

Air Heater

Air Top 3500 Diesel

Supplemental Installation
Instructions for:

Van Body Vehicles

Table of Contents

1. Introduction

1.1 General Information 2

2. Installation

2.1 Vehicle Preparation 3

2.2 Vehicle Floor Preparation 3

2.3 Preparing Heater for Installation 4

2.4 Mounting the AT 3500 Heater 5

2.5 Fuel System 6

2.6 Combustion Air Intake Tube 7

2.7 Exhaust Outlet Tube 7

2.8 Control Switch (Rheostat) Installation 7

2.9 Heater Wiring Harness Installation 8

2.10 Ignition Off - Heater Off Delay Timer 8

2.11 Initial Operation 9

2.12 Webasto Air Top 3500 Electrical Schematic (Van Heating System) 10

1. Introduction

1.1 General Information

This installation supplement contains instructions that are particular to the Freightliner Custom Chassis and Union City Body Company manufactured 20 foot van body vehicle. These installation instructions are a supplement to be used in conjunction with the general installation instructions included with the Webasto AT 3500 Air Heater Kit # 923072.

Before beginning your installation, please read over and familiarize yourself with all of the installation information provide in this manual and the installation manual provided with the Air Top 3500 heater kit.



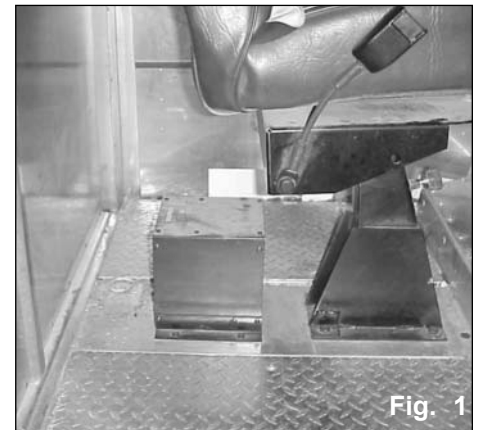
2. Installation

2.1 Vehicle Preparation

Vehicles retrofitted with an existing heat exchanger (“Hot Foot Heater”).

Note New vehicles may not be equipped with an auxiliary heater. In this case, proceed to section 2.2 “Vehicle Floor Preparation.”

1. Drain engine coolant.
2. Remove coolant lines running from engine to heat exchanger and back to engine.
3. Remove connection fittings from block and plug holes with appropriate threaded plugs.
4. Remove seat to gain access to work area.
5. Remove heat exchanger assembly.
6. Refill engine with coolant.



2.2 Vehicle Floor Preparation

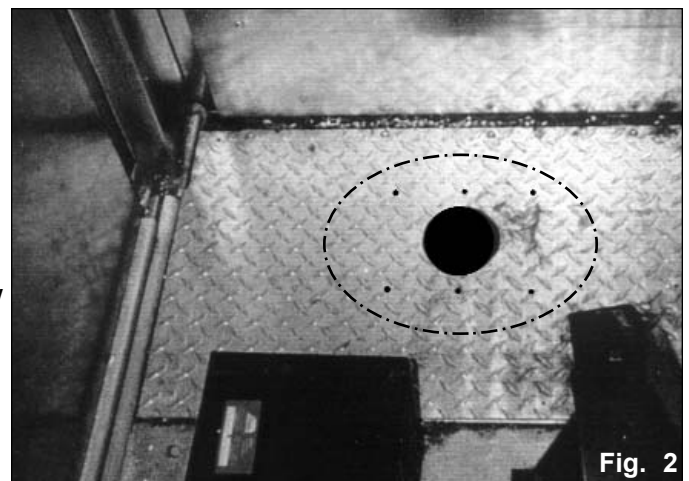
The AT 3500 Kit includes a cutting template for mounting the heater in the correct position and for proper clearance from surrounding items. Be sure to leave at least 3” to 4” of clearance between the heater air inlet end and the bulkhead located behind the seating area. Secondly, locate the heater as close to the side wall as allowable while leaving enough clearance to allow floor plate to be raised on its hinged axis with the heater installed. Later in the installation, you will need to lift the floor plate high enough to allow your hand and arm access under the floor plate and into the step-well area.

With the template properly positioned on the floor as described above, carefully mark 4” access hole and six 1/4” mounting bolt holes in floor. Cut the 4” access hole with a hole saw or jig saw. Drill the six 1/4” mounting holes. See figure 2.

