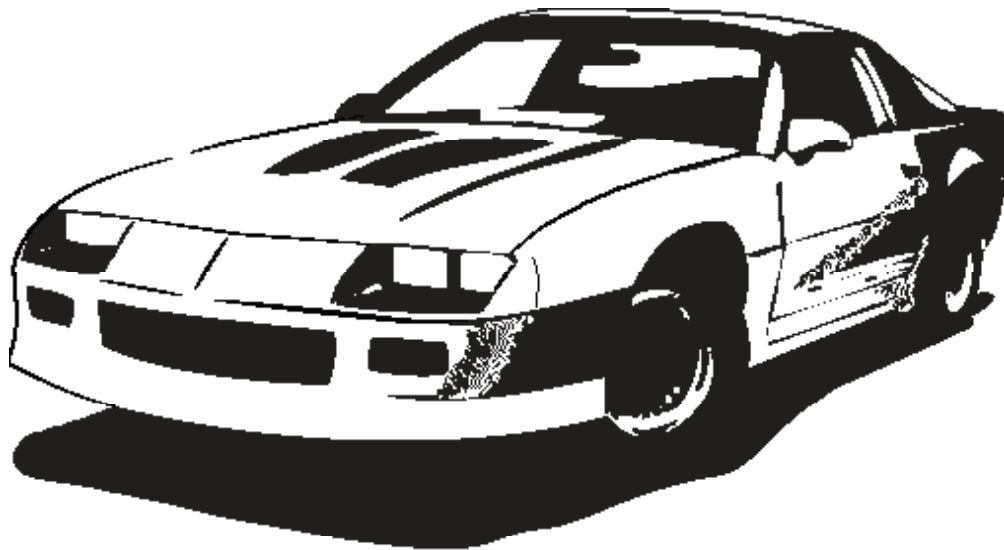




Installation Manual ***1989-1992 Camaro***

Engine Compartment Upgrade Kit - 22-230 & 22-230D Series





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:** 8mm, 13mm, 14mm, 15mm, 17mm Wrenches & Sockets, (A set of metric ratcheting wrenches is suggested for the compressor installation), Magnet (Reach Tool), (2x) Medium Adjustable Wrenches, Flat Screwdriver, Wire cutter w/ crimper, Flat Blade Scraper, Tape or Caps, Schrader valve removal tool, and Spray Adhesive or Contact Cement

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

IMPORTANT NOTES:

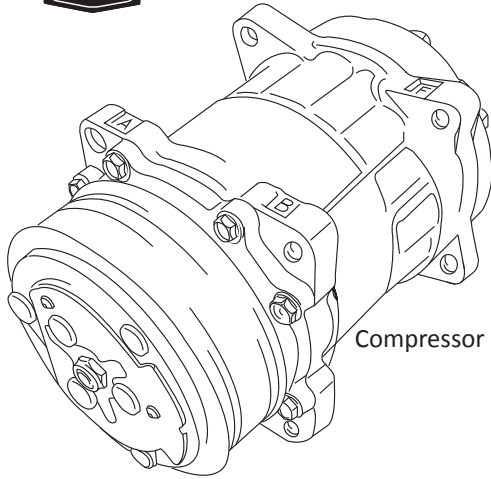
- Use one or two drops of oil (supplied with your kit) on **ALL** O-rings, and threads.
- All capped fittings **MUST** remain covered until actual connection of the fitting to prevent contamination.
- Use two adjustable wrenches on all O-ring connections, these should be tightened to 10-15 ft/lbs which 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!**

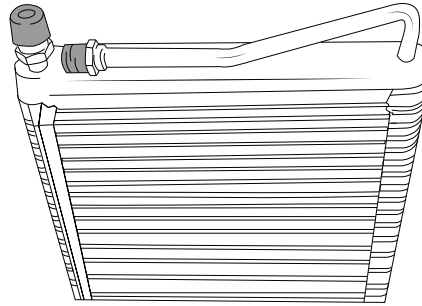
YOU CAN NOW BEGIN THE INSTALLATION...



