

Service Information Letter - Fuel Systems

**SUBJECT: Service Information for RSA-5AD1 Fuel Injection Servo
Parts List 2576586-1.**

PURPOSE: To provide repair shops with flow bench limits and service information for RSA-5AD1 fuel injection servo parts list 2576586-1.

- A. **EFFECTIVITY:** This Service Information Letter is applicable to all RSA-5AD1 fuel injection servos, parts list 2576586-1. These servos are installed on Lycoming HIO-360-G1A series engines.
- B. **DESCRIPTION:** The service information found in manual 15-381G Revision 1, for parts list 2524054-11 is applicable to parts list 2576586-1 except as follows:

1. Reference manual 15-381G Revision 1, IPL, Figure 1:

Item Number	2576586-1 Part Number	Description
1	2576586-1	Servo Fuel Injector
20	2538889	Plug, Hex Head
45	2577188	Lever
50	2576585-A	Servo, Basic Assembly

2. Reference manual 15-381G Revision 1, IPL, Figure 2:

Item Number	2576586-1 Part Number	Description
15	2663787-004	Plug, Protective
50	2525202	Adapter, Fuel Inlet Strainer

3. Reference manual 15-381G Revision 1, IPL, Figure 3:

Item Number	2576586-1 Part Number	Description
15	2523183	Lever, Throttle

4. Reference manual 15-381G Revision 1, IPL, Figure 5:

Item Number	2576586-1 Part Number	Description
180	2577198	Valve, Lower Idle

5. Reference manual 15-381G Revision 1, Calibration and Service Limits:

Specification Type	2576586-1 Test Specification	Applicable Figure
Calibration Limits	30105-01	New
Service Limits	30106-01	New

These specifications are included with this service information letter; see pages 3 & 4.

6. Reference manual 15-381G Revision 1, History of Changes:

<u>Date</u>	<u>IC Number</u>	<u>Description</u>
<u>Issue 1</u>		
5-29-02	1	Released to production

30105-01
5/9/03 *John*

**TEST SPECIFICATION
CALIBRATION LIMITS**

PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - MARYSVILLE, WASHINGTON

INSTALLATION PARTS LIST: _____ MODEL: RSA-5AD1 SERIAL NUMBER: _____

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576585 FUEL PRESSURE: 19-21 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4	5
METERING SUCTION (INCHES OF WATER)	0	0	1.9	10.4	26.2
CORRESPONDING AIRFLOW (LBS/HR)	0	0	400	900	1400
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O	W/O
<u>FLOWMETER LIMITS</u>					
MINIMUM OBSERVED (LBS/HR)	25.0	0	32.5	62.5	98.0
MAXIMUM	29.0	5 cc/min	35.0	66.0	102.5
<u>BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)</u>					
BURETTE VOLUME (cc)	200		200	500	850
MINIMUM OBSERVED (SECONDS)	42.1		34.9	46.2	50.6
MAXIMUM	48.8		37.5	48.8	52.9
<u>METERING HEAD AVG OBSERVED (" STODDARD)</u>	7.2		10.0	32.0	74.0

PROCEDURE FOR SPLIT HEAD CHECK

1. Close throttle to .022" (#74) drill in bore.
2. Adjust idle fuel flow to 11.0-11.6 lbs/hr with wheel centered. Observe metering head. Energize boost pump to provide 35 - 40 psi. After stabilizing, fuel flow must be within $\pm .5$ lbs/hr of value observed at specified fuel inlet pressure. Turn boost pump off.
3. Remove .022" drill.
4. Close throttle to 7.0-8.0 lb/hr fuel flow. Observe metering head. Metering head shall be no more than 5" above value observed in step 2.

30106-01
5/8/03

TEST SPECIFICATION
SERVICE LIMITS
PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - MARYSVILLE, WASHINGTON

INSTALLATION PARTS LIST: _____ MODEL: RSA-5AD1 SERIAL NUMBER: _____

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576585 FUEL PRESSURE: 19-21 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4	5
METERING SUCTION (INCHES OF WATER)	0	0	1.9	10.4	26.2
CORRESPONDING AIRFLOW (LBS/HR)	0	0	400	900	1400
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O	W/O

FLOWMETER LIMITS

MINIMUM					96.0
OBSERVED (LBS/HR)	23.0	0	30.5	60.5	
MAXIMUM	31.0		37.0	68.0	104.5

BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)

BURETTE VOLUME (cc)	200		200	500	850
MINIMUM	39.4		32.9	44.8	49.6
OBSERVED (SECONDS)					
MAXIMUM	53.1		40.0	50.4	54.0

METERING HEAD AVG

OBSERVED (" STODDARD)	7.2		10.0	32.0	74.0
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