

# PARTS & SERVICE NEWS

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**SUBJECT:** THE MODIFICATION PROCEDURE FOR A REGENERATION VALVE ON WA250PT-5

**PURPOSE:** To introduce modification procedures for a regeneration valve on WA250PT-5

**APPLICATION:** WA250PTL-5 Wheel Loaders, Serial Nos. 70038 thru 70040,  
70044 thru 70046,  
70056 thru 70061,  
70081 thru 70086

**FAILURE CODE:** DW50MC

## DESCRIPTION:

### 1. Introduction

Bucket regeneration valve has not fully opened and dumping time may become long in WA250PT-5.

(Specification :  $2.0 \pm 0.3s$  [Oil temperature  $50^{\circ}C$  At 1st mode])

In such a case, it is possible to prevent this fault by changing a draining rout to eliminate the influence of back pressure, and it is requested to carry out this repair for the case.

## 2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
418-T90-3630 (02764-00311)	Hose (Hose)	Replacement Not used	1 (1)	
04434-52210	Clip	} Addition	2	
07095-20314	Cushion		2	
07000-12011 (07000-12014)	O-ring (O-ring)	Replacement Not used	3 (3)	
418-T90-3620 (418-62-34271)	Tee (Tee)	Replacement Not used	1 (1)	
02896-11009	O-ring	Addition	1	
23S-56-21150 (419-09-11150)	Clip (Clip)	Replacement	1 (1)	
02782-10316	Elbow	} Not used	1	
07002-12034	O-ring		1	
02896-11009	O-ring		1	
709-30-62150	Plug	} Addition	1	
07002-12034	O-ring		1	

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## 1) Outline of the repair

Return the drain oil of the regeneration valve into the hydraulic tank.

