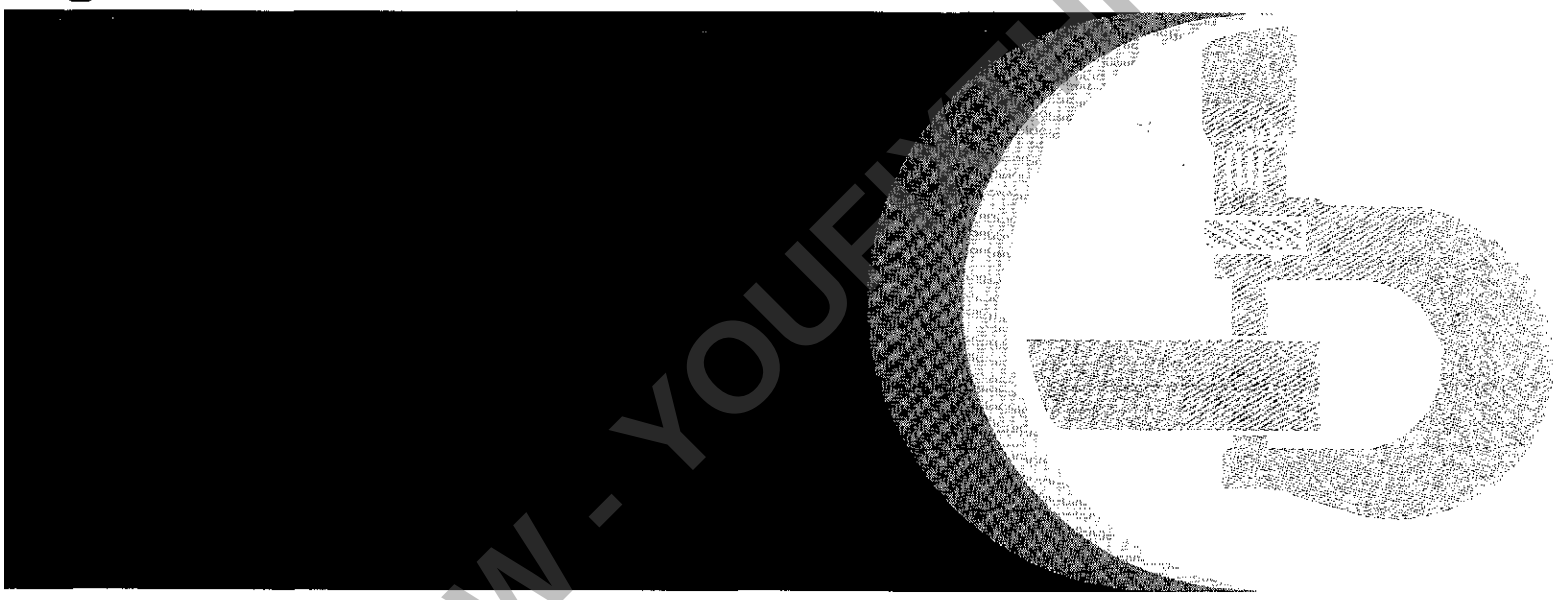
1350, 1550, 1750, 1850, 1850N, 1950 and 1950N Tractors



John Deere Werke Mannheim
TM4437(Jan-91)
Printed in Germany (English)

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1350, 1550, 1750, 1850, 1850 N, 1950 AND 1950 N TRACTORS TECHNICAL MANUAL TM4437 (JUN-90)

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SAFETY AND YOU

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



T 81389

T81389;053;TMSAFE 19 07OCT85

IMPORTANT

The IMPORTANT message identifies potential problems which may cause consequential damage to machine. Following recommended procedure will instruct technician how to avoid problem.

A68;N01;0000 19 U 05NOV82

NOTES

The word NOTE is followed by a statement that identifies a qualification or exception to a previous statement. A "NOTE" may also identify nice-to-know information pertinent to, but not directly related to previous statement.

A68; N01;0000 19 V 05NOV82

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SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 1350, 1550, 1750, 1850, 1850 N, 1950 and 1950 N TRACTORS

NOTE: For further specifications, see relevant Technical Manual.

ENGINE

Valve clearance (engine hot or cold):
- Intake valves ..... 0.35 mm (0.014 in.)
- Exhaust valves ..... 0.45 mm (0.018 in.)

Minimum engine oil pressure at 800 rpm and normal operating temperature ..... 140 kPa (1.4 bar; 20 psi)

Compression ..... 2100 kPa (21 bar; 300 psi)

Maximum difference in pressure between cylinders ..... 350 kPa (3.5 bar; 50 psi)

Maximum blow-by at crankcase vent tube ..... 80 liter/kWh (2.8 cu.ft./kWh)

Minimum pressure of turbocharger in intake manifold at rated engine speed ..... 60 kPa (0.6 bar; 9 psi)

Rocker arm shaft to cylinder head ..... 50 Nm (35 ft-lb)

Cylinder head to cylinder block (cap screws dipped in oil)
- 1st step ..... 85 Nm (65 ft-lb)
- 2nd step ..... 135 Nm (100 ft-lb)
- 3rd step ..... +60°

Rocker cover to cylinder head ..... 10 Nm (7 ft-lb)

Connecting rod cap screws (dipped in oil) ..... 65 - 75 Nm (50 - 55 ft-lb)

Main bearing caps to cylinder block ..... 120 Nm (85 ft-lb)

Flywheel to crankshaft ..... 160 Nm (120 ft-lb)

Front axle carrier to engine ..... 230 Nm (170 ft-lb)

Oil pan to front axle carrier (Engines with turbocharger) ..... 400 Nm (300 ft-lb)

Oil pan to clutch housing (Engines with turbocharger) ..... 230 Nm (170 ft-lb)

Clutch housing to engine ..... 230 Nm (170 ft-lb)

Side frames to front axle carrier ..... 230 Nm (170 ft-lb)

Side frames to flywheel housing ..... 230 Nm (170 ft-lb)

FUEL INJECTION NOZZLES

Opening pressure of a new or re-conditioned nozzle with new spring

– *Engine without turbocharger*

Pressure for setting ..... 22100 - 22600 kPa (221 - 226 bar; 3200 - 3280 psi)

Pressure for checking, min. ..... 21800 kPa (218 bar; 3160 psi)

– *Engine with turbocharger*

Pressure for setting ..... 25500 - 26100 kPa (255 - 261 bar; 3700 - 3780 psi)

Pressure for checking, min. ..... 25200 kPa (252 bar; 3660 psi)

Opening pressure with used nozzle

– *Engine without turbocharger*

Pressure for setting ..... 20700 - 21250 kPa (207 - 213 bar; 3000 - 3080 psi)

Pressure for checking, min. ..... 19850 kPa (198 bar; 2880 psi)

– *Engine with turbocharger*

Pressure for setting ..... 241500 - 24700 kPa (241 - 247 bar; 3500 - 3580 psi)

Pressure for checking, min. ..... 22950 kPa (230 bar; 3330 psi)

Maximum difference in opening pressure ..... 700 kPa (7 bar; 100 psi)

Fuel injection nozzle to cylinder head ..... 30 Nm (23 ft-lb)

BATTERIES

Cold state testing current
- 55 Ah battery ..... 255 amps.
- 66 Ah battery ..... 300 amps.
- 88 Ah battery ..... 395 amps.

ENGINE SINGLE-STAGE CLUTCH

Thickness of a new disk ..... 10 mm (0.39 in.)

Wear limit ..... 7 mm (0.26 in.)

Maximum permissible warpage of clutch disk ..... 0.5 mm (0.02 in.)

Flywheel to crankshaft ..... 160 Nm (120 ft-lb)

Clutch to flywheel ..... 50 Nm (35 ft-lb)

Clutch pedal free play ..... 25 mm (approx. 1 in.)

ENGINE DUAL-STAGE CLUTCH

Thickness of a new disk
- *Engine clutch* ..... 9 to 10 mm (0.35 to 0.39 in.)
- *PTO clutch* ..... 7.5 to 8.5 mm (0.29 to 0.33 in.)

Maximum permissible warpage of clutch disk ..... 0.5 mm (0.02 in.)

Flywheel to crankshaft ..... 160 Nm (120 ft-lb)

Clutch to flywheel ..... 50 Nm (35 ft-lb)

Clutch pedal free play ..... 25 mm (approx. 1 in.)

SUMMARY OF MOST IMPORTANT SPECIFICATIONS FOR 1350, 1550, 1750, 1850, 1850 N, 1950 and 1950 N TRACTORS

HI-LO SHIFT UNIT

Operating pressure at 1500 rpm ..... 1050 kPa (10.5 bar; 150 psi)

Operating pressure of automatic shift valve ..... 500 to 700 kPa (5 to 7 bar; 75 to 100 psi)

Hi-Lo shift unit to clutch housing ..... 50 Nm (35 ft-lb)

SYNCHRONIZED TRANSMISSION

Differential Drive Shaft

Rolling drag torque with
- New bearings ..... 0.75 to 1.5 Nm (6.5 to 13 in-lb)
- Used bearings ..... 0.4 to 0.75 Nm (3.5 to 6.5 in-lb)

Special hex. nut or special nut of differential drive shaft ..... 140 Nm (100 ft-lb)

Range Shaft

Preload of taper roller bearings ..... 0.05 to 0.10 mm (0.002 to 0.004 in.)

