

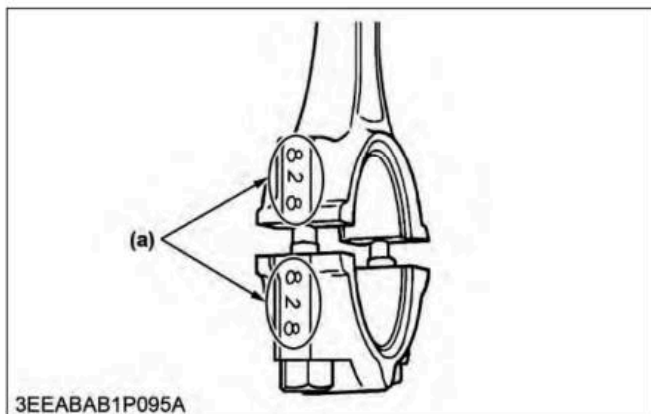
WSM

WORKSHOP MANUAL

TRACTOR

M5091, M5111

Kubota



(a) Mark

- Apply engine oil to the connecting rod screws and lightly screw it in by hand, and then tighten it to the specified tightening torque. If the connecting rod screw cannot be screwed in smoothly, clean the threads. If the connecting rod screw is still hard to screw in, replace it.
- When using the existing crank pin bearing again, put tally marks on the crank pin bearing and the connecting rod in order to keep their positioning.

Tightening torque	Connecting rod screw	79 to 83 N·m 8.0 to 8.5 kgf·m 58 to 61 lbf·ft

5.11.3 Removing piston

Tools required

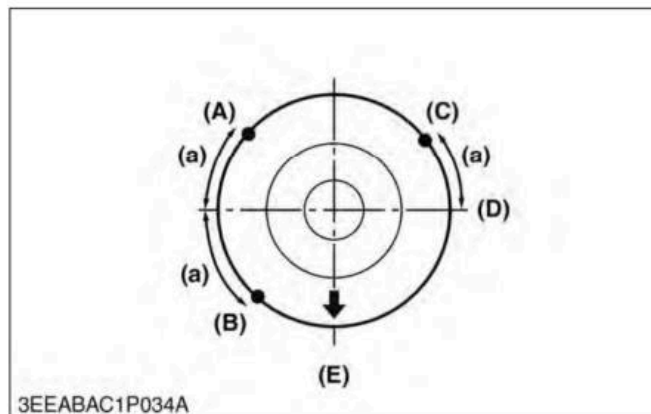
- Molybdenum disulfide
- Piston ring compressor

1. Fully clean the carbon in the cylinders.
2. Turn the flywheel and move the piston to top dead center.
3. Lightly tap the connecting rod from the bottom of the crankcase with the grip of a hammer to pull the piston out.

(When reassembling)

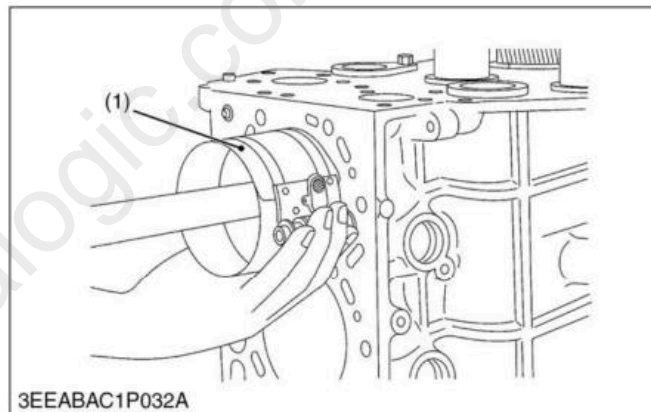
■ IMPORTANT

- Do not change the combination of cylinder and piston. Align the position of each piston by its mark. For example, mark [1] on the No. 1 piston.
- When inserting the piston into the cylinder, place the gap of each piston ring like the figure.



