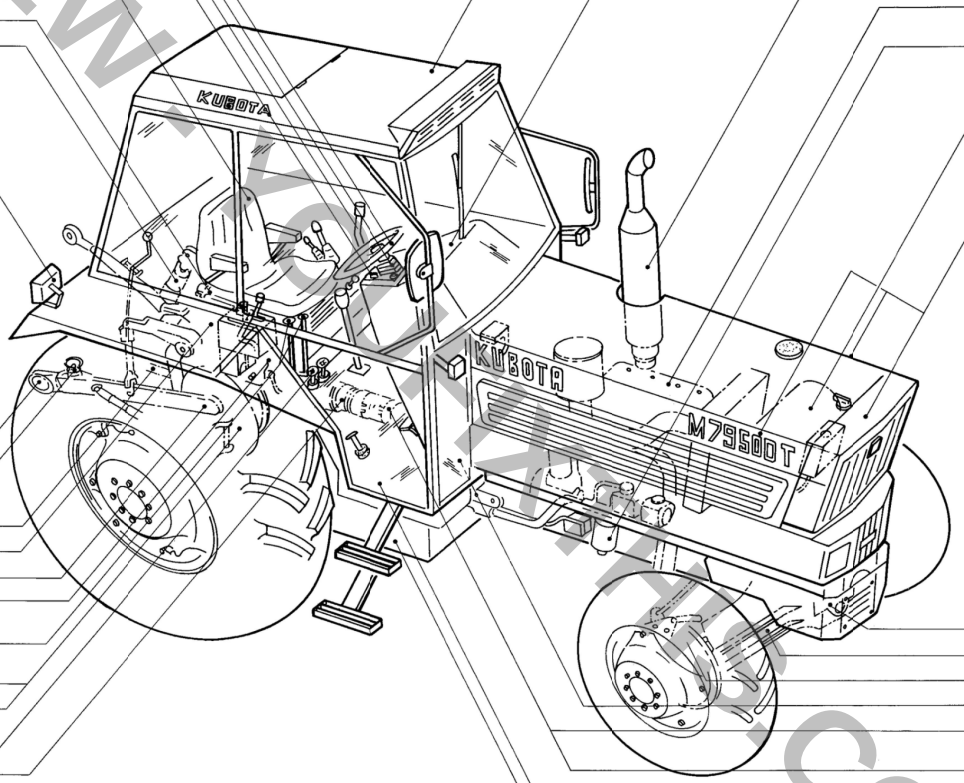
F FEATURES



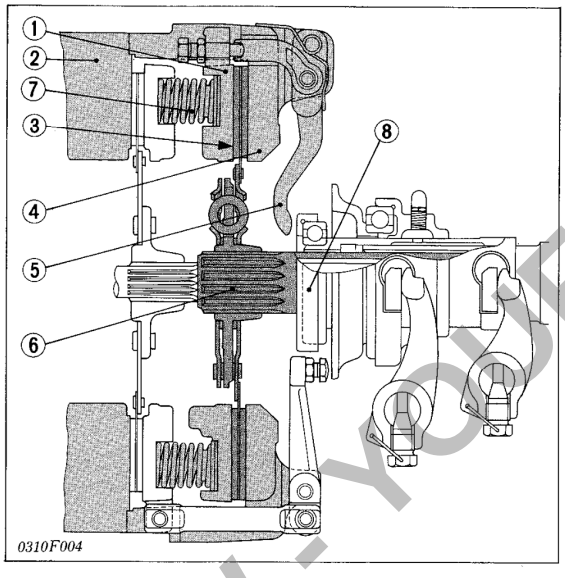
- Hydrostatic power steering
- Tilt steering wheel
- Conveniently located control levers
- Key switch shut-off
- Oil dampened, fore-aft/vertical & rolling adjustable deluxe seat
- Remove hydraulic quick coupler (Double breakaway)
- Lift rod with float setting
- Plough light
- Heavy duty 3-point hitch
- Telescoping lower link [M6950(DT) · M7950(DT)]
- Two lever clutch switchable PTO
- 3-Point hitch lowering speed adjustment
- Lower link draft sensing [M6950(DT) · M7950(DT)]
- Single/Double acting switchable remove hydraulic control valve
- Double acting remote control valve with floating position
- Positive, wet disc brakes
- Hydraulically actuated wet disc brakes [M6950(DT) · M7950(DT)]
- Front wheel differential lock (4WD ONLY)
- Hydraulic independent PTO clutch [M6950(DT) · M7950(DT)]
- Quiet and comfortable cabin interior
- Safety cabin pass O.E.C.D. strength tests
- Low noise integral type cabin
- Special support system for comfortable driving with low vibrations
- "Easy checker" for daily inspection
- Safety muffler
- Fuel efficient, high torque engine Low, noise, low vibration design
- Cartridge type hydraulic oil filter
- Dry type air cleaner with dauble element
- 3-direction opening hood for easy inspection
- Center drive system
- Tough, durable one-piece front axle case
- Fully sealed bevel gear drive system
- Heavy duty large diameter clutch
- Fully synchronized speed transmission with synchronized reverse feature
- 12 forward speeds and 4 reverse speeds
- Comfortable wide foot space
- Large capacity fuel tank

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1 CLUTCH

Models M4950 (DT) and M5950 (DT) are equipped with a dry single-plate type, dual clutch for the travelling and PTO system.
Models M6950 (DT) and M7950 (DT) are equipped with a dry single-plate type for the travelling system and wet multi-plates type for the PTO system.
The travelling and PTO clutches can be operated independently by the travelling clutch pedal and the PTO clutch lever.

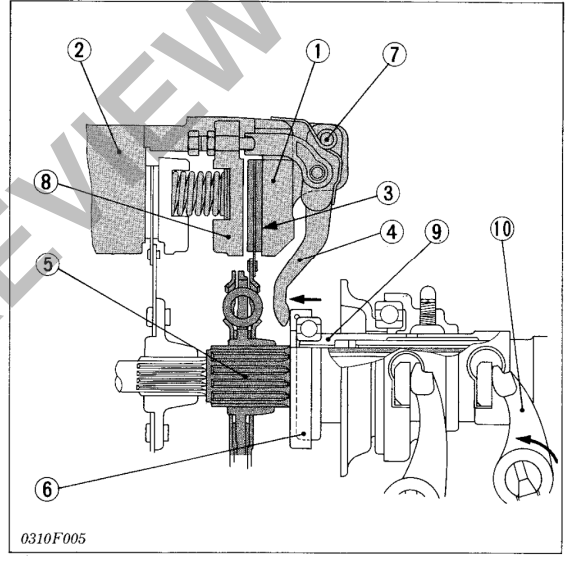
[1] DRY SINGLE-PLATE TYPE, DUAL CLUTCH [M4950(DT)·M5950(DT)]



■ Travelling Clutch "Engaged"

When the travelling clutch pedal is not depressed, the clutch release bearing (8) and the release levers (5) do not contact each other.
Accordingly the pressure plate (1) is tightly pressed toward the clutch cover (4) by the tension of the pressure springs (7).
As a result, rotation of the flywheel (2) is transmitted from the clutch disc spline to the transmission through the 1st shaft (6) due to the frictional force among the clutch cover (4), clutch disc (3) and pressure plate (1).

