



Print



Help



Back

AIRCRAFT CARBURETOR SERVICE MANUAL

MODEL

HA

For Carburetor Assembly
Numbers A10-5045 and
A10-5045-1 ONLY

FSM-OH3
July 15, 1994

 **PRECISION**
AIRMOTIVE CORPORATION

3220 100th ST SW Bldg E
Everett, Washington 98204



Print



Help



Back

WARNING

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*Reference Precision Airmotive Service Bulletin MSA-5 and Service Information Letter 10-21-92.



Print

CONTENTS



Help



Back

PAGE

SPECIAL TOOLS2

DISASSEMBLY PROCEDURE.....3

COVER DISASSEMBLY3

THROTTLE BODY AND BOWL DISASSEMBLY3

CLEANING AND INSPECTION5

ASSEMBLY PROCEDURE.....6

EXPLODED VIEW OF CARBURETOR8 AND 9

ECONOMIZER SETTINGS USING DEPTH MICROMETER 10

ECONOMIZER SETTINGS USING M-94 GAGE TOOL 10

MIXTURE CONTROL 11

COVER ASSEMBLY..... 12

INSTALLATION OF WARNING LABEL..... 14

TEST PROCEDURE 14

FLOAT VALVE & SEAT TEST 14

PRESERVATIVE TREATMENT..... 16

TORQUE SPECIFICATIONS..... 16



Print

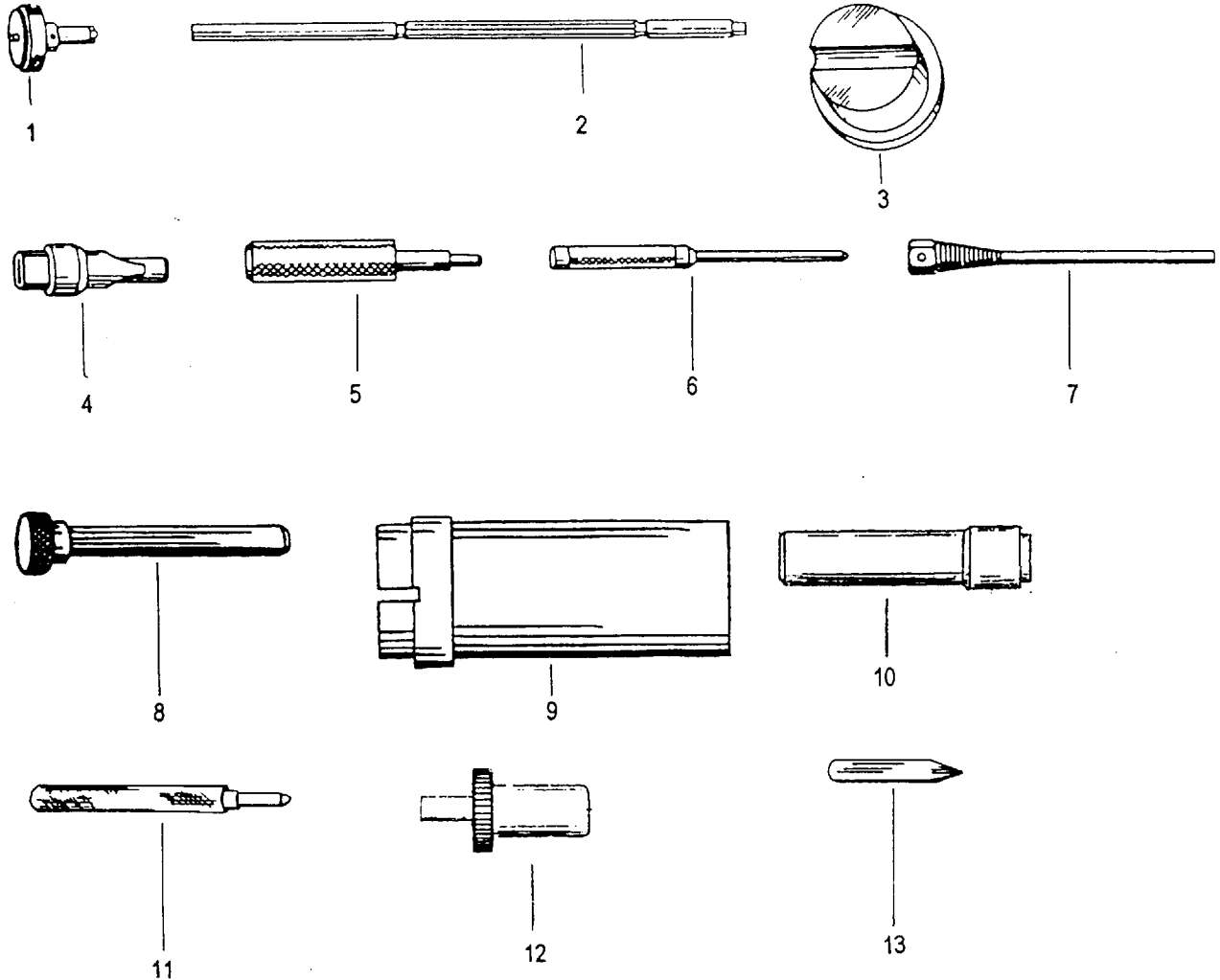


Help



Back

SPECIAL TOOLS



REF. NO.	PART NO.	NOMENCLATURE
1	M-94	Air metering pin gage
2	M-95	Throttle shaft bushing reamer
3	M-100	Throttle valve bolt peening arbor
4	M-103	Float valve seat remover
5	M-105	Throttle shaft packing tool
6	M-107	Throttle valve bolt peening tool
7	M-122	Throttle shaft bushing remover
8	M-516	Throttle shaft bushing installer
9	M-517	Venturi removal tool
10	M-518	Mixture control bushing installation
11	M-519	Economizer/pump rod packing tool
12	M-520	Mixture control adjusting gage
13	M-522	Economizer/pump rod insert guide tool



Print



Help



Back

STANDARD HA 6 DISASSEMBLY PROCEDURE

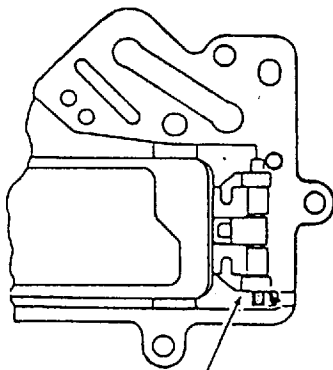
Refer to exploded view, pages 8 and 9 for
Complete Parts Reference Numbers

- 1) Remove fuel inlet fittings (56), washers (18), and screen (70) in order to remove one of the cover screws. Remove fuel pressure port plug (73) if used.
- 2) Bend safety tabs open on safety washers (59) and remove cover screws (11).
- 3) Separate cover assembly from throttle body and bowl assembly (1).

NOTE: If cover sticks in place tap with soft hammer. Do not drive a tool between carburetor body and cover as this may damage sealing surfaces.

Cover

- 4) Remove float shaft (31). If shaft is the pressed-in type, support casting as shown in Figure 1 to prevent damage to casting.
- 5) Remove float assembly (30).
- 6) Remove float valve retracting clip (29).
- 7) Remove float valve seat and gasket assembly (87), using tool M-103 or large screwdriver.
- 8) Remove cover gasket (19).



CAUTION: TO PREVENT DAMAGE TO
CASTING — SUPPORT THIS SIDE
WHILE PRESSING SHAFT OUT.