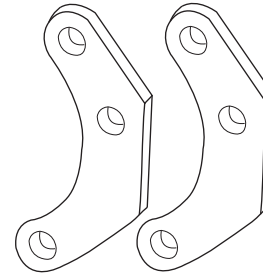
THESE ARE THE PARTS FOR YOUR ENGINE COMPARTMENT UPGRADE KIT



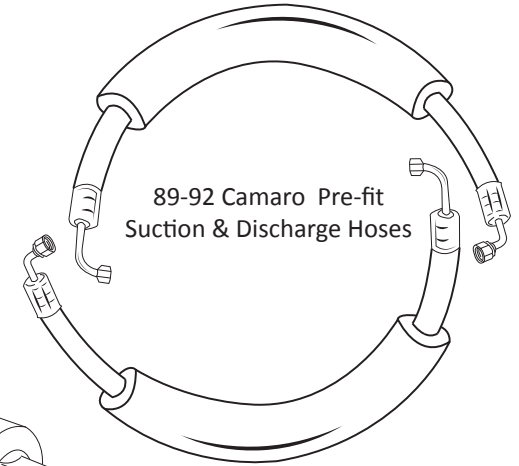
Compressor



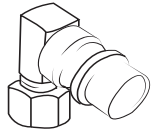
89-92 Camaro Evaporator
(Included with Stage 3 Kit)



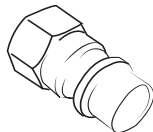
Compressor Brackets
PN# 07-241



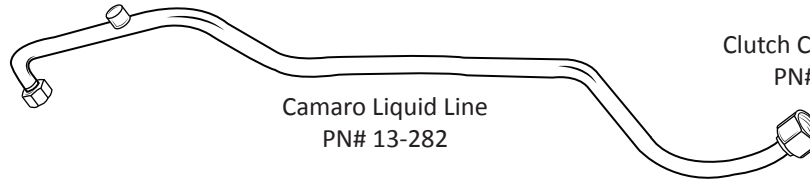
89-92 Camaro Pre-fit
Suction & Discharge Hoses



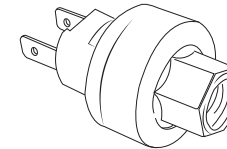
90 Deg.
134a Adapter
PN# 14-123



134a Adapter
PN# 14-122



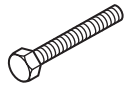
Camaro Liquid Line
PN# 13-282



Clutch Cycling Switch
PN# 16-200



(2x) M10 x 1.50MM
x 40MM Bolts



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



Orifice Tube
PN# 15-210



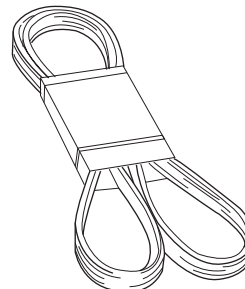
(5x) M10 x 1.50MM
x 35MM Bolts



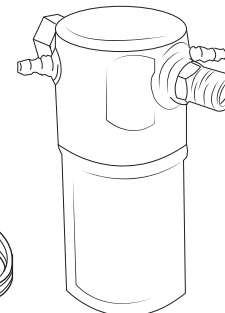
1/8", 9/32", and 11/16"
Compressor Spacers



