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SAFETY ALERT SYMBOL



This symbol represents the safety alert. The message that follows the symbol contains important information regarding human safety.
Read and understand the message to avoid personal injury or death.

Safety label

Safety labels are used to alert operators or other people exposed to the risks of injury or damage. There are the following three types of labels.
Read the labels carefully as they are important for your safety.

⚠ DANGER

The word "DANGER" indicates an imminently hazardous situation which, if not avoided, is likely to result in serious injury or death.

⚠ WARNING

The word "WARNING" indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

⚠ CAUTION

The word "CAUTION" indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

IMPORTANT: The word "IMPORTANT" is used to alert operators and maintenance personnel about situations which could result in damage to the machine and its components.

This manual is intended for trained and qualified personnel only. Warnings or cautions described in this manual do not necessarily cover all safety measures. It is also impossible to cover all hazards and risks which may be associated with the maintenance of the machine in every environment. For maintenance work, each person must take adequate safety precautions against possible hazards in the respective working environment.

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SPECIFICATIONS TABLES

Performance

Bucket type			Standard bucket
Bucket capacity		m^3	0.298
Tipping load		kg	1610
Rated loading mass		kg	565
Breakout force		kN	21.4
Raising time (load)		s	3.7
Lowering time		s	2.7
Bucket forward tilting time		s	2.6
Travel speed	Forward 1st	km/h	6.5
	Forward 2nd	km/h	9.3
	Reverse 1st	km/h	6.5
	Reverse 2nd	km/h	9.3
Maximum tractive force		kN	29.5
Gradeability		degree (°)	30
Minimum turning radius	Bucket outside	m	1.995

Dimensions

Overall length in transport condition	Without teeth		mm	3220
	With teeth		mm	–
Overall width (body)			mm	1470
Bucket width			mm	1600
Overall height	Bucket on ground	Canopy	mm	1970
		Cab	mm	1970
	Max. raised height of bucket		mm	3725
Crawler bearing length			mm	1240
Track gauge			mm	1170
Shoe width			mm	300
Crawler bearing area			m^2	0.745
Ground clearance of undercarriage			mm	250
Bucket hinge pin height			mm	2905
Dumping clearance (at 45-degree forward tipping)	Without teeth		mm	2275
	With teeth		mm	–
Dumping reach (at 45-degree forward tipping)	Without teeth		mm	590
	With teeth		mm	–
Bucket roll back angle	On ground		degree (°)	30.4
Bucket dumping angle	Maximum height position		degree (°)	38.5
Maximum digging depth			mm	0

Mass

Gross machine mass	Canopy	kg	3270
	Cab	kg	3330
Operating mass	Canopy	kg	2795
	Cab	kg	2855
Machine mass	Canopy	kg	2720
	Cab	kg	2780
Shipping mass	Canopy	kg	2675
	Cab	kg	2735

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LUBRICANT AND FUEL CHART

Select the appropriate fuel, lubricant and grease according to the temperature by referring to the table below.

- Regardless of the specified time, change the oil if it becomes too dirty or degraded.
- When refilling, never mix oils of different brands. If a brand is to be changed, replace the whole fuel/oil.

Part	Type	Type by air temperature -30 -20 -10 0 10 20 30 40°C	When to change/ replenish	Capacity
Engine oil pan	Diesel engine oil API: CD class	SAE 10W-30 SAE 15W-40	Every 250 hrs after the first 50 hrs	Upper limit 7.4 L Lower limit 4.0 L
Hydraulic oil tank	Diesel engine oil API: CD class	SAE 10W-30 SAE 10W-40	Every 1000 hrs	Total amount of oil: 45 L Tank capacity: 29 L
Engine cooling system	**Cooling water (water + coolant)	Mixture of 50% coolant Mixture of 30% coolant	Every 1000 hrs	11.0 L
Travel reduction gear	Gear oil API: GL-4	SAE 90	Every 500 hrs after the first 250* hrs	1.0 L
Track roller A	Diesel engine oil API: CD class	SAE 30	—	0.18 L
Track roller B	Mobilgear SHC680	—	—	0.14 L
Idler	Diesel engine oil API: CD class	SAE 30	—	0.07 L
Working equipment	Lithium grease EP-2 NLGI No.2	—	Daily or every 10 hrs	As required
Lever/pedal			When required	

* If the ratio of traveling time to total operating time is high, replace the gear oil earlier than the specified time.

