WSM

WORKSHOP MANUAL
TRACTOR

M95X,M105X,M125X

Kubota

KiSC issued 10, 2017 A

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(1) Part No. 3F240-9836-2

⚠CAUTION

TO AVOID PERSONAL INJURY:

1. Read and understand the operator's manual before operation.
2. Before starting the engine, make sure that everyone is at a safe distance from tractor and the PTO is off.
3. Do not allow passengers on the tractor at any time.
4. Before allowing other people to use the tractor, have them read the operator's manual.
5. Check the tightness of nuts and bolts regularly.
6. Keep all shields in place and stay away from all moving parts.
7. Lock the two brake pedals together before driving on the road.
8. Slow down for turns, or rough roads, or when applying individual brakes.
9. On public roads use SMV emblem and hazard lights, if required by local traffic and safety regulations.
10. Pull only from the drawbar.
11. Before dismounting, lower the implement to the ground, set the parking brake, stop the engine and remove the key.
12. Securely support tractor and implements before working underneath.

(2) Part No. TA040-4902-1

⚠ WARNING



TO AVOID INJURY OR DEATH FROM ROLL-OVER:

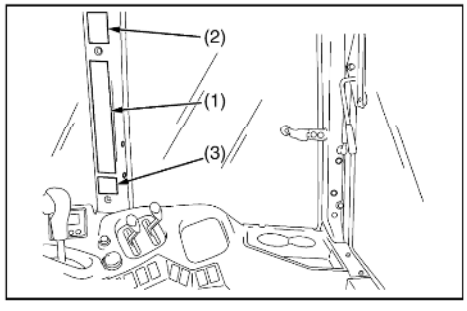
Always use seat belt when driving.

(3) Part No. 3F240-9821-1

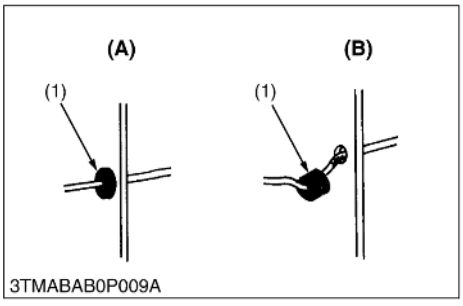
⚠WARNING

TO AVOID MACHINE RUNAWAY DUE TO 4WD BRAKING SYSTEM:

Do not run engine with only rear wheels off ground.



3TMACAJCP004A

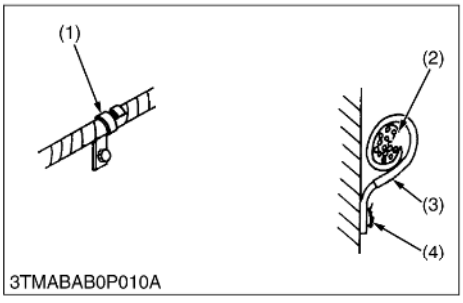


3TMABAB0P009A

- Securely insert grommet.

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

W1011388

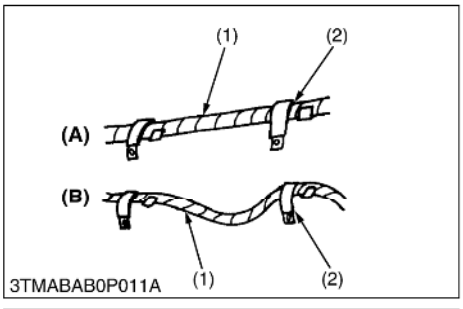


3TMABAB0P010A

- Securely clamp, being careful not to damage wiring.

(1) Clamp
• Wind Clamp Spirally
(2) Wire Harness
(3) Clamp
(4) Welding Dent

W1011458

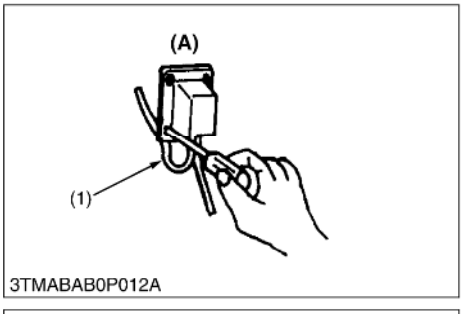


3TMABAB0P011A

- Clamp wiring so that there is no twist, unnecessary sag, or excessive tension, except for movable part, where sag be required.

(1) Wiring
(2) Clamp
(A) Correct
(B) Incorrect

W1011587

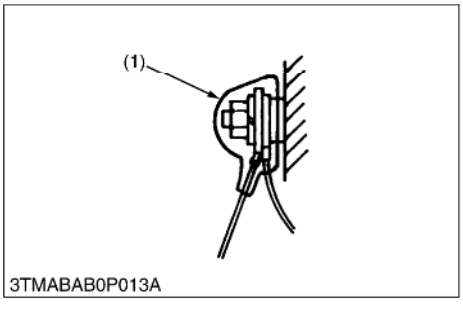


3TMABAB0P012A

- In installing a part, take care not to get wiring caught by it.

(1) Wiring
(A) Incorrect

W1011670



3TMABAB0P013A

- After installing wiring, check protection of terminals and clamped condition of wiring, only connect battery.

(1) Cover
• Securely Install Cover

W1011735

7. CHECK AND MAINTENANCE

CAUTION

- **Be sure to check and service the tractor on a flat place with engine shut off, the parking brake on and chock the wheels.**

[1] DAILY CHECK

To prevent trouble from occurring, it is important to know the condition of the tractor. Check the following items before starting.

Checking

- Check areas where previous trouble was experienced.
- Walk around the tractor.

1. Check the tire pressure, and check for wear and damage.
2. Check for oil and water leak.
3. Check the engine oil level.
4. Check the transmission fluid level.
5. Check the coolant level.
6. Check the brake oil level.
7. Check the washer liquid level.
8. Check the water separator.
9. Check air cleaner evacuator valve (when used in a dusty place).
10. Check the condition of seat belt.
11. Check and clean the radiator screen, grill intercooler and oil cooler.
12. Check and clean the air conditioner condenser screen.
13. Check the nuts of the tires are tight.
14. Check the number plate or SMV emblem for damage and replace as necessary if equipped.
15. Care of danger, warning and caution labels.
16. Clean around the exhaust manifold and the muffler of the engine.

- While sitting in the operator's seat.

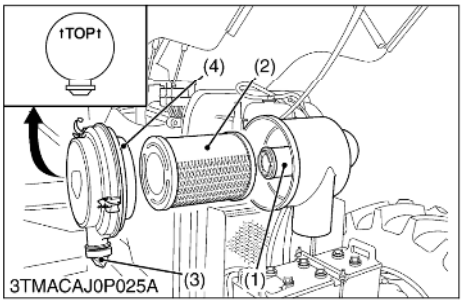
1. Check the throttle pedal, brake pedals and clutch pedal.
2. Check the throttle lever and shuttle lever.
3. Check the parking brake.
4. Check the steering wheel.
5. Check the seat belt.

- Turning the key switch.

1. Check the performance of the Easy Checker lights.
2. Check head lights, turn signal lights, hazard lights and other light equipment. Clean if necessary.
3. Check the performance of the meters and gauges.

- Starting the engine.

1. Check to see that the lights on the Easy Checker go off.
2. Check the color of the exhaust.
3. Check the brakes for proper operation.



Cleaning Air Cleaner Primary Element

1. Remove the air cleaner cover and primary element.
2. Clean the primary element:
   - When dry dust adheres to the element, blow compressed air from the inside, turning the element. Pressure of compressed air must be under 205 kPa (2.1 kgf/cm^2, 30 psi).
   - When carbon or oil adheres to the element, soak the element in detergent for 15 minutes then wash it several times in water, rinse with clean water and dry it naturally. After element is fully dried, inspect inside of the element with a light and check if it is damaged or not.
3. Replace air cleaner primary element:
   Once yearly or after every sixth cleaning, whichever comes first.

■ **NOTE**

- **Check to see if the evacuator valve is blocked with dust.**

■ **IMPORTANT**

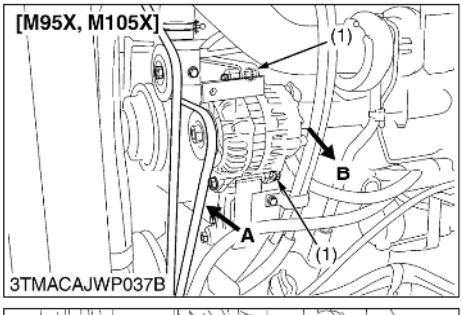
- **The air cleaner uses a dry element, never apply oil.**
- **Do not run the engine with filter element removed.**
- **Be sure to refit the cover with the arrow ↑ (on the rear of cover) upright. If the cover is improperly fitted, evacuator valve will not function and dust will adhere to the element.**
- **Do not touch the secondary element except in cases where replacing is required. (See "Replacing Air Cleaner Secondary Element")**

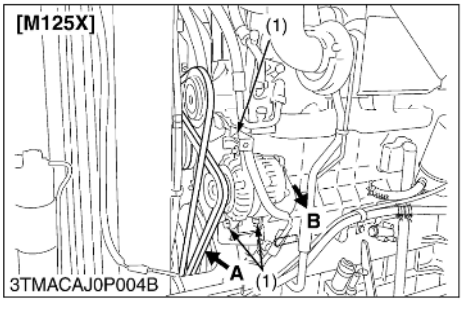
■ **Evacuator Valve**

Open the evacuator valve once a week under ordinary conditions - or daily when used in a dusty place - to get rid of large particles of dust and dirt.

(1) Secondary (Safety) Element
(2) Primary Element
(3) Evacuator Valve
(4) Cover

W1030548





Adjusting Fan Belt Tension

CAUTION

- **Be sure to stop the engine before checking belt tension.**

1. Stop the engine and remove the key.
2. Apply moderate thumb pressure to belt between pulleys.
3. If tension is incorrect, loosen the alternator mounting bolts and, using a lever placed between the alternator and the engine block, pull the alternator out until the deflection of the belt falls within acceptable limits.
4. Replace fan belt if it is damaged.

Proper fan belt tension	Factory specification	M95X M105X	A deflection of between 10 to 12 mm (0.39 to 0.47 in.) when the belt is pressed in the middle of the span.
		M125X	A deflection of between 7 to 9 mm (0.28 to 0.34 in.) when the belt is pressed in the middle of the span.

(1) Bolt

A : Check Belt Tension
B : To Tighten

W1030818

[8] CHECK POINTS OF EVERY 600 HOURS

Replacing Engine Oil Filter

1. See page G-16.

W1034890

Changing Transmission Fluid

1. See page G-16.

W1034936

Changing Front Differential Case Oil

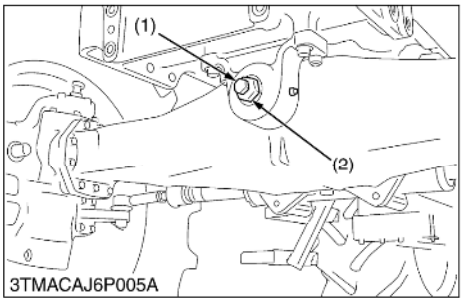
1. See page G-18.

W1034981

Changing Front Axle Gear Case Oil

1. See page G-18.

W1035026

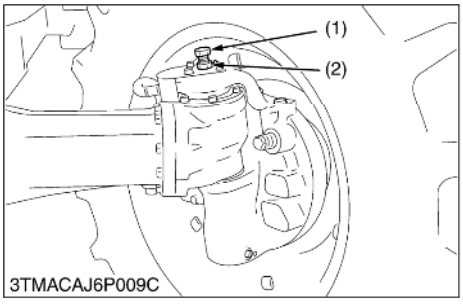


Adjusting Front Axle Pivot

1. Loosen the lock nut, tighten the adjusting screw all the way, and then loosen the screw by 1/6 turn.
2. Retighten the lock nut.

(1) Adjusting Screw (2) Lock Nut

W1035071



Adjusting King-pin Pivot

1. Loosen the lock nut and tighten the adjusting screw.

Tightening torque	Adjusting screw	4.9 to 9.8 N·m 0.5 to 1.0 kgf·m 3.62 to 7.24 lbf·ft
	Lock nut	98.1 to 147.1 N·m 10.0 to 15.0 kgf·m 72.3 to 108.5 lbf·ft

(1) Adjusting Screw (2) Lock Nut

W1035168

[9] CHECK POINT OF EVERY 800 HOURS

Adjusting Engine Valve Clearance

1. See page 1-S25, S32.

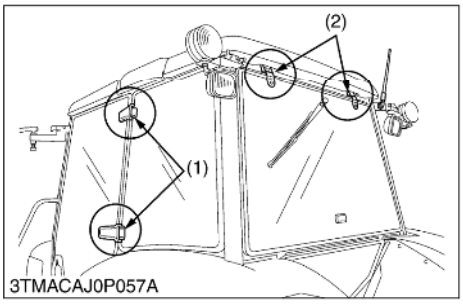
W1035213

[10] CHECK POINT OF EVERY 1500 HOURS

Checking Fuel Injection Nozzle Pressure

1. See page 1-S29, S36.

W1035370

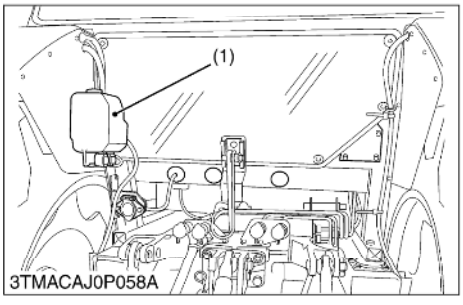


Lubricating Door and Rear Window Hinge

1. Apply oil to door hinge and rear window hinge.

(1) Door Hinge (2) Rear Window Hinge

W1024261



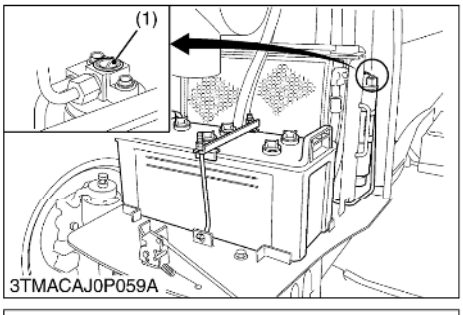
Adding Washer Liquid

1. Add a proper amount of automobile washer liquid.

Washer liquid tank	Capacity	1.3 L 1.4 U.S.qts. 1.1 Imp.qts.

(1) Washer Liquid Tank

W1024098



Checking Amount of Refrigerant (Gas)

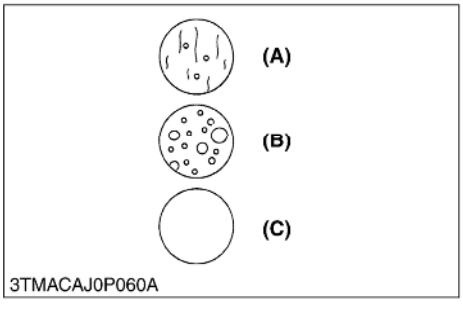
CAUTION

- **Liquid contact with eyes or skin may cause frostbite.**
- **In the event of a leakage, wear safety goggles. Escaping refrigerant can cause severe injuries to eyes.**
- **In contact with a flame, R134a refrigerant gives a toxic gas.**
- **Do not disconnect any part of the refrigeration circuit of the air conditioning system.**

A shortage of refrigerant impairs the air-conditioner performance. Check the following points. If it is indicated that the amount of refrigerant is extremely low, inspect and charge. (See page 10-S21.)

■ Checking Procedure

1. Run the air-conditioner in the following conditions.
   - Engine speed : About 1500 min^{-1} (rpm)
   - Temperature control lever : Maximum cooling position (leftmost)
   - Fan switch : Highest blow (**HI**)
   - Air-conditioner switch : **ON**
2. Look into the sight glass to see if the refrigerant is flowing through its circuit.



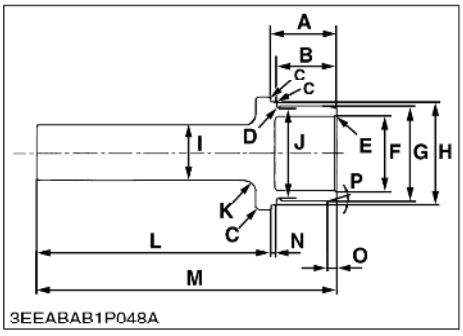
■ IMPORTANT

- **Charge only with R134a not R12 refrigerant (gas).**

(1) Side Glass

(A) Proper : Little or no air bubbles in the refrigerant flow.
(B) Low : Lots of air bubbles in the refrigerant flow (air bubbles or foam passing continuously).
(C) Overfull or no refrigerant : Colorless and transparent.

W1120282



3EEABAB1P048A

Balancer Bushing Replacing Tool 2 [for V3800]

Application: Use to press fit the bushing.

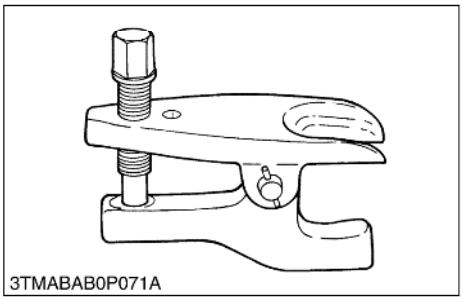
■ **NOTE**

- **This special tool is not provided, so make it referring to the figure.**

A	35 mm (1.38 in.)
B	33 mm (1.30 in.)
C	Chamfer 0.5 mm (0.02 in.)
D	1 mm (0.04 in.)
E	Chamfer 1 mm (0.04 in.)
F	40 mm dia. (1.57 in. dia.)
G	50.921 to 50.94 mm dia. (2.0048 to 2.0055 in. dia.)
H	54.8 to 54.9 mm dia. (2.1575 to 2.1614 in. dia.)
I	30 mm dia. (1.18 in. dia.)
J	49 mm dia. (1.93 in. dia.)
K	6 mm (0.24 in.)
L	125 mm (4.92 in.)
M	160 mm (6.30 in.)
N	3 mm (0.12 in.)
O	5 mm (0.20 in.)
P	0.26 rad (15 °)

W1036805

[2] SPECIAL TOOLS FOR TRACTOR

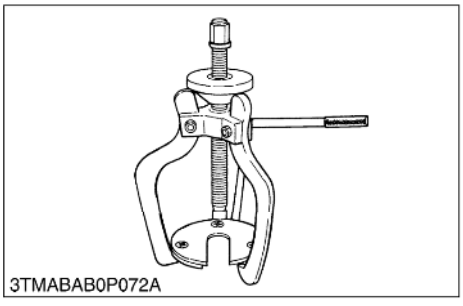

3TMABAB0P071A

Tie-rod End Lifter

Code No.: 07909-39051

Application: Use for removing the tie-rod end with ease.

W10264720

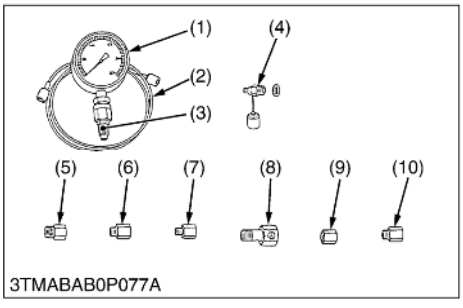

3TMABAB0P072A

Steering Wheel Puller

Code No.: 07916-51090

Application: Use for removing the steering wheel without damaging the steering shaft.

W10265330



3TMABAB0P077A

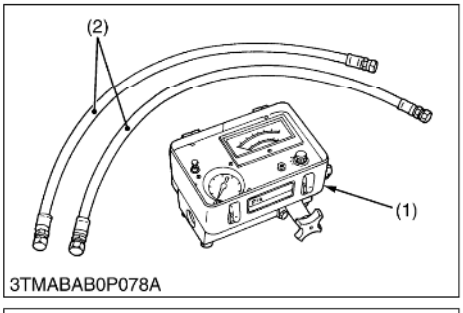
Relief Valve Pressure Tester

Code No.: 07916-50045

Application: This allows easy measurement of relief set pressure.

(1) Gauge (07916-50322)
(2) Cable (07916-50331)
(3) Threaded Joint (07916-50401)
(4) Threaded Joint (07916-50341)
(5) Adaptor **B** (M18 × P1.5) (07916-50361)
(6) Adaptor **C** (PS3/8) (07916-50371)
(7) Adaptor **D** (PT1/8) (07916-50381)
(8) Adaptor **E** (PS3/8) (07916-50392)
(9) Adaptor **F** (PF1/2) (07916-62601)
(10) Adaptor **58** (PT1/4) (07916-52391)

W10267410



3TMABAB0P078A

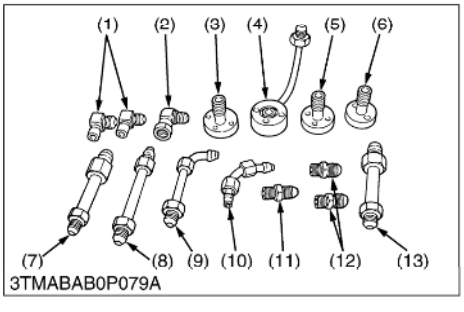
Flow Meter

Code No.: 07916-52791 (Flow Meter)
07916-52651 (Hydraulic Test Hose)

Application: This allows easy testing of hydraulic system.

(1) Flow Meter
(2) Hydraulic Test Hose

W10313180



3TMABAB0P079A

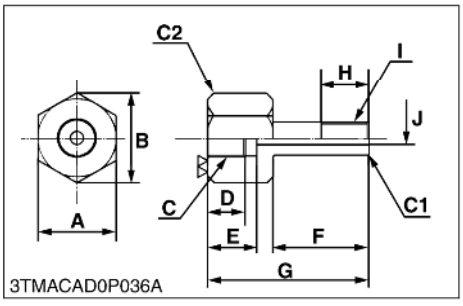
Adaptor Set for Flow Meter

Code No.: 07916-54031

Application: Use for testing the hydraulic system.

