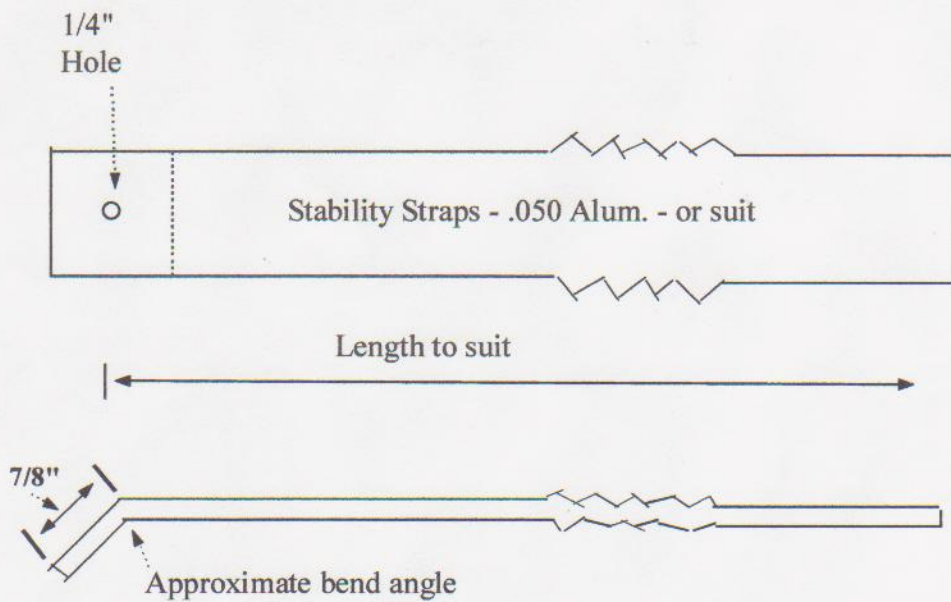


**Challenger Heater System
Packing List**

- ___ (1) Heater Unit
- ___ (1) Cradle Mount
- ___ (1) 3 Speed On/Off Switch
- ___ (1) 3/4" to 1 1/4" Transition Fitting
- ___ (3) Hose Clamps
- ___ (1) 4" Long x 1 1/4" Reducer Coupling
- ___ (1) 30" Long x 3/4" I.D. Radiator Hose
- ___ (1) Heat Shrink Hose Clamp (1 1/4")
- ___ (1) Heat Shrink Hose Clamp (3/4")
- ___ (1) S.S. Hose Clamp (1 1/4")
- ___ (1) 12 1/2" Length Air Duct Hose
- ___ (6) 13" Cable Ties
- ___ (1) 12' Wire
- ___ (1) Plenum - 4" diameter x 5 1/2" long tube w/ 3 1/8" hole in side
- ___ (2) Large screw clamps to hold heater in cradle
- ___ (6) SS - 44 Rivets
- ___ (6) AD - 44 Rivets
- ___ (1) Plenum End Cap
- ___ (2) 1/4" x 28" x 3/4" Bolts
- ___ (2) 1/4" x 28" Fiber Nuts
- ___ (4) Washers
- ___ (2) Stiffner Straps
- ___ (1) 1" x 2 1/2" long I.D. hose
- ___ (1) 3/4" x 12" long I.D. hose
- ___ (1) 3/4" to 1" Reducer Coupler
- ___ (2) 15/16" to 1 1/2" Screw clamps
- ___ (3) 9/16" to 1 1/16" Screw Clamps



CHALLENGER INSTALLATION

Rivet black cap on end of tube that 3" hole is closest to. Rivets will be very close to edge of white tube to go through, inside lip of black cap.

Place (***do not attach yet***) white tube over fan end of heater.

Temporarily mount heater onto mounting bracket.

Set unit in bow section under engine mount area.

Mark position to attach heater mounting bracket to airframe tubes.

Keep unit centered as possible to allow cold air return tubing to fit into tube plenum and hot air tube to enter aircraft behind cross tubes.

Mark position of plenum on heater to allow cold air tube to enter aircraft without binding.

Remove from aircraft.

Attach plenum to heater with aluminum short rivets. **Make sure they do not interfere with fan!!** Hold rivets 3/4" to 7/8" from edge of tube. Use long aluminum Rivets.

Attach mount to air frame using S.S. rivets.

Insert cold air return tubing into plenum while inserting entire unit in bow section.

Insert hot air tube in heater.

Bolt unit to bracket with 1" straps provided.

