SKID STEER LOADER

SERVICE MANUAL

HT100V

HYUNDAI

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HT100V

SAFETY FIRST

CHAPTER 1

SAFETY FIRST & GENERAL

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REMARKS

TURBOCHARGER TROUBLESHOOTING

The chart below is given to assist in the correct diagnosis of turbocharger faults.

PROBLEMS	POSSIBLE CAUSES CODE NUMBERS
Not enough power	1,4,5,6,7,8,9,10,11,18,20,21,22,25,27,28,34,35,36
Black smoke	1,4,5,6,7,8,9,10,11,18,20,21,22,25,27,28,34,35,36
Blue smoke	1,2,4,7,8,9,17,19,20,21,22,30,31,32,34
High lubricating oil consumption	2,8,15,17,19,20,28,29,31,32,34
Too much lubricating oil at turbine end	2,7,8,17,19,20,22,28,30,31,32
Too much lubricating oil at compressor end	1,2,4,5,6,8,19,20,21,28,31,32
Not enough lubrication	8,12,14,15,16,23,24,29,32,33,37,38
Lubricating oil in exhaust manifold	2,7,17,18,19,20,22,28,31,32
Lubricating oil in intake manifold	1,2,4,5,6,8,10,11,17,18,19,20,21,28,32,34
Damaged compressor impeller	3,4,6,8,12,15,16,20,21,23,24,29,32,33,37,38
Damaged turbine rotor	7,8,12,13,14,15,16,18,20,22,23,24,25,27,29,32,33,37,38
Rotating assembly does not turn freely	3,6,7,8,12,13,14,15,16,18,20,21,22,23,24,29,32,33,37,38
Worn bearings, bearing bores, journals	6,7,8,12,13,14,15,16,23,24,29,33,37,38
Noisy turbocharger	1,3,4,5,6,7,8,9,10,11,12,13,14,15,16,18,20,21,22,23,24,29,32,33,34,37,38
Sludge or carbon deposit in bearing housing	2,11,13,14,15,17,18,24,29,33,37,38

