



1585 Aviation Center Parkway  
Hangar 804  
Daytona Beach, FL 32114

# MANDATORY SERVICE BULLETIN

MSB-2010-001

Technical Data FAA Approved

- DATE:** November 11, 2010
- SUBJECT:** Propeller Compatibility
- MODELS AFFECTED:** All Aircraft with equipped with Hartzell HC-C3YR-1RF/F7282 3-Blade Propeller Systems and Power Flow Tuned Exhaust Systems. (See Table 1 for Aircraft Applicability).
- TIME OF COMPLIANCE:** Unless already accomplished, at next Annual or 100 hr inspection (whichever comes first), or sooner if practical, but no later than 12/31/2011.
- DESCRIPTION:** Hartzell Propeller has advised that modifications such as tuned exhaust systems may affect the vibrations imposed on propeller systems in a manner that may invalidate original certification testing. Power Flow Systems, Inc. and Hartzell Propeller have conducted additional testing on Power Flow equipped aircraft to determine if any vibration changes exist.
- During the testing, it was discovered that vibration loads did change under certain flight regimes and power combinations. As a result, the operating limitations for this propeller installation must be revised.
- CORRECTIVE ACTION:** Install the included placard in place of the existing placard on the instrument panel, between the manifold pressure gage and the tachometer. The placard should read: **“AVOID CONTINUOUS OPERATION BELOW 22 INCHES HG BETWEEN 1950 AND 2350 RPM”**
- Replace the Hartzell AFMS with the revised Hartzell AFMS (See Table 2 for document number).



**APPLICABILITY TABLE:** All aircraft that have both PFS exhaust systems and Hartzell 3-Blade Propeller Model HC-C3YR-1RF/F7282 are affected. The table below lists the STC numbers of the modifications. If the aircraft has the PFS STC and the Hartzell STC installed, this service bulletin applies.

Aircraft	PFS STC	Hartzell STC
Cessna 177B	SA02115AT or SA02674AT	SA1556GL
Cessna 177RG	SA03623AT	
Mooney M20B,C,D,G	SA02549AT	SA4529NM
Mooney M20E,F,J	SA02871AT	

Table 1 -- Applicability

**SERVICE KITS:** Replacement placards and updated manuals are being shipped with this service bulletin, as well as updated copies of Hartzell STC.

**INSTALLATION:** Remove the existing manifold pressure limitations placard and install the provided placard on the instrument panel, between the manifold pressure gage and the tachometer. A new placard may be fabricated in lieu of installing the supplied placard. Remove the existing Hartzell flight manual supplement from the aircraft flight manual and install the included flight manual supplement. Make a logbook entry in the Airframe log stating that this Service Bulletin has been complied with.

**RELATED DOCUMENTS:**

Aircraft	PFS ICA	Hartzell STC	Hartzell AFMS
Cessna 177RG	PFS-13752-00 Rev D	SA1556GL	AFMS_011210 Rev B Dated Jan/12/2010
Cessna 177B (PFS-13705)	PFS-13751-00 Rev E		
Cessna 177B (PFS-13703)	PFS-13760-00 Rev C		
Mooney M20B,C,D,G	PFS-0068-00 Rev F	SA4529NM	AFMS_011810 Rev IR Dated Jan/18/2010
Mooney M20E,F,J	PFS-16150-00 Rev E		

Table 2 – Related Documents

**PRICING INFORMATION:** One replacement placard and the associated documents will be provided to each affected customer free of charge. Installation labor is not covered.

**ALTERNATE MEANS OF COMPLIANCE:** There are currently no alternate means of compliance for this Service Bulletin.



**CONTACT INFORMATION:** Power Flow Systems, Inc.  
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## Power Flow Systems, Inc. MSB 2010-01

Hartzell 3 blade Propeller manifold pressure/RPM limitation

After installing the Placard and Flight Manual Supplement on your aircraft, please fax, email or call us to confirm that you have complied with this Mandatory Service Bulletin.

**Our fax #: 386.248.1587**

Our email: [info@powerflowsystems.com](mailto:info@powerflowsystems.com)

Our phone: 386.253.8833

**Your Name:** \_\_\_\_\_

**Your aircraft registration number/mark:** \_\_\_\_\_

**Date complied with the Service Bulletin:** \_\_\_\_\_

**Did you install the new manifold pressure/RPM placard? Y N**

**Did you install the Propeller Flight Manual Supplement in your aircraft manual/POH?**

**Y N**

**Did you make a logbook entry noting compliance with this SB? Y N**

Please fax, email or call us with this information.

Thank you.