

**SECTION/OPERATION**

**2**

**AIRFRAME**

<u>COMPONENT</u>	<u>PROCEDURE</u>	<u>PRINT #</u>	<u>TEMPLATE</u>
AIRFRAME (E10-2000)	Airframe Battery box	E10-2000	
LANDING GEAR (E11-2000)	Landing gear Skids Steps End plugs	E10-2000	

**NOTES**

AIRFRAME: Drill bushings to the correct size and deburr.

LANDING GEAR: Check lateral square drive tube to be level.

BATTERY BOX: Fabricate battery straps.

## ROTORWAY

### TOOLS REQUIRED FOR OPERATION 2:

Center punch	
Countersink	
Drift punch	
Drill bits of the following sizes:	1/8"
	1/4"
	3/8"
File	
Grinder	
Hacksaw or band saw	
Hand drill (air or electric)	
Level	
Mallet	
Nutdriver	
Pop rivet gun	
Protractor level	
Ratchet with sockets in the following sizes:	7/16"
	9/16"
Screwdriver	
Tape measure	
Wrenches of the following sizes:	7/16"
	9/16"

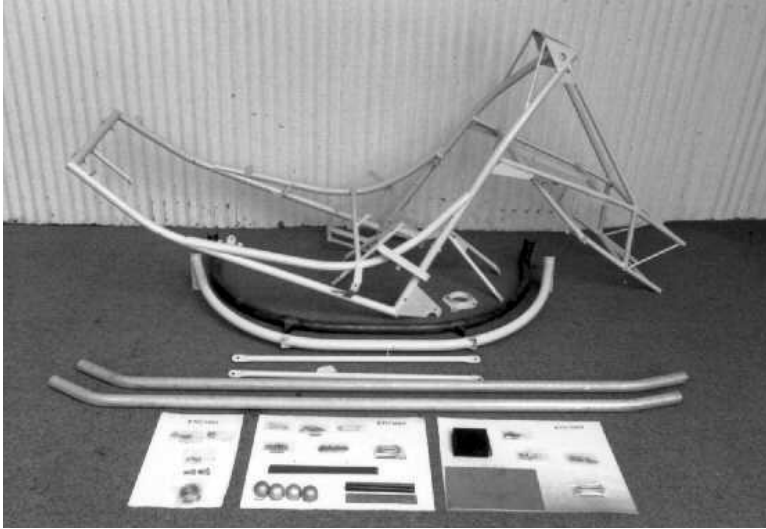


Photo #1

All of the parts for the airframe and landing gear, E10, E11, E12, E13, as received from the factory.



Photo #2

Drill the bushing with a 1/4" drill bit for the front landing gear attachment.

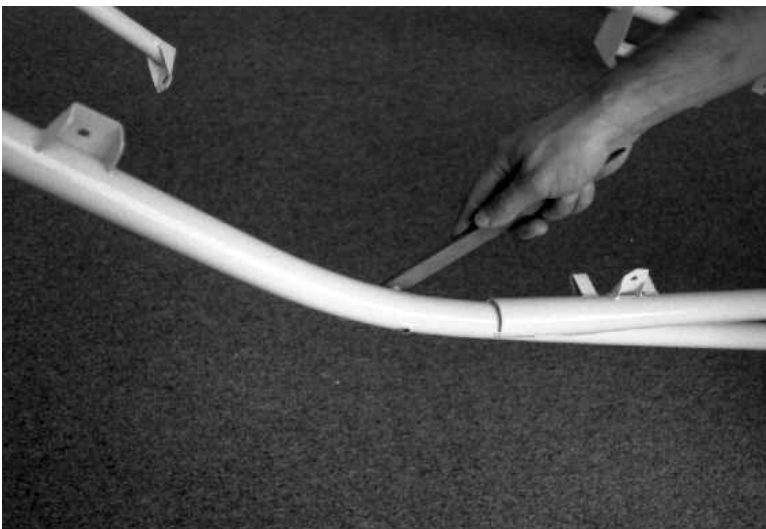


Photo #3

Cut off the bushings equal distance from the fore/aft air frame tubes so there is a snug fit on the front landing gear mounting brackets. See section 2, page 5, photo #12. Use a file to square the ends of the bushings (the ends must be 90 degrees to the hole).