(1) Pressure Plate
(2) Flywheel
(3) Clutch Disc
(4) Clutch Cover
(5) Release Lever
(6) 1st Shaft
(7) Pressure Spring
(8) Clutch Release Bearing

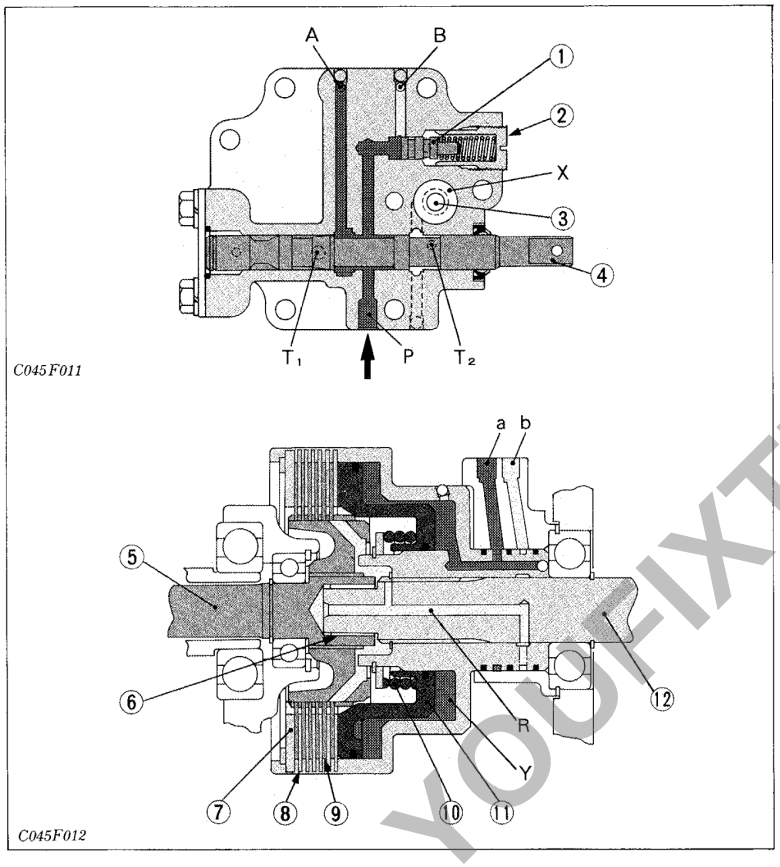


■ Travelling Clutch "Disengaged"

Depressing the travelling clutch pedal pulls the clutch rod to rotate the clutch control shaft.
When the control lever shaft rotates, the release fork (10) pushes the release hub (9) toward the flywheel (2) and the clutch release bearing (6) presses the release levers (4).
The release levers push the pressure plate (8) with the clevis pins (7) functioning as a fulcrum.
The frictional force among the clutch cover (1), clutch disc (3) and pressure plate (8) disappears. Therefore, rotation of the flywheel (2) is not transmitted to the clutch disc (3), stopping the rotation of the 1st shaft (5).

(1) Clutch Cover
(2) Flywheel
(3) Clutch Disc
(4) Release Lever
(5) 1st Shaft
(6) Clutch Release Bearing
(7) Clevis Pin
(8) Pressure Plate
(9) Release Hub
(10) Release Fork

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(1) Poppet
(2) Relief Valve
(3) Brake Piston
(4) Spool
(5) PTO Propeller Shaft
(6) Bushing
(7) Pressure Plate
(8) Drive Plates
(9) Clutch Discs
(10) Spring
(11) Clutch Piston
(12) PTO Clutch Shaft

A : "A" Port
B : "B" Port
a : "a" Port
b : "b" Port
P : "P" Port (From Hydraulic Pump)
T1 : "T1" Port (To Transmission Case)
T2 : "T2" Port (To Transmission Case)
R : Passage "R"
X : "X" Chamber
Y : "Y" Chamber

■ PTO Clutch "Engaged"

1. When the PTO clutch lever is operated to the "ON" position, the clutch lever linkage forces the spool (4) to shift to the left, thereby, a hydraulic circuit from the "P" port to the "A" port is formed and a hydraulic circuit from the "P" port to the "X" chamber above the brake piston (3) is closed. At the same time, as the "X" chamber is opened to the "T2" port, the brake piston (3) is forced to return into the "X" chamber by the spring (13) (See page M.1-7, fig. C045F010) and oil in the "X" chamber flows into the transmission case after passing through the "T2" port.
2. Oil delivered by the hydraulic pump flows from the "P" port into the "a" port after passing through the "A" port.
3. As the pressure-fed oil is led into the "Y" chamber, the hydraulic pressure actuates the clutch piston (11).
   Accordingly, the clutch discs (9), drive plates (8) and pressure plate (7) are depressed each other, and rotation of the PTO propeller shaft (5) is transmitted to the PTO clutch shaft (12).
4. At the same time, the pressure in the hydraulic circuit becomes high.
   When it exceeds the relief setting pressure, the pressure-fed oil forces the poppet (1) of the relief valve (2) to open and flows from the "B" port into the "b" port.
5. This oil is led into the passage "R" provided in the PTO clutch shaft (12), lubricates the clutch discs (9) and bushing (6), and then flows into the transmission case.

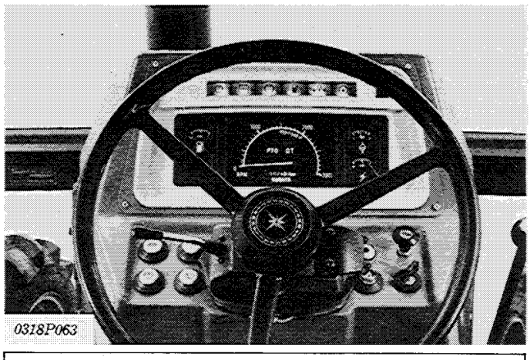
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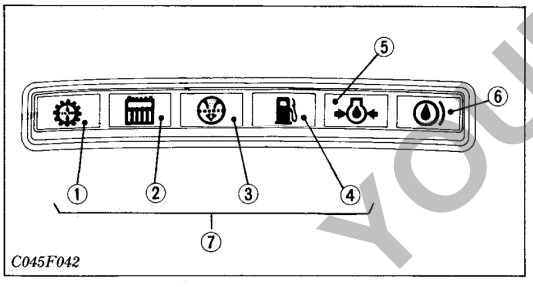
8 ELECTRICAL SYSTEM

These tractors have the following three major electric circuit systems.

* Easy checker System
* Lighting System
* Engine Electrical System

[2] EASY CHECKER

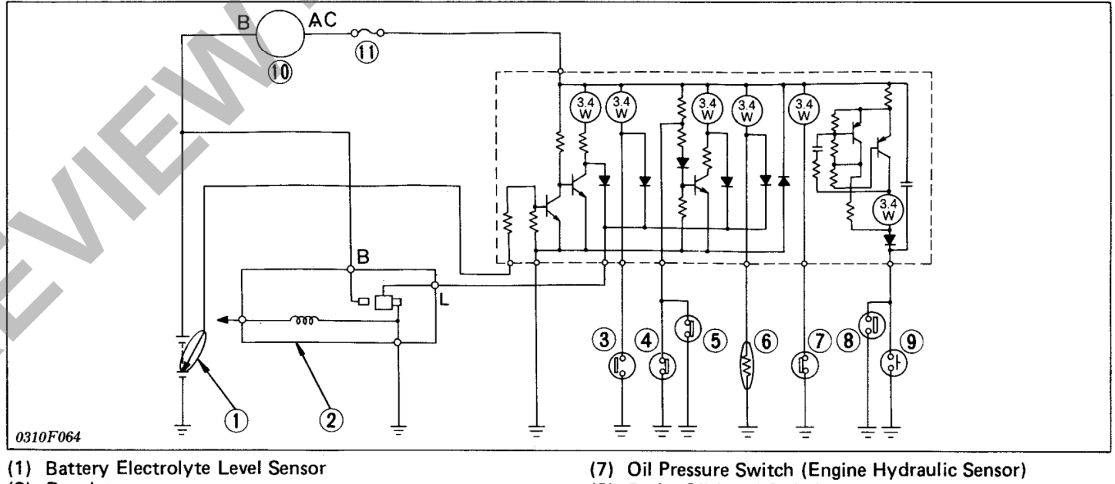




The operator must check the tractor before and during operation.
To facilitate checking, the easy checker-combination of lamps on the panel board is provided.

