



**Newsletter of Air 'Vair, the CORSA Chapter for Air Conditioned Corvairs
Winter 2008**

Change Your A-6's "Diaper"

How long has the compressor been spewing nasty oil around your otherwise-pristine engine compartment? How long have you pondered whether to get the original (Delco A-6) compressor rebuilt, or bite the bullet and convert to that shiny, new Sanden compressor that looks so *very* unauthentic in your engine compartment? Well, contrary to your long-held assumption, you may be able to "fix" it yourself, *without* removing the compressor or evacuating/recharging the system.

No, it won't last forever. Depending on how much you use your A/C and how fast your compressor's seal is leaking, you might need to do this again a year or two from now, but this won't make the problem any worse than it would have been anyway. And yes, it might require you to purchase one or two rather common, inexpensive tools, but the **COOL AIR** "diaper change" gets around the need for all those special Kent-Moore tools shown on Page 15-39 of the 1965 Shop Manual that you can't find anywhere anyway.

The Procedure and the Patient

First of all, this procedure is only directed toward stopping the mess being made in your engine compartment—it won't help a system that isn't cooling adequately. Second, just because your compressor is slinging some oil doesn't mean it's losing refrigerant at a rapid rate. Rather, the seal on your 40-odd-year-old compressor is *designed* to lose a little oil as it runs, and possibly some refrigerant with it. But it's amazing what a mess a little oil (less than an ounce) can make in your Corvair's sealed engine compartment. If your system is cooling adequately, you should try this procedure, since it's simple and cheap.

What you do is remove the compressor's hub, remove the wick and its retainer (if present) from the bore at the front of the compressor, and then replace the wick and, if there was none, the retainer. Then you put the hub back on. Otherwise, you don't so much as loosen the fan belt, much less evacuate and recharge your refrigeration circuit.

Tools Needed

Here are the tools you'll need that might not already be in your tool box.

Hub Puller and Installer for Delco A-6 These are two tools usually sold separately. If your local auto-supply store doesn't have them (many do), J. C. Whitney sells them as Numbers MR541349 \$9.99 and MR157459 \$11.99 respectively.

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Spanner Wrench or Strap Wrench This is to hold the hub still while cracking the hub nut. You can turn the A/C on (key on) without starting the engine and see if the clutch itself is strong enough to hold the hub still while you back off the hub nut. Squeeze the belt together with your hand if the pulley slips. If this works, you won't need this tool.

Parts

You might already have the first part, and the last is optional.

A New Hub Nut The hub nut is a special locknut with a $\frac{3}{8}$ -24 (SAE Fine) thread. You should *not* substitute a regular nut of that thread and a lock washer—it's not the same thing. Clark's Corvair Parts and other vendors (ACDelco Number 15-234) sell this nut along with four more nuts not involved in this for over \$13. If your nut comes off and then goes back on stiffly, you can continue to use it. If not, I'd suggest blue (medium torque) threadlocker on the shaft threads (*n.b.*: I've never tested this).

A Wick Retainer If your compressor has its wick and retainer, you can reuse the retainer indefinitely (remove it as gently as possible). If it has none (very common, particularly in rebuilt compressors), order a seal kit, and you'll get a beautiful new wick along with it. Clark's sells the kit (Part No. C2086) for a bit under \$15, and it also contains a shaft seal, which you can't install without evacuating the system. It's ACDelco Number 15-2191 and it does *not* contain a new hub nut. Go figure.

A New Wick The wick is a rectangle of industrial felt, 1- $\frac{1}{4}$ " wide, 3- $\frac{5}{8}$ " long, and seemingly about 1/16" thick. These dimensions are fairly critical, and so is the material. I acquired some industrial felt to substitute, but it was too "hairy"—that is, it had loose fibers that, if they got into the seal, would defeat it badly. Nominally $\frac{1}{8}$ " thick, it was too thick, and might have caught on the compressor shaft rotating in the bore. If you substitute anything, make sure it won't lint or catch on the compressor shaft. Otherwise, get the seal kit mentioned in the preceding paragraph.

A New Hub Clark's sells one for a bit over \$60; it's available elsewhere as ACDelco Part Number 15-41, possibly for less. The first time you do this, do your clutch a favor and replace the hub. After that, replace it every three times you change diapers.

Doing It

See if the shaft nut will come off for you with the clutch engaged as mentioned above (if it comes off *too* easily, replace it or use thread locker—it's a lock nut). Use the spanner or strap wrench if the hub turns as you do this. Use a deep 9/16" socket wrench.

Once the nut is off, pull the hub off with the hub puller. It's a press fit onto the shaft, so again, it shouldn't be too easy. If it is, you must replace that hub. Make sure to capture the little square key installed between the shaft and the hub as the hub comes off.

Now, the bore at the front of the compressor is exposed and you can see if you have a wick and retainer. The retainer is a stamped-steel ring at the mouth of the bore that you

can pry out with a screwdriver. The wick is a black, dripping, greasy horror that you should hold something under to catch the oil as you pull it out. It's what you're replacing. Get a rag and clean out the bore of the compressor as thoroughly as possible. Do *not* use degreaser or solvent.

Form the new wick into a shallow cylinder and insert it into the bore of the compressor. It doesn't matter where the ends of the wick join, but it is critical that the ends be very slightly pressed together by the diameter of the bore. If the wick is correctly dimensioned, they will be; otherwise, they won't. Do not use adhesives to hold the wick in place; they'll melt or dissolve. Press the retainer (or your substitute) back into the bore to hold the wick in place. I find a 7/8" socket very helpful in this process.

Look into the bore of the clutch hub and see if there is a snap ring. If there is, remove the snap ring and the thick washer (spacer) under it. Place the shaft key into its groove (you can rotate the shaft to locate the groove at the top) and slide the hub on as far as it will go. Attach the hub installer and use it to press the hub onto the shaft until the surface of the hub and the surface of the clutch are about 3/32" apart. Then remove the installer and replace the spacer and its snap ring if you originally found one and the new nut calls for one. The spacer is used with the original-style shoulder nut and (per a piece of paper enclosed in the nut kit) is not used with the later-style flange nut. Thread the hub nut (small end first, if the shoulder nut) onto the shaft.

Turn the hub nut down with a torque wrench until you reach 13ftlb. Measure the gap between the hub and the clutch. If it's less than .057", leave it that way. If it is greater, use the nut to crank it down until it's less. The clearance should in any case be no *less* than .022". If you have to pull the hub back out a little, use the hub remover for that.

Now, fire up your engine, turn on the A/C, and drive on. You'll stay clean and dry for...how long? If it isn't long enough for you, you can still rebuild or replace the compressor.

Back Issues Available on Web Site

Air 'Vairs has its own chapter section on the CORSA Web site (see the box at the bottom of the front page), and its contents recently more than doubled from the addition of all **COOL AIR** back issues since Summer 2005 in Adobe Acrobat .pdf files. Now you can view any back issue since then in color, no less, and depending on your monitor, in better resolution than the original paper edition. Just click the **COOL AIR** link at the center of the opening page.

As a "virtual" chapter, Air 'Vairs has long suffered from the lack of something other CORSA chapters have: the opportunity for regular face-to-face meetings of members with their vehicles. As your newsletter editor is dragged kicking and screaming into the twenty-first century, the means for overcoming this lack are steadily, if slowly, improving.

COOL AIR

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