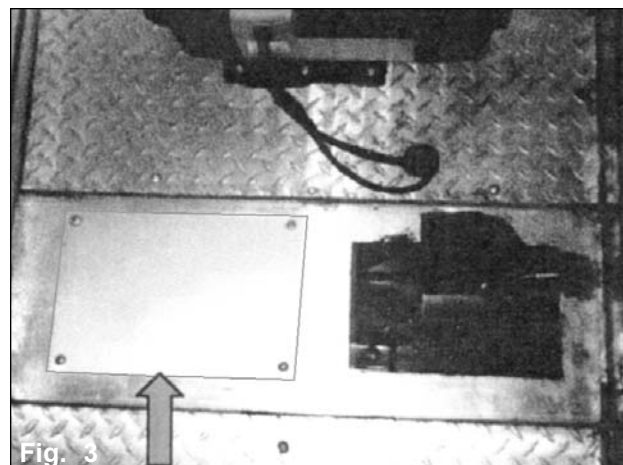
Lastly, raise the floor plate on its hinge and cut a 2” hole in the rear wall of the step-well to allow the combustion air tube, fuel line and fuel pump electrical cable to pass through.

Cut another hole in the in-board side of the step-well for the exhaust tube.

These holes can be cut with a Saws-All or jig saw equipped with a metal cutting blade.

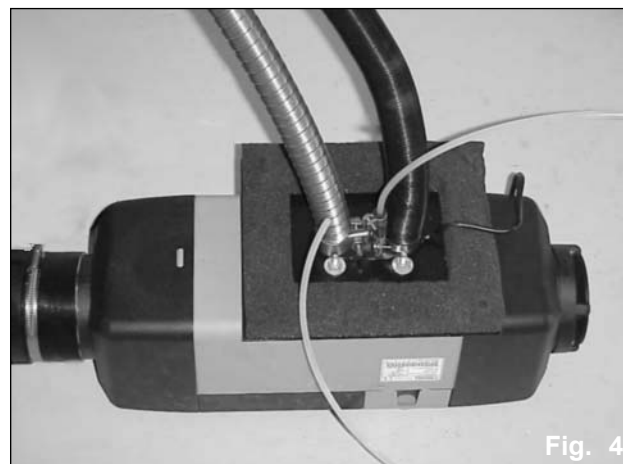


A cover plate made from floor metal will be required to cover the holes left from the removal of the “Hot Foot” heat exchanger. See figure 3.



2.3 Preparing Heater for Installation

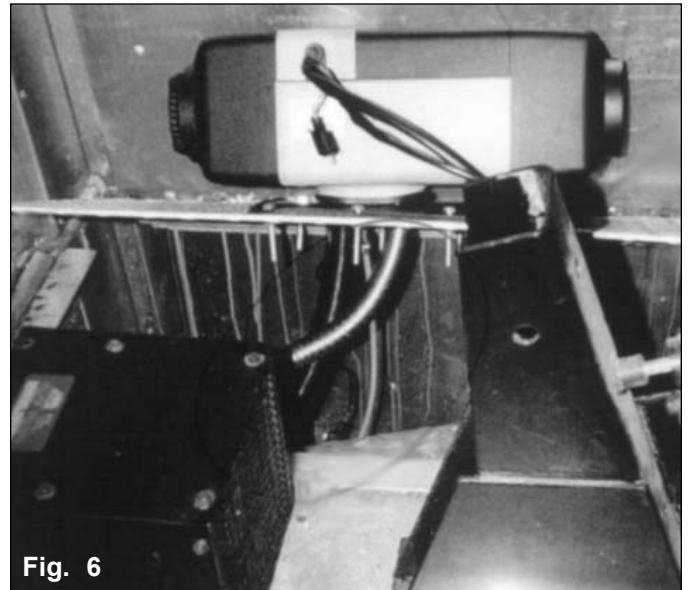
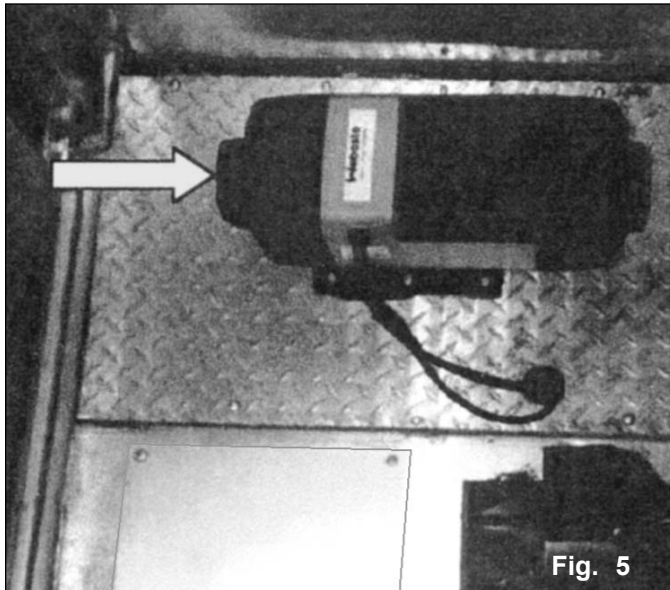
1. Connect fuel line to fuel pipe. Make sure the fuel line is pushed all the way into the coupler so that it butts up to the fuel inlet pipe.
2. Push exhaust tube over exhaust outlet and secure with clamp provided.
3. Push combustion air intake tube over combustion air inlet. Make sure fuel pump electrical cable is pushed up into slot on side of air inlet. Secure combustion tube with clamp provided.
4. Push air outlet tube and nozzle over heated air outlet and secure with band clamp provided.
5. Attach air inlet grill to return air inlet of heater. See figure 4.



