Rooftop Heater/Air Conditioner Model R-9757

INSTALLATION INSTRUCTIONS

NOTE:

1. Please read instructions all the way through, making sure you have all the parts and tools
2. While working on or around a vehicle, disconnect the battery to prevent accidental start-up or electrical shorts
3. It has been established that R-12 refrigerant does deplete the earth's protective ozone layer
   Use care so as not to release this material into the atmosphere
4. A/C systems operate under high pressure. At 77°F the R-134A container will be pressurized to approximately 80 psi. Use caution when working with these materials. Goggles are recommended
5. To function properly the A/C system must be clean and dry. Keep caps or protective covers on all hoses and fittings until final assembly.

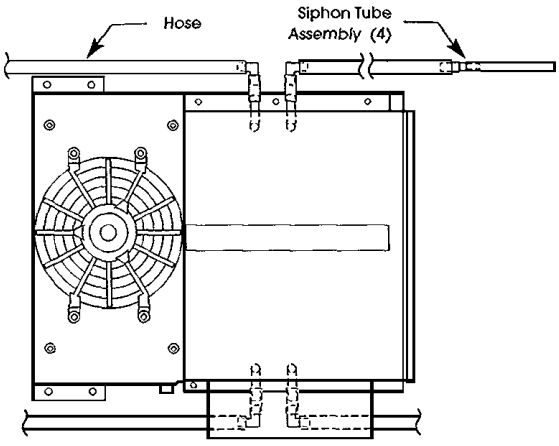
BEFORE STARTING

1. A compressor, compressor bracket, belts and refrigerant hoses are required to complete the installation. These items may be obtained from your RED DOT Distributor.
2. The compressor must have sufficient capacity to allow the unit to deliver the rated BTU output. A 8 cubic inch compressor turning faster than 1,750 rpm is required.
3. A fresh air filter, 78R 5000 is available for use in dusty environments. Replacement element for filter is 78R 5200. For pressurizing the cab and drawing fresh air, 78R 5110 remote mount filter is also available with booster blower (73R 9202 - 12V or 73R 9204 - 24V).

MOUNTING THE UNIT ON CAB ROOF

1. Connect drain hose assembly as provided in the installation kit (RD-3-7142) to the unit. (See Figure 1)

2. Determine the location for mounting the air conditioner unit per Red Dot template.
   - **a.** Refer to Figure 2
   - **b.** Mark the front-to-rear centerline of the cab on the outside of the cab roof.
   - **c.** Place the mounting template on the roof using the centerline as a guide.



DRAIN HOSE INSTALLATION
Figure 1

Red Dot Corporation P.O. Box 88790, Seattle, WA 98138 (425) 251-6897 Fax (425) 251-3934

d. Ensure that air flow to the unit is not obstructed.
e. Do not mount the unit with the front lower than the rear, as this will prohibit water drainage.
f. Avoid cutting roof stiffeners if possible. If **stiffeners are cut or roof is weakened due to the** cutout, reinforcement may be required.

3. Tape the template to the roof at the desired location. Mark the roof cut-out area (scribe the root).

4. Cut the roof where marked and drill the 1/2" dia. mounting holes. Remove burrs and sharp edges.

5. Clean the outside roof area around the cut-out and mounting holes using a mild solvent.

6. Apply a bead of sealant around upper surface of roof cut-out and mounting holes. Completely fill bolt holes with silicone to ensure proper sealing. Also, place rubber washers on all mounting holes to prevent water leakage into the cab. See Figure 2.

7. Set unit on cab.

8. Apply sealant around bolts and nuts to prevent water leakage into cab.

9. Place the reinforcing stiffeners from inside of cab against mount holes and install six bolts. Then install 4 condenser mount bolts.
NOTE: Apply adhesive sealant to the mounting hole locations as needed.

REFRIGERANT HOSE INSTALLATION

1. Cut hose to proper length. Make cut at right angles to centerline of hose. Blow cut hose with clean dry air after cutting to insure no foreign particles are left in hose. Install the appropriate steel bead lock filling on the end of the hose and crimp fitting using crimper

No. 79R 1510. A #12 suction line is recommended in place of the #10 for increased cooling capacity. Use a step up fitting to accomplish this.

2. Use 70R 4692S Fitting #10-12 (with a schrader port) on the suction line. Place low side pressure switch (71R 6045) on #10 -#12 Ftg (w/Schrader port) near unit under plumbing cover.

3. Route hoses over the top of cab and down the back wall to the compressor. On tilt cab vehicles, route hose to the cab pivot and then to compressor.

4. Use clamps provided to secure hoses and prevent hose movement. Hoses must not come in contact with hot vehicle components, exhaust manifolds, etc., and they should not be subjected to mechanical abrasions.

SECURE DRAIN HOSE

1. Secure drain tube with tie wraps. Attach to refrigerant hoses only if they run downhill properly. **NOTE: Be cautious not to over-tighten tie wraps. Otherwise the drainage may be restricted.**

2. Inspect to make sure that drain tubes are not kinked, especially at back of cab.

WIRING

NOTE: a. Unit is wired for negative ground. For positive ground systems, reverse both motor leads on condenser motor and evaporator motor.
b. Unit is internally grounded.

