

**PROCEDURE FOR SERVICING
BASEMENT A/C UNITS ON WINNEBAGO PRODUCTS**

By

Bill Elsenpeter

July 8, 2008

“Duner” on IRV2.com

Revised Aug 20, 2013 to add Diesel Pusher Application

See Page 31

&

Part Info For 3rd Party Parts & Compressor Replacement

See Page 32

My coach is a 2004 Chieftain 39T. The steps below should be accurate for all Winnebago's with a gas chassis. Diesel pushers (see last page) will be different in that the unit is lowered from it's mount whereas the A/C in a gas chassis is slid out from the side. The A/C unit is built by RV Products (RVP) and the model number is 6535-671. If you have questions or find a discrepancy you can contact me at belsenpeter@gmail.com.

This procedure should allow you to perform any of the following:

- Clean the Indoor Coil, drip pan, and condensate drip hole.
- Lube the brass bearings on the Outdoor Blower and Indoor Blower.
- Replace the brass bearings on the Outdoor Blower and Indoor Blower with a sealed ball bearing version.
- Replace the metal squirrel cage of Outdoor Blower with the new plastic one.
- Replace the Outdoor Blower motor.

1. Remove 4 screws to open access door.



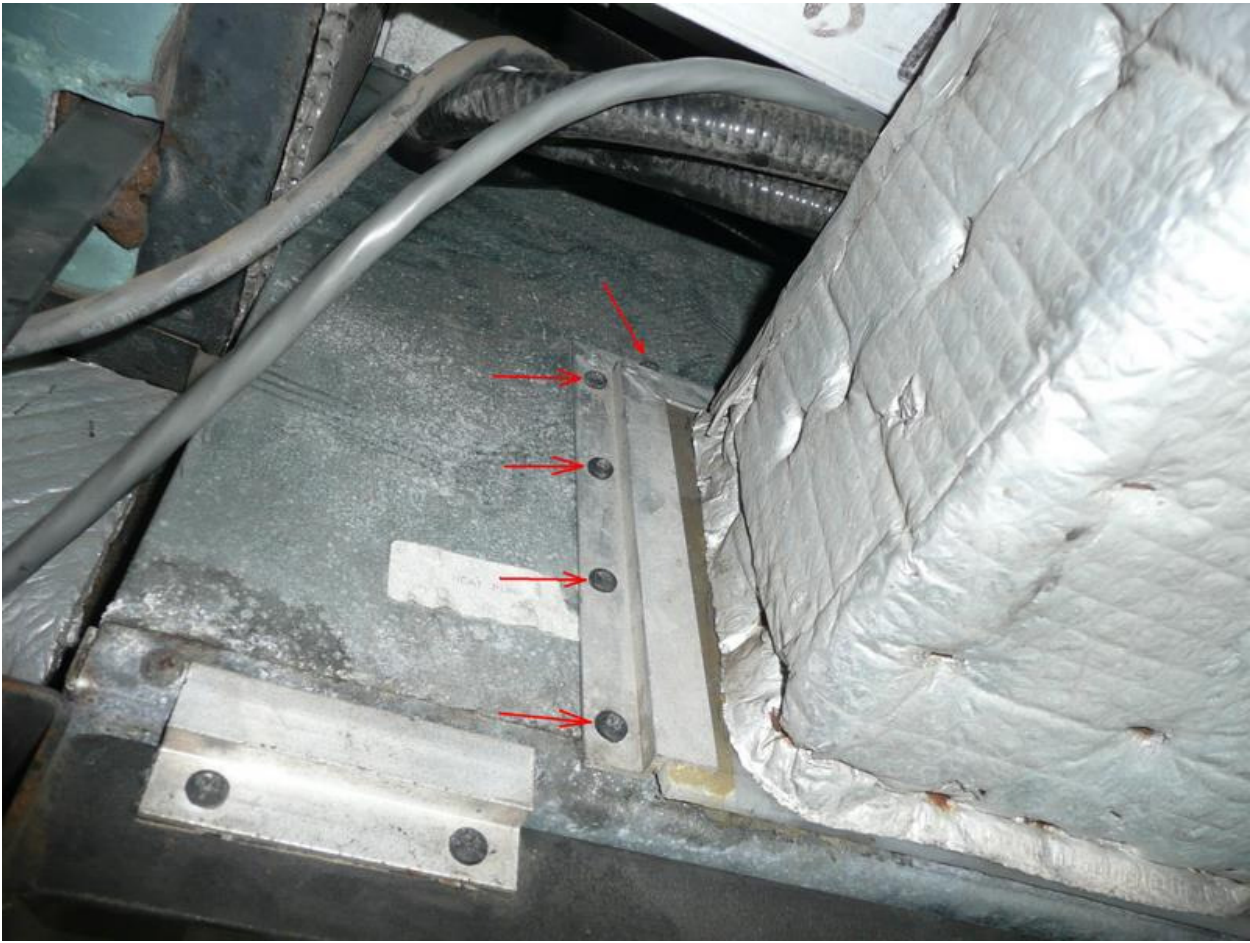
2. Use bungee cord to hold door all the way up.