■ Indication Item

(1) Alarm against clogging in hydraulic oil filter.
(2) Alarm against battery electrolyte level drop
Lights up when the electrolyte level drops to the "LOW LEVEL".
(3) Alarm against clogging in air cleaner.
(4) Alarm against fuel level drop.
Lights up when remaining fuel amount is less than approx. 10ℓ (2.6 U.S. gal 2.2 Imp. gal).
(5) Alarm against the low engine oil pressure.
(6) Alarm against the low brake oil level or parking brake operation [equipped only
(7) Charge circuit not operating
Although exclusive-use lamp is not equipped, 4 lamps ((1) to (4)) light up simultaneously.



(1) Battery Electrolyte Level Sensor
(2) Regulator
(3) Air Cleaner Sensor
(4) Vacuum Switch
(5) Thermostat Switch
(6) Fuel Limit Sensor
(7) Oil Pressure Switch (Engine Hydraulic Sensor)
(8) Brake Oil Level Switch
(9) Parking Brake Switch
(10) Main Switch
(11) Fuse

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SPECIFICATIONS

Model			M4950	M4950DT
Maximum P.T.O. power			46ps, 34kW	
Engine	Model		S2800	
	Type		Vertical, water-cooled, 4-cycle diesel engine	
	Number of cylinders		6	
	Total displacement		2791cm³ (170 cu.in.)	
	Bore and stroke		85 x 82mm (3.3 x 3.2 in.)	
	Engine rated output		51HP, 38.0kW	
	Rated revolution		2600 rpm	
	Maximum torque		17.9kgf·m (175.5N·m, 129.5ft-lbs)/1200 rpm	
	Battery		12V, 150Ah	
	Fuel		Diesel fuel No. 1-D [below −10°C (15°F)] Diesel fuel No. 2-D [above −10°C (15°F)] (ASTM D975)	
	Fuel tank capacity		85ℓ (22.5 U.S. gals, 18.7 Imp. gals)	
	Engine crankcase capacity		13.7ℓ (3.6 U.S. gals, 3.0 Imp. gals)	
	Engine coolant capacity		8.2ℓ (2.2 U.S. gals, 1.8 Imp. gals)	
Dimensions	Overall length		3665mm (144.3 in.)	
	Overall width		1800mm (70.9 in.)	
	Height to top of muffler		2490mm (98.0 in.)	
	Wheel base		2055m (80.9 in.)	2090mm (82.3 in.)
	Tread	Front	1420 to 1920mm (55.9 to 75.6 in.)	1420, 1520mm (55.9, 59.8 in.)
		Rear	1420 to 2020mm (55.9 to 79.5 in.)	
	Minimum ground clearance		450mm (17.7 in.)	355mm (14.0 in.)
Weight			2600kg (5732 lbs.)	2900 (6393 lbs.)
Travelling system	Tire size	Front tires	7.5–16	9.5/9–24
		Rear tires	12.4/11–32	
	Clutch		Dry, single plate [285mm (11.2 in.)]	
	Steering		Full hydrostatic power steering	
	Transmission		Full synchromesh. 12 forward and 4 reverse	
	Brake	Travelling	Wet, multiple discs (mechanical and hydraulic)	
		Parking	Connected with the travelling brake	
	Differential		Bevel gears (with differential lock)	
Hydraulic system	Hydraulic control system		Position, draft and mixed control	
	Pump-up capacity		35ℓ/min (9.2 U.S. gals/min, 7.7 Imp. gals/min)	
	Three-point hitch		Category I & II	
	Maximum lifting force		2000kg (4409 lbs) at lower link end 1500kg (3307 lbs) at 610mm (24 in.) behind lift point	
PTO	Independent clutch		Dry, single plate [257mm (10.8 in.)]	
	Live PTO	Direction of turning	Clockwise, viewed from tractor rear	
		PTO speed	540 rpm at 2194 engine rpm 1000 rpm at 2530 engine rpm) 6 spline shaft	
	Ground PTO	Direction of turning	Clockwise, viewed from tractor rear	
Traction system			Swing drawbar, adjustable in direction	

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[4] TIGHTENING TORQUES

1) Tightening Torques for Important Bolts and Nuts

Section	Bolts and Nuts	Tightening Torque		
		N·m	kgf·m	ft-lbs
Clutch	Clutch mounting bolt [M4950(DT) · M5950(DT)] [M6950(DT) · M7950(DT)]	23.5 to 27.5 48.1 to 55.9	2.4 to 2.8 4.9 to 5.7	17.4 to 20.3 35.4 to 41.2
	Clutch release fork setting bolt	166.7 to 186.3	17.0 to 19.0	123.0 to 137.4
Transmission	Counter shaft staking nut	245.2 to 294.2	25 to 30	180.8 to 217.0
	Reverse shaft setting bolt	48.1 to 55.9	4.9 to 5.7	35.4 to 41.2
	Differential bevel gear UBS bolt	142.2 to 161.8	14.5 to 16.5	104.9 to 119.3
	Differential bevel gear UBS nut	103 to 117	10.5 to 12.0	76.0 to 86.8
	Differential drive pinion staking nut	274 to 343	28 to 35	203 to 253
	Brake cam plate mounting nut [M4950(DT) · M5950(DT)]	48.1 to 55.9	4.9 to 5.7	35.4 to 41.2
	Speed change cover mounting bolt	29.4 to 34.3	3.0 to 3.5	21.7 to 25.3
P.T.O. Case	P.T.O. bearing support mounting bolt	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
	P.T.O. shaft staking nut	245.2 to 294.2	25.0 to 30.0	180.8 to 217.0
Rear Axle Case	Rear axle shaft staking nut	392 to 539	40 to 55	289 to 389
	Planetary gear support mounting bolt [M6950(DT) · M7950(DT)]	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
	Rear axle case mounting bolt and nut	123.6 to 147.1	12.6 to 15.0	91.1 to 108.5
Front Axle [2WD]	Front axle through bolt	196.1 to 225.6	20 to 23	144.7 to 166.4
	Tie-rod end slotted nut		See page S.5-4	
	Front axle support setting bolt	77.5 to 90.2	7.9 to 9.2	57.1 to 66.5
	Knuckle arm mounting bolt and nut	123.6 to 147.1	12.6 to 15.0	91.1 to 108.5

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[5] TROUBLE-SHOOTING

TRAVELING CLUTCH **[M4950(DT) · M5950(DT)] : Dry Single-Plate Type Dual Clutch**
[M6950(DT) · M7950(DT)] : Dry Single-Plate Type Clutch

Symptom	Probable Cause	Solution	Reference Page
Clutch Drags	• Clutch pedal play excessive	Adjust	S.1-1,7
	• Clutch release lever improperly adjusted	Adjust	S.1-2,8
	• Clutch disc boss spline sticking or rusted	Replace or Remove rust	
	• Dust on clutch disc generated from clutch disc facing	Remove dust	
	• Grease or oil on clutch disc facing	Replace	
	• Clutch disc or pressure plate warped	Replace	S.1-6,11
	• Spline hub bearing sticking or worn [M6950(DT) · M7950(DT)]	Replace	
Clutch Slips	• Clutch pedal play too small	Adjust	S.1-1,7
	• Clutch release lever improperly adjusted	Adjust	S.1-2,8
	• Clutch disc excessively worn	Replace	S.1-4,9
	• Grease or oil on clutch disc facing	Replace	
	• Clutch disc or pressure plate warped	Replace	S.1-6,11
	• Pressure spring weaken or broken	Replace	
Chattering	• Grease or oil on clutch disc facing	Replace	
	• Clutch disc or pressure plate warped	Replace	S.1-6,11
	• Clutch disc boss spline worn or sticking or rusted	Replace or Remove rust	S.1-4,10
	• Pressure plate or flywheel face cracked or scored	Replace	
	• Clutch release lever unequally adjuted	Adjust	S.1-2,8
	• Pressure spring strength uneven or pressure spring broken	Replace	S.1-5,10
Rattle During Running	• Clutch disc boss spline worn	Replace	S.1-4,10
	• Release bearing worn or sticking	Replace	
	• Spline hub bearing worn or sticking [M6950(DT) · M7950(DT)]	Replace	
	• Torsion spring on clutch disc weaken or broken	Replace	
	• Lever plate return spring weaken or broken [M6950(DT) · M7950(DT)]	Replace	
Clutch Squeaks	• Release bearing sticking or dry	Replace or Lubricate	
	• Spline hub bearing sticking or dry [M6950(DT) · M7950(DT)]	Replace or Lubricate	

