FORKLIFT

SERVICE MANUAL

50DS-7E

HYUNDAI

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(2) Remove the torque converter housing cover, mounting bolts installed to flywheel housing.
For details, see page 2-12.

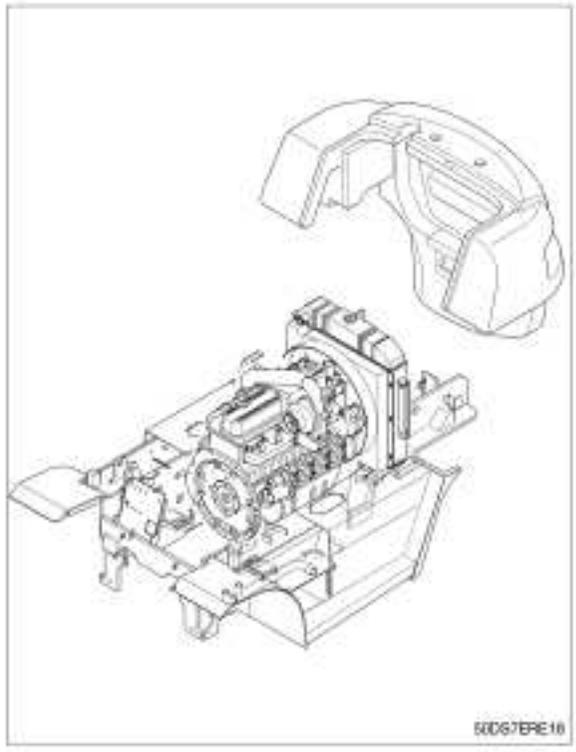
(3) Engine accessory

Remove all wiring harnesses, cables and hoses around the engine, dashboard and frame.

① Wiring harness to alternator and starter.
② Wiring harness for oil pressure and engine water temperature gauges.
③ Cables for meters, buttons and accelerator pedal.
④ Hoses to fuel tank and air cleaner.
⑤ Exhaust pipe.

(4) Radiator hose

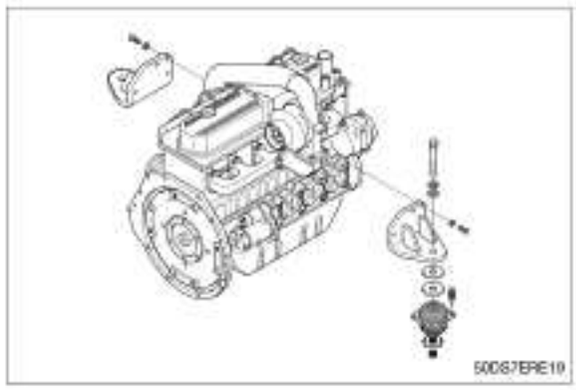
Open the drain valve of the radiator and drain the cooling water, then remove the radiator hose.



(5) Mounting bolt

Attach a crane to the engine hook and raise, then remove mounting bolts. Raise the engine slightly, slide towards the radiator, then lift up.

※ When sliding the engine, be careful of the collision engine and radiator.



2) INSTALLATION

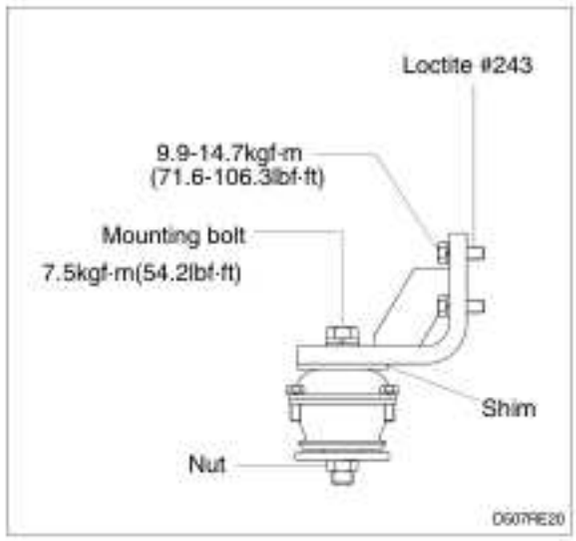
Installation is the reverse order of removal, but be careful of the following points.

(1) Tighten the engine mounting bolts and nuts.

(2) Tighten the engine mounting bracket bolts.