## 2) Repair procedure

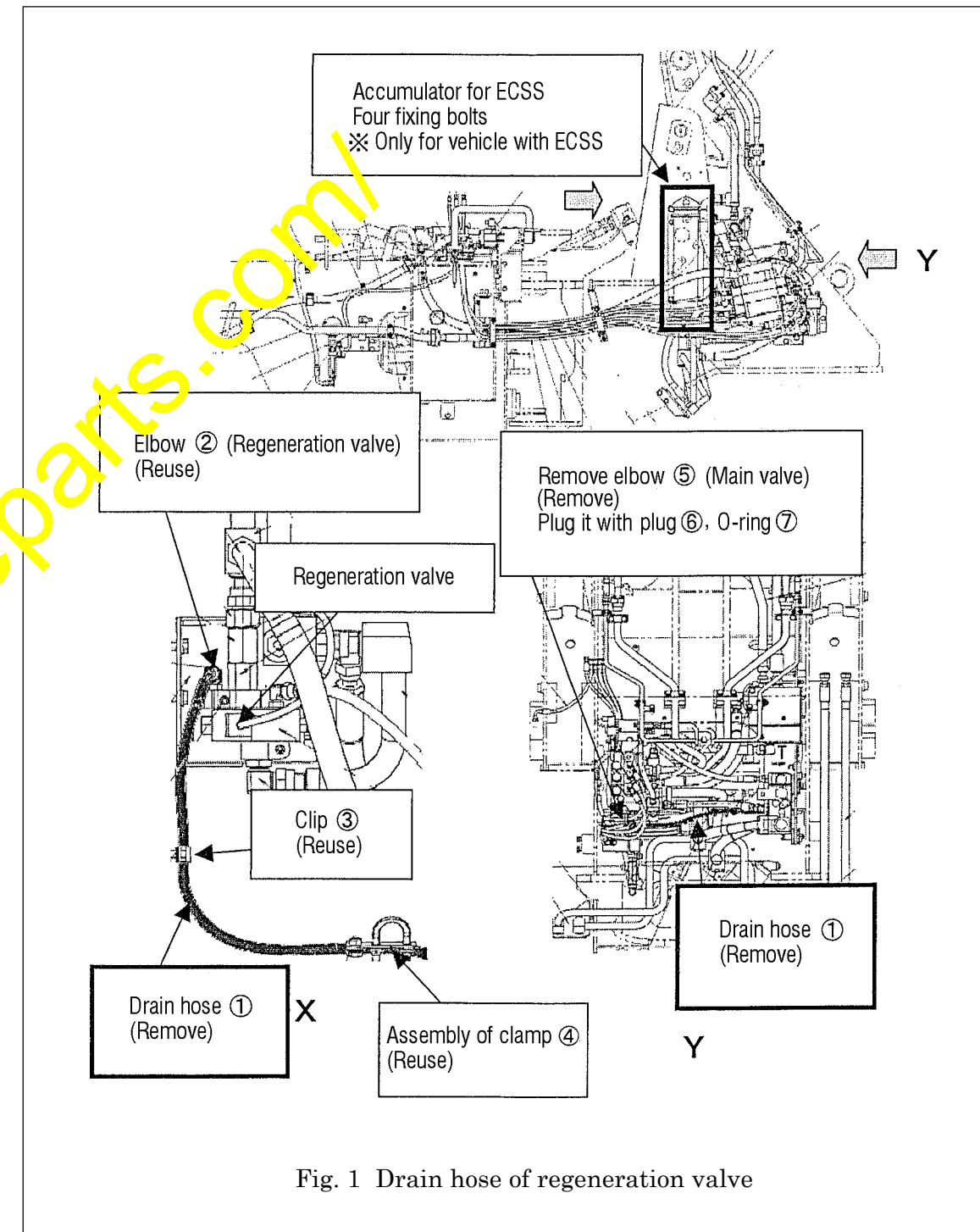
## 1. Before repair work

- (1) In order to make the repair work easy, articulate the vehicle to the right.
- (2) After the work equipment is placed on the ground and the engine stops, loosen the cap of the hydraulic tank gradually and release the inner pressure in the tank.

## 2. Removal of the current drain hose

- (1) The ECSS accumulator must be removed to approach the regeneration valve from the rear side of the front frame. (With bracket. Only for vehicle with ECSS.)
- (2) Remove drain hose (02764-00311) ① from the regeneration valve.
- (3) elbow (Regeneration valve) ②, clip ③ and assembly of clamp ④ are reused after the removal.
- (4) Remove elbow ⑤ (Main valve) (02782-10316) and plug it with plug (709-30-62150) ⑥ and O-ring (07002-12034) ⑦.

Tightening torque : 49 – 59 Nm



3. Installation of the new drain hose

- (1) Remove elbow (418-T80-3280) ② and bushing (418-T90-3110) ⑤ on the regeneration valve and replace the O-ring with a new one. (07000-12014 → 07000-12011)
  - (2) Return the elbow and bushing to the original state.
  - (3) Install new drain hose (418-T90-3630) ①. (Refer to Fig 2)
  - (4) Elbow ② and clip ③ are the reused parts. (Refer to Fig 2)
  - (5) With assembly of clamp ④, fix the new drain hose in the position shown in the figure. (Refer to Fig. 2)
  - (6) With clip (04434-52110) ⑥ and cushion (07095-20314) ⑦, fix the new drain hose at the center hinge (2 places). (Refer to Fig. 3)
- ※ Tightening torque of bolt and nut is referred to KES 04.123.1.