** For water, use tap water (soft). Do not use well or river water.
When the ambient temperature drops below 0°C, add coolant (antifreeze). Follow the coolant manufacturer's instructions to determine the mixture ratio.

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Figure 7-9 Preventive Maintenance Schedule.

PREVENTIVE MAINTENANCE SCHEDULE FOR AIR CONDITIONING SYSTEMS

NOTE: Typical Maintenance Schedule: 3 months or 15,000 miles, 6 Months or 30,000 miles, 12 Months or 60,000 miles

Installation Date: _____ Mileage: _____

Last Maintenance Check: _____ Mileage: _____

Checked by _____ Mileage: _____

COMPONENT	MAINTENANCE INTERVAL (months) 3*	6*	12*	DONE
1. COMPRESSOR				
Check noise level	•			❑
Check clutch pulley	•			❑
Check oil level	•			❑
Run system 5 minutes	•			❑
Check belts for tension (120 lb max.)	•			❑
Inspect shaft seal (leakage)		•		❑
Check mounting bracket (tighten bolts)		•		❑
Check alignment to clutch w/crankshaft drive pulley		•		❑
Perform manifold gauge check			•	❑
Verify clutch is engaging			•	❑
CONDENSER				
2. Clean dirt/bugs/leaves from coils (w/compressed air)	•			❑
Check inlet/outlet for obstructions/damage	•			❑
RECEIVER-DRIER				
3. Check inlet line from condenser (hot to touch)	•			❑
Check sight glass (streaks or cloudiness)	•			❑
Replace if system is opened			•	❑

COMPONENT	MAINTENANCE INTERVAL (months) 3*	6*	12*	DONE
4. EXPANSION VALVE				
Inspect capillary tube (leakage/damage/looseness)			•	❑
5. EVAPORATOR				
Clean dirt/bugs/leaves form fins/tubes (w/compressed air)			•	❑
Check solder joints on inlet/outlet tubes (leakage)			•	❑
Inspect condensate drain (R-12 or oil leak)			•	❑
6. OTHER COMPONENTS				
Check discharge lines (hot to touch)	•			❑
Check suction lines (cold to touch)	•			❑
Inspect fittings/clamps/hoses		•		❑
Check thermostatic switch (proper operation)			•	❑
Outlets in cab (temperature check; 40 to 50°F)		•		❑
Check fan clutch (proper operation)		•		❑
Inspect all wiring connections		•		❑
Operate manual controls through full functions	•			❑

The following require monthly maintenance:

*Compressor – run system at least 5 minutes (40 degrees Fahrenheit minimum outside temp.) in order to circulate oil and lubricate components.

