BACKHOE LOADER

SERVICE MANUAL

H930, H940ST

HYUNDAI

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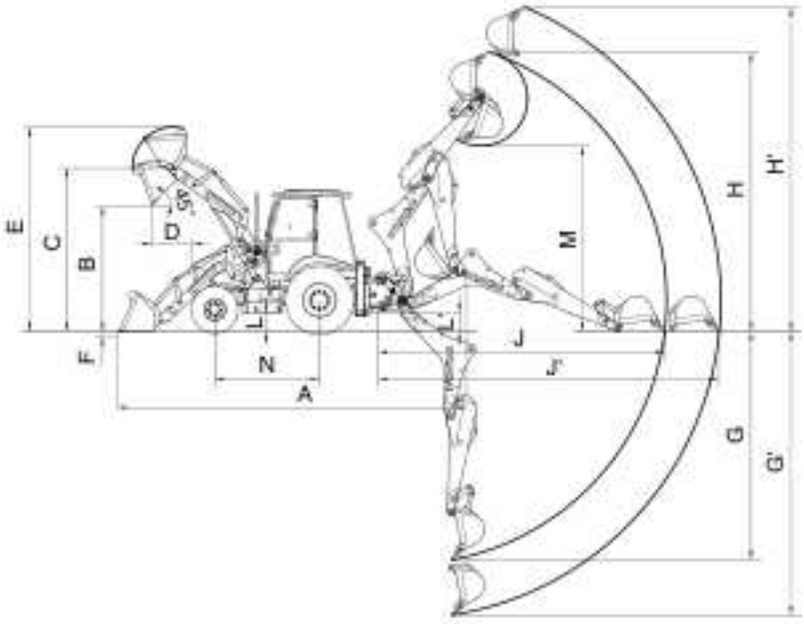
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2. SPECIFICATIONS

