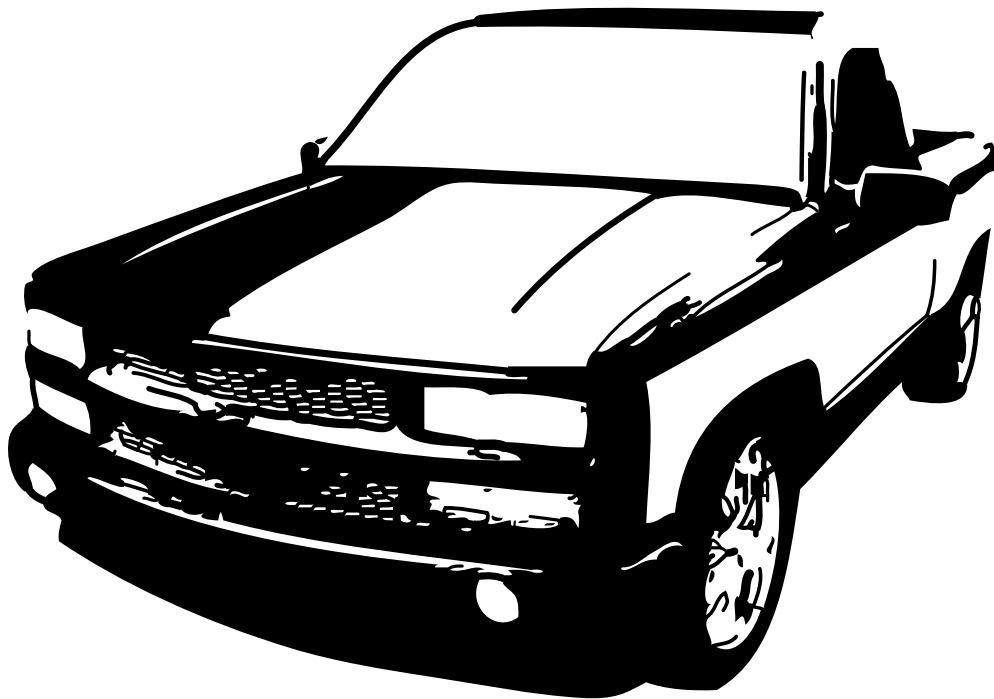




# ***Installation Manual***

## ***1988-1990 Chevy/GMC Truck***

### ***Engine Compartment Upgrade Kit - 22-257 & 22-257D Series***





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# ***Congratulations...***

**You have just purchased the highest quality, best performing A/C system upgrade ever designed for your Classic Vehicle.**

To obtain the high level of performance and dependability our systems are known for, please pay close attention to the following instructions. Our installation steps and procedures are derived from a long history of research and development and the combined experience achieved through thousands of successful installations (and feedback from customers like you). Please remember that our #1 goal is that you'll have a successful installation and a system that performs at a very high level for many years to come.

Before starting, read the instructions carefully, from beginning to end, and follow the proper sequence. On the next page you'll find a safety and general checklist that you should read before starting your installation.

Again, thank you from our entire staff.



## **PRE-INSTALLATION:**

- Before beginning the installation, check the shipping box for the correct components.
- **If your vehicle has been or is being modified, some procedures will need to be adjusted to fit your particular application.**
- A basic cleaning of the engine compartment before beginning will make things go more smoothly.
- Check condition of engine mounts. Excessive engine movement can damage hoses to A/C and/or heater.
- **DISCONNECT THE BATTERY FIRST**
- **DISCHARGE THE SYSTEM NEXT;** You will want to have your system evacuated of all remaining refrigerant according to local laws. An A/C service shop can handle this for you.
- **TOOLS/MATERIALS REQUIRED:** A set of SAE & Metric Wrenches & Sockets, (A set of ratcheting wrenches is suggested for the compressor installation), Magnet (Reach Tool), (2x) Medium Adjustable Wrenches, Flat Screwdriver, Wire cutter w/ crimper, and Tape or Caps.

**PLEASE NOTE! IN ORDER TO PROTECT NEWLY INSTALLED PARTS, IT'S CRITICAL THAT THE EVAPORATOR IS CLEAN AND FREE OF CONTAMINATION. DAMAGE TO COMPONENTS AS A RESULT OF CONTAMINATION WILL NOT BE COVERED UNDER WARRANTY.**

## **IMPORTANT NOTES:**

- Use one or two drops of oil (supplied with your kit) on **ALL** O-rings, and threads.
- All capped fittings **MUST** remain covered until actual connection of the fitting to prevent contamination.
- Use two adjustable wrenches on all O-ring connections, these should be tightened to 10-15 ft/lbs which is hand tight plus ¼ turn. Over tightening could cause splitting of the O-ring.
- Carefully thread fittings. Fittings will thread easily, therefore if there is resistance, back off and re-align to avoid cross-threading. Be careful not to over tighten.

