

**SPRINGS AND STUDS OF DZUS FASTENERS
USED IN THE K2 CARRIER TELEPHONE SYSTEM
PIECE-PART DATA AND REPLACEMENT PROCEDURES**

1. GENERAL

1.01 This section covers the procedures for replacing springs and studs of Dzus fasteners used to secure covers in the K2 carrier telephone equipments.

1.02 This section is reissued to incorporate material from the addendum in its proper location. In this process marginal arrows have been omitted.

1.03 Deformation and breakage of Dzus fastener springs and studs result from improperly attempting to secure covers in their mountings with these devices or to loose rivets securing the springs in place. Fastener springs may be deformed or studs become mutilated for any of the reasons covered in 1.04.

1.04 Rough handling or attempts to mount a cover with the slot in the stud of a fastener at right angles to the associated spring may cause overstressing and permanent damage to the spring. With the stud slot in the fasteners straddling their associated springs, failure to press a cover fully into position before locking the fasteners may overstress or break the spring.

2. LIST OF TOOLS AND PIECE PARTS

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
P-36A921	Drill Guide
—	5/32-inch Twist Drill
—	3/8-inch Drill
—	1-lb Ball-peen Hammer
—	Hack-saw Frame
—	Hack-saw Blade (10-inch length)
—	P-long-nose Pliers
—	Pin Punch — 1/16-inch, Starrett Co. No. 565 (or equivalent)
—	3-inch Cabinet Screwdriver

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
—	4-inch Regular Screw- driver
—	Dzus Block No. 1
—	Dzus No. 4 Tool
—	Dzus No. 5 Tool
—	Dzus AH5 Tool
—	Dzus FH5 Tool
—	Dzus A5 Staking Tool
—	Utica Drop and Forge Tool Corp. No. 535 — 10-inch Action Ring Spreading Pliers

PIECE PARTS (Used for Replacement Purposes)

FOR FASTENER SPRINGS	
P-116654	Screws (.125-40 x 3/8" R.H.M.)
P-159068	Nuts (.125-40 Hexagon Mach Screw)
P-210560	Washers
SB5, S5A225	Dzus Springs

FOR FASTENER STUDS	
KS-5584, List 1,2,7	BJR5-45 Dzus Fastener
KS-5584, List 3,4	BJR5-90 Dzus Fastener
KS-5584, List 8,9	BJR5-47X-438 Dzus Fastener
KS-5584, List 10,11	BJR5-52X-438 Dzus Fastener
—	GH5 Dzus Grommet
—	X243-2 Dzus Ring

3. PREPARATION

3.01 Preparation of Drill (When Replacing Springs on Cover Clamps): Insert a 5/32-inch twist drill loosely into the drill chuck. Place the P-36A921 drill guide over the drill as

shown in Fig. 1 with the guide touching the chuck. Set the drill securely in the chuck with the tip of the drill extending 1/8 inch beyond the end of the drill guide.

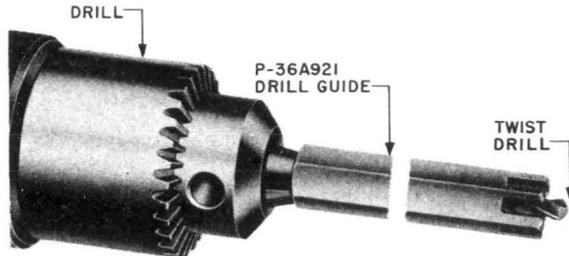


Fig. 1 - Mounting Drill Guide and Drill for Removing Rivets

4. PROCEDURES FOR REPLACING DZUS FASTENER SPRINGS AND RIVETS

General Information

4.01 Make-busy Information: Before removing any cover from its mounting, make the circuit busy in accordance with approved procedures. After completing the work, restore the cover on its mounting.

4.02 Covers: When difficulty is experienced in removing or remounting a cover that had previously been removed to replace any part or make any adjustment, the trouble may be due to distortion of the cover during previous handling. To correct, press the sides of the cover inward with the hands, giving it a slight permanent inward set.