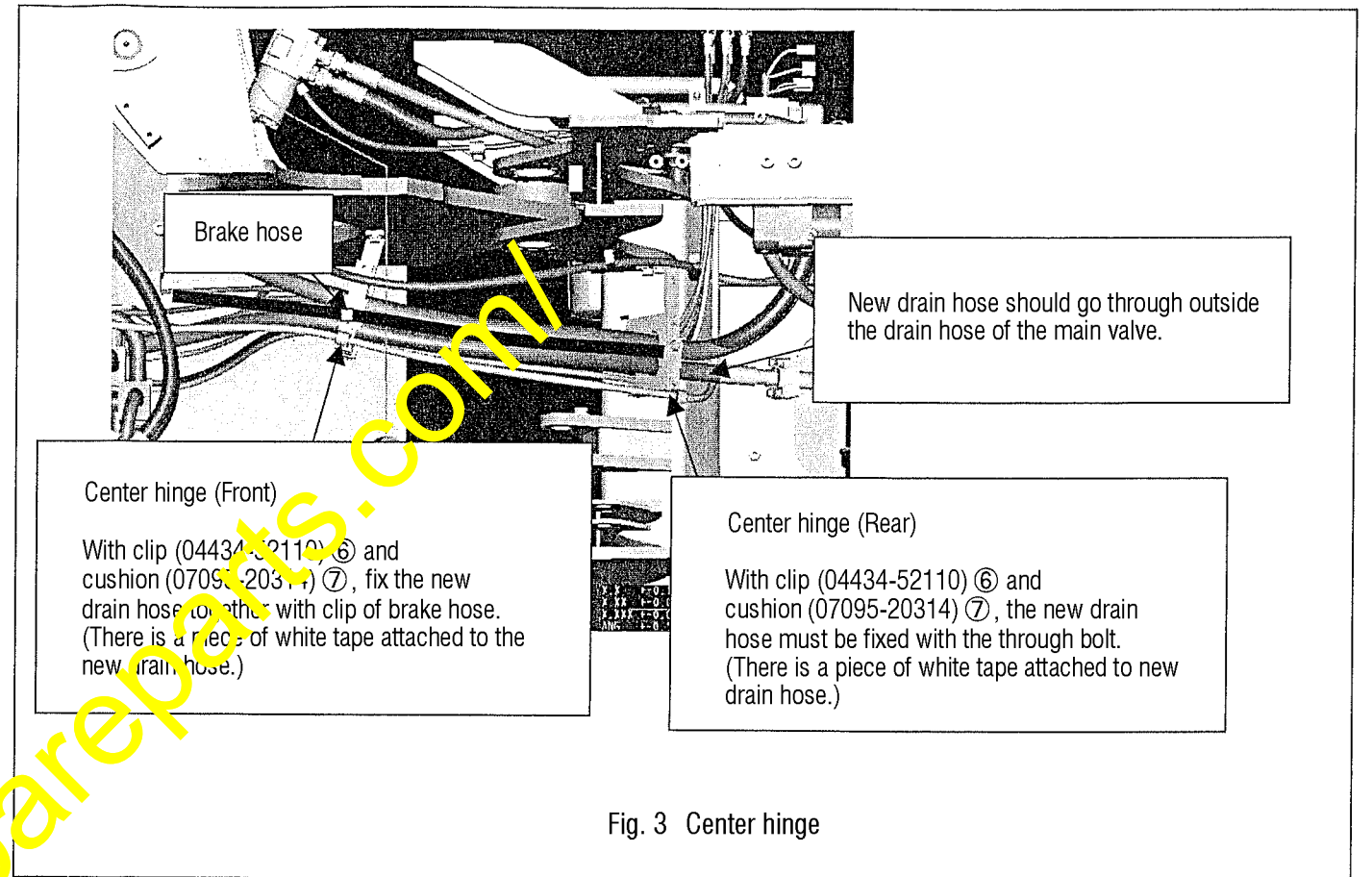


Fig. 3 Center hinge

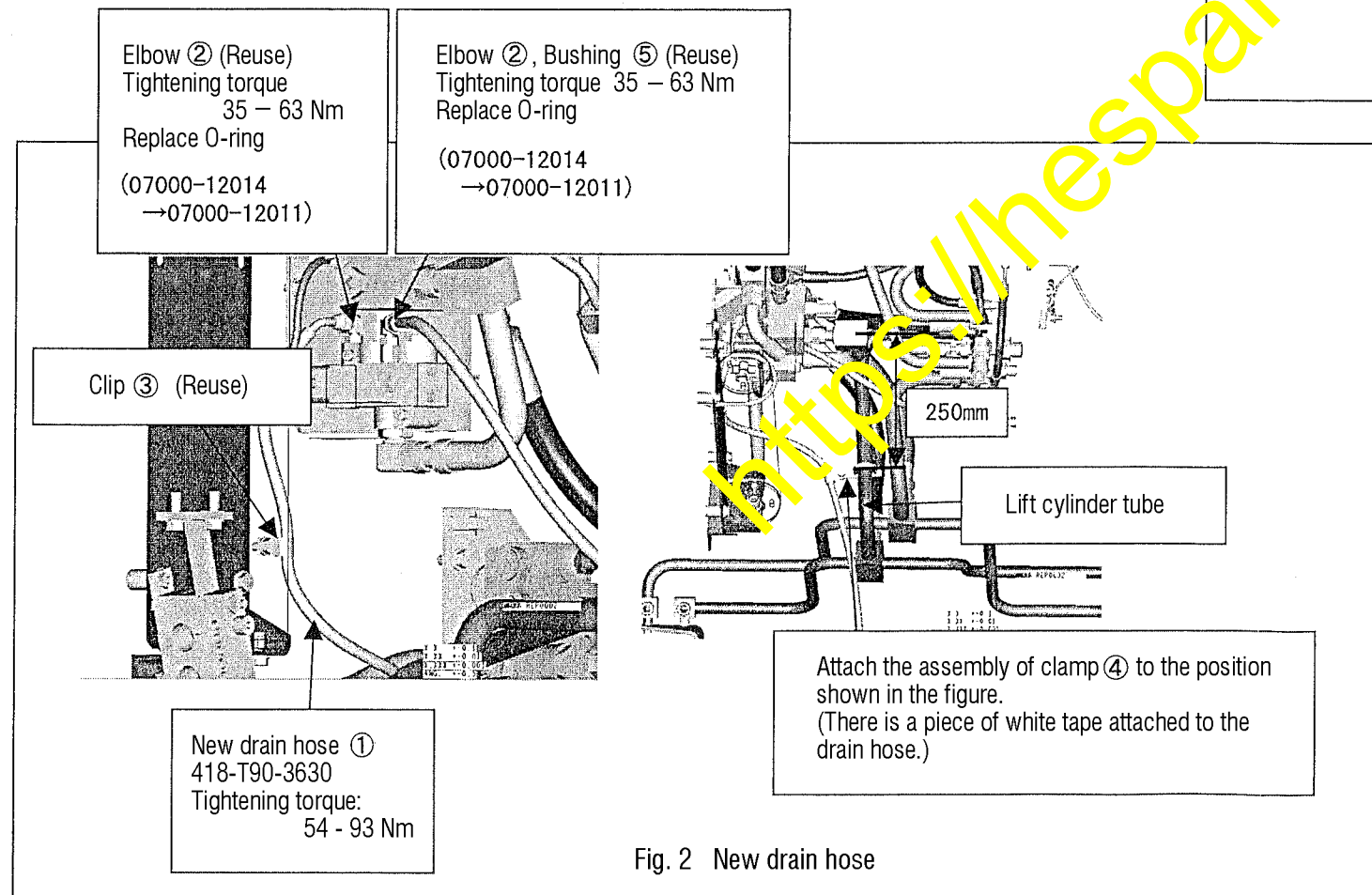


