

SERVICE BULLETIN NO. 152A
(SUPERCEDES SERVICE BULLETIN NO. 152
"FAA DOA EA-4 APPROVED")

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DATE: January 22, 1976

SUBJECT: UPPER COWL CENTER HINGE REPLACEMENT

SERIALS AFFECTED: AA5-0641 thru AA5-0834, AA5A-0001 thru AA5A-0050,
AA5A-0054 thru AA5A-0056, AA5B-0001 thru AA5B-0169,
AA5B-0171 and AA5B-0180 thru AA5B-0183.

TIME OF COMPLIANCE: AA-5 and AA-5A: Inspection of the upper cowl center hinge assembly for cracks within the next 50 hours of operation and every 100 hours thereafter. Replacement of the hinge with the new reinforced hinge assembly will eliminate periodic inspection requirements.

AA-5B: Inspection of the upper cowl center hinge assembly for cracks within the next 15 hours time in service or within 50 hours total time in service, whichever occurs last.

Thereafter at intervals not to exceed 15 hours time in service from the last inspection unless replaced with the new reinforced upper cowl hinge assembly in accordance with this bulletin. Compliance required within 100 hours time in service from the date of this bulletin.

GENERAL

A few instances of upper cowl hinge assembly failures have recently been reported on the model AA-5B aircraft. Cracks develop at the center hinge adjacent to the forward and aft attach brackets and progress to failure unless detected by inspection.

A new improved center hinge assembly has been developed to eliminate this failure mode. The new assembly is retrofitable on the above affected aircraft.

INSPECTION

Visually inspect the upper cowl hinge assembly adjacent to the forward and aft attach brackets for cracks. If cracks are detected, the hinge assembly must be replaced before further flight with the improved center hinge assembly.

MODIFICATION (See Figure 1)

1. Remove the upper cowl in accordance with the current model service manual.
2. Separate the original hinge assembly from the right and left upper cowl halves by removing the hinge pin.
3. The improved center hinge assembly is undrilled. The forward and aft attach bracket holes should be laid out from the original hinge. Holes should be drilled to .193".

4. Remove the forward cowl attach brackets; on AA5-0641 thru AA5-0784 and AA5B-0001 thru AA5B-0046, remove the eight (8) rivets that attach the brackets to the forward cowl.

On AA5-0785 thru AA5-0834, AA5A-0001 thru AA5A-0050, AA5A-0054 thru AA5A-0056, AA5B-0047 thru AA5B-0169, AA5B-0171 and AA5B-0180 thru AA5B-0183, remove the four (4) MS24694-S5 Screws that attach the brackets to the forward cowl.

5. Temporarily attach the forward attach brackets to the hinge assembly with the stiffeners outside of the brackets, utilizing the hardware shown in Figure 1.
6. Temporarily attach the hinge assembly to the firewall attach brackets with the stiffeners outside of the brackets utilizing the hardware shown in Figure 1.
7. On AA5-0641 thru AA5-0784 and AA5B-0001 thru AA5B-0046, match drill the forward stiffener flanges of the new hinge assembly to the two (2) existing outboard rivet holes already drilled in each of the attach brackets and forward cowl. Locate a third hole .75" from the leading edge and .66" from the outboard edge in each forward cowl attach bracket. Drill all six (6) holes to .165/.174 inch dia and countersink to 100° x .323 inch dia.

On AA5-0785 thru AA5-0834, AA5A-0001 thru AA5A-0050, AA5A-0054 thru AA5A-0056, AA5B-0047 thru AA5B-0169, AA5B-0171 and AA5B-0180 thru AA5B-0183, match drill the forward stiffener flanges of the new hinge assembly to the four (4) existing holes already in the attach brackets and forward cowl. Drill all four (4) holes to .165/.174 inch dia and countersink to 100° x .323 inch dia.

N O T E

THE SLOT ALREADY IN FORWARD COWL ASSEMBLY MAY HAVE TO BE SLIGHTLY WIDENED TO ACCEPT ADDITIONAL THICKNESS OF THE NEW HINGE ASSEMBLY.

8. Remove hinge from aircraft and deburr all holes.
9. Permanently install the forward attach brackets to the new hinge assembly as stated in step 5.
10. Install left and right cowl halves to hinge assembly with hinge pin. Crimp the leading and trailing edges of hinge to retain pin.
11. On AA5-0641 thru AA5-0784 and AA5B-0001 thru AA5B-0046, attach the forward edge of the upper cowl assembly to the forward cowl assembly placing six (6) MS24694-S6 Screws and six (6) A3135-017-24A Washers through the attach bracket, hinge flange and forward cowl assembly and secure them with six (6) AN960-8 Washers and six (6) MS20365-832 Nuts.

On AA5-0785 thru AA5-0834, AA5A-0001 thru AA5A-0050, AA5A-0054 thru AA5A-0056, AA5B-0047 thru AA5B-0169, AA5B-0171 and AA5B-0180 thru AA5B-0183, only four (4) of the above mentioned hardware is utilized.

12. Permanently install the new hinge assembly to the firewall attach brackets as stated in step 6.
13. Locate a slot in the aluminum rear engine baffle where the hinge passes through the baffle. Trim sides of slot as required (.75" max.) to center the hinge in the slot and to insure no contact is made between the hinge and baffle during start up and shutdown. Do not disturb baffle flexible seal.

