Service Manual

JS330
from machine no. 712501

JS450
from machine no. 714501

JS460/500
from machine no. 714550

JS460/500
machine no. 2410051 - 2410300

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Note: For full specification details see information in each section.

Pump

Type	Twin variable displacement piston pump
Displacement Volume	170 cm^3/rev (8.2 in^3/rev) x 2
Working Pressure	325 bar (331 kgf/cm^2)
Maximum Output	348.5 l/min x 2 (77 gal/min x 2)
Fixed Displacement Gear Pump Displacement Volume	 12.4 cm^3/rev (0.76 in^3/rev)
Working Pressure	44.1 bar (45 kgf/cm^2)
Maximum Output	31.9 l/min (7.0 gal/min)
Dry Weight	220 kg (485 lb)

Control Valve

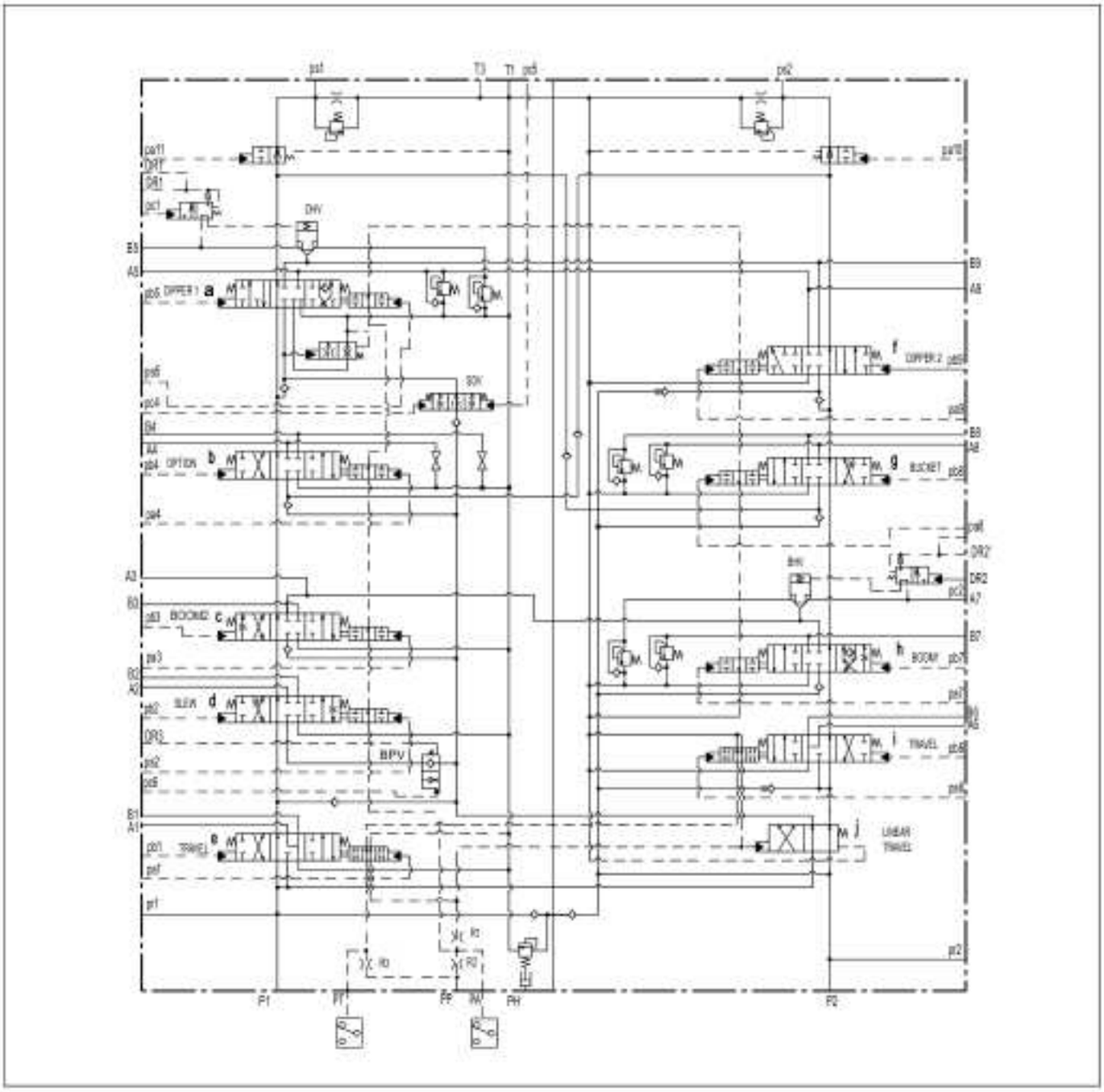
Type	Hydraulic Pilot System
Operating System	Set pressure relief
Main Relief Standard pressure Maximum pressure	 319 bar (325 kgf/cm^2) 348 bar (355 kgf/cm^2)
Overload Relief Pressure Boom Raising, Arm, Bucket Boom Lowering Pressure	 363 bar (370 kgf/cm^2) 245 bar (250 kgf/cm^2)
Function	Travel priority, Slew priority, Boom and Dipper holding valves, Boom and Dipper 2-Speed internal confluence
Dry Weight	375 kg (826 lb)