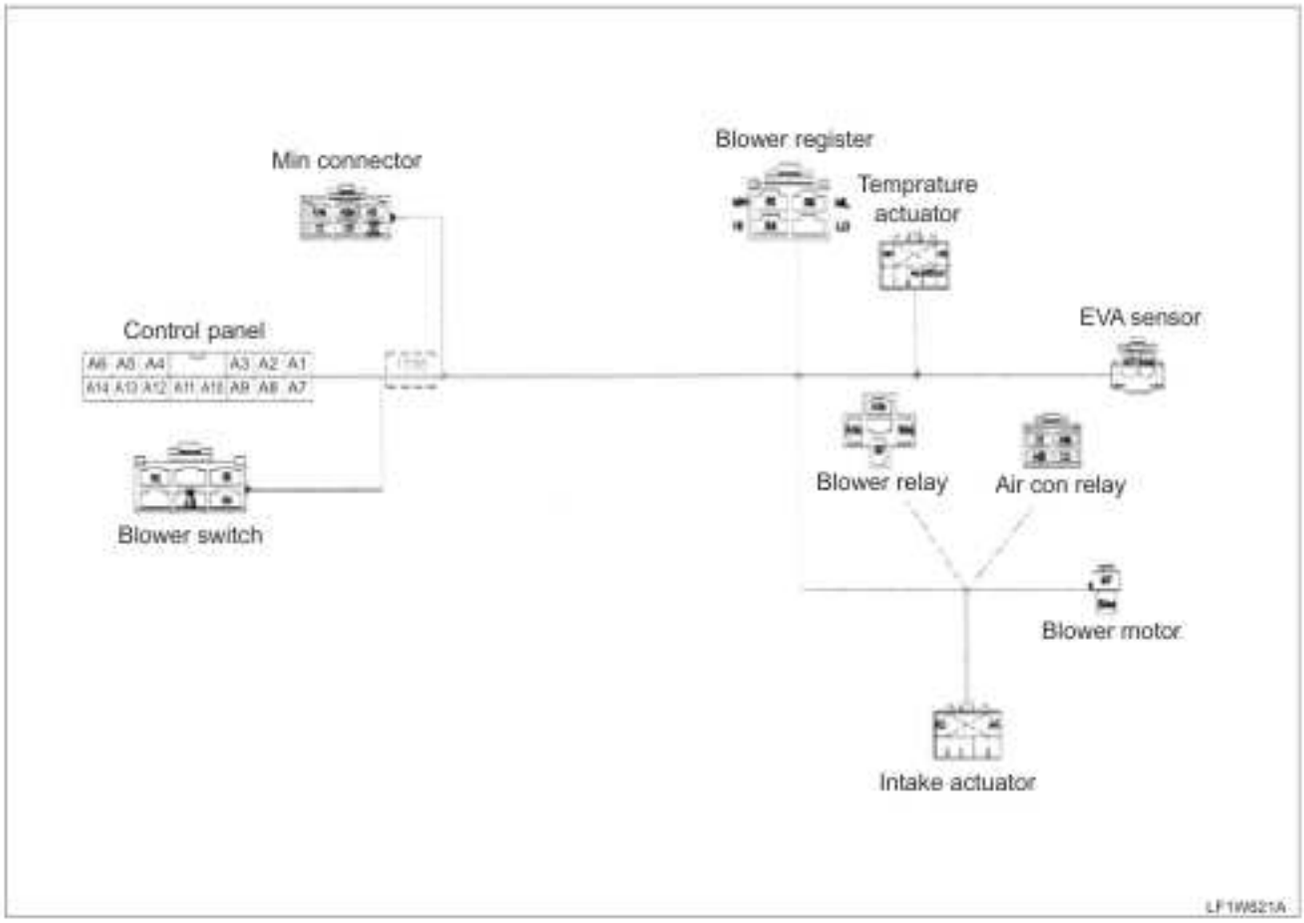
1. Element of air filter dirty
2. Restricted crankcase breather
3. Element of air filter not fitted, improper sealing or loose connection to turbocharger
4. Internal distortion or restriction in pipe from air filter to turbocharger
5. Damaged/restricted crossover pipe, turbocharger to intake manifold
6. Clogged air filter and turbocharger
7. Restriction in exhaust system
8. Loose turbocharger or clamps/ setscrews
9. loose or cracked intake manifold or distorted flange
10. Cracked or loose exhaust manifold or distorted flange
11. Restricted exhaust system
12. Delayed lubrication to turbocharger during engine starting
13. Insufficient lubrication
14. Dirty engine oil
15. Incorrect engine oil
16. Restricted lubricating oil supply pipe
17. Restricted lubricating oil drain pipe
18. Turbine housing damaged or restricted
19. Leakage from turbocharger seals
20. Worn turbocharger bearings
21. Excessive dirt in compressor housing
22. Excessive carbon behind turbine rotor
23. Engine speed raised too rapidly at initial start
24. Insufficient engine idle period
25. Defective high pressure fuel pump
27. Valves burned
28. Worn piston rings
29. Lubricating oil leakage from supply pipe
30. Excessive preservation fluid (on initial engine start)
31. Excessive engine idle period
32. Restriction in turbocharger bearing housing
33. Clogged oil filter
34. Air cleaner: Restricted, dirty element
35. Waste-gate actuator faulty or damaged
36. Waste-gate valve not free
37. Engine stopped too soon from high load
38. Insufficient lubricating oil

