MUSTANG TECH

REINFORCING THE CARBURETOR AIR DUCT AND OTHER MUSTANG MODIFICATIONS FROM THE 24 JULY 1943 ISSUE OF NAA WEEKLY SERVICE NEWS

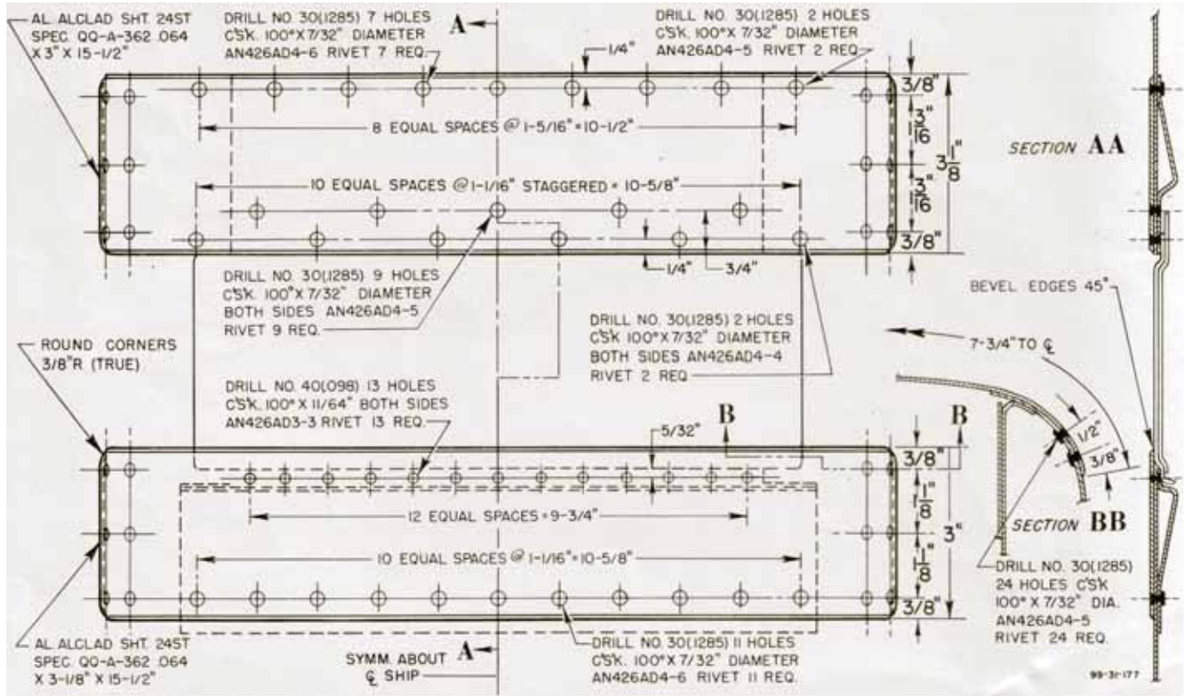

FIGURE 1: Illustration of how the strengthening modification would be undertaken.

A corrective measure has been undertaken by Engineering to prevent engine backfires from damaging the air filter door on the P-51A series. This is accomplished by two 24ST Alclad (.64) strips forward and aft of the air duct door as shown in FIGURE 2. These reinforcement strips have been tested under normal conditions at the factory and proved satisfactory.

NAA Field Service Bulletin is being prepared on the subject with instructions for this rework on service aircraft. When this information is approved and released by the Air Service Command, the rework is to be accomplished by AAF Service Activities.

AIRPLANES AFFECTED: The installation of these reinforcement strips is contemplated on all P-51As in service, 43-6003 to 43-6312 inclusive. All spares in stock are also affected.

PARTS REQUIRED: Alclad strips can be obtained from salvaged stock and the other parts required from regular stock.

REWORK PROCEDURE: A brief outline of how the rework will be accomplished is as follows:

The top front engine cowl panel (NA 99-31073) is removed from the airplane.

Layout of the two 24ST Alclad (.64) reinforcement strips is shown in FIGURE 1.

When the strips are cut and drilled they will serve as templates when drilling the holes in the cowling skin. A few holes will have to be countersunk on the underside of the skin.

"C" clamps are used to hold the strips tightly against the skin, binding them to fit the contour of the cowling.

The forward strip is placed along the edge of the hinge in the air duct door. The aft strip is placed to overlap the opening edge of the door 3/8th-inch (FIGURE 2).

