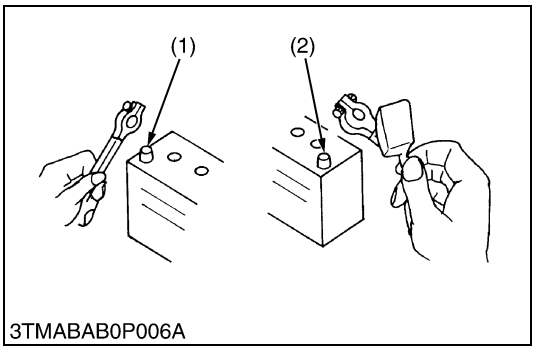
SPECIFICATIONS

Model			L3200	
			Rear Mount Type ROPS (For France, Germany, United Kingdom)	Mid Mount Type ROPS (For Spain, Portugal, Italy, Greece)
PTO power			21.3 kW (28.6 HP)	
Engine	Maker		KUBOTA	
	Model		D1703-MA-E2A	
	Type		Vertical, water-cooled, 4-cycle diesel	
	Number of cylinders		3	
	Bore and stroke		87 × 92.4 mm (3.4 × 3.6 in.)	
	Total displacement		1647 cm^3 (101.0 cu.in.)	
	Engine gross power		24.6 kW (32.9 HP)	
	Rated revolution		41.7 r/s [2500 min^{-1} (rpm)]	
	Maximum torque		108.4 N·m (80.0 ft-lbs)	
	Battery		12 V. RC : 123 min., CCA : 490 A	
	Fuel		Diesel fuel No. 1-D, No. 2-D	
Capacities	Fuel tank		34 L (9.0 U.S.gals, 7.5 Imp.gals)	
	Engine crankcase (with filter)		5.7 L (6.0 U.S.qts., 5.0 Imp.qts)	
	Engine coolant		6.0 L (6.3 U.S.qts., 5.3 Imp.qts)	
	Transmission case		27.5 L (7.3 U.S.qts, 6.1 Imp.gals)	
Dimensions	Overall length (without 3P)		2810 mm (110.6 in.)	
	Overall width (min. tread)		1290 mm (50.8 in.)	
	Overall height (with ROPS)		2460 mm (96.9 in.)	2230 mm (87.8 in.)
	Overall height (Top of steering wheel)		1475 mm (58.1 in.)	
	Wheel base		1610 mm (63.4 in.)	
	Min. ground clearance		345 mm (13.6 in.)	
	Tread	Front	1085 mm (42.7 in.)	
		Rear	1015 mm (40.0 in.), 1115 mm (43.9 in.), 1195 mm (47.0 in.), 1295 mm (51.0 in.)	
Weight (with ROPS)			1210 kg (2668 lbs)	1240 kg (2734 lbs)
Clutch			Dry type dual stage	
Traveling system	Tires	AG Front	7.00 – 16	
		AG Rear	11.2 – 24	
	Steering		Integral type power steering	
	Transmission		Gear shift, 8 forward and 4 reverse	
	Brake		Wet disk type	
	Min. turning radius (without brake)		2.5 m (8.2 feet)	
Hydraulic unit	Hydraulic control system		Position control	Draft control
	Pump capacity (main)		22.2 L/min. (5.9 U.S.gals./min., 4.9 Imp.gals./min.)	
	Pump capacity (PS)		13.5 L/min. (3.6 U.S.gals./min., 3.0 Imp.gals./min.)	
	Three point hitch		Category I	
	Max. lift force	At lift points	8885 N (906 kgf, 1998 lbs)	
		24 in. behind points	6384 N (651 kgf, 1435 lbs)	
	System pressure		15.7 MPa (160 kgf/cm^2)	
PTO	Rear PTO		SAE 1-3/8, 6 splines	
	PTO / Engine speed		9 r/s [540 min^{-1} (rpm)] / 40.4 r/s [2425 min^{-1} (rpm)]	

NOTE: * Manufacture's estimate. The company reserves the right to change the specifications without notice.

W1028103

3. HANDLING PRECAUTIONS FOR ELECTRICAL PARTS AND WIRING



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To ensure safety and prevent damage to the machine and surrounding equipment, heed the following precautions in handling electrical parts and wiring.

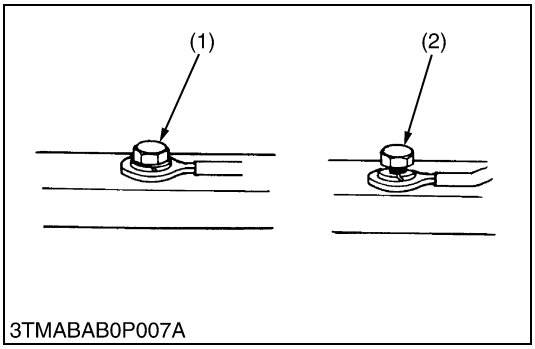
■ **IMPORTANT**

- **Check electrical wiring for damage and loosened connection every year. To this end, educate the customer to do his or her own check and at the same time recommend the dealer to perform periodic check while carrying out routine servicing.**
- **Do not attempt to modify or remodel any electrical parts and wiring.**
- **When removing the battery cables, disconnect the negative cable first. When installing the battery cables, connect the positive cable first.**

(1) Negative Terminal (2) Positive Terminal

W10111140

[1] WIRING



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- Securely tighten wiring terminals.

(1) Correct (Securely Tighten) (2) Incorrect (Loosening Leads to Faulty Contact)

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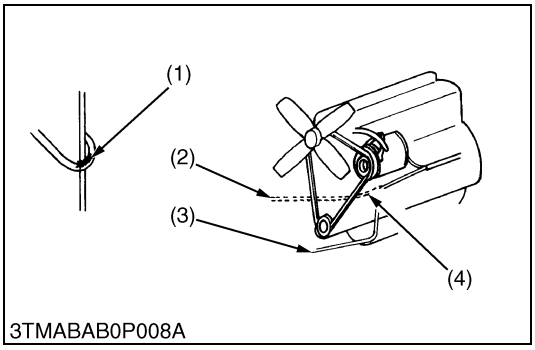

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- Do not let wiring contact dangerous part.