(1) Adaptor **52**
(2) Adaptor **53**
(3) Adaptor **54**
(4) Adaptor **61**
(5) Adaptor **62**
(6) Adaptor **63**
(7) Adaptor **64**
(8) Adaptor **65**
(9) Adaptor **66**
(10) Adaptor **67**
(11) Adaptor **68**
(12) Adaptor **69**
(13) Hydraulic Adaptor **1**

W10313960



Power Shift Valve Adaptor

Application : Use for measuring the system pressure of power shift valve.

A	24 mm (0.94 in.)
B	27.7 mm (1.09 in.)
C	G1/4
D	11 mm (0.43 in.)
E	15 mm (0.59 in.)
F	30 mm (1.18 in.)
G	50 mm (1.97 in.)
H	15 mm (0.59 in.)
I	R1/8
J	4 mm dia. (0.15 in. dia.)
C1	Chamfer 1.0 mm (0.039 in.)
C2	Chamfer 2.0 mm (0.079 in.)

W1055758

No.	Implement	Remarks	M95X, M105X	M125X
9	Sub Soiler	Numbers of Cultivating Tines	3	3
		Cultivating Depth	600 mm (24 in.)	600 mm (24 in.)
10	Cultivator	Max. Width	5490 mm (216 in.)	5490 mm (216 in.)
		Number of Rows	6	6
		Max. Weight	1000 kg (2200 lbs)	1000 kg (2200 lbs)
11	Front Blade*	Max. Cutting Width	2600 mm (102 in.)	2600 mm (102 in.)
		Max. Oil Pressure	18.1 MPa (185 kgf/cm^2, 2630 psi)	18.1 MPa (185 kgf/cm^2, 2630 psi)
12	Rear Blade	Max. Cutting Width	2600 mm (102 in.)	2600 mm (102 in.)
		Max. Oil Pressure	18.1 MPa (185 kgf/cm^2, 2630 psi)	18.1 MPa (185 kgf/cm^2, 2630 psi)
13	Front Loader*1, *2	Max. Lifting Capacity	1600 kg (3527 lbs)	1600 kg (3527 lbs)
		Max. Oil Pressure	20.5 MPa (209 kgf/cm^2, 2975 psi)	20.5 MPa (209 kgf/cm^2, 2975 psi)
14	Box Blade	Max. Cutting Width	2430 mm (96 in.)	2430 mm (96 in.)
		Max. Weight	800 kg (1760 lbs)	800 kg (1760 lbs)
15	Back Hoe	Max. Digging Depth	3050 mm (120 in.)	3050 mm (120 in.)
		Max. Weight	1200 kg (2650 lbs)	1200 kg (2650 lbs)
16	Snow Blade	Max. Width	2600 mm (102 in.)	2600 mm (102 in.)
		Max. Weight	800 kg (1760 lbs)	800 kg (1760 lbs)

■ **NOTE**

- **Implement size may very depending on soil operating conditions.**

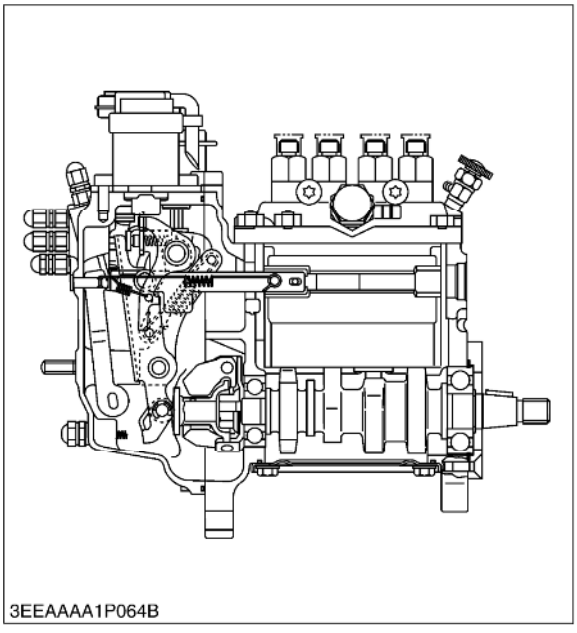
***1 Must remove front weight with this implement.**

***2 Need subframe**

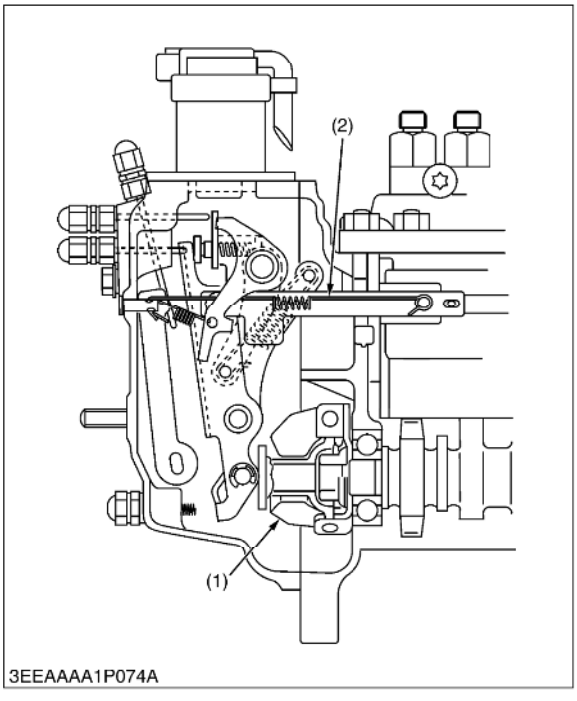
W1043839

5. FUEL SYSTEM [V3800]

[1] GOVERNOR



3EEAAAA1P064B



3EEAAAA1P074A

The engine employs the separated fuel injection pump in combination with Kubota's own small multi-function mechanical governor, which enables more dependability.

It also employs the torque limiting mechanism to control the maximum peak torque so that it complies with the regulations of exhaust gas.

This mechanism maintains engine speed at a constant level even under fluctuating loads, provides stable idling and regulates maximum engine speed by controlling the fuel injection rate.

This engine uses a mechanical governor that controls the fuel injection rate at all speed ranges (from idling to maximum speed) by utilizing the balance between the flyweight's centrifugal force and spring tension.

A governor shaft for monitoring engine speed is independent of the injection pump shaft and rotates at twice the speed of conventional types, providing better response to load fluctuation and delivering greater engine output.

W1014372

■ At Start

The stop solenoid (energized-to-run type) is powered to release the stop lever.

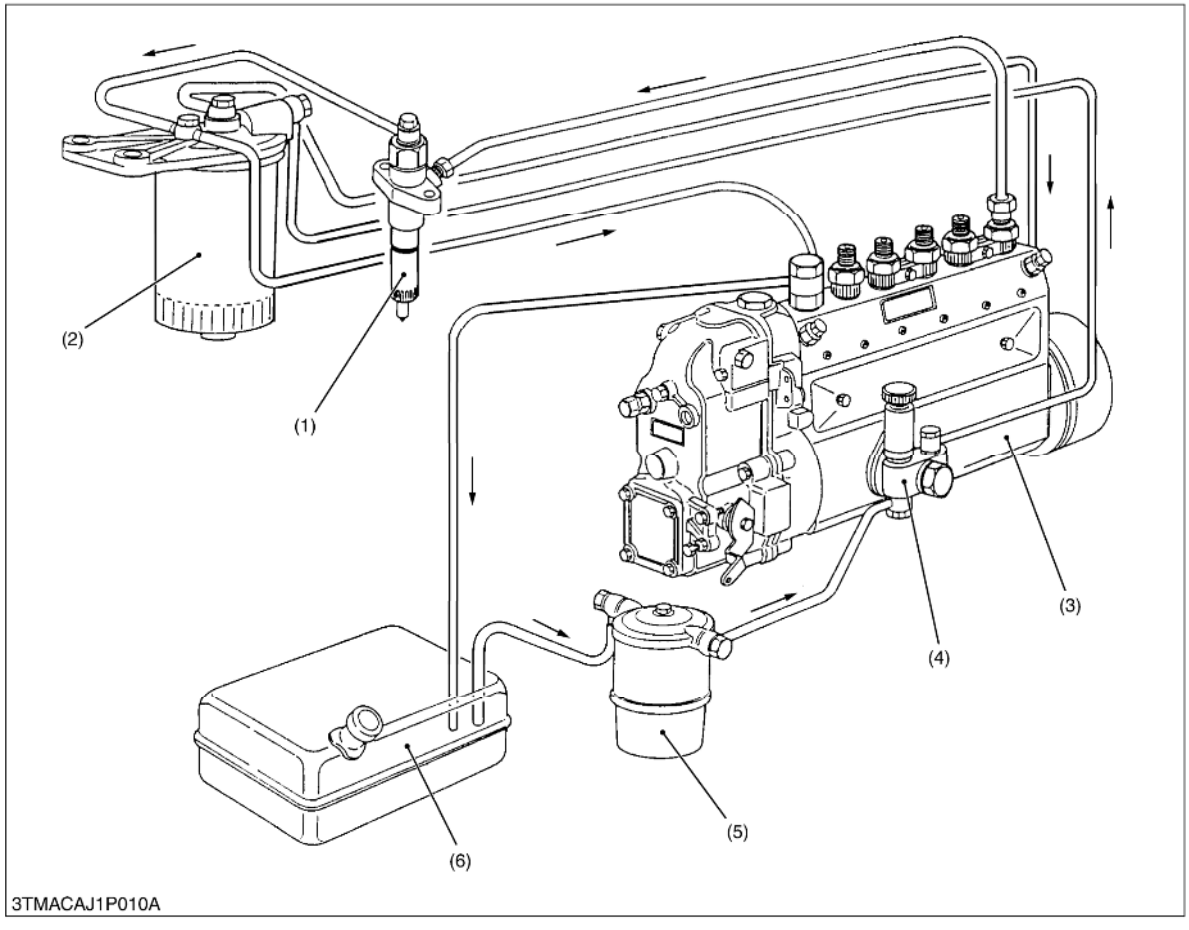
As no centrifugal force is applied to flyweight (1), low tension of start spring (2) permits control rack to move the starting position, supplying the amount of fuel required to start the engine.

(1) Flyweight (2) Start Spring

W1014427

11. FUEL SYSTEM [F5802]

[1] FUEL FLOW



(1) Injection Nozzle
(2) Fuel Filter
(3) Injection Pump
(4) Feed Pump
(5) Sedimenter
(6) Fuel Tank

While the engine is in operation, fuel flows from the tank (6) to (5), (4), (2), (3) and (1) before it is injected into the cylinders.

Fuel feed pump (4) passes fuel from the fuel tank (6) to the injection pump (3), between which are located two fuel filters for removing impurities from the fuel so as to protect the injection pump and nozzles.

One is called sedimenter (5) and it mainly removes water and dust; and the other is fuel filter (2) which removes relatively small dust particles.

Fuel is introduced into injection pump (3) and pressurized to about 22.1 MPa (225 kgf/cm^2, 3200 psi) or injection nozzle valve opening pressure, and then is injected into each cylinder.

Excess fuel is usually supplied to injection pump (3) and oil also leaks inevitably from injection nozzle (1). This excess or leaked oil is returned to the filter and tank through and overflow pipe.

Water and dust contained in fuel is very detrimental to the engine, because the precisely machined portions of the injection pump (3) and injection nozzles are worn and corroded, thus bringing about increased fuel consumption and lowered output, etc.

The fuel filter serves to remove such water and dust to protect the components. In this engine, a sedimenter (5) is installed between the tank (6) and the fuel feed pump (4), and a filter (2) between the fuel feed pump (4) and the fuel injection pump (3).

2. SERVICING SPECIFICATIONS

[1] V3800

ENGINE BODY

Item		Factory Specification	Allowable Limit
Cylinder Head Surface	Flatness	–	0.05 mm 0.0020 in.
Top Clearance		0.72 to 0.90 mm 0.0283 to 0.0354 in.	–
Compression Pressure		3.47 MPa / 250 min^{-1} (rpm) 35.4 kgf/cm^2 / 250 min^{-1} (rpm) 503 psi / 250 min^{-1} (rpm)	2.56 MPa / 250 min^{-1} (rpm) 26.1 kgf/cm^2 / 250 min^{-1} (rpm) 371 psi / 250 min^{-1} (rpm)
Variance Among Cylinders		–	10 % or less
Valve Seat Width	Intake	1.6 to 2.0 mm 0.0630 to 0.0790 in.	–
	Exhaust	2.3 to 2.6 mm 0.0906 to 0.1024 in.	–
Valve Seat Angle	Intake	1.047 rad 60 °	–
	Exhaust	0.785 rad 45 °	–
Valve Face Angle	Intake	1.047 rad 60 °	–
	Exhaust	0.785 rad 45 °	–
Valve Recessing	Intake	0.6 to 0.8 mm 0.0236 to 0.0315 in.	1.2 mm 0.0472 in.
	Exhaust	0.85 to 1.05 mm 0.0335 to 0.0413 in.	1.2 mm 0.0472 in.
Clearance between Valve Stem and Valve Guide	Intake	0.055 to 0.085 mm 0.0022 to 0.0033 in.	0.1 mm 0.0039 in.
Valve Stem O.D.		6.960 to 6.975 mm 0.2740 to 0.2746 in.	–
Valve Guide I.D.		7.030 to 7.045 mm 0.2768 to 0.2774 in.	–
	Exhaust	0.055 to 0.085 mm 0.0022 to 0.0033 in.	0.1 mm 0.0039 in.
Valve Stem O.D.		6.960 to 6.975 mm 0.2740 to 0.2746 in.	–
Valve Guide I.D.		7.030 to 7.045 mm 0.2768 to 0.2774 in.	–

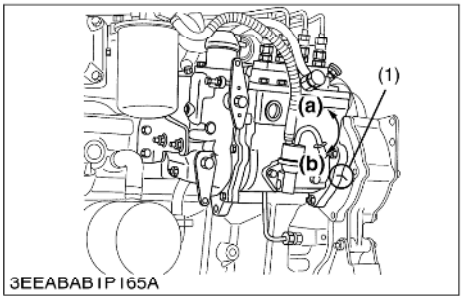
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ENGINE BODY (Continued)

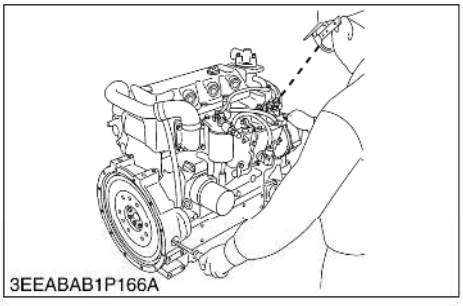
Item		Factory Specification	Allowable Limit
Crankshaft	Alignment	–	0.08 mm 0.0031 in.
Crankshaft to Crankshaft Bearing	Oil Clearance	0.044 to 0.095 mm 0.00173 to 0.0413 in.	0.20 mm 0.0079 in.
Crankshaft Journal	O.D.	75.977 to 75.990 mm 2.99122 to 2.99173 in.	–
Crankshaft Bearing	I.D.	76.034 to 76.082 mm 2.99347 to 2.99536 in.	–
Crankpin to Crankpin Bearing	Oil Clearance	0.030 to 0.078 mm 0.00118 to 0.00307 in.	0.20 mm 0.0079 in.
Crankpin	O.D.	63.977 to 63.990 mm 2.51878 to 2.51929 in.	–
Crankpin Bearing	I.D.	64.020 to 64.065 mm 2.52047 to 2.52224 in.	–
Crankshaft	Side Clearance	0.082 to 0.332 mm 0.00323 to 0.01307 in.	0.50 mm 0.0197 in.
Crankshaft Thrust Bearing	Thickness	3.379 to 3.429 mm 0.13303 to 0.13500 in.	–
Cylinder Liner	I.D.	109.000 to 109.018 mm 4.29134 to 4.29205 in.	109.17 mm 4.2980 in.
Cylinder Liner Oversize Piston and Piston Ring 0.5 mm (0.0197 in.)	I.D.	109.500 to 109.518 mm 4.3110 to 4.3117 in.	109.57 mm 4.3178 in.
Height from Cylinder Block		–0.025 to 0.025 mm –0.00098 to 0.00098 in.	–

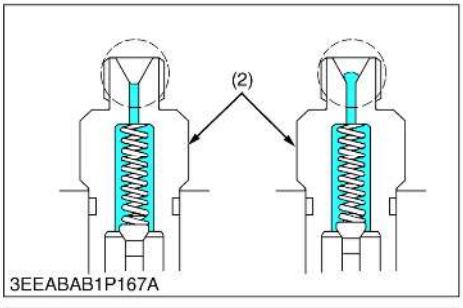
W1013874

(4) Fuel System

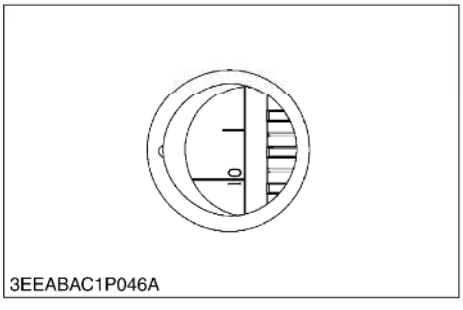


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3EEABAB1P167A


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Injection Timing

1. Make sure of matching the injection timing align mark (1) of the injection pump unit and the plate (gearcase), as shown in the illustration.
2. Remove the injection pipes.
3. Remove the stop solenoid.
4. Turn the flywheel counterclockwise (viewed from flywheel side) until the fuel fills up to the hole of the delivery valve holder (2) for No. 1 cylinder.
5. After the fuel fills up to the hole of the delivery valve holder for No. 1 cylinder, turn back (clockwise) the flywheel around 90 degrees.
6. Turn the flywheel counterclockwise to set at around 20 ° before T.D.C.
7. Slowly turn the flywheel counterclockwise and stop turning when the fuel begins to come up, to get the present injection timing.
8. Check to see the degree on flywheel.
   The flywheel has mark “1TC”, “10” and “20” for the crank angle before the top dead center of No. 1 piston.
9. If the injection timing is not within the specification. rotate the injection pump unit to adjust the injection timing.

■ **IMPORTANT**

- **WHen installing the injection pump unit to the engine body, follow the correct procedure.**
  See the “Injection Pump Unit”.

Injection timing	Factory specification	0.12 to 0.16 rad (7 to 9 °) before T.D.C.

Tightening torque	Injection pipe retaining nut	19.6 to 24.5 N·m 2.0 to 2.5 kgf·m 14.5 to 18.1 lbf·ft
	Injection pump unit mounting nut	17.7 to 20.6 N·m 1.8 to 2.1 kgf·m 13.0 to 15.2 lbf·ft

(1) Injection Timing Align Mark
(2) Delivery Valve Holder
(a) Injection Timing Advanced
(b) Injection Timing Delayed

W1025897

Injection Pump Test

1. Remove the injection pump unit.
   Refer to **“Injection Pump Unit”**. (See page 1-S52 to S55.)
2. Check the injection pump on the test bench in Denso Service shop.

W1026684

Fuel Injection Timer Test

1. Remove the injection pump unit.
   Refer to **“Injection Pump Unit”**. (See page 1-S52 to S55.)
2. Check the fuel injection timer on the test bench in Bosch service shop.

W1026761

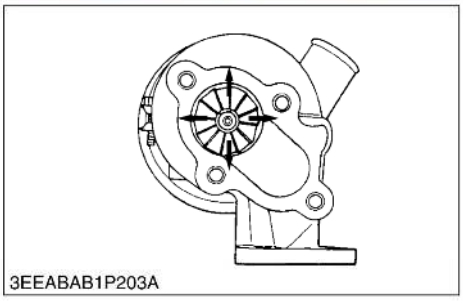


Compressor Side

1. Check the inlet pipe 1 (1) of the compressor cover (2) to see if there is no air leak.
2. Check for loose connections or cracks in the suction side of the intake pipe.
3. If any air leak is found, change the clamp (3) and or inlet pipes.

(1) Inlet Pipe 1
(2) Compressor Cover
(3) Clamp

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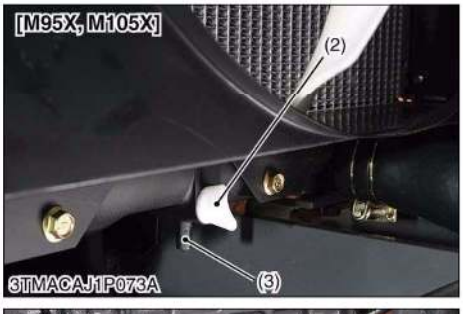
Radial Clearance

1. If the wheel contact to the housing, replace the turbocharger assembly with new one.

W1032753

[3] PREPARATION

(1) Separating Front Axle Support from Engine





Draining Coolant

CAUTION

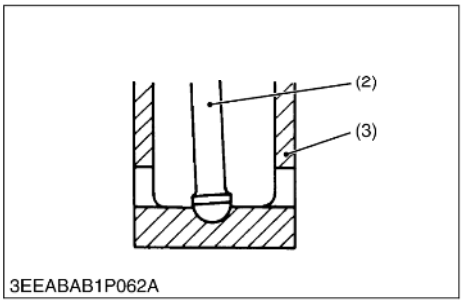
- **Never remove the radiator cap until coolant temperature is well below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.**

1. Stop the engine and let cool down.
2. Open the radiator drain plug (2) to drain the coolant. [M95X, M105X]
   Disconnect the radiator hose (1) from the part **(A)** to drain the coolant. [M125X].
   When opening the drain plug, set the hose to drain port (3).
3. Remove the radiator cap to completely drain the coolant.
4. After all coolant is drained, reinstall the radiator hose.

