



**Piper Aircraft, Inc.**  
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Vero Beach, FL, U.S.A. 32960

# SERVICE NO. 1103F BULLETIN

## PIPER CONSIDERS COMPLIANCE MANDATORY

Date: September 1, 2015

(S)

Service Bulletin (SB) 1103F supersedes SB 1103E in its entirety. Aircraft that have previously complied with SB 1103E are in compliance with SB 1103F.

**SUBJECT:**

**ENGINE MOUNT INSPECTION**

**REASON FOR REVISION:**

SB 1103F adds a note specifying which personnel are qualified to do the fluorescent penetrant inspection, in accordance with FAA requirements.

**MODELS AFFECTED:**

PA-46-310P Malibu

PA-46-350P Mirage

PA-46R-350T Matrix

**SERIAL NUMBERS AFFECTED:**

46-8408001 through 46-8408087;

46-8508001 through 46-8508109;

46-8608001 through 46-8608067;

4608001 through 4608140

4622001 through 4622200; 4636001 through 4636620

4692001 through 4692207

**COMPLIANCE TIME:****Part I. Inspection**

- For all PA-46-310P Malibu airplanes:  
Upon reaching 850 hours time in service on the engine mount, initial inspection is to coincide with the next regularly scheduled maintenance event. Thereafter, compliance is accomplished with a recurring inspection not to exceed 100 hours time in service.
- For PA-46-350P Mirage and PA-46R-350T Matrix airplanes with engine mount P/N 89137-002, 89137-041 or 89137-042 installed:  
Upon reaching 200 hours time in service on the engine mount, initial inspection is to coincide with the next regularly scheduled maintenance event. Thereafter, compliance is accomplished with a recurring inspection not to exceed each 100 hours time in service.

**NOTE:** For PA-46-350P Mirage and PA-46R-350T Matrix models only, Piper has developed a corrective action to eliminate the recurring inspection requirement, whether or not a crack has been discovered. If the engine mount on an affected PA-46-350P or PA-46R-350T model is replaced with P/N 89137-043 (Part II), the repetitive inspection requirement is eliminated.

**Part II. Replacement**

If cracks are found during the Inspection in Part I, the cracked engine mount is to be replaced.

**APPROVAL:**

The engineering aspects of this service document have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

**PURPOSE:**

Cracks may develop in the area of the nose gear actuator attach feet on the engine mount (see Figure 1). This condition can occur when the nose landing gear is subjected to excessive loads due to hard landings, rough field operations, excessive speed turns, improper airplane towing (sudden, aggressive starts and stops), or other improper operations.

**NOTE:** If an airplane is subjected to the improper operations described above at any time, the inspection described in this service bulletin must be performed prior to next flight.

**Part I** of this service bulletin requires a repetitive inspection of the engine mount.

**Part II** of this service bulletin requires replacement of the engine mount.

**INSTRUCTIONS:**

**NOTE:** This service bulletin does not cancel or alter any Unscheduled Maintenance Checks in section 5-50-00 of applicable airplane maintenance manuals.

**Part I. Inspection**

**NOTE:** This fluorescent penetrant inspection shall be performed only by personnel with "Level I Special" qualification or higher, as described in Advisory Circular 65-31B, "Training, Qualification, and Certification of Nondestructive Inspection Personnel."

1. Clean the engine mount actuator attach feet area.
2. Completely remove all of the paint or Dinitrol AV8 and AV30, if the paint was previously removed and covered with Dinitrol AV8 and AV30, from the inspection area (refer to Figure 1).

**NOTE:** Paint must be removed using chemical processes only. The use of abrasives or other mechanical methods to remove the paint will hide the existence of any cracks, making an accurate inspection impossible. Use isopropyl alcohol to wipe clean the area of the engine mount where paint was removed.