(1) Dangerous Part (3) Wiring (Correct)
(2) Wiring (Incorrect) (4) Dangerous Part

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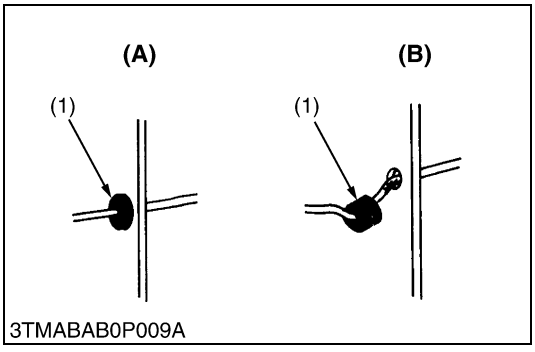

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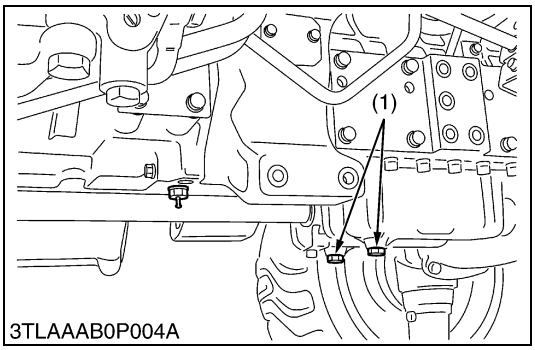
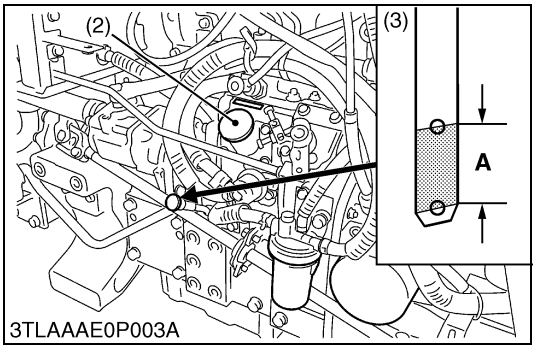
- Securely insert grommet.

(1) Grommet **(A) Correct** **(B) Incorrect**

W10113880

[2] CHECK POINTS OF INITIAL 50 HOURS





Changing Engine Oil

CAUTION

- **Before changing oil, be sure to stop the engine.**

1. Start and warm up the engine for approx. 5 minutes.
2. Place an oil pan underneath the engine.
3. To drain the used oil, remove the drain plug (1) at the bottom of the engine and drain the oil completely.
4. Screw in the drain plug (1).
5. Fill new oil up to upper hole on the dipstick (3).

■ **IMPORTANT**

- **When using an oil of different manufacture or viscosity from the previous one, remove all of the old oil.**
- **Never mix two different types of oil.**
- **Use the proper SAE Engine Oil according to ambient temperatures.**
- **Refer to "LUBRICANTS, FUEL AND COOLANT". (See page G-7).**

Engine oil	Capacity	5.7 L 6.0 U.S.qts 5.0 lmp.qts

(1) Drain Plug
(2) Oil Inlet Plug
(3) Dipstick
(A) Oil lever is acceptable within this range.

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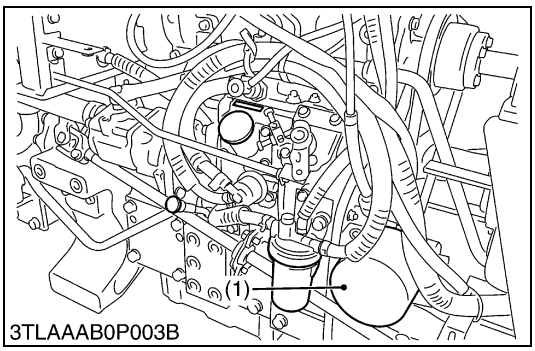


Replacing Engine Oil Filter Cartridge

CAUTION

- **Be sure to stop the engine before changing oil filter cartridge (1).**
- **Allow engine to cool down sufficiently, oil can be hot and can burn.**

1. Remove the engine oil filter cartridge (1).
2. Put a film of clean engine oil on rubber seal of new filter.
3. Tighten the filter quickly until it contacts the mounting surface. Tighten filter by hand an additional 1/2 turn only.
4. After the new filter has been replaced, the engine oil normally decreases a little. Make sure that the engine oil does not leak through the seal and be sure to check the oil level on the dipstick. Then, replenish the engine oil up to the prescribed level.

■ **IMPORTANT**

- **To prevent serious damage to the engine, replacement element must be highly efficient. Use only a KUBOTA genuine filter.**

(1) Engine Oil Filter Cartridge

W1026738

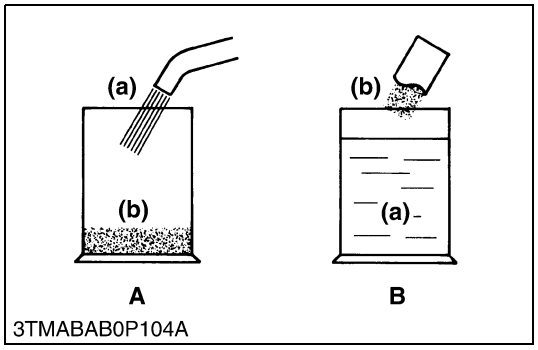
[3] TIRE LIQUID INJECTION

Auxiliary weights can be used to increase traction force for plowing in fields or clay ground.

Another way is to inject water or another liquid, such as a calcium chloride solution in the tires. Water must not be used in winter since it freezes at 0 °C (32 °F). The calcium chloride solution will not freeze and moreover, affords higher effect than water since its specific gravity is higher than that of water by about 20 %. Below is an explanation of calcium chloride solution injection.

■ **IMPORTANT**

- **Do not fill the front tires with liquid.**



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Preparation of Calcium Chloride Solution

CAUTION

- **When making a calcium chloride solution, do not pour water over calcium chloride since this results in chemical reaction which will cause high temperature. Instead add a small amount of calcium chloride to the water at a time until the desired solution is achieved.**

Freezing temp.	Weight of $CaCl_2$ to be dissolved in 100 L (26.5 U.S.gals., 22.0 Imp.gals.) of water
–5 °C (23 °F)	12 kg (26.4 lbs)
–10 °C (14 °F)	21 kg (46.3 lbs)
–15 °C (5 °F)	28 kg (61.7 lbs)
–20 °C (–4 °F)	34 kg (75.0 lbs)
–25 °C (–13 °F)	40 kg (88.2 lbs)
–30 °C (–22 °F)	44 kg (97.0 lbs)
–35 °C (–31 °F)	49 kg (108 lbs)
–40 °C (–40 °F)	52 kg (114.6 lbs)
–45 °C (–49 °F)	56 kg (123.5 lbs)
–50 °C (–58 °F)	61 kg (134.5 lbs)

(a) Water **A : Bad**
(b) $CaCl_2$ (Calcium Chloride) **B : Good**

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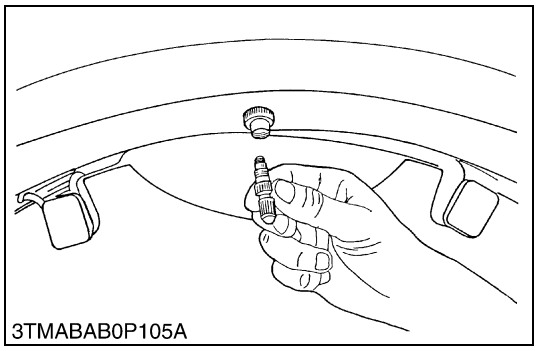
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Attaching Injector

1. Lift the rear tires off the ground.
2. Turn the tire so that the air valve is at the top.
3. Remove the air valve, and attach the injector. (Code No. 07916-52501)