1) H930ST/H940ST

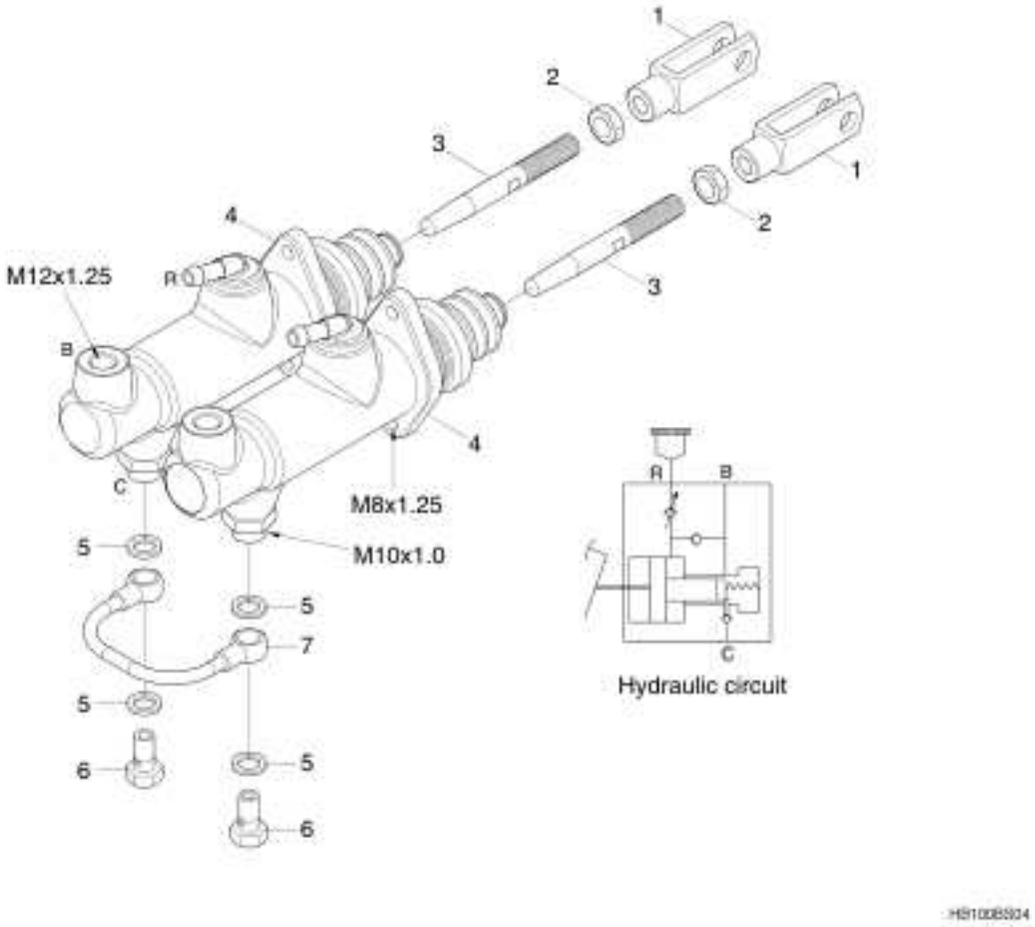


Description			Unit	Specification	
				H940ST	H930ST
Operating weight	Standard dipper and GP bucket		kg (lb)	8250 (18190)	8200 (18080)
	Extendible dipper and MP bucket		kg (lb)	8750 (19290)	8700 (19180)
Transport length	GP bucket		mm (ft-in)	5860 (19' 3")	5860 (19' 3")
	MP bucket			5910 (19' 5")	5910 (19' 5")
Transport height	Standard dipper			4010 (13' 2")	3835 (12' 7")
	Extendible dipper			4010 (13' 2")	3835 (12' 7")
Transport width	GP bucket			2450 (8' 1")	2450 (8' 1")
	MP bucket			2450 (8' 1")	2450 (8' 1")
Loader data	Overall length	A		7310 (24' 0")	7310 (24' 0")
	Dump clearance	B		2690 (8' 10")	2690 (8' 10")
	Hinge pin height	C		3485 (11' 5")	3485 (11' 5")
	Dump reach	D		785 (2' 7")	785 (2' 7")
	Max loading height	E		4345 (14' 3")	4345 (14' 3")
	Depth of bucket down	F		61 (2.4")	61 (2.4")
	Wheel base	N		2200 (7' 3")	2200 (7' 3")
Backhoe data	Max digging depth (STD)	G		4525 (14' 10")	4255 (13' 11")
	Max digging depth (EXT)	G'		5650 (18' 6")	5380 (17' 8")
	Max digging height (STD)	H		5865 (19' 3")	5700 (18' 8")
	Max digging height (EXT)	H'		6535 (21' 5")	6370 (20' 11")
	Max digging reach (STD)	J		5980 (19' 7")	5820 (19' 1")
	Max digging reach (EXT)	J'		6990 (22' 11")	6830 (22' 5")
	Minimum ground clearance	L		515 (1' 5")	515 (1' 5")
	Height of outrigger	L'		340 (1' 1")	340 (1' 1")
	Max dumping height (STD)	M		3935 (12' 11")	3775 (12' 5")
	Max dumping height (EXT)	M'		4610 (15' 1")	4450 (14' 7")

