

FLEETWOOD FOLDING TRAILERS, INC.
INSTALLATION INSTRUCTIONS

1968E523
September 2003

**MODEL NUMBER: 4737S8041 - ATWOOD HEATER AND
INSTALLATION KIT**

For use with: All 2004 Grand Tour Elite, Grand Tour, Highlander, Destiny DLX, Destiny, and
Destiny SE Series

This kit contains:

| | | | |
|-----|---|---------------|------------------------------------|
| 1 | - | | Atwood 16,000 BTU furnace |
| 1 | - | 4747-839 | Thermostat bracket |
| 1 | - | 4741B947 | Atwood vent assembly |
| 1 | - | 4737C925 | Plastic thermostat base (tan) |
| 1 | - | 4750A642 | Heater harness |
| 1 | - | 4750A643 | Thermostat harness |
| 1 | - | 4752A846 | Thermostat |
| 1 | - | 1215-177 | 3/8" x 3/8" x 3/8" flared tee |
| 4 | - | 1215-241 | Flare nuts |
| 6 | - | 1103B0806 | 3/8" screw |
| 4 | - | 1103B1032 | 2" self-tapping screw |
| 13 | - | 1103E1008 | 1/2" self-tapping screw |
| 4 | - | 1201-865 | Wire clamp |
| 3 | - | 1201-870 | Gas line clamp |
| 4 | - | 1203-874 | 13/16" aluminum rivet |
| 3 | - | 1216-208 | Yellow connector |
| 1 | - | 4739-125 | Split bushing |
| 1 | - | 4746-178 | Gas line hole cover |
| 4 | - | 4737-848 | Screw |
| 3 | - | 4737-847 | Screw |
| 2 | - | 4741A925 | 1 1/2" wood block |
| 2 | - | 1103B102 | 10 x 1 1/4" Screw |
| 2 | - | 1202B026 | Flat washer |
| 6 | - | 1203-864 | Rivet |
| 1 | - | 1215-178 | 1/2" x 3/8" x 3/8" Brass Tee |
| 1 | - | 1215-516 | Elbow |
| 30" | - | 4350000028 | Butyl tape |
| 1 | - | 4768-555 | Gas line |
| 1 | - | 231-01-375-21 | 3/8" Copper gas line - 120" length |
| 1 | - | 4768-604 | Gas line assembly |
| 1 | - | 4768-563 | Gas line |
| 1 | - | 4769-635 | Furnace shelf assembly |

IMPORTANT NOTICE

These instructions are for the use of qualified individuals specially trained and experienced in installation of this type equipment and related system components. Installation and service personnel are required by some states to be licensed. Persons not qualified shall not attempt to install this equipment nor interpret these instructions.

WARNING:

1. Before installing the Atwood furnace, refer to the installation instructions included with the furnace. When installing or replacing a furnace or thermostat, it is imperative that the correct thermostat be used. For easy identification of the thermostat and which furnace it should be used with, Atwood will mark the thermostat box as follows:
 1. Use with D.S.I. furnace only.
 2. Use with pilot ignition furnace only.Failure to comply may damage the equipment and may create a hazard.
2. Before beginning this furnace installation, be certain all electrical and gas supplies to the trailer are disconnected. Failure to do so could result in electrical shock or fire hazard.

NOTE: All trailers are pre-wired for furnace power supply and thermostat connections.

INSTALLATION INSTRUCTIONS

1. Remove the small door and hinges covering the 8 3/8" wide x 11 1/4" high routed furnace opening in the lower galley front or roadside cabinet assembly. Insert four 3/8" Phillips screws into the screw holes exposed from removing the door hinges from the lower galley front.
2. Remove the wall paneling knockout centered directly behind the 8 3/8" x 11 1/4" furnace opening.

NOTE: Tape up wires found behind paneling knockout to prevent damage.