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[3] LUBRICANTS

<table>
<tr><th rowspan="2">Place</th><th colspan="3">Capacity</th><th rowspan="2">Lubricants</th></tr>
<tr><th>M4950(DT)</th><th>M5950(DT)</th><th>M6950(DT)
M7950(DT)</th></tr>
<tr><td>Engine Crankcase</td><td>13.7ℓ
14.5 U.S.qts.
12.05 Imp.qts.</td><td>9.8ℓ
10.4 U.S.qts.
8.62 Imp.qts.</td><td>13.2ℓ
13.9 U.S.qts.
11.61 Imp.qts.</td><td>Engine oil: API Service CC or CD
Above 25°C (77°F) SAE 30 or 10W–30
0 to 25°C (32 to 77°F) SAE 20 or 10W–30
Below 0°C (32°F) SAE 10W or 10W–30</td></tr>
<tr><td>Transmission</td><td colspan="3">53ℓ
56.0 U.S.qts.
46.6 Imp.qts.</td><td>The oil used to lubricate the transmission is also used as hydraulic fluid. To insure proper operation of the hydraulic system and complete lubrication of the transmission, it is important that a multi-grade transmission fluid is used in this system. The following are recommended oils, by brand name, that should be used in the transmission and hydraulic system.
Atlantic Richfield (Arco) — Arco Tractor Fluid
Chevron — Tractor Hydraulic Fluid
Exxon — Torque Fluid 56, Unifarm
Penzoil — Hydra-Trans and Wet Br.
Phillips — H.T. Fluid
Shell — Donax T-4, TD, TT
Texaco — T.D.H. Oil
Union — Hydraulic/Tractor Fluid
Valvoline — Uni-Trac
Gulf — Universal Fluid 425, 350
Mobil — Mobil Fluid 423, 422
Norol — Norol transmisjonsolje JD
Castrol — Castrol Agricastrol MD</td></tr>
<tr><td>Power Steering System</td><td colspan="3">2.8ℓ
3.0 U.S.qts.
2.46 Imp.qts.</td><td>SAE10 or SAE20
ATF (Automatic Transmission Fluid, Dextron-2)</td></tr>
<tr><td>Hydraulic Brake</td><td colspan="3">0.3ℓ
0.3 U.S.qts.
0.26 Imp.qts.</td><td>Esso — NUTO HP15 / ATF Dextron II
Turbine oil 32
Regular type multi-purpose straight mineral oil
Mobile — DTE oil #32
Texaco — Regal oil #32
Chevron — GST oil #32
Teresso — Oil #32</td></tr>
<tr><td>Front Differential Gear Case [4WD]</td><td colspan="2">6ℓ
6 U.S.qts.
5.3 Imp.qts.</td><td>8ℓ
8 U.S.qts.
7.0 Imp.qts.</td><td>Gear oil SAE 80 or SAE 90</td></tr>
<tr><td>Front Axle Bevel Gear Case (right & left) [4WD]</td><td colspan="2">0.6ℓ
0.6 U.S.qts.
0.53 Imp.qts.</td><td>0.7ℓ
0.7 U.S.qts.
0.62 Imp.qts.</td><td>Gear oil SAE 80 or SAE 90</td></tr>
<tr><td>Front Wheel Case (right & left) [4WD]</td><td colspan="2">2.5ℓ
2.6 U.S.qts.
2.20 Imp.qts.</td><td>3.5ℓ
3.7 U.S.qts.
3.08 Imp.qts.</td><td>Gear oil SAE 80 or SAE 90</td></tr>
<tr><td>Front Wheel Hub [2WD]</td><td colspan="3">Moderate amount (2 spots)</td><td rowspan="10">SAE lithium based grease</td></tr>
<tr><td>Front Axle Support [2WD]</td><td colspan="3">Moderate amount (1 spot)</td></tr>
<tr><td>Front Axle Bracket</td><td colspan="3">Moderate amount (1 spot)</td></tr>
<tr><td>Knuckle Shaft [2WD]</td><td colspan="3">Moderate amount (2 spots)</td></tr>
<tr><td>Steering Lever</td><td colspan="3">Moderate amount (1 spor)</td></tr>
<tr><td>Power Steering Cylinder Bracket</td><td colspan="3">Moderate amount (2 spots)</td></tr>
<tr><td>Pedal Shaft Support</td><td colspan="2">Moderate amount (1 spot)</td><td></td></tr>
<tr><td>Top Link Holder</td><td colspan="2">Moderate amount (2 spots)</td><td></td></tr>
<tr><td>Lift Rod</td><td colspan="3">Moderate amount (3 spots)</td></tr>
<tr><td>Battery Terminal</td><td colspan="3">Moderate amount (2 spots)</td></tr>
<tr><td>Clutch Release Hub</td><td colspan="3">Moderate amount (1 spot)</td></tr>
</table>

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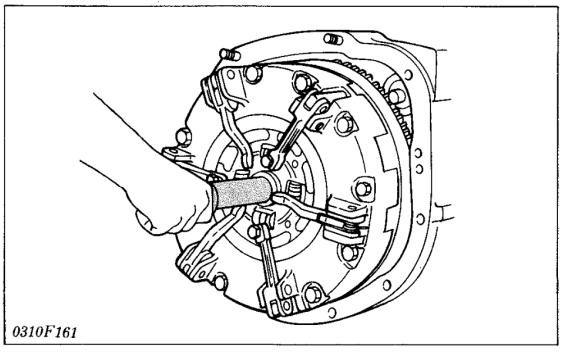
[7] MAINTENANCE CHECK LIST

Service Interval	Check Points	Reference Page
Every 50 Hours	Inject grease.	S.G-35,36
Every 150 Hours	Change the engine oil [M4950(DT)].	S.G-37
	Replace the engine oil filter cartridge [M4950 (DT)].	S.G-37
	Check the clutch pedal play.	S.G-37
	Check the brake pedal play.	S.G-38
	Bleed the brake system [M6950(DT)·M7950(DT)].	S.4-3,9
	Check the parking brake lever play [M6950(DT)·M7950(DT)].	S.G-38
	Check the PTO clutch control lever play [M4950(DT)·M5950(DT)].	S.G-38
	Check the toe-in.	S.G-39
	Check the battery electrolyte level.	S.G-39
Every 200 Hours	Change the engine oil [except M4950(DT)].	S.G-39
	Replace the hydraulic oil filter cartridge.	S.G-40
	Clean the magnetic filter.	S.G-40
	Check the fan belt tension.	S.G-40
Every 400 Hours	Replace the engine oil filter cartridge [except M4950(DT)].	S.G-40
	Inject grease to the front wheel hub bearing [2WD].	S.G-41
	Replace the fuel filter cartridge [M4950(DT)].	S.G-41
	Replace the fuel filter element [except M4950(DT)].	S.G-41
	Change the power steering oil.	S.G-41
Every 600 Hours	Change the transmission oil.	S.G-42
	Change the front axle oil [4WD].	S.G-42,43
	Check the front axle rocking force [4WD].	S.G-43
	Change brake oil.	S.4-1
Every 800 Hours	Clean the engine cooling system.	S.G-44
	Check the valve clearance.	—
	Check the pressure of fuel injection nozzle.	—
Every Year	Replace the air cleaner element.	S.G-45
Every 2 Years	Inject grease to power steering hydraulic cylinder bearing.	S.G-45
	Change the rubber hoses.	S.G-45,46
	Replace the piston of the master cylinder [M6950(DT)·M7950(DT)].	
	Replace the piston of equalizer [M6950(DT)·M7950(DT)].	
	Replace the brake seal 1 and 2 [M6950(DT)·M7950(DT)].	S.4-13,14

