PSB# 030885
Modifying the Installation of the SSE Sentinel Mk 2000 Pin Puller AAD on Caertain Wondering Vector Systems
March 8, 1985

Manufacturer's Service Bulletin

Modifying the Installation of the SSE Sentinel Mk 2000 Pin Puller Automatic Activation Device on Certain Wonderhog Vector Systems.

Any model of the Wonderhog Vector harness and container assembly that is equipped with an SSE Sentinel Mk 2000 Pin Puller automatic activation device (AAD) must be inspected and, if necessary, modified in accordance with the instructions below. This must be done by an FAA Master Rigger the next time the reserve is repacked.

This bulletin pertains only to Wonderhog Vectors and Wonderhog Student Vectors equipped with the Sentinel Mk 2000 Pin Puller AAD. Other models of the Wonderhog or those Vectors equipped with other versions of the Sentinel Mk 2000 or other brands of AAD are not affected.

Background

Until February 1985, the Relative Workshop's procedures for installing the Sentinel Mk 2000 Pin Puller on the Vector involved modifying the SSEsupplied mounting bracket. The "tail" of this T-shaped bracket was cut off and discarded; the remaining portion was secured to the top flap of the reserve container several inches from the locking loop grommet.

If properly performed, this installation works well. But if the plastic reinforcing inside the flap breaks between the plate and the locking loop, the pin may not be completely extracted if the AAD fires. (In this situation, the plate itself might slide towards the grommet when the AAD fires, rather than extracting the pin.)

Although the Relative Workshop has received no reports of such an occurrence, it is requiring that the modified plate be replaced by a stock T-plate.

The original Pin Puller installation may have been performed by the Relative Workshop or done in the field. Regardless of the original installation method, the Relative Workshop recommends these procedures be followed:

Procedures

The owners of the Vectors affected by this bulletin have the option of returning the rigs to the Relative Workshop for modification or having the work done by a loft or FAA-certificated Master Rigger.

(The-FAA classifies the installation of an AAD as a major altera tion. Therefore, it must be done by a Master Rigger.)

Because both Sentinel Mk 2000 is manufactured and serviced by SSE, Inc., and not the Relative Workshop, the owner must direct questions on its calibration, use, maintenance, testing and upgrades to the AAD manufacturer. Nothing in this bulletin is meant to contravene any instructions or advice from SSE, Inc.

The Sentinel Mk 2000 is delivered with installation kits that contain various brackets, screws, mounting plates and terminal ends to accommodate various types of parachutes. These components must be used to correctly install this device on the Vector.

A new T-plate and mounting screws are available at no cost from the Relative Workshop. Please provide the Vector serial number with your request.

An AAD is a back-up emergency device that, like any complex mechanical device, is subject to failure or malfunction. It is not a substitute for proper judgement, training and supervision.

Installing the Pin Puller Version of the SSE Sentinel Mk 2000.

NOTE: Steps 3, 4, 5, 6, 9 and 10 pertain to the original installation, not to the modification covered by this bulletin. The rigger should verify that the entire AAD assembly was installed according to this procedure.

1. Inspect the entire AAD assembly. Perform a calibration check to insure the pyrotechnic charge is in good shape.

2. Remove the grommet from the top reserve flap (Flap #6).

3. Place the activation unit in its pouch into the reserve pack tray against the main-reserve divider wall. The cables should route towards the wearer's left.

4. Hand tack the pouch to the divider wall using waxed tacking cord.

5. Route the activation cable along the left side of the pack tray. The cable end is threaded from left to right through a small slot in the container yoke near the upper corner of the reserve pin protector flap. 6. Thread the cable housing through the Type 12 channel in the lefthand side of the reserve pack tray. (Some Vectors do have this channel. For those, tack the cable housing in place with waxed 5 cord.)

7. Position the mounting plate on the top reserve flap (Flap #6) so that its larger hole is centered over the flap's grommet hole and the plate is along the center line of the flap. Use a pen or pencil to mark the

two bolt holes at the other end of the plate. Use a 1/16-inch drill to drill the holes.

8. Position mounting plate on the underside of the top reserve flap (Flap #6) and attach with a size 0 spur.grommet. (Be sure the grommet is correc-

tly seated and there are no sharp edges that could damage the nylon locking loop.) Insert.two 6-32 x 3/8" screws down through the cable bracket, through the flap and through the plate. Tighten the screws to secure the cable housing to the bracket. If the screws protrude from the nuts, file flush.