4.03 Removal and Remounting of Cover: Turn the fastener studs securing the cover counterclockwise, and pull the cover straight out. After making the necessary replacement of parts, remount the cover. Turn the fastener studs clockwise so that they engage their associated springs. Take care in doing this not to turn the fastener studs beyond their locked positions or the springs may be overstressed.

Replacing of Rivets and Springs on Cover Clamp Assembly — (Fig. 2)

4.04 Remove the two mounting screws that hold each cover clamp to the mounting studs with the 4-inch regular screwdriver, and remove the cover clamp.

Note: Where a wire, which supports a cable, is held under the head of the uppermost mounting screw, unhook it before attempting to remove the cover clamp. Where a cover clamp is equipped with a cable ring, it will be necessary to unhook the cable ring so that the cover clamp may be removed.

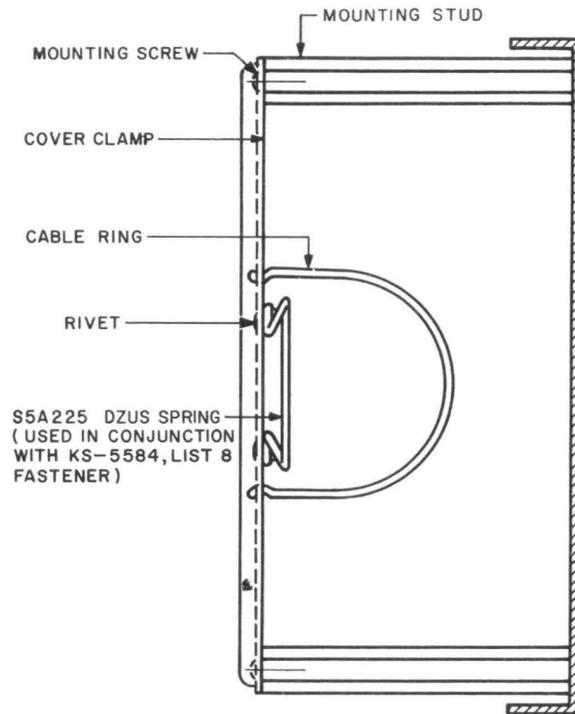


Fig. 2 - Cover Clamp Assembly With Cover Removed

4.05 Where a rivet is loose or broken, proceed as covered in 4.06 unless the associated spring on the cover clamp is deformed or broken. Where the spring is deformed or broken, replace both rivets by mounting screws as covered in 4.07.

4.06 Where a rivet is loose, carefully drill out the rivet head using the drill and drill guide assembled as covered in 3.01. Remove the rivet with the pin punch and P-long-nose pliers and substitute a screw as covered in 4.08.

4.07 Where a spring is to be replaced and the rivets are loose, remove the rivets as covered in 4.06. If the rivets are tight, carefully drill out and remove the rivets as covered in 4.06. With the rivets removed, proceed as covered in 4.08.

4.08 Insert a P-116654 R.H.M. screw with a P-210560 washer under the head into one of the holes in the cover clamp with the head of the screw between the flanges of the cover clamp. Where a spring was removed, remount the spring, if satisfactory, or mount a new spring, if necessary, over the threaded portion of the screw with the closed loop in the spring resting against the cover clamp. Place a P-159068 hexagonal nut and a P-210560 washer on the screw and tighten it so that the nut holds the spring securely against the cover clamp using the 3-inch cabinet screwdriver. Where both rivets are replaced, repeat for the other end of the spring. Remount the cover clamp on the mounting studs as covered in 4.03.

Replacing of Rivets and Springs on Cover Support Assembly — (Fig. 3)

4.09 Remove the four mounting screws that hold each cover support to the panel with the 4-inch regular screwdriver and remove the cover supports together with the two bars to which they are attached. Before replacing the rivets and springs, it may be necessary to remove the bars, in which case, remove the screws which hold the bars to the cover supports with the 4-inch regular screwdriver. With the cover supports removed, proceed as covered in 4.10, 4.11, 4.12, and 4.13.

