

1640, 2040 and 2040S Tractors (From Serial No. 430,000 L)



JOHN DEERE

OPERATORS MANUAL

**1640, 2040 and 2040S Tractors (From
Serial No. 430,000 L)**

OML37104 H1 English

**John Deere Werke Mannheim
OML37104 H1**

LITHO IN U.S.A.
ENGLISH





To the Purchaser

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 prerequisite 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.



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.

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

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

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

Record the serial numbers of your machine on page 114 of this manual and provide this information to your dealer when ordering spare parts.



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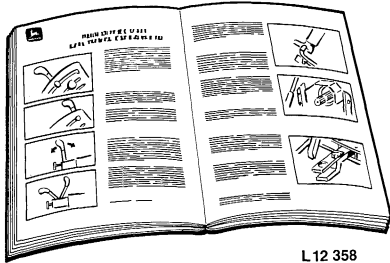
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Safety Rules



L 12 358

Do not put this **operator's manual** away unread. Read the manual carefully, regardless of your previous experience. Allow yourself this time, it will save you time and labour later on.

Always observe local **traffic regulations** when driving the tractor on public roads.

Become familiar with all **controls, indicators, warning lights, and warning plates** before operating the tractor.

Allow only trained operators to **use or adjust** the tractor.

Make sure that all **safety guards and shields** supplied with your tractor are serviceable and installed before operating tractor.

Never operate the tractor in a **closed building**. Danger of asphyxiation.

Always maintain **brakes** in excellent condition and adjustment. Brake pedals must be coupled together by means of the pedal coupler when driving on public roads.

Make sure that the tractor can be **safety steered and operated**, especially when driving up a steep hillside or down a slope.

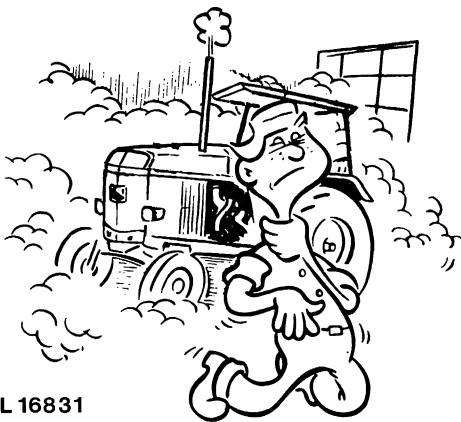
Do not operate the tractor without a **roll guard**.

A protective four-post roll-guard is incorporated in each operator's cab. On this construction, as well as on tractor equipped with a roll-guard only, do not, under any circumstances, modify structural members of roll-guard by welding on additional parts, drilling holes etc. Disregarding this instruction can affect the rigidity of the roll-guard and therefore the operator's safety cannot be guaranteed.

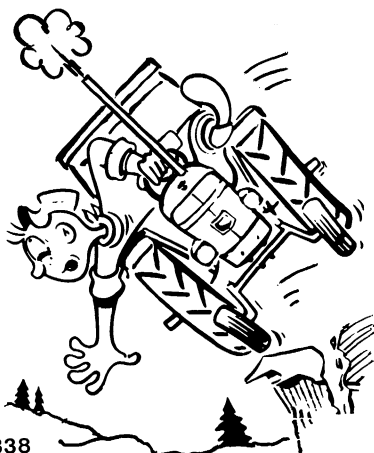
The operator should be sure to have sufficient **visibility**.

To make sure that the tractor can be safely steered with rear-mounted implements, install **front weights**.

Drive slowly over rough ground or on hillsides and reduce speed when turning.



L 16831



L 16838

Always keep tractor in gear when driving down steep hills or inclines.

When driving out of a ditch, gully, or up a steep slope, engage the clutch slowly. Be prepared to declutch promptly if the front wheels rise off the ground. Use the same care if rear wheels mire in soft ground or drop into a hole. Back the tractor out of these spots if at all possible.

The power demands of attached or drawn implements should be well within the tractor's power range.

Trailers attached to the tractor should be equipped with a safely operating brake and lighting system.

Install additional red tail lights on rear-mounted implements covering the tractor tail lights or if the implement protrudes laterally.

Do not leave equipment raised when tractor is stopped. Always lower it to the ground.

Before starting engine make sure rockshaft control lever is in "equipment lowered" position.

After having disengaged the PTO, driven equipment does not become stationary immediately. Do not attempt to make adjustments or repairs while tractor is running unless specifically recommended. Disengage PTO, place transmission in park or apply handbrake, and shut off tractor engine before working on equipment.

Do not wear loose clothing near moving parts.

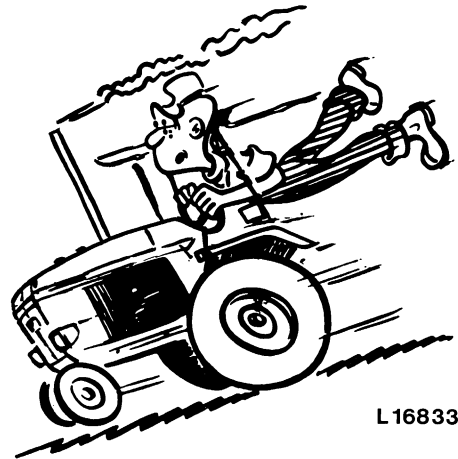
If a PTO-driven implement is attached, make sure powershaft shields are installed.

Chock rear wheel when parking on a slope.

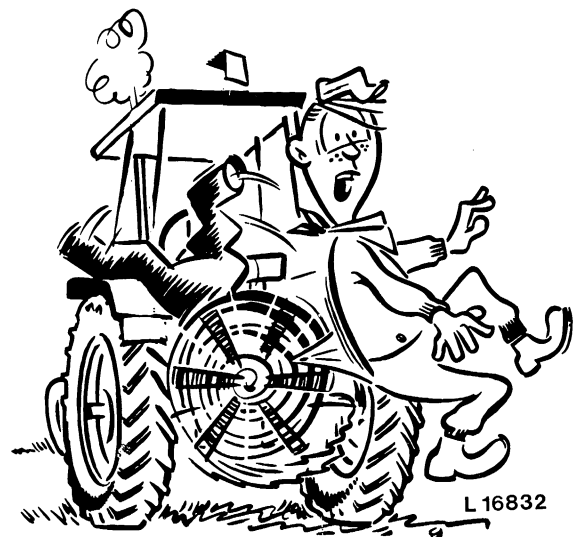
Add coolant only with engine stopped or idling. Turn radiator cap slowly to relieve pressure before removing.

CAUTION! Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious injury. Before disconnecting lines, be sure to relieve pressure. Before applying pressure, be sure connections are tight and lines, pipes and hoses are not damaged. Use a piece of cardboard or wood, rather than hands, to search for leaks.

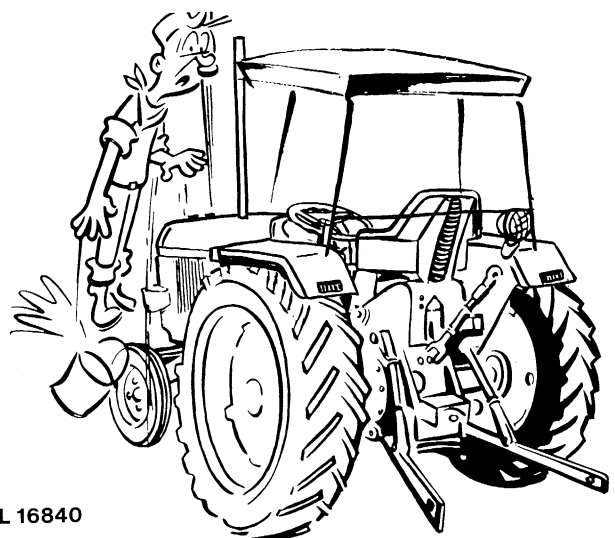
If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.



L 16833



L 16832



L 16840



CAUTION! To avoid injury from escaping hydraulic oil under pressure, relieve the pressure in the system by shutting off tractor and moving remote cylinder operating levers in both directions before attaching hoses to or detaching hoses from the breakaway couplers.

Use caution in handling any type of tractor fuel. Never refuel the tractor when the engine is hot or running. Do not smoke while filling the fuel tank or servicing the fuel system.

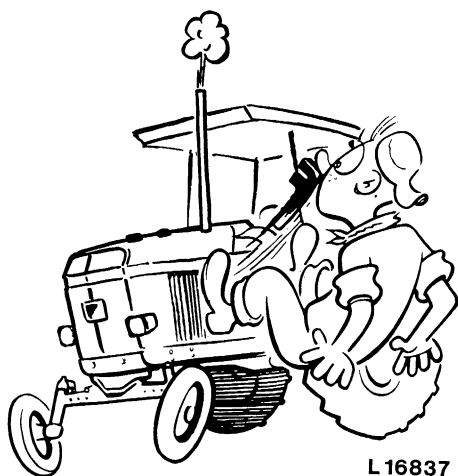
Do not refuel, grease, or adjust the tractor while engine is running.

Always disconnect **battery ground straps** before adjusting engine or electrical system.

Do not allow **passengers** on the moving tractor unless a second seat is provided.

Provide a **first-aid kit** for use in case of accident.

It is a good practice to mount a **fire extinguisher** on the tractor. Be sure that the extinguisher is easily accessible and be familiar with its proper use.



CAUTION! 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 your local tire manufacturer agents.



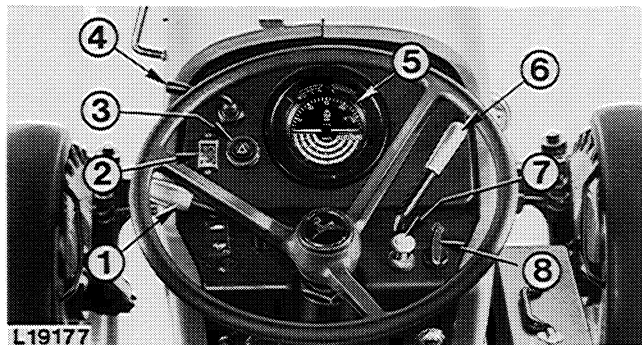
NOTES



Controls and Instruments

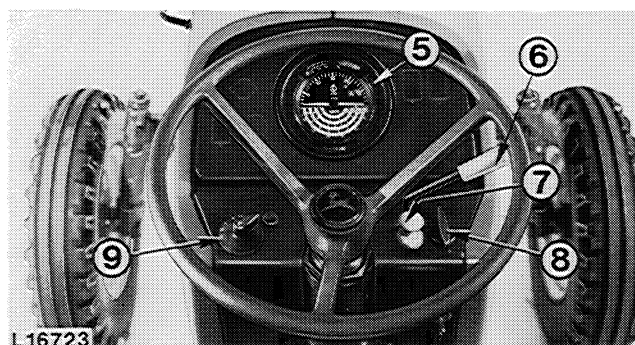
Tractors without SG2 Cab

"Bilux" Lighting System



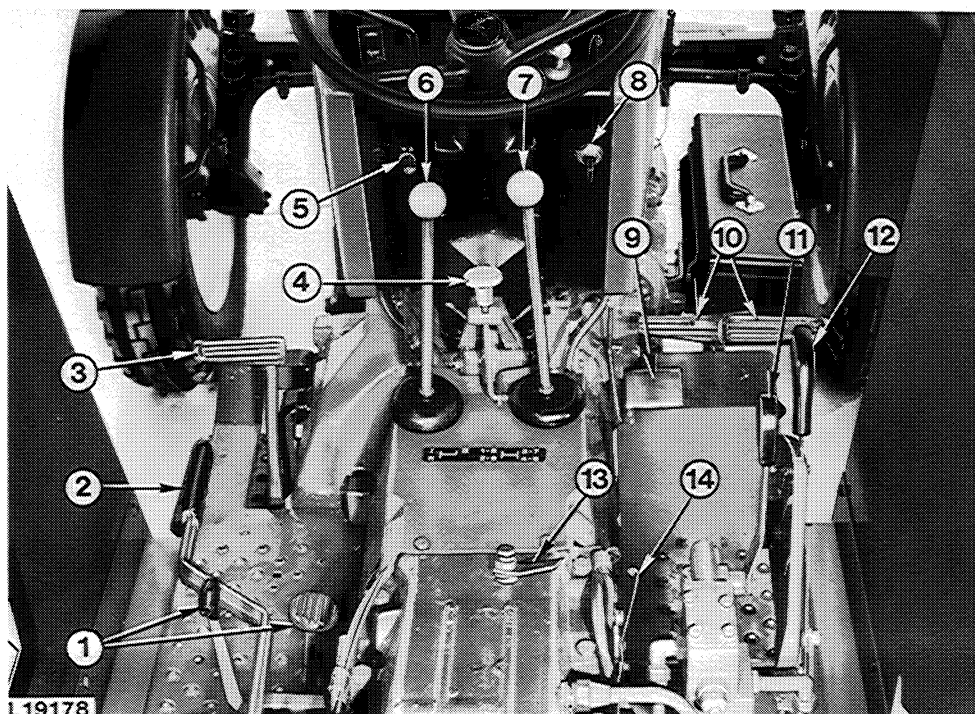
- 1 Hi-Lo or creeper transmission shift lever (optional eqpt.)
- 2 Full beam headlight switch
- 3 Hazard warning light switch

"Sealed-Beam" Lighting System



- 4 Turn signal and horn switch
- 5 Instrument cluster
- 6 Hand throttle

- 7 Engine shut-off knob
- 8 Starter switch
- 9 Light switch



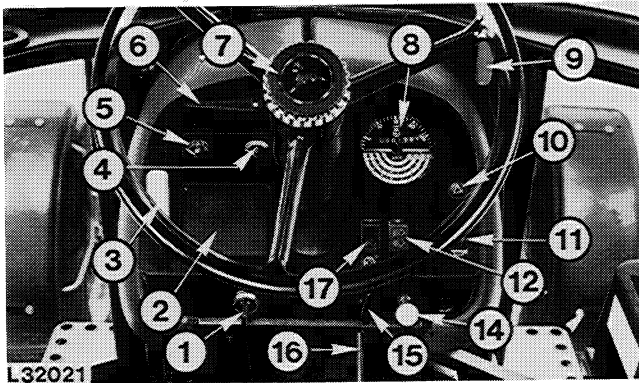
- 1 Differential lock (lever and pedal)
- 2 Handbrake lever
- 3 Clutch pedal
- 4 PTO control lever

- 5 Socket for handlamp
- 6 Range shift lever
- 7 Gear shift lever
- 8 Main switch
- 9 Foot throttle

- 10 Brake pedals
- 11 Selective control valve lever
- 12 Rockshaft control lever
- 13 Rate-of-drop lever
- 14 Rockshaft selector lever

Tractors with SG2 Cab

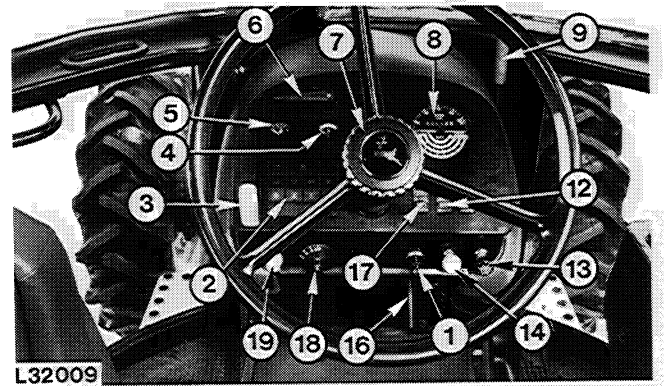
"Bilux" Lighting System



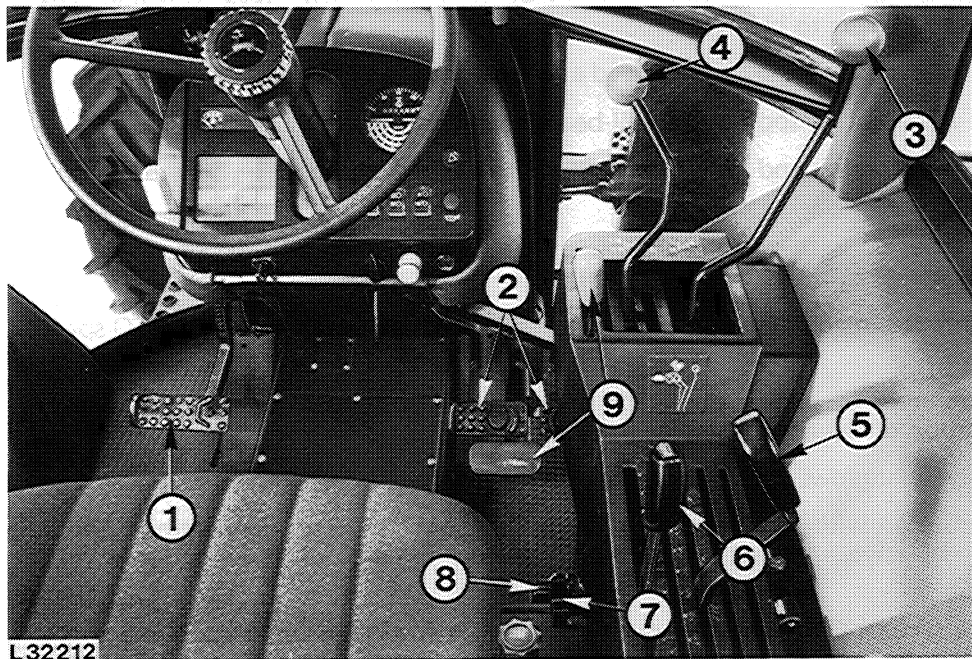
- 1 Main switch
- 2 Control light panel
- 3 PTO control lever
- 4 Coolant temperature gauge
- 5 Fuel gauge
- 6 Turn signal switch
- 7 Steering wheel telescope release

- 8 Speed-hour meter
- 9 Handbrake
- 10 Hazard warning light switch
- 11 Horn button
- 12 Full beam headlight switch
- 13 Cigarette lighter

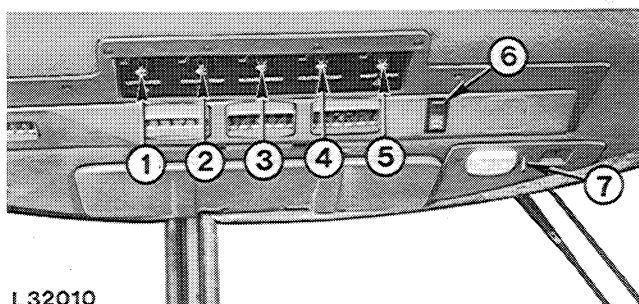
"Sealed Beam" Lighting System



- 14 Engine shut-off knob
- 15 Starter switch
- 16 Steering column tilt release lever
- 17 Worklight switch
- 18 Light switch
- 19 Cold weather starting aid button



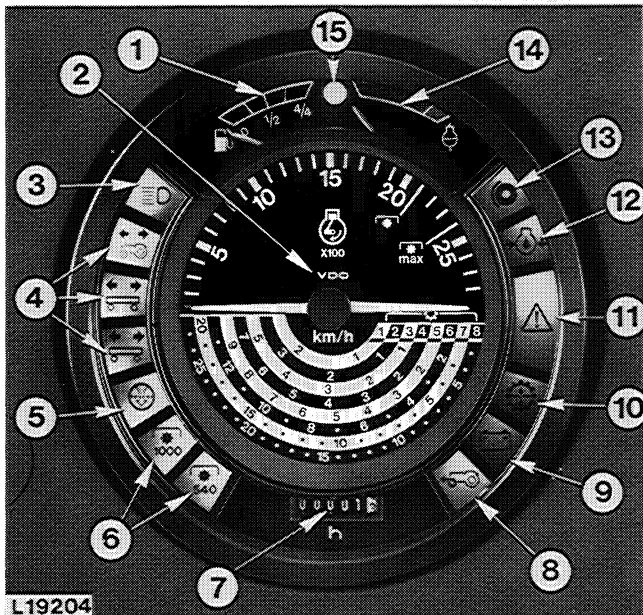
- 1 Clutch pedal
- 2 Brake pedals
- 3 Range shift lever
- 4 Gear shift lever
- 5 Selective control valve lever
- 6 Rockshaft control lever
- 7 Rockshaft selector lever
- 8 Differential lock
- 9 Hand and foot throttle



- 1 Windshield wiper switch, left-hand
- 2 Air conditioning system switch (optional equipment)
- 3 Fan switch
- 4 Heater switch
- 5 Windshield wiper switch, right-hand
- 6 Windshield washer switch
- 7 Cab light switch

Instrument Cluster

Tractors without SG2 Cab



Air cleaner, alternator, engine oil pressure and transmission oil pressure* indicator lights should light up as soon as the main switch key is turned on. If this is not the case, a burnt-out bulb or blown fuse may be the cause. Replace defective bulb or blown fuse.

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

* On tractors equipped with collar-shift transmission: Transmission oil pressure indicator light glows only when a malfunction occurs.

- 1 The fuel gauge shows amount of fuel in tank, from "full" (4/4) to "empty" (0). Never run fuel tank completely dry, otherwise you will have to bleed the fuel system.
- 2 The engine and tractor speed meter shows the engine speed and tractor speed in the gear engaged.
- 3 The full-beam indicator light will go on as soon as the full-beam headlight switch is turned on.
- 4 The flashing indicator lights for tractor and trailer start flashing when turn-signal or hazard warning lights are turned on.
- 5 If air cleaner indicator light goes on with engine running, the air cleaner element must be cleaned or replaced.
- 6 The PTO speed indicator lights (on machines with PTO hand speed-change only) show the PTO speed engaged.
- 7 The hour meter shows the number of engine operation hours in full and tenths of hours. The hour meter facilitates close observation of the proper service intervals.
- 8 The front wheel drive indicator light glows when front wheel drive is engaged.
- 9 If alternator indicator light goes on with engine running, check for loose alternator connections, condition and tension of V-belt or defective alternator. If necessary have alternator checked by your John Deere dealer.
- 10 If transmission oil pressure indicator light goes on 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.
- 11 The warning light blinks when indicator light 9, 10 or 12 glows or when range shift lever is moved with handbrake applied.
- 12 If engine oil pressure indicator goes on with engine running, shut-off engine and check oil level.
- 13 The handbrake indicator light glows when handbrake is applied and main switch is turned on. Furthermore, an acoustical warning signal can be installed.
- 14 Should the coolant gauge needle move into the red zone 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.
- 15 This indicator light glows when fog tail light is switched on.

Instruments

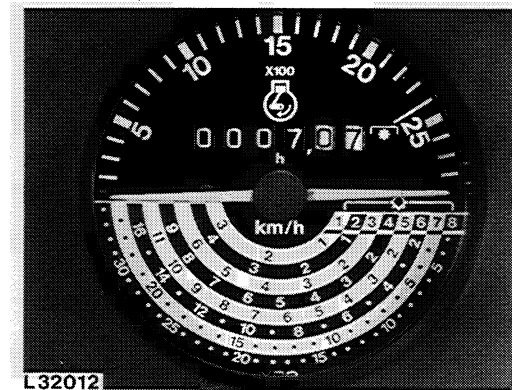
Tractors with SG2 Cab

Speed Meter

The engine and tractor speed meter shows the engine speed and tractor speed in the gear engaged.

Hour Meter

The hour meter shows the number of engine operating hours in full and tenths of hours. The hour meter facilitates close observation of the proper service intervals.



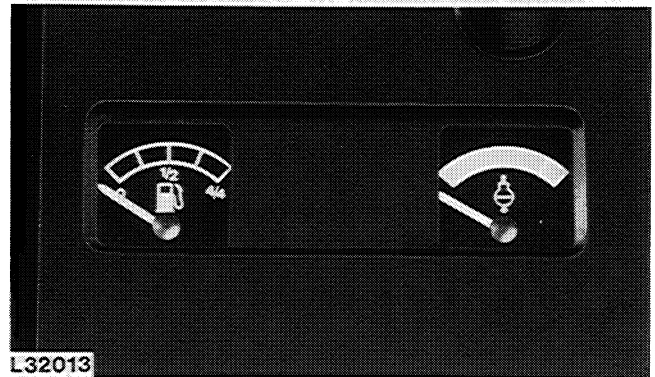
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Fuel Gauge

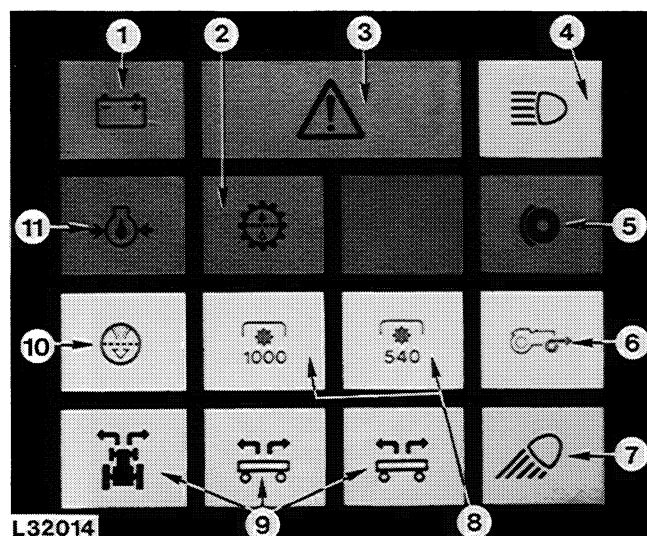
The fuel gauge shows amount of fuel in tank, from "full" (4/4) to "empty" (0). Never run fuel tank completely dry, otherwise you will have to bleed the fuel system.

Coolant Temperature Gauge

Should the coolant gauge needle move into the red zone 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.



L32013



Control Light Panel

Air cleaner, alternator, engine oil pressure and transmission oil pressure indicator lights should light up as soon as the main switch key is turned on. If this is not the case, a burnt-out bulb or blown fuse may be the cause. Replace defective bulb or blown fuse.

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

- 1 – If alternator indicator light goes on with engine running, check for loose alternator connections, condition and tension of V-belt or defective alternator. If necessary have alternator checked by your John Deere dealer.
- 2 – If transmission oil pressure indicator light goes on 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.
- 3 – The warning light blinks when indicator light 1, 2 or 11 glows or when range shift lever is moved with handbrake applied.
- 4 – The full-beam indicator light will go on as soon as the full-beam headlight switch is turned on.
- 5 – The handbrake indicator light glows when handbrake is applied and main switch is turned on. Furthermore, an acoustical warning signal can be installed.
- 6 – The front wheel drive indicator light glows when front wheel drive is engaged.
- 7 – This indicator light glows when worklight is switched on.
- 8 – The PTO speed indicator lights (on machines with PTO hand speed-change only) show the PTO speed engaged.
- 9 – The flashing indicator lights for tractor and trailer start flashing when turn-signal or hazard warning lights are turned on.
- 10 – If air cleaner indicator light goes on with engine running, the air cleaner element must be cleaned or replaced.
- 11 – If engine oil pressure indicator goes on with engine running, shut-off engine and check oil level.



Operation

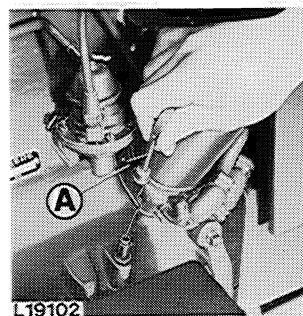
IMPORTANT! If the engine is to be run for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by switching off the main switch before stopping the engine by means of the fuel injection pump shut-off cable. Do not raise engine speed 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.

The following items must be checked daily before commencing work:

Oil level in engine crankcase

If oil level has sunk to bottom mark on dipstick, add sufficient oil to bring oil level up to top mark on dipstick.

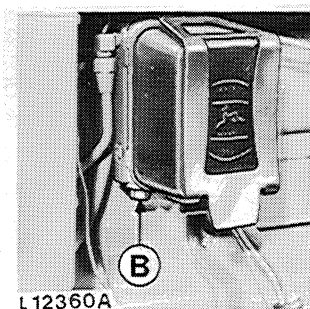
A — Dipstick



Fuel filter

Drain all water and sediment deposits from filter.

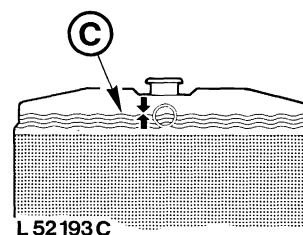
B — Drain plug



Radiator coolant level

Coolant should be maintained at a level midway between radiator core and filler neck.

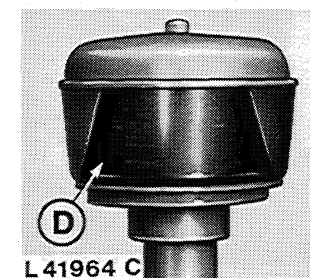
C — Coolant level

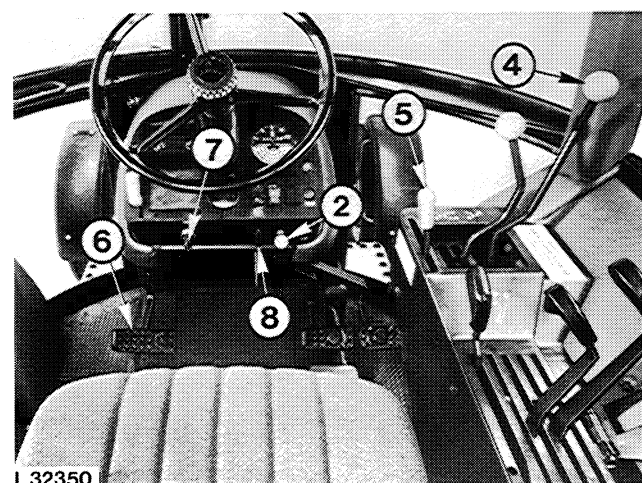
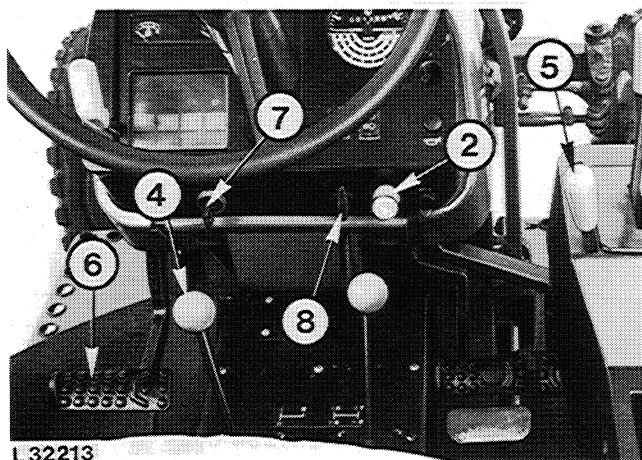
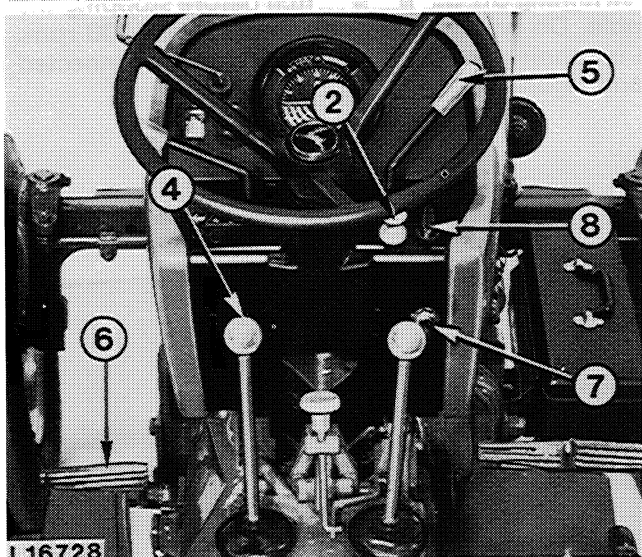
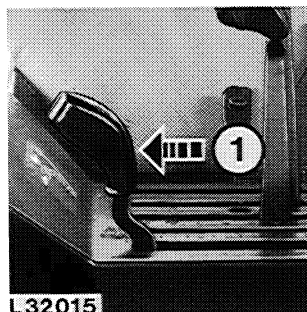
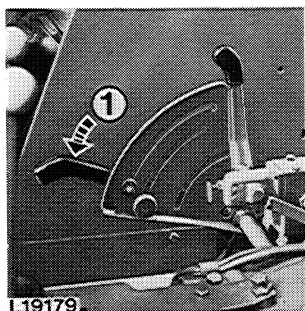


Pre-cleaner (when equipped)

Clean collector bowl if dust has risen to mark.

D — Pre-cleaner





STARTING THE ENGINE

CAUTION! Before starting the engine, make sure there is plenty of ventilation. Never operate the engine in a closed building.

1 — Rockshaft control lever in "equipment lowered" position and selective control valve lever in "neutral".

2 — Push engine shut-off knob all the way in.

3 — Disengage PTO (continuous-running only).

4 — Place range shift lever in neutral position.

5 — Open hand throttle approximately one-third of its travel.

6 — Depress clutch pedal.

On tractors without starter switch

7 — Turn main switch key clockwise to end (operating starting motor) position. Keep switch engaged until engine starts. As soon as engine starts release main switch key.

On tractors with starter switch

7 — Turn main switch key to position "1".

8 — Turn starter switch clockwise. As soon as engine starts, release starter switch to its original (OFF) position.

If engine does not start within 20 seconds, turn starter switch to "OFF" position and turn main switch key to position "0". Wait at least one minute before trying again.

9 — Run engine for one to two minutes, with temperature below zero for two to four minutes, with hand throttle applied as described under point 5.

COLD WEATHER STARTING AIDS

Tractors with Thermostart Aid

When starting in cold weather with cold engine, proceed as described under "Starting the Engine" (items 1 to 5). Then turn starter switch anti-clockwise to first (Thermostart) position for 10 to 15 seconds. Turn switch further to end (operating starting motor) position. As soon as engine starts, turn starter switch back to first position and hold in this position until engine runs smoothly. Then release switch to its "OFF" position.

If engine does not start within 20 seconds, turn starter switch to "OFF" position and turn main switch key to position "0". Wait at least one minute before trying again.

Run engine for one to two minutes, with temperature below zero for two to four minutes at medium speed.

Tractors with Ether Starting Aid

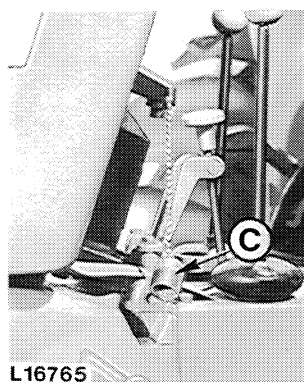
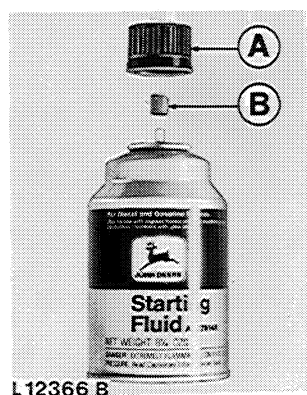
When starting the engine at temperatures below 0°C (+32°F), starting fluid can be injected into the intake manifold. Starting fluid spray cans are available from your John Deere dealer.



CAUTION! Starting fluid is highly flammable.

IMPORTANT! To avoid damage, 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.



Injecting Starting Fluid (Manually Operated Starting Aid)

- A — Remove safety cap and
- B — Spray button
- C — Remove cap from adapter

Position can onto adapter and inject fluid by pushing up on can for a short period.

Relax pressure on the 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. When the engine is running smoothly, remove can from adapter and replace safety cap on can. Be sure to put cap back on adapter when not in use. This prevents dust from being drawn into the engine.

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



CAUTION! Before discarding used starting fluid containers, empty them completely in a well ventilated area, at a good distance from sparks or open fire.

Injecting Starting Fluid (Electrically Operated Starting Aid)

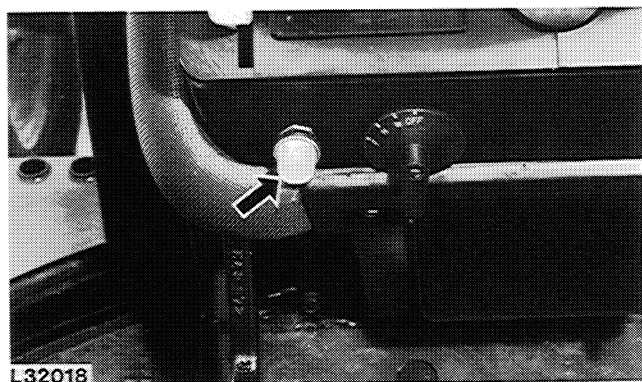
Turn main switch key to start position and depress starting aid button. Stop injecting fluid as soon as engine starts.

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.

To install a new can, remove safety cap and plastic spray button from the can. Loosen thumb wheel enough to change cans, then tighten securely.

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

Store starting fluid cans where they will not be subject to extreme cold or heat. For best results, store fluid at room temperature.

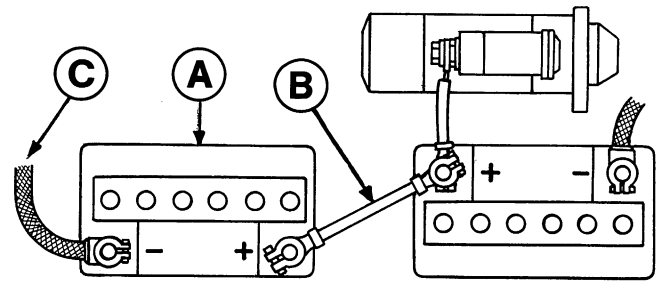


Starting with an auxiliary battery

Starting the engine can be made easier by connecting an additional 12-volt battery in parallel with the 12-volt batteries on the tractor.

Use jumper cables to connect the positive (+) terminal of the booster battery to the positive (+) terminal of a tractor battery and the negative (–) terminal of the booster battery to negative (–) terminal of the tractor battery. See your JOHN DEERE dealer for booster batteries.

IMPORTANT! The batteries on your tractor are **NEGATIVE** grounded only. Reversed polarity in battery or alternator connections will result in damage to electrical system.



L 64703 B

- A – Auxiliary battery
- B – Connect both positive battery terminals
- C – Connect negative terminal to ground

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).

ENGINE WARM-UP PERIOD

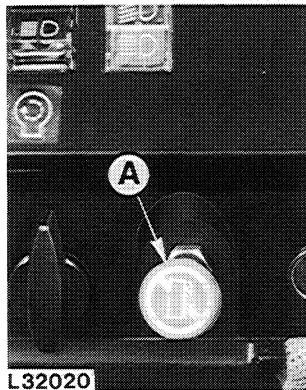
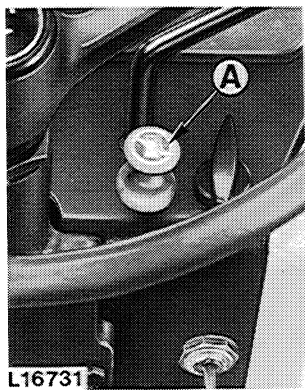
The engine must have attained the correct operating temperature before putting the unit under full load. To warm up the engine, run it for a few minutes with the hand throttle halfway open. Thus excessive wear on piston rings, cylinders and bearings is avoided.

TOWING THE TRACTOR

When towing the tractor, move both the gear and range shift levers to the neutral position.



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



STOPPING THE ENGINE

Stop tractor and engage parking lock or apply handbrake firmly.

Run engine for one to two minutes in slow idle.

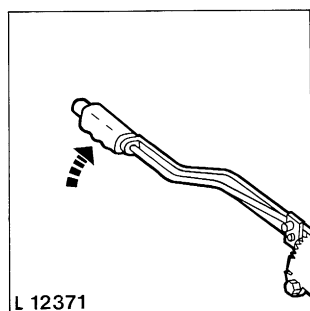
A — Pull shut-off knob.
Push the knob back in after the engine has stopped. Turn main switch to "off" position.

Before leaving the tractor lower any equipment to the ground and make sure all switches are in "Off" position.