(1) Injector (2) Hose

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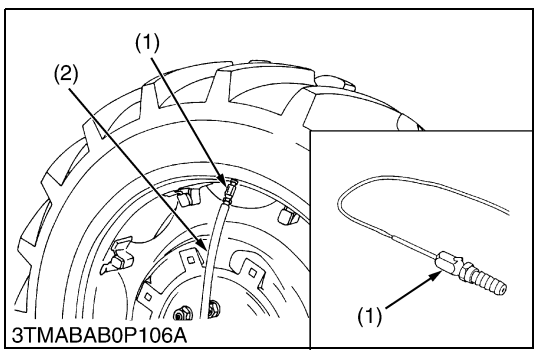

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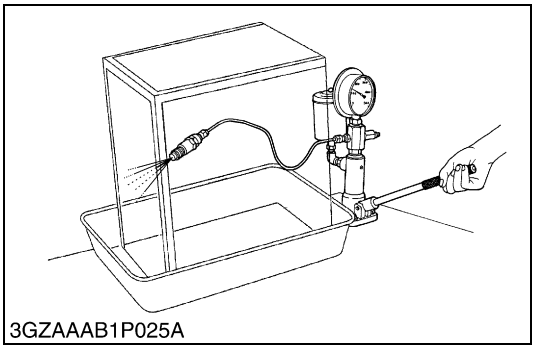
(8) Injection Nozzle

CAUTION

- **Check the nozzle injection pressure and condition after confirming that there is nobody standing in the direction of the injected fuel. If the injected fuel from the nozzle directly contacts the human body, cells may be destroyed and blood poisoning may be caused.**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Nozzle Injection Pressure

1. Set the injection nozzle to a nozzle tester.
2. Slowly move the tester handle to measure the pressure at which fuel begins jetting out from the nozzle.
3. If the measurement is not within the factory specifications, replace the adjusting nozzle assembly.

Fuel injection pressure	Factory spec.	13.73 to 14.71 MPa 140 to 150 kgf/cm^2 1991 to 2133 psi

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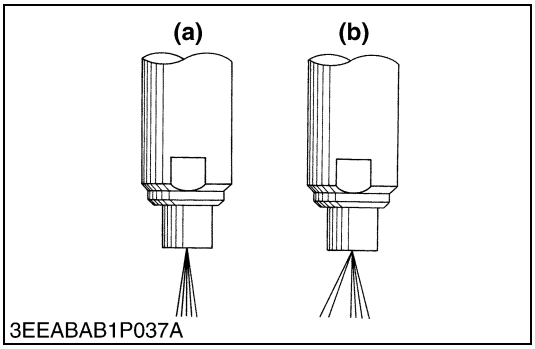

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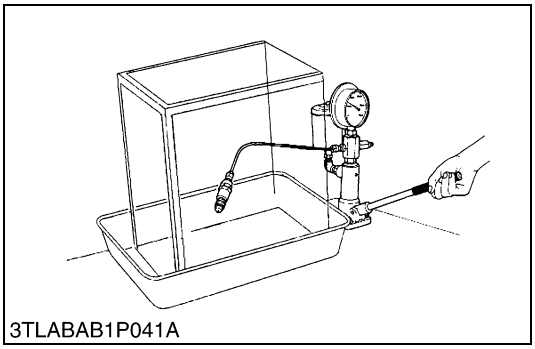
Nozzle Spraying Condition

1. Set the injection nozzle to a nozzle tester (Code No. 07909-31361), and check the nozzle spraying condition.
2. If the spraying condition is defective, replace the nozzle piece.

(a) Good **(b) Bad**

W10181310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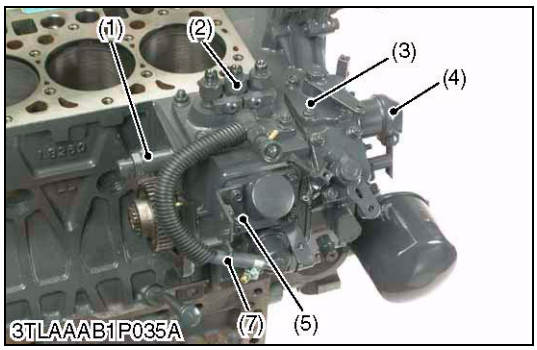
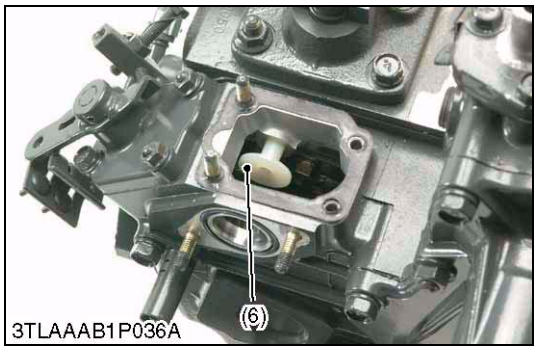
Valve Seat Tightness

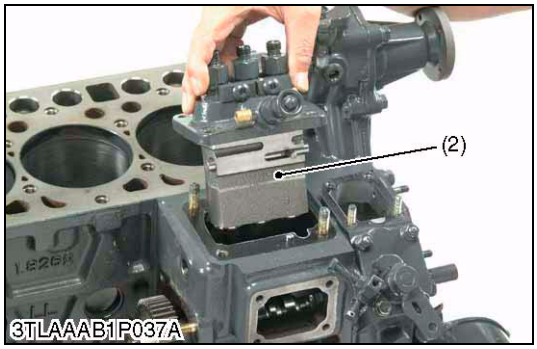
1. Set the injection nozzle to a nozzle tester (Code No. 07909-31361).
2. Raise the fuel pressure, and keep at 12.75 MPa (130 kgf/cm^2, 1849 psi) for 10 seconds.
3. If any fuel leak is found, replace the nozzle piece.

Valve seat tightness	Factory spec.	No fuel leak at 12.75 MPa 130 kgf/cm^2 1849 psi

W1113031







Injection Pump

1. Remove the stop solenoid (4) and hi-idling body (1).
2. Remove the engine stop lever (3) and stop solenoid guide (6).
3. Remove the fuel hose (7), pump cover (5) and fuel injection pump assembly (2).

■ **IMPORTANT**

- **Before removing the injection pump assembly (2), be sure to remove the stop solenoid (4), hi-idling body (1), engine stop lever (3) and stop solenoid guide (6).**

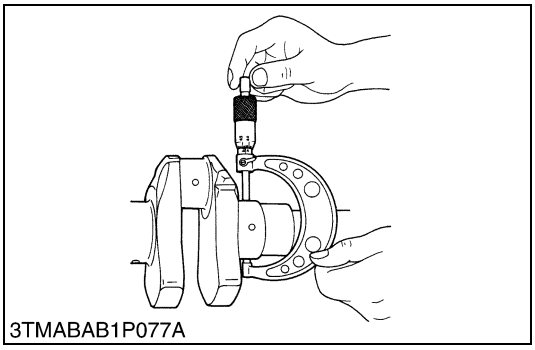
(When reassembling)

- Before attaching the stop solenoid, hi-idling body and solenoid guide, install the injection pump first into position.
- Replace the hi-idling body gasket with a new one.
- Before fitting the stop lever to the gear case, install the solenoid guide first into position. Then attach the stop lever and use it to see if it functions well.
- Before fitting the idling limiter in place, attach the solenoid guide and the engine stop lever in their respective positions.
- When installing the stop solenoid, be careful to keep the O-ring in place.
- Be sure to insert the push rod of the stop solenoid into the hole at the center of the solenoid guide.

