

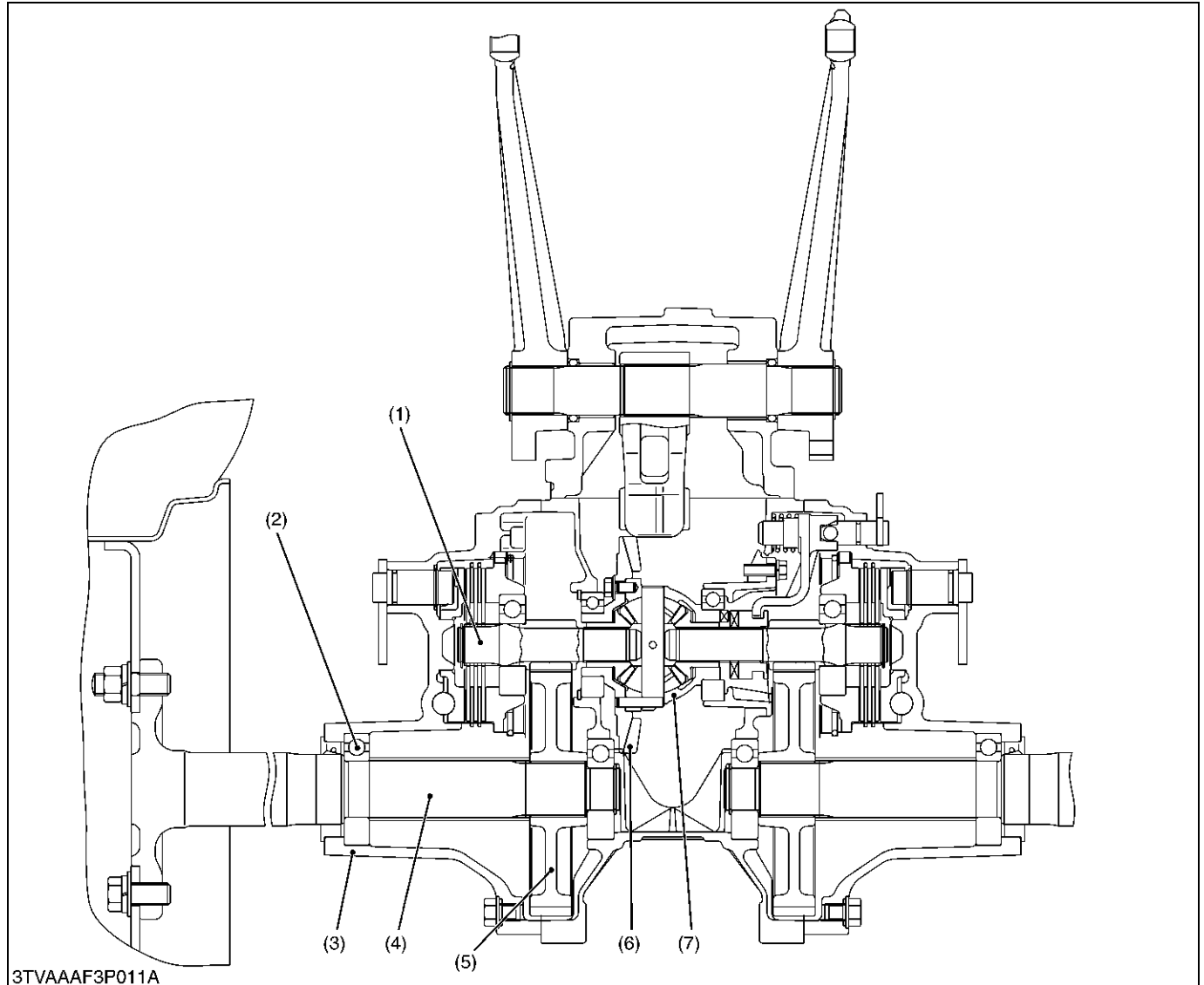
# **3 REAR AXLE**

# MECHANISM

## CONTENTS

1. STRUCTURE .....	3-M1
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# 1. STRUCTURE



(1) Differential Gear Shaft  
(2) Ball Bearing

(3) Rear Axle Case  
(4) Rear Axle

(5) Spur Gear  
(6) Spiral Bevel Gear

(7) Differential Gear

The rear axles are the semi floating type with ball bearing (2) between the rear axle (4) and the rear axle case (3), which supports the rear wheel load as well as transmitting power to the rear wheels.

