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## **INSTALLATION INSTRUCTIONS**

# **CAB HEATER KIT**

**For Workman Liquid Cooled Vehicles**

**93-9200 Gas  
93-9201 Diesel**



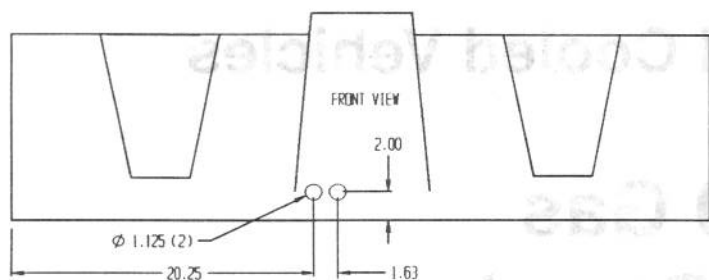
## Installation Instructions for Toro Workman Heater Kit

The installation of the heater unit, air distribution system, electrical switch, wiring and hose routing is identical for both the diesel powered and gas powered Workmans with the following exceptions:

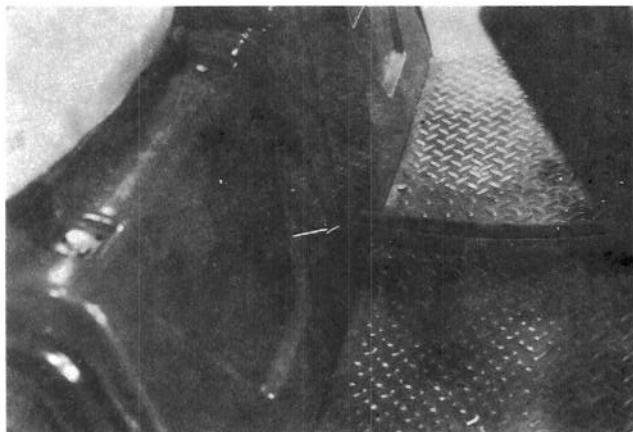
- A. The diesel powered Workman requires the stock thermostat housing be replaced by the housing supplied with the heater kit, and uses a different hose hook up arrangement than used on the gas powered Workman.
- B. The 4 wheel drive Workman requires that the hose floor cover be shortened.

**RECOMMENDATION:** Review all of the installation instructions before starting the installation.

1. Toro Workman machine preparation.
  - a. Drain the cooling system.
  - b. Remove the tool box from the right side of the dash.
  - c. Saw (2) 1 1/8 inch holes in the front of the seat deck with a hole saw. (see figure 1 and photograph 1 for hole locations)
  - d. Install a 1 1/8 inch hole grommet in each of the holes.



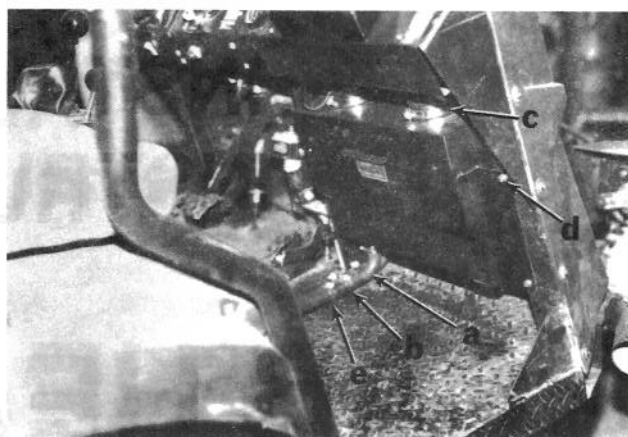
**Figure 1**



**Photograph 1**

### 2. Heater unit assembly.

- a. Attach a 90 degree heater hose elbow to each of the nipples on the heater unit. The open end of the installed elbow is on the same side of the heater as the openable air door. The short end of the elbow is attached to the heater nipple. Apply (2) #10 hose clamps. (see



**Photograph 2**

photograph 2a)

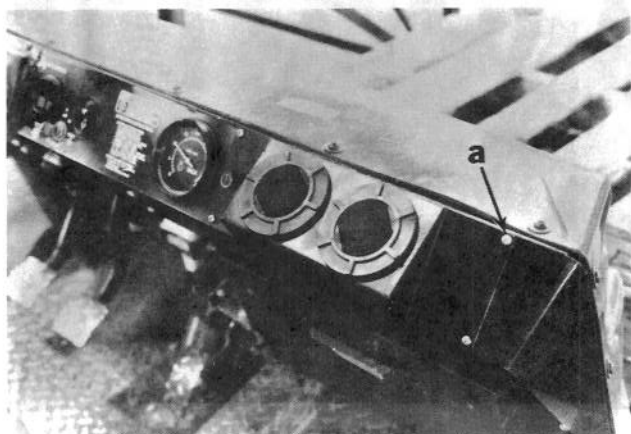
- b. Install a 3 inch long PVC splice pipe half way into each of the elbows. Apply (2) #10 hose clamps. (see photograph 2b)
- c. Cut the 2 1/2 inch flex hose provided into two equal lengths. Attach each hose to one of the heater outlet ports on the top of the heater unit. Apply (2) 2 1/2 inch hose clamps. (see photograph 2c)