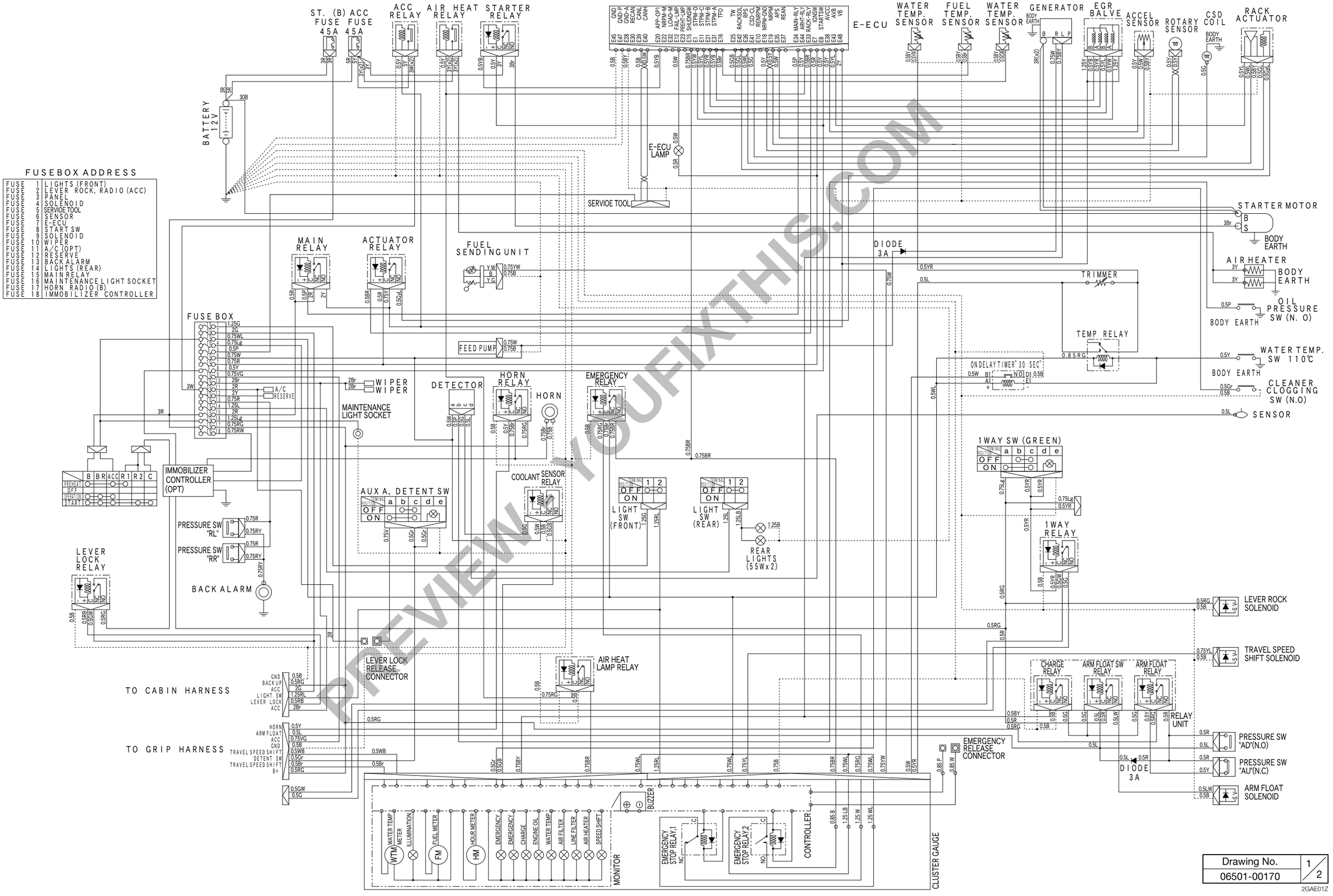
Maintenance notes: _____

_____

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ELECTRICAL WIRING DIAGRAM



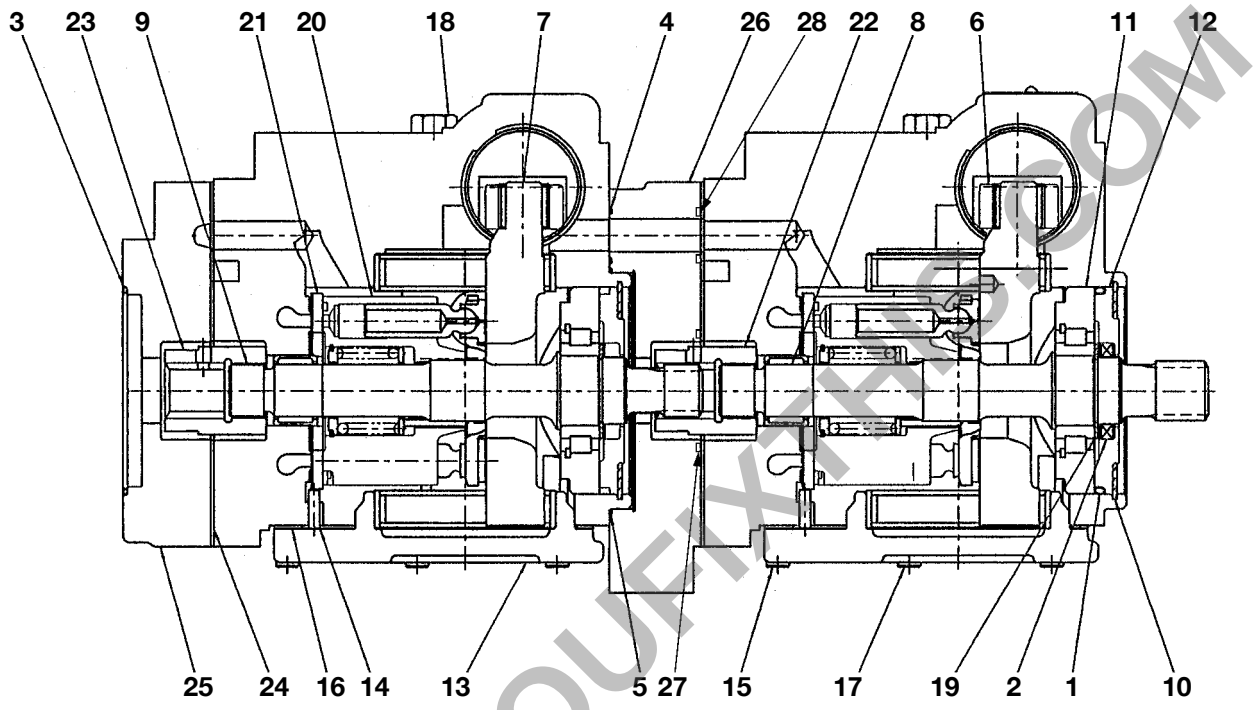
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HST PUMP

Construction

Pump assembly (1/4)



4IAA01Z

1. O-ring
2. Seal
3. O-ring
4. O-ring
5. O-ring
6. Bearing
7. Swash plate
8. Shaft
9. Shaft
10. Ring
11. Bearing
12. Seal carrier
13. Cover
14. Pin
15. Cap screw
16. Gasket
17. Cap screw
18. Plug
19. Ring
20. Cylinder block
21. Valve plate
