

## IMMEDIATE ACTION

# SERVICE

NUMBER 65



# BULLETIN

October 12, 1942  
Rev. Date: 2-20-46

**SUBJECT:** Fuel Tank Repairs

**MODELS AFFECTED:** J5A and J5B Serial Nos. 5-2 to 5-1384 inclusive  
and all Model J4E Airplanes

The following instructions are to cover repairs of minor cracks, pin holes and failed spot welds in the stainless steel wing tanks:

### 1. EXPLOSION PRECAUTIONS

Before attempting any repairs on a fuel tank the following precautions should be taken:

1. Drain tank and remove from airplane.
2. After all liquid fuel has been drained, flush the tank with carbon-tetrachloride (fire extinguisher fluid) or, if this is not available, blow out the tank thoroughly with live steam.

### 2. CRACKS IN SKIN

Drill a small hole (1/16" to 1/8") at each end of the crack, as shown in the sketch. Make up a patch of at least .012" stainless steel or terne plate, large enough to extend approximately 1" beyond crack in all directions, if possible. Sweat-solder patch over cracked area.

### 3. PIN HOLES AND FAILED SPOT WELDS

Pin holes or failed spot welds, where no cracking is present, may be soldered closed with a generous amount of solder.

**PIPER AIRCRAFT CORPORATION, LOCK HAVEN, PA., U. S. A.**

NUMBER 65

4. FAILED SPOT WELDS AT SKIN STIFFENER CHANNELS

(Upper Surface of Tank)

The three rows of spot welds, running across the upper surface of the tank, attach the skin stiffener channels. Some of the spot welds have failed allowing the channels to vibrate loose. This trouble most often occurs at the ends of the channels (at the side edges of the tank). It is recommended that No. 4 Parker Kalon screws be screwed thru sound portions of the skin, near the failed spot welds, and into the channel, drawing it up securely against the skin. (Use a No. 45 drill to drill hole thru skin and channel for screw.) Then solder over the Parker Kalon screws. Solder over the spot-welded areas if the weld has pulled thru the skin metal. We recommend the installation of screws at the ends of all the channels on the upper skin in case any repairs are necessary to the fuel tank. This will serve to prevent future failures at these points.

5. SOLDERING

Some difficulty may be experienced in soldering the stainless steel parts. The areas to be soldered should be sanded or buffed to remove paint, oxide, and dirt, then brushed with "uncut" hydrochloric acid. After soldering, the affected areas both inside and outside should be flushed with a solution of bicarbonate of soda to neutralize the acid.

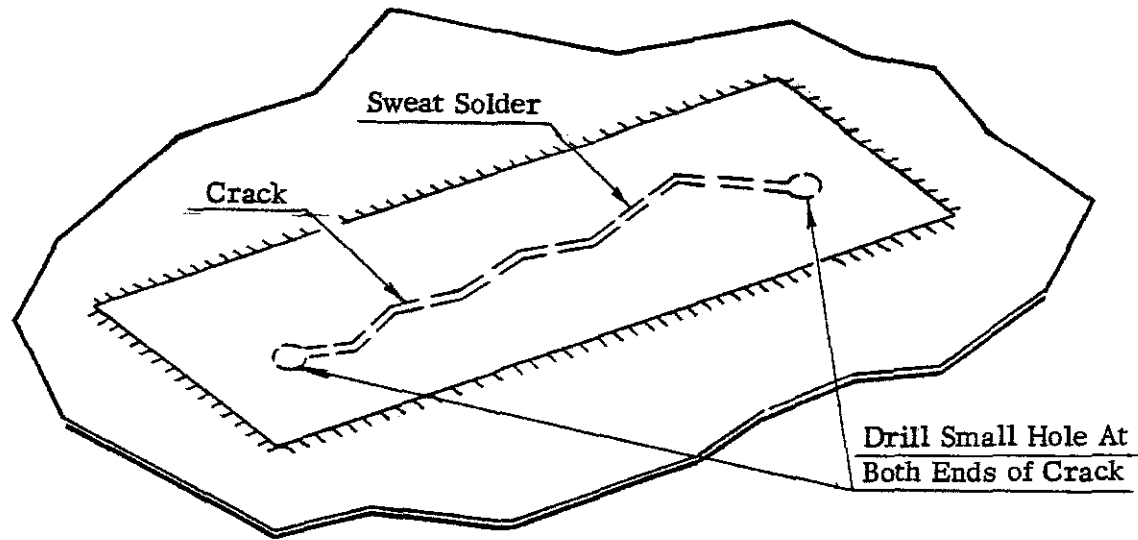
6. FUEL STAINS ON WING SPARS (J5A, J5B)

Some cases have been reported where the leaking fuel has penetrated the wing spar finish, in the region of the opening for the fuel tank.

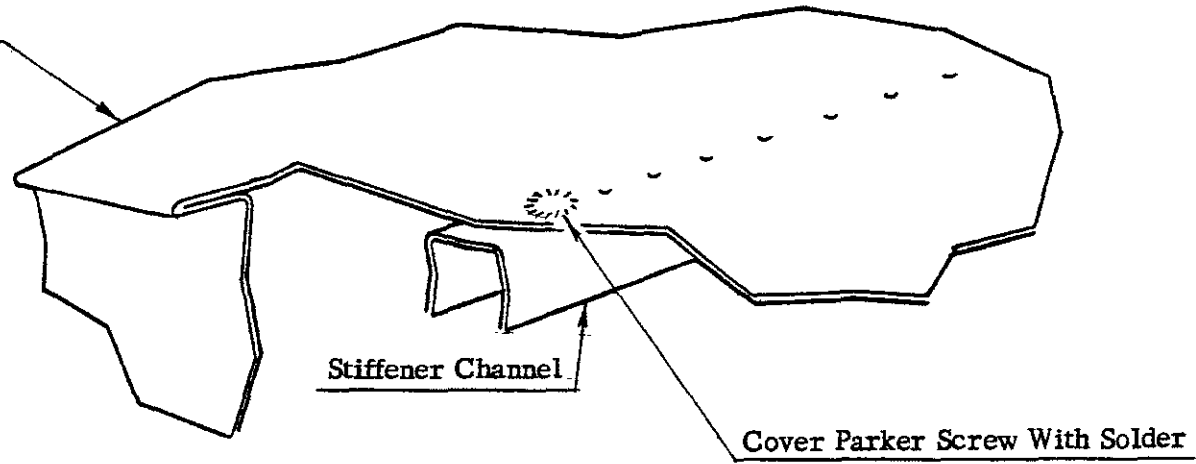
In such case, the original finish should be carefully sanded from the spar, after which the surface should be refinished with two coats of varnish, before installing the fuel tank.

These repairs should be covered by an appropriate entry in the aircraft log book.

Crack Repair



Tank Body



Spot Weld Repair