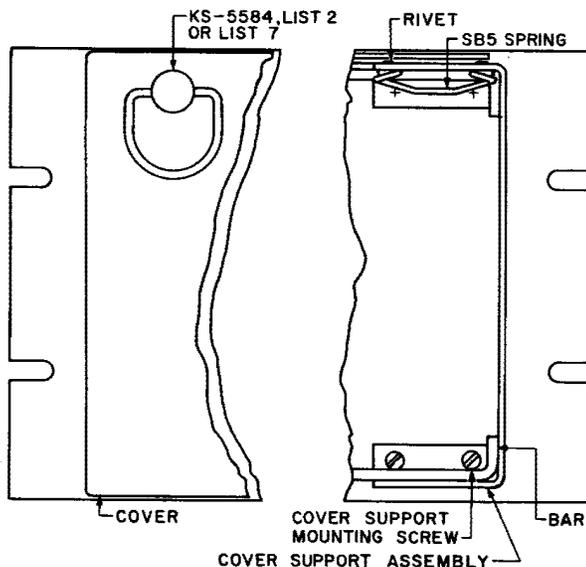


Fig. 3 — Cover and Cover Support Assembly

4.10 Where a rivet is loose or broken, proceed as covered in 4.11 unless the associated spring on the cover clamp is deformed or broken. Where the spring is deformed or broken, replace both rivets by mounting screws as covered in 4.12.

4.11 Where a rivet is loose, carefully drill out the rivet head using the drill and drill guide assembled as covered in 3.01. Remove the rivet with the pin punch and pliers and substitute a screw as covered in 4.13.

4.12 Where a spring is to be replaced and the rivets are loose, remove the rivets as covered in 4.11. If the rivets are tight carefully drill out and remove the rivets as covered in 4.11. With the rivets removed, proceed as covered in 4.13.

4.13 Insert a P-116654 R.H.M. screw with a P-210560 washer under the head into one of the holes in the cover support with the head of the screw between the flanges of the cover support. Where a spring was removed, remount the spring, if satisfactory, or mount a new spring, if necessary, over the threaded portion of the screw with the closed loop in the spring resting against the cover support. Place a P-159068 hexagonal nut and a P-210560 washer on the screw and tighten it so that the nut holds the spring securely against the cover support using the 3-inch cabinet screwdriver. Where both rivets are replaced, repeat for the other end of the spring. Remount the cover support on the panel as covered in 4.03.

5. PROCEDURES FOR REPLACING DZUS FASTENER STUDS MOUNTED ON COVERS

5.01 Covers Without Dimpled Holes: To replace a Dzus fastener stud, remove the cover as covered in 4.03. Where the stud is loose on the cover and the associated grommet that holds the stud in place is deformed or broken, proceed as follows. With the head of the fastener stud resting on a hard surface, the stud may be removed by setting the cutting edge of the staking tool over the stud and resting on the grommet as shown in Fig. 4. Tap the staking tool with the ball-peen hammer until the flange of the grommet is sheared off. Remove the stak-

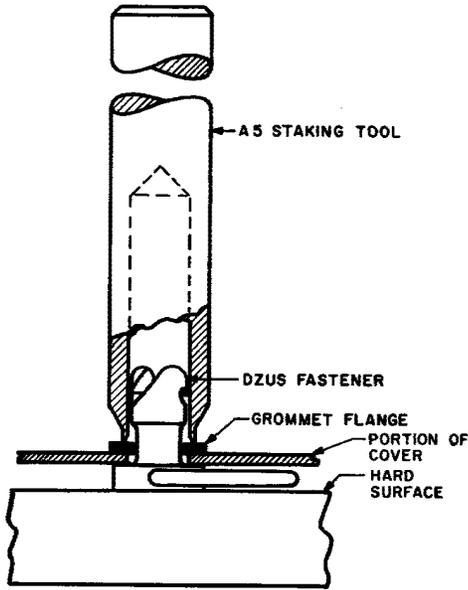


Fig. 4 – Method for Cutting Off Grommet Flange
 ing tool and knock the stud out of the cover. With the grommet and stud removed, proceed as covered in 5.02 using a fastener stud of the same list number. The fastener studs are illustrated by Fig. 10 to 16, inclusive.