22. Coupling
23. Coupling
24. Gasket
25. Pad “A” adaptor
26. Pad “B” adaptor
27. O-ring
28. O-ring

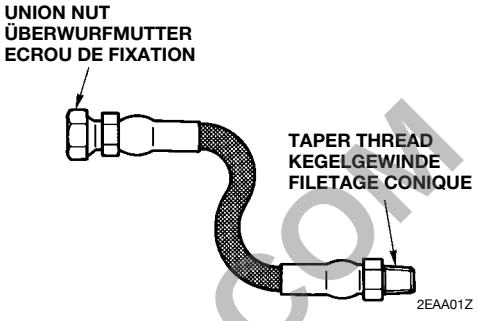
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TIGHTENING TORQUE

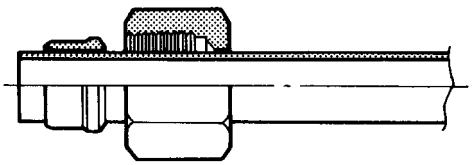
Hydraulic hose

Hose fitting size	Tightening torque	
	Union nut (G)	Taper thread (R)
	N·m	N·m
1/8	$9.8^{+4.9}_{0}$	11.8 ±1.2
1/4	$24.5^{+4.9}_{0}$	29.4 ±2.9
3/8	$49.0^{+4.9}_{0}$	53.9 ±5.4
1/2	$58.8^{+4.9}_{0}$	88.3 ±8.8
3/4	$117.7^{+4.9}_{0}$	147.1 ±14.7
1	$137.3^{+4.9}_{0}$	196.1 ±19.6