FIGURE 1

Throttle Body and Bowl

To Remove Throttle Shaft Assembly

- 9) Remove two outer pump linkage nuts (66) and pump lever clamp screw (12).
- 10) Remove safety wire and screw (6) from pump lever.
- 11) Remove pump linkage assembly from throttle shaft.
- 12) Remove throttle opening spring (27) from shaft.
- 13) Remove throttle stop screw (5) and spring (26).
- 14) Remove push nut (67) and throttle stop pin (53).
- 15) Make note of throttle lever position before removal. Remove throttle lever clamp screw (13), tab washer (64), and lever (2).
- 16) Remove throttle valve screws (8).
- 17) Remove throttle valve (4).
- 18) Remove throttle shaft assembly (3).
- 19) Remove throttle shaft "O" ring retainers (46), and throttle shaft "O" ring (36). Pry out with sharp pointed tool and discard. Not reusable.
- 20) Remove throttle shaft bushings (49). Use tool M-122 or a standard bushing extractor in the approved manner.

To Remove Accelerator Pump Assembly

- 21) Remove Tru-Arc washer (60).
- 22) Remove pump rod (75).
- 23) Remove pump rod guide (69). Pry out with screw driver and discard. Not reusable.
- 24) Remove accelerator pump assembly (84).
- 25) Remove pump inlet check valve (32).

To Remove Economizer Pin and Jet

- 26) Remove plug (65) and washer (17).
- 27) Remove air metering jet (43), spring (25), and pin (83).

To Remove Remaining Small Parts

- 28) Remove power jet (45) and gasket (15).
- 29) Remove main nozzle (42) and nozzle gasket (21).
- 30) Remove secondary nozzle (41) and nozzle gasket (22).
- 31) Remove idle adjusting needle (34) and spring (24).
- 32) Remove bowl drain plug (71).



Print

To Remove Accelerator Pump Discharge Check Valve

- 33) Remove check valve plug (72).
- 34) Remove pump discharge check valve (33).
- 35) Remove pump discharge check valve gasket (20) which may remain in the cavity.

To Remove Venturi

- 36) NOTE: Casting can be cleaned with Venturi in place. Venturi seldom needs replacing unless damaged.
- 37) Remove pitot tube (79). Only if venturi needs replacement.
- 38) Insert 5/16 rod in bowl vent hole on bowl cover surface and drive out pitot tube.
- 39) Pitot tubes seldom require service unless damaged.
- 40) Remove expansion plug and pump discharge jet (44).
- 41) Remove venturi (40) with tool M-517.



Back



Help

To Remove Cam-Lever Assembly and Fuel Cut-off Valve

- 42) Remove cam lever lock screw (14).
- 43) Drive out cam screw pin (57) with 3/32 drift punch from name plate side and discard. Support casting boss from opposite side when driving pin out.
- 44) Remove cam assembly (81).
- 45) Remove Tru-Arc washer (63) from cam-lever screw (10).
- 46) Remove Tru-Arc washer (62) from fuel cut-off valve (88).
- 47) Remove two guides (68) (not reusable) and spring (28) from cut-off valve (88).
- 48) Remove cut-off valve (88) from body (1). This valve is held in place by an "O" ring (38) in back of bushing (50). Clamp the mixture control valve in a vise with soft jaws and pull valve from casting.
- 49) Remove "O" ring (38) from valve (88).
- 50) Remove bushing (50) from body (1) (it may come out with the valve (88)) using an easy out or tap to remove this pressed in bushing.
- 51) Remove retainer bushing (47) from top two counterbores of the pump rod-Economizer guide channels along with "O" ring (37). None of these parts are reusable.
- 52) Remove plugs (7) and (9), retainer bushing (47) and V Block packing (35) from counterbores on bottom side of pump and economizer rod guide channels.



Print

CLEANING AND INSPECTION

Cleaning Process



Help

53) Use a recommended carburetor cleaner and the cleaner manufacturer's procedure to soak, rinse, and blow out to assure complete cleaning. Only metal parts are to be placed in carburetor cleaner. Do not expose non metal parts to carburetor cleaner.



Back

54) Carburetors have by design requirements very small passages, channels, and orifices. These are quite difficult to inspect using the naked eye. Using equipment such as an Oscope or other magnifying devise will enable you to see these difficult places.

WEAR LIMITS FOR
HA-6 CARBURETORS
A10-5045, A10-5045-1 ONLY

INDEX NO.	DESCRIPTION	PERMISSIBLE WORN DIM.	PERMISSIBLE WORN CLEARANCE
48	Float shaft bosses	.130	.008
31	Float shaft	.122	.009
31	Float shaft	.122	.009
30	Float	.131	.009
Body	Throttle shaft bushing holes	.4995	.002
49	Throttle shaft bushing O.D.	.4975	.005
49	Throttle shaft bushing I.D.	.3765	.005
3	Throttle shaft	.3715	.005
69	Accelerator pump guide	.240	.028
77	Accelerator pump shaft	.212	.014
77	Accelerator pump shaft (top)	.090	.014
75	Actuating rod	.104	.014
52	Pin - pump link	.123	.008
82	Link - pump operating, eyebolt pump lever	.131	.008
28	Fuel cut off valve	.3095	.003
Body	Fuel cut off sleeve	.3125	.003
Body	Accelerator pump bore	.755	-
30	Float adjustment tab	wear spot = .100 dia.	-
Body	Throttle stop pad on T-body	wear spot = .010 deep	-
81	Cam lever	.118	.050
88	Cut off valve	.168	.050

TABLE I

IMPORTANT: Do not clean passages in castings or other calibrated parts (nozzle, idle tube, etc.) with wire or small drills. Compressed air, carburetor cleaner, and a small, soft bristle brush work quite well.

Inspection

55) The following parts should always be replaced during carburetor overhaul:

- All gaskets
- Seals and packing
- Throttle shaft bushings
- Retainers
- Float valve and seat assembly
- Accelerator pump
- Float shaft

NOTE: Fuel inlet strainer assembly should be replaced if the strainer screen is broken at any place or cannot be satisfactorily cleaned.

- 56) Inspect cover casting for wear in the two float hinge shaft holes.
- 57) Use a #30 drill blank as a gage to check wear limits of both holes. If the #30 drill blank will enter either hole the wear limits are exceeded, a new casting is required. If during inspection a worn casting is detected, a new cover must be used, as the worn float shaft hole will not accept the knurled float shaft press fit.
- 58) Normal aircraft quality inspection techniques can determine reusability of carburetor components. Abnormal wear, cracks, warping, or damage are, of course, just cause for rejection. Wear beyond the limits shown in TABLE I is also cause for rejection.

NOTE: Late model aircraft are all equipped with soft engine mounts. This has created a more severe vibration environment, causing different wear characteristics in different aircraft. **Careful inspection is required.**



