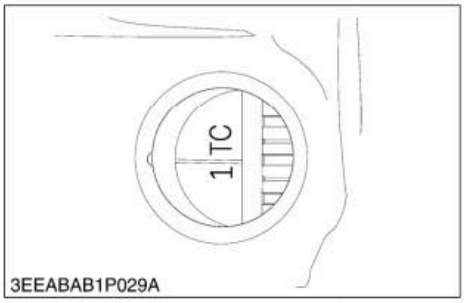
# WSM

## WORKSHOP MANUAL
## TRACTOR

# M108S Low Profile

Kubota

KiSC issued 09, 2020 A



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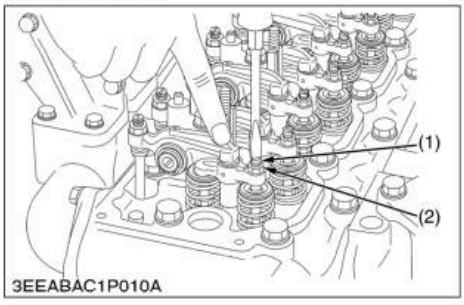

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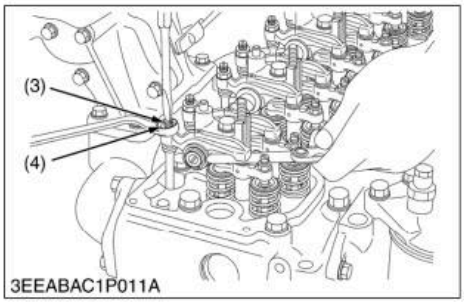

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## Checking Valve Clearance

■ **IMPORTANT**

- **Valve clearance must be checked and adjusted when engine is cold.**

1. Remove the high pressure pipes and the head cover.
2. Align the 1TC mark of flywheel and the convex of flywheel housing timing windows so that the first piston (gear case side) comes to the compression top dead center.
3. Before adjusting the valve clearance, adjust the bridge evenly to the valves stem.
4. Loosen the lock nut (2) and adjust with screw (1).
5. Slightly push the rocker arm by your fingers and screw in the adjusting screw slowly until you feel the screw touch the top of valve stem, then tighten the lock nut.
6. Loosen the lock nut (4) of adjusting screw (3) (push rod side) and insert the thickness gauge between the rocker arm and the bridge head. Set the adjusting screw to the specified value, then tighten the lock nut.

| | | |
|---|---|---|
| Valve clearance | Factory specification | 0.23 to 0.27 mm<br>0.0091 to 0.010 in. |

■ **NOTE**

- **After adjusting, tighten the lock nut (4) securely.**

| Adjustment cylinder location of piston | | Valve arrangement | |
|---|---|---|---|
| | | IN. | EX. |
| When No.1 piston is compression top dead center | 1st | ☆ | ☆ |
| | 2nd | ☆ | |
| | 3rd | | ☆ |
| | 4th | | |
| When No.1 piston is overlap position | 1st | | |
| | 2nd | | ☆ |
| | 3rd | ☆ | |
| | 4th | ☆ | ☆ |

| | | |
|---|---|---|
| Tightening torque | Injector clamp nut | 24 to 27 N·m<br>2.4 to 2.8 kgf·m<br>18 to 20 lbf·ft |
| | Overflow pipe joint screw (M6 × 1.0) | 9.81 to 11.2 N·m<br>1.00 to 1.15 kgf·m<br>7.24 to 8.31 lbf·ft |
| | Cylinder head cover 1 screw | 6.87 to 11.2 N·m<br>0.700 to 1.15 kgf·m<br>5.07 to 8.31 lbf·ft |
| | Cylinder head cover 2 screw | 9.81 to 11.2 N·m<br>1.00 to 1.15 kgf·m<br>7.24 to 8.31 lbf·ft |
| | Injection pipe retaining nut | 23 to 36 N·m<br>2.3 to 3.7 kgf·m<br>17 to 26 lbf·ft |

