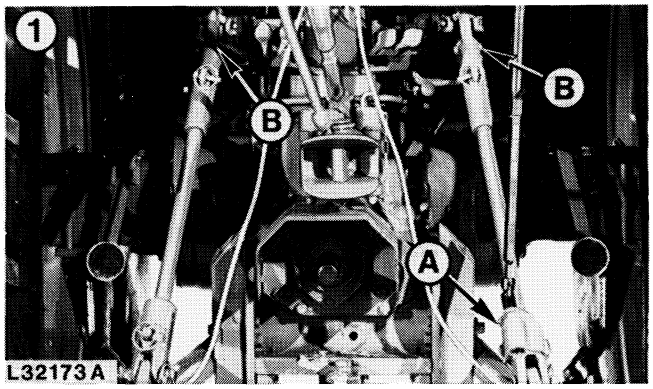

L113143

L113143-1640ALE-010386

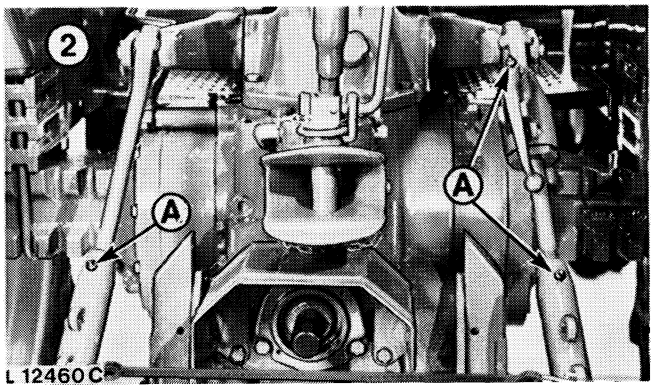
## LUBRICATING 3-POINT HITCH (Every 200 Hours)

1. Lubricate grease fittings (A) with several strokes of grease gun, using JOHN DEERE EP multipurpose grease.

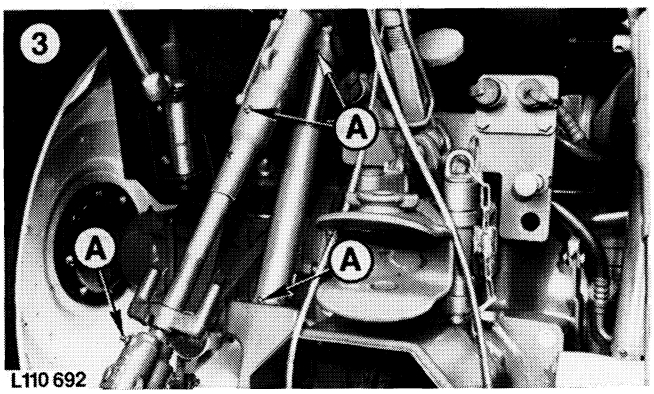
2. Lubricate lift link oilers (B) using engine oil.




*1–Tractors with Operator's Cab*




*2–Tractors without Operator's Cab*

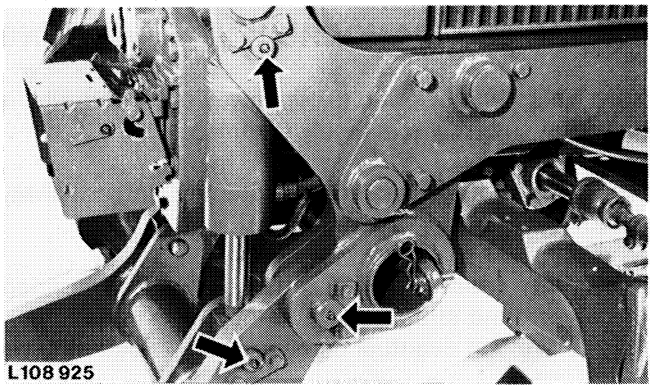



*3–Tractors with Increased Lift Capacity*

L32173A,L12460C,L110692-2140ALE-010885

## LUBRICATING FRONT HITCH (Every 200 Hours)

Lubricate grease fittings with several strokes of grease gun, using JOHN DEERE EP multipurpose grease.

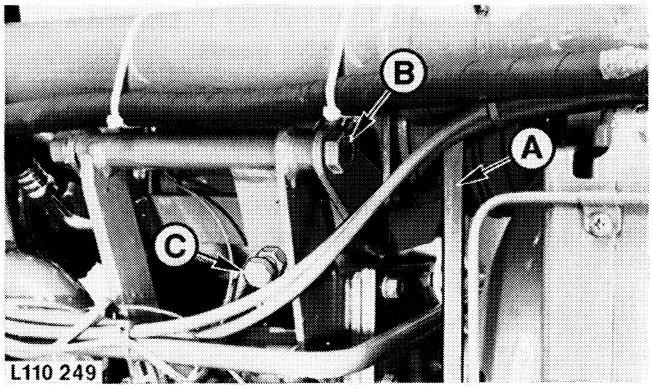



L108925-3640ALE-210185

## ADJUSTING COMPRESSOR V-BELT TENSION (Every 200 Hours)

Adjust so that with a pressure of 60 N (13 lb), V-belt (A) will deflect 19 mm (3/4 in.).

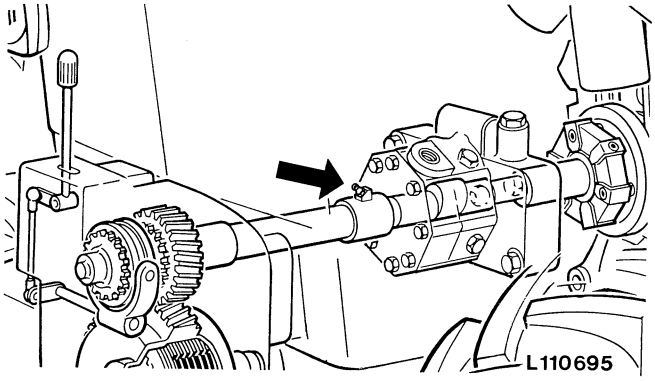
To tension belt, loosen hex. nut (B) and tighten cap screw (C). Finally retighten hex. nut (B).




L110249-2140ALE-010885

## LUBRICATING FRONT PTO (Every 200 Hours)

Lubricate grease fittings with several strokes of grease gun, using JOHN DEERE EP multipurpose grease.

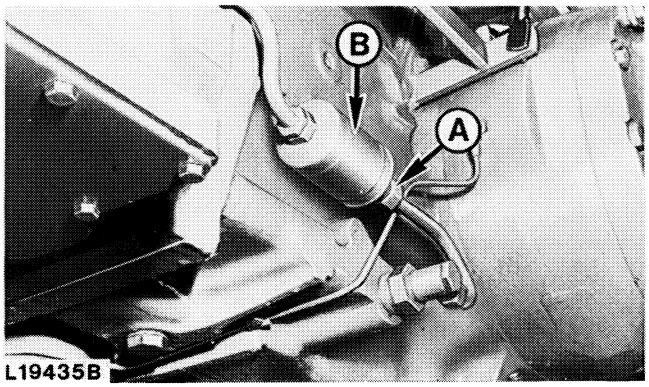



L110695-2140ALE-010885

## REPLACING HYDROSTATIC STEERING FILTER (Every 1000 Hours on Tractors without SG2 Cab)

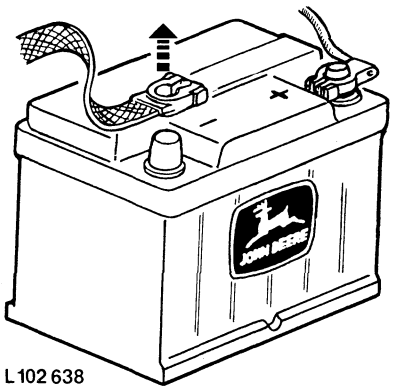
1. Disconnect oil return line union (A).

