



## ▶ AIRCRAFT

**SUBJECT:** INSPECTION OF D-2000 SERIES MAGNETO CAPACITORS AND CAPACITOR LEAD CRIMP TERMINALS

**REASON FOR BULLETIN:** To recommend the following:

- I. Inspection and repair of capacitor crimp terminals and provide instructions for accomplishment.
- II. Capacitor replacement if breaker spring lift side of cam follower indicates melting.
- III. Replacement of Brass housing capacitors.

**EQUIPMENT AFFECTED:** Parts I & II All D-2000 Series Magneto Ignition Systems below Serial Number 11,744.

Part III D-2000 Magneto/Series with Serial Numbers between 8618 and 9823 for 4 cylinder versions and between 7544 and 9823 for 6 cylinder versions.

**Maintenance (Spare) Parts Affected:**

All spare D-2000 Series Magnetos and Dual Ignition Systems and D-2000 Series Capacitors.

**General Information:**

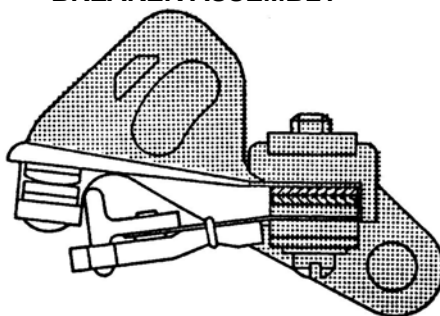
Parts I & II

**Compliance:**

At first opportunity but not later than the next regularly scheduled inspection.

Field reports indicate that occasionally a breaker assembly will be found closed up due to melting of the cam follower directly under the breaker main spring as illustrated by figure 1, view "B" (view "A" shows normal condition of cam follower.)

### BREAKER ASSEMBLY



VIEW A



NORMAL CAM FOLLOWER

VIEW B



MELTED CAM FOLLOWER

Figure 1



Cam follower melting may be caused (1) by deterioration of the crimp joint at the capacitor lead flag terminal or (2) by a capacitor internal failure. Either of these capacitor failures causes excessive breaker point arcing. Arcing results in heating of the breaker assembly main spring thus causing the follower to melt. Parts I & II of this bulletin detail the action to be taken to prevent this occurrence and instructions to correct this condition, if it exists.

**Part III.**

It has been discovered that some D2000 Magneto Capacitors P/N 10-382681 (6 cyl.), 10-382681-1 (8 cyl.) and 10-382807 (4 cyl.) have brass tubular housings. It is recommended that the brass housing capacitors be identified, removed from service and replaced with the steel housed capacitors. (Figure 6 illustrates the method for identifying capacitors with brass housings.)

**Detailed Instructions:**

**Part I.**

**Disassembly, Inspection and Corrective Action.**

- A. Remove cover from magneto and capacitor from the cover.
- B. Visually inspect the flag terminal crimp joint for the following conditions. Inspection will be aided by using magnification, 4 power or greater.
  - 1. Examine crimp joint for evidence of a tinned wire bundle as illustrated in figure 2.

**TINNED WIRE IN CRIMP**

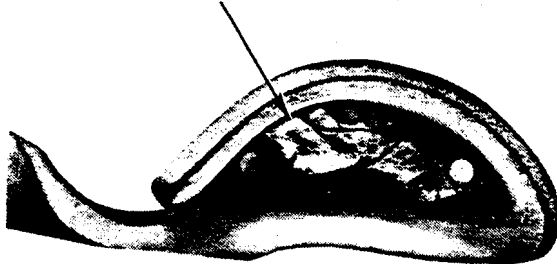


Figure 2

- 2. Look for evidence of a burning or an arcing appearance around the outline confinements of the wire bundle in the crimp area.
  - 3. Inspect the wire to flag terminal for evidence of conductor insulation extending within the confines of the wire crimp area. See figure 3.
- C. Corrective Action.
  - 1. If condition 1 is present, solder the conductor to the flag terminal following the soldering procedure outlined in paragraph D.

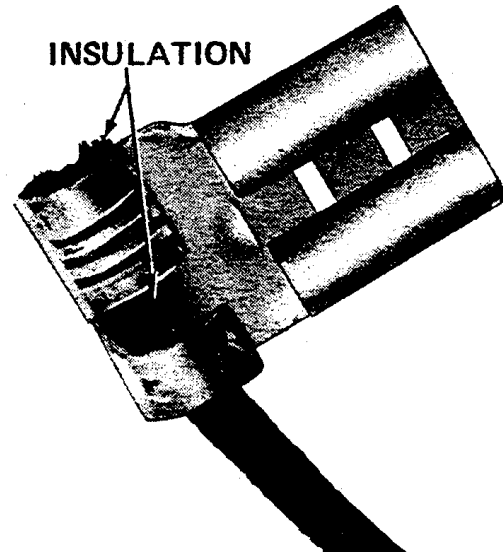


Figure 3

- 2. If condition 2 is discovered, replace with a new steel housing capacitor.
- 3. If condition 3 is evident, carefully attempt to move the insulation back from the crimp area to expose bare wire strands as shown in figure 4. Use a non metallic probe for this operation. If bare strands can be exposed as shown in figure 4, solder conductors to crimp area of flag terminal per soldering procedures outlined in paragraph D. If wire strands cannot be exposed and insulation appears to be caught within the conductor crimp area, replace the capacitor.

