GRUMMAN

SERVICE KIT

SERVICE KIT NO. SK-102A
Supersedes SK-102

DATE: March 22, 1974

TITLE: Potting Kit

SERIALS AFFECTED: All Aircraft

WEIGHT AND BALANCE CHANGE: Negligible

1.0 GENERAL

This Service Kit is applicable to Grumman American Aviation Corporation aircraft only, and supplements all service manuals and publications covering these aircraft.

2.0 PURPOSE

The purpose of the potting is to increase the strength of the honeycomb in an area designed to accept a mechanical fastener, or in an area of minor honeycomb damage (damage to only one face and the honeycomb core).

3.0 CONTENTS

2-Epocast 4-K Resin (Furane Plastics, Inc. - Fairfield, New Jersey, Los Angeles, California) (Each can contains 200 grams) and
2-Epocast 9421 Hardener (Furane Plastics, Inc. - Fairfield, New Jersey, Los Angeles, California) (Each can contains 24 grams)

or

2-lbs. 14-ozs.-REN RP-4032A Resin (Ren Plastics, Inc. - Lansing, Michigan) and
4 1/16-ozs. - REN RP-4032A Hardener (Ren Plastics, Inc. - Lansing, Michigan)
2-Syringe #7 (Semco - Los Angeles, California)

3.0.1 Shelf life of Epocast 4-K Resin, Epocast 9421 Hardener and REN #RP-4032A Resin, REN #RP-4032A Hardener is one year from date of shipment from Grumman American Aviation Corporation.

3.1 This potting kit should be used to fill a void in a honeycomb panel unless otherwise specified in the service manual or subsequent service letter or bulletins.

4.0 PART PREPARATION

4.1 Vertical Application

4.1.1 When potting a honeycomb panel in a vertical, or near vertical position, drill (2) No. 30 (.128) holes as shown in Figure 1.

4.2 Horizontal Application

4.2.1 When potting a honeycomb panel in a horizontal position, drill hole pattern as shown in Figure 1. During the potting operation the airplane should be positioned to obtain the condition shown in Figure 2.

4.3 If a mechanical fastener is the ultimate goal, and no clearance hole presently exists, drill a hole through the honeycomb in accordance with Table 1.

4.4 If the honeycomb has been damaged and the ultimate goal is to strengthen the damaged area, cut away the damaged skin and honeycomb core.

4.5 Undercut the core material to the diameter specified in Table 1. A tool of the type shown in Figure 3 may be used to remove the core. Excessive core removal should be avoided since this will increase the amount of potting required.

NOTE

When undercutting the honeycomb with a tool as shown in Figure 3, be sure to rotate the tool several revolutions by hand before completing the cutting automatically. This action will alleviate the possibility of separating the honeycomb from the skins beyond the tip of the cutter.

