

**Volare' Carburetors, LLC**

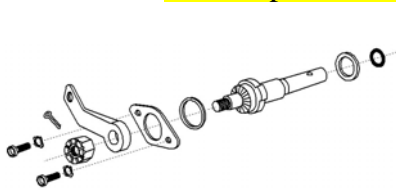
125 Piedmont Avenue  
Gibsonville, N.C. 27249, USA

**Service Bulletin: SB-6**

Revision: Original  
Date: June 17<sup>th</sup>, 2009

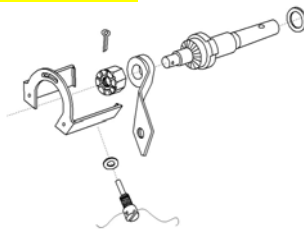
**SUBJECT – MIXTURE CONTROL STOP WEAR – HA-6 TYPE CARBURETORS.**

1. **Applicability:** *HA-6 model float carburetors manufactured by Volare Carburetors LLC (“Volare”), and its predecessors Precision Airmotive Corporation, Facet Aerospace Products Company, and Marvel-Schebler (Borg Warner) (hereinafter “Volare”) having more than 500 hours time in service since new or since installation of a new carburetor body.*
2. **Reason:** **Warning: Failure to follow this advice may result in engine malfunction, damage, injury or death.** Excessive wear of the mixture control stop can result in malfunction of the mixture control valve and can cause partial or complete loss of engine power.
3. **Compliance:** For carburetors having more than 500 hours time in service since new or since the installation of a new carburetor body: **WITHIN 100 HOURS OF OPERATION OR 120 DAYS** after the date of this Service Bulletin, whichever comes first, perform the inspections and corrective actions, if required, described in paragraph 4 of this Service Bulletin. Repeat the inspections and perform the corrective actions, if required, described in paragraph 4 every 500 hours of operation after the initial inspection.
4. **Instructions:** Perform all work on the aircraft in accordance with approved procedures and the instructions contained in this service bulletin.
  - a. Turn off the magnetos. Turn off fuel to the engine. Access the carburetor’s mixture control lever.
  - b. NOTE: Figures 1, 2, and 3 illustrate the history of mixture valve design. In addition to complying with this service bulletin’s inspection and corrective actions instructions, carburetors of antecedent design not currently in compliance with Volare/Marvel Schebler Service Bulletin A1-78 must be brought into compliance with that service bulletin prior to return to service.



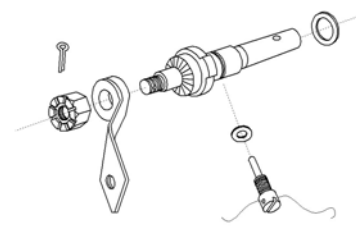
CURRENT DESIGN Retaining Plate  
with two screws

**FIGURE 1**



SUPERCEDED DESIGN Retaining  
CLIP with one screw  
Bulletin A1-78 Compliant

**FIGURE 2**

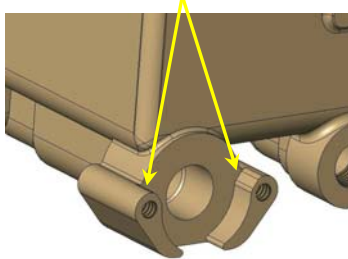


ANTECEDENT DESIGN REQUIRES upgrade  
to Fig 1 or Fig 2 design

**FIGURE 3**

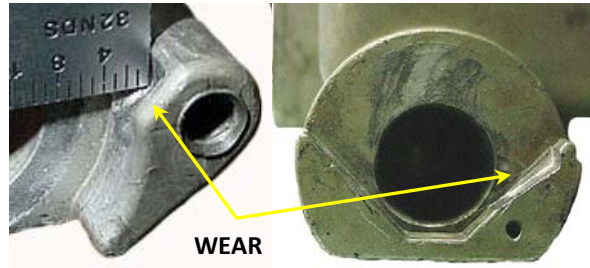
- c. Examine the mixture valve stops for wear in the areas shown in Figures 4 & 5. The maximum permissible wear depth is .046 inch.

