

CULVER AIRCRAFT CORPORATION
WICHITA, KANSAS

NO. 11

SERVICE MEMORANDUM

SUBJECT: Alteration and Maintenance of Cooling Baffles of Culver Model LFA (Franklin Powered).

TO: Owners of Model LFA - Serials 204 to 397.

1. It has come to our attention that in certain cases the engine cooling on airplanes of the subject model has varied greatly in excess of the original approved limits after some service time has elapsed. A joint study by Aircooled Motors, the engine manufacturer, and this company has clearly shown that in every instance this overheating has been due to the deterioration of the leather facings on the cooling baffles, thus allowing air leakage between the baffles and the cowling. In some cases the baffles themselves have been mutilated or otherwise deformed, probably during service work on the airplane.

2. In closed cowl airplanes, it is necessary to resort to pressure cooling in order to obtain proper cooling of the engine. Cooling baffles are installed therefore, to force the air around the cylinder and cylinder head fins by closing off all other passages to the air between the air inlet openings and the exit opening. By virtue of the pressure difference, or suction, between the said openings, air is forced thru the fins at a high rate of speed, thereby insuring proper cooling. It follows, therefore, that if leakage around the baffles occurs, proper cooling can not be expected. Prolonged ground running of the engine in pressure baffle systems tends to overheat the engine because of absence of forward air speed and should be avoided. Figs. 1, 2, and 3 illustrate the general baffle system.

3. Service has shown that the leather facings on the baffles lose their resiliency with heat and time. To correct this situation, we strongly recommend the following procedure: Replace the leather with 1/2" thick hard felt in accordance with Figure 4, making sure that the baffle plates clear the cowling by 1/4" and that the felt extends 1/2" beyond edge of plate. To do this, nose cowl must be removed as indicated in Fig. 3 and all leather replaced by felt. SAE F-6, F-7, F-12, F-13, or F-15 is suitable for the purpose. If none of these grades may be obtained locally, the Culver Service Department will forward enough strips for one airplane at cost of \$0.85 upon request, postage prepaid. Do not use any other type of felt than specified. Figs. 1, 2, and 3 show the proper installation of the felt.

4. Upon reassembly make absolutely sure that no leaks exist. At intervals, such as regular check periods, recheck the fit of the baffles. The owner is urged to do this personally. Aircooled Motors has replaced many parts free of charge due to improper cooling from the above causes. After circulation of this bulletin, however, they feel that compliance with same is necessary to make their warranty valid. If you have sold

your airplanes, please forward this bulletin to the new owner.