3. Cut the vent opening in the roadside body panel according to the dimensions in figure 1.

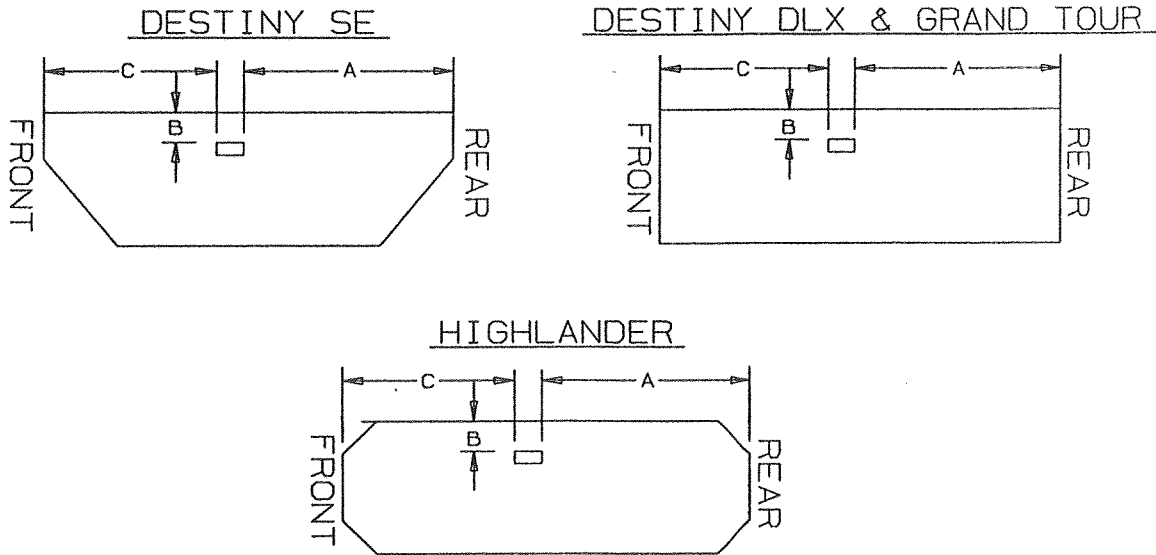
NOTE: On Highlander and Destiny SE series trailers, you will need to take measurements from the outer edge of the corner molding on the body panel.

4. A white plastic rivet will be installed in the floor where the hole for the gas line should be drilled. Remove the white rivet and drill a 1 1/8" hole in the floor for the gas line. **NOTE:** On Bayside, Monterey, Utah, and Niagara models, it will be necessary to remove the wooden baffle between the furnace opening and the power cord storage compartment and then lift out the wooden panel that serves as the bottom of the furnace compartment. Once this panel has been removed there will be room to drill the gas line hole in the floor.

WARNING: Ensure all gas and electrical supplies are off.

FIGURE 1

HEATER VENT CUTOUT LOCATION ON ROADSIDE BODY PANEL



NOTE: VENT CUTOUT SIZE ON ALL
MODELS = 5" X 2 1/2"

DESTINY SE

| | <u>A</u> | <u>B</u> | <u>C</u> |
|--------|----------|----------|----------|
| TAOS | N/A | 3 5/8" | 23 1/4" |
| TUCSON | N/A | 8 7/8" | 23 3/4" |
| YUMA | N/A | 3 1/2" | 11 3/4" |
| CORTEZ | 55 1/2" | 2 5/8" | N/A |
| PECOS | 46 1/2" | 2 1/2" | N/A |

DESTINY DLX/ GRAND TOUR

| | <u>A</u> | <u>B</u> | <u>C</u> |
|------------|----------|----------|----------|
| SEDONA | N/A | 9" | 37 3/4" |
| LARAMIE | N/A | 10 1/4" | 37 3/16" |
| TACOMA | 3 3/4" | 11 1/2" | N/A |
| SANTA FE | N/A | 9 3/8" | 37 3/16" |
| CARMEL | N/A | 9 3/8" | 37 3/16" |
| CHEYENNE | N/A | 9 3/8" | 37 3/16" |
| MESA | N/A | 3 1/2" | 69 5/8" |
| WESTLAKE | N/A | 5 7/8" | 64 7/8" |
| * UTAH | N/A | 3 7/8" | 3 1/2" |
| * BAYSIDE | N/A | 3 7/8" | 3 1/2" |
| * NIAGARA | N/A | 3 7/8" | 3 1/2" |
| * MONTEREY | N/A | 3 7/8" | 3 1/2" |