※ Do not remove the bolts unless necessary. Loctite is coated over the threads of bolt. So, once the bolts were removed, coat them with loctite(#243) when installing.

※ Before installing the bolts, loctite in the holes should be removed by a tap.



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Fault code (Hex)	Meaning of the fault code possible reason for fault detection	Reaction of the TCU	Possible steps to repair
C1	**Transmission output torque overload** TCU calculates an transmission output torque above the defined threshold	OP mode : Normal	
C2	**Transmission input torque overload** TCU calculates an transmission output torque above the defined threshold	programmable : No reaction or shift to neutral OP mode : Normal	
C3	**Overtemp converter output** TCU measured a oil temperature at the converter output that is the allowed threshold	No reaction OP mode : Normal	· Cool down machine · Check oil level · Check temperature sensor
D1	**S.C. to battery voltage at power supply for sensors** TCU measures more than 6V at the pin AU1 (5V sensor supply)	See fault codes No.21 to 2C	Check cables and connectors to sensors, which are supplied from AU1 Check the power supply at the pin AU1(Should be appx. 5V) Fault codes No.21 to No.2C may be reaction of this fault
D2	**S.C. to ground at power supply for sensors** TCU measures less than 4V at the pin AU1 (5V sensor supply)	See fault codes No.21 to 2C	Check cables and connectors to sensors, which are supplied from AU1 Check the power supply at the pin AU1(Should be appx. 5V) Fault codes No.21 to No.2C may be reaction of this fault
D3	**Low voltage at battery** Measured voltage at power supply is lower than 18V(24V device)	Shift to neutral OP mode : TCU shutdown	Check power supply battery Check cables from batteries to TCU Check connectors from batteries to TCU
D4	**High voltage at battery** Measured voltage at power supply is higher than 32.5V(24V device)	Shift to neutral OP mode : TCU shutdown	Check power supply battery Check cables from batteries to TCU Check connectors from batteries to TCU
D5	**Error at valve power supply VPS1** TCU switched on VPS1 and measured VPS1 is off or TCU switched off VPS1 and measured VPS1 is still on · Cable or connectors are defect and are contacted to battery voltage · Cable or connectors are defect and are contacted to vehicle ground · Permanent power supply KL30 missing · TCU has an internal defect	Shift to neutral OP mode : TCU shutdown	Check fuse Check cables from gearbox to TCU Check connectors from gearbox to TCU Replace TCU
D6	**Error at valve power supply VPS2** TCU switched on VPS2 and measured VPS2 is off or TCU switched off VPS2 and measured VPS2 is still on · Cable or connectors are defect and are contacted to battery voltage · Cable or connectors are defect and are contacted to vehicle ground · Permanent power supply KL30 missing · TCU has an internal defect	Shift to neutral OP mode : TCU shutdown	Check fuse Check cables from gearbox to TCU Check connectors from gearbox to TCU Replace TCU

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GROUP 1 STRUCTURE AND FUNCTION

1. OUTLINE

There are two brake systems, the foot brake system and the hand brake system.

In the foot (wheel) brake system, oil pressure is generated in the master cylinder by treading on the brake pedal. This pressure causes the wheel cylinder pistons to extend, expanding the brake shoes and pressing them against the brake drums to attain braking force.

In the hand (parking) brake system, the brake shoes are expanded by operating the brake lever. Force from the lever is transmitted to the brake shoes through the hand brake cables and a lever arm in each wheel brake assembly.

The wheel brake is the duo-servo type. With force applied to both the primary and secondary shoes, this type provides a large amount of brake force.
In addition, the brake equipped with automatic adjusters which constantly adjust the clearance between the shoe and the drum, compensation for wear due to the shoe friction and thus keeping the clearance constant.

2. SPECIFICATION

1) WHEEL BRAKE(DRY TYPE)