- (a) 0.79 rad (45°)
- (A) Top ring gap
- (B) Second ring gap
- (C) Oil ring gap
- (D) Piston pin hole
- (E) Supply pump side

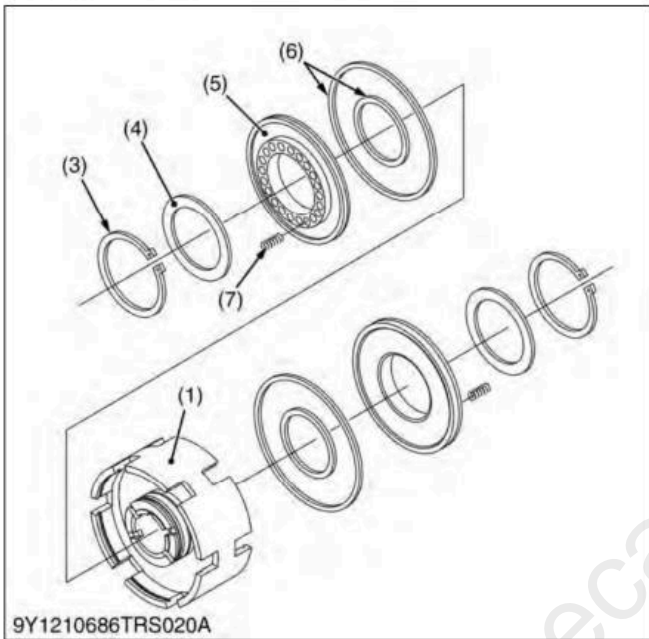
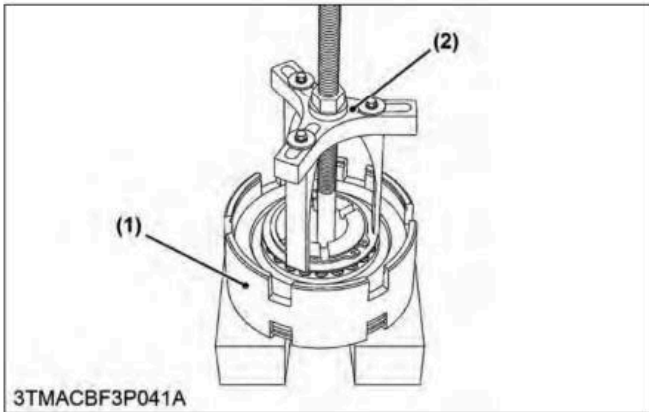
- Install the pistons with a piston ring compressor (1) carefully. Otherwise, their chrome-plated section of piston rings may be scratched, causing trouble inside the liner.



(1) Piston ring compressor

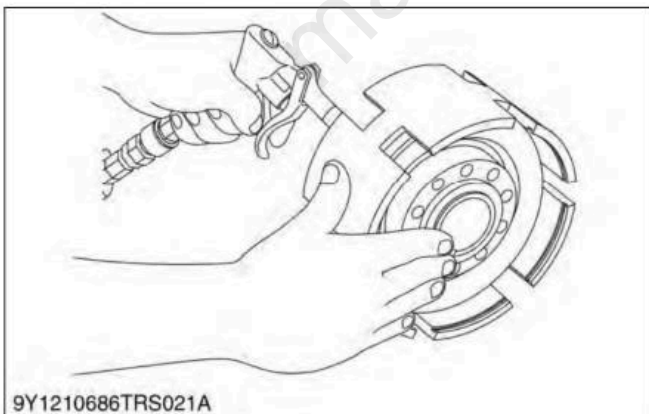
- When you install the piston in position, do not give a damage to the layer of molybdenum disulfide on the piston skirt. This layer can decrease the clearance with the cylinder liner. Immediately after you press-fit the piston pin, the piston is hot and the layer comes off easily. Only put in the piston after its temperature decreases.
- Before you install the piston into the cylinder, apply sufficient engine oil to the piston and inner face of the cylinder.
- When you install the piston into the cylinder, point the mark (3) on the connecting rod to the supply pump side.