**Should you have any technical questions, call us immediately, we will be glad to assist you.**

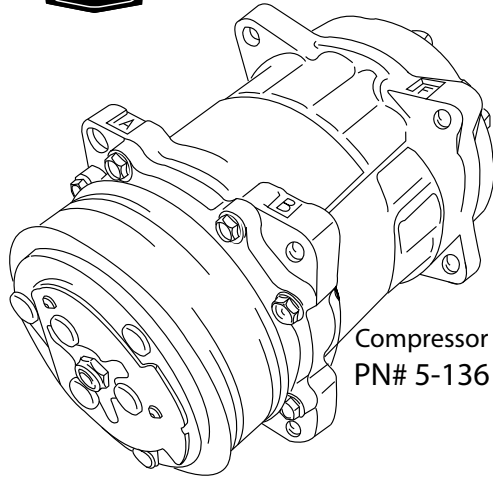
**Our toll-free number is listed on every page, we're here to help!**

**YOU CAN NOW BEGIN THE INSTALLATION...**

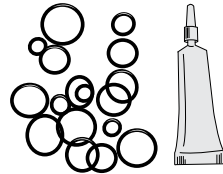


# THESE ARE THE PARTS FOR YOUR ENGINE COMPARTMENT UPGRADE KIT

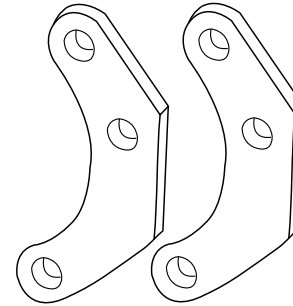
*If your kit happens to arrive incomplete, contact us asap for assistance!*



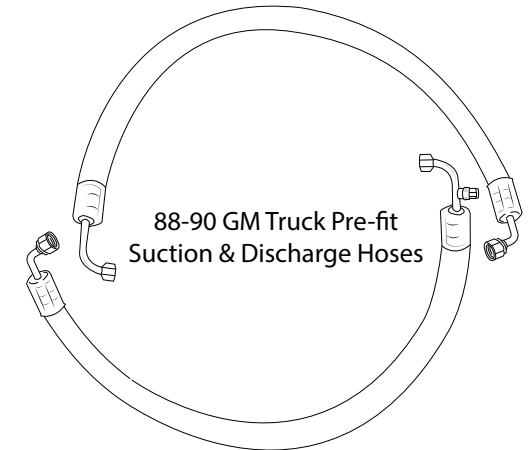
Compressor  
PN# 5-136



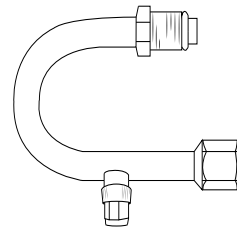
O-Rings and Lubricant Oil  
PN# 05-400



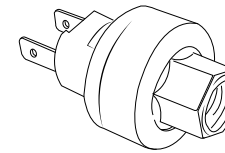
Compressor Brackets  
PN# 07-241



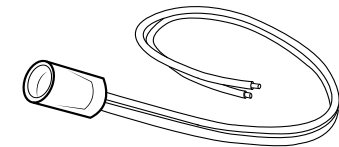
88-90 GM Truck Pre-fit  
Suction & Discharge Hoses



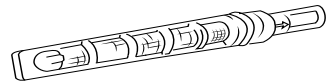
88-93 GM Truck Suction Tube



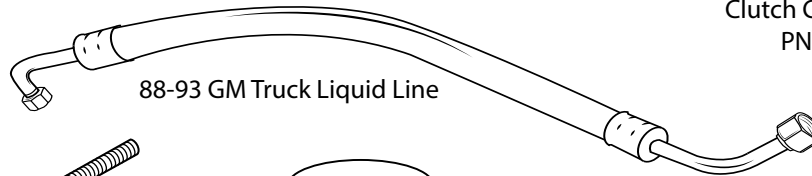
Clutch Cycling Switch  
PN# 16-200



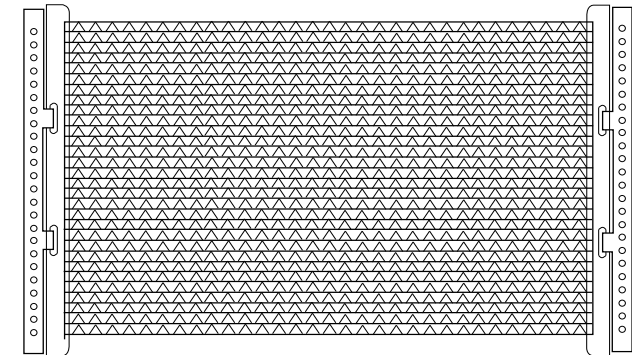
Cycling Switch  
Harness  
PN# 16-201



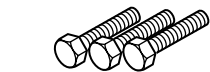
Orifice Tube



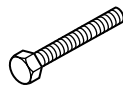
88-93 GM Truck Liquid Line



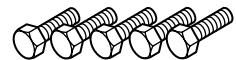
Parallel Flow Condenser  
PN# 11-248



(3x) M10 x 1.50MM  
x 40MM Bolts



(1x) M10 x 1.50MM  
x 50MM Bolt



(5x) M10 x 1.50MM  
x 35MM Bolts



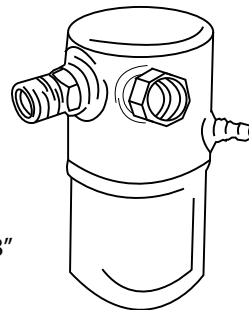
1/4" 11/32", 9/16", and 5/8"  
Compressor Spacers