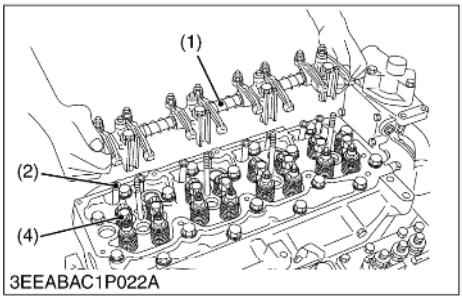
Coolant	Capacity	M95X M105X	9.0 L 9.5 U.S.qts 7.9 Imp.qts
		M125X	13.0 L 13.7 U.S.qts 11.4 Imp.qts

(1) Radiator Hose
(2) Drain Plug
(3) Drain Port
(A) Disconnecting Part

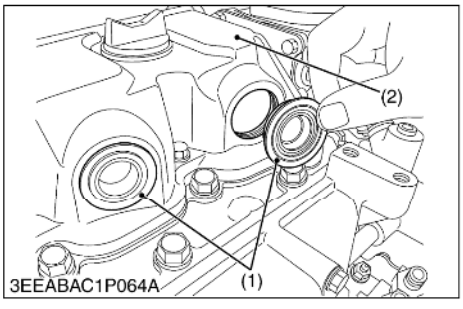
W1077370



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3EEABAC1P022A



3EEABAC1P064A

Rocker Arm and Push Rod

1. Remove the rocker arm (1) as a unit.
2. Remove the push rods (2).
3. Detach the bridge arm (4).

(When reassembling)

- When putting the push rods onto the tappets, check to see if their ends are properly engaged with the grooves.

■ **IMPORTANT**

- **After reassembling the rocker arm, be sure to adjust the valve clearance.**

Tightening torque	Rocker arm bracket screw	49.0 to 55.9 N·m 5.0 to 5.7 kgf·m 36.2 to 41.2 lbf·ft

(1) Rocker Arm
(2) Push Rod
(3) Tappet
(4) Bridge Arm

W1034746

Injection Nozzle Oil Seal (if necessary)

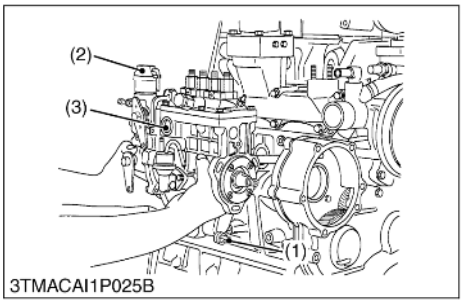
1. Remove the injection nozzle oil seal (1) from cylinder head cover (2).

(When reassembling)

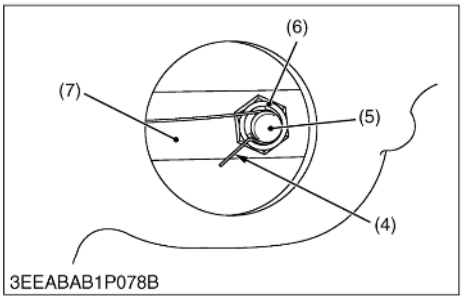
- When install the injection nozzle oil seal, use the new one.

(1) Injection Nozzle Oil Seal
(2) Cylinder Head Cover

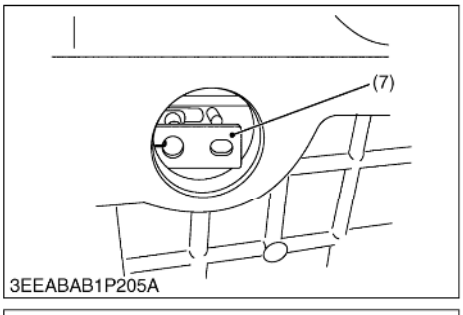
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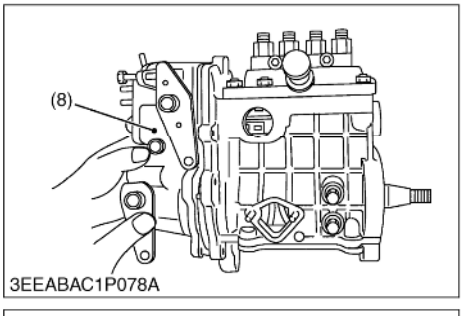
3TMACAI1P025B



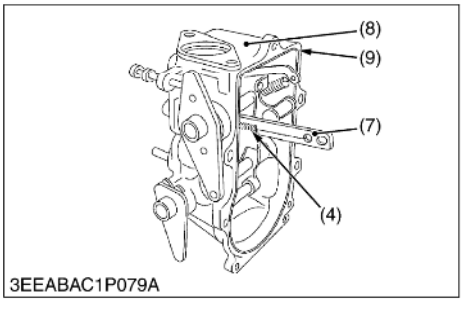
3EEABAB1P078B



3EEABAB1P205A



3EEABAC1P078A



3EEABAC1P079A

Governor Housing Assembly

1. Remove the injection pump unit from the engine. (See the "Injection Pump Unit".)
2. Remove the governor lubricating pipe (1).
3. Remove the stop solenoid (2).
4. Detach the sight cover (3) from the injection pump unit.
5. Unhook the start spring (4) from the rack pin (5) of injection pump assembly.
6. Remove the nut (6).

■ **NOTE**

- **Be careful not to drop the nut inside.**

7. Slide off the governor connecting rod (7) from the rack pin of injection pump assembly.
8. For convenient sake, temporarily hook the start spring on the rack pin hole of the governor connecting rod.
9. Remove the governor housing mounting screws.
10. Detach the governor housing assembly (8) from the injection pump unit.

(When reassembling)

- When reassembling the inside parts, put the oil on each inside part slightly.
- After sliding on the governor connecting rod to the rack pin, tighten the nut with the specified torque with using the jig for keeping the governor connecting rod horizontal. (See the "Replacing Injection Pump Assembly".)
- After tightening the nut, hook the start spring on the rack pin.
- Check the movement of control rack of injection pump assembly by the stop lever.

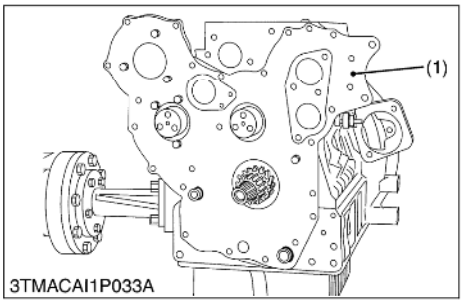
■ **NOTE**

- **When installing the governor housing assembly to the injection pump unit, be careful not to damage O-ring (9).**
- **When linking the governor connecting rod to the rack pin of injection pump, use the jig for keeping the governor connecting rod horizontal. Otherwise the control rack may be stuck, and causes to be difficult to start the engine or hunting of governor. (See the "Replacing Injection Pump Assembly".)**

Tightening torque	Governor housing mounting screw	9.8 to 11.3 N·m 1.00 to 1.15 kgf·m 7.23 to 8.32 lbf·ft
	Anti-rotation nut	2.8 to 4.0 N·m 0.29 to 0.41 kgf·m 2.1 to 3.0 lbf·ft

(1) Governor Lubricating Pipe
(2) Stop Solenoid
(3) Sight Cover
(4) Start Spring
(5) Rack Pin
(6) Anti-rotation Nut
(7) Governor Connecting Rod
(8) Governor Housing Assembly
(9) O-ring

W1039695



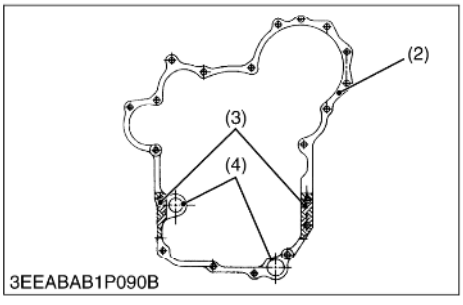


Plate (Gear Case)

1. Remove the three plate mounting screws. Detach the plate (1).

(When reassembling)

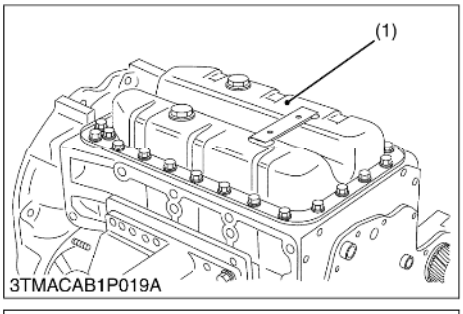
- Apply Three Bond 1217D adhesive or equivalent over the shaded zones on both sides of the gasket that will be sandwiched between the crankcase and plate.
- Be sure to fix the O-rings (4).

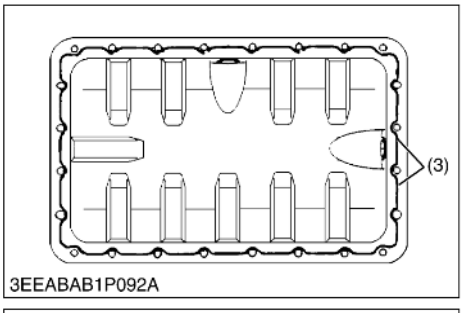
Tightening torque	Plate mounting screw	23.5 to 27.5 N·m 2.4 to 2.8 kgf·m 17.4 to 20.3 lbf·ft

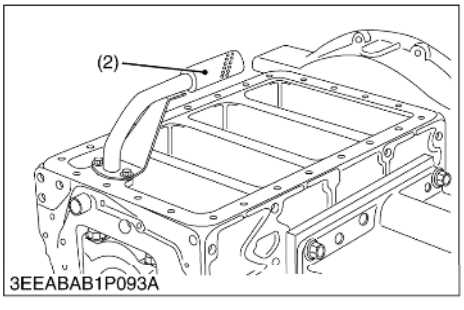
(1) Plate
(2) Gasket
(3) Liquid Gasket
(4) O-ring

W1045748

(8) Piston and Connecting Rod







Oil Pan and Oil Strainer

1. Unscrew the oil pan mounting screws and remove the oil pan (1).
2. Unscrew the oil strainer mounting screw, and remove the oil strainer (2).

(When reassembling)

- Install the oil strainer, using care not to damage the O-ring.
- Apply liquid gasket (Three Bond 1217D) to the oil pan as shown in the figure.
- Confirm that the liquid gasket coating surface is free of water, dust and oil in order to maintain sealing effect.
- Carefully apply the adhesive evenly.

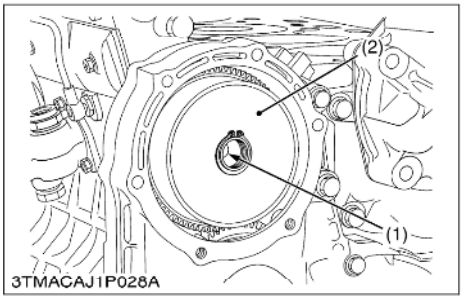
■ **NOTE**

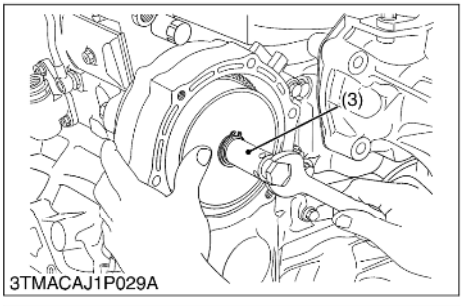
- **When mounting the adhesive-applied parts, take care to fit them to the mating parts.**
- **Assemble the adhesive-applied parts within ten minutes.**
- **To avoid uneven tightening, tighten mounting screws in diagonal order from the center.**
- **After cleaning the oil strainer, install it.**
- **Attach the oil pan with its central drain plug facing toward the air suction side.**

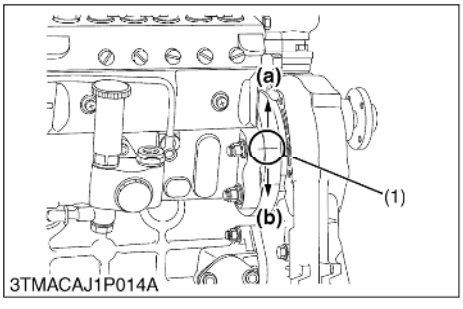
(1) Oil Pan
(2) Oil Strainer
(3) Liquid Gasket

W1046047

(4) Timing Gear







Injection Pump

■ **NOTE**

- **To disassemble and reassemble the fuel injection pump, its drive gear and automatic timer and to readjust the fuel injection timing, take the following procedures.**

(When reassembling)

1. Remove the injection pump cover.
2. Turn the crankshaft in the engine's rotating direction until the timing mark on the idle gear 2 and that on the fuel injection pump gear appear visible.
3. Remove the nut (1).
4. Remove the automatic timer (2) with the injection pump gear by using a puller (3).

■ **NOTE**

- **Never loosen the bolt that secures the injection pump gear.**

5. Disconnect the oil pipe and high-pressure pipe.
6. Remove the four pump mounting nuts and detach the injection pump.

(When reassembling)

1. Install the injection pump, aligning the timing mark (6) on the pump body with that on the injection pump base. (See the figure.)
2. Mount the timer, matching the timing mark on the injection pump gear with that on the idle gear 2.
3. Tighten up the timer mounting nut to the specified torque.
4. Be sure to check injection timing, after replacing the injection pump. (See page 1-S35.)
5. If the injection timing is not within the specification, adjust the injection pump.
6. Reconnect the high-pressure pipes.
7. Place the injection pump cover back in position.

■ **NOTE**

- **Before attaching the cover, apply liquid gasket (Three Bond 1215 or 1104) thinly over its gasket.**

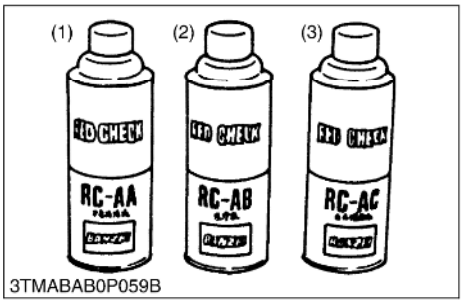
8. Reconnect the oil pipe.

Tightening torque	Injection pump drive shaft nut	73.6 to 83.4 N·m 7.5 to 8.5 kgf·m 54.2 to 61.5 lbf·ft

(1) Nut
(2) Autotimer
(3) Puller
(4) Oil Pipe
(5) Injection Pump
(6) Timing Mark

(a) Injection Timing Advanced
(b) Injection Timing Delayed

W1052575



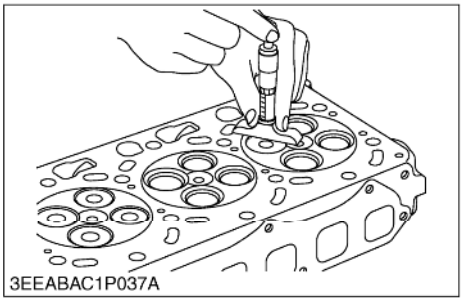
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Cylinder Head Flaw

1. Prepare an air spray red check (Code No.: 07909-31371).
2. Clean the surface of the cylinder head with the detergent (2).
3. Spray the cylinder head surface with the red permeative liquid (1). Leave it five to ten minutes after spraying.
4. Wash away the red permeative liquid on the cylinder head surface with the detergent (2).
5. Spray the cylinder head surface with the white developer (3).
6. If flawed, it can be identified as red marks.

(1) Red Permeative Liquid
(2) Detergent
(3) White Developer

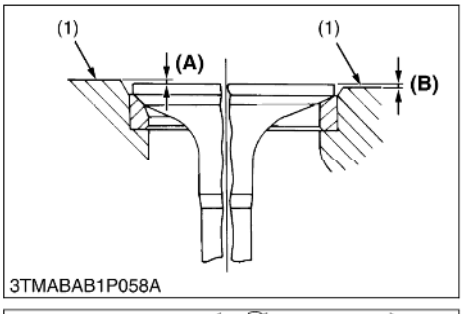
W1060884


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Valve Recessing

1. Clean the cylinder head, the valve face and seat.
2. Insert the valve into the valve guide.
3. Measure the valve recessing with a depth gauge.
4. If the measurement exceeds the allowable limit, replace the valve.
5. If it still exceeds the allowable limit after replacing the valve, replace the cylinder head.

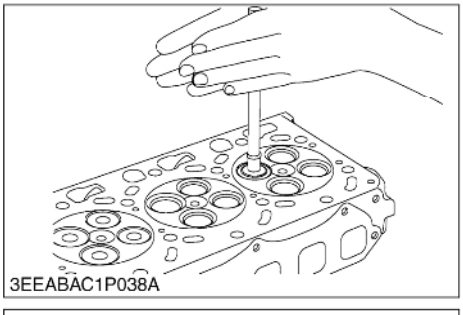
Valve recessing	Factory specification	Intake valve	(Recessing) 0.6 to 0.8 mm 0.0236 to 0.0315 in.
		Exhaust valve	(Recessing) 0.85 to 1.05 mm 0.0335 to 0.0413 in.
	Allowable limit	(Recessing) 1.2 mm 0.0472 in.	



3TMABAB1P058A

(1) Cylinder Head Surface
(A) Recessing
(B) Protrusion

W1061184


3EEABAC1P038A

Valve Lapping

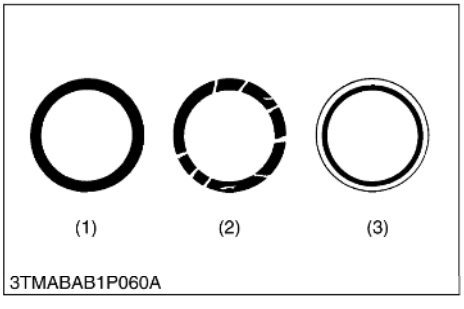
1. Apply compound evenly to the valve lapping surface.
2. Insert the valve into the valve guide. Lap the valve onto its seat with a valve flapper or screwdriver.
3. After lapping the valve, wash the compound away and apply oil, then repeat valve lapping with oil.
4. Apply prussian blue to the contact surface to check the seated rate. If it is less than 70 %, repeat valve lapping again.

■ **IMPORTANT**

- **When valve lapping is performed, be sure to check the valve recessing and adjust the valve clearance after assembling the valve.**

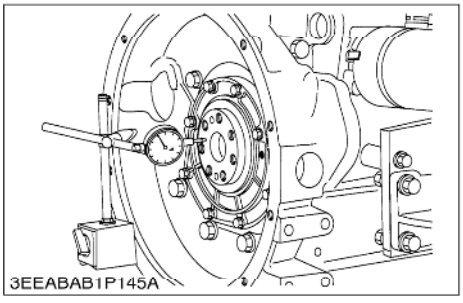
(1) Correct
(2) Incorrect
(3) Incorrect

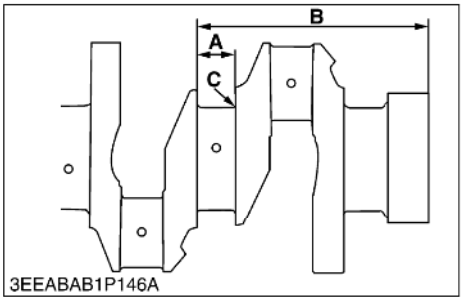
W1061406



3TMABAB1P060A

(4) Crankshaft


3EEABAB1P145A



3EEABAB1P146A

Crankshaft Side Clearance

1. Set a dial indicator with its tip on the end of the crankshaft.
2. Measure the side clearance by moving the crankshaft to the front and rear.
3. If the measurement exceeds the allowable limit, replace the thrust bearings.
4. If the same size bearing is useless because of the crankshaft journal wear, replace it with an oversize one referring to the table and figure.

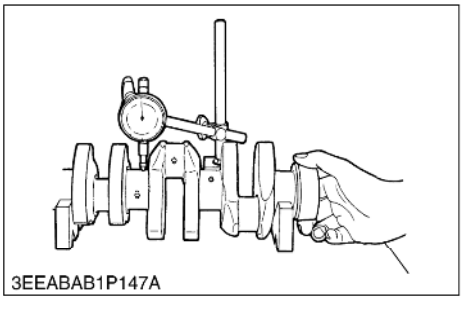
Crankshaft side clearance	Factory specification	0.15 to 0.31 mm 0.0059 to 0.0122 in.
	Allowable limit	0.50 mm 0.0197 in.

(Reference)

- Oversize dimensions of crankshaft journal

Oversize	0.2 mm 0.008 in.	0.4 mm 0.016 in.
Dimension **A**	29.20 to 29.25 mm 1.1496 to 1.1515 in.	29.40 to 29.45 mm 1.1574 to 1.1594 in.
Dimension **B**	169.1 to 169.15 mm 6.6575 to 6.6594 in.	169.2 to 169.25 mm 6.6614 to 6.6634 in.
Dimension **C**	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
The crankshaft journal must be fine-finished to higher than VVVV.		(0.8-S)

W1067652

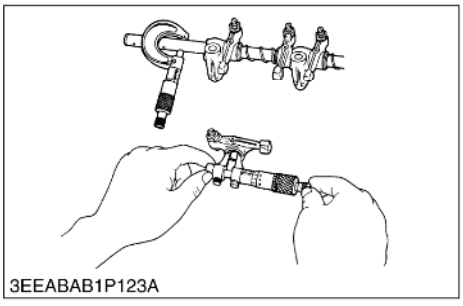

3EEABAB1P147A

Crankshaft Alignment

1. Support the crankshaft with V block on the surface plate and set a dial indicator with its tip on the intermediate journal at right angle.
2. Rotate the crankshaft on the V block and get the misalignment (half of the measurement).
3. If the misalignment exceeds the allowable limit, replace the crankshaft.

Crankshaft alignment	Allowable limit	0.02 mm 0.0008 in.