Slew Motor

Type	Fixed displacement piston motor
Suction Capacity	249.9 cm^3/rev (15.2 in^3/rev)
Working Pressure	300 bar (305 kgf/cm^2)
Work Flow	348.5 l/min (77 gal/min)
Set Pressure Relief	279 bar (285 kgf/cm^2)
Reduction Gears Reduction Gear Ratio	Planetary gear reduction 27.14
Slew Brake Brake Torque Brake Pressure Release	 1192 Nm (121.5 kgf m, 712 lbf ft) 18.6 bar (18.9 kgf/cm^2)
Dry Weight	583 kg (1285 lb)

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Hydraulic Circuit Diagram - JS460/JS500 Tier 2



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Fault Finding

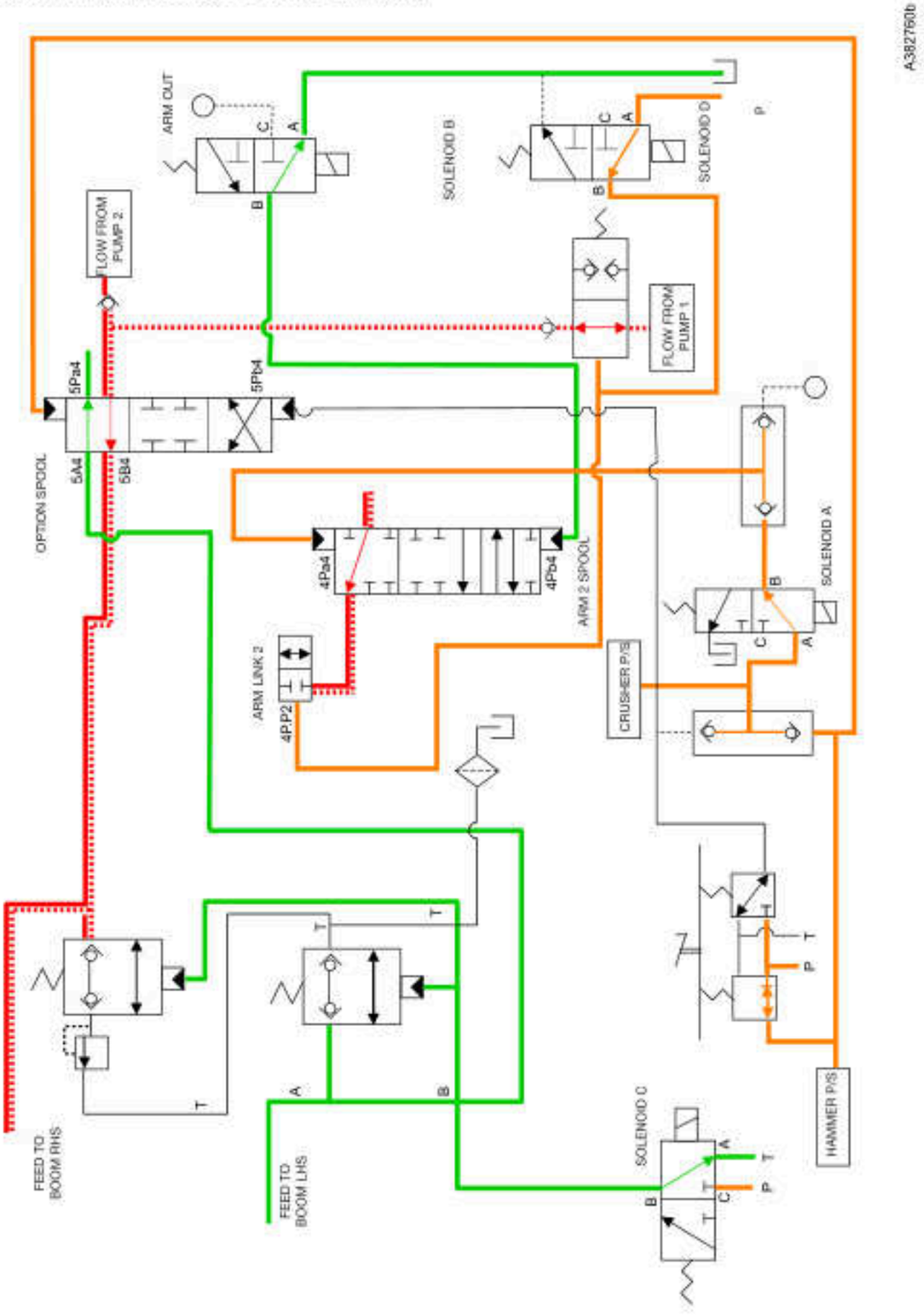
The chart below lists some possible problems and suggested remedies. The types of problems fall into four main categories as follows:

Item	Symptoms
1	Oil leakage from piston rod sliding part.
2	Oil leakage from cylinder head joint.
3	Oil leakage from pipe and cylinder tube welds.
4	Faulty operation