Bite-type pipe fitting for steel pipe

Pipe outer diameter (mm)	Tightening torque
	N·m
8	34.3 ±4.9
10	41.7 ±2.5
12	58.8 ±4.9
15	88.3 ±4.9
16	93.2 ±4.9
18	132.4 ±4.9
22	205.9 ±9.8
27.2	245.2 ±9.8
28	313.8 ±19.6
32	313.8 ±19.6
35	411.9 ±19.6

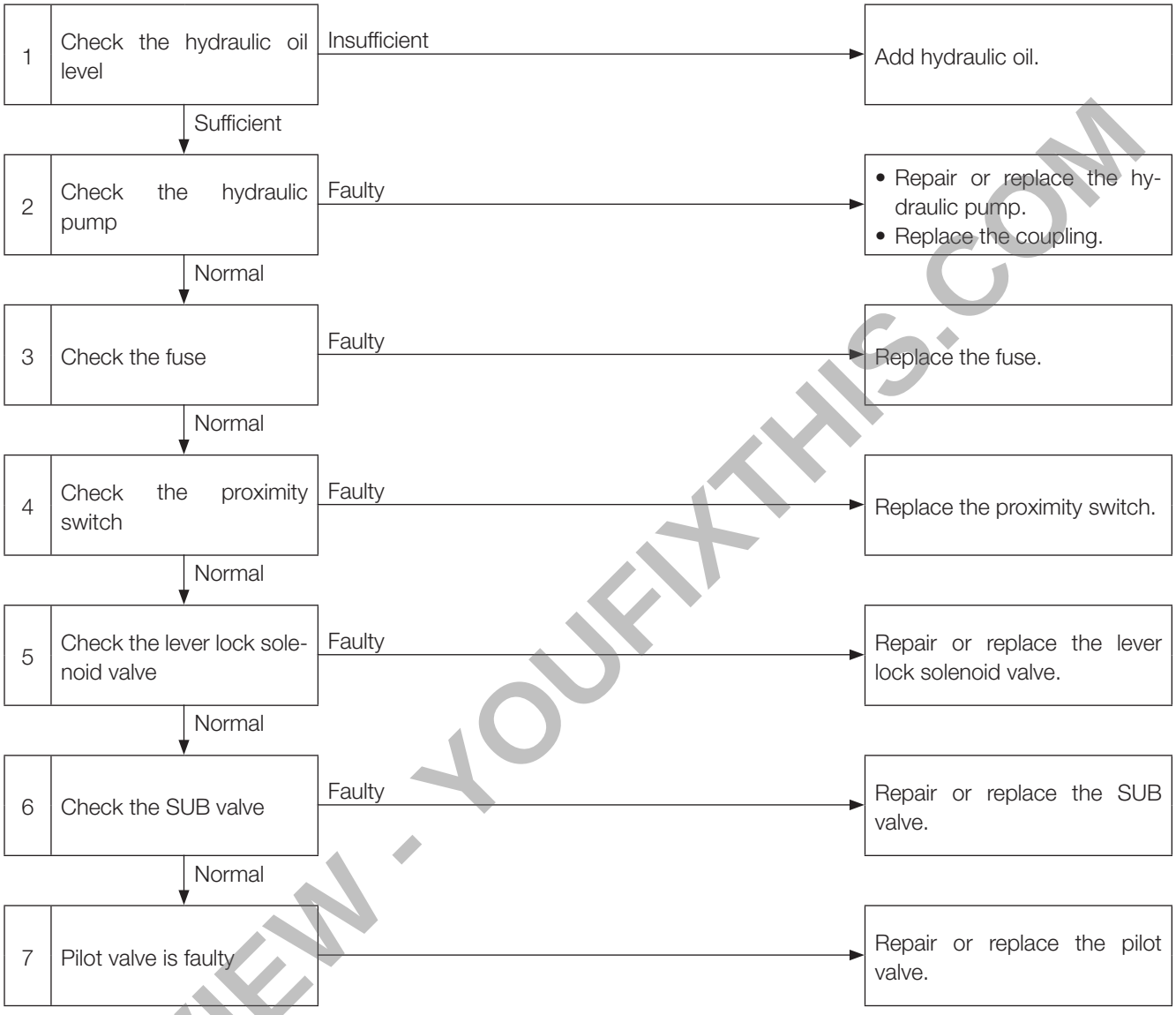


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OVERALL MACHINE

No operation is possible.