The differential gears (7) automatically control the revolution of right and left wheels when the rear wheels encounter unequal resistance during turning.

# SERVICING

## CONTENTS

1. TROUBLESHOOTING .....	3-S1
2. TIGHTENING TORQUES .....	3-S2
3. DISASSEMBLING AND ASSEMBLING .....	3-S3
4. SERVICING .....	3-S11

# 1. TROUBLESHOOTING

Symptom	Probable Cause	Solution	Reference Page
<b>Excessive or Unusual Noise at All Time</b>	Improper backlash between differential gear shaft and final reduction gear	Replace	2-S45
	Bearing worn	Replace	–
	Insufficient or improper type of transmission fluid used	Replenish or change	G-8
<b>Noise while Turning</b>	Brake shaft and spur gear and internal gear worn or damaged	Replace	3-S11

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## 2. 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-10.)

Item	N·m	kgf·m	lbf·ft
Rear wheel mounting bolt	196 to 225	20.0 to 23.0	145 to 166
Rear wheel mounting nut	167 to 191	17 to 19.5	123 to 141
Main frame mounting bolt (front side) (M14, 9T)	170 to 200	17 to 20	125 to 145
Main frame mounting bolt (rear side) (M16)	200 to 225	20 to 23	145 to 166
Rear axle mounting bolt (M12)	105 to 120	11 to 12	78 to 88
Rear axle case mounting bolt (M10)	40 to 44	4.0 to 4.5	29 to 32

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### 3. DISASSEMBLING AND ASSEMBLING

#### Front Loader and Backhoe

1. Refer to "9. FRONT LOADER" section and "10. BACKHOE" section.

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#### Battery Negative Cable

1. Open the bonnet and disconnect the battery negative cable from the battery.

#### **(When reassembling)**

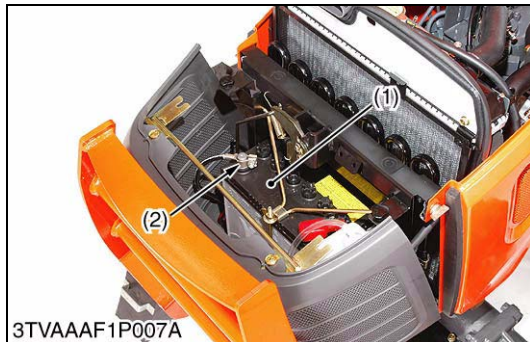
#### ■ NOTE

- When connecting the battery cords, connect the battery positive cable first.

(1) Battery

(2) Negative Cable

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#### Front Wheel Drive Shaft

1. Loose the front wheel drive shaft cover band screws (1).
2. Slide the front wheel drive shaft cover (2) to the rear.
3. Tap out the coupling spring pins (4).
4. Remove the front wheel drive shaft.

#### **(When reassembling)**

- Apply grease to the splines of the front wheel drive shaft.

