



Service Information Letter - Fuel Systems

**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:

| Specification Type | Old Test Specification | New Test Specification |
|--------------------|------------------------|------------------------|
| Calibration Limits | 11262-01 | 11589-03 |
| Service Limits | 10108-01 | 11591-03 |

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

11589-03
10/29/99

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. _____ @ _____ Of _____
TEST POINT NUMBER 1 2 3 4

| | | | | |
|------------------------------------|------|------|------|------|
| METERING SUCTION (INCHES OF WATER) | 0 | 0 | 3.0 | 12.8 |
| CORRESPONDING AIRFLOW (LBS/HR) | 0 | 0 | 800 | 1600 |
| MIXTURE CONTROL POSITION | RICH | ICO | RICH | RICH |
| THROTTLE POSITION | W.O. | W.O. | W.O. | W.O. |

FLOWMETER LIMITS

| | | | | |
|-------------------|----------------------|----------------------|----------------------|----------------------|
| MINIMUM | 50.2 | 0 | 73.0 | 145.0 |
| OBSERVED (LBS/HR) | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| MAXIMUM | 56.5 | 5 cc | 76.0 | 153.0 |

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

| | | | |
|----------------------|----------------------|----------------------|----------------------|
| BURETTE VOLUME (cc) | 300 | 500 | 850 |
| MINIMUM | 32.4 | 40.1 | 33.9 |
| OBSERVED (SECONDS) | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| MAXIMUM | 36.5 | 41.8 | 35.8 |
| AVG. | | 20.0 | 40.0 |
| 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 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.

11591-03
10/29/99

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

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

| | | | | |
|------------------------------------|------|-----|------|------|
| METERING SUCTION (INCHES OF WATER) | 0 | 0 | 3.0 | 12.8 |
| CORRESPONDING AIRFLOW (LBS/HR) | 0 | 0 | 800 | 1600 |
| MIXTURE CONTROL POSITION | RICH | ICO | RICH | RICH |
| THROTTLE POSITION | W/O | W/O | W/O | W/O |

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)

| | | | |
|---------|------|------|------|
| MINIMUM | 300 | 500 | 850 |
| MAXIMUM | 30.5 | 38.5 | 32.6 |
| AVG. | 36.5 | 43.6 | 37.0 |

METERING HEAD

| | | | | |
|------------------------------|--|--|--|--|
| MINIMUM OBSERVED ("STODDARD) | | | | |
| MAXIMUM | | | | |
| AVG. | | | | |