3. Remove 10 screws that hold the 4 retainer brackets.



4. Remove 5 screws on left side of the cold air output duct. Good news is that there are no screws across the top!



5. Remove the 5 screws on the right side of duct. A short 6" screw driver is useful on the top 3 screws. Have a helper hold the power cables back out of the way to aid access to screws.



6. Remove (or loosen) the 2 screws if it is possible (if not too corroded). These sheet metal screws are going into heavy angle iron and can be difficult to remove. It may be possible to remove A/C unit without messing with this bracket. I was able to back out 3/8 inch & that allowed plenty of clearance.



7. Check the seal of the aluminum tape about 1.5 foot up the duct work. In my case the whole 90 deg elbow fell to the ground because the alum tape adhesive had dried out. I had to cut about 3 in of alum tape off and re-taped with "Venture Tape". Venture Tape is very expensive (\$35/roll), but it is designed to hold duct joints permanently in very hot/cold attics.



8. Use a bungee cord to hold duct back about an inch so the foam seal is not torn off.



9. To push the unit out, I got on the green carpet under the unit. On my back I used my feet to slide the unit out about 1-2 inches, and then slightly raise the unit and slide out about 6 to 8 inches. There are several screws sticking out the bottom about 1/4 in and these hit and drag over the bottom supporting brace. Once the unit is out this far, then pull the power and control cables out so they will not get caught on the duct work.



10. Support the unit off the ground to make it easy to carry, work on, and test while still keeping all the cables connected. I built a bench from two 5 gal buckets and two 2x6 planks. This was plenty strong and stable. Earlier in the campground I used the bench part of a picnic table. Leave open space under the Outdoor Blower screen so you can run the unit with the top panel off and test everything before closing up.



11. Use two people to pull the unit out and sit on support bench. The left side has a nice hand hold using the cold air duct opening. The right side has the two compressors and is somewhat heavier so the stronger guy should take that end. I'm no weight lifter and didn't have any problem getting the unit in/out two times with no muscle or back strain. Once you start pulling it out the two top styrofoam pieces will drop down.