Tightening torque	Hi-idling body	44.1 to 49.0 N·m 4.5 to 5.0 kgf·m 32.5 to 36.2 ft-lbs

(1) Hi-idling Body
(2) Injection Pump Assembly
(3) Stop Lever
(4) Stop Solenoid
(5) Pump Cover
(6) Stop Solenoid Guide
(7) Fuel Hose

W1070522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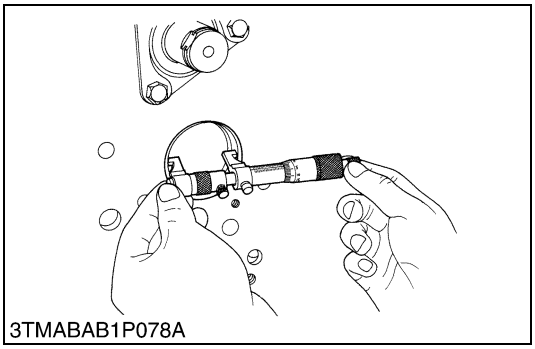
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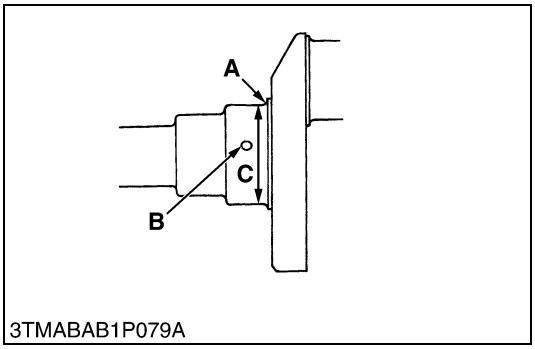

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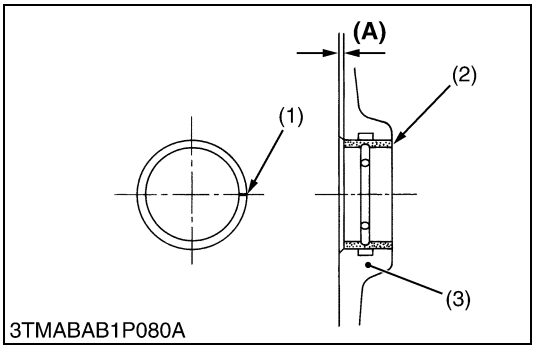

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Oil Clearance between Crankshaft Journal and Crankshaft Bearing 1

1. Measure the O.D. of the crankshaft journal with an outside micrometer.
2. Measure the I.D. of the crankshaft bearing 1 with an inside micrometer, and calculate oil clearance.
3. If the clearance exceeds the allowable limit, replace the crankshaft bearing 1.
4. If the same size bearing is ineffective because of the crankshaft journal wear, replace it with an undersize one referring to the table and figure.

Oil clearance between crankshaft journal and crankshaft bearing 1	Factory spec.	0.040 to 0.118 mm 0.00157 to 0.00465 in.
	Allowable limit	0.2 mm 0.0079 in.

Crankshaft journal O.D.	Factory spec.	59.921 to 59.940 mm 2.35910 to 2.35984 in.
Crankshaft bearing 1 I.D.	Factory spec.	59.980 to 60.039 mm 2.36142 to 2.36374 in.

(Reference)

- Undersize dimensions of crankshaft journal

Undersize	0.2 mm 0.008 in.	0.4 mm 0.016 in.
Dimension **A**	2.8 to 3.2 mm radius 0.1102 to 0.1260 in. radius	2.8 to 3.2 mm radius 0.1102 to 0.1260 in. radius
*Dimension **B**	1.0 to 1.5 mm relief 0.0394 to 0.0591 in. relief	1.0 to 1.5 mm relief 0.0394 to 0.0591 in. relief
Dimension **C**	59.721 to 59.740 mm dia. 2.35122 to 2.35197 in. dia.	59.521 to 59.540 mm dia. 2.34335 to 2.34410 in. dia.
(0.4S) The crankshaft journal must be fine-finished to higher than ∇∇∇∇ *Holes to be de-burred and edges rounded with 1.0 to 1.5 mm (0.0394 to 0.0591 in.) relief.		

W1033717

Replacing Crankshaft Bearing 1

(When removing)

1. Press out the used crankshaft bearing 1 using a crankshaft bearing 1 replacing tool.

(When installing)

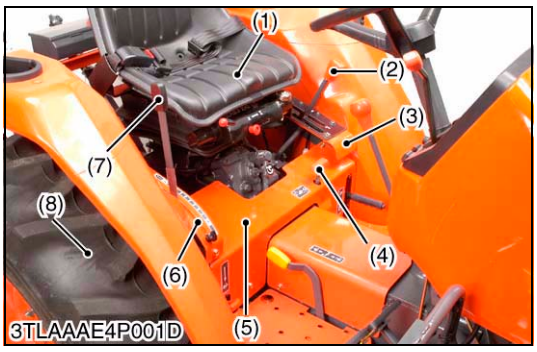
1. Clean a new crankshaft bearing 1 and crankshaft journal bore, and apply engine oil to them.
2. Using a crankshaft bearing 1 replacing tool, press in a new bearing 1 (2) so that its seam (1) directs toward the exhaust manifold side.

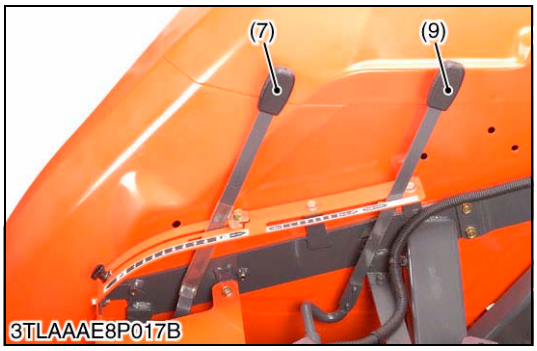
Dimension (**A**)	Factory spec.	4.2 to 4.5 mm 0.1654 to 0.1772 in.

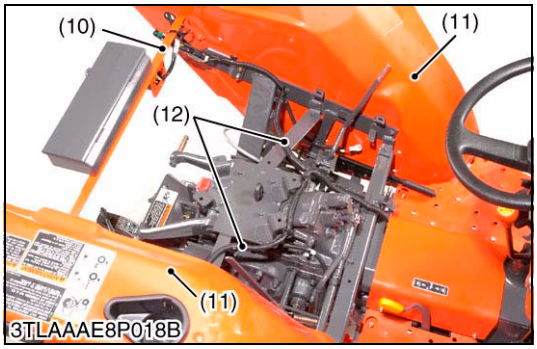
(1) Seam
(2) Crankshaft Bearing 1
(3) Cylinder Block

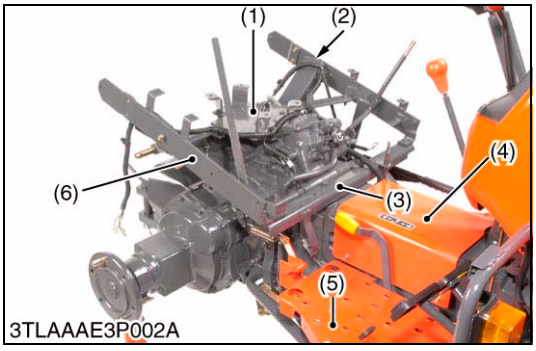
(A) Dimension

W10342000









Outer Components

1. Place the disassembling stands under the transmission case.
2. Remove the seat (1).
3. Remove the grip (2), (4), (7) and (9) if equipped.
4. Remove the range gear shift lever guide (3) and the position control lever guide (6).
5. Remove the center cover (5).
6. Remove the rear wheels (8).
7. Disconnect the wiring harness (12) from the rear fender.
8. Remove the rear fenders (11) and the rear fender support (10).