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3. MASTER CYLINDER

1) STRUCTURE



1	Fork	4	Master cylinder assy	7	Hose
2	Hexagon nut	5	Cooper washer		
3	Push rod	6	Screw		

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Problem	Cause	Remedy
Slow steering wheel movement will not cause any frame movement	Leakage in steering unit gerotor.	Do steering system leakage check.
	Worn steering unit gerotor.	Do steering leakage check.
Steering wheel can be turned against steering stop	Leakage in steering system.	Do steering system leakage check.
Steering wheel turns with no resistance	Broken steering column or splined coupling.	Remove and inspect.
	Lack of oil in steering unit.	Start engine and check steering operation.
	Leakage in steering system.	Do steering system leakage test in group 3.
Erratic steering	Air in oil.	Check for foamy oil.
	Low oil level.	Add recommended oil.
	Sticking priority valve spool.	Remove and inspect spool.
	Loose cylinder piston.	Remove rod to inspect piston.
	Damaged steering unit.	Remove and inspect.
Spongy or soft steering	Air in oil.	Check for foamy oil.
	Low oil level.	Add recommended oil.
Free play at steering wheel	Loose steering wheel nut.	Tighten.
	Worn or damaged splines on steering column or unit.	Inspect.
Steering unit binding or steering wheel does not immediately return to neutral when released	Binding in steering column or misalignment of column.	Inspect.
	High return pressure.	Check for a pinched or damaged return line.
	Contamination in steering unit.	Inspect hydraulic filter for contamination. Repair cause of contamination. Flush hydraulic system.
	Large particles of contamination in steering unit.	Inspect hydraulic filter for contamination. Repair cause of contamination. Flush hydraulic system.

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(2) Disassembly

① Clamp the unit in vice.

Clamp lightly on both sides of the unit, making spline end of the housing facing down.
Use soft jawed vice or add protective material between jaws and the unit. Do not over tight the housing.

② Remove the 6 cap screws, one rolled screw, and washers.

Remove the cap screws and a rolled screw with 13 mm socket. Inspect for damaged threads, bent or broken bolts. Remove the washer under the bolt head and discard them.

③ Lift end cap and O-ring seal.

Lift end cap and O-ring seal. Discard the O-ring seal. Inspect for good bolt sealing.
Check the wear or scoring from rotor set. A polished pattern on the rotor side caused by rotor set is normal.

④ Remove gerotor.

Remove gerotor. Be careful not to drop the inner rotor. The drive link stays in the steering unit.
Discard the O-ring seal. Inspect the gerotor for nicks, scoring, spalling, or chipping on any internal contacting surfaces. Replace the entire set if there is any damage on them.

⑤ Lift spacer, drive link and plate.

Lift spacer, if exist, drive link and plate. Discard the O-ring seal. Inspect the plate for cracks, surface scoring, discoloration. A polished pattern on the gerotor side is normal.

⑥ Remove bore screw and the ball.

Turn out the bore screw by thin bladed screw driver. Remove the housing from the vice then remove the ball from the hole. Check the ball for wear or scoring.

⑦ Remove the rolled pin and ball.

Remove the rolled pins and balls from the suction valve. Check the ball and rolled pin for wear or scoring