5. Appropriate entry of compliance with this memorandum is to be made in the log books by the mechanic doing the work.

ENGINEERING DEPARTMENT

C. M. Jamieson
C. M. JAMIESON,
Chief Engineer

Approved November 24, 1941

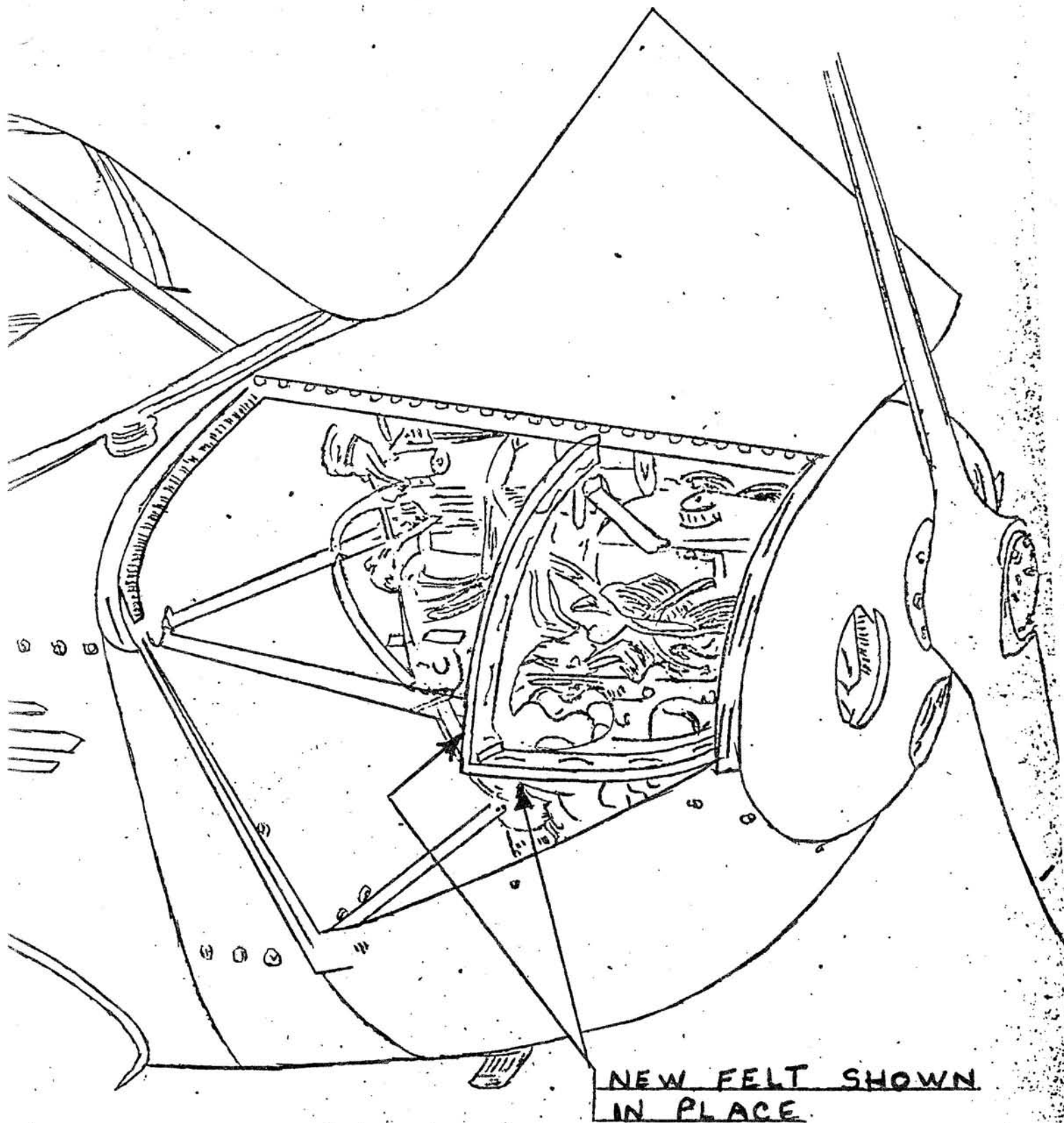
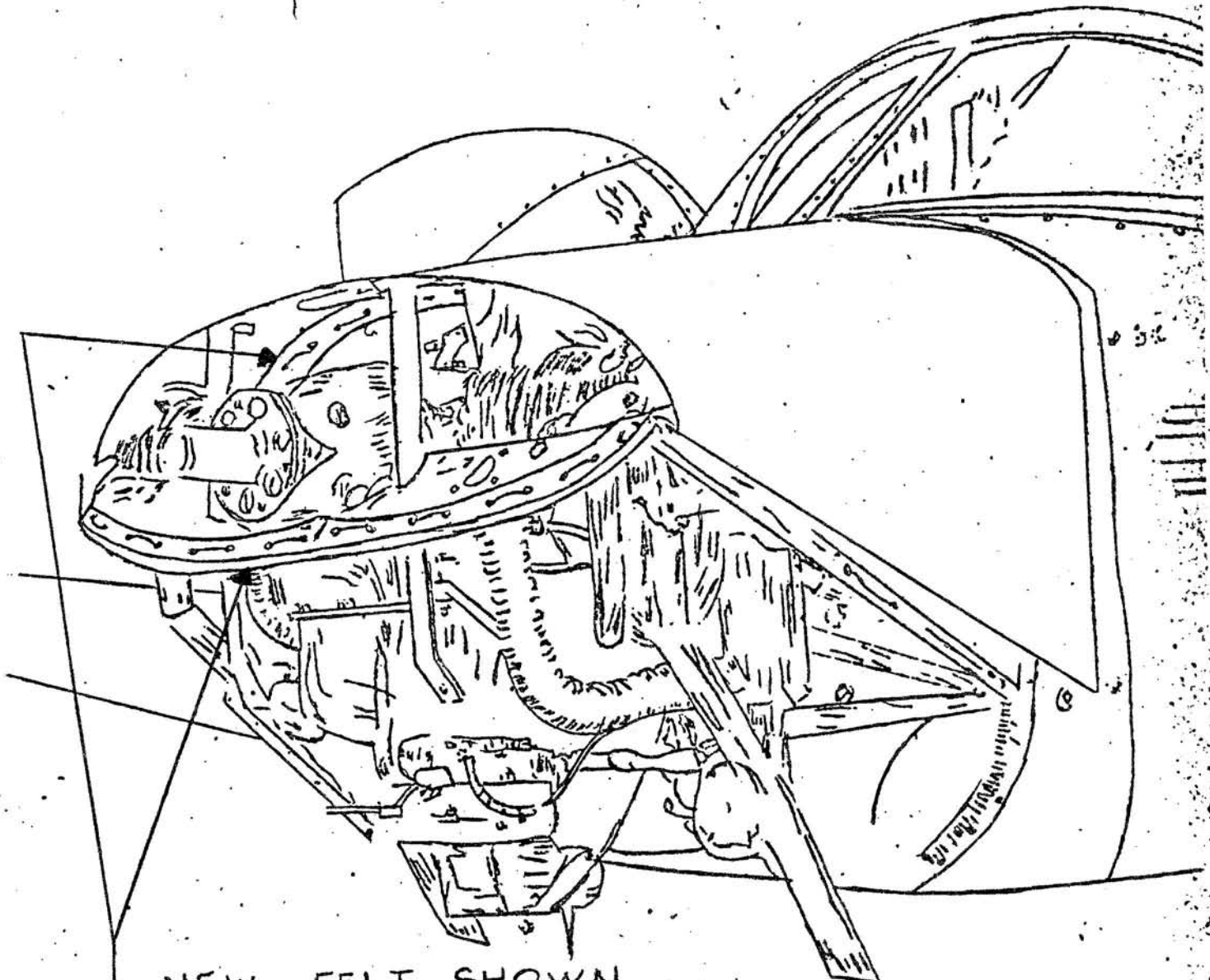
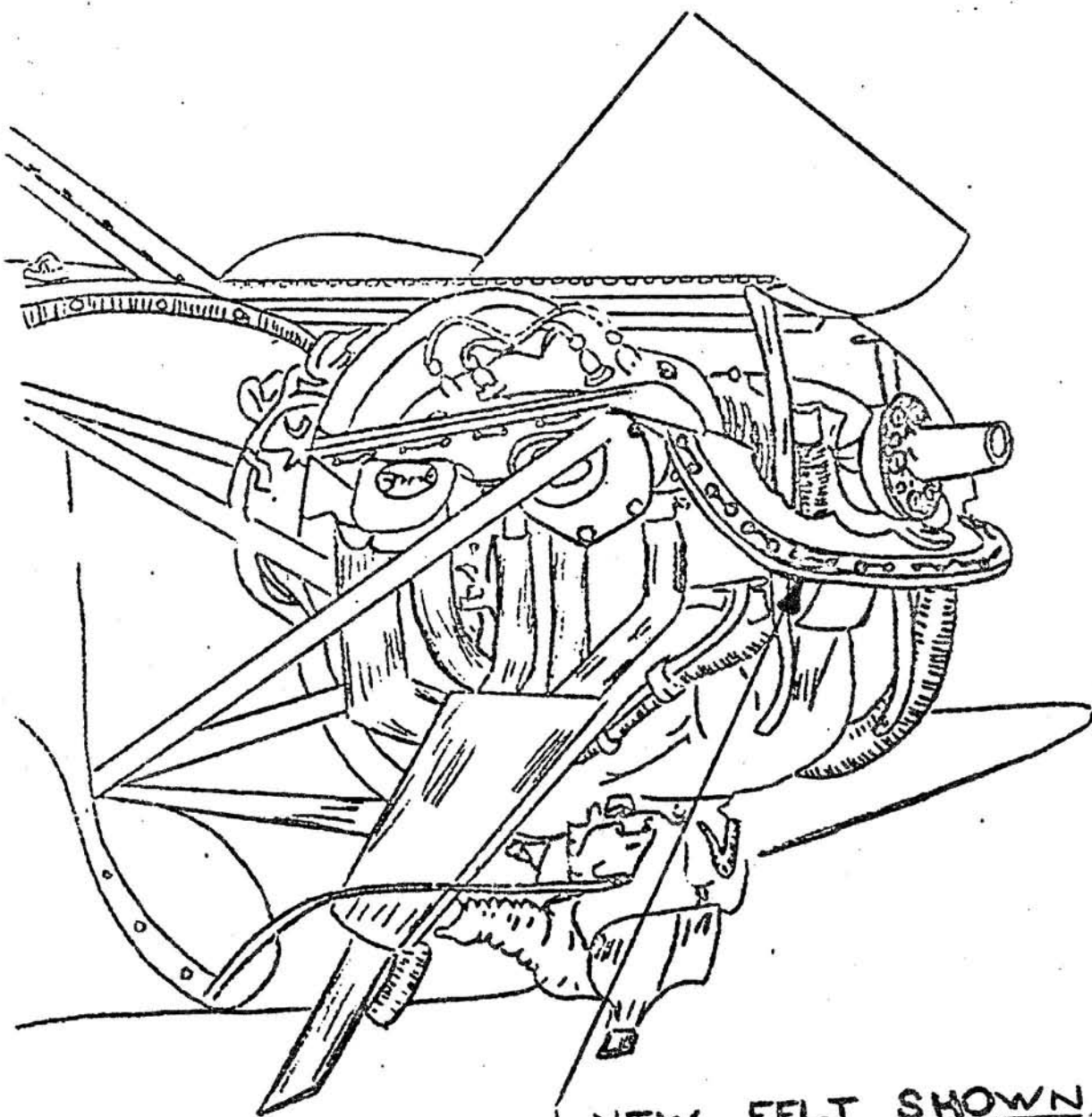