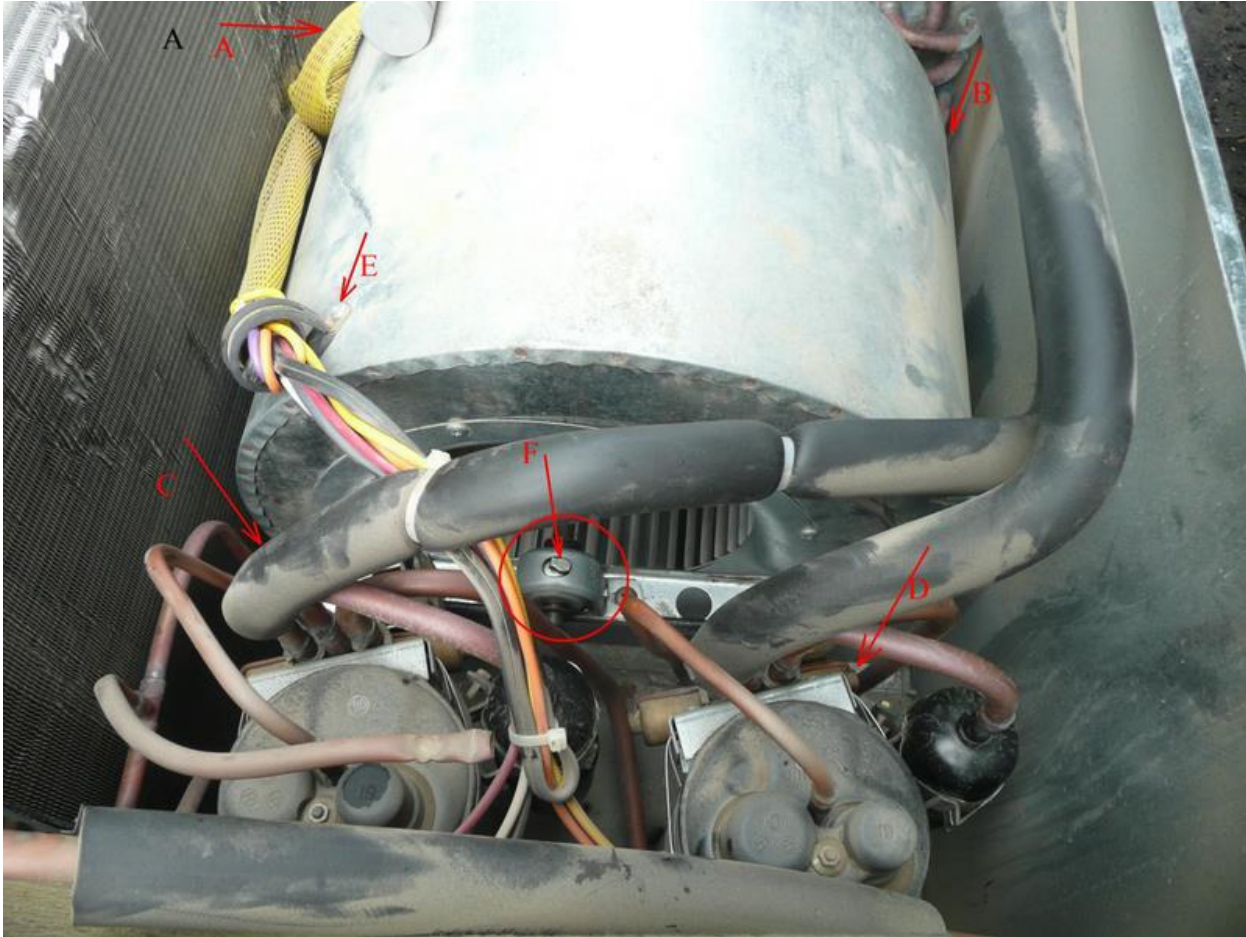
12. Take off the top cover by removing the approx 28 screws.



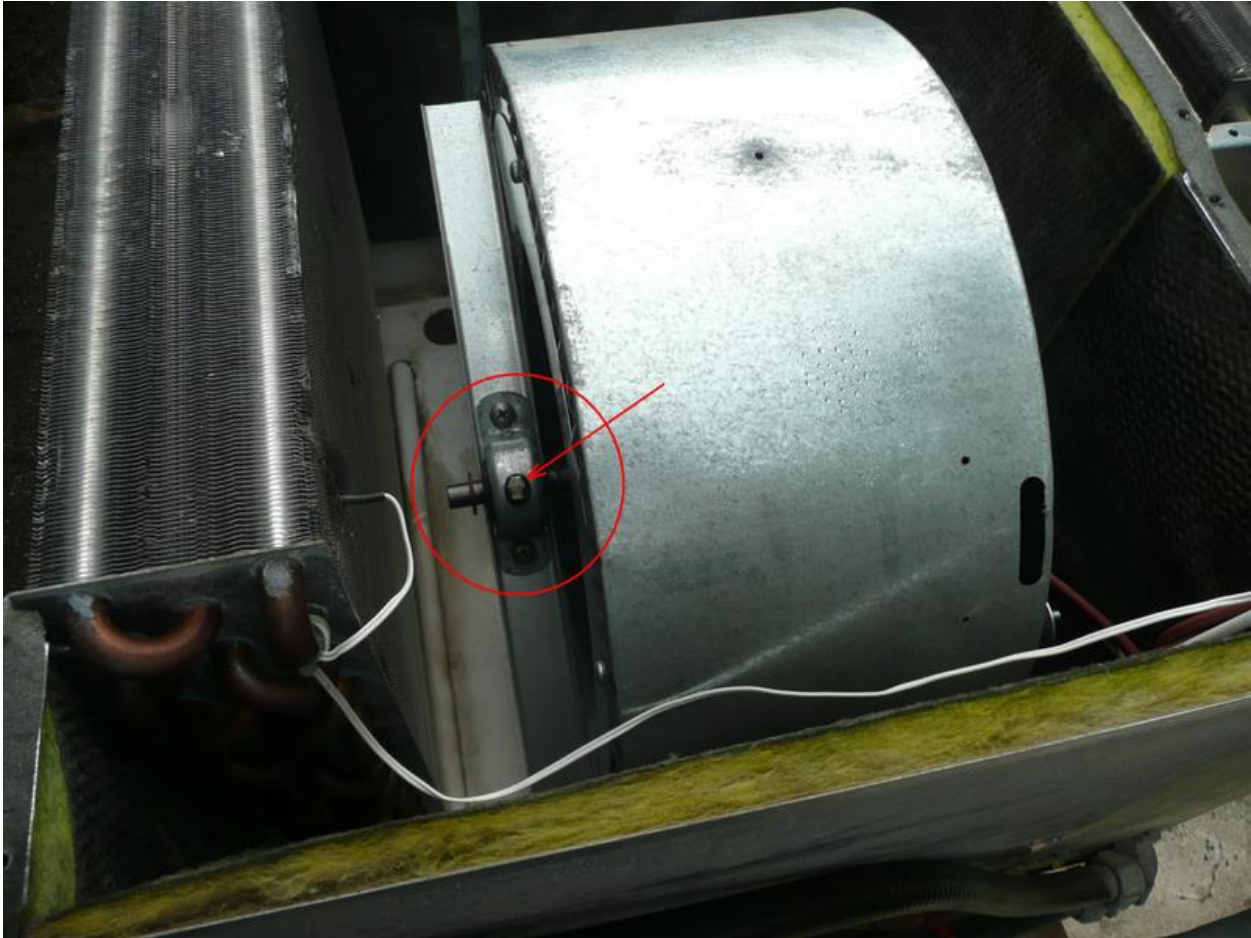
13. Remove these two additional screws to allow the condenser coil to be opened at the top if you need to pull the outdoor blower assy.