Print



Help



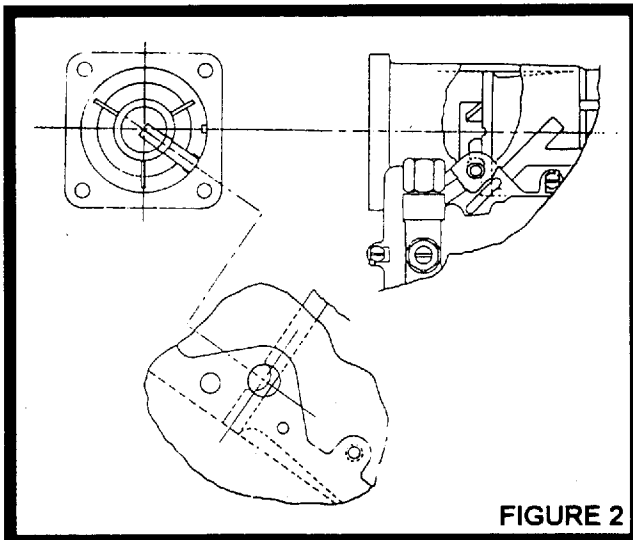
Back

ASSEMBLY PROCEDURE

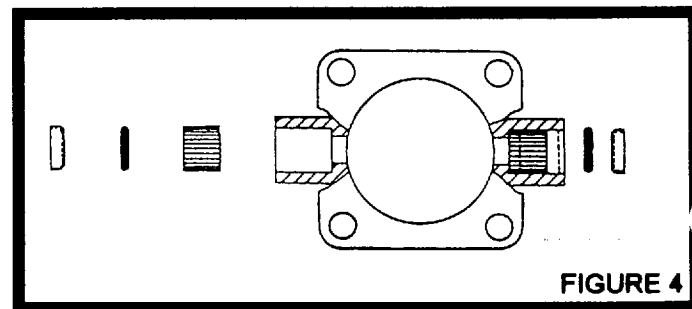
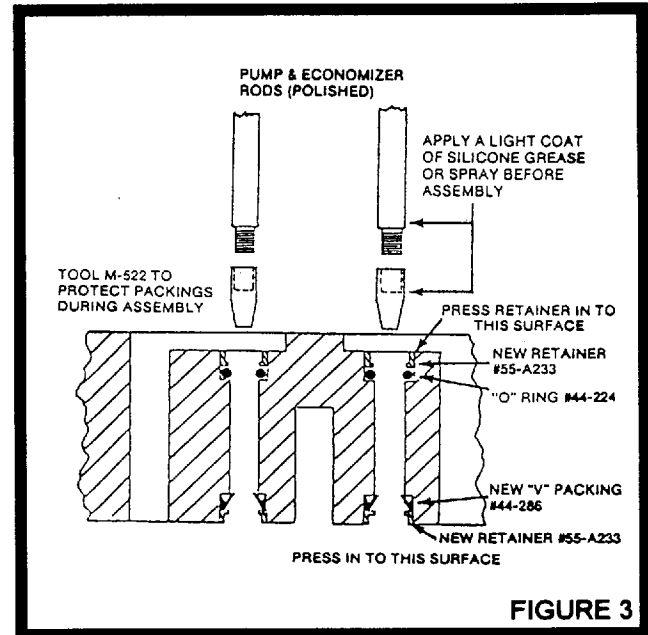
Refer to Pages 8 and 9 for

Complete Parts Reference Numbers

- 59) Assemble screw plugs (7) and (9) in body (1) with a limited amount of Loctite #222 on plug threads. Special precaution should be taken to see that no sealant is on end of plug that could work its way into fuel channel. Torque screw plugs (7) to 10-15 inch pounds and plugs (9) to 12-16 inch pounds.
- 60) Assemble pump discharge check valve gasket (20) and check valve (33) and plug (72) in body (1). Apply a limited amount of thread lube to plug (72) before assembly. Do not apply sealant to end of plug. Torque to 25-30 inch pounds.
- 61) **ASSEMBLE VENTURI (40) IN BODY (1) IN THE FOLLOWING MANNER:** Place venturi on tool M-517 locating the venturi legs in the tool slots. Insert venturi (1) and rotate until nozzle relief in venturi shoulder is in alignment with nozzle bore in body as shown in Figure 2. Press venturi to bottom or to a depth to allow assembly of nozzle (41) in body (1).
- 62) Assemble accelerator discharge tube (44) into body (1) by threading discharge tube into body until it bottoms out and torque to 25-30 inch pounds. Assemble expansion plug with 3/16" drift pin, stake around expansion plug.
- 63) Place retainer bushing (47) first and "O" ring (37) second on assembly tool M-519 and assemble into drilling for pump rod (75) at bowl gasket surface in body (1). Press retainer to depth shown in Figure 3.



- 64) Using the same procedure assemble retainer bushing (47) and "O" ring (37) into drilling for air metering valve rod (76) at bowl gasket surface in body (1).
- 65) Place retainer bushing (47) first and "V" packing (35) on assembly tool M-519 and assemble to depth in opposite end of these two rod drillings as shown in Figure 3.
- 66) Assemble throttle shaft bushing (49) with installation and alignment tool M-516 as shown in Figure 4 in the following method:
1. Lightly coat the O.D. of the bushing with Loctite #680, per Loctite's recommended instructions.
 2. Install first bushing to 1/3 depth for locating purpose.
 3. Install second bushing to counterbore depth.
 4. Install first bushing to counterbore depth.





Print



Help



Back

NOTE: REPEATED REBUSHING MAY ENLARGE THE COUNTER BORE TO THE POINT WHERE THE BUSHING WILL BE LOOSE IN THE COUNTERBORE. LOCTITE RC 680 WILL SECURE THE BUSHING EVEN WHEN THE CLEARANCE IS .002. IN THIS CASE ALLOW THE LOCTITE TO CURE WITH THE TOOL IN PLACE FOR LOCATION PURPOSE.

- 67) Install shaft packings (36) and retainers (46) using throttle shaft packing assembly tool M-105. Lubricate throttle shaft with light oil and install, being careful not to damage packings. Install throttle valve (4) and throttle valve screws (8). Run screws lightly in place, rotate the shaft to closed position and tap the valve lightly in place, rotate the shaft to closed position and tap the valve lightly with the screw driver blade to seat the valve in throttle bore. Hold the throttle valve closed and tighten the screws. Torque to 12-15 inch pounds.
- 68) Safety stake the screws (8) using tools M-100 and M-107. Three or four punch marks around edge of screw threads should suffice. Do not overpeen.
- 69) Install throttle opening spring (27). Place throttle lever (2) at proper angle on the throttle shaft (3) and secure with clamp screw (13) and tab washer (64), or retaining nut and cotter pin (91). Torque screw to 20-28 inch pounds or nut to 25-60 inch pounds, and bend tab washer or cotter pin to safety. If using old style lever and shaft, safety wire per Figure 5. Install throttle stop pin (53) and push nut (67) if used.
- 70) Assemble pump and economizer lever (80), link (82), pins (52), wave washer (58), Tru-Arc rings (61), pump link bolt (74), plate (85), and center nut (66) in the manner shown in the exploded view.
- 71) Attach lever with assembly to the throttle shaft using locating screw (6), secure the locating screw (6) in place and then clamp the lever (80) in place with screw (12) torque to 20-28 inch pounds, bend tab washer (59) for safety. Safety wire the locating screw (6) through the clamping slot in lever (80).
- 72) Insert the economizer rod (76) using tool M-522, first applying a light coat of Silicone grease or equivalent for proper lubrication in the bearing area. See Figure 3. Secure rod to plate (85) with nut (66).
- 73) Install pump inlet check valve (32) torque to 10-15 inch pounds, and insert pump plunger (84) into pump well in body (1).
- 74) Install pump guide (69) locating the guide legs to clear the pump rod slot in body (1).
- 75) Repeat lubricant and insert pump rod (75) using M-522 and connect to pump unit with Tru-Arc ring (60).
- 76) Connect rod (75) to plate (85) with nut (66).