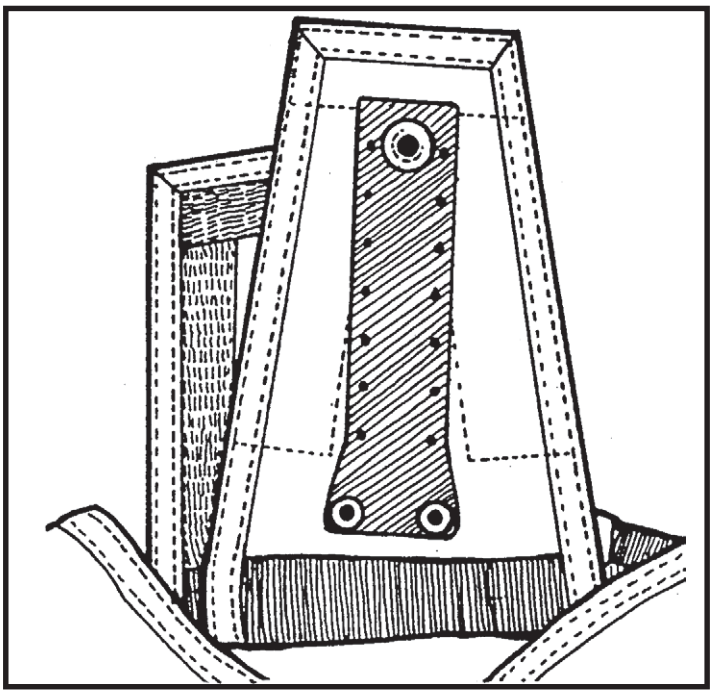
9. Route the sensing unit cable out the lower corner of the reserve container, out the hole provided for purpose and through the Type 12 channel. (Some Vectors do have this channel. For those, tack the cable housing in place with waxed 5 cord.)

10. Using the pouch provided, mount the sensing unit to the diagonal strap. 11. Inspect the entire assembly. Log the installation on the packing data card and in your logbook.

More Informati on

Direct any questions to the Relative Workshop, 1725 Lexington Avenue, DeLand, FL 32724, (904) 736-7589.

INSTALLING AUTOMATIC ACTIVATION DEVICES



The FAA classifies the installation of an AAD as a major alteration. Therefore, it must be done by a Master Rigger.

Two AADs are currently approved for installation on the Vector: the Pin Puller version of the SEE Sentinel Mk 2000 and the FXC Model 12000. Although other AADs can probably be safely installed on the Vector, the Relative Workshop had not yet developed the methods to do so.

Because both the Sentinel Mk 2000 and the FXC 12000 are manufactured and serviced by companies not associated with the Relative Workshop, the owner must direct questions on calibration, use, maintenance, testing and upgrades to the AAD manufacturer. Nothing in this manual is meant to contravene any instructions or advice from the manufacturers of these devices.

An AAD is a back-up emergency device that, like any complex mechanical instrument is subject to failure or malfunction. It is not a substitute for proper training and supervision.

Both the Sentinel Mk 2000 and the FXC 12000 are delivered with installation kits that contain various brackets, screws, mounting plates and. terminal ends to accommodate various types of parachutes. These components must be used to correctly install these devices on the Vector. Installing the Pin Puller Version of the SEE Sentinel Mk 2000

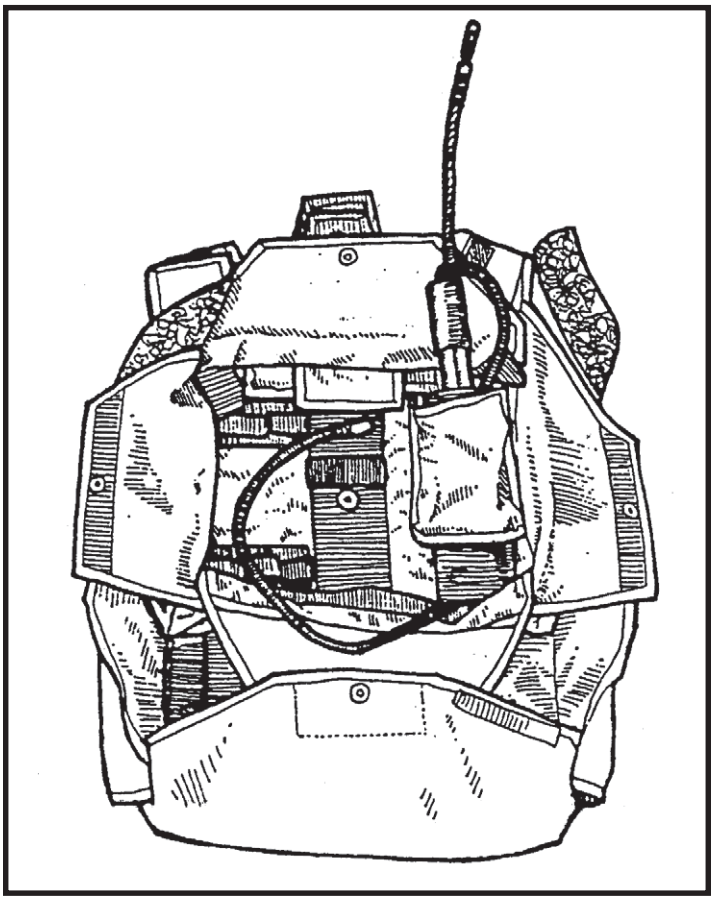
1. Inspect the entire AAD assembly. Perform a calibration check to insure the pyrotechnic charge is in good shape.

