American General Aircraft Corporation

Rt. 1 AB 306 ● P.O. Box 5757 ● Greenville, MS 38704

SINGLE ENGINE AIRCRAFT ACCESSORY KIT No. 144

EFFECTIVITY:	MODEL AG-5B	SERIAL NUMBER 99998, 10000 AND SUBSEQUENT

SUBJECT: ENGINE COWL MODIFICATION / INSTALLATION OF (ATA NO. 7110)

PURPOSE / DISCUSSION: The purpose of this kit is to provide additional cooling for engines installed in aircraft which are being operated in a high temperature, high density altitude environment.

DESCRIPTION: This kit installs a cuff on the lower cowl around the exhaust pipe, replaces the lower (2) cowl exit ramps with (2) external fixed cowl flaps with internal deflectors and provides for the placement of a vent hole in the nose gear boot. This will allow for more efficient evacuation of air from the lower cowl, resulting in lower engine operating temperatures.

SPECIAL TOOLS/ EQUIPMENT REQUIRED: Standard aircraft blind riveting tools / high speed grinder / eye protection / dust mask

WEIGHT AND BALANCE: The effect of this kit on weight and balance is negligible.

PARTS AND LABOR CREDIT: This kit is optional. No parts or labor credit will be given.

PRICE: Prices are subject to change without notice.

LIST PRICE
$ 445.00

PILOT INFORMATION: There will be NO cockpit procedural changes due to the incorporation of this Accessory Kit.

The following instructions, in step by step form, are written as a guide to perform this installation or modification. Compliance with safe maintenance practices as recommend in the maintenance manual and FAA regulations is mandatory.

PARTS REQUIRED PER AIRCRAFT

Part Number	Nomenclature	Qty.
5101049-1	Exhaust Cuff	1
5101049-5	Cowl Flap	2
5101049-2	Deflector	1
5101049-3	Deflector	1
MS35490-20	Grommet	1
1691-0410	Rivet	8
1691-0414	Rivet	42
AN960-6L	Washer	46
RTV	Sealant	as required
Pro seal (optional)	Sealant	as required
Scotch 800 (optional)	Sealant	as required

AMERICAN GENERAL SINGLE ENGINE SERVICE KIT NO. 144
MODIFICATION INSTRUCTIONS:

Prepare the aircraft for safe maintenance.

a. Disconnect battery
b. Static ground aircraft

A. 5101049-1 EXHAUST CUFF INSTALLATION (FIGURE 1)

CAUTION
CARBON FIBER DUST MAY BE HAZARDOUS.
RESPIRATORY AND EYE PROTECTION ARE RECOMMENDED

A-1 With the lower cowl installed on the aircraft, place a straight edge along the right edge of the right cooling ramp opening and using a suitable marker, extend a reference line forward on the cowl approximately 10 inches.

A-2 Locate the -1 exhaust cuff so that the right edge of the cuff is parallel to the reference line established in (A-1) and the exhaust pipe has a minimum of 0.75 inch clearance around the inner, lower cuff edge. Trace an outline on the outside of the cowl around the outer edge of the cuff.

A-3 Remove the lower engine cowl.

A-4 Draw a line 0.75 inch around the inside of the outline drawn on the cowl in step (A-2) above to establish the -1 cuff flange area.

A-5 At the right trailing edge of the -1 cuff outline (as orientated on the aircraft), measure forward 3 inches on the inner cuff flange line drawn in previous step (A-4). Draw a line from that point, parallel to the forward edge of the cooling ramp opening, across to the opposite side of the -1 cuff flange line. This will complete the border for the exhaust hole enlargement.

A-6 Using a suitable cutting tool, enlarge the exhaust hole cut out to the -1 cuff inner flange line as established in A-4 and A-5.

A-7 Re-locate the -1 exhaust cuff on the bottom cowl and match drill (16) 0.128 inch dia. holes thru the cuff and the cowl. Remove the cuff and clean the flange area with a clean dry cloth.