2. Remove the springs (7).



- | | |
|--|---------------|
| (1) Clutch case | (5) Piston |
| (2) Hydraulic clutch spring compressor | (6) Seal ring |
| (3) External circlip | (7) Spring |
| (4) Washer | |

3. Draw out the piston (5) using a compressed air.



(When reassembling)

- Apply the enough transmission fluid to seal rings (6).

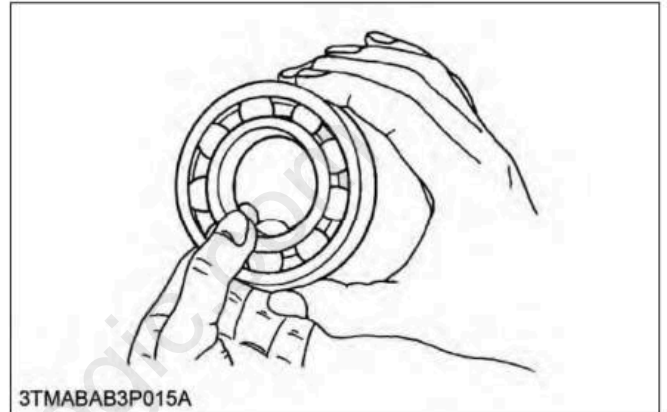
— RELATED PAGE —

2.16 Hydraulic clutch spring compressor on page 2-70

6. Servicing

6.1 Bearing

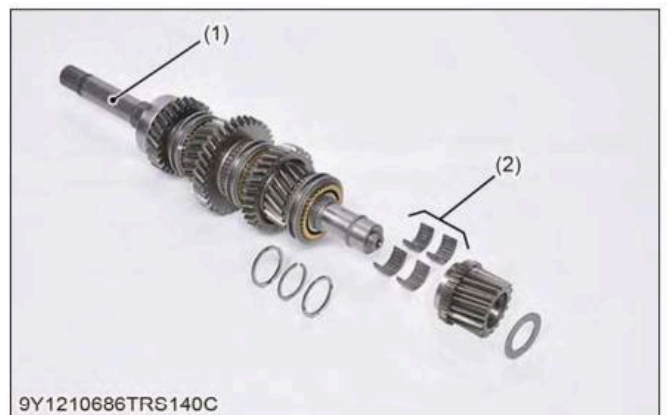
6.1.1 Checking ball bearing



1. Hold the inner race, push and pull the outer race in all directions to check for wear and roughness.
2. Apply transmission fluid to the bearing, and hold the inner race. Then, turn the outer race to check rotation.
3. If there is any problem, replace it.

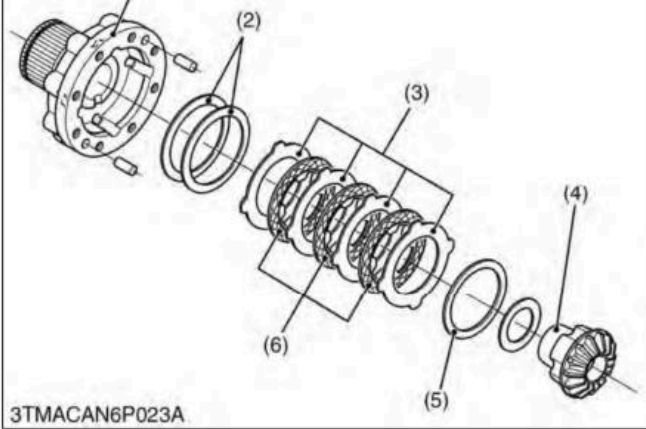
6.1.2 Checking split type needle bearing

1. Check abrasion, color change or other damage of the split type needle bearing (2).
2. If there is any doubt on the condition of a needle bearing (2), replace it.