2. Remove the grommet from the top reserve flap (Flap #6).

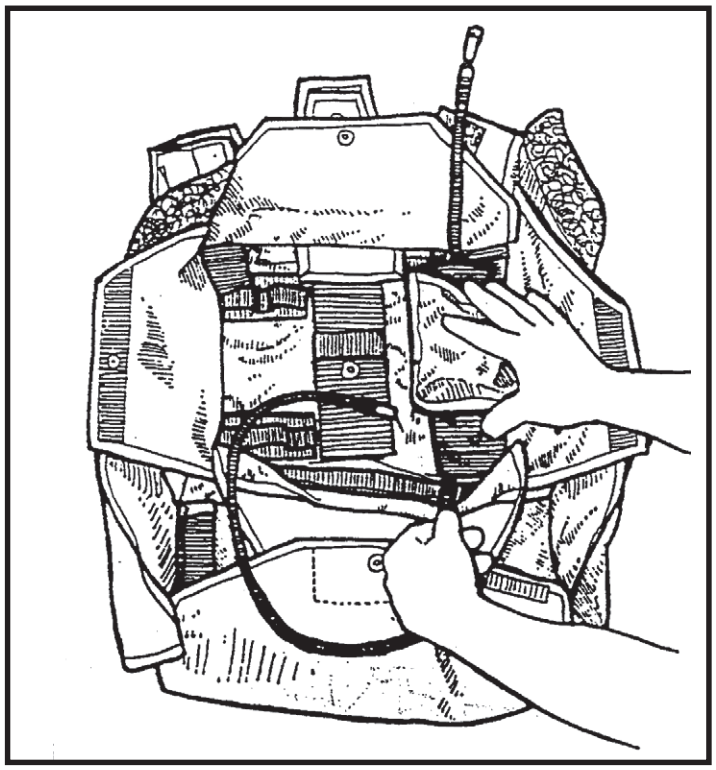
3. Position the mounting plate on the top of the top reserve flap (Flap #6) so that its larger hole is centered over the flap's grommet hole and the plate is along the center line of the flap. Use a pen or pencil to mark the two bolt holes in the other end of the plate. Use a 1/16-inch drill bit' to drill holes for the bolts.

4. Position the mounting plate on the underside of the top reserve flap (Flap #6) and attach with a size 0 spur grommet. (Be sure the grommet is correctly seated and there are no sharp edges that could damage the nylon locking loop.) Insert two 6-32 x 318" screws down through the cable bracket, through the flap and through the plate. Tighten the screws to secure the cable housing to the bracket. If the screws protrude from the nuts, file flush.

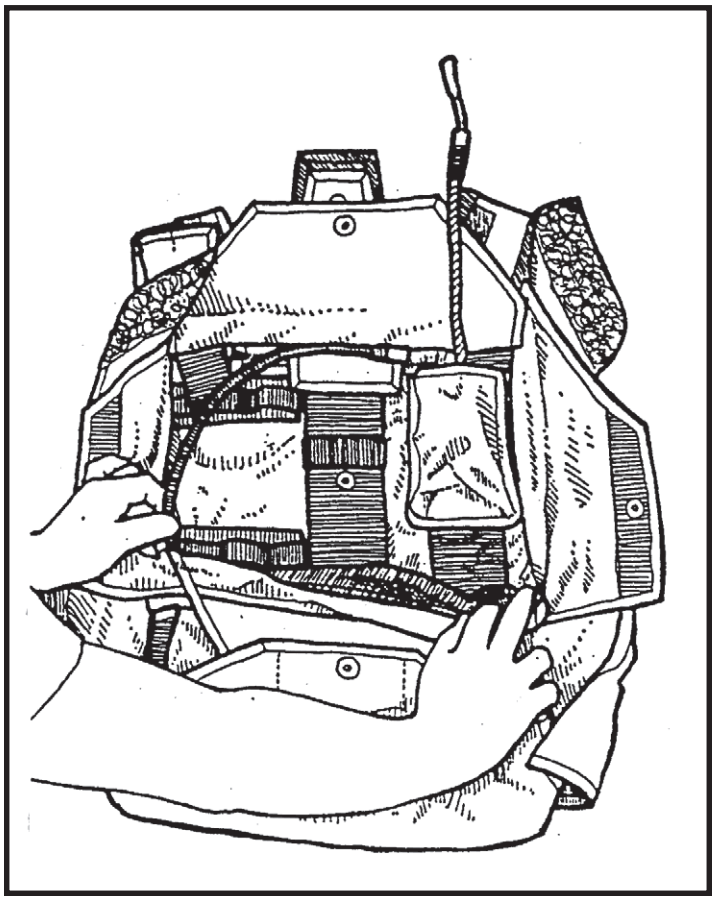
5. Thread the activation unit cable through the long thin Pin Puller pouch on the right side of reserve pack tray and out the bottom. Slide , activation unit into the pouch.



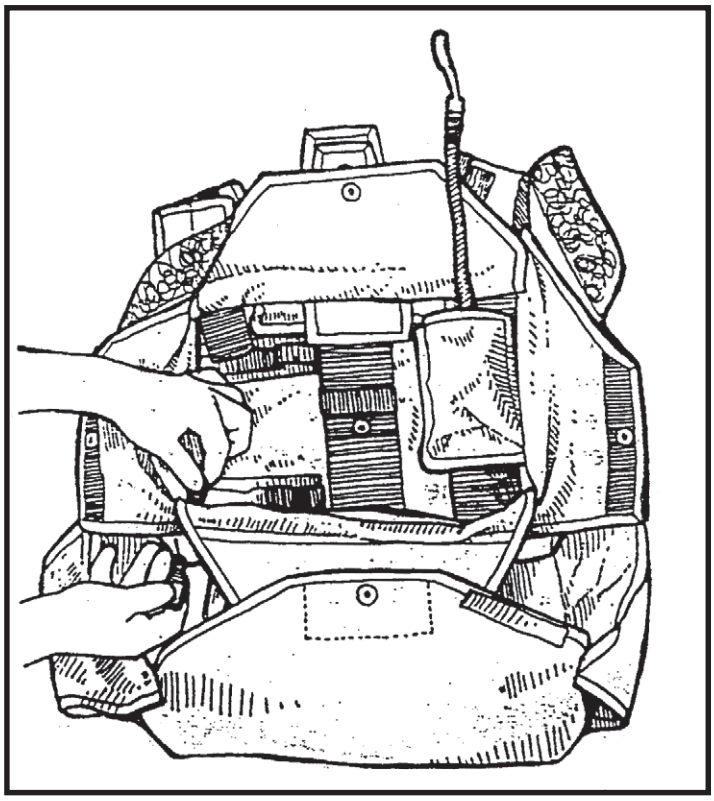
6. Pull the cable gently to seat the unit in the pouch and remove any slack in the cable.