A-8 Apply a layer of RTV sealant, Pro-seal 890 or Scotch 800 to the flange area. Attach the -1 exhaust cuff to the cowl using (16) 1691-0414 rivets dipped in sealant. Install the rivets with the heads on the outer cuff flange with (16) AN960-6L washers installed on the back side of the rivets.

B. 5101049-5 COWL FLAP INSTALLATION (FIGURE 2)

CAUTION

Composite resin may chip. Eye protection is recommended.

B-1 On the inside of the lower cowl, locate and remove the (6) rivets installed in each of the existing left and right cooling ramp flanges. (FIGURE 2)

B-2 Using a putty knife or other suitable tool, CAREFULLY separate the existing cooling ramps from the lower cowl.

B-3 Grind the remaining adhesive flush with the inside cowl skin. Use care not cut into cowl skin.

B-4 Locate the -5 cowl flaps on the lower cowl so that the cowl flap flange is on the inside of the cowl (FIGURE 1) and match drill (13) 0.128 inch. dia. holes thru each cowl flap and the lower cowl skin.

B-5 Remove the cowl flaps and clean the flange area with a clean dry cloth.

B-6 Apply RTV sealant, Pro-seal 890 or Scotch 800 to the flange area. Re-locate the -5 Cowl Flaps and attach each using (13) 1691-0414 rivets dipped in sealant and installed with the rivet heads on the outside of the cowl with AN960-6L washers installed on the back side of the rivets.

C. 5101049-2 AND -3 DEFLECTOR INSTALLATION

C-1 Locate the -2 and-3 deflectors on the inside lower cowl and using the pilot holes in the deflectors as a guide, match drill (4) 0.128 inch dia. holes thru each guide and the lower cowl skin in. (FIGURE 1)

C-2 Remove the -2 and -3 Deflectors, clean the flange area with a clean dry cloth and coat the flange with RTV Sealant, Pro-seal 890 or Scotch 800.

NOTE

Insure that the entire flange surface area is covered in order to prevent electrolysis.

C-3 Re-locate the -2 and -3 Deflectors on the lower cowl and attach each using (4) 1691-0410 rivets dipped in sealant and installed with the rivet heads on the outside of the cowl.

D. BREATHER TUBE HOLE (FIGURE 3)

D-1 Locate the breather tube hole on the lower, left side of the cowl per (FIGURE 3) and cut a 1.00 inch dia. hole.

D–2 Install a MS35490–20 grommet.

E. NOSE GEAR BOOT CUT–OUT (FIGURE 4)

E–1 Using the templet provided, locate and cut a hole in the rear of the P/N 5702003–3 nose gear boot per (FIGURE 4) to create a –4 boot.

E–2 Reinstall lower engine cowl and nose gear boot.

E–3 Reconnect battery.

E–4 Record compliance in the aircraft log.

Accessory Kit prepared by American General Aircraft Corporation,
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FAA Approval of this kit has been granted.