(1) 1st shaft

(2) Split type needle bearing

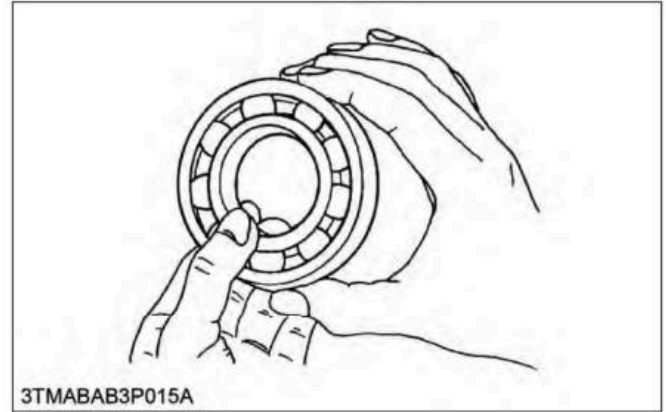


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- | | |
|--|-------------------|
| (1) Differential case cover | (4) LSD side gear |
| (2) Belleville washer (Cupped spring washer) | (5) LSD shim |
| (3) Steel plate | (6) LSD disc |

(When reassembling)

- Apply transmission fluid to the LSD discs.
- Apply molybdenum disulfide (Three Bond 1901 or its equivalents) to side gear and shim.
- Assemble the Belleville washers (cupped spring washer) as shown in the figure.

6. Servicing**6.1 Servicing front axle (4WD model)****6.1.1 Checking ball bearing**

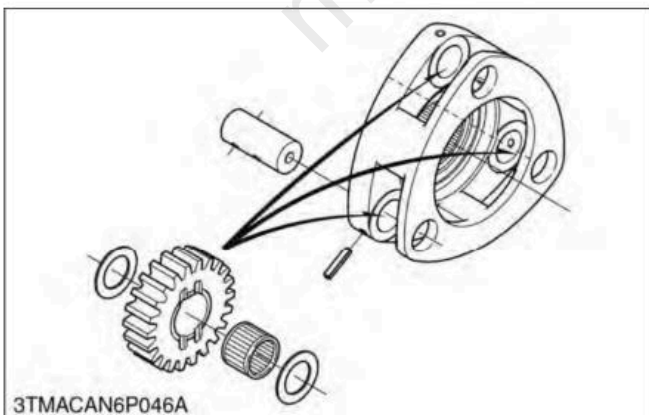
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1. Hold the inner race, and push and pull the outer race in all directions to check for wear and roughness.
2. Apply transmission fluid to the bearing. And holding the inner race, turn the outer race to check rotation.
3. If there is any problem, replace it.

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8. FRONT AXLE**SERVICING
6. Servicing****6.1.2 Checking needle bearing**

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1. Check the needle bearing for wear, color change or other damage.
2. If there is any doubt as to the condition of a needle bearing, replace it.

6.1.3 Checking backlash and tooth contact between bevel pinion shaft and bevel gear

Backlash between bevel gear and bevel pinion shaft	Service specification	0.20 to 0.30 mm 0.0079 to 0.011 in.
	Service limit	0.4 mm 0.02 in.