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ITEM		SPECIFICATIONS
Filter	Return filter	• Fineness : 10 ㎛ • Filtering dimension : 4,410 cm² • Flow : 125 lpm • Bypass valve setting pressure : 1.7 bar • Operating pressure : 12 bar
	HST filter	• Fineness : 10 ㎛ • Filtering dimension : 415 cm² • Flow : 35 lpm • Bypass valve setting pressure : 6 bar • Operating pressure : 310 bar
Quick attachment valve		• Max. flow : 20 lpm or more, • Max. operating pressure : 280 bar or more
Main pump		• Capacity : 34.555 cm³/rev • Continuous pressure : 280 bar • Peak pressure : 320 bar • Rotation speed : 500 ~ 3,000 rpm
Charge pump		• Capacity : 19.091 cm³/rev • Continuous pressure : 200 bar • Peak pressure : 240 bar • Rotation speed : 500 ~ 3,000 rpm
High flow pump		• Capacity : 19.091 cm³/rev • Continuous pressure : 200 bar • Peak pressure : 240 bar • Rotation speed : 500 ~ 3,000 rpm
HST pump		• Charge relief valve setting pressure : 2.4 MPa at 37.9 lpm • High-pressure relief valve setting pressure : 34.5 MPa at 3.8 ~ 5.6 lpm • Rated speed at maximum capacity : 3,200 rpm • Oil flow at rated speed : 59.4 lpm at 1,800 rpm • Capacity : 2 x 33.0 cm3/rev • Direction of rotation : Clockwise
Quick coupler (External hydraulic)	Male Drain Female	• Size : 12.5 mm • Max. Operating pressure : 35 MPa • Rated flow : 100 lpm
RCV assembly (LH, RH)		• Min. initial pressure : 30 bar • Max. initial pressure : 100 bar • Min. rated flow : 5 lpm • Max. rated flow : 20 lpm

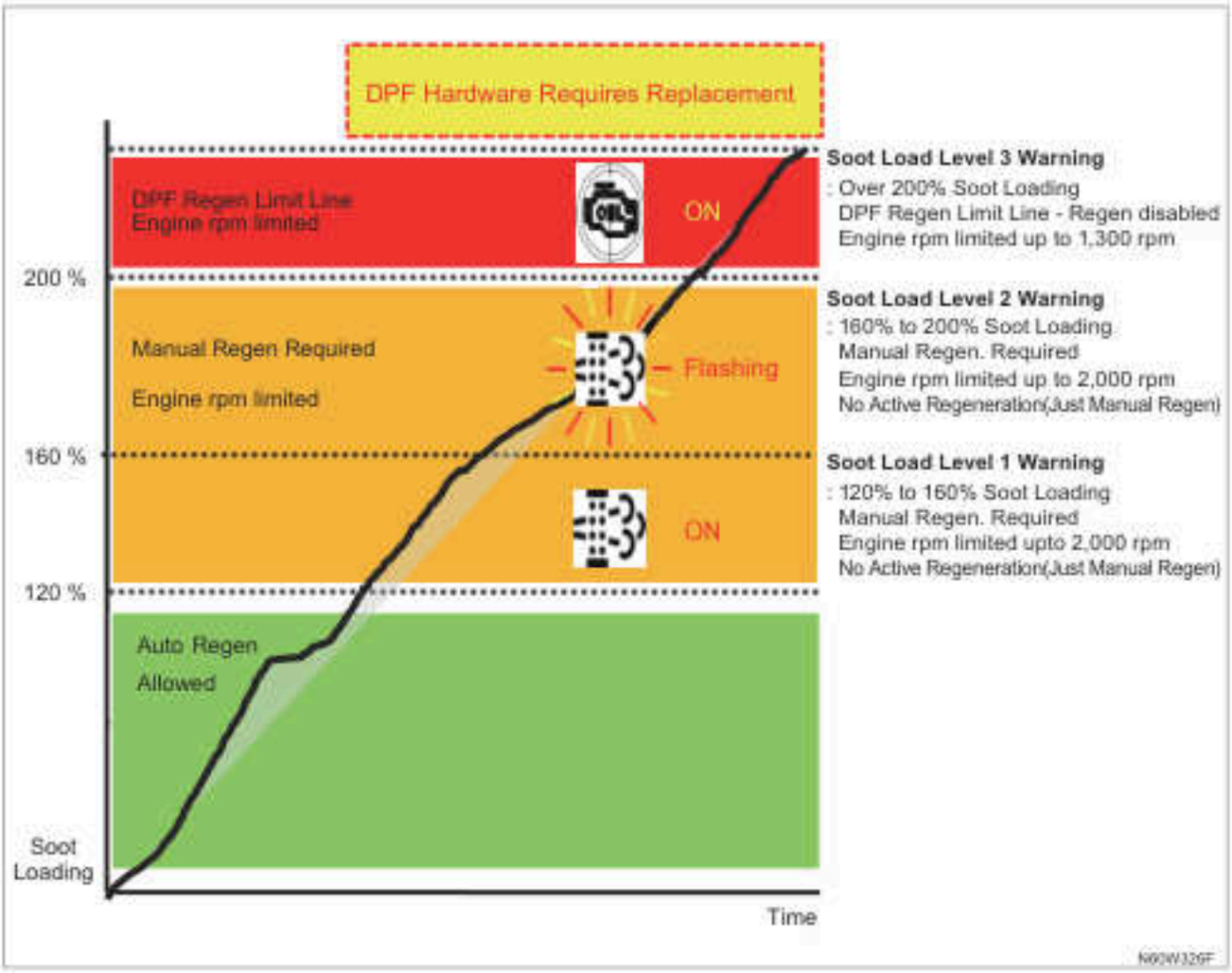
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▶ WIRING DIAGRAM