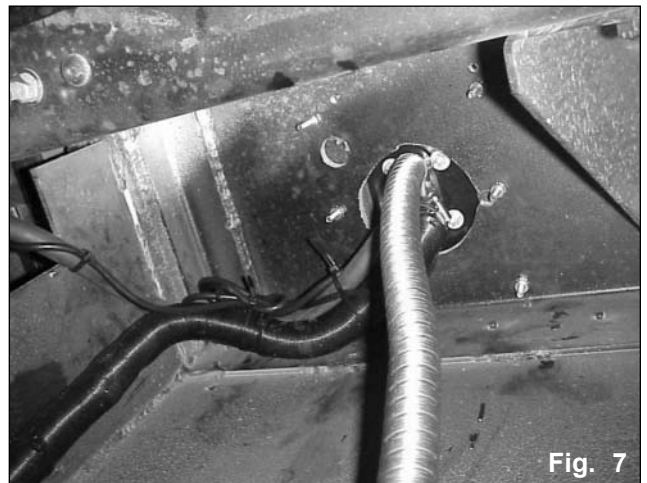
2.4 Mounting the AT 3500 Heater

Once mounted, the heaters warm air outlet will face toward the front of the truck. Return air inlet side of heater faces the rear of the truck.

1. Carefully guide the exhaust, air intake, fuel line and fuel pump electrical cable down through the 4" access hole in the floor.
2. Secure heater to the floor. Do not over tighten bolts as this may cause the mount plate to warp and may interfere with heater operation.
3. Raise floor panel (with heater installed) and reach under to get to the air and exhaust tubes, fuel line and fuel pump cable. Carefully guide these items through the holes in the rear step-well panel that were cut out earlier. Exhaust tube goes through the inboard panel hole, all others go through the rear panel hole. See figures 5, 6 and 7.



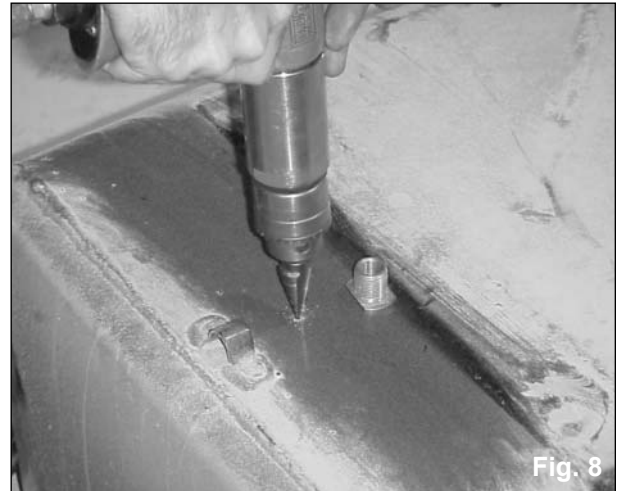
Underside view of heater installation.