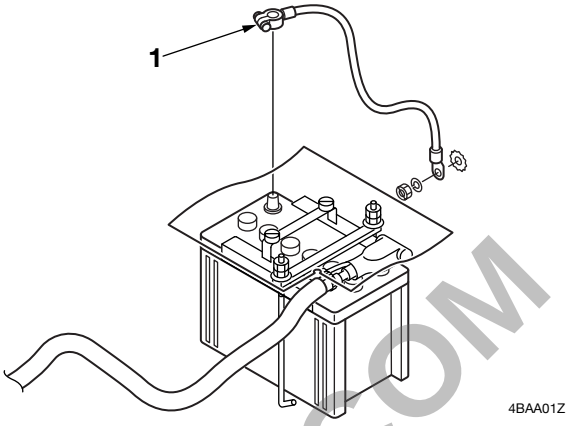
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DRIVE SYSTEM

Removing the engine

1. Disconnect the battery ground cable (1) from the battery terminal.



4BAA01Z

2. Remove the canopy.
   ☞ "Removing the canopy"

3. Remove the floor frame.
   ☞ "Removing the floor frame"

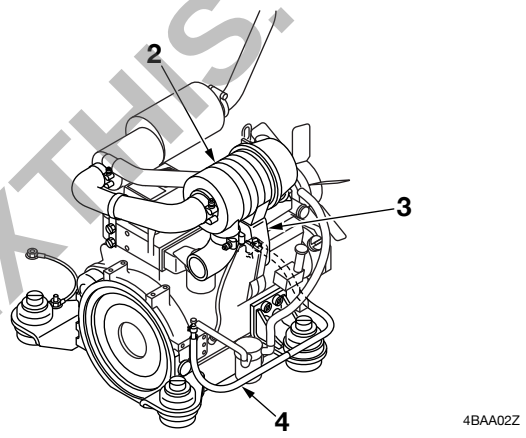
4. Disconnect the electrical wiring to the air cleaner (2).