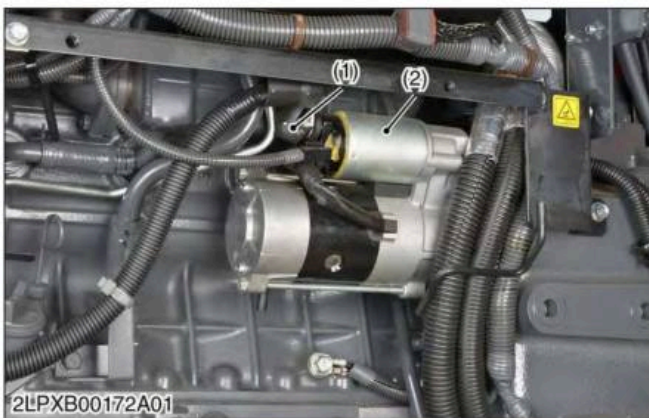
SERVICING

5. Checking and adjusting

11. ELECTRICAL SYSTEM

1. Measure the voltage with a voltmeter across the terminal B (1) and chassis.

Voltage	Service specification	Approximately battery voltage



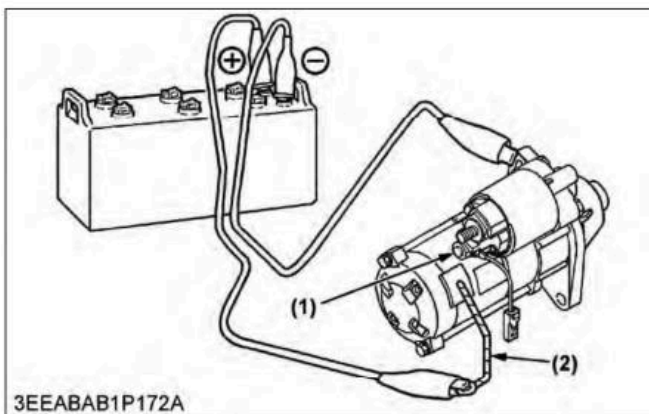
(1) Terminal B (2) Starter motor

2. If the voltage differs from the battery voltage, the battery positive cable or the battery negative cable is damaged.

5.5.2.2 Testing starter motor

CAUTION

- Secure the starter to prevent it from jumping up and down while testing the motor.



(1) Terminal C (2) Connecting lead

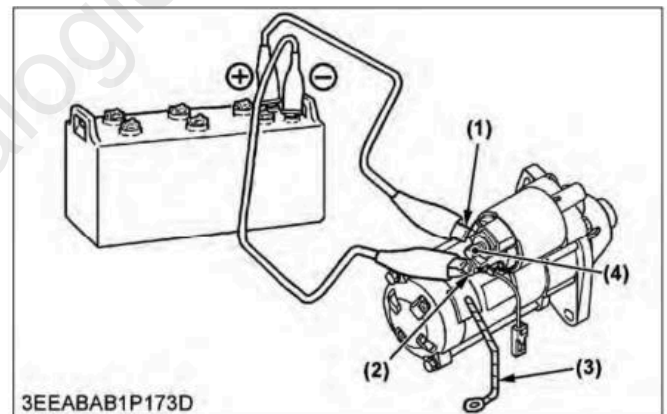
1. Disconnect the battery negative cable from the battery.
2. Disconnect the battery positive cable and the leads from the starter terminal C (1).
3. Remove the starter from the engine.

6. Connect a jumper lead momentarily between the starter motor housing and the battery negative terminal post.
7. If the motor does not operate, check the motor.

5.5.2.3 Testing magnetic switch

■ NOTE

- This test should be done for a short time, about three to five seconds.



(1) Terminal S (2) Terminal C (3) Connecting lead (4) Terminal B

1. Disconnect the battery negative cable from the battery.
2. Disconnect the battery positive cable and the leads from the starter terminal B (4).
3. Remove the starter from the engine.
4. Disconnect the connecting lead (3) from the starter terminal C (2).
5. Connect a jumper lead from the starter terminal S (1) to the battery positive terminal post.
6. Connect a jumper lead momentarily between the starter terminal C (2) and the battery negative terminal post.
7. If the pinion gear does not pop out, check the magnetic switch.

Full Version Available

Kubota M5091 Tractor Workshop Manual

This is a short preview. The complete manual contains all chapters, wiring diagrams, torque specifications and full service procedures.

VIEW THE FULL MANUAL

<https://machinecatalogic.com/kubota-m5091-tractor-workshop-manual/>