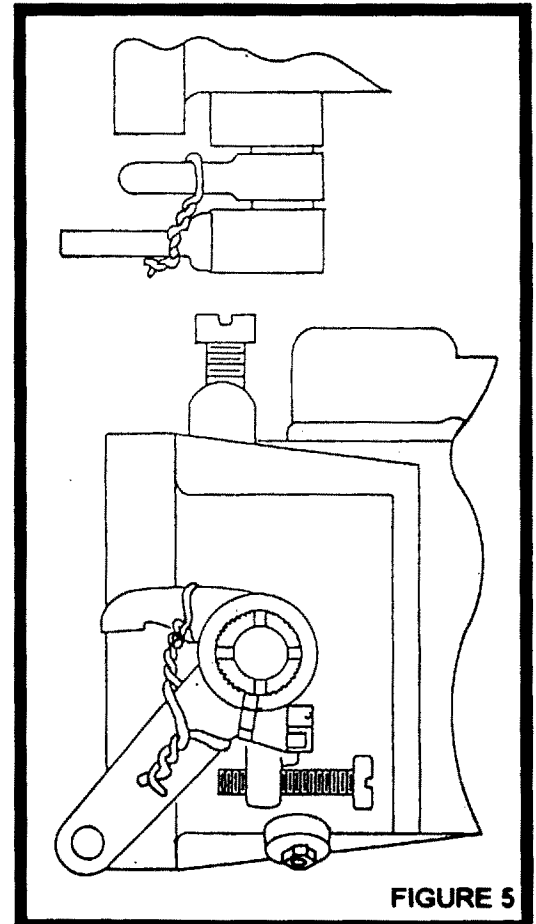


FIGURE 5



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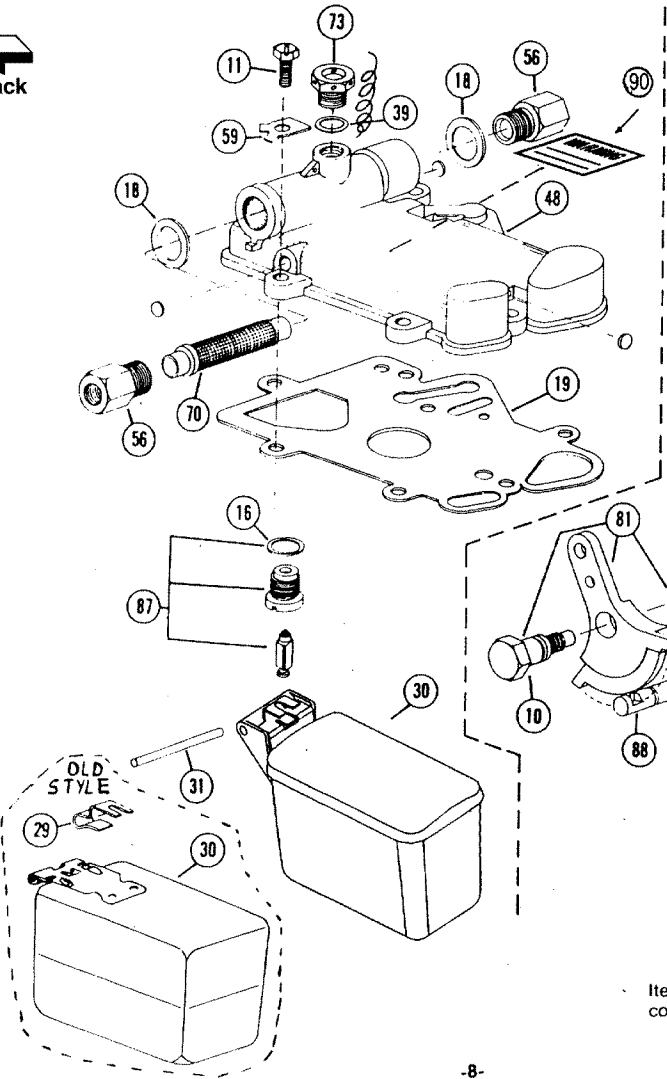


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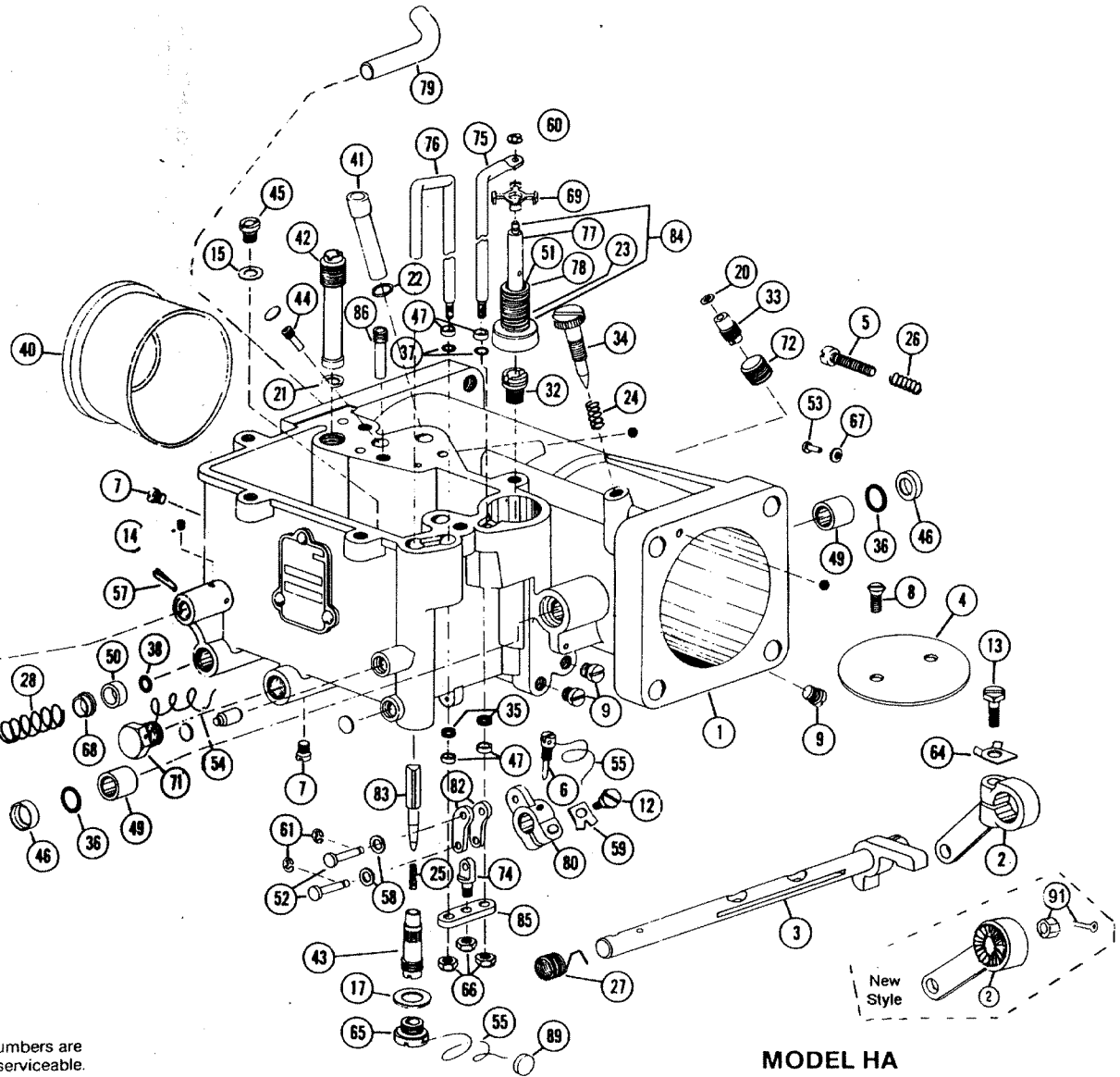
NOTE: This illustration does not depict a specific carburetor but is a composite view. All components are shown but not always in the exact position.



Back



Items with no numbers are considered not serviceable.