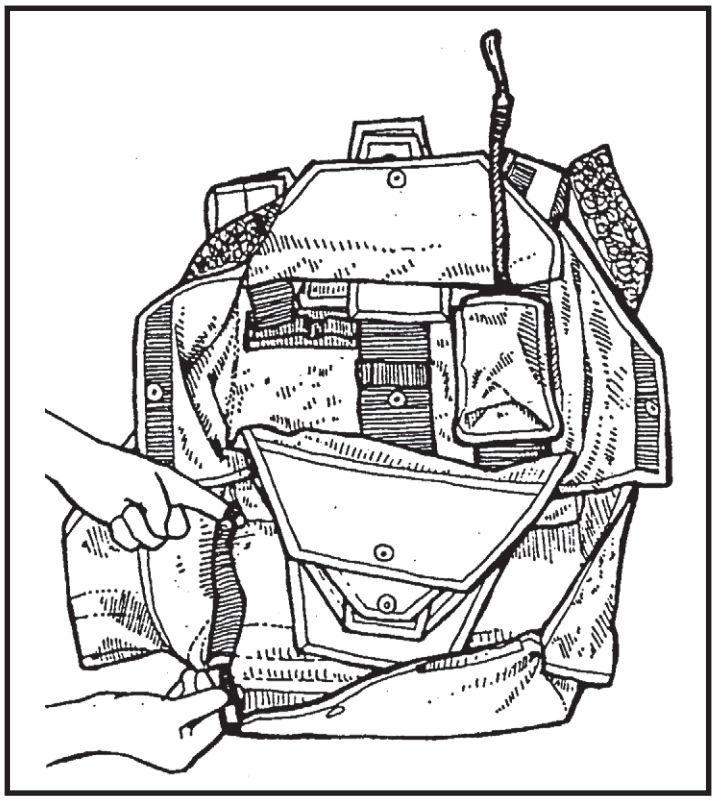
7. Thread the activation unit cable carefully from left to right through the channel that runs along the bottom of the reserve pack tray.



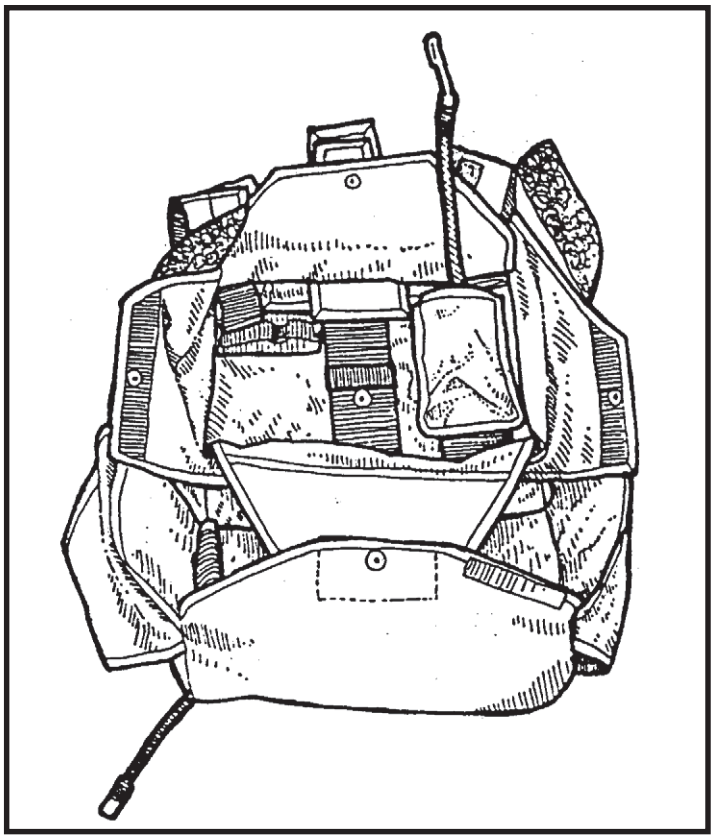
8. Next, route the activation unit cable through the small hole in the bottom left hand corner of , the reserve pack tray.



