Selden P. McCabe, Jr.
15545 Pedrioli Drive
PO Box 7023
Brookings, OR 97415

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Mr. Ralph Luby, Newsletter Editor
GMC Motorhomes International
Province Road
Barrington, NH 03835

Dear Ralph,

When I wrote to you last Spring, I had just finished replacing a leaky original Atwood water heater in my '75 Eleganza. And ever since then I have been trying to find the time to convert my notes into a detailed procedure. Well, I finally did it and here is the result; a proven procedure that reduces the water heater removal job to near child's play! Well, maybe not really child's play, but it sure makes it possible for a reasonably qualified "do-it-yourself-er" to get the job done with very little difficulty.

I suggest you put a note in the next newsletter, pointing out that water heater replacement is not as difficult as it appears, and offering a copy of the procedure to anyone who requests it.

Sincerely,

Selden

Selden P. McCabe, Jr.

GMC MOTORHOME ELECTRIC WATER HEATER REPLACEMENT

It is possible to replace a leaky Atwood original electric water heater in the 1975 GMC without cutting a hole in the side of the coach or removing the entire bathroom module. It will come out through the cupboard opening. Water heater replacement parts still are available frc Atwood and some GMC Motorhome service and parts companies.

It takes 4 basic steps to get it out: (1) remove the cupboard insert under the bathroom counter, (2) disconnect the water heater plumbing, wiring and tie-downs, (3) drop the water heater down an inch or so, and (4) slide it out through the cupboard opening.

NOTES:

Tools Required:

- A good light!
- Socket set, small, up to ½"
- Philips and flat screw drivers.
- Hack saw and blades
- Electric drill and ¼" bit
- Electric screw driver recommended

Materials required:

- Aluminum Strap, 1" X 1/8" x 4
- 2 SS Hex ¼-20 X 3/4" bolts
- 2 ¼-20 Elastic Lock Nuts
- 2 1½" couplers (see STEP P2)
- ½" wide Teflon tape

Abbreviations and nomenclature used in this text:

- WH = water heater
- SS = stainless steel
- See Support Bracket drawing (attached) for nomenclature

General Hints:

1. When parts are removed, bag and tag them!
2. It is suggested that you photograph the installed water heater after the cupboard insert is removed, to record the plumbing interfaces, so you will know how to put it all back together when you're done. (A Polaroid camera works fine for this.)
3. In place of the coach hard wiring between the water heater and the junction box in the Water heater compartment, it is a good idea to install a heavy duty 115 volt single receptacle in the junction box and a short power cord with a male connector on the water heater. This is not required, but it really simplifies the reassembly work. This is easy to do with the water heater on the bench and the coach compartment empty. If you do this, use parts rated for at least 15 amps, continuous duty.

Safety Considerations

It is recommended that the coach be completely disconnected from 115 volts power during this work.
Turn off coach water pump and water heater power switch.
Drain water heater.

DETAILED WATER HEATER REPLACEMENT PROCEDURE

REMOVAL OF WH

R1. Remove the cupboard unit from under the bathroom counter. It is mounted with a dozen or so #4 wood screws through the inside of the aluminum trim flange. Leave the trim flange in place, if you can. It will serve to protect the fiber-glass wall during this work.

R2. Disconnect all the plumbing and wiring from the front of the WH.

R3. Clear all loose tubing away from in front of the WH.

R4. Disconnect the cold water line that runs back under the WH from the Tee that goes up to the bathroom faucet, just to provide clearance.

R5. With a hacksaw blade, cut through the 1½" drain pipe under the WH in 2 places: the first cut about 6" forward of the WH and the second about 20" behind the first cut; way back under the WH. Remove and save the loose section of pipe.

R6. Unscrew the 2 tie-down straps that run up and over the top of the WH from the support bracket by removing the nuts from below the inboard side of the bracket.

R7. Clamp a piece of 1 X 1/8" x 4" (approx) aluminum strap to the vertical leg of the WH support bracket, below the WH. Drill two ¼" holes through the strap and the support bracket; one up near the fore and aft cross member, and one a couple of inches below it, down near the lower edge of the cupboard opening. Fit ¼-20 bolts through each of the holes. When they fit (snug is best), remove and save the bolts, the clamp and the strap. (The drilled strap is a "splint" for use in STEP W11.)

R8. Put a piece of 2 X 4 on edge underneath the WH, on top of the wheel well. Shim it up to meet the underside of the WH.

R9. With a hack saw, cut horizontally through the vertical support leg, between the two holes drilled in STEP R9.

R10. Slide the water heater about ½" aft and slightly toward the center of the coach, to expose the head of a hex bolt going horizontally through the coach side rail, just behind the front edge of the WH. This bolt holds the curb-side end of the forward arm of the WH support bracket to the side of the coach. Remove the bolt. The nut may stay in place and it way fall away. Save the nut and bolt.

R11. Remove the 2 X 4 that's supporting the WH, and gently let the WH tilt down to the front. Pull the stationary half of the cut vertical leg inward to allow the upper part of the support bracket to drop down as far as it wants to go.