**Check for wear on BODY stops**  
EACH Side, not to exceed .046" deep



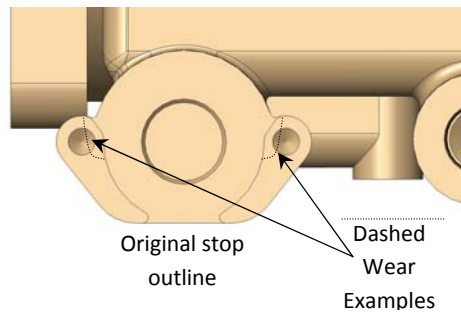
**FIGURE 4**

**Current & earlier fuel mixture stop designs showing excessive wear examples**

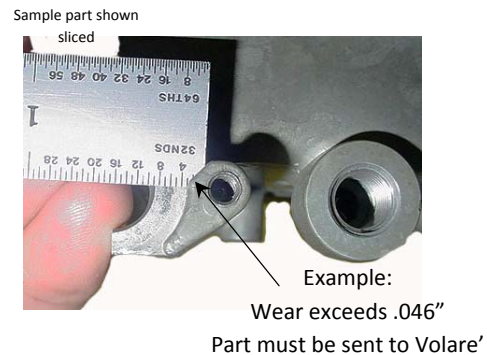


**FIGURE 5**

- c. **Warning: Take adequate precautions to prevent fire when draining fuel.** If it is necessary to remove the mixture control valve to accurately assess the extent of wear, remove the bowl drain plug and drain the fuel from the bowl.
- d. Note: It may be necessary to remove the mixture control linkage from the carburetor in order to remove the mixture valve assembly. Current Design: (refer to Figure 1) Remove the two screws securing the valve retainer. Remove the valve assembly. Earlier Designs: (refer to Figures 2 or 3 as applicable) Remove the screw and washer securing the valve. Remove the clip (if installed) and the valve assembly.
- e. Use a depth indicator, scale or other suitable measuring device to determine the depth of the wear, if any, of the stops. If the wear exceeds .046 inch below the 'original outline' of the part as shown in Figure 6, the carburetor must be submitted to Volare for repair, as in Figure 7.



**FIGURE 6**



**FIGURE 7**

- f. If the wear is less than .046 inch deep: Inspect the valve parts and retainer for suitability for return to service. DO NOT reinstall an antecedent mixture valve retention system without the clip, screw and washer called out in Marvel Schebler Service Bulletin A1-78. Carburetors having earlier mixture valve retention systems may be sent to Volare for up-grade to the current configuration. Replace any unserviceable parts. Replace the o-ring on the mixture control shaft with a new o-ring, Volare part number 44-221. Lubricate the valve and o-ring with motor oil. Install the valve, taking care not to damage the o-ring. Install new lock tab washers, Volare part number 78A-111. Install the screws, part number 15-B109, tighten to 10

- 12 inch pounds. For the earlier designs, lubricate the tip of the special screw, part number 15-B395 with silicone grease. Install the clip, part number 55-A239, special screw 15-B395 and washer, part number 15-A292, tighten screw to 10 – 12 inch pounds. Check the valve for freedom of rotation. The shaft must move smoothly from stop to stop. To secure the screw(s), bend the washer tabs or safety-wire, dependent on configuration.
- g. Reinstall the bowl drain plug. For bowl plugs having tapered threads: Thread the bowl drain plug one to two turns into the bowl. Apply Regular Grade Never Seize™ NSBT4, to the exposed threads of the plug. For plug part number 90-34 (allen head, socket, NPT type) required torque is 25 to 30 inch pounds. For plug part number 99-8 (drilled hex head, NPT type) required torque is 50 to 60 inch pounds. For drilled head, straight thread plug, part number 99-45, install seal washer 16-B322 and tighten the plug to 90 to 100 inch pounds torque. Secure drilled plugs with safety-wire.
  - h. Connect and safety the mixture control linkage, if removed. Check the mixture control linkage for proper operation and proper adjustment in accordance with approved maintenance procedures.
  - i. Turn the fuel on. Check the carburetor for leaks. Install parts and cowling as necessary. Perform a ground run-up and operational check of the engine, carburetor mixture control and any other systems disturbed. After engine shut down, re-inspect the carburetor for leaks.
  - j. Memorialize compliance with this service bulletin and describe the wear state of the stop bosses in the aircraft maintenance record.
5. **Voiding of Warranty and Waiver of Liability:** An owner's/operator's failure to inspect and where necessary replace or repair a carburetor body in accordance with this bulletin, or operation of a carburetor which is non-compliant with the maximum wear limitations set forth in this bulletin, or operation of a carburetor in which other than genuine Volare approved parts are installed, **voids any otherwise applicable warranty and constitutes a complete and total waiver** to the extent permitted by law of any and all rights the owner, operator and/or service facility or repairer may have had to hold Volare responsible or liable for the malfunction or failure of such an aviation carburetor. The owner/operator and/or service facility or repairer that returns a carburetor that is non-compliant with this service bulletin to service shall bear the sole responsibility and full liability for any **damages of whatever nature, injury, or death** arising from any malfunction or failure of such a non-compliant aviation carburetor.
6. **Safety First:** Volare is a customer-service oriented company committed to technical innovation in pursuit of aviation safety. While Volare has no authority to compel owners to act responsibly and take prudent action to insure their own safety and the safety of others, Volare believes compliance with this Service Bulletin is essential to protect against failures with unacceptable consequences. Volare strongly warns owners of the inherent risks involved in operating an airplane with excessively worn mixture control stop bosses and strongly encourages owners to comply with this Service Bulletin.