(When reassembling)

Tightening torque	Rear wheel mounting screw and nut	197 to 226 N·m 20 to 23 kgf·m 145 to 166 ft-lbs

(1) Seat
(2) Grip
(3) Range Gear Shift Lever Guide
(4) Grip
(5) Center Cover
(6) Position Control Lever Guide
(7) Grip (Position Control Lever)
(8) Rear Wheels
(9) Grip (Draft Control Lever)
(10) Rear Fender Support
(11) Rear Fenders
(12) Wiring Harness

W1014739

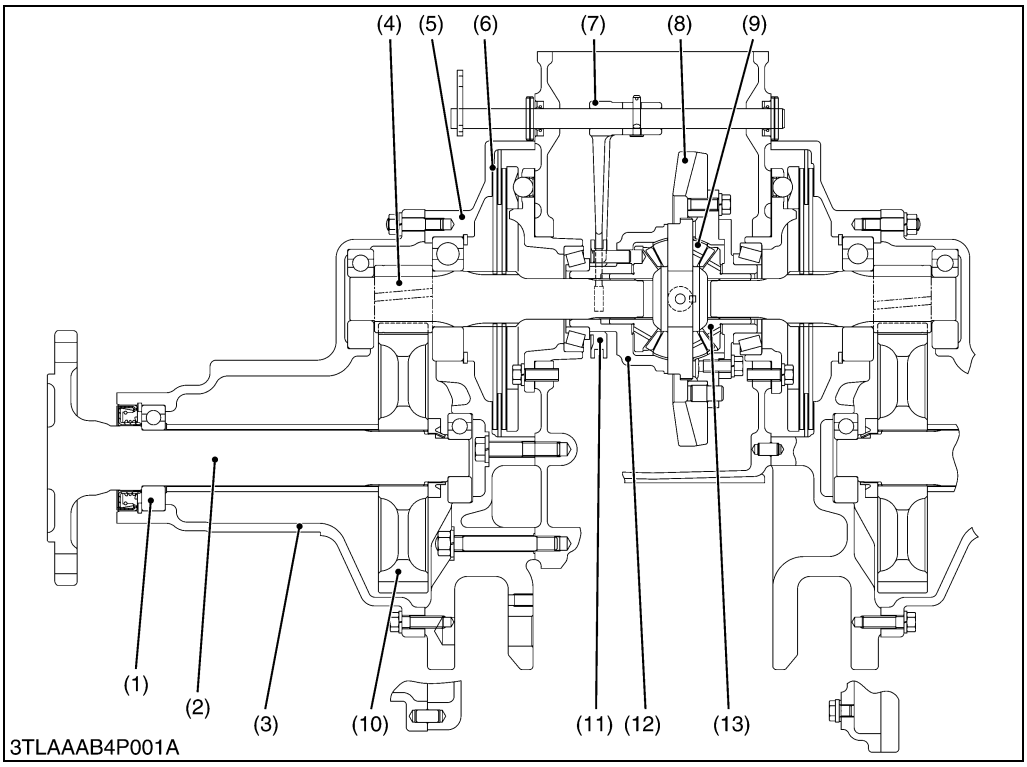
Fender Support

1. Remove the seat support (1).
2. Remove the fender supports (2), (3), (6).
3. Remove the housing cover (4) and the step (5).

(1) Seat Support
(2) Fender Support (LH)
(3) Fender Support Center
(4) Housing Cover
(5) Step
(6) Fender Support (RH)

W1015500

1. STRUCTURE



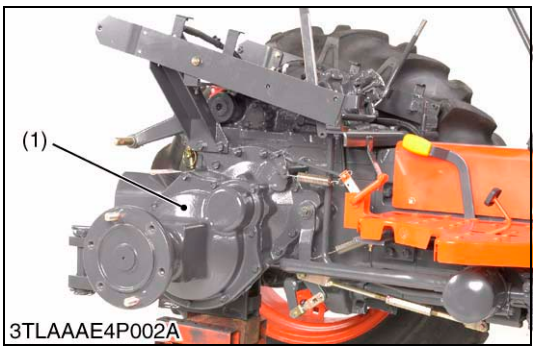
(1) Ball Bearing
(2) Rear Axle
(3) Rear Axle Case
(4) Differential Gear Shaft
(5) Brake Case
(6) Brake Disc
(7) Differential Lock Shift Fork
(8) 39T Bevel Gear
(9) Differential Pinion
(10) Final Gear
(11) Differential Lock Shifter
(12) Differential Case
(13) Differential Side Gear

W1012642

The final gears (10) are the final reduction mechanism which further reduces the speed of rotation. The direction of power transmitted is changed by the differential gear.

The rear axles (2) are the final transmission mechanisms which transmit the power from the transmission to the rear wheels. The rotation speed is reduced by the final gears (10).

The rear axles are the semi-floating type with the ball bearing (1) between the rear axle (2) and rear axle case (3), which support the rear wheel load besides transmitting power to the rear wheel. The rear axle also support the weight of the tractor.



Rear Axle Case

1. Loosen and remove the rear axle case mounting screws and nuts.
2. Support the rear axle case (1) with the nylon lift strap and hoist.
3. Separate the rear axle case from brake case.
4. Follow the same procedure as above for the other side.

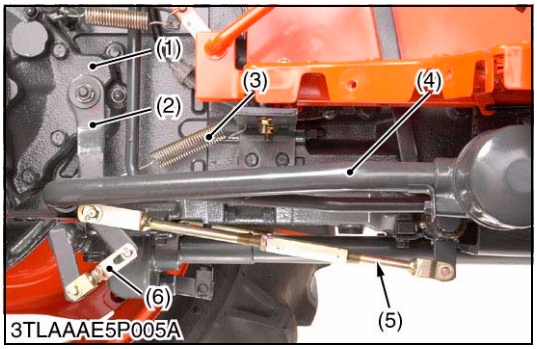
(When reassembling)

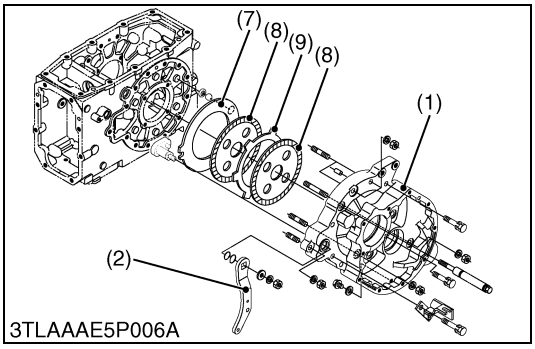
- Apply liquid gasket (Three Bond 1208D, 1141 or equivalent) to joint face of the rear axle case and brake case, after eliminating the water, oil and the old remaining liquid gasket.