2. Unscrew filter (B) out of return line. Install new filter and reconnect oil return line to filter.




L19435B-2140ALE-010885

## BATTERIES – DANGERS WHEN HANDLING


L102 638

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 strap.

If a battery needs a quick recharge always disconnect battery ground strap before connecting the charger. This to prevent eventual damage to the electrical system.

**CAUTION: Any plastic bag or material must be removed from battery to prevent a buildup of explosive gases.**

**IMPORTANT: Always keep batteries clean and free from dust and chaff.**

When removing the battery, always disconnect ground strap first and then positive cable from the battery.

L102638-2140BLE-200186

## BATTERIES – CHECKING SPECIFIC GRAVITY


L30935

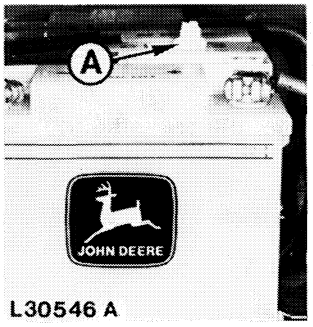
Check the specific gravity of the electrolyte by using an accurate hydrometer.

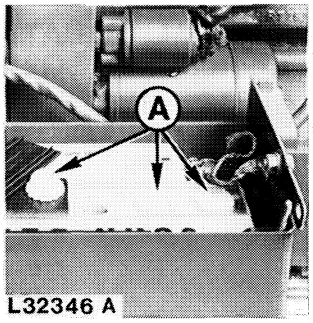
A fully charged battery should have a specific gravity of 1.28 kg/l. Recharge battery if reading drops below 1.20 kg/l.

*NOTE: In tropical areas, use a 1.23 kg/l full charge reading.*

L30935-2140ALE-010885

## BATTERIES – CHECKING LEVEL OF ELECTROLYTE (EVERY 100 HOURS)



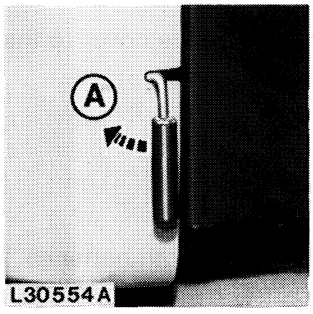



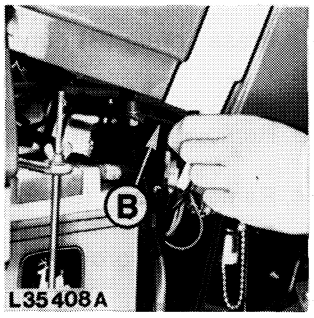

Remove filler caps (A).
Level of electrolyte should be above battery plates. Fill battery cells to bottom of filler neck using distilled water. Check vent holes in battery caps making sure they are free.

If battery terminal connections are corroded, remove corrosion with a stiff bristle brush and then coat terminals with petroleum jelly.

L30546A,L32346A-2140ALE-010885

## REMOVAL OF BATTERIES (Tractors without SG2 Cab)




1. Turn locking latch (A) outward.

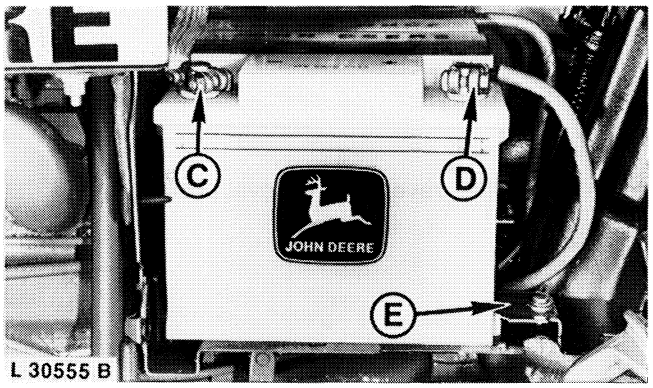
2. Swing battery cover upward.

3. Swing out stay (B) and support battery cover in upward position.

4. Disconnect ground strap (C).

5. Disconnect positive (+) cable (D) and insulate end of cable.

6. Remove securing bracket (E) and lift out battery from the side.




Proceed similarly to remove the second battery.

**A–Locking latch**
**B–Stay**
**C–Ground strap**
**D–Positive cable**
**E–Securing bracket**

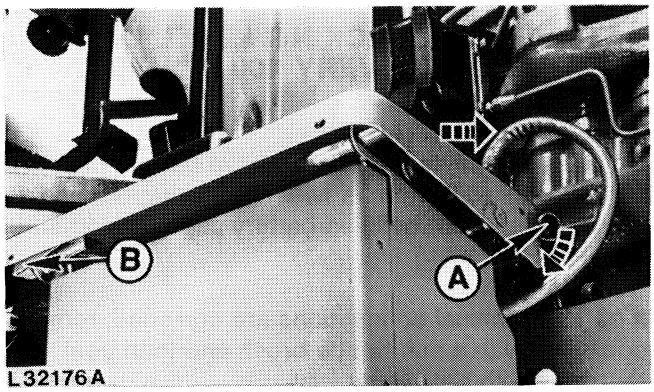
Install batteries, reversing removal procedure.

L30554A,L35408A,L30555B-2140ALE-010885

## REMOVAL OF BATTERIES (Tractors with SG2 Cab)

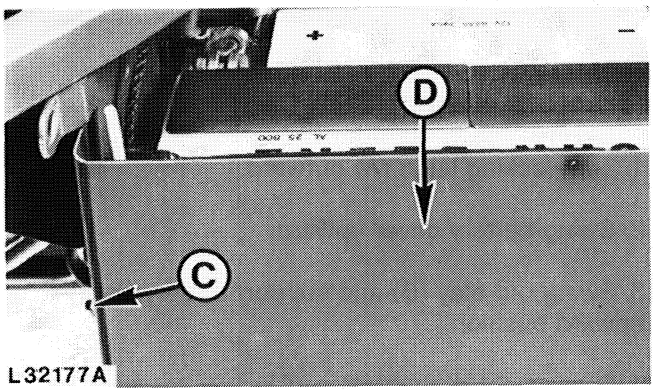
The batteries are installed under the top left and right-hand step.

**A–Locking latch**
**B–Spring**
**C–Hex. nut**
**D–Cover**
**E–Ground strap**
**F–Positive battery cable**
**G–Battery clamp**




1. Swing locking latch (A) downward.

2. Press spring (B) outward and remove cover to the front.




3. Remove hex. nut (C).

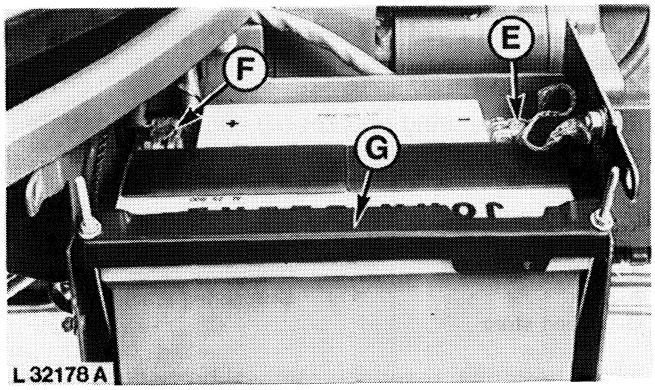
4. Remove cover (D).

5. Disconnect ground strap (E) from both batteries.

6. Disconnect positive battery cable (F).

7. Remove battery clamp (G).

8. Lift out battery.




Install batteries, reversing removal procedure.

L32176A,L32177A,L32178A-3040ALE-010285

## REMOVAL OF BATTERIES (Tractors with MC1 Cab)

The batteries are installed under the top left and right-hand step.