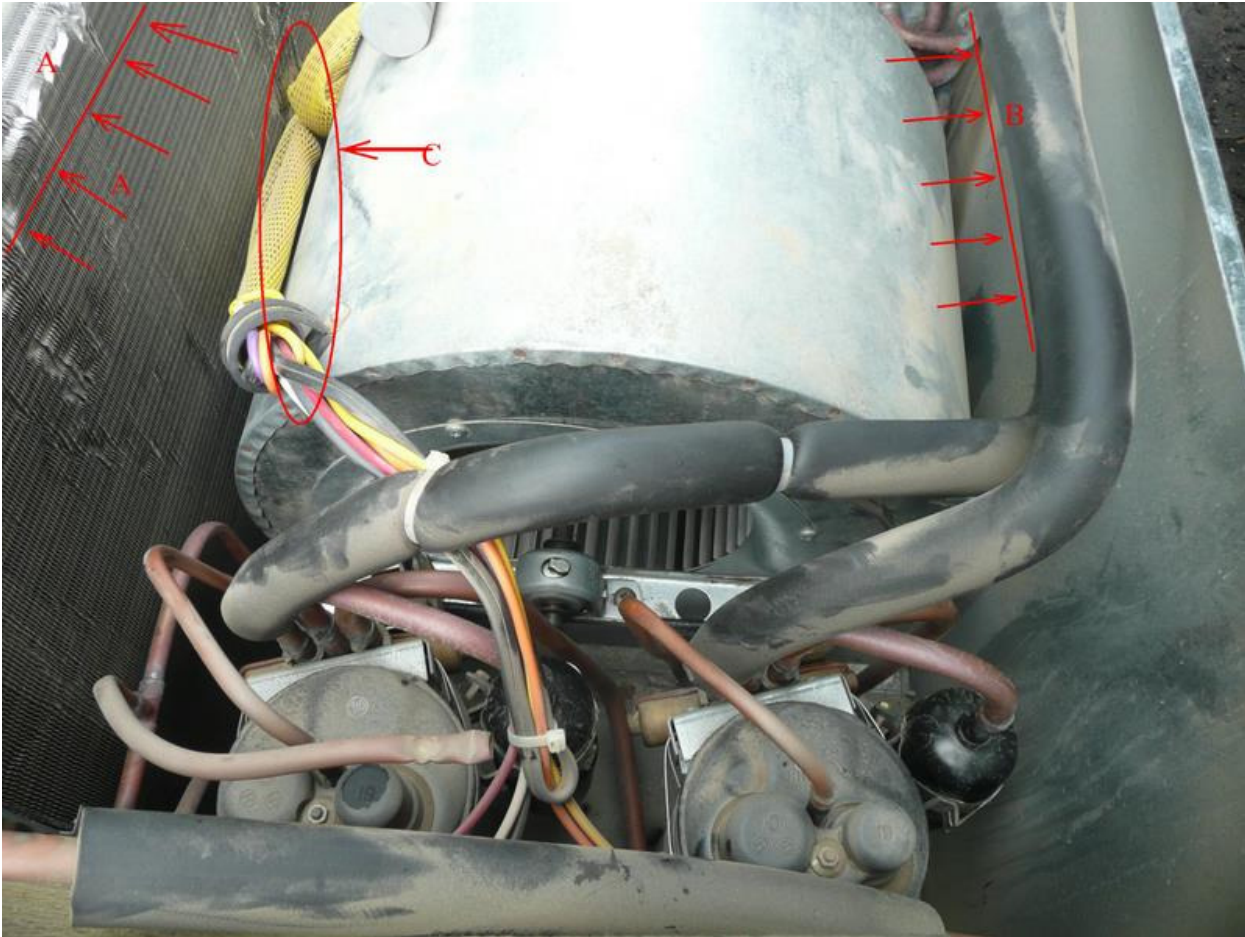
14. View of outdoor blower assy and location of brass bearing lubrication point (F). RVP service calls for 2 drops of 30 wt oil once a year for a/c units mounted on the roof. In the Operator Manual for the basement units it does not call for annual lubing but this is probably going to fail if not lubed regularly. If blower motor or squirrel cage needs to be replaced, remove 1/4 in hex nuts located at bottom A, B, C & D using ratchet and 7/16th socket and long extension(s). About 12-14 in extension is required. Remove cable clamp (E).



