

• A/C Compressor Retrofit & Upgrade

Model & year: **84-91 3-Series, U.S.**

Expertise level: **Beginner > Intermediate > Advanced**

Date: **March 9, 2002**

Estimated time to complete: **10-12 hours**

Tools Required

- Metric tools
-

Facilities Needed

- Garage or level surface
-

Parts Required

- Compressor retrofit kit
-

Getting Started

If your E30's air conditioner has gone out (again), I highly recommend converting to the "new" refrigerant, R-134a, and replacing your compressor with a much more affordable after-market type. Stock compressors cost about \$800, rebuilding your old one will cost \$400, and R-12 Freon is getting more expensive all the time.

Conversion kits are available and should improve the resale value of your car. Try: iceac.com

Seltec compressor: \$275

Mounting kit: \$110

Dryer bottle: \$48

TOTAL: \$433 + shipping

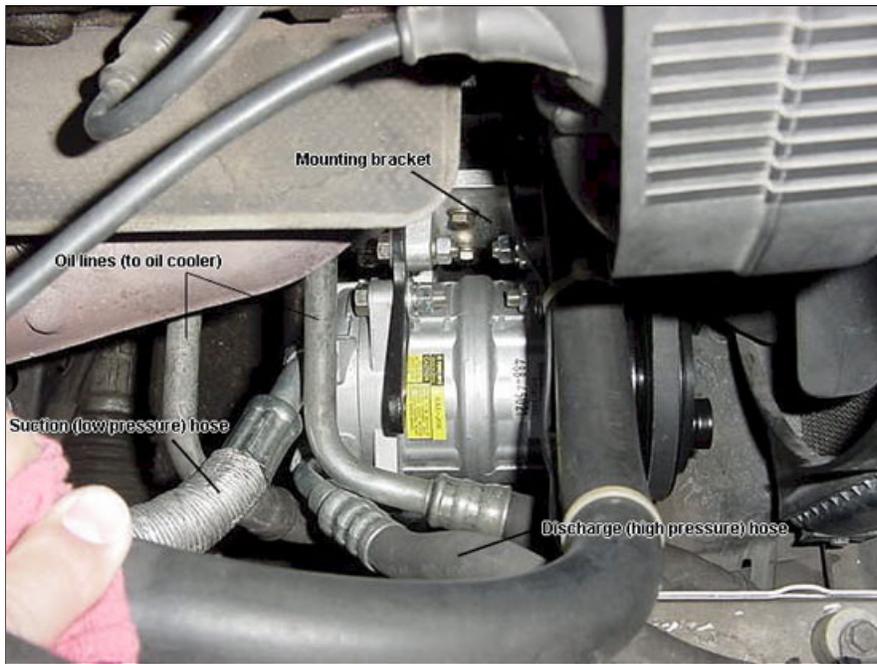
The kit includes all: a new Seltec compressor, mounting bracket, belt, fittings and o-rings.

My results were great: the compressor ran much more quietly than my stock unit, producing an average temperature differential of a little over 30 degrees at the vent - the same as before. Utilize the services of your local a/c shop for hose work, and let your favorite tune-up shop do the evacuation and re-charging.

Procedure

I have included the instructions that came with my kit below. They were a little lacking, so I made notes shown in red. Have your car's a/c system evacuated before beginning.

On cars with oil coolers (318is and 325is), you'll need to be mindful of where you route the hoses since there's not a lot of room. I improvised by routing my hoses between the oil lines while routing the high pressure hose toward the front of the car after re-positioning the front oil line. See photo below:



The low pressure hose needs to be removed and remade to correct length using the provided fitting with new thread size. Utilize your local a/c shop for this: about \$10.00. The high pressure hose can utilize the existing fitting.

Once it's all back in, go to a local shop to evacuate and recharge with R-134a. I had them also install the dryer. My total cost for this service: \$159.45.

1975-91 B.M.W. "6"