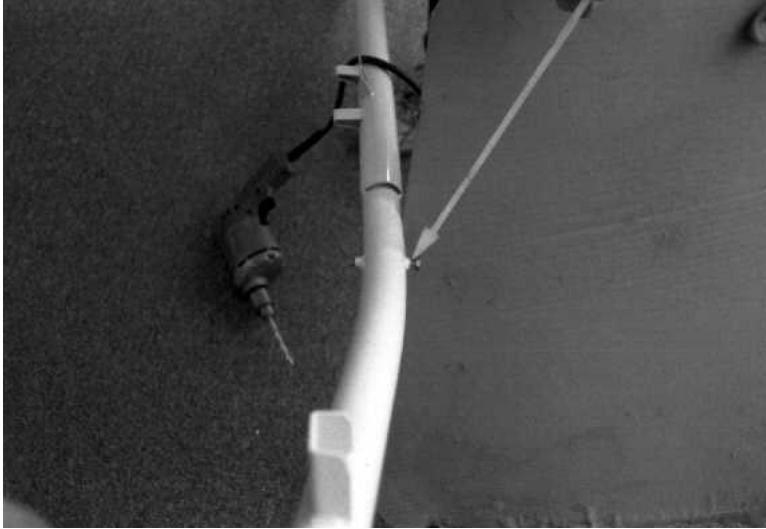


Photo #4

Use a 1/4" bolt to check the ends of the bushings. The head of the bolt should make contact all the way around.  
(See standard construction procedures.)

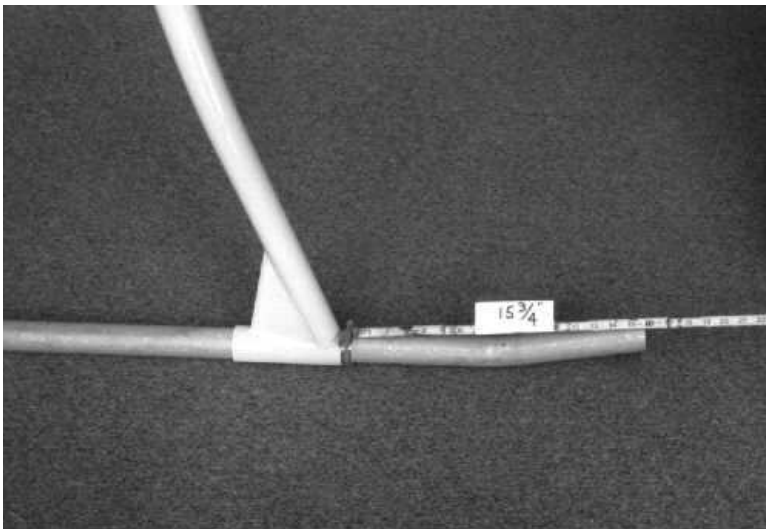


Photo #5

Mount rear landing gear to the skid tubes so that the rear of the shoe is 15-3/4" from the end of the skid tube. Hold in position with hose clamps.  
Note: The rear of the skid tube has the smallest bend.  
BE SURE THE SKID TUBE WITH THE STEEL INSERT IS ON THE PASSENGER SIDE.



Photo #6

View of rear landing gear on skids.

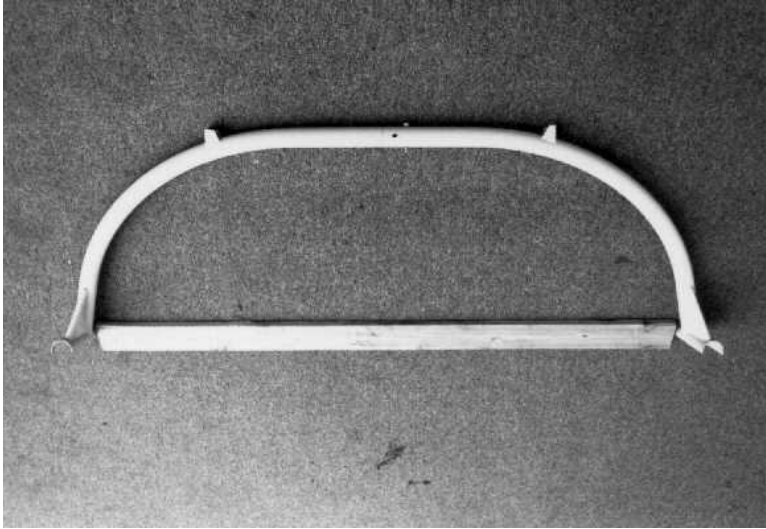


Photo #7

Cut a board to fit between the shoes of the front landing gear.