W1068124


3EEABAB1P123A

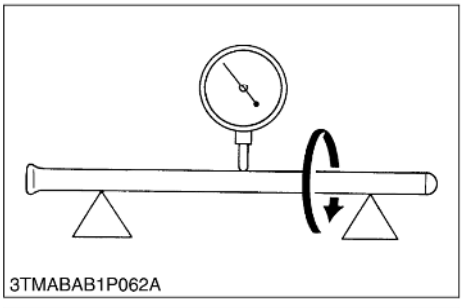
Oil Clearance between Rocker Arm and Rocker Arm Shaft

1. Measure the rocker arm shaft O.D. with an outside micrometer.
2. Measure the rocker arm I.D. with an inside micrometer, and then calculate the oil clearance.
3. If the oil clearance exceeds the allowable limit, replace the rocker arm and measure the oil clearance again. If it still exceeds the allowable limit, replace also the rocker arm shaft.

Oil clearance between rocker arm and rocker arm shaft	Factory specification	0.016 to 0.052 mm 0.00063 to 0.00205 in.
	Allowable limit	0.15 mm 0.0059 in.

Rocker arm shaft O.D.	Factory specification	17.982 to 18.000 mm 0.70795 to 0.70866 in.
Rocker arm I.D.	Factory specification	18.016 to 18.034 mm 0.70929 to 0.71000 in.

W1073458

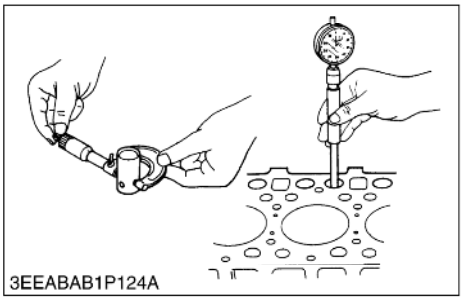

3TMABAB1P062A

Push Rod Alignment

1. Place the push rod on V blocks.
2. Measure the push rod alignment.
3. If the measurement exceeds the allowable limit, replace the push rod.

Push rod alignment	Allowable limit	0.25 mm 0.0098 in.

W1074362


3EEABAB1P124A

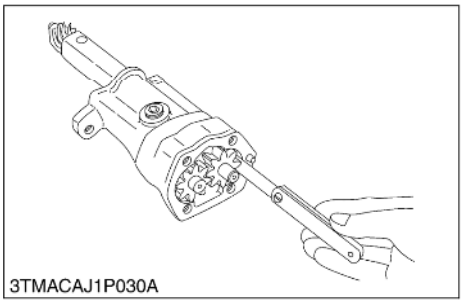
Oil Clearance between Tappet and Tappet Guide Bore

1. Measure the tappet O.D. with an outside micrometer.
2. Measure the I.D. of the tappet guide bore with a cylinder gauge, and calculate the oil clearance.
3. If the oil clearance exceeds the allowable limit or the tappet is damaged, replace the tappet.

Clearance between tappet and tappet guide bore	Factory specification	0.032 to 0.070 mm 0.0013 to 0.0028 in.
	Allowable limit	0.08 mm 0.0031 in.

Tappet guide I.D.	Factory specification	14.000 to 14.027 mm 0.5512 to 0.5522 in.
Tappet O.D.	Factory specification	13.957 to 13.968 mm 0.5495 to 0.5499 in.

W1074487

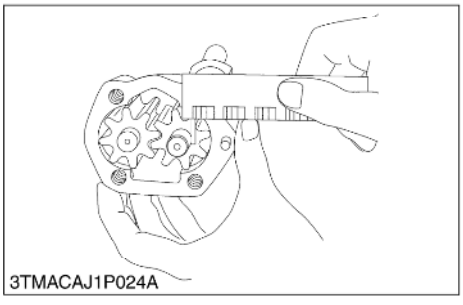

3TMACAJ1P030A

Clearance between Teeth and Body

1. Insert the feeler gauge between the gear and body and measure the clearance.
2. If the clearance exceeds the allowable limit, replace the pump.

Clearance between gear and body	Factory specification	0.100 to 0.196 mm 0.0039 to 0.0079 in.
	Allowable limit	0.25 mm 0.010 in.

W1090774

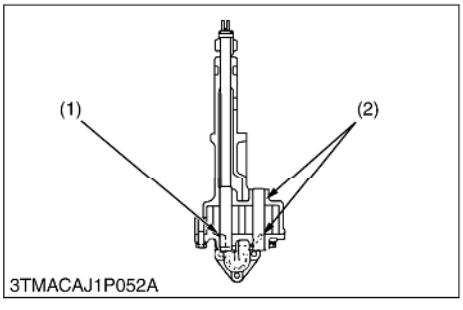

3TMACAJ1P024A

Clearance between Gear and Cover

1. Put a strip of plastigage on the gear surface and assemble the pump.
2. Disassemble the pump and measure the amount of the flattening with the scale to get the clearance.
3. If the clearance exceeds the allowable limit, replace the pump.

Clearance between gear and cover	Factory specification	0.050 to 0.114 mm 0.0020 to 0.0045 in.
	Allowable limit	0.15 mm 0.0059 in.

W1106145



3TMACAJ1P052A

Clearance between Drive / Driven Shaft and Their Bearings

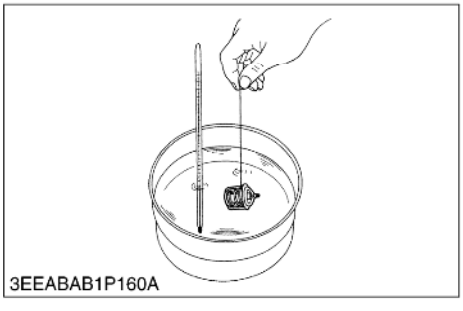
1. Measure the dimensions of the shafts and their bearings to see if the clearances are as specified.

Clearance between drive / driven shafts and their bearings	Factory specification	0.032 to 0.074 mm 0.0013 to 0.0029 in.
	Allowable limit	0.15 mm 0.0059 in.

(1) Clearance between Drive Shaft and its Bearing (2) Clearance between Driven Shaft and its Bearing

W1090959

(7) Thermostat


3EEABAB1P160A

Thermostat Valve Opening Temperature

1. Suspend the thermostat in the water by a string with its end inserted between the valve and seat.
2. Heating the water gradually, read the temperature when the valve opens and leaves the string.
3. Continue heating and read the temperature when the valve opens approx. 8 mm (0.315 in.).
4. If the measurement is not within the factory specifications, replace the thermostat.

Thermostat's valve opening temperature	Factory specification	80 to 84 °C 176 to 183.2 °F
Temperature at which thermostat completely opens	Factory specification	95 °C 203 °F

W1091133

1. TROUBLESHOOTING

MASTER CLUTCH (SHUTTLE CLUTCH)

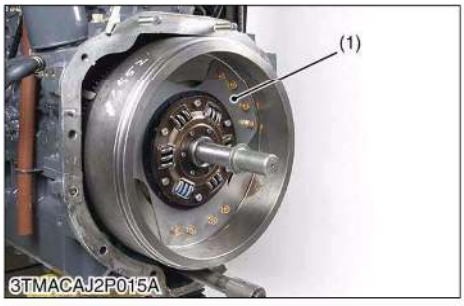
Symptom	Probable Cause	Solution	Reference Page
Master Clutch Slip	Operating pressure is low	Adjust	8-S11
	Master clutch valve malfunctioning	Replace	8-S23
	Clutch disc or steel plate excessively worn	Replace	2-S20, S21, S23
	Deformation of piston or steel plate	Replace	2-S21
Master Clutch Operating Pressure Is Low	Transmission oil improper or insufficient	Replenish or change	G-7
	Regulator valve malfunctioning	Adjust or replace	8-S11
Master Clutch Drags	Return spring weaken or broken	Replace	2-S21
	Deformation of piston or steel plate	Replace	2-S21

W1013580

PTO CLUTCH

PTO Clutch Slip	Operating pressure is low	Adjust	8-S13
	PTO clutch valve malfunctioning	Repair or replace	2-S19
	Clutch disc or steel plate excessively worn	Replace	2-S22
	Deformation of piston or return spring	Replace	2-S22
PTO Shaft Does Not Rotate	PTO clutch malfunctioning	Repair or replace	2-S22
	PTO propeller shaft coupling disengaged	Engage	–
	PTO clutch valve malfunctioning	Repair or replace	2-S19
PTO Clutch Operating Pressure Is Low	Transmission oil improper or insufficient	Replenish or change	G-7
	Regulator valve malfunctioning	Adjust or replace	8-S11
PTO Clutch Drags	Brake plate excessively worn	Replace	2-S22, S25
	Return spring weaken or broken	Replace	2-S22, S25
	Deformation of plate or steel plate	Replace	2-S22, S25

W1013718



Damper Disc

1. Remove the damper disc mounting screw.

(When reassembling)

- Direct the shorter end of the damper disc boss toward the flywheel.
- Apply molybdenum disulphide (Three Bond 1901 or equivalent) to the splines of damper disc boss.

■ **IMPORTANT**

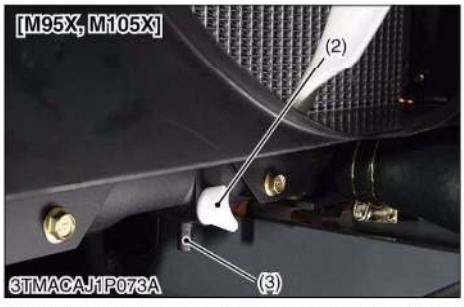
- **Align the center of disc and flywheel by inserting the clutch center tool.**

Tightening torque	Damper disc mounting screw	48.0 to 55.9 N·m 4.9 to 5.7 kgf·m 35.4 to 41.2 lbf·ft

(1) Damper Disc

W1013511

(2) Removing PTO Clutch Pack





Draining Coolant

CAUTION

- **Never remove the radiator cap until coolant temperature is well below its boiling point. Then loosen cap slightly to the stop to relieve any excess pressure before removing cap completely.**

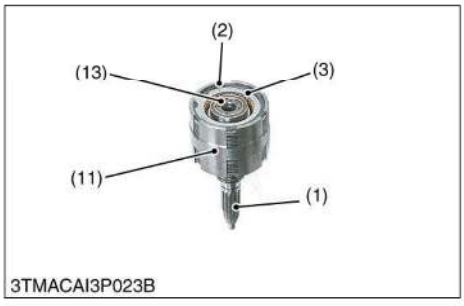
1. Stop the engine and let cool down.
2. Open the radiator drain plug (2) to drain the coolant. [M95X, M105X]
   Disconnect the radiator hose (1) from the part **(A)** to drain the coolant. [M125X].
   When opening the drain plug, set the hose to drain port (3).
3. Remove the radiator cap to completely drain the coolant.
4. After all coolant is drained, reinstall the radiator hose.

Coolant	Capacity	M95X M105X	9.0 L 9.5 U.S.qts 7.9 Imp.qts
		M125X	13.0 L 13.7 U.S.qts 11.4 Imp.qts

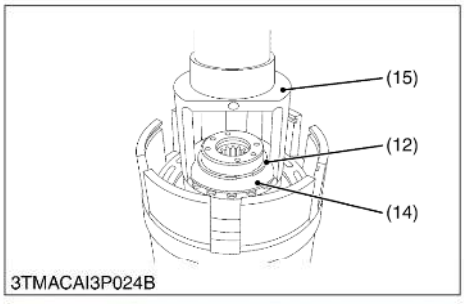
(1) Radiator Hose
(2) Drain Plug
(3) Drain Port

(A) Disconnecting Part

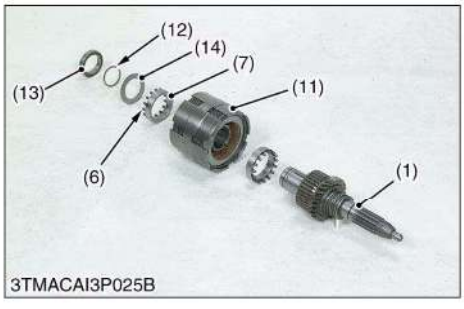
W1013758



3TMACAI3P023B



3TMACAI3P024B



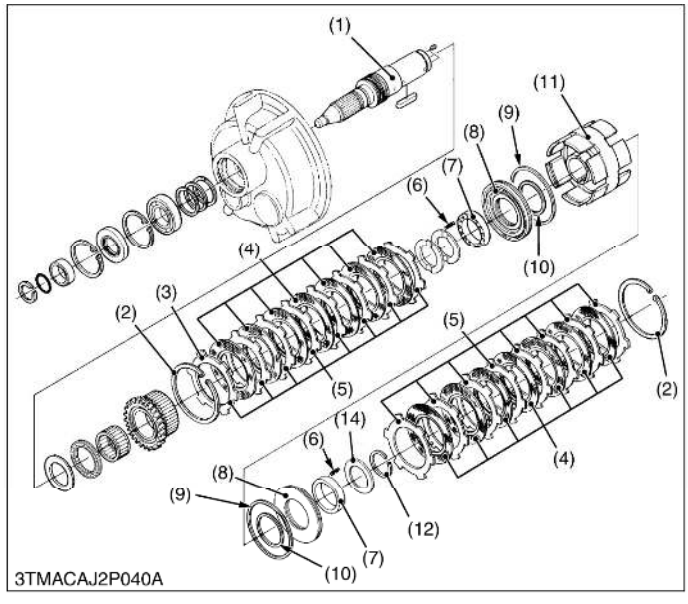
3TMACAI3P025B

Disassembling Master Clutch

1. Remove the internal snap ring (2).
2. Remove the pressure plate (3), drive plates (5) and clutch discs (4).
3. Remove the bearing (13).
4. Press the thrust collar (14) lightly with hand press, using clutch spring compression tool (15) (see page G-70), and remove the external snap ring (12).
5. Tap out the input shaft (1) from clutch body (11).

(When reassembling)

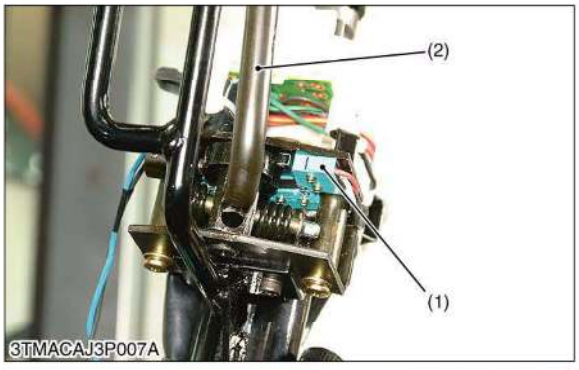
- Replace the external snap rings (12) with new ones.
- Install the clutch discs (4) and drive plate (5) mutually.
- When installing the internal snap ring (2) to the clutch body, align its split portion to the notched portion of clutch body.
- Apply enough transmission fluid to the discs (4).
- Do not confuse the pressure plate (3) and drive plate (5). The pressure plate (3) is thicker than the drive plate.
- Confirm the moving of the piston (8) smoothly when pressure air at 0.5 to 1.0 MPa (5 to 10 kgf/cm^2, 71 to 142 psi) is sent to clutch pack. (Refer to photo left.)



3TMACAJ2P040A

(1) Input Shaft
(2) Internal Snap Ring
(3) Pressure Plate
(4) Clutch Disc
(5) Drive Plate
(6) Spring
(7) Spring Holder
(8) Piston
(9) D-ring
(10) D-ring
(11) Clutch Body
(12) External Snap Ring
(13) Bearing
(14) Thrust Collar
(15) Compression Tool

W1018635



■ Shuttle Switch

In the power shift, switching of **Forward / Reverse** operation is effected electrically. Therefore, three micro-switches are provided on the shuttle lever shaft so that the position (**Forward-N-Reverse**) of the shuttle lever should be detected.

(1) Shuttle Switch (2) Shuttle Lever

W1013103



■ Clutch Pedal Sensor

The clutch pedal sensor detects a position of the clutch pedal to control pressures of the master clutch.

This system allows clutch operation similar to a mechanical clutch.

(1) Clutch Pedal Sensor

W1013247



■ Throttle Sensor

The throttle sensor detects a position of engine throttle lever.

(1) Throttle Sensor

W1013318



■ Engine Rotation Sensor

The engine rotation sensor detects rotation of the gear pump driver gear to calculate the number of engine rotations.

The sensor output a pulse signal according to engine rotations, and the signal is converted in the meter panel and sent to the microcomputer unit.

(1) Engine Rotation Sensor

W1013375

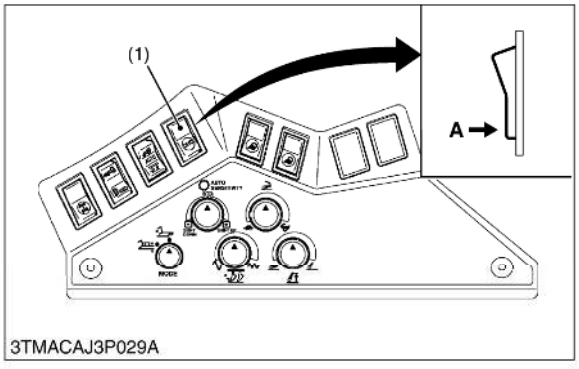
■ **Working Support Function**

There is support function as described below. However, while the 3-point hitch safety lock is on, support function does not work.

1. **No auto shift up according to the 3-point hitch height**
   When the 3-point hitch is being raised, no auto up can be done. (assuming tillage work is not being conducted.)
2. **Auto shift down function accordance with the 3-point hitch raising**
   Auto shift down to the lower limit is conducted when the 3-point hitch is raised.

[4] OTHER CONTROL

(1) Down-hill Control



On this tractor, the engine load and other fluctuations are sensed and the speed is well controlled in response to the loads. Turn the DHC switch **"ON"** when using a traction PTO attachment (baler, etc.) on a slope. A well responsive speed control can be expected. In other applications, turn this switch **"OFF"**. Smooth speed change is available for comfortable ride.

(1) DHC Switch **(A) Push to ON**

W1017203

(2) Clutch Pedal Control



The position of clutch pedal is detected by clutch pedal sensor and the master clutch pressure is controlled by solenoid proportional reducing valve according to the position of clutch pedal. Thus, it can be operated with a feeling similar to that of ordinary mechanical clutch. Moreover, since the master clutch pressure boosting pattern is set for each of the speed change steps, it can be operated with a same feeling at any step.

Besides the clutch can be shifted also by operation of the clutch button of the power shift lever. In this case, the pressure of master clutch is also controlled (modulated) in the effect for smooth clutch engagement.

(1) Clutch Pedal Sensor

W1017517

(3) Shuttle Control



The master (**F-R**) clutch is controlled to switch the forward / reverse operation by manipulating the shuttle lever. At this time, the forward / reverse operation can be switched smoothly by controlling (modulating) the pressure of the master clutch.

(1) Shuttle Lever

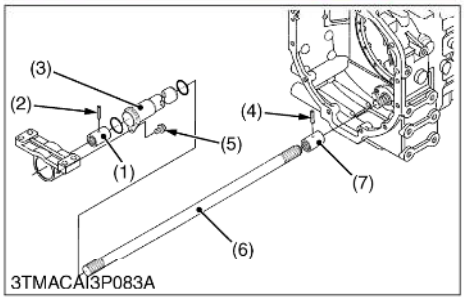
W1017380

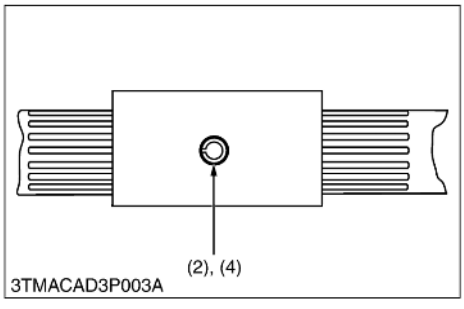
2. SERVICING SPECIFICATIONS

Item		Factory Specification	Allowable Limit
Shift Fork and Shifter Groove	Clearance	0.13 to 0.40 mm 0.0051 to 0.0157 in.	0.80 mm 0.031 in.
Internal Snap Ring and Pressure Plate (Main Shift Clutch 1st to 4th)	Clearance	1.6 to 1.8 mm 0.063 to 0.071 in.	3.2 mm 0.126 in.
Internal Snap Ring and Pressure Plate (Main Shift Clutch **L** Range Side)	Clearance (M95X, M105X)	2.0 to 2.2 mm 0.079 to 0.087 in.	3.6 mm 0.142 in.
	Clearance (M125X)	2.6 to 2.8 mm 0.102 to 0.110 in.	4.2 mm 0.165 in.
Internal Snap Ring and Pressure Plate (Main Shift Clutch **H** Range Side)	Clearance (M95X, M105X)	1.6 to 1.9 mm 0.063 to 0.075 in.	3.3 mm 0.130 in.
	Clearance (M125X)	1.8 to 2.1 mm 0.071 to 0.083 in.	3.5 mm 0.138 in.
Clutch Disc [3F750-28501] (Main Shift Clutch 1st to 4th)	Thickness	2.12 to 2.28 mm 0.083 to 0.090 in.	1.8 mm 0.071 in.
Clutch Disc [3F250-28501] (Main Shift Clutch **L** Range Side)	Thickness	1.72 to 1.88 mm 0.068 to 0.074 in.	–
Clutch Disc [3F250-28501] (Main Shift Clutch **H** Range Side)	Thickness	1.72 to 1.88 mm 0.068 to 0.074 in.	–
Clutch Disc [3F750-28501] (Main Shift Clutch **H** Range Side)	Thickness (M125X)	2.12 to 2.28 mm 0.083 to 0.090 in.	1.8 mm 0.071 in.
Drive Plate [3F750-28542] (Main Shift Clutch)	Thickness	1.35 to 1.45 mm 0.053 to 0.057 in.	–
Drive Plate [3F750-28552] (Main Shift Clutch)	Thickness	1.55 to 1.65 mm 0.061 to 0.065 in.	–
Pressure Plate [3F750-28561] (Main Shift Clutch 1st to 4th, **L-H**)	Thickness	3.92 to 4.08 mm 0.154 to 0.161 in.	3.6 mm 0.142 in.
Internal Snap Ring and Pressure Plate (4WD/Bi-speed Clutch)	Clearance	1.5 to 2.0 mm 0.059 to 0.079 in.	3.5 mm 0.138 in.
Drive Plate [33740-24481] (4WD/Bi-speed Clutch)	Thickness	1.7 to 1.8 mm 0.067 to 0.071 in.	–
Drive Plate [33980-24481] (4WD/Bi-speed Clutch)	Thickness	1.15 to 1.25 mm 0.045 to 0.049 in.	–
Clutch Disc (4WD/Bi-speed Clutch)	Thickness	2.12 to 2.28 mm 0.083 to 0.090 in.	1.8 mm 0.071 in.
Travel Sensor and Detection Gear	Clearance	0.2 to 0.7 mm 0.00788 to 0.02755 in.	–

W1013874







Propeller Shaft

1. Slide the propeller shaft cover (3) after removing the screw (5).
2. Tap out the spring pins (2) and then slide the coupling (1) to the rear.