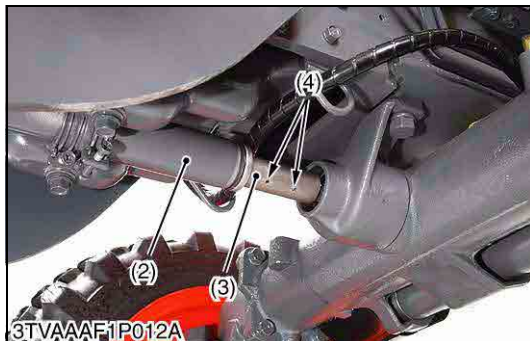
(1) Screw

(3) Coupling

(2) Cover

(4) Spring Pin

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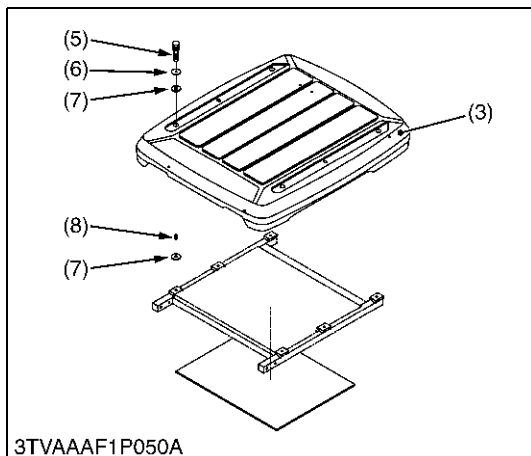
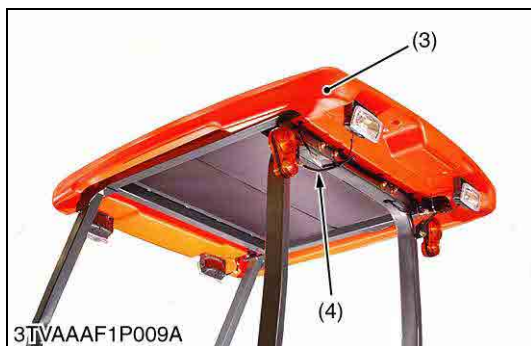


### Canopy

1. Disconnect the connectors (2).
2. Remove the rubber (1).
3. Disconnect the hazard light connectors (4).
4. Remove the canopy (3) with wiring harness.

- |               |                  |
|---------------|------------------|
| (1) Rubber    | (5) Bolt         |
| (2) Connector | (6) Plane Washer |
| (3) Canopy    | (7) Cution       |
| (4) Connector | (8) Collar       |

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### Frames

1. Remove the upper frame (2).
2. Remove the front frames (1) (3).

- |                     |                     |
|---------------------|---------------------|
| (1) Front Frame, RH | (3) Front Frame, LH |
| (2) Upper Frame     |                     |

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### Rear Wheels

1. Place a hydraulic jack under the frame and jack up the tractor.
2. Remove the rear wheel mounting belts and nuts.
3. Remove the rear wheels (1) (2).
4. Place the rigid jacks under the rear axles. And remove the hydraulic jack.

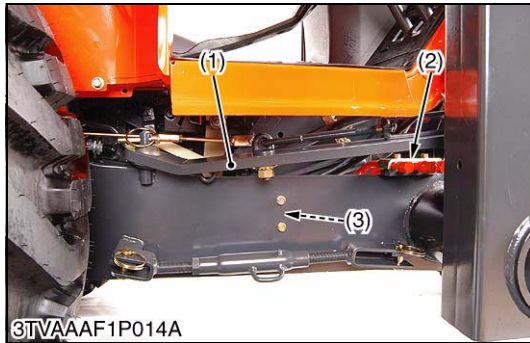
### (When reassembling)

Tightening torque	Rear wheel mounting bolts	196 to 225 N·m 20.0 to 23.0 kgf·m 145 to 166 lbf·ft
	Rear wheel mounting nuts	167 to 191 N·m 17 to 19.5 kgf·m 123 to 141 lbf·ft

(1) Rear Wheel, LH

(1) Rear Wheel, RH

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### Lower Links and Pipe Clamps