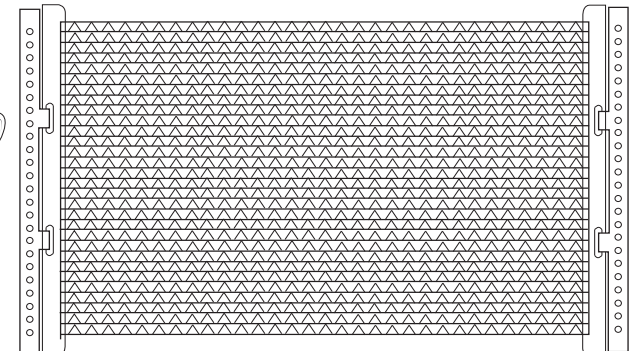
O-Rings and Lubricant Oil
PN# 05-400



Serpentine Belt
PN# 10-200



Accumulator
PN# 12-216



Parallel Flow Condenser
PN# 11-215P



(8x) M10
Lock Washers



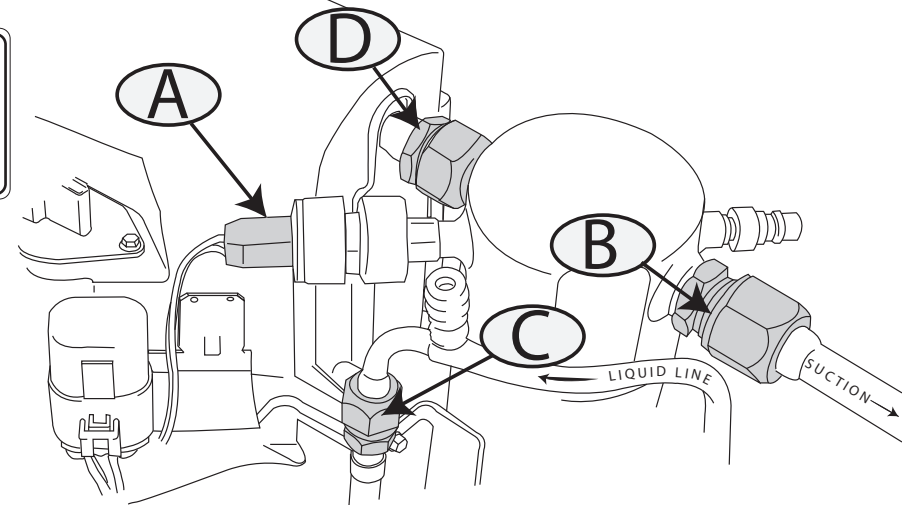
(7x) M10
Hex Nuts

ACCUMULATOR REMOVAL

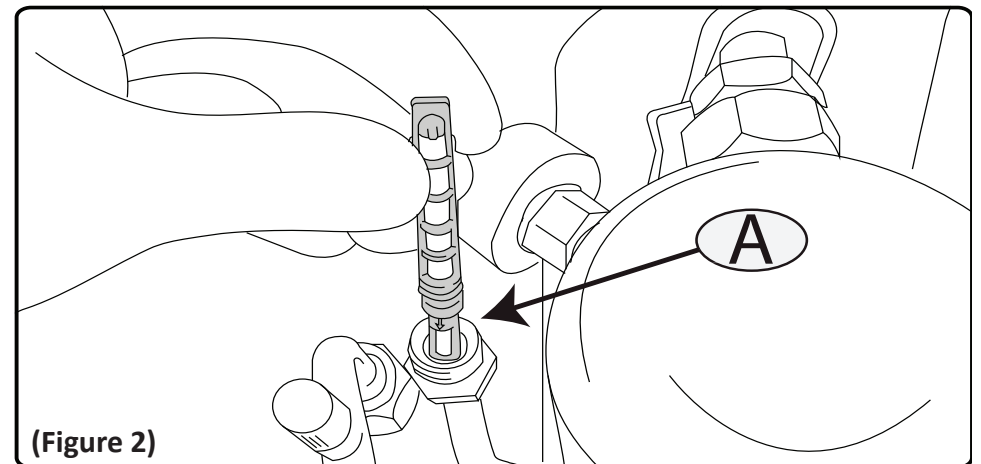
- Disconnect the plug from the pressure cycling switch (**Figure 1A**).
- Disconnect Suction hose from accumulator (**Figure 1B**).
- Disconnect the liquid hose (solid tubing) from the inlet fitting of the evaporator core (**Figure 1C**).
- Once the tubing is disconnected you will see the orifice tube/ filter inside, this part will need to be removed (**Figure 2A**).

Note the orientation of the orifice tube in the evaporator inlet, as the new tube will be installed in the same orientation. There is a tool made for removal of stuck orifice tubes, typically it can be carefully removed with a pair of needle nose pliers.

- The two accumulator brackets can be removed by loosening the two 10mm screws.
- Disconnect the accumulator to evaporator outlet fitting (**Figure 1D**).
- Remove accumulator and retain brackets for re-assembly
- **Cover ends of evaporator fittings with tape to prevent contamination.**



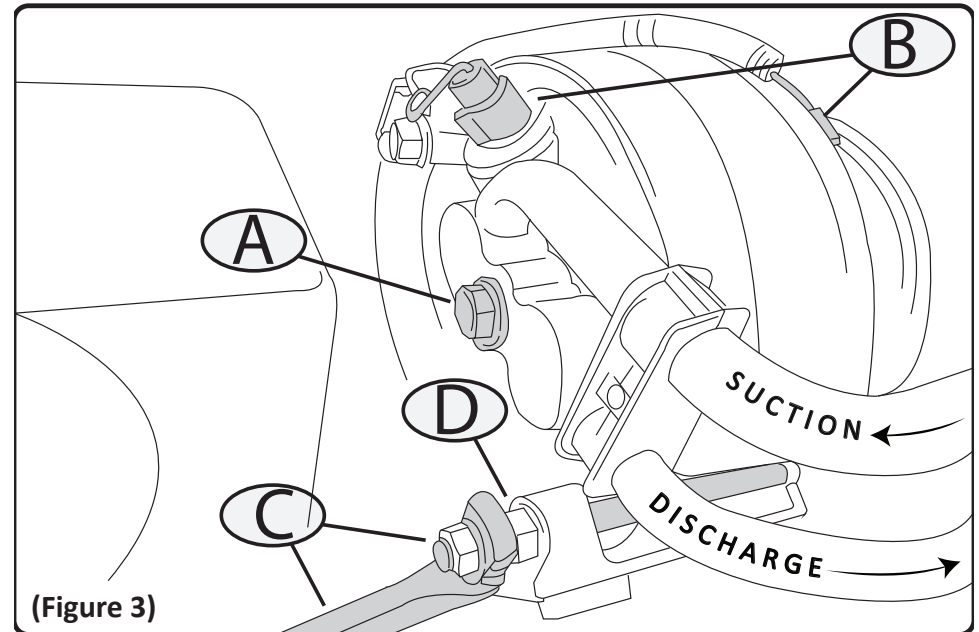
(Figure 1)