(1) Adjusting Screw
(2) Lock Nut
(3) Adjusting Screw
(4) Lock Nut

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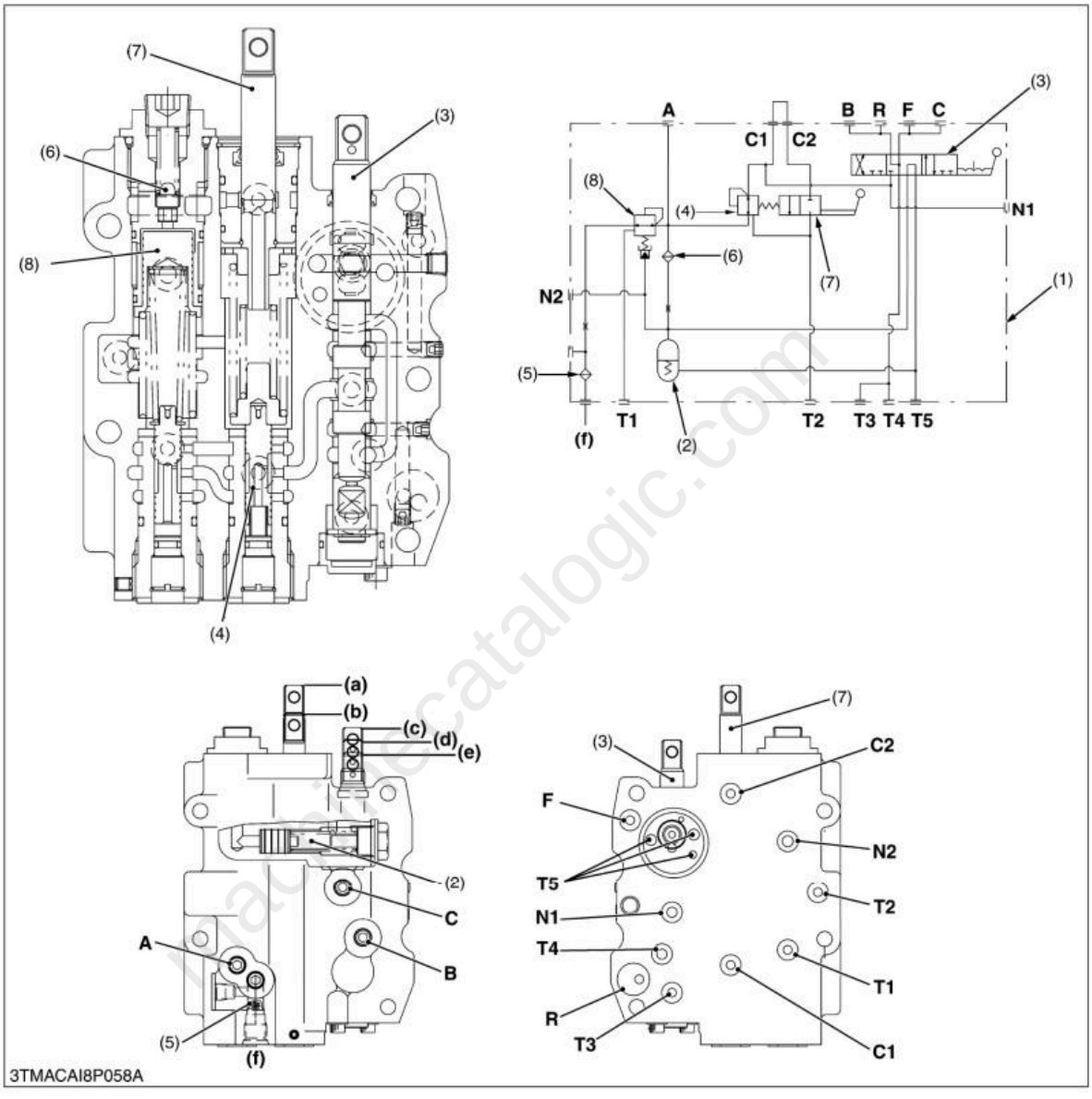
# [3] HYDRAULIC SHUTTLE VALVE

## (1) Structure

**Old valve**




(1) Shuttle Valve
(2) Accumulator
(3) Shuttle Shift Spool (Forward, Reverse)
(4) Proportionally Reducing Valve
(5) Line Filter
(6) Filter
(7) Inching Valve Spool
(8) Modulating Valve

**(a) Clutch Pedal Released Position**
**(b) Clutch Pedal Depressed Position**
**(c) Shuttle Forward Position**
**(d) Shuttle Neutral Position**
**(e) Shuttle Reverse Position**
**(f) Oil from Regulator Valve**

**A: Pressure Check Port (Modulation)**
**B: Pressure Check Port (Reverse)**
**C: Pressure Check Port (Forward)**
**F: To Clutch Body (Forward)**
**R: To Clutch Body (Reverse)**

**C1: Connection port**
**C2: Connection port**
**N1: Port N1**
**N2: Port N2**
**T1: Tank Port**
**T2: Tank Port**
**T3: Tank Port**
**T4: Tank Port**
**T5: Tank Port**

