DUMP TRUCK

SERVICE MANUAL

HA30, HA30A, HA45, HA45A

HYUNDAI

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Chapter 0

General instructions

Index

Foreword 4
Hyundai ADT Payload Policy 5
Torque limit table 6
Types of sealing-/locking compounds and lubricants 10
Safety in workshop 11
Working on machine 12
Personal Protective Equipment (PPE) 15
Vibration 16
Injurious noise 17
Organic solvent 18
Fueling 19
Fire and Explosion Prevention 19
Fire and explosion risks 21
In case of Fire 22
Coolant 23
Refrigerant 24
Air pollution 25
Operation in extreme conditions 26
Liquid or gas under high pressure 30
Asbestos 31
Lead 31
Battery hazard prevention 32
Disposal of hazardous materials 34
Jacked up vehicle or bodywork 35
Crushing and Cutting Danger 35
Heavy units 36
More than one person working with the same object 37
Involuntary start of electric motors etc. 37
Rotating parts 38
Splinters, flying object When using certain tools 39
Springs under load 40
Precautions for disassembly and assembly 41

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High oil pressure (engine warmed up)

Effect	Cause	Trouble shooting	Action
Gauge indicates high pressure	Defective sensor/instrument	Take a reading of the oil pressure on the warmed-up engine using a mechanical pressure gauge directly on the engine: Minimum 1 bar at 800 r/min. Maximum 6 bar > 800 r/min. Note! Single-speed engines must not be tested at 800 r/min. Risk of damage to the flexible coupling	
	Oil viscosity too high		- Choose a viscosity that is suitable for the ambient temperature
Gauge indicates high pressure	Incorrectly adjusted oil relief valve		- 1 shim = 0.2 bar (screw adjustment on 14-series engines)
	Piston in oil relief valve jammed in closed position		
	Valve in oil duct to piston cooling nozzles is binding		

Abnormal wear (liner, piston rings, etc.)

Effect	Cause	Trouble shooting	Action
Short service life	Unclean induction air due to inadequate filtering (wrongly dimensioned air filter)	Wear ridge (ring travel shoulder) at piston top dead centre	- Fit a more efficient air filter
	Unclean intake air due to leakage in intake piping		
	Wrong grade of oil, polishing damage		
	Changing of filters and oil has been neglected		
	Low coolant temperature (cold engine)		
	Excessive sulphur content in fuel		- Change the fuel - Change to oil with a higher base number - Shorter oil change intervals
	Defective injector (causes oil film to be washed off)		

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Test block

The Test Block is the place where it is possible to check all the main pressures from the hydraulic system.

Through the test ports, it is possible to diagnose the maximum and minimum values of the hydraulic pressures of each part of the system.

The sensors (140, 141, 142, 143, 144 and 145) send the pressure signal to the VCU-2 so it shows the values on the LCD display.

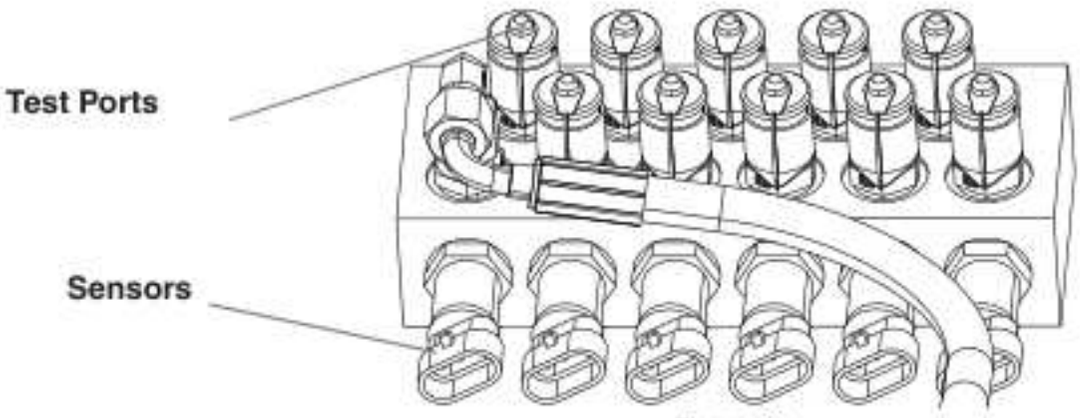


Figure 18

P1M (140)	P1M= Pump 1 measure pressure: 280 to 286 bar
LSP1M	LSP1M= Load sense pump 1 measure pressure: (P1M - 20) bar
B (141)	B= Tilt cylinder lowering pressure: 80 to 105 bar
FDM	PDM= Fan drive motor pressure: 245 to 260 bar
ACC1 (142)	ACC1= Accumulator pressure: 203 to 210 bar
LSOM	LSOM= Load sense orbitrol measure pressure: 187 to 197 bar
ACC2 (143)	ACC2= Accumulator pressure: 203 to 210 bar
PS	PS= Pilot servo pressure: 33 to 40 bar
ACC3 (144)	ACC3= Accumulator pressure: 203 to 210 bar
TMPR	TMPR= Transmission control pressure: 16 to 18 bar
A (145)	A= Tilt cylinder raising pressure: 280 to 286 bar

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Coil cable if necessary and secure it with strips, connect grounding and connector.