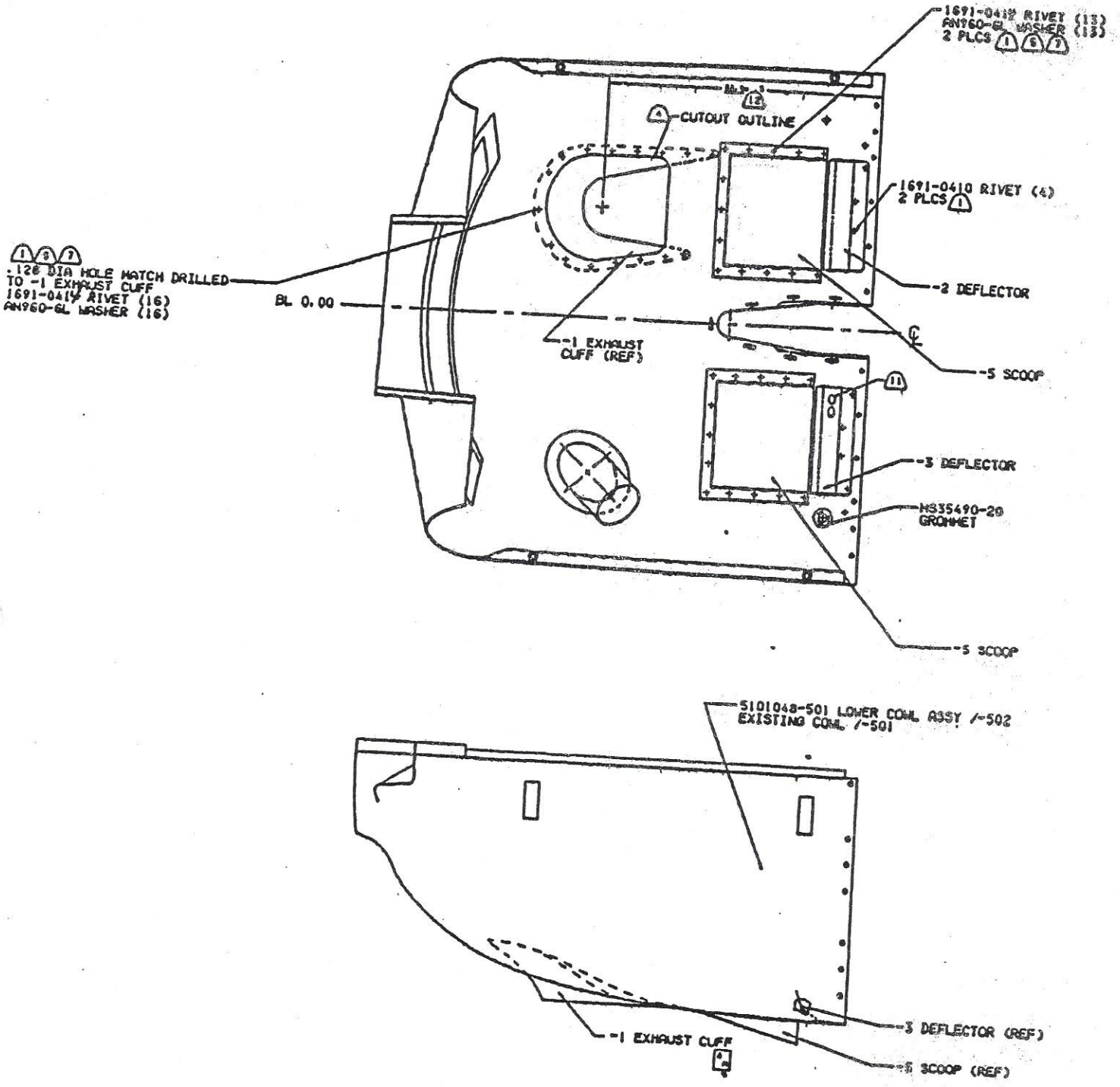
1691-0418 RIVET (13)
AN960-6L WASHER (13)
2 PLCS
CUTOUT OUTLINE
1691-0410 RIVET (4)
2 PLCS
.126 DIA HOLE MATCH DRILLED
TO -1 EXHAUST CUFF
1691-0414 RIVET (16)
AN960-6L WASHER (16)
BL 0.00
-2 DEFLECTOR
-1 EXHAUST
CUFF (REF)
-5 SCOOP
-3 DEFLECTOR
MS35490-20
GROMMET
-5 SCOOP
5101048-501 LOWER COWL ASSY /-502
EXISTING COWL /-501
-3 DEFLECTOR (REF)
-1 EXHAUST CUFF
-5 SCOOP (REF)