Tightening torque	Rear axle case mounting screw and nut	48.1 to 55.9 N·m 4.9 to 5.7 kgf·m 35.4 to 41.2 ft-lbs
	Rear axle case mounting stud bolt	24.5 to 31.4 N·m 2.5 to 3.2 kgf·m 18.1 to 23.1 ft-lbs

(1) Rear Axle Case

W1014856





Brake Case

1. Remove brake cam lever spring (3).
2. Remove suction pipe (4).
3. Remove brake rod (5).
4. Remove parking brake link (6).
5. Loosen and remove brake case mounting screw and nuts.
6. Separate the brake case (1), tapping the brake cam lever (2).

(When reassembling)

- Apply grease to the brake ball seats. (Do not grease excessively.)
- Apply liquid gasket (Three Bond 1208D, 1141 or equivalent) to joint face of the brake case and transmission case, after eliminating the water, oil and the old remaining liquid gasket.
- Before installing the brake case to the transmission case, install the cam plate around the four protrusions on the differential bearing case.
- Apply liquid lock (Three Bond 1324 or equivalent) to the stud bolts.

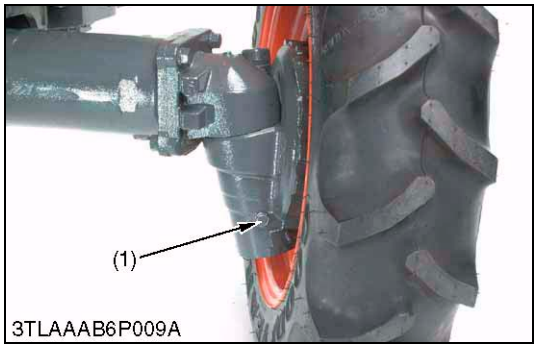
Tightening torque	Brake case mounting stud bolt	34.3 to 49.0 N·m 3.5 to 5.0 kgf·m 25.3 to 36.1 ft-lbs

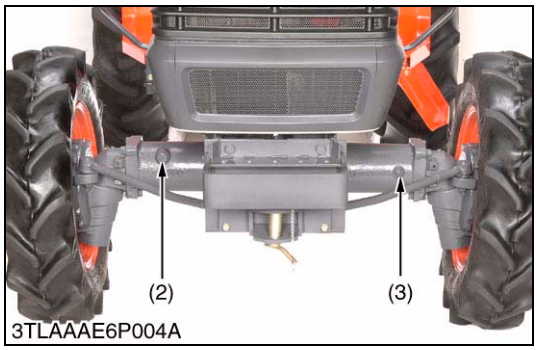
(1) Brake Case
(2) Brake Cam Lever
(3) Brake Cam Lever Spring
(4) Suction Pipe
(5) Brake Rod
(6) Parking Brake Link
(7) Cam Plate
(8) Brake Disc
(9) Plate

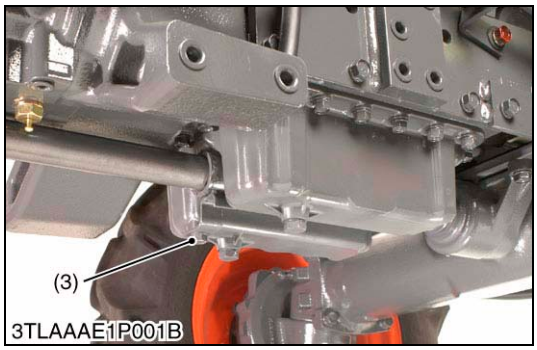
W1015066

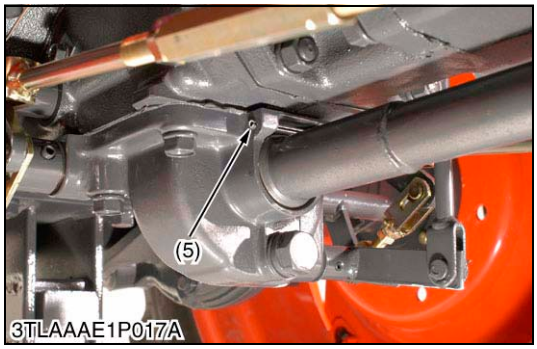
[2] PREPARATION

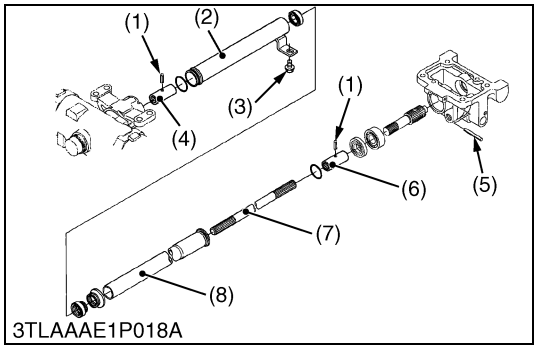
(1) Separating Front Axle











Draining Front Axle Case Oil

1. Place the oil pans underneath the front axle case.
2. Remove the drain plug (1) both sides and filling port plug (2) to drain the oil.
3. After draining, reinstall the drain plugs (1) and filling port plug (2).

(When refilling)

- Remove the filling port plug (2) and check plug (3).
- Fill with the new oil up to the check plug port.
- After filling, reinstall the check plug (3) and filling port plug (2).

Front axle case oil	Capacity	4.5 L 4.8 U.S.qts 3.9 Imp.qts

■ **IMPORTANT**

- **Use KUBOTA SUPER UDT fluid or SAE 80, 90 gear oil. Refer to "LUBRICANTS, FUEL AND COOLANT". (See page G-6.)**

(1) Drain Plug
(2) Filling Port Plug
(3) Check Plug

W1012640

Propeller Shaft

1. Remove the screw (3) then tap out the spring pin (5).
2. Slide the propeller shaft cover 1 (8) to the front and the cover 2 (2) to the rear.
3. Tap out the spring pins (1) and then slide the coupling (6) to the front and coupling (4) to the rear.