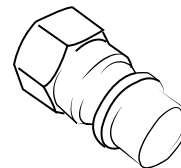
(8x) M10  
Lock Washers



(8x) M10  
Hex Nuts



Accumulator  
PN# 12-247

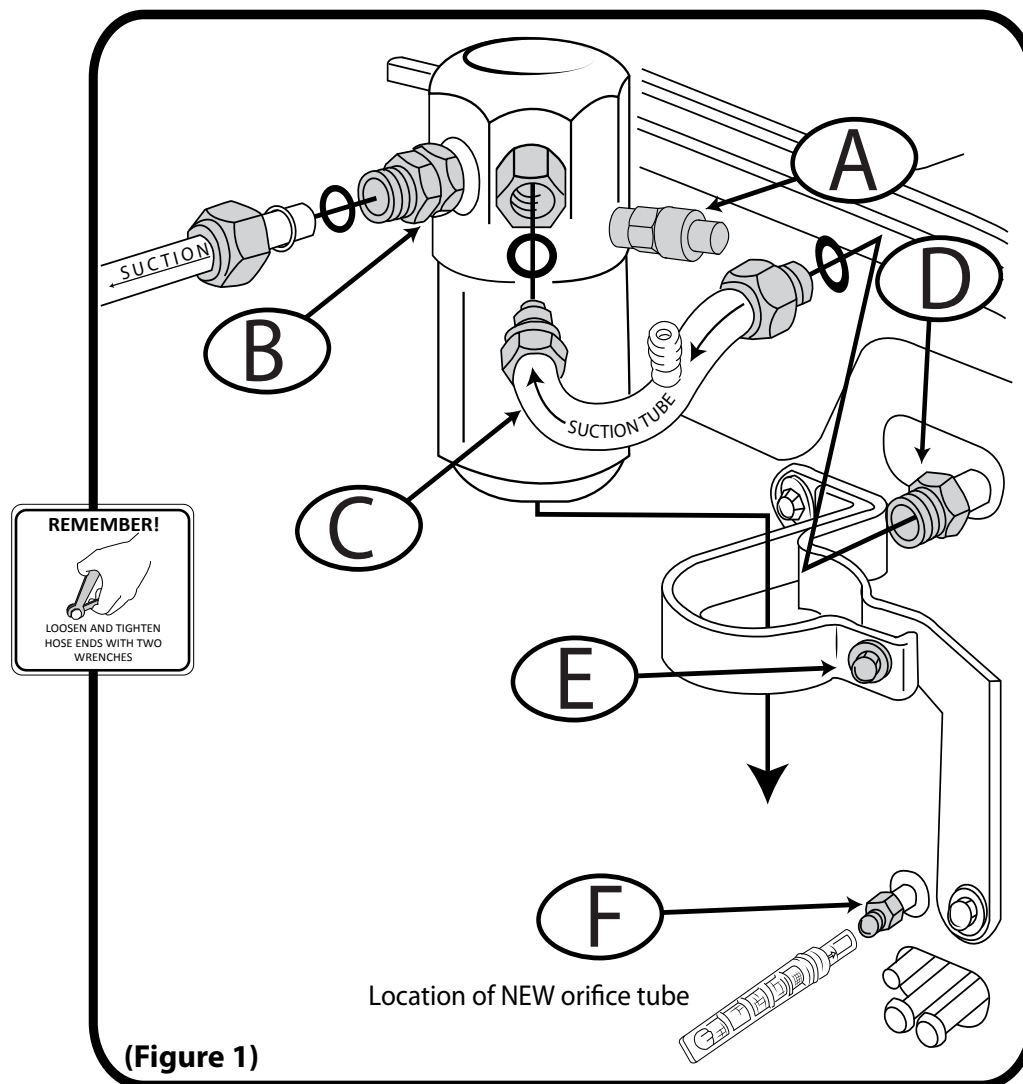


134a Adapter  
PN# 14-122-2



## ACCUMULATOR REMOVAL

- Disconnect the plug from the pressure cycling switch (**Figure 1A**).
- Disconnect Suction hose from accumulator (**Figure 1B**).
- Disconnect Suction Tube from Evaporator (**Figure 1C/1D**).  
*You may need to remove the plastic relay cover panel for easier access to evaporator fitting*
- Disconnect the liquid hose (solid tubing) from the inlet fitting of the evaporator core (**Figure 1F**).
- ***If equipped, remove orifice tube from inside evaporator inlet tube, with suitable tool.***
- The accumulator can be removed by loosening the 10mm screw (**Figure 1E**), on the bracket. The bracket does not need to be completely removed.
- Remove accumulator
- **Cover ends of evaporator fittings with tape to prevent contamination.**