FIGURE 1

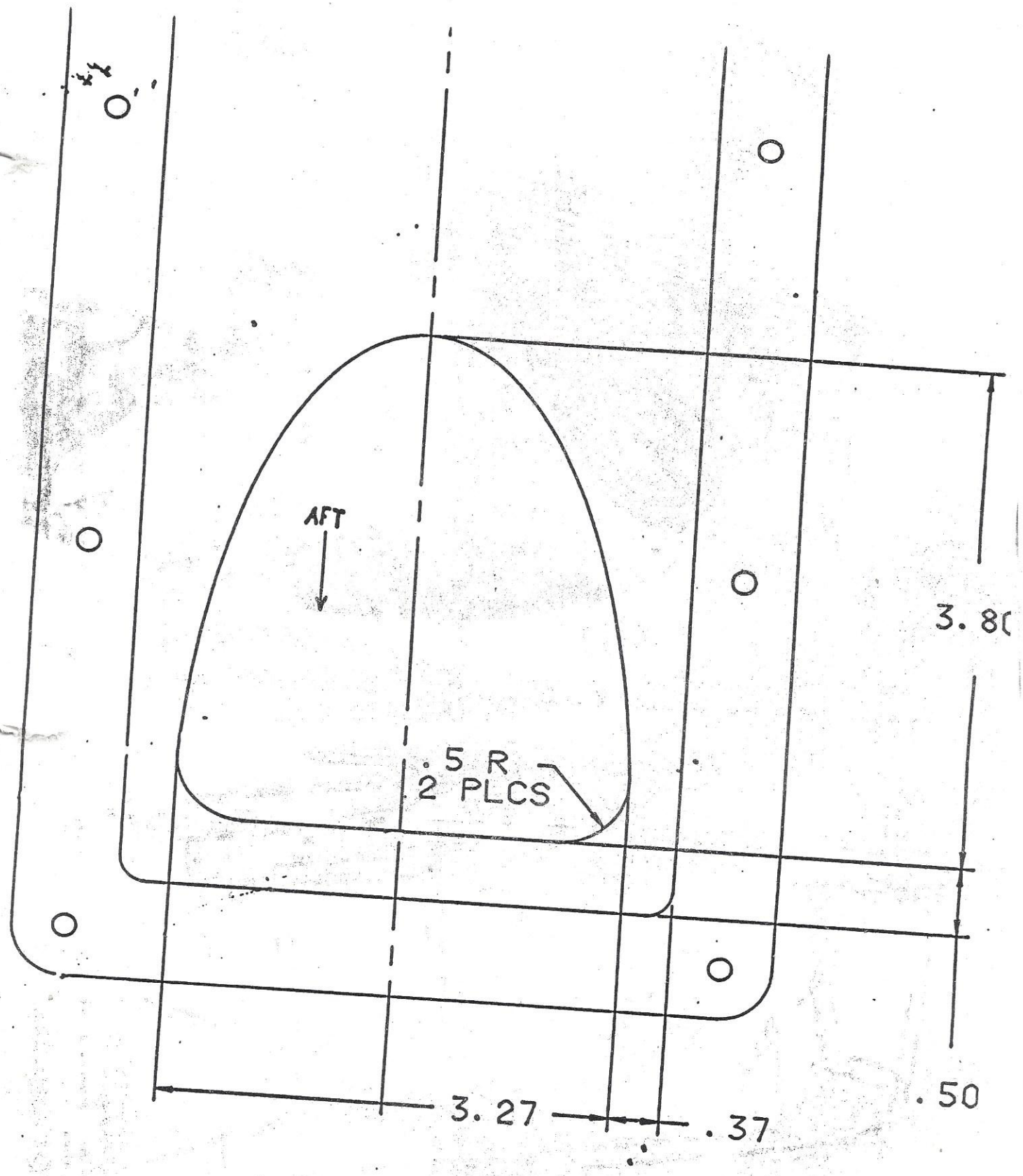

FIGURE 4