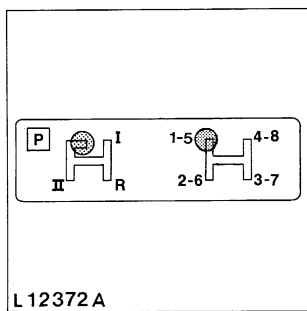


CAUTION! Remove switch key to prevent accidents and battery discharge.

IMPORTANT! When engine is not running make sure exhaust stack flap is closed. This will prevent water and dirt from entering the engine.



With handbrake

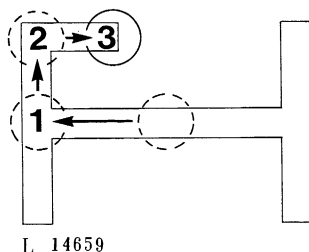


With parking lock

PARKING THE TRACTOR

If the tractor has a handbrake, it should be well applied when the tractor is parked or when it operates stationary.

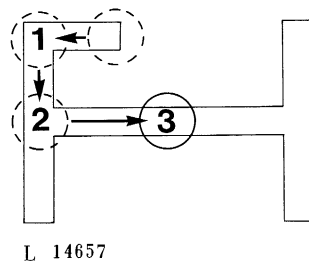
If the tractor is provided with a parking lock, first engage 1st gear and then move range shift lever in park (P) position as follows:



- 1 — Move range shift lever to the left
- 2 — Move range shift lever forward
- 3 — Move range shift lever to the right

To disengage parking lock:

When disengaging the parking lock, apply foot brakes and move range shift lever out of park (P) position as follows:

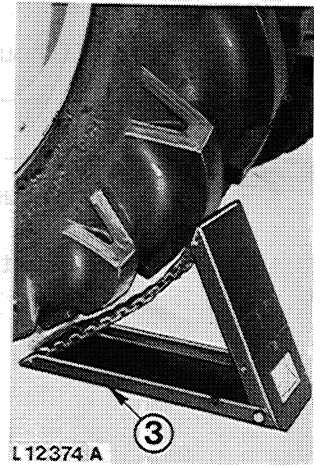


- 1 — Move range shift lever to the left
- 2 — Move range shift lever to the rear
- 3 — Move range shift lever to the right

CHOCK BLOCK

For maximum safety, place chock in front or behind driving wheel when parking on slopes. Make sure tires are not underinflated to prevent chock from being "rolled-over". To avoid chock being forced into the ground, always use chock block on a firm surface.

- 1 — Press chock block together and
- 2 — Pull upward and remove
- 3 — Chock block ready for use



BREAK-IN PERIOD

During the first 100 hours of operation refer to the following chart:

ITEM	SERVICE	LUBRICANT/SPECIFICATION
After first 4 and 8 hours: Wheel retaining bolts*	Retighten	Rear Wheels Wheel disk to axle flange: 400 Nm (300 ft-lb) Rim to wheel disk (steel disk): 250 Nm (185 ft-lb) Rim to wheel disk (cast disk) with rack and pinion axle: 230 Nm (170 ft-lb) Front Wheels (without front wheel drive) 180 Nm (130 ft-lb) Front Wheels (with front wheel drive) Wheel disk to axle flange: 300 Nm (220 ft-lb) Rim to wheel disk with adjustable rims: 200 Nm (145 ft-lb) Front Axle Adjusting Bolts 400 Nm (300 ft-lb)
After first 50 hours: Transmission oil filter	Renew	
After first 100 hours: Front axle oil (front wheel drive) Front axle tie rod outer clamping bolts (see page 40) Front axle tie rod inner clamping bolts (see page 44) Engine crankcase oil Engine crankcase oil filter	Drain and refill Retighten Retighten Drain and refill Renew	See page 80 110 Nm (80 ft-lb) 40 Nm (30 ft-lb) See page 79
During the first 100 hours:	1. Operate at normal loads. 2. Avoid light loads. 3. Avoid excessive engine idling. 4. Check engine crankcase oil level periodically. * 5. Check wheel retaining bolts frequently.	

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

SELECTING TRAVEL SPEEDS

The tractor has eight forward gears and four reverse gears. On tractors with Hi-Lo transmission sixteen forward gears and eight reverse gears and on tractors with creeper transmission, twelve forward gears and eight reverse gears.

Gears should be selected so as to avoid a permanent overloading of the engine.

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 below gives the ground travel speed at the desired engine speed.

Example:

Ground travel speed at rated speed (2500 rpm) according to table below 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:

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

The conversion factor multiplied by the rated speed (2500 rpm) gives you the desired engine rpm.

Example:

Ground travel speed at rated speed (2500 rpm) according to table below: 9.3 km/h; Desired ground travel speed: 5 km/h

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

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

Travel Speeds for 1640 and 2040 Tractors with Collar Shift Transmission at 2500 Engine rpm up to 25 km/h (15.5 mph)

Tire Size		13.6 - 36		13.6 - 38		14.9 - 38		15.5 - 38		16.9 - 30	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	1.7	1.0	1.7	1.1	1.8	1.1	1.7	1.1	1.6	1.0
	High*	2.1	1.3	2.2	1.4	2.3	1.4	2.2	1.4	2.0	1.3
2	Low	2.4	1.5	2.4	1.5	2.5	1.6	2.5	1.5	2.3	1.4
	High*	3.0	1.9	3.1	1.9	3.2	2.0	3.1	1.9	2.9	1.8
3	Low	3.5	2.2	3.6	2.3	3.8	2.3	3.7	2.3	3.4	2.1
	High*	4.5	2.8	4.6	2.9	4.8	3.0	4.6	2.9	4.3	2.7
4	Low	4.9	3.0	5.1	3.2	5.2	3.3	5.1	3.2	4.8	3.0
	High*	6.2	3.9	6.5	4.0	6.7	4.1	6.5	4.0	6.1	3.8
5	Low	6.5	4.0	6.7	4.2	6.9	4.3	6.8	4.2	6.3	3.9
	High*	8.3	5.1	8.5	5.3	8.8	5.5	8.6	5.3	8.0	5.0
6	Low	9.3	5.8	9.6	6.0	9.9	6.2	9.7	6.0	9.0	5.6
	High*	11.8	7.3	12.2	7.6	12.6	7.8	12.3	7.6	11.5	7.1
7	Low	13.8	8.5	14.2	8.8	14.7	9.1	14.3	8.9	13.4	8.3
	High*	17.5	10.9	18.1	11.3	18.7	11.6	18.2	11.3	17.0	10.6
8	Low	19.2	11.9	19.9	12.4	20.6	12.8	20.0	12.5	18.7	11.6
	High*	24.5	15.2	25.3	15.7	26.2	16.3	25.4	15.8	23.8	14.8
R 1	Low	1.9	1.2	2.0	1.2	2.1	1.3	2.0	1.2	1.9	1.2
	High*	2.4	1.5	2.5	1.6	2.6	1.6	2.5	1.6	2.4	1.5
R 2	Low	2.7	1.7	2.8	1.8	2.9	1.8	2.9	1.8	2.7	1.7
	High*	3.5	2.2	3.6	2.2	3.7	2.3	3.6	2.3	3.4	2.1
R 3	Low	4.1	2.5	4.2	2.6	4.4	2.7	4.2	2.6	4.0	2.5
	High*	5.2	3.2	5.4	3.3	5.5	3.4	5.4	3.4	5.0	3.1
R 4	Low	5.7	3.5	5.9	3.7	6.1	3.8	5.9	3.7	5.5	3.4
	High*	7.2	4.5	7.5	4.7	7.8	4.8	7.6	4.7	7.0	4.4

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

20 Operation

Travel Speeds for 1640 and 2040 Tractors with Synchronized Transmission at 2500 Engine rpm up to 25 km/h (15.5 mph)

Tire Size		13.6 - 36		13.6 - 38		14.9 - 38		15.5 - 38		16.9 - 30		16.9 - 34		18.4 - 30	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	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
	High*	2.6	1.6	2.7	1.7	2.8	1.7	2.7	1.7	2.5	1.6	2.6	2.6	2.6	1.6
	Creeper	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	Low	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
	High*	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
	Creeper	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	Low	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
	High*	5.2	3.2	5.4	3.4	5.6	3.4	5.4	3.4	5.1	3.2	5.2	3.3	5.1	3.1
	Creeper	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	Low	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
	High*	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
	Creeper	1.47	0.91	1.53	0.94	1.57	0.98	1.53	0.95	1.43	0.89	1.48	0.92	1.43	0.89
5	Low	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
	High*	9.0	5.6	9.3	5.8	8.6	6.0	9.4	5.8	8.7	5.4	9.0	5.6	8.7	5.4
6	Low	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
	High*	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	Low	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
	High*	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	Low	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
	High*	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	Low	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
	High*	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
	Creeper	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	Low	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
	High*	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
	Creeper	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	0.7
R 3	Low	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
	High*	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
	Creeper	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	Low	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
	High*	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
	Creeper	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

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

**Travel Speeds for 1640 and 2040 Tractors with Synchronized Transmission at 2500 Engine rpm
over 25 km/h (15.5 mph)**

Tire Size		13.6 - 36		13.6 - 38 15.5 - 38		14.9 - 38		16.9 - 30		16.9 - 34		18.4 - 30		23.1 - 26	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	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
	High*	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
	Creep	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	Low	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
	High*	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
	Creep	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	Low	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
	High*	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
	Creep	1.34	0.83	1.39	0.86	1.43	0.87	1.30	0.81	1.24	0.77	1.20	0.75	1.26	0.78
4	Low	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
	High*	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
	Creep	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	Low	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
	High*	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	Low	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
	High*	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	Low	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
	High*	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	Low	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
	High*	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	Low	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
	High*	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
	Creep	1.03	0.64	1.07	0.67	1.10	0.67	1.00	0.62	0.96	0.60	0.93	0.58	0.97	0.60
R 2	Low	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
	High*	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
	Creep	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	Low	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
	High*	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
	Creep	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	Low	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
	High*	13.2	8.2	13.7	8.5	14.1	8.8	12.8	8.0	12.3	7.6	11.9	7.4	12.4	7.7
	Creep	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

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

22 Operation

Travel Speeds for 1640 Tractors with Collar Shift Transmission at 2500 Engine rpm over 25 km/h (15.5 mph)

Tire Size		13.6 - 36		13.6 - 38		15.5 - 38		16.9 - 24		16.9 - 30		21.5 L - 16.1	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	2.0	1.2	2.0	1.3	2.1	1.3	1.7	1.1	1.9	1.2	1.3	0.8
	High*	2.5	1.6	2.6	1.6	2.6	1.6	2.2	1.4	2.4	1.5	1.7	1.1
2	Low	2.8	1.8	2.9	1.8	2.9	1.8	2.4	1.5	2.7	1.7	1.9	1.2
	High*	3.6	2.2	3.7	2.3	3.7	2.3	3.1	1.9	3.5	2.2	2.4	1.5
3	Low	4.2	2.6	4.3	2.7	4.4	2.7	3.6	2.3	4.1	2.5	2.8	1.8
	High*	5.3	3.3	5.5	3.4	5.6	3.5	4.6	2.9	5.2	3.2	3.6	2.2
4	Low	5.9	3.6	6.1	3.8	6.1	3.8	5.1	3.2	5.7	3.5	4.0	2.5
	High*	7.5	4.6	7.7	4.8	7.8	4.8	6.5	4.0	7.2	4.5	5.1	3.1
5	Low	7.8	4.8	8.0	5.0	8.1	5.0	6.7	4.2	7.5	4.7	5.3	3.3
	High*	9.9	6.1	10.2	6.4	10.3	6.4	8.6	5.3	9.6	6.0	6.7	4.2
6	Low	11.1	6.9	11.5	7.1	11.6	7.2	9.6	6.0	10.8	6.7	7.5	4.7
	High*	14.1	8.8	14.6	9.1	14.7	9.1	12.2	7.6	13.7	8.5	9.6	5.9
7	Low	16.5	10.3	17.0	10.6	17.1	10.7	14.3	8.9	16.0	9.9	11.2	6.9
	High*	20.9	13.0	21.7	13.5	21.8	13.6	18.2	11.3	20.4	12.7	14.2	8.8
8	Low	23.0	14.3	23.8	14.8	24.0	14.9	19.9	12.4	22.4	13.9	15.6	9.7
	High*	29.3	18.2	30.3	18.8	30.5	18.0	25.4	15.8	28.4	17.7	19.9	12.3
R 1	Low	2.3	1.4	2.4	1.5	2.4	1.5	2.0	1.2	2.2	1.4	1.6	1.0
	High*	2.9	1.8	3.0	1.9	3.0	1.9	2.5	1.6	2.8	1.8	2.0	1.2
R 2	Low	3.3	2.0	3.4	2.1	3.4	2.1	2.8	1.8	3.2	2.0	2.2	1.4
	High*	4.2	2.6	4.3	2.7	4.4	2.7	3.6	2.3	4.1	2.5	2.8	1.8
R 3	Low	4.9	3.0	5.0	3.1	5.1	3.2	4.2	2.6	4.7	2.9	3.3	2.1
	High*	6.2	3.9	6.4	4.0	6.5	4.0	5.4	3.3	6.0	3.7	4.2	2.6
R 4	Low	6.8	4.2	7.0	4.4	7.1	4.4	5.9	3.7	6.6	4.1	4.6	2.9
	High*	8.7	5.4	9.0	5.6	9.0	5.6	7.5	4.7	8.4	5.2	5.9	3.7

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

**Travel Speeds for 2040 Tractors with Collar Shift Transmission at 2500 Engine rpm
over 25 km/h (15.5 mph)**

Tire Size		13.6 - 36		13.6 - 38 15.5 - 38		14.9 - 38		16.9 - 30		16.9 - 34		18.4 - 30		23.1 - 26	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	2.0	1.2	2.1	1.3	2.1	1.3	1.9	1.2	1.8	1.1	1.8	1.1	1.9	1.2
	High*	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
2	Low	2.8	1.8	2.9	1.8	3.0	1.9	2.7	1.7	2.6	1.6	2.5	1.6	2.7	1.7
	High*	3.6	2.2	3.7	2.3	3.8	2.4	3.5	2.2	3.3	2.1	3.2	2.0	3.4	2.1
3	Low	4.2	2.6	4.4	2.7	4.5	2.8	4.1	2.5	3.9	2.4	3.8	2.3	4.0	2.5
	High*	5.3	3.3	5.5	3.4	5.7	3.5	5.2	3.2	5.0	3.1	4.8	3.0	5.0	3.1
4	Low	5.9	3.6	6.1	3.8	6.3	3.9	5.7	3.5	5.5	3.4	5.3	3.3	5.5	3.4
	High*	7.5	4.6	7.7	4.8	8.0	5.0	7.2	4.5	6.9	4.3	6.7	4.2	7.0	4.4
5	Low	7.8	4.8	8.1	5.0	8.3	5.2	7.5	4.7	7.2	4.5	7.0	4.3	7.3	4.5
	High*	9.9	6.1	10.3	6.4	10.6	6.6	9.6	6.0	9.2	5.7	8.9	5.5	9.3	5.8
6	Low	11.1	6.9	11.5	7.2	11.9	7.4	10.8	6.7	10.3	6.4	10.0	6.2	10.5	6.5
	High*	14.1	8.8	14.7	9.1	15.1	9.4	13.7	8.5	13.1	8.2	12.7	7.9	13.3	8.3
7	Low	16.5	10.2	17.1	10.6	17.6	10.9	16.0	9.9	15.3	9.5	14.8	9.2	15.5	9.6
	High*	20.9	13.0	21.7	13.5	22.4	13.9	20.4	12.7	19.5	12.1	18.8	11.7	19.7	12.3
8	Low	23.0	14.3	23.9	14.8	24.6	15.3	22.4	13.9	21.4	13.3	20.7	12.8	21.7	13.5
	High*	29.3	18.2	30.4	18.9	31.3	19.5	28.4	17.7	27.2	16.9	26.3	16.4	27.6	17.1
R 1	Low	2.3	1.4	2.4	1.5	2.5	1.5	2.2	1.4	2.1	1.3	2.1	1.3	2.2	1.3
	High*	2.9	1.8	3.0	1.9	3.1	1.9	2.8	1.8	2.7	1.7	2.6	1.6	2.8	1.7
R 2	Low	3.3	2.0	3.4	2.1	3.5	2.2	3.2	2.0	3.1	1.9	3.0	1.8	3.1	1.9
	High*	4.2	2.6	4.3	2.7	4.5	2.8	4.1	2.5	3.9	2.4	3.8	2.3	3.9	2.4
R 3	Low	4.9	3.0	5.1	3.1	5.2	3.2	4.7	2.9	4.5	2.8	4.4	2.7	4.6	2.9
	High*	6.2	3.9	6.4	4.0	6.6	4.1	6.0	3.7	5.8	3.6	5.6	3.5	5.8	3.6
R 4	Low	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
	High*	8.7	5.4	9.0	5.6	9.3	5.8	8.4	5.2	8.1	5.0	7.8	4.8	8.2	5.1

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

24 Operation

Travel Speeds for 2040 S Tractors with Synchronized Transmission at 2500 Engine rpm up to 25 km/h (15.5 mph)

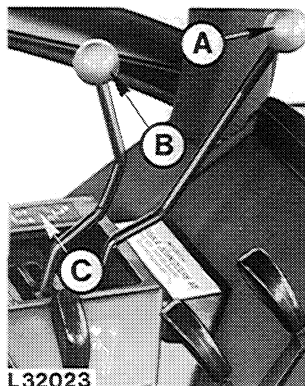
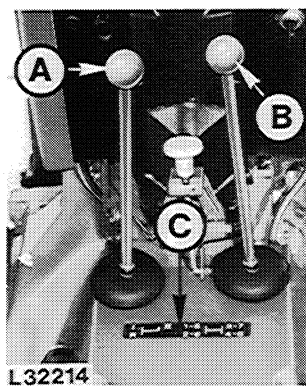
Tire Size		13.6 - 38		14.9 - 38		15.5 - 38 16.9 - 34		18.4 -30	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	2.1	1.3	2.1	1.3	2.1	1.3	2.0	1.2
	High*	2.6	1.6	2.7	1.7	2.6	1.6	2.6	1.6
	Creeper	0.55	0.34	0.57	0.35	0.55	0.34	0.53	0.33
2	Low	2.8	1.8	2.9	1.8	2.9	1.8	2.8	1.7
	High*	3.6	2.3	3.7	2.3	3.6	2.3	3.5	2.2
	Creeper	0.76	0.47	0.79	0.49	0.76	0.47	0.74	0.46
3	Low	4.1	2.5	4.2	2.6	4.1	2.6	4.0	2.5
	High*	5.2	3.2	5.4	3.3	5.2	3.3	5.1	3.1
	Creeper	1.09	0.68	1.13	0.70	1.10	0.68	1.06	0.66
4	Low	5.5	3.4	5.7	3.5	5.6	3.4	5.4	3.3
	High*	7.0	4.4	7.3	4.5	7.1	4.4	6.8	4.2
	Creeper	1.47	0.91	1.53	0.94	1.48	0.92	1.43	0.89
5	Low	7.1	4.4	7.3	4.5	7.1	4.4	6.9	4.3
	High*	9.0	5.6	9.3	5.8	9.0	5.6	8.7	5.4
6	Low	9.8	6.1	10.1	6.3	9.8	6.1	9.5	5.9
	High*	12.4	7.7	12.9	8.0	12.5	7.8	12.1	7.5
7	Low	14.0	8.7	14.5	9.0	14.1	8.8	13.6	8.5
	High*	17.8	11.1	18.5	11.5	18.0	11.2	17.4	10.8
8	Low	18.9	11.7	19.5	12.1	19.0	11.8	18.4	11.4
	High*	24.0	14.9	24.9	15.4	24.2	15.0	23.4	14.5
R 1	Low	3.2	2.0	3.3	2.0	3.2	2.0	3.1	1.9
	High*	4.0	2.5	4.2	2.6	4.0	2.5	3.9	2.4
	Creeper	0.84	0.52	0.87	0.54	0.85	0.53	0.82	0.51
R 2	Low	4.4	2.7	4.5	2.8	4.4	2.7	4.3	2.6
	High*	5.6	3.5	5.8	3.6	5.6	3.5	5.4	3.4
	Creeper	1.16	0.72	1.21	0.75	1.17	0.73	1.13	0.70
R 3	Low	6.3	3.9	6.5	4.0	6.3	3.9	6.1	3.8
	High*	8.0	5.0	8.3	5.1	8.1	5.0	7.8	4.8
	Creeper	1.68	1.04	1.73	1.08	1.69	1.05	1.63	1.01
R 4	Low	8.5	5.3	8.8	5.4	8.5	5.3	8.2	5.1
	High*	10.8	6.7	11.1	6.9	10.9	6.7	10.5	6.5
	Creeper	2.26	1.40	2.34	1.45	2.27	1.41	2.20	1.37

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

Travel Speeds for 2040 S Tractors with Synchronized Transmission at 2500 Engine rpm over 25 km/h (15.5 mph)

Tire Size		13.6 - 38		14.9 - 38		15.5 - 38 16.9 - 34		18.4 - 30	
Gear		km/h	mph	km/h	mph	km/h	mph	km/h	mph
1	Low	2.5	1.5	2.6	1.6	2.5	1.6	2.4	1.5
	High*	3.2	2.0	3.3	2.0	3.2	2.0	3.1	1.9
	Creep	0.66	0.41	0.69	0.43	0.67	0.42	0.65	0.4
2	Low	3.4	2.1	3.6	2.2	3.5	2.2	3.3	2.1
	High*	4.4	2.7	4.5	2.8	4.4	2.7	4.3	2.6
	Creep	0.92	0.57	0.95	0.59	0.92	0.57	0.89	0.56
3	Low	4.9	3.1	5.1	3.2	5.0	3.1	4.8	3.0
	High*	6.3	3.9	6.5	4.0	6.3	3.9	6.1	3.8
	Creep	1.32	0.82	1.36	0.85	1.33	0.83	1.28	0.8
4	Low	6.7	4.1	6.9	4.3	6.7	4.2	6.5	4.0
	High*	8.5	5.3	8.8	5.5	8.5	5.3	8.3	5.1
	Creep	1.78	1.11	1.84	1.14	1.79	1.11	1.73	1.08
5	Low	8.5	5.3	8.8	5.5	8.6	5.3	8.3	5.2
	High*	10.9	6.8	11.2	7.0	10.9	6.8	10.6	6.6
6	Low	11.8	7.3	12.2	7.6	11.9	7.4	11.5	7.1
	High*	15.0	9.3	15.5	9.6	15.1	9.4	14.6	9.1
7	Low	17.0	10.5	17.5	10.9	17.1	10.6	16.5	10.2
	High*	21.6	13.4	22.3	13.9	21.7	13.5	21.0	13.0
8	Low	22.8	14.2	23.6	14.7	23.0	14.3	22.2	13.8
	High*	29.1	18.1	30.1	18.7	29.3	18.2	28.3	17.6
R 1	Low	3.8	2.4	4.0	2.5	3.9	2.4	3.7	2.3
	High*	4.9	3.0	5.0	3.1	4.9	3.0	4.7	2.9
	Creep	1.02	0.63	1.06	0.66	1.03	0.64	0.99	0.62
R 2	Low	5.3	3.3	5.5	3.4	5.3	3.3	5.1	3.2
	High*	6.7	4.2	7.0	4.3	6.8	4.2	6.5	4.1
	Creep	1.41	0.88	1.46	0.91	1.42	0.88	1.37	0.85
R 3	Low	7.6	4.7	7.9	4.9	7.7	4.8	7.4	4.6
	High*	9.7	6.0	10.0	6.2	9.7	6.1	9.4	5.8
	Creep	2.03	1.26	2.10	1.30	2.04	1.27	1.97	1.23
R 4	Low	10.2	6.4	10.6	6.6	10.3	6.4	10.0	6.2
	High*	13.0	8.1	13.5	8.4	13.1	8.2	12.7	7.9
	Creep	2.73	1.7	2.82	1.75	2.75	1.71	2.66	1.65

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



SHIFTING GEARS

Gear shifting is controlled by a range shift lever and a gear shift lever.

- A — Range shift lever
- B — Gear Shift lever
- C — Shifting pattern

The shifting pattern shows range and gear shift lever positions.

Range Shift Lever Positions

- I — Low range
- II — High range
- R — Reverse range
- P — Park position (when equipped)

Selecting Gears

The gear shift lever can be used to select 1st, 2nd, 3rd, and 4th gears when the range shift lever is in low range position, it can be used to select 5th, 6th, 7th, and 8th gears when the range shift lever is in high range position..

When the range shift lever is in reverse range, reverse gears comparable to 1st, 2nd, 3rd, and 4th can be obtained.

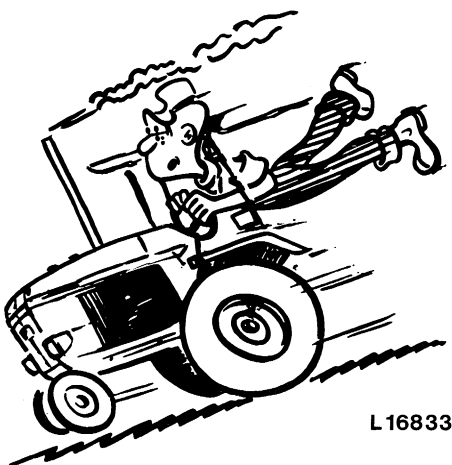
Shifting from neutral

1. Depress clutch pedal.
2. Move range and gear shift levers in the position required.
3. Gradually release clutch pedal, however, do not allow clutch to slip longer than necessary to take up load smoothly.

Shifting to another range

To shift to another range, fully stop the unit, disengage the clutch and then change gear range as required.

IMPORTANT! Do not allow tractor to coast in gear. This will result in overspeeding and damage to the clutch.



HI-LO SHIFT UNIT

If the tractor has a Hi-Lo shift unit, the operator can decrease or increase tractor speed 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.

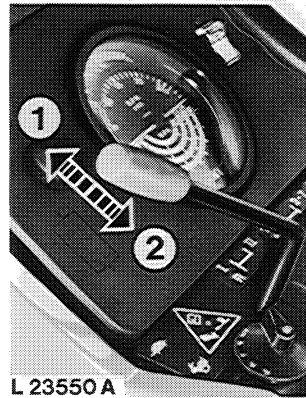


L 12488

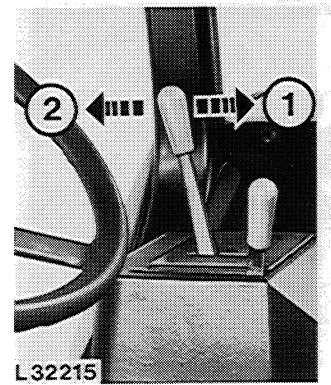
1 — Low speed

2 — High speed

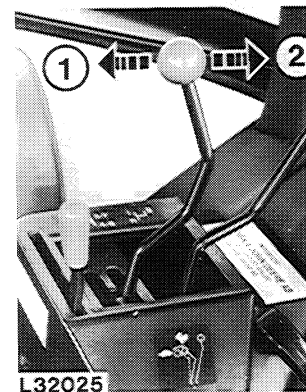
When shutting off the engine, the Hi-Lo shift unit shifts automatically to low speed.



L 23550 A



L 32215



L 32025

CREEPER TRANSMISION

The creeper transmission may be engaged in all gears of I (Low) range and reverse range.



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

Depress clutch pedal and raise control lever lock (if equipped) before shifting creeper control lever to engage or disengage creeper transmission.

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

Maximum permissible load is the same as for a tractor with standard transmission.

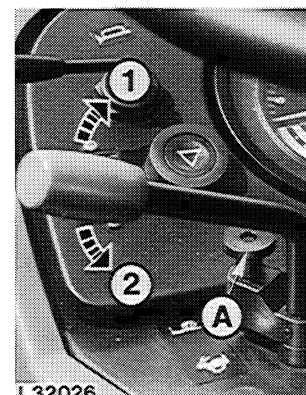
A — Control lever lock



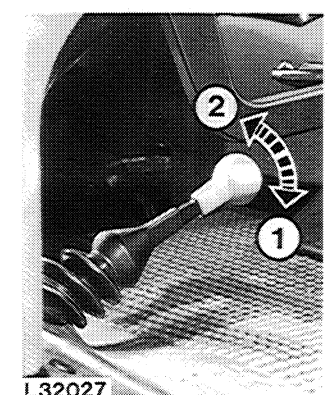
L 14797

1 — Creeper speed

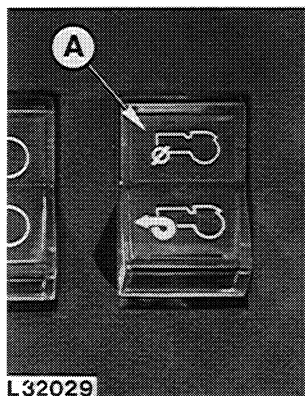
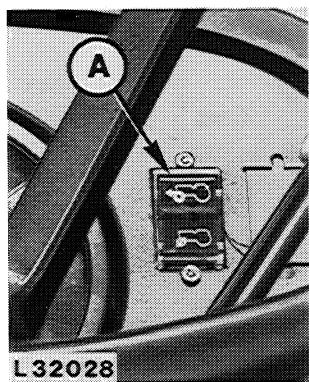
2 — High speed



L 32026



L 32027

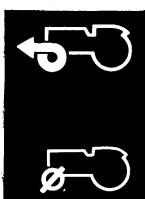


FRONT WHEEL DRIVE

The front wheel drive can be engaged and disengaged in all gears (forward and reverse) during operation and under full load.

It is recommended not to engage the front wheel drive when travelling at high speeds on public roads.

A — Tumbler switch

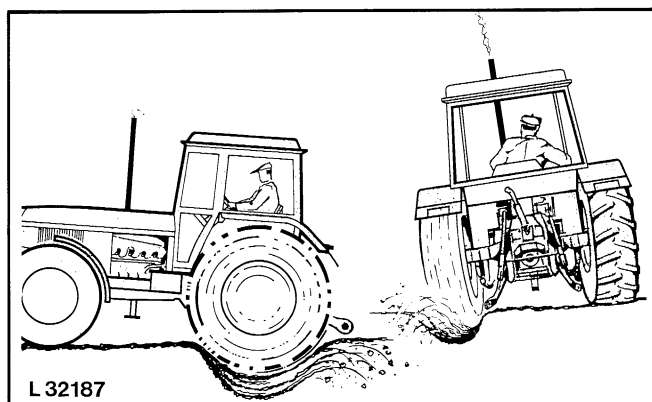


Front wheel drive engaged

L 30831



Front wheel drive disengaged



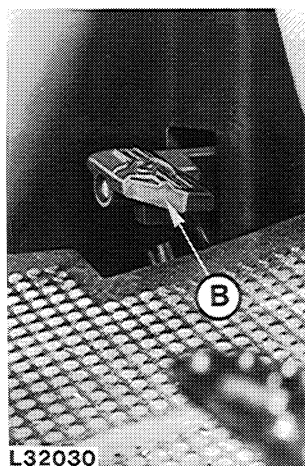
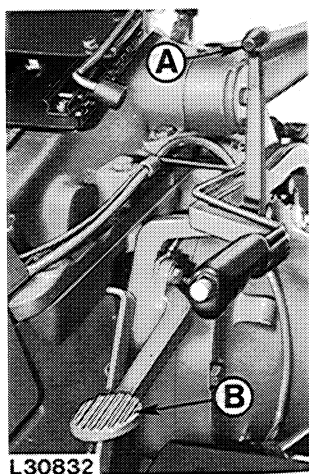
DIFFERENTIAL LOCK

When slippery conditions are encountered with unequal wheel slip, engage differential lock (lever or pedal).

Depress clutch pedal to engage differential lock if wheel slip varies greatly between both wheels or if one wheel has become stationary. Engage differential lock as clutch is re-engaged, then release lever or pedal. The differential lock will disengage automatically as soon as traction has equalized.



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



A — Hand lever
B — Pedal

HYDRAULIC FOOT BRAKES

To assist steering when turning the tractor, press down on a single brake pedal. Use the left pedal to turn left and the right pedal to turn right.

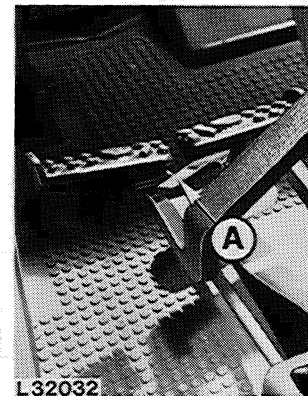
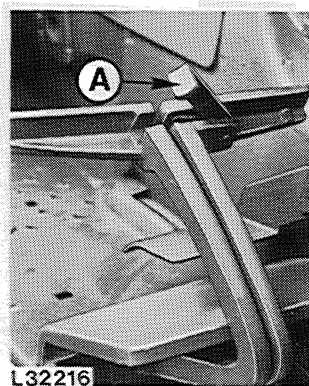
Use brake for steering purpose at low speed only!

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



CAUTION! Brake pedals must be coupled together by means of the pedal coupler when driving on public roads.

A — Pedal coupler



CAUTION! Your safety depends on efficient brakes.

Always maintain brakes in excellent condition and adjustment.

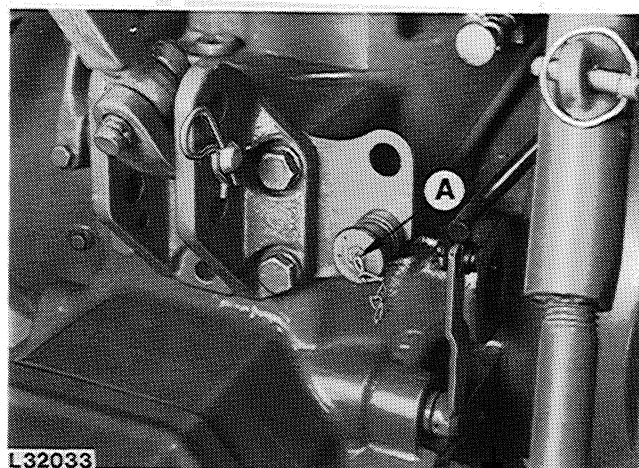
Hydraulic Trailer Brake

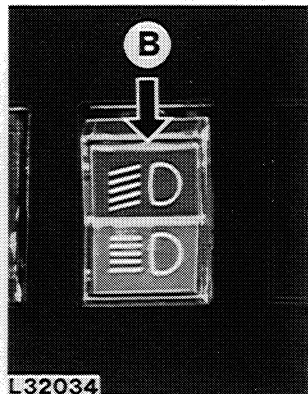
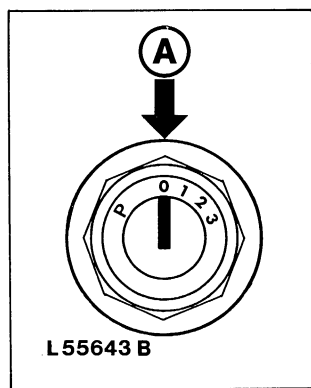
The tractor can be equipped with a hydraulic trailer brake coupler.

When connecting pressure hose, make sure connections are absolutely clean.

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

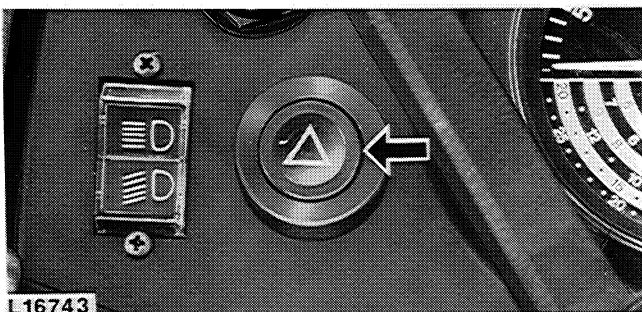
A — Trailer brake coupler





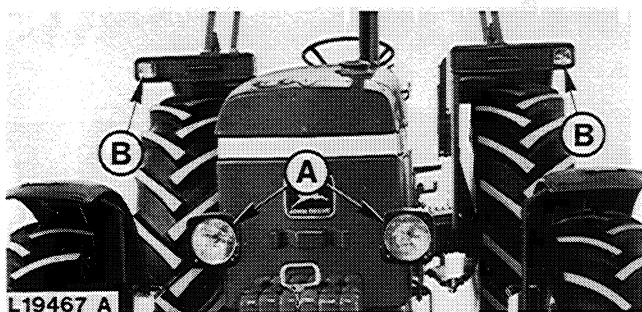
"BILUX" LIGHTING SYSTEM

- A — Main switch
- B — Full-beam headlights switch
- O — "Off" position (key can be removed)
- 1 — Lights switched off
- 2 — Parking lights
- 3 — Dimmed headlights
- P — Parking lights (key can be removed)



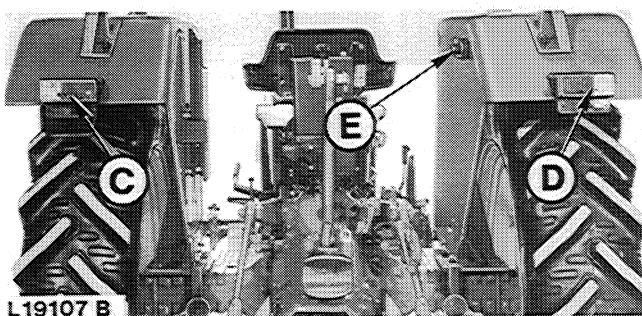
Hazard Warning Light Switch

Whenever encountering any trouble on the tractor during road travel, turn on the flashing hazard warning lights. Do not turn off warning lights until tractor is again in proper operating condition.

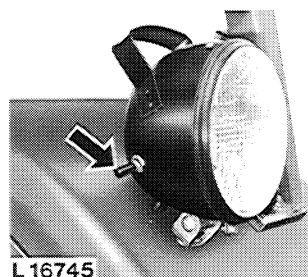
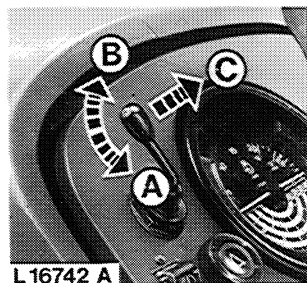


Lighting on Tractors without SG2 Cab

- 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



Switch for Turn Signal Lights and Horn

- A — Turn signal, left-hand turn
- B — Turn signal, right-hand turn
- C — Horn (pull upward to sound horn)

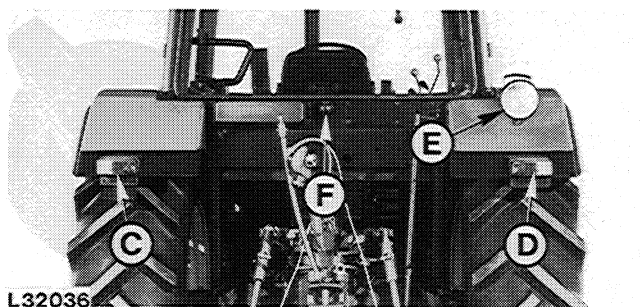
Work Light Switch

Lighting on Tractors with SG2 Cab

- A — Headlights
- B — Turn signal and clearance lights

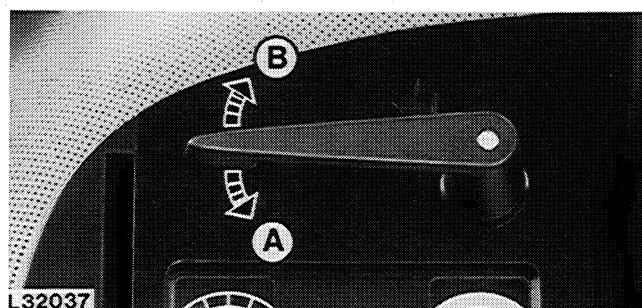


- C — Tail, stop, turn signal and registration plate lights
- D — Tail, stop and turn signal lights
- E — Work light
- F — Socket for trailer lighting



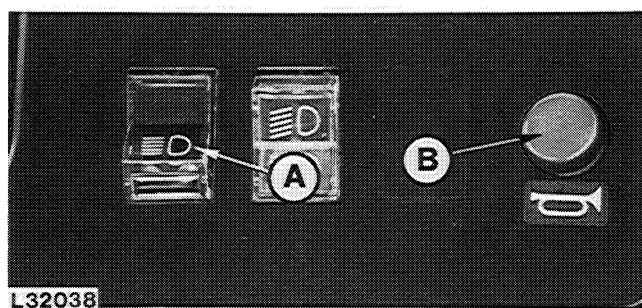
Turn Signal Switch

- A — Turn signal, left-hand turn
- B — Turn signal, right-hand turn



Work Light Switch and Horn Button

- A — Work light switch
- B — Horn button



"SEALED-BEAM" LIGHTING SYSTEM

Tractors without SG2 Cab

Light Switch

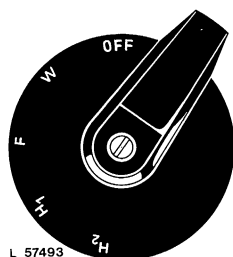
Switch positions are marked on the light switch plate. Turn switch clockwise until position required is in uppermost (vertical) position.

