SUBJECT: Service Information for RSA-10DB1 Fuel Injection Servo Parts List 2524275-16.

PURPOSE: To provide repair shops with flow bench limits and service information for RSA-10DB1 fuel injection servo parts list 2524275-16.

A. EFFECTIVITY: This Service Information Letter is applicable to all RSA-10DB1 fuel injection servos, parts list 2524275-16. These servos are installed on Lycoming TIO-541-E engines.

B. REASON: Textron Lycoming requested a revision to the fuel flow schedule of the 2524275 servo to meet engine fuel flow requirements. Precision Airmotive Corporation accomplished this change by replacing the existing idle valve, part number 2537796, with valve part number 2525215 and adjusting the calibration limits accordingly.

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 15-471E, Revision 1 (8/31/90) for parts list 2524275-15 is applicable to parts list 2524275-16 except as follows:

1. Reference manual 15-471E, IPL, Figure 1:

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Old Part Number</th>
<th>New Part Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>2524275-15</td>
<td>2524275-16</td>
<td>Fuel Injection Servo</td>
</tr>
<tr>
<td>115</td>
<td>2524505-T</td>
<td>2524505-U</td>
<td>Servo, Basic Assembly</td>
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2. Reference manual 15-471E, IPL, Figure 3:

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Old Part Number</th>
<th>New Part Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>180</td>
<td>2537796</td>
<td>2525215</td>
<td>Idle Valve</td>
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</table>

3. Reference manual 15-471E, Calibration and Service Limits:

<table>
<thead>
<tr>
<th>Applicable Figure</th>
<th>Specification Type</th>
<th>Old Test Specification</th>
<th>New Test Specification *</th>
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<tbody>
<tr>
<td>Figure 1301</td>
<td>Calibration</td>
<td>11269-01</td>
<td>30063-01 dated 9/25/95</td>
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<tr>
<td>Figure 1302</td>
<td>Service</td>
<td>10170-01</td>
<td>30064-01 dated 9/25/95</td>
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* These Specifications are included with this service information letter; see pages 2 & 3.
TEST SPECIFICATION  
CALIBRATION LIMITS  
PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - EVERETT, WASHINGTON  

INSTALLATION PARTS LIST: ______________________  MODEL: RSA-10DB1  SERIAL NUMBER: ______________________

OPERATOR: ______________________  DATE: ______________________

BASIC PARTS LISTS: 2524505  FUEL PRESSURE: 25-37 PSI  FUEL SP. GRAY. __________ @ ________ °F

<table>
<thead>
<tr>
<th>TEST POINT NUMBER</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<tbody>
<tr>
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<td>0</td>
<td>2.7</td>
<td>24.5</td>
</tr>
<tr>
<td>(INCHES OF WATER)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORRESPONDING</td>
<td>0</td>
<td>0</td>
<td>800</td>
<td>2400</td>
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<tr>
<td>AIRFLOW (LBS/HR)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIXTURE CONTROL POSITION</td>
<td>RICH</td>
<td>ICO</td>
<td>RICH</td>
<td>RICH</td>
</tr>
<tr>
<td>THROTTLE POSITION</td>
<td>W/O</td>
<td>W/O</td>
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FLOWMETER LIMITS

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<table>
<thead>
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<td>2500</td>
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<table>
<thead>
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<table>
<thead>
<tr>
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<th>41.1</th>
<th>57.3</th>
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<tbody>
<tr>
<td>METERING HEAD AVG</td>
<td>3.0</td>
<td>6.7</td>
<td>59.5</td>
</tr>
</tbody>
</table>

| OBSERVED (* NAPTHA) |      |      |      |

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 shall be no more than 5° above value observed in step 2.
**TEST SPECIFICATION**  
**SERVICE LIMITS**  
**PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - EVERETT, WASHINGTON**

**INSTALLATION PARTS LIST:**  
**MODEL:** RSA-10DB1  
**SERIAL NUMBER:**  
**OPERATOR:**  
**DATE:**  
**BASIC PARTS LIST:** 2524505  
**FUEL PRESSURE:** 25-27 PSI  
**FUEL SP. GRAV.**  

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<tbody>
<tr>
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<td>0</td>
<td>2.7</td>
<td>24.5</td>
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<td>(INCHES OF WATER)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORRESPONDING</td>
<td>0</td>
<td>0</td>
<td>800</td>
<td>2400</td>
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**MAXIMUM**

<table>
<thead>
<tr>
<th>300</th>
<th>500</th>
<th>2500</th>
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<tbody>
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