

INSTALLATION TROUBLESHOOTING CHART
RS/RSA FUEL INJECTION SYSTEMS

NOTES: **INSTALLATION:** It Is Absolutely Necessary To Install Servo, Flow Divider, And Nozzles Per The Engine And/Or Airframe Manual For Proper Operation. Failure To Do So May Result In Unsatisfactory Operation.

REMOVAL: Before Removing Fuel Injection Components From Engine For Warranty Consideration, And After Verifying All Other Components Work Properly, Troubleshoot The Following Symptoms:

PROBLEM	PROBABLE CAUSE	REMEDY
HIGH FUEL FLOW READING	PLUGGED NOZZLE IF HIGH FUEL FLOW IS ACCOMANIED BY LOSS OF POWER, AND ROUGHNESS.	REMOVE AND CLEAN NOZZLES. A 20 MINUTE SOAK IN HOPPES #9 GUN CLEANING SOLVENT, A STODDARD SOLVENT RINSE AND BLOW DRY. CHECK SYSTEM FOR SOURCE OF CONTAMINATION.
	FAULTY GAGE.	CRISS-CROSS GAGES AND REPLACE IF NECESSARY. IF SINGLE ENGINE, REPLACE GAGE.
STAGGERED MIXTURE CONTROL LEVERS	IF TAKEOFF IS SATISFACTORY, DO NOT BE TOO CONCERNED ABOUT STAGGERED LEVERS BECAUSE SOME MISALIGNMENT IS NORMAL WITH TWIN ENGINE INSTALLATION.	CHECK RIGGING.
POOR CUT-OFF	IMPROPER RIGGING OF AIRCRAFT LINKAGE TO MIXTURE CONTROL.	ADJUST.
ROUGH ENGINE (TURBO CHARGED) AND POOR CUT-OFF	NOZZLE AIR BLEED HOLE (S) CLOGGED.	CLEAN OR REPLACE NOZZLES.
ENGINE WILL NOT ACCELERATE PAST A GIVEN RPM	OIL IN AIR CHAMBER.	REFER TO P.A.C. SERVICE INFORMATION LETTER RS-40

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PROBLEM	PROBABLE CAUSE	REMEDY
ROUGH IDLE	SLIGHT AIR LEAKS INTO INDUCTION SYSTEM THROUGH LOOSE INTAKE PIPES OR DAMAGED "O" RINGS. USUALLY ABLE TO ADJUST INITIAL IDLE BUT ROUGH IN 1,000-1,500 RPM RANGE.	REPAIR AS NECESSARY
	LARGE AIR LEAKS INTO INDUCTION SYSTEM SUCH AS MISSING PIPE PLUGS, ETC. USUALLY UNABLE TO THROTTLE ENGINE DOWN BELOW 800-900 RPM.	REPAIR AS NECESSARY
	FUEL VAPORIZING IN FUEL LINES OR DISTRIBUTOR. ENCOUNTERED ONLY UNDER HIGH AMBIENT TEMPERATURE CONDITIONS OR FOLLOWING PROLONGED OPERATION AT LOW IDLE RPM'S.	<u>KEEP TEMPERATURES LOW BY:</u> AVOID EXCESSIVE GROUND RUN. RPM'S AS HIGH AS PRACTICAL. COWL FLAPS OPEN WHEN PRACTICAL. UPON RESTARTING HOT ENGINE, OPERATE AT 1,200-1,500 RPM FOR SEVERAL MINUTES TO REDUCE RESIDUAL HEAT IN ENGINE COMPARTMENT.
LOW TAKE-OFF FUEL FLOW	FAULTY GAGE.	IN TWIN ENGINE INSTALLATION CRISS-CROSS GAGES. REPLACE AS NECESSARY. SINGLE ENGINE, CHANGE GAGE.
	STICKY FLOW DIVIDER.	CLEAN FLOW DIVIDER.
HARD STARTING	TECHNIQUE.	REFER TO AIRCRAFT MANUFACTURER'S RECOMMENDED STARTING PROCEDURE
	FLOODED.	CLEAR ENGINE BY CRANKING WITH THROTTLE OPEN AND MIXTURE IN ICO.
	THROTTLE VALVE OPENED TOO FAR.	OPEN THROTTLE TO POSITION APPROXIMATING 800 RPM.
	INSUFFICIENT PRIME (USUALLY ACCOMPANIED BY A BACKFIRE).	INCREASE AMOUNT OF PRIMING.
ROUGH ENGINE	MIXTURE TOO RICH OR TOO LEAN.	CONFIRM WITH MIXTURE CONTROL. A TOO RICH MIXTURE WILL BE CORRECTED AND ROUGHNESS DECREASED DURING LEAN-OUT WHILE A TOO LEAN MIXTURE WILL BE AGGRAVATED AND ROUGHNESS INCREASED. ADJUST IDLE TO GIVE A 25-50 RPM RISE @700 RPM.

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PROBLEM	PROBABLE CAUSE	REMEDY
ROUGH ENGINE (CONTINUED)	PLUGGED NOZZLE (S). USUALLY ACCOMPANIED BY HIGH TAKE OFF FUEL FLOW READINGS.	REMOVE AND CLEAN NOZZLES. A 20 MINUTE SOAK IN HOPPE'S #9 GUN CLEANING SOLVENT, RINSE WITH STODDARD SOLVENT AND BLOW DRY. CHECK SYSTEM FOR SOURCE OF CONTAMINATION.
	SLIGHT AIR LEAK INTO INDUCTION SYSTEM THROUGH MANIFOLD DRAIN CHECK VALVE. USUALLY ABLE TO ADJUST INITIAL IDLE BUT ROUGH IN 1,000- 1,500 RPM RANGE.	CONFIRM BY TEMPORARILY PLUGGING DRAIN LINE. REPLACE CHECK VALVE AS NECESSARY.
	AIR LEAK IN FUEL LINE FROM TANK TO SERVO	CONFIRM BY CONNECTING CLEAR TUBING BETWEEN SERVO AND FLOW DIVIDER AND WATCH FOR AIR BUBBLES. LOCATE AND CORRECT SOURCE OF LEAKAGE. MAY INCLUDE BOOST PUMP OR MAIN PUMP SEAL LEAKAGE.

IF ALL THE ABOVE ITEMS HAVE BEEN ELIMINATED AND THE SERVO IS UNDER WARRANTY, IT MUST BE SENT TO AN AUTHORIZED PRECISION AIRMOTIVE PRODUCT SUPPORT CENTERS FOR REPAIRS. SEE SIL PAC-1 OR VISIT OUR WEB SITE AT www.precisionairmotive.com FOR A COMPLETE LISTING.

NOTE: THE USE OF NON-AVIATION GRADE FUEL VOIDS ALL WARRANTIES.

FOR FURTHER ASSISTANCE, PHONE, FAX, OR WRITE.

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