(When reassembling)

- Apply grease to the splines of the propeller shaft (6) and pinion shaft.
- Tap in the spring pins (2) as shown in figure.

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

W1016404

Main Shaft Hydraulic Clutch (H-L) (Continued)

The order of assembling drive plate (main shift clutch L side)

Old Type (=163 mm)

Plate position from piston side	M95X, M105X (Thickness)	M125X (Thickness)
1st plate	Without rubbers (1.4 mm, 0.055 in.)	Without rubbers (1.4 mm, 0.055 in.)
2nd plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.4 mm, 0.055 in.)
3rd plate	Without rubbers (1.4 mm, 0.055 in.)	Without rubbers (1.6 mm, 0.063 in.)
4th plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.4 mm, 0.055 in.)
5th plate	Without rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.6 mm, 0.063 in.)
6th plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.4 mm, 0.055 in.)
7th plate	With rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.4 mm, 0.055 in.)
8th plate	–	With rubbers (1.4 mm, 0.055 in.)
9th plate	–	With rubbers (1.4 mm, 0.055 in.)

New Type (=167 mm)

Plate position from piston side	M95X, M105X (Thickness)	M125X (Thickness)
1st plate	Without rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.6 mm, 0.063 in.)
2nd plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.6 mm, 0.063 in.)
3rd plate	Without rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.6 mm, 0.063 in.)
4th plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.6 mm, 0.063 in.)
5th plate	Without rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.6 mm, 0.063 in.)
6th plate	With rubbers (1.6 mm, 0.063 in.)	With rubbers (1.6 mm, 0.063 in.)
7th plate	With rubbers (1.6 mm, 0.063 in.)	Without rubbers (1.6 mm, 0.063 in.)
8th plate	–	With rubbers (1.6 mm, 0.063 in.)
9th plate	–	With rubbers (1.6 mm, 0.063 in.)

W1048724

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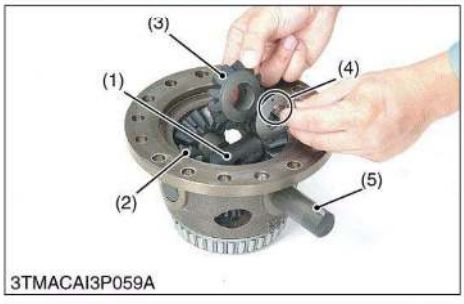


Taper Roller Bearing

1. Place the differential cover (1) on the vise.
2. Tap out the taper roller bearing (2) from the inside of the differential cap, taking care not to damage the outer race and separator.

(1) Differential Cover (2) Taper Roller Bearing

W1026412



Differential Pinon Shaft and Differential Pinion

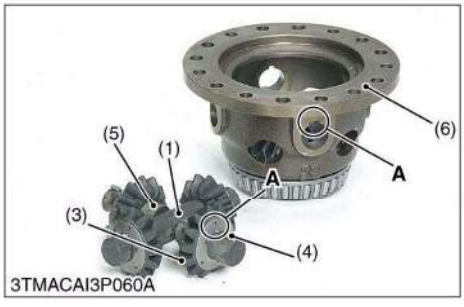
1. Draw out the differential pinion shaft 2 (5), and take out the differential pinion (3) and differential pinion washer (4).
2. Draw out the differential pinion shaft (1), and take out the differential pinion (2) and differential pinion washer (4).

■ **NOTE**

- **Arrange the parts to know their original position.**

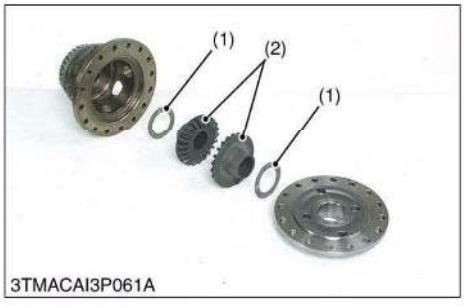
(When reassembling)

- Check the differential pinions (2) and (3), and pinion shaft (1) and (5) for excessive wear. If these parts are damaged or excessively worn, replace their parts they are in mesh with, or they sliding on.
- Apply molybdenum disulfide (Three Bond 1901 or equivalent) to the inner circumferential surface of the differential pinions.
- Install the parts to their original position.
- Install the differential pinion washer (4), noting its groove position (**A**).



(1) Differential Pinion Shaft
(2) Differential Pinion
(3) Differential Pinion
(4) Differential Pinion Washer
(5) Differential Pinion Shaft 2
(6) Differential Case
A : Fit Groove

W1026522



Differential Side Gear

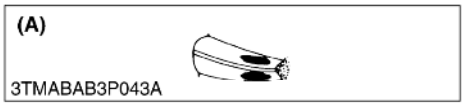
1. Take out the differential side gear (2) and differential side gear washer (1).

(When reassembling)

- Check the thrust and bearing surface of both differential side gears (2). If they are worn or damaged, bores in the differential case may also be damaged. Be sure to replace their parts.

(1) Differential Side Gear Washer (2) Differential Side Gear

W1026758



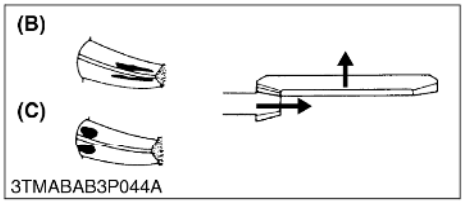
- **Proper Contact**

  More than 35 % red lead contact area on the gear tooth surface.

  The center of tooth contact at 1/3 of the entire width from the small end.

(A) Proper Contact

W1018747



- **Shallow or Heel Contact**

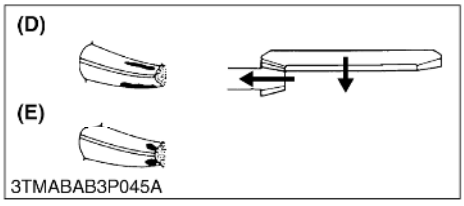
  Replace the adjusting collar (5) with thicker one to move the spiral bevel pinion shaft backward.

  And reduce the shim (4) and shim (3) to move the spiral bevel gear rightward.

  Repeat above until the proper tooth contact and backlash are achieved.

(B) Shallow Contact **(C) Heel Contact**

W1018900



- **Deep or Toe Contact**

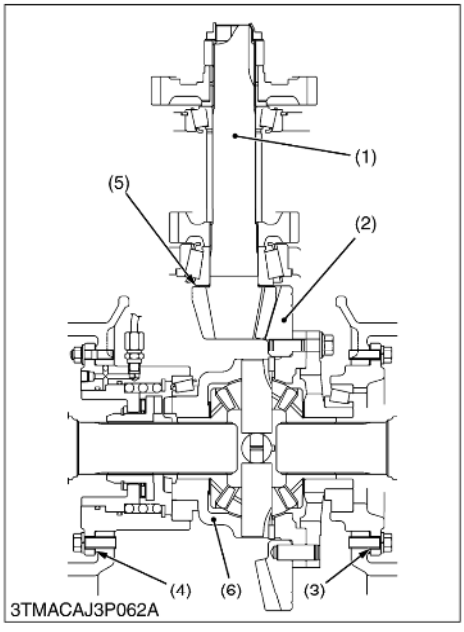
  Replace the adjusting collar (5) with a thinner one to move the spiral bevel pinion shaft forward.

  And increase the shim (4) and shim (3) to move the spiral bevel gear leftward.

  Repeat above until the proper tooth contact and backlash are achieved.

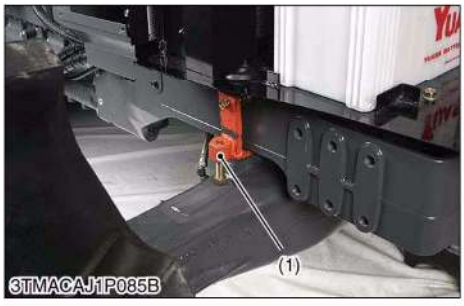
(D) Deep Contact **(E) Toe Contact**

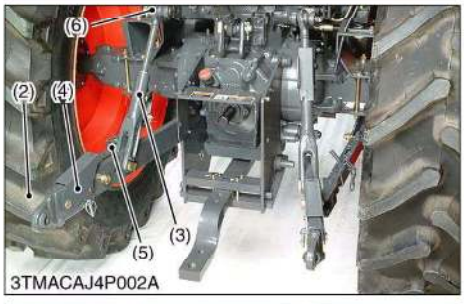
W1018973



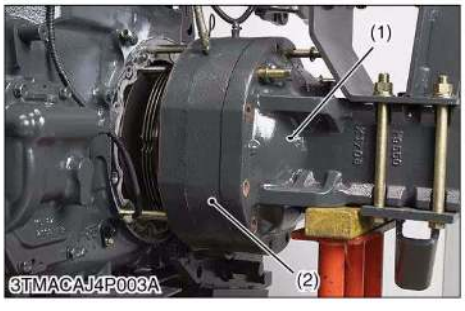
(1) Spiral Bevel Pinion Shaft
(2) Spiral Bevel Gear
(3) Shim
(4) Shim
(5) Adjusting Collar
(6) Differential Case

W1032839









Rear Wheel and 3-Points Hitch

1. Set the front axle rocking restrictor (see page G-72) (1) to the front axle.
2. Place the disassembling stand under the transmission case.
3. Remove the rear wheel (2).
4. Remove the lifting rod (3) and lower link (4) with stabilizer (5).
5. Remove the cabin mounting screw and nut (6).
6. Hoist the cabin.

(When reassembling)

Tightening torque	Rear wheel mounting nut	343 to 401 N·m 35.0 to 41.0 kgf·m 254 to 297 lbf·ft
	Cabin mounting screw and nut	69 to 88 N·m 7.0 to 9.0 kgf·m 50.6 to 65.1 lbf·ft

(1) Front Axle Rocking Restrictor
(2) Rear Wheel
(3) Lift Rod
(4) Lower Link
(5) Stabilizer
(6) Cabin Mounting Nut

W1011266

Rear Axle Case

1. Set the disassembling stand to the rear axle case.
2. Disconnect the brake hose (3).
3. Remove the rear axle case (1) and brake case (2).

(When reassembling)

- Apply liquid gasket (Three Bond 1208D, 1216 or equivalent) to the seam of brake case and transmission case.
- Apply grease to the O-ring.

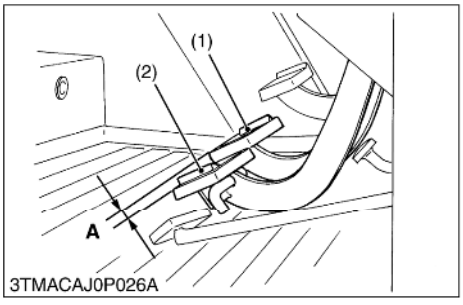
Tightening torque	Rear axle case mounting screw and nut	123.6 to 147.1 N·m 12.6 to 15.0 kgf·m 91.2 to 108.4 lbf·ft

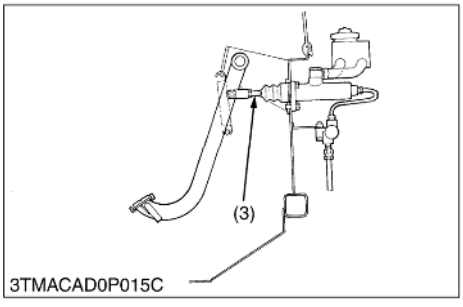
(1) Rear Axle Case
(2) Brake Case
(3) Brake Hose

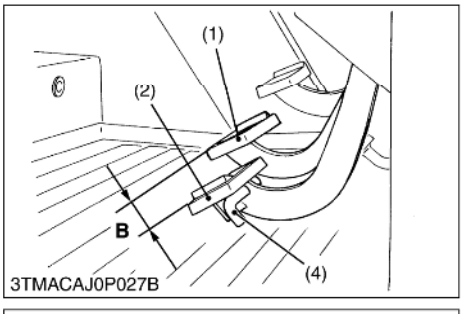
W1011601

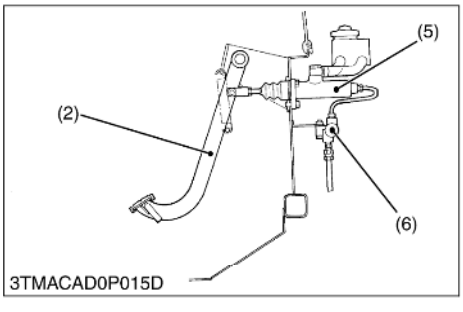
4. CHECKING, DISASSEMBLING AND SERVICING

[1] CHECKING AND ADJUSTING









Adjusting Brake Pedal

1) Brake Pedal Free Travel

CAUTION

- **When checking, parking the tractor on flat ground, and stop the engine.**

1. Measure the free travel by depressing the brake pedals.
2. Slightly depress the brake pedals and measure free travel at the top of pedal stroke.
3. If the measurement is not within the factory specifications, adjust the free travel by the push rod (3).
4. After adjustment, tighten the lock nut firmly.

■ IMPORTANT

- **Keep the free travel in the right and left brake pedals equal.**

Brake pedal free travel (**A**)	Factory specification	7 to 14 mm 0.28 to 0.55 in.

2) Brake Pedal Stroke and Difference between Right and Left Pedal Strokes

CAUTION

- **When checking, park the tractor on flat ground, and stop the engine.**

1. Disengage the brake pedal lock.
2. Step on either side brake pedal and measure the level difference (pedal stroke) between right and left pedals.
3. Do the same for the other side.
4. If the pedal stroke exceeds the factory specification, check the air bleeding, master cylinder, equalizer brake case.

Brake pedal stroke (**B**)	Factory specification	Less than 100 mm 3.9 in.
Difference between left and right brake pedal stroke	Factory specification	0 to 5 mm 0 to 0.20 in.

3) Equalizer Working Level

1. Gently step on both the right and left pedals at once with our both feet. Step on the right pedal all the way (the left pedal rises). Measure the level difference between the two pedals.
2. Next step on the left pedal all the way and measure the level difference.
3. If the measurement is not within the factory specifications, check the equalizer (6).

Level difference between two pedals	Factory specification	Less than 10 mm 0.4 in.

(1) Brake Pedal L.H.
(2) Brake Pedal R.H.
(3) Push Rod
(4) Brake Pedal Lock
(5) Master Cylinder
(6) Equalizer

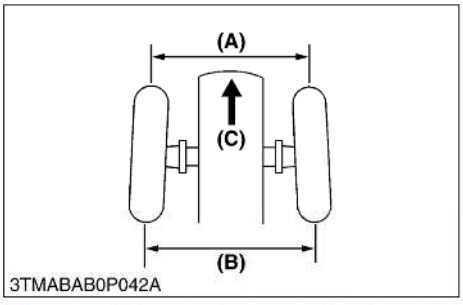
A : Free Travel
B : Pedal Stroke

W1011678

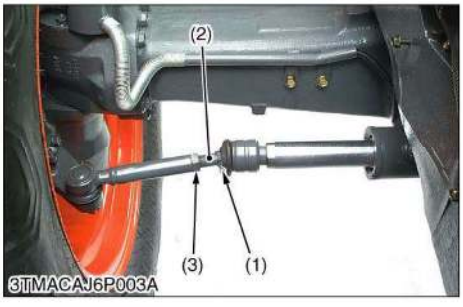
6 FRONT AXLE

4. CHECKING, DISASSEMBLING AND SERVICING

[1] CHECKING AND ADJUSTING



3TMABAB0P042A



3TMACAJ6P003A

Adjusting Toe-in

1. Park tractor on a flat place.
2. Turn steering wheel so that front wheels are in the straight ahead position.
3. Lower the implement, lock the park brake and stop the engine.
4. Measure distance between tire beads at front of tire, hub height.
5. Measure distance between tire beads at rear of tire, hub height.
6. Front distance should be shorter than rear distance.
7. If not, adjust tie-rod length.

Toe-in (**B**-**A**)	Factory specification	M95X M105X	2.0 to 8.0 mm 0.08 to 0.31 in.
		M125X	2.0 to 15.0 mm 0.08 to 0.59 in.

■ Toe-in Adjustment

1. Detach the snap ring (1).
2. Loosen the tie-rod joint lock nut (3).
3. Turn the tie-rod joint (2) to adjust the rod length until the proper toe-in measurement is obtained.
4. Retighten the tie-rod joint lock nut (3).
5. Attach the snap ring (1) of the tie-rod joint.

Tightening torque	Tie-rod joint lock nut	166.8 to 196.1 N·m 17.0 to 20.0 kgf·m 123.0 to 144.6 lbf·ft

(1) Snap Ring
(2) Tie-rod Joint
(3) Tie-rod Joint Lock Nut

(A) Wheel-to-wheel Distance at Front
(B) Wheel-to-wheel Distance at Rear
(C) Front

W1012028


3TMACAJ6P004A

Axial Sway of Front Wheel

1. Jack up the front side of tractor.
2. Set a dial gauge on the outside of rim.
3. Turn the wheel slowly and rear the runout of rim.
4. If the measurement exceeds the factory specifications, check the bearing, rim and front wheel hub.

Axial sway of front wheel	Factory specification	Less than 5.0 mm 0.197 in.

W1012385


3TMACAI6P024A

Front Axle

1. Tap out the front axle (8) from front wheel case cover (6).

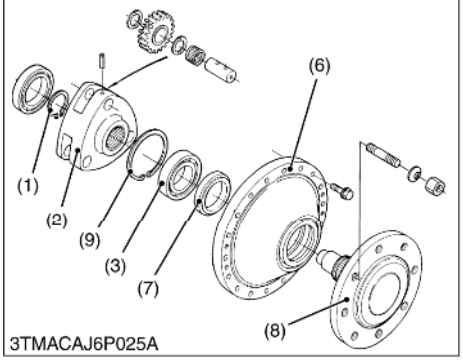
(When reassembling)

- Apply grease to the front axle oil seal (7).
- Install the oil seal to the front wheel case cover so that its lip faces the inward.

(1) External Snap Ring
(2) Planetary Gear Support
(3) Bearing
(4) Belleville Spring (M125X)
(5) O-ring
(6) Front Wheel Case Cover
(7) Oil Seal
(8) Front Axle

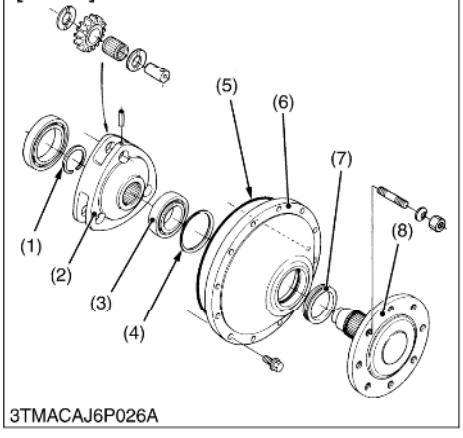
W1017034

[M95X, M105X]

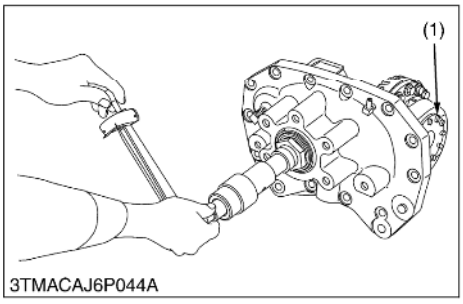


3TMACAJ6P025A

[M125X]



3TMACAJ6P026A



3TMACAJ6P044A

Turning Torque of Differential Assembly (M125X)

1. Measure the turning torque, after properly adjusted the backlash between spiral bevel pinion shaft and bevel gear.
2. If the measurement is not within the factory specification, adjust with the adjusting screw (1).

Turning torque	Factory specification	2.45 to 4.41 N·m 0.25 to 0.45 kgf·m 1.81 to 3.25 lbf·ft

(1) Adjusting Screw

W1023073


3TMACAI6P039A

Bearing Retainer and Front Wheel Case Support Bushing

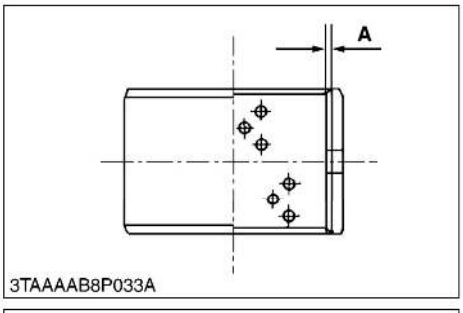
1. Visually inspect the DX bushings for signs of wear or damage. (The DX bushing tends to show concentrated wear.)
2. If the DX bushing is worn beyond the alloy portion (**A**), replace it.