Fig. 2 New drain hose

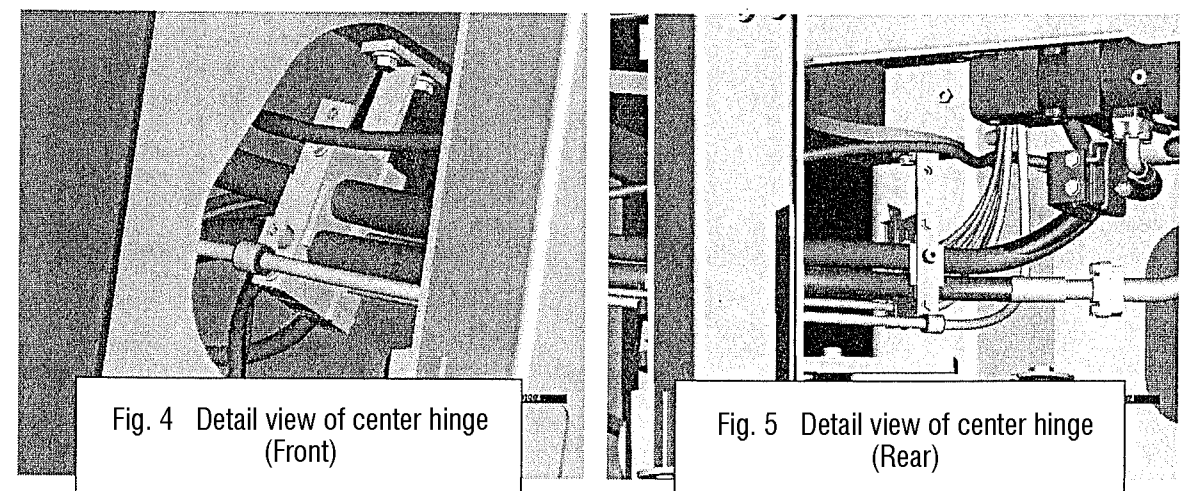