Light switch positions are as follows:

Off

- W Warning lights
- F Bright headlights and work light
- H1 Bright headlights
- H2 Dim headlights, tail lights and warning lamps

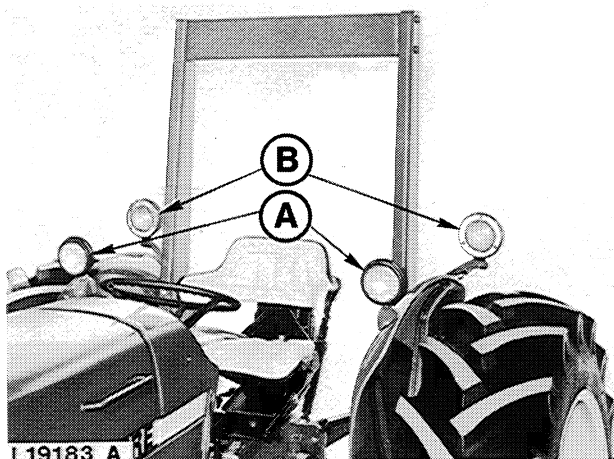
When driving the tractor on public roads always comply with local traffic lighting regulations.



L 57493

Front Lighting

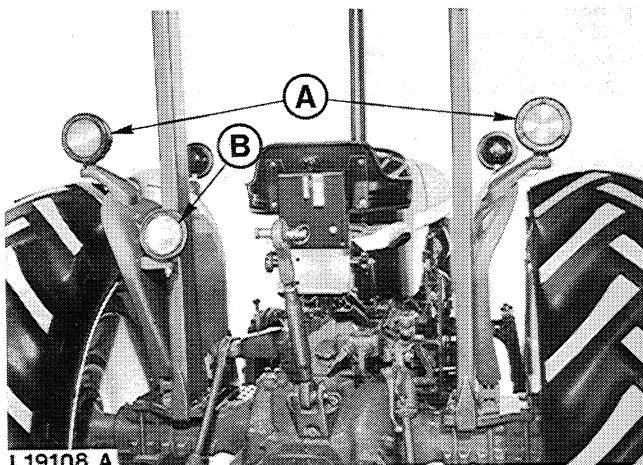
- A – Headlights
- B – Tractor warning lights (front)



L19183 A

Rear Lighting

- A – Tractor warning lights (rear)
- B – Work light and tail light



L19108 A

Tractors with SG2 Cab

Light Switch

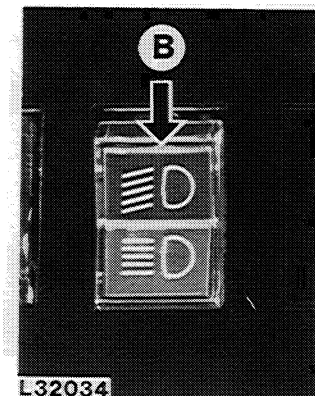
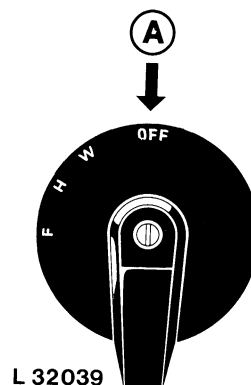
Switch positions are marked on the light switch plate. Turn switch clockwise until position required is in uppermost (vertical) position.

Light switch positions are as follows:

OFF

- W Warning lights
- H Warning lights, dim or bright headlights, tail lights
- F Dim or bright headlights, front work lights

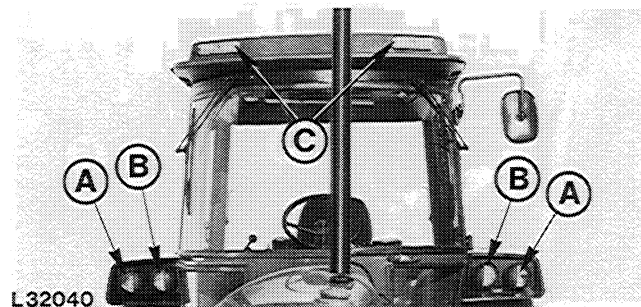
- A — Light switch
- B — Bright headlight switch



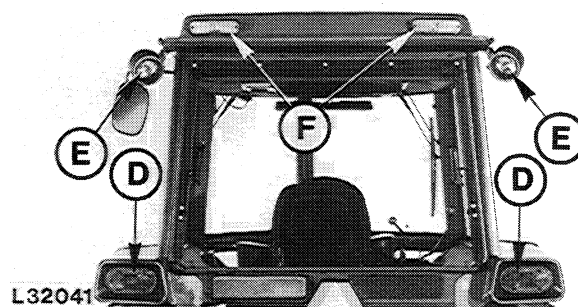
When driving the tractor on public roads always comply with local traffic lighting regulations.

Lighting

- A — Headlights
- B — Work lights
- C — Warning lights or turn signal lights

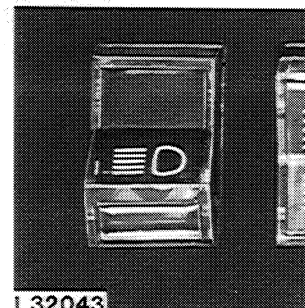
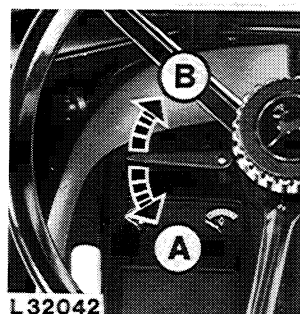


- D — Tail lights
- E — Work lights
- F — Warning lights or turn signal lights

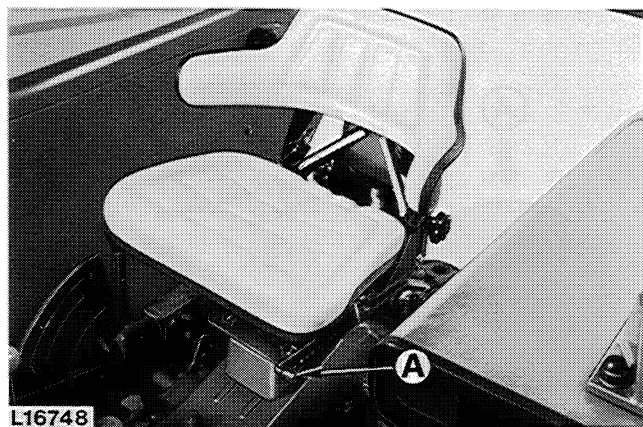


Turn Signal Switch

- A — Turn signal, left-hand turn
- B — Turn signal, right-hand turn



Work Light Switch



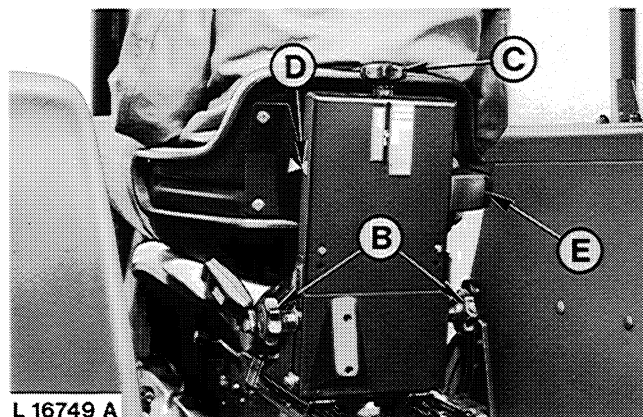
L16748

OPERATOR'S SEATS

De Luxe Seat

This seat is adjustable both horizontally and vertically and for the operator's height and weight and folds back for standing.

A — Catch for horizontal adjustment



L 16749 A

- B — Handwheels for height adjustment
- C — Handwheel for seat adjustment according to operator's weight
- D — Arrows
With operator seated, both arrows must be in line
- E — Release button for seat safety belt



L32046

Super Deluxe Seat

This seat is adjustable both horizontally and vertically and for the operator's weight. Back rest and arm rests are adjustable and the seat cushions can be removed.

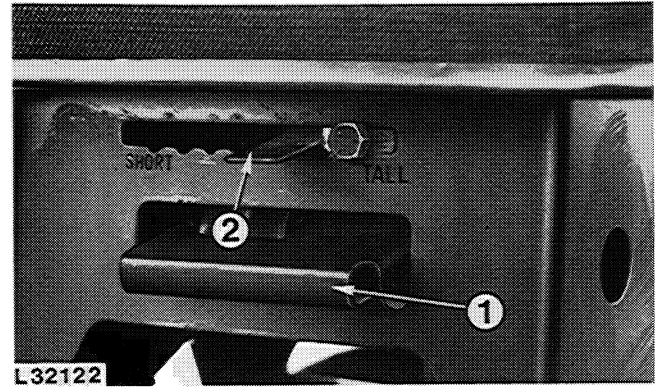
- A — Handwheel for seat adjustment according to operator's weight
- B — Length adjustment
- C — Back rest adjustment
- D — Arm rest height adjustment
- E — Lumbar support adjustment

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.

Personal Posture Seat

Height adjustment

- 1 — Stand and lift seat release latch. Seat will move automatically to the rear position.
- 2 — Move height adjustment lever to desired position.

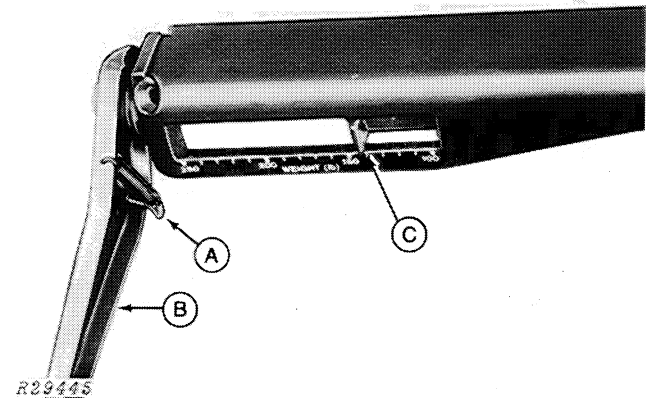


Adjusting for weight of operator

The seat is adjustable for operator weights from 45 to 115 kg (100 to 250 lb).

1. Flip ratchet lock (A) rearward to adjust for firmer ride or forward to adjust for softer ride.
2. Repeatedly move lever (B) up and down.

A — Ratchet lock
B — Weight adjustment lever
C — Weight indicator scale



Adjusting armrest height

Armrest height is adjustable to five different positions. To change the height, simply press the armrest release button (A) and move the armrest to the desired position.

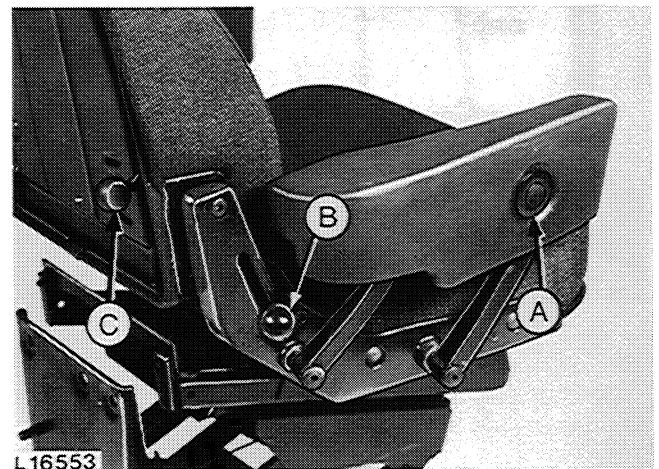
Avoid sitting on armrest. If you do sit on it, do so only when it is fully lowered.

Adjusting backrest angle

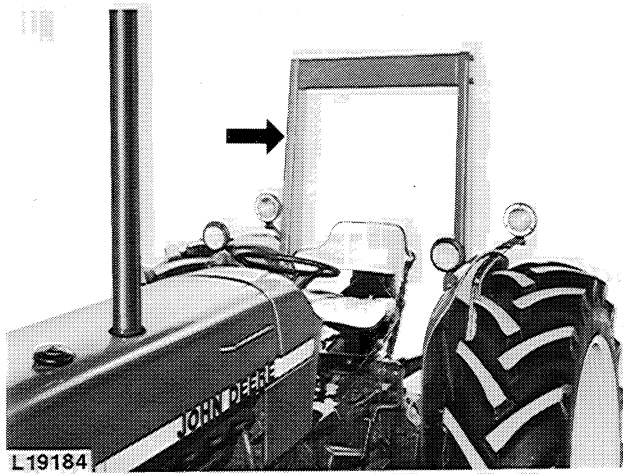
The backrest is adjustable through a 10° angle. To change the angle, raise or lower the backrest angle control knob (B) to a position which makes the backrest comfortable.

Adjusting lumbar support

A lumbar support mechanism is built into the backrest. You can choose from five different pressures against your back. For more pressure push the lumbar support control knob (C) down to a lower position.



A — Armrest release button
B — Backrest angle control knob
C — Lumbar support control knob



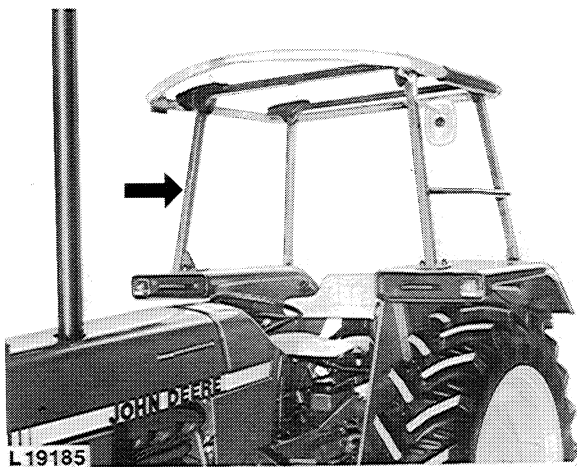
ROLL GUARD

CAUTION! Do not, under any circumstances modify structural members of roll-guard by welding on additional parts, drilling holes, grinding etc. Disregarding this instruction can affect the rigidity of the roll-guard and therefore the operator's safety cannot be guaranteed.

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

Two Post Roll Guard

Periodically check all roll guard attaching cap screws for tightness, including those on crossbar. Tighten to 230 Nm (170 ft-lb) torque.



Four Post Roll Guard

Periodically check all roll guard attaching cap screws and hex. nuts. Specified torques are:

Axle U-bolt hex. nuts	—	130 Nm (95 ft-lb)
Roll guard to fender cap screws	—	120 Nm (85 ft-lb)
Remaining cap screws	—	70 Nm (50 ft-lb)

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.

OPERATOR'S CAB

CAUTION! A protective four-post roll-guard is incorporated in each operator's cab. On this construction, do not, under any circumstances, modify structural members of roll-guard by welding on additional parts, drilling holes, grinding etc. Disregarding this instruction can affect the rigidity of the roll-guard and therefore the operator's safety cannot be guaranteed.

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



Ventilation and Heating

Fresh air is controlled by a three-speed fan switch. The air inlet jets are adjustable.

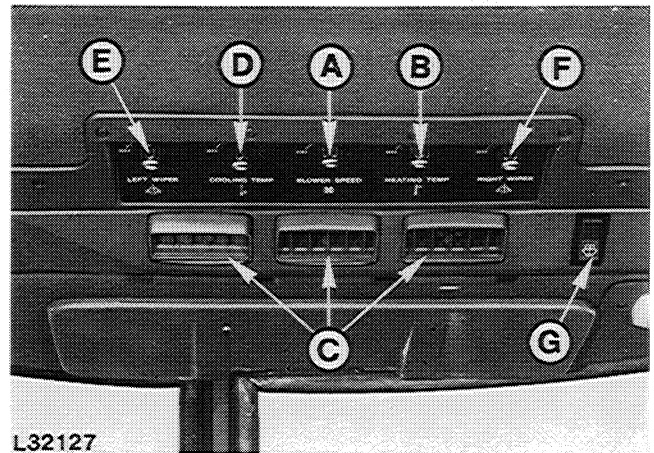
Heating is infinitely adjustable by means of the heater switch. To increase heating affect, turn switch farther to the right.

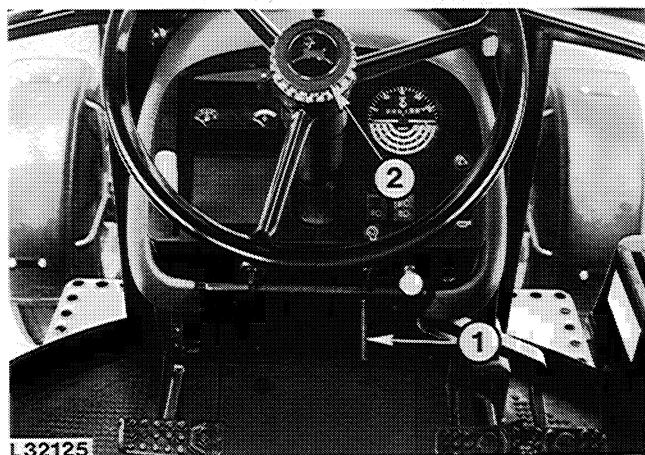
Air Conditioning System

The cab may be equipped with an air conditioning system. The blower switch must be turned on before switching on the air conditioning system.

The air conditioning switch is infinitely variable. For maximum cooling effect, turn switch fully to the right. 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.

- A — Three-speed fan switch
- B — Infinitely variable heater switch
- C — Adjustable air inlet jets
- D — Air conditioning switch (special equipment)
- E — Two-speed windshield wiper switch, left-hand
- F — Two-speed windshield wiper switch, right-hand
- G — Windshield washer switch

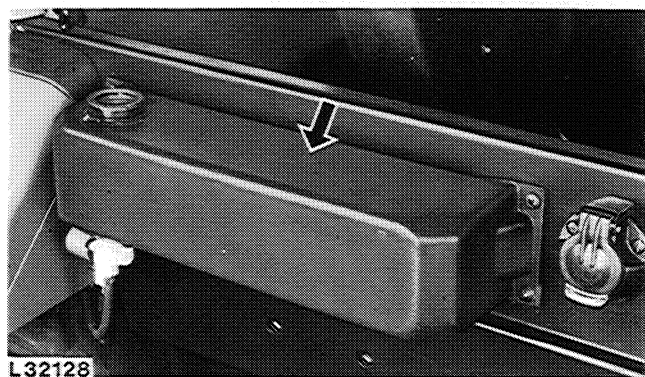




ADJUSTING STEERING WHEEL

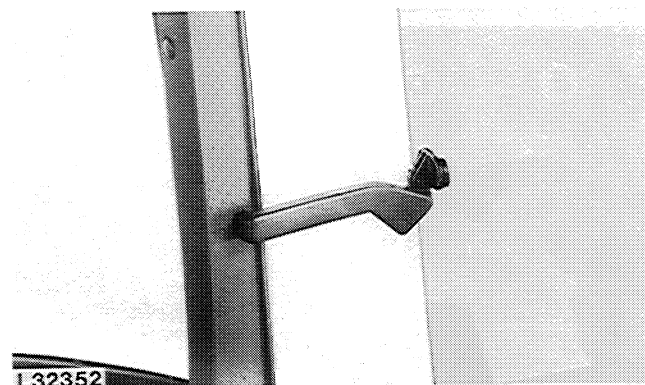
On tractors with SG2 Cab the steering wheel can be adjusted as follows:

- 1 — Lift tilt release lever and move steering column to desired angle.
- 2 — Loosen steering wheel hub and extend or retract steering wheel as desired. Tighten hub.



Windshield Washer Reservoir

Add a suitable anti-freeze solution if temperature is liable to drop below freezing point.



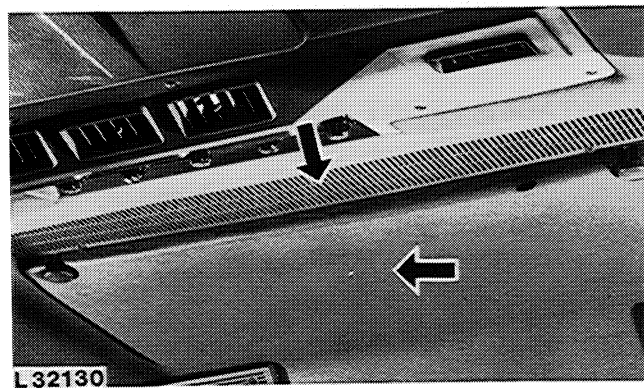
Cab Windows

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.

Operator's Cab Air Filters

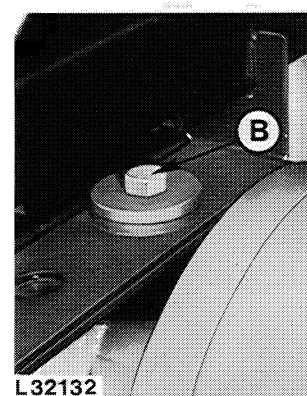
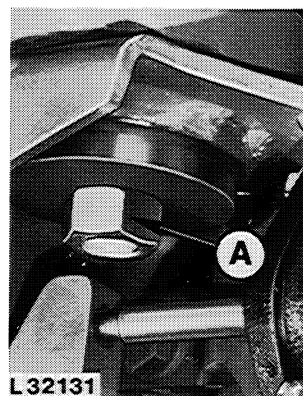
Depending upon working conditions (amount of dust and use of ventilation system), remove cab filters and clean with compressed air.



Operator's Cab Attaching Cap Screws

Periodically check all cab attaching screws for tightness. Tighten to 200 Nm (145 ft-lb) torque.

- A — Front attaching screws
- B — Rear attaching screws



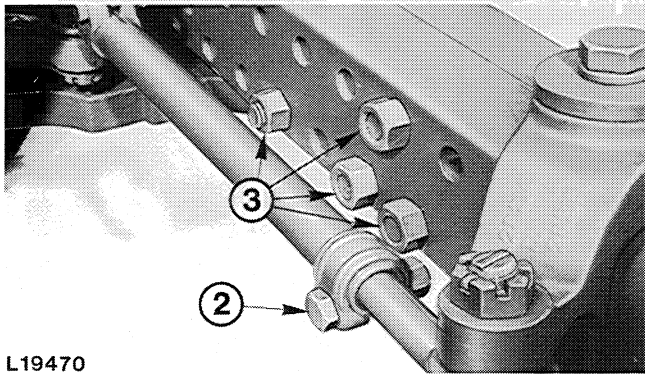
Wheel Treads

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 wheels on the axle.

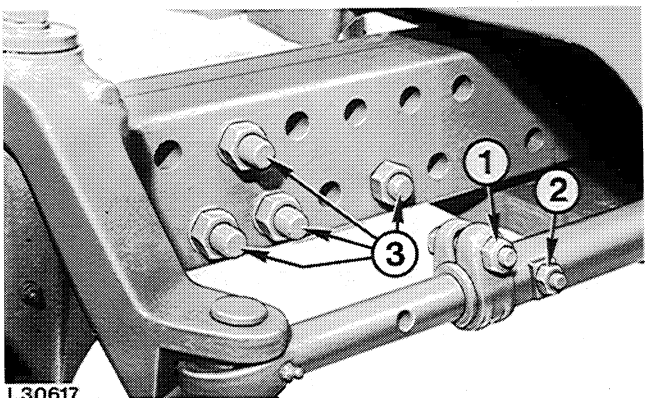
NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

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



L19470

Without hydrostatic steering



L30617

With hydrostatic steering

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.)
7.50-15 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 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

Adjusting Front Wheel Tread

Block up front end of tractor.

Do not place jack under engine oil pan!

Loosen tie rod outer clamp bolt (tractors with hydrostatic steering only).

Remove tie rod inner clamp bolts and axle bolts. Re-position 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 inner clamp bolts and tighten to the following torques:

Tractors with hydrostatic steering — 50 Nm
(35 ft-lb)

Tractors without hydrostatic steering — 110 Nm
(80 ft-lb)

Tighten outer clamp bolt to 110 Nm (80 ft-lb) torque.

- 1 — Tie rod outer clamp bolt
- 2 — Tie rod inner clamp bolt
- 3 — Axle bolts

Check toe-in and adjust, if necessary.

ADJUSTING FRONT WHEEL TREAD (Tractors with Front Wheel Drive)

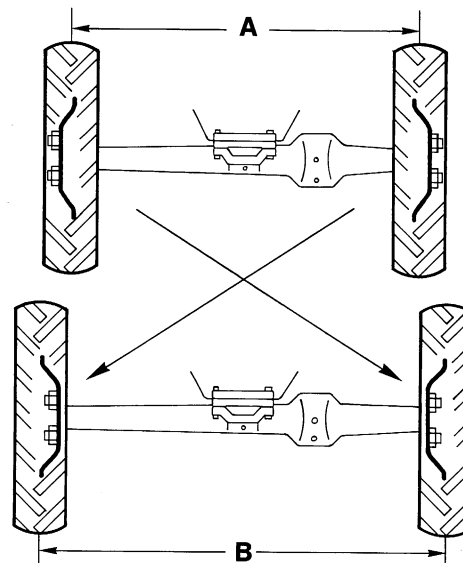
The tractor can be equipped with reversible or adjustable wheel rims.

Adjusting Front Wheel Tread With Reversible Rims

By reversing the complete front wheel and installing on opposite side of tractor 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 (see illustration opposite).

The arrow on the tire sidewall must point in direction of forward travel.

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



L 19151

Front Wheel Attaching Nuts

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

A — Hex. nuts

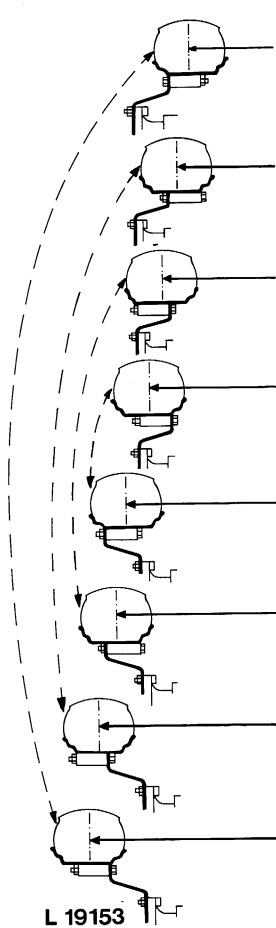
IMPORTANT! After the first 4 hours and 8 hours of operation retighten all front wheel hex. nuts. Check tightness of these nuts frequently during the first 100 hours of operation.



L19152

Tires

11.2-24		11.2-28 and 13.6-24	
m	in.	m	in.
1.35	53	1.30*	51*
1.40	55	1.40*	55*
1.50	59	1.50	59
1.55	61	1.60	63
1.75	69	1.70	67
1.80	71	1.80	71
1.90	75	1.90	75
1.95	77	2.00	79



* These front wheel treads can be obtained but do not allow full steering angle.

Adjusting Front Wheel Tread with Adjustable Rims

Front wheel tread can be adjusted by re-positioning 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. The dashed lines show tread widths obtained by changing complete wheels.

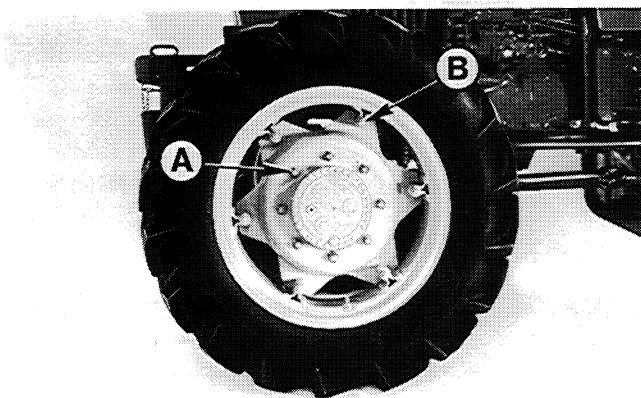
NOTE: Wheel tread on tractors equipped with a front loader must not exceed 1.80 m (71 in.).

Front Wheel Attaching Nuts

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

- A — 300 Nm (220 ft-lb)
- B — 200 Nm (145 ft-lb)

IMPORTANT! After the first 4 hours and 8 hours of operation retighten all front wheel attaching nuts. Check tightness of these nuts frequently during the first 100 hours of operation.



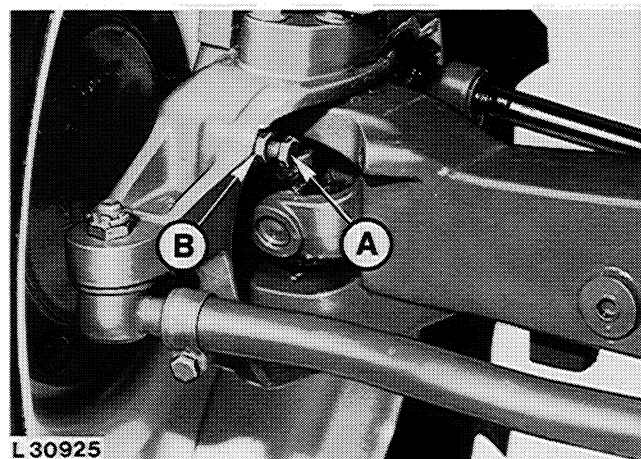
L19154

Front Wheel Steering Angle

On tractors with mechanical front wheel drive the front wheel steering angle must be limited to 39° and equal on both wheels. With full steering lock and oscillating front axle there should be a clearance of at least 15 mm (1/2 in.) between tire and side of tractor.

- A — Steering angle adjusting screw
B — Lock nut

NOTE: If the tractor is equipped with front wheel fenders these must be removed when installing a front end loader.



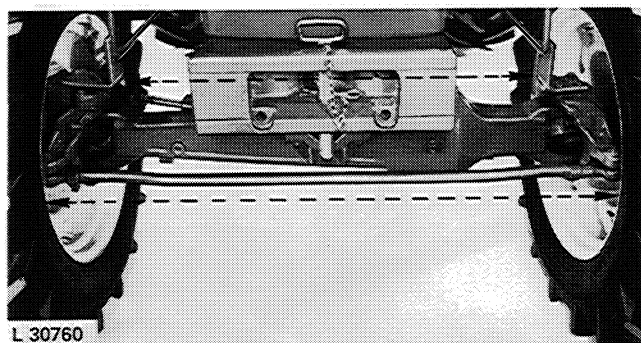
Checking Front Wheel Toe-In

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.)

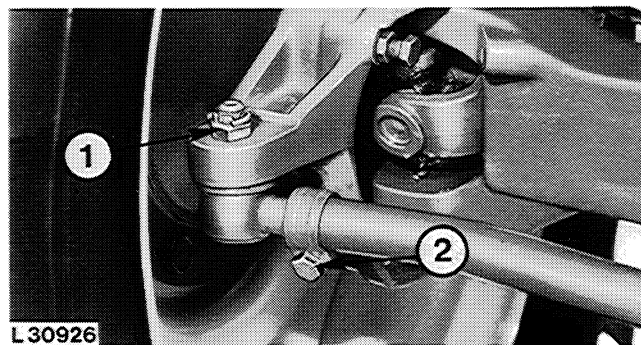
Tractors without front wheel drive — 3 to 7 mm (1/8 to 1/4 in.) less in front than in rear.

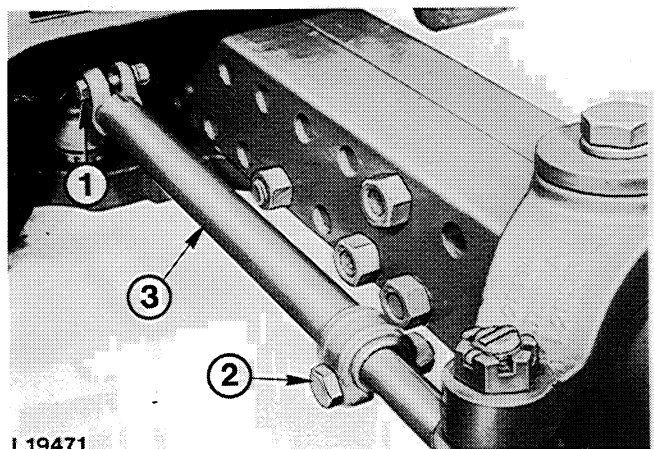


Adjusting Front Wheel Toe-In (Tractors with Front Wheel Drive)

- 1 — Remove slotted nut and disconnect tie-rod at steering knuckle housing.
- 2 — Slacken clamping screw and turn tie-rod tube in or out.

After toe-in adjustment is completed, tighten clamp bolt to 40 Nm (30 ft-lb) torque. Secure tie rod end to steering knuckle and tighten slotted nut to 200 Nm (145 ft-lb) torque.





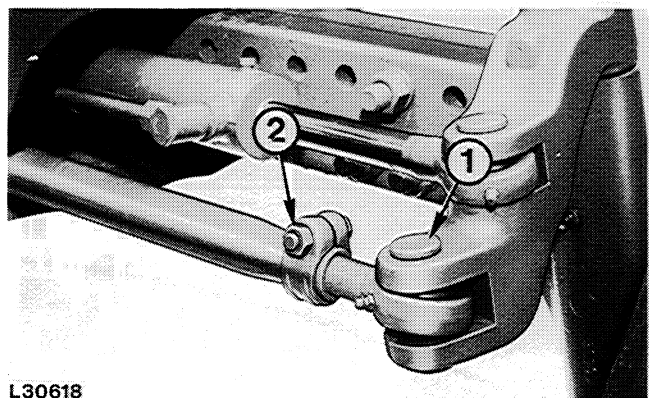
Adjusting Front Wheel Toe-In
(Tractors without front wheel drive, without hydrostatic steering)

Front wheels must be in straight-ahead position.

- 1 — Loosen inner clamp bolt
- 2 — Remove outer clamp bolt
- 3 — Turn tie-rod tube in or out

Turn each tie-rod an equal amount so that front wheels remain in straight-ahead position.

After toe-in adjustment is completed, tighten inner clamping bolts to 40 Nm (30 ft-lb) torque. Insert and tighten outer clamping bolts to 110 Nm (80 ft-lb) torque.



Adjusting Front Wheel Toe-In
(Tractors without front wheel drive, with hydrostatic steering)

- 1 — Remove clevis pin and remove tie rod end from steering knuckle.
- 2 — Slacken clamp bolt and adjust tie rod end as necessary.

Having obtained correct toe-in, retighten clamp bolt to 110 Nm (80 ft-lb) torque and secure tie rod end to steering knuckle.

REAR WHEEL TREADS

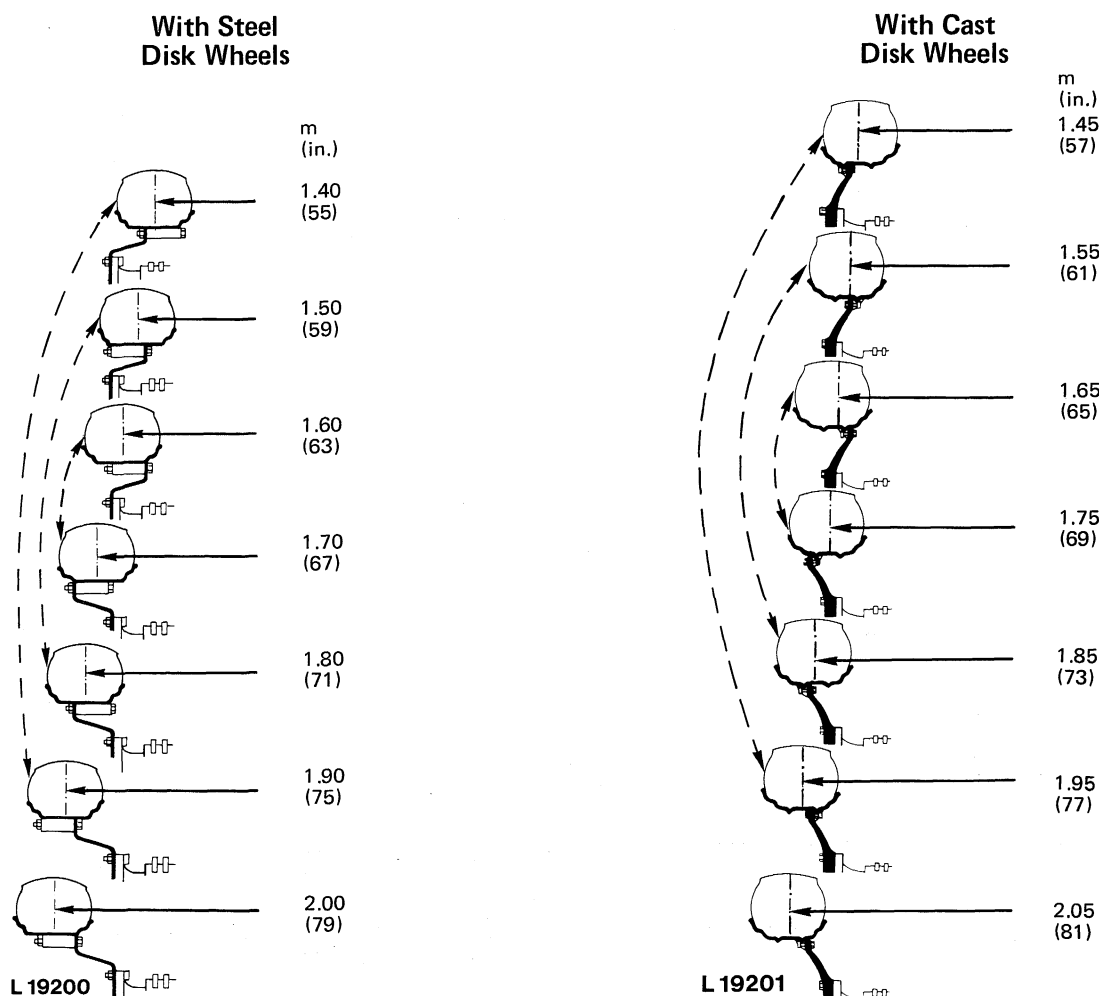
Rear wheel tread can be adjusted by re-positioning or reversing the rims or by reversing the wheel disks.

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", page 18).

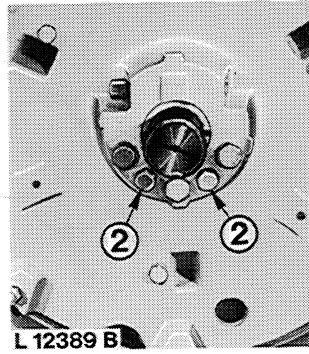
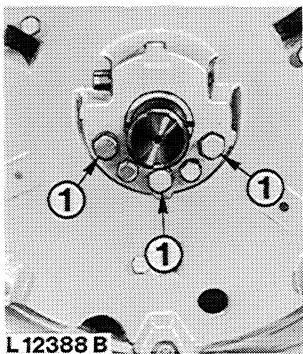
The relationship of the rear wheel disk and rim in obtaining the different tread settings is shown in the following drawings. A study of these drawings before attempting to change tread settings will save time and unnecessary labour.