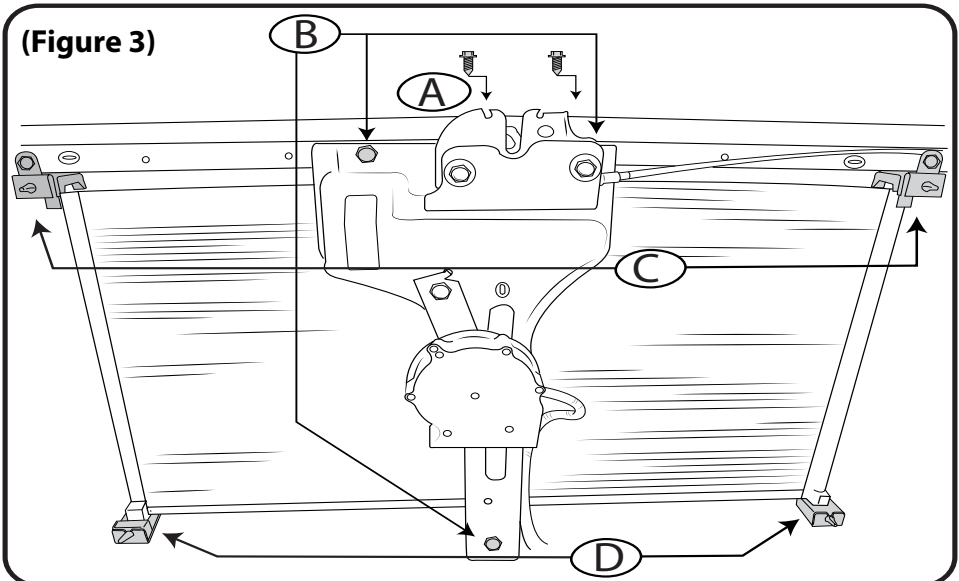
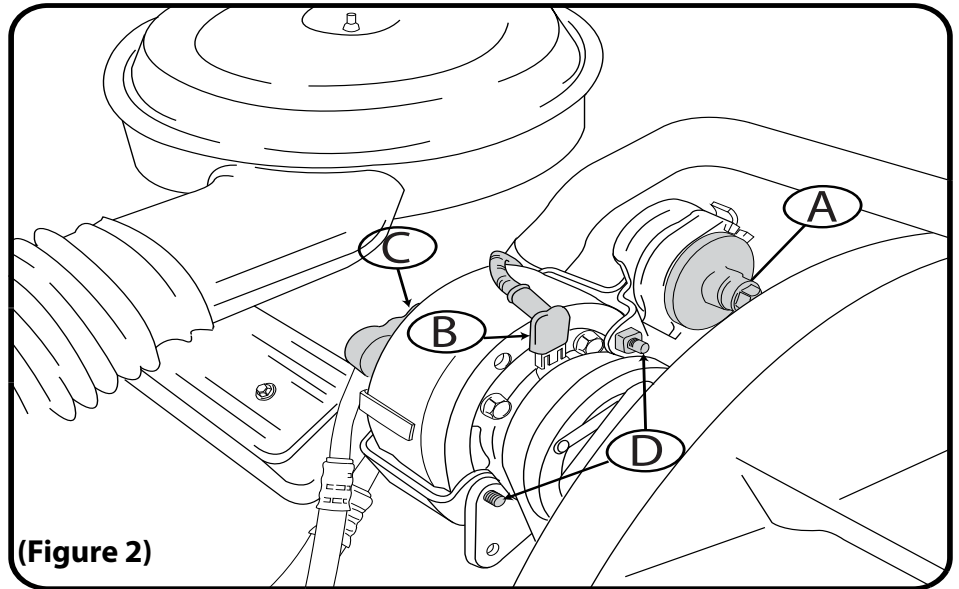


## COMPRESSOR REMOVAL

- Remove air cleaner assembly and ducting.
- Remove electrical plug from compressor, move to side for later connection. **(Figure 2B)**
- Detach hose manifold from rear of OEM compressor, **(Figure 2C)** by removing the 14mm bolt in the center of the manifold. Place hose assembly to side for later removal. *Elevate end to prevent fluid damage to engine compartment.*
- Remove drive belt by releasing tension of belt tensioner. **(Figure 2A)**
- Remove two bolts threaded into rear of compressor. **(Figure 2D)**
- Remove compressor from OEM mount

## GRILL/LATCH REMOVAL

- Remove both front turn signal lenses grill (4 phillips screws each)
- Disconnect side turn signal lens bulb and wiring from each side
- Remove screws (8mm) from top of radiator support
- Remove screws (8mm) from grill to latch support
- Remove screws (8mm) from inside turn signal opening
- Carefully slide out grill and place aside for re-installation
- Remove latch by removing the hardware installed vertically behind latch. **(Figure 3A)**



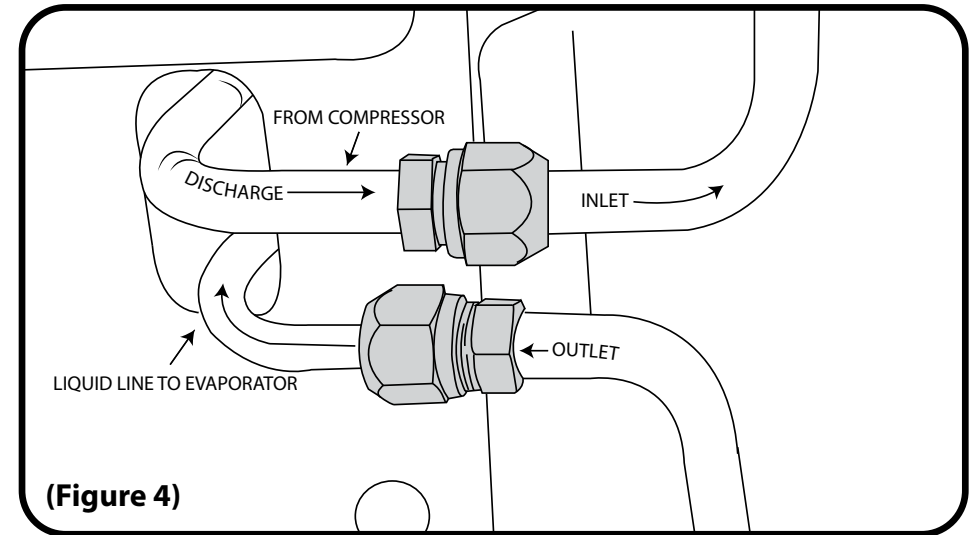


## GRILL/LATCH REMOVAL CONT.

- Place latch to side, be sure to mark location of latch for proper re-alignment
- Remove horn wiring by unplugging harness from horn
- Remove latch support by removing three bolts. **(Figure 3B)**

## CONDENSER/HOSE REMOVAL

- Some vehicles may be equipped with an auxiliary transmission cooler in front of the condenser. If present, it will need to be moved or removed to provide access to condenser.
- Disconnect and remove both lines from condenser. **(Figure 4)**
- Hose assembly can now be removed from vehicle.
- Remove two bolts from upper condenser isolators. **(Figure 3C)**
- Tilt condenser forward and remove from vehicle.
- Inspect upper and lower condenser insulator mounts. Replace if necessary.