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SOOT LOADING & WARNING LAMP



REMARKS

- Both the manual and automatic regeneration processes cannot be performed under the level 3 warning condition (CEL lamp illuminated).
- If the DPF warning lamp comes on, the automatic regeneration process is disabled. Perform the manual regeneration process in this case.

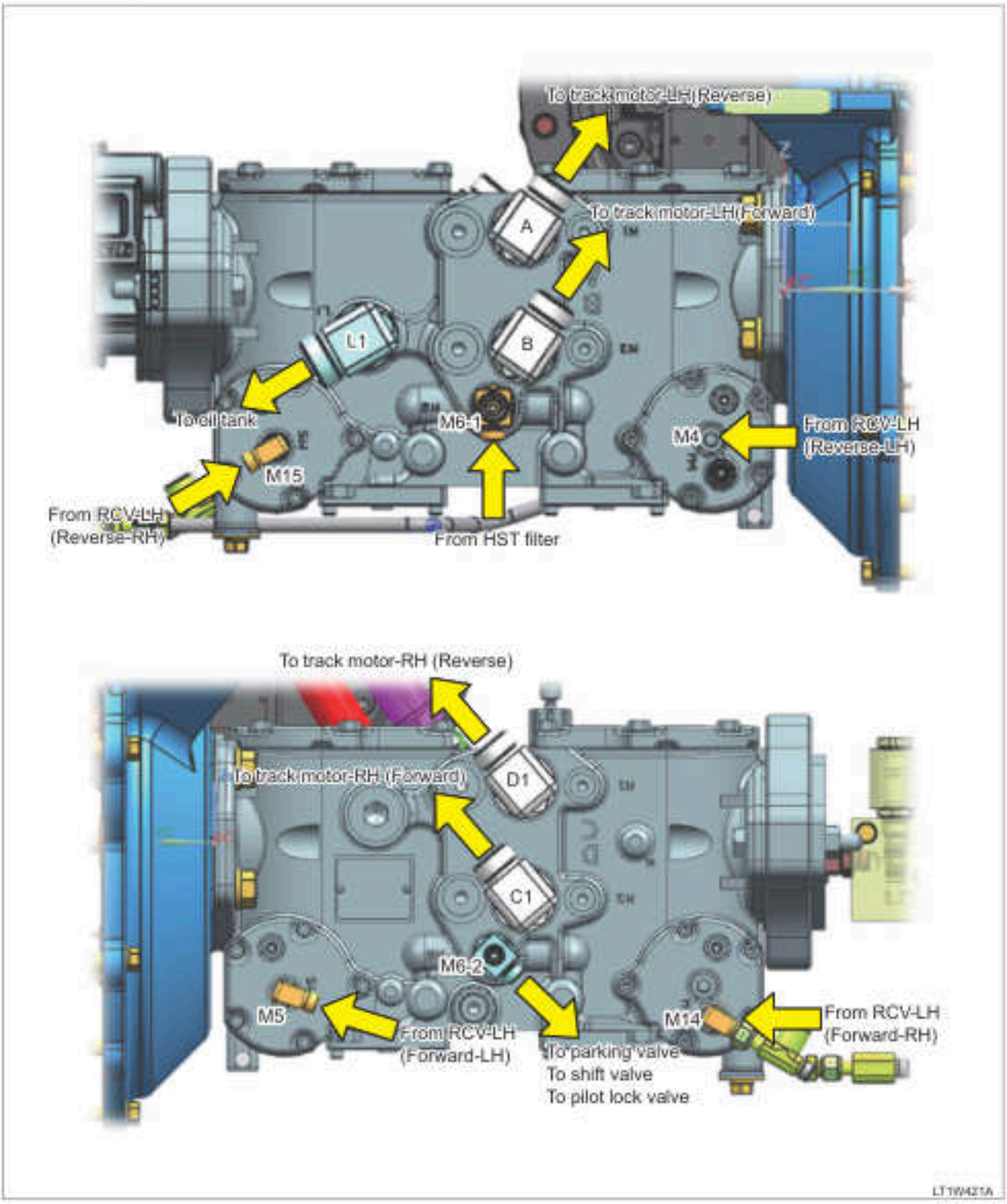
- Method of manual regeneration activation
  - Park the tractor on firm level ground.
  - Parking brake switch ON (Apply the parking brake)