5.02 Replace the fastener stud as follows. Where the hole in the cover is not large enough to permit the insertion of the fastener, enlarge the hole in the cover using a 3/8-inch drill. Insert the new fastener in the cover from the front of the cover. Insert the fastener through the hole in the cover and then rest the head of the fastener on a hard surface. Place a GH5 grommet over the cam end of the fastener stud so that the wide diameter of the grommet rests on the cover as shown in Fig. 5. Place the

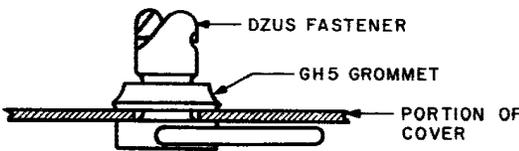


Fig. 5 – Mounting GH5 Grommet on Fastener Stud (Wide Diameter Against Cover)

open end of the Dzus No. 5 tool over the stud and resting on the grommet as shown in Fig. 6. Tap the other end of the tool with the hammer until the grommet is upset and forced on the stud. Remount the cover as covered in 4.03.

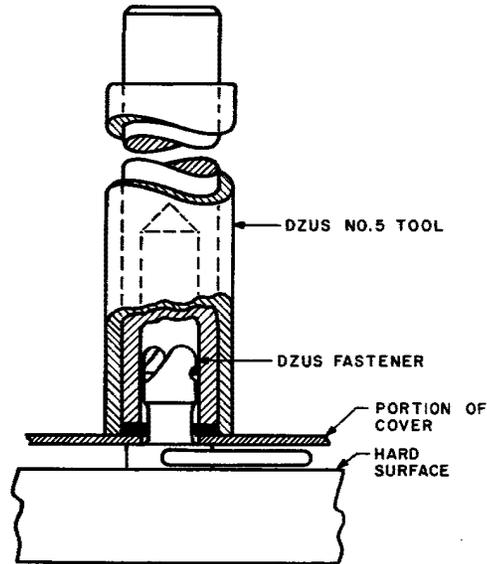


Fig. 6 – Securing GH5 Grommet to Cover Without Dimpled Holes

5.03 Covers With Dimpled Holes: To replace Dzus fastener stud on a cover with a dimpled hole, remove the cover as covered in 4.03. Where the stud is loose on the cover or if the dimple is deformed, proceed as follows. Cut off the head of the stud with the hack saw and remove the stud from the cover. *Where the dimple is satisfactory*, proceed as follows. Insert a new Dzus fastener of the same list number (L2 or L7) through the dimpled hole and rest the head of the fastener on a hard surface. Place a Dzus GH5 grommet over the cam end of the fastener stud so that the small diameter of the grommet rests on the dimple as shown in Fig. 7.

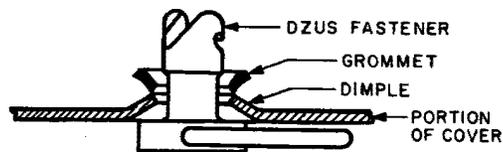


Fig. 7 – Mounting GH5 Grommet on Fastener Stud (Small Diameter Against Dimpled Cover)

Place the open end of the Dzus FH5 tool over the stud so that it rests on the wide diameter of the grommet as shown in Fig. 8. Tap the other

end of the tool with the ball-peen hammer until the grommet is upset and the stud captivated by it. Remove the tool and remount the cover as covered in 4.03. *Where the dimple is not satisfactory*, proceed as follows. Flatten the dimple in the cover with the ball-peen hammer and proceed as covered in 5.02 using a new Dzus fastener of the same list number (L2 or L7).