Item	Symptoms	Related Parts	Trouble	Treatment
1	Piston rod sliding part oil leakage	Piston rod	On the sliding surface, there are scratches and rust that can be felt by the fingernail.	1 Use an oil stone and remove the scratch and make the sliding surface smooth. If oil leakage continues even though the rod surface is made smooth, the scratch may have damaged the U-ring and other seals, so dismantle and inspect. 2 If the scratches and rust cover such a wide area that they cannot be repaired by an oil stone, renew the piston rod and U-ring, wiper ring and seals and the piston rod bearing member.
			The plating is peeling.	Re-plate or renew the piston rod. Also inspect the seal and piston rod bearing member and renew if damaged.
		Rod packing (Buffer ring U-ring)	Foreign matter is biting into the inner and outer surfaces of the packing.	Remove foreign matter. If there is damage to packing, renew it.
			There is a scratch on the inner surface.	Renew.
			The lip and groove parts are locally carbonized (burned).	Possibly due to burning caused by adiabatic compression from air remaining inside the ram. After renewing the packing, first operate the ram at low-pressure, low speed to sufficiently bleed the air.

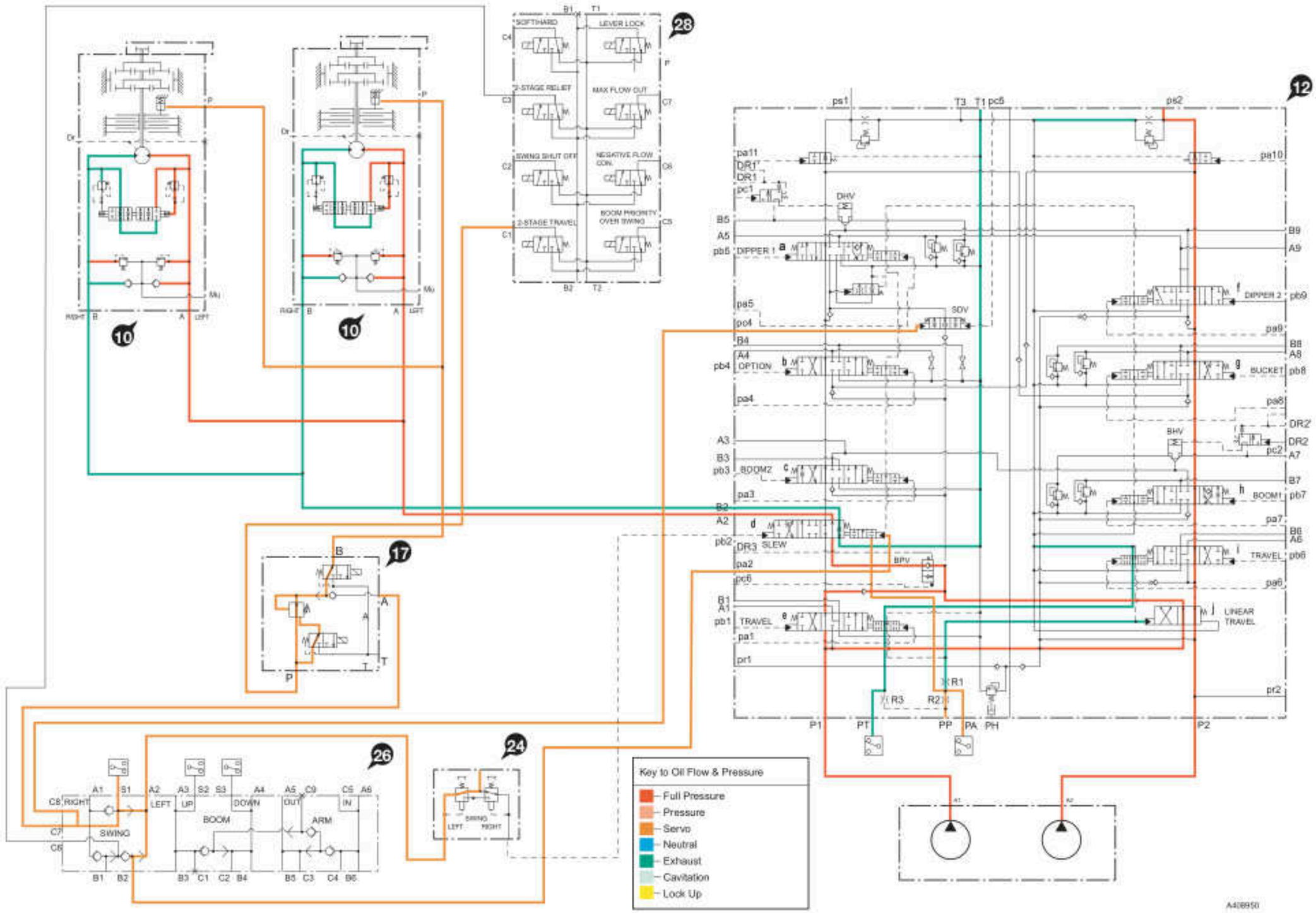
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Hammer/ Auxiliary/Merge Circuit - Auxiliary



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Slew Circuit - JS460/JS500 Tier 2



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