

Service Information Letter - Fuel Systems

**SUBJECT: Service Information for RSA-5AD1 Fuel Injection Servo
Parts List 2576596-2.**

PURPOSE: To provide repair shops with flow bench limits and service information for RSA-5AD1 fuel injection servo parts list 2576596-2.

- A. **EFFECTIVITY:** This Service Information Letter is applicable to all RSA-5AD1 fuel injection servos, parts list 2576596-2. These servos are installed on Lycoming AEIO-360-B1F engines.
- B. **DESCRIPTION:** The service information found in manual 15-381G, Change 1 (6/1/92) for parts list 2524054-11 is applicable to parts list 2576596-2 except as follows:

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

Item Number	New Part Number	Description
1	2576596-2	Fuel Injection Servo
20B	2538044	Elbow, Hose to Boss
30B	82887	Cap, Shipping
35A	317-S-7	Packing, Preformed
45B	2522004	Lever
50	2576595-B	Fuel Injection Servo Assy (Basic)

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

Item Number	New Part Number	Description
15B	132906	Plug, Threaded

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

Item Number	New Part Number	Description
-15J	2577121	Lever, Control
20B	AN833-4	Elbow, 90°
21	2523200	Cap, Shipping
22	317-S-5	Packing, Preformed
23	AN924-4	Nut, Flared Tube

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

Item Number	New Part Number	Description
180	2577170-590	Valve, Idle, Lower

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

Applicable Figure	Specification Type	Test Specification Number
New	Calibration	30089-01 dated 11/03/00
New	Service	30090-01 dated 11/03/00

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

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

<u>Date</u>	<u>IC Number</u>	<u>Description</u>
<u>Issue 1</u>		
10-16-00	1	Released to production
<u>Issue 2</u>		
7-24-01	2	2576595-B Basic Assembly was 2526595-A 2577170-590 Idle Valve was 2577091

30089-01
11/03/00

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

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

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576595 FUEL PRESSURE: 19-21 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4
METERING SUCTION (INCHES OF WATER)	0	0	3.1	26.2
CORRESPONDING AIRFLOW (LBS/HR)	0	0	500	1400
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O

FLOWMETER LIMITS

MINIMUM OBSERVED (LBS/HR)	25.0	0	35.5	112.0
MAXIMUM OBSERVED (LBS/HR)	30.0	5 cc/min	39.0	116.0

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

BURETTE VOLUME (cc)	200	200	200	850
MINIMUM OBSERVED (SECONDS)	40.7		31.3	44.7
MAXIMUM OBSERVED (SECONDS)	48.8		34.4	46.3

METERING HEAD AVG

OBSERVED (" STODDARD)	3.0	6.9	70.0	
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PROCEDURE FOR SPLIT HEAD CHECK

1. Close throttle to .006" shim in bore.
2. Adjust idle fuel flow to 5 -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 .006" shim.
4. Close throttle so that fuel is less than 4 lbs/hr. Observe metering head. Metering head shall be no more than 5" above value observed in step 2.

30090-01
11/03/00

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

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

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576595 FUEL PRESSURE: 19-21 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4
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METERING SUCTION (INCHES OF WATER) 0 0 3.1 26.2

CORRESPONDING AIRFLOW (LBS/HR) 0 0 500 1400

MIXTURE CONTROL POSITION RICH ICO RICH RICH

THROTTLE POSITION W/O W/O W/O W/O

FLOWMETER LIMITS

MINIMUM OBSERVED (LBS/HR) 23.0 0 110.0

MAXIMUM OBSERVED (LBS/HR) 32.0 41.0 118.0

5 cc/min

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

BURETTE VOLUME (cc) 200 200 200 850

MINIMUM OBSERVED (SECONDS) 38.1 29.8 44.0

MAXIMUM OBSERVED (SECONDS) 53.1 36.4 47.2

METERING HEAD AVG OBSERVED (" STODDARD) 3.0 6.9 70.0