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DISASSEMBLY AND ASSEMBLY


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Remove Clutch

1. Insert the clutch center tool. (Code No: 07916-53041)
2. Remove the clutch assembly.

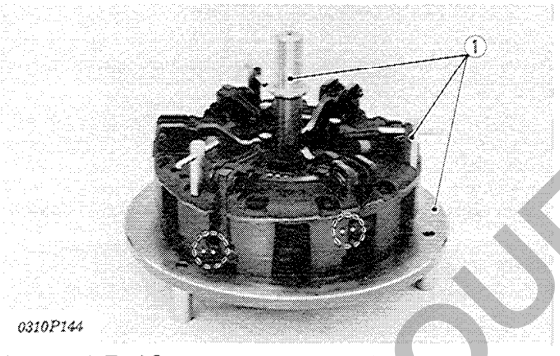
(When reassembling)

- Apply molybdenum disulfide (Three Bond 1901 or equivalent) to the splines of the clutch disc boss.

Tightening torque	Clutch mounting bolt	23.5 to 27.5 N·m 2.4 to 2.8 kgf·m 17.4 to 20.3 ft-lbs

■ **NOTE:**

- Do not allow grease and oil on the clutch disc facing.
- Assemble the clutch disc with the shorter hub toward the flywheel.

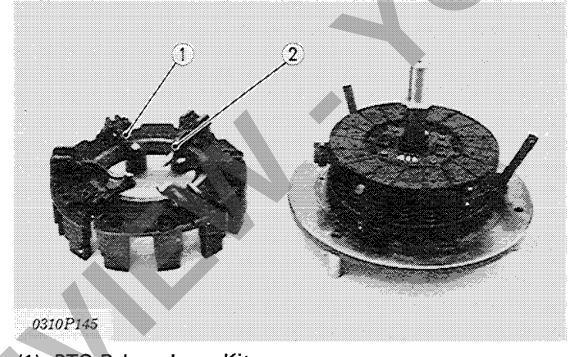


0310P144

(1) Clutch Tool Set

Mounting Clutch on Clutch Tool Set

1. Put the parting marks on the clutch cover and pressure plates. (Shown in the photograph.)
2. Mount the clutch on the clutch tool set (1). (Code No: 07916-90091)



0310P145

(1) PTO Release Lever Kit
(2) Travelling Release Lever Kit

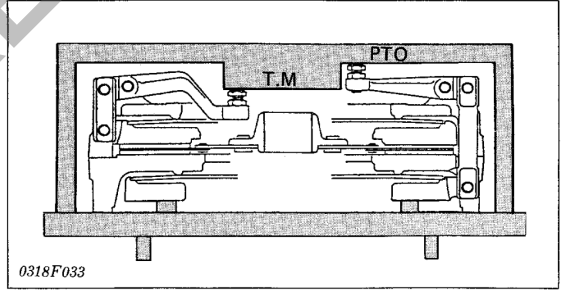
Disassembly Clutch

1. Draw out the clevis pins from PTO release lever kits (1).
2. Loosen the tightening bolts, and remove the clutch cover, clutch disc, pressure plates and pressure springs.

(When reassembling)

■ **IMPORTANT:**

- When assembling the clutch cover and the pressure plates, be sure to align the marks to insure proper dynamic balance.



0318F033

- Checking the release levers height
  a) Fasten the clamping bolts after setting each parts, using the center tool.
  b) Draw in the clevis pins, and pull off the center tool.
  c) Adjust the travelling release lever height by means of T.M side of the release lever gauge and the PTO release lever height by the PTO side of release lever gauge. This adjustment allows the release levers keeping the constant height from the flywheel.

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TRANSMISSION (Continued)

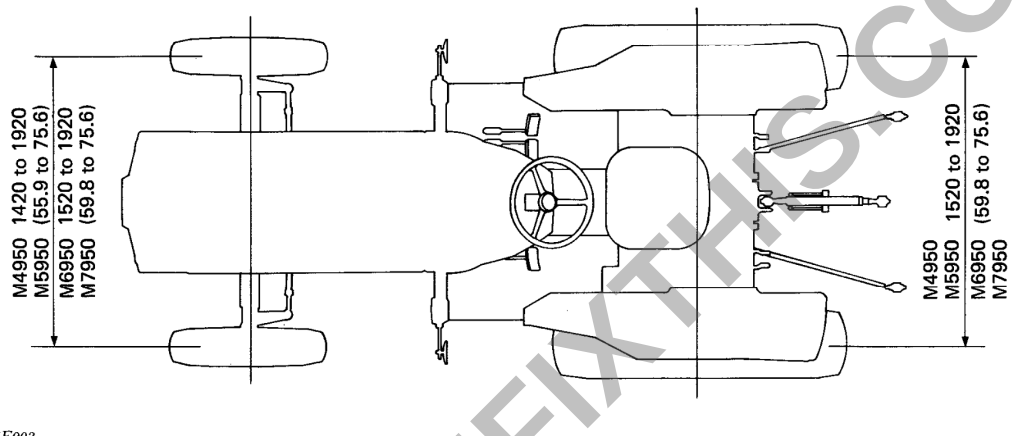
Item		Factory spec.	Allowable limit
PTO Propeller Shaft to Bushing	Clearance	0.075 to 0.148mm 0.00295 to 0.00583 in.	0.3mm 0.012 in.
PTO Propeller Shaft	O.D.	24.964 to 24.985mm 0.98284 to 0.98366 in.	—
Bushing	I.D.	25.060 to 25.112mm 0.98661 to 0.98866 in.	—
Synchronizer Ring to Gear	Side Clearance	—	0.35mm 0.0138 in.
	Contact Condition on Taper Section	—	More than 80%
Synchronizer Ring to Outer Ring	Recessing	Less than 0.1mm 0.004 in.	2.0mm 0.079 in.
Bevel Pinion Shaft Only	Turning Torque (M4950(DT) M5950(DT))	0.98 to 1.47 N·m 0.10 to 0.15 kgf·m 0.72 to 1.08 ft-lbs	—
	Turning Torque (M6950(DT) M7950(DT))	0.98 to 1.96 N·m 0.10 to 0.20 kgf·m 0.72 to 1.45 ft-lbs	—
Adjusting Collar 1	Thickness	1.00mm, 0.0394 in. 1.50mm, 0.0591 in. 1.70mm, 0.0669 in. 1.75mm, 0.0689 in. 1.80mm, 0.0709 in. 1.90mm, 0.0748 in. 2.00mm, 0.0787 in. 2.10mm, 0.0827 in. 2.20mm, 0.0866 in. 2.25mm, 0.0886 in. 2.30mm, 0.0906 in.	— — — — — — — — — — —
Bevel Pinion Shaft and Differential Assembly	Turning Torque (M4950(DT) M5950(DT))	2.0 to 2.9 N·m 0.20 to 0.30 kgf·m 1.45 to 2.17 ft-lbs	—
	Turning Torque (M6950(DT) M7950(DT))	2.0 to 3.4 N·m 0.20 to 0.35 kgf·m 1.45 to 2.53 ft-lbs	—
Adjusting Shim	Thickness	0.1mm, 0.004 in. 0.3mm, 0.012 in. 0.5mm, 0.020 in.	— — —
Bevel Pinion Shaft to Bevel Gear	Backlash	0.20 to 0.30mm 0.0079 to 0.0118 in.	0.4mm 0.016 in.
Differential Lock Shifter	Movement	7.0 to 7.5mm 0.276 to 0.295 in.	—

