

SECTION 2

TROUBLE SHOOTING

Trouble	Potential Cause(s)	Potential Fix
External Leakage – Past Spool Seals	Dirt / contamination.	Replace O-ring and wiper.
	Worn / damaged O-ring.	Replace O-ring and wiper.
	Loose seal plate.	Tighten seal plate screws.
	Excessive back pressure, blocked or restricted return passage to reservoir.	Check / replace hydraulic return line filter.
		Check for kinked or pinched return hose.
External Leakage – Between Sections	Insufficient tie rod torque.	Tighten to proper torque value.
	Pinched or damaged section O-ring.	Disassemble valve stack and replace pinched or damaged O-ring.
	Check valve spring pinched between sections.	Disassemble valve stack and replace check valve spring. Also inspect for damage to housing surface. If damaged, replace the entire spool section.
External Leakage – Past Relief Valve	Relief valve not properly torqued into cavity.	Tighten to proper torque value.
	Adjust screw / jam nut not properly torqued.	Tighten to proper torque value.
	Damaged or worn O-ring.	Replace O-ring and wiper.
	Damaged cavity / housing.	Replace spool section.
Does Not Build Pressure (Main and / or Workport)	Incorrect hydraulic connections to control valve.	Check to ensure pump supply and tank return hoses are properly connected to valve inlet (P) and outlet (T) ports.
	Internal leakage due to casting/housing defect.	Replace spool section.
	Relief valve out of adjustment.	Readjust relief valve.
	Relief valve jam nut / adjust screw loose.	Readjust relief valve and tighten jam nut.
	Relief valve over / under torqued into cavity.	Tighten to proper torque value.
	Relief valve stuck open due to contamination.	Disassemble and clean or replace.
	Anti-void valve stuck open due to contamination.	Disassemble and clean or replace.
	Damaged or worn relief valve / anti-void.	Replace relief valve / anti-void.
Function Speed Slow	Spool not fully shifted.	Inspect and fix worn or damaged handle linkage.
		Inspect and fix damaged spool end-mechanism parts.
		Insufficient pilot pressure (pilot operated spool section).
	Contamination in main or workport relief valve.	Disassemble and clean or replace relief valve assembly.
	Contamination in anti-void valve.	Disassemble and clean or replace anti-void assembly.
Spool Metering Jerky / Inconsistent	Handle linkage is dirty or damaged.	Clean / inspect handle linkage. Repair or replace worn or damaged components.
	Handle linkage not properly aligned with spools.	Adjust linkage to ensure that binding or interference does not exist when actuating the valve assembly.
	Spool is binding in valve housing.	Remove spool assembly from valve body. Inspect for physical signs of spool damage or excessive wear. Clean and reassemble or replace damaged spool section.

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Spool Sticks / Does Not Return to Center	Handle linkage is dirty or damaged.	Clean / inspect handle linkage. Repair or replace worn or damaged components.
	Handle linkage not properly aligned with spools.	Adjust linkage to ensure that binding or interference does not exist when actuating the valve assembly.
	Dirty hydraulic oil.	Change oil / replace hydraulic filter(s).
	Foreign material between spool and valve housing.	Remove spool assembly from valve body. Inspect for physical signs of spool damage or excessive wear. Clean and reassemble, or replace damaged spool section.
	Bent spool.	Replace spool section.
	Damaged spring cap.	Disassemble and replace worn or damaged parts.
	Damaged spool section housing.	Replace spool section.
	Incorrect or broken centering spring.	Disassemble and replace worn or damaged parts.
	Valve stack incorrectly assembled / torqued.	Reassemble valve in correct order / tighten tie rods using correct installation torque.
	Valve stack not correctly mounted / installed.	Ensure that only 3 mounting points are being used.
Spool Does Not Stay In Detented Position	Detent end-mechanism incorrectly assembled.	Reassemble detent assembly in correct order.
	Broken detent spring.	Disassemble and replace worn or damaged parts.
	Worn / damaged detent sleeve.	Disassemble and replace worn or damaged parts.
	Auto kick-out pressure setting too low.	Readjust pressure / kick-out setting.
	Dirt / contamination in detent end-mechanism.	Disassemble and clean.
Does Not Hold Load / Excessive Cyl. Drift	Cylinder damaged / leaking hose or fittings.	Disassemble and replace worn or damaged parts.
	Spool not fully centered in neutral position.	Clean / inspect handle linkage. Repair or replace worn or damaged components.
		Remove spool assembly from valve body. Inspect for physical signs of spool damage or excessive wear. Clean and reassemble, or replace damaged spool section.
	Leakage past workport relief or anti-void valve.	Disassemble and clean or replace relief valve / anti-void assembly.
		Check the relief valve pressure setting and readjust if it is not within the recommended pressure range.
	Damaged relief valve or anti-void cavity (seat).	Replace spool section.
	Worn spool section.	Replace spool section.
Load / Cylinder Experiences Momentary "Droop" or Drift	Missing or damaged check valve poppet.	Disassemble valve stack and inspect for missing or damaged check valve poppet / spring – replace worn or damaged parts.
Relief Valve Setting Too Low / Too High	Relief valve incorrectly adjusted.	Check the relief valve pressure setting and readjust if it is not within the recommended pressure range.
	Contamination.	Disassemble and clean or replace relief valve.
	Pressure adjust screw loose / jam nut not properly torqued.	Readjust relief valve and tighten jam nut.
	Relief valve not properly torqued into housing.	Ensure proper installation torque.
	Damaged or worn relief valve.	Replace relief valve.