3. Perform fluorescent penetrant inspection of the nose gear actuator attach feet for cracks per AC 43.13-1B, Chapter 5, Section 5. Inspect the surfaces identified in Figure 1, with specific emphasis on welded areas.
4. If a crack is discovered, the engine mount must be replaced prior to further flight (refer to Table 1).
5. If no cracks are found, continue the repetitive inspection per the compliance time above.
6. Clean the feet and apply a two-coat corrosion prevention compound (CPC) to the area where the paint was removed. This two-coat CPC consists of Dinitrol/Ardrox AV8 as a primer coating and (after the AV8 has dried) Dinitrol/Ardrox AV30 as a top coating.
7. Make an appropriate logbook entry of compliance with this service bulletin for each repetitive inspection.

**Part II. Replacement**

1. If cracks are found on the engine mount, order the appropriate replacement engine mount found in Table 1, and hardware, as required.
2. Install the new engine mount according to procedures in the applicable Piper airplane maintenance manual. For PA-46-350P Mirage or PA-46R-350T Matrix model airplanes only: fasten the aft end of the nose gear actuator to the engine mount using the hardware arrangement shown in Figure 2. Torque nut according to requirements in section 91-10-00 of the applicable Piper airplane maintenance manual. At all other locations, hardware in serviceable condition may be reused.
3. Reinstall nose gear according to instructions in the applicable Piper airplane maintenance manual. Confirm that the nose gear conforms to the following requirements:
  - Adjust length of nose gear actuator according to maintenance manual instructions.
  - With the landing gear in the down and locked position and airplane weight on the wheels, verify that the clearance between the steering rollers and the steering arm is between 0.010 and 0.030 inches. This clearance requirement applies to both rollers at the same time.

**NOTE:** As the engine may have been removed for a number of reasons, it is the responsibility of the installation agent to assure the proper re-installation, functional checks and operational suitability of the engine prior to returning the airplane to service. Refer to the applicable engine manufacturer's maintenance manual and Piper airplane maintenance manual in the appropriate chapters.

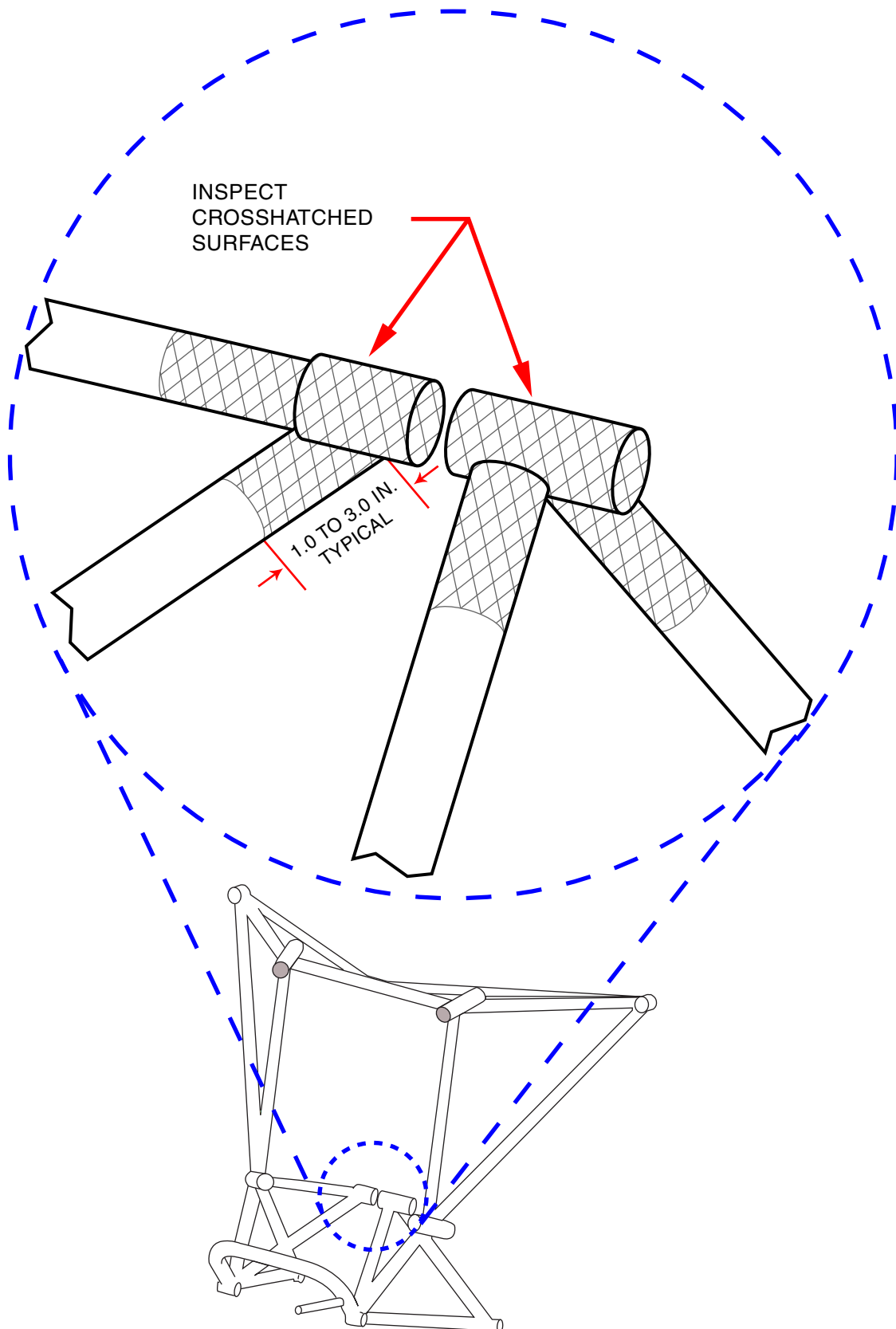
4. For PA-46-350P Mirage or PA-46R-350T Matrix model airplanes only; in the weight and balance record of the Pilot's Operating Handbook, revise the "weight and balance" as follows:

ADD 1.25 LBS AT ARM 78.00.

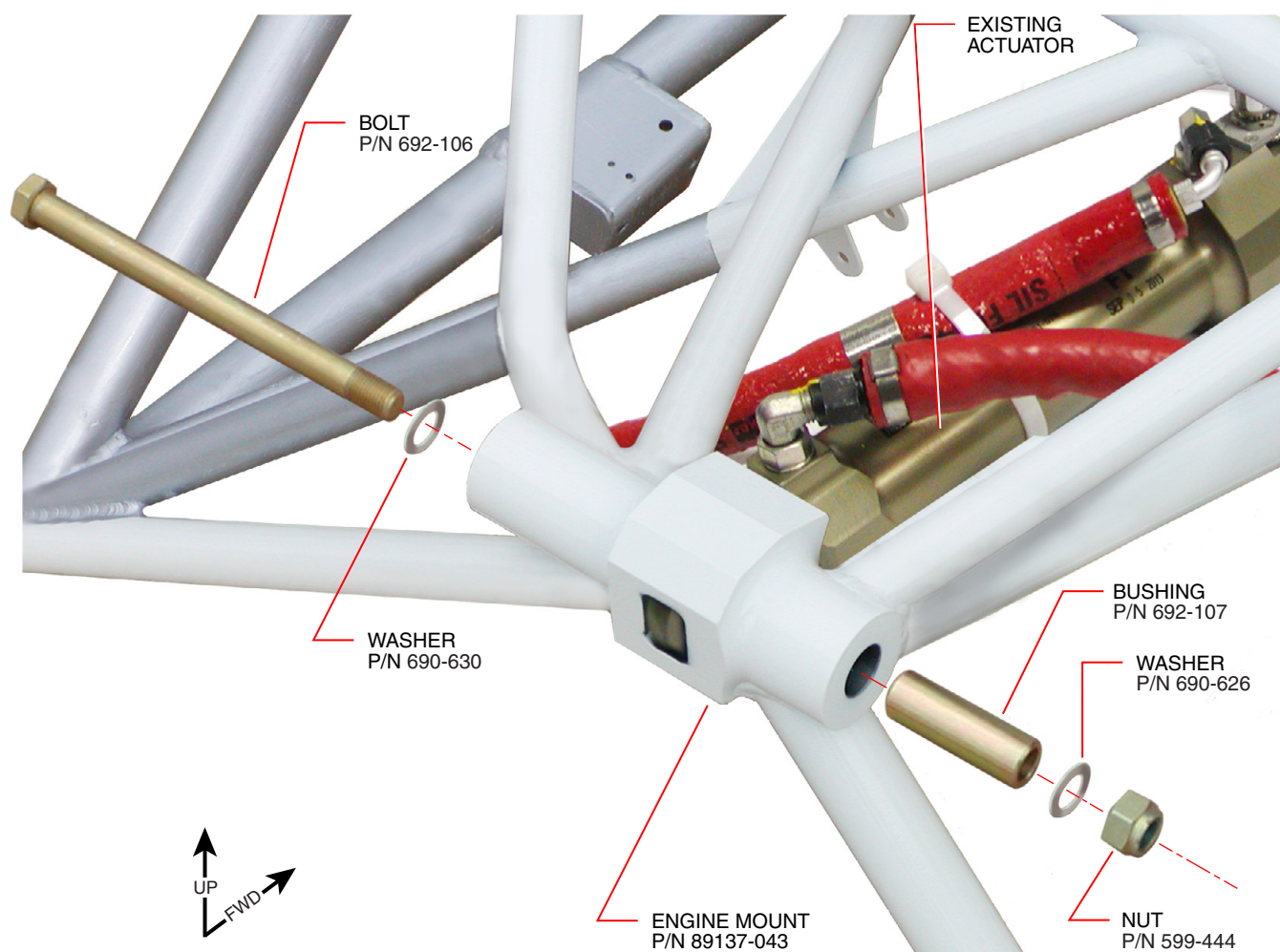
5. Make a logbook entry documenting compliance with Part II of this service bulletin.