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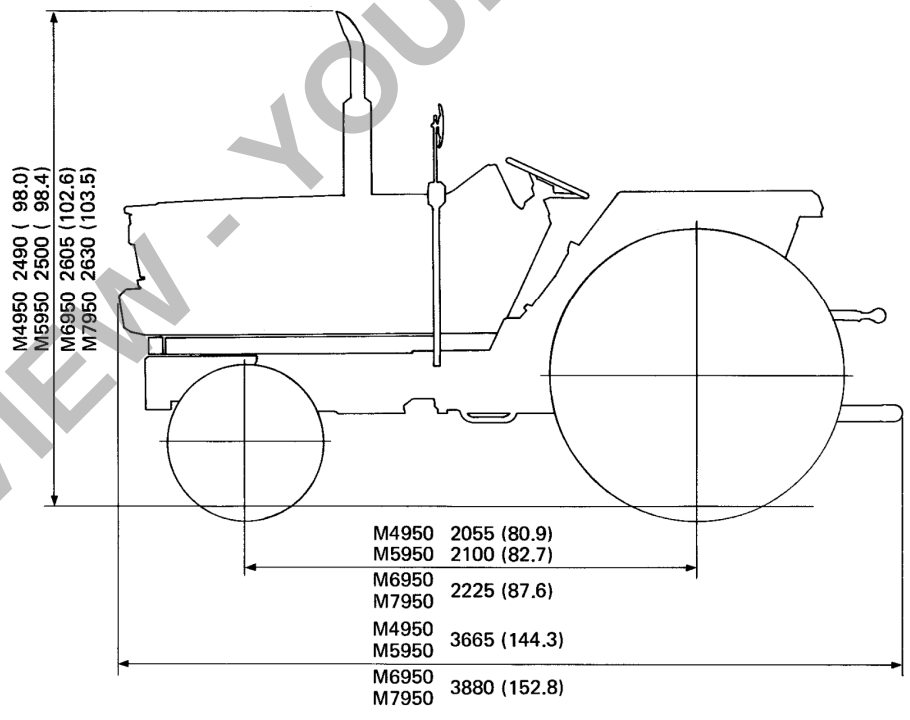
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[M4950 · M5950 · M6950 · M7950]

Unit: mm (in.)



C045F003



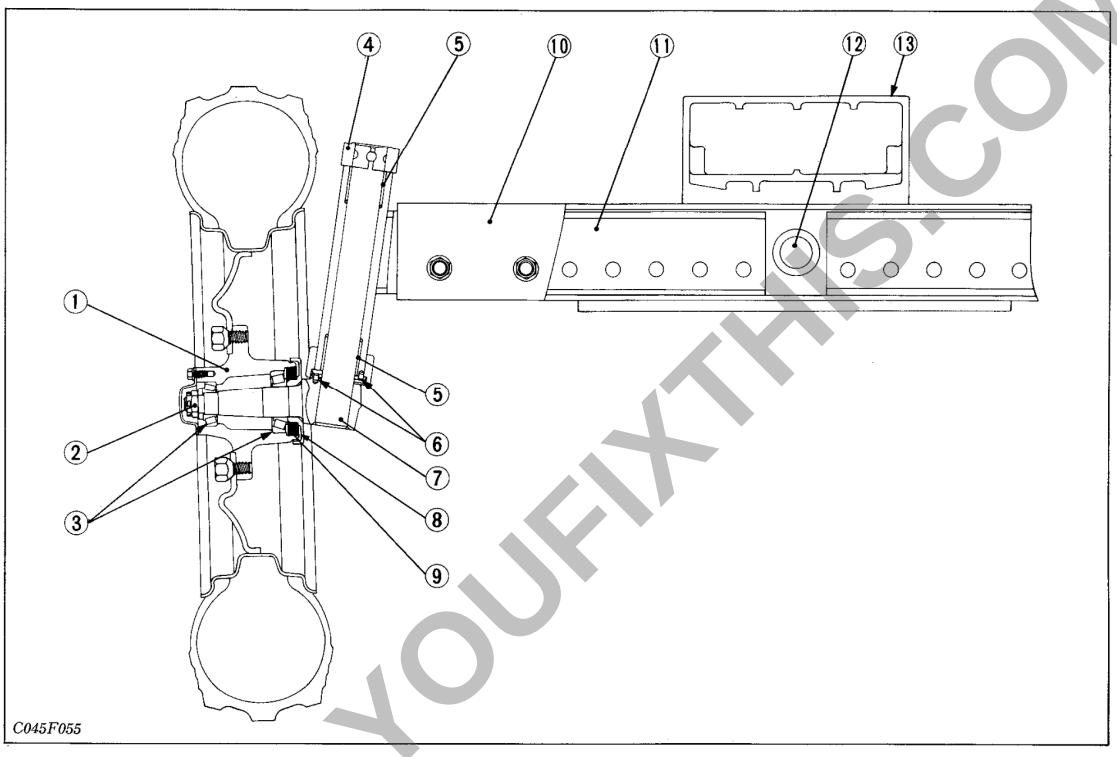
C045F002

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[2] STRUCTURE

[TWO WHEEL DRIVE TYPE]



(1) Front Wheel Hub
(2) Slotted Nut
(3) Taper Roller Bearings
(4) Knuckle Arm
(5) Knuckle Shaft Bushings
(6) Knuckle Shaft Dowel Pins
(7) Knuckle Shaft
(8) Knuckle Dust Proof Cover
(9) Knuckle Stub Gasket
(10) Front Axle Middle
(11) Front Axle
(12) Front Axle Support
(13) Front Axle Bracket

The front axle of the 2WD type is constructed as shown above.
The knuckle shaft (7) is installed to the front axle (11) by the "RUMOAN" method.
With this method, the shape of the front axle is relatively simple, and front axle is supported at its center with the front axle support (12) on the front axle bracket (13), so that steering operation is stable even on an uneven ground encountered in a farm field.

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2) REAR WHEEL (Pan type or disk type)

[2WD · 4WD Type]

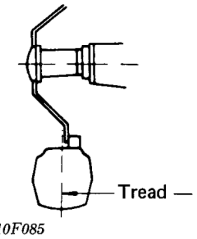
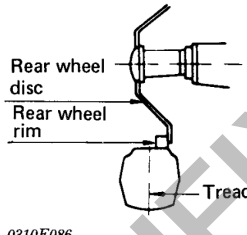
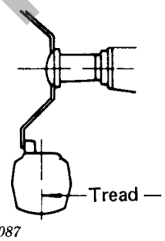
Rear tread can be adjusted in 5 steps depending on the model. (Shown below are the tread variation with the standard tires). To change the rear tread lift the rear of the tractor with a jack. Select the width desired and, if necessary, remove wheel disc from rim. Remount the rim to relocate the tire disc and attach wheel to the tractor. Check to see that the tire is turning in the proper direction as indicated by the arrow on the side of the tire. Rear wheel weights can be attached to the rim at any tread setting.

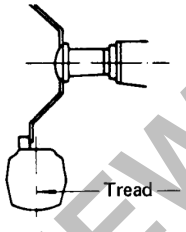
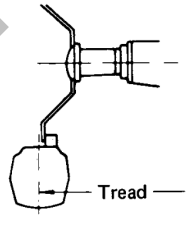
⚠ CAUTION:

- When working on slopes or when working with trailer, set the wheel tread as wide as practical for the job for maixmum stability.

