PRECISION
AIRMOTIVE CORPORATION

Service Information
Letter - Fuel Systems

**SUBJECT: Service Information for RSA-5AB1 Fuel Injection Servo
Parts List 2524858-5.**

PURPOSE: To provide repair shops with flow bench limits and service information for
RSA-5AB1 fuel injection servo parts list 2524858-5.

Revision 2 changes 2524858-4 to 2524858-5 and adds history of changes.

A.   EFFECTIVITY: This Service Information Letter is applicable to all RSA-5AB1 fuel injection
servos, parts list 2524858-5. These servos are installed on Lycoming HIO-360-F engines.

B.   DESCRIPTION: The service information found in manual 15-419D Revision 1, for parts list
2524858-3 is applicable to parts list 2524858-5 except as follows:

1. Reference manual 15-419D Revision 1, IPL, Figure 1:

Item Number	2524858-5 Part Number	Description
1F	2524858-5	Servo Fuel Injector
25	2538889	Plug
60	2538044	Adapter, Strainer
75	2521287	Lever, Mixture Control
85	2521196	Lever, Throttle Control
105D	2524882-H	Servo, Basic Assembly

2. Reference manual 15-419D Revision 1, IPL, Figure 3:

Item Number	2524858-5 Part Number	Description
180C	2541559	Valve, Lower Idle

3.   Reference manual 15-419D Revision 1, Calibration and Service Limits:

Specification Type	2524858-5 Test Specification	Applicable Figure
Calibration Limits	30083-01 dated 8/18/99	Figure 1301
Service Limits	30084-01 dated 8/18/99	Figure 1302

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

4. Reference manual 15-419D, History of Changes:

Date	IC Number	Description
Issue 4		
10/5/94	9	Idle Valve 2577012 was 2541559, Calibration Limits T.S. 30047-01 was 11292-01, Service Limits T.S. 30048-01 was 10353-01
Issue 5		
2/20/98	12	Idle Valve 2541559 was 2577012
7/28/99	14	Calibration Limits T.S. 30083-01 was 30047-01, Service Limits T.S. 30084-01 was 30048-01

TEST SPECIFICATION
CALIBRATION LIMITS

PRECISION AIRMOTIVE CORPORATION - FUEL CONTROLS - EVERETT, WASHINGTON

30083-01
8/18/99

MODEL: RSA-5AB1   **PARTS LIST:** _____   **SERIAL NUMBER:** _____

DATE: _____   **OPERATOR:** _____

BASIC PARTS LIST: **2524882**   FUEL PRESSURE: 19-21 PSI   FUEL SP. GRAV. _____ @ _____ °F

TEST POINT NUMBER	1	2	3	4
METERING SUCTION (INCHES OF WATER)	0	0	4.8	12.0
CORRESPONDING AIRFLOW (LBS/HR)	0	0	600	1100
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH
THROTTLE POSITION	W.O.	W.O.	W.O.	W.O.
FLOWMETER LIMITS				
OBSERVED (LBS/HR) — MINIMUM	38.0	0	75.0	121.0
MAXIMUM	42.0	5 cc/min	80.0	125.0
BURETTE TIME LIMITS (Using MIL-C-7024 Type II Stoddard)				
BURETTE VOLUME (cc)	300		500	850
OBSERVED (SECONDS) — MINIMUM	43.6		38.1	41.5
MAXIMUM	48.2		40.7	42.9
METERING HEAD — AVG. OBSERVED ("STODDARD)	1.0		11.0	30.5

PROCEDURE FOR SPLIT HEAD CHECK
1. Close throttle to .020" (#76) drill in bore.
2. Adjust idle fuel flow to 8.8-9.2 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 .020" drill
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

30084-01
8/18/99

MODEL: RSA-5AB1   **PARTS LIST:** _____   **SERIAL NUMBER:** _____

DATE: _____   **OPERATOR:** _____

BASIC PARTS LIST: 2524882   **FUEL PRESSURE:** 19-21 PSI   **ENGINE MFG:** TEXTRON LYCOMING

TEST POINT NUMBER	1	2	3	4
METERING SUCTION (INCHES OF WATER)	0	0	4.8	12.0
CORRESPONDING AIRFLOW (LBS/HR)	0	0	600	1100
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O

FLOWMETER LIMITS

	1	2	3	4
MINIMUM	38.0	0	73.0	118.5
OBSERVED (LBS/HR)	[ ]	[ ]	[ ]	[ ]
MAXIMUM	42.0	5 cc/min	82.0	128.0

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

	1	2	3	4
BURETTE VOLUME (cc)	*300*		*500*	*850*
MINIMUM	43.6		38.1	41.5
OBSERVED (SECONDS)	[ ]	[ ]	[ ]	[ ]
MAXIMUM	48.2		40.7	42.9
METERING HEAD AVG.	1.0		11.0	30.5
OBSERVED ("STODDARD")	[ ]	[ ]	[ ]	[ ]