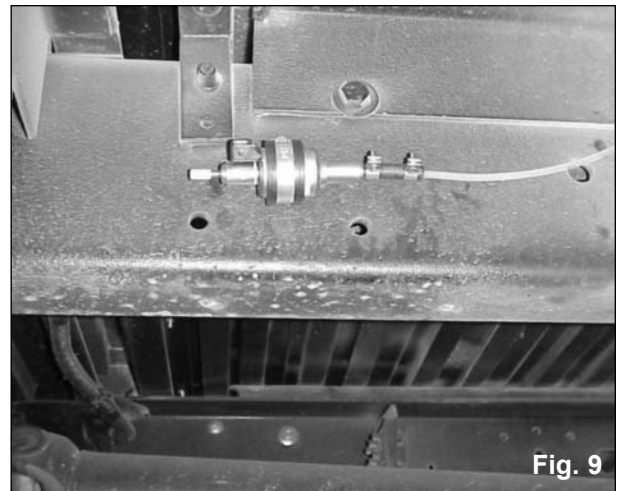
2.5 Fuel System

In some cases, it will be necessary to lower the fuel tank to provide access to the top of the tank for fuel standpipe installation.

1. Lower fuel tank according to vehicle manufacturer's instructions.
2. Drill a 1" hole in top of fuel tank near end to allow the universal standpipe fitting to be installed. To minimize cuttings dropping into the tank, coat drill bit with a small amount of grease.
3. Cut standpipe to length and install in fuel tank according to instructions in the AT 3500 heater installation manual included with the heater kit.



4. Mount fuel pump on frame rail using the clip provided and a convenient hole in the frame. Refer to the AT 3500 heater installation manual for further information regarding fuel pump installation.



Note Fuel lines require shielding with 1/4" fuel line hose to protect lines from damage that may resulting from chafing and abrasion. See figure 10.

5. Connect fuel line to fuel pump using neoprene connectors provided. Make sure fuel line is inserted fully into the connector to make a butt connection with fuel pump.

Note Use a razor knife when cutting fuel line. Do not use side cutters or partial closure of fuel line will occur.



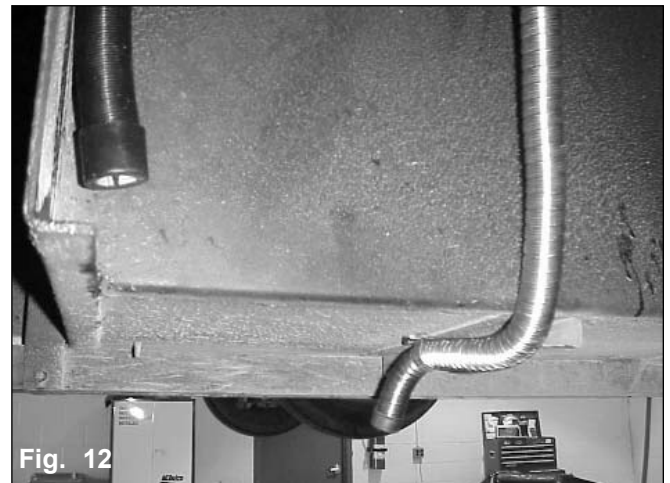
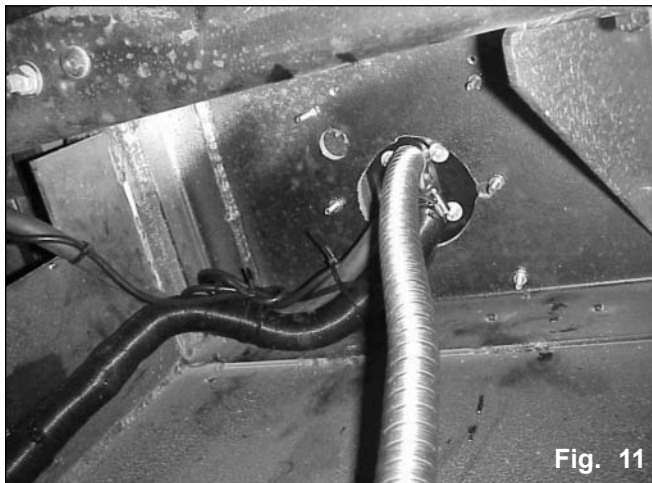
6. Run fuel pump electrical cable along fuel line to pump. Insert connector into fuel pump electrical socket.
7. Once all fuel line connections are complete, tie fuel lines and fuel pump electrical cable securely to frame members with tie wraps.

2.6 Combustion Air Intake Tube

Refer to the AT 3500 heater installation manual for information regarding combustion air intake tube installation. See figures 11 and 12 below for reference.