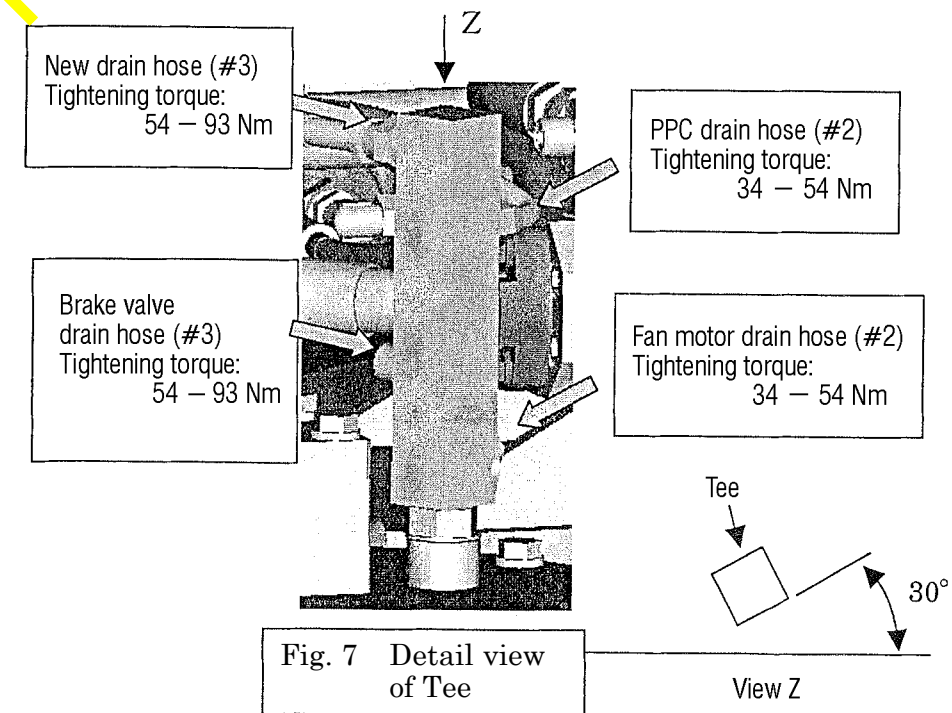
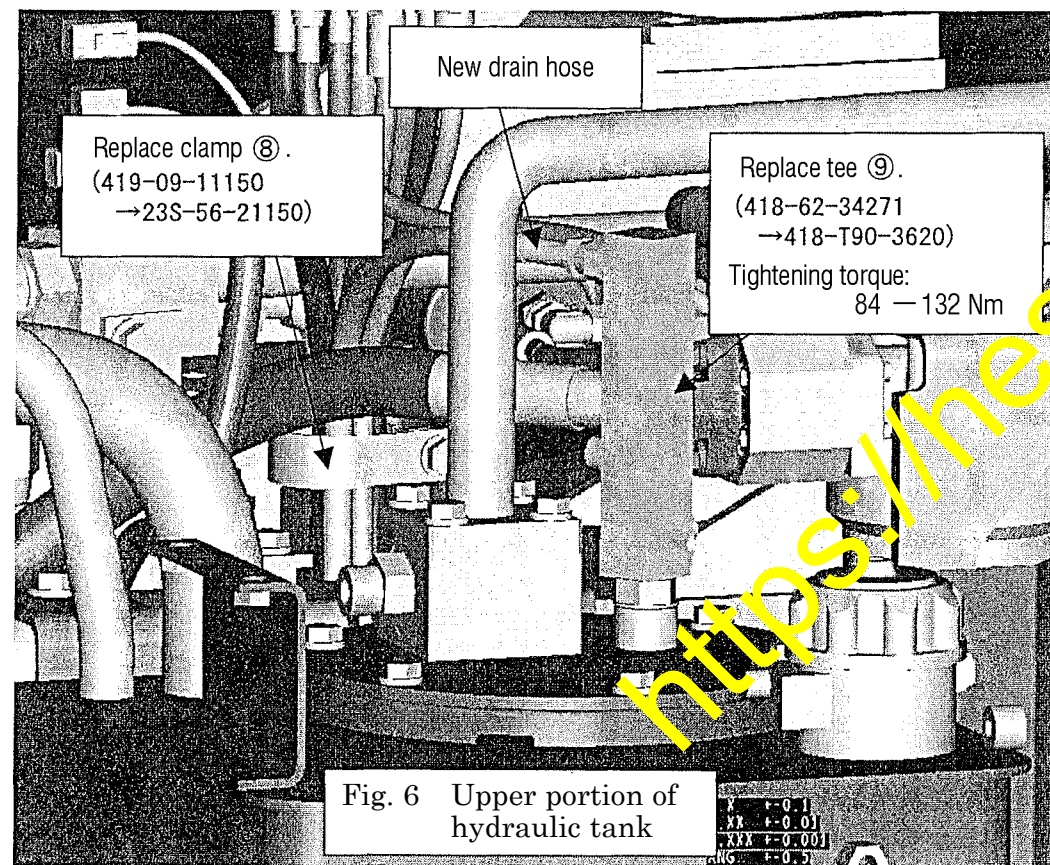