**(Figure 4)**



## CONDENSER INSTALLATION

- While exposed, you may consider cleaning the radiator and the radiator support before condenser installation
- **Fitting caps MUST remain on until connection.**
- Carefully insert condenser into lower insulating bushings. **(Figure 3D)**
- Install upper insulator mounts with condenser into radiator support. **(Figure 3C)**
- Re-install grill support **(Figure 3B)**
- Re-install hood latch into original location **(Figure 3A)**
- *(Grill will be installed in final step)*



***IMPORTANT!*** *The Original condenser will house the orifice tube in-line of the original Liquid Line. This will NOT be re-used. The included condenser is designed so that the Orifice Tube may be installed in the outlet fitting. Confirm there is NOT an orifice tube already installed into the new condenser's outlet fitting. Your upgrade kit requires the orifice tube be installed into the inlet of the evaporator NOT condenser. Route supplied Discharge and Liquid Lines through the radiator support and hand tighten fittings after oiling O-rings on each fitting.*

*(The Liquid line will be the line connecting the outlet with orifice tube and the lower inlet on the evaporator)*

*(The Discharge hose connects to the discharge (D) fitting on the compressor and the inlet (upper) fitting on the condenser)*

## COMPRESSOR INSTALLATION (STEEL MOUNT)

- Using (4x) M10 x 1.50 x 35mm bolts to install supplied brackets to compressor, one bracket will mount inward on B&C tabs of compressor.
- The second bracket will mount inward on the F&G tabs of the compressor. **(Figure 5)**  
*Mount holes will be towards top of assembly. (Figure 5)*
- Thread the M10 x 1.50 x 40MM bolt completely into the front of the lower front of the OEM mount, tighten securely. **(Figure 6A)**
- Secure the compressor on the exposed bolt **(Figure 6A)**. Loosely Secure with a nut and lock washer.