Countershaft

Preload of hollow drive shaft ..... 0,05 - 0,10 mm (0,002 - 0,004 in.

Rolling drag torque ..... 1 to 2 Nm (9 to 18 in-lb)

End play of differential drive shaft ..... 0.03 to 0.13 mm (0.001 to 0.005 in.)

Hex. nut of transmission hollow drive shaft ..... 140 Nm (100 ft-lb)

Countershaft bearing quill ..... 120 Nm (85 ft-lb)

Intermediate Shaft

Preload of bearings ..... 0.05 - 0.10 mm (0.002 - 0.004 in.)

Grooved nut ..... 140 Nm (100 ft-lb)

Clutch housing to transmission case ..... 160 Nm (120 ft-lb)

COLLAR SHIFT TRANSMISSION

Differential Drive Shaft

Total thickness of shim pack to adjust cone point ..... 0.5 mm (0.02 in.)

Maximum permissible end play before adjusting preload ..... 0.05 mm (0.002 in.)

Dimension to be added to measured end play ..... 0.15 mm (0.006 in.)

Preload of taper roller bearings ..... 0.15 mm (0.006 in.)

Rolling drag torque with specified preload ..... 0.6 to 1.7 Nm (5 to 15 in-lb)

Hex. nut of differential drive shaft ..... 220 Nm (160 ft-lb)

Transmission Drive Shaft

End play ..... 0.10 to 0.15 mm (0.004 to 0.006 in.)

Transmission drive shaft bearing quill ..... 50 Nm (35 ft-lb)

TRANSMISSION OIL PUMP

Minimum delivery of transmission oil pump at 2000 rpm:

Oil temperature 40°C (100°F)
- without Hi-Lo shift unit ..... 34 liters/min. (9 gpm)
- with Hi-Lo shift unit ..... 42 liters/min. (11 gpm)
- with mid PTO ..... 25 liters/min. (6.5 gpm)

Oil temperature 65°C (150°F)
- without Hi-Lo shift unit ..... 30 liters/min. (8 gpm)
- with Hi-Lo shift unit ..... 38 liters/min. (10 gpm)
- with mid PTO ..... 23 liters/min. (6 gpm)

Minimum flow to hydraulic pump at 2000 rpm with:

Oil temperature 40°C (100°F)
- without Hi-Lo shift unit ..... 30 liters/min. (8 gpm)
- with Hi-Lo shift unit ..... 36 liters/min. (9,5 gpm)
- with mid PTO ..... 23 liters/min. (6 gpm)

Oil temperature 65°C (150°F)
- without Hi-Lo shift unit ..... 26 liters/min. (7 gpm)
- with Hi-Lo shift unit ..... 32 liters/min. (8,5 gpm)
- with mid PTO ..... 21 liters/min. (5,5 gpm)

Difference between delivery of transmission oil pump and flow to hydraulic pump,
- *Without Hi-Lo and independent PTO up to* .... 7 liters/min. (1.8 gpm)
- *With Hi-Lo and independent PTO up to* ..... 15 liters/min. (4 gpm)

Transmission oil pump cap screws ..... 55 Nm (40 ft-lb)

Transmission oil pump to clutch housing ..... 55 Nm (40 ft-lb)

DIFFERENTIAL

Preload of taper roller bearings ..... 0.05 to 0.13 mm (0.002 to 0.005 in.)

Backlash between ring gear and differential drive shaft pinion ..... 0.30 mm (0.012 in.)

FINAL DRIVES

To measured rolling drag torque of final drive housing (before tightening 12-point screw) add: ..... 8 to 12.5 Nm 6 to 9 ft-lb)

Final drives to transmission case ..... 120 Nm (85 ft-lb)

INDEPENDENT PTO

Operating pressure at 1500 rpm ..... 1050 kPa (10.5 bar; 150 psi)

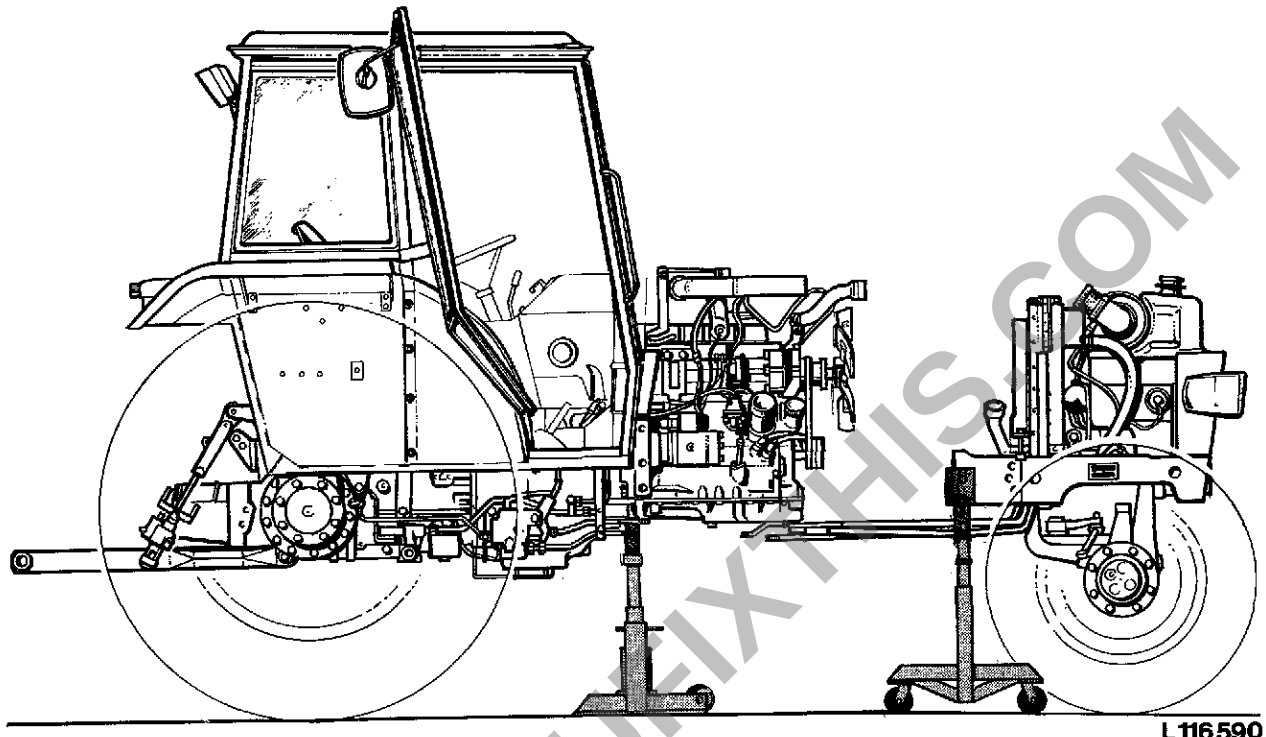
Preload of taper roller bearings in bearing quill, heavy duty type (540 u/min.) ..... 0-0.05 mm (0-0.002 in.)

Drive gear to clutch drum ..... 75 Nm (55 ft-lb)

Bearing quill to transmission case ..... 120 Nm (85 ft-lb)

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REMOVING TRACTOR FRONT END



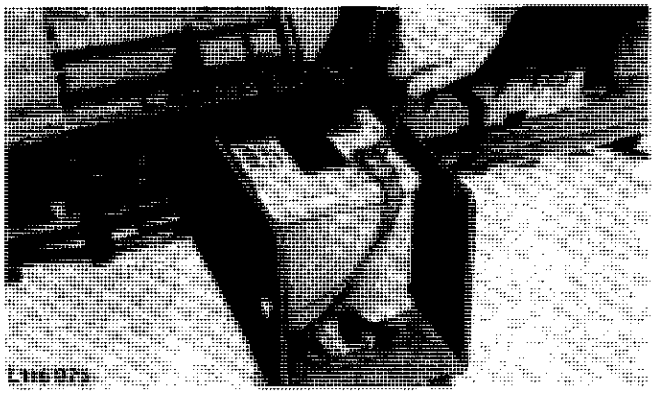
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DISCONNECTING BATTERY GROUND STRAPS

On tractors with MC1 cab and side frames, remove batteries.

Remove exhaust pipe and air precleaner (if equipped), radiator side plates and grille screens.