MODEL HA



Print



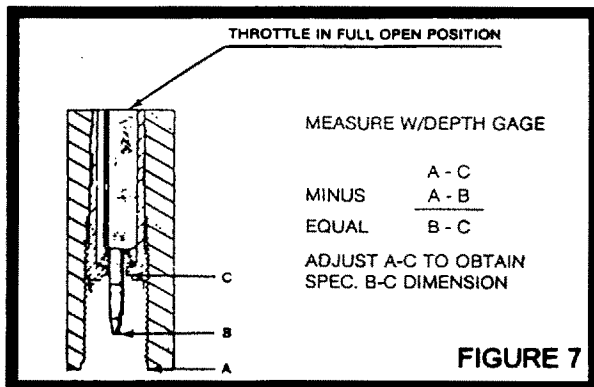
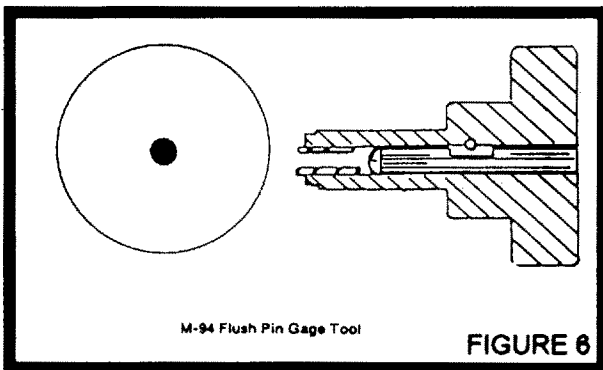
Help



Back

77) Assemble economizer pin (83) and spring (25) (small end of spring (25) goes over the small end of economizer pin (83)) into economizer jet (43) and install into its channel with M-94 tool (See Figure 6) to the setting specified in the parts list. The throttle must be full open when making these settings. An alternate procedure to set the economizer can be achieved by using a depth micrometer as follows and refer to Figure 7.

1. Assemble air metering pin jet assembly in the casting to an approximate setting of 1/2" from the face of casting A to face C of air metering pin jet (at the edge of the hole).
2. Open throttle valve to wide open position.
3. Measure distance from the face of casting A to top of air metering pin B using a suitable depth gage.
4. Return the throttle valve to fully closed position.
5. Measure the distance from face A of the casting to face C of the air metering jet. Adjust the air metering jet clockwise or counterclockwise until distance A to C equals the sum of the distance A to B plus the dimension B to C selected from the Economizer Gage Dimension Table.



ECONOMIZER GAGE DIMENSION TABLE

M-94 economizer gage settings are reference on individual carburetor service parts list. When using depth gage to set economizer jet refer to table below for the specific M-94 gage setting and its measured plus or minus equivalent dimension.

M-94 GAGE	PLUS DEPTH MIC. B-C/INCHES	MINUS DEPTH MIC. B-C /INCHES
FLUSH	0.376	0.376
1/16 TURN	0.379	0.373
1/8 TURN	0.381	0.371
3/16 TURN	0.384	0.368
1/4 TURN	0.386	0.366
5/16 TURN	0.389	0.363
3/8 TURN	0.392	0.360
7/16 TURN	0.394	0.358
1/2 TURN	0.397	0.355
9/16 TURN	0.399	0.353
5/8 TURN	0.402	0.350
11/16 TURN	0.405	0.347
3/4 TURN	0.407	0.345
13/16 TURN	0.410	0.342
7/8 TURN	0.412	0.340
15/16 TURN	0.415	0.337
1 TURN	0.418	0.334
1-1/16 TURN	0.420	0.332
1-1/8 TURN	0.423	0.329
1-3/16 TURN	0.426	0.327
1-1/4 TURN	0.428	0.324
1-5/16 TURN	0.431	0.321
1-3/8 TURN	0.433	0.319
1-7/16 TURN	0.436	0.316
1-1/2 TURN	0.439	0.314
1-9/16 TURN	0.441	0.311
1-5/8 TURN	0.444	0.308
1-11/16 TURN	0.446	0.306
1-3/4 TURN	0.449	0.303
1-13/16 TURN	0.452	0.301
1-7/8 TURN	0.454	0.298
1-15/16 TURN	0.457	0.295
2 TURN	0.459	0.293
2-1/16 TURN	0.462	0.290
2-1/8 TURN	0.465	0.288
2-3/16 TURN	0.467	0.285
2-1/4 TURN	0.470	0.282
2-5/16 TURN	0.472	
2-3/8 TURN	0.475	
2-7/16 TURN	0.478	
2-1/2 TURN	0.480	

TABLE II

NOTE: 1/4 Turn of the M-94 gage is approximately 0.010 inch



Print



Help



Back

- 78) Install economizer channel plug (65) over washer (17) and torque to 5-10 inch pounds and safety to casting through hole provided with wire (55). Crimp over wire ends a lead seal (89).
- 79) Assemble "O" ring (38) into its groove on cut-off valve (88). Lightly lubricate the "O" ring (38) and install into its cavity in body. Place bushing (50) over the cut-off valve (88) tap into casting counterbore with locating tool M-518. Valve should operate freely.
- 80) Install spring guide (68) over cut-off valve (88). Install spring (28), guide (68), and snap ring (62) in its groove. Small ends of spring guides are located into the ID of spring.

**MIXTURE CONTROL
CAM INSTALLATION PROCEDURE**

- 81) Clean cam screw hole and cam surface of cam lever.
- 82) Lubricate the journal of new cam screw (10) assemble in cam lever (81).
- 83) Lubricate cam surface with a silicone or molybdenum disulfide lubricant.
- 84) Assemble new retainer ring (63) on cam screw (10).
- 85) NOTE: Special care needs to be taken to be sure the retainer ring is properly assembled on screw and in groove, as illustrated in Figure 8.
- 86) Install M-520 gage in place of power jet.
- 87) Remove casting material from boss (if not done during a previous overhaul) to bottom face of counterbore.

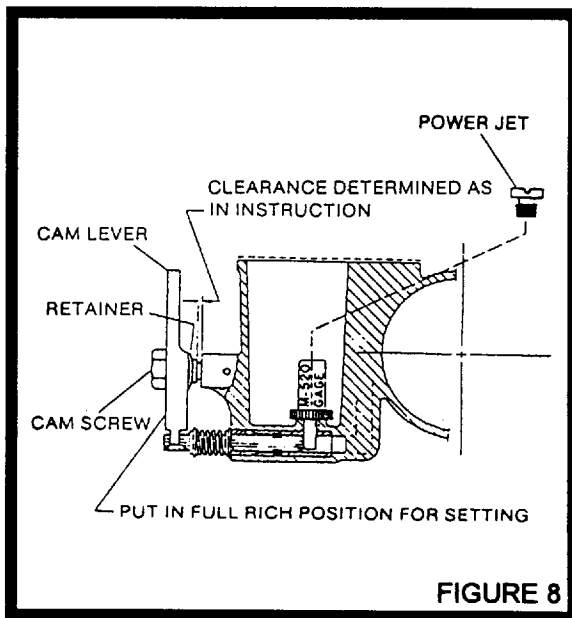


FIGURE 8

- 88) NOTE: Precaution must be taken when removing the casting material so that the squareness of the counterbore face is not disturbed. (See Figure 9).
- 89) Assemble cam lever assembly (81) in carburetor by turning the cam screw until the cut-off valve contacts the M-520 gage with the cam lever in full rich position (See Figure 8).
- 90) Measure clearance between cam screw and cam screw boss with feeler gage.
- 91) NOTE: Measure clearance at top and bottom of screw and if there is a difference, determine the average dimension.
- 92) Remove the cam lever, screw and retainer assembly (81) and M-520 gage. Assemble spacer washer(s) (reference parts list) on cam screw equal in thickness to the average measured clearance.
- 93) NOTE: If exact thickness of spacer washers is not possible, use slightly less thickness. **DO NOT INCREASE** thickness of spacer washers over measured clearance.
- 94) Assemble cam lever screw and retainer assembly (81) with spacer washers into carburetor and tighten the screw (10) to 60-70 inch pounds.
- 95) The cut-off can be checked by moving the cam lever from full rich to cut-off position while looking in the threaded area for the power jet. The bushing orifice should be completely closed off by the mixture control valve.
- 96) Assemble set screw (14) with Loctite #242 applied to set screw. Center punch and drill cam screw using previous drilling in boss for location using .089-.093 diameter drill.