**A–Cap screws**
**B–Attaching screw**
**C–Battery support**
**D–Ground strap**
**E–Positive battery cable**

1. Remove cap screws (A) and remove step to the front.

2. Remove attaching screw (B) and lift out battery bracket. Place battery support (C) in the lower step.

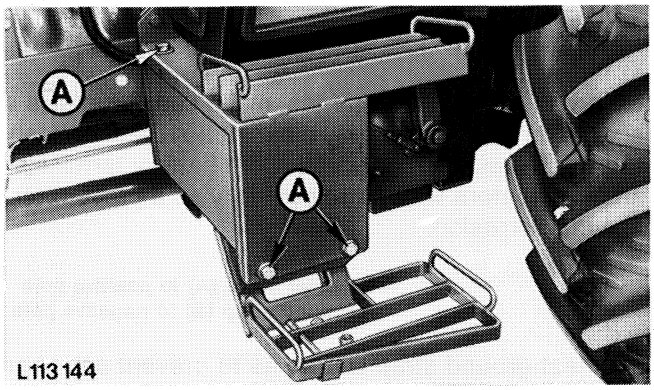
3. Pull battery to the front.

4. Disconnect ground straps (D) on both batteries.

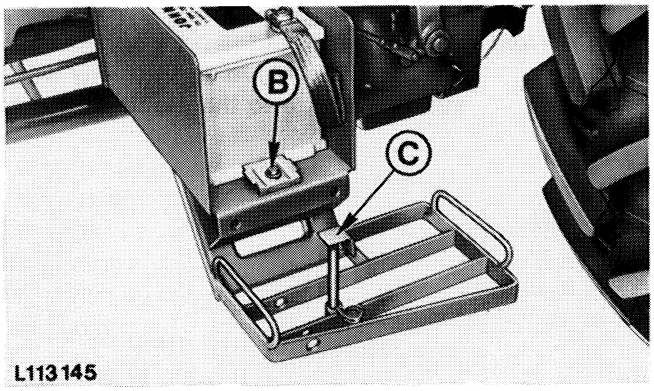
5. Disconnect positive battery cable (E).

6. Lift out battery.

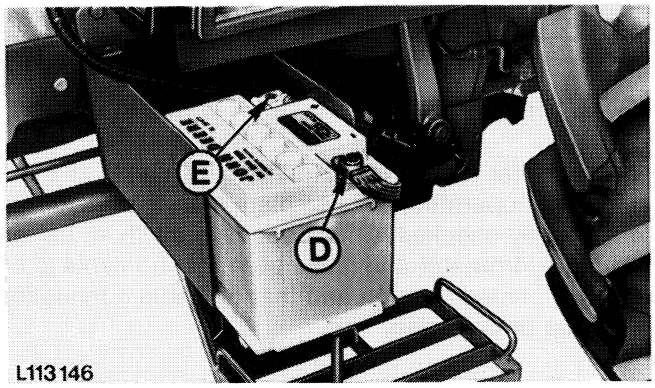
Install batteries, reversing removal procedure.



L113144



L113145

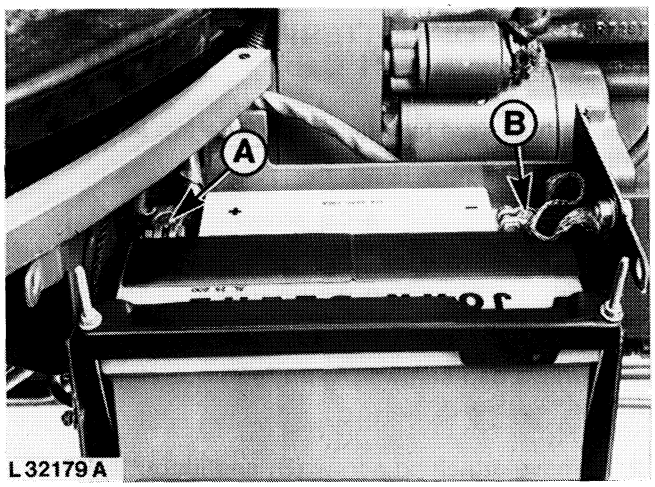


L113146

L113144,L113145,L113146-1640ALE-010386

## INSTALLING THE BATTERIES

Before installing the batteries, make sure terminals and connectors are thoroughly clean. If necessary, clean thoroughly with a wire brush. Coat battery terminals and connectors with petroleum jelly as a prevention against corrosion.




**1–Starter cable (A) to positive pole**
**2–Ground strap (B) to negative pole**

Connect ground strap last so as to prevent any short circuit.

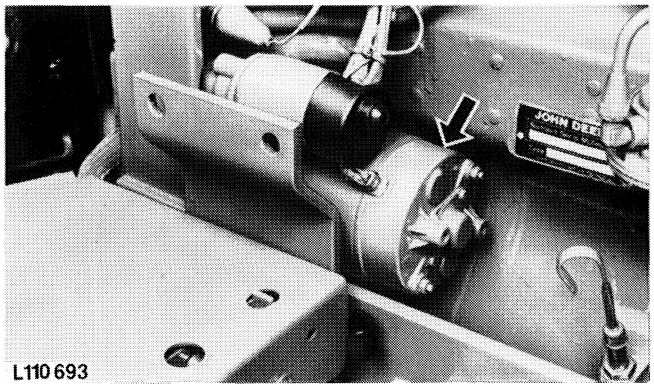
**IMPORTANT: Make sure batteries are connected to the proper poles. Reversed polarity will result in damage to the electrical system.**

L32179A-2140ALE-010885

## STARTING MOTOR

If the starter fails to operate after the starter switch has been operated, the complete starter system must be thoroughly checked. Check specific gravity of batteries with a hydrometer and make sure that no cable is broken, or chafed through and that no cable connection is loose or corroded.

If the above checks fail to improve the operation of the starter, see your JOHN DEERE dealer.




L110693-2140ALE-010885

## ALTERNATOR

Cable connections
– red cable to B+ (A).
– blue cable to D+ (B).

If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the key switch before stopping the engine by means of the fuel pump shut-off cable. Further it is recommended to use additional current (lights) while engine is running. Do not run engine at a speed above 1000 rpm.

With battery removed and starting by means of a slave battery, insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.

On machines equipped with an operator's cab, do not connect negative pole of slave battery to the cab.

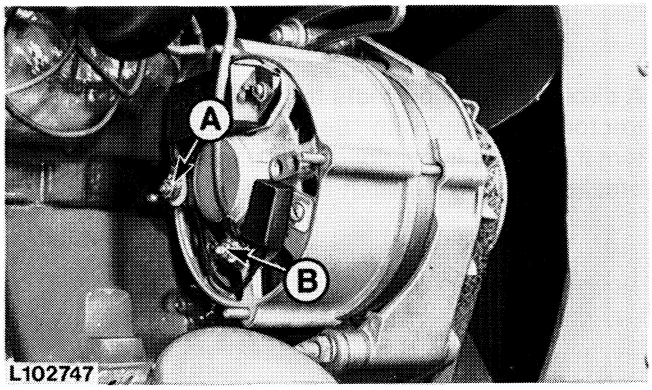
With the engine running, do not short-circuit or ground (even momentarily) alternator and regulator terminals.

Connect battery or battery charger in the proper polarity. If they are improperly connected (" + " and "–"), the rectifier diodes will be immediately destroyed.

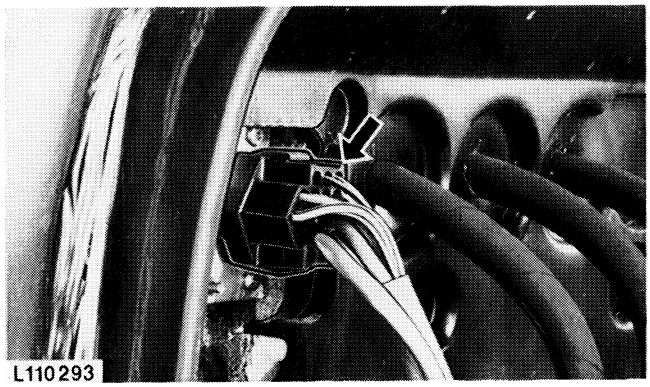
Before carrying out electrical welding jobs on the tractor, disconnect both cables at alternator. Also disconnect 21-terminal plug located above fuel filter on cowl.