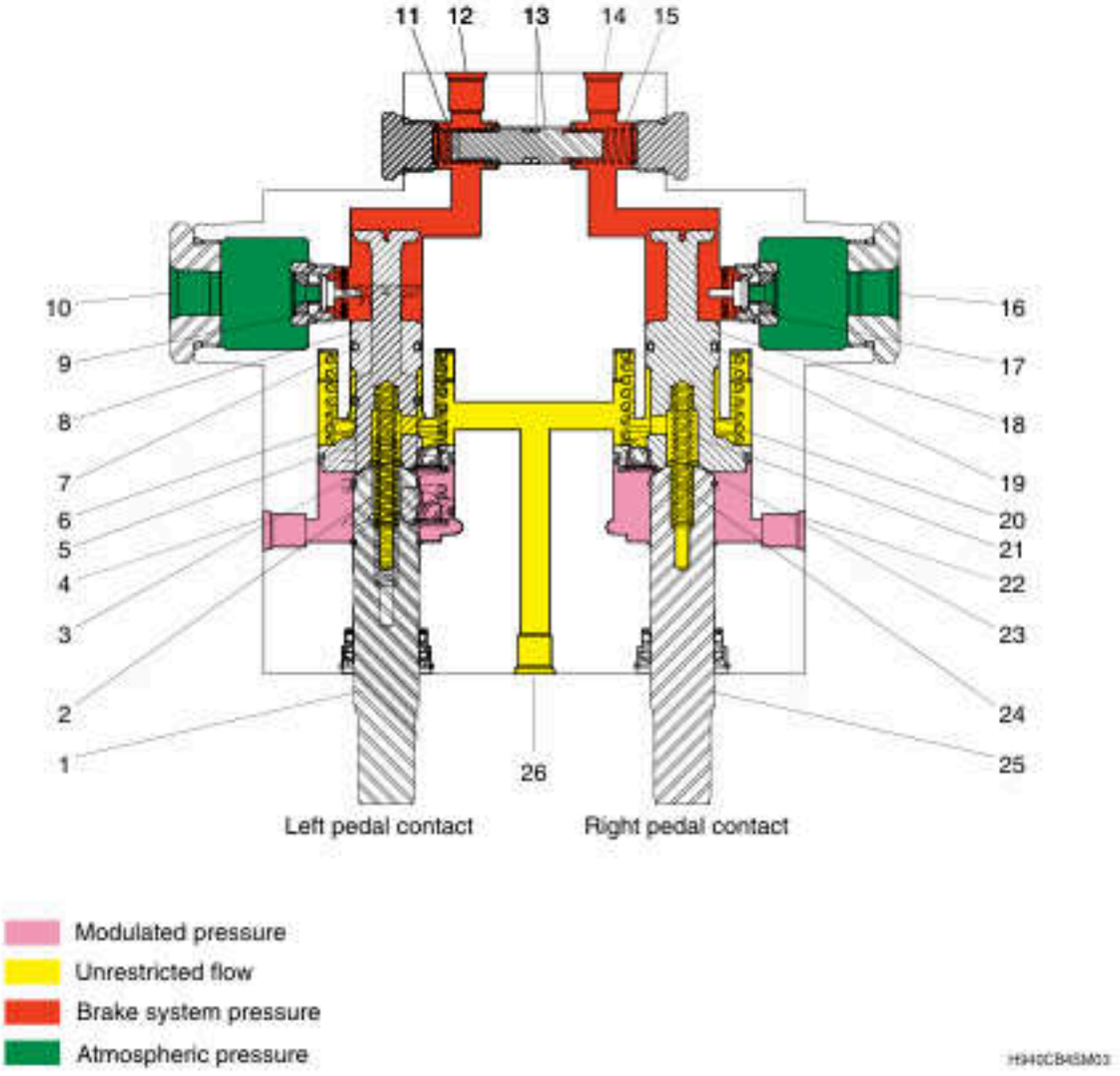
⑧ Remove the retaining ring.

Place housing on clean soft cloth, gerotor end down, to protect surface finish. Use thin bladed screw driver to pry retaining ring from housing. Check if there is any bent or corrosion on it.



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(2) Both pedals applied



Oil from the hydraulic system enters ports (4 & 22) separately and drains to outlet port (26). Both pedals are depressed forcing springs (5 & 21) to compress. Oil flowing through land areas (3 & 23) becomes restricted. Oil flow moves to close check balls (2 & 24).

Restricted oil flow at lands (3 & 23) causes pressure to act against the large diameter of pistons (8 & 18). Pistons (8 & 18) move to compress springs (6 & 20). As more push rod displacement occurs, valve assemblies (9 & 17) close, stopping brake system oil from moving to reservoir or atmosphere pressure. Additional movement of the push rods and pistons (8 & 18) forces brake system oil to the brakes causing brakes to fill through ports (12 & 14). If the brakes consume slightly different amounts of oil, spool (13) moves against either spring (11 or 15) to satisfy the original amount of brake oil of whichever side has the most required.