R12. Slide the WH forward as far as it will go. Put a light behind it to reveal the bolt that holds the rear arm of the WH support bracket to the side rail. (It's the rear equivalent of the one removed in STEP R10.

R13. Remove and save the rear nut and bolt.

R14. The WH should drop down pretty much to the top of the wheel well. Investigate anything, including globs of foam insulation, that's holding it up, and clear it. The WH must be pretty well down.

R15. If all the interferences are clear, the WH should slide forward and toward the center of the coach, through the cupboard opening, and out. Protect the top of the toilet from scratching.

BENCH WORK

B1. Take the front panel off the WH box and slide the tank out.
B2. Inspect the tank to confirm the leak. It may be necessary to pressurize it (with air or water) to reveal the leak.
B3. Remove all fittings from the tank.
B4. Discard compacted and/or saturated box insulation.
B5. Replace the tank and discarded insulation.
B6. Repair or replace rusted box panels as required.

LEAK TEST

B7. Install the same fittings that were removed in STEP B3.
B8. Cap the Hot and Cold fittings.
B9. Remove the drain valve and install a Shraeder tire valve in it's place.
B10. Pressurize the tank with air to around 50 PSI.
B11. With soapy water, check all fittings for air leaks and re-seal as required. Return to STEP B10 until all leaks are fixed.
B12. Measure tank pressure as accurately as you can and record the value. Measure pressure again 24 hours later.
B13. If the 2 readings differ by more than 1 or 2 PSI, there is a leak and the WH should not be re-installed in the coach until it is found and fixed. If the 2 readings agree, install the unit.

REASSEMBLY

B14. Reassemble the water heater sheet metal box, with new insulation if required, insert the tank, install the plumbing fittings to the front of the tank, and install the box front cover.
B15. If you chose to follow HINT #3, this is where to install the WH power cord.

PREPARATION FOR INSTALLATION

P1. Remove all the foam from the top of the wheel-well beneath the water heater location. This will facilitate the re-installation process. (You will need lots of hand room beneath the WH!) Be sure to remove the foam from the area where the cut 1½" drain pipe will be spliced back together.
P2. Purchase 2 rubber couplers (with worm-drive hose clamps) for 1-1/2" ABS drain pipe from a hardware store (e.g. True Value) plumbing department.
P3. Clean up the cut ends on both the fixed and the removed part of the drain pipe to permit the rubber couplers to slide over the pipes.
P4. Push one coupler into place in the coach on the cut rear drain pipe Half of the coupler should over-hang the end of the pipe. Tighten the rear hose clamp around the drain pipe.
P5. Press the other coupler ALL THE WAY onto one end of the removed section of drain pipe. Do NOT tighten these hose clamps.
P6. Attach one end of the "splint" (made in STEP R7) to the top half of the water heater vertical support with a 1/4-20 X 3/4" hex head bolt and an elastic lock nut.
P7. If the nuts from the WH support arms came loose from the back side of the coach side rail during removal, glue them in position behind the coach side rail with some putty or chewing gum.
P8. If you choose to follow HINT #3, this is where you modify the existing electric box under the bathroom sink in the coach.

WATER HEATER INSTALLATION

W1. Return the water heater support bracket to the coach. Put it on top of the wheel-well in the water heater compartment, about in the right fore and aft position. Do NOT bolt it in.

W2. Clip the rear WH tie-down strap to the curb-side of the WH support. Tape the upper part of the strap to the underside of the bathroom counter, to keep it clear of the WH during installation.

W3. Tie one end of a string to the bolt end of the rear tie-down and let the other end of the string hang into the bathroom. This makes sure you can find the bolt-end of the strap when you need it.

W4. Slide the water heater into the compartment and back an inch or so toward the rear, on top of the loose WH support bracket.

W5. Block the WH up about 4 inches above the wheel well with a block of wood, so the WH support underneath it is loose and moveable.

W6. Reach in behind the WH and bolt the rear WH support arm to the coach side rail. Tighten this bolt now.

W7. Slide the Water heater toward the rear as far as it will go. Make sure it sits over (or on top of) the rear WH support arm.

W8. Clip the curb-side end of the front tie-down strap to the curb-side end of the front support arm. (This must be done BEFORE the front support arm is bolted into position.)

W9. Pull the front WH support arm UP into position and bolt it to the coach side rail.

W10. Pull the inboard side of the WH support UP into position so the two parts of the vertical support (cut apart in STEP R9) are aligned one above the other.

W11. The splint (made in STEP R7) should be in position, across the two parts of the cut vertical support, with the empty hole pretty well aligned. Install the second 1/4-20 hex bolt with an elastic lock nut. Tighten both splint bolts.

W12. Remove the block under the water heater so it sits down on the support bracket and move the water heater into its final position.

W13. Pull the string to the rear tie-down strap to break it away from the tape that is holding it above the water heater.

W14. Reach under the water heater and way to the back, and feel for the bolt on the end of the rear tie-down strap. Maneuver it into the bolt hole in the support bracket. Put the nut on finger tight from below.