1. Remove the lower links (1) (4).
2. Remove the pipe clamps (2) (3) (6).
3. Remove the step support (5).

(1) Lower Link, RH

(4) Lower Link, LH

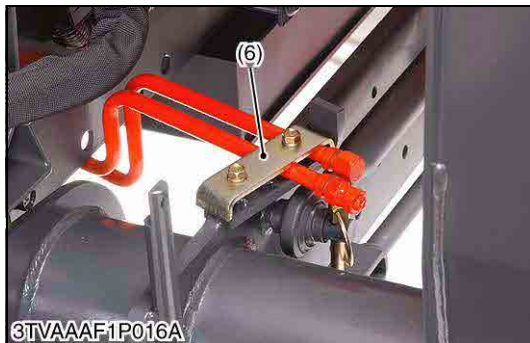
(2) Pipe Clamp

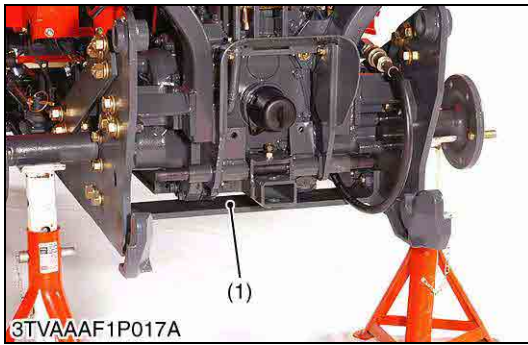
(5) Step Support

(3) Pipe Clamp

(6) Pipe Clamp

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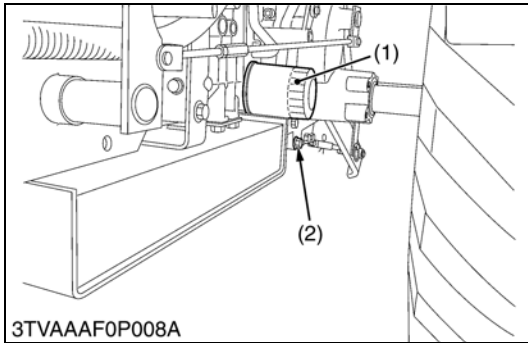


### Main Frame Connecting Plate

1. Remove the main frame connecting plate (1).

(1) Main Frame Connecting Plate

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### Draining Transmission Fluid / Replacing Transmission Oil Filter

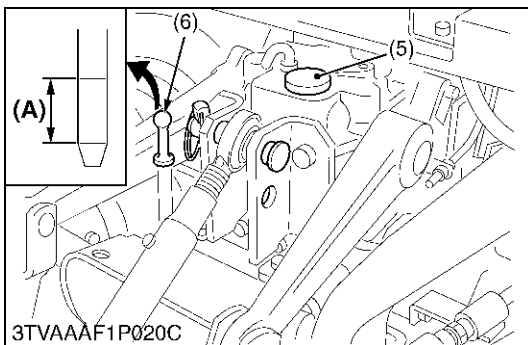
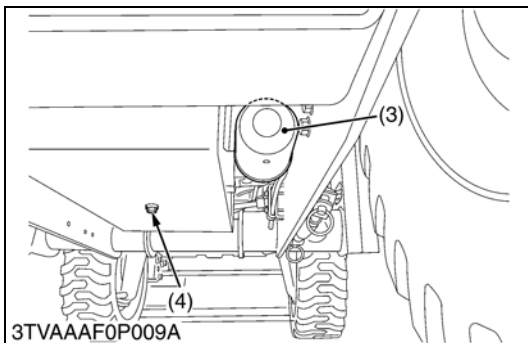
#### ⚠ CAUTION

- Allow engine to cool down sufficiently, oil can be hot and can burn.

1. To drain the used oil, remove the drain plug at the bottom of the transmission case and drain the oil completely into the oil pan.
2. After draining reinstall the drain plugs.
3. Remove the oil filter.
4. Put a film of clean transmission oil on the rubber seal of the new filter.
5. Tighten the filter quickly until it contacts the mounting surface. Tighten filter by hand an additional 1/2 turn only.
6. Fill with new KUBOTA SUPER UDT fluid up to the upper notch on the dipstick. (See page G-8.)
7. After running the engine for a few minutes, stop it and check the oil level again, add oil to the prescribed level.
8. After the new filter has been replaced, the transmission fluid level will decrease a little. Make sure that the transmission fluid does not leak through the seal, and check the fluid level. Top off if necessary.
9. Properly dispose of used oil.

#### ■ IMPORTANT

- To prevent serious damage to the hydraulic system, use only a KUBOTA genuine filter.
- If the 3-point hitch can not be raised by setting the hydraulic control lever to the UP position after long term storage or when changing the transmission oil, turn steering wheel to the right and left several times to bleed air from the system.
- Do not operate the tractor immediately after changing the transmission fluid.