Figure 31

Use connection point on left side close to cab steps. The engine heater comes with 115V or 230V output.

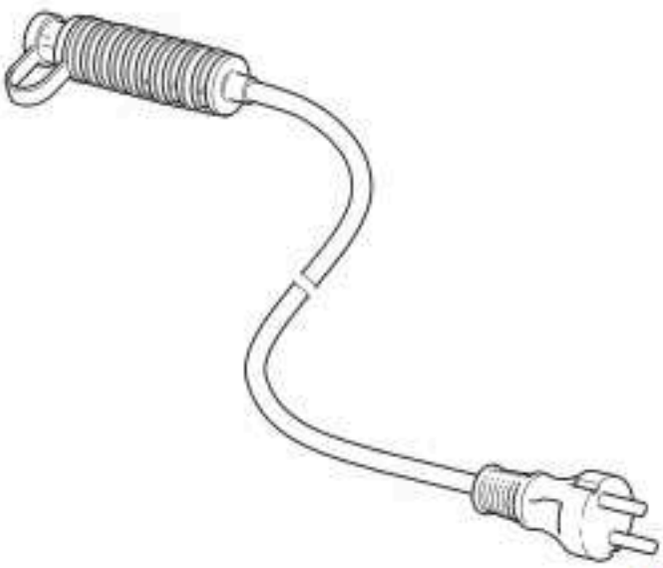




Figure 32

Connect cable to heater element on engine.

The heater is heating the coolant with a 1500W heating element.

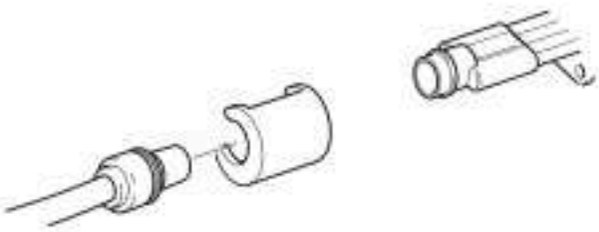




Figure 33

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Installation of gearwheels "A" in tandem

A Insert the outer idle gears in end of tandemhousing.

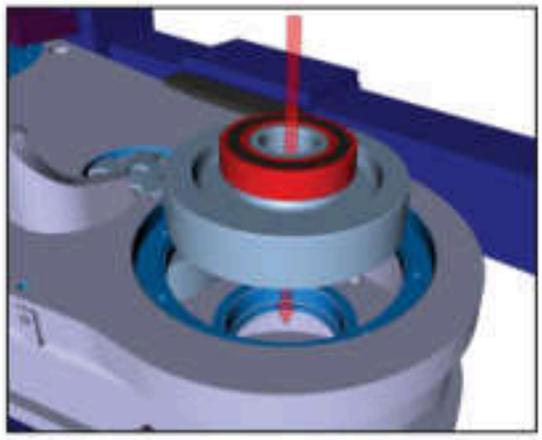


Figure 210

Mount screw with seal.

Torque **140 Nm**

No (whitout) Loctite

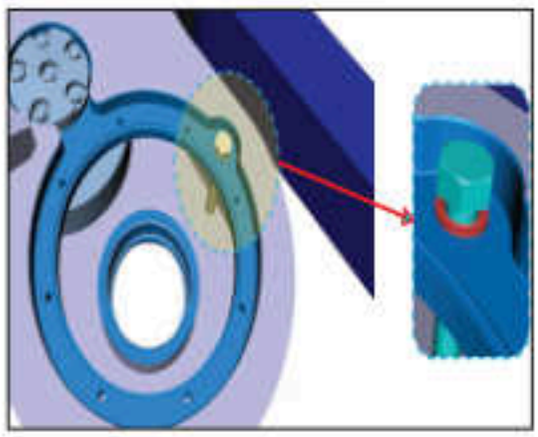


Figure 211

Put O-ring (Pos-1) on the cover for endgear and lubricate.

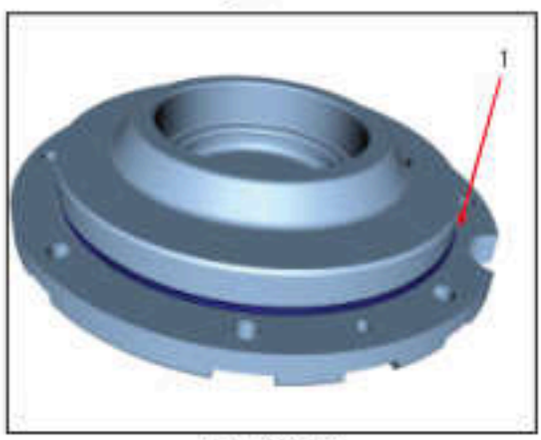


Figure 212

Mount cover for endgear.