W15. Put the front tie-down strap bolt through the support bracket and put the original nut back on it.

W16. Tighten both the tie-down strap bolts from underneath the water heater. These should be tight enough to assure that the water heater WILL NOT MOVE.

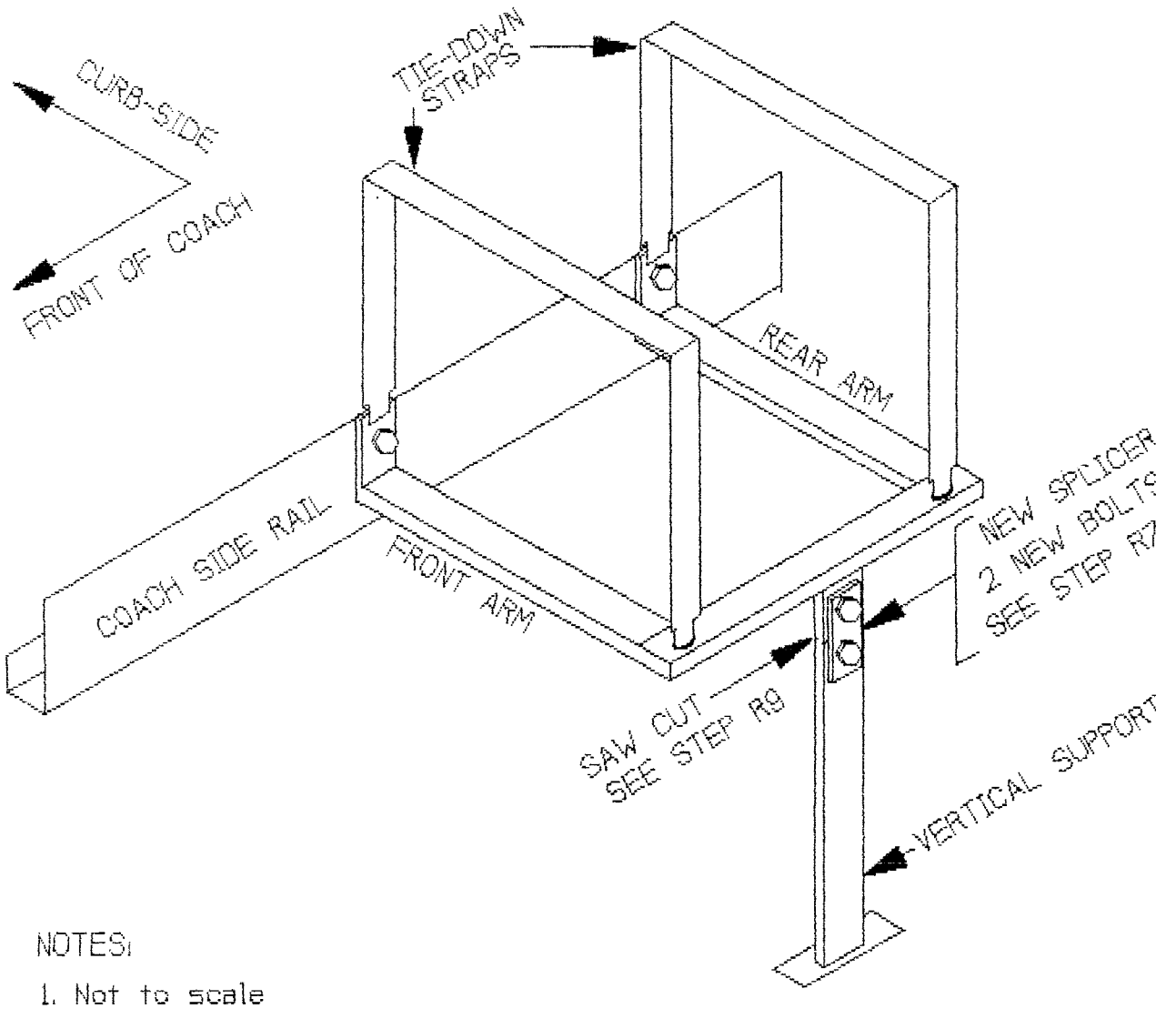
W17. Install the previously removed section of drain pipe under the WH. Push the cut pipe end into the repair coupler installed in STEP P4. Push the front end of the loose pipe section into position and slide the front coupler foreword to complete the drain pipe repair. Make sure the couplers are centered over the cuts, and tighten all 4 clamps.

W18. Reconnect the hot and colds lines and the drain and pressure relief lines to the front of the water heater. Re-connect the cold water line separated in STEP R4.

W19. After making sure the power is off, reconnect the electric wiring to the water heater.

W20. Check for water leaks at the joints by pressurizing the system through the coach city water fitting. (Be sure to bleed the air out of the system before starting.)

WATER HEATER SUPPORT BRACKET
1975 GMC ELEGANZA
S.P. McCABE REV: 3-04-91



NOTES:

1. Not to scale
2. Water heater not shown