PRECISION AIRMOTIVE CORPORATION

Service Information Letter - Fuel Systems

SIL RS-64

SMALL RECIPROCATING ENGINES
RSA-10ED1
Issued 3/20/02

SUBJECT: Service Information for RSA-10ED1 Fuel Injection Servo Parts List 2576554-2.

PURPOSE: To provide repair shops with flow bench limits and service information for RSA-10ED1 fuel injection servo parts list 2576554-2.

A. EFFECTIVITY: This Service Information Letter is applicable to all RSA-10ED1 fuel injection servos, parts list 2576554. These servos are installed on Lycoming TIO-540-AH1A engines.

B. DESCRIPTION: The service information found in manual 15-458G Revision 1, for parts list 2524273-12 is applicable to parts list 2576554-2 except as follows:

1. Reference manual 15-458G Revision 1, IPL, Figure 1:

Item Number	2576554-2 Part Number	Description
1	2576554-2	Fuel Injection Servo
80	2542856	Lever, Throttle
85	2529453	Adapter, Fuel Inlet
86	2575904	Nut, Flared Tube
115	2576553-B	Fuel Injection Servo, Basic Assy

2. Reference manual 15-458G Revision 1, IPL, Figure 3:

Item Number	2576554-2 Part Number	Description
115	2577103	Lever Assembly, Idle valve
160	2577001	Stem, Idle valve
180	2577151	Valve, Lower Idle

3. Reference manual 15-458G Revision 1, IPL, Figure 4:

Item Number	2576554-2 Part Number	Description
160	2523966	Body Assembly, Main

4. Reference manual 15-458G Revision 1, Calibration and Service Limits:

Specification Type	2576554-2 Test Specification	Applicable Figure
Calibration Limits	30073-02	New
Service Limits	30074-02	New

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

5. Reference manual 15-381G, History of Changes:

Date	IC Number	Description
Issue 1		
04-30-97	7	Released to production
5-19-97	8	Idle Valve 2541438 was 2542172.
06-26-97	9	Idle Valve 2577006 was 2541438.
07-10-97	9	Idle Valve 2539612 was 2577006.
12-08-97	10	Venturi 2542034 was 2523969.
09-02-98	11	2576553-A Basic Assembly was 2549041.
10-30-98	12	Rotated Inlet Fitting, 2538890 Plug was 2537846, relocated outlet.
12-28-98	14	Idle Lever Assy 2577103 was 2577002.
Issue 2		
12-12-00	18	Idle Valve 2577151 was 2539612, Basic Assy 2576553-B was 2576553-A.

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

30073-02
03/08/01

INSTALLATION PARTS LIST: _____ **MODEL:** RSA-10ED1 **SERIAL NUMBER:** _____

OPERATOR: _____ **DATE:** _____

BASIC PARTS LISTS: 2576553 FUEL PRESSURE: 25-27 PSI FUEL SP. GRAV. _____@_____ °F

TEST POINT NUMBER	1	2	3	4	5
METERING SUCTION (INCHES OF WATER)	0	0	2.7	6.7	22.3
CORRESPONDING AIRFLOW (LBS/HR)	0	0	700	1100	2000
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O	W/O
FLOWMETER LIMITS					
MINIMUM	35.0	0	75.0	119.0	217.0
OBSERVED (LBS/HR)					
MAXIMUM	40.0	5 cc/min	78.0	123.0	221.0
BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)					
BURETTE VOLUME (cc)	*200*		*500*	*850*	*2000*
MINIMUM	30.5		39.1	42.2	55.2
OBSERVED (SECONDS)					
MAXIMUM	34.9		40.7	43.6	56.2
METERING HEAD AVG	0.1		5.3	150	50.8
OBSERVED (" STODDARD)					

PROCEDURE FOR SPLIT HEAD CHECK

1. Close throttle to .006" shim in bore.
2. Adjust idle fuel flow to 10.5-11.5 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 so that fuel flow is less than 6 lbs/hr. 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 - MARYSVILLE, WASHINGTON

30074-02
03/08/01

INSTALLATION PARTS LIST: _____ **MODEL:** RSA-10ED1 **SERIAL NUMBER:** _____

OPERATOR: _____ **DATE:** _____

BASIC PARTS LISTS: 2576553 FUEL PRESSURE: 25-27 PSI FUEL SP. GRAV. _____@_____ °F

TEST POINT NUMBER	1	2	3	4	5
METERING SUCTION (INCHES OF WATER)	0	0	2.7	6.7	22.3
CORRESPONDING AIRFLOW (LBS/HR)	0	0	700	1100	2000
MIXTURE CONTROL POSITION	RICH	ICO	RICH	RICH	RICH
THROTTLE POSITION	W/O	W/O	W/O	W/O	W/O
FLOWMETER LIMITS					
MINIMUM	33.0	0	73.0	117.0	215.0
OBSERVED (LBS/HR)					
MAXIMUM	42.0	5 cc/min	80.0	125.0	223.0
BURETTE TIME LIMITS (Using MIL-C-7024 Type II STODDARD)					
BURETTE VOLUME (cc)	*200*		*500*	*850*	*2000*
MINIMUM	29.1		38.1	41.5	54.7
OBSERVED (SECONDS)					
MAXIMUM	37.0		41.8	44.3	56.8
METERING HEAD AVG	0.1		5.3	15.0	50.8
OBSERVED (" STODDARD)					