■ IMPORTANT:

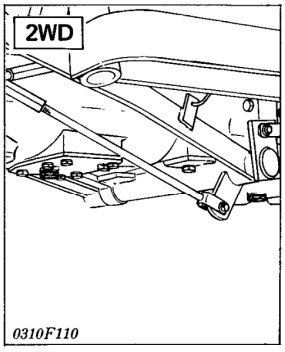
- Always attach tires as shown in the figure.
- If not attached as figure, transmission parts may be damaged.
- Do not use tires larger than specified.

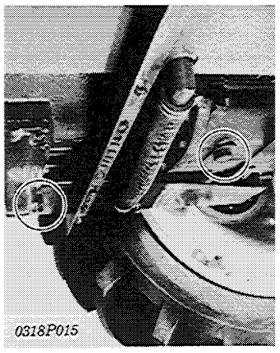
(1)	(2)	(3)
 0310F085	 0310F086	 0310F087
M4950 (DT) M5950 (DT) M6950 (DT) M7950 (DT): 1520mm (59.8 in.)	1620mm (63.8 in.)	1720mm (67.7 in.)

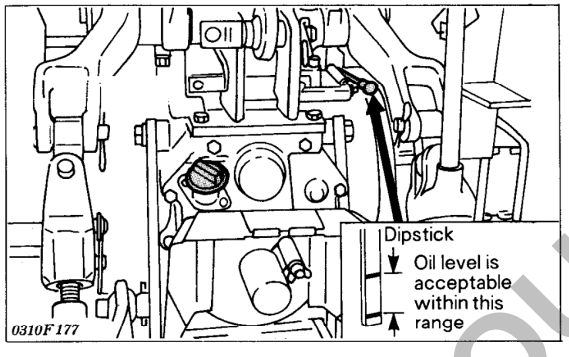
(4)	(5)
 0310F088	 0310F089
M4950 (DT) M5950 (DT) M6950 (DT) M7950 (DT): 1820mm (71.7 in.)	1920mm (75.6 in.)

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[8]-5 CHECK POINTS OF EVERY 600 HOURS





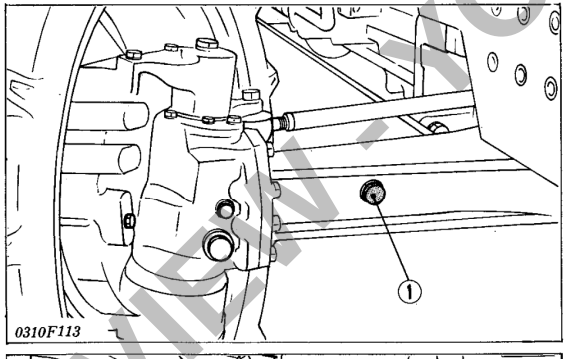


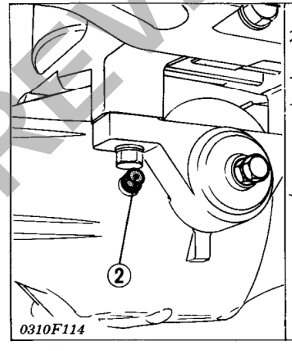
Changing Transmission Oil

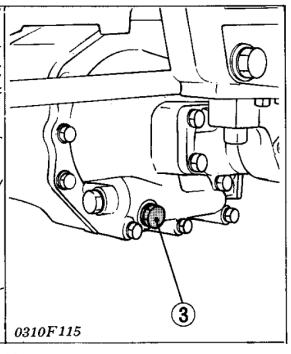
1. Remove the drain plugs from the bottom of the transmission case to drain transmission oil.
2. Screw in the drain plugs.
3. Fill new oil up to the top mark on the transmission dipstick.

■ **IMPORTANT:**

- Use only multi-grade transmission fluid. Use of other oils may damage the transmission or hydraulic system.
  Refer to "LUBRICANTS". (See page S.G-3)





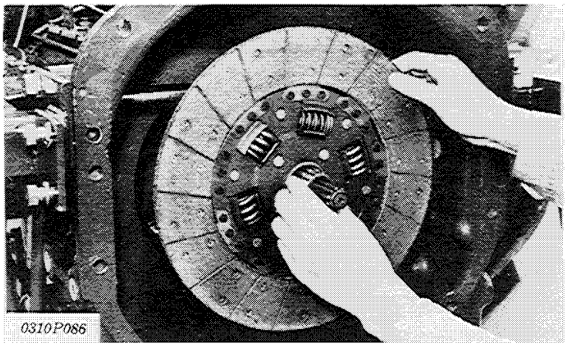


(1) Filling Plug
(2) Oil Level Check Plug
(3) Drain Plug

Changing Front Differential Case Oil [4WD]

1. Remove the drain plug (3) and filling plug (1) to drain oil.
2. Screw in the drain plug (3).
3. Fill new oil up to the level of the oil level check plug (2).
   Refer to "LUBRICANTS". (See page S.G-3)

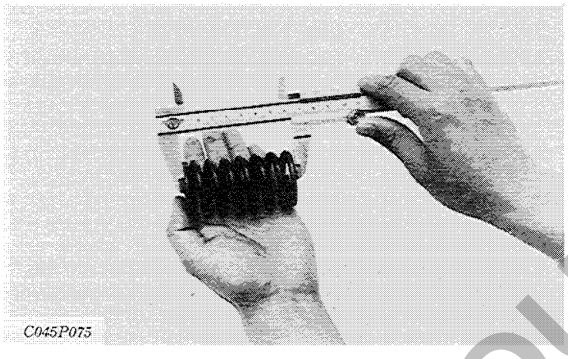
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0310P086

Spline Backlash between Clutch Disc Boss and Shaft

1. Mount the clutch disc to the 1st shaft.
2. Hold the 1st shaft so that it does not turn.
3. Rotate disc lightly and measure the displacement around the disc edge.
4. If the measurement exceeds the allowable limit, replace it.

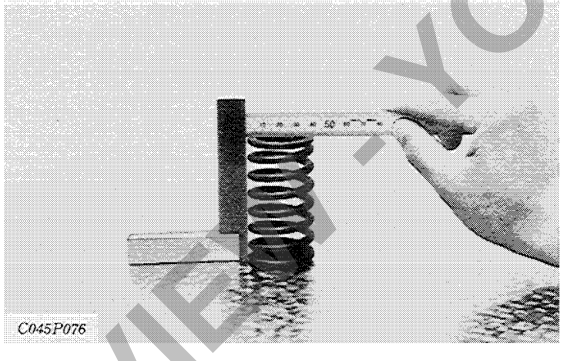
Displacement around disc edge	Allowable limit	2.0mm 0.079 in.


C045P075

Pressure Spring Free Length

1. Measure the free length.
2. If the measurement is less than the allowable limit, replace it.

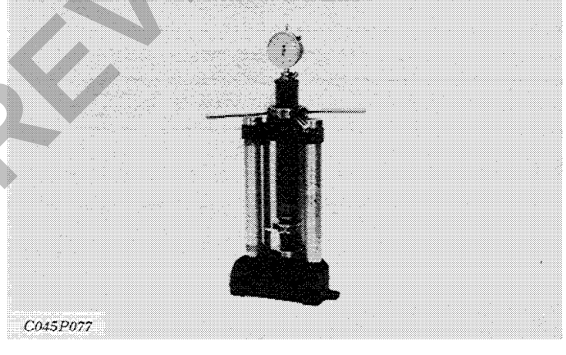
Pressure spring free length	Reference value	76.8mm 3.024 in.
	Allowable limit	72.2mm 2.843 in.


C045P076

Pressure Spring Squareness

1. Place the spring on the surface plate.
2. Rotate the spring and measure the maximum clearance between the square and the spring.
3. If the measurement exceeds the allowable limit, replace it.

Pressure spring squarensss	Allowable limit	2.5mm 0.098 in.