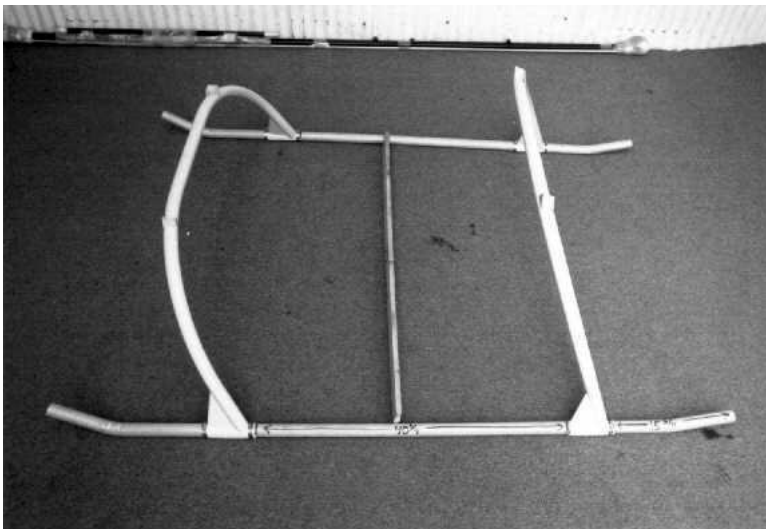


Photo #8

Locate and mark on both of the skid tubes 40-1/4" from the front of the rear landing gear shoes. Place the board between the skid tubes midway between the marks and the rear landing gear.

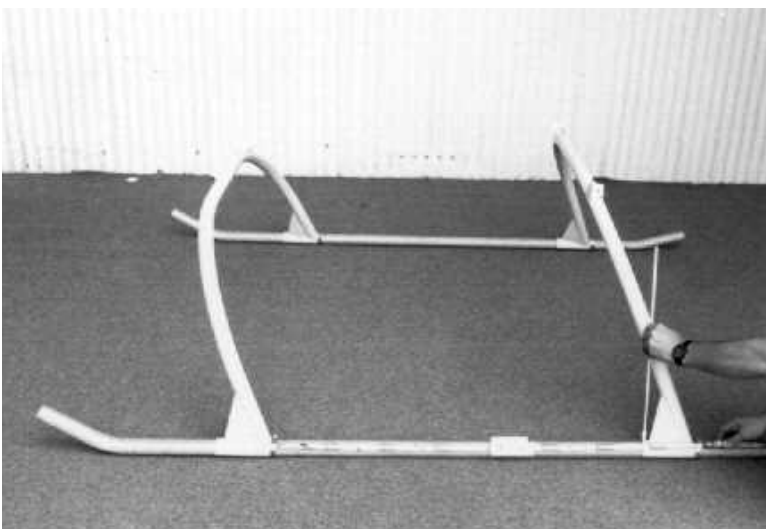
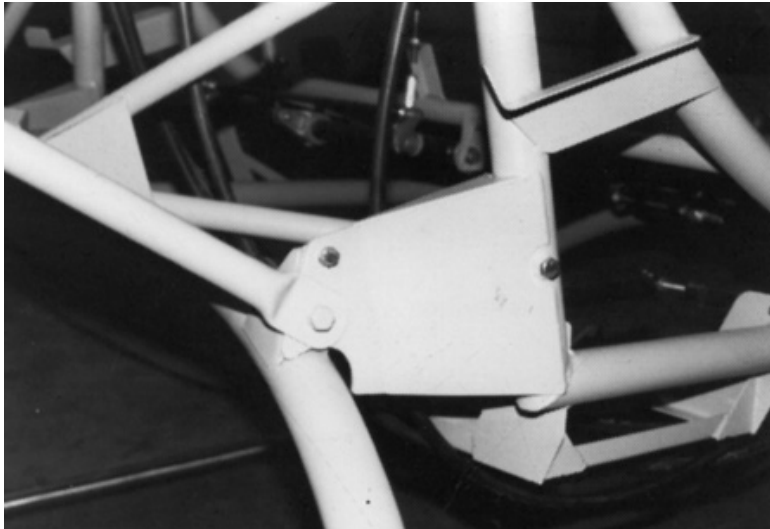


Photo #9

Mount the front landing gear on the skid tubes, using the marks to achieve the correct distance (40-1/4") between the front and rear landing gear. Use hose clamps to hold in position. Note: The skid tubes are closer together on the rear than on the front. This allows for spread when the gear supports the weight of the helicopter.

