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INSTALLATION INSTRUCTIONS

CAB HEATER KIT

For Workman Liquid Cooled Vehicles

94-5510 Gas 94-5511 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:

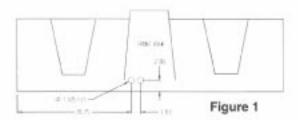
- A. The diesel powered Workman requires the stock thermostat housing be replaced by the housing supplied with the heater kit, and uses a different hose hook up arrangement than used on the gas powered Workman.
- B. The 4WD Workman uses a different hose cover than the 2WD Workman.

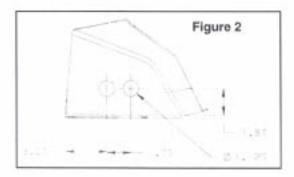
RECOMMENDATION: Review all of the installation instructions before starting the installation.

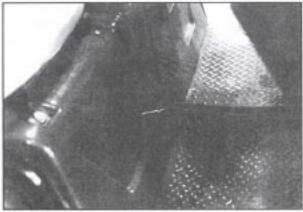
- 1. Toro Workman machine preparation.
 - a. Drain the cooling system.
 - Remove the tool box from the right side of the dash.
 - c. 2WD: Saw (2) 1 1/8 inch holes in the front of the seat deck with a hole saw. (See figure 1 and photograph 1 for hole locations.) 4WD: Saw (2) 1 1/8* holes in the front right side
 - of steering gear cover. (See figure 2 for hole location.)
 - d. Install a 1 1/8 inch hole grommet in each of the holes.
 - e. Remove the front cover to allow access for electrical hook up.

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 2a)
- b. Install a steel splice pipe half way into each of







Photograph 1



Photograph 2

- the elbows. Apply (2) #10 hose clamps. (see photograph 2b)
- c. Cut the 2 1/2 inch flex hose provided into one piece 18" and one piece 30" long. Attach each hose to one of the heater outlet ports on the side 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) For 1995 and newer units, make sure master cylinder reservoir is accessible.
 - b. Push the bottom of the heater toward the front until the heater mount bracket contacts the machine floor. Match drill (2) 3/16 inch holes into the floor plate, using the heater, mounting bracket as a template. Attach the heater to the floor plate with (2) 1/4 inch x 3/4 inch self tapping screws. (see photograph 2d)
- Installation of the louver/switch panel. Make all connections through the right side dash panel opening before attaching the louver/switch panel. (see photograph 3) Use crimp on terminals provided to connect the heater to the heater switch.

- Attach the fused power assembly wire to terminal "B" on the heater switch.
- Attach the yellow wire from the heater to the "L" terminal on the heater switch.
- 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 relay to the red colored lead coming from the vehicle's fuse block. See figure #3. 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)

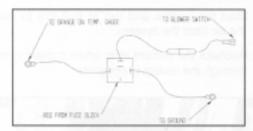
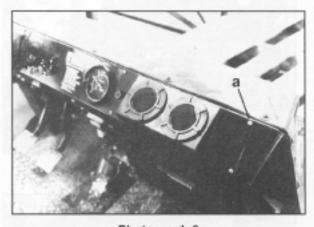


Figure 3

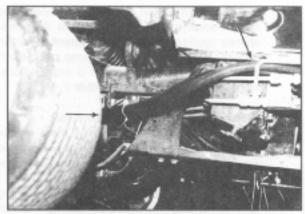


Photograph 3

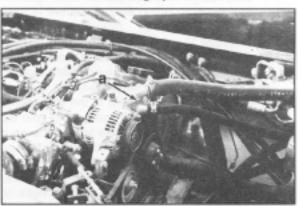
- Attach the yellow wire from the relay to the post with an orange wire on the temperature gauge in the dash.
- Attach the black wire from the relay to the center ground post on the temperature gauge.
- Secure the relay to the machine with #8 x 1/2 screw and nut.
- Engine hookup for the gas powered Workman. (for the diesel powered Workman, proceed to step number 6)
 - Remove the 1/2 inch coolant bypass hose from the thermostat housing and from the lower



Photograph 4



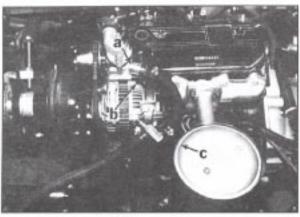
Photograph 5



Photograph 6

radiator hose fitting.

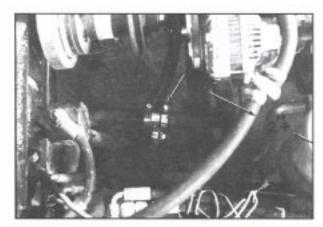
- b. Route both ends of the 5/8 inch heater hose through the grommets installed in the lower front of the seat deck on 2WD units, steering gear cover on 4WD units. Route the hoses rearward, following the power steering hydraulic lines along the left side of the vehicle chassis. (see photographs 4 & 5) 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. Apply clamps. (see photograph 6)
- Use the nylon wire ties provided to secure the hoses and prevent contact with any hot or moving parts.



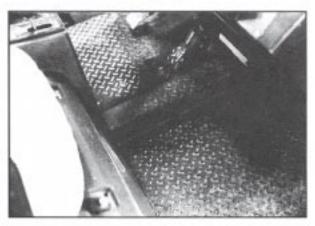
Photograph 7

- d. Cut the hose to the appropriate lengths to attach each of the hose ends to the steel splices applied to the elbows attached to the heater. Slide a #10 hose clamp onto each hose, slide each hose onto a steel splice. Apply clamps. Go to step number 7.
- Engine hookup for Diesel powered units.
 - Slide the rubber o-ring onto the male end of the aluminum adapter fitting. Apply a thread sealant and screw the fitting into the new thermostat housing. (see photograph 7a)
 - 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)
 - c. Remove the existing thermostat housing. Replace with the new housing provided. (Toro part #67-4450) Use the new gaskets supplied.
 - d. Cut the lower radiator hose as shown in photograph 8. Cut 3" out of the wire spring in the hose. Slide a #16 hose clamp onto each hose end, insert the hose tee so the port is oriented as shown in photograph 8. Apply clamps.
 - 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)
- Cut the hose to the appropriate lengths to attach each of the hose ends to the steel splices applied to the elbows attached to the heater. Slide a #10 hose clamp onto each hose, slide each hose onto a steel 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.
 - 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.
- Start the engine and run at fast idle to purge all the air from the system.
- Recheck the coolant level when coolant circulation through the heater is complete.



Photograph 8



Photograph 9