POSITIONS OF RIMS AND WHEEL DISKS



The dashed line shows the tread width obtained by reversing the entire wheel and installing on opposite side of tractor. The arrow on the side wall of each tire must then point in the direction of forward travel. Therefore, wheels must be installed inversely on opposite side of tractor.

Wheels with Steel Disks	Tire Sizes	Tractors without SG2 Cab				Tractors with SG2 Cab	
		Wide Fenders		Shell-Type Fenders			
		m	in.	m	in.	m	in.
	13.6-36	1.50-2.00	59-79	1.40-2.00	55-79	1.50-2.00	59-79
	13.6-38	1.50-2.00	59-79	1.40-2.00	55-79	1.50-2.00	59-79
	14.9-38	1.50-2.00	59-79	1.40-2.00	55-79	1.50-2.00	59-79
	15.5-38	1.50-2.00	59-79	1.40-2.00	55-79	1.60-2.00	63-79
	16.9-24	-	-	1.40-2.00	55-79	-	-
	16.9-30	1.60-2.00	63-79	1.40-2.00	55-79	1.60-2.00	63-79
	16.9-34	1.60-2.00	63-79	1.40-2.00	55-79	1.60-2.00	63-79
	18.4-30	1.60-2.00	63-79	1.50-2.00	59-79	1.60-2.00	63-79
	21.5-16.1	-	-	1.60-1.70	63-67	-	-
	23.1-26	-	-	1.70	67	-	-
Wheels with Cast Disks	15.5-38	1.55-2.05	61-81	1.45-2.05	57-81	1.55-2.05	61-81
	16.9-30	1.55-2.05	61-81	1.45-2.05	57-81	1.55-2.05	61-81
	16.9-34	1.60-2.00	63-79	1.60-2.00	63-79	1.60-2.00	63-79
	18.4-30	1.60-2.10	63-83	1.60-2.10	63-83	1.60-2.10	63-83



ADJUSTING WHEEL TREAD ON RACK-AND-PINION AXLE

- 1 — Loosen attaching cap screws completely.
- 2 — Turn jack screws clockwise until screw heads are flush against face of wheel hub.

Jack up tractor so that rear wheel is raised off the ground. Turn wheel so that rack on axle faces up-ward.

- 3 — Turn adjusting screw to slide wheel in or out.

Measure the distance from center of tractor to center of tire.

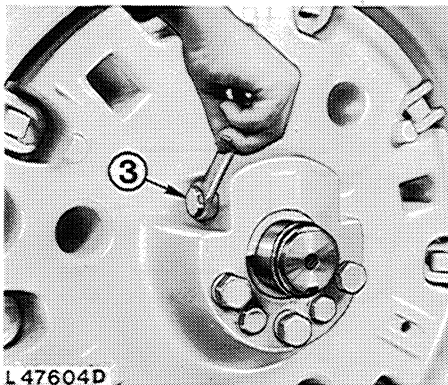
When tread is correct, back jack screws all the way out against the stop. Do not use force!

Lubricate attaching screw threads and alternately tighten all screws. Finally tighten to 400 Nm (300 ft-lb) torque.

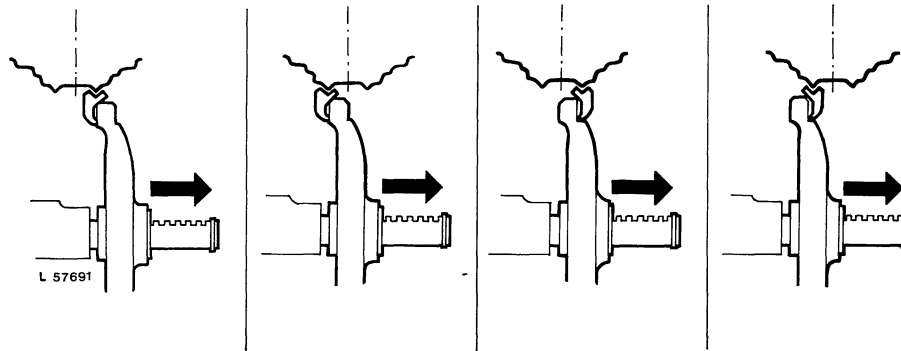
IMPORTANT! When setting smallest tread width, avoid adjusting wheels too close to the rear axle housing. This can damage the pinion when the hub is tightened. To avoid this, adjust the wheel to the innermost position until the pinion contacts the end of the rack. Then back out until the wheel has moved outward at least 6 mm (1/4 in.).

After adjusting make sure tire or wheel weights do not rub against the tractor.

After a few hours of service, retighten attaching screws to 400 Nm (300 ft-lb) torque. Check cap screws periodically for proper torque.



POSITIONS OF RIMS AND WHEEL DISKS 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	59-69	1.38-1.75	54-69	1.52-1.75	60-69
	B	1.51-1.95	59-77	1.44-1.85	57-77	1.52-1.95	60-77
	C	1.51-1.92	59-76	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
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

TIRES

Rear Wheels

13.6-36 13.6-38 14.9-38 15.5-38 16.9-24 16.9-30 16.9-34 18.4-30 21.5 L-16.1	140 kPa (1.4 bar; 20 psi)
23.1-26	110 kPa (1.1 bar; 16 psi)

Front Wheels

6.00-16 7.50-16 7.50-18 10.00-16 11.2-24 11.2-28 12.4-24 13.6-24	150 kPa (1.5 bar; 22 psi)
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CAUTION! 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 your local tire manufacturer agents.

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.

Low inflation pressure will avoid deep tread marks harmful to the soil and will also reduce resistance to motion. With low inflation pressure traction may be increased by up to 20% as compared to road inflation pressure. In difficult soils engine power can be more efficiently utilized with low inflation pressure in the tires.

Even though it is recommended to use low inflation pressure for heavy plowing and similar jobs, it will be harmful to use the same inflation pressure for extended road travel.

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. This tire pressures shown opposite should therefore be considered as a standard guide only.

The tire pressures quoted are for operating in the field, increase pressures if tractor is working 20% or more on roads.

Direction of Tire Rotation

When mounting or changing tires, make sure arrow on flank of tires points in the direction of forward rotation.

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. 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.

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 combination 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
11.2 - 24	X	—	—	—	X	—	—
11.2 - 28	—	X	X	—	—	X	—
12.4 - 24	—	X	—	X	—	X	—
13.6 - 24	—	—	—	—	—	—	X

BALLAST

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 government regulations regarding installation and maximum permissible number of weights which can be installed.

Safety and performance of your tractor depend upon correct ballasting of front and rear axle.

Ballasting the rear axle can be made by installing rear wheel weights, filling rear tires with a liquid solution or hitching implements.

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.

Rear Axle Ballast

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.

Too much weight on the rear wheels can easily be recognized by the clear outline of the tread marks. The result will be a loss of horsepower as more power is needed to overcome rolling resistance plus unnecessary soil compaction and overloading of tires.

If rear wheels have too little ballast, tread marks will be eliminated through excessive wheel slippage, indicating a waste of power and creating excessive tire wear.

A compromise in ballasting may be necessary when the tractor is used to pull loads having different draft requirements.

For example, if the tractor is being used mainly for heavy work which requires plenty of pulling power (such as plowing), use ballast for this type of work.

However, if a large amount of time is being spent on light-load type work in higher gears, ballast for this type of work.

The following rear wheel weights are available, depending upon type of rear wheel and size of tires:

Rear wheel weights:	A	1 set (2 used) = 77 kg (170 lb)	} Quick-tatch weights
	B	1 set (2 used) = 110 kg (242 lb)	
	C	1 Set (2 used) = 110 kg (242 lb)	} For rack-and-pinion axle
	D	1 set (2 used) = 136 kg (300 lb)	

Tire Size	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, —, C	—
16.9 - 34	A, B	A, B	A, B
18.4 - 30	A	A	A
23.1 - 26	—	A	—

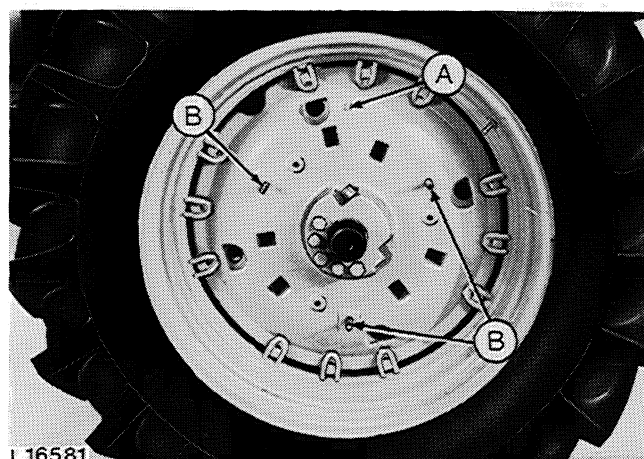
Weights for Rack-and-Pinion Axle

Up to three weights may be attached to each rear wheel.

Installing rear wheel weights

1. Park tractor with reference mark on wheel at the top.
2. Insert the three special attaching bolts in bores from inner side of rim and drive outward.

A — Reference mark
B — Special bolts



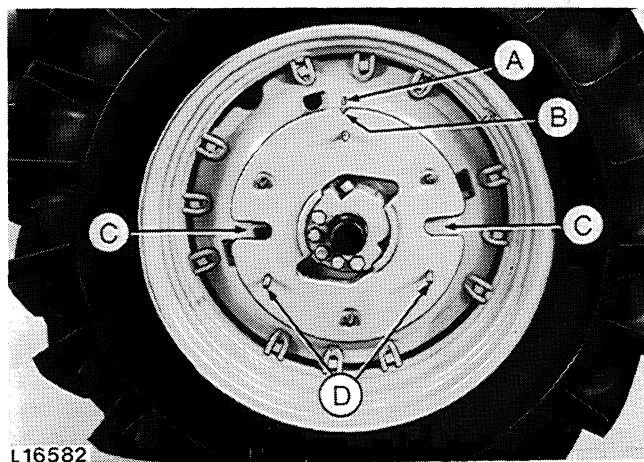
NOTE: When installing more than one weight proceed as follows: Drive three special screws through square countersunk bores from the inside of first weight to be installed. Install second weight so that notch on this weight is opposite notch on the first weight. Install third weight in same position as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

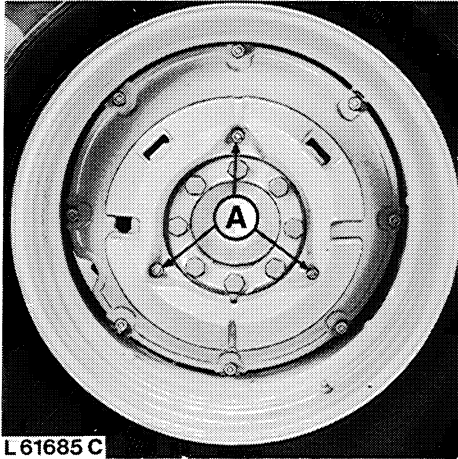
3. Install weight on wheel rim so that notch on outer side is facing upward. When installed both notches should be aligned.

For easier handling of weights there are two recesses in each weight.

A — Reference mark
B — Notch
C — Recesses
D — Special screws for second weight

4. Tighten special attaching screw nuts securely. Retighten after a few hours service and keep them tight.

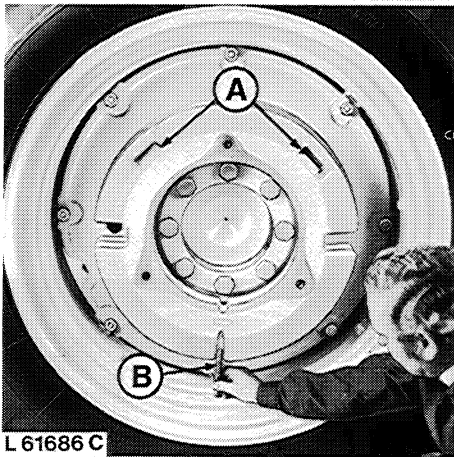




Rear Axle Quick Tatch Weights

The first weight is attached to the wheel rim by means of three cap screws.

A— Attaching cap screws



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

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.

A — Retainer jaws
B — Attaching cap screw

MEASURING REAR WHEEL SLIP

Rear wheel slip can be measured as follows:

1. Make a chalk mark pointing toward axle hub on the side of tire. Drive tractor forward with implement lowered into the ground. Place a marker in the ground as soon as chalk mark reaches the ground.
2. Again place a marker in the ground as soon as 10 revolutions of the wheel have been made.
3. Now raise implement and drive again between the two markers, marking the tire at point where it passes the first marker (on the ground). Note the number of revolutions required by the rear wheels to travel marked distance.
4. Determine the percent of slip from the revolutions obtained in step 3 and the following table.

Wheel Revolutions (Tractor not under load)	Wheel Slip in %	Wheel Revolutions (Tractor not under load)	Wheel Slip in %
10	0	8	20
9-1/2	5	7-1/2	25
9	10	7	30
8-1/2	15		

Best working conditions are obtained with 10 to 15 % slip. If slip is more, weights must be added. If it is less, ballast should be removed.

When plowing, better results are obtained if more weight is added to the land wheel than to the furrow wheel.

LIQUID BALLAST (FILLING TIRES WITH WATER AND ANTI-FREEZE)

A water and magnesium chloride solution is recommended by the tire companies. Plain water may be used when there is no danger of freezing.

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 (-40°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 lb 452	kg 87 lb 192	liters 149 gals. 39	kg 236 lb 520
13.6-38	kg 215 lb 474	kg 91 lb 201	liters 156 gals. 41	kg 247 lb 545
14.9-38	kg 265 lb 584	kg 113 lb 249	liters 193 gals. 51	kg 306 lb 675
15.5-38	kg 250 lb 551	kg 108 lb 238	liters 184 gals. 49	kg 292 lb 644
16.9-24	kg 230 lb 507	kg 98 lb 216	liters 167 gals. 44	kg 265 lb 584
16.9-30	kg 275 lb 606	kg 117 lb 258	liters 200 gals. 53	kg 317 lb 679
16.9-34	kg 308 lb 679	kg 131 lb 289	liters 224 gals. 59	kg 355 lb 783
18.4-30	kg 340 lb 750	kg 145 lb 320	liters 247 gals. 65	kg 392 lb 864
21.5L-16.1	kg 285 lb 628	kg 122 lb 269	liters 208 gals. 55	kg 330 lb 728
23.1-26	kg 485 lb 1069	kg 206 lb 454	liters 352 gals. 93	kg 558 lb 1230
Up to -30°C (-22°F) add 25 % Magnesium Chloride and reduce water by 10 %				

FILLING OF TIRES

To fill a tire, jack up the wheel and turn it to that the tire valve is in top position. Remove the valve insert and turn 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 screw in air valve and pump tire to normal inflation pressure.

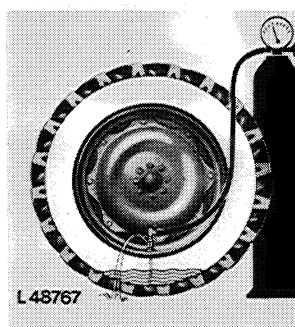
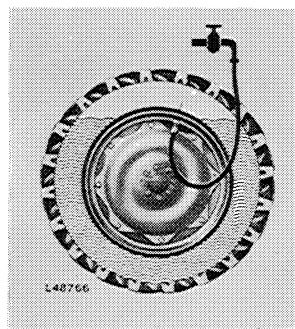
If low temperatures are expected, an anti-freeze solution should be used.

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 opposite. Put magnesium chloride into the water - not vice versa. Do not fill this anti-freeze solution into the radiator.

DRAINING OF 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.

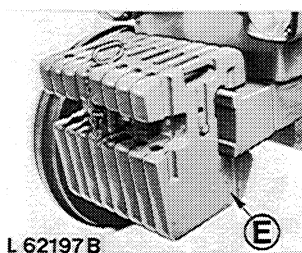
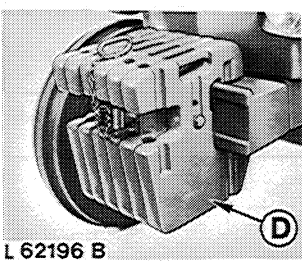
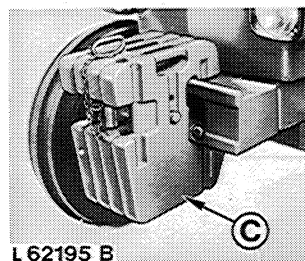
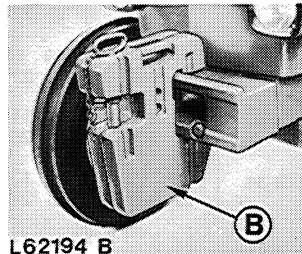
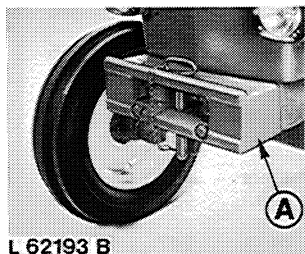


FRONT-END WEIGHTS

Use front weights to improve steerability when using a heavy rear mounted implement or pulling a heavy load.

One basic weight and up to eight front weights may be added.

IMPORTANT! Tighten basic weight to carrier attaching cap screws to 400 Nm (300 ft-lb) torque.



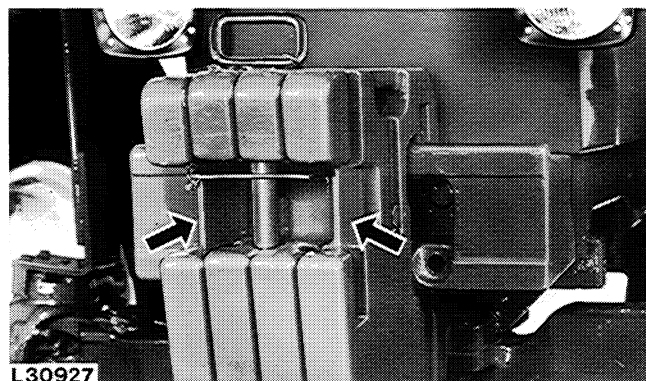
A — Basic weight 80 kg (176 lb) increases front axle load by 94 kg (207 lb).

B — Basic weight plus 2 additional weights 164 kg (362 lb) increases front axle load by 198 kg (436 lb).

C — Basic weight plus 4 additional weights 248 kg (547 lb) increases front axle load by 302 kg (666 lb).

D — Basic weight plus 6 additional weights 332 kg (732 lb) increases front axle load by 406 kg (895 lb).

E — Basic weight plus 8 additional weights 416 kg (917 lb) increases front axle load by 510 kg (1124 lb).



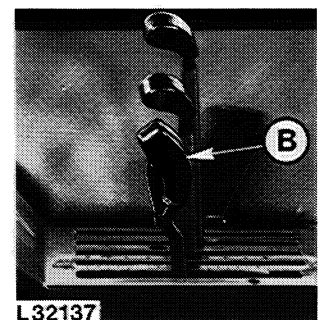
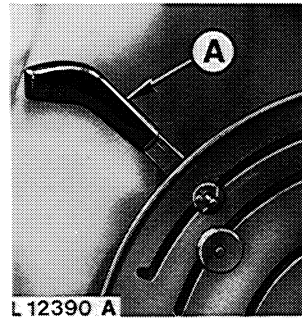
NOTE: When installing four or more weights they must be installed to form a jaw as shown opposite.

Rockshaft

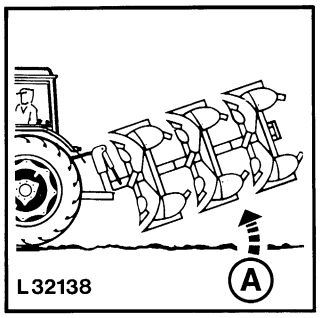
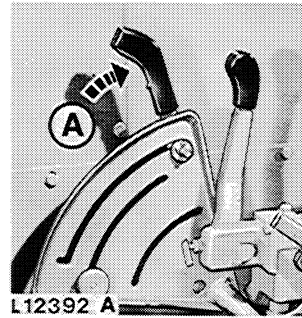
The rockshaft gives precision control of mounted implements.

A — Rockshaft control lever (tractor without SG2 Cab)

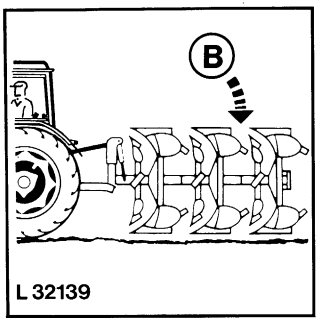
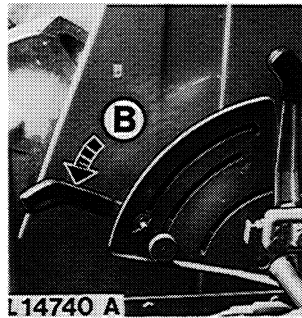
B — Rockshaft control lever (tractor with SG2 Cab)



A — Raise implement



B — Lower implement



Transporting Mounted Implements (Tractors without SG2 Cab)

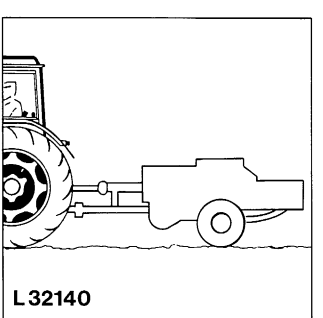
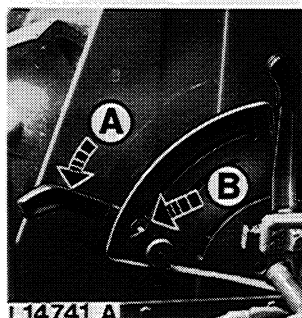
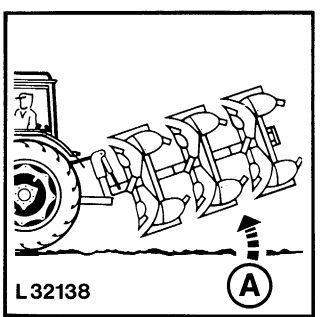
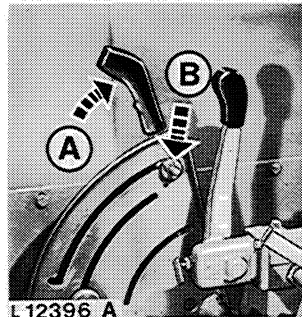


CAUTION! Be sure to secure implement attached to three-point hitch by means of control lever to avoid unintentional lowering or raising of implement.

A — With a fully mounted implement, raise implement fully.

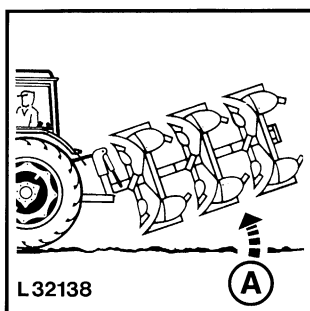
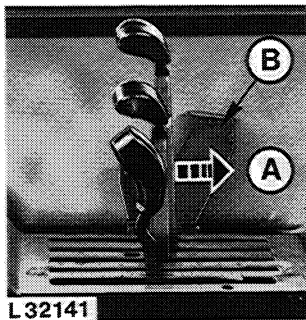
B — Press guide pin down into recess.

With towed equipment connected to 3-point hitch:



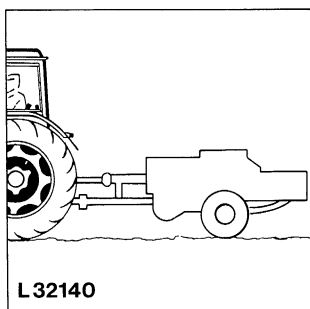
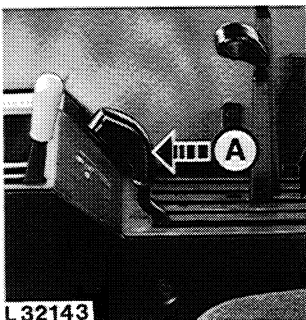
A — Control lever in "lower" position

B — Press guide pin upward into recess



Transporting Mounted Implements (Tractors with SG2 Cab)

- A — With a fully mounted implement, raise implement fully, control lever engaged in rear recess.
- B — Transport position (when equipped): Swing downward to lock.

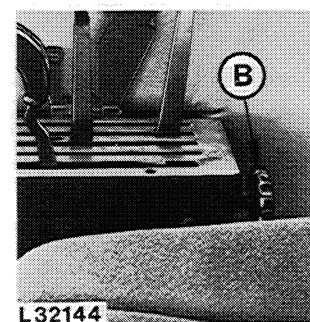
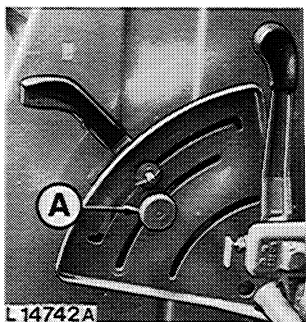


With towed equipment connected to 3-point hitch or PTO.

- A — Control lever in "lower" position.

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.

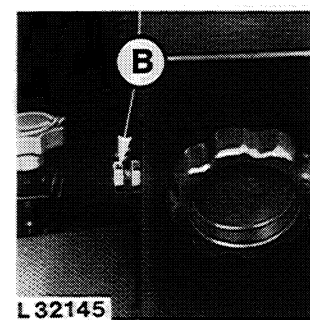
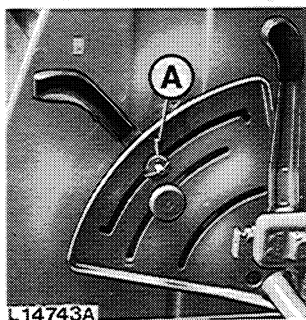


- A — Adjustable depth stop (tractor without SG2 Cab)
- B — Knob for adjustable depth stop (tractor with SG2 Cab)

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 (on tractors without SG2 Cab).

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

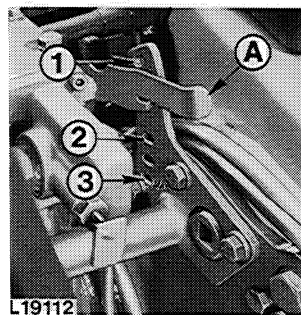


- A — Guide pin
- B — Adjusting screw

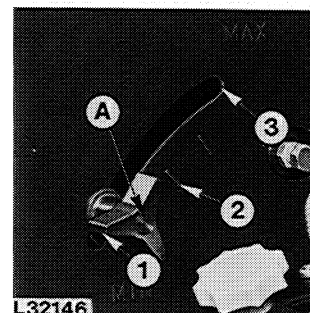
ROCKSHAFT SELECTOR LEVER

CAUTION! Before attaching an implement to the three point hitch the selector lever must be shifted to "Depth Control" (MIN) position.

- A — Selector lever
- 1 — "MIN" = Height control
- 2 — Center position = Load-and-depth control
- 3 — "MAX" = Load control



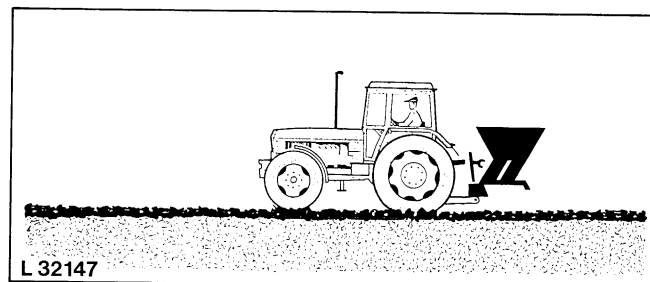
L19112



L32146

"MIN" — Height Control

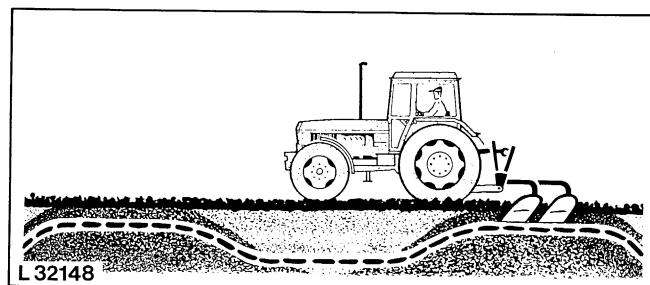
In "Height" control, the implement attached to the 3-point hitch will work at the height selected by the rockshaft control lever.



L 32147

"MAX" — Load Control

In "Load" control, 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.

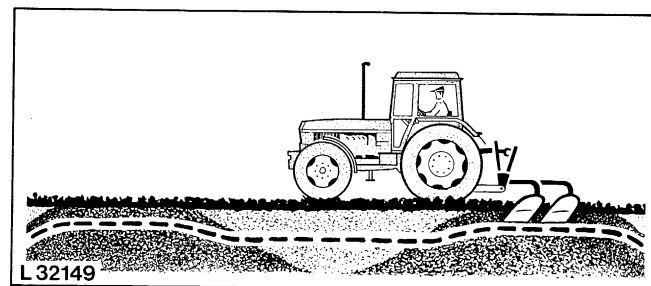


L 32148

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.

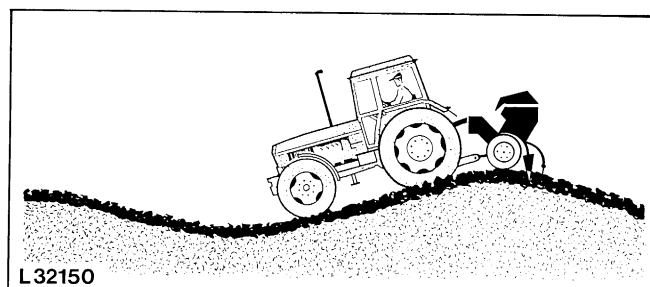
Additional notches for the rockshaft selector lever are provided on the quadrant. These extra notches are located between the notches for "depth control" and "load and depth control" and between "load and depth control" and "load control". They make it possible to control the implement's operation as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



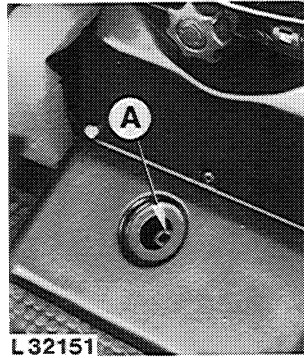
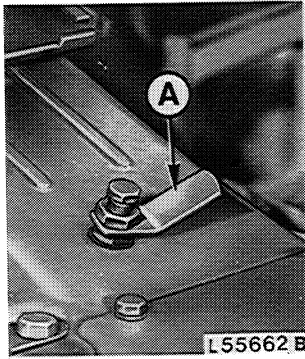
L 32149

"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 height control ("MIN") position and push rockshaft control lever all the way forward.



L32150



ADJUSTING RATE OF IMPLEMENT DROP

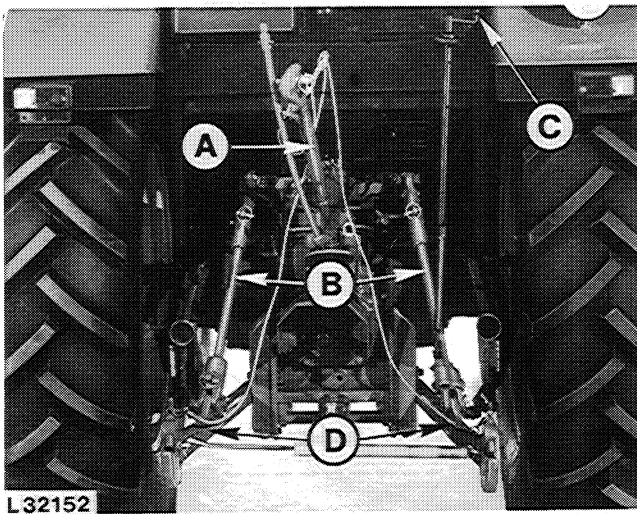
The rate at which the rockshaft and implement will drop is controlled — independent of the control lever — by adjusting the rate-of-drop lever.

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

A — Rate-of-drop lever

Do not turn out rate-of-drop lever more than three turns.

3-Point Hitch



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

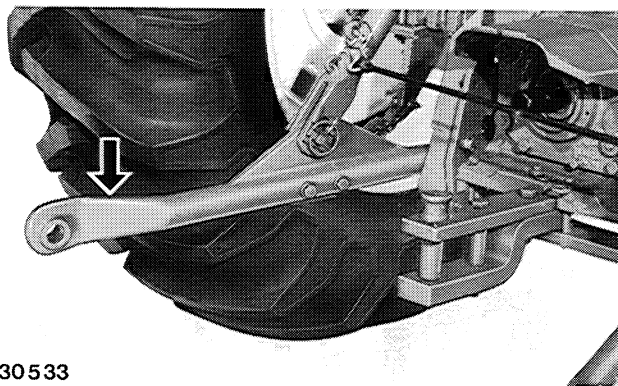
- A — Center link
- B — Lift links
- C — Adjusting handle for lift links
- D — Draft links

DRAFT LINKS

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

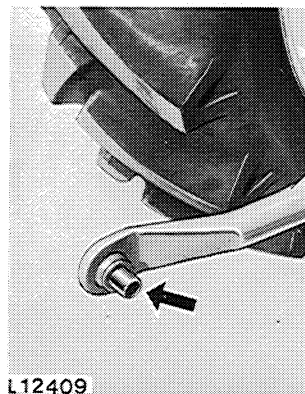
Reversible Draft Links

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.

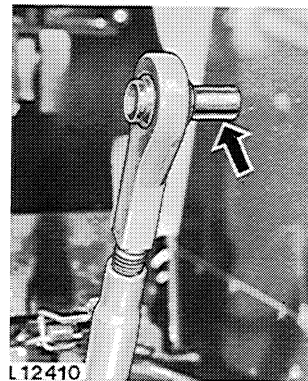


L30533

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



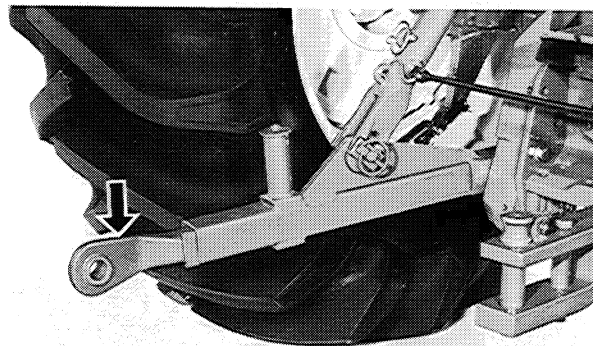
L12409



L12410

Telescopic Draft Links

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

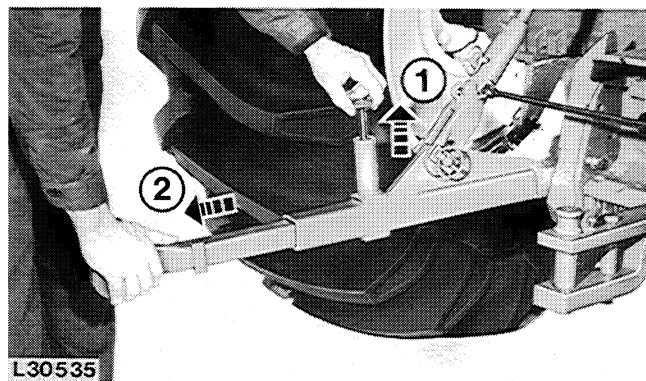


L30534

To facilitate hitching of implements, telescopic draft links can be extended to the rear.

- 1 — Lift lock pin
- 2 — Pull telescopic draft links to the rear

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



L30535

Quick-Coupling (Hook-Type) Draft Links

Using quick-coupling draft links, implements can be attached and removed from the draft links from the operator's seat.

Attaching Implement

- 1 — Adjusting draft links to the dimension required 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.

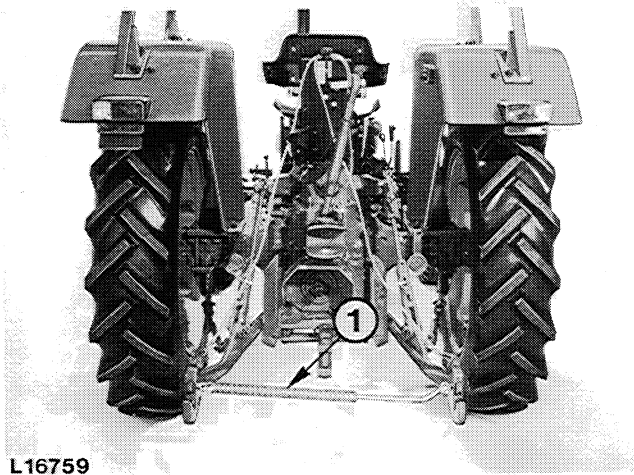
IMPORTANT! Make sure that implement is correctly locked to coupler hooks.

Removing Implement

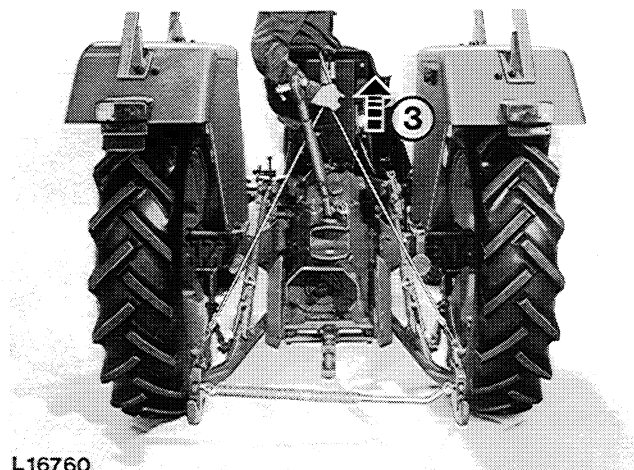
- 1 — Lower implement to the ground.
- 2 — Disconnect center link from implement and secure by means of transport hook.
- 3 — Pull release cable and lower draft links until coupler hooks are clear of implement hitch pins.
- 4 — Drive tractor forward away from implement.

The draft link coupler hooks can also be locked in the open position when removing an implement.

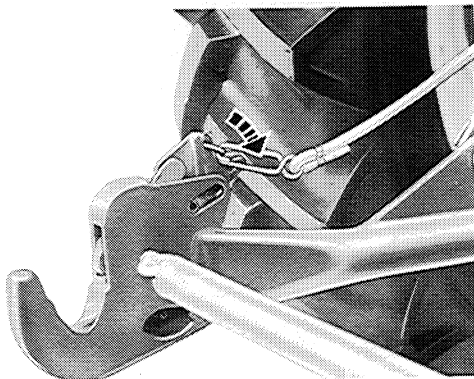
To lock, press grip fully to the rear.



L16759



L16760



L16761

LEVELING IMPLEMENT

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

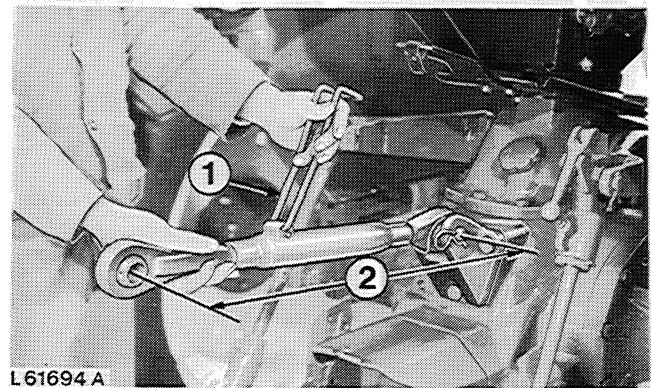
CENTER LINK ADJUSTMENT

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

- A — Raise adjusting handle and turn to obtain the required length
- B — Minimum length 540 mm (21-1/4 in.)
Maximum length 780 mm (30-23/32 in.)

Length of center link must be kept within the limits as shown.

After adjusting, push handle down again over center link. Insert attaching pin through implement mast and center link and secure.