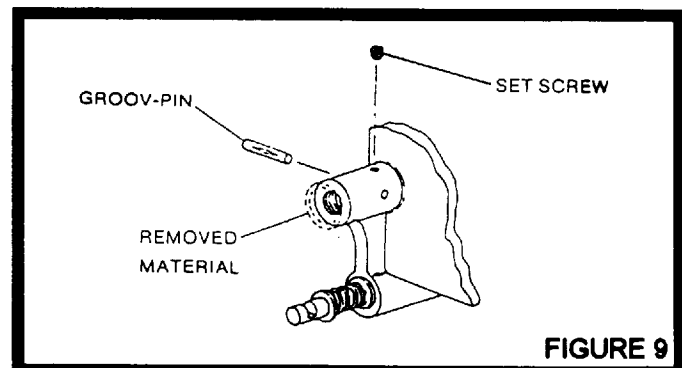


FIGURE 9



Print



Help



Back

- 97) NOTE: Drill must run true in drill press and carburetor must be held firmly during drilling to prevent the original drilling in boss from becoming oversize.
- 98) Install new groove pin (57) with Loctite #242 and press flush.
- 99) NOTE: When re-installing groove pin (57) support casting boss from opposite side.
- 100) Re-install power jet (45) and gasket (15). Torque to 25-30 inch pounds.
- 101) Install idle needle (34) and spring (24) to preliminary setting 1 to 1 1/8 turns from seated.
- 102) Install throttle adjusting screw (5) and spring (26) preliminary setting is approximately two turns from fully closed valve.
- 103) Install idle tube (86). Torque to 5-8 inch pounds.
- 104) Install main nozzle (42) and gasket (21). Torque to 50-70 inch pounds.
- 105) Install secondary nozzle (41) and gasket (22) with nozzle face flat with casting surface.
- 106) The pitot tube (79) is secured in place with Loctite RC-680 per Loctite's recommended instructions and carefully located symmetrical in bore.

COVER ASSEMBLY

- 107) Install float valve seat and gasket assembly into cover (48) using tool M-103 to secure the seat. When using brass float, install seat with both gasket/washers. When using the new Precision float, install seat with only the thinner gasket/washer (P/N 78-A40).
- 108) CAUTION: Exercise care if using brass float, during the following operations to prevent damage to the float (30) and the float valve retractor clip (29). See Figure 10.
- 109) Place the gasket (19) on the cover (48).
- 110) Place the float valve into the forked retractor clip on the float as shown in Figure 11. When using the brass float, place the float valve retractor clip (29) on the float valve as illustrated in Figure 12. Place the float valve and retractor clip on the float as illustrated in Figure 13.
- 111) When using the brass float make sure the float valve is centered on the adjustment tab on the float. The float valve retractor clip should not hold the float valve tight against the float lever but have approximately .005" when viewed as in Figure 13.
- 112) Place the float, valve, and clip assembly into the float bracket with the valve in the float valve seat.

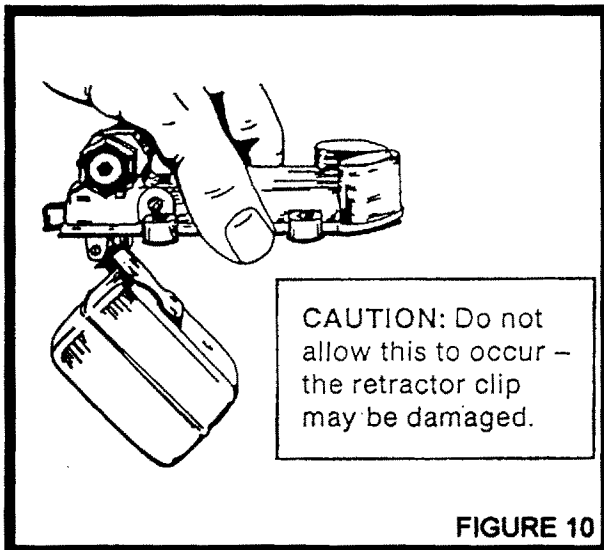


FIGURE 10

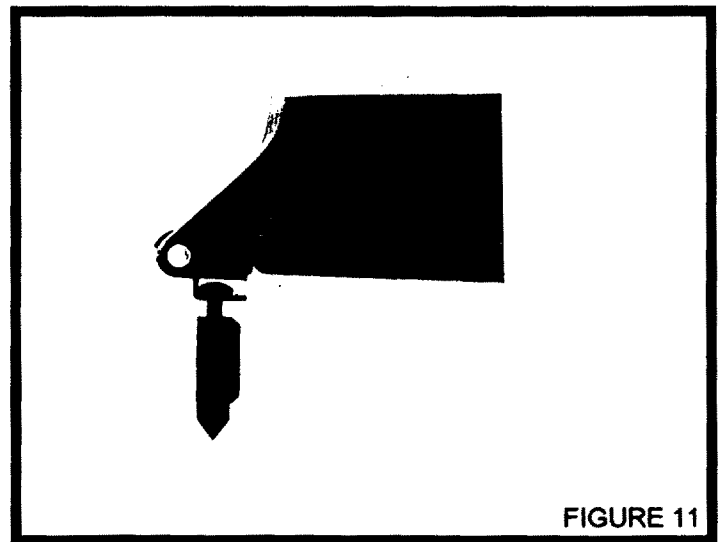


FIGURE 11



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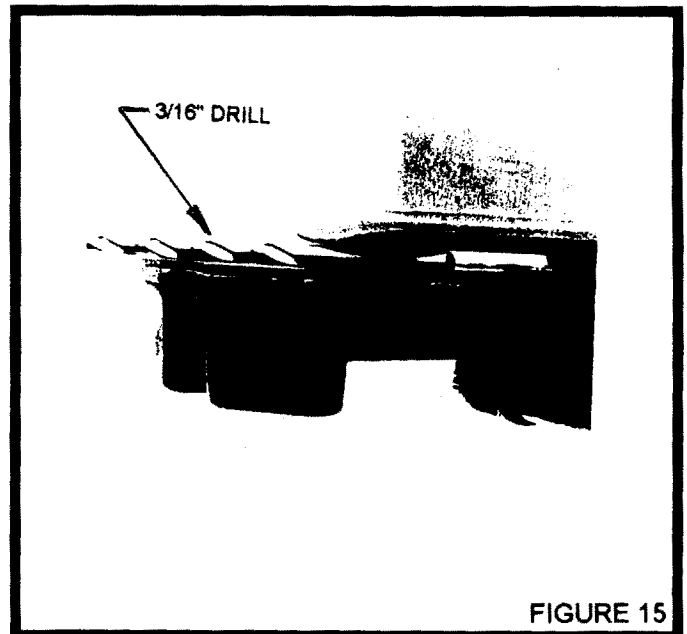
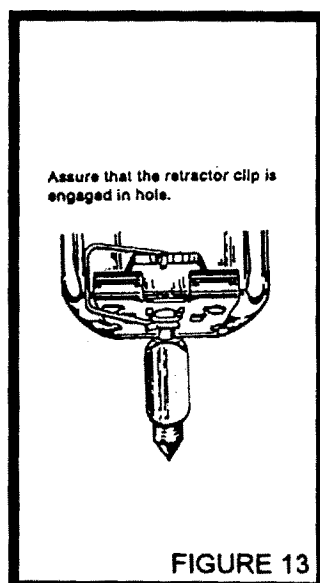
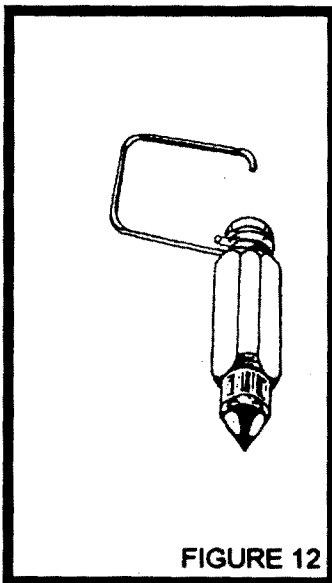
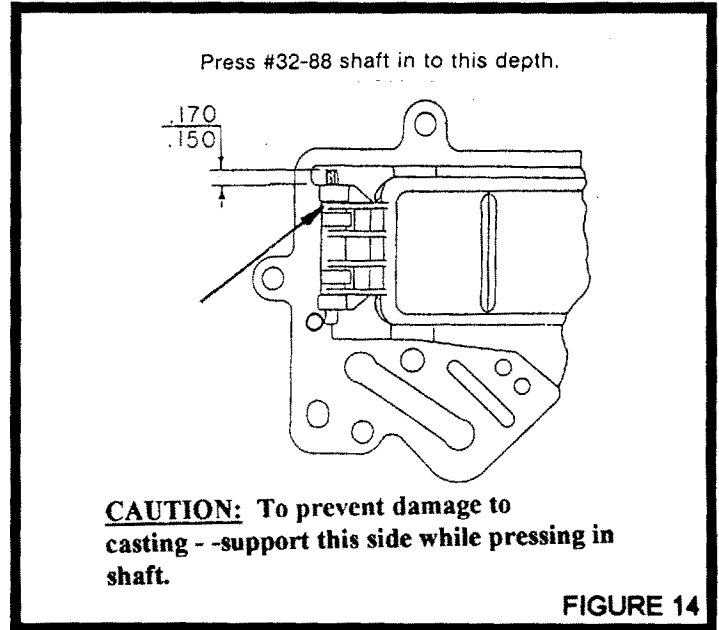
Back