(Figure 2)

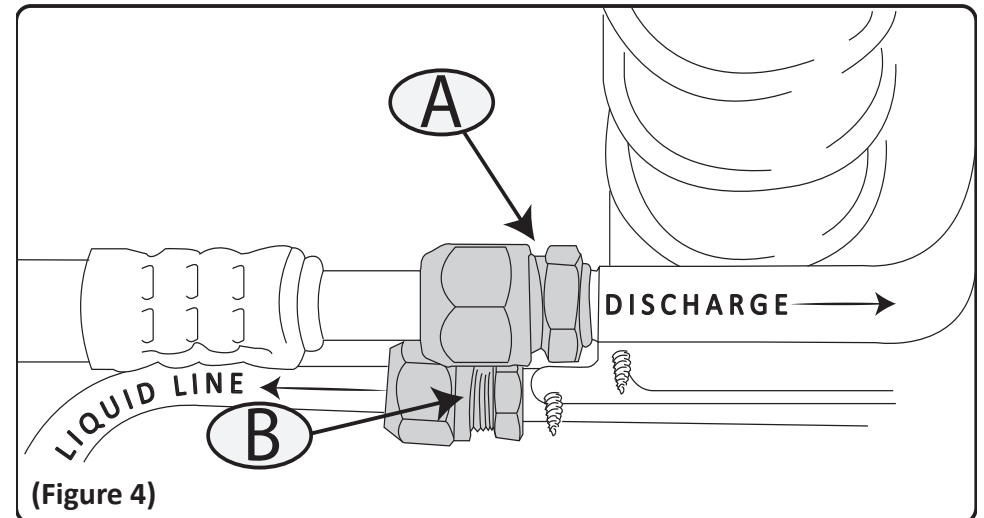
COMPRESSOR REMOVAL

- Remove front & rear electrical plug from compressor, move to side for later connection. **(Figure 3B / Figure 5C)**
- Disconnect Discharge hose, (hose from compressor to condenser) from condenser. **(Figure 4A)**
- Detach hose manifold from rear of OEM compressor, **(Figure 3A)** by removing the 14mm bolt in the center of the manifold. Compressor hose assembly can be removed at this time.
- Remove drive belt by releasing tension of belt tensioner **(Figure 5B)**
- Remove lower brace from rear of compressor and block **(Figure 4C)**
- Remove lower bolt/stud from compressor (threaded into OEM mount) **(Figure 4D)**
- Remove lower compressor bolt (threaded into compressor)
- Remove upper compressor bolt (threaded into OEM mount)
- Remove compressor from OEM mount



CONDENSER/HOSE REMOVAL

- Remove clamp on inner fender well holding lower liquid line, retain for re-assembly. **(Figure 9)**
- Disconnect and remove liquid line from lower connection on condenser. **(Figure 4B)**
- Remove (4x) 10mm upper radiator cover bolts and cover. **(Figure 5A)**
- Remove electric fan wire plug & clamp from underneath car
- Remove (2x) 10mm lower fan shroud bolts
- Carefully slide out electric fan assembly
- Tilt radiator towards engine compartment and carefully remove condenser
- Inspect upper and lower condenser insulator mounts.
- OEM condenser should have two foam cushions on front. Carefully remove cushions with scraper. Retain for re-use.



CONDENSER INSTALLATION

- Because of accessibility, you may consider cleaning the radiator and the radiator support before condenser installation
- **Fitting caps MUST remain on until connection.**
- With new condenser laying flat on shipping cardboard, re-attach foam OEM cushions with spray adhesive or contact cement.
- Carefully insert condenser into lower insulating bushings
- Align upper insulator mounts with condenser and radiator support.
- Tilt radiator back to original position
- Install fan assembly while aligning to condenser mounts
- Install fan assembly hardware in reverse order
- Connect fan wiring to OEM location