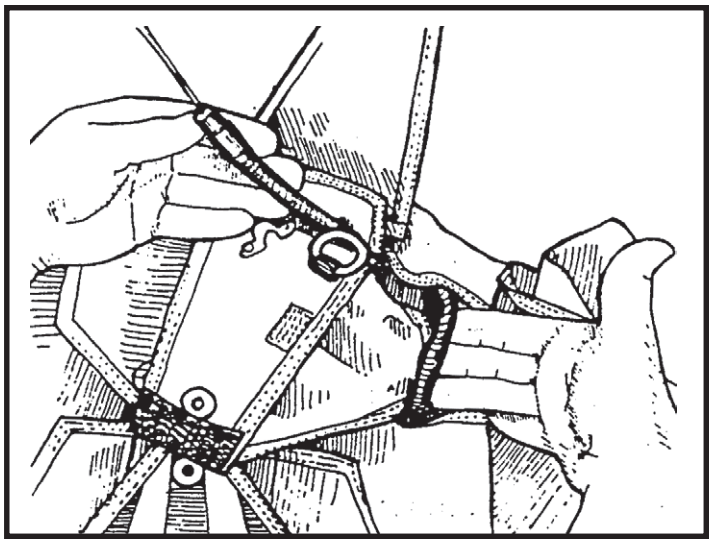
9. Thread the activation unit cable through the channel that runs along the left side of the main pack tray.



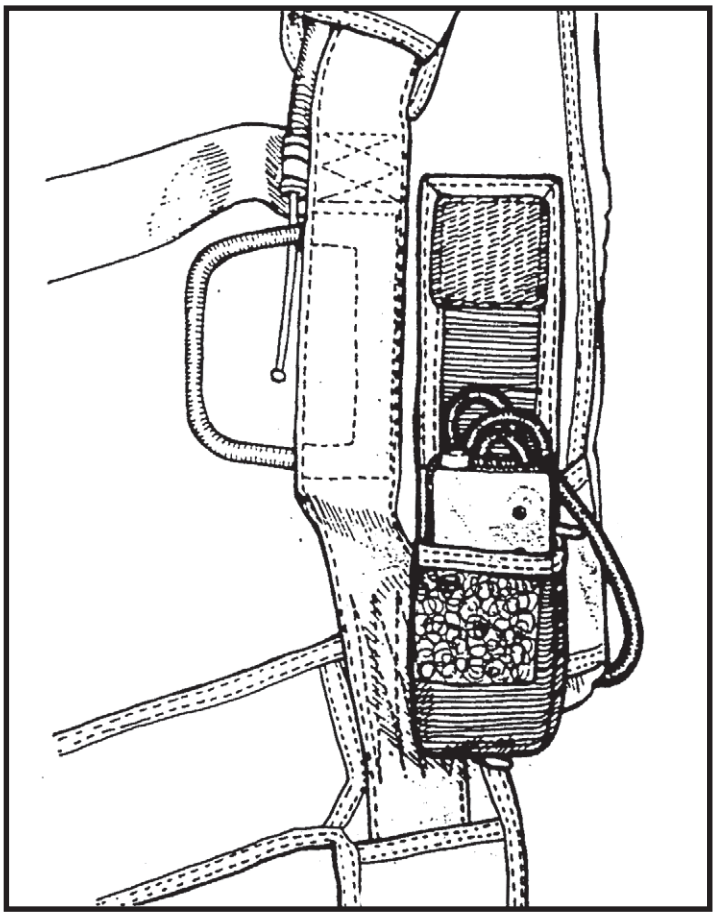
10. Route the activation unit cable through the' hole in the lower left hand corner of the main, container. Attach the activation unit cable you have just threaded to the sensing unit cable.

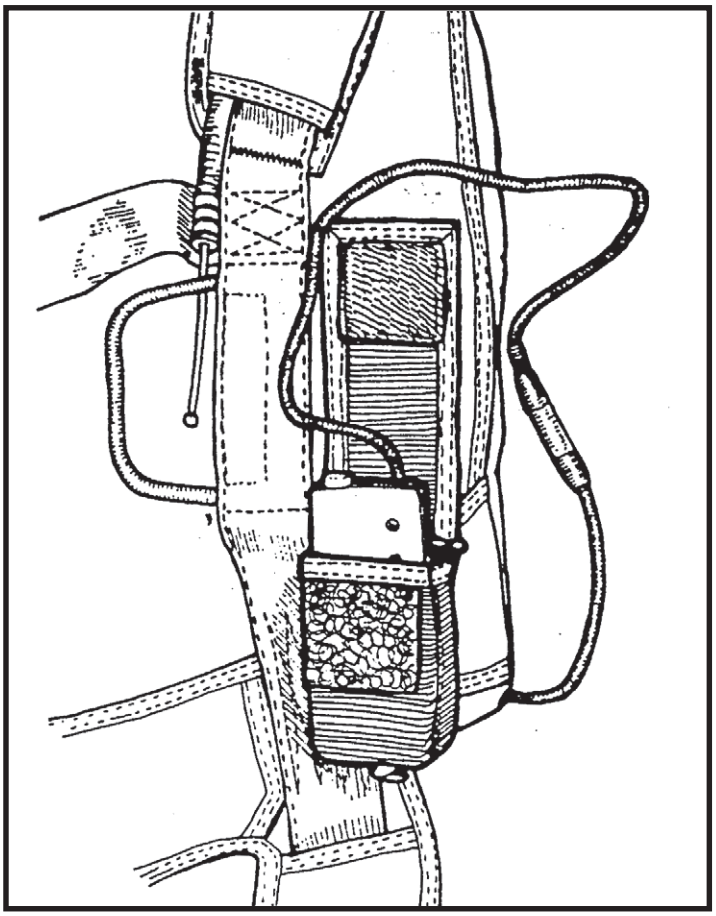


11. Thread the cable housing at the top of the activation unit from right to left through the small slot in the container yoke near the upper corner of the reserve pin protector flap.