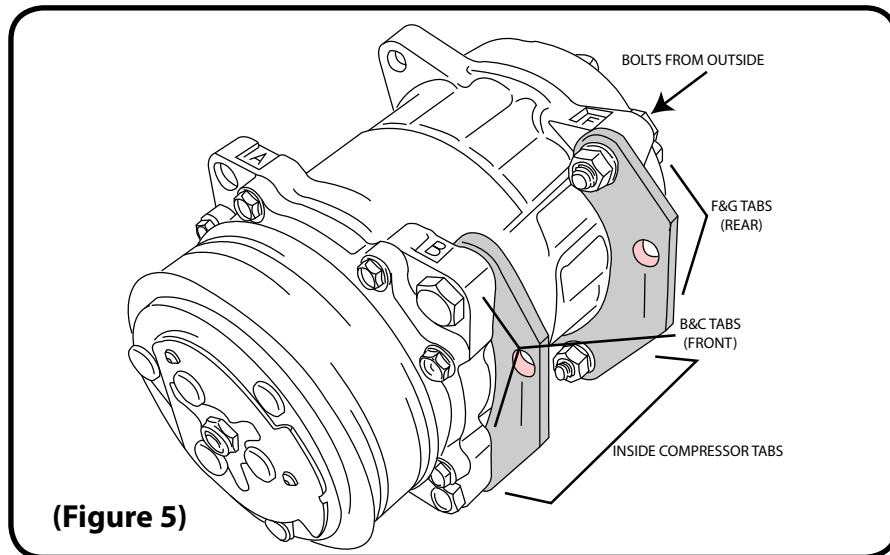




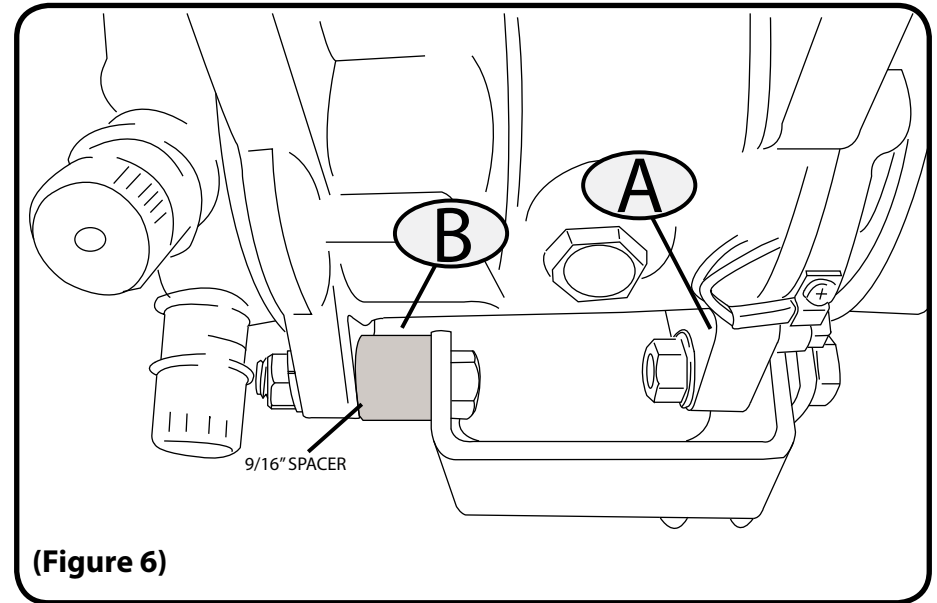
# COMPRESSOR INSTALLATION

## (STEEL MOUNT - CONTINUED)

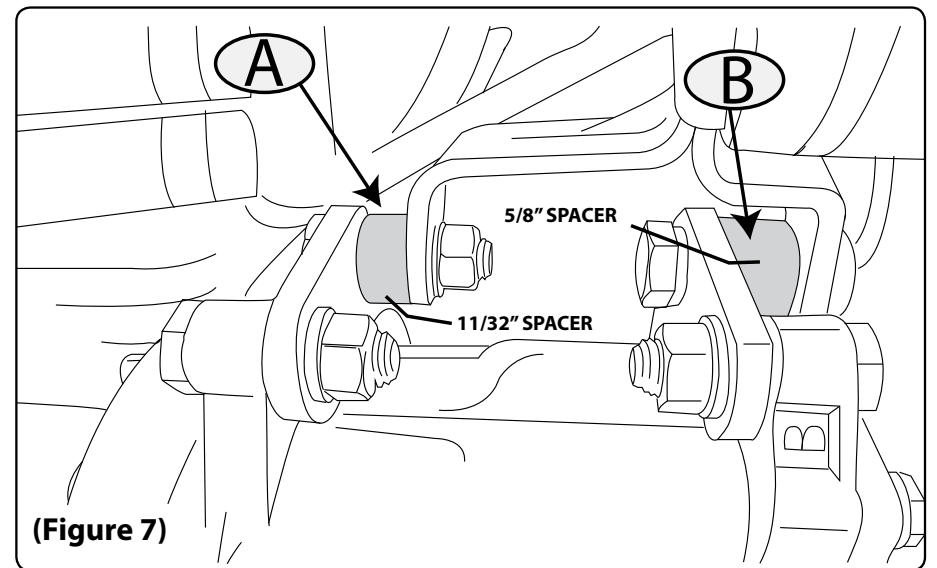
- Insert the M10 x 1.50 x 50mm bolt through the lower rear OEM mount. **(Figure 6B)**. As the bolt passed through insert the 9/16" spacer, Loosely secure with a nut and lock washer.
- Align bracket mount holes with the remaining OEM bracket holes.
- The front bracket **(BC)** will mount to the rear of the front OEM bracket with the 5/8" spacer, **(Figure 7B)** with M10 x 1.50 x 40mm bolt, (threads into OEM mount from rear) lock washer behind bolt head.
- The Rear bracket **(FG)** will mount directly to the rear of the OEM bracket, with 35mm bolt. Nut and lock washer will be attached from the inside. **(Figure 7A)**.
- You will need to tighten all of the compressor hardware.



(Figure 5)



(Figure 6)



(Figure 7)

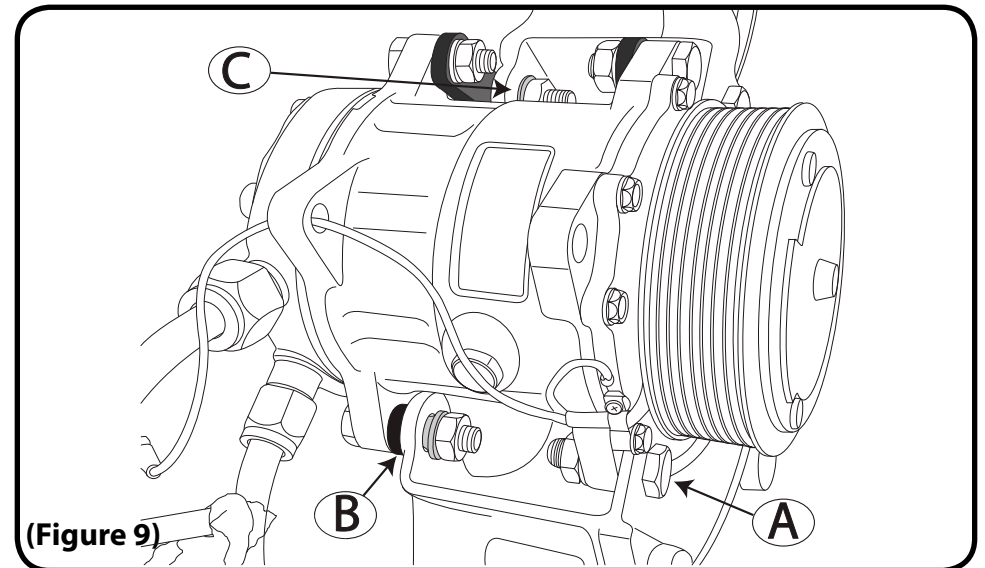
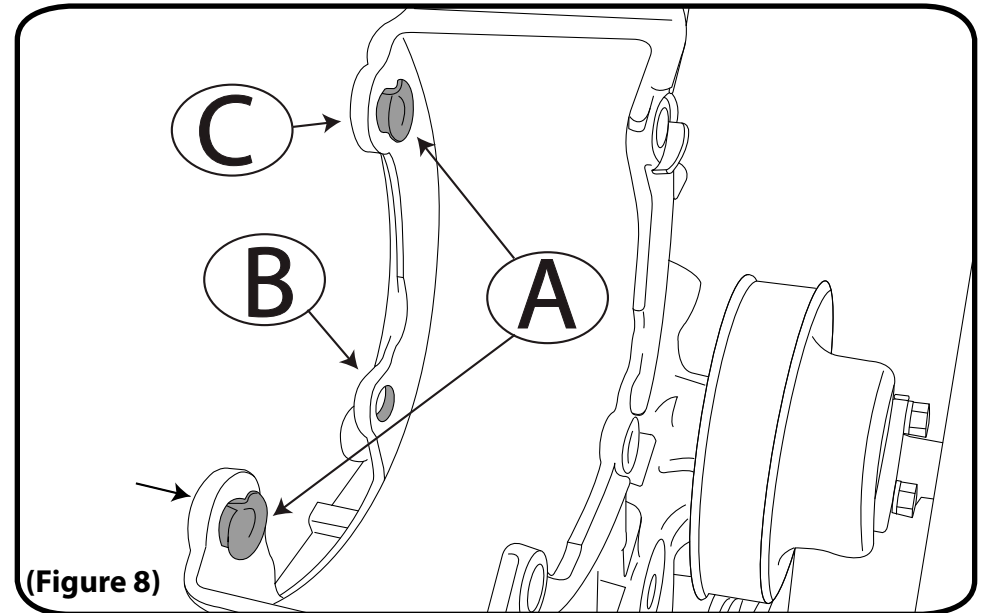