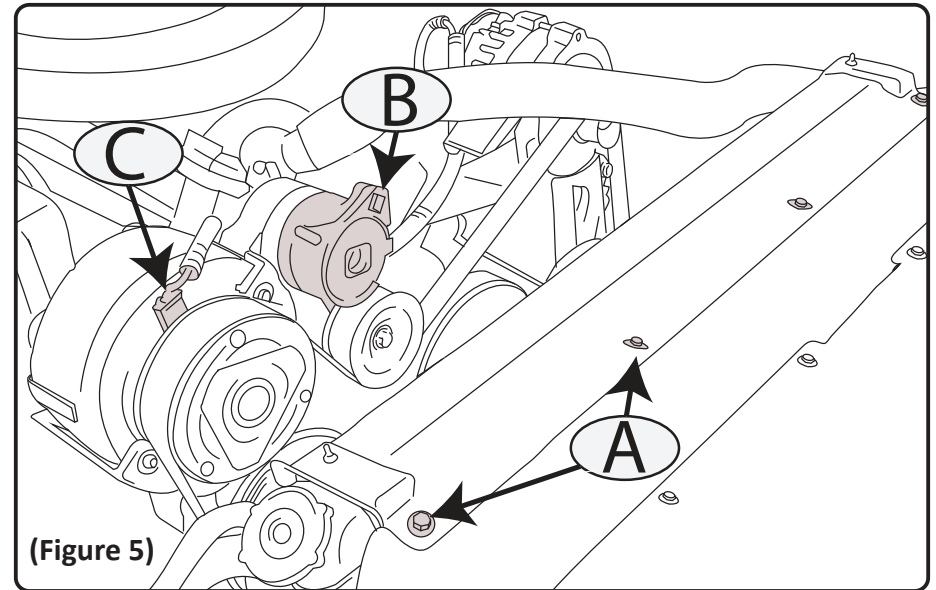


COMPRESSOR INSTALLATION

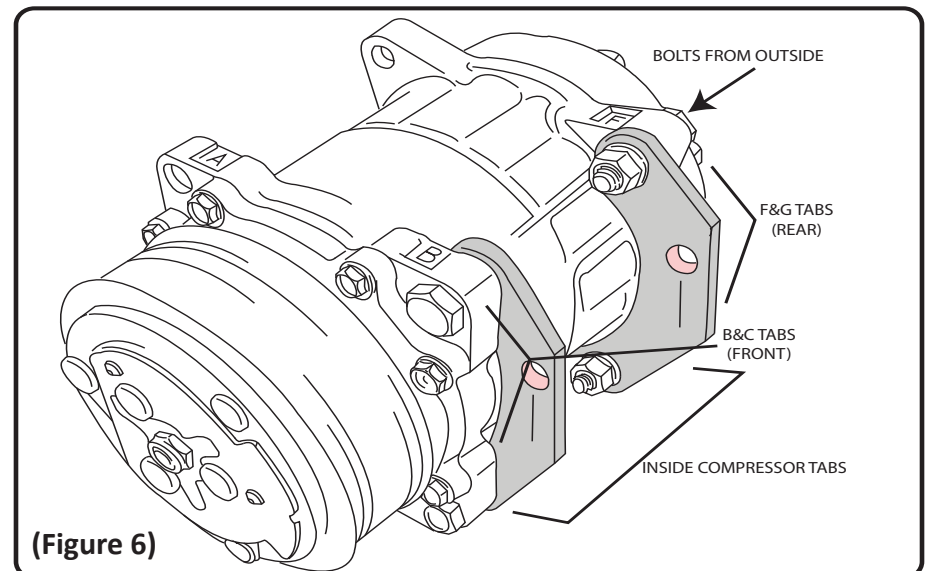
- Using (4x) M10 x 1.50 x 35mm bolts to install supplied brackets to compressor, one bracket will mount inward on B&C tabs of compressor.
- The second bracket will mount inward on the F&G tabs of the compressor. **(Figure 6)**

Mount holes will be towards top of assembly. (Figure 6)

- Thread the M10 x 1.50 x 40MM bolt completely into the front of the lower front of the OEM mount, tighten securely. Next slide the 1/8" spacer on to this bolt. **(Figure 7A)**
- Secure the compressor on the exposed bolt **(Figure 7A)**. Loosely Secure with a nut and lock washer.
- Insert the M10 x 1.50 x 50mm bolt through the lower rear OEM mount. **(Figure 7B)**. As the bolt passed through insert the 9/32" spacer, Loosely secure with a nut and lock washer



(Figure 5)



(Figure 6)