15. Lubrication point of the brass bearing of the indoor blower assy.



16. To remove the blower assy, pull the cable bundle up and out over the coils on the left. Have a helper hold the coil out at the top about 1 in (A) and push against the rubber covered copper line to provide a little more clearance so as to NOT touch and damage the coil fins on the left. Once pulled up to clear the 4 studs, the blower assy can be rotated and lifted out. It is a tight fit so take your time and don't bang up the delicate alum fins.



17. Remove the three power wires at this connector. The connector is labeled Common (White), Hi (Black), and Lo (Red).



18. To replace the motor and/or squirrel cage, remove the 4 ea screw & nuts. Disconnect the two brown wires from the starting cap. Note the brown/white connects to the bottom spade lug (behind the rubber cover). Also note the motor bracket is not symmetrical & when re-assembling, make sure the wire connector is at the top.



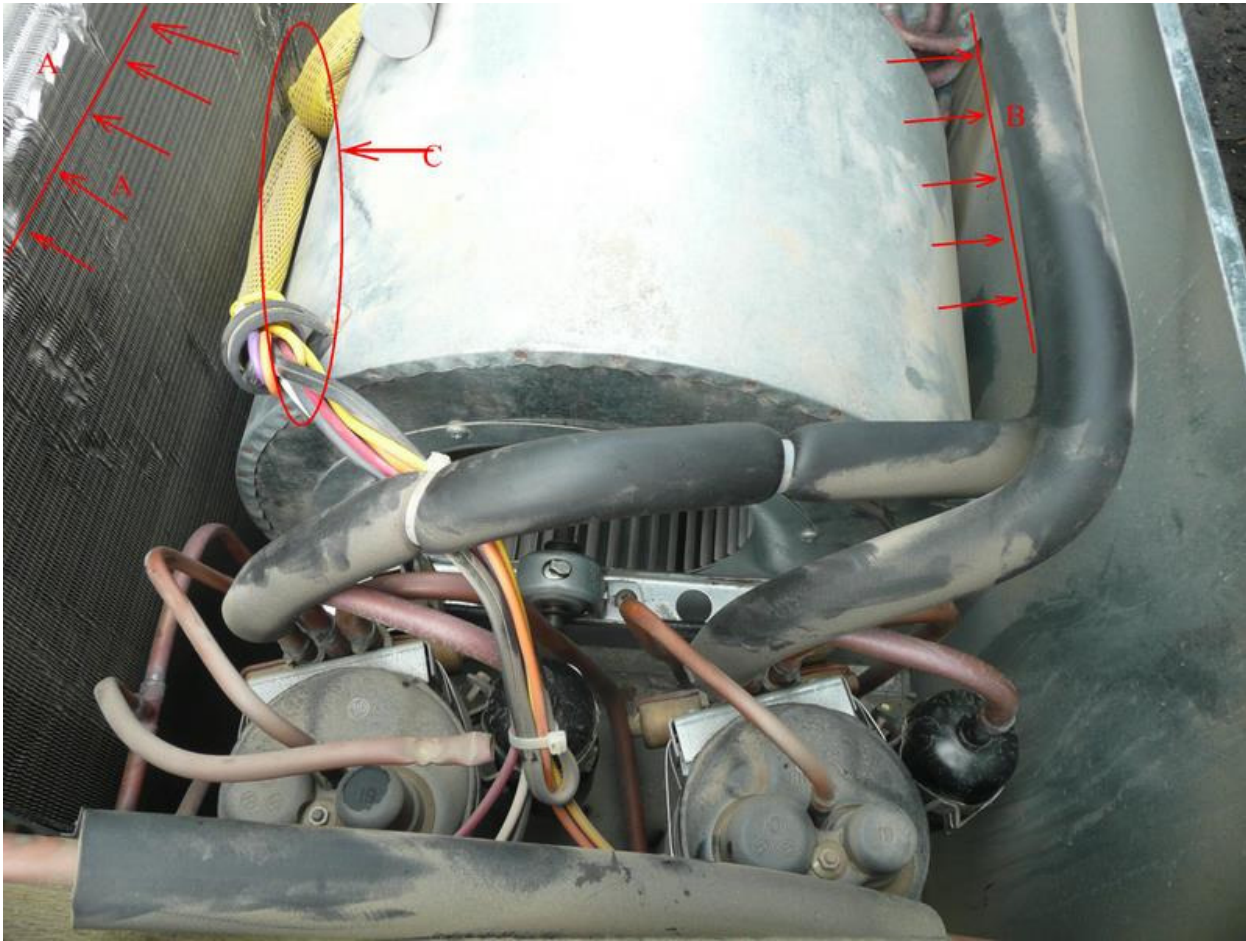
19. View of the epoxy I put over the 2" crack (A) in the alum hub as a temporary fix. In my case I was getting a rattling sound which was caused by a loose press fit between the steel hub and the alum wheel at point B. When re-assembling, note that centering the motor, the shaft just sticks out about 1/4 in from bearing. The new squirrel cage is centered in the blower assy. Torque the allen screw very tight. It has Loctite pre-applied. Reconnect the ground wire and the brown starting capacitor wires. The brown/white wire connects to the inside spade terminal on the cap.