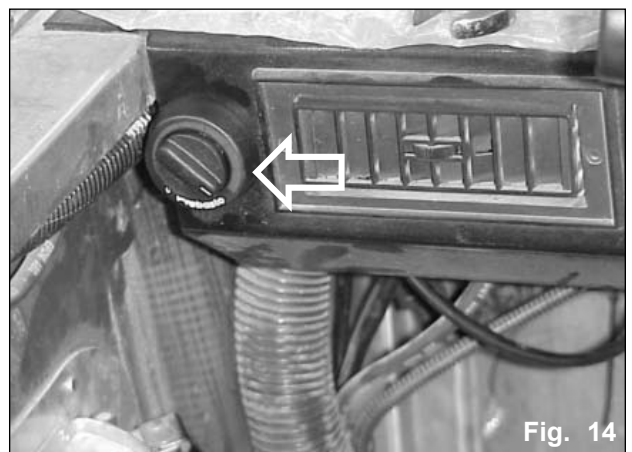
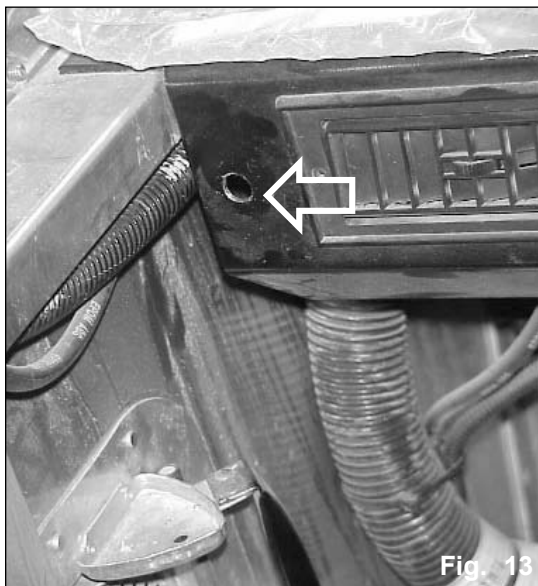
2.7 Exhaust Outlet Tube

Refer to the AT 3500 heater installation manual for information regarding exhaust outlet tube installation. See figures 11 and 12 below for reference.



2.8 Control Switch (Rheostat) Installation

1. Drill hole in dash at position indicated in figure 13
2. Assemble and install control switch in dash. See figure 14. Refer to the AT 3500 heater installation manual included with the heater kit for instructions regarding control switch installation.

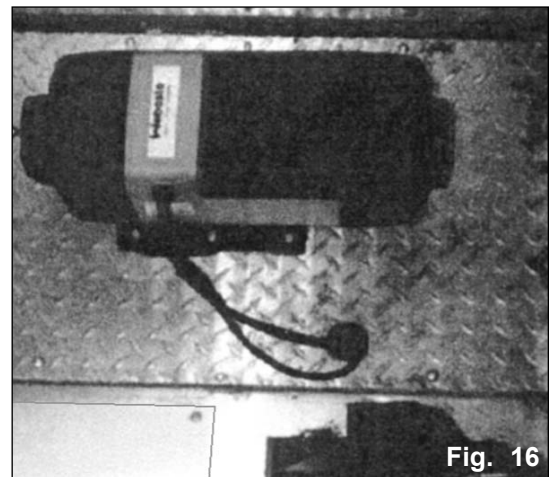


2.9 Heater Wiring Harness Installation

1. The heater harness is connected to the heater control circuit board via two connector plugs. The connector plug receptacles can be accessed by removing the gray panel on top of the heater housing. Once connectors are inserted, the harness can be run out of either side of the heater depending on the application and position. See figure 15.
2. The harness can be run under the step cover plate by boring a hole just right of the heater. Run the harness down under the plate and bringing it up from under the plate near the front, under the dash area. See figures 15 and 16 for details.

OR:

3. The harness can be brought out of the left side of the heater and run along the left wall of the vehicle. Continue along the wall and bring up under the dash area. Make sure to securely attach harness to the wall.
4. Connect the control switch branch of the harness to the control switch.
5. Mount the fuse holder and fuse block to a convenient access location. The right side of the dash panel area is suggested.
6. Run the power source branch of the harness to the fuse block and on to the batteries. Use an existing hole in the firewall for access or one can be drilled. Make sure to protect the harness from chafing where it runs through the firewall. Connect power leads directly to the battery terminals. Protect terminals with an anti-corrosive electrical grease designed for this purpose.