Photo #10



Clamp the tail boom support brace tubes in place. Remove the bolts to allow the airframe to sit on the landing gear. Place shims between the airframe and the landing gear. These shims are to ensure that the complete weight of the helicopter will be on the bolts. The shims may be from .020" to 1/4" thick to achieve the angles called for on the square drive tubes (see next photo). If more than 1/4" of shims are required, contact RotorWay.

When the airframe is in the correct position, drill the 3/8" bolt holes in the landing gear brackets. Use the existing holes in the brace tubes and airframe as a guide. Remove the shims and install the 3/8" bolts. Then drill and install the 1/4" bolts.



Photo #11

Check the angles on the square drive tubes as follows:

1. The skid tubes must be level.
2. The rear square drive tube should be level laterally.
3. The fore/aft square drive tube should be approximately 4-1/2 degrees downward tilt towards the front.

Note: Drill the rear landing gear attachment bolt holes and install the bolts only when the airframe is in the correct position.



Photo #12

Place an .020 shim between the landing gear and the airframe on each side. Drill the front landing gear attachment bolt holes and install the bolts.

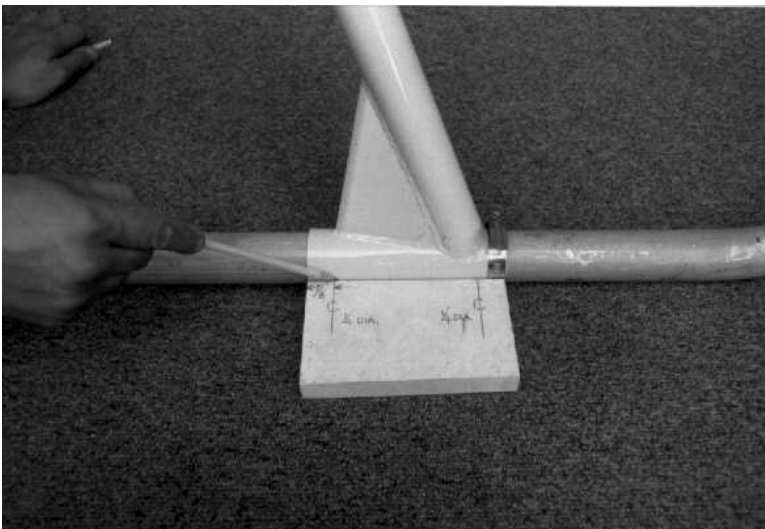


Photo #13

Locate and drill the attachment bolt holes in the shoes and skid tubes.  
Note: Use a 7/8" thick board, the same length of the shoe and mark 7/8" from both ends. Place this next to the shoe and use a center punch to mark the hole location. Mark and drill from both sides, then pass the drill through.

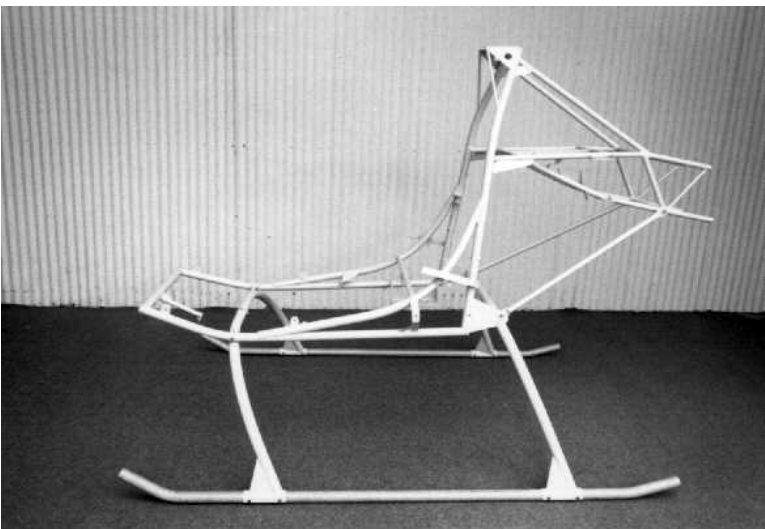


Photo #14

Landing gear bolted to the airframe and skid tubes.



Photo #15

Grind or file each end plug to fit into the skid tubes. This should be a tight fit. Use a mallet to drive them in on final installation.