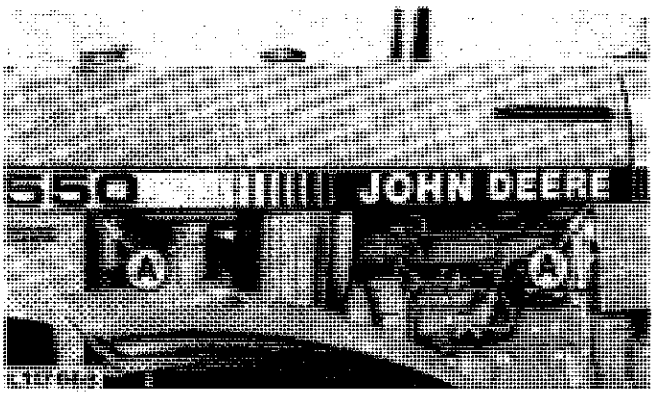


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REMOVING ENGINE HOOD (Tractors up to Serial No. 621 999L)

Remove radiator and fuel tank caps.
Remove attaching nuts (A) on both sides.

NOTE: Replace caps on radiator and fuel tank to prevent dirt entering the system.



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STANDARD TORQUES FOR HARDWARE

Recommended torques in Nm and ft-lb for hose and pipeline connections

(A)	(B)		(C)	
	Nm	ft-lb	Nm	ft-lb
3/8-24 UNF	7,5	5,5	8	6
7/16-20 UNF	10	7	12	9
1/2-20 UNF	12	9	15	11
9/16-18 UNF	15	11	25	18
3/4-16 UNF	25	20	45	35
7/8-14 UNF	40	30	60	45
1-1/16-12 UNC	60	45	100	75
1-3/16-12 UNC	70	50	120	90
1-5/16-12 UNC	80	60	140	105
1-5/8-12 UNC	110	80	190	140
1-7/8-12 UNC	150	110	220	160

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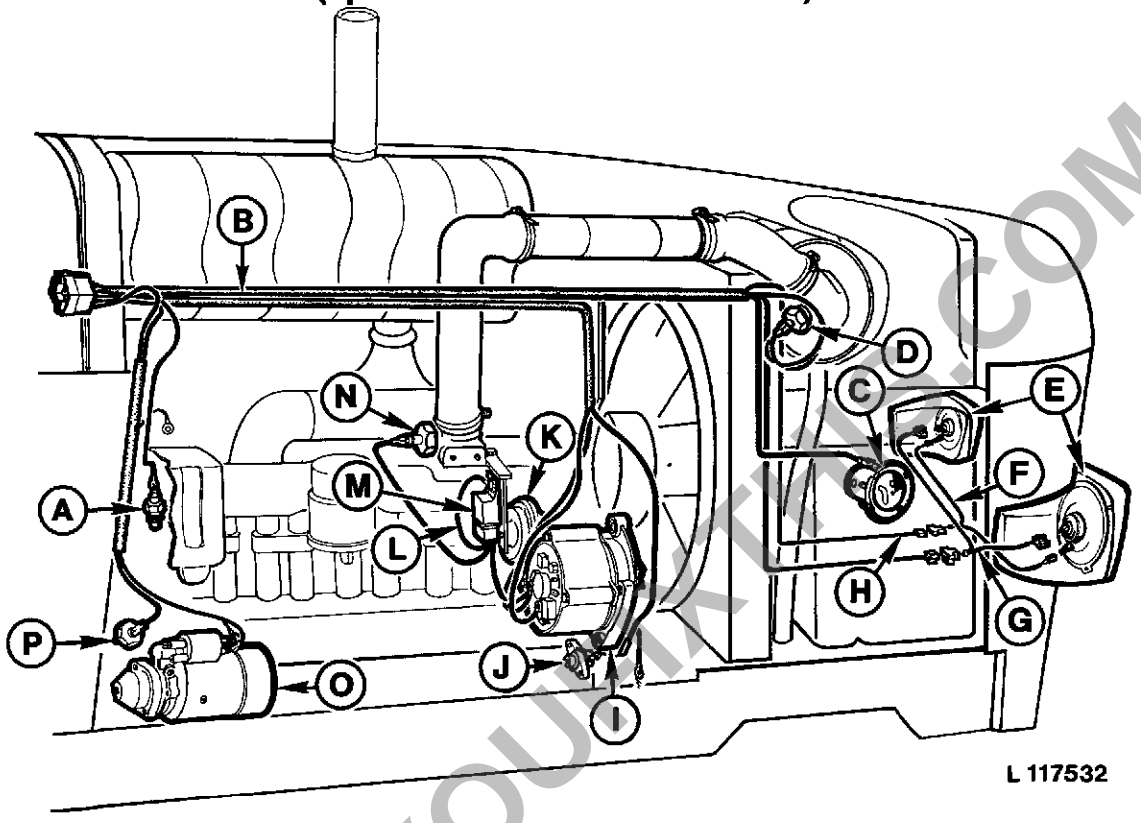
A–Thread size **B–With O-rings** **C–With cone**

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ENGINE WIRING HARNESSES
(up to Tractor Ser. No. 621 280L)



A–Coolant temperature gauge sending unit
B–Engine wiring harness
C–Fuel gauge sending unit
D–Air cleaner restriction indicator light sending unit
E–Headlights
F–Wiring harness (parking lights)
G–Wiring harness (driving lights)
H–Cable (parking lights)
I–Alternator
J–Magnetic sending unit for engine speed meter
K–Horn
L–Ground cable
M–Relay for electric starting aid
N–Glow plug for electric starting aid
O–Starting motor
P–Engine oil pressure warning switch

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INSTALLING FUEL TANK

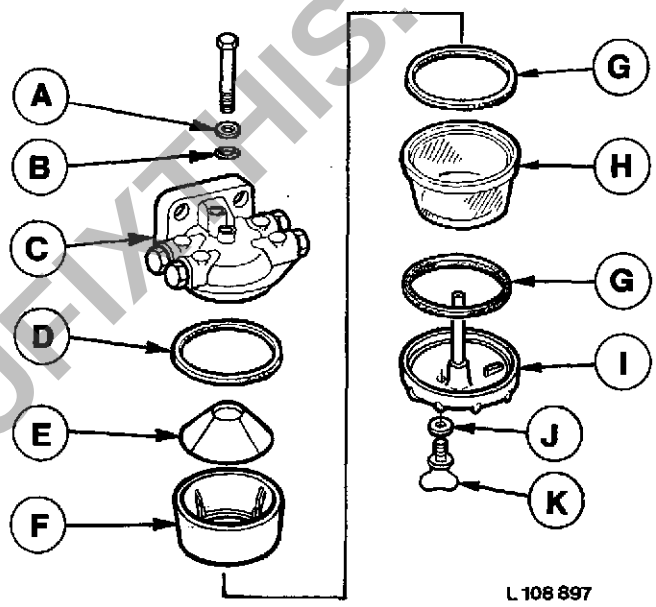
Install fuel tank, reversing removal procedure.

NOTE: When installing sending unit, make sure that float can move freely up and down.

TANK-LB43005BE-010687

WATER TRAP, EXPLODED VIEW

A–Washer
B–O-ring
C–Cover
D–Seal ring
E–Funnel
F–Housing
G–Seal ring (2 used)
H–Glass bowl
I–Cover
J–Seal ring
K–Water drain plug



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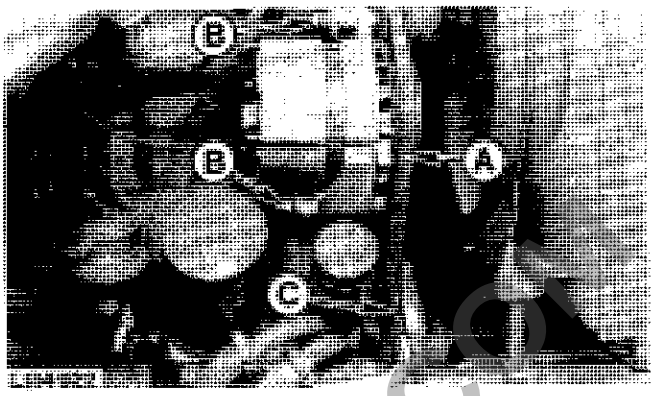
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CHECKING FAN BELT TENSION

Using belt tension gauge JDST-28 (C) check tension of fan belt.

Fan belt should have 19 mm (3/4 in.) flex with 90 N (20 lb) pull midway between crankshaft and alternator or water pump.

A–Fan belt
B–Attaching nut
C–Belt tension gauge (JDST-28)



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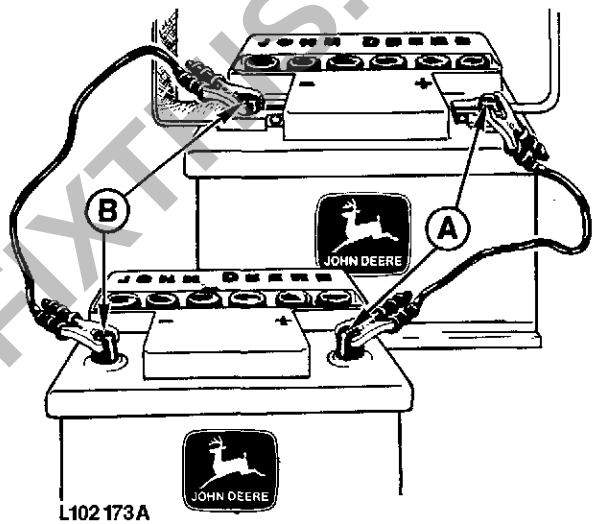
IMPORTANT NOTES

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 this circuit by switching off the main switch before stopping the engine by means of the fuel pump shut-off cable. An additional load (lights) must also be switched on. Do not run engine above 1000 rpm. Insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.