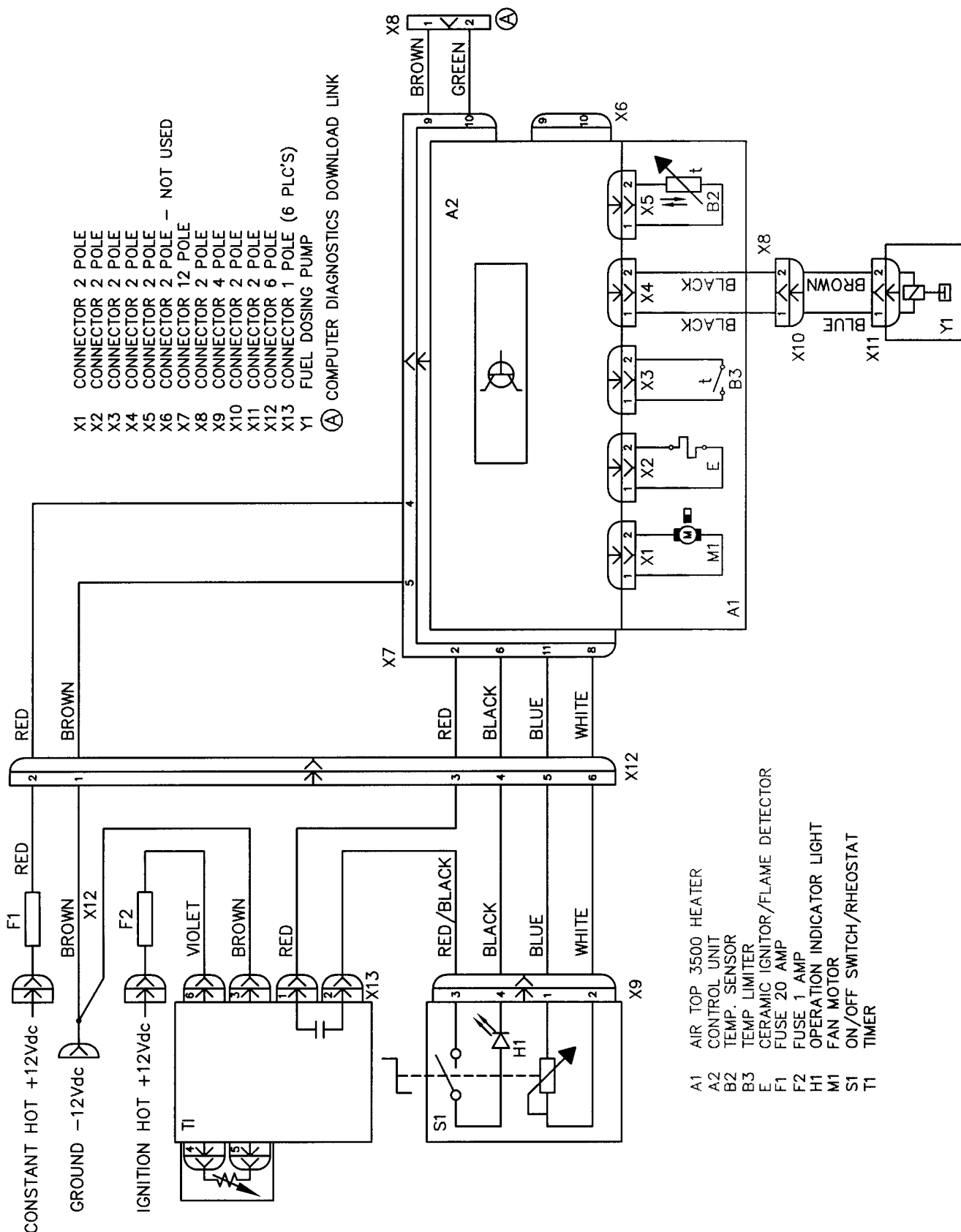


2.10 Ignition Off - Heater Off Delay Timer

2.11 Initial Operation

Refer to the AT 3500 heater installation manual included with the heater kit for instructions on initial operation.

2.12 Webasto Air Top 3500 Electrical Schematic (Van Heating System)



Notes

Notes



Rev. 02/2001 P/N 907208

Webasto Product N.A., Inc.

3333 John Conley Drive
Lapeer, MI 48446
Phone (810) 245-2400
Toll-free (800) HEATER-1
Fax (810) 664-7720

Technical Assistance Hotline
USA: (800) 555-4518
Canada: (800) 667-8900

www.webasto.us