Fig. 4 Detail view of center hinge (Front)

Fig. 5 Detail view of center hinge (Rear)

- (8) Replace clamp 8 with a new one and pass the new drain hose. (419-09-11150 → 238-56-21150) (Refer to Fig 6)
- (9) Replace tee 9 with a new one and connect each hose. (418-62-34271 → 418-T90-3620) (Refer to Fig 6 and 7)
- (10) Attach the accumulator.
- ※ Tightening torque of bolt and nut is referred to KES 04.123.1.
4. After repair work  
Charge the hydraulic oil and bleed air in the circuit based on the operation manual.  
(Refer to next page)



## EVERY 2000 HOURS SERVICE

Maintenance for every 50, 100, 250, 500 and 1000 hours service should be carried out at the same time.

### CHANGE OIL IN HYDRAULIC TANK, REPLACE HYDRAULIC FILTER ELEMENT

#### **WARNING**

- The parts and oil are at high temperature after the engine is stopped, and may cause burns. Wait for the temperature to go down before starting the work.
- When removing the oil filler cap, turn it slowly to release the internal pressure, then remove it.

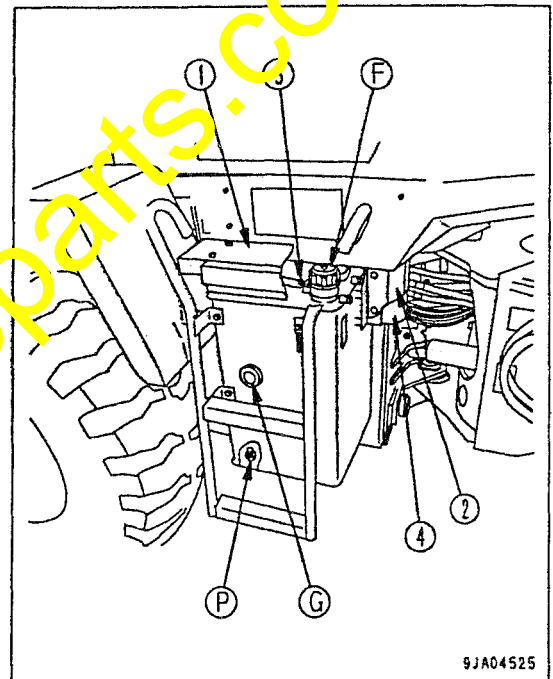
- Refill capacity: 67 liters (17.70 US gal)

1. Lower the bucket horizontally to the ground and apply the parking brake, then stop the engine.
2. Remove covers (1) and (2).
3. Keep grip (3) pulled, then turn oil filler cap (F) counterclockwise and remove it.
4. Set a container to catch the oil under drain plug (P).
5. Loosen drain plug (P), drain the oil, then tighten drain plug (P) again.

6. Using a filter wrench, turn cartridge (4) to the left to remove it.
7. Clean the filter holder, fill the new filter cartridge with engine oil then coat the seal and thread of the filter cartridge with engine oil (or coat thinly with grease) and install.