- 113) Temporarily install the 32-88 shaft as illustrated in Figure 14. Do not press in shaft until final adjustments have been made.
- 14) The float setting is .187 inch measured between the float and gasket, near the outer tip of the float, with the cover held in the inverted position as shown in Figure 15. If adjustment is required, bend the float level adjustment tab, located over the float valve, to achieve the .187 setting. A small screwdriver bent 30° approximately 1/4 inch from its tip is a useful tool for setting the float. (REF: Aircraft Carburetor Service Manual.) Do not bend the tab more than .030", measured at the end of the tab. If additional adjustment is required, two different thickness (.015" and .031") washer/gaskets-shims are supplied with the float. Use either or both to acquire the proper setting without excessive bending of the tab.
- 115) DO NOT APPLY PRESSURE ON FLOAT VALVE WHEN ADJUSTING FLOAT.
- 116) When using the Precision float, hold the cover inverted and verify that there is a minimum of .015" clearance between the forked retractor clip and the float valve seat (as shown in Figure 16). If additional clearance is required, bend tips of retractor clip slightly and/or use a thinner float valve seat gasket.

- 117) After final adjustments are made, press 32-88 shaft into depth shown in Figure 14.

CAUTION:

- 118) ASSURE FLOAT AND VALVE MOVEMENT IS NOT RESTRICTED BETWEEN THE FULLY OPEN AND FULLY CLOSED POSITION OF THE FLOAT VALVE.





Print



Help



Back

- 119) ASSURE THE BOWL CAVITY IS CLEAN.
- 120) CAUTION: To prevent possible damage to the float do no blow on or into the carburetor assembly with compressed air.
- 121) Assemble cover assembly onto body assembly.
- 122) Install cover screw (11) and washer (59) and torque in sequence shown in Figure 17.
- 123) Install fuel inlet fitting (56) and gasket (18). Torque to 10-12 foot pounds.
- 124) Install screen (70) into cavity of installed fitting then install second fitting (56) and gasket (18), torque to 10-12 foot pounds.
- 125) Safety cover screws by bending up tabs on washers.

INSTALLATION OF WARNING LABEL

- 126) Clean the top of the bowl cover using acetone or equivalent degreasing solvent. Allow the surface to dry completely. Remove the peel-off backing from the warning label (90) and attach the label to the bowl cover.

TEST PROCEDURE

General

- 127) After the carburetor has been overhauled and the checks performed as specified throughout the overhaul procedures, the carburetor should be equal to a new unit. Final adjustment should be made at the time the carburetor is installed on the engine.

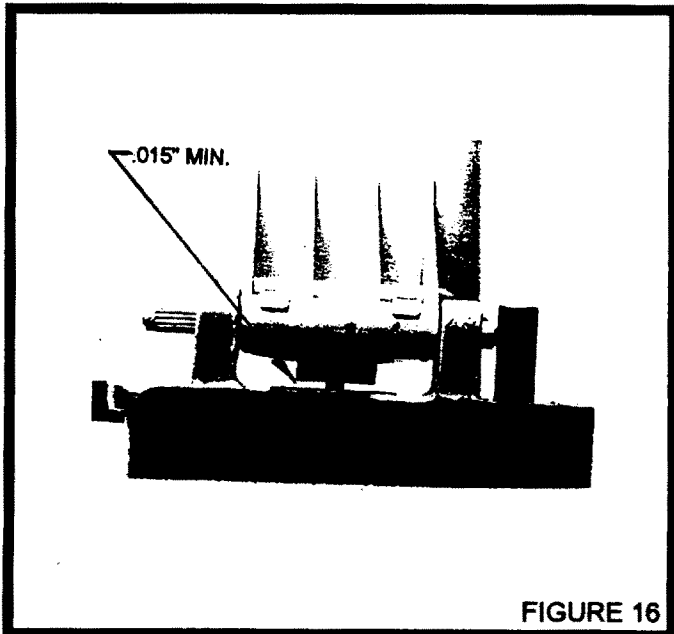
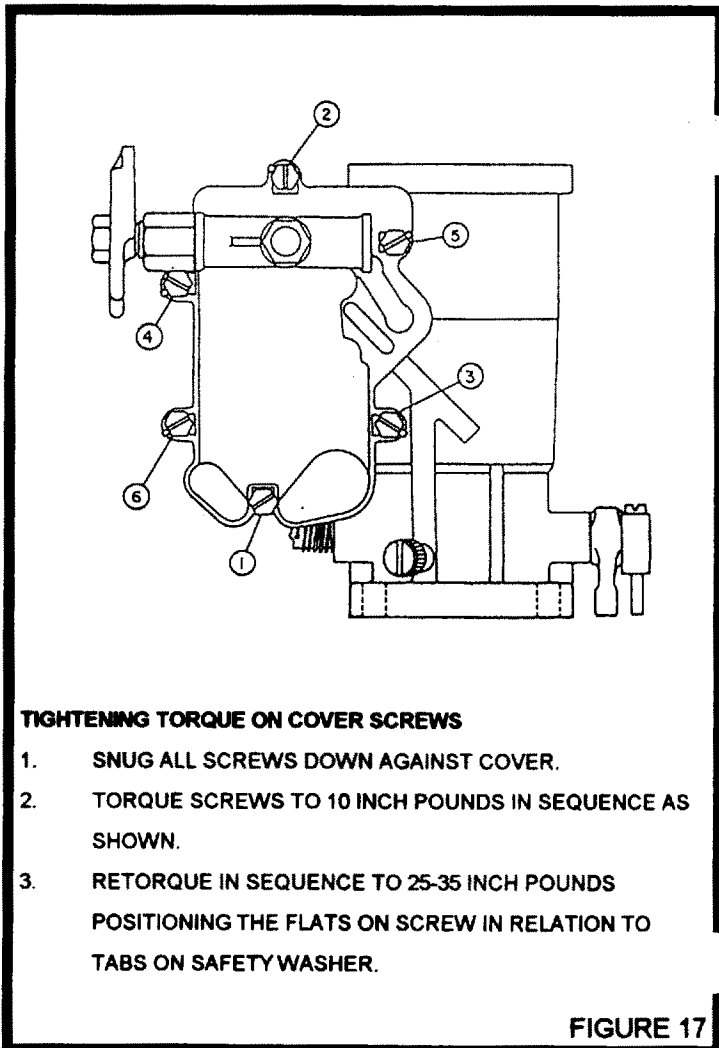


