INSTALLATION INSTRUCTIONS FOR
1963-67 CORVETTE

PASSENGER SIDE SANDEN COMPRESSOR
(55063-VCZ-A)
1963-67 CORVETTE

IMPORTANT NOTICE - PLEASE READ
FOR MAXIMUM SYSTEM PERFORMANCE
VINTAGE AIR RECOMMENDS THE FOLLOWING:

- 18" HEAVY DUTY CLUTCH FAN BLADE 32518-YUF
- FAN SHROUD: 32063-VCF '63-'65 CORVETTE
- FAN SHROUD: 32066-VCF '66-'67 CORVETTE
- AUX CONDENSER FAN PACKAGE: 32666-VCF '63-'67 CORVETTE

SAFETY SWITCHES:
YOUR VINTAGE AIR CORVETTE SYSTEM INCLUDES A BINARY COMRESSOR SWITCH.
THE BINARY SWITCH (PART # 11078-YUS) DISENGAGES THE COMPRESSOR
CLUTCH IN CASE OF EXTREME LOW PRESSURE CONDITION
(REFRIGERANT LOSS) OR EXCESSIVELY HIGH
HEAD PRESSURE (380 LBS.), TO PREVENT COMPRESSOR DAMAGE OR HOSE
RUPTURE. A TRINARY SWITCH (YA. PART # 11076-YUS) COMBINES HI/LO PRESSURE
PROTECTION WITH AN ELECTRIC FAN OPERATION SIGNAL AT 220 LBS.
COMPRESSOR SAFETY SWITCHES ARE EXTREMELY IMPORTANT SINCE AN A/C
SYSTEM RELIES ON REFRIGERANT TO CARRY LUBRICATION THROUGH THE SYSTEM.

SERVICE INFO:
EVACUATE THE SYSTEM FOR 35-45 MINUTES WITH
SYSTEM COMPONENTS (DRIER, COMPRESSOR, EVAPORATOR
AND CONDENSER) AT A TEMPERATURE OF AT LEAST 85° F.
ON A COOL DAY THE COMPONENTS CAN BE HEATED
WITH A HEAT GUN OR BY RUNNING THE ENGINE WITH
THE HEATER ON BEFORE EVACUATING.

LEAK CHECK AND CHARGE TO SPECIFICATIONS.

THE PROPER AMOUNT OF REFRIGERANT IS CRITICAL TO PROPER SYSTEM OPERATION. VINTAGE
AIR RECOMMENDS OUR SYSTEMS BE CHARGED BY WEIGHT WITH A