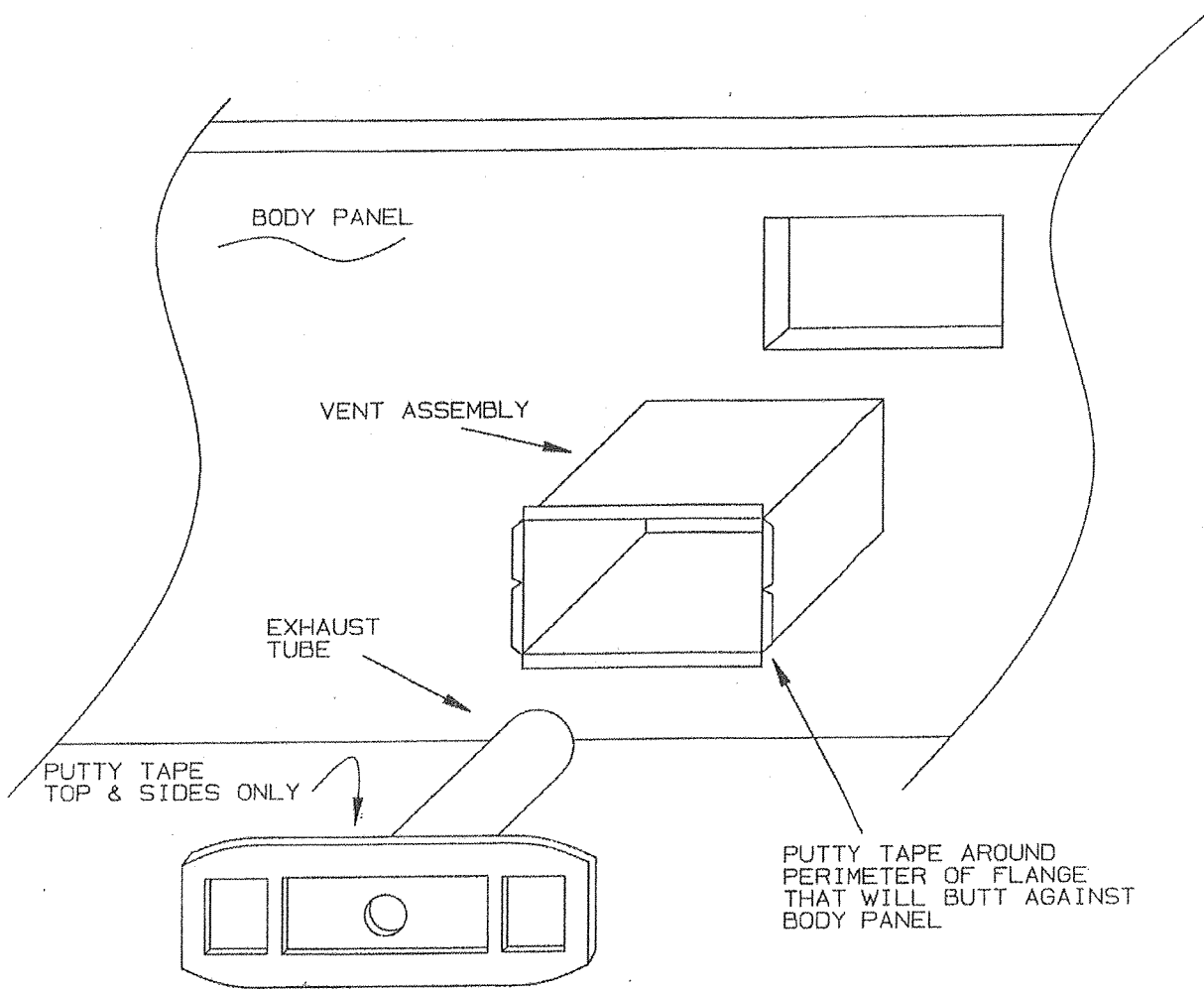
HIGHLANDER

| | <u>A</u> | <u>B</u> | <u>C</u> |
|---------|----------|----------|----------|
| REDWOOD | 80" | 15" | N/A |
| SEQUOIA | 80" | 15" | N/A |

NOTE: ON DESTINY SE MODELS AND HIGHLANDER MEASURE
FROM THE EDGE OF THE CORNER MOLDING AT THE
WIDEST POINT OF THE ROADSIDE PANEL.

* THESE MODELS FURNACE VENT LOCATED IN ROADSIDE
REAR PANEL.

FIGURE 2



NOTE: ON THE MODELS LISTED BELOW ONLY CUT THE EXHAUST TUBE AND VENT TO THE APPROPRIATE LENGTHS.

EXTERIOR VENT ASSEMBLY

| MODEL | TUBE | VENT |
|---------|------|--------|
| TAOS | 6" | 4 1/2" |
| TUCSON | 6" | 4 1/2" |
| CORTEZ | 8" | 6" |
| SEDONA | 6" | 4 1/2" |
| LARAMIE | 6" | 4 1/2" |

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5. **Niagara, Monterey, Utah, and Bayside Only:** Remove elbow from existing gas line. Install appropriate flared tee.

All other models: Cut existing gas line below hole drilled for furnace gas line or at nearest point to this hole. Install two flare nuts and flare both sections of gas line. Install flared tee. If necessary, route additional 3/8" gas line to hole drilled for furnace gas line and install 3/8" elbow. Flare gas line and use flare nuts at all connections.