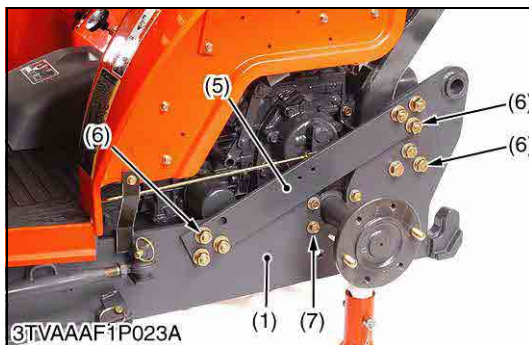
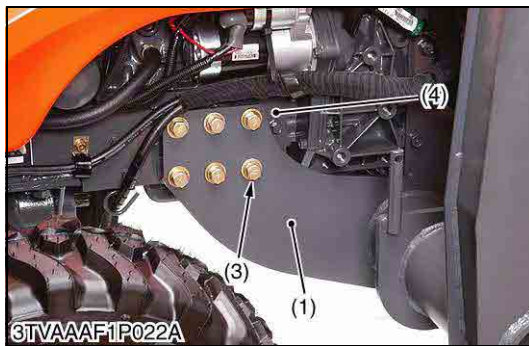


Transmission fluid capacity (with oil tank)	26.0 L 6.9 U.S.gals 5.7 Imp.gals
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- (1) Filter (HST)  
(2) Drain Plug (Both Sides)  
(3) Filter  
(4) Drain Plug  
(5) Oil Inlet  
(6) Dipstick

(A) Oil level is acceptable within this range.

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### Loosing Main Frame Mounting Bolts and Nuts

1. Loosing the lock nut from the main frame.
2. Remove the spill guard cable (2) from the main frame (1).
3. Loose the main frame mounting bolts.
4. Remove the connecting plate mounting bolts.
5. remove the connecting plates (5).

#### **(When reassembling)**

Tightening torque	Main frame mounting bolt (front side) (M14, 9T)	170 to 200 N·m 17 to 20 kgf·m 125 to 145 lbf·ft
	Main frame mounting bolt (rear side) (M16)	200 to 225 N·m 20 to 23 kgf·m 145 to 166 lbf·ft
	Rear axle mounting bolt (M12)	105 to 120 N·m 11 to 12 kgf·m 78 to 88 lbf·ft

- (1) Main Frame  
(2) Spill Guard Cable  
(3) Bolt (M14)  
(4) Front Axle Frame

- (5) Connecting Plate  
(6) Bolt and Nut (M16)  
(7) Bolt (M12)

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### Main Frame

1. Hoist the rear side of the main frame (1).
2. Dismount the rear side of the main frame slowly.
3. Hoist the front side of the main frame (2) slowly.

(1) Rear Side of Main Frame

(2) Front Side of Main Frame

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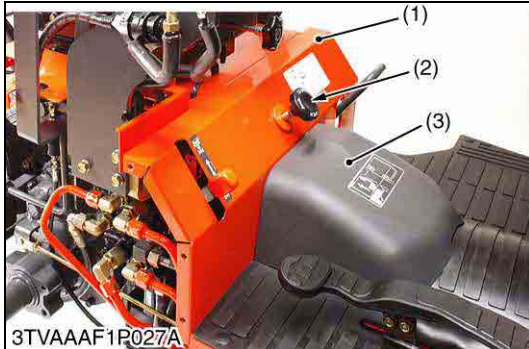
### **Fenders**

1. Disconnect the tail light connectors.
2. Remove the tail light assemblies (3).
3. Remove the rubber (1).
4. Remove the fenders (2).

(1) Rubber  
(2) Fender

(3) Tail Light Assembly

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### **Front Cover and Floor Cover**

1. Remove the front cover (3).
2. Remove the lowering speed adjusting knob (2).
3. Remove the floor cover (1).

(1) Floor Cover  
(2) Lowering Speed Adjusting Knob

(3) Front Cover

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### **Front Loader Pipes and Front Control Valve**

1. Remove the front loader pipes (1) (2) (3).
2. Disconnect the throttle cable (10).
3. Disconnect the spill guard cable (6).
4. Disconnect the return hose (9).
5. Remove the clamp (7).
6. Disconnect the delivery pipe (8) and hydraulic hose (5).
7. Remove the front loader control valve (4) with bracket.