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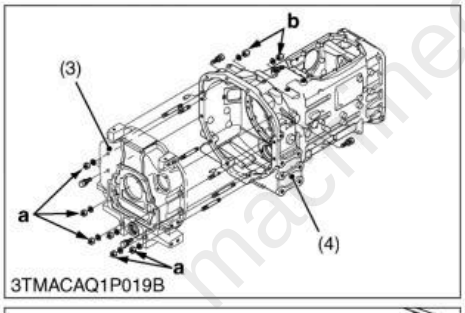
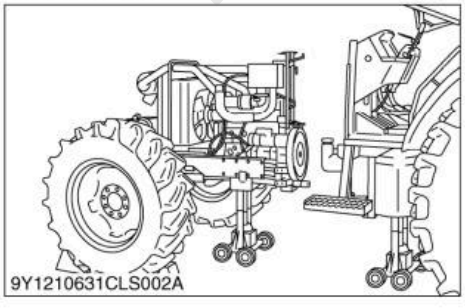


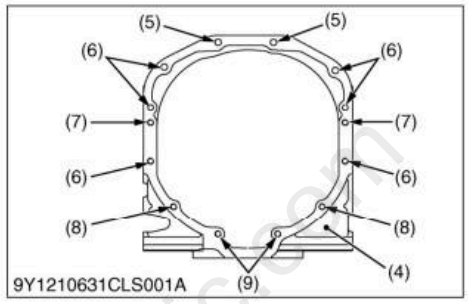




## Separating Engine from Clutch Housing

1. Check the engine and clutch housing case are securely mounted on the disassembling stands.
2. Install the front axle rocking restrictor (1) (see page G-65) to the front axle bracket.
3. Remove the floor mat (2) and inspection plate.
4. Remove the engine mounting screws and nuts, and separate the engine from the clutch housing.

**(When reassembling)**

- Apply molybdenum disulphide (Three Bond 1901 or equivalent) to the splines of damper disc boss.
- Apply liquid gasket (Three Bond 1141, 1211 or equivalent) to joint face of the engine and clutch housing.




| | | |
|---|---|---|
| Tightening torque | Engine and clutch housing mounting screw, nut (standard type) | 124 to 147 N·m<br>12.6 to 15.0 kgf·m<br>91.2 to 108 lbf·ft |
| | Engine and clutch housing mounting nut (wide type) | 167 to 196 N·m<br>17.0 to 20.0 kgf·m<br>123 to 144 lbf·ft |
| | Engine and clutch housing mounting stud bolt | 39 to 45 N·m<br>3.9 to 4.6 kgf·m<br>29 to 33 lbf·ft |

(1) Front Axle Rocking Restrictor
(2) Floor Mat
(3) Flywheel Cover
(4) Clutch Housing Case
(5) Hole for Stud Bolt with Wide Type Nut (9T)
(6) Screw (M14, 7T, 45 mm)
(7) Screw (M14, 7T, 40 mm)
(8) Screw (M14, 7T, 70 mm)
(9) Screw (M14, 7T, 110 mm)

**a: Standard Type Nut (7T)**
**b: Wide Type Nut (9T)**

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## (2) Removing Steering Cylinder


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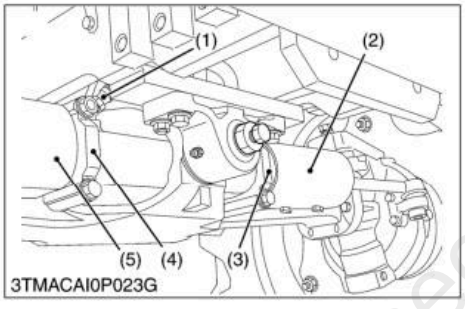

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**Tie-rod**

1. Pull out the cotter pin and remove the tie-rod end slotted nuts.
2. Remove the tie-rod with a tie-rod end lifter (Code No. 07909-39051).

**(When reassembling)**

- Replace cotter pin with a new one.
- Bend the cotter pin as shown in figure.

| | | |
|---|---|---|
| Tightening torque | Tie-rod end slotted nut | 157 to 176 N·m<br>16.0 to 18.0 kgf·m<br>116 to 130 lbf·ft |
| | Tie-rod joint lock nut | 167 to 196 N·m<br>17.0 to 20.0 kgf·m<br>123 to 144 lbf·ft |

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**Power Steering Hoses and Cylinder**

1. Remove the cylinder cover (2), (5).
2. Disconnect the turning delivery hose LH and RH.
3. Remove the cylinder bracket (3), (4).
4. Remove the cylinder.

**(When reassembling)**

| | | |
|---|---|---|
| Tightening torque | Turning delivery hose retaining nut | 22 to 27 N·m<br>2.2 to 2.8 kgf·m<br>16 to 20 lbf·ft |
| | Cylinder cover mounting screw | 48 to 55 N·m<br>4.9 to 5.7 kgf·m<br>36 to 41 lbf·ft |
| | Cylinder bracket mounting screw | 124 to 147 N·m<br>12.6 to 15.0 kgf·m<br>91.2 to 108 lbf·ft |

(1) Turning Delivery Hose RH
(2) Cylinder Cover LH
(3) Cylinder Bracket LH
(4) Cylinder Bracket RH
(5) Cylinder Cover

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