PARTS INFORMATION

Service Kit SK-152 will be available through your authorized Grumman American Aviation Dealer for \$41.70. SK-152 will contain the following:

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
1	5101030-901	Hinge Assembly
6	MS24694-S6	Screw
6	A3135-017-24A	Washer
6	MS20365-832	Nut
6	AN960-8	Washer

NOTE: The following will be included with the hinge assembly.

4	AN3-5A	Bolt
4	MS20364-1032	Nut
8	AN960-10	Washer

CREDIT ALLOWANCE

A full parts and labor allowance of 2.0 hours at the dealer's prevailing shop rate will be available for cowl hinge replacement on each aircraft that is within the warranty period. No parts or labor allowance will be made for aircraft falling beyond the warranty period.

All work must be performed or authorized by a Grumman American Aviation Dealer. A completed Warranty Claim Form No. GAA-740 must be submitted to the factory before June 30, 1976 for credit allowance.

Immediately upon compliance with this bulletin, a Service Reply Card (supplied with Service Kit SK-152) is to be completed and returned, noting compliance with the requirements of SBL152.

Prices subject to change without notice.

GRUMMAN AMERICAN AVIATION CORPORATION

REB:jmz

Distribution (02)

TYPICAL: AA5-0785 thru
AA5-0834, AA5A-0001 thru
AA5A-0050, AA5A-0054
thru AA5A-0056, AA5B-0047
thru AA5B-0169, AA5B-0171
and AA5B-0180 thru
AA5B-0183.

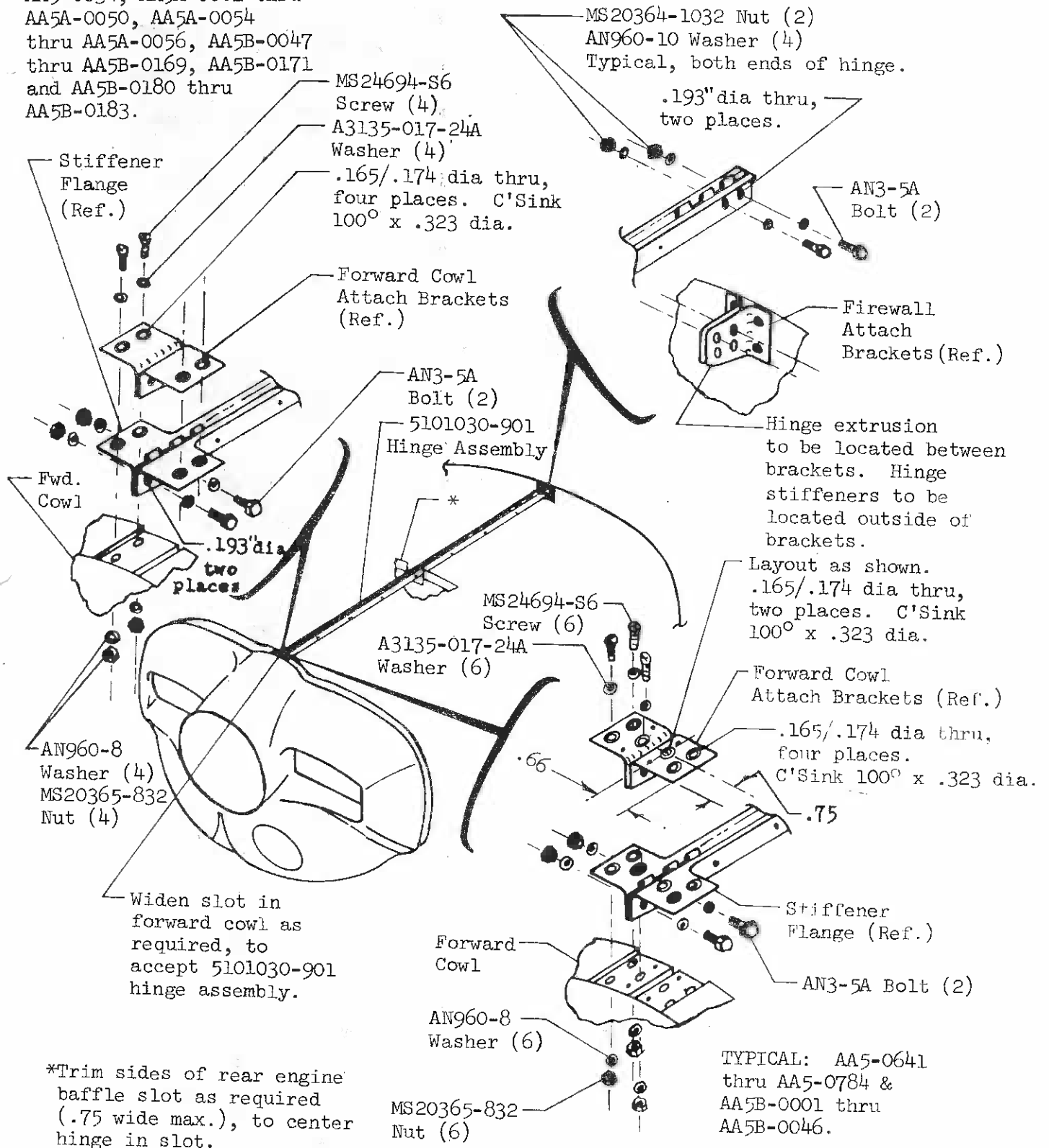


Figure 1. Upper Cowl Center Hinge Replacement