Front wheel case support bushing	Alloy thickness (**A**)	0.57 mm 0.0224 in.

Bearing retainer O.D.	Factory specification	64.970 to 65.000 mm 2.55787 to 2.55906 in.

A : Thickness

W1023294



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3TMACAI6P040A

Bevel Gear Case and Front Wheel Case Bushing

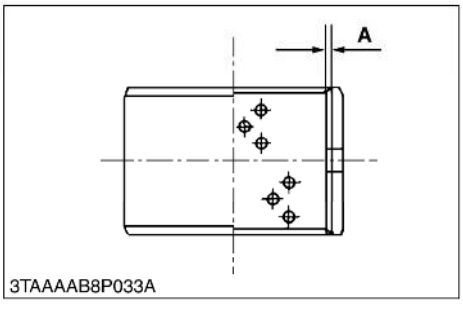
1. Visually inspect the DX bushings for signs of wear or damage. (The DX bushing tends to show concentrated wear.)
2. If the DX bushing is worn beyond the alloy portion (**A**), replace it.

Front wheel case bushing	Alloy thickness (**A**)	0.57 mm 0.0224 in.

Bevel gear case O.D. (M95X, M105X)	Factory specification	49.950 to 50.000 mm 1.96654 to 1.96850 in.
Bevel gear case O.D. (M125X)	Factory specification	69.970 to 70.000 mm 2.75472 to 2.75591 in.

A : Thickness

W1023440

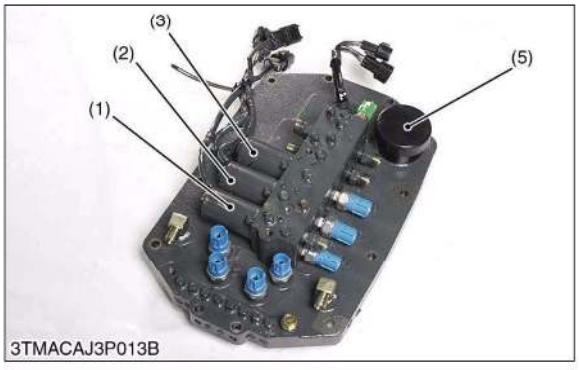


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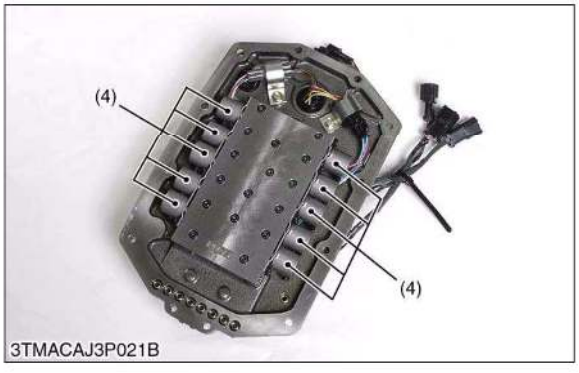
2. SERVICING SPECIFICATIONS

- Refer to servicing “Power Steering Controller and Cylinder” in “8. HYDRAULIC SYSTEM” section.

5. POWER SHIFT VALVE



3TMACAJ3P013B



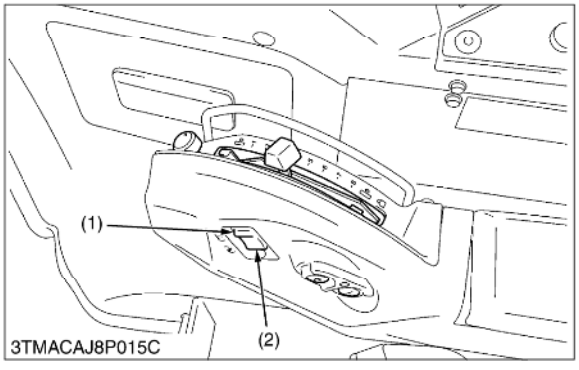
3TMACAJ3P021B

The power shift valve comprises 10 sets of solenoid ON/OFF valve (4) for main speed change (in 1-4 steps), forward/reverse operation switching, 4WD/bi-speed switching and ON/OFF switching of front and rear wheel hydraulic differential lock, a main spool, 3 sets of solenoid (1), (2), (3) which control the pressure of the clutches for master clutch (**F**-**R**) and main shift (**L**-**H**).

(1) Solenoid Proportional Reducing Valve (Master)
(2) Solenoid Proportional Reducing Valve (**L**)
(3) Solenoid Proportional Reducing Valve (**H**)
(4) Solenoid ON/OFF Valve
(5) Breather

W1013752

(3) 3-Point Hitch Quick Raise / Lower Control



■ **3-Point Hitch Quick Raise / Lower Switch**

These switches are used to raise and lower the implement.

Press the **"RAISE"** switch, the 3-point Lifting / Lowering indicator turns on and the implement goes up. Press the **"LOWER"** switch, the indicator goes off and the implement comes down.

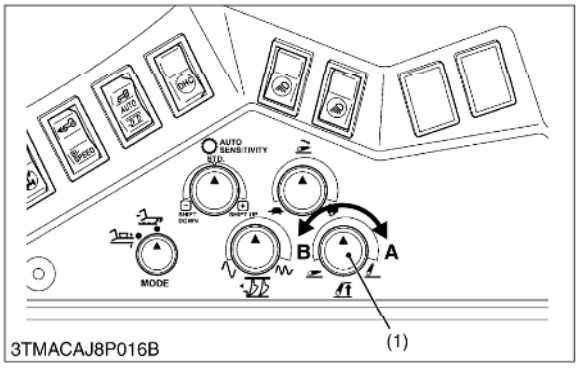
When the **"RAISE"** switch has been pressed to raise the implement, the hydraulic control lever can not work.

To use the hydraulic control lever, first pull it up to the top position.

(1) 3-Point Hitch Quick Raise Switch
(2) 3-Point Hitch Quick Lower Switch

W1017471

(4) Lift Arm Top Limit Adjustment Control



■ **Lift Arm Top Limit Adjustment Dial**

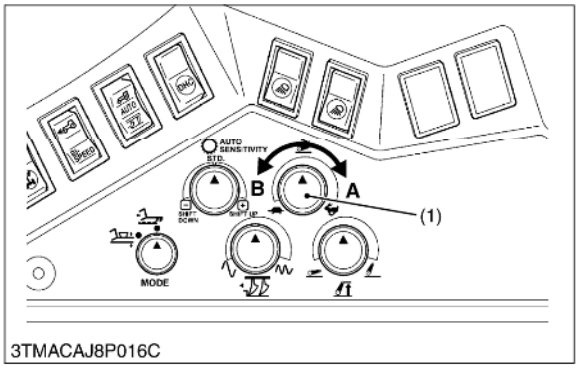
This dial is used to change the top limit of the 3-point hitch.

1. Turn the dial in the **"HIGH"** direction, and the top limit of the 3-point hitch will raise.
2. Turn the dial in the **"LOW"** direction, and the top limit of the 3-point hitch will lower.

(1) Lift Arm Top Limit Adjustment Dial
A : HIGH
B : LOW

W1017586

(5) 3-Point Hitch Lowering Speed Control



■ **3-Point Hitch Lowering Speed Adjustment Dial**

The dial (1) is used to adjust the 3-point links lowering speed. This dial cannot be completely hydro-locked, however. (When the remote hitch Up / Down switch is used, the lowering speed will be nearly the same as that with the dial at **SLOW**.)

(1) 3-Point Hitch Lowering Speed Adjustment Dial
A : FAST
B : SLOW

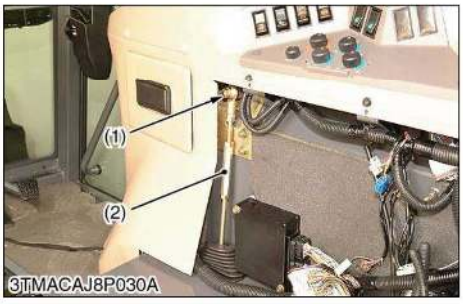
W1017865

3. TIGHTENING TORQUES

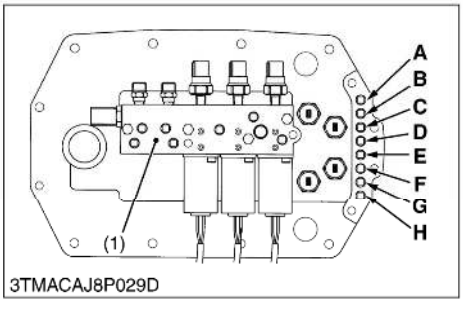
Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-9, 10.)

Item	N·m	kgf·m	lbf·ft
3-point delivery hose retaining nut	45.1 to 53.0	4.6 to 5.4	33.3 to 39.1
Power steering pump delivery pipe retaining nut	107.9 to 117.7	11.0 to 12.0	79.6 to 86.8
PTO delivery pipe retaining nut	49.0 to 68.6	5.0 to 7.0	36.2 to 50.6
PTO pipe retaining nut	39.2 to 49.0	4.0 to 4.9	29.0 to 36.1
Hydraulic pump base mounting nut	77.5 to 90.2	7.9 to 9.2	57.2 to 66.5
Hydraulic pump housing cover mounting screw	88.2 to 93.1	9.0 to 9.5	65.1 to 68.7
Clutch safety valve hose retaining nut	23.0 to 27.0	2.4 to 2.7	17.0 to 19.9
Gerotor assembly mounting screw (5/16')	25.5 to 28.4	2.6 to 2.9	18.9 to 21.0
Steering cylinder guide assembly	294 to 470	30.0 to 48.0	217 to 347
Hydraulic cylinder mounting screw and nut	77.5 to 90.2	7.9 to 9.2	57.2 to 66.5
Hydraulic arm setting screw	39.2 to 45.1	4.0 to 4.6	28.9 to 33.3
Lift lever mounting screw	123.6 to 147.1	12.6 to 15.0	91.1 to 108.5
Hydraulic cylinder cover mounting screw	197 to 225	20.0 to 23.0	145 to 166
Cylinder safety valve	39.2 to 49.0	4.0 to 5.0	28.9 to 36.2
Cylinder safety valve lock nut	58.8 to 78.5	6.0 to 8.0	43.4 to 57.9
Control valve mounting screw	12.7 to 16.7	1.3 to 1.7	9.4 to 12.3
Solenoid mounting screw (control valve)	39.2 to 49.0	4.0 to 5.0	28.9 to 36.2
Lowering main spool mounting plug (control valve)	39.2 to 49.0	4.0 to 5.0	28.9 to 36.2
Lifting main spool mounting plug (control valve)	39.2 to 49.0	4.0 to 5.0	28.9 to 36.2
Plug for unload valve (control valve)	34.3 to 39.2	3.4 to 4.0	24.6 to 28.9
Plug for check valve (control valve)	68.6 to 78.4	7.0 to 8.0	50.6 to 57.9
Plug for shuttle valve (control valve)	68.6 to 78.4	7.0 to 8.0	50.6 to 57.9
Relief valve	34.3 to 39.2	3.5 to 4.0	25.3 to 28.9

W1012736







Hydraulic Clutch Operating Pressure

1. Remove the panel side cover.
2. Set the power shift/range gear shift lever to the **"Neutral"** position.
3. Remove the nut (1) and disconnect the range gear shift rod (2) in **"Neutral"** position. (To prevent the tractor from moving while testing.)
4. Remove the floor mat and inspection plate under the mat.
5. Set the adaptor **D** (PT1/8) (Code No.: 07916-50381), threaded joint (Code No.: 07916-50341), cable (Code No.: 07916-50331) and pressure gauge (Code No.: 07916-52961) for checking of hydraulic clutch working pressure.
6. Start the engine and check the clutch operating pressure as shown in the table below.

Condition

- Engine speed : idling speed
- Oil temperature : 45 to 55 °C
  113 to 131 °F

Clutch operating pressure	Factory specification	2.06 to 2.25 MPa 21.0 to 23.0 kgf/cm^2 298.7 to 327.1 psi

Hydraulic clutch	Check port	Power shift lever position	Power shift button	Shuttle lever position
Main shift 1	G	L or H	1 or 5	F or R
Main shift 2	F		2 or 6	
Main shift 3	C		3 or 7	
Main shift 4	B		4 or 8	
Main shift L	E		1 thru 5	
Main shift H	D		5 thru 8	
Main shift F	A		1 thru 8	F
Main shift R	H		1 thru 8	R

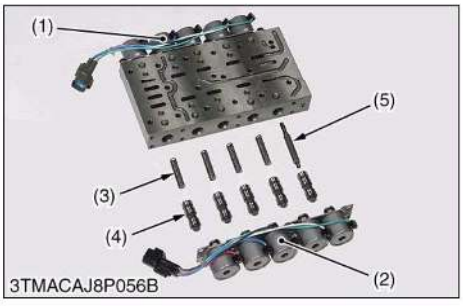
■ **NOTE**

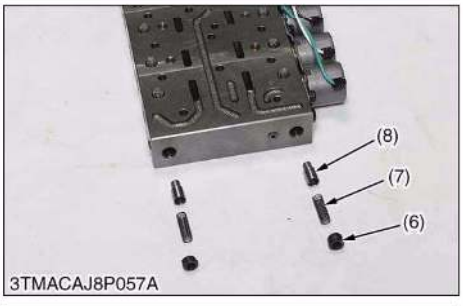
- **Apply liquid gasket (Three Bond 1324N or equivalent) to the plug when install it.**

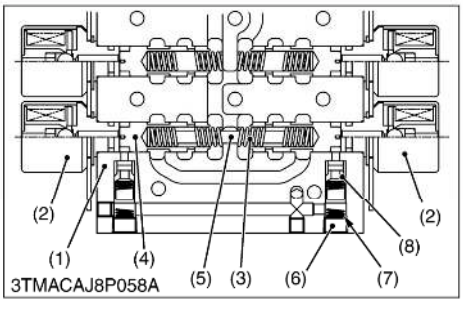
(1) Nut
(2) Range Gear Shift Rod
(3) Power Shift Valve

A : Check Port (Master F)
B : Check Port (Main Shift 4)
C : Check Port (Main Shift 3)
D : Check Port (Main Shift H)
E : Check Port (Main Shift L)
F : Check Port (Main Shift 2)
G : Check Port (Main Shift 1)
H : Check Port (Master R)

W1019945







Disassembling Power Shift Assembly 2 (Lower)

1. Remove the hexagonal socket head bolts and dismount a solenoid valve assembly right part (2).
2. Remove the main spool (4) and spring (3).
3. Remove the push rod (5).
4. Disassemble parts at left side also in the same manner.

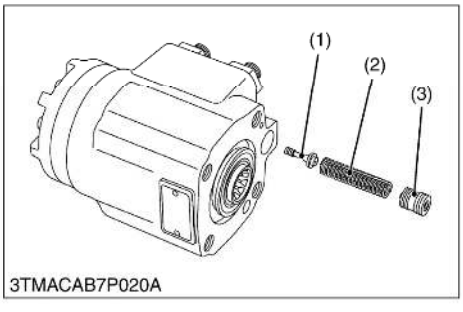
(When reassembling)

- Mount the main spool duly to the original position.
- Mount the push rod to the main **F**/**R** port.
- Do not mistake mounting direction of the solenoid valve assembly.
- Remove the plug (6), spring (7) and poppet (8).
- Apply an anaerobic adhesive (screw lock bond etc.) to the plug (6) when mounting.

(1) Solenoid Valve Assembly (Left Part)
(2) Solenoid Valve Assembly (Right Part)
(3) Spring
(4) Main Spool
(5) Push Rod
(6) Plug
(7) Spring
(8) Poppet

W1027279

(4) Steering Controller



Relief Valve Assembly

1. Remove the adjust plug (3) and draw out the spring (2) and poppet (1).

(When reassembling)

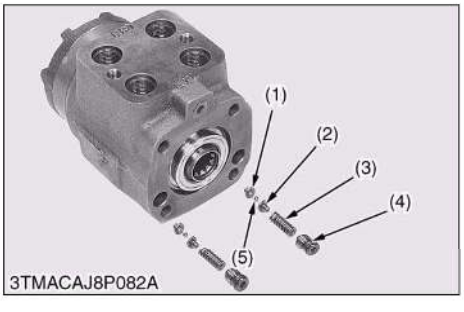
- Take care not to damage the O-ring.

■ **IMPORTANT**

- **After disassembling and assembling the relief valve, be sure to adjust the relief valve setting pressure. (See page 8-S17.)**

(1) Poppet
(2) Spring
(3) Adjusting Plug

W1028417



Check Valve

1. Remove the plug (4) and draw out the spring (3), holder (2), ball (5) and seat (1).

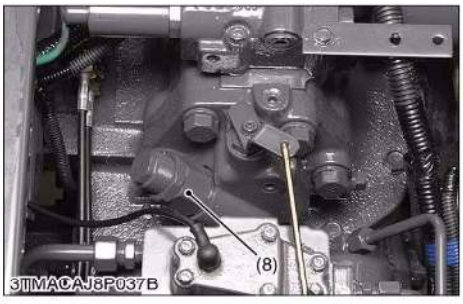
(When reassembling)

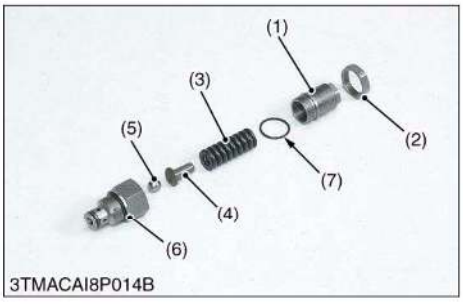
- Take care not to damage the O-ring.

(1) Seat
(2) Holder
(3) Spring
(4) Plug
(5) Ball

W1037040

(9) Cylinder Safety Valve





Cylinder Safety Valve

1. Remove the cylinder safety valve assembly (8).
2. Secure the cylinder safety valve assembly in a vise.
3. Loosen the lock nut (2), and remove the adjust screw (1).
4. Draw out the spring (3), seat (4) and ball (5).

(When reassembling)

- install the cylinder safety valve to the hydraulic cylinder block, taking care not to damage the O-ring.
- Be sure to adjust the operating pressure of cylinder safety valve after assembling. (See page 8-S19.)

Tightening torque	Cylinder safety valve assembly	39.2 to 49.0 N·m 4.0 to 5.0 kgf·m 28.9 to 36.2 lbf·ft
	Cylinder safety valve lock nut	58.8 to 78.5 N·m 6.0 to 8.0 kgf·m 43.4 to 57.9 lbf·ft

(1) Adjust Screw
(2) Lock Nut
(3) Spring
(4) Seat
(5) Ball
(6) Housing
(7) O-ring
(8) Safety Valve Assembly

W1033457

[3] SERVICING

(1) Hydraulic Pump



Housing Bore

1. Measure the housing I.D. where the interior surface is not scratched, and measure the housing I.D. where the interior surface is scratched.
2. If the values obtained in the two determinations differ by more than the allowable limit, replace the hydraulic pump as a unit.

(Reference)

- Use a cylinder gauge to measure the housing I.D..

Depth of scratch	Allowable limit	0.09 mm 0.0035 in.

W1034018



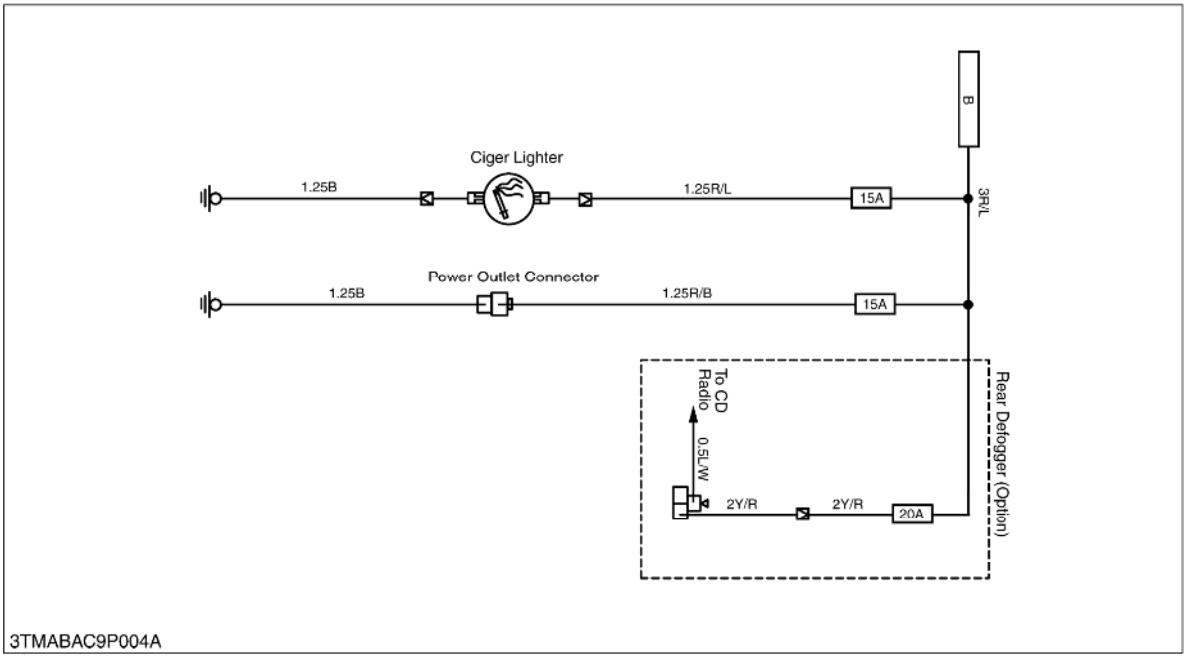
Clearance between Bushing and Gear Shaft

1. Measure the gear shaft O.D. with an outside micrometer.
2. Measure the bushing I.D. with an inside micrometer, and calculate the clearance.
3. If the clearance exceeds the allowable limit, replace the gear shaft and the bushing as a unit

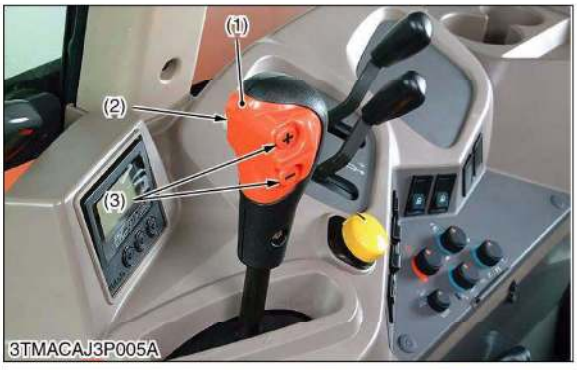
Clearance between bushing and gear shaft	Allowable limit	0.15 mm 0.0059 in.

