

Problem	Cause	Solution
Spongy Controls (Entire System)	Air in System	<p>Air in System</p> <ol style="list-style-type: none"> 1. Check reservoir and verify that there is fluid and pressure is 80 psi. 2. Inspect for fluid leaks at all connections. 3. Check for air leaks in the reservoir (use soapy water solution) 4. Bleed entire system. 5. Synchronize controls
Spongy controls on one clutch or throttle system.	Air in that singular system.	<ol style="list-style-type: none"> 1. Check reservoir, verify that there is fluid and pressure is 80 psi. 2. Inspect for fluid leaks at all connections of the system in question. 3. Bleed system in question. 4. Synchronize controls.
Sender arm wants to stop at its mid-stroke.	Controls out of synchronization.	Synchronize controls.
Full throttle on the sender will not achieve maximum throttle RPM on engine.	<ol style="list-style-type: none"> 1. Throttle linkage length out of adjustment. 2. Engine out of tune. 	<ol style="list-style-type: none"> 1. Re-adjust length of the throttle linkage.
Full idle on sender will not achieve idle RPM on engine	<ol style="list-style-type: none"> 1. Throttle linkage length out of adjustment. 2. Engine governor out of adjustment 3. Engine out of tune. 	<ol style="list-style-type: none"> 1. Re-adjust length of the throttle linkage.
Engine throttle tends to creep toward idle	Pilot check valve malfunctioning.	<ol style="list-style-type: none"> 1. Remove pressure from system. 2. Re-pressurize the system. 3. Repurge the system of air.
	Slaves internal piston seals or synchronizing valves leaking due to wear or debris.	<ol style="list-style-type: none"> 1. Remove pressure from system. 2. Rebuild or replace throttle slave. 3. Re-pressurize the system. 4. Repurge the system of air.
Full throttle on sender gives idle on engine.	System tubing connected backward.	<ol style="list-style-type: none"> 1. Remove pressure from the system. 2. Reverse tubing at the throttle slave. 3. Pressurize system. 4. Synchronize throttle control.
After a long running period the throttle tends to go out of synchronization.	Slave is located at an engine hot spot which has caused excessive heating of the throttle slave, which in turn has caused the slave to develop a vapor lock.	<p>Several Suggested Remedies:</p> <ol style="list-style-type: none"> 1. The use of heat resistant gasket material (approximately 1/8" thick) between the mounting bracket and engine. 2. Spacers between the bracket and engine, and slave and bracket. 3. Shielding around the throttle slave. 4. Re-mounting of the throttle slave in a less hot area.
	Contamination in pilot check valve keeping it from functioning properly.	<ol style="list-style-type: none"> 1. Remove pressure from system. 2. Re-pressurize the system. 3. Repurge system of air.
	If twin engines are equipped with synchronizer, governor or synchronizer's tension springs are out of adjustment.	<ol style="list-style-type: none"> 1. Readjust springs proper tension. <p>NOTE: excessive tension in either throttle extremes will cause synchronization problems.</p>

Troubleshooting (Continued)

Problem	Cause	Solution
Loss of system pressure but not loss of fluid	Air leak in reservoir.	While pressure is on system, use a soapy water solution to find an air leak on the tank. When leak is found remove pressure and repair, repressurize system to 80 psi.
NOTE System pressure will vary as much as +10 psi due to temperature changes. When system pressure drops below 70 psi a leak should be checked for.		
Loss of pressure and fluid on system.	System leak.	<ol style="list-style-type: none"> 1. With pressure on system check for fluid leaks at all connections. 2. When found repair leak. If a tubing connection is leaking remove and replace 'O' ring (if leak persists see section of trouble shooting which concerns leaks at fittings for further repair procedures). 3. Open needle valve on charging valve of system in question. 4. Pressurize system, bleed system, filling as required, close needle valve. 5. Synchronize controls.
Sender arm moved at one station results in the wrong arm movement at the other station (s).	Improper or reversed tubing connections.	<ol style="list-style-type: none"> 1. Recheck tubing connections made against tubing diagram used. 2. Remove pressure from the system. 3. Reconnect tubing as required. 4. Repressurize and bleed system. 5. Synchronize controls.
Sender arm moved at one station results in another arm moving at the same station.	Tubing runs improperly connected. Prime area for improper connection would be at the charging valve.	<ol style="list-style-type: none"> 1. Compare tubing connections made with tubing diagram used (check area of charging valve). 2. Remove pressure from system. 3. Reconnect tubing as required. 4. Pressurize system, bleed system, close needle valves. 5. Synchronize controls.
Crimp or kink in tubing.	Numerous.	<ol style="list-style-type: none"> 1. Cut out kinked or crimped portion of line. 2. Splice line together using tube connectors and union.
Leak at a fitting.	Bad O-Ring	Remove fitting replace O-Ring, replace fitting, pressurize system, and check for leakage. If leakage continues replace entire tubing connector and adapter as required.
Throttle System seems locked up after initial installation	Slipped sender handle	<ol style="list-style-type: none"> 1. Retube as required. 2. Re-establish sender's handle position, if required, to allow full 115 degree travel.
Forward or reverse on clutch sender will not obtain a full forward or reverse on transmission	Clutch slave to transmission linkage out of adjustment	Re-adjust linkage length.
Forward on clutch sender gives reverse on engine	Tubing incorrectly connected	<ol style="list-style-type: none"> 1. Remove pressure from system. 2. Reverse tubing at the clutch slave. 3. Pressurize and bleed system. 4. Synchronize clutch controls.