



Service Information Letter - Fuel Systems

**SUBJECT: Service Information for RSA-10ED1 Fuel Injection Servo
Parts List 2576562-3.**

PURPOSE: To provide repair shops with flow bench limits and service information for RSA-10ED1 fuel injection servo parts list 2576562-3.

Revision 1 adds information for the -3 configuration

- A. **EFFECTIVITY:** This Service Information Letter is applicable to all RSA-10ED1 fuel injection servos, parts list 2576562. These servos are installed on Lycoming TIO-540-AJ1A engines.
- B. **DESCRIPTION:** This document supercedes SIL RS-63. The service information found in manual 15-458G Revision 1, for parts list 2524273-12 is applicable to parts list 2576562-3 except as follows:

1. Reference manual 15-458G Revision 1, IPL, Figure 1:

Item Number	2576562-3 Part Number	Description
1	2576562-3	Fuel Injection Servo
30	2537846	Adapter, Pressure Gauge
36	392522	Plug, Pipe
45	2520672	Lever, Mixture Control
50	2522710	Fitting, Outlet
55	951789	Packing, Preformed
80	2542856	Lever, Throttle
115	2576561-B	Servo, Basic

2. Reference manual 15-458G Revision 1, IPL, Figure 3:

Item Number	2576562-3 Part Number	Description
115	2577097	Lever Assembly, Idle valve
160	2577096	Stem, Idle valve
180	2577201-1595	Valve, Lower Idle

3. Reference manual 15-458G Revision 1, IPL, Figure 4:

Item Number	2576562-3 Part Number	Description
160	2523966	Body Assembly, Main

4. Reference manual 15-458G Revision 1, Calibration and Service Limits:

Specification Type	2576562-3 Test Specification	Applicable Figure
Calibration Limits	30081-02	New
Service Limits	30082-01	New

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

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

<u>Date</u>	<u>IC Number</u>	<u>Description</u>
<u>Issue 1</u>		
9-23-98	1	Released to production
5-24-99	4	Inlet Fitting 2523903 was 2529453 & 2575904, Alternate Inlet Plug 2538890 was 2537846, Mixture Lever 2520672 was 2523899, Added Outlet Fitting 2522710 and Alternate Outlet Plug 133176 Outlet Fitting was 2577109.
11-21-00	5	Idle Valve 2577140 was 2577101.
<u>Issue 2</u>		
2-14-02	5	Alternate Inlet Plug 2537846 was 2538890, Added 392522 Plug.
<u>Issue 3</u>		
8-10-04	6	Lower Idle Valve 2577201-1595 was 2577140. Basic Assembly 2576561-B was 2576561-A.

30081-02
02/07/01

**TEST SPECIFICATION
CALIBRATION LIMITS**

PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - MARYSVILLE, WASHINGTON

INSTALLATION PARTS LIST: _____ MODEL: RSA-10ED1 SERIAL NUMBER: _____

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576561 FUEL PRESSURE: 26 ± 1 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4
-------------------	---	---	---	---

METERING SUCTION (INCHES OF WATER) 0 0 4.3 22.3

CORRESPONDING AIRFLOW (LBS/HR) 0 0 900 2000

MIXTURE CONTROL POSITION RICH W/O W/O RICH W/O RICH W/O

FLOWMETER LIMITS

MINIMUM OBSERVED (LBS/HR) 40.0 [] 0 [] 96.0 [] 227.0 []

MAXIMUM OBSERVED (LBS/HR) 45.0 [] 5 cc/min [] 102.0 [] 233.0 []

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

BURETTE VOLUME (cc) 300 40.7 [] 850 [] 2000 []

MINIMUM OBSERVED (SECONDS) 40.7 [] 50.9 [] 52.4 []

MAXIMUM OBSERVED (SECONDS) 45.8 [] 54.0 [] 53.8 []

METERING HEAD AVG

OBSERVED (" STODDARD) 1.0 [] 9.5 [] 53.0 []

PROCEDURE FOR SPLIT HEAD CHECK

1. Close throttle to .006" shim in bore.
2. Adjust idle fuel flow to 8-9 lbs/hr with wheel centered. Observe metering head. Energize boost pump to provide 35 - 40 psi. After stabilizing, fuel flow must be within ± .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 6 lbs/hr. Observe metering head. Metering head shall be no more than 5" above value observed in step 2.

30082-01
10/13/99

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

INSTALLATION PARTS LIST: _____ MODEL: RSA-10ED1 SERIAL NUMBER: _____

OPERATOR: _____ DATE: _____

BASIC PARTS LISTS: 2576561 FUEL PRESSURE: 26 ± 1 PSI FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4
-------------------	---	---	---	---

METERING SUCTION (INCHES OF WATER) 0 0 4.3 22.3

CORRESPONDING AIRFLOW (LBS/HR) 0 0 900 2000

MIXTURE CONTROL POSITION RICH W/O RICH W/O RICH W/O

FLOWMETER LIMITS

MINIMUM	38.0	0	94.0	225.0
OBSERVED (LBS/HR)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MAXIMUM	47.0	5 cc/min	104.0	235.0

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

<u>BURETTE VOLUME (cc)</u>	300	850	2000
MINIMUM	39.0	49.9	51.9
OBSERVED (SECONDS)	<input type="text"/>	<input type="text"/>	<input type="text"/>
MAXIMUM	48.2	55.2	54.2

<u>METERING HEAD AVG OBSERVED (" NAPHTHA)</u>	1.0	9.5	53.0
	<input type="text"/>	<input type="text"/>	<input type="text"/>

PROCEDURE FOR SPLIT HEAD CHECK

1. Close throttle to .006" shim in bore.
2. Adjust idle fuel flow to 8 - 9 lbs/hr with wheel centered. Observe metering head. Energize boost pump to provide 3.5 - 40 psi. After stabilizing, fuel flow must be within ± .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 6 lbs/hr. Observe metering head. Metering head shall be no more than 5" above value observed in step 2.