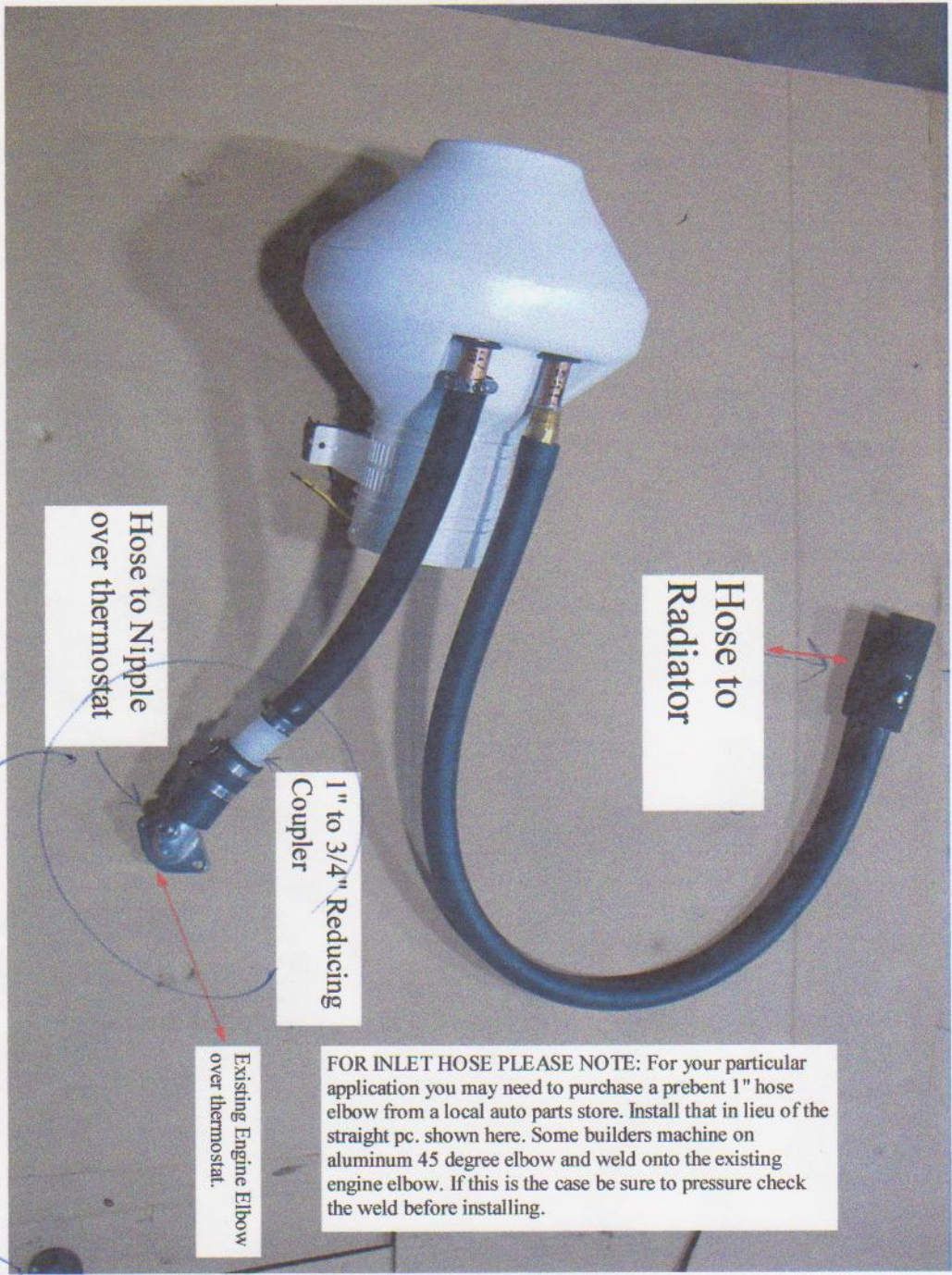
Clamp radiator clamps around heater.

Measure and cut to length 1" wide straps and rivet to top or center horizontal bow ribs (curved tubes).

Attach black wire to ground the bracket, bolt will work.

Attach other wire to switch in cockpit - 16 ga. Wire will work.

Remember heater works best when coolant temperatures are between 160 and 180 in winter time. The heater also helps reduce summer time coolant temperatures. Use only Dex-Cool antifreeze or equivalent aluminum engine coolant.