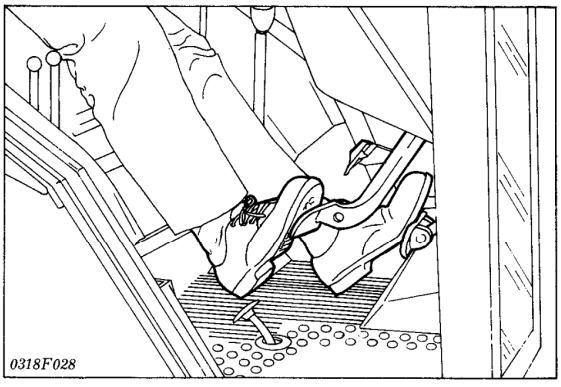

C045P077

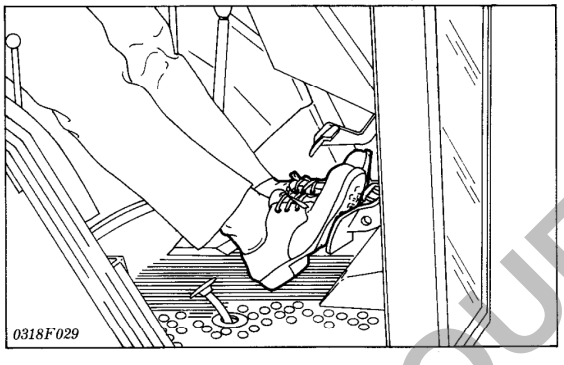
Pressure Spring Tension

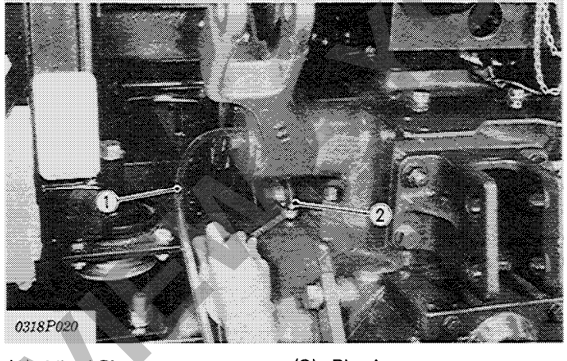
1. Put the spring on the spring tester and compress it to 49mm (1.93 in.).
2. Read the compression load on the gauge.
3. If the measurement is less than the allowable limit, replace it.

Spring setting load / Setting length	Reference value	922.32 to 1019.40 N/49mm 94.05 to 103.95 kgf/49mm 207.34 to 229.17 lbs/1.93 in.
	Allowable limit	824 N/49mm 84 kgf/49mm 185 lbs/1.93 in.

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(1) Vinyl Pipe (2) Bleeder

Bleeding of Equalization Valves

1. After pumping up the left brake pedal several times, depress it to the full stroke.
2. Keeping the left pedal depress, depress the right brake pedal lightly. Then the left pedal is pressed naturally down more. Release the right pedal only.
3. Keeping the left pedal depress, depress the right pedal again. Then the left pedal is pressed naturally down much more. Release the right pedal only.
4. Repeat the procedure (2, 3) until the left pedal reaches to the cabin floor.
5. Keeping the left pedal reach to the cabin floor, let someone loosen the bleeder of the right master cylinder. Depress the right pedal slowly to the cabin floor at the same time in order to bleed air in the equalization valves.
6. Tighten the bleeder of the right master cylinder when both pedals reach to the cabin floor.
7. Repeat the procedure shown in 1 ~ 6 at least three or four times.
8. Take the same procedure for the left pedal as the right pedal.

Bleeding of Brake Cases

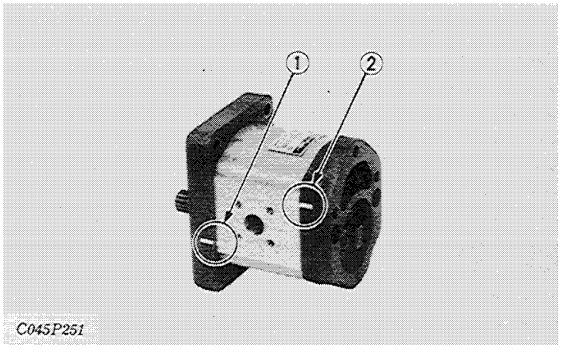
1. After installing the vinyl pipe (1) to the bleeder (2) on the left brake case, loosen the bleeder about a half turn to release air.
2. Depress the left brake pedal, close the bleeder and release its brake pedal completely.
3. Repeat steps (1) (2) until air bubble in brake oil disappears.
4. Perform bleeding of the right brake case as same as the left one.
   After bleeding, tighten the bleeders firmly.

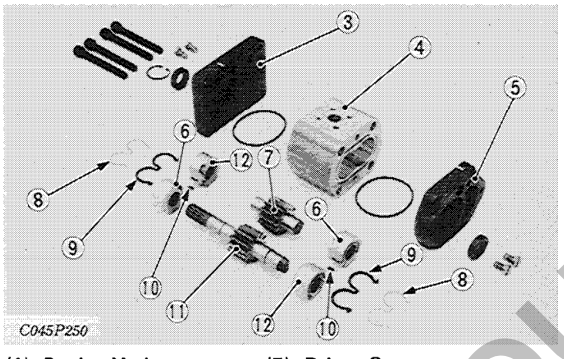
Tightening torque	Front brake pipe lock nut	15.7 to 23.5 N·m 1.6 to 2.4 kgf·m 11.6 to 17.4 ft-lbs

Confirming Air in Master Cylinders

Confirm again that there is no air bubble in both master cylinders, using the vinyl pipe.

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(1) Parting Mark
(2) Parting Mark
(3) Flange
(4) Housing
(5) Cover
(6) Bushings
(7) Driven Gear
(8) Backup Elements
(9) Seal Elements
(10) Keys
(11) Drive Gear
(12) Bushings

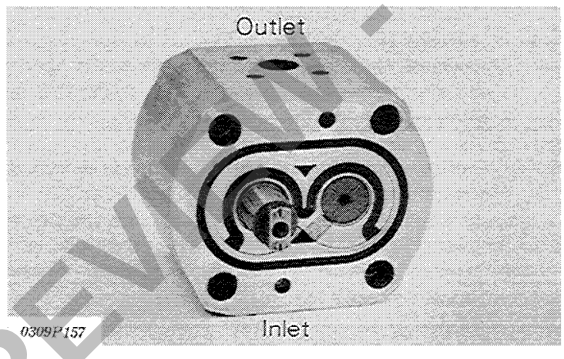
Disassembly of Three Point Hydraulic System

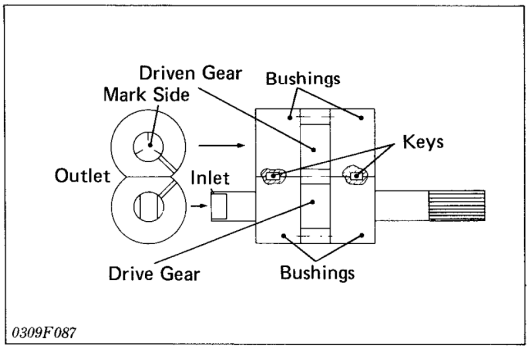
Hydraulic Pump

1. Put parting marks (1) (2) on the flange (3), housing (4) and cover (5).
2. Remove the flange (3) and cover (5).
3. Remove the backup element (8) and seal element (9).
4. Remove the bushings (6) and keys (10).
5. Remove the drive gear (11) and driven gear (7).

(When reassembling)

- When installing the bushings (6) (12), be sure to reassemble them to the each original position and direct bushing grooves to inlet side as shown in the photograph (0309P157).
- Install the driven gear (7) in the correct direction as shown in the photograph (0309P157).
- Use care not to damage the seal element (9), backup element (8) and O-rings.
- Use care not to lose or damage the keys (10) joining the two bushings (6).





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