FIGURE 16

Float Valve and Seat Test

(See Figure 18)

- 128) Connect the inlet fitting of the carburetor to a fuel pressure supply of 0.4 psi.
- 129) Remove the bowl drain plug and connect a transparent tube to the carburetor drain connection. The tubing should be positioned vertically beside the carburetor.
- 130) Allow the fuel pressure to remain at 0.4 psi for a period of at least 15 minutes and then raise the fuel pressure to 6.0 psi. (There will be a slight rise in the fuel level as the pressure is increased.) Allow the 6.0 psi pressure to remain for at least five minutes after the fuel level has stabilized.
- 131) If the fuel rises to the level of the parting surface of the castings or runs out of the nozzle, the bowl and throttle body must be separated and the float valve and seat cleaned or replaced.



TIGHTENING TORQUE ON COVER SCREWS

1. SNUG ALL SCREWS DOWN AGAINST COVER.
2. TORQUE SCREWS TO 10 INCH POUNDS IN SEQUENCE AS SHOWN.
3. RETORQUE IN SEQUENCE TO 25-35 INCH POUNDS POSITIONING THE FLATS ON SCREW IN RELATION TO TABS ON SAFETY WASHER.

FIGURE 17



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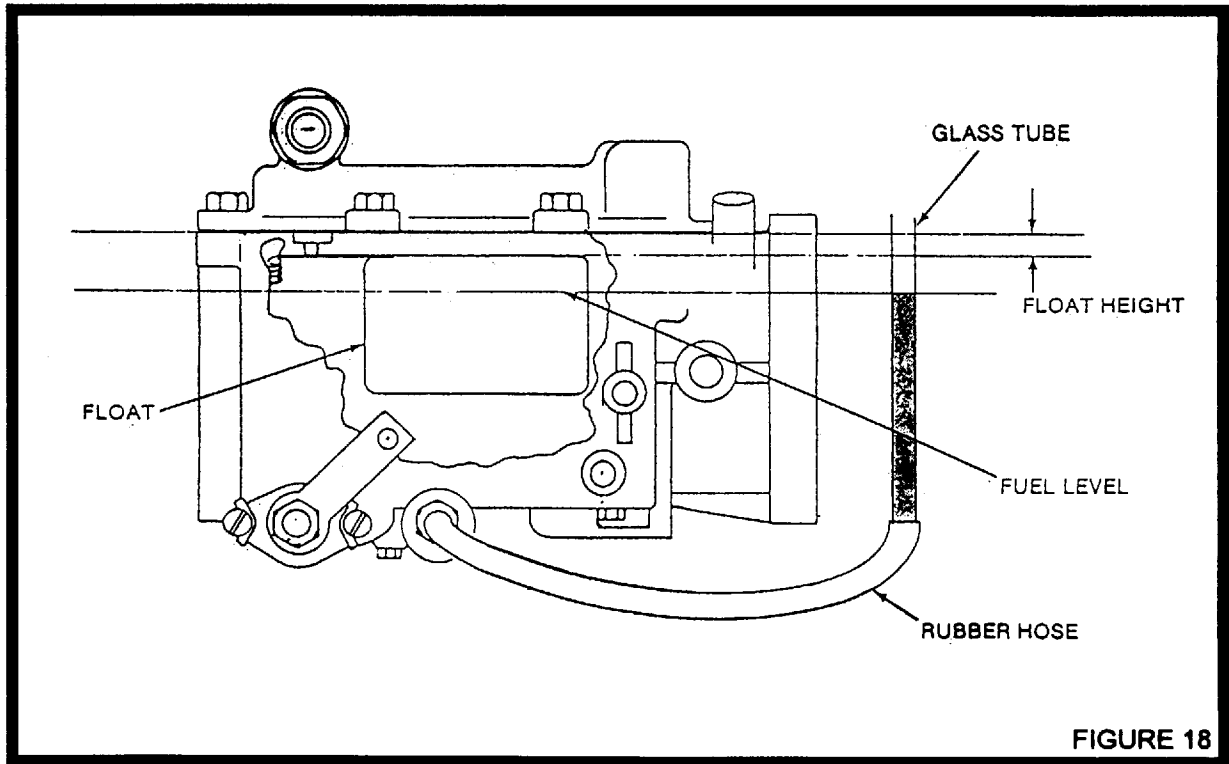
Help



Back

- 132) **CAUTION:** Under no circumstances change the float level from the established setting to correct flooding or to change the fuel level.
- 133) With fuel supplied to the carburetor as shown in Figure 18 operate the throttle lever for several strokes to fill the accelerating pump and passages. Then close the throttle, open it fully again, and hold it for a few seconds. If the accelerating pump is operating correctly, a solid stream of fuel will be discharged from the accelerating pump discharge tube and will gradually die away after the spring on the pump plunger reaches its limit.

- 134) **WARNING:** BE CAREFUL NOT TO SPLASH TEST FLUID IN YOUR FACE. RECOMMEND TESTING CARBURETOR IN A LARGE FLAT PAN TO CONTAIN TEST FLUID.
- 135) If the fuel discharge from the discharge tube is weak, or if air is dispelled, it is an indication that the pump plunger, pump discharge or inlet check valve are not functioning properly. Disassemble the carburetor and make necessary repairs.
- 136) Remove the tubing fixture to allow the fuel to drain out. Operate the pump to clear the fuel out of the pump cylinder and passages. Reinstall drain plug and safety.





Print



Help



Back

PRESERVATIVE TREATMENT

- 137) If the carburetor is to be placed in storage after overhaul, the bowl drain plug should be removed and the carburetor flushed internally with soluble corrosion preventive oil, Military Specification MIL-C-4339.
- 138) After draining the surplus oil from the carburetor, enough will cling to the parts to provide internal protection during storage. Replace the bowl drain plug and safety with wire to bowl.

TORQUE SETTINGS FOR HA-6 CARBURETORS A10-5045, A10-5045-1 ONLY

Screw - Throttle valve	10 - 15 in-lbs
Screw - Idle Drill Plug	12 - 16 in-lbs
Screw - Bowl Cover	25 - 35 in-lbs
Screw - Pump Lever Lock	10 - 12 in-lbs
Screw - Pump Lever Clamp	20 - 28 in-lbs
Screw - Channel Drill Plug	10 - 15 in-lbs
Screw - Cut Off Valve Lock	10 - 12 in-lbs
Screw - Cam Lever	60 - 70 in-lbs
Screw - Cam Lever Lock (Allen)	5 - 10 in-lbs
Screw - Throttle Lever Clamp	20 - 28 in-lbs
Nut - Pump Linkage	10 - 15 in-lbs
Valve - Pump Discharge Check	10 - 15 in-lbs
Valve - Pump Inlet Check	10 - 15 in-lbs
Jet - Pump Discharge	25 - 30 in-lbs
Jet - Power	25 - 30 in-lbs
Nozzle - Main	50 - 70 in-lbs
Fitting - Fuel Inlet	10 - 12 ft-lbs
Plug - Economizer	5 - 10 in-lbs
Plug - Bowl Drain	90 - 100 in-lbs
Plug - Pump Discharge Check Valve	25 - 30 in-lbs
Float Valve Seat	10 - 12 ft-lbs
Idle Tube Assembly	5 - 8 in-lbs

TABLE III