LIFT LINK ADJUSTMENT

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

- A — Adjusting handle
- B — Handle lock

After adjustment is completed, lock handle.

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

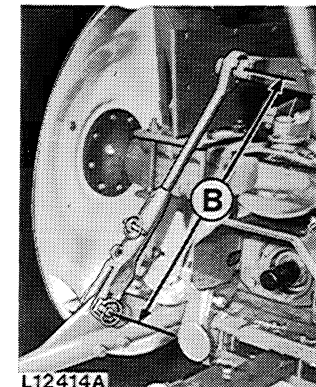
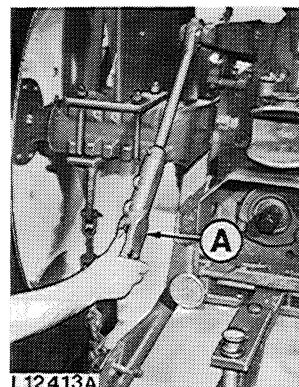
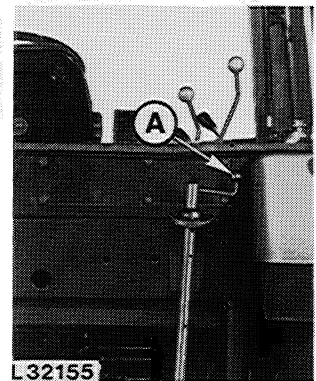
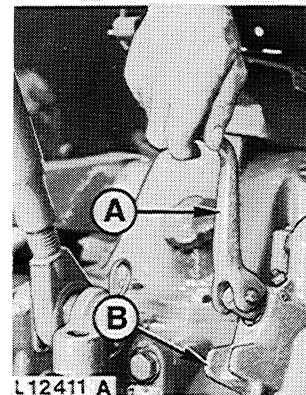
To adjust left-hand link, remove it from draft link and screw yoke end of lift link in or out.

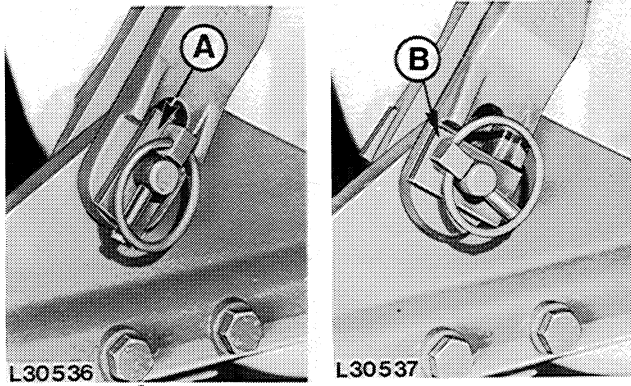
- A — Yoke

Length of links must be kept within the following limits:

- B — Minimum length: 566 mm (22-9/32 in.)
Maximum length: 648 mm (26-15/16 in.)

NOTE: The lift link dimensions quoted above are with float locked out (no lateral float).





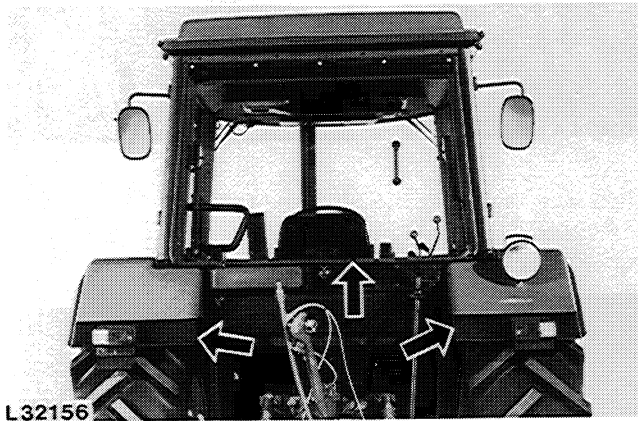
ADJUSTING FOR LATERAL FLOAT

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

Lateral float is necessary in draft links so that implements, such as those equipped with gauge wheels can follow ground contours.

A — Steel plate in position for lateral float

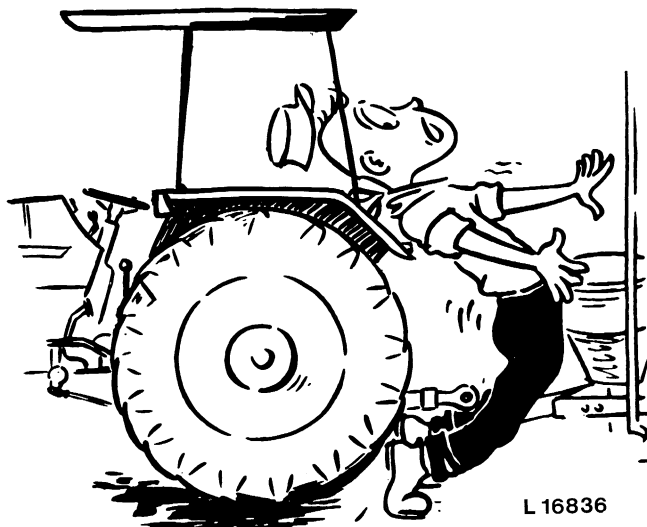
B — Steel plate in position for no lateral float



ATTACHING 3-POINT HITCH AND DRAWN IMPLEMENTS ON TRACTORS WITH SG2 CAB

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 sharp turns.



ATTACHING IMPLEMENTS



CAUTION! Do not stand between tractor and implement unless range shift lever is in park (P) position or handbrake is applied.

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.

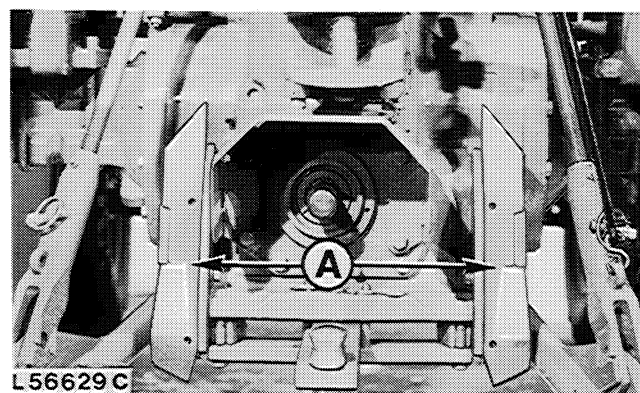
When attaching an implement, be sure rockshaft selector lever is set in height control (Min) position.

POSITIONING SWAY BLOCKS

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

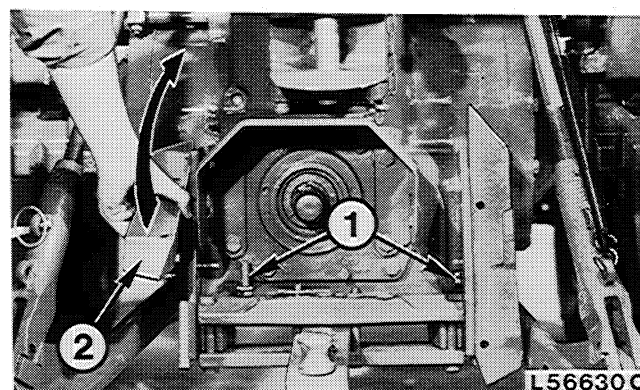
Attach sway blocks in lower position when connecting or attaching implements (planters, row crop cultivators etc.) which are to follow exactly the tracks of the tractor. In this position the sway blocks lock out draft link sway during transport and operation.

A -- Sway blocks



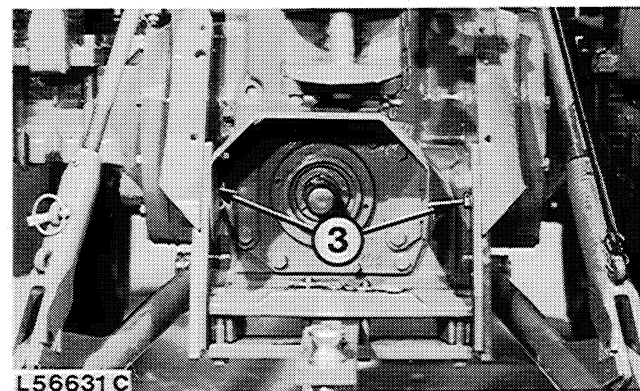
Move sway blocks into upper position if more sideways motion is desired for the attached implement (plow, disk harrow) during operation.

- 1 -- Remove cap screws
- 2 -- Lift sway block slightly from dowel pin, rotate upward and reinsert in dowel pin.



- 3 -- Insert cap screws in top bores and secure sway blocks to support.

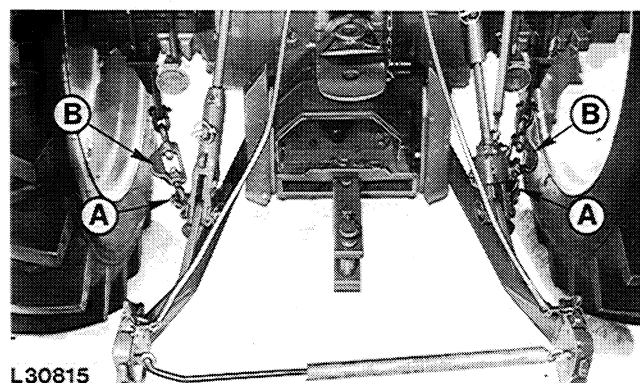
With sway blocks in this position, the draft links will sway in operating position. However, sway is locked out in transport position.



STABILIZER CHAINS

These chains, which are available for both reversible and telescopic draft links, can be adjusted to prevent lateral play of draft links, chain adjustment can be carried out without using any tools.

A -- Stabilizer chains
B -- Tensioners



Selective Control Valves (Spool Type)

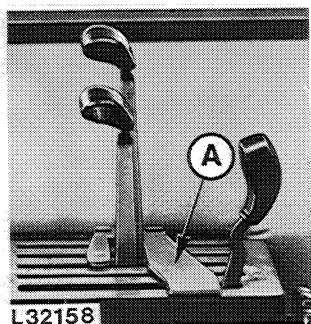
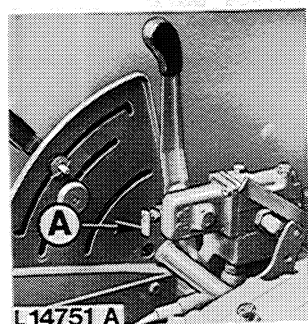
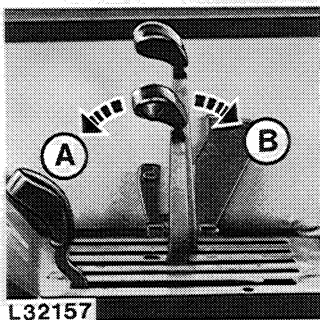
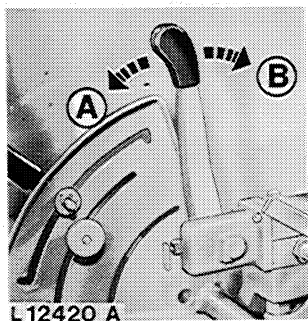
Single or dual selective control valves may be installed as required.

CONTROL LEVER

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 backward so that it is locked in position, move it back to neutral when operation is completed.

A — Lower implement
B — Raise implement



TRANSPORT LOCK FOR CONTROL LEVER

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

A — Transport lock

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.

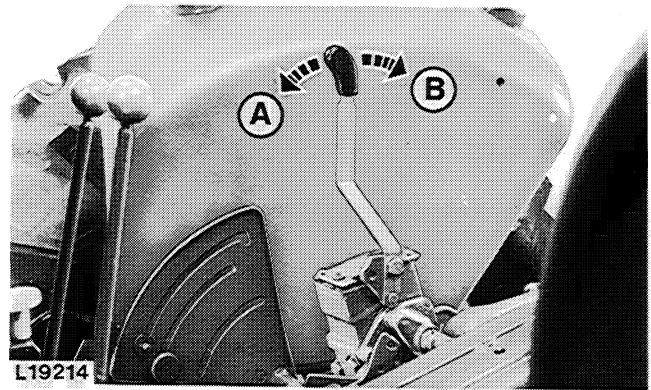
Selective Control Valves (Poppet Valve Type)

The tractor may be equipped with one or two dual selective control valves.

CONTROL LEVER

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

- A — Lower implement
- B — Raise implement



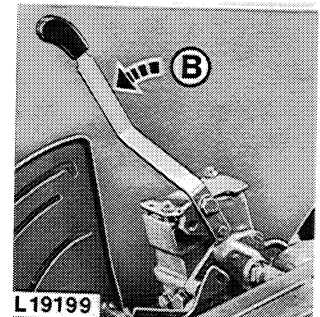
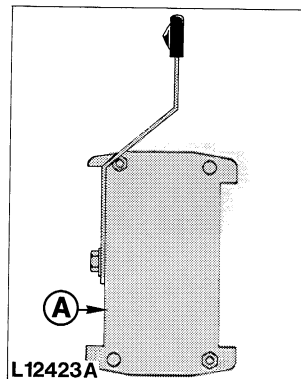
Float Position

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

- A — Lever stop plate

Move control lever of first selective control valve forward to float position. The lever will lock in forward position until moved to a new position.

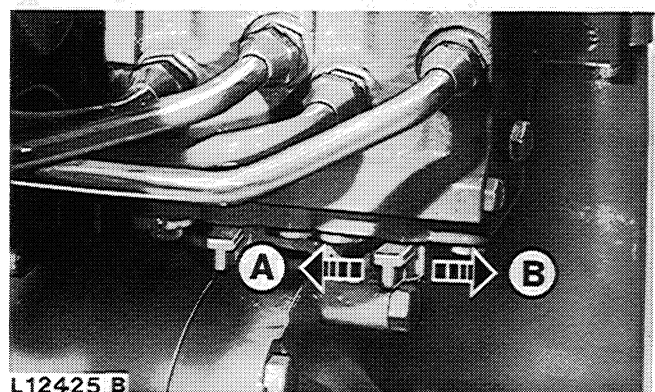
- B — Control lever



RATE OF CYLINDER OPERATION

IMPORTANT! Full extension or retraction of a 63.5 mm dia. x 203 mm (2.5 in. x 8 in.) remote cylinder should require at least 1-1/2 to 2 seconds. Faster speeds may cause damage.

- A — Slow extend
- B — Fast extend

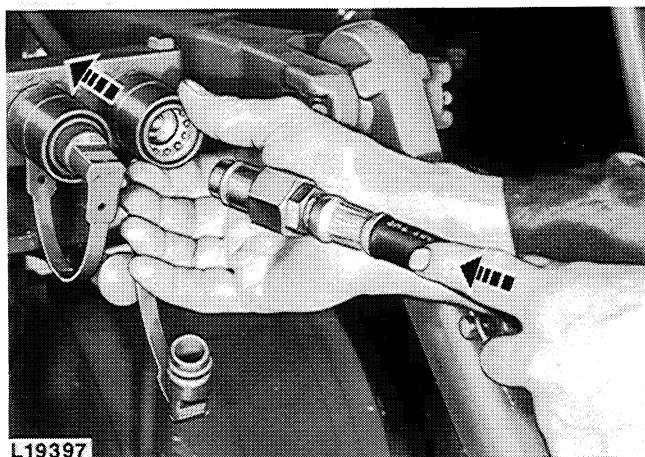


HYDRAULIC HOSE COUPLERS

The tractor may be equipped with disconnect or breakaway couplers.

DISCONNECT COUPLERS

JD or ISO disconnect couplers are available. JD disconnect couplers are equipped with conical, ISO disconnect couplers with cylindrical coupler rings.



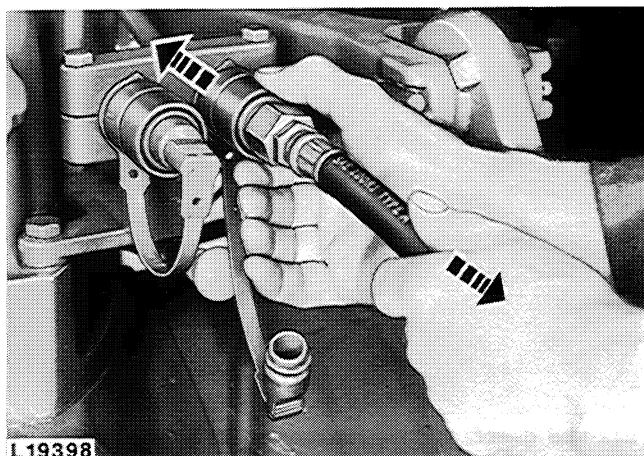
L19397

Connecting Hydraulic Hoses

Shut off the engine before connecting hoses to disconnect couplers, lower any mounted implement and move control lever forward and backward. This will relieve the disconnect couplers.

- 1 – Slide coupler ring forward, remove dust cap and check connections for cleanliness.
- 2 – Press hose connector into disconnect coupler and release coupler ring.

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



L19398

Removing Hoses from Disconnect Couplers

Relieve the pressure on the coupler by stopping the engine, lowering implement, and moving the remote cylinder control lever back and forth.

- 1 – Slide coupler ring forward.
- 2 – Pull hose from coupler.

After the remote cylinder hoses are removed, insert the dust plugs in the receptacles and on the hose ends.



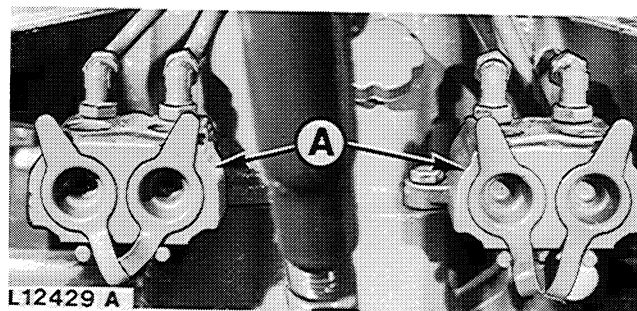
CAUTION! The hydraulic system has a stand-by pressure of 19000 kPa (190 bar; 2760 psi)*. For your own protection and to assure proper functioning of the system, use only genuine JOHN DEERE parts.

* CANADA ONLY: 15 500 kPa (155 bar; 2250 psi)

BREAKAWAY COUPLERS

Breakaway couplers are used to couple or uncouple remote cylinder 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 — Breakaway couplers

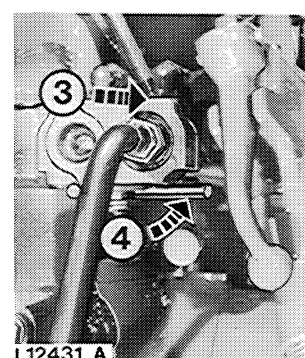
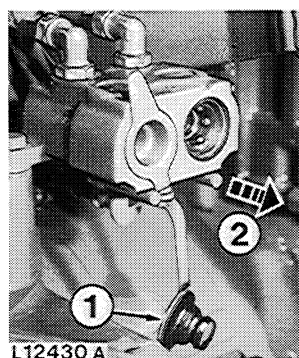


Connecting Hydraulic Hoses

- 1 — Remove dust plug and make sure that hose end and coupler receptacle are free from dirt.
- 2 — Move coupler operating lever to the rear.
- 3 — Press hose connector into breakaway coupler.
- 4 — Move coupler operating lever outward.

In this position valve is opened and permits oil to flow.

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



Removing Hydraulic Hoses

Pull hose out of receptacle. The coupler operating lever will now move in direction of travel, shutting off the oil flow.

After the remote cylinder hoses are removed, insert the dust plugs in the receptacles and on the hose ends.

CAUTION! The hydraulic system has a stand-by pressure of 19000 kPa (190 bar; 2760 psi)*. For your own protection and to assure proper functioning of the system, use only genuine JOHN DEERE parts.

* CANADA ONLY: 15 500 kPa (155 bar; 2250 psi)

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. In that 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 re-filling, use only JOHN DEERE Hy-GARD Transmission and Hydraulic Oil or its equivalent.

Implements with Hydraulic Motor

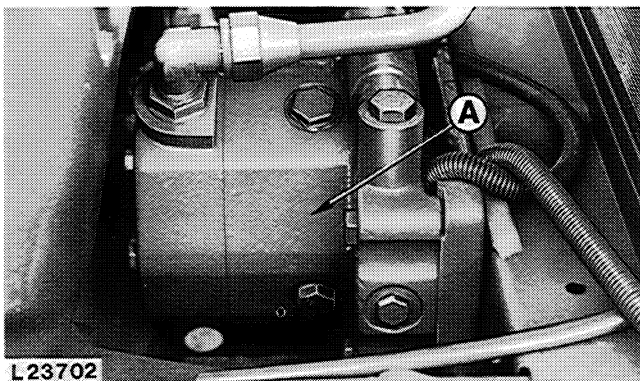
Maximum oil flow of transmission/hydraulic oil is dependent upon the type of hydraulic pump installed on the tractor.

4 — piston hydraulic pump —	22 liters/min. (5.8 gpm)
8 — piston hydraulic pump —	39 liters/min. (10.3 gpm)

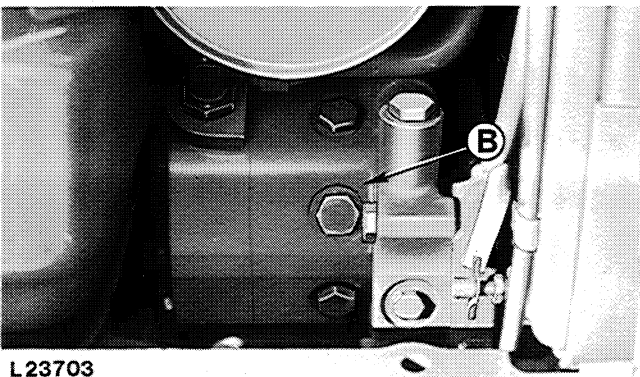
NOTE: Maximum oil withdrawal is 45 liters/min. (11.9 gpm) on tractors equipped with 8-piston hydraulic pump and return flow connection to transmission/hydraulic oil filter.

A -- 4-piston hydraulic pump

B -- 8-piston hydraulic pump



L23702



L23703

Double-Acting Remote Hydraulic Cylinders

REMOTE HYDRAULIC CYLINDER

- A — Stop lever
- B — Adjustable stop
- C — Stop rod arm

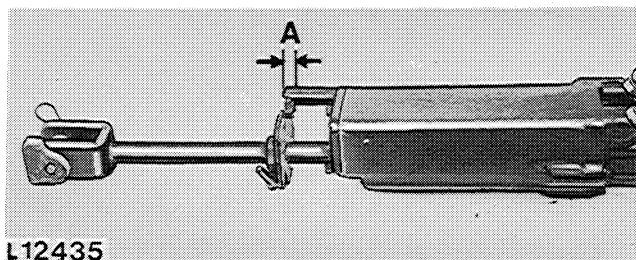
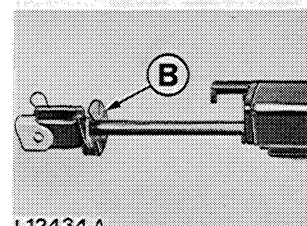
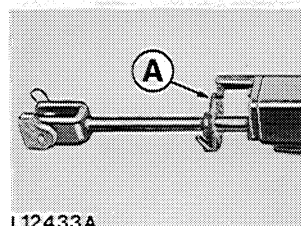
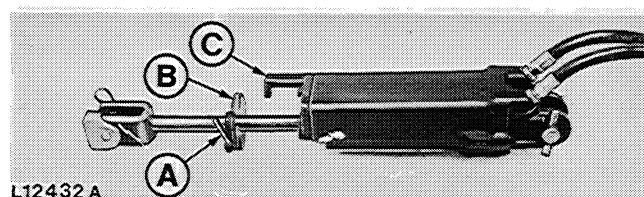
The total retract stroke may be varied from 0 to 203 mm (0 to 8 in.) by means of the adjustable stop.

- A — Retract stroke 0 mm (0 in.)
- B — Retract stroke 203 mm (8 in.)

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

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.

- A — 38 mm (1.5 in.)



Connecting Hoses to Couplers

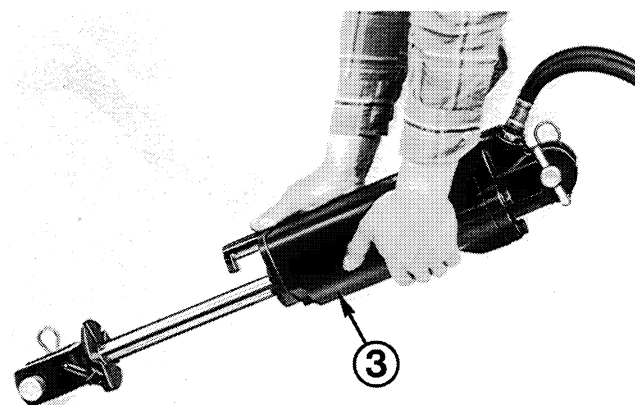
Insert hose on stop rod arm side into left-hand coupler (facing direction of travel).

Bleeding Remote Hydraulic Cylinder

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

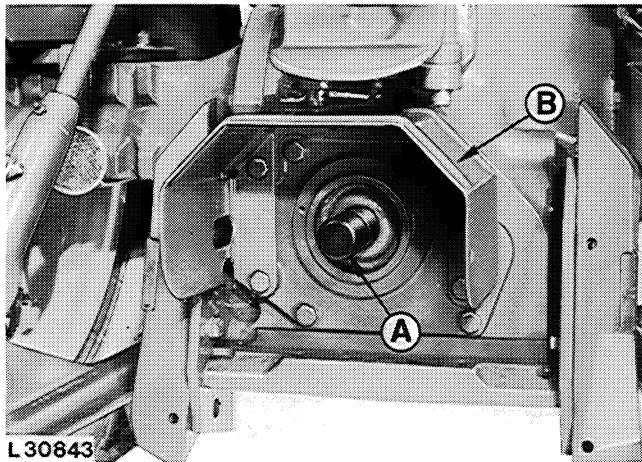
When bleeding the remote cylinder, also check for leaks.

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.



L30750

Power Take-Off



PTO GUARD

CAUTION! Remove PTO guard 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 may have to be removed when attaching certain implements to the PTO. Reinstall shield as soon as the implement is attached.

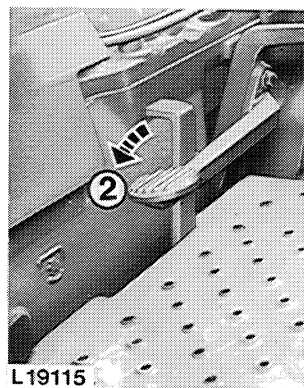
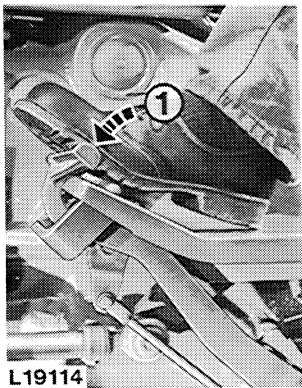
CAUTION! Do not engage PTO until the master shield has been installed.

- A — PTO guard
B — Master shield

PTO OPTIONS

The tractor may be equipped with continuous-running PTO, independent PTO or with handshift independent PTO.

PTO speed is obtained with an engine speed of 2400 rpm.



OPERATION OF PTO (Continuous Running)

- 1 — Depress clutch pedal completely (momentarily waiting for tractor motion to stop).
- 2 — Move the PTO control lever completely forward and slowly re-engage the clutch pedal.

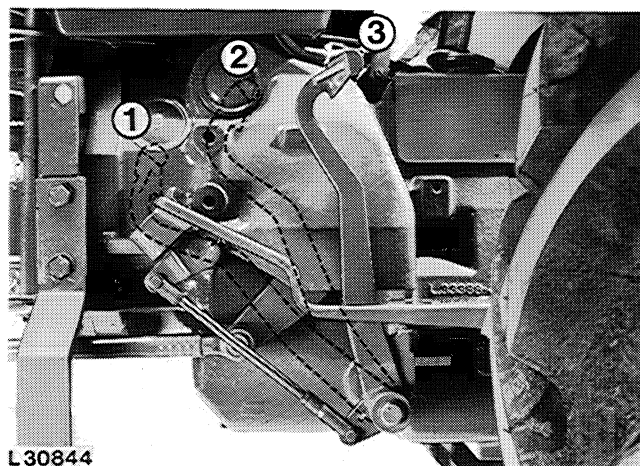
To disengage the PTO, completely depress the clutch pedal and move the PTO control lever to the rear.

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.

POSITIONING CLUTCH PEDAL FOR PTO OPERATION (Continuous Running)

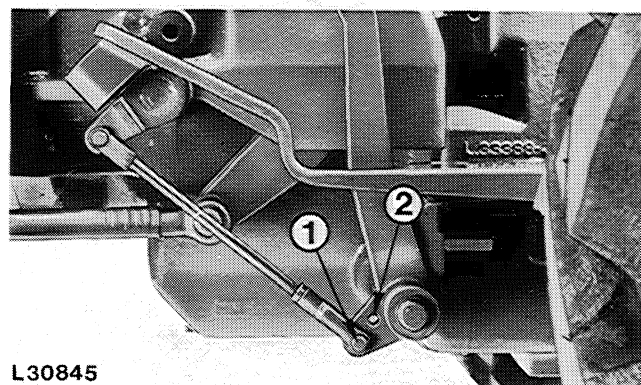
Depressing the clutch pedal to no. 2 position disengages the transmission and leaves the PTO shaft in operation. If PTO operation must be stopped as well, depress clutch pedal to no. 1 (PTO disengaged) position.

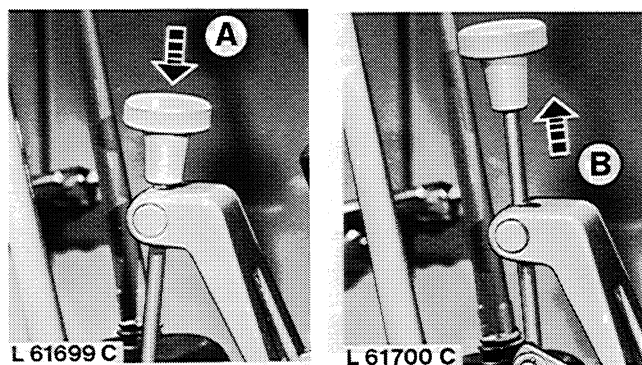
- 1 — PTO disengaged
- 2 — PTO operating; transmission disengaged
- 3 — Transmission engaged; PTO operating

**Locking Out PTO Clutch**

When there is no requirement for power take-off operation for long periods of time, the continuous running PTO clutch may be locked out to save wear on the clutch.

- 1 — Remove clutch rod from lower bore on pedal
- 2 — Connect clutch rod to upper bore

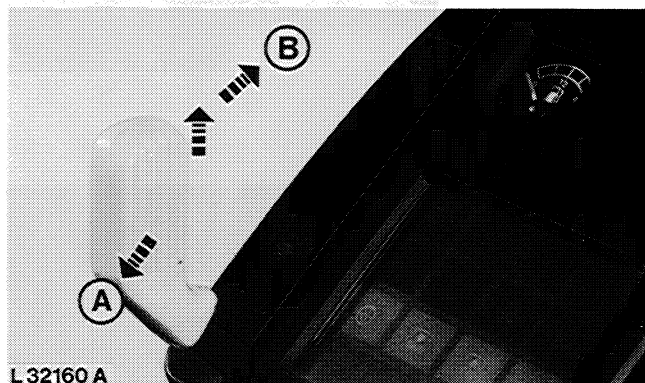




OPERATION OF INDEPENDENT PTO

PTO can be engaged and disengaged directly by means of hydraulic PTO control lever, without declutching and on the go.

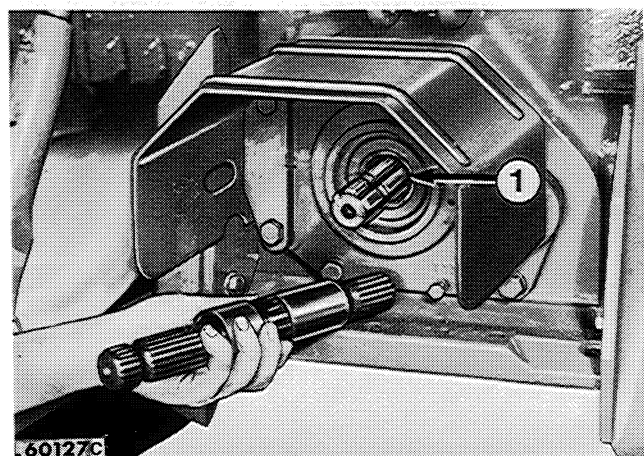
- A — PTO disengaged
- B — PTO engaged



- A — PTO disengaged
- B — PTO engaged



CAUTION! Always disengage PTO when not required.



CHANGING INDEPENDENT PTO SHAFTS

The replaceable PTO stub shafts differ in the number of splines. The 540 rpm shaft has 6 splines; the 1000 rpm shaft has 21 splines.

Clean stub thoroughly before installing.

- 1 — Remove snap ring

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



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.

HANDSHIFT PTO SPEED CHANGE (Independent PTO)

The independent PTO with handshift speed change is engaged and disengaged as described on page 72.

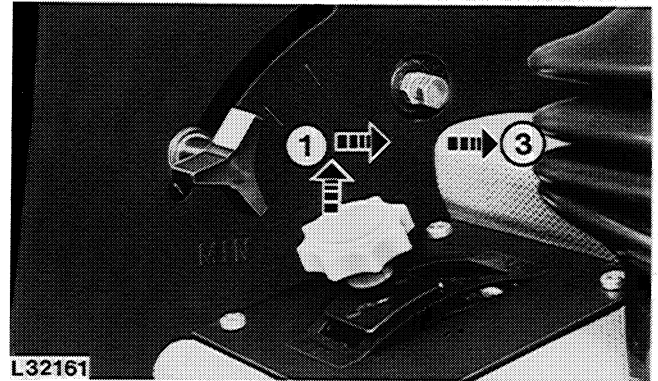
With the handshift speed change the operator can change PTO speed from the operator's seat.

Changing from 1000 rpm to 540 rpm

- 1 — Pull out shifter knob and move to center position.
- 2 — Turn shifter knob 180° and
- 3 — Engage in 540 rpm position.

Changing from 540 rpm to 1000 rpm is carried out in a similar manner.

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!

ATTACHING PTO DRIVEN EQUIPMENT

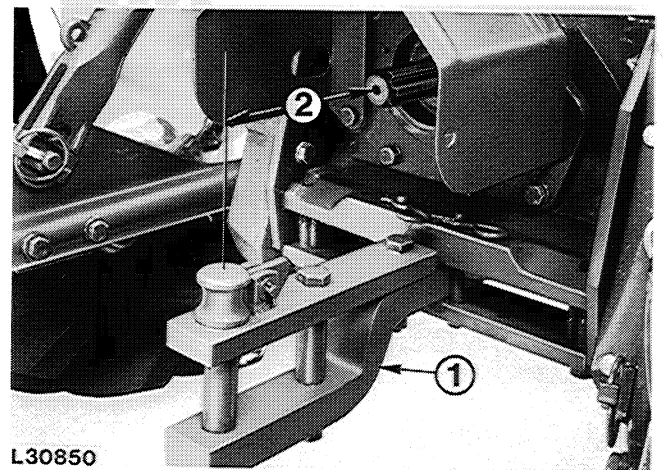
CAUTION! Shut off engine and disengage PTO before attaching PTO driven equipment.

- 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: PTO for 540 rpm = 355 mm (14 in.), PTO for 1000 rpm = 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 PTO driven machine, hitch or universal joint.



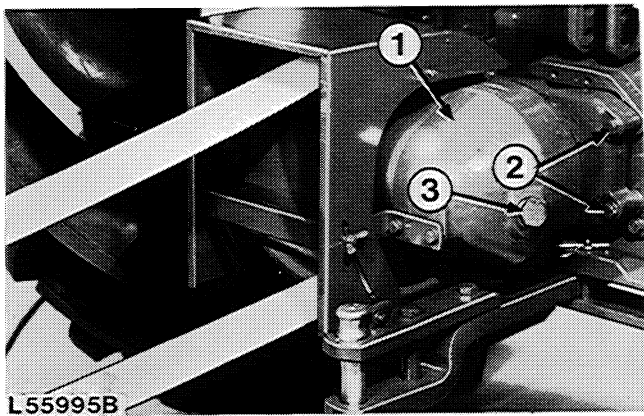
BELT PULLEY

A belt pulley is available for application with the 540 rpm PTO.

When the engine is at rated PTO speed (2400 rpm), the belt pulley rotates at 970 rpm.

Before installing belt pulley, remove the following parts:

- 1 — Left-hand draft link
- 2 — Left-hand lift link
- 3 — Left-hand sway block with support
- 4 — PTO guard and master shield



Installing Belt Pulley

- 1 — Slide belt pulley drive onto PTO shaft.
- 2 — Secure with four cap screws.
- 3 — Remove oil filler plug and fill housing with JOHN DEERE Hy-GARD Transmission and Hydraulic Oil or its equivalent. Capacity is 1 liter (0.3 gal.). Reinstall oil filler plug.

Reverse tractor a little. This will provide the necessary slack when installing the belt.

CAUTION! Never put on or take off a belt while the pulley is in motion. Never use a stick or metal bar to force a belt on or off a revolving pulley.

As soon as belt has been put on, drive tractor slowly forward until correct tension has been achieved. Then set range shift lever in park ("P") position or apply handbrake firmly.

NOTE: Static electricity from belt pulley operation can be prevented by hanging a chain from the drawbar, allowing it to contact the ground.

Desired Speed of Driven Pulley	Diameter of Driven Pulley to Use
480 rpm	610 mm (24 in.)
640 rpm	457 mm (18 in.)
820 rpm	356 mm (14 in.)
1150 rpm	254 mm (10 in.)
1440 rpm	203 mm (8 in.)
1770 rpm	165 mm (6-1/2 in.)
2100 rpm	140 mm (5-1/2 in.)
2560 rpm	114 mm (4-1/2 in.)
2880 rpm	102 mm (4 in.)

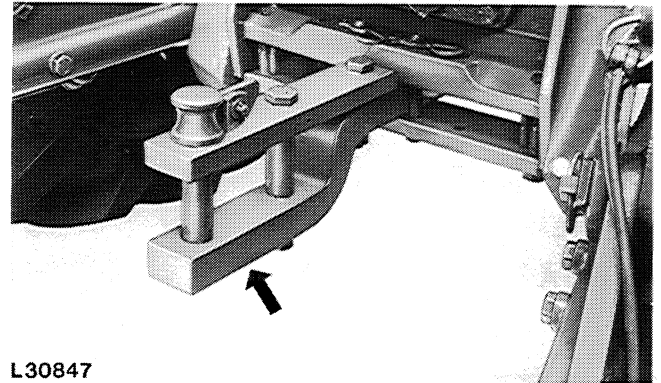
Finding the Size of Driven Pulley

Use the opposite chart to find size of the driven pulley necessary for the required speed of the driven equipment. If possible, operate the tractor engine at 2400 rpm for maximum economy.

Hitches and Drawbars

SWINGING DRAWBAR

The swinging drawbar is used for pulling drawn equipment of all types. It facilitates attaching PTO-driven implements such as combines, low, medium and high-density balers in a favorable way. By using the swinging drawbar, the standard distances between drawbar hitch point and PTO connection can be best adhered to. 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.



L30847

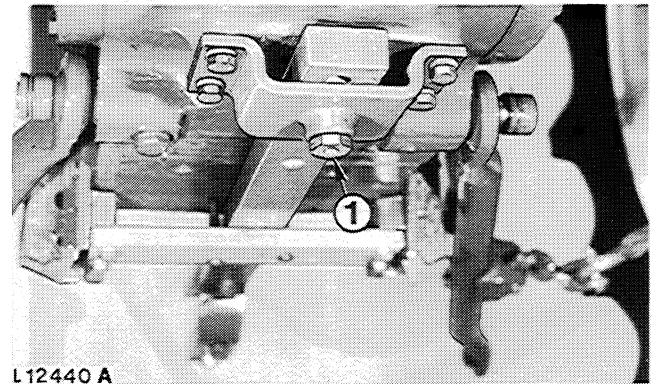
Lengthwise Adjustment

The swinging drawbar can be adjusted to three positions.