Torque (Pos-1) M8 with Washer **24 Nm**

Torque (Pos-2) M10 **65 Nm**
Loctite 2400

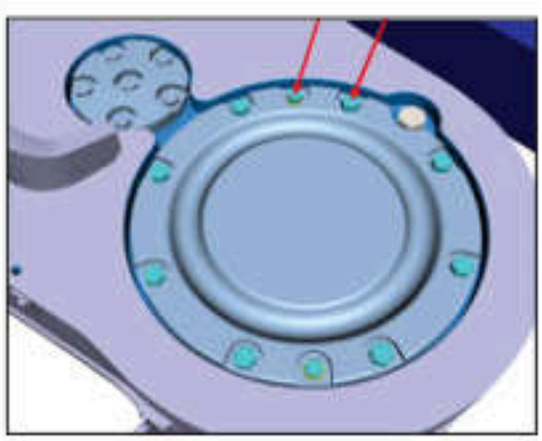
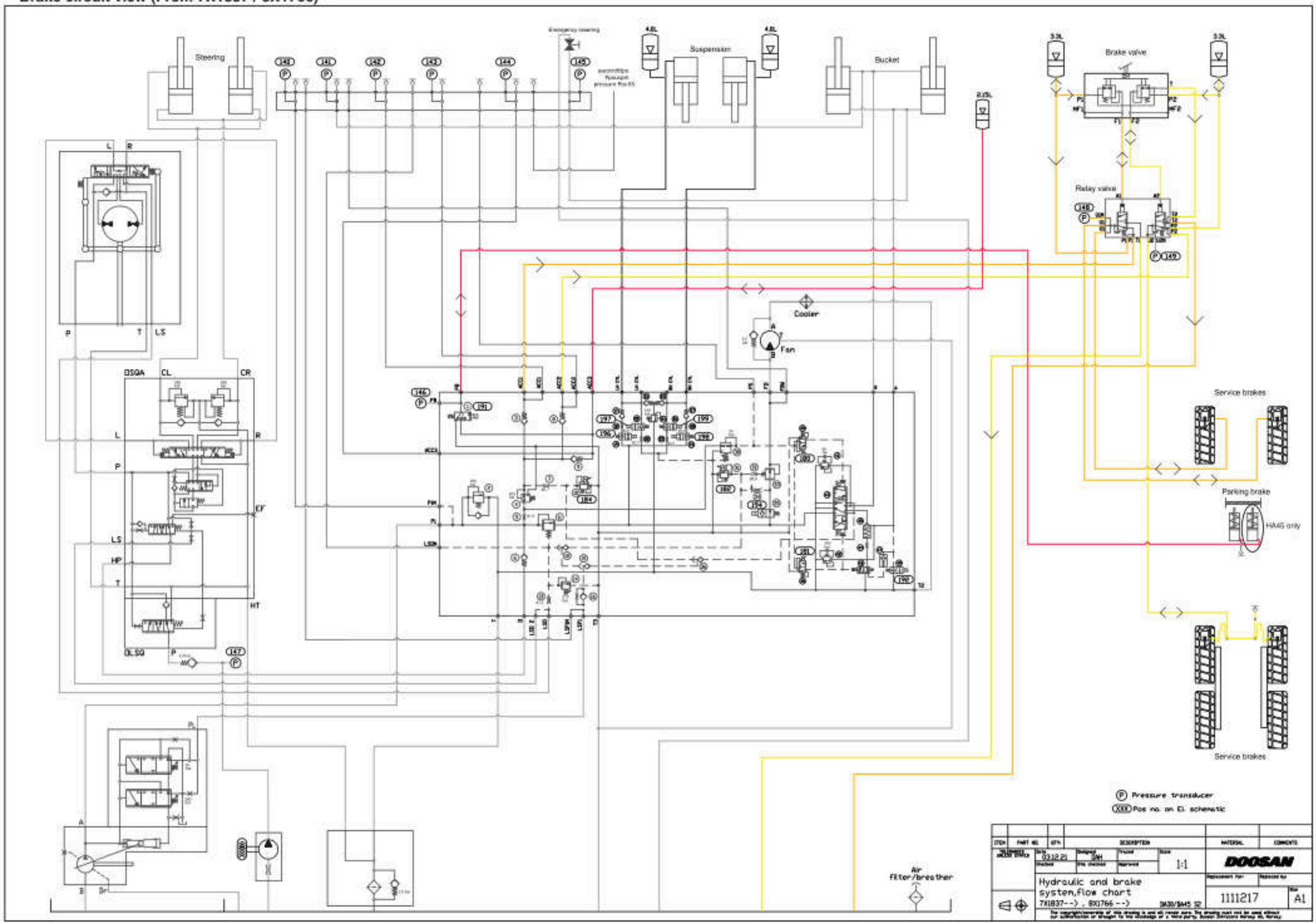


Figure 213

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Ch 5 page 56

Brake circuit view (From 7X1837 / 8X1766)



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