4.6 Cutting oil shall not be used in the drilling or undercutting operations.

4.7 After drilling and cutting, remove all burrs from the hole edge, and all loose core material from inside the hole.

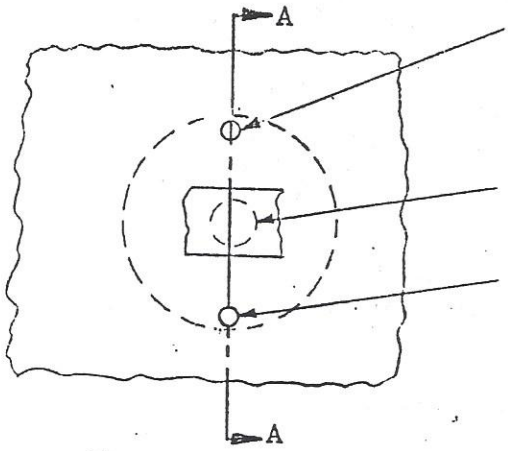

FIGURE 1

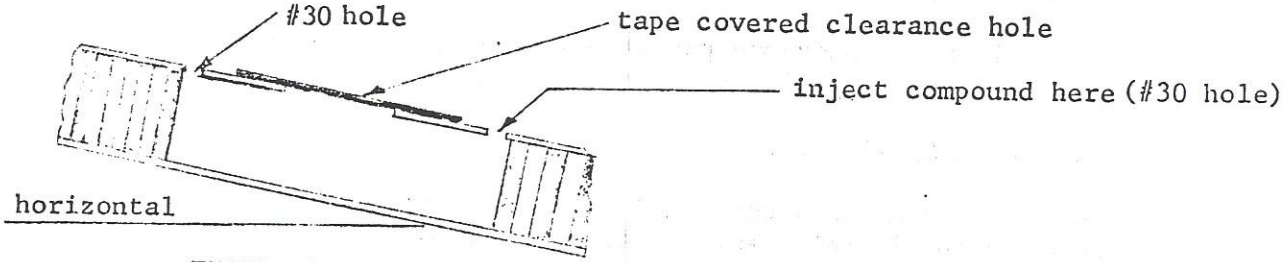

FIGURE 2

SECTION A-A

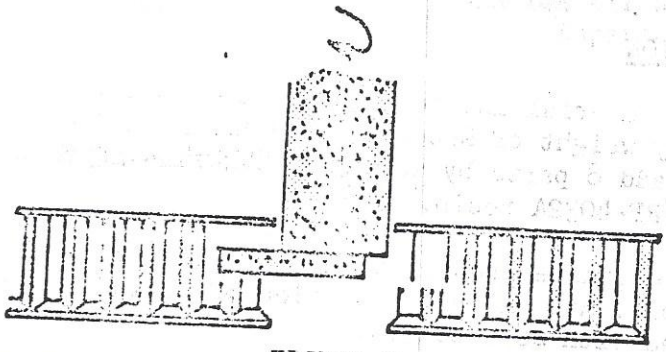

FIGURE 3

TABLE 1

Bolt Size	Bolt Diameter	Drill Size "A"	Minimum * Core Dia. "B"	Recommended Bolt Torque (in - lb.) **
10	0.190	.182/.177	5/8	25
1/4	0.250	.246/.228	3/4	50
5/16	0.3125	.316/.290	15/16	60
3/8	0.375	.368/.339	1-1/8	75
7/16	0.4375	.422/.397	1-1/4	85
1/2	0.500	.484/.437	1-1/2	100

* Note: The maximum tolerance on the core cut-out shall be 1/8 inch larger than the listed minimums.

** Using Standard Size Washer.

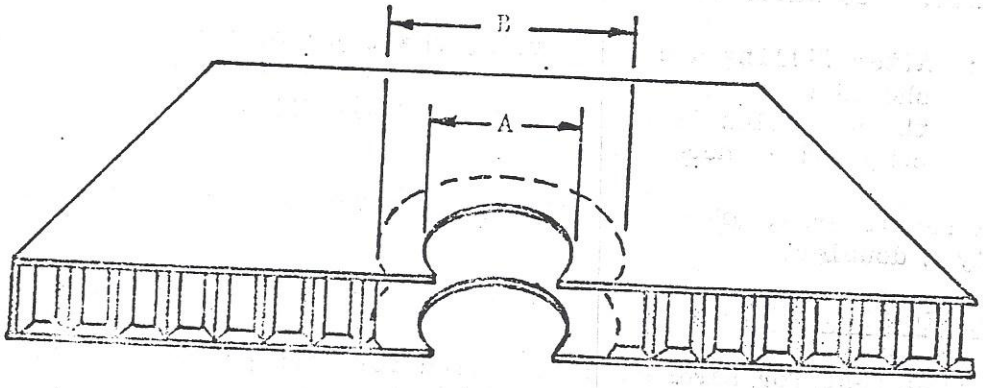

FIGURE 4

5.0 RESIN PREPARATION

5.1 When all other material and tools are prepared and resin is to be used, add 12 parts by weight of Epocast #9421 hardener to 100 parts of Epocast 4-K resin or add 8 parts by weight of REN #RP-4032A hardener to 100 parts of REN #RP-4032A resin.

NOTE: Do not estimate proportions. If weighing facilities are not available, mix entire quantities of Resin and Hardener as supplied with Service Kit.

5.1.1 Use only clean, dry, wax-free containers for mixing.

CAUTION: Mix and apply the resin under good ventilation. Avoid prolonged skin exposure.

5.2 The room temperature pot life is approximately 25-35 minutes in a 400 gram mass for Epocast and 55-60 minutes for REN #RP-4032A. Less mass tends to extend the pot life and greater mass shortens the pot life.

5.2.1 Discontinue use of the mixture if it becomes too viscous to handle or if the container feels hot to the touch.

6.0 POTTING PROCEDURE

6.1 Completely fill the cavity as shown in Figures 1 and 2.

6.1.1 One or both end(s) of the clearance hole may be covered with clean tape to contain the resin during application and cure.

6.2 After four hours at room remperature 75° F ± 15° F, the potted hole can be redrilled to accept the bolt.

6.2.1 The potted area can be countersunk after drilling if desired.

6.3 Full cure is reached after 24 hours at 75° F ± 15° F.

6.4 The bolt shall not be inserted and tightened before the full cure is reached. See Table 1.

NOTE: After filling a hole or void, the level of the potting compound should be maintained. If it has lowered (caused by seepage through the air holes in the honeycomb core), apply additional potting compound as necessary.

6.5 On a repair area, after the potting compound has cured, sand smooth and apply a doubler.

7.0 QUALIFICATION TEST

7.1 A Barcol test for hardness is required for each potting batch. A minimum value of Barcol 20 is required. If local facilities are not available, a test specimen may be sent to Grumman American Aviation Corporation for qualification.

GRUMMAN AMERICAN AVIATION CORPORATION

NOTE: Revision "A" adds REN #RP-4032A resin as alternate potting compound.