On tractors equipped with an operator's cab, do NOT connect ground strap of slave battery to cab frame.

Observe proper polarity when connecting batteries and chargers. Improperly connected batteries ("+" and "–") result in immediate destruction of rectifier diodes.

A–Positive terminals
B–Negative terminals



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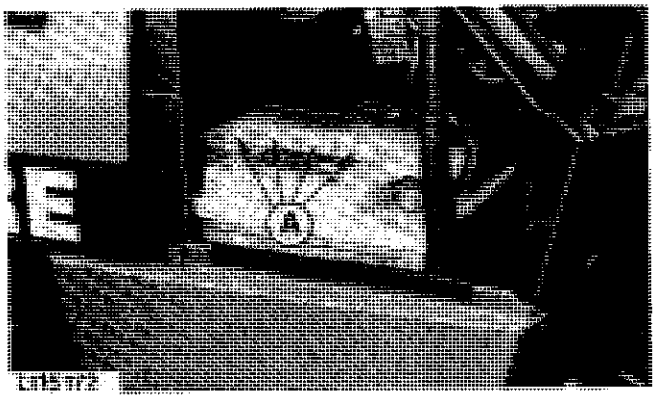
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CHECKING BATTERIES

Check battery terminals and cable ends and, if necessary, clean and coat them with petroleum jelly.

Check electrolyte level in each battery cell. If necessary, add distilled water to bring level above cell plates.

A–Filler caps



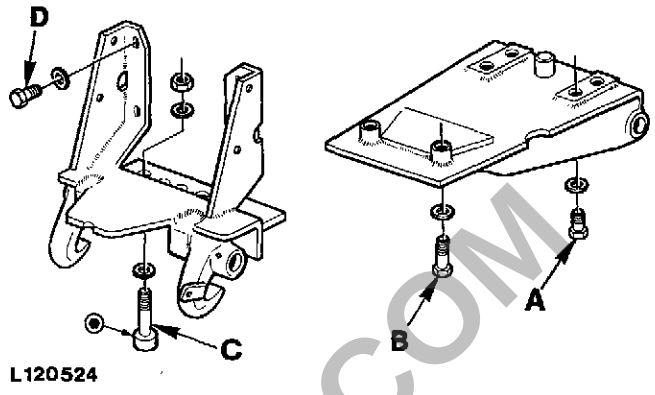
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Later Type

Retighten screws (A) to 135 Nm (100 ft-lb), screws (B and D) to 120 Nm (85 ft-lb) and screws (C) to 160 Nm (120 ft-lb).

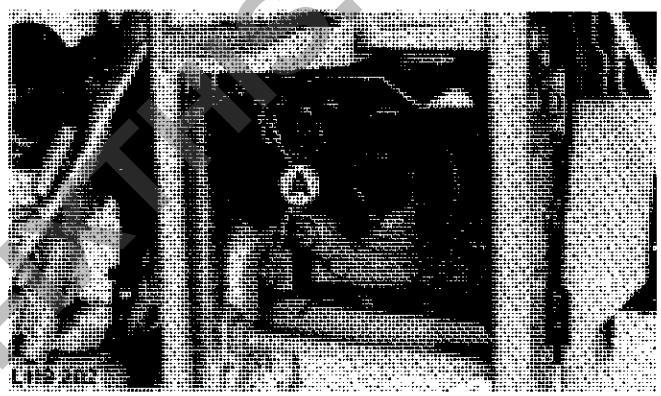


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CHECKING TORQUES OF ATTACHING SCREWS (Tractors with Height-Adjustable Trailer Hitch)

A–500 Nm (370 ft-lb)



L119282-LB31010AE-010888

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Recommended torques in Nm and ft-lb for metric cap screws

(A)	8.8 (C)		10.9 (D)		12.9 (E)	
(B)	Nm	ft-lb	Nm	ft-lb	Nm	ft-lb
M5	7	5	9	6,5	10	8,5
M 6	10	8,5	15	10	20	15
M 8	30	20	40	30	40	30
M 10	50	35	80	60	90	70
M 12	100	75	140	100	160	120
M 14	160	120	210	155	260	190
M 16	240	175	350	260	400	300
M 20	480	355	650	480	780	575
M 24	820	605	1150	850	1350	995
M 30	1640	1210	2250	1660	2700	1990
M 36	2850	2110	4000	2950	4700	3465

L 110 194

A–Head marking (identifying strength)
B–Thread O.D. (mm)

C–Standard bolts and cap screws
D–Tempered steel high strength bolts and cap screws

E–Tempered steel extra high strength bolts and cap screws

NOTE: A variation of ± 10% is permissible for all torques indicated in this chart.

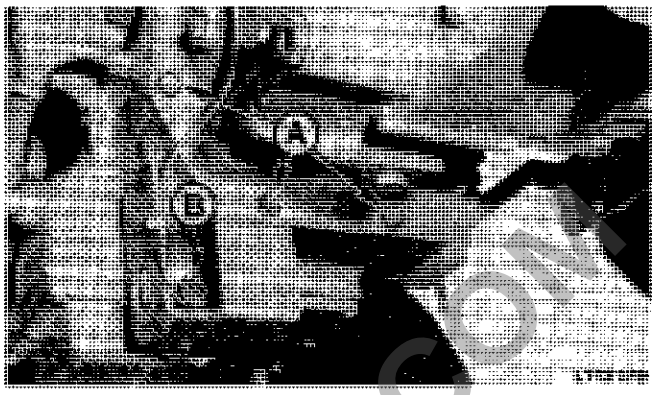
Torque figures indicated above and in the specification sections of this manual are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual.

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On tractors with front wheel drive, pull cable (B) from solenoid switch.

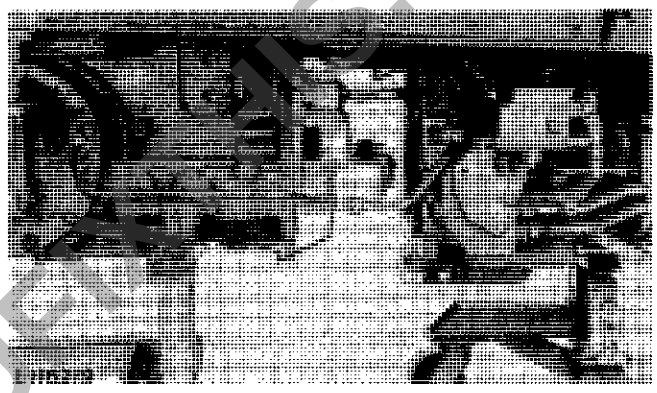
A–Cap screws
B–Cable



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ROLLING TRANSMISSION TO THE REAR

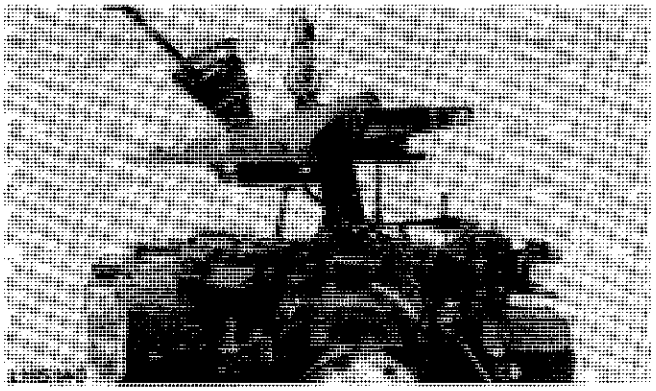
IMPORTANT: Move transmission so that it is exactly in alignment with input shaft and PTO clutch shaft.



L116219-LB31025AE-010287

REMOVING ROCKSHAFT

Refer to "Removing Rockshaft".



L115140-LB31025AE-010287

REMOVING FINAL DRIVES

Refer to "Removing Final Drives".



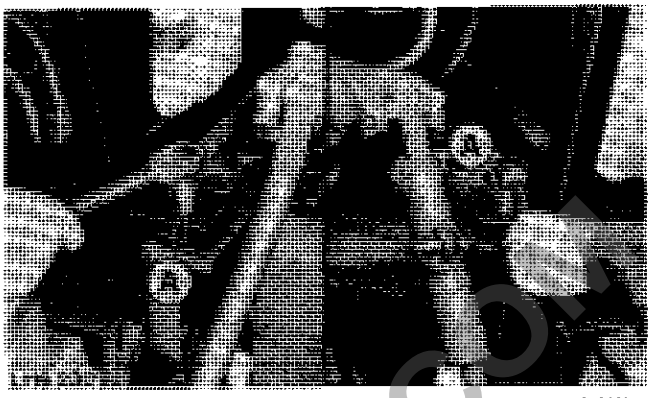
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REMOVING REAR CAB MOUNTINGS

Remove both hex. nuts (A).