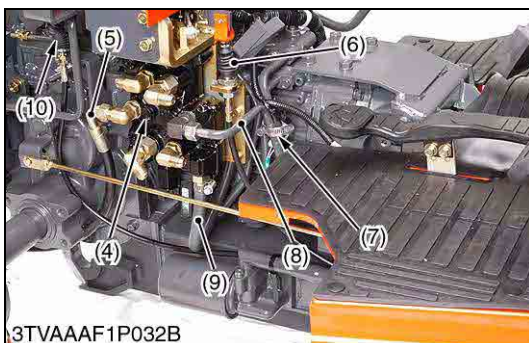
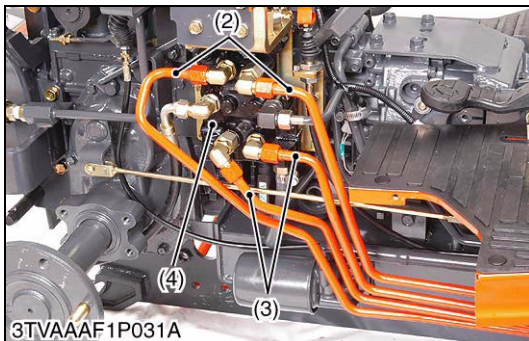
#### **(When reassembling)**

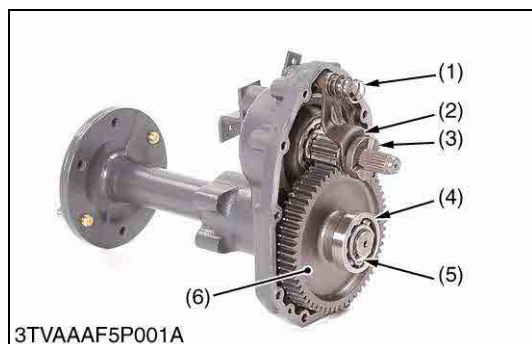
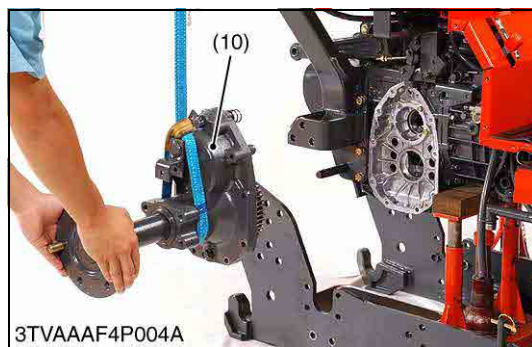
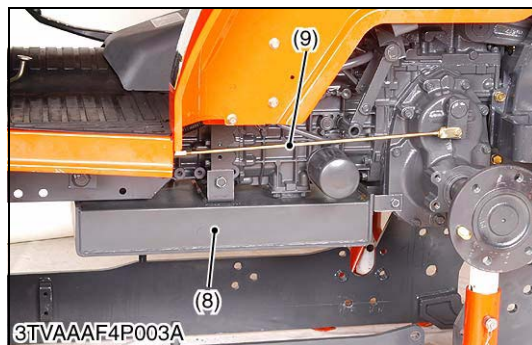
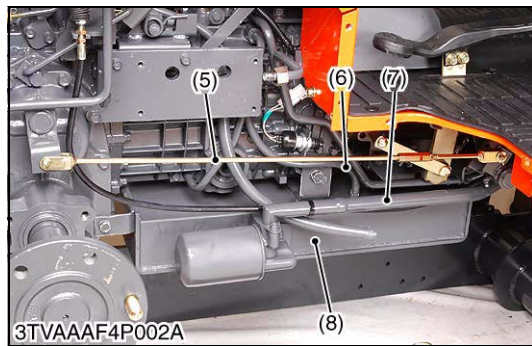
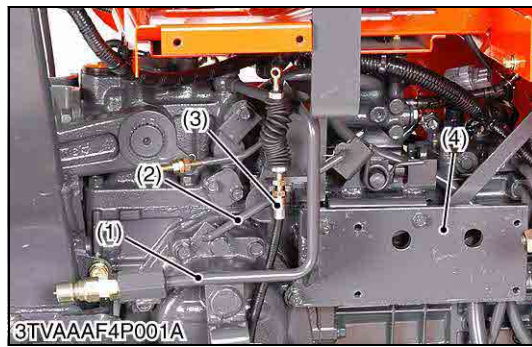
- Do not damage the O-ring.
- Check the oil leakage from the pipe and hose connections.

