SUBJECT: Service Information for RSA-10AD1 Fuel Injection Servo Parts List 2524311-10 and 2524318-10.

PURPOSE: To provide repair shops with flow bench limits for RSA-10AD1 fuel injection servo parts list 2524311-10 and 2524318-10.

Service letter provides correct flow bench limits for Basic Parts List 2524514.

Revision 1: Added parts list 2524318-10

A. EFFECTIVITY: This Service Information Letter is applicable to all RSA-10AD1 fuel injection servos, parts list 2524311-10 and 2524318-10. These servos are installed on Lycoming AEIO-540-L, IO-540-L, and IO-540-M engines.

B. DESCRIPTION: The service information found in manual 15-433D Revision 1, for parts lists noted in the subject line are applicable except as follows:

1. Reference manual 15-433D, Calibration and Service Limits:

<table>
<thead>
<tr>
<th>Specification Type</th>
<th>Old Test Specification</th>
<th>New Test Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration Limits</td>
<td>11262-01</td>
<td>11589-03</td>
</tr>
<tr>
<td>Service Limits</td>
<td>10108-01</td>
<td>11591-03</td>
</tr>
</tbody>
</table>

These Specifications are included with this service information letter; see pages 2 & 3
## TEST SPECIFICATION

**CALIBRATION LIMITS**

PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - EVERETT, WASHINGTON

**MODEL:** RSA-10AD1  
**PARTS LIST:** ______________________  
**SERIAL NUMBER:** ______________________

**DATE:** ______________________  
**OPERATOR:** ______________________

**BASIC PARTS LIST:** 2524514  
**FUEL PRESSURE:** 26 PSI ± 1  
**FUEL SP. GRAV.** _____ @ _____ °F

<table>
<thead>
<tr>
<th>TEST POINT NUMBER</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>METERING SUCTION (INCHES OF WATER)</td>
<td>0</td>
<td>0</td>
<td>3.0</td>
<td>12.8</td>
</tr>
<tr>
<td>CORRESPONDING AIRFLOW (LBS/HR)</td>
<td>0</td>
<td>0</td>
<td>800</td>
<td>1600</td>
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<tr>
<td>MIXTURE CONTROL POSITION</td>
<td>RICH</td>
<td>RICH</td>
<td>RICH</td>
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<tr>
<td>THROTTLE POSITION</td>
<td>W.O.</td>
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**FLOWMETER LIMITS**

| MINIMUM | 50.2 | 0 | 73.0 | 145.0 |
| OBSERVED (LBS/HR) | | | | |
| MAXIMUM | 56.5 | 5 cc | 76.0 | 153.0 |

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

| MINIMUM | 32.4 | 40.1 | 33.9 |
| OBSERVED (SECONDS) | | | |
| MAXIMUM | 36.5 | 41.8 | 35.8 |

**METERING HEAD AVG.**

| OBSERVED ("STODDARD) | | | 20.0 | 40.0 |

**PROCEDURE FOR SPLIT HEAD CHECK**

1. Close throttle to .006" shim in bore.
2. Adjust idle fuel flow to 9.0-11.0 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 to 7.0 - 8.0 lbs/hr fuel flow. Observe metering head. Metering head increase from (2) 5.0" fuel max.
## TEST SPECIFICATION
### SERVICE LIMITS
**PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - EVERETT, WASHINGTON**

**MODEL:** RSA-10AD1  
**PARTS LIST:**  
**SERIAL NUMBER:**  
**DATE:**  
**OPERATOR:**  

**BASIC PARTS LIST:** 2524514  
**FUEL PRESSURE:** 26 PSI ± 1  
**ENGINE MFG:** TEXTRON LYCOMING

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</tbody>
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### FLOWMETER LIMITS

**MINIMUM**
- OBSERVED (LBS/HR)  
  - 50.0  
  - 0  
  - 70.0  
  - 140.0

**MAXIMUM**
- 60.0  
- 5 cc  
- 79.2  
- 159.0

### BURETTE TIME LIMITS (Using MIL-C-7024D, TYPE II, Stoddard)

**BURETTE VOLUME (cc)**
- MINIMUM  
  - 300  
  - 500  
  - 850

**OBSERVED (SECONDS)**
- 30.5  
- 38.5  
- 32.6

**MAXIMUM AVG.**
- 36.5  
- 43.6  
- 37.0

**OBSERVED (**STODDARD)**
- 20.0  
- 40.0