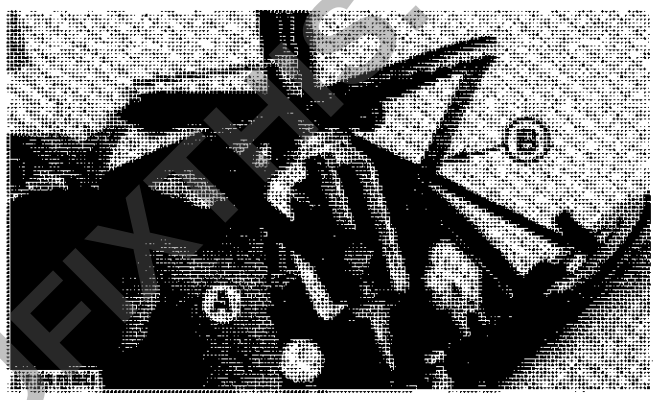


L116230-LB31025AE-010287

REMOVING STEERING WHEEL

Remove hex. nut.

Remove steering wheel (B) using a commercially available puller (A).



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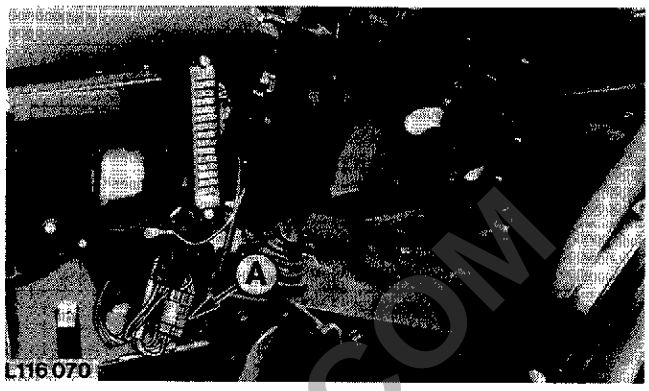
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DISCONNECTING POINT – CAB WIRING HARNESS

On Tractors with MC1 Cab

Disconnecting point behind left-hand dash cover.

A–19-pin plug



L116070-LB44005AE-010687

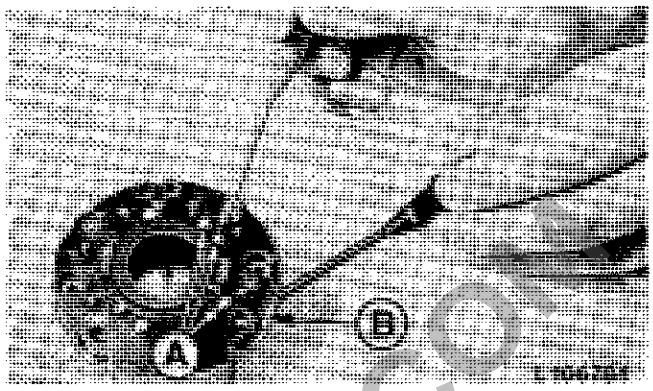
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CHECKING NEGATIVE DIODES

Consecutively place negative test probe of a test lamp to negative heat sink (B) and positive test probe to leads (A) of diodes.

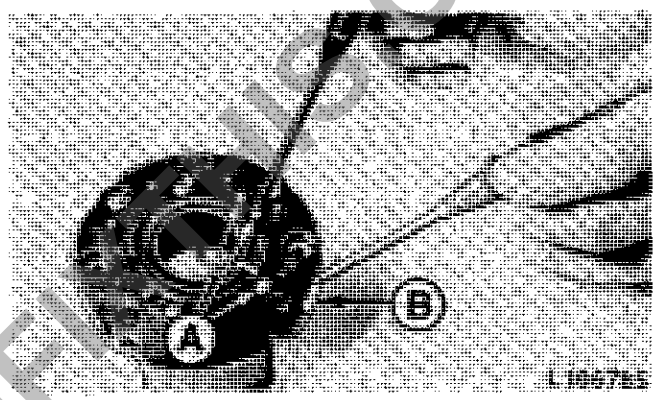
Test lamp must not light up.



If no fault is found in test decribed above, carry out this test with reversed polarity (see illustration).

Test lamp must light up brightly.

NOTE: Test voltage 6 to 12 volts DC.

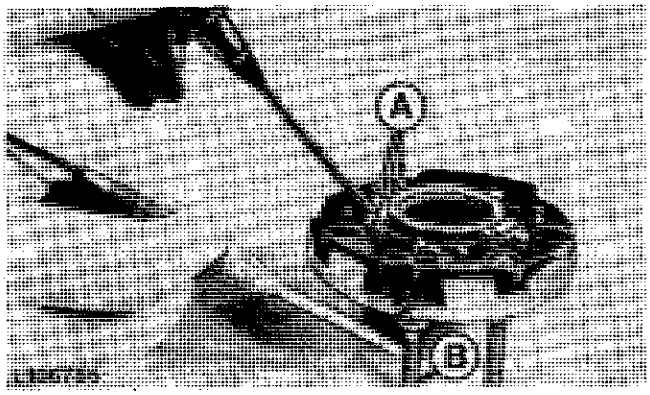


L106784,L106785-LA74025AE-091184

TESTING EXCITING DIODES

Place positive test probe of a test lamp on connection "D+" (B) and negative probe onto diode leads (A).

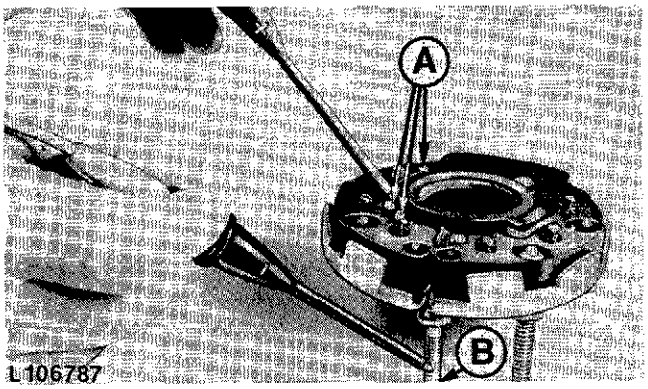
Test lamp must not light up.



If no fault is found in test described above, carry out this test with reversed polarity (see illustration).

Test lamp must light up brightly.

NOTE: Test voltage 6 to 12 volts DC.



L106786,L106787-LA74025AE-091184

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CHECKING BASE PLATE AND PRESSURE PLATES

Distance from mounting surface to friction face of base plate (see measurement "a") . . . . . 1.45 to 1.55 mm (0.057 to 0.061 in.)

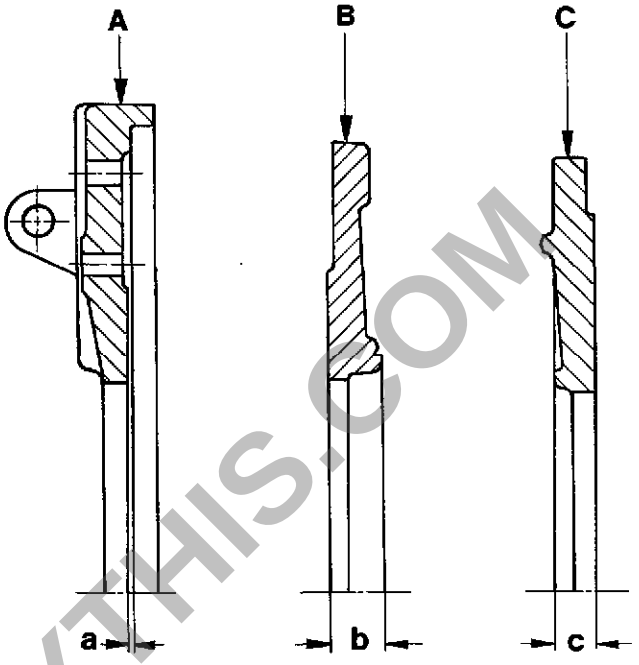
Thickness of a pressure plate:
– Engine clutch (see measurement "c") . . . . . 15.0 mm (0.59 in.)
– PTO clutch (see measurement "b") . . . . 18.2 to 18.5 mm (0.72 to 0.73 in.)

NOTE: Measurements ("a", "b" and "c") refer to new parts.

Maximum permissible wear or roughness . . . . . 0.15 mm (0.006 in.)

When base plate and pressure plates are worn by more than 0.15 mm (0.006 in.), then machine base plate and pressure plates up to a maximum of 0.5 mm (0.02 in.).

NOTE: Machine friction face of base plate and pressure plates just sufficient until free from scores, overheated areas and heat cracks. Machine base plate attaching surface by the same amount as machined from friction face.