(When reassembling)

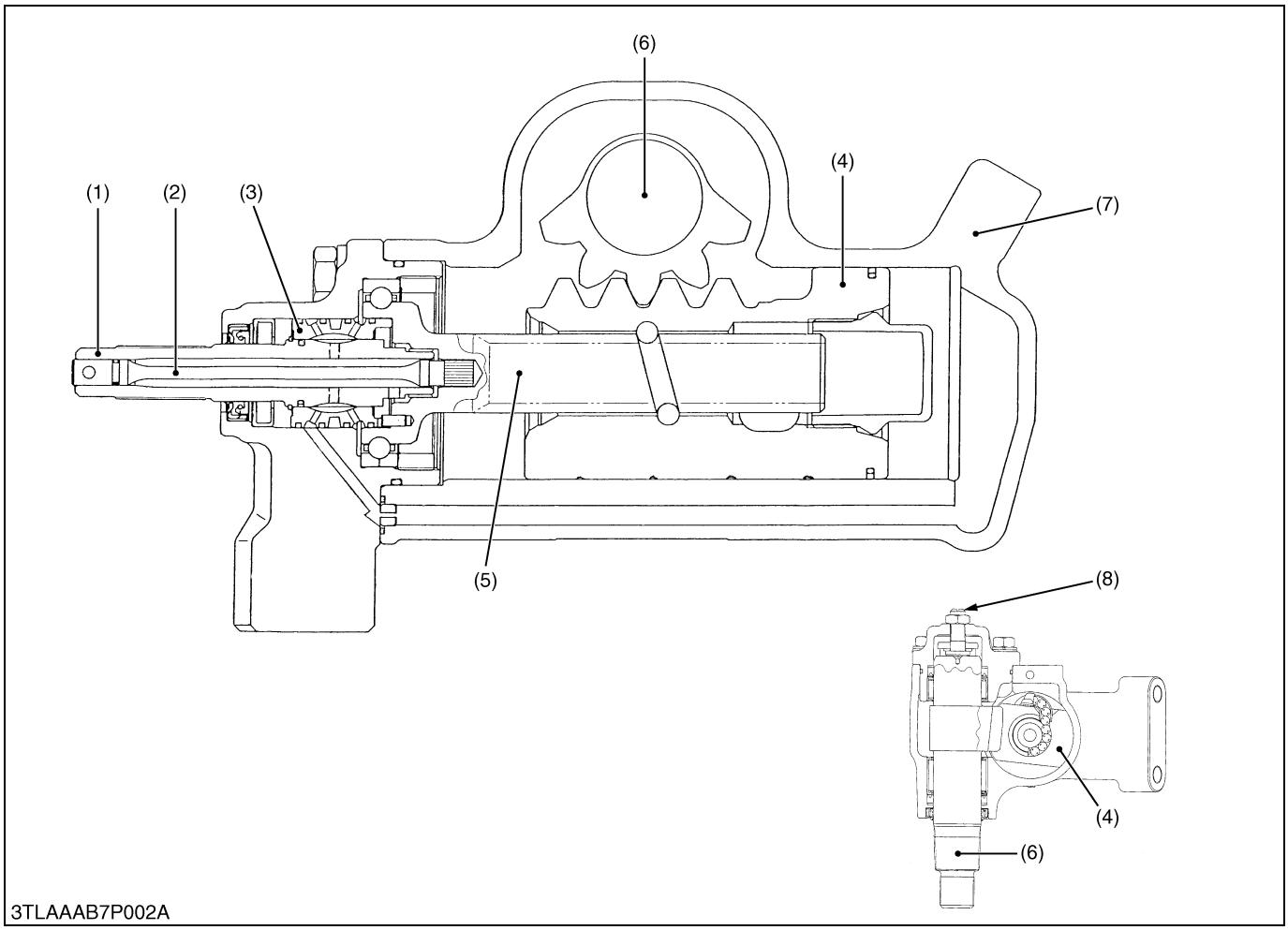
- Apply grease to the splines of the propeller shaft (7) and pinion shaft.

(1) Spring Pin
(2) Propeller Shaft Cover 2
(3) Screw
(4) Coupling
(5) Spring Pin
(6) Coupling
(7) Propeller Shaft
(8) Propeller Shaft Cover 1

W1031273

[2] STEERING GEAR BOX

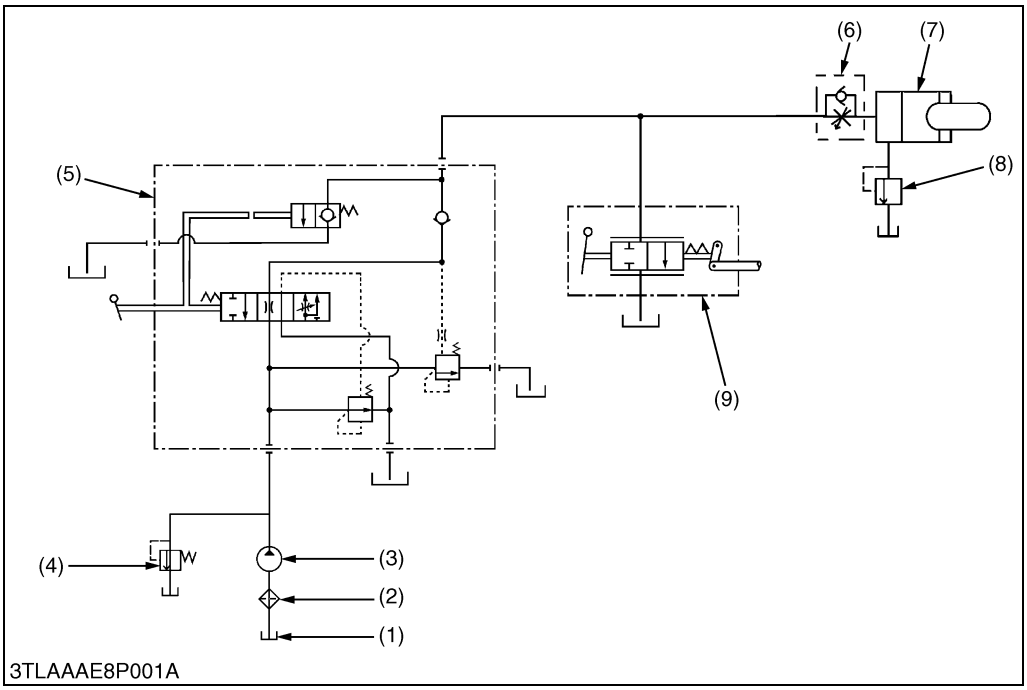
(1) Structure



(1) Input Shaft
(2) Torsion Bar
(3) Sleeve
(4) Ball Nut
(5) Main Shaft
(6) Sector Shaft
(7) Gear Box
(8) Adjusting Screw

This integral power steering mechanism consists of the following two major components as shown above: hydraulic control valve and steering force assist hydraulic cylinder. The control valve is housed in the casing and composed of sleeve (3), input shaft (1) and other parts. The hydraulic cylinder, on the other hand, is composed of gear box (7) (cylinder tube), ball nut (4) (piston) and other parts. When the steering wheel is turned, the reaction force from the tires is exerted through the sector shaft (6) onto the main shaft (5). The torsion bar (2) is then twisted to make a gap between the input shaft (1) and sleeve (3). Such gap activates the valve to switch the oil flow direction. The sector shaft's pinion, which comes in mesh with the ball nut's rack, is tapered along the teeth. In this way, the sector shaft (6) that turns by the adjust screw (8) changes the clearance between the rack and pinion, adjusting the play of the steering wheel. (Tighten the adjust screw and the play becomes smaller, and vice versa.).