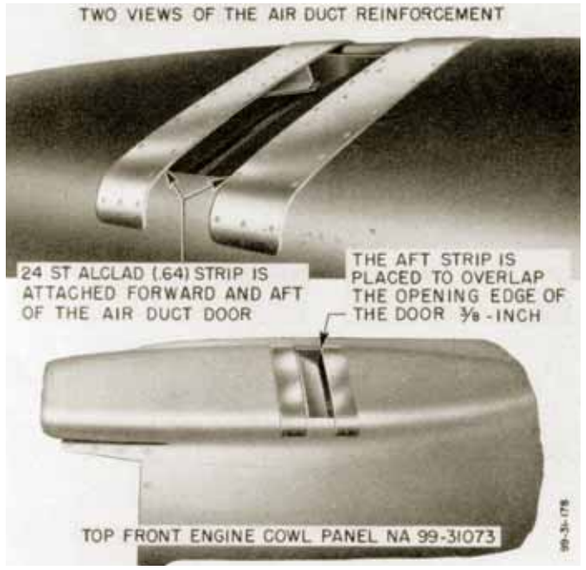

FIGURE 2: The reinforcement strips would prevent the panel from possibly blowing off as a result of a backfire.

The strips are centered in line with the center of the air duct door and when in this correct position they are first riveted at the two outboard center holes on the edge. This will hold them so that the balance of the riveting may be done properly.

This is for information only: When and how the rework is to be done is left to the discretion of the Army Air Forces.

INSTALLATION OF SPARK PLUG COOLING TUBES

At the request of the Army Air Forces, action is being undertaken to install and connect the spark plug cooling tubes on all pursuits in service. Combat experience has proved that the spark plug cooling tubes are absolutely essential for War Emergency Operation. Therefore, the following procedure in contemplated:

The airplanes which will be affected are: P-51A 41-37320/-37469 inclusive, and A-36A 42-83663/-83912 inclusive. Spark plug cooling tubes were mounted on the engine of these airplanes but the tubes were not connected at the factory to an external source of air to provide spark plug cooling for War Emergency Rating operation. Therefore, in order to complete this installation, flex lines are to be routed from the tubes to the lower section of the engine ring cowling where an air inlet fitting is to be installed.

The following service airplanes were not equipped with spark plug cooling provisions: A-36A 42-83913/-84162 inclusive, and P-51A 43-6003/-6312 inclusive. Field Service is to carry out the complete rework which involves the installation of the tubes and the connection of the flex lines on these airplanes.

An NAA Field Service Bulletin, soon to be issued, is now being prepared on the subject. This will explain in full detail how the rework is to be accomplished, and when the parts will be available.

This article is for information only. When and how the rework is to be done is left to the discretion of the Army Air Forces.

FULL OPERATION SEQUENCE FOR LANDING GEAR DOWN POSITION

To prevent bending and shearing of the pin in the bellcrank (NA 99-33586) on P-51A, P-51B, and P-51C pursuits, as has been reported from the field, Engineering recommends the following action be taken.

Pilots of the above type airplanes should be cautioned that a full operating sequence to DOWN position must be completed before attempting to reposition the control. The purpose of the pin is to lock the landing gear control handle in the DOWN position during the operating sequence of the landing gear. Forcing the handle to the UP position before completion of the cycle will result in the pin being bent and possibly sheared off. However, the handle may be moved from UP to DOWN at any time.

Inspection and necessary adjustments should be made to provide a 7/8th-in minimum clearance between the end of the pin and the steel bushing on the shaft when the landing gear doors are closed (FIGURE 4).

The doors are deflected by the air loads during flight, thereby allowing bellcrank (NA 99-33586) to lock the landing gear controls when pin engages hole in tube assemblies (NA 73-33552-2-3). This condition can be prevented by maintaining a distance of 7/8th-in minimum between tube and pin when doors are closed.

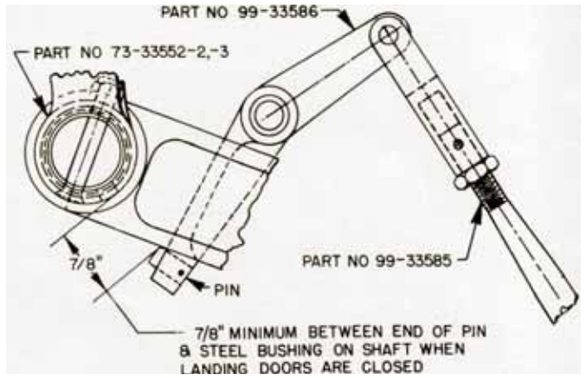

FIGURE 4: The bellcrank rework.

SCR-247N RADIO ANTENNA DELETED ON PURSUITS

In accordance with a request from Army Air Force Material Command, provisions for installation of the SCR-274N radio antenna will be deleted on P-51B 43-12093 and subsequent pursuits. As a result of this modification, one IN-88 insulator and one antenna coupling will also be deleted.

It should be noted that in the event the SCR-274N radio equipment should have to be installed in the future, an IN-88 insulator will be required. **MI**

The carburetor cowling strengthening strips were to be applied to the P-51A/A-36A force. Of note is the fact that all spares had to be also modified. NAA, as well as other American aircraft manufacturers, built huge quantities of spares for their aircraft.