1. Disconnect battery.

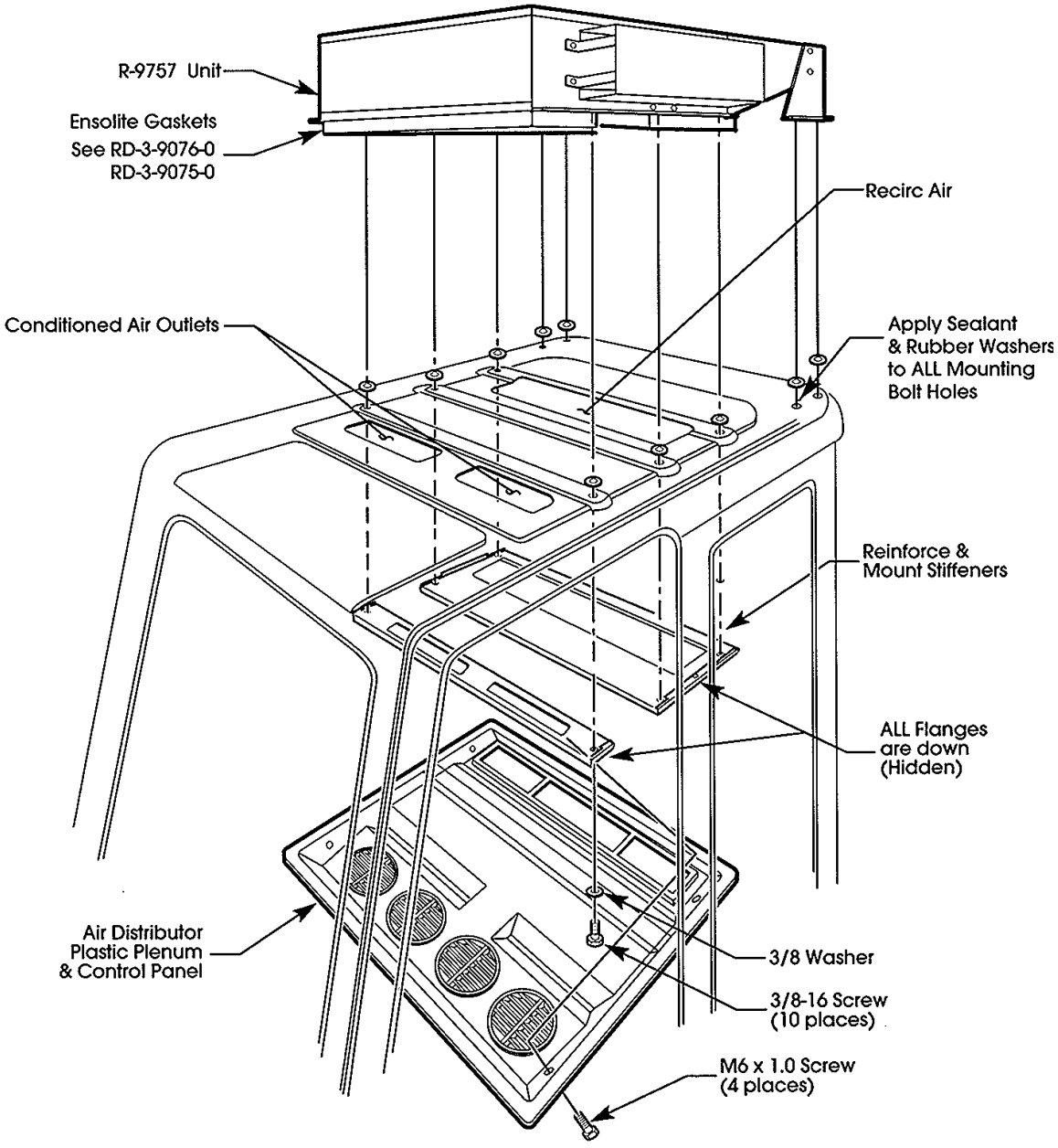
2. Connect plenum/control panel assembly to unit connectors.

3. Red Wire: Connect to an ignition switch supply through a 35 amp circuit breaker (20 amp/24V).

4. Black/White Wire: Connect to compressor clutch. Route the wire around the hinge point before connecting to compressor clutch on tilt-cab installations.

5. If clutch does not engage the system may not have been charged to high enough pressure to actuate the pressure switch. Place a jumper wire across the switch to start system.

6. See Wiring Schematic provided in installation kit (RD-3-9094).



ROOFTOP AIR CONDITIONER INSTALLATION
Figure 2

AIR DIFFUSER AND RECIRC PLENUM

1. Place cable control converter through control panel *CD"* hole from inside of plenum) and use control knob provided in the kit (71R 4040) to secure it against control panel. (connect control panel wiring to unit wiring).

2. Place the plenum assembly up to the unit and start one of the mount bolts.

3. Start the remaining bolts.

4. Tighten unit/plenum assembly bolts evenly until the plenum fits snugly against headliner and reinforcement stiffeners.

FINAL ASSEMBLY AND CHECK

1. Evacuate the system, test for leaks and charge with R-134a. The unit requires 2.5 to 3.10 pounds depending on hose lengths. If clutch does not engage the system may not have been charged to high enough pressure to actuate the pressure switch. Place a jumper wire across the switch to start system.

2. Connect the battery.

3. Turn the ignition switch to the "on" position.
- **a.** The clutch should click on and be engaged.
- **b.** The evaporator blower should be turning at high speed.

4. Turn the fan switch to medium and low positions and check that the evaporator blower slows down.

5. Turn the fan switch to the "off" position and compressor clutch should disengage.

6. Start engine and run at 1500-2000 rpm. Turn unit on "full cold", "high fan". Check sight glass on receiver-drier for bubbles. Add 6 to 8 ounces more refrigerant after the sight glass just clears. (R-12 only) **NOTE:** Check gauges for normal pressures for R-134a.

7. Check thermostat to be sure clutch cycles on and off.