1. HYDRAULIC CIRCUIT



(1) Oil Tank (Transmission Case)
(2) Oil Strainer
(3) Hydraulic Pump
(4) Relief Valve
(5) Position Control Valve
(6) Lowering Speed Adjusting Valve
(7) Hydraulic Cylinder
(8) Cylinder Safety Valve
(9) Draft Control Valve (For Spain, Portugal, Italy, Greece)

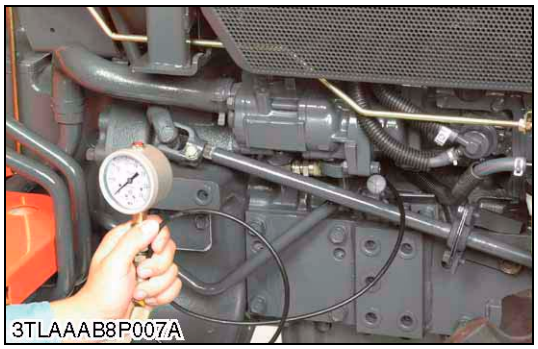
W1013324

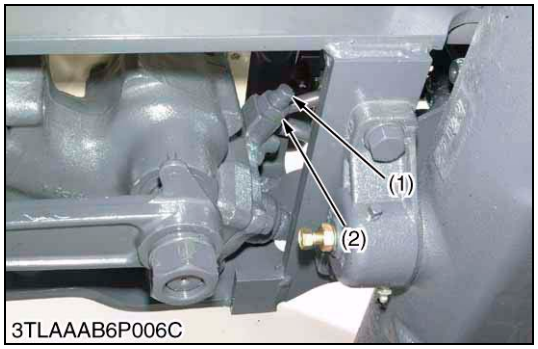
■ **Hydraulic Oil Flow**

1. When the engine is started, the hydraulic pump (3) is rotated to draw oil from the transmission case (1) through the suction pipe. Supplied oil is filtered by the oil strainer (2).
2. Filtered oil is forced out by the hydraulic pump to the position control valve (5) through the delivery pipe.
3. The position control valve (5) switches the oil flow, and oil is channelled to the hydraulic cylinder (7) for the three-point hydraulic system or returned to the oil tank (transmission case).

- The hydraulic system has a relief valve (4) which restricts the maximum pressure in the circuit.
- The draft control valve (9) enables the use of draft control to maintain a constant traction load.

(2) Relief Valve (Power Steering)





Relief Valve Setting Pressure

1. Disconnect the power steering delivery pipe joint bolt.
2. Install the adaptor **E** and adaptor **58** of relief valve setting pressure tester to the regulator valve, and then connect the threaded coupler of the test hose and pressure gauge.
3. Start the engine and set the engine speed at max. speed.
4. Fully turn the steering wheel to the left or right and read the pressure when the relief valve functions.
5. Stop the engine.
6. If the pressure is not within the factory specifications, check the pump delivery line, adjust the relief valve by the adjusting screw (1), or repair the power steering.

Power steering relief valve setting pressure	Factory spec.	11.1 to 12.1 MPa 113 to 123 kgf/cm^2 1607 to 1749 psi

(Reference)

- One quarter turn of the adjusting screw (1) changes the relief setting pressure by approx. 1.27 MPa (13 kgf/cm^2, 185 psi).

Tightening torque	Power steering delivery hose joint bolt	34.0 to 39.0 N·m 3.5 to 4.0 kgf·m 25.3 to 28.9 ft-lbs

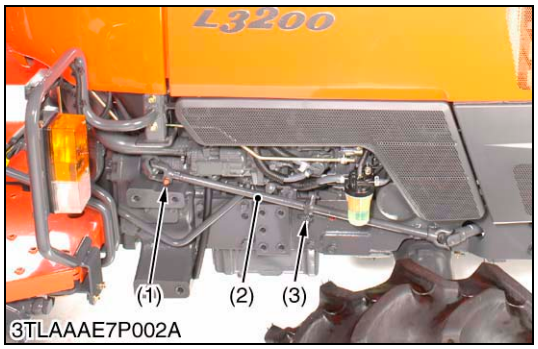
Condition

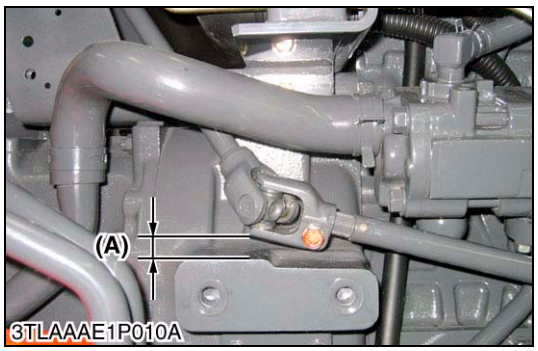
- Engine speed : Maximum
- Oil temperature : 40 to 60 °C (104 to 140 °F)

(1) Adjusting Screw
(2) Lock Nut

W1022630

(3) Hydraulic Pump Test Using Flow-meter (Three Point Hydraulic System)





Preparation

1. Remove the support (3) mounting screw.
2. Remove the screw (1).
3. Remove the joint shaft (2).

(When reassembling)

- Lift the universal joint so that there is a clearance **(A)** of more than 5 mm (0.19 in.) between the universal joint and flywheel housing. Then fit the support (3) in position.

(1) Screw
(2) Joint Shaft
(3) Support
(A) Clearance

W1019191

1. TROUBLESHOOTING

FUSE AND WIRING

Symptom	Probable Cause	Solution	Reference Page
All Electrical Equipment Do Not Operate	Battery discharged or defective	Recharge or replace	9-S7
	Battery positive cable disconnected or improperly connected	Repair or replace	9-S7
	Battery negative cable disconnected or improperly connected	Repair or replace	9-S7
	Slow blow fuse blown	Replace	G-30
Fuse Blown Frequently	Short-circuited	Repair or replace	–

W10143220

BATTERY

Battery Discharges Too Quickly	Battery defective	Replace	9-S7
	Alternator defective	Repair or replace	9-S23 to S25, S28, S29
	Wiring harness disconnected or improperly connected (between battery positive terminal and regulator **B** terminal)	Repair or replace	–
	Cooling fan belt slipping	Adjust tension	–

W10137180

STARTING SYSTEM

Starter Motor Does Not Operate	Battery discharged or defective	Recharge or replace	9-S7
	Slow blow fuse blown	Replace	G-30
	Safety switch defective	Replace	9-S10
	Safety switch improperly adjusted	Repair	9-S10
	Wiring harness disconnected or improperly connected (between main switch **ST** terminal and safety switch, between battery positive terminal and starter motor **B** terminal)	Repair or replace	–
	Starter motor defective	Repair or replace	9-S23, S26, S27
	Main switch defective	Replace	9-S8, S9

W10137180

CHARGING SYSTEM

Charging Lamp Does Not Light when Main Switch is Turned ON	Fuse blown (10 A)	Replace	G-30
	Wiring harness disconnected or improperly connected (between main switch **AC** terminal and panel board, between panel board and alternator **L** terminal)	Repair or replace	–
Charging Lamp Does Not Go Off When Engine is Running	Short circuit between alternator **L** terminal lead and chassis	Repair or replace	–
	Alternator defective	Repair or replace	9-S23 to S25, S28, S29

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