L 119964

A–Base plate
B–Pressure plate – PTO clutch
C–Pressure plate – engine clutch

L119964-LB35015AE-010888

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ADJUSTING CONE POINT OF DIFFERENTIAL DRIVE SHAFT

Height of rear taper roller bearing	43.76 mm (1.723 in.)
Increase in bearing height after pressing in outer bearing cup	0.1 mm (0.004 in.)
Actual distance etched into pinion face, e.g.	161.66 mm (6.364 in.)
Actual distance stamped on serial no. plate	206.35 mm (8.124 in.)

NOTE: Continue to use old type plate when replacing transmission case. This measurement remains the same.

The following example of calculating thickness of shim pack to be installed between transmission case and taper roller bearing cup is based on the previously mentioned dimensions:

	43.76 mm		1.723 in.
	0.10 mm		0.004 in.
	+ 161.66 mm		+ 6.364 in.
	205.52 mm		8.091 in.
	206.35 mm		8.124 in.
	− 205.52 mm		− 8.091 in.
Shim pack thickness	0.83 mm	Shim pack thickness	0.033 in.

Add shim pack thickness of 0.85 mm (0.034 in.).
This example applies to most transmissions!
Further possibilities are:

Figure etched on face of pinion	Shim pack thickness
161.26 mm (6.349 in.)	1.25 mm (0.049 in.)
161.31 mm (6.351 in.)	1.20 mm (0.047 in.)
161.34 mm (6.352 in.)	1.15 mm (0.045 in.)
161.36 mm (6.353 in.)	1.15 mm (0.045 in.)
161.41 mm (6.355 in.)	1.10 mm (0.043 in.)
161.46 mm (6.357 in.)	1.05 mm (0.041 in.)
161.51 mm (6.361 in.)	1.00 mm (0.039 in.)
161.56 mm (6.361 in.)	0.95 mm (0.037 in.)
161.61 mm (6.363 in.)	0.90 mm (0.035 in.)
161.71 mm (6.367 in.)	0.80 mm (0.032 in.)
161.76 mm (6.369 in.)	0.75 mm (0.030 in.)
161.81 mm (6.370 in.)	0.70 mm (0.028 in.)
161.86 mm (6.372 in.)	0.65 mm (0.026 in.)
161.91 mm (6.374 in.)	0.60 mm (0.024 in.)

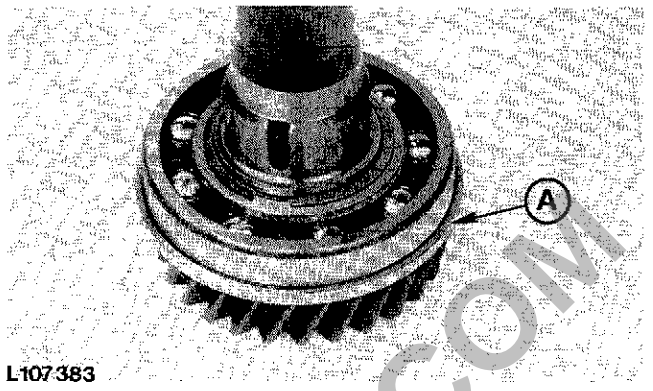
SYNGETR-LA75025AE-001184

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ASSEMBLING HOLLOW DRIVE SHAFT

Install ball bearing so that collar (A) faces downwards.

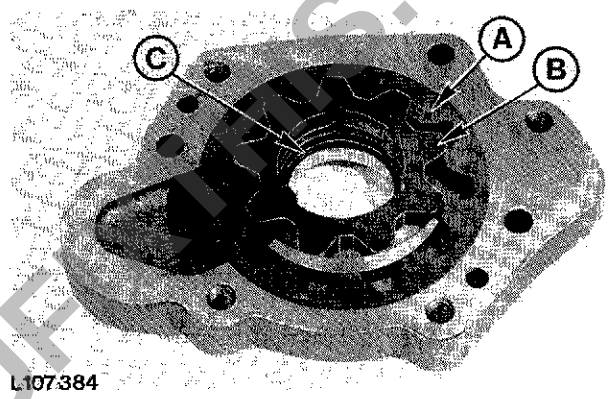


L107383

L107383-LA75025AE-051184

INSTALLING GEARS

Chamfered side of gears (A and B) must face downwards. Sealing lips of oil seal (C) must face into housing.



L107384

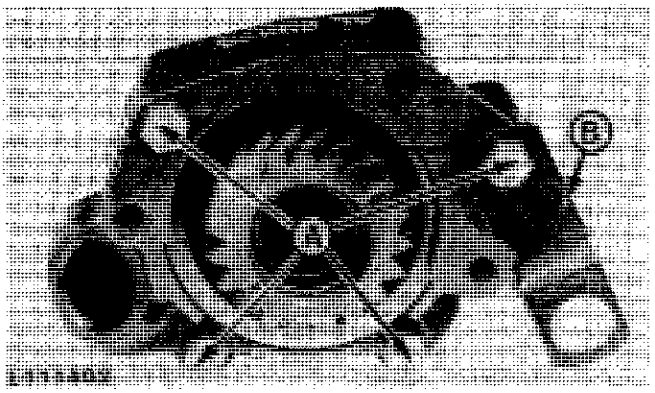
L107384-LA75025AE-051184

JOINING TRANSMISSION OIL PUMP HALVES

Coat sealing faces of both housing halves with LOCTITE No. 573 (L41217).

Tighten cap screws (A) to 55 Nm (40 ft-lb).

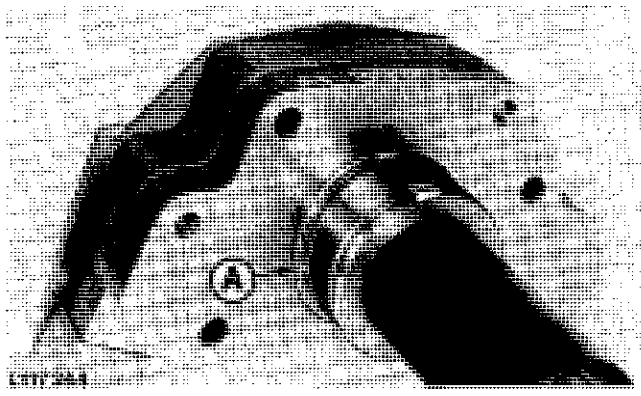
NOTE: Bracket (B) must be loose when installing oil line.



L111402-LB35045AE-010287

INSTALLING O-RING

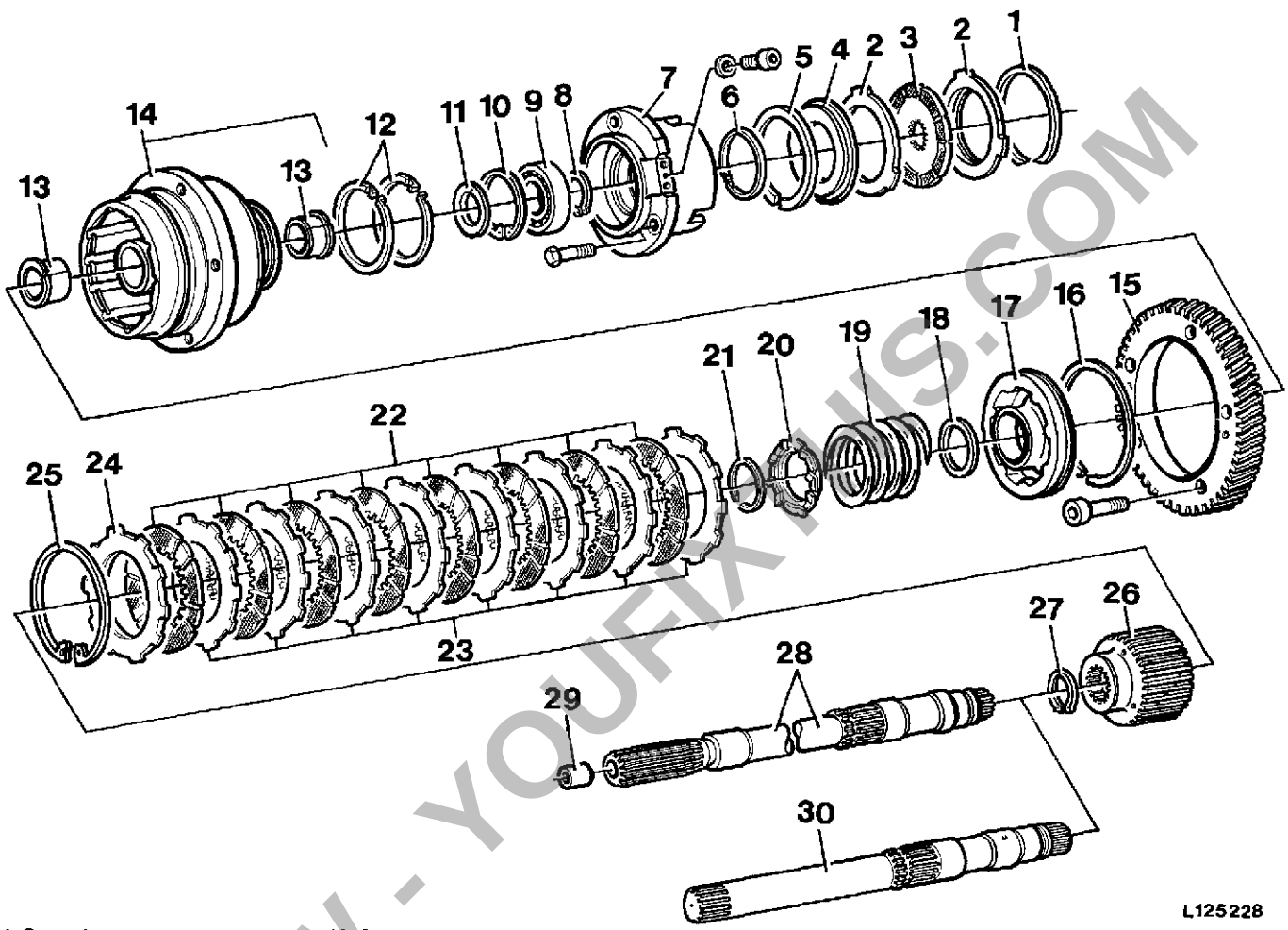
Install new O-ring (A) in groove.



