



# Service Information Letter - Fuel Systems

SMALL RECIPROCATING ENGINES

RSA-5AD1

Issued 12/2/04

Page 1 of 4

---

**SUBJECT: Service Information for RSA-5AD1 Fuel Injection Servo  
Parts List 2524450-9.**

**PURPOSE:** To provide repair shops with flow bench limits and service information for RSA-5AD1 fuel injection servo parts list 2524450-9.

Revision 1 includes updated test specifications

- A. **EFFECTIVITY:** This Service Information Letter is applicable to all RSA-5AD1 fuel injection servos, parts list 2524450-9. These servos are installed on Lycoming IO-360-C series engines.
- B. **REASON:** Textron Lycoming requested a flow schedule change to meet engine performance requirements. The lower idle valve was changed to facilitate calibration to this new flow schedule.
- C. **COMPLIANCE:** This change is non-mandatory and may be accomplished at overhaul or at the owner's discretion.
- D. **DESCRIPTION:** The service information found in manual 15-381G Revision 1 for parts list 2524450-9 is applicable except as follows:

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

Item Number	Old Part Number	New Part Number	Description
180	2537666	2577150	Valve, Idle

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

Specification Type	Applicable Figure	Old Test Specification	New Test Specification
Calibration Limits	1309	11291-01	11291-03
Service Limits	1310	10506-01	10506-03

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

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

<u>Date</u>	<u>IC Number</u>	<u>Description</u>
<u>Issue 1-9</u>		
Reference manual 15-381G Revision 1, History of Changes		
<u>Issue 9</u>		
12-01-2000	40	Lower Idle valve 2577150 was 2537666
11-12-2004	40	Calibration Limits T.S. 11291-03 was 11291-02, Service Limits T.S. 10506-03 was 10506-02

11291-03  
*Sub* 11-12-04

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

INSTALLATION PARTS LIST: \_\_\_\_\_ MODEL: RSA-5AD1 SERIAL NUMBER: \_\_\_\_\_  
 OPERATOR: \_\_\_\_\_ DATE: \_\_\_\_\_

BASIC PARTS LISTS: 2524476	FUEL PRESSURE: 19-21 PSI	FUEL SP. GRAV. _____ @ _____ OF _____		
TEST POINT NUMBER	1	2	3	4
METERING SUCTION (INCHES OF WATER)	0	0	3.0	15.8
CORRESPONDING AIRFLOW (LBS/HR)	0	0	500	1100
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O
<b>FLOWMETER LIMITS</b>				
MINIMUM	22.0	0	39.2	86.0
OBSERVED (LBS/HR)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MAXIMUM	28.0	5 cc/min	42.6	90.0
<b>BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)</b>				
BURETTE VOLUME (cc)	100		300	500
MINIMUM	21.8		43.0	33.9
OBSERVED (SECONDS)	<input type="text"/>		<input type="text"/>	<input type="text"/>
MAXIMUM	27.7		46.7	35.5
<b>METERING HEAD AVG</b>			11.0	45.3
OBSERVED (" STODDARD)	<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 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.

**10506-03**  
*RSB* 11-12-04

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

INSTALLATION PARTS LIST: \_\_\_\_\_ MODEL: RSA-5AD1 SERIAL NUMBER: \_\_\_\_\_  
 OPERATOR: \_\_\_\_\_ DATE: \_\_\_\_\_

	1	2	3	4
BASIC PARTS LISTS: 2524476	FUEL PRESSURE: 19-21 PSI		FUEL SP. GRAV. _____ @ _____	OF _____
METERING SUCTION (INCHES OF WATER)	0	0	3.0	15.8
CORRESPONDING AIRFLOW (LBS/HR)	0	0	500	1100
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O
<u>FLOWMETER LIMITS</u>				
MINIMUM	22.0	0	38.4	82.9
OBSERVED (LBS/HR)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MAXIMUM	28.0	5 cc/min	43.6	94.0
<u>BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)</u>				
BURETTE VOLUME (cc)	100			
MINIMUM	21.8		300	500
OBSERVED (SECONDS)	<input type="text"/>		42.0	32.4
MAXIMUM	27.7		47.7	36.8
<u>METERING HEAD AVG</u>				
OBSERVED (" STODDARD)	<input type="text"/>		11.0	45.3