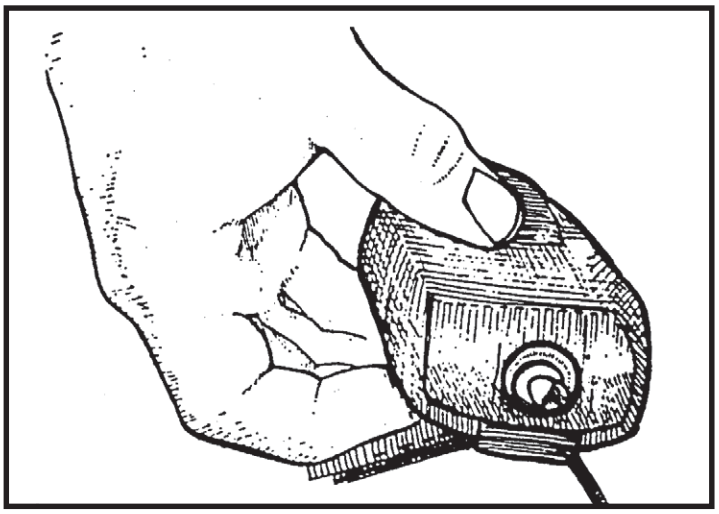


11. Using the pouch provided, mount the sensing unit to the diagonal strap. Coil the a cable and tuck it into the pouch.

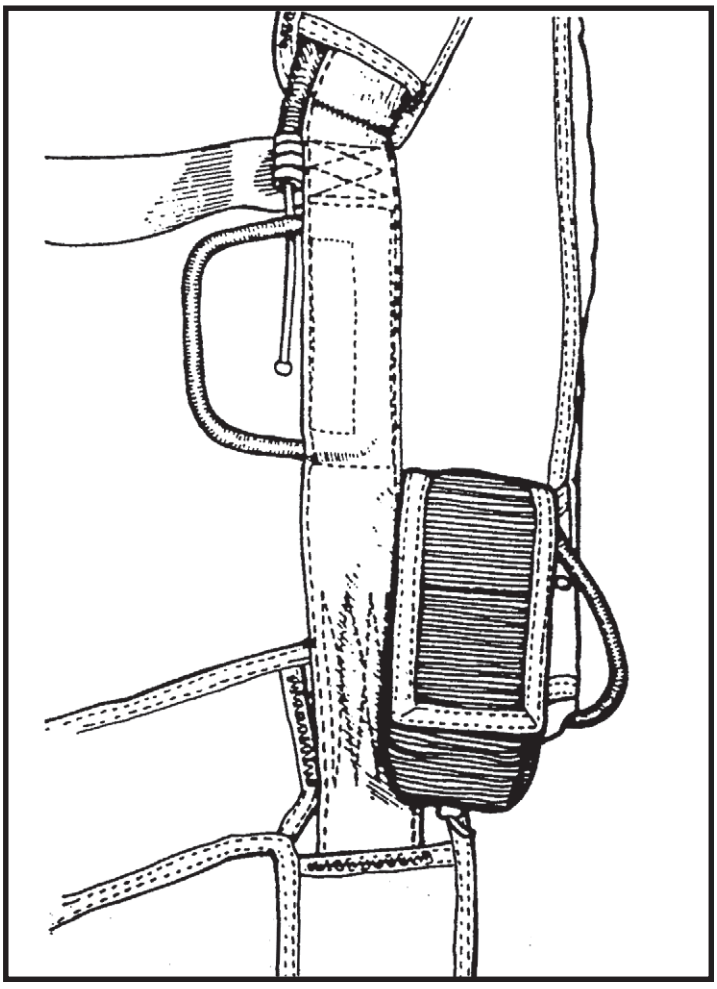




12. Secure the sensing unit into the pouch with a piece of Type 3 sheathing by passing one end through the grommet in the bottom. of the pouch, through the hole in the bottom of the unit and back out the grommet. Then pass a small metal washer over both ends of the Type 3, snug it up and tie an overhand knot. Cut off the excess Type 3 and sear the ends.



13. Close the Velcro flap on the pouch. In-; spect the entire assembly. Log the installation on the packing data card and in your logbook.



Installing the FXC Model 12000 AAD

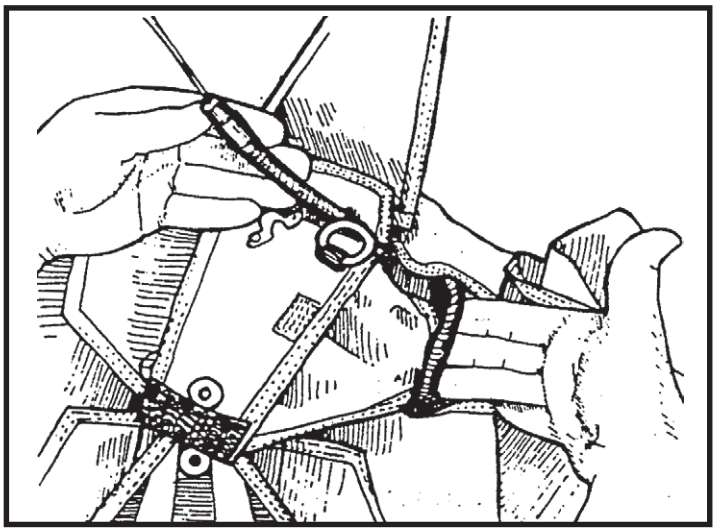
1. Installation of the FXC Model 12000 on the Vector requires a small-hole terminal fitting on the activation cable arid longer screws. This fitting is available from either FXC or the Relative Workshop; it is not routinely provided with each Model 12000 sold.