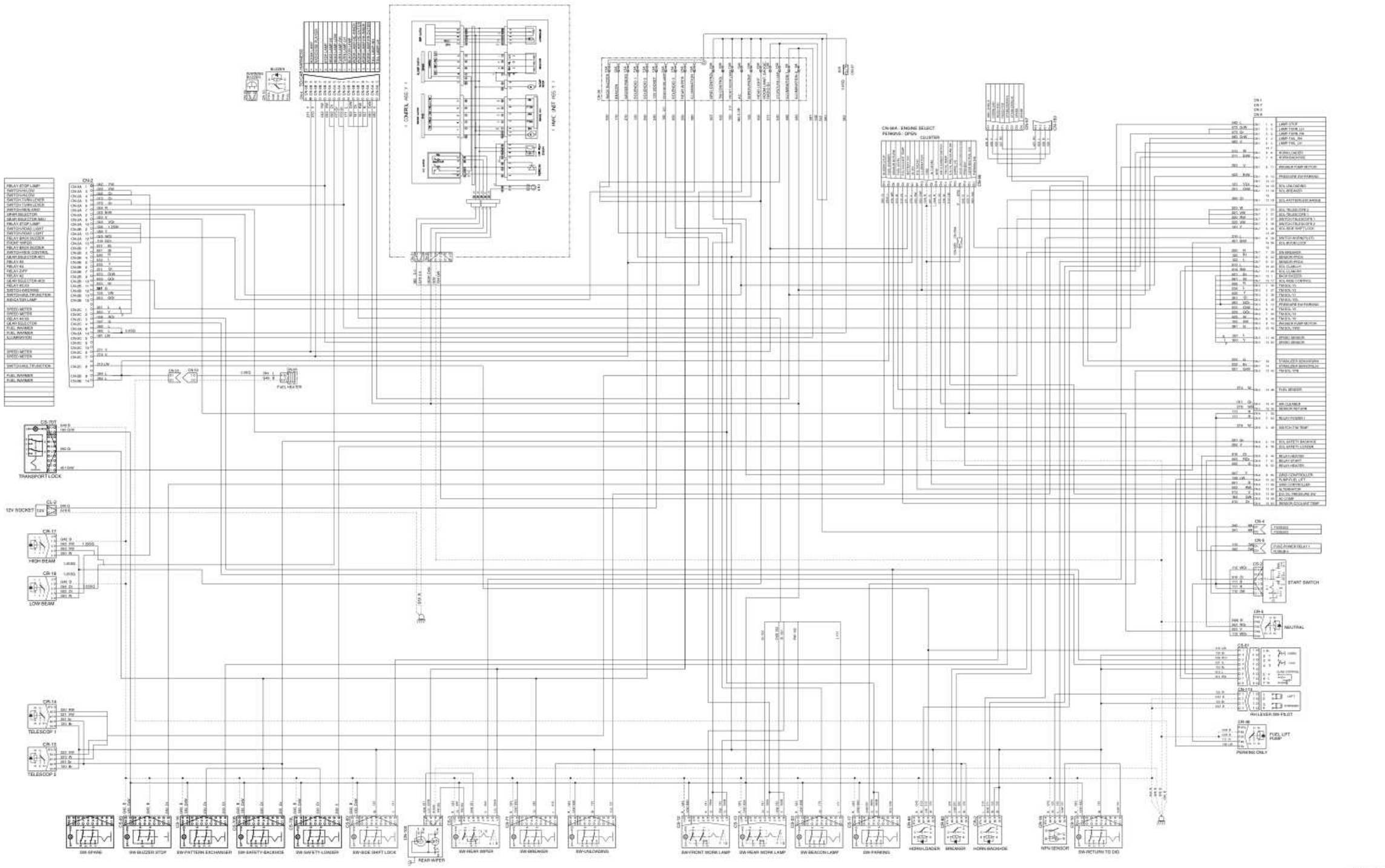
After the brakes are filled, higher brake pressure is developed by the inlet oil pressure being modulated at lands (3 & 23), causing piston (8 & 18) to generate a higher pressure at the brake ports. Brake pedal modulated feel is determined by the hydraulic areas of push rods (1 & 25) and modulated pressure at lands (3 & 23).

Maximum boosted brake pressure is limited by the inlet oil pressure at ports (4 & 22).

Additional pedal effort can cause higher brake pressure and is dependent only by the amount of pedal force applied.

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1. ELECTRICAL CIRCUIT (1/3)



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