20. Clean the 4 studs and suggest coating with anti-seize since a lot of moisture will accumulate, especially upper left where the ends of the evaporator coils are exposed and drip condensate. Clean out the plastic tray and rubber drain hole under the indoor coil just to be left in this picture. Use a vacuum cleaner and a brush attachment to clean the intake side of the indoor coil. Mine was quite clean but it would depend on fit, type, and maintenance of air filter used. The outdoor coil is easy to clean anytime.



21. Use reverse procedure to re-install the blower assy. Use a little sticky butyl rubber on the nut to hold in the 7/16 socket to get the nuts started.



22. Clean out dirt & construction debris in the intake & output duct work.



23. Reinstall the top cover using the approx 28 screws. Use a pointy object like an awl to align some of the holes in the middle of the top panel. Put the two screws back in front of the right side panel. Slide the entire unit back in coach. Once the unit is partially in, then feed the power cables up and over the duct. Re-install the four brackets.



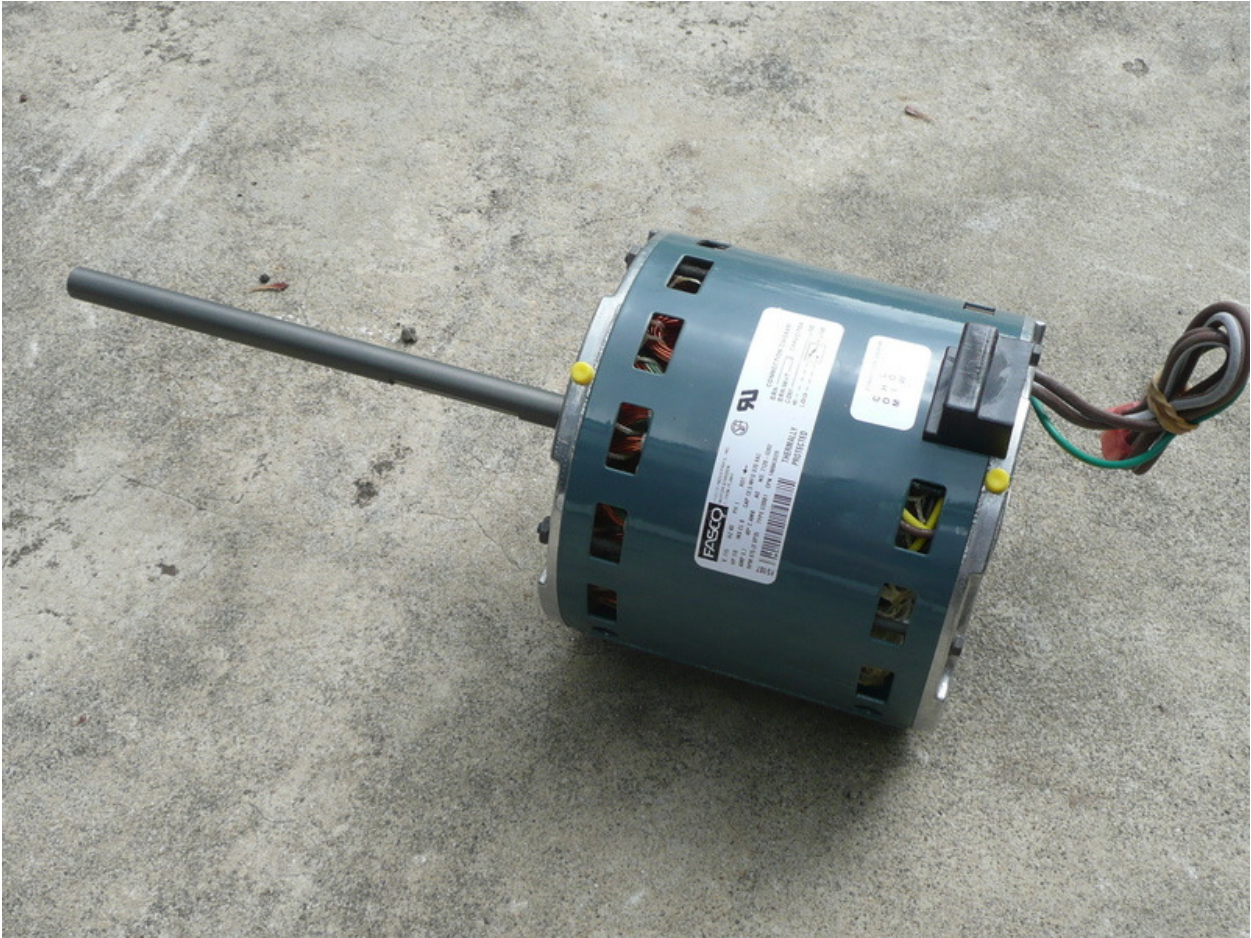
24. Before re-assy, tape up the ends of the two pieces of styrofoam to temporarily hold while the unit is re-inserted.



26. New plastic Outdoor Blower is about 1" shorter than the old metal one but the fins are larger. I applied 2-part epoxy (gray glob near hub) over the 2" crack in the center of wheel. The steel insert in the middle of the hub is just pressed on and was loose creating the rattling sound. The failure of the center hub is probably the cause of the re-design to plastic. My theory of the chain of events is the weak press fit at the center loosens, causing wheel wobble, causing the crack in the wheel support, causing the brass bearing to wear out, causing the motor bearings to wear out. The high ambient heat triggered the chain of events in my case. A second theory is the brass bearing wore out first, causing an imbalance, causing a crack, causing a loose hub, causing greater imbalance, causing the motor bearing to wear out.



27. The new motor p/n 1468a3029 is \$171 purchased on 6/13/08 from RV Products. Sales & service 316-832-4357 in Wichita, KS and ask for Keith in Service (he was very knowledgeable). It was \$18 shipping UPS Ground to Ohio and arrived 3 days later.



28. The new Outdoor Blower Wheel Package is p/n 1472-1161. Cost is \$47.



29. This is the bearing I bought from Graingers. The carrier is somewhat different from the Triangle brand so I just swapped out the metal brackets and used the internal bearing part only. I bought two so I could replace the Indoor Blower bearing at the same time. It was not worn out but it did have 4.5 yrs of service.

Mounted Bronze Bearing

[Power Transmission](#) > [Bearings](#) > [Mounted Bearings](#)

Mounted Bronze Bearing, Bore 1/2 in, 2 Bolt Pillow Block , Load Capacity Maximum PV 50000, Self Aligning Type, Pressed Steel Housing

Grainger Item #	2X567
Price (ea.)	\$10.32
Brand	DAYTON
Mfr. Model #	2X567
Ship Qty. ?	1
Sell Qty. (Will-Call) ?	1
Ship Weight (lbs.)	0.45
Usually Ships** ?	Today
Catalog Page No.	200 ?