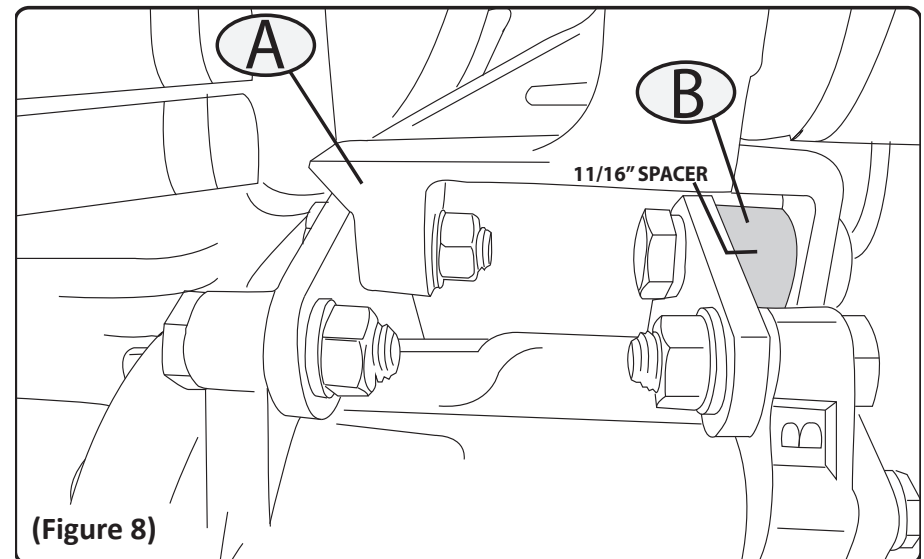
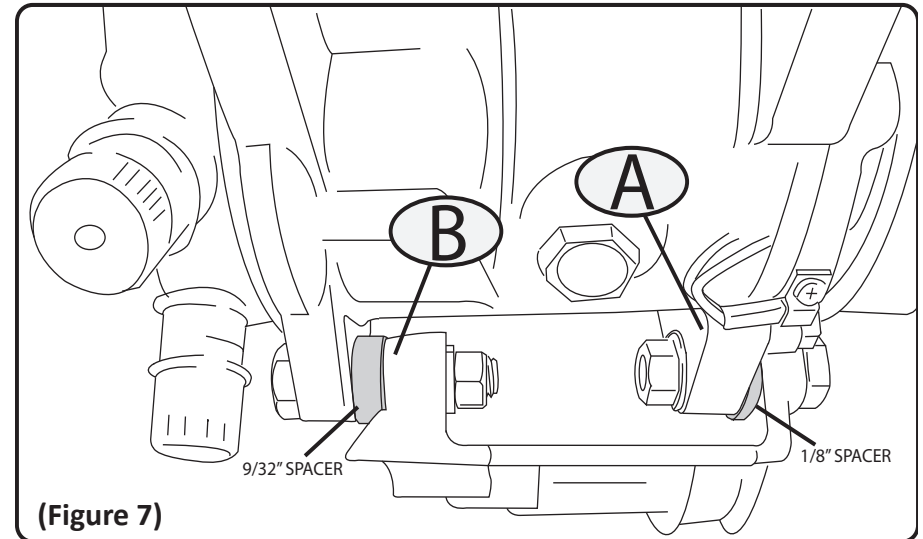
COMPRESSOR INSTALLATION CONT.

- 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 11/16 spacer, (**Figure 8B**) 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 8A**).
- You will need to tighten all of the compressor hardware
- 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.

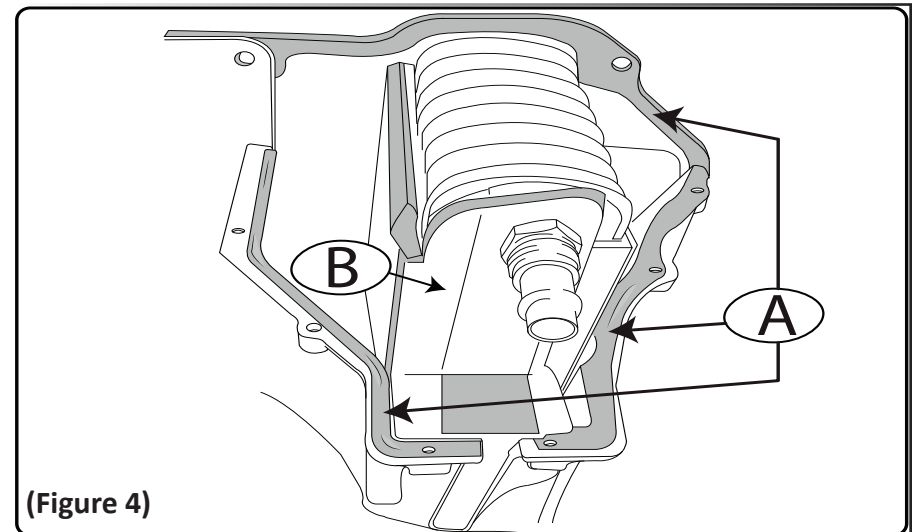
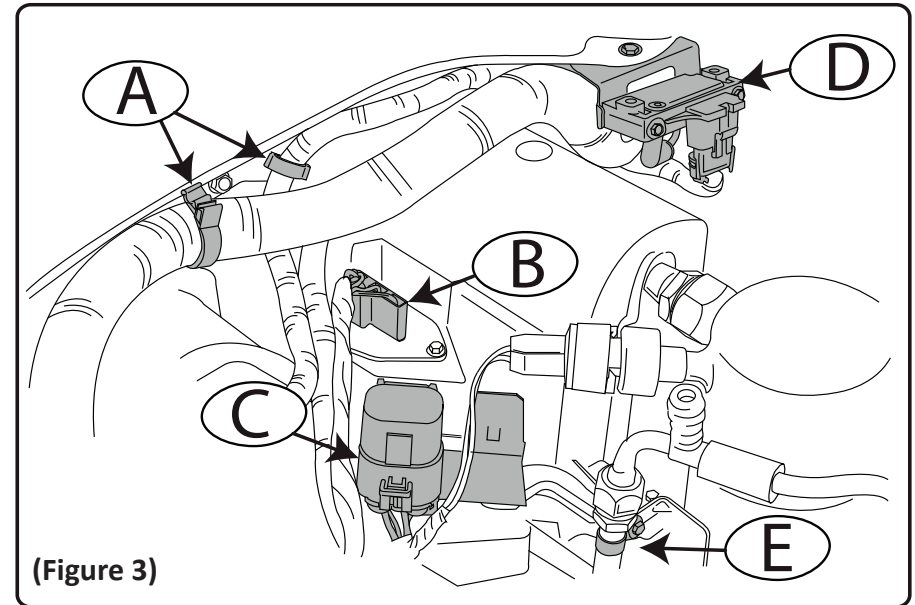
READ BEFORE PROCEEDING