Connect ground terminal of welding apparatus directly to the part being welded.

Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.



L102747


L110293

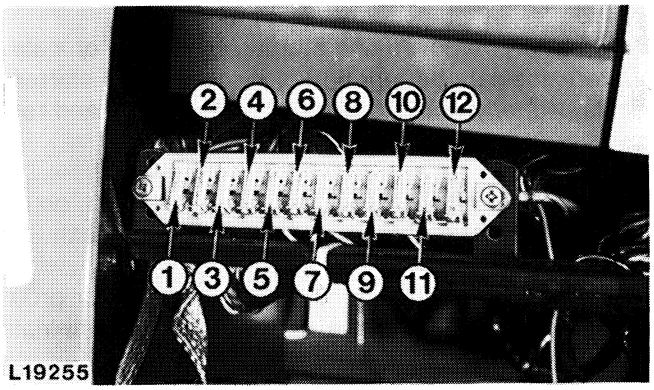
L102747,L110293-3040ALG-080785

## CIRCUIT PROTECTION WITH "SEALED BEAM" LIGHTING SYSTEM

A circuit breaker protects the lighting circuit on tractors equipped with "Sealed Beam" lighting system.If a circuit is overloaded and trips the circuit breaker, turn light switch to "OFF" position and wait approximately one minute before turning light switch back on. Within this period the circuit breaker will reset itself.

ELEOM-2140ALE-010885

## FUSES WITH "BILUX" LIGHTING SYSTEM




**Tractors Without Cab**

The fuses are located above the left-hand battery.

Fuses 1 to 12 (8 amps.) protect the following electrical components:

1– Both headlights – full beam, full beam indicator light

2– Both headlights – low beam

3– Parking lights (when equipped), tail light left-hand, clearance light, right-hand, registration plate light

4– Work light, instrument cluster lighting, socket for trailer lighting

5– Tail light, right-hand, clearance light, left-hand, socket for trailer lighting

6– Acoustic warning signal for handbrake (optional)

7– Front wheel drive (when equipped)

8– Instrument cluster

9– Horn

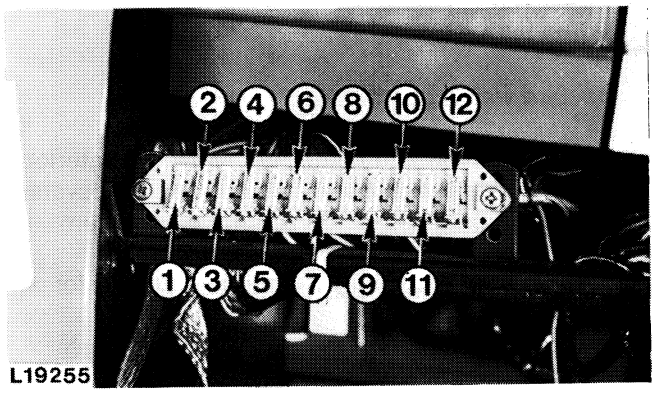
10– Hazard warning light switch, turn-signal lights and switch, socket for handlamp

11– Stop light switch, hazard warning light switch

12– Not used

L19255-1640ALE-010386

## FUSES WITH "BILUX" LIGHTING SYSTEM




### Tractors With MC1 Cab

The fuses are located under the left-hand dash panel.

Fuses 1 to 12 protect the following electrical components:

1– Both headlights – full beam, full beam indicator light

2– Both headlights – low beam

3– Parking lights (when equipped), tail light left-hand, clearance light, right-hand, registration plate light

4– Work light, instrument cluster lighting, socket for trailer lighting

5– Tail light, right-hand, clearance light, left-hand, socket for trailer lighting

6– Acoustic warning signal for handbrake (optional)

7– Roof fan and windshield wiper

8– Instrument cluster, heater fan

9– Horn

10– Hazard warning light switch, turn-signal lights and switch, socket for handlamp

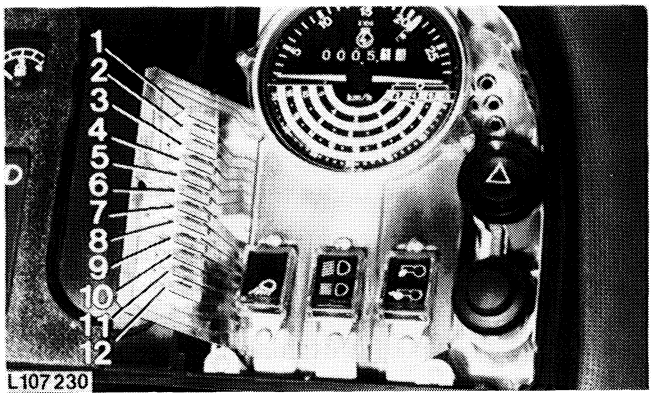
11– Stop light switch, hazard warning light switch, work light

12– Cab interior light, roof fan, windshield wiper

Fuses 8 and 12: 16 amps. Remainder: 8 amps.

L19255-1640BLE-010386

**Tractors with SG2 Cab**




1– Hazard warning light switch

2– Cab ventilation and heater fan relay, cab interior light, radio (when equipped), air conditioning system (when equipped) and windshield washer system

3– Stop lights, right and left-hand and socket for trailer lighting

4– Headlights, low beam

5– Headlights, full beam and full beam indicator light

6– Instrument lighting, left-hand, parking lights and work lights

7– Instrument lighting, right-hand, tail light, right-hand clearance light, left-hand and socket for trailer lighting

8– Tail light, left-hand, clearance light, right-hand, registration plate light, shift console lighting, windshield washer switch and socket for trailer lighting

9– Control light panel, fuel gauge, coolant temperature gauge

10– Front wheel drive switch and front wheel drive indicator light

11– Horn, hazard warning light switch, engine speed meter, turn signal lights, hazard warning lights, socket for handlamp or cigarette lighter

12 –Windshield wipers, Hi-Lo shift unit indicator light, relay for cab ventilation-and-heater fan and front PTO (when equipped)

Fuses 1: 15 amps. Fuses2, 3 and 12: 20 ampere fuses.

The radio (when equipped) has an additional 2 ampere fuse.

All other fuses are 10 amperes.

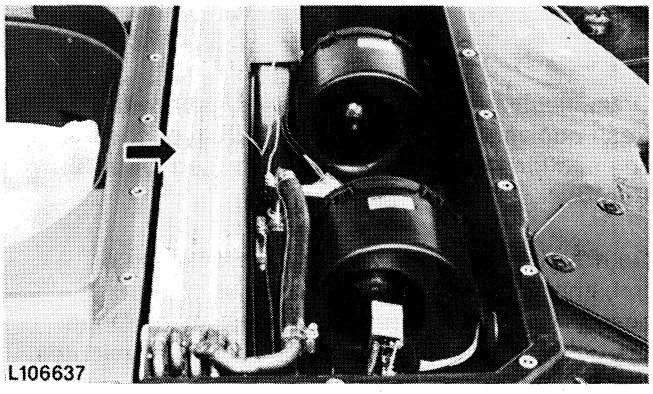
L107230-2140ALE-110286

# Service - Heater and Air Conditioning System

## CLEANING HEATER CORE AND EVAPORATOR

Using compressed air, clean heater core and evaporator periodically.

If moisture has collected in cab roof, check evaporator drain hoses.