Photo #16

Drill both sides and install 1/8" pop rivets. Countersink the rivets on the front passenger side end plug so that the ballast weight tube will slide over without binding.

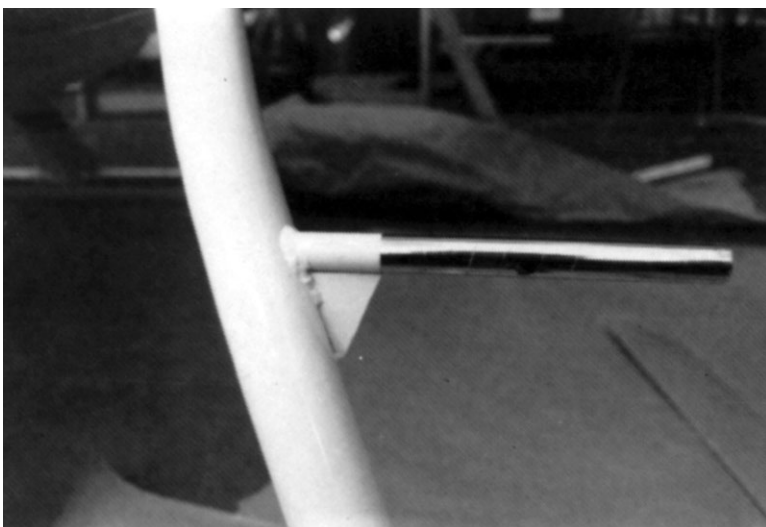


Photo #17

Weld on the step and gusset according to the dimensions on print E10-2000.



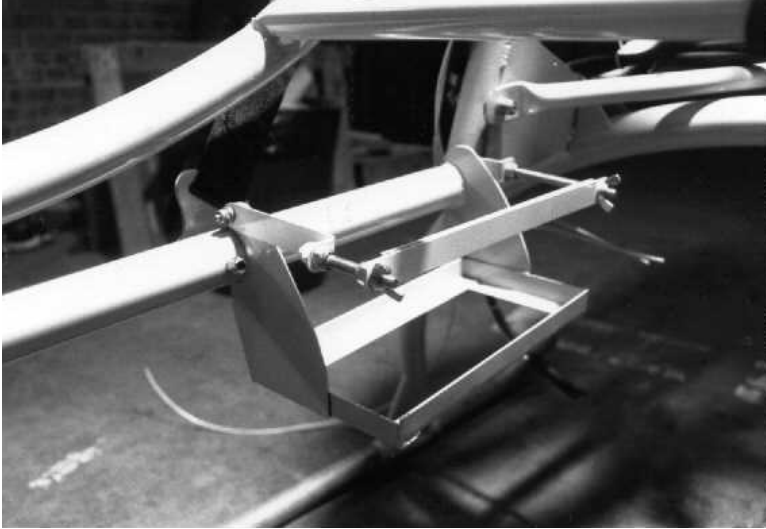


Photo #18

Make the battery straps, shown here installed on the battery box.

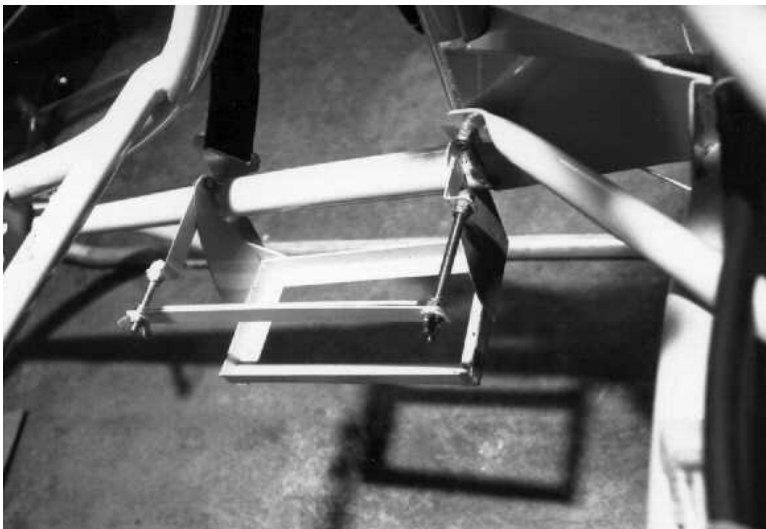


Photo #19

Another view of the straps mounted to the battery box.



Photo #20

Rear view of the battery in the battery box.