**TABLE 1**  
**REPLACEMENT ENGINE MOUNTS**

| <b>Aircraft Model</b> | <b>Engine Mount P/N</b> | <b>Recurring Inspection Required?</b> |
|-----------------------|-------------------------|---------------------------------------|
| PA-46-310P            | 84010-002               | YES                                   |
| PA-46-350P            | 89137-043               | NO                                    |
| PA-46R-350T           | 89137-043               | NO                                    |



**Figure 1**  
Engine Mount Inspection Areas

**Figure 2**

Engine Mount Hardware Installation - P/N 89137-043 Only

**MATERIAL REQUIRED:**

One (1) each engine mount, per aircraft, on condition. For P/N 84010-002, existing hardware in serviceable condition may be used on replacement engine mount.

84010-002 PA-46-310P Malibu

89137-043 PA-46-350P Mirage and PA-46R-350T Matrix

**Hardware for 84010-002 (PA-46-310P)**

| Piper P/N | Part   | Nomenclature  |
|-----------|--------|---------------|
| 401-509   | Bolt   | AN7-15A       |
| 599-444   | Nut    | MS21044N7     |
| 690-630   | Washer | NAS1149F0763P |

**Hardware for 89137-043 (PA-46-350P/PA-46R-350T)**

| Piper P/N | Part    | Nomenclature  |
|-----------|---------|---------------|
| 692-106   | Bolt    | AN7-55A       |
| 692-107   | Bushing | NAS73-7E114   |
| 599-444   | Nut     | MS21044N7     |
| 690-626   | Washer  | NAS1149F0732P |
| 690-630   | Washer  | NAS1149F0763P |

**AVAILABILITY OF PARTS:**

Your Factory Authorized Piper Service Facility

**EFFECTIVITY DATE:**

This service bulletin is effective upon receipt.

**SUMMARY:**

Applicable factory participation is limited to new aircraft in warranty as of the release date of this service bulletin.

Please contact your Factory Authorized Piper Service Facility to make arrangements for compliance with this service bulletin in accordance with the compliance time indicated.

**NOTE:** Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, and current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.  
Attn: Customer Service  
2926 Piper Drive  
Vero Beach, FL 32960