If you purchased the Stage 3 kit (with evaporator), the next steps pertain to your installation. If you did not, please proceed to "Accumulator Installation" on page 10. Remember to properly flush if re-using original evaporator.



EVAPORATOR REMOVAL

- There will be two wiring harnesses (1 Large & 1 Small) that are clipped across the top of the case (**Figure 3A**). The clips can be opened and the harnesses pushed to the rear for clearance.
- Now remove the plug from the blower relay (**Figure 3B**) from side of case and move to side for clearance.
- Remove resistor with resistor assembly (**Figure 3C**) from side of case and move to side for clearance.
- Remove MAP sensor assembly (**Figure 3D**) from firewall and move to side for clearance.
- Remove the 7mm screw holding the external evaporator bracket on the inlet fitting (**Figure 3E**).
- Now the evaporator case can be opened. There will be (2x) 10mm screws holding the case top to the firewall and (6x) 7mm screws attaching the top of the case to the lower case. Remove the case top carefully as there is a foam seal on the firewall and between the cover and lower case. These seals will need to be re-used. (**Figure 4A**)
- Carefully slide the core out while taking care not to damage attached seals. (**Figure 4A / 4B**)
- Clean the inside of the evaporator case of debris.
- Carefully remove and clean the evaporator seal with a scraper so that it can be re-attached to the new core. (**Figure 4B / 5A**)