# COMPRESSOR INSTALLATION

## (ALUMINUM MOUNT)

There are three split flange bushings pressed into the rear holes of the OEM mount. The bushings at the far left and right will be reused (Figure 8A). The center one will not be used (Figure 8B). Before proceeding with compressor installation, please make sure the rear of each bushing is flush with the rear of the OEM mount (Figure 8C). This can be accomplished by tapping on each one lightly to slide them towards the front of the vehicle until flush with the rear face of the mount.

- Insert the M10 x 1.50 x 40MM bolt completely into the front of the lower left front hole of the OEM mount. **(Figure 9A)**
- Slide the compressor ear D on the exposed bolt. Loosely Secure with a nut and lock washer. **(Figure 9A)**
- Insert the M10 x 1.50 x 50mm bolt through the lower left rear compressor ear. **(Figure 9B)**. As the bolt passed through, insert the 1/4" spacer between the compressor ear and OEM bracket. Loosely secure with a nut and lock washer.
- The rear adapter bracket (FG) will mount to the rear of the upper OEM bracket, with 40mm bolt. Loosely secure with a nut and lock washer. **(Figure 9C)**
- Once all hardware is installed, start tightening at front mounting ear D, then BC, followed by rear lower mounting ear H, followed by FG. As both rear mounting ears are tightened, the factory split bushing will slide back through the factory mount. This is normal.





## COMPRESSOR WIRING

- The compressor wire will need to be connected to the OEM wiring. Find the compressor wire that was originally connected to the compressor and cut the connector off. Shave the insulation off the end of the green wire and crimp the female bullet connector, then connect the male bullet connector from the compressor.

If the car was equipped with a switch mounted in the back of the compressor, it will be eliminated. Find the wiring and cut the connector off. Strip ends and crimp together using the supplied butt connector. Place back in wire loom.

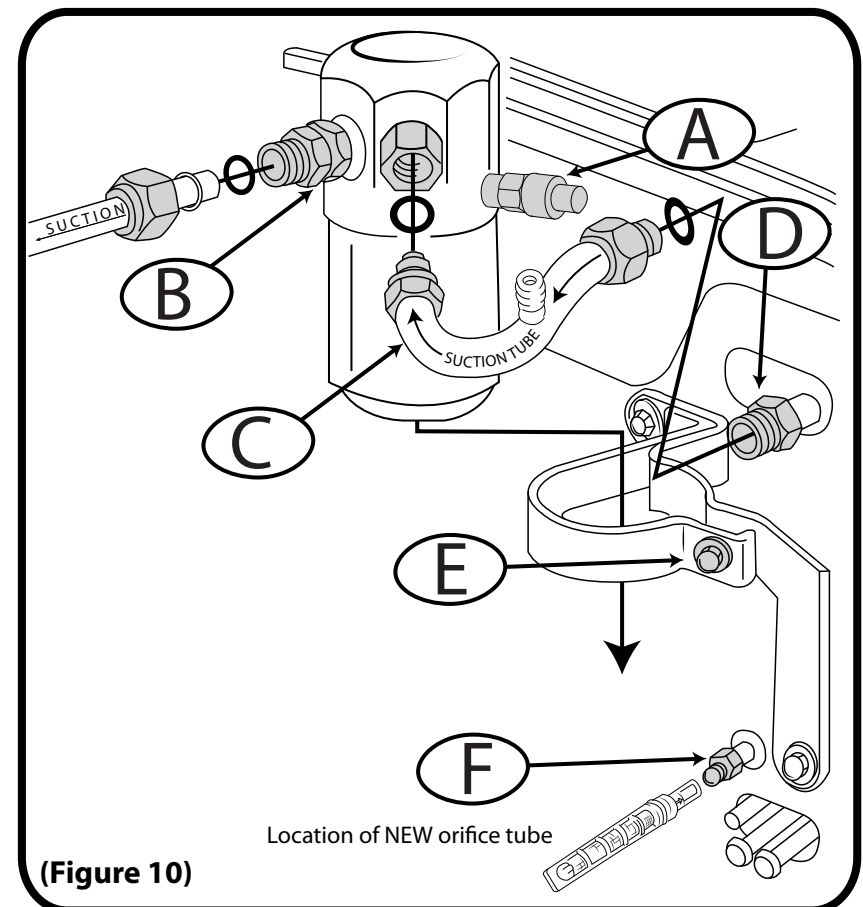
### READ BEFORE PROCEEDING

**If you purchased the 22-257D kit which includes the evaporator, skip forward to page 12 for the installation of the evaporator before installing the accumulator. After installation, continue with the following steps.**

## ACCUMULATOR INSTALLATION

- Slide the new accumulator into the bracket, loosely tighten bracket bolt (**Figure 10E**), until all connections made.
- Attach the provided Suction Tube (**Figure 10C**), to the outlet fitting of the evaporator (**Figure 10D**).
- Attach the accumulator to the outlet fitting of the provided suction tube. (**Figure 10C**).