(1) Front Loader Pipe  
(2) Front Loader Pipe  
(3) Front Loader Pipe  
(4) Front Loader Control Valve  
(5) Hydraulic Hose

(6) Spill Guard Cable  
(7) Clamp  
(8) Delivery Pipe  
(9) Return Hose  
(10) Throttle Cable

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## Separating Rear Axle Case

### [Rear Axle RH]

1. Remove the hydraulic pipe (1).
2. Disconnect the throttle cable (3) from stay.
3. Remove the differential lock rod (2).
4. Remove the front loader valve bracket (4).
5. Remove the brake rod RH (5).
6. Disconnect the suction pipe (7) and the breather hose (6).
7. Remove the oil tank (8).
8. Lift the rear axle case RH (10).
9. Separate the rear axle case RH (10).

### [Rear Axle LH]

1. Remove the brake rod LH (5).
2. Disconnect the suction pipe (7) and the breather hose (6).
3. Remove the oil tank (8).
4. Lift the rear axle case LH.
5. Separate the rear axle case LH.

### (When reassembling)

- Apply liquid gasket (Three Bond 1206D or equivalent) to the joint face of the rear axle case and the differential case.

Tightening torque	Rear axle case mounting bolt (M10)	40 to 44 N·m 4.0 to 4.5 kgf·m 29 to 32 lbf·ft
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- |                                |                     |
|--------------------------------|---------------------|
| (1) Hydraulic Pipe             | (6) Breather Hose   |
| (2) Differential Lock Rod      | (7) Suction Pipe    |
| (3) Throttle Cable             | (8) Oil Tank        |
| (4) Front Loader Valve Bracket | (9) Brake Rod LH    |
| (5) Brake Rod RH               | (10) Rear Axle Case |

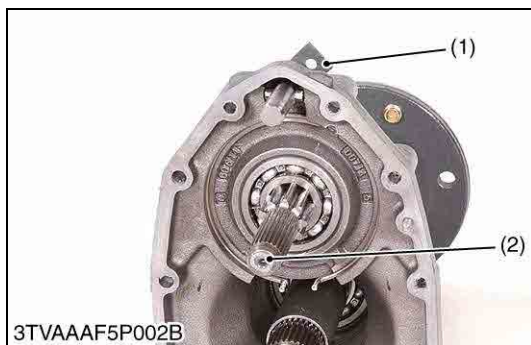
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## Differential Lock Shift Fork

1. Remove the spring (1).
2. Draw out the differential lock shift lock clutch (3) and the differential lock shift fork (2).
3. Remove the external cir-clip (5).
4. Remove the ball bearing (4).
5. Remove the 58T gear (6).

- |                                  |                       |
|----------------------------------|-----------------------|
| (1) Spring                       | (4) Ball Bearing      |
| (2) Differential Lock Shift Fork | (5) External Cir-clip |
| (3) Differential Lock Clutch     | (6) 58T Gear          |

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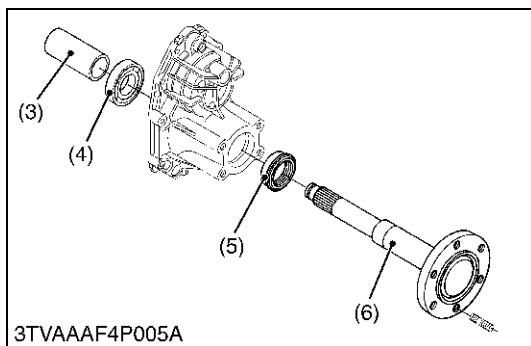
**Rear Axle Shaft**

1. Remove the fork rod (1).
2. Remove the brake shaft assembly (2).
3. Tap out the rear axle shaft (5) with a rubber hammer to the outside.

**(When reassembling)**

- Tap in the ball bearing to the rear axle case.
- |                          |                     |
|--------------------------|---------------------|
| (1) Fork Rod             | (4) Ball Bearing    |
| (2) Brake Shaft Assembly | (5) Oil Seal        |
| (3) Collar               | (6) Rear Axle Shaft |

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## 4. SERVICING



### Checking Ball Bearing

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 hold the inner race. Then, turn the outer race to check rotation.
3. If there is any defect, replace it.

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