L117244-LB45040AE-010687

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PTO CLUTCH, EXPLODED VIEW



L125228

1–Snap ring
2–Brake disks
3–Brake plate
4–PTO brake piston
5–Seal ring
6–Seal ring
7–Oil manifold
8–Snap ring
9–Ball bearing
10–Snap ring
11–Spacer
12–Seal rings
13–Bushings
14–Clutch drum
15–Ring gear*
16–Seal ring
17–PTO clutch piston
18–Seal ring
19–Compression spring
20–Spring plate
21–Snap ring
22–Internal splined clutch disks (7** or 10*** usad)
23–External splined clutch disks (7** or 10*** used)
24–External splined backing plate
25–Snap ring
26–Clutch hub
27–Snap ring
28–PTO clutch shaft (with collar shift transmission)
29–Bushing (with collar shift transmission)
30–PTO clutch shaft (with synchronized transmission)

* 72 teeth – with 540 rpm PTO (collar shift transmission)
73 teeth – with 540 rpm PTO (synchronized transmission)
63 teeth – with 540/1000 rpm PTO (synchronized transmission)
** – With 540/1000 rpm PTO (synchronized transmission)
*** – With 540 rpm PTO (collar shift and synchronized transmission)

L125228-LB45055AE-010389

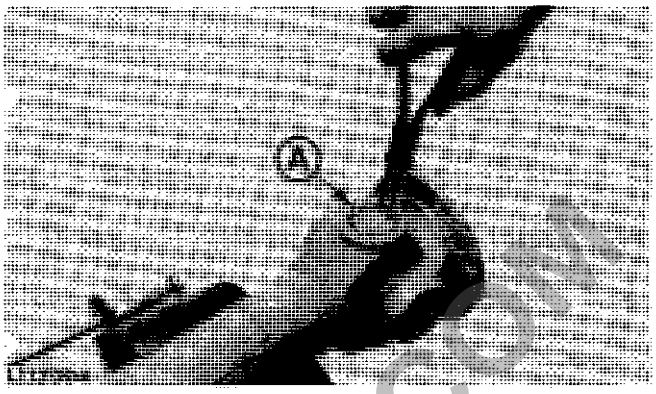
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INSTALLING SNAP RINGS

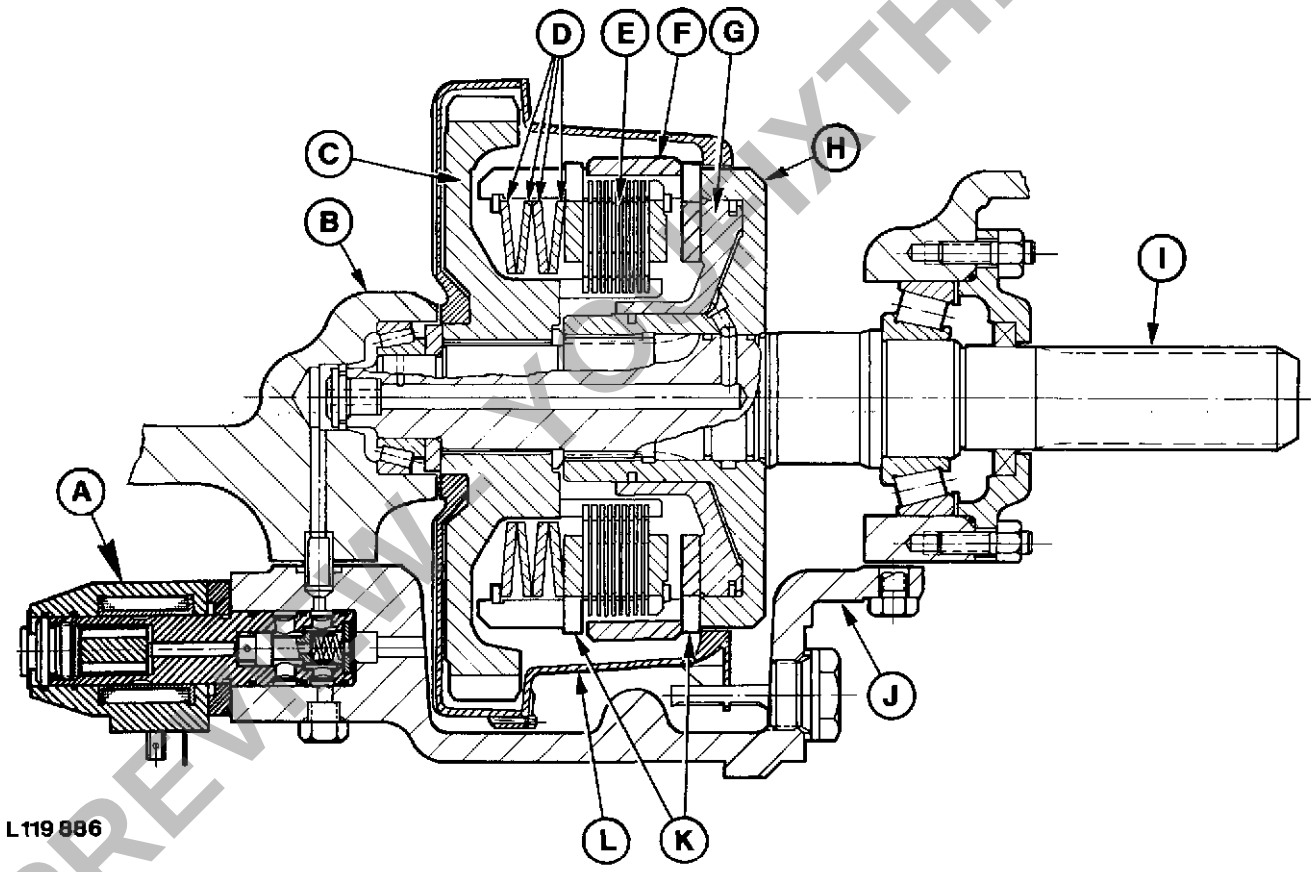
Install remaining snap rings (A).

IMPORTANT: Having completed assembly of drive shaft, thoroughly lubricate universal joints.



L113004-LA95050BE-281185

DISK CLUTCH, SECTIONAL VIEW



L119886

A–Solenoid switch
B–Clutch housing
C–Clutch hub with gear
D–Belleville springs
E–Disk pack
F–Spacer ring
G–Release piston
H–Clutch drum
I–Clutch shaft
J–Oil pan
K–Thrust rings
L–Cover

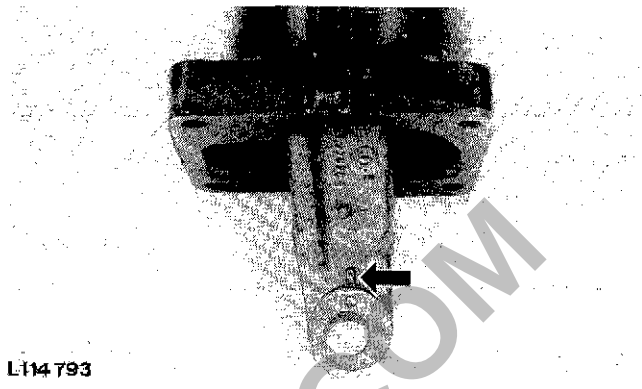
L119886-LB25060AE-010488

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INSTALLING STEERING HOUSING

The side of the yoke marked "R" (see arrow) must face to the right.