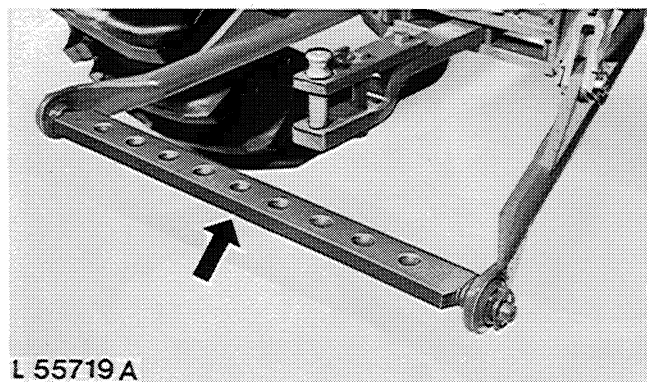
This allows for selection of the most suitable hitch point position relative to the PTO shaft connection.

1 — Remove special plug

Remove locking pin from the bottom side and shift swinging drawbar to desired position. Reinstall locking pin and plug.



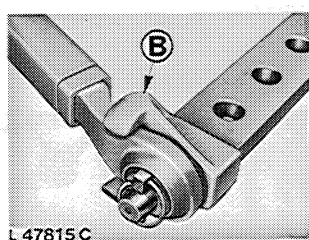
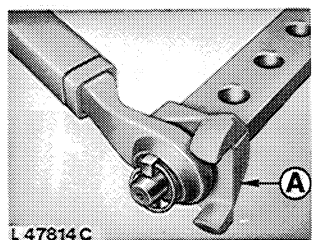
L12440 A



DRAWBAR FOR 3-POINT HITCH

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

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

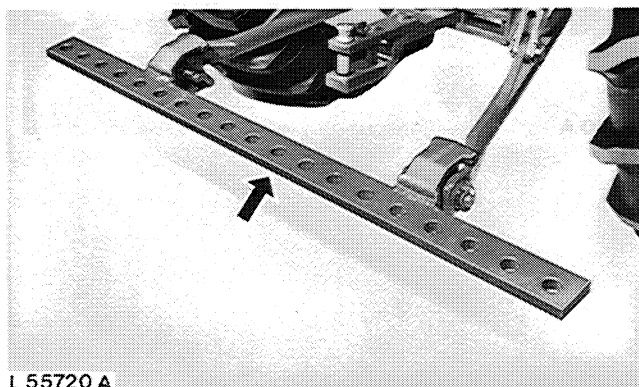


CLAMP TO PREVENT ROTATING OF DRAWBAR

By reserving the clamps, the drawbar can be attached to the draft links in a rotating or fixed position. The drawbar must be in a rotating position when used with hydraulically lifted implements and fixed, when pulling trailers.

A – Clamp installed for rotating drawbar

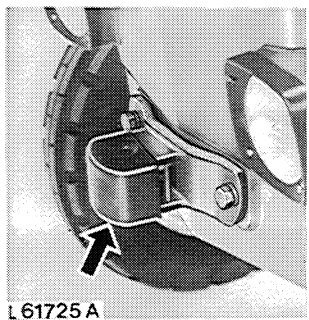
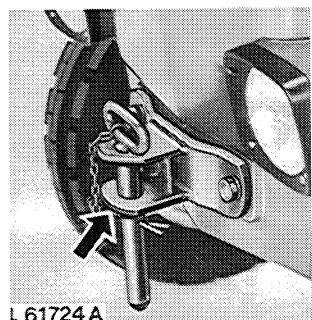
B – Clamp installed for fixed drawbar



EXTENDED DRAWBAR

The extended drawbar, locked against rotation, may be used for implements of category I and II.

The drawbar shown is approved only for implements which cannot be lifted hydraulically.



FRONT HITCH

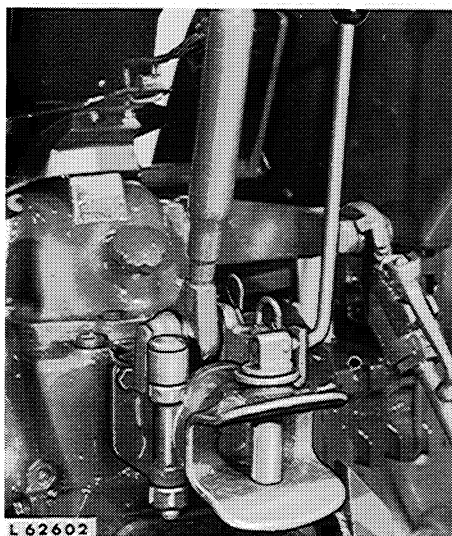
The front hitch can be used for pushing purposes when driving forward, and for pulling in reverse.

If the front weights have been removed and the front hitch is not used, remove the hitch pin and put into the tool box. For safety, push the hitch guard over the front hitch.

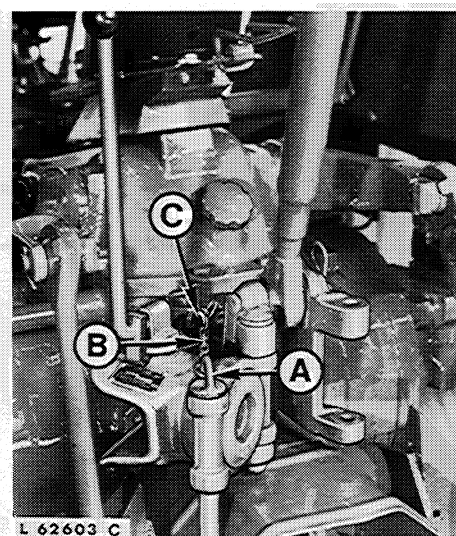
SWINGING TRAILER HITCH

This trailer hitch can be swung back after removing the locking pin if the center link is required for use. To prevent the trailer hitch from swinging forward again, hook locking pin chain into locking hook.

- A — Locking pin shifted
- B — Locking pin chain
- C — Locking hook



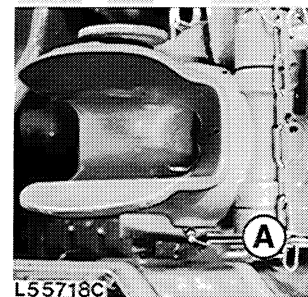
Trailer hitch in operating position



Trailer hitch swung back

Lubricate hitch jaw periodically.

To make sure that hitch jaw bearing is thoroughly greased, turn hitch jaw 180° before greasing.



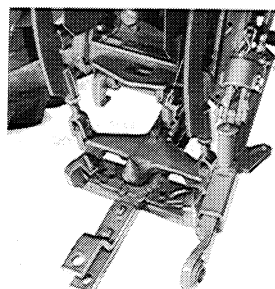
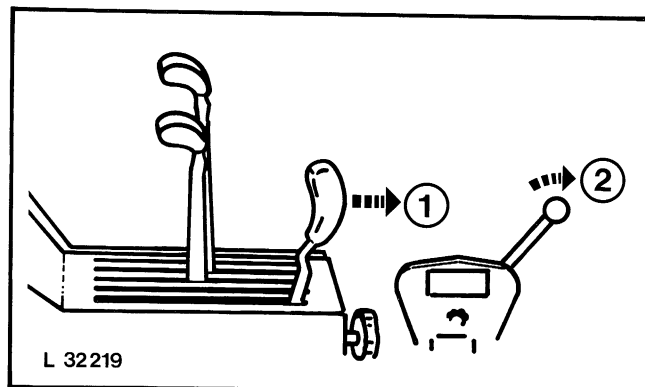
A — Grease nipple

HYDRAULIC TRAILER HITCH

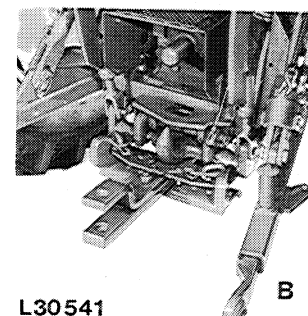
This type of hitch can be operated by the rockshaft.

- 1 — Raise draft links to maximum height. This will relieve locking device.
- 2 — Press release lever to the rear.
- 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.

- A — Lower hitch
- B — Hitch in operating position



L30540



A

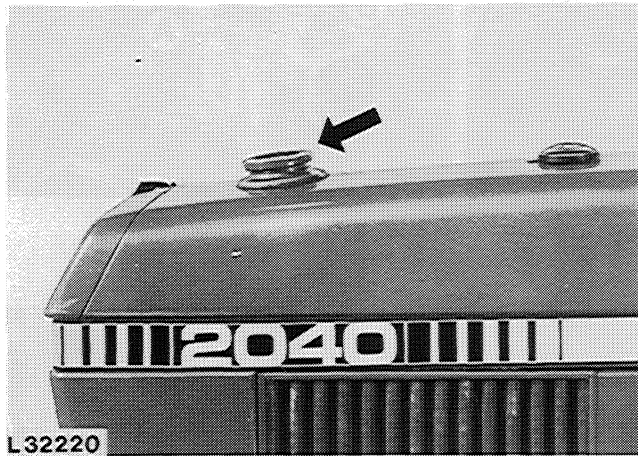
L30541

B



Fuel and Lubricants

Fuel



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

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 vented cap.



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

Storing Fuel

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.

Lubricants

ENGINE OIL

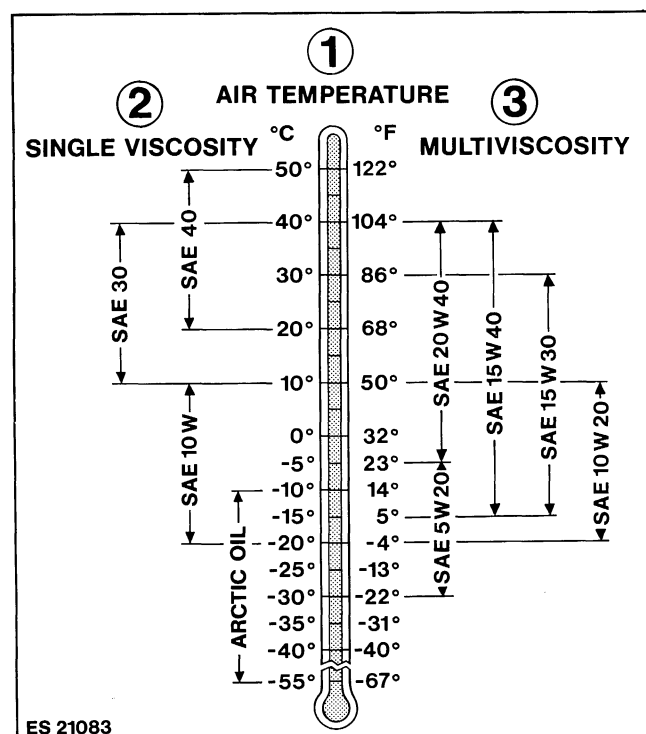
John Deere TORQ-GARD SUPREME[®] engine oil or John Deere HD Engine Oil is recommended. If other oils are used, they must be premium engine oils meeting performance requirements of:

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

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/SC 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 Oils are used. Check oil level more frequently.

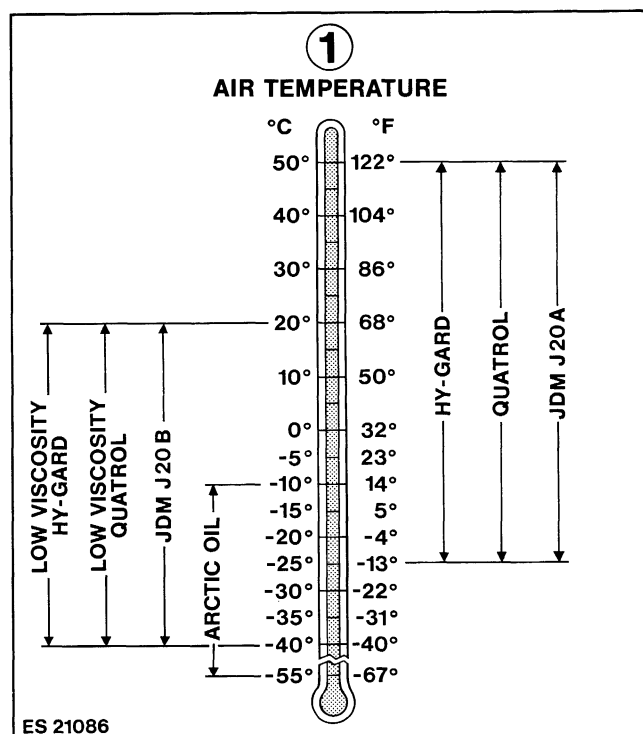


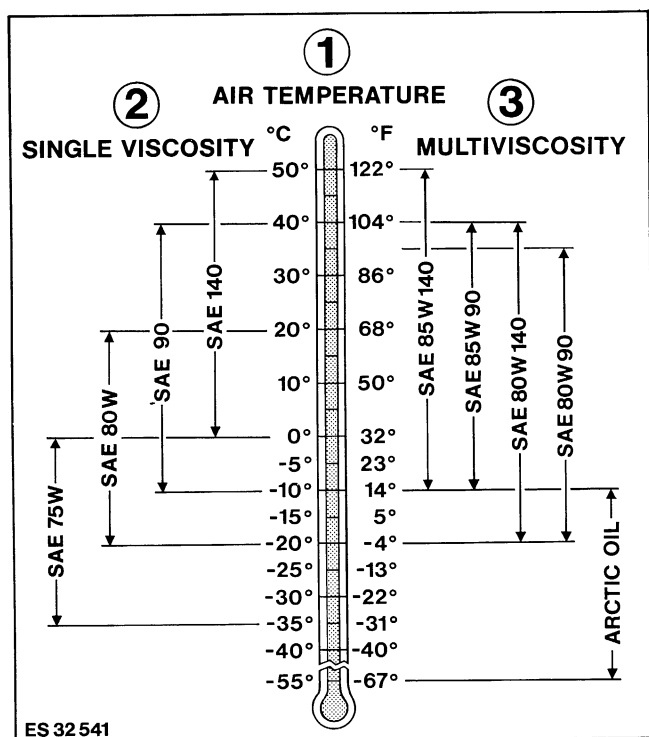
TRANSMISSION-HYDRAULIC OIL

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).





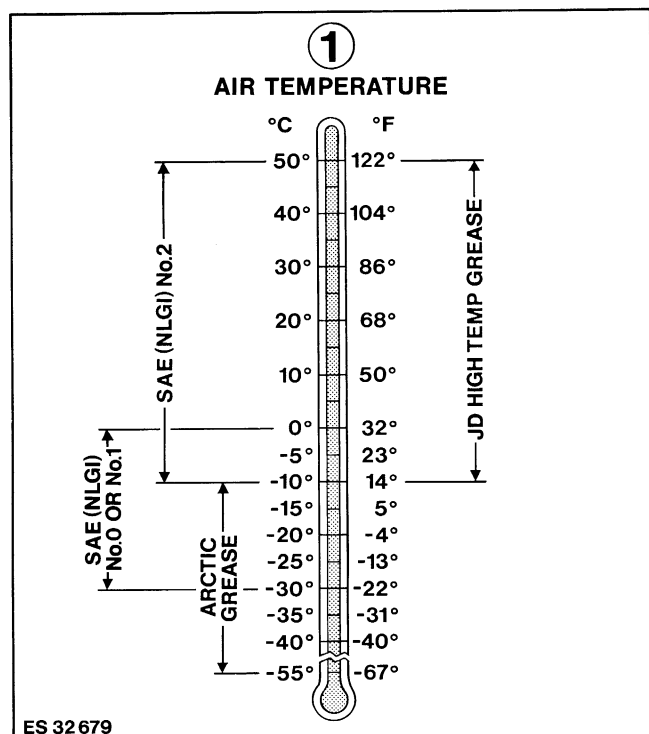
TRANSMISSION OIL FOR MFWD FRONT AXLE

John Deere API GL-5 gear 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-46167).



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).

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.

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.



Lubrication and Periodic Service

Speed-Hour-Meter

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.



Break-In Period

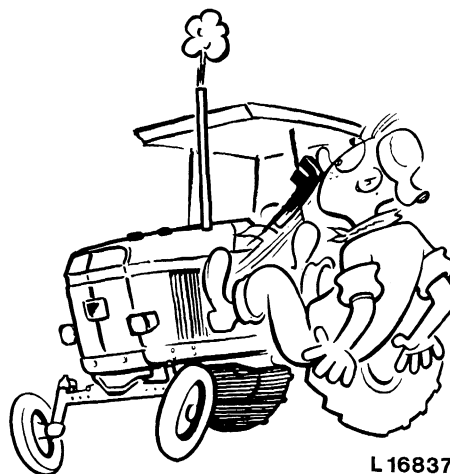
The break-in period is important to long life and satisfactory performance of the machine. During the break-in period comply with the instructions given on page 18.

Lubrication and Service Intervals

The timeable for lubrication and periodic service intervals on page 83 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 unless recommended.

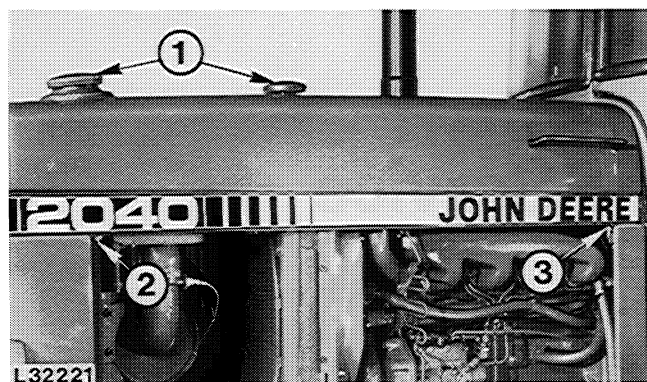
IMPORTANT! After having serviced, cleaned or repaired your tractor, always reinstall any safety guards or shields removed before operating.



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.





REMOVING HOOD

- 1 — Remove radiator cap and fuel tank cap (if necessary, remove muffler extension).
- 2 — Remove hex. nuts at the front on both sides.
- 3 — Remove hex. nuts at the rear on both sides.
- 4 — After having removed hood, install radiator cap and fuel tank cap to prevent dirt from entering system.

SERVICE INTERVALS

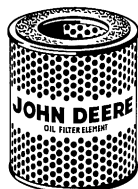
When to Replace Filters



L 57494

Engine Oil Filter

After the first 100 hours, the first 200 hours and thereafter every 200 hours of operation. See page 98.



L 57495

Transmission/Hydraulic Oil Filter

After the first 50 hours, the first 500 hours and thereafter every 500 hours of operation. See page 100.



L 30542

Hydrostatic Steering Filter (when equipped)

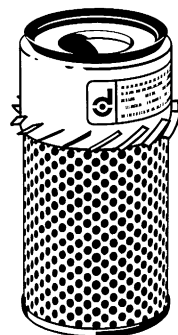
After every 1000 hours of operation, at least annually. See page 104.



L 57496

Fuel Filter

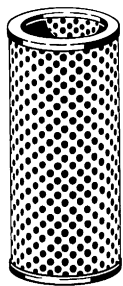
After every 1000 hours of operation. See page 104.



L 57498

Air Cleaner (Primary Element)

Annually or after six cleanings. See page 87.

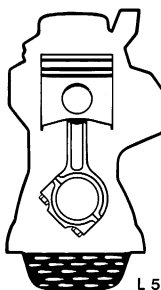


L 63474

Secondary (Safety) Element

Annually or when clogged or damaged and with every third service of air cleaner primary element. See page 88.

When to Drain and Refill Oil



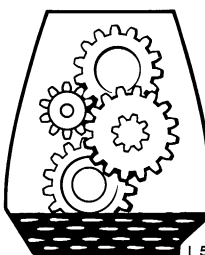
L 57499 A



Engine Oil

After every 100 hours of operation.

See page 96.



L 59 658

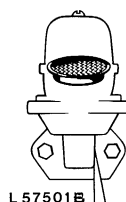


Transmission/Hydraulic Oil

After every 1000 hours of operation.

See page 103.

When to Clean Strainers



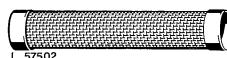
L 57501 B

Fuel Transfer Pump

Clean after every 500 hours of operation.

See page 100.

Transmission Oil Intake Strainer



L 57502

Clean after every 1000 hours of operation.

See page 103.

Lubrication and Periodic Service Timetable

Item	Component	Description of Service	Description of Lubricant
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AS REQUIRED

AR-1	Air cleaner	Clean primary filter element	
AR-2	Brakes	Bleed foot brakes and adjust handbrake	
AR-3	Clutch	Check pedal free travel, on tractors with hydraulic operated clutch, check reservoir fluid level	BF ¹⁾
AR-4	Operators's seat	Lubricate sliding surfaces	EP ²⁾
AR-5	Air pre-cleaner (when equipped)	Clean	

DAILY OR EVERY 10 HOURS

10-1	Engine crankcase	Check oil level	EO ³⁾
10-2	Radiator	Check coolant level	
10-3	Fuel filter	Drain sediment and water deposits	
10-4	Front axle and front wheels	Lubricate (only necessary when operating in extremely wet and muddy conditions)	EP ²⁾
10-5	Rear axle bearings	Lubricate (only necessary when operating in extremely wet and muddy conditions)	EP ²⁾

1) BF = SAE J 1703 brake fluid

2) EP = John Deere high temperature EP grease or its equivalent (see page 80)

3) EO = Engine oil (see page 79)

Item	Component	Description of Service	Description of Lubricant
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EVERY 50 HOURS

50-1	Air cleaner unloading valve	Clean and check	
50-2	Transmission and hydraulic system	Check oil level and replace filter element after first 50 hours of operation	JDHG ¹⁾
50-3	Batteries	Check level of electrolyte, clean cable connections and batteries	
50-4	Tires	Check air pressures and condition of tires	
50-5	Front axle and front wheels	Lubricate	EP ²⁾

EVERY 100 HOURS

100-1	Engine crankcase	Drain and refill	EO ³⁾
Replace filter element after the first 100 hours of operation, thereafter replace filter element after every 200 hours of operation.			
100-2	Front axle (with front wheel drive)	Check axle oil level. Drain and refill with fresh oil after the first 100 hours of operation	API ⁴⁾

EVERY 200 HOURS

200-1	Engine crankcase filter*	Replace filter element Replace with a JOHN DEERE element	
200-2	Alternator fan belt	Check belt tension	
200-3	3-point-hitch	Lubricate grease fittings	EP ²⁾
200-4	Belt pulley (special equipment)	Check oil level	JDHG ¹⁾ or SAE 80 transmission oil

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

1) JDHG = John Deere Hy-GARD oil (see page 79)

2) EP = John Deere high temperature EP grease or its equivalent (see page 80)

3) EO = Engine oil (see page 79)

4) API = John Deere API GL-5 gear oil or its equivalent

Item	Component	Description of Service	Description of Lubricant
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EVERY 500 HOURS

500-1	Fuel transfer pump	Clean strainer	
500-2	Transmission/hydraulic oil filter*	Replace filter element	
500-3	Air intake hoses	Check connections	
500-4	Rear axle bearings	Lubricate grease fittings	EP ¹⁾
500-5	Engine speeds	Have engine speeds checked and if necessary, adjusted by your John Deere dealer	
500-6	Belt pulley (special equipment)	Drain, flush and refill	JDHG ²⁾ or SAE 80 transmission oil
500-7	Engine valves	Have valve tappet clearances checked	

EVERY 1000 HOURS

1000-1	Transmission and hydraulic system	Drain and refill with fresh oil.	JDHG ²⁾
1000-2	Hydrostatic steering (tractors without SG2 Cab)	Replace filter	
1000-3	Fuel filter	Replace filter element	
1000-4	Front axle (with MFWD)	Drain and refill with fresh oil	API ³⁾
1000-5	Front wheel bearings	Have bearings cleaned, repacked and adjusted by your John Deere dealer	
1000-6	Starting motor	Have starting motor checked by your John Deere dealer	
1000-7	Hydraulic pump	Have stroke control valve filter cleaned by your John Deere dealer	

* Replace transmission/hydraulic filter element after the first 50 hours of operation

1) EP = John Deere high temperature EP grease or its equivalent

2) JDHG = John Deere Hy-GARD oil (see page 79)

3) API = John Deere API GL-5 gear oil or its equivalent (see page 80)

Item	Component	Description of Service	Description of Lubricant
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EVERY SPRING AND AUTUMN

SA-1	Engine crankcase	Drain and refill with fresh oil. Replace filter element	EO ¹⁾
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ANNUALLY

A-1	Air cleaner Primary element	Replace element annually or after six cleanings, whichever occurs first	
	Secondary (safety) element	Replace annually	
A-2	Clutch (tractors with hydraulic operated clutch)	Change brake fluid	BF ²⁾

EVERY TWO YEARS

2Y-1	Cooling system	Drain, flush and refill. Clean radiator screen	
2Y-2	Thermostats	Have thermostats replaced by your JOHN DEERE dealer	

1) EO = Engine oil (see page 79)

2) BF = SAE J1703 brake fluid

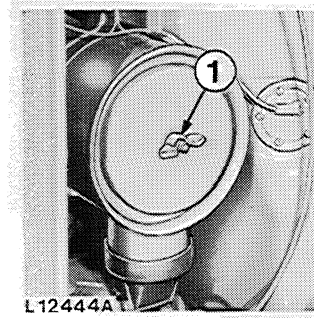
Detailed Periodic Services

AS REQUIRED

AR-1. Air Cleaner

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

- 1 — Remove air cleaner cover
- 2 — Unscrew wing nut and remove filter element.

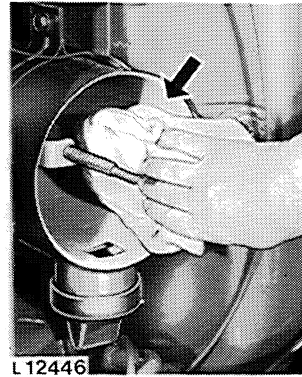


Clean inside of air cleaner body with a clean, damp cloth.

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.

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.



Oily or Sooty Element

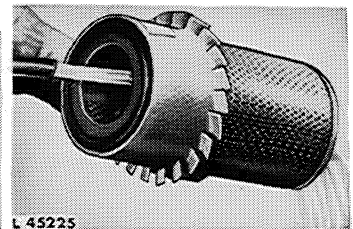
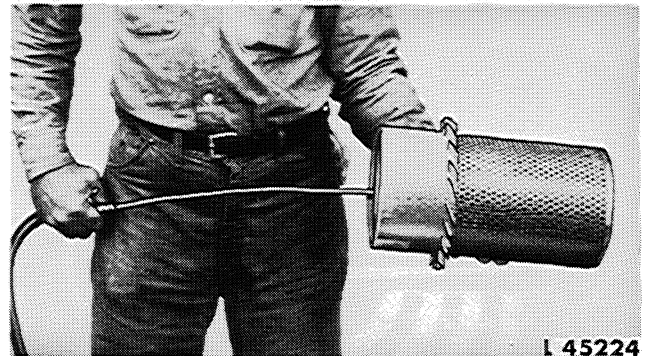
IMPORTANT! Never wash element in fuel oil, gasoline or strong cleaning agent. Never use compressed air to dry element. Compressed air will rupture a wet element.

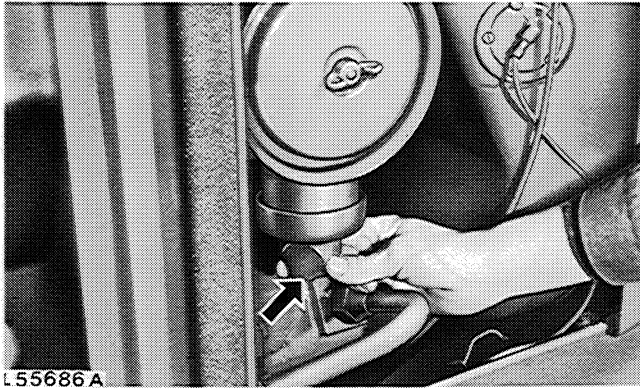
Wash element in a solution of lukewarm water and John Deere filter cleaner (R 36757).

Rinse element thoroughly as shown 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).

After cleaning the element, inspect it for damage by placing a bright light inside the filter. Discard any filter that shows the slightest rupture, indicated by light through the hole. Make sure gasket is in a serviceable condition.

IMPORTANT! Replace filter element after six cleanings or one year of service, whichever occurs first.

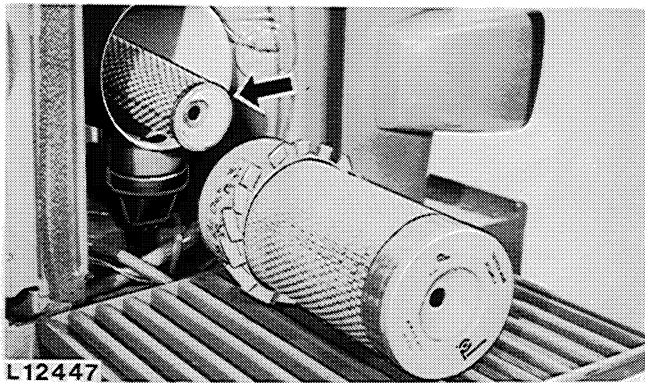




When servicing the air cleaner always remove and clean the rubber dust unloading valve.

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.



Air Cleaner Secondary (Safety) Element

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

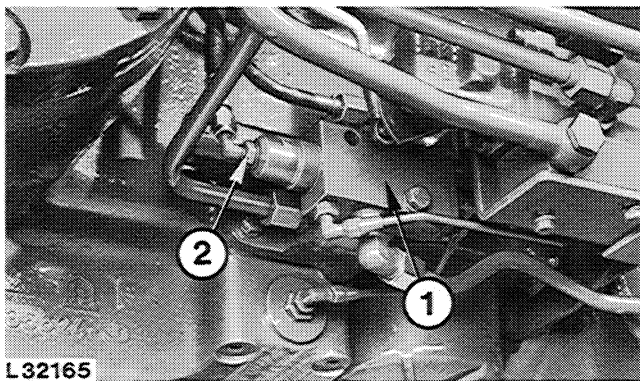
Should it become necessary to clean primary filter element more often than usual, this is a sign that the secondary (safety) filter must be replaced.

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



AR-2 Bleeding Brakes

Bleed brakes whenever braking is poor or uneven, or pedal action feels spongy. Before bleeding the brakes, start engine and run at 2000 rpm for 2 minutes. Thus making sure that brake reservoir is filled with oil.



Bleed trailer brake valve first on tractors equipped with a hydraulic trailer brake.

- 1 — Brake valve
- 2 — Loosen hex. nut 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 of air bubbles. With brake pedal depressed, tighten hex. nut.

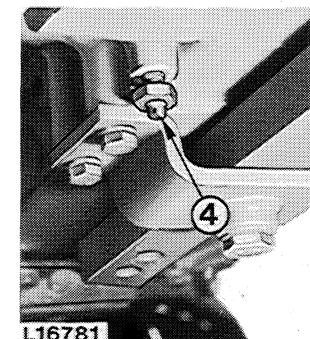
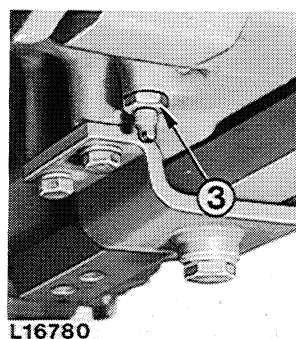
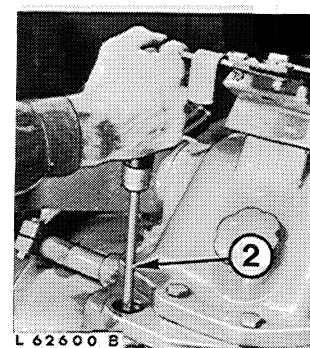
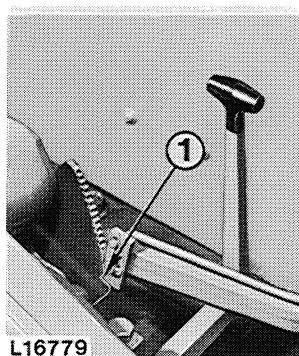
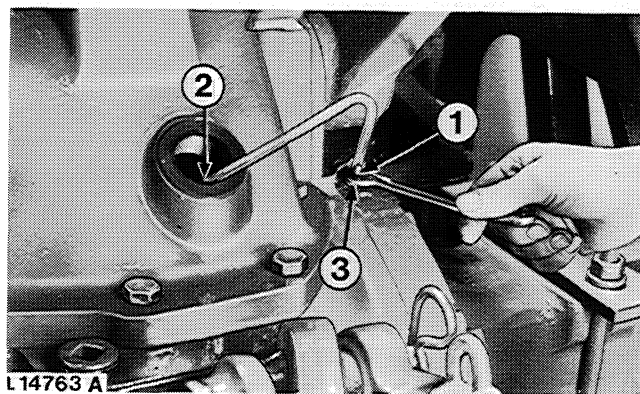
- 1 — Attach a transparent bleed tube to the brake bleed screw.
- 2 — Remove transmission oil filter cap and submerge other end of bleed tube in transmission oil.
- 3 — Unscrew bleed screw 3/4 turn, slowly depress brake pedal on brake being bled and allow it to return slowly. Continue operating pedal until oil in tube is free of air bubbles.

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

If in any doubt, have brakes checked and bled by your John Deere dealer.

AR-2 Adjusting Handbrake

- 1 — Before adjusting handbrake set brake lever in the first notch of segment.
- 2 — Remove plug and using a screwdriver, adjust screw handtight. Then back off one turn. Reinstall plug.
- 3 — Loosen lock nut.
- 4 — Tighten brake band stop screw and then back off two turns. Tighten lock nut with stop screw in this position.

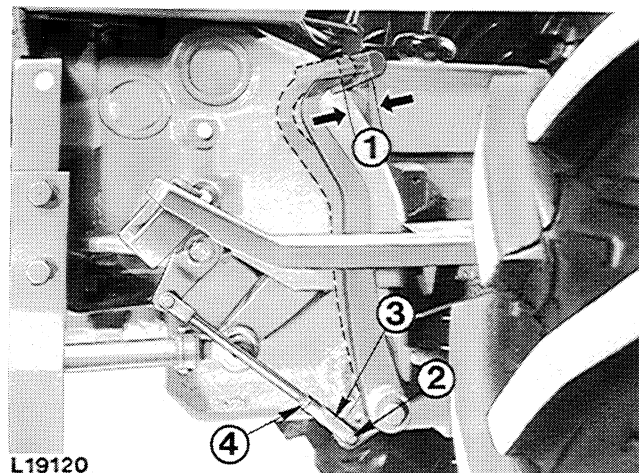


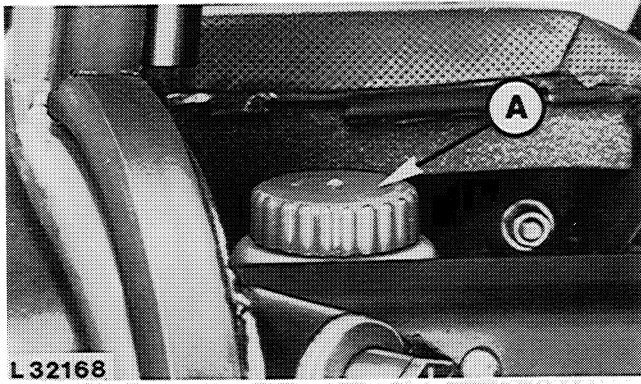
AR-3 Adjusting Clutch Pedal Free Travel (Tractors with Mechanically Operated Clutch)

Periodically check the clutch pedal free travel.

- 1 — Clutch pedal free travel should never be less than 13 mm (0.5 in.).
- 2 — Remove clevis pin.
- 3 — Turn yoke on clutch operating rod anti-clockwise until a clutch pedal free travel of 25 mm (1 in.) has been obtained.
- 4 — Tighten lock nut to yoke after correct clutch pedal adjustment has been obtained.

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





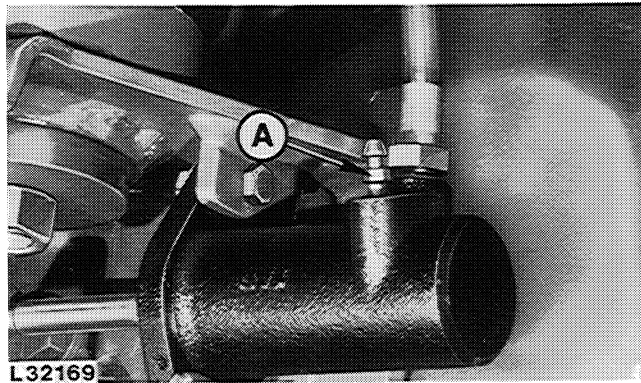
AR-3 Checking Clutch Reservoir Fluid Level (Tractors with Hydraulic Operated Clutch Only)

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

Add brake fluid meeting SAE Standard J 1703, if necessary.

A — Reservoir

If reservoir was empty, bleed clutch system. Attach a bleed hose to bleed screw.



1 — Loosen bleed screw. Depress clutch pedal and hold in this position.

2 — Tighten bleed screw and release clutch pedal.

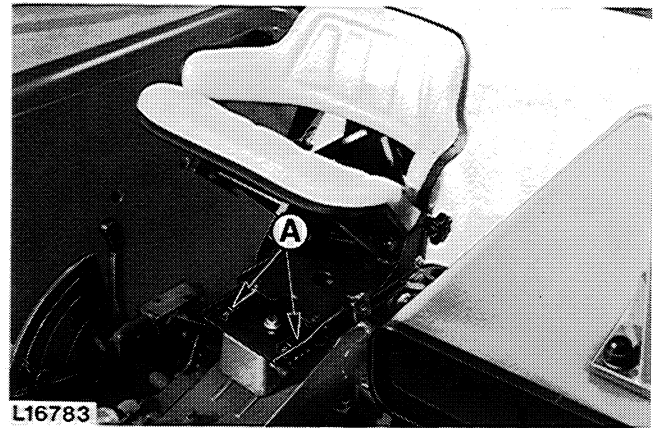
Repeat this procedure until brake fluid flowing through bleed hose is free of air bubbles.

A — Bleed screw

AR-4 Operator's Seat

Lubricate slide rails with specified grease or its equivalent (see page 80).

A — Slide rails

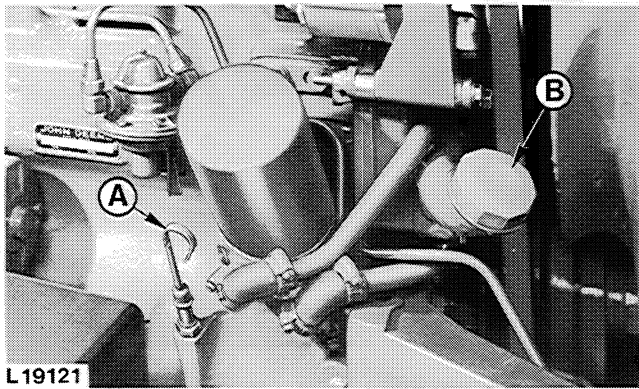


AR-5 Air Pre-Cleaner (when equipped)

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



DAILY OR EVERY 10 HOURS

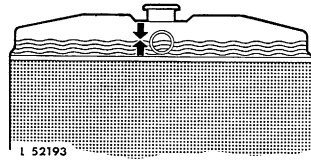
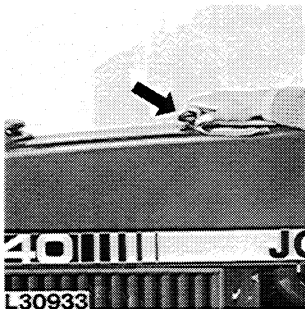


10-1 Checking Engine Crankcase Oil Level

If oil level is at or below bottom mark on dipstick, add sufficient oil to bring level to top mark on dipstick. See page 79 for correct oil.