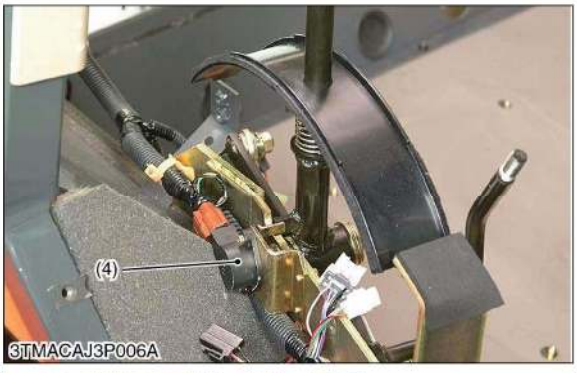
W1034135

[5] DEFOGGER



3TMABAC9P004A





■ Power Shift / Range Shift Lever

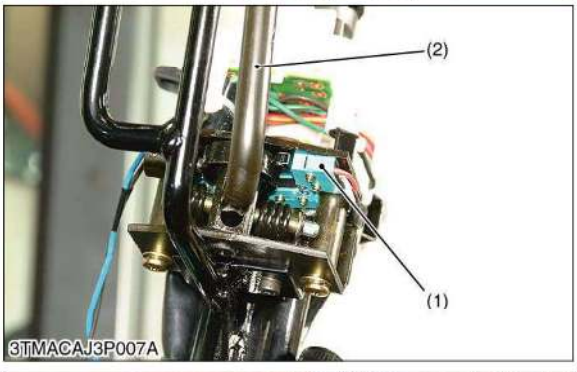
The power shift lever is equipped with shift (**UP / DOWN**) switches, clutch switch and range shift lever sensor which detect **L/H** speed in range shift lever operation.

The construction of the lever, and the switches are mounted at the positions as shown in the picture. The speed change mode can be switched mechanically to the **Hi-Lo** speed change mode by moving this lever to the front or rear side.

- **Shift Up / Down Switch**
  Shift up and down the travel speeds.
- **Clutch Switch**
  Pressing the clutch switch disengage the master clutch.
- **Range Shift Lever Sensor**
  The shift lever sensor detects position of range shift (**H-L**).

(1) Power Shift / Range Shift Lever
(2) Clutch Switch
(3) Shift Up / Down Switch
(4) Range Shift Lever Sensor

W1013729



■ Shuttle Switch

In the power shift, switching of **Forward** / **Reverse** operation is effected electrically. Therefore, three micro-switches are provided on the shuttle lever shaft so that the position (**Forward-N-Reverse**) of the shuttle lever should be detected.

(1) Shuttle Switch
(2) Shuttle Lever

W1023507



■ Clutch Pedal Sensor

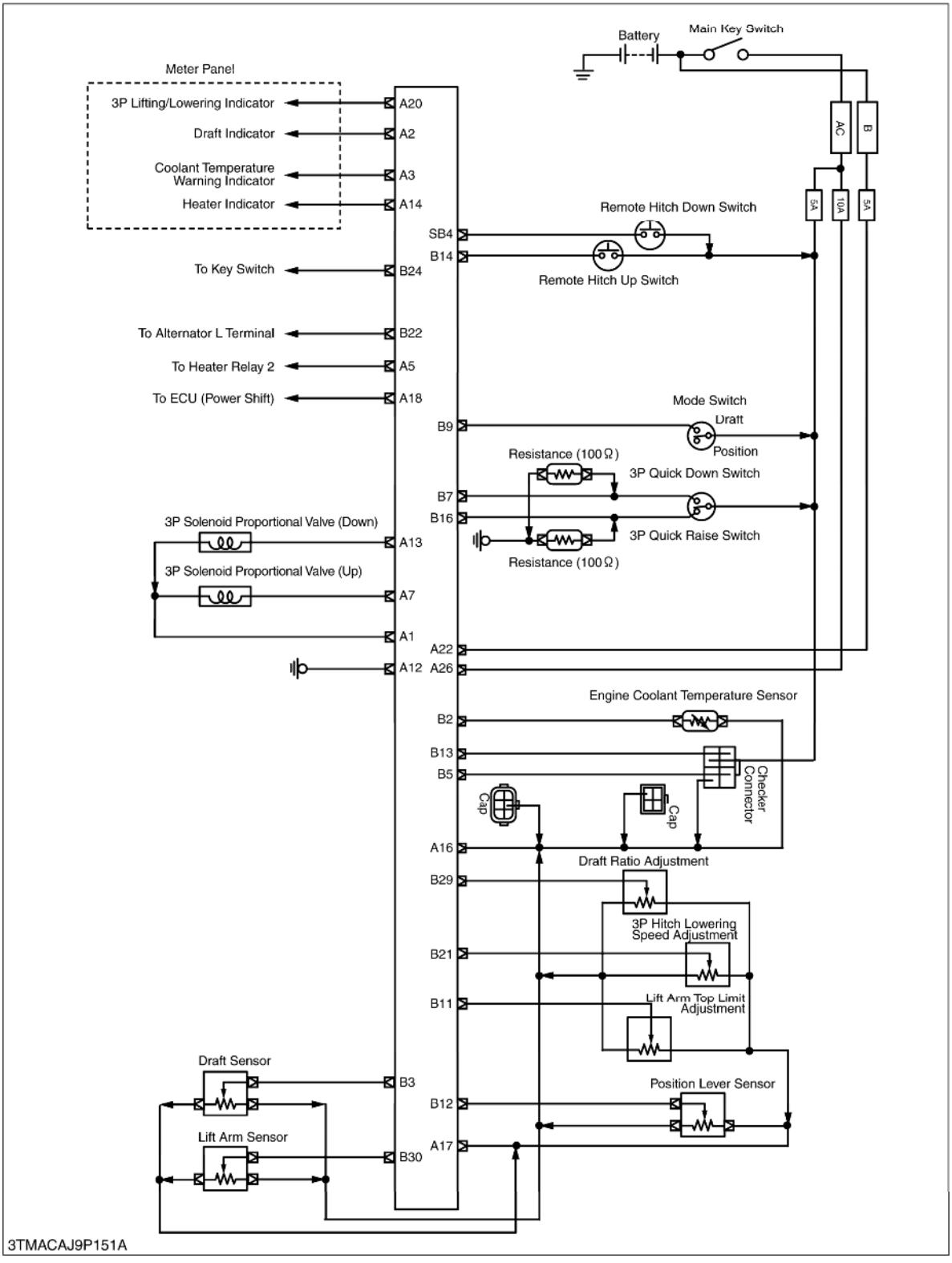
The clutch pedal sensor detects a position of the clutch pedal to control pressures of the master clutch.

This system allows clutch operation similar to a mechanical clutch.

(1) Clutch Pedal Sensor

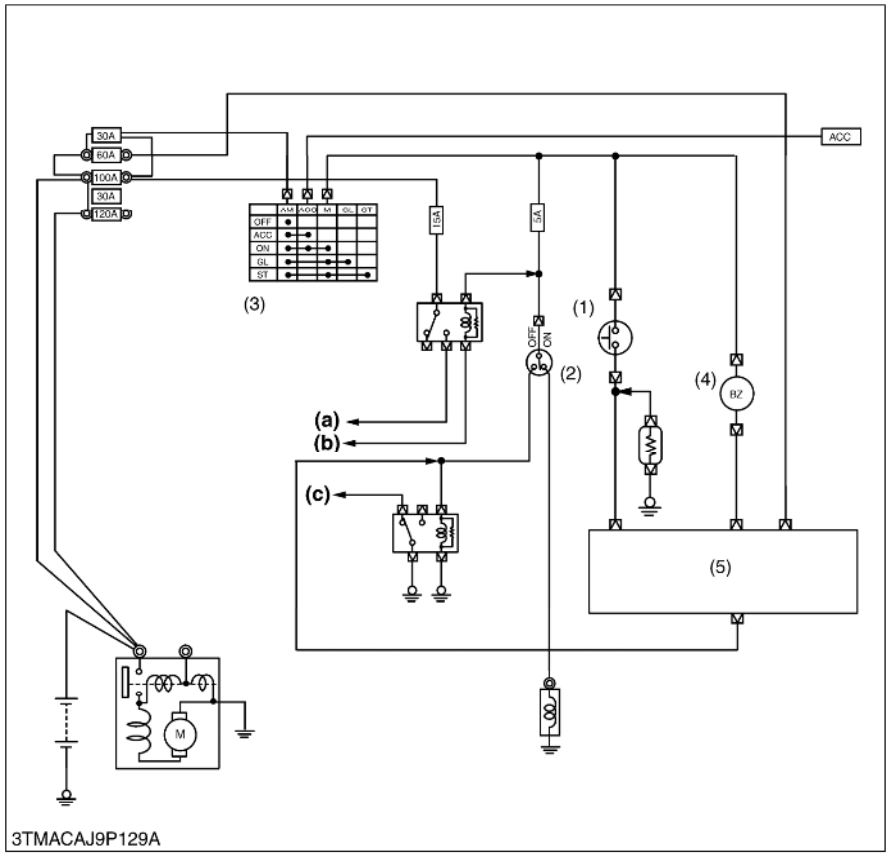
W1013976

[2] ELECTRICAL CIRCUIT (3-POINT HITCH)



7. OPC (OPERATOR PRESENCE CONTROL)

[1] SYSTEM OUTLINE AND ELECTRICAL CIRCUIT



(1) Seat Switch
(2) PTO Switch
(3) Main Switch
(4) Alarm (Buzzer)
(5) Power Shift Control Unit (ECU)

(a) To Heater Relay
(b) To 3-Point Hitch (ECU)
(c) To Panel Board

W1023330

The tractors equip operator presence control (OPC) system which automatically whistling when operator stands from seat while engaging PTO clutch.

This system is controlled by the seat switch (1), PTO switch (2) and alarm (4).

■ **Electric Circuit**

1. When sitting on the seat in the state of main switch **ON**, the battery voltage passes the seat switch (1).
2. When standing from the operators seat while the PTO switch at **ON** position, the warning buzzer whistle about one second after standing up. It whistles for 10 seconds.

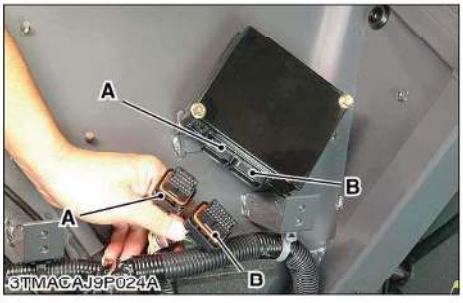
3. TIGHTENING TORQUES

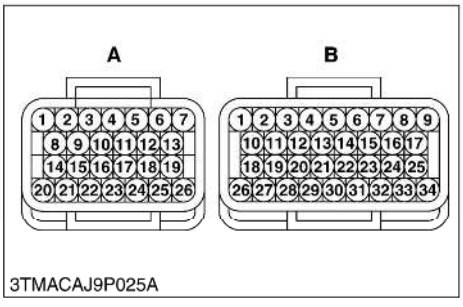
Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-9.)

Item	N·m	kgf·m	lbf·ft
Pulley nut (alternator)	58.3 to 78.9	5.95 to 8.05	43.0 to 58.2
Air heater lead terminal nut (M95X, M105X)	3.43 to 5.39	0.35 to 0.55	2.53 to 3.98
Air heater lead terminal nut (M125X)	7.85 to 9.81	0.80 to 1.00	5.79 to 7.24
Air heater terminal nut (M95X, M105X)	6.37 to 8.33	0.65 to 0.85	4.70 to 6.14
Air heater terminal nut (M125X)	7.85 to 9.81	0.80 to 1.00	5.79 to 7.24
Starter **B** terminal nut (M95X, M105X)	9.8 to 11.8	1.0 to 1.2	7.2 to 8.7
Starter **B** terminal nut (M125X)	17.7 to 24.5	1.8 to 2.5	13.1 to 18.0

W1012736

(3) Arrangement of ECU Connector Pin (Power Shift)





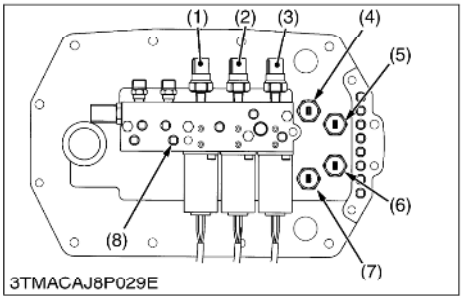
■ Connector A

Terminal No.	Terminal Name (**A**)	Color or wiring
A1	Solenoid Valve (Main Shift **L**)	B/G
A2	Solenoid Valve (Main Shift **H**)	B/L
A3	Solenoid Valve (Master Clutch)	B/P
A4	Speed Change Display (**g**)	Pu/Y
A5	Solenoid Valve (Main Shift **3**)	Br/R
A6	Solenoid Valve (Main Shift **4**)	Br/G
A7	Solenoid Valve (Main Shift **L**)	Br/Y
A8	Speed Change Display (**d**)	Pu/B
A9	Speed Change Display (**e**)	Pu/W
A10	Speed Change Display (**f**)	Pu/R
A11	Solenoid Valve (Main Shift **2**)	Br/W
A12	+12 V (Power Source from Key Switch)	R/L
A13	Solenoid Valve (Main Shift **H**)	Br/L
A14	Speed Change Display (**b**)	P/W
A15	Speed Change Display (**c**)	P/L
A16	GND (Ground for Sensor Line)	R/Y
A17	+5 V (Power Source for Sensor Line)	B/Y
A18	To ECU (3P)	W
A19	Solenoid (Master Clutch)	Or/L
A20	Speed Change Display (**a**)	P/B
A21	Bi-speed Relay Coil	Or/W
A22	+12 V (Power Source from Battery)	R/L
A23	Buzzer	G/R
A24	Neutral Lamp	Sb
A25	Solenoid (Main Shift **1**)	Br/B
A26	GND	B

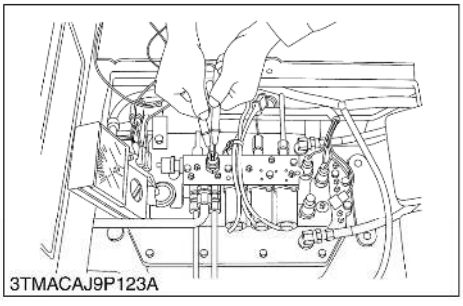
A : 26P Connector **B : 34P Connector**

W1038599

(11) Checking Pressure Switch



3TMACAJ8P029E


3TMACAJ9P123A

Pressure Switch

1. Remove the floor mat and inspection plate center.
2. Remove the defective pressure switch.
3. Remove the plug (8) from the pressure checking port to check the pressure of the front differential lock clutch, and mount the pressure switch to this port. (Mount the plug to the port without fail when the pressure switch is removed.)
4. Start the engine, and idle the engine, set the power shift/range shift lever to the neutral (**N**) position and turn **ON** the 4WD switch.
5. Turn the front differential switch **ON** and measure the resistance between terminals.

(Reference)

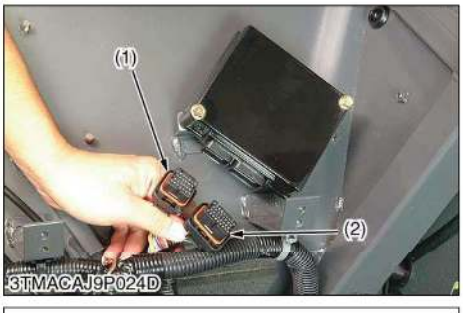
- Checking is also possible in the same with each pressure checking port of 4WD clutch, bi-speed turn clutch and rear differential lock clutch.

Resistance (Across pressure switch terminals)	When front differential lock switch is **"ON"**	0 Ω
	When front differential lock switch is **"OFF"**	Infinity

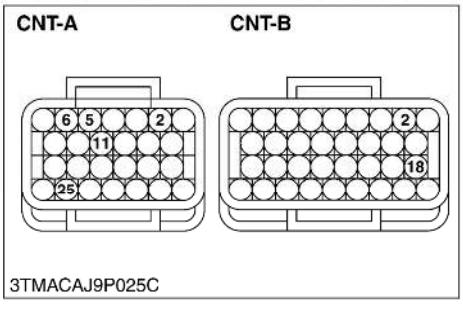
(1) Pressure Switch (Main Shift **H**)
(2) Pressure Switch (Main Shift **L**)
(3) Pressure Switch (Master Clutch)
(4) Pressure Switch (Main Shift **4**)
(5) Pressure Switch (Main Shift **3**)
(6) Pressure Switch (Main Shift **2**)
(7) Pressure Switch (Main Shift **1**)
(8) Front Differential Lock System Pressure Check Port

W1053948

(12) Checking Solenoid Valve



3TMACAJ9P024D



3TMACAJ9P025C

Solenoid ON/OFF Valve

1. Remove the **CNT-A** and **CNT-B** connectors.
2. Check resistance between below-shown terminals of the wire harness side and the grounding terminal (or chassis).
3. Replace the solenoid ON/OFF valve unless the resistance is below standard value.

Item	Measuring terminal				Resistance
	Terminal No.	Wiring color	Terminal No.	Wiring color	
Main shift **1**	**A25**	Br/B	**A26**	B	Approx. 25 Ω
Main shift **2**	**A11**	Br/W			
Main shift **3**	**A5**	Br/R			
Main shift **4**	**A6**	Br/G			
Master **F**	**B18**	Or			
Master **R**	**B2**	Gy			

(1) **CNT-A** Connector
(2) **CNT-B** Connector

W1054638

Mode 5, 6 and 7 (Solenoid Proportional Pressure Reducing Valve) Initial Setting Procedure (Continued)

6. Maintain the engine rpm at idle. Shift the shuttle lever into forward and shift the power shift lever into **High** position.

■ **NOTE**

- **If [P] is blinking in the panel display, the power shift lever is in the wrong position.**
- **If [F] is blinking in the panel display, the shuttle shift lever is in the wrong position.**
- **If dash [=] is blinking in the panel display, engine rpm is over 750.**

7. Press the shift-up button (+) on the power shift lever.
8. **[C]** for mode **5**, **[L]** for mode **6**, **[H]** for mode **7** followed by a series of dashes and beeps will light around the outer edge of the display depending on the mode selected.
9. After a moment tractor will begin to move forward.
   At this time (when tractor starts to move), press the shift-down button (–).
10. When the programming is completed, an **[8]** will light in the panel display and the **[8]** should change to **[C]**.
11. Power shift lever back to **Neutral** and to turn off the main key switch.

■ **NOTE**

- **If [E] lights in the panel display, carry out procedure again.**

W1017347





Mode N (Model Setting Mode) Initial Setting Procedure

1. With the main key switch off, depress and hold the shift-up buttons (+) and shift-down (–) on the power shift lever.
2. Still holding the buttons down, start the engine. If a **[8]** show in the display panel, release the two buttons and the **[8]** should change to **[C]**.
3. Press the shift-up button (+) several times until a **[n]** shows in the display.
4. Press the shift-down button (–) to locks into mode **[n]** adjustment (model setting mode).
5. Press the shift-up button (+) to select the **[A]** and press the shift-down button (–) to locks **[A]**.

[A]	Overseas models
[1]	Japanese models

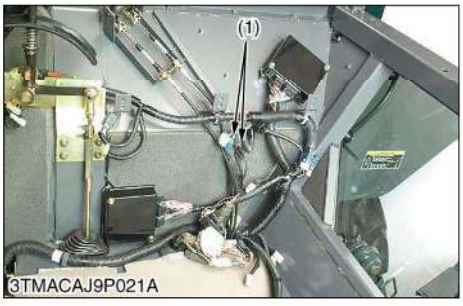
6. Press the shift-up button (+) to select the model.

Model	Display
M95X	**[A]**
M105X	**[b]**
M125X	**[c]**
M108X	**[d]**

7. Press the shift-down button (–) to confirm this setting.
8. Press the shift-down button (–) one more time to enter the set mode.
9. **[8]** will show in the display and the **[8]** should change to **[C]**.
10. The model setting procedure is complete and turn the key off.

(1) Shift-up Button (+)
(2) Shift-down Button (–)
(3) Speed Change Display

W1017820









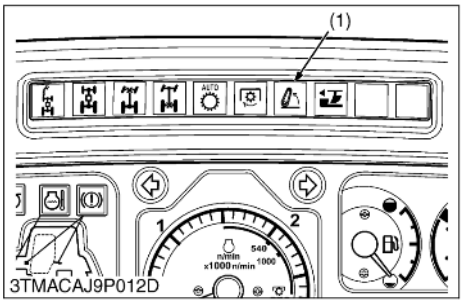


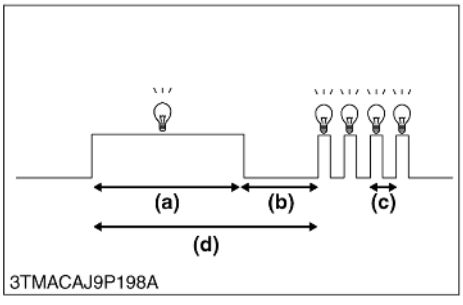
Checking Grounding Wire

1. Check the whether the grounding wire (1) is connected securely to the tractor chassis.
2. If the grounding wire is broken or disconnected, replace it.