FIGURE 1



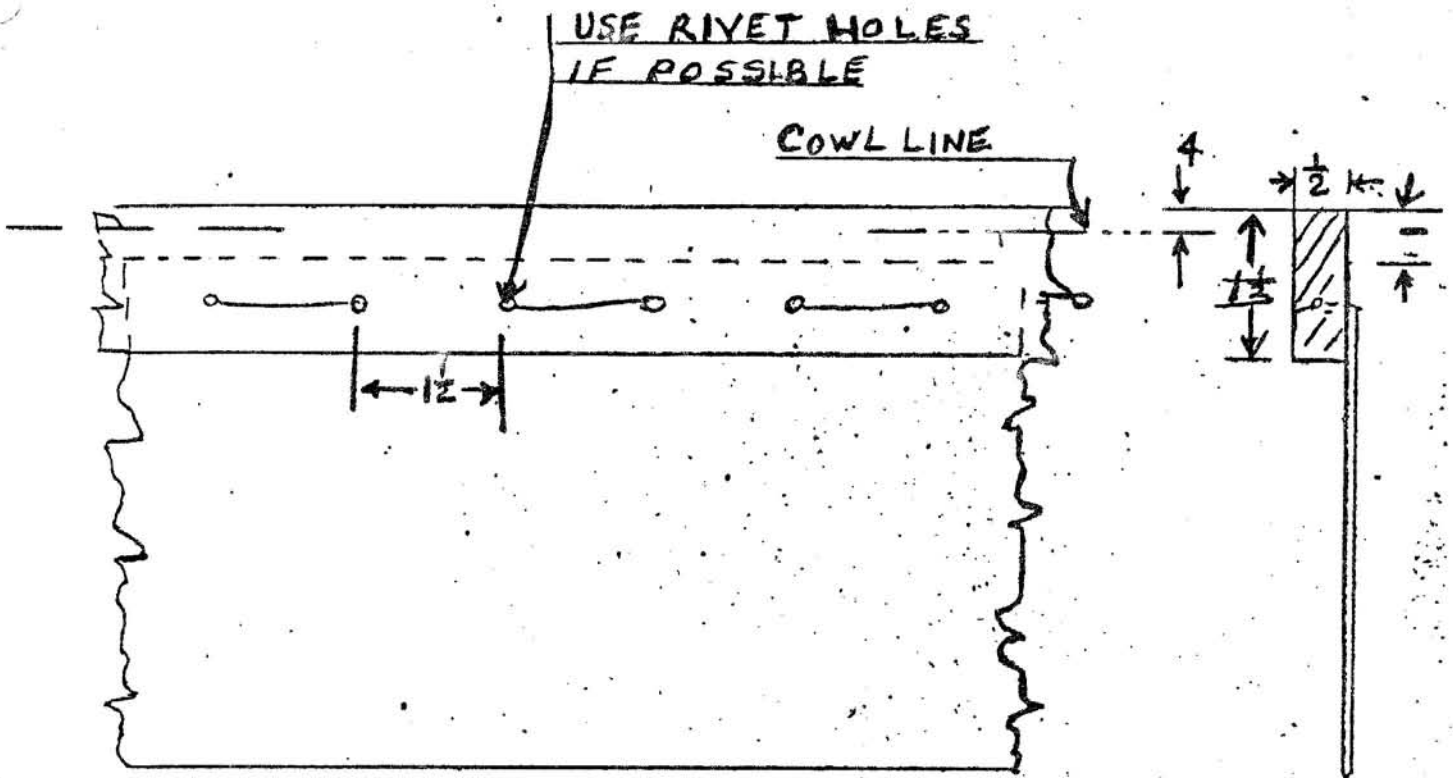
NEW FELT SHOWN
IN PLACE

FIGURE 2



NEW FELT SHOWN
IN PLACE |

FIGURE 3.



NOTE

ALL FELT TO BE ADDED
TO FRONT OR TOP OF BAFFLE

LACE ON WITH SAFETY WIRE

FIGURE 4