### 3. Install the heater unit.

- a. Place the heater unit under the right side dash and install with the top heater mount bracket hooked over the machine cross tube. (see photograph 2)
- b. Push the bottom of the heater toward the front until the heater mount bracket contacts the machine frame. Match drill (2) 3/16 inch holes into the frame member, using the heater, mounting bracket as a template. Attach the heater to the machine frame with (2) 1/4 inch x 3/4 inch self tapping screws. (see photograph 2d)

4. Installation of the louver/switch panel. Make all connection through the right side dash panel opening before attaching the louver/switch panel. (see photograph 3)

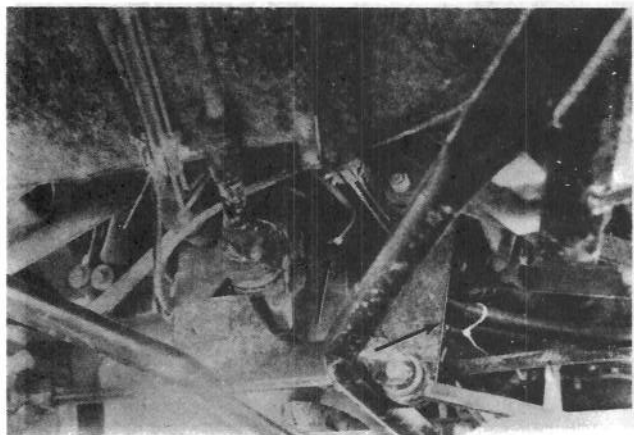
- a. Attach the fused power assembly wire to terminal "B" on the heater switch.
- b. Attach the yellow wire from the heater to the "L" terminal on the heater switch.
- c. Attach the red wire from the heater to the "M" terminal on the heater switch.
- d. Attach the orange wire from the heater to the "H" terminal on the heater switch.
- e. Slide two hose clamps over the two flexible hoses coming from the heater unit. Connect the (2) 2 1/2 inch hoses to the louver panel. Apply (2) 2 1/2 inch hose clamps.
- f. Connect the fused power wire assembly to the red colored lead coming from the vehicle's fuse block. If additional leads are needed, order an accessory fuse block from Toro Company, Toro #92-2641.
- g. Vertically and horizontally center the louver/switch panel over the right side dash opening. Match drill (4) 5/32 inch holes into the dash. Attach the panel with (4) #10 x 5/8 inch self tapping screws. (see photograph 3a)



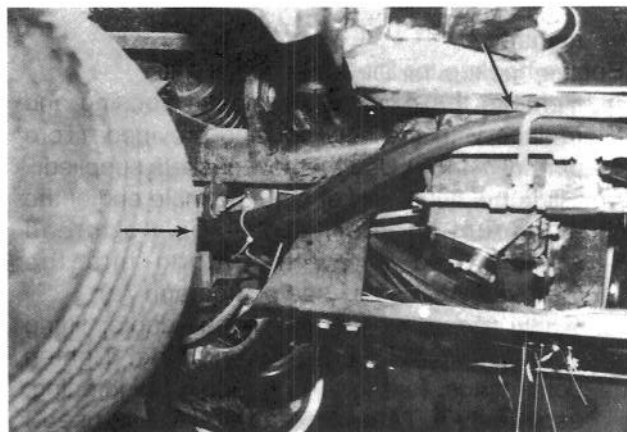
**Photograph 3**

5. Engine hookup for the gas powered Workman. (for the diesel powered Workman, proceed to step number 6)

- a. Remove the 1/2 inch coolant bypass hose from the thermostat housing and from the lower radiator hose fitting.
- b. Route both ends of the 5/8 inch heater hose through the grommets installed in the lower front of the seat deck. Route the hoses rearward, following the power steering hydraulic lines along the left side of the vehicle chassis. (see photographs 4 & 5) Slide a #10 hose clamp onto each hose. Connect one hose to the thermostat housing fitting and the other hose to the lower radiator hose fitting.



**Photograph 4**



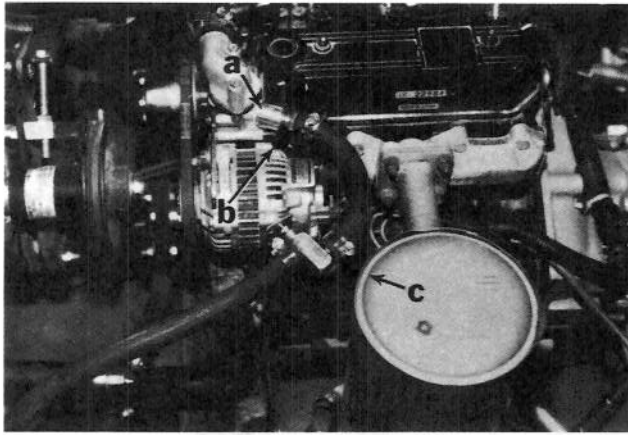
**Photograph 5**



**Photograph 6**

Apply clamps. (see photograph 6)

