2. Position the Velcro® and stitch around the perimeter at .12 inch from the edge. For any pieces, 1 inch in width or wider, sew a row of stitching down the center. *[Figure A]* This prevents the center from being pulled up from the material and loading the outside row of stitching. *[Figure B]*

3. Some applications have the Velcro® sewn to a piece of tape for support. Again, if it is 1 inch or more wide, sew down the center to prevent lifting.
4. Depending on the application, the mating loop piece of Velcro® may be wider than the hook to provide additional protection. That is, the hook may be .75 inch wide and the loop 1 inch wide.

Inspection

- Check that thread tension is correct.
- Verify orientation is correct.
- Check that center stitching is used where needed.

Container Plastic Stiffener Replacement

- Applicable products: All types of containers that use plastic stiffeners
- Description: Replacement of damaged plastic stiffeners of all types
- Authorized repairmen: FAA Senior or Master Parachute Rigger
- Materials: E thread—color to match; grommets—size, type, and material to match; and plastic stiffeners—type and thickness to match
- Machines: 301 straight stitch—medium duty 7–9 SPI and 308 zigzag—medium duty 7–11 SPI
- Equipment: Scissors, seam ripper or scalpel, marking pencil, 6-inch ruler, grommet die set—size to match grommets, leather mallet, grommet cutting board, hole punch to match grommet size, basting tip, diagonal wire cutters—8 inch minimum, heavy shears or tin snips, electric drill and ⅜ inch drill bit, and feeler gauge—.010 inch

Procedure

The term "plastic," when used in conjunction for the materials used as stiffeners in modern parachute containers, is a misnomer. In reality, the composition of the material varies. The most common material used today is molydisulfide (MDS) nylon. In addition, Lexan®, a clear polycarbonate material and high density polyethelyne (HDPE), are also used. The most common thicknesses used are .025 inch, .040 inch, and .060 inch, which are standard commercial thicknesses commonly available. Stiffeners are used primarily as backing for grommets to spread the load placed on closing flaps. Instead of focusing the load on the diameter of the grommet, it is spread out across the length of the stiffener, resulting in a smoother flap and container. Consequently, replacing plastic stiffeners almost always requires replacing the grommet as well. Usually the plastic breaks at the grommet location because the hole for the grommet is the weak point. The following procedure shows the replacement of the bottom main flap stiffener of a Javelin container.

Disassembly

1. Unpick the stitching that holds the binding tape to the bottom flap. *[Figure A]* Remove the grommet.
2. Remove the stitching that holds the stiffener in position. Remove the stiffener.

Reassembly

1. Use the original stiffener as a template to cut a new stiffener. *[Figure B]* While many of the older containers use HDPE or other materials, most of the newer designs use MDS nylon because of its superior properties. Because of this, many riggers use MDS exclusively for replacing any stiffeners.