30. If I have to go into the unit again, I will replace the two brass bearings with this sealed ball bearing version and it's only \$4 more.

Mounted Ball Bearing

[Power Transmission](#) > [Bearings](#) > [Mounted Bearings](#)

Mounted Ball Bearing, Bore 1/2 in, 2 Bolt Pressed Steel Housing, Static Load Capacity 1075 Pounds, Dynamic Load Capacity 2152 Pounds, Self Aligning Type

Grainger Item #	2X897
Price (ea.)	\$14.19
Brand	DAYTON
Mfr. Model #	2X897
Ship Qty. ?	1
Sell Qty. (Will-Call) ?	1
Ship Weight (lbs.)	0.4
Usually Ships** ?	Today
Catalog Page No.	200 E



PROCEDURE FOR DIESEL PUSHER CHASSIS

31. I got this info from an owner of a 2002 Ultimate Advantage diesel pusher chassis:

I pulled the basement A/C unit out twice. On our coach the body compartment door hinges upward and the A/C unit slides out the side of the coach. Two things are needed to be done to remove the unit:

1. disconnect the supply duct from the rear of the A/C
2. lower (about 1/2") the frame the A/C rests on. Do this by unscrewing two large bolts on the outer side of the A/C frame.

Duner's write up describes the insides very well. RVP has a newer outdoor blower "wheel" that is plastic vs. the original metal one. The plastic one is much quieter outside the coach. Replacing the bearings with "lifetime" lubed ones is also very easy.

This info from the owner of a 2002 Journey owner:

The unit must be lowered about 3" to clear the angle iron on top and then at that point it can be pulled out in the same manner as described earlier in this procedure.

To lower the unit, loosen the nuts on the 5/8 bolts in the underside and back off the nut about 3 inches. Then there should be enough room to slide the unit out the side.

And this is from a 2004 Vectra 40KD owner:

First thing was to open the door by removing two screws at the front and two at the rear that hold it shut. The front could be removed by opening the compartment directly in front of it. In our case it was the water heater and battery compartment. The rear required crawling under. We also used a bungee cord to hold it up.

Next removing all of the screws on the metal piece on top. It will not come out until the unit is lowered a little.

The duct should be unscrewed from the rear before lowering it so out came all of the screws on it. Ours had a couple of metal strips between the screws and the duct. I'm not sure if they were original or added after. The top screws are difficult to get out. A small palm type ratchet with a Phillips end made that easier. We bungeed the duct back a little to keep it out of the way.

After the duct was off we cranked the unit down some using the nuts holding the bar under the front at the right and left. Some WD40 in advance helped with that. There are a couple of angle iron pieces that keep the unit from sliding forward. They were held with star bit screws if I remember correctly and they were corroded so badly I used my pneumatic cut off tool on a couple and vice grips to screw them all the way through.

With it lowered a little the top metal piece could be popped out. Ours had rubber pads on the bottom. More WD40 and a large screw driver made it go easily.

Then we could slide it out. Tie wraps needed to be cut to get enough slack on the electric and control wires. The first time we used a large plastic container and lumber much like you did with the buckets. The second (and third) the seat from a CG picnic table and some Lynx levelers.

Coleman RVP/Tru Air/Carrier Parts Source Option

32. One of our members has found a money and time saver website to buy parts.

<http://www.hvacplus.com>

Once you know the required part number, contact this link or use their customer service folks to find it and quote their price. Some parts may have up to a 33% discount. You'll need to give the Customer Service Rep the manufacture name of the major component (ie. Carrier/Coleman), then the Model Number..followed by the company's part number. Many times the part number is on the scan lable pasted to the component or listed on the Operators Parts Manual that comes with the unit.

The Customer Service Rep who has given me great service is Liliana Mera: 800-431-3137 EXT 114. Liliana really knows HVAC parts and clearly has worked this parts supply service company for some time.

ALTERNATE SOURCE FOR COMPRESSOR

From another member of the forum.....

After much searching I found a replacement compressor for the 15,000 btu 120 volt R-22 basement heat pump units.

It's number is RKC5515EXA, made by Tecumseh. I had to call tecumseh's help line to get this number, it's a direct replacement for Rk225AT-26-a4 or a RK5515S. This is on a 1996 Holiday Rambler Endeavor with 2 basement ac units that are no longer available and the only option seems to be cutting holes in the roof and mounting roof top units, abandoning the ducted system. finding the compressor is like a miracle if it fixes it.