When installing the seal, tighten it until its surface comes to contact with the filter holder, then tighten it 1/3 turn more.

8. Add engine oil through the filler port to refill level.
9. Check that the hydraulic oil is at the specified level. For details, see "CHECK OIL LEVEL IN HYDRAULIC TANK, ADD OIL (PAGE 4-37)".



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10. Run the engine at low idling, and extend and retract the steering, bucket, and lift arm cylinders 4 to 5 times. Be careful not to operate the cylinder to the end of its stroke (stop approx. 100 mm (3.9 in) before the end of stroke).

#### **NOTICE**

If the engine is run immediately at high speed or the cylinder is operated to the end of its stroke, the air inside the cylinder will cause damage to the piston packing.

11. Next, operate the steering, bucket, and lift arm cylinders to the end of their stroke 3 to 4 times, then stop the engine and loosen filler cap to bleed the air from the hydraulic tank.
12. Check that the hydraulic oil level and add oil to the specified level. For details, see "CHECK OIL LEVEL IN HYDRAULIC TANK, ADD OIL (PAGE 4-37)".
13. Next, raise the engine speed and follow the procedure in Step 11 to bleed the air. Repeat this process until no more air comes out.
14. After completing the air bleed operation, install cover (1) and (2).

### OPERATION OF AIR BLEEDING

## CHECK OIL LEVEL IN HYDRAULIC TANK, ADD OIL

### WARNING

- The parts and oil are at high temperature after the engine is stopped, and may cause burns. Wait for the temperature to go down before starting the work.
- When removing the oil filler cap, turn it slowly to release the internal pressure, then remove it.

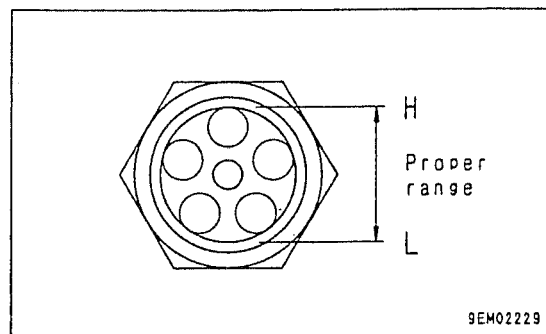
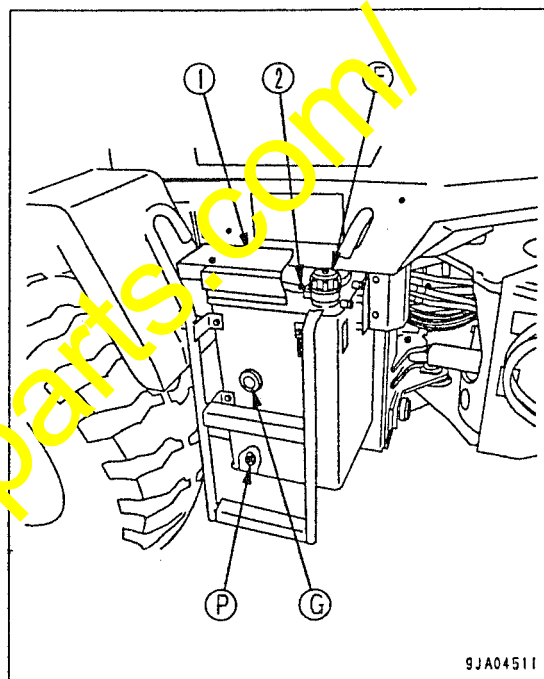
1. Lower the bucket horizontally to the ground and stop the engine. Wait for 5 minutes, then check sight gauge (G). The oil level should be between the H and L marks.

### NOTICE

Do not add oil above the H line. This will damage the hydraulic circuit or cause the oil to spurt out. If oil has been added to above the H level, stop the engine and wait for the hydraulic oil to cool down, then drain the excess oil from drain plug (P).

2. If the oil is below the L level, add oil to the hydraulic tank as follows.

- 1) Remove cover (1).
- 2) Keep grip (2) pulled, then turn oil filler cap (F) counterclockwise and remove it.
- 3) Refill the specified quantity of oil through oil filler (F).
- 4) After adding oil, install oil filler cap (F) and cover (1).



OPERATION OF OIL ADDITION