*new style has
screw type fitting*

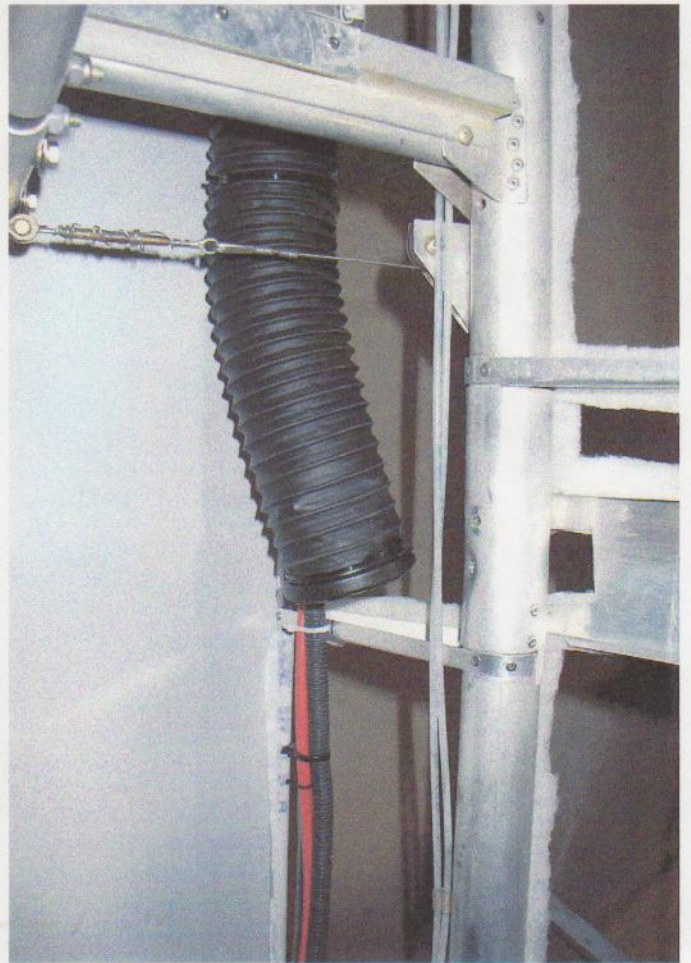
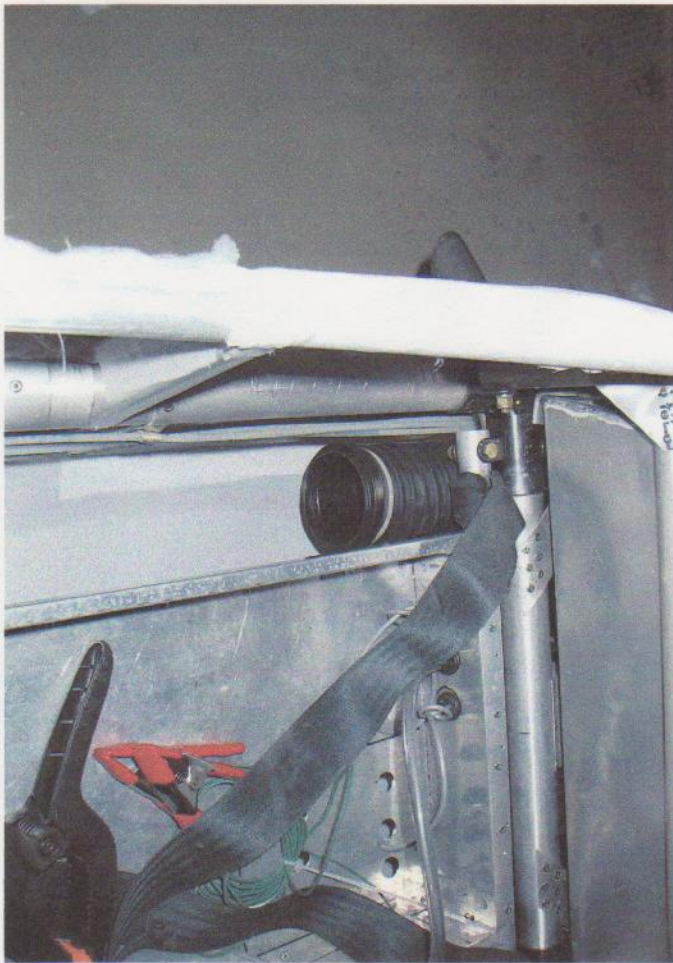
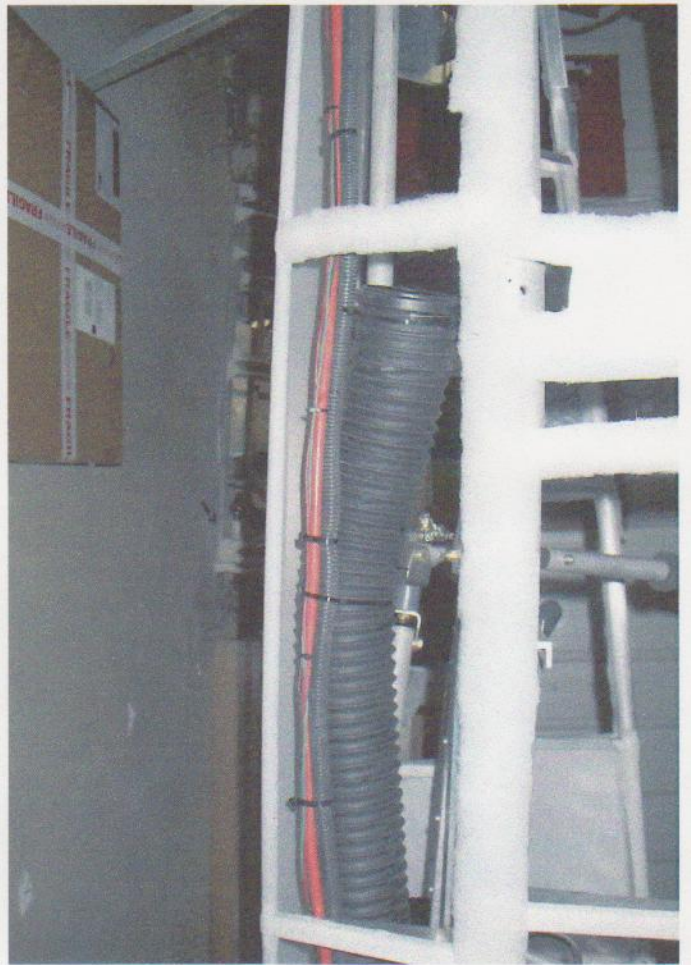
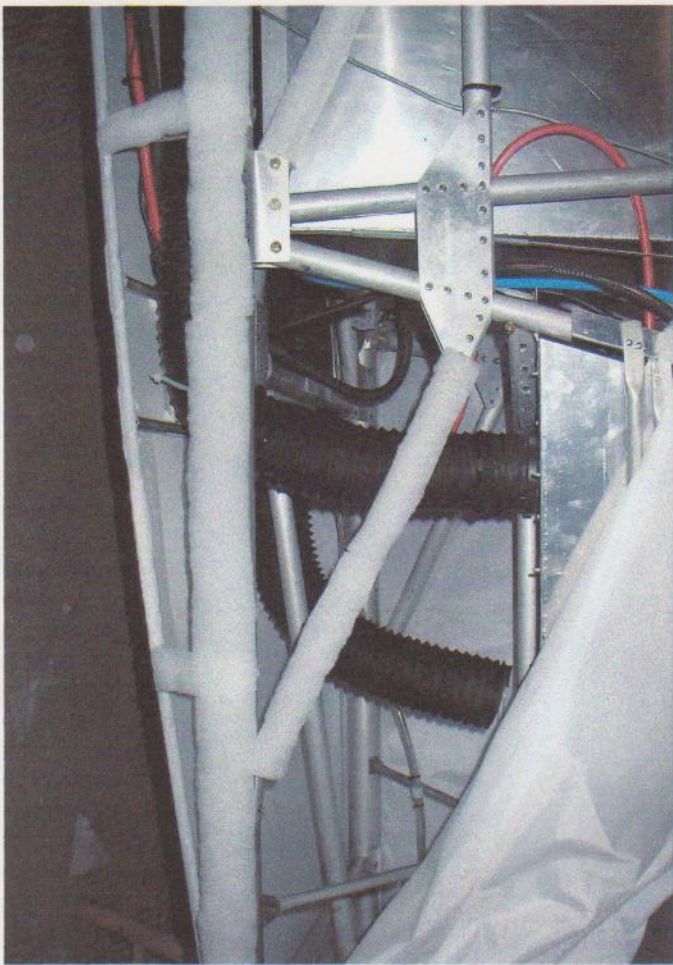
Hose to Nipple
over thermostat

Hose to
Radiator

1" to 3/4" Reducing
Coupler

Existing Engine Elbow
over thermostat.

FOR INLET HOSE PLEASE NOTE: For your particular application you may need to purchase a prebent 1" hose elbow from a local auto parts store. Install that in lieu of the straight pc. shown here. Some builders machine on aluminum 45 degree elbow and weld onto the existing engine elbow. If this is the case be sure to pressure check the weld before installing.





Approx. 3" hole locations in reference to each other for installation in cavity below engine for Challenger.



Be sure rivets do not protrude into fan blade