- c. Use the nylon wire ties provided to secure the hoses and prevent contact with any hot or moving parts.
- d. Cut the hose to the appropriate lengths to attach each of the hose ends to the PVC pipe splices applied to the elbows attached to the heater. Slide a #10 hose clamp onto each hose, slide each hose onto a PVC splice. Apply clamps. (see photograph 2e) Go to step



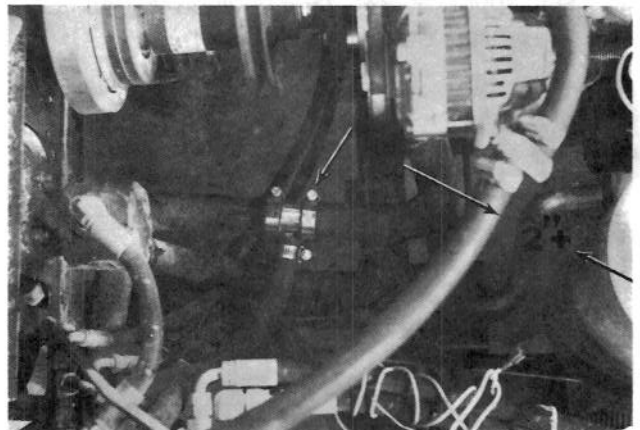
**Photograph 7**

number 7.

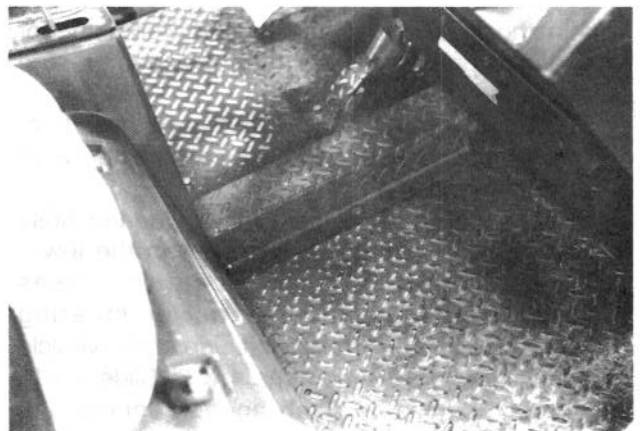
6. Engine hookup for Diesel powered units.
  - a. Remove the existing thermostat housing and replace with the new housing provided. (Toro part #67-4450) Use the new gaskets supplied.
  - b. Slide the nylon gasket onto the male end of the aluminum adapter fitting. Apply a thread sealant and screw the fitting into the thermostat housing. (see photograph 7a)
  - c. Apply thread sealant to a hose adaptor fitting and screw into the aluminum fitting. Tighten both fittings. (exercise caution when tightening, especially if Teflon thread sealant is used.) (see photograph 7b)
  - d. Cut the lower radiator hose as shown in photograph 8. Slide a #24 hose clamp onto each hose end, insert the hose tee so the port is oriented as shown in photograph 8. Apply clamps.
  - e. Apply thread sealant to a hose adapter fitting and screw into the lower radiator hose tee. Tighten the fitting. (exercise caution when tightening, especially if Teflon thread sealant is used.)
  - f. Route both ends of the 5/8 inch heater hose through the grommets installed in the lower front of the seat deck. Route the hoses rearward, following the power steering hydraulic lines along the left side of the vehicle chassis. (see photographs 4 & 5) Slide a #10 hose clamp onto each hose. Connect one hose to the nipple on the thermostat housing fitting and the other hose to the nipple on the lower radiator hose fitting. Apply clamps. (see photographs 7 & 8)
  - g. Cut the heater hose 12 inches from the thermostat housing, slide a #10 hose clamp over each hose end, apply the hose ends to the shut off valve. Orient the valve as shown in photograph 7c. Apply clamps.
  - h. Use the nylon wire ties provided to secure the hoses and prevent contact with any hot or

moving parts. Route the heater hose so there is at least two inches clearance between the heater and the muffler. (see photograph 8)

- i. Cut the hose to the appropriate lengths to attach each of the hose ends of the PVC pipe splices applied to the elbows attached to the heater. Slide a #10 hose clamp onto each hose, slide each hose onto a PVC splice. Apply clamps. (see photograph 2e)
7. Install the heater hose floor cover.
    - a. Place the heater hose cover on the floor deck over the heater hose as shown in photograph 9. Match drill (2) 11/32 inch holes into the floor.
    - b. Attach the hose cover to the floor with (2) 5/16 inch x 3/4 inch screws, (4) flat washers, (2) lock washers, and (2) 5/16 inch nuts.
  8. Refill the cooling system.
  9. Start the engine and run at fast idle to purge all the air from the system.
  10. Recheck the coolant level when coolant circulation through the heater is complete.



**Photograph 8**



**Photograph 9**