2. Inspect entire AAD assembly. Cock unit.

3. Modify the mounting plate by using a hacksaw to cut the "tail". off the T-shaped plate. (Only the crossbar of the plate will be used.) Smooth any rough edges with a file.

4. Insert activation unit into pouch on the , wearer's right-hand side of the reserve container The activation cable should extend towards the right and the sensing cable to the left.

5. Route the activation cable along the right side of the pack tray. The cable end is threaded from' right to left through a small slot in the container yoke near the upper corner of the reserve pin protector flap.

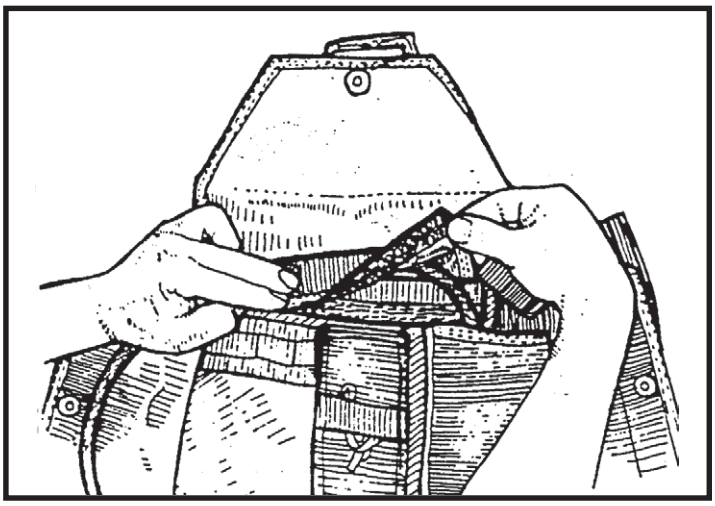


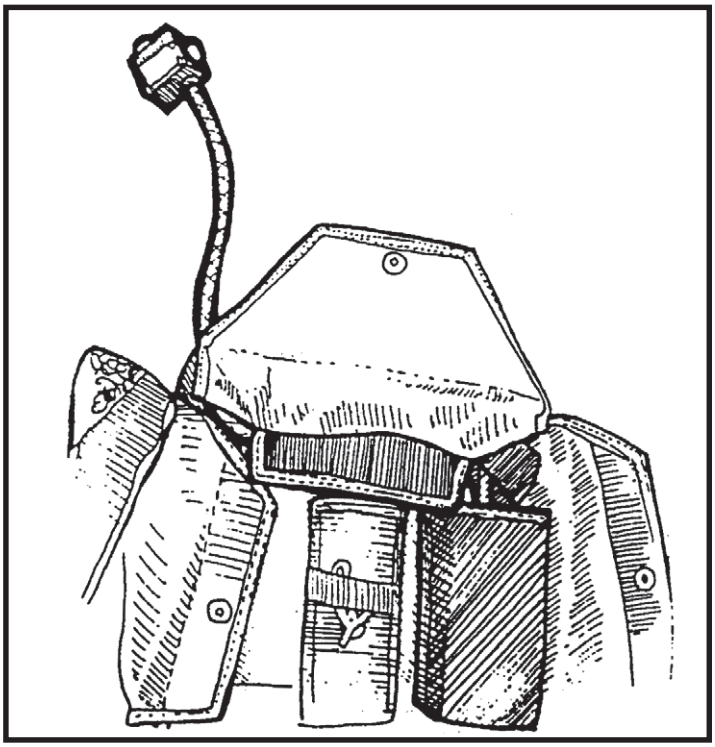
6. Measuring along the center line of the reserve top flap (Flap #6), measure up 4 inches from the center of the grommet and mark. This mark indicates the lower edge of the mounting bracket.

NOTE: If the bracket is mounted too closely to the grommet, the ripcord pin may not be completely withdrawn from the locking loop when the AAD fires and the container will stay shut.