Photo #21

Front view of the battery in the battery box.  
Note: The arrow shows where to drill a 3/16" hole to bolt the front strap.

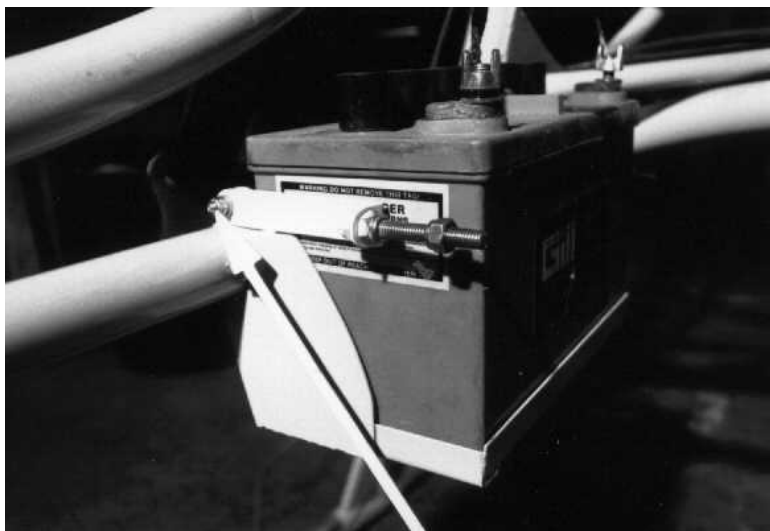


Photo #22

Another view of the front strap.

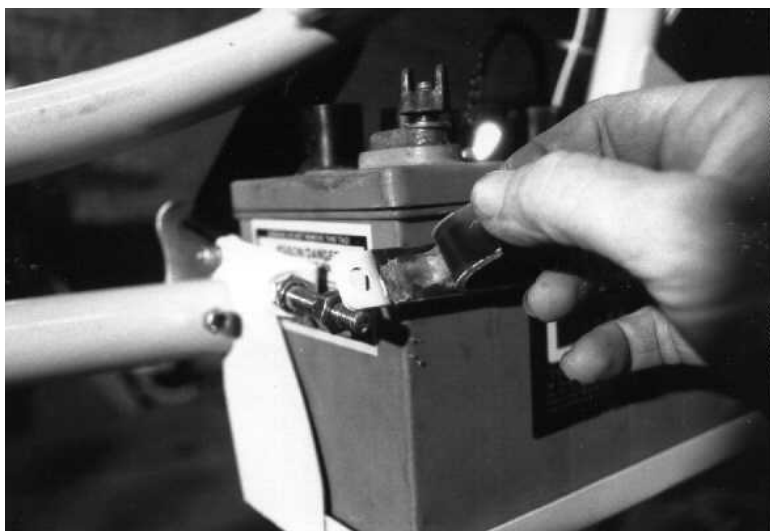


Photo #23

Use the 3M weather stripping adhesive to glue the rubber strip to the steel strap.



Photo #24

Side view of the battery clamped into the battery box.

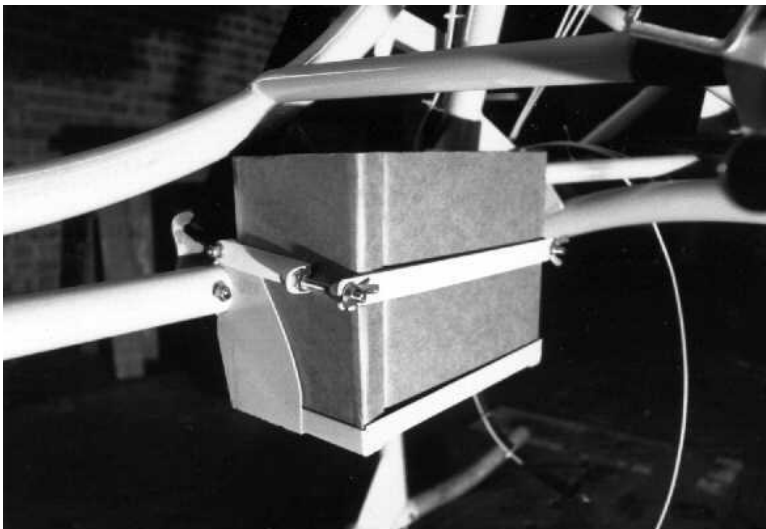


Photo #25

To make the battery straps without the battery, use a cardboard box that will fit the battery box.