- Screw provided pressure cycling switch into the port on the top of the accumulator (**Figure 9A**).
- The factory cycling switch harness will need to have the plug end removed and replaced with the provided plug.
- Plug the pressure cycling switch harness onto the installed switch.
- Secure accumulator bracket once all connections made.



(Figure 10)



## R134a ADAPTER INSTALLATION

- With a Schrader valve removal tool, remove the Schrader valve from the curved evaporator-to-accumulator suction tube. It will not be used with the 134a adapter. **Immediately** screw the adapter onto the R12 port on the suction tube.

## HOSE/LINE CONNECTION

- Both the Liquid hose and Discharge hose were connected to the condenser in earlier steps, The new orifice tube can now be installed in into the inlet fitting of the evaporator (**Figure 10F**). Notice small arrows on orifice tube as this should point into the evaporator inlet fitting.
- Connect the Liquid hose to the inlet fitting (lower) on the evaporator (**Figure 10F**).
- Connect the Discharge hose (already connected to condenser), to the **“D”** port of the compressor.
- Attach the Suction hose to the accumulator fitting (**Figure 10B**), and the other end to the **“S”** port of the compressor.

## FINAL STEPS

Take a look around at your installation and check all fittings and bolts for tightness, and make sure nothing is routed in a way to obstruct any moving parts. You can reconnect the battery and re-install the belt at this time.

The new compressor will have a slightly larger pulley than the original compressor. The original belt should fit, however you will want to check to make sure the belt is not too tight. It may be necessary to up size your belt from your local parts retailer.

Your vehicle is now ready to take to your A/C technician for charging process

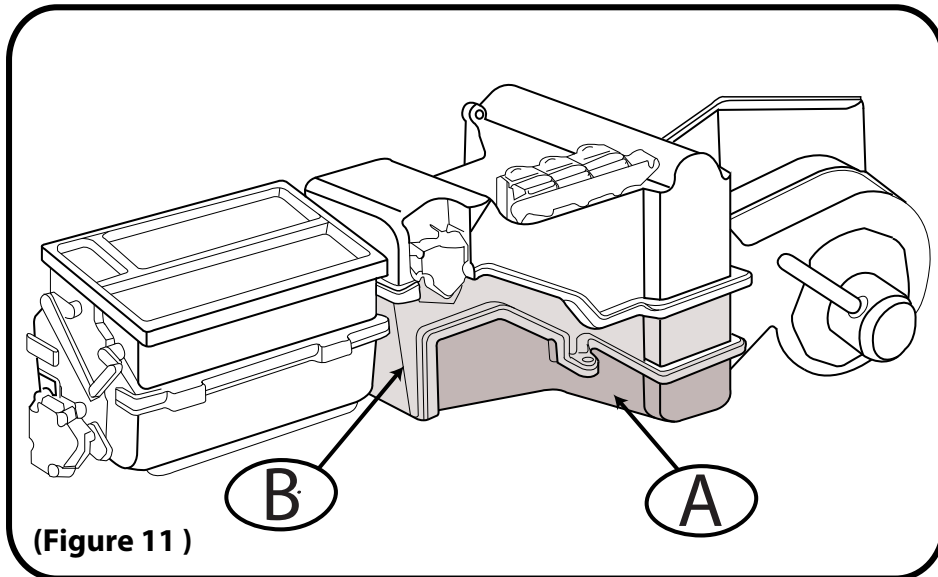
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## ABOUT EVAPORATOR REPLACEMENT

According to the General Motors Service Manual instructions as indicated on the right, the heater and evaporator coils can be replaced simply by removing the two lower access panels on the evaporator/heater plenum inside the dash. Based on our experience, it is highly recommended that you remove the entire unit, which will require at least a partial removal of the dashboard. Depending upon your experience, we estimate that this can take approximately 4-8 hours.

Regardless, we still recommend replacing the evaporator to guarantee a clean, contaminant-free installation and ensure against contaminating newly installed components. At minimum, a thorough flushing of the original evaporator to clean out remaining fluids and contaminants with compressed air, and possibly a liquid flushing agent if heavily contaminated, to ensure proper function and warranty coverage of newly installed components.



(Figure 11 )

### **\*Remove or Disconnect**

1. Battery ground cable.
2. Coolant from radiator.
3. Refrigeration from system.
4. Coolant overflow tank.
5. Heating hoses from the coil tubes.
6. Refrigerant inlet and discharge lines from the evaporator.
7. Electrical connection to the temperature actuator.
8. Heat case bottom plate (Remove the seven screws that hold the bottom cover), **(Figure 11A)**.
9. Heater core.
10. Evaporator core cover (Remove the four screws that hold the cover to the evaporator case), **(Figure 11B)**.
11. Evaporator core (Pull the core out and down from the evaporator case).

### **\*Install or Connect**

1. Evaporator core.
2. Evaporator core cover (install the four screws).
3. Heater core (install the three screws and bracket).
4. Heater assembly bottom plate (install the seven screws).
5. Electrical connection to the temperature activator.
6. Refrigerant inlet and discharge lines to evaporator.

### **\*Tighten**

- Inlet line connection to 41Nm.  
Discharge line connection to 24 Nm.
7. Heater hoses to heater core.
  8. Coolant overflow tank.
  9. Refrigerant to the system (leak test).
  10. Coolant to the radiator.
  11. Battery ground cable.