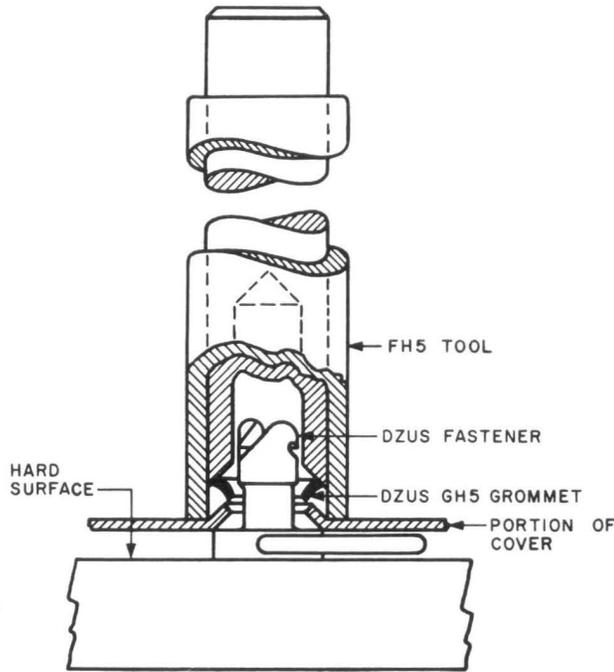


Fig. 8 - Securing GH5 Grommet to Cover With Dimpled Holes

5.04 When it is necessary to replace an AJR5-45 or AJR5-90 fastener stud (the ring in the fastener is secured by a clip in the oval head), substitute one of the following and proceed as covered in 5.01 and 5.02.

WHEN REPLACING	SUBSTITUTE (ONE)
AJR5-45	BJR5-45
	KS-5584,L1 (Fig. 10)
	KS-5584,L2 (Fig. 11)
AJR5-90	KS-5584,L7 (Fig. 11)
	BJR5-90
	KS-5584,L3 (Fig. 12)
	KS-5584,L4 (Fig. 13)

5.05 Where a ring is missing from an AJR5-45, AJR5-90, or similar type fastener but the fastener is secured in the mounting, proceed as follows. Place an X243-2 ring on the jaws of the action ring spreading pliers and expand the ring enough to permit the ends to be inserted into the fastener as shown in Fig. 9. Take care in doing this to expand the ring only enough to permit the ends to be inserted into the head of the fastener without overstressing the ring.

