

Service Letter



20-87
DATE: 12-20-61

(This Service Letter is FAA Approved)

SUBJECT: Repair for Cracks in Nose Gear Leg, P/N 5074

MODELS AFFECTED: M20, M20A & M20B, Serial Numbers 1002 thru 1884

TIME OF COMPLIANCE: On or Before Next Periodic or 100 Hour Inspection and at Each Subsequent 100 Hour Inspection

INTRODUCTION:

A modification has been made to the nose gear leg (P/N 5074) on all airplanes subsequent to Serial No. 1884. This modification consists of adding four welds, each 1.0 in. in length, at the 5164 plate (E1 change). These welds were added when reports were received that cracks had been found in the welds between P/N 5164 plate and the -9 and -10 tubes after a hard nose gear landing had occurred or the airplane had been taxied across unusually rough ground where severe rebound conditions occur. We recommend that the nose gear leg be inspected and the above modification made on any airplane within the group indicated which exhibits a cracked weld or deformed 5164 plate. (See Fig. 1)

INSTRUCTIONS:

1. Inspect the nose gear leg in the area of the P/N 5164 plate at the top of the shock stack. Cracks have been found in the welds between this plate and the two horizontal tubes (5074-9 and -10).
2. If no cracks are found, no modification is required.
3. If a crack is found, the following criteria should govern the approved repair.
 - a. If the crack is longer than 3/8 inch, the gear leg should be replaced.
 - b. If the crack is 3/8 inch or less in length, Vee the crack out on a 1/8" radius minimum and add the 1.00" welds on the inside of the tubes at the four corners as shown in Figure 1. Do not add any weld to fill up the Vee where the crack had existed.
4. If the 5164 plate is deformed downward as shown in Figure 2, the four welds should be added provided the deformation is within the limits shown. If the plate is deformed past the limit, the leg should be replaced.
5. If the 5164 plate is deformed past .050 and cracks are found in the welds, the gear leg should be replaced.
6. The gear should be completely disassembled before any welding is accomplished. All welding shall be either arc or heliarc welding. A.W.S. Class E12015 or E10016 electrodes must be used for arc welding and an equivalent rod used for heliarc welding. Under no condition should gas welding be used. No heat treatment is recommended after welding. All welding must be done by an F.A.A. certified welder. Care should be taken to keep from overheating the assembly. Adequate time should be allowed between laying each bead to cool the part. Spacers are recommended between the mating parts to keep shrinkage and deformation to a minimum.

FIG. 1 -- TOP VIEW OF 5164 AND 5074-9A & -10

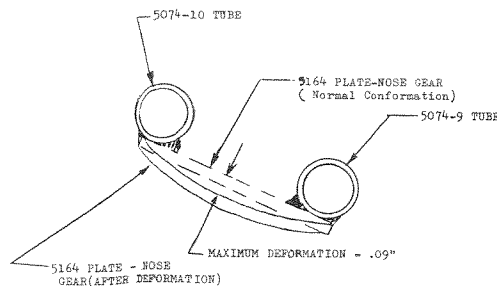


FIG. 2 - END VIEW OF 5164 AND 5074-9 & -10

2 Add these welds if necessary to meet the requirements of this service letter.

1 Inspect for cracks in the weld at the four corners of 5164.

NOTES:

SEE DRAWING 5074

VIEW B-B