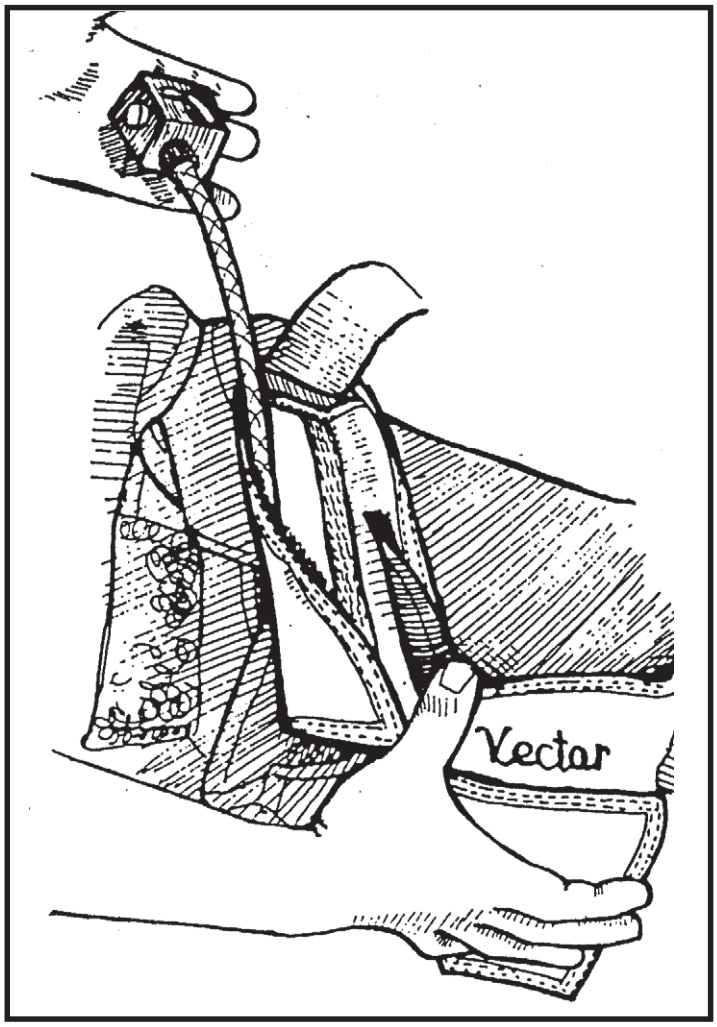
7. Place bracket on center line of top reserve flap and use a pencil or pen to carefully mark' holes. Remove bracket and drill holes in top' flap using a 1/16-in. drill bit. 8. Position the bracket on the outside of the top reserve flap and the mounting plate on the underside. Using the longer of the screws provided, insert each through the bracket, through the flap and through the plate. Slip the end of the cable housing into the bracket. Snug screws down to firmly hold the housing. File the ends of the screws flush if necessary.

9. Route the sensing unit cable under the Velcro flap across the top of the reserve container and under the Velcro flap on the left side (where the reserve risers will be placed).

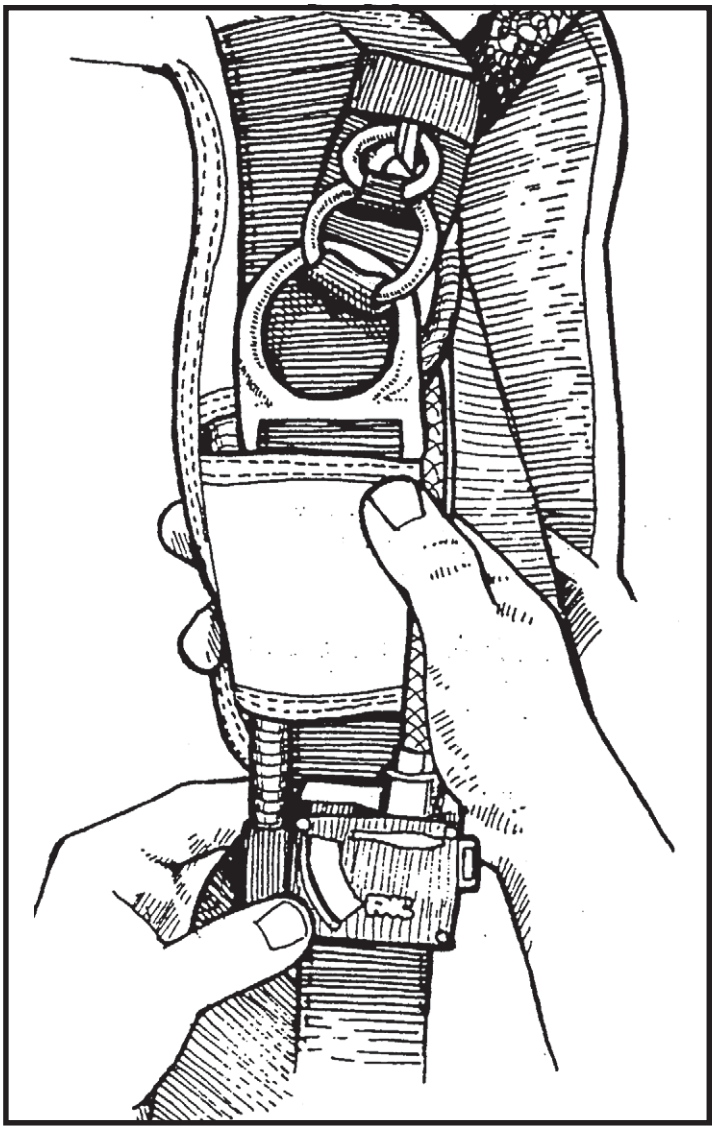




10. Route the sensing unit cable under the Velcro flap on the left hand shoulder yoke.



11. Attach the sensing unit to the Type 17 loop provided on the fabric panel below the large harness ring:



12. Inspect the entire assembly. Log the installation on the packing data card and in your logbook. .

Altitude Testing Chamber

Because AADs are reliable only if they are properly installed and maintained, anyone - who purchases a Vector must have access to an altitude testing chamber. The FXC chain- i ber costs more than the one from SSE, .Inc., but it tests the entire system rather than just the sensor.

It is possible to construct an inexpensive altitude chamber using .readily available components These "home-made" devices can fail, however, endangering those nearby Caution must be used when using any altitude chamber.