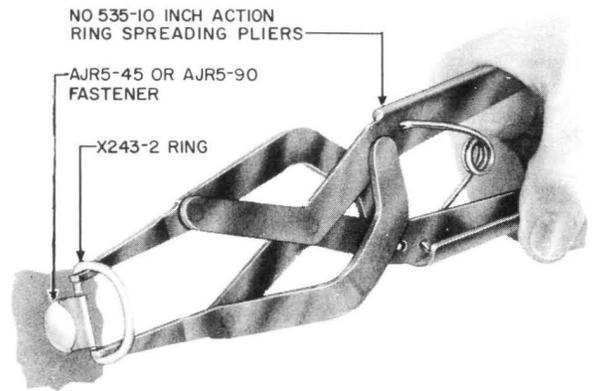


Fig. 9 - Method of Attaching Ring to Fastener

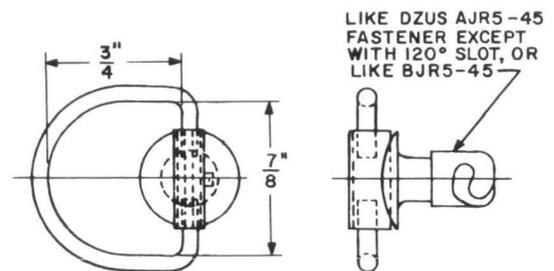


Fig. 10 - Fastener per KS-5584, List 1

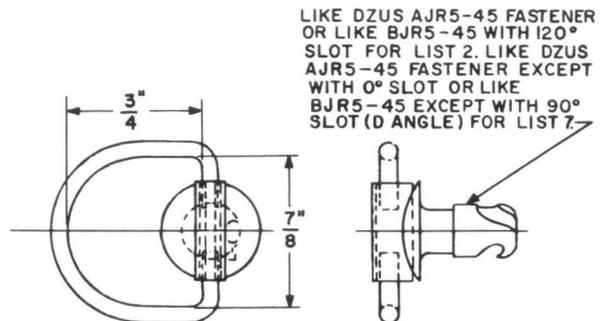


Fig. 11 - Fastener per KS-5584, Lists 2 and 7

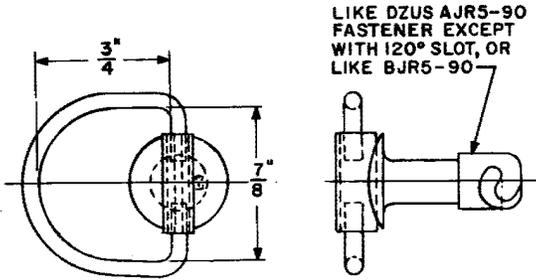


Fig. 12 – Fastener per KS-5584, List 3

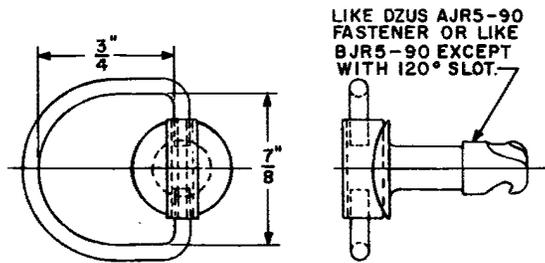


Fig. 13 – Fastener per KS-5584, List 4

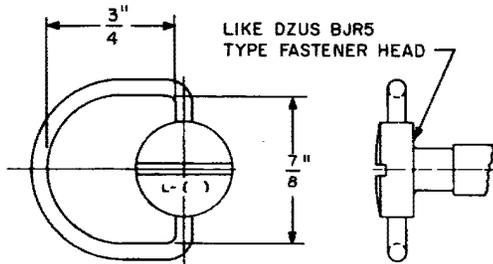


Fig. 14 – Optional Design of Fastener Head for Lists 1, 2, 3, 4, and 7

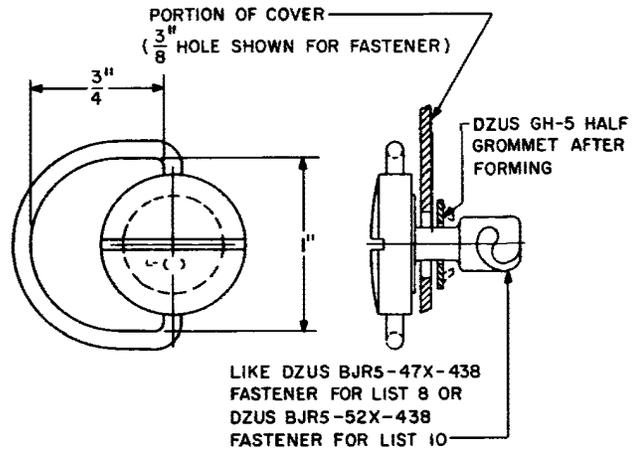


Fig. 15 – Fasteners per KS-5584, Lists 8 and 10

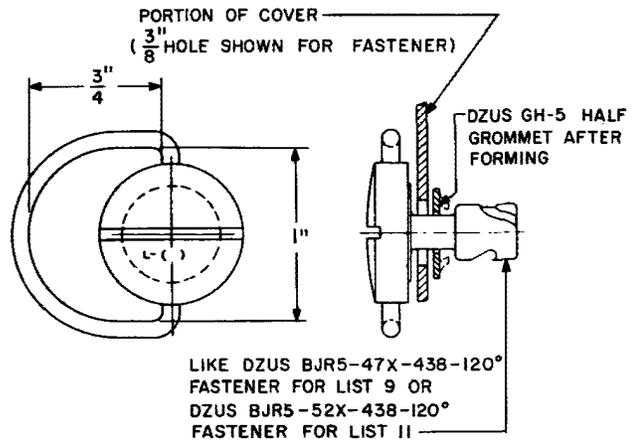


Fig. 16 – Fasteners per KS-5584, Lists 9 and 11