6. Cut gas line to desired length (to reach from gas line below floor to gas fitting on furnace), install flare nuts and flare gas line. Place gas line assembly through hole in floor and slide gas line hole cover over gas line (from inside trailer) and into the hole drilled in the floor. Attach one end of the gas line assembly to the elbow or flared tee in the gas line beneath the trailer. If necessary, secure gas line to trailer with gas line clamps and 1/2" self-tapping screws.
7. Connect the plugged end of the furnace power supply harness (found in furnace compartment) to the furnace wire harness supplied in this kit. Pull the non-plugged end of the wire harness out through the galley or cabinet front opening. Ensure the proper color coded wires are connected, black to black, white to white, and orange to orange. NOTE: On Bayside, Monterey, Utah, and Niagara models, reinstall the wood panel and baffle removed in step 4. Ensure that the power harness and gas line are routed through the notches in the panel that serves as the bottom of the furnace compartment.
8. Determine the height required for the furnace shelf. Measure from the floor to bottom edge of the cabinet front opening. This will be where you have removed the original cabinet door. Then cut the universal furnace shelf assembly to your required height and install it in place.
9. Slide the furnace into the opening except for approximately 6" to allow for wire connections.
10. Using the yellow wire connectors provided, connect wires found in compartment to furnace as follows:
 1. Orange wire to White wire on furnace marked "thermostat"
 2. White wire (12V DC NEG.) to Black wire on furnace
 3. Black wire (12V DC POS.) to Red wire on furnace

Clamp the furnace power supply wires by the right side of each wood block or by the right side of the furnace support assembly using two plastic wire clamps and two 1/2" self-tapping screws provided. If the furnace is mounted on a wheel well, clamp the furnace power supply wires to the floor of the trailer near the wheel well using two plastic wire clamps and two 1/2" self-tapping screws provided.

11. Slide excess wires back into furnace compartment.
12. Slide furnace into compartment until flange on furnace housing contacts the cabinet front. Make certain furnace aligns with vent opening.
13. Secure furnace to the cabinet front with two screws, one on each side of the furnace.
14. Attach open end of gas line assembly to gas fitting on furnace.
15. Apply putty tape to perimeter of vent sleeve and slide into rear of furnace casing. Apply putty tape to top and sides of rear exterior vent assembly. Slide exhaust tube into rear of furnace and fasten vent sleeve and vent to panel with two 1/2" self-tapping screws provided.

IMPORTANT: Cutting may be necessary to shorten vent sleeve to allow proper positioning against the exterior body panel when installing the vent sleeve. A minimum overlay of ½" must be maintained between the vent sleeve and furnace casing for proper air exchange. See figure 2 for approximate length of vent on models that require a shorter vent.

16. Locate the loose end of the thermostat wire harness inside one of the dinette seat assemblies. This harness will consist of one orange wire and one black wire. The thermostat will be installed in the paneling of this dinette seat assembly. **NOTE:** On Bayside and Niagara models, the thermostat wires may also be located in the cabinet by the access doorway.
17. Use the back of the thermostat plastic base as a template and mark the dinette seat paneling as shown in figure 2. (The dimensions in figure 2 are a guideline only. These dimensions can be deviated from if necessary.) Cut out this opening. **NOTE:** On Bayside, Monterey, Utah, and Niagara models that have the thermostat wires located in the cabinet by the access doorway, the thermostat should be installed on the back of the cabinet above the level of the gaucho bed on the Niagara and between the outlet and LP gas detector on Monterey and Bayside. The Sequoia thermostat wires will be located on the roadside, rear seat.
18. Drill a 3/8" hole through the center of the thermostat plastic base.
19. Place the split bushing provided through the center hole in the metal U-shaped thermostat bracket. Route the spade terminals through this bushing and through the hole cut in the thermostat plastic base. Attach the wires to the thermostat: black wire to the fused side of the thermostat (thin copper wire); orange wire to the heat anticipator side of the thermostat. Attach the plastic base to the thermostat bracket and bench panel with the two 7/16" aluminum rivets provided. Attach the thermostat to the plastic base with two 13/16" rivets and the two flat washers provided. Connect the male plug end on the thermostat wire harness to the female plug end on the remaining thermostat wires.

NOTE: Ensure that the proper color coded wires are connected: black to black, orange to orange, etc.

20. Secure thermostat wires to floor with plastic wire clamps and ½" self-tapping screws.

CAUTION: Never use a match or open flame to check for leaks as fire or explosion could result. Do not use ammonia solutions to check for leaks.

21. Apply pressure to gas line and test all connections for possible leaks using a soap solution.
22. Install inside heater grille.
23. Refer to furnace operating manual for lighting instructions.