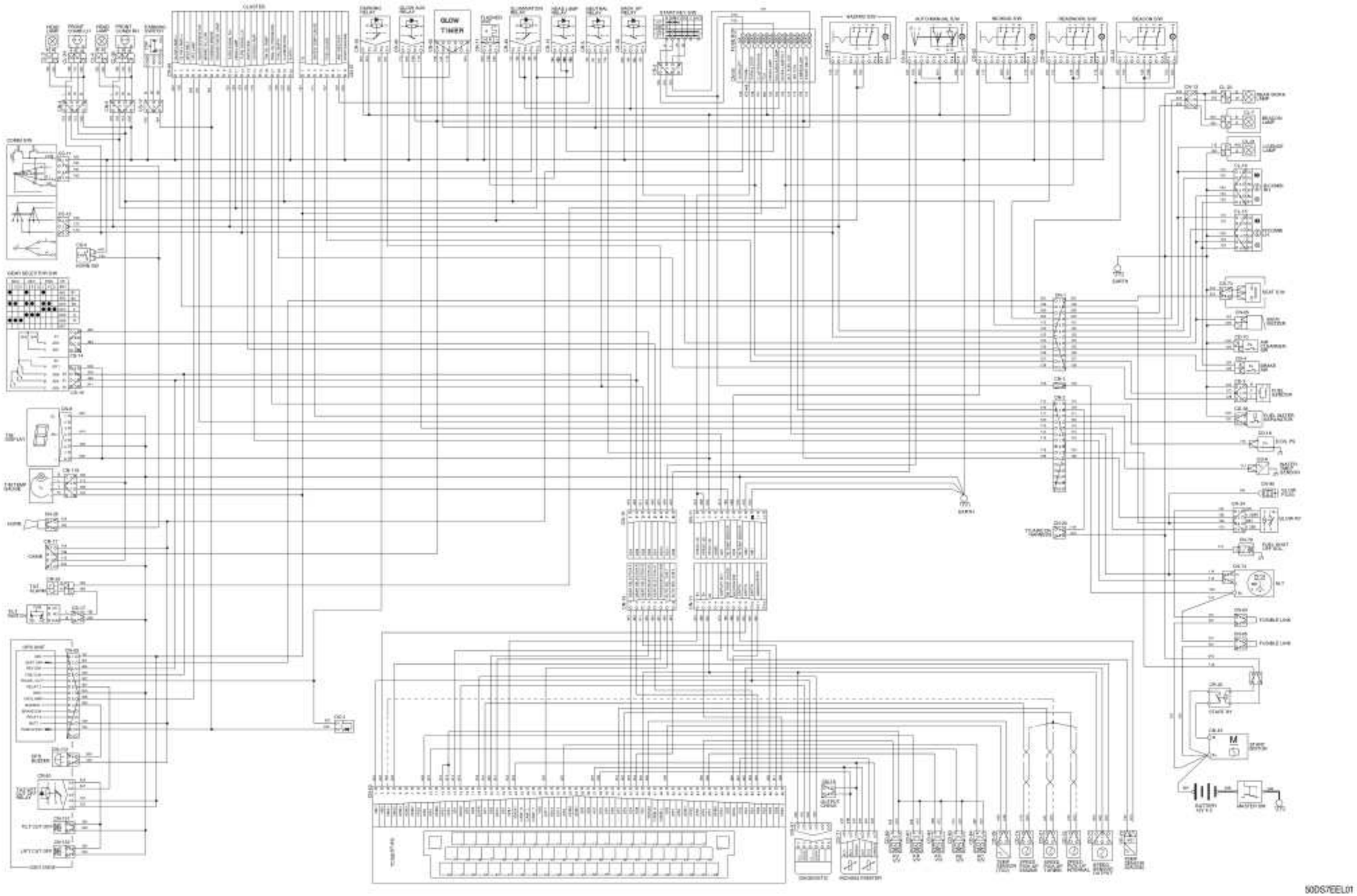
Item		Specification
Type		Front wheel, duo-servo & auto adjustment type
Service brake shoe size		ø 314 × 80mm(12.4 × 3.15in)
Wheel cylinder bore diameter		ø 34.93mm(1.37in)
Master cylinder bore diameter		ø 40mm(1.57in)
Pedal adjustment	Free height	122–128mm(4.8–5.0in)
	Idle strock	4–6.5mm(0.16–0.25in)
Brake drum diameter	Normal	315mm(12.4in)
Wheel cylinder installation torque		2.04–2.55kgf · m(14.8–18.4lbf · ft)
Backing plate installation torque		15–17kgf · m(108–123lbf · ft)
Brake oil		Only use for brake fluid DOT3

2) PARKING BRAKE

Item	Specification	
	Dry type	Wet type
Type	Toggle, internal expanding mechanical type	
Parking lever stroke	281mm	322mm
Parking cable stroke	20mm	48mm

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GROUP 2 ELECTRICAL CIRCUIT



50DS7EEL01

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