  - Foot/hand pedal angle 5% or less (Idle condition)
  - Press the regeneration button for approx. 2 seconds

- If any one of the above conditions is not satisfied during regeneration, the regeneration process is canceled.

- In manual regeneration, the operation is impossible and regenerate the following procedure.
  - 1st: Before Mode: 700 sec. at 1,500 rpm
  - 2nd: Regen Mode: 1,500 sec. at 2,600 rpm
  - 3rd: After Mode: 180 sec. at 1,600 rpm

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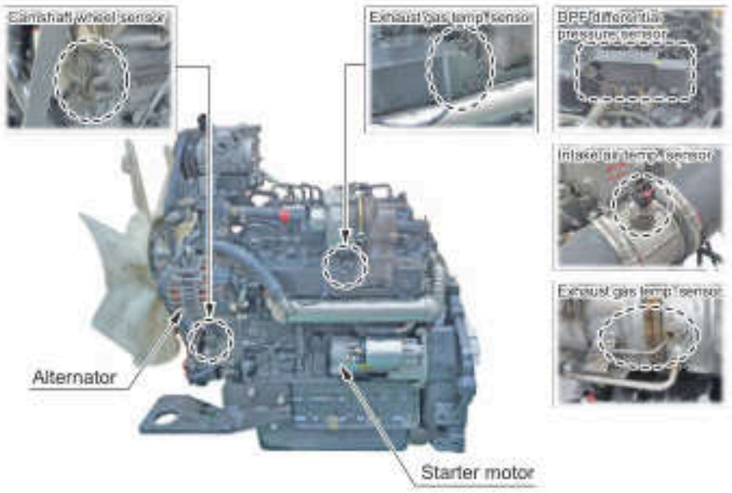
HST PUMP