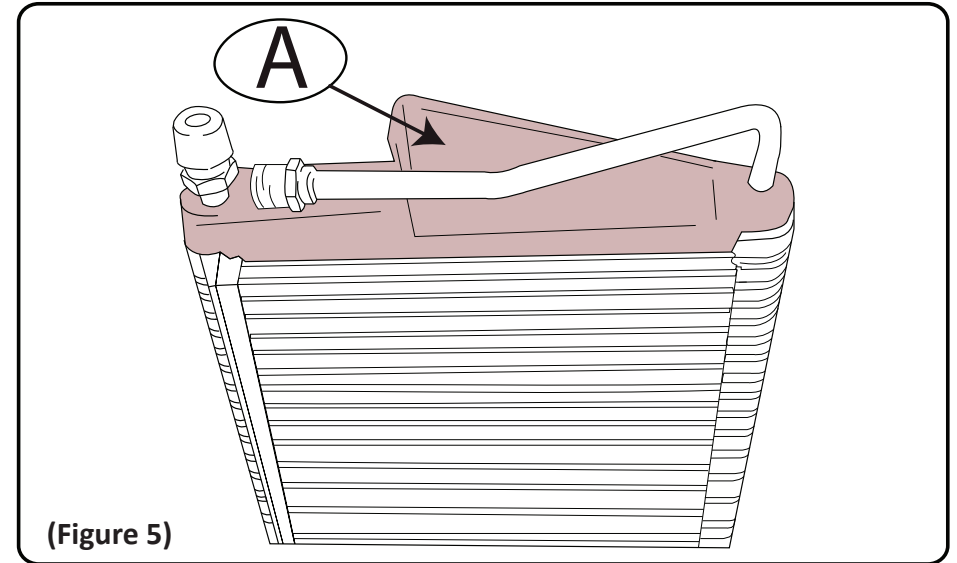


EVAPORATOR INSTALLATION

- You will need to attach the cleaned core seal to the new evaporator with Spray Adhesive/Contact Cement. It will need to hold the seal in place until it is secured in the evaporator case. **(Figure 5A)**
- If any of the case seals were torn during removal, they need to be secured at this time with the Spray Adhesive/Contact Cement.
- Carefully slide the new core into the case.
- Replace case cover, resistor assembly, relay brackets, and harness clips in reverse order.
- Re-attach small evaporator inlet connection clamp to housing **(Figure 3E)**.

ACCUMULATOR INSTALLATION

- Slide the new accumulator into the brackets, but do not tighten screws until evaporator connection is complete.
- Tighten the two accumulator bracket screws. (Outlet fitting of accumulator will be attached to suction hose in a later step)
- Screw provided pressure cycling switch into the port on the top of the accumulator.
- Plug the pressure cycling switch harness onto the installed switch. **(Figure 1A)**



ORIFICE TUBE/FILTER

- Install new orifice tube into evaporator inlet fitting with **lubricated O-rings, (Figure 2A)**.



R134a ADAPTER INSTALLATION

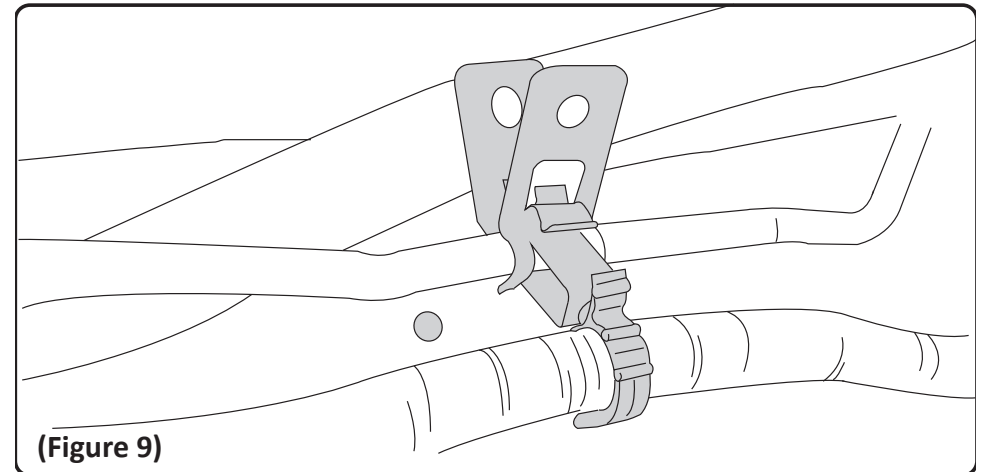
- Screw the adapter onto the R12 port on the front of the accumulator. **(Figure 10A)**
- With a Schrader valve removal tool, remove the Schrader valve from the liquid line. It will not be used with the 90 adapter. **(Figure 11A)**
- Screw the 90 degree 134a adapter onto the R12 port on the liquid line. **(Figure 11A)**

HOSE/LINE CONNECTION

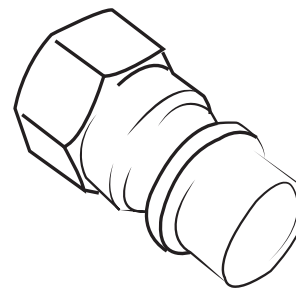
- Place liquid line (hard line) into factory location.
- Loosely attach fender well clamp to the liquid line, **(Figure 9)**
- Connect liquid line to evaporator inlet fitting (location of orifice tube) and connect the other end to the condenser inlet fitting.
- Tighten fender well clamp on liquid line
- Attach the Suction hose to the accumulator fitting and the other end to the “S” port of the compressor.
- Attach the Discharge hose the “D” port of the compressor and the other end to the inlet fitting of the condenser.

FINAL STEPS

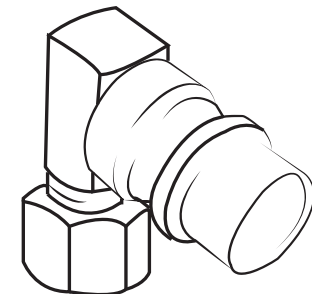
Take a look around at your installation and check all fittings and bolts for tightness, and make sure nothing is routed in a way to obstruct any moving parts. You can reconnect the battery and re-install the belt at this time.



(Figure 9)



(Figure 10)



(Figure 11)

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