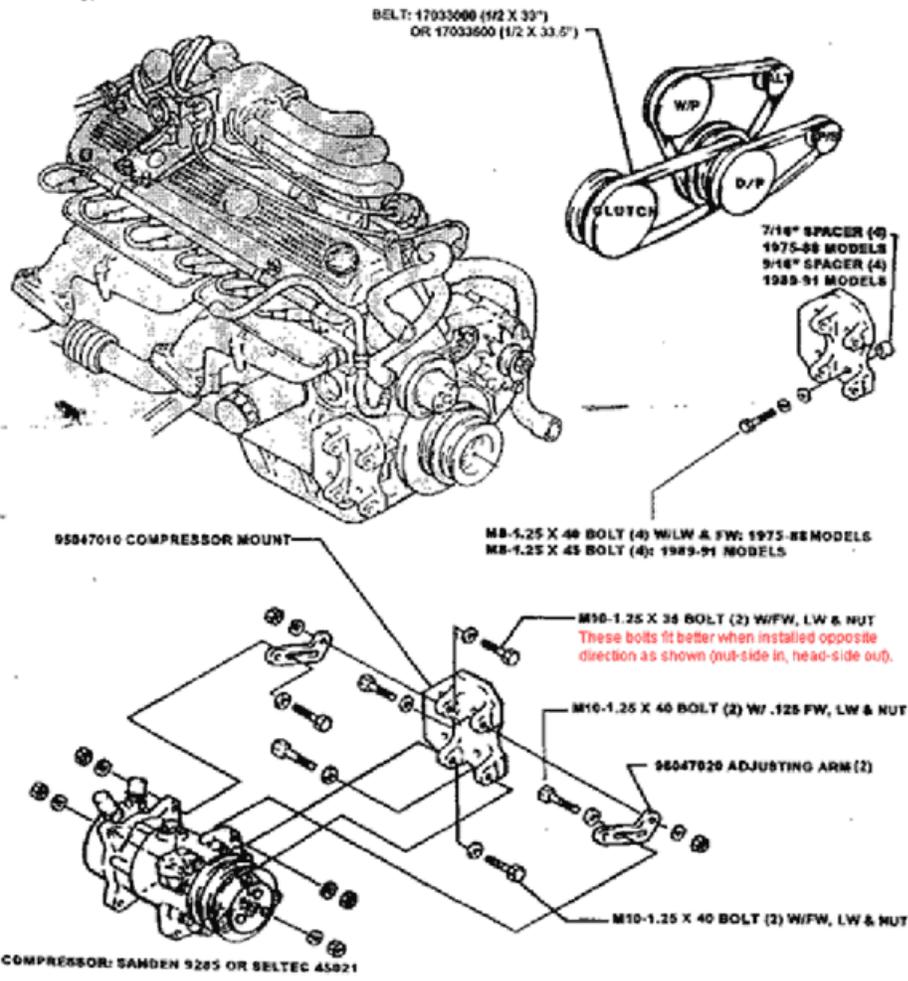
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320; 320i; 323i; 325e & es; 520i; 528e

2.0, 2.3 & 2.7 LITER

WITH OR WITHOUT POWER STEERING

WITHOUT AIR PUMP



1. **Disconnect the Battery** Remove old compressor and power steering pump belt
2. On 325e,es through 1987 attach bracket to engine using four (4) 8mm x 40mm bolts with 7/16" spacers between engine and compressor bracket.

After removing old mounting bracket, re-position front oil line 90 degrees counter-clockwise using 24 mm wrench (may use 15/16")

On 325e 1988-90 and 325i, is, ix, iC 1987-92 (M20 engine with front crank position sensor), attach bracket to engine using four (4) 8mm x 45mm bolts with 9/16" spacers. Must remove old mounting bracket first, using 6mm hex

3. Fasten compressor to bracket using two (2) 10mm x 40mm bolts with lockwashers, flat washers, and nuts. Fasten adjusting arms to compressor using 10mm x 40mm bolts with lockwashers, flatwashers, and nuts. Before installing adjusting arms, install the belt
4. On 325e, es (M20 engine without factory oil cooler) use 45° angle fittings supplied in the kit. Discharge hose requires 3/4" thread with 1/2" hose barb. Suction hose requires 7/8" thread with 1/2" hose barb.

Suction hose will fit between oil lines. Remove hose and remake to correct length using supplied 45 degree fitting. Discharge hose will route past re-positioned oil line and doesn't require removal.

On 325-i, is, ix, iC (M20 engine with factory oil cooler) use 90° angle fitting on discharge hose with 3/4" thread and 1/2" hose barb. Suction hose must be removed from car and made approximately 10"-12" longer, routing the hose toward the front of the car, then turning back toward the firewall, keeping away from the exhaust manifold. Suction requires fitting with 7/8" thread and 1/2" hose barb.

5. Remove old receiver dryer and flush A/C system. Reconnect all A/C hoses and install **NEW** receiver dryer. (Proof of new receiver dryer is mandatory if any warranty claims arise.) Evacuate A/C system and check for leaks. Replace oil lost during flushing. This step for qualified a/c shop. Go to Step 6

CHANGED PART	AMOUNT OF OIL TO ADD
Drier	10 grams (.35 oz)
Evaporator	40 grams (1.40 oz)
Condenser	20 grams (.70 oz)
Any pipe or hose	10 grams (.35 oz)

6. Install v-belts and check tension. Reconnect battery and crank engine, but do not start. Check belt alignment and tension. Check compressor mounting and tension bolts/nuts. Recharge A/C system and check for leaks. Check all radiator hoses, heater hoses, fuel and oil lines to be sure there is proper clearance of compressor, compressor mount and braces, and compressor clutch. Check for proper compressor alignment. Take car to a/c shop for Step 5.

Belt should already be on. Tighten all mounting bolts and check belt tension & alignment. Check clearances, especially suction/discharge hoses. Start car. Inspect.

NOTES: Be sure to use the existing heat wrap on the suction hose to shield it from heat of the exhaust pipes. Check that the new routing of discharge hose doesn't pinch or wear against car body. Use new o-rings on all hoses. Don't forget to reconnect power steering belt.

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