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

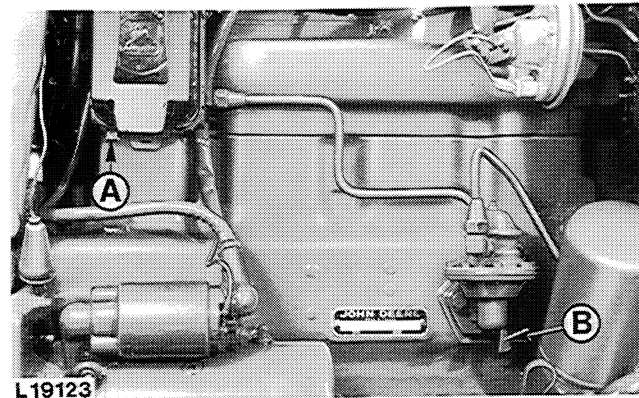
- A — Dipstick
- B — Oil filler cap



10-2 Radiator

CAUTION! Do not remove radiator filler cap until coolant temperature is below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.

Coolant should be maintained at a level midway between radiator core and filler neck. For correct coolant mixture, see page 110. Check cooling system for leaks and clean radiator and grille screens.



10-3 Checking Fuel Filter

Check lower portion of fuel filter for water or sediment deposits. If necessary, loosen drain plug and pump fuel pump primer lever until filter is free of water and sediment. Tighten drain plug.

- A — Drain plug
- B — Pump primer lever

10-4 Lubricating Front Axle and Front Wheels*

10-5 Lubricating Rear Axle Bearings*

* Only necessary when operating in extremely wet and muddy conditions.

Lubricating points see pages 95 and 101.

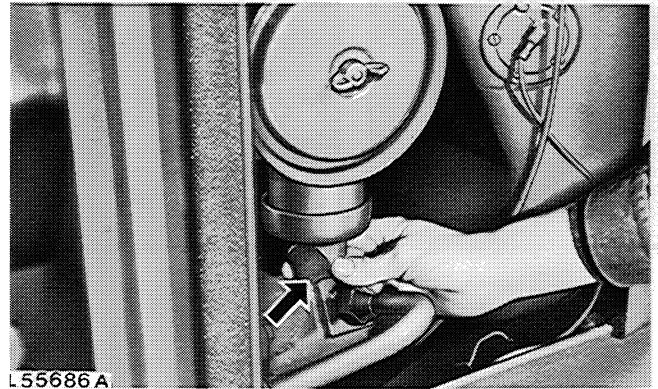
EVERY 50 HOURS

50-1 Air Cleaner Rubber Dust Unloading Valve

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.

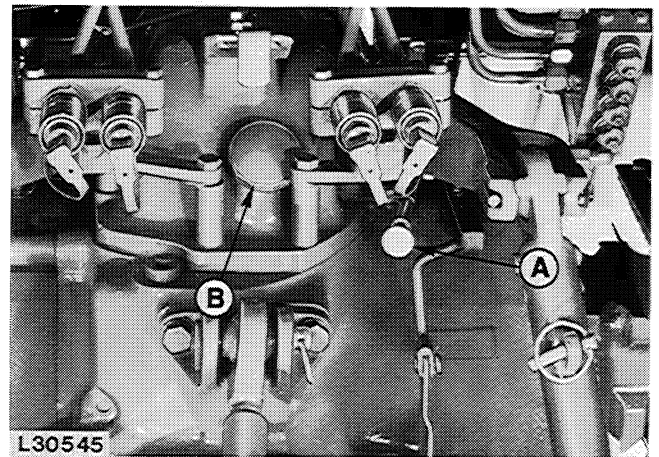
**50-2 Checking Transmission/Hydraulic System Oil Level**

Run engine for two to three minutes.

Check oil level with:

- 1 — Tractor on level ground.
- 2 — Engine running at slow idle (800 rpm).
- 3 — Range shift lever in "Park" position or hand-brake applied.
- 4 — Draft links lowered.
- 5 — Clutch engaged.
- 6 — Pull out dipstick and wipe clean.
- 7 — Insert dipstick. Remove dipstick and check oil level.

A — Dipstick
B — Filler cap

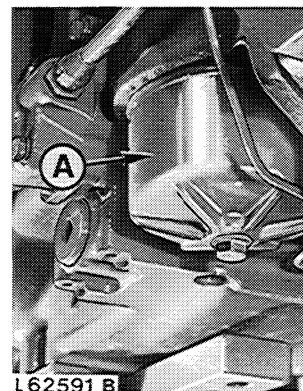


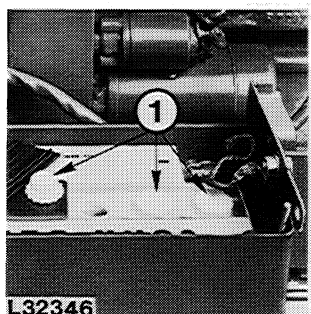
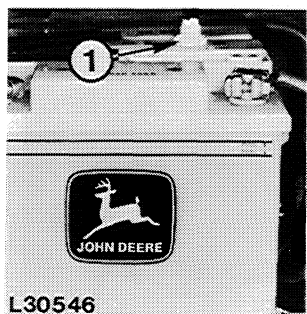
If oil level is down to bottom mark or below on dipstick add oil. See page 79 for correct oil.

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

See page 100 for details regarding replacement of filter.

A — Transmission-hydraulic oil filter





50-3 Servicing the Batteries

- 1 — Remove filler caps

Fill battery cells to bottom of filler neck. Always use 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.

See page 112 for removal of batteries.

50-4 Checking Tire Pressures

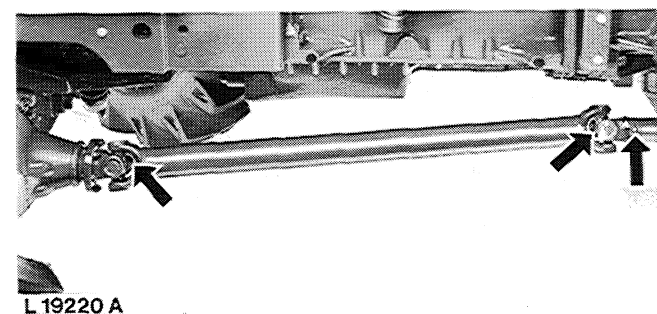
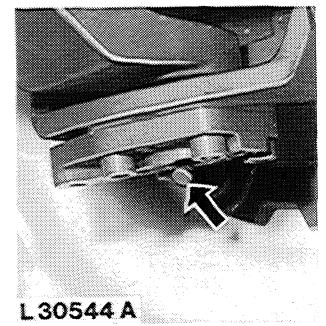
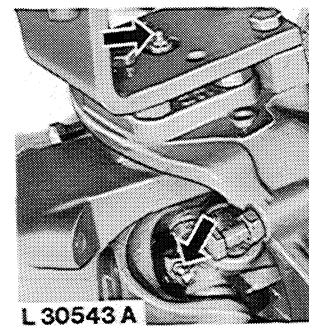
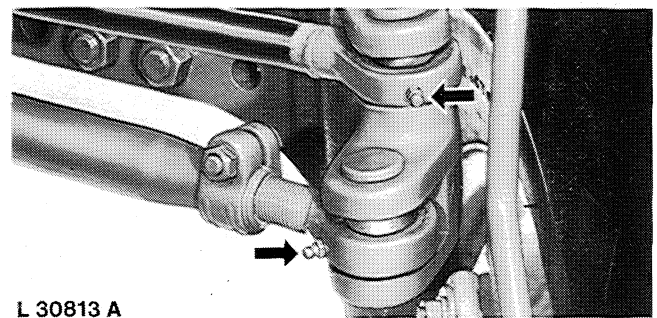
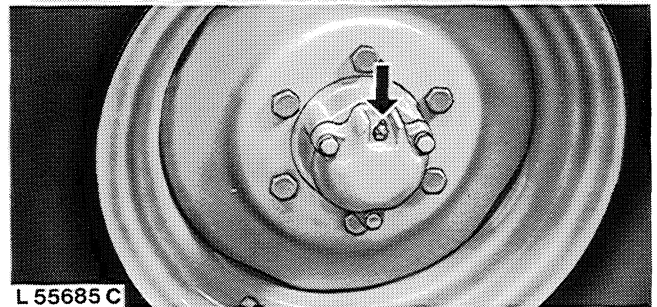
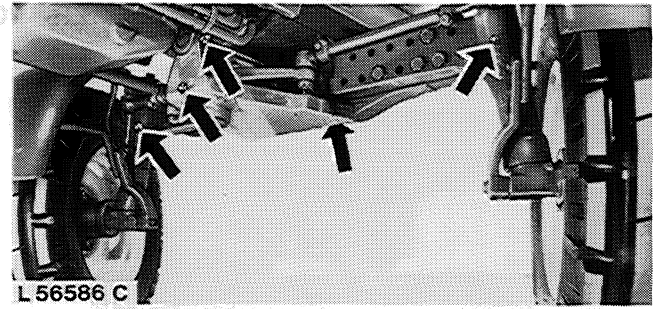
See page 48.

Check tires for damage.

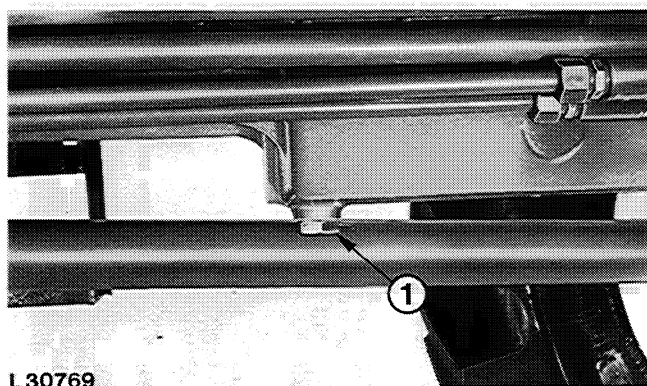
50-5 Lubricating Front Axle and Front Wheels

Lubricate front axle and front wheel grease fittings as shown opposite (different, depending upon type of axle) every 50 hours of operation. Use specified grease or its equivalent (see page 80).

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



EVERY 100 HOURS



100-1 Draining and Filling Engine Crankcase

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

- 1 — Remove crankcase drain plug.
- 2 — While crankcase is draining, replace filter element (every 200 hours).
- 3 — Install drain plug (use new seal ring).
- 4 — Fill crankcase with fresh oil of proper viscosity (see page 79).

Crankcase capacity	8.0 liters
without filter change:	2.1 U.S.gals.
with filter change:	8.5 liters
	2.25 U.S. gals.

- 5 — Run engine for a short time and check for leaks at filter base and drain plug.
- 6 — Stop engine.
- 7 — Check oil level.

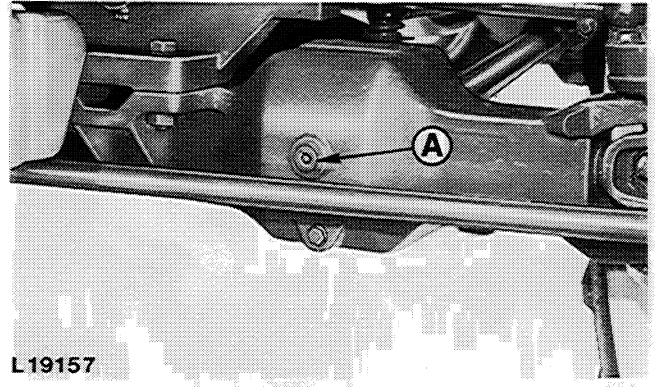
IMPORTANT! During cold weather operation with temperature below freezing point, change oil every 100 hours or every six weeks, whichever occurs first. Also change oil at any seasonal change in temperature when oil of a new viscosity is required.

100-2 Checking Axle Oil Levels (Tractors with Front Wheel Drive)

Axle Housing Oil Level

Remove level plug. Oil should be level with plug bore. If necessary, top up with oil, using EP-transmission oil (see page 80).

A — Oil level plug

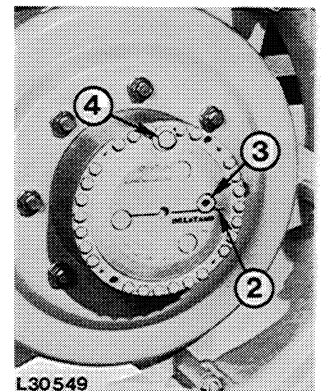
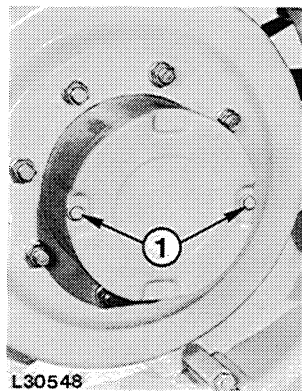


Final Drives Oil Level

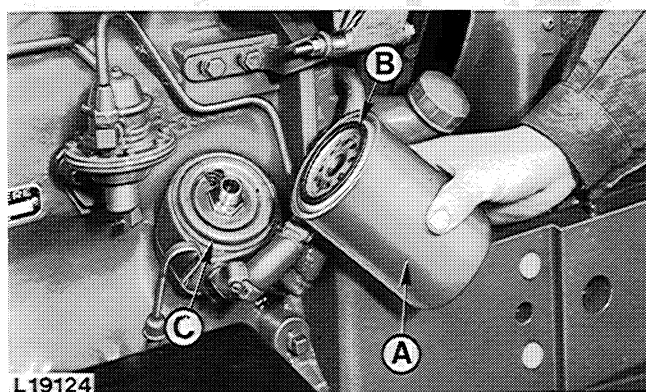
- 1 — Remove cap screws and lift off cover (when equipped).
- 2 — Turn wheel until mark "ÖLSTAND" is in level position.
- 3 — Remove level plug. Oil should be level with plug bore.
- 4 — If necessary, top up with oil, using EP-transmission oil (see page 80).

NOTE: Replace oil in axle bridge housing and final drives after the first 50 hours of operation. Then replace after every 1000 hours of operation, however at least once a year.

Oil change, see page 105.



EVERY 200 HOURS



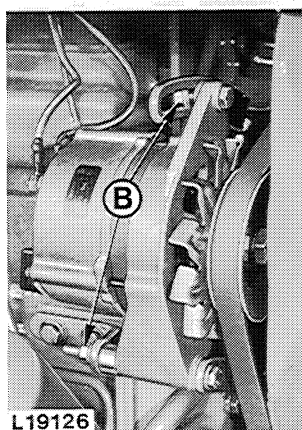
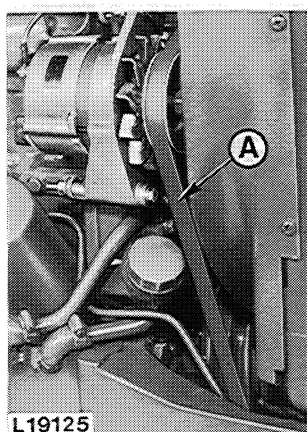
200-1 Changing Engine Crankcase Filter Element

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

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

Start engine and check filter seat for leaks.

- A — Engine oil filter
- B — Sealing ring
- C — Mounting surface



200-2 Adjusting Alternator — Fan Belt Tension

- A — Adjust so that 90 N (20 lb) pull midway between pulleys will deflect belt 20 mm (3/4 in.)
- B — To adjust, loosen both cap screws and swing out alternator from the top outward. Retighten cap screws.

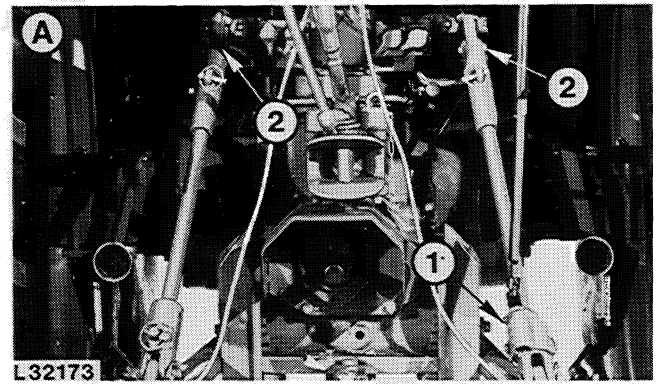
New belts must be run in for at least 10 to 15 minutes. Then recheck belt tension and adjust if necessary.

200-3 Lubricating 3-Point Hitch

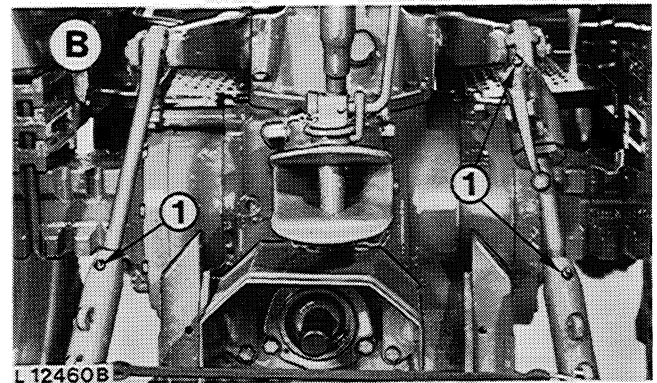
A — Tractors with SG2 Cab

1 — Lubricate grease fittings with several strokes of grease gun, using specified grease or its equivalent (see page 80).

2 — Lubricate lift link oilers using engine oil.



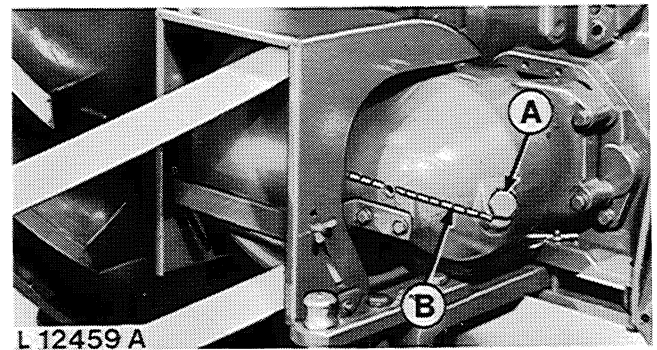
B — Tractors without SG2 Cab



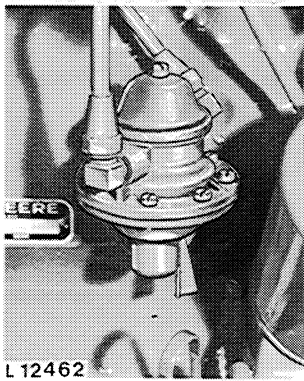
200-4 Checking Belt Pulley (Special Equipment) Oil Level

Oil level must be up to level of filler plug hole. Use John Deere Hy-Gard transmission oil or SAE 80 oil.

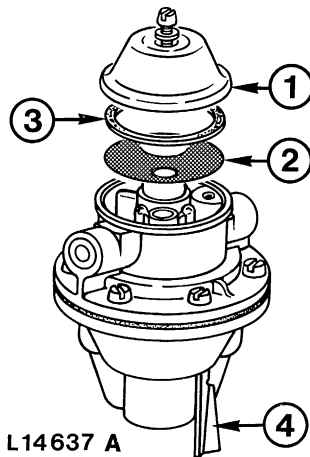
A — Filler plug
B — Oil level



EVERY 500 HOURS



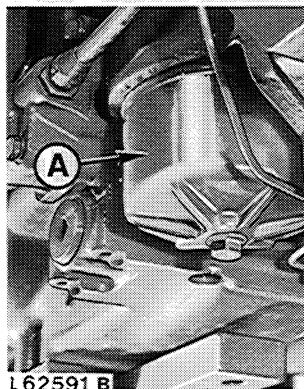
L 12462



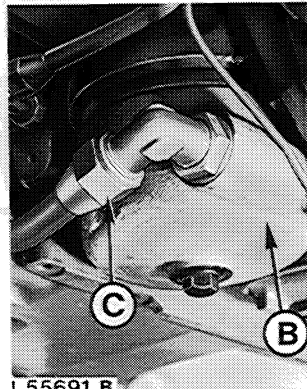
L14637 A

500-1 Cleaning Fuel Transfer Pump Strainer

- 1 — Remove bowl.
- 2 — Remove strainer and wash in fuel.
- 3 — If damaged, replace bowl gasket.
Clean bowl.
Replace strainer and install bowl (loosely).
- 4 — Work transfer pump primer lever until bowl is filled with fuel. Tighten bowl.
Leave primer lever at lowest point of stroke.



L 62591 B



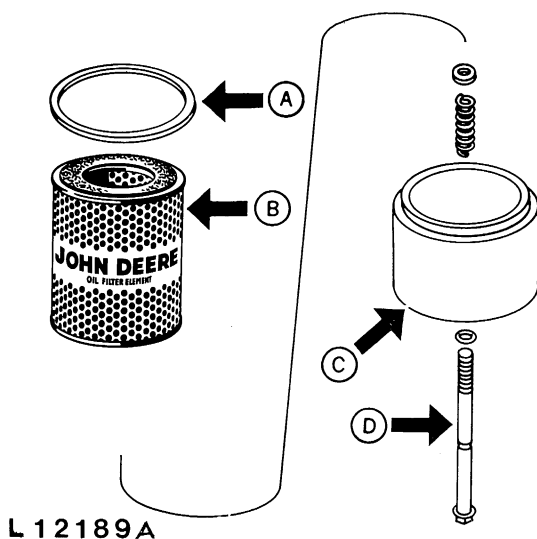
L 55691 B

500-2 Replacing Transmission/Hydraulic System Filter Element

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

- A — Filter without hydraulic motor connection
B — Filter with hydraulic motor connection
C — Remove return line before removing filter

- 1 — Remove retaining screw and lift out filter cover.
- 2 — Remove element and packing.
- 3 — Carefully install new packing coated with grease in transmission case groove.
- 4 — Insert new element and reinstall filter cover
- 5 — Tighten retaining screw to 75 Nm (55 ft-lb) torque.



L 12189A

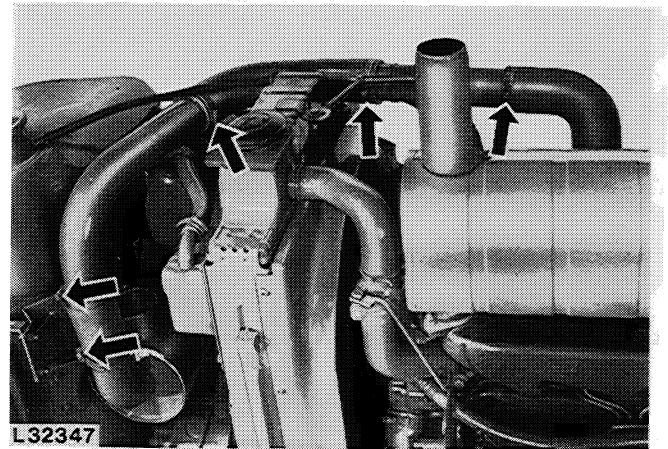
Only use JOHN DEERE filter elements!

- A — Packing
B — Filter element
C — Filter cover
D — Retaining screw

500-3 Checking Air Intake Hoses and Clamps

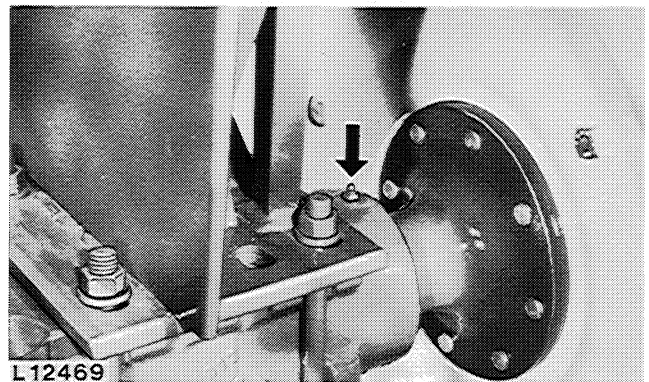
Check hoses and tighten clamps.

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



500-4 Lubricating Rear Axle Bearings

Lubricate both bearings with 6 to 8 strokes of specified grease or its equivalent (see page 80).



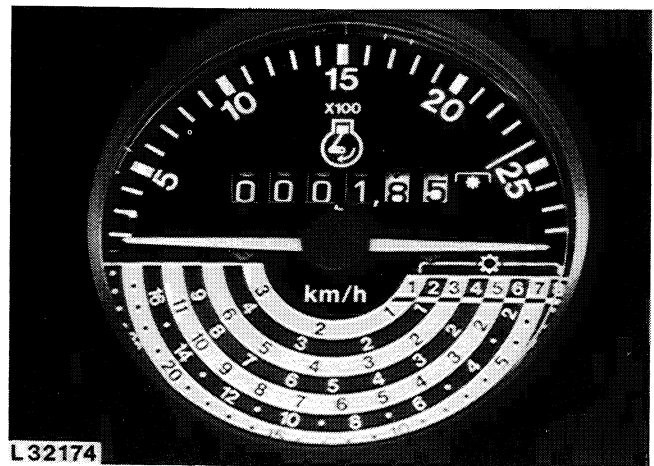
500-5 Checking Engine Speeds

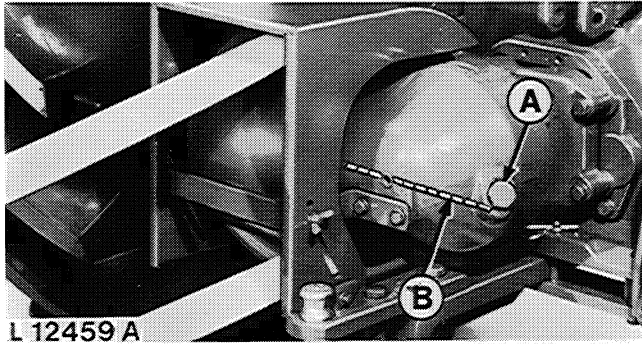
Warm up engine and use speed-hour meter to check speeds. Refer to the following chart:

If engine speeds need adjustment or if you doubt the accuracy of the speed-hour meter, consult your dealer.

ENGINE SPEEDS

Throttle Position	Load Speed	No Load Idle Speed
Forward to stop		800 rpm
Rearward to stop	2500 rpm	2660 rpm





500-6 Belt Pulley (Special Equipment)

Drain the old oil from belt pulley by removing it from tractor and tilting it to the side to permit oil to drain from filler opening. Flush out housing with fuel. Reinstall belt pulley and fill to level of filler hole using John Deere Hy-Gard transmission oil or SAE 80 oil.

- A — Filler plug
- B — Oil level

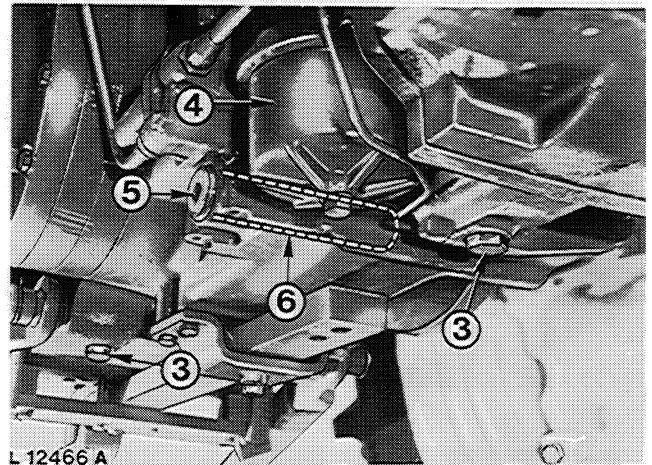
500-7 Adjusting Engine Valve Tappets

Have your John Deere dealer check engine valve tappet clearance and adjust, if necessary.

EVERY 1000 HOURS

1000-1 Draining and Filling Transmission/Hydraulic System

- 1 — Start engine and operate hydraulic functions to heat transmission oil to operating temperature.
- 2 — Stop engine.
- 3 — Remove both transmission case drain plugs.
- 4 — Replace transmission and hydraulic system filter element.
- 5 — Remove plug.
- 6 — Pull out intake screen and wash in fuel.



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

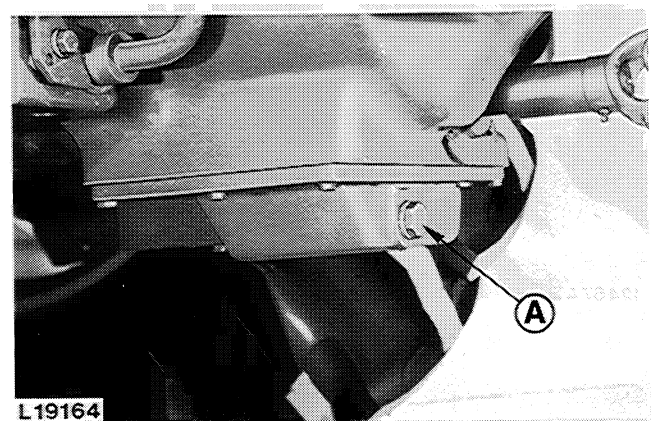
A — Drain plug in clutch housing

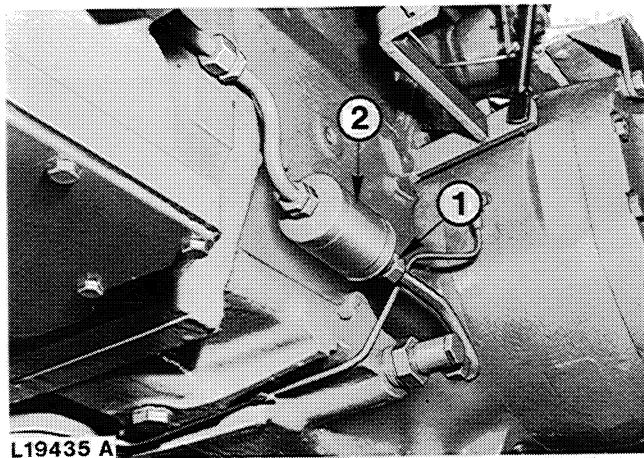
Before filling with fresh oil, reinstall clean intake screen and plugs.

Refill system with transmission/hydraulic oil (see page 79) to top mark on dipstick.

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

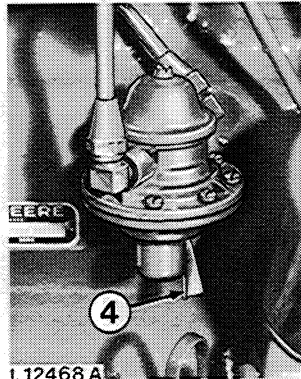
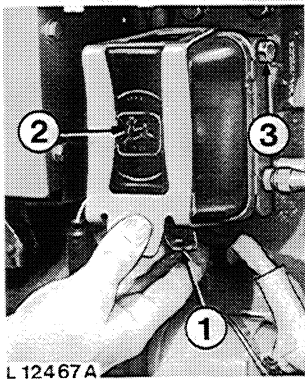
Check oil level with engine running at slow idle, tractor standing on level ground, transmission in neutral, rockshaft lowered and clutch engaged.





1000-2 Replacing Hydrostatic Steering Return Oil Filter (Tractors without SG2 Cab)

- 1 — Disconnect oil return line union.
- 2 — Unscrew filter out of return line. Install new filter and reconnect oil return line to filter.



1000-3 Replacing Fuel Filter Element

- 1 — Disengage filter retaining spring and remove filter.
- 2 — Place new filter element against filter body and install retaining spring.
- 3 — Loosen bleed screw.
- 4 — Work fuel primer lever until fuel flows free of air bubbles. Tighten bleed screw.

Only use genuine



filter elements!

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.

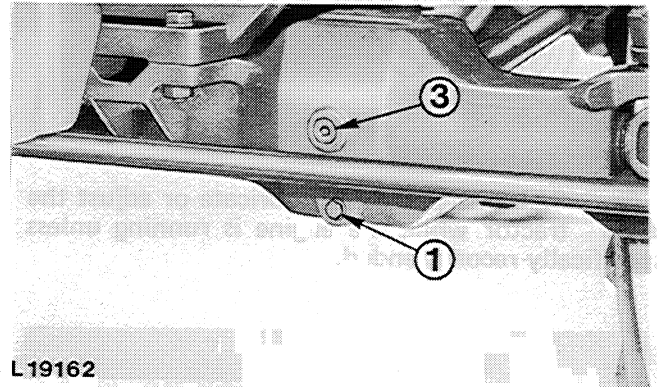
1000-4 Front Axle Oil Change (Front Wheel Drive Only)

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. Use EP transmission oil (see page 80).

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

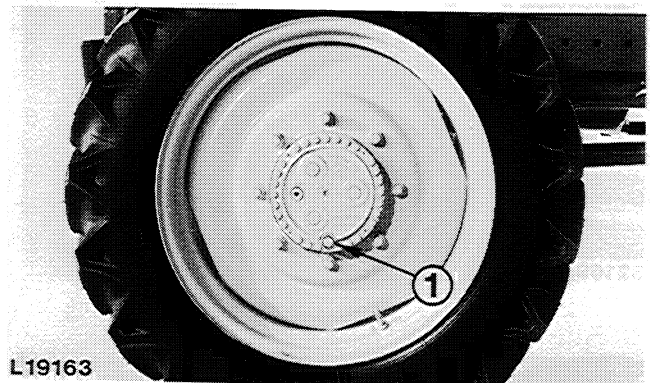
Draining and Filling Axle Housing

- 1 — Remove drain plug and drain oil into a suitable container.
- 2 — Reinstall drain plug and tighten securely.
- 3 — Remove oil level/filler plug. Fill with fresh oil up to level of plug bore (approx. 5.25 liters; 1.4 U.S. gals.). Reinstall plug.



Draining and Filling Final Drives

- 1 — Turn wheel until drain plug 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 as described on page 97. Reinstall plug and tighten securely.

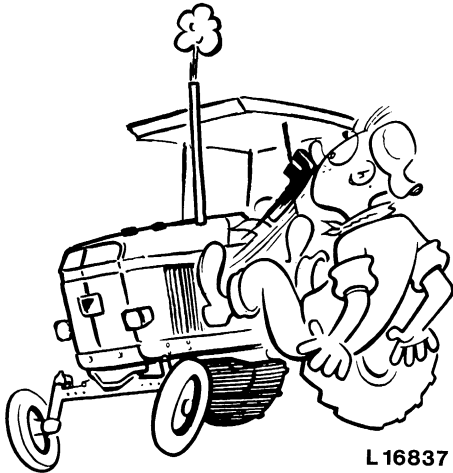


1000-5 Adjusting Front Wheel Bearings*

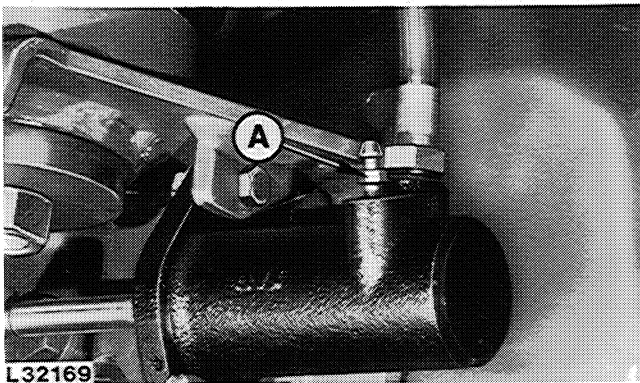
1000-6 Checking Starting Motor*

1000-7 Cleaning Hydraulic Pump Stroke Control Valve Filter*

* Have your JOHN DEERE dealer perform this service.



CAUTION! Do not lubricate or adjust the tractor while the engine is running unless specifically recommended.



EVERY SPRING AND AUTUMN

SA-1 Draining and Filling Engine Crankcase

See page 96.

Fill with oil of correct viscosity, depending upon the time of year. See page 79.

ANNUALLY

A-1 Servicing Air Cleaner

Once each year or after cleaning element 6 times, replace the air cleaner element. Replace secondary (safety) filter annually.

A-2 Changing Brake Fluid (Tractors with Hydraulic Operated Clutch)

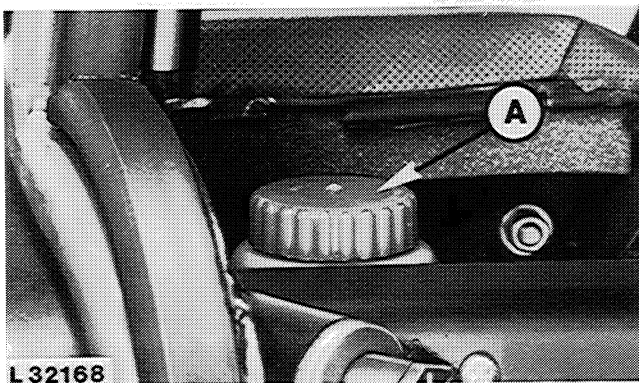
The brake fluid must be changed once each year.

To drain fluid attach a hose to bleed screw and loosen screw. Repeatedly depress clutch pedal until brake fluid has completely drained.

A — Bleed screw

Fill reservoir with fresh brake fluid meeting SAE Standard J 1703 and bleed system as described on page 90.

A — Reservoir



EVERY TWO YEARS

2Y-1 Servicing Cooling System

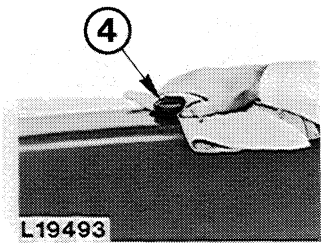
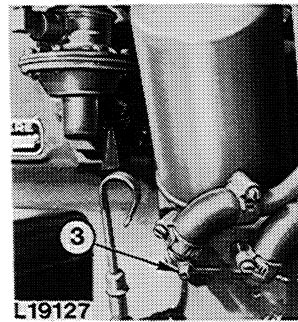
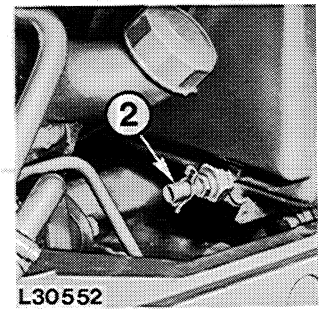
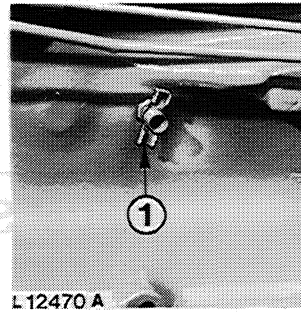


CAUTION! Remove the radiator filler cap only when the coolant temperature is below the boiling point. Then loosen the cap slightly to the stop to relieve pressure before removing the cap completely.

- 1 — Open cylinder block drain cock
- 2 — Open radiator drain cock.

- 3 — Remove engine oil cooler drain plug
- 4 — Remove radiator filler cap.

See page 110 for cleaning and flushing cooling system and correct coolant mixture.



2Y-2 Thermostats

Have engine cooling system thermostats replaced by your JOHN DEERE dealer every two years.



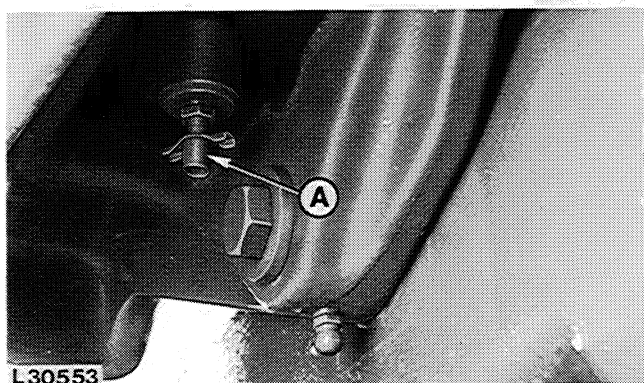
Service

Fuel System

Proper servicing of the fuel system is important for fuel economy, smooth operation and long engine life.