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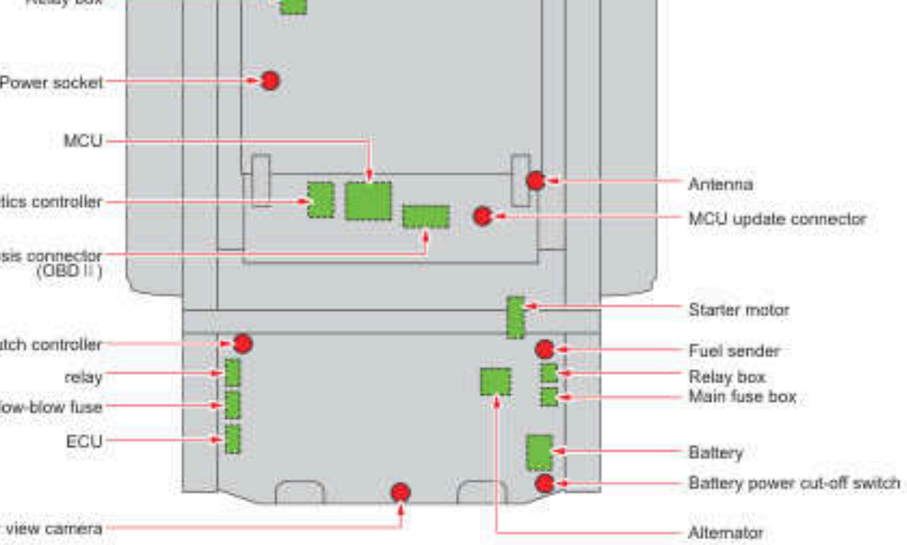
2.2 LOCATION OF ELECTRONIC COMPONENTS

ENGINE (LH)

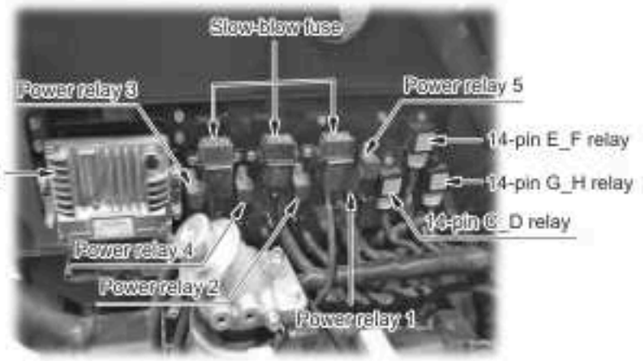


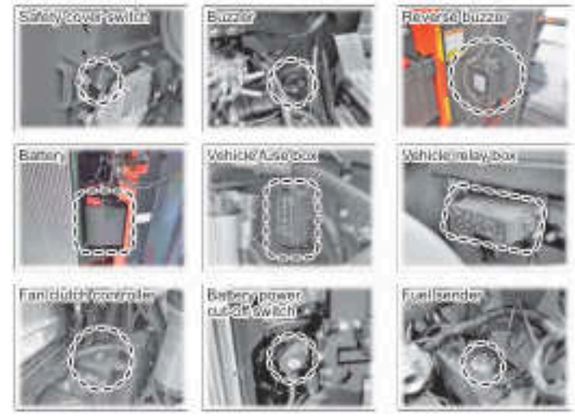
ENGINE (RH)





ENGINE ROOM

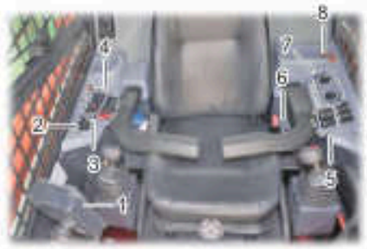




DRIVER'S SEAT



(1) Telematics controller
(2) MCU
(3) Engine diagnosis connector(OBD II)
(4) Flasher unit
(5) Escort unit
(6) MCU update connector



(1) Instrument panel
(2) Engine accelerator dial
(3) Ignition switch
(4) Switch panel (RH)
(5) Switch panel (LH)
(6) Relay box
(7) A/C controller
(8) Power socket



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