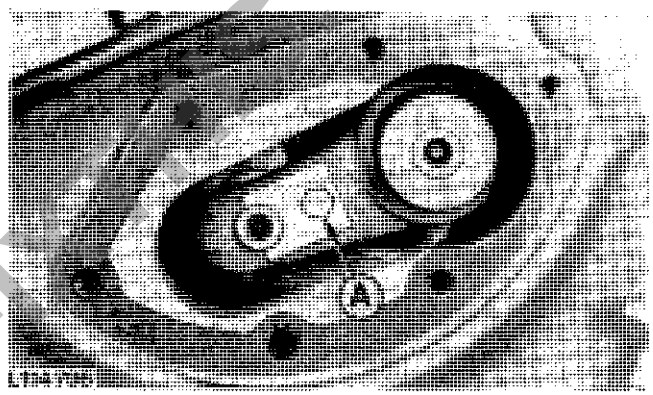


L114793

L114793-LB36020AE-010287

ASSEMBLING YOKE AND STEERING SHAFT

Coat cap screw (A) of steering shaft lock plate with Loctite 270 (L 41476) and tighten to 15 Nm (11 ft-lb). Install steering shaft cover.

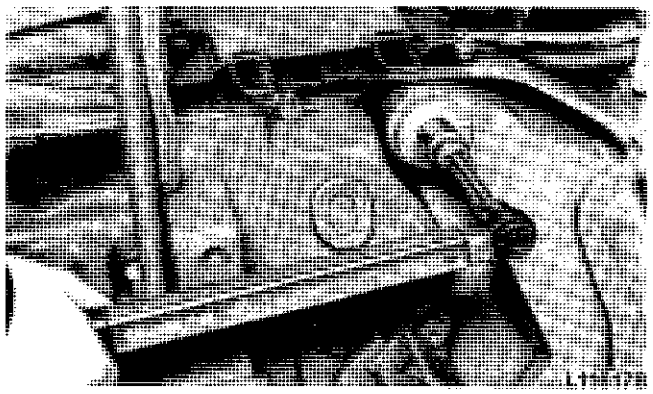


L114796-LB36020AE-010287

INSTALLING STEERING ARM

Tighten steering arm cap screw to 325 Nm (240 ft-lb), then tap the steering shaft arm with a suitable hammer and re-tighten screw to the same torque.

NOTE: Repeat this procedure until no loss of torque is determined.



L116178-LB36015AE-010287

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TORQUES FOR HARDWARE

12 cm³ (0.7 cu.in.) and 23 cm³ (1.4 cu.in.)
HYDRAULIC PUMPS

Piston bore plugs	125 Nm (90 ft-lb)
Inlet valve plugs in pump housing	70 Nm (50 ft-lb)
Outlet valve plugs in pump housing	75 Nm (55 ft-lb)
Filter element plug	125 Nm (90 ft-lb)
Stroke control valve plug	80 Nm (60 ft-lb)
Stroke control valve adjusting screw (lock nut)	60 Nm (45 ft-lb)
Pump cover to pump housing, cap screws	
First stage	20 Nm (14 ft-lb)
Second stage	50 Nm (35 ft-lb)
Pump drive couplers, cap screws or special screws	50 Nm (35 ft-lb)
Pump drive to pump shaft, cap screws	50 Nm (35 ft-lb)
Pump drive shaft to pump shaft, hex. socket screws	50 Nm (35 ft-lb)
Damper to pump drive/vibration damper, hex. socket screws	50 Nm (35 ft-lb)
Hydraulic pump to front axle carrier, cap screws	120 Nm (85 ft-lb)

HYDRPUMP-LB47010AE-010389

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SPECIFICATIONS

	Dimensions of New Parts
O.D. of valve spool at V-packing area	9.96 to 10.00 mm (0.388 to 0.390 in.)
Valve spool spring:	
– Free length	approx. 26 mm (1.02 in.)
– Spring tension at a length of 15 mm (0.59 in.)	210 to 260 N (49 to 58 lb)
Detent spring:	
– Free length	approx. 30 mm (1.18 in.)
– Spring tension at a length of 17 mm (0.7 in.)	170 to 210 N (38 to 46 lb)

SCVS-LB47020AE-010687

TORQUES FOR HARDWARE

Selective control valve to rockshaft manifold, cap screws	20 Nm (14 ft-lb)
End cover to valve housing, hex. socket screws	15 Nm (11 ft-lb)
Rockshaft manifold to bracket, cap screws	50 Nm (35 ft-lb)

SCVS-LB37025BE-000287

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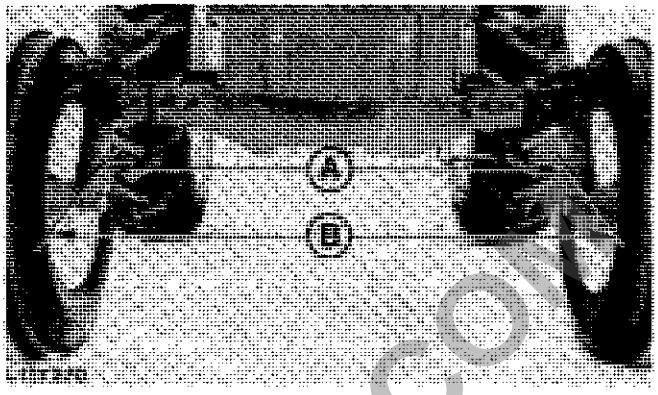
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CHECKING TOE-IN

Measure tread width at front and rear at center line of rim.

Measurement (B) must be 3 to 6 mm (1/8 to 1/4 in.) less than measurement (A).

NOTE: On tractors equipped with front wheel drive toe-in should be 0 to 3 mm (0 to 1/8 in.).



L117270-LB48005AE-010687

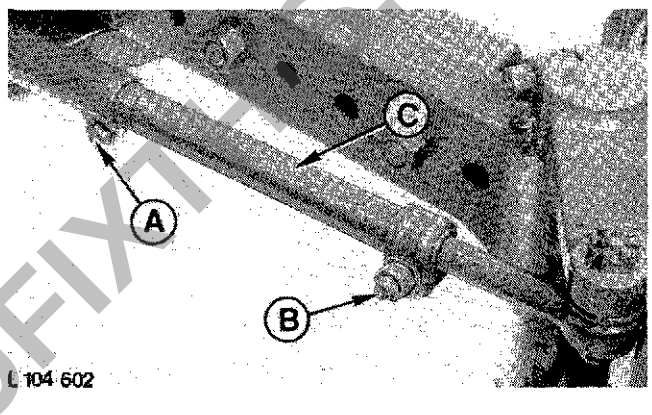
ADJUSTING TOE-IN

NOTE: Adjustment of toe-in must be carried out equally on both tie rods.

Tractors Without Front Wheel Drive

Remove cap screw (B) and loosen cap screw (A). Turn tie rod tube (C) to adjust toe-in.

Tighten cap screw (B) to 90 Nm (65 ft-lb) and cap screw (A) to 55 Nm (40 ft-lb).

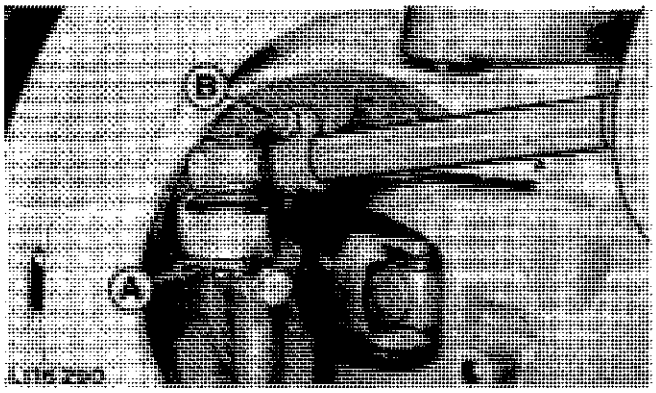


L104602

Tractors With Front Wheel Drive

Remove slotted nut (A) and lift off tie rod. Loosen cap screw (B) and turn tie rod end to adjust toe-in.

Tighten slotted nut (A) to 90 Nm (65 ft-lb) and cap screw (B) to 55 Nm (40 ft-lb).

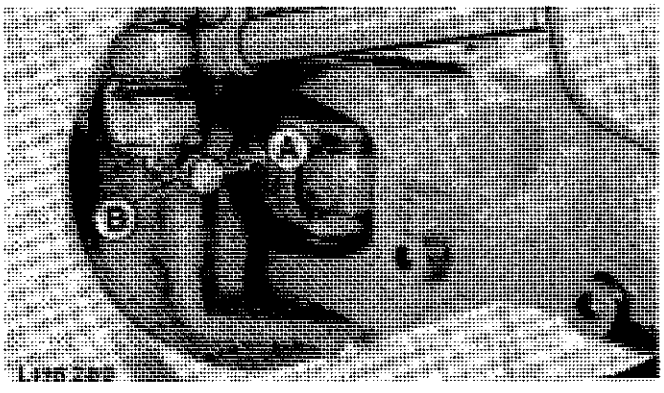


L104602,L116290-LB48005AE-010389

LIMITING FRONT WHEEL STEERING ANGLE (Tractors with Front Wheel Drive)

With full steering lock and horizontal front axle there must be clearance of approx. 15 mm (0.6 in.) between tire and side of tractor.

A–Steering angle adjusting screw
B–Lock nut



L116289-LB48005AE-010389

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