**WIRE STRANDS**

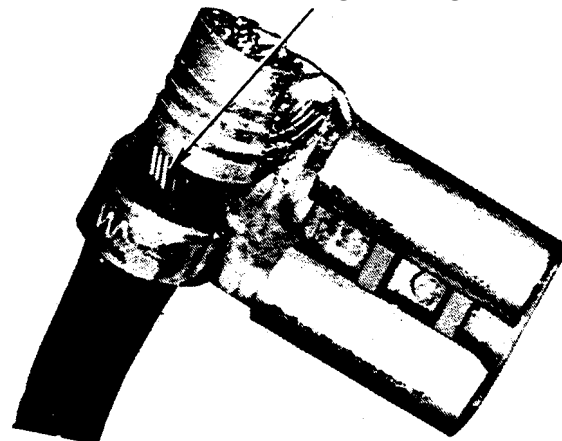


Figure 4



D. Soldering Procedure.

1. Thoroughly clean the conductor crimp area of the flag terminal. Use a stiff bristle brush and an oil free solvent such as alcohol, methylethylketone or chlorethane. Allow terminal to air dry.
2. Sparingly apply an activated liquid rosin flux to the conductor crimp area. Do not use an acid base liquid or paste flux which is corrosive in nature.
3. Using a soldering iron of 60 watt maximum rating, hold the tip firmly against the side of the flag terminal. Apply the heat under the conductor wire crimp area.
4. Apply 50/50 or 60/40 solder of the rosin core type to the heated crimp area, feeding the solder in at the open end of the crimp. Stop when molten solder appears in the area between the wire crimp and the insulation crimp. Do not use so much solder that it wicks into the wire within the insulation crimp. A properly soldered flag terminal should appear as shown in figure 5.
5. Thoroughly clean the completed soldered flag terminal of all flux residue with a brush and solvent as called out in step 1.

**WIRE STRANDS  
SOLDERED TO TERMINAL**

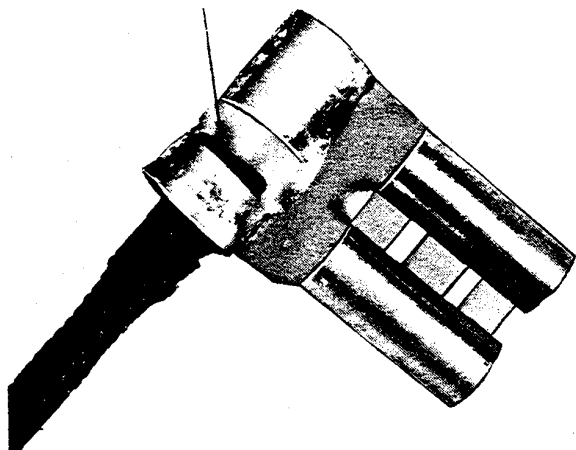


Figure 5

E. Reassembly

1. Reinstall the capacitors in the magneto cover forming the leads as shown in figure 6. Torque the capacitor securing nuts to 60-75 inch pounds.
2. An Engine Log Book entry indicating compliance with this bulletin is recommended.

Part II.

Capacitor Replacement when breaker cam follower has melted.

- A. In the event it is determined the nylon cam follower material is melted in the location where the cam follower contacts the breaker main spring as shown in figure 1, the breaker assembly and the associated capacitor must be replaced with new parts.

**CAUTION**

**Do not reuse a capacitor associated with a melted cam follower breaker assembly.**

Part III.

Capacitor Replacement, Brass Housing Types, Magneto Serial Numbers as listed under General Information of EQUIPMENT AFFECTED, Part III.

- A. When complying with inspection requirements outlined in Part I also perform a check for housing material of the capacitor as follows:
  1. Using a small magnet, determine if the tubular housing of the capacitor is steel.
  2. Apply the magnet to the housing just above the upper edge of the rubber stabilizing boot as shown in figure 6.

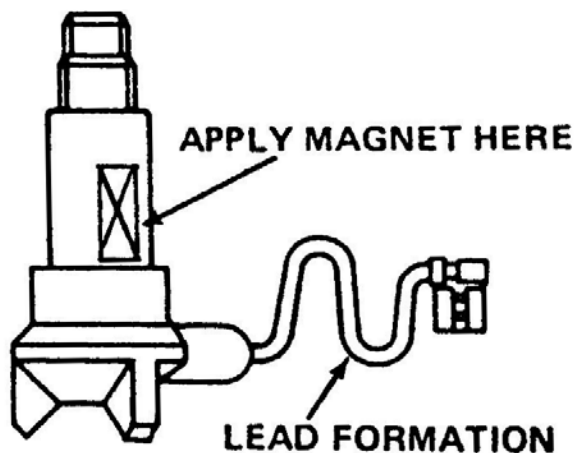


Figure 6

3. If the housing is not magnetic, the housing is brass and the entire capacitor should be replaced with one known to have a steel housing verified by the magnet checks described in 1 & 2 above.
4. Replacement for the brass housing capacitors can be procured through arrangements with recognized



Bendix Central Distributors or their outlets. Replacement will be on a no-charge/direct exchange basis through June 30, 1978.

5. After compliance with this Bulletin metal stamp the letter "S" in the lower right corner of the magneto name plate and also make an appropriate Engine Log Book entry.

**Parts Required:**

As determined by inspection.

**Special Tools Required:**

None

**Man Hours Required:**

Approximately 1/2 hour after cover is removed during an inspection procedure.

**Weight Change:**

Negligible.