L106637-3640ALE-190784

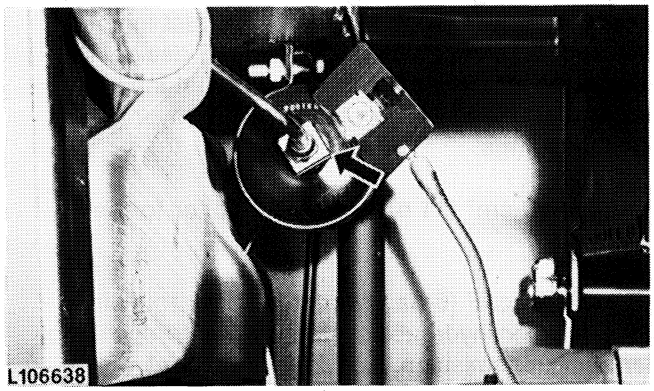
## AIR CONDITIONING SYSTEM NOT COOLING CORRECTLY

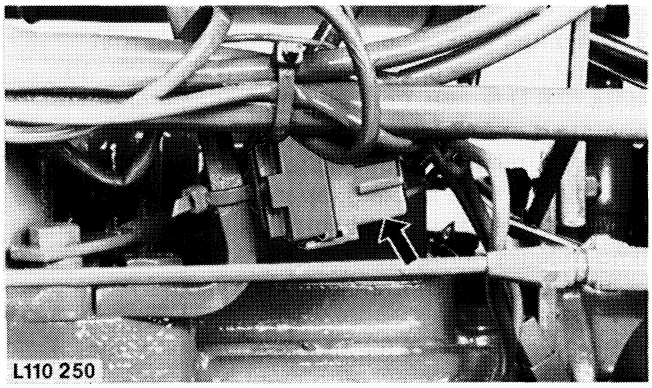
If air conditioner is not cooling correctly, check refrigerant as follows:

Run engine at 1900 rpm. Switch blower and air conditioner to "maximum" operating position.

Using a mirror, observe sight glass. If bubbles do not disappear within a few minutes, system may be low on refrigerant. See your JOHN DEERE dealer.

If compressor will not run with blower and air conditioner turned on high, superheat fuse may be blown. This indicates a problem in air conditioning system (usually insufficient refrigerant). See your JOHN DEERE dealer.

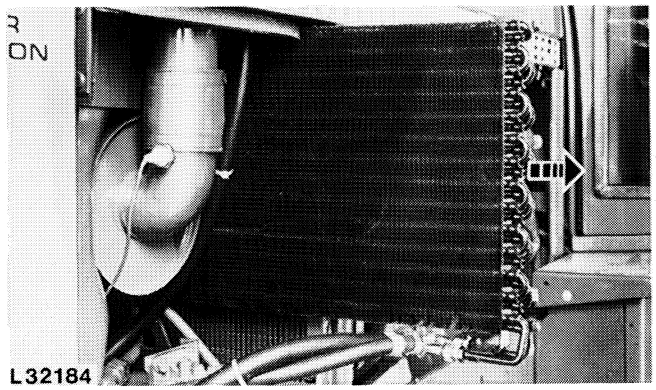



L106638,L110250-2140ALE-010885

## CLEANING CONDENSER

From time to time clean the condenser. Remove radiator screen and pull out condenser from the side.




L32184-2140ALE-010885

# Tractor Storage

## STORAGE FOR LONGER PERIOD

Drain, flush and refill the cooling system with fresh coolant. For proper composition of coolant see section "Fuel, Lubricants, Hydraulic Oil and Coolant".

Do not store the tractor with the crankcase or transmission case filled with dirty oil. If necessary, drain oil and replace filter element. Drain the oil when hot. Operate engine for a few minutes before adding rust inhibitor.

To protect engine, fuel system, transmission and hydraulic system, use the AR 41785 rust inhibitor available from your JOHN DEERE dealer. The above part no. includes one can of rust inhibitor, masking tape and protective caps to cover all engine openings.

1. Add 310 $cm^3$ (11 oz.) of rust inhibitor to the engine oil.

2. Add 180 $cm^3$ (6 oz.) of rust inhibitor to oil in transmission/hydraulic system on tractors with collar shift transmission. Add 230 $cm^3$ (8 oz.) on tractors with synchronized transmission.

3. Drain fuel tank. Pour 170 $cm^3$ (6 oz.) of rust inhibitor into the empty tank and add approx. 10 liters (2.6 U.S. gals.) of fuel. Start engine and operate it at fast idle for 15 to 20 minutes to distribute mixture through the entire fuel system. While the engine is idling, operate the complete hydraulic system several times. Shut off engine in time to leave some fuel in the tank. Then allow the engine to cool down for 15 to 20 minutes.

4. Prepare 15 $cm^3$ (0.5 oz.) of rust inhibitor for each cylinder. Remove plug of intake manifold or connecting pipe of starting fluid adapter at the intake manifold, whichever applies.

Inject rust inhibitor into the intake manifold. Pull out shut-off knob, move hand throttle to slow idle position and crank engine with starter several times.

However, do not allow the engine to start. Otherwise the whole procedure must be repeated.

After the rust inhibitor has been added, the engine may not be started again.

**IMPORTANT: Rust inhibitor agents evaporate very easily. For this reason, seal all openings after the inhibitor has been added. Also, keep the inhibitor container always closed.**

Fill the fuel tank.

Remove and clean the batteries and add distilled water, if necessary. Charge the batteries and store in a cool, dry place where they will not freeze. Keep batteries fully charged during storage. Seal all openings such as the vent tube and exhaust outlet.

Wash the exterior and painted surfaces of the tractor, using clear, cold water. Wipe them dry with a soft cloth.

Replace or repair worn or damaged parts. Between working seasons is a good time to paint your tractor.

Store the tractor in a dry, protected place. If the tractor is stored outside, cover it with a waterproof tarpaulin.

Block up the tractor so that tires do not touch the ground. Protect tires from heat and sunlight.

## REMOVING TRACTOR FROM STORAGE

Remove all protective coverings. Check tire inflation and remove blocks.

Install batteries and connect cable and ground straps (negative terminals grounded). Check alternator belt tension.

Check transmission and hydraulic system oil level.

See that fuel tank is filled.

Check coolant level in radiator.

Check crankcase oil level.

Carry out 500-hour check.

With engine shut-off knob pulled out, turn engine with starter for several seconds so that engine oil pressure builds up.

Push in engine shut-off knob and start engine.

**CAUTION: Before starting the tractor engine, be sure there is plenty of ventilation. Never operate the tractor in a closed building. Danger of asphyxiation!**

EINOM-2140BLE-010885

## HYDRAULIC SYSTEM

**Hydraulic system fails to function**

Low oil supply –
Fill system with proper oil to mark on dipstick.

Restricted filter –
Replace filter.

Dirt in hydraulic pump –
Check filter for clogging.

**Hitch fails to lift load**

Excessive load on hitch –
Adjust auxiliary springs on implement or reduce load.

**Hitch drops slowly**

Rate-of-drop lever not properly adjusted –
Adjust rate-of-drop

**No hitch response to draft load**

Selector lever in Height or Load and Depth Control position –
Place selector lever in Load Control position.

**Hitch too active**

Selector lever in Load Control position –
Place selector lever in Load and Depth Control position.

**Direction of remote cylinder travel is reversed**

Improper hose connections –
Reverse hose connections.

**Remote cylinder will not lift load**

Excessive load –
Adjust auxiliary springs on implement or reduce load.

Disconnect coupler not completely engaged –
Attach hoses to coupler correctly.

Air in remote cylinder –
Bleed cylinder.

**Remote cylinder rate-of-travel incorrect**

Incorrect rate-of-lift adjustment –
Adjust rate of lift.

STOOM-2140ALE-010885

## ENGINE

**Engine hard to start or will not start**

No fuel –
Fill tank with fuel.

