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FAA-PMA FACILITY #PO111NM

**MANDATORY**

# Service Bulletin Fuel Systems

Bulletin No. MSA-2  
Revision No. 3  
Date: 10/15/90  
Revised: 10/10/95

**SUBJECT: ONE PIECE PRIMARY AND MAIN VENTURI**

This bulletin has been issued to clarify time of compliance for replacement of the venturi and to reflect the acquisition of the Facet Aerospace product line (Marvel Schebler Aviation Carburetors) by Precision Airmotive Corporation

Note: This service bulletin supersedes and replaces:  
Facet Aerospace Service Bulletin #A1-90  
Precision Airmotive Corporation Service Bulletin MSA-2, dated 10/15/90  
Precision Airmotive Corporation Service Bulletin MSA-2 revision 1, dated 11/11/91  
Precision Airmotive Corporation Service Bulletin MSA-2 revision 2, dated 12/28/93

REASON FOR REVISION: Revision 3 updates the following sections of the bulletin:  
EFFECTIVITY - to clarify nameplate identification  
DESCRIPTION - to add installation note  
COMPLIANCE - to add superseding A.D. reference and special instructions for Continental O-200, O-300, C-75, C-85, C-90, and C-145 engine applications.  
MATERIAL AVAILABILITY - to add special kits for Continental O-200, O-300, C-75, C-85, C-90, and C-145 engine applications.  
ACCOMPLISHMENT INSTRUCTIONS - to add further detail to venturi installation instructions.

**1. PLANNING INFORMATION.**

**A. EFFECTIVITY**

All MA-3A, MA-3PA, MA-3SPA and MA-4SPA Marvel Schebler and Facet Aerospace Carburetors

Note: The carburetor should already contain the one piece venturi if it falls under any of the following categories:

- 1. The letter "V" is stamped or etched on the lower portion of the name plate
- or
- 2. The carburetor has a black, yellow, or blue name plate with the Precision Airmotive name and logo
- or
- 3. The carburetor has a black name plate with the Facet name and logo, and the first three characters of the serial number are 750 (i.e. 75001304).

**MANDATORY**

B. REASON.

There have been reported instances of primary venturi failures causing rough engine operation or engine power loss.

C. DESCRIPTION.

A one piece combination primary and main venturi casting is available to replace the two piece venturi. This bulletin provides instructions for removing the old two piece venturi and replacing it with the new one piece venturi.

**NOTE:** Improper installation of the one-piece venturi can result in engine roughness with an apparent rich or lean mixture. It is very important to install the venturi using the proper tools and the procedure described in the overhaul manual. In addition, there are a number of other conditions that can result in a rich running carburetor, for example a leaking primer system, an improperly adjusted float, leaking bowl gasket, improper installation of the fuel nozzle, etc. Therefore it is important to verify that the carburetor is assembled per the overhaul manual and that the rest of the fuel system and air induction system are operating properly.

D. COMPLIANCE.

Immediate

**Note** A venturi failure may result in disruption of fuel flow to the engine. Precision Airmobile therefore completes replacement of affected venturies mandatory. Refer to Airworthiness Directive A.D. 93-18-03 or superseding issue.

**Note** Teledyne Continental O-200 engine installations using 10-4894 or 10-4115-1 carburetors should order the venturi kit referenced in section G.2. This kit includes an atomizer style fuel nozzle. (Refer to Service Bulletin MSA-7)

**Note** Teledyne Continental O-300 and C-145 engine installations using 10-4895, 10-4439 or 10-5237 carburetors should order the venturi kit referenced in section G.3. This kit includes an atomizer style fuel nozzle. (Refer to Service Bulletin MSA-8)

**Note** Teledyne Continental C-75, C-85 or C-90 engine installations using 10-4240, 10-4252 or 10-4252-1 carburetors should order the venturi kit referenced in section G.4. This kit includes an atomizer style fuel nozzle. (Refer to Service Bulletin MSA-9)

E. APPROVAL.

Technical data is FAA approved.

F. MANPOWER.

Not applicable.

G. MATERIAL AVAILABILITY.

1. One piece venturies are available from local distributors. To determine the correct one piece venturi part number, refer to the appropriate carburetor parts list in the current Aircraft Carburetor & Parts Manual.

<u>OLD MAIN VENTURI</u>	<u>NEW ONE PIECE VENTURI</u>
46-462	46-F7
46-486	46-F8
46-498	46-F9
46-A2	46-F10
46-A65	46-F11
46-A70	46-F12

2. For 10-4115-1, 10-4894 carburetors installed on Teledyne Continental O-200-A, B engines only; order venturi kit 666-944. The 666-944 kit includes the following parts:

46-F12	Venturi
47-850	Nozzle Assy.

3. For 10-3237, 10-4439, 10-4895 carburetors installed on Teledyne Continental O-300-A, C, D or C-145 engines only; order venturi kit 666-947. The 666-947 kit includes the following parts:

46-F11	Venturi
47-851	Nozzle Assy.

4. For 10-4240 carburetors installed on Teledyne Continental C-75 or C-85 engines or 10-4457 carburetors installed on Teledyne Continental C-90 engines only; order venturi kit 666-949. The 666-949 kit includes the following parts:

46-F12	Venturi
47-852	Nozzle Assy.

For 10-4252, 10-4252-1 carburetors installed on Teledyne Continental C-90 engines. only; order venturi kit 666-951. The 666-951 kit includes the following parts:

46-F12	Venturi
47-853	Nozzle Assy.

**H. TOOLING:**

Not affected.

**I. REFERENCES:**

Aircraft Carburetors & Parts Manual, Form #MSAFSM dated March 30, 1993.

**J. WEIGHT AND BALANCE:**

Not affected.

**K. PUBLICATIONS AFFECTED:**

Aircraft Carburetors & Parts Manual, Form #MSAFSM, has been updated to reflect the change to a one piece venturi

2. ACCOMPLISHMENT INSTRUCTIONS:

- A. Remove carburetor from aircraft.
- B. Follow the procedures in the Aircraft Carburetor Service Manual to disassemble and inspect the carburetor.

**NOTE:** It is very important that any additional required maintenance be performed at this time to assure the airworthiness of the carburetor and your work.

Install the new venturi using the M-83 Primary Venturi Assembling Tool. Assure the venturi is properly oriented so that the nozzle relief notch will be in alignment with the nozzle, and that the end of the leg supports of the primary section of the venturi are engaged in the grooves in the throttle body. (The grooves in the body are very shallow, approximately .010" deep). Press the venturi into place until the M-83 tool contacts the throttle body surface.

**NOTE:** It is very important that the tops of the legs be flush with the carburetor parting surface. Do Not press the venturi in beyond this flush location. (The M-83 tool automatically positions the venturi properly.)

**NOTE:** Venturi retainer clips (29-113) are not required for installation of one piece venturies and must not be used.

- C. Complete assembly and testing of the carburetor per instruction in the Aircraft Carburetor Service Manual.
- D. Stamp or etch a small 'V' on the lower portion of the name plate to indicate compliance with this bulletin.
- E. Install, adjust, and verify proper operation of the carburetor in accordance with the applicable engine/airframe maintenance and operation manual(s).

**NOTE:** Vertical black bands in the left hand margin denote changes from previous release.