5. Remove the bracket (3) together with the air cleaner (2).

6. Remove the radiator.
   ☞ "Removing the radiator"

7. Remove the drain hose (4).

8. Remove the hydraulic pump.
   ☞ "Removing the hydraulic pump"

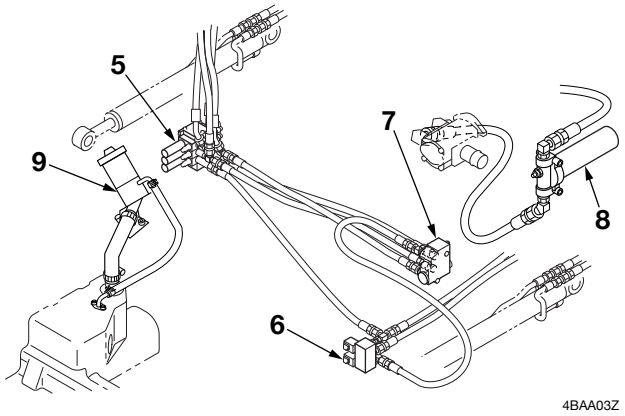


4BAA02Z

9. Remove the control valve (5), the solenoid valve (6) and the self-level valve (7).

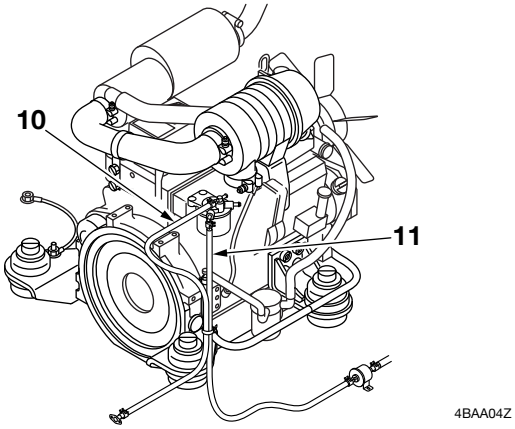
10. Remove the line filter (8).

11. Remove the filler opening (9).



4BAA03Z

12. Disconnect the fuel hoses (10) and (11).



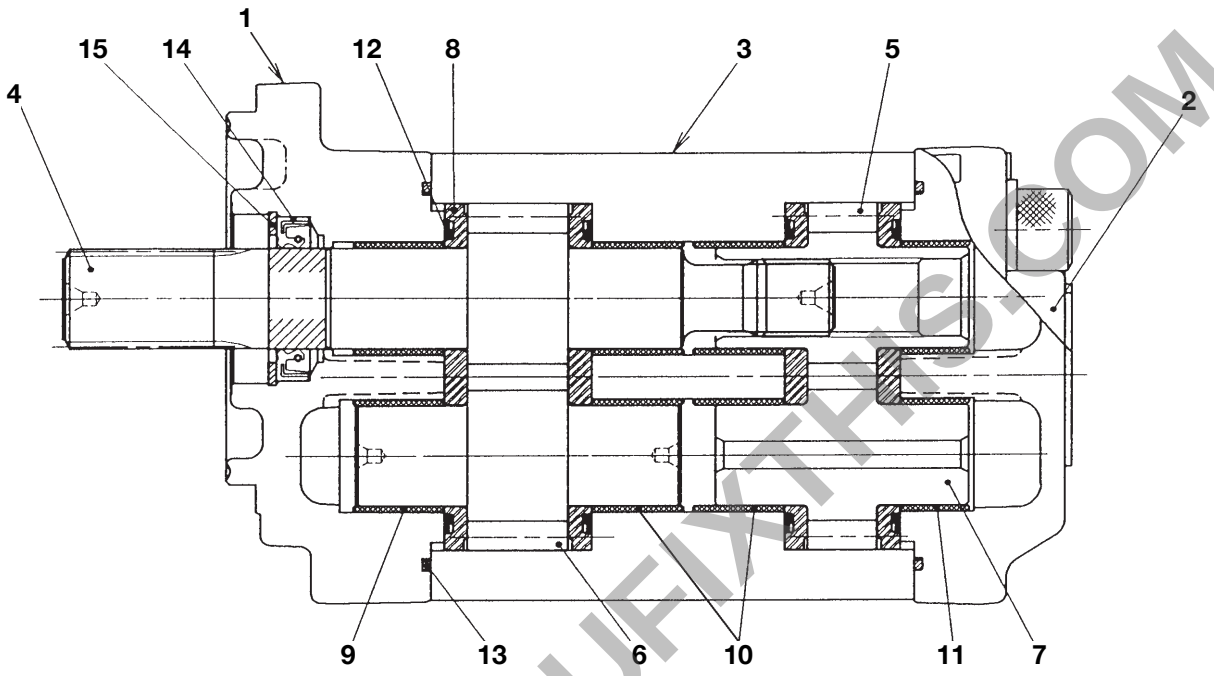
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GEAR PUMP

Construction



4IAB01Z

1. Flange
2. Rear cover
3. Housing
4. Drive gear
5. Drive gear
6. Driven gear
7. Driven gear
8. Bushing
9. Bushing
10. Bushing
11. Bushing
12. Gasket
13. Gasket
14. Oil seal
15. Snap ring

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