Restricted fuel filter –
Replace filter element.

Crankcase oil too heavy –
Use oil of proper viscosity.

Low ambient air temperature –
Use cold weather starting aids.

**Engine knocks**

Insufficient oil –
Add oil.

Fuel injection pump incorrectly timed –
See your dealer.

**Engine overheats**

Low coolant level –
Fill radiator to proper level.
Check radiator and hoses for loose connections and leaks.

Loose or defective fan belt –
Adjust belt tension.

Cooling system needs flushing –
Flush cooling system.

**Engine oil pressure too low**

Low engine oil level –
Add engine oil.

**High oil consumption**

Oil of too low viscosity –
Drain and refill with oil of correct viscosity.

Oil leaks –
Check for leaks in lines and around gaskets.

**High fuel consumption**

Improper type of fuel –
Use proper fuel.

Improper valve clearance –
See your dealer.

Fuel injection nozzles dirty or damaged –
See your dealer.

Engine incorrectly timed –
See your dealer.

**Engine emits black or grey exhaust smoke**

Improper type of fuel –
Use proper fuel.

Restricted air cleaner –
Service air cleaner.

Defective muffler –
Replace muffler.

Fuel injection nozzles dirty or damaged –
Have your JOHN DEERE dealer check the injectors.

**Engine emits white smoke**

Improper type of fuel –
Use proper fuel.

Cold engine –
Warm up engine to normal operating temperature.

Engine incorrectly timed –
See your dealer.

Defective thermostat –
Remove and check thermostat.

STOOM-2140BLE-010885

## ELECTRICAL SYSTEM

**Batteries will not charge**

Loose or corroded connections –
Clean and tighten battery connections.

Sulfated batteries –
Check specific gravity of each battery. Check electrolyte level of each battery.

Loose or defective alternator belt –
Adjust belt tension or replace belt.

**Starter inoperative**

Loose or corroded connections –
Clean and tighten loose connections.

Low battery output –
Check and recharge batteries.

**Starter cranks slowly**

Low battery output –
Check and recharge batteries.

Crankcase oil too heavy –
Use proper viscosity oil.

Loose or corroded connections –
Clean and tighten loose connections.

STOOM-2140CLE-010885

# Specifications

## ENGINE

| | |
|---|---|
| Engine power at rated engine speed | |
| Net (according to DIN 70020) | |
| Tractor 1640 | 46 kW (62 hp) |
| Tractor 2040 | 51 kW (70 hp) |
| Tractor 2040 S | 55 kW (75 hp) |
| Max. PTO power at rated engine speed | |
| – measured acc. to DIN 70020 | |
| Tractor 1640 | 41 kW (56 hp) |
| Tractor 2040 | 46 kW (63 hp) |
| Tractor 2040 S | 50 kW (68 hp) |
| – measured acc. to SAE J816 b | |
| Tractor 1640 | 40 kW (54 hp) |
| Tractor 2040 | 45 kW (60 hp) |
| Tractor 2040 S | 48 kW (65 hp) |
| Max. torque (1640) at 1200 rpm | 205 Nm (150 ft-lb) |
| Max. torque (2040) at 1300 rpm | 230 Nm (170 ft-lb) |
| Max. torque (2040 S) at 1400 rpm | 245 ft-lb (180 ft-lb) |
| Number of cylinders | 4 |
| Bore | 106.5 mm (4.19 in.) |
| Stroke | 110 mm (4.33 in.) |
| Displacement | 3920 $cm^3$ (239 cu.in.) |
| Compression ratio | 17.4 : 1 |
| Firing order | 1-3-4-2 |
| Intake valve clearance | 0.35 mm (0.014 in.) |
| Exhaust valve clearance | 0.45 mm (0.018 in.) |
| Slow idle | 750 rpm |
| Fast idle | 2650 rpm |
| Rated speed | 2500 rpm |
| Working speed range | |
| Tractor 1640 | 1200 to 2500 rpm |
| Tractor 2040 | 1300 to 2500 rpm |
| Tractor 2040 S | 1400 to 2500 rpm |
| Speed for PTO operation | |
| – Rear 540 rpm PTO | 2040 rpm |
| – Rear 1000 rpm PTO | 2400 rpm |
| – Front PTO (6 splines) | 2400 rpm |
| – Front PTO (21 splines) | 2150 rpm |

TECHOM-1640ALE-010386

## WEIGHTS

Maximum Permissible Static Vertical Load

| | |
|---|---|
| – on drawbar (extended position) | 680 kg (1500 lb) |
| – on drawbar (retracted position) | 1000 kg (2205 lb) |
| – on swinging trailer hitch | |
| (standard) | 1000 kg (2205 lb) |
| (with increased lift capacity) | 1200 kg (2645 lb) |

Maximum Permissible Front Axle Loads

| – With Tires | | | |
|---|---|---|---|
| 6.00-16 6 PR | 1120 kg (2470 lb) | | 2240 kg (4940 lb)* |
| 7.50-16 6 PR | 1490 kg (3285 lb) | | 2980 kg (6570 lb)* |
| 7.50-18 6 PR | 1620 kg (3575 lb) | | 3240 kg (7145 lb)* |
| 10.00-16 6 PR | 1620 kg (3575 lb) | | 3500 kg (7715 lb)* |

* With front loader, maximum permissible travel speed in this case 8 km/h (5 mph)
Maximum front wheel tread 1.80 m (71 in).

Maximum Permissible Rear Axle Loads

| **– With Tires** | **1640/2040** | **2040 S** | **With Increased Lift Capacity** |
|---|---|---|---|
| 13.6-36 6 PR | 3320 kg (7320 lb) | | |
| 13.6-38 6 PR | 3320 kg (7320 lb) | | |
| 14.9-38 6 PR | 3500 kg (7715 lb) | | |
| 15.5-38 6 PR | 3530 kg (7780 lb) | | |
| 16.9-24 6 PR | 3440 kg (7590 lb) | | |
| 16.9-30 6 PR | 3600 kg (7940 lb) | 3800 kg (8380 lb) | 3800 kg (8380 lb) |
| 16.9-34 6 PR | 3600 kg (7940 lb) | 4030 kg (8890 lb) | 4030 kg (8890 lb) |
| 18.4-30 6 PR | 3600 kg (7940 lb) | 4200 kg (9270 lb) | 4240 kg (9345 lb) |
| 21.5-16.1 6 PR | 3600 kg (7940 lb) | 4120 kg (9070 lb) | 4120 kg (9070 lb) |
| 13.6-38 8 PR | 3600 kg (7940 lb) | 3820 kg (8400 lb) | 3820 kg (8400 lb) |
| 14.9-38 8 PR | 3600 kg (7940 lb) | 4200 kg (9270 lb) | 4360 kg (9610 lb) |
| 15.5-38 8 PR | 3600 kg (7940 lb) | 4120 kg (9070 lb) | 4120 kg (9070 lb) |
| 23.1-26 8 PR | 3600 kg (7940 lb) | 4200 kg (9270 lb) | 4360 kg (9610 lb) |

Maximum Permissible Total Weight

| **1640/2040** | **2040 S** | **With Increased Lift Capacity** |
|---|---|---|
| 4700 kg (10380 lb) | 5400 kg (11920 lb) | 6000 kg (13225 lb) |

*NOTE: Traffic regulations in certain countries may reduce the axle loads and maximum permissible total weights quoted above.*

TECHOM-1640BLE-010386

## ELECTRICAL SYSTEM

| | |
|---|---|
| Batteries | 2 x 12 volts, 55 Ah or 2 x 12 volts, 66 Ah |
| Alternator | 14 volts, 33 or 55 amps. |
| Starting motor | 12 volts, 3 kW (4 hp) |
| Battery terminal grounded | Negative |

## CAPACITIES

| | |
|---|---|
| Fuel Tank | 95 liters (25.1 U.S. gal.) |
| Cooling System | |
| – without SG2 cab | 13 liters (3.4 U.S. gal.) |
| – with SG2 cab | 15 liters (4.0 U.S. gal.) |
| Crankcase | |
| – with filter change | 8.5 liters (2.25 U.S. gal.) |
| – without filter change | 8 liters (2.1 U.S. gal.) |
| Transmission/Hydraulic System | |
| – with synchronized transmission | 45 liters (11.9 U.S. gal.) |
| – with collar shift transmission | 33 liters (8.7 U.S. gal.) |
| – With heavy-duty final drives, an extra | 5.0 liters (1.3 U.S. gal. |
| Front axle housing (front wheel drive) | 5 liters (1.3 U.S. gal.) |
| Final drive housing (front wheel drive), each | 0.75 liters (0.2 U.S. gal.) |

## FRONT WHEEL DRIVE

Maximum Permissible Front Axle Load
– With Tires:

| | | |
|---|---|---|
| 11.2-24 8 PR | 2200 kg (4850 lb) | 3430 kg (7560 lb)* |
| 11.2-28 6 PR | 2200 kg (4850 lb) | 3120 kg (6880 lb)* |
| 12.4-24 6 PR | 2200 kg (4850 lb) | 3360 kg (7410 lb)* |
| 13.6-24 8 PR | 2200 kg (4850 lb) | 3700 kg (8155 lb)* |

* With front loader, maximum permissible travel speed in this case 8 km/h (5 mph)
Maximum front wheel tread 1.80 m (71 in).

*NOTE: Specifications not shown here are the same as those shown for tractors not equipped with front wheel drive.*

TECHOM-1640CLE-010386

# Serial Numbers

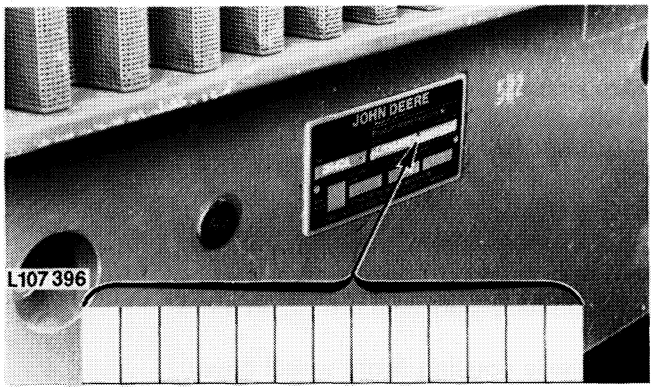
## SERIAL NUMBER PLATES

The following illustrations show the serial number plates for tractor major components. The letters and figures on the serial number plates are required for warranty claims and when ordering spare parts. For this reason record these serial numbers in the spaces provided at the bottom of each illustration.

SEROM-3640ALE-190784

## PRODUCT IDENTIFICATION NUMBER

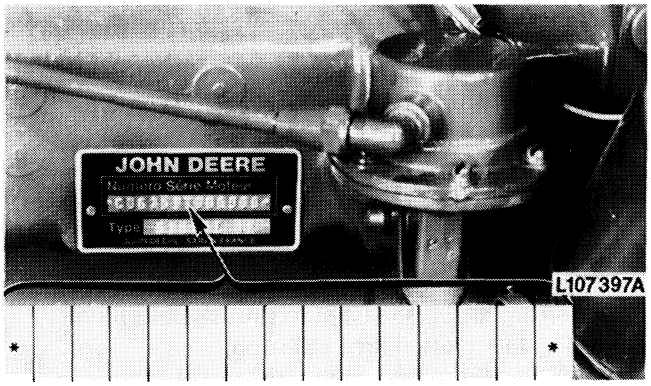
The product identification number plate is located on right- hand side of front axle carrier.




L107396-2140ALE-010885

## ENGINE SERIAL NUMBER

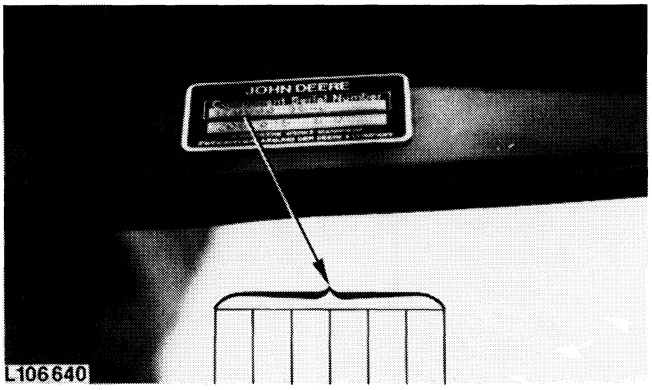
The engine serial number plate is located on right-hand side of engine block.




L107397A-2140ALE-051285

## TRANSMISSION SERIAL NUMBER (Tractors with SG2 Cab)

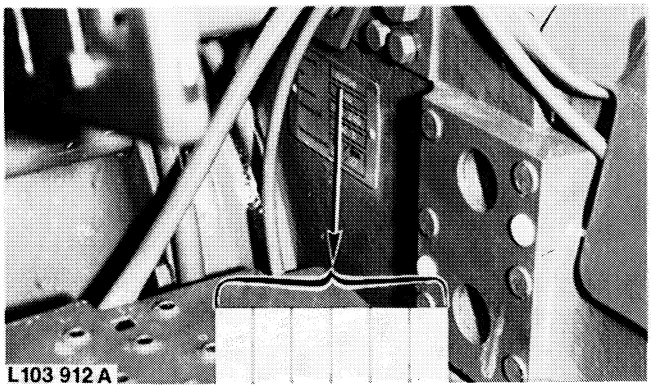
The transmission serial number plate is located on right-hand cab crossmember.




L106640-2140ALE-010885

## TRANSMISSION SERIAL NUMBER (Tractors without SG2 Cab)

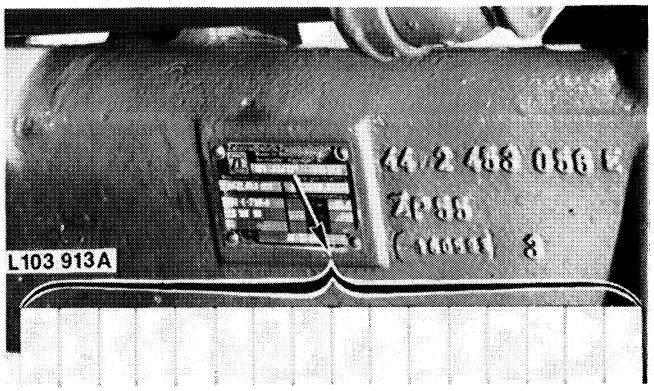
The transmission serial number plate is located on right-hand side of transmission.




L103912A-3040ALE-010285

## FRONT WHEEL DRIVE AXLE SERIAL NUMBER

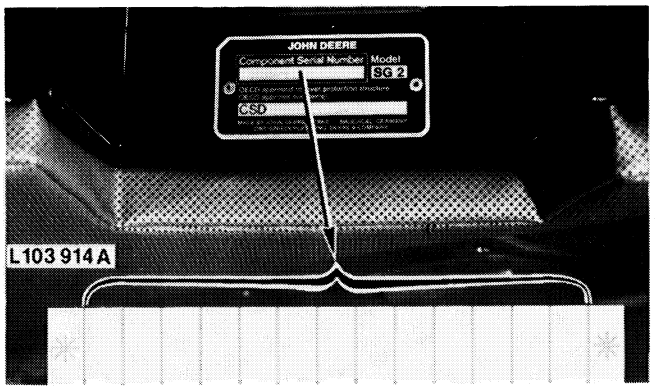
The front wheel drive axle serial number plate is located on rear, right-hand side of axle.




L103913A-2140ALE-010885

## OPERATOR'S CAB SERIAL NUMBER

With operator's cab door open, cab serial number plate is visible in roof recess as you enter the cab (SG2 cab). On the MC1 cab the plate is located above the rear windshield.




L103914A-1640ALE-010386

# Lubrication and Maintenance Records

## 50 HOUR SERVICE:

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## 100 HOUR SERVICE:

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L112121

Clean cable connections and batteries, check level of electrolyte, check oil level of front axle, tighten hydraulic trailer hitch attaching bolts, lubricate clutch throw-out bearing, check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112121-2140ALE-010885

## 200 HOUR SERVICE:

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L112122

Drain and refill engine crankcase, replace engine crankcase filter element, check alternator and compressor belt tension, lubricate 3-point hitch, lubricate front hitch, lubricate front PTO, clean cable connections and batteries, check level of electrolyte, check oil level of front axle, tighten hydraulic trailer hitch attaching bolts, lubricate clutch throw-out bearing, check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112122-1640ALE-010386

## 500 HOUR SERVICE:

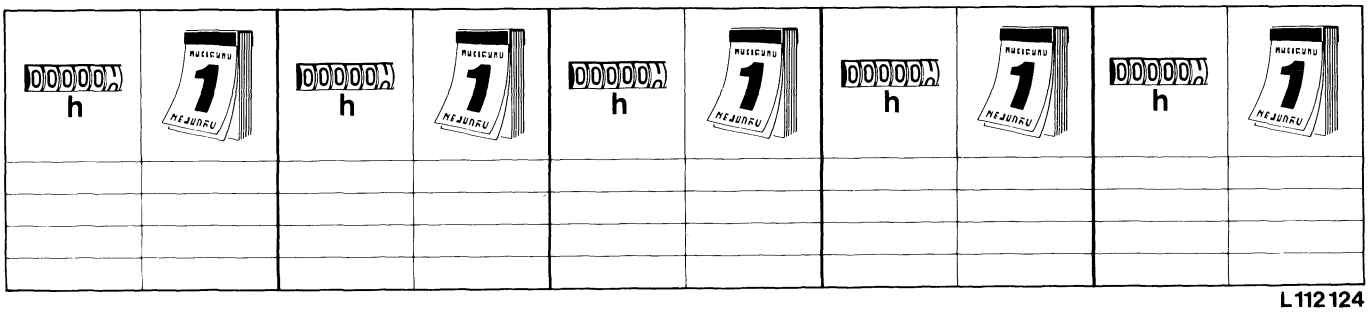
| h | | h | | h | | h | | h | |
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L112123

Replace transmission/hydraulic oil filter element, clean fuel transfer pump, check connections of air intake hoses, lubricate rear axle bearings, have engine speeds checked, check engine valve tappet clearances, clean cable connections and batteries, check level of electrolyte, check oil level of front axle, tighten hydraulic trailer hitch attaching bolts, lubricate clutch throw-out bearing, check oil level of transmission/hydraulic system, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112123-2140ALE-010885

## 1000 HOUR SERVICE:

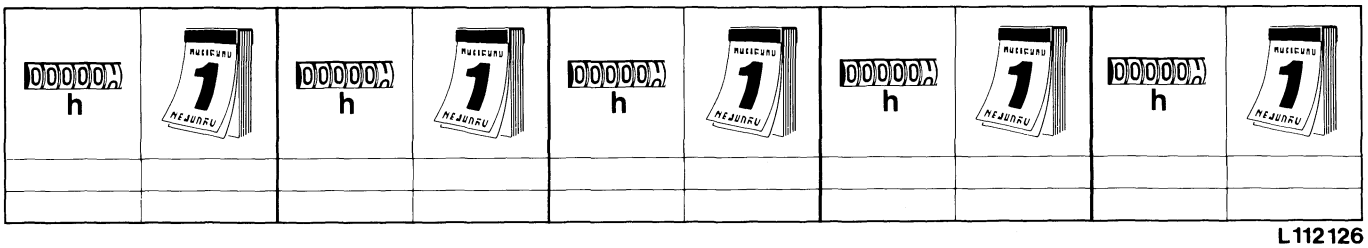


L112124

Drain and refill transmission/hydraulic system, replace transmission/hydraulic system filter element, replace hydrostatic steering filter, replace fuel filter element, drain and refill front axle, clean front wheel bearings and repack with grease, check starting motor, clean hydraulic pump filter, clean fuel transfer pump, check connections of air intake hoses, lubricate rear axle bearings, have engine speeds checked, check engine valve tappet clearances, drain and refill engine crankcase, replace engine crankcase filter element, check alternator and compressor belt tension, lubricate 3-point hitch, lubricate front hitch, lubricate front PTO, clean cable connections and batteries, check level of electrolyte, tighten hydraulic trailer hitch attaching bolts, lubricate clutch throw-out bearing, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112124-1640ALE-010386

## 2000 HOUR SERVICE:



L112126

Have fuel injection nozzles checked. Drain and refill transmission/hydraulic system, replace transmission/ hydraulic system filter element, replace hydrostatic steering filter, replace fuel filter element, drain and refill front axle, clean front wheel bearings and repack with grease, check starting motor, clean hydraulic pump filter, clean fuel transfer pump, check connections of air intake hoses, lubricate rear axle bearings, have engine speeds checked, check engine valve tappet clearances, drain and refill engine crankcase, replace engine crankcase filter element, check alternator and compressor belt belt tension, lubricate 3-point hitch, lubricate front hitch, lubricate front PTO, clean cable connections and batteries, check level of electrolyte, tighten hydraulic trailer hitch attaching bolts, lubricate clutch throw-out bearing, clean air cleaner unloading valve, check tire inflation pressures, lubricate front axle, check level of engine coolant.

L112126-1640ALE-010386

## SERVICE – EVERY SPRING AND AUTUMN

| 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU |
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L112125

Drain and refill engine crankcase

L112125-2140ALE-010885

## SERVICE – EVERY 2 YEARS

| 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU | 000000 h | MUESIACU 1 MEJUNAU |
|---|---|---|---|---|---|---|---|---|---|
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| | | | | | | | | | |

L112126

Renew hydraulic clutch fluid, replace thermostat, flush cooling system and fill with fresh coolant.

L112126-2140ALE-010885

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# John Deere Service keeps you on the job

## JOHN DEERE PARTS

We help minimize downtime by putting the right parts in your hands in a hurry.

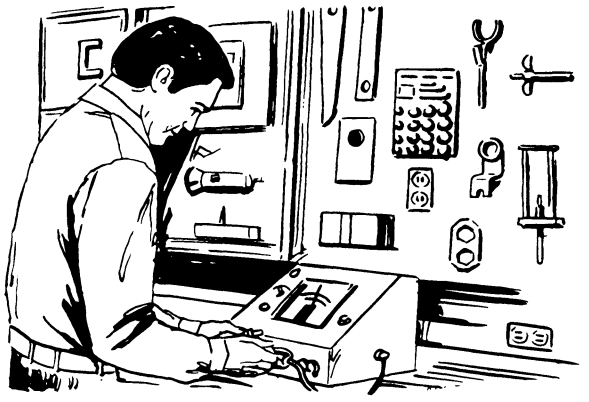
That's why we maintain a large and varied inventory – to stay a jump ahead of your needs.




TS100-ESPDAE-180286

## THE RIGHT TOOLS

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly .... to save you time and money.



TS101-ESPDAE-180286

## WELL-TRAINED TECHNICIANS

School is never out for JOHN DEERE service technicians.

Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?
Experience you can count on!



TS102-ESPDAE-180286

## PROMPT SERVICE

Our goal is to provide prompt, efficient care when you want it and where you want it.

We can make repairs at your place or at ours, depending on the circumstances.
See us. Depend on us.

**JOHN DERE Service Superiority: We'll be around when you need us.**



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