(1) Grounding Wire

W1067274





Procedure 3 : Checking the Indicator

1. Check the 3-point lifting / lowering indicator.

■ **NOTE**

- **If any of the settings is wrong or any of the parts is defective, the indicator gives the number of blinks that corresponds to a part in trouble (see the table at below).**

2. When nothing is trouble, the 3-point lifting / lowering indicator lights up and stay on.

[Indicator Blinking Frequency with Defective Sensor]

Blinking frequency (Time)	Defective sensor
2	Lift arm sensor
4	Position control lever sensor
7	Lift arm top limit adjustment dial
8	Draft sensor
14	Draft ratio adjustment dial
15	3-point hitch lowering speed adjustment dial

■ **NOTE**

- **Code 2,4,7 and 8 are shown by rapid blinking the number of times for the code.**
  Codes 14 and 15 are shown by a long blink of 1.1 seconds (meaning "10") followed a delay of 0.4 second, then a series of short blinks (for one's digit).

<Example>

- Blinking frequently 14
  3-point lifting / lowering indicator is shown by a long blink of 1.1 seconds followed a delay of 0.4 second, then a series of short blink 4 times as shown in the left figure.

(1) 3-Point Lifting / Lowering Indicator
(a) 1.1 seconds ON
(b) 0.4 second OFF
(c) Ones
(d) Tens

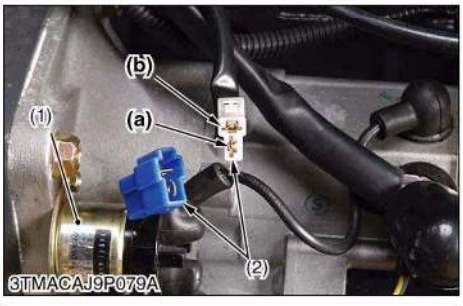
W1066739

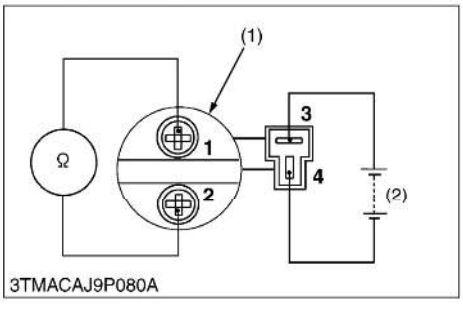
Procedure 4 : Setting in Memory

1. When nothing is trouble, press the 3-point quick raise switch more than 3 seconds.
   (When the two assist cylinder is added, press the 3-point quick lower switch more than 3 seconds.)
2. When the 3-point lifting/lowering indicator light up, release the 3-point quick raise switch or lower switch.
3. Turn off the main switch key.

W1014334







(6) Starter Motor



Connector Voltage of Starter Relay [M125X]

1. Make sure that the shuttle lever and range shift lever are in **NEUTRAL** position and the PTO switch to **OFF** position.
2. Disconnect the **2P** connector (2) from the starter relay (1).
3. Turn the main switch to the **START** position and measure the voltage across the terminal **3** and chassis.
4. If the voltage differ from the battery voltage, the wiring harness and main switch is faulty.

Voltage	Across terminal **3** – chassis	Approx. battery voltage

(1) Starter Relay
(2) **2P** Connector

(a) Terminal 3
(b) Terminal 4

W1091486

Checking Starter Relay [M125X]

1. Remove the starter relay (1).
2. Apply battery voltage across terminals **3** and **4**, and check for continuity across terminals **1** and **2**.
3. If continuity is not established across terminals **1** and **2**, renew the starter relay.

(1) Starter Relay
(2) Battery

1 : Terminal 1
2 : Terminal 2
3 : Terminal 3
4 : Terminal 4

W1092698

Starter Motor B Terminal Voltage

1. Measure the voltage with a voltmeter across the terminal **B** and chassis.
2. If the voltage differs from the battery voltage, the battery's positive cable or the battery negative cable is faulty.

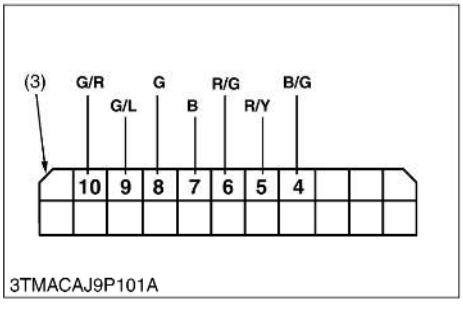
Voltage	Factory specification	Approx. battery voltage

(1) Terminal **B**

W1092873







Checking Light Switch and Dimmer Switch

1. Test the continuity through the switch with an ohmmeter.

Light and Parking switch	Dimmer and passing switch	4 (H)	5 (HM)	6 (HS)	7 (EZ)	8 (TB)	9 (LP)	10 (S)	Resistance
OFF (**A**)	Passing	●	●		●				Continuity exists
	Lower								
	Upper								
Small 1 (**B**)	Passing	●	●		●	●	●	●	
	Lower					●	●	●	
	Upper					●	●	●	
Head light 2 (**C**)	Passing	●	●		●	●	●	●	
	Lower	●		●	●	●	●	●	
	Upper	●	●		●	●	●	●	
Parking light 3 (**D**)	Passing	●	●		●	●	●		
	Lower					●	●		
	Upper					●	●		

(1) Dimmer Switch
(2) Light Switch
(3) Combination Switch Connector (Switch Side)

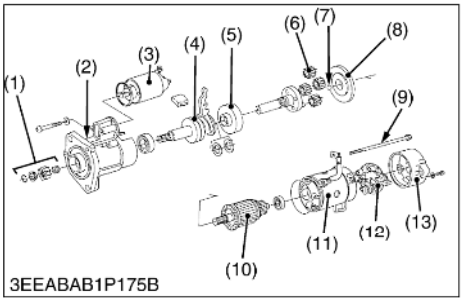
a : Lower (Low Beam)
b : Passing (Flashing)
c : Upper (High Beam)

A : OFF
B : Small 1
C : Head Light 2
D : Tail Light

W1101530

[4] DISASSEMBLING AND ASSEMBLING

(1) Starter Motor



Disassembling Motor [M95X, M105X]

1. Disconnect the solenoid switch (3).
2. Remove the 2 through screws (9) and the 2 brush holder lock screws. Take out the rear end frame (13) and the brush holder (12).
3. Disconnect the armature (10) and the yoke (11). Remove also the ball (7) from the tip of the armature.
4. Remove the set of packings (8), the 4 planetary gears and another packing.
5. Take out the shaft assembly. Take note of the position of the lever.

■ **IMPORTANT**

- **Before disconnecting the yoke, put tally marks on the yoke and the front bracket.**
- **Take note of the positions of the set of packings and the setup bolt.**
- **Apply grease to the gears, bearings, shaft's sliding part and ball.**

■ **NOTE**

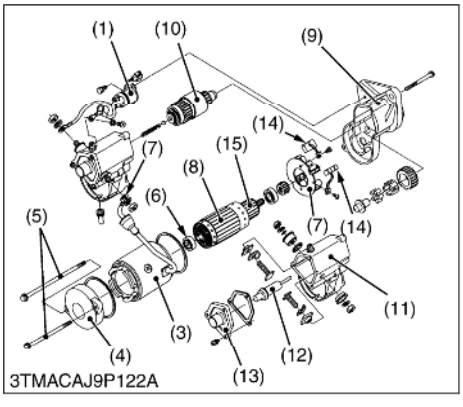
- **Do not damage to the brush and commutator.**

(When reassembling)

- Apply grease (DENSO CO.No. 50 or equivalent) to the parts indicated in the figure.

(1) Gear
(2) Front Bracket
(3) Solenoid Switch
(4) Overrunning Clutch
(5) Internal Gear
(6) Planetary Gear
(7) Ball
(8) Set of Packings
(9) Through Screw
(10) Armature
(11) Yoke
(12) Brush Holder
(13) Rear End Frame

W1110814



Disassembling Motor [M125X]

1. Remove the starter relay (1).
2. Remove the connecting lead (2).
3. Remove the two through screws (5) which tighten the motor and the magnet switch.
4. Detach the motor (3).
5. Remove the end frame (9).
6. Draw out the brushes (14) and remove the brush holder (7).
7. Draw out the armature (8).
8. Remove the overrunning clutch (10).
9. Remove the end cover (13) from the starter housing (11).
10. Remove the plunger (12) and spring.

(When reassembling)

- Do not damage the brushed, commutator (15).
- Do not damage the clutch bearing and do not let the dust adhere to it.

(1) Starter Relay
(2) Connecting Lead
(3) Motor
(4) End Frame
(5) Screw
(6) Bearing
(7) Brush Holder
(8) Armature
(9) Drive End Frame
(10) Overrunning Clutch
(11) Starter Housing
(12) Plunger
(13) End Cover
(14) Brush
(15) Commutator

W1111132

The machine is equipped with a thin large-capacity air conditioner with outside air intake. The air through the inside air filter (10) as well as the outside air filter (9) and the inner roof (12) reaches the air conditioner unit (7). The air is then cooled and defumidified by this unit.

The resulting air is heated to a comfortable level. In this way, the air being blown via the blow port can be kept at comfortable temperature and humidity.

The front air outlet (5) can be opened and closed using the center knob of each port. The side air outlet (6) are opened and closed using the mode lever on the control unit (4). With these ports open or closed, you can feel your head cool and your feet warm.

Capacity (Cooling)	Factory specification	M95X M105X	3.63 kW
		M125X	3.46 kW
Capacity (Warming)	Factory specification		4.54 kW
Kinds of refrigerant (Charge amount)	Factory specification	M95X M105X	R134a 0.95 to 1.05 kg 2.09 to 2.31 lbs
		M125X	R134a 0.90 to 1.00 kg 1.98 to 2.20 lbs
Pressure sensor (Low)	Factory specification		0.196 MPa 2.0 kgf/cm^2 28.4 psi
Pressure sensor (High)	Factory specification		3.14 MPa 32.0 kgf/cm^2 455 psi

W1014918

■ NOTE

- **As for the mechanism and function of each component part, refer to Workshop Manual of "MECHANISM".**

■ Compressor Oil

The compressor oil dissolves in the refrigerant, circulates through the air-conditioning cycle, and functions to lubricate the compressor. But the conventional compressor oil for R12 doesn't dissolve in R134a, so it doesn't circulate through the cycle, and the lifespan of the compressor is considerably shortened.

It is still essential to ensure that the correct refrigerant oil is used. R12 systems were lubricated with mineral oil, which is totally unsuitable for R134a systems. The letter require PAG oil, which mixes very well with the refrigerant and provides ideal lubrication throughout the system.

Quantity (Total)	Brand Name
50 to 70 cm^3 3.1 to 4.3 cu.in.	ND-OIL 8 <PAG* oil>

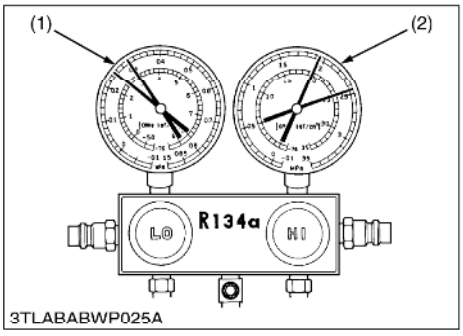
*PAG : Polyalkyleneglycol (Synthetic oil)

3. TIGHTENING TORQUES

Tightening torques of screws, bolts and nuts on the table below are especially specified.
(For general use screws, bolts and nuts : See page G-9.)

Item	N·m	kgf·m	lbf·ft
Outer roof mounting screw	3.5 to 4.0	0.36 to 0.40	2.6 to 2.9
Low pressure pipe mounting screw (compressor side)	7.8 to 11.8	0.8 to 1.2	5.8 to 8.7
Clutch safety valve hose retaining nut	23.0 to 26.5	2.3 to 2.7	16.6 to 19.6
Brake hose retaining nut	22.0 to 27.0	2.2 to 2.8	16.2 to 20.0
Cabin mounting screw and nut	69.0 to 88.0	7.0 to 9.0	50.6 to 65.1
High pressure pipe mounting screw (compressor side)	7.8 to 11.8	0.8 to 1.2	5.8 to 8.7
Compressor mounting screw	24.5 to 29.4	2.5 to 3.0	18.1 to 21.7
Compressor clutch mounting screw	10.8 to 16.2	1.10 to 1.65	8.0 to 11.9
A/C unit mounting screw (M8)	23.5 to 27.5	2.4 to 2.8	17.4 to 20.3
Low pressure pipe retaining nut (cooler unit side)	29.4 to 34.3	3.0 to 3.5	21.7 to 25.3
High pressure pipe 2 retaining nut (cooler unit side)	11.8 to 14.7	1.2 to 1.5	8.7 to 10.8
High pressure pipe 2 retaining nut (receiver side)	11.8 to 14.7	1.2 to 1.5	8.7 to 10.8
High pressure pipe 1 retaining nut (compressor side)	19.6 to 24.5	2.0 to 2.5	14.5 to 18.1
Wiper arm mounting nut (front wiper)	6.4 to 9.3	0.65 to 0.95	4.7 to 6.9
Wiper arm mounting nut and screw (rear wiper)	7.8 to 9.3	0.8 to 0.95	5.79 to 6.87

W1012736



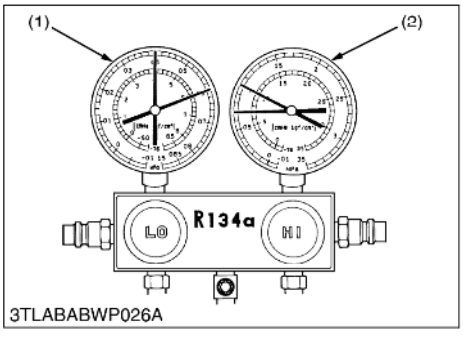
3TLABABWP025A

Expansion Valve Opens Too Far or Improper Installation of Heat Sensitizing Tube

1. Symptoms seen in refrigerating cycle
   - Both **LO** and **HI** pressure side (1), (2) pressures too high.
     LO pressure side (1) : 0.29 to 0.39 MPa
     (3.0 to 4.0 kgf/cm^2, 42.71 to 56.9 psi)
     HI pressure side (2) : 1.96 to 2.45 MPa
     (20 to 25 kgf/cm^2, 284.5 to 355.6 psi)
   - Frost or heavy dew on low pressure side piping.
2. Probable cause
   - Expansion valve trouble or heat sensitizing tube improperly installed.
   - Flow adjustment not properly done.
3. Solution
   - Check installed condition of heat sensitizing tube.
   - If installation of heat sensitizing tube is correct, replace the expansion valve.

(1) **LO** Pressure Side (2) **HI** Pressure Side

W1017612



3TLABABWP026A

Faulty Compression of Compressor

1. Symptoms seen in refrigerating cycle
   - **LO** pressure side (1) pressure too high : 0.39 to 0.59 MPa (4 to 6 kgf/cm^2, 56.9 to 85.3 psi)
   - **HI** pressure side (2) pressure too low : 0.69 to 0.98 MPa (7 to 10 kgf/cm^2, 99.6 to 142.2 psi)
2. Probable cause
   - Leak in compressor.
3. Solution
   - Replace compressor. (See page 10-S34.)

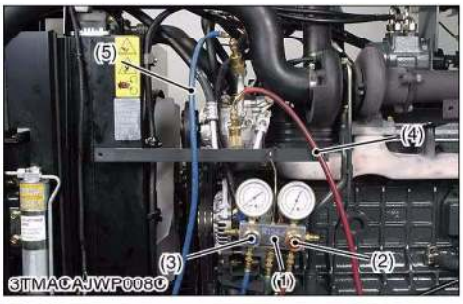
■ **NOTE**

- **Manifold gauge indications (left side figure) at faulty compressing by compressor.**

(1) **LO** Pressure Side (2) **HI** Pressure Side

W1017960

(7) Pressure Switch





Pressure Switch

1) HI Pressure Side

1. Connect the manifold gauge (1) to compressor as following procedure.
   Close the **HI** and **LO** pressure valves (2), (3) of manifold gauge tightly, and connect the charging hoses (red and blue) (4), (6) to the respective compressor service valves. (Refer to **HANDLING OF SERVICE TOOLS** : See page 10-S8.)

■ **NOTE**

- **Be sure to drive out the air in the charging hoses at the manifold gauge connection end by utilizing the refrigerant pressure in the refrigerant cycle.**

2. Start the engine and set at approx. 1500 min^{-1} (rpm). Turn on the A/C switch, then set the blower switch to **HI** position.
3. Raise pressure on the **HI** pressure side of the refrigerant cycle by covering the condenser front with a corrugated carboard, and the pressure switch (7) is activated and the compressor magnetic clutch is turned off. At this time, read the **HI** pressure gauge of the manifold gauge. If this pressure reading differs largely with the setting pressure, replace the pressure switch with a new one.

Setting pressure	Factory specification	Pressure switch **OFF**	More than approx. 3.14 MPa 32 kgf/cm^2 455 psi

2) LO Pressure Side

1. Disconnect **2P** connector (6) of pressure switch (7).
2. Measure the resistance with an ohmmeter across the connector terminals.
3. If 0 ohm is not indicated at normal condition, there is no refrigerant in the refrigerating cycle because gas leaks or pressure switch is defective.

(Reference)

Setting pressure	Factory specification	Pressure switch **OFF**	Less than approx. 0.196 MPa 2.0 kgf/cm^2 28.4 psi

- The resistance of pressure switch is 0 ohm in normal running, but is becomes infinity if the pressure is abnormal (out of factory specification). Because the pressure switch starts to work.

(1) Manifold Gauge
(2) **HI** (High Pressure Side) Charging Valve
(3) **LO** (Low Pressure Side) Charging Valve
(4) Charging Hose (Red)
(5) Charging Hose (Blue)
(6) **2P** Connector
(7) Pressure Switch

W1020509

(3) Removing Air Conditioner Unit

Draining Coolant

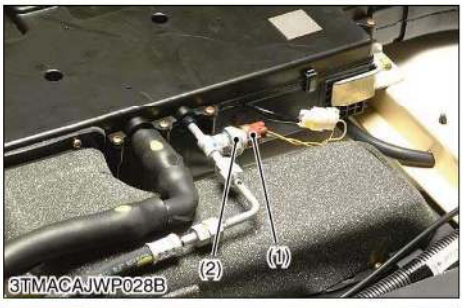
1. Refer to "Draining Coolant". (See page 10-S30.)

W1027912

Discharging Refrigerant Gas

1. Refer to "Discharging Refrigerant Gas". (See page 10-S17.)

W1027995

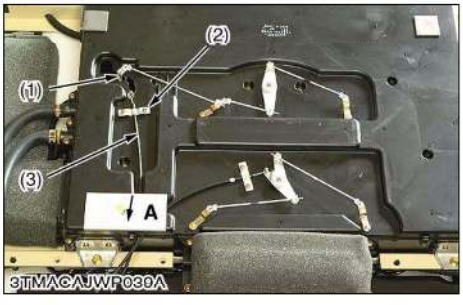


Connectors

1. Remove the outer roof.
2. Disconnect the battery negative cable.
3. Disconnect the **2P** connector (1) for pressure switch (2).

(1) Pressure Switch Connector (2) Pressure Switch

W1023280



Air Mixing Door Control Cable

1. Disconnect the air mixing door control cable (3) from the lever (1) of air conditioner unit side.

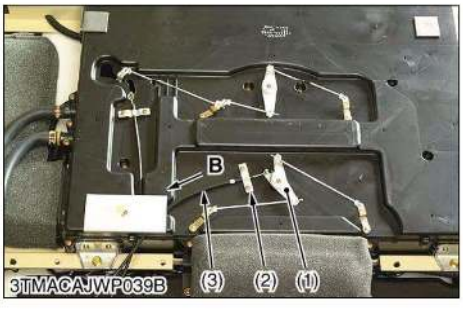
(When reassembling)

- Set the damper lever (1) of the air conditioner unit at **MAX HOT** position. Reconnect the cable.
- Move the temperature control to **MAX HOT** position. Fit the inner cable in position, and press and fix the outer cable by the cable clip (2) while pulling in the direction of arrow (**A**) as shown at left.
- Move the temperature control lever several times and finally set it to **MAX HOT** position to make sure the damper lever is at **HOT** position too.

(1) Damper Lever
(2) Cable Clip
(3) Air Mixing Door Control Cable

A : Direction of Pulling Outer Cable

W1023417



A/C Mode Door Control Cable (White Marked Cable)

1. Disconnect the air conditioner mode door control cable (3) from the def. control lever (1) of air conditioner unit side.

(When reassembling)

- Set the air conditioner unit to **DEF** mode position and reconnect the cable (3).
- Set the control at **DEF** position. Fit the inner cable in position, and press and fix the outer cable by the cable clip (2) while pushing in the direction of arrow (**B**) as shown at left.
- Move the mode lever several times and finally set it to **DEF** position to make sure to air conditioner unit is at **DEF** mode position.
- Lay and fix the mode door control cable over the water valve cable.

(1) **DEF.** Control Lever
(2) Cable Clip
(3) Mode Door Control Cable

B : Direction of Pulling Outer Cable

W1023759

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