Fill the fuel tank at the end of each day's operation to prevent moisture from condensing in the fuel tank.

If water was present in fuel filter (see page 92), drain water deposits from fuel tank. A sump at the bottom of fuel tank traps water in the tank. To drain the sump, open drain tap and close securely after having drained water and sediment deposits from tank.



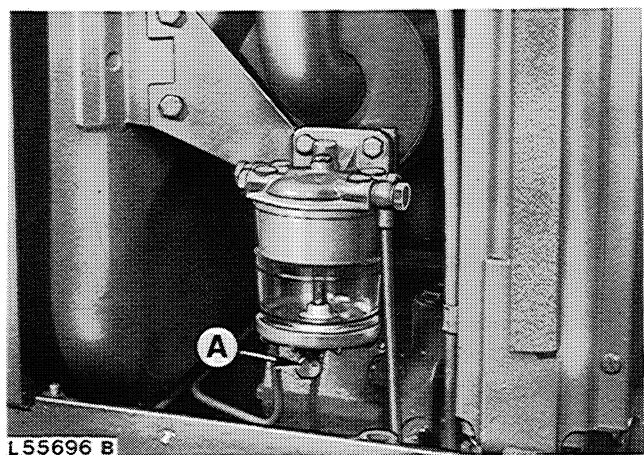
A — Drain tap

Water Trap (Special Equipment)

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

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

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



A — Drain plug

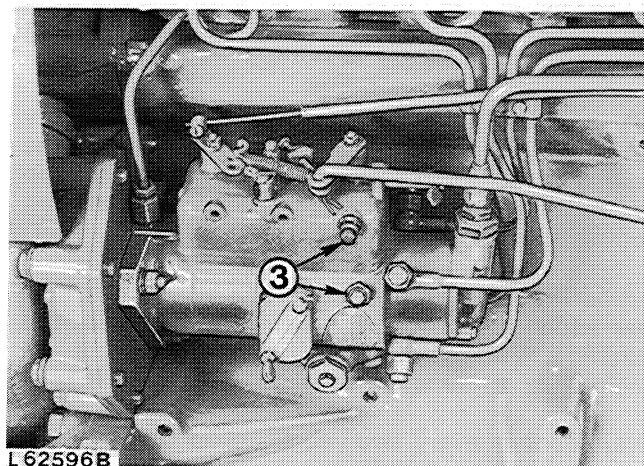
Bleeding Diesel Fuel System

Whenever the fuel tank has been run dry or air has been sucked into the system through loose connections, the entire fuel system must be bled.

- 1 — Fill tank with fuel.
- 2 — Bleed fuel filter. See page 104.
- 3 — Loosen lower bleed screw. Pump primer lever on fuel transfer pump until fuel flow is free of air bubbles. Then tighten bleed screw to 3.5 Nm (2.5 ft-lb) torque.

Loosen upper bleed screw and bleed as described above.

When bleeding is completed, return primer lever to lowest point of stroke.



L 62596B

CAUTION! Escaping diesel fuel under pressure can have sufficient force to penetrate the skin, causing serious personal injury. Before disconnecting lines, be sure to relieve all pressure. Before applying pressure to the system, be sure all connections are tight and that lines, pipes, and hoses are not damaged. Diesel escaping from a very small hole can be almost invisible. Use a piece of cardboard or wood, rather than hands, to search for suspected leaks.

If injured by escaping diesel, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.

Fuel Injection Nozzles

Occasionally the fuel injection nozzles may require removal for inspection or service. The frequency of this service will be determined by type of operation, fuel cleanliness and fuel quality.

IMPORTANT! Do not attempt to remove and disassemble fuel injection nozzles as special tools are required. See your dealer for this service.

Cooling System



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

An antifreeze solution, containing a rust inhibitor, was added to the coolant before shipment of the machine. This solution sufficiently protects the engine up to temperatures of -37°C (-35°F).

Drain coolant every two years.

Replace it by a fresh solution consisting of 50 % antifreeze/rust inhibitor agent and 50 % of pure soft water.

IMPORTANT! Never pour hot water into a cold engine or cold water into a hot engine. You may crack the cylinder head or block. Do not operate the machine without water for even a few minutes.

NOTE: Good antifreeze is made of ethylene glycol. But this product is not a rust inhibitor agent. Therefore use only ethylene glycol antifreeze containing also a rust inhibitor agent. At very low temperatures, the percentage of the antifreeze agent must be increased in compliance with the instructions given by the manufacturer of the agent. Since the above agent should also contain a rust inhibitor, the machine may never be used or stored without having this agent in its cooling system.

If no antifreeze agent is required due to hot climate, add a can of JOHN DEERE Summer Coolant Conditioner Type T 19566, available from your dealer, in place of the antifreeze.

IMPORTANT! Summer Engine Coolant Conditioner (T 19566) is NOT AN ANTIFREEZE or a cooling system sealer. If winter protection is required, drain system and fill with recommended antifreeze solution. When antifreeze solution is in the system it should not be necessary to use the conditioner. However, in severely corrosive water conditions, the conditioner may be used as it is compatible with antifreeze solution.

Cleaning and Filling Cooling System

Draining the cooling system, see page 107.

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

Run the engine until it reaches operating temperature to stir up possible rust or sediment. Stop the engine and drain the coolant from the system before the rust or sediment settles.

Again, close the drain cocks. Fill the cooling system with a solution composed of John Deere Cooling System Cleaner (or its equivalent) and water. Follow the instructions with the cleaner.

After cleaning the cooling system, fill it with water. To FLUSH the system, install the filler cap and run the engine until it reaches operating temperature. Then stop the engine and drain out this flushing water.

Again close the drain cocks and fill system with coolant. The antifreeze agent must be added to the water before filling system.

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

Recheck coolant level. It should be approx. 40 mm (1.5 in.) below the filler cap.

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

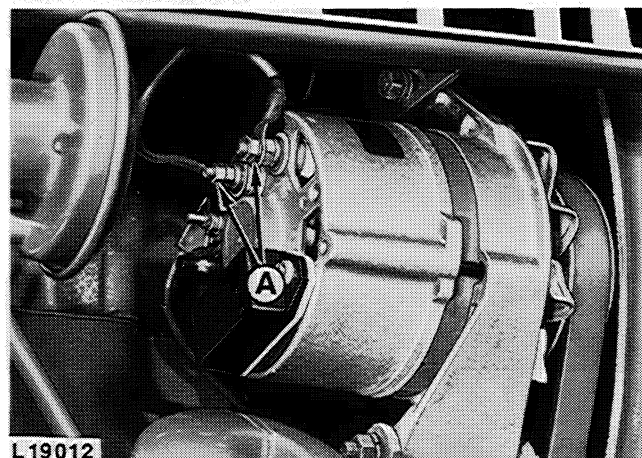
On tractors with air conditioning system: Clean condenser.

Electrical System

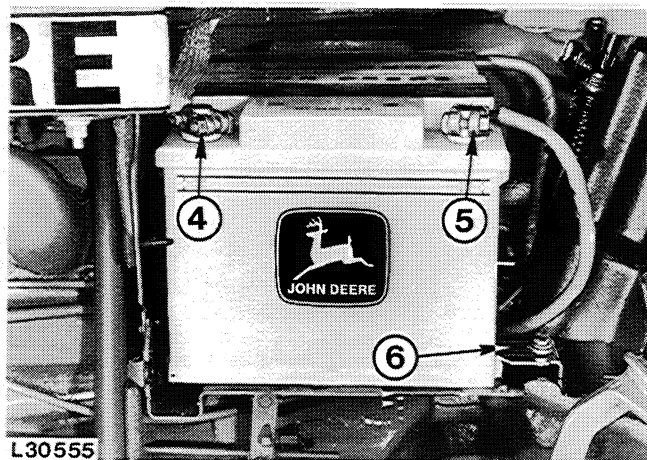
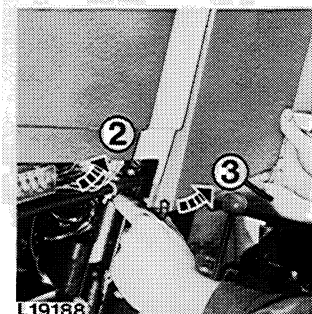
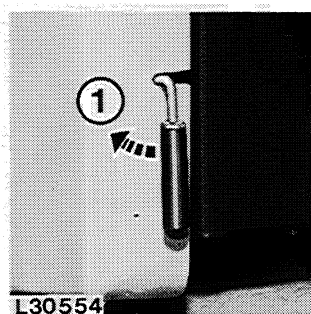
ALTERNATOR

- 1 — 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.
- 2 — 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.
- 3 — With the engine running, do not short-circuit or ground (even momentarily) alternator and regulator terminals.
- 4 — Connect battery or battery charger in the proper polarity. If they are improperly connected ("+" and "-"), the rectifier diodes will be immediately destroyed.
- 5 — Before carrying out electric welding jobs on the tractor, disconnect both cables at alternator. Connect ground terminal of welding apparatus directly to the part being welded.
- 6 — Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.



A — Cable connections — red cable to B⁺
— blue cable to D⁺



BATTERIES

CAUTION! Gas from battery electrolyte is flammable. Keep battery away from all sparks and fires.

Removing Batteries (Tractors without SG2 Cab)

- 1 — Turn locking lever outward.
- 2 — Swing battery cover upward.
- 3 — Swing out stay and support battery cover in upward position.

- 4 — Disconnect ground strap.
- 5 — Disconnect positive (+) cable and insulate end of cable.
- 6 — Remove securing bracket and lift out battery from the side.

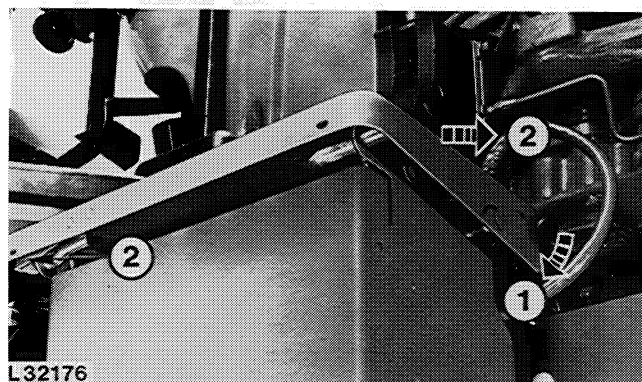
Proceed similarly to remove the second battery.

Install batteries, reversing removal procedure.

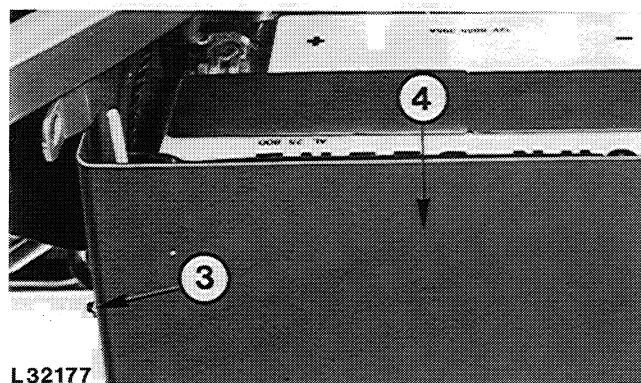
Removing Batteries (Tractors with SG2 Cab)

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

- 1 — Swing locking latch downward
- 2 — Press spring outward and remove cover

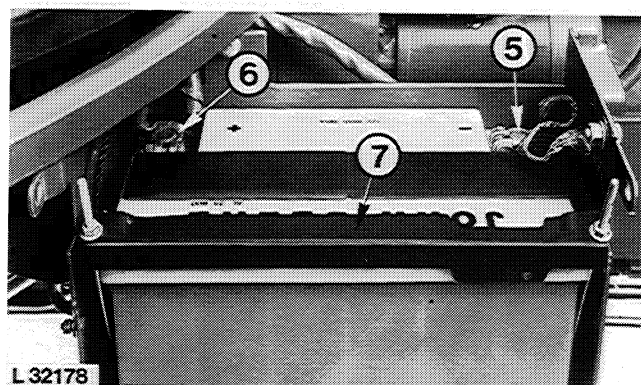


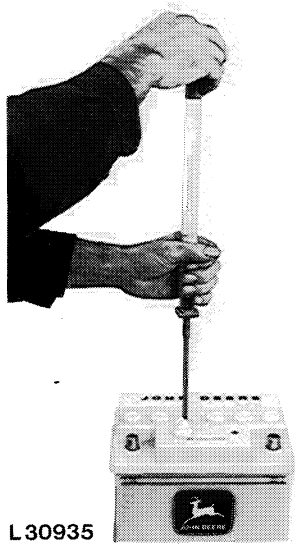
- 3 — Loosen nut
- 4 — Remove cover



- 5 — Disconnect ground strap from **both** batteries
- 6 — Disconnect positive battery cable
- 7 — Remove battery clamp
- 8 — Lift out battery

Install batteries, reversing removal procedure.





L30935

Checking Specific Gravity of Battery Cells

When checking, the electrolyte temperature should be +20°C (68°F).

Specific gravity of electrolyte sinks with rising temperatures and rises with falling temperatures approx. 0.01 kg/dm³ for every 14°C (25°F) alteration in temperature. A fully charged battery should have a specific gravity of 1.28. Recharge battery if reading drops below 1.10.

NOTE: Prevailing temperatures affect the potency of battery electrolyte. Therefore, make allowance for extreme climates. In tropical areas, use a 1.230 full charge reading.

Checking Electrolyte Level of Battery Cells

Every 50 hours of operation, check the level of the electrolyte solution in each battery cell. See page 94.

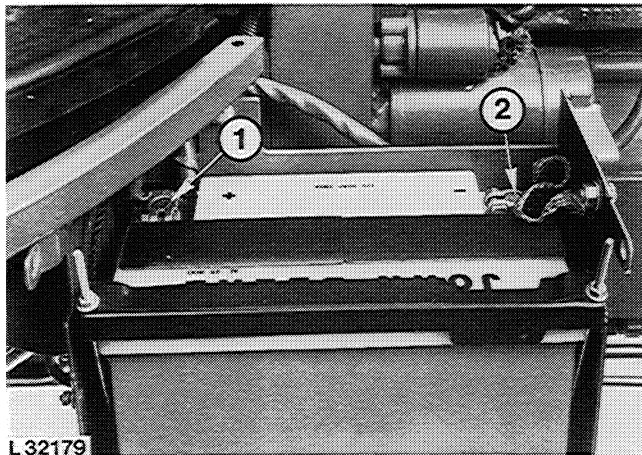
Installing the Batteries

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 to positive pole
- 2 — Ground strap or cable to negative pole

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

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

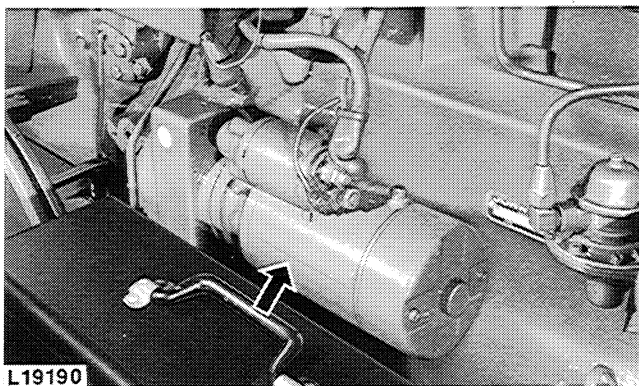


L32179

STARTING MOTOR

If the starter fails to operate after the starter switch has been operated, the whole starter system must be thoroughly checked. Check the specific gravity of the battery 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.



L19190

FUSES

Fuses on Tractors Equipped with "Bilux" Lighting System

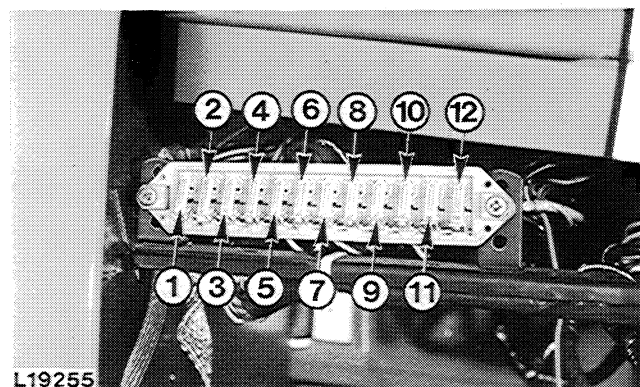
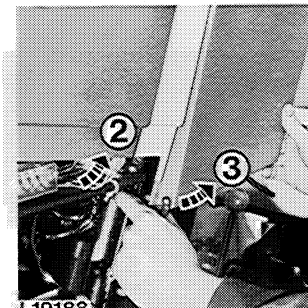
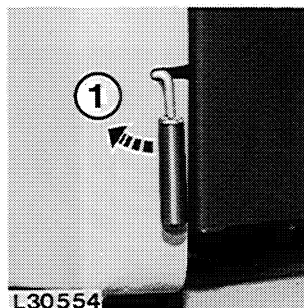
Tractors without SG2 Cab

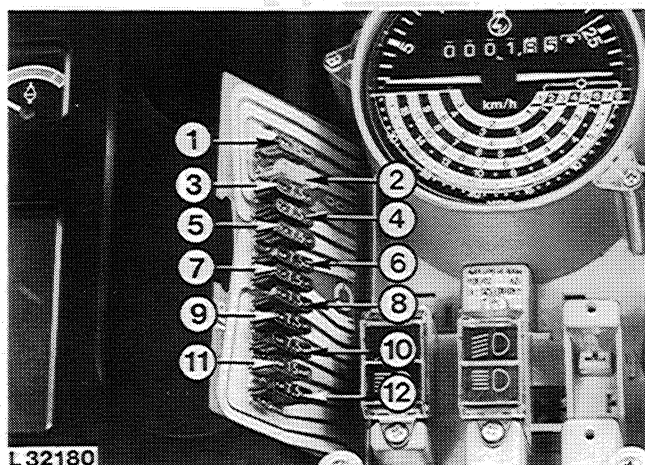
On these tractors the fuse box is located behind the left-hand cover of dash. Raise cover as follows:

- 1 — Turn locking lever outward
- 2 — Swing cover upward
- 3 — Turn support outward and place cover on support

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

- 1 — Both headlights — full beam
Full beam indicator light
- 2 — Both headlights — dipped
- 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
(when equipped)
- 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





Tractors with SG2 Cab

On these tractors the fuses are located below the dash.

Fuses 1 to 12 protect the following electrical components:

- 1 — Hazard warning light switch
- 2 — Fan relay, cab light, radio (when equipped) and digital clock
- 3 — Stop lights, right and left-hand and socket for trailer lighting (brakes)
- 4 — Headlight, full beam and full beam indicator light
- 5 — Headlights, low beam
- 6 — Left hand tail light, right-hand clearance light, registration plate light, shift console lighting, digital clock lighting, windshield washer switch lighting and socket for trailer lighting
- 7 — Right hand instrument lighting, right-hand tail light, left-hand clearance light and socket for trailer lighting
- 8 — Left-hand instrument lighting and parking lights (when equipped)
- 9 — Control light panel, fuel gauge and coolant temperature gauge
- 10 — Front wheel drive switch and front wheel drive indicator light (when equipped)
- 11 — Horn, hazard warning light switch, hour meter, relay for cab ventilation and heater fan and air conditioning system, turn signal lights, warning light, handbrake indicator light and acoustical signal, socket for hand-lamp or cigarette lighter
- 12 — Windshield wipers and "Lo" indicator light (Hi-Lo shift unit)

Fuses 1, 2, 3 and 12: 15 amps.

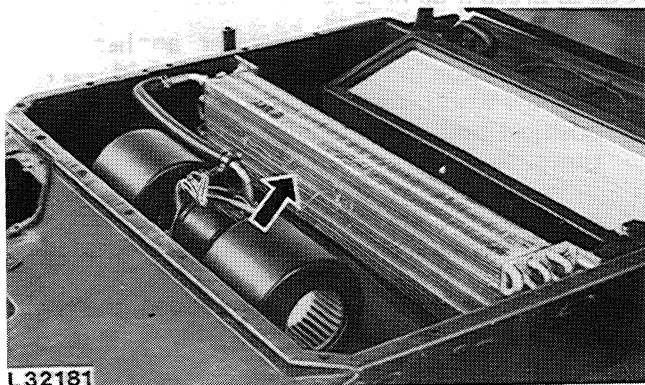
All other fuses: 7.5 amps.

Circuit Protection on Tractors Equipped 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.

Heater and Air Conditioning System

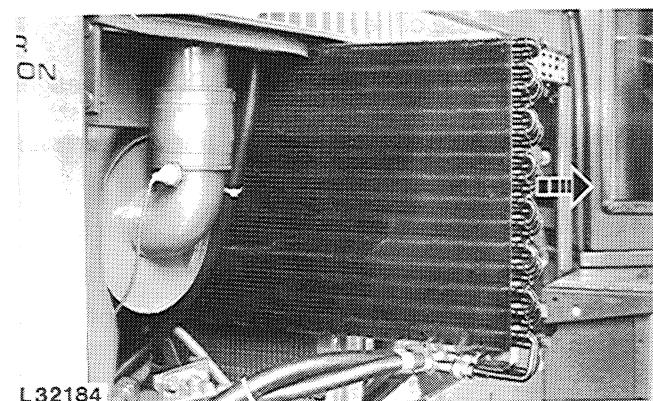
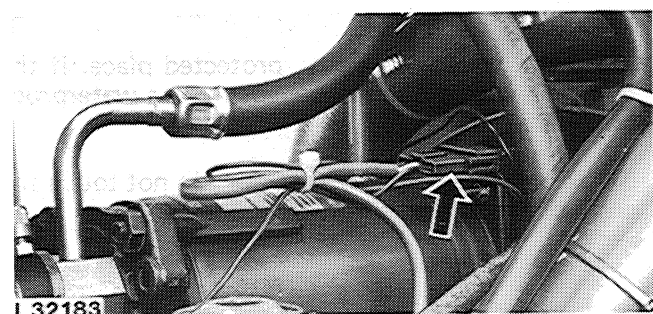
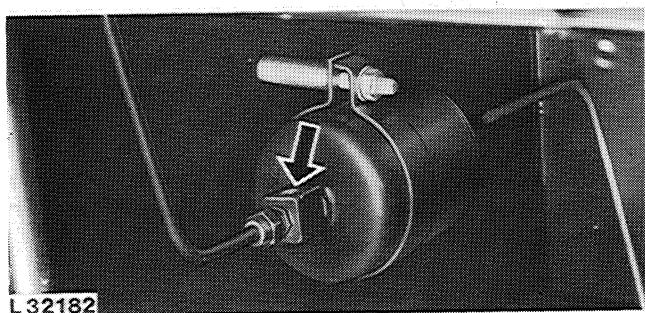


Heater Core

For satisfactory heater operation, be sure heater core is not plugged with dirt. To gain access to the heater core, open the roof and remove the heater and evaporator housing cover. Use compressed air to clean the heater core.

Air Conditioning System

1. If air conditioner capacity is reduced, evaporator core may be plugged with dirt. To clean evaporator core remove cab roof and clean as instructed for heater core.
2. If moisture is collecting in cab roof, evaporator drain hoses may be plugged. Clean hoses, if necessary.
3. If air conditioner is not cooling, check sight glass. Run engine at 1900 rpm, and turn blower and air conditioner on high. Remove plug in cab roof and observe sight glass. If bubbles do not disappear within a few minutes, system may be low on refrigerant. Replace plug to keep glass clean, and see your John Deere dealer.
4. 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 low refrigerant). See your John Deere dealer.
5. From time to time it will become necessary to clean the condenser. Remove radiator screen and pull out condenser from the side.



Tractor Storage

If you store the tractor for several months, follow these tips to prevent damage to the tractor.

Drain, flush and refill the cooling system with fresh coolant. For proper composition of coolant see page 110.

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 255 c.c. (9 oz.) of rust inhibitor to the engine oil.
2. Add rust inhibitor to oil in transmission hydraulic system:
 With collar shift transmission — 130 c.c. (4.5 oz.)
 With synchronized transmission — 185 c.c. (6.5 oz.)
3. Drain fuel tank, pour 170 c.c. (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 in fast idle for 15 to 20 minutes to distribute the mixture through the whole 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 c.c. (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, whatever applies. Inject rust inhibitor into the intake manifold. Pull out shut-off knob, move hand throttle in 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 (page 94). Charge the batteries and store in a cool, dry place where they will not freeze. Keep batteries fully charged during storage (page 114). 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 the Tractor from Storage

Remove all protective coverings. Check tire inflation (page 48) and remove blocks.

Install batteries and connect cable and ground straps (negative terminals grounded). Check alternator belt tension (page 98).

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 (page 100). 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!



Trouble Shooting

The following pages list difficulties that might possibly be encountered and their possible remedies. If after properly performing the listed remedies, the difficulty still exists, see your John Deere dealer. He has been factory trained and possesses the latest technical literature and equipment to put your tractor back in operating condition.

Hydraulic System

HYDRAULIC SYSTEM FAILS TO FUNCTION

Low oil supply
Fill system with proper oil to mark on dipstick.
See page 93.

Restricted filter
Replace filter. See page 100.

Possible dirt in hydraulic pump.
Check filter for clogging. See page 100.

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. See page 58.

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. See page 69.

REMOTE CYLINDER RATE-OF-TRAVEL INCORRECT

Incorrect rate-of-lift adjustment.
Adjust rate of operation.
See page 65.

Engine

ENGINE HARD TO START OR WILL NOT START

- No fuel.
Fill tank with proper fuel.
- Restricted fuel filter.
Replace filter element. See page 104.
- Crankcase oil too heavy.
Use oil of proper viscosity. See page 79.
- Low ambient air temperature.
Use cold weather starting aids. See pages 13, 14 and 15.

ENGINE KNOCKS

- Insufficient oil.
Add oil. See page 92.
- Fuel injection pump incorrectly timed.
See your dealer.

ENGINE OVERHEATS

- Low coolant level.
Fill radiator to proper level. See page 92.
Check radiator and hoses for loose connections and leaks.
- Loose or defective fan belt.
Adjust belt tension. See page 98.
- Cooling system needs flushing.
Flush cooling system. See page 107.

ENGINE OIL PRESSURE TOO LOW

- Low engine oil level
Add engine oil. See page 92.

HIGH OIL CONSUMPTION

- Oil of too low viscosity.
Drain and refill with oil of correct viscosity.
See page 79.
- 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. See page 87.
- 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 John Deere dealer.
- Defective thermostat.
Remove and check thermostat.

Electrical System

BATTERIES WILL NOT CHARGE

Loose or corroded connections.
Clean and tighten battery connections.

Sulfated or worn-out batteries.
Check specific gravity of each battery.
Check electrolyte level of each battery. See page 114.

Loose or defective alternator belt.
Adjust belt tension. See page 98.
Replace belt.

STARTER INOPERATIVE

Loose or corroded connections.
Clean and tighten loose connections.

Low battery output.

Check specific gravity of each battery.
Check electrolyte level of each battery.
See page 114.

STARTER CRANKS SLOWLY

Low battery output.

Check specific gravity of each battery.
Check electrolyte level of each battery.
See page 114.

Crankcase oil too heavy.

Use proper viscosity oil. See page 96.

Loose or corroded connections.

Clean and tighten loose connections.



Specifications

ENGINE

	1640	2040	2040 S
Engine power at rated engine speed Net (acc. to DIN 70020) kW (PS)	46 (62)	51 (70)	55 (75)
Maximum PTO power at rated engine speed			
Measured acc. to DIN 70020 kW (PS)	41 (56)	46 (63)	50 (68)
Measured acc. to SAE J 816 b kW (HP)	40 (54)	45 (60)	48 (65)
Maximum torque at 1200 rpm	205 Nm (150 ft-lb)	—	250 Nm (185 ft-lb)
Maximum torque at 1300 rpm	—	230 Nm (170 ft-lb)	
Number of cylinders		4	
Bore		106.5 mm (4.19 in.)	
Stroke		110 mm (4.33 in.)	
Displacement		3920 c.c. (239 cu.in.)	
Compression ratio		16.8 : 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 rpm		800	
Fast idle rpm		2660	
Rated speed rpm		2500	
Working speed range rpm	1200 to 2500	1300 to 2500	1200 to 2500

ELECTRICAL SYSTEM

Batteries	2 x 12 volts, 55 ampere-hours or 2 x 12 volts, 66 ampere-hours
Alternator	14 volts, 33 amps. or 55 amps.
Starter	12 volts, 3 kW (4 HP)
Battery terminal grounded	negative

CAPACITIES

	Liters	U.S. Gals.
Fuel tank.....	95.0*	25.1*
Cooling system — Tractor without SG2 Cab	13.0	3.4
— Tractor with SG2 Cab	18.0	4.8
Crankcase		
without filter change.....	8.0	2.1
with filter change	8.5	2.25
Transmission/hydraulic system, with collar shift transmission.....	39.0	10.3
with synchronized transmission	50.5	13.3
with heavy-duty final drives an extra.....	5.0	1.3
Belt pulley.....	1.2	0.3

* Tractors with metal tank — 90 liters (23.8 U.S. gals.)

CLUTCHSingle dry disk

COLLAR SHIFT TRANSMISSION

Optional equipmentHi-Lo shift unit

SYNCHRONIZED TRANSMISSION

Optional equipmentHi-Lo shift unit or
Creeper transmission

FINAL DRIVEPlanetary reduction drive

DIFFERENTIAL LOCKHand or foot operated
mechanical lock, spring-loaded
out of engagement

CONTINUOUS RUNNING PTO

Rear540 rpm

INDEPENDENT PTO

Rear540 rpm single or
540 and 1000 rpm interchange-
able

HANDSHIFT INDEPENDENT PTO540 and 1000 rpm

HYDRAULIC SYSTEMClosed center, constant pressure
of 19000 kPa (190 bar; 2760
psi)*

FOOT BRAKESHydraulically actuated, wet-disk
type, one each per rear wheel

HANDBRAKEBand-type brake, acting on
differential

or

PARKING LOCKRange shift lever in park (P)
position

*CANADA ONLY: 15500 kPa (155 bar; 2250 psi)

WEIGHTS

	1640	2040	2040 S
Tire Sizes	7.50-18/16.9-30	7.50-18/15.5-38	7.50-18/15.5-38
Stability Weight (Total)	2780 kg (6130 lb)	2835 kg (6250 lb)	2935 kg (6470 lb)
Front	935 kg (2060 lb)	935 kg (2060 lb)	935 kg (2060 lb)
Rear	1845 kg (4070 lb)	1900 kg (4190 lb)	2000 kg (4410 lb)

The above weights will vary, depending upon equipment. The weights quoted should be considered as a guide only.

To rear weights:

Add 85 kg (185 lb) on machines equipped with four-post roll guard.

Add 95 kg (210 lb) on machines equipped with two-post roll guard.

Add 60 kg (130 lb) on machines with cast rear wheels and 16.9-30 tires.

Add 110 kg (245 lb) on machines with cast rear wheels and 15.5-38 tires.

Add 390 kg (860 lb) on machines equipped with rack-and-pinion axle and 16.9-30 tires.

Add 420 kg (925 lb) on machines equipped with rack-and-pinion axle and 15.5-38 tires.

Add 285 kg (630 lb) to rear and 120 kg (265 lb) to front on machines equipped with SG2 Cab.

Maximum Permissible Static Vertical Load

- a. on drawbar (standard length) 680 kg (1500 lb)
- b. on drawbar (fully retracted) 1000 kg (2205 lb)
- c. on swinging trailer hitch 1000 kg (2205 lb)
- d. on hydraulic trailer hitch 1300 kg (2865 lb)

Maximum Permissible Axle Loads

- a. front 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) *

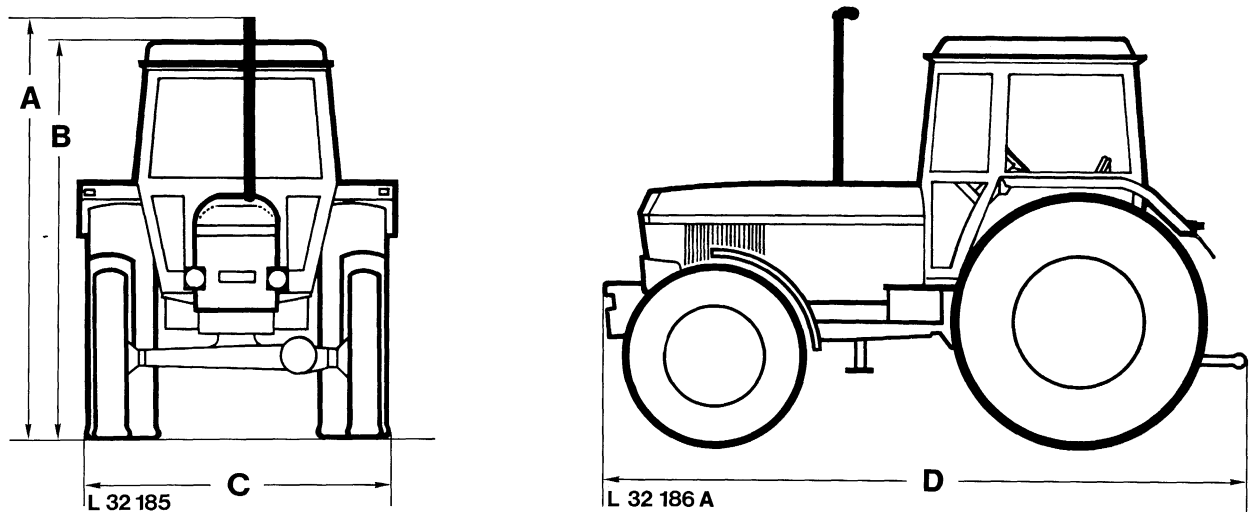
* With front loader, maximum permissible travel speed in this case 8 km/h (5 mph)
Maximum front wheel tread 1.80 m (71 in.).

- b. rear tires: 13.6-36 6 PR 3230 kg (7120 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 (7790 lb)
- 16.9-24 6 PR 3440 kg (7590 lb)
- 16.9-30 6 PR 3600 kg (7940 lb) On 2040 S tractors . . . 3800 kg (8380 lb)
- 16.9-34 6 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4030 kg (8890 lb)
- 18.4-30 6 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4200 kg (9270 lb)
- 21.5-16.1 6 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4120 kg (9070 lb)
- 13.6-38 8 PR 3600 kg (7940 lb) On 2040 S tractors . . . 3820 kg (8400 lb)
- 14.9-38 8 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4200 kg (9270 lb)
- 15.5-38 8 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4120 kg (9070 lb)
- 23.1-26 8 PR 3600 kg (7940 lb) On 2040 S tractors . . . 4200 kg (9270 lb)

- Maximum Permissible Total Weight — 1640 and 2040 4700 kg (10380 lb)
- 2040 S 5400 kg (11920 lb)

NOTE: Traffic regulations in certain countries may reduce the axle loads and maximum permissible total weights quoted above.

DIMENSIONS



Measurements shown are for tractor equipped with 16.9-30 rear tires. With other sized rear tires installed, height and width measurements will vary slightly.

A — Overall height to top of muffler stack cover flap (open)		
Without SG2 Cab	2.85 m	112.2 in.
With SG2 Cab	2.98 m	117.3 in.
B — Overall height to top of 4-post roll guard		
SG2 Cab	2.53 m	99.6 in.
	2.63 m	103.5 in.
C — Width		
— with wide fenders	2.06 m	81.1 in.
— with SG2 Cab	2.05 m	80.8 in.
— with rack-and-pinion axle	2.27 m	89.4 in.
D — Overall length from front edge of basic weight to rear edge of draft links	3.74 m	147.0 in.
Turning radius, with steering brake	3.40 m	134 in.
without steering brake	3.80 m	150 in.

All information, illustrations, and specifications contained in this operator's 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.

Front Wheel Drive

WEIGHTS

	1640	2040	2040 S
Tire Sizes	11.2-28/16.9-30	11.2-28/15.5-38	11.2-28/15.5-38
Stability Weight (Total)	3065 kg (6760 lb)	3120 kg (6880 lb)	3220 kg (7100 lb)
Front	1150 kg (2535 lb)	1150 kg (2535 lb)	1150 kg (2535 lb)
Rear	1915 kg (4225 lb)	1970 kg (4345 lb)	2070 kg (4565 lb)

Maximum Permissible Front Axle Load

With tires:	11.2-24 8 PR	2200 kg (4850 lb)	3430 kg (5760 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 (7415 lb)*
	13.6-24 6 PR	2200 kg (4850 lb)	3700 kg (8155 lb)*
	13.6-24 8 PR	2200 kg (4850 lb)	3700 kg (8155 lb)*

* With front loader, maximum permissible travel speed 8 km/h (5 mph)

Maximum front wheel tread 1.80 m (71 in.)

DIMENSIONS

Turning Radius

Without steering brake and front wheel drive disengaged	4.80 m	189 in.
Without steering brake and front wheel drive engaged	5.10 m	201 in.
With steering brake and front wheel drive disengaged	4.10 m	161 in.
With steering brake and front wheel drive engaged	4.40 m	173 in.

CAPACITIES

Front axle housing	5.25 liters	1.4 U.S. gals.
Final drive housing	each 0.75 liters	0.2 U.S. gals.

NOTE: Specifications not quoted separately are the same as those given for tractors without front wheel drive.

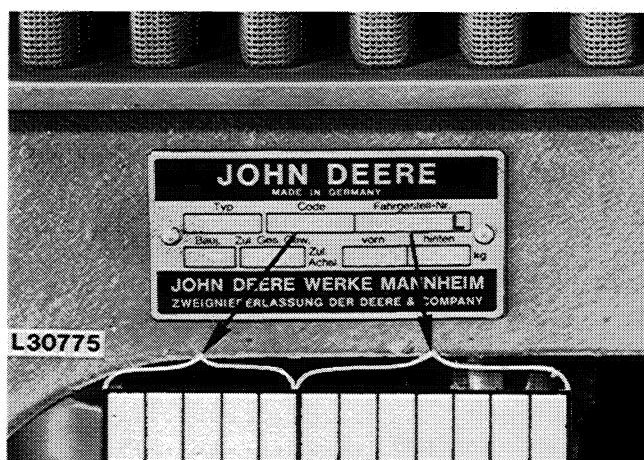
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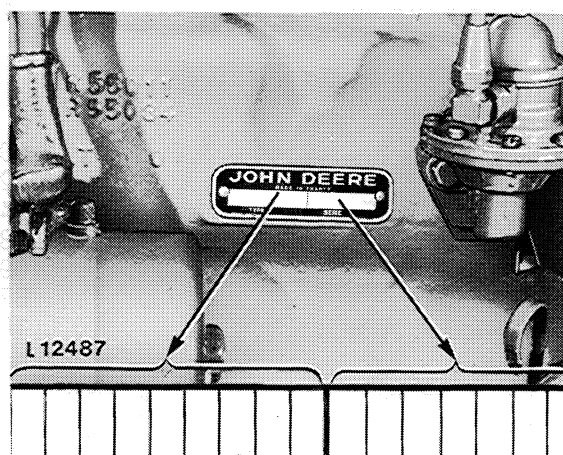
Serial Numbers

The following illustrations show the serial number plates for engine and tractor.

For ready reference, locate and record these serial numbers in the spaces provided below each illustration. Your JOHN DEERE dealer requires this information for warranty claims* and to give you prompt, efficient service when you order replacement parts**



Record Tractor Serial Number Here



Record Engine Serial Number Here

- * It is extremely important to quote complete serial number group together with all letters of both machine and engine on all warranty claims or correspondence pertaining to this tractor. This point cannot be overemphasized.
- ** When ordering new parts, only state the number group — without letters — of the tractor and engine serial numbers.



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NOTES

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Service to keep you on the job

We, at your John Deere dealer's, pride ourselves in having what it takes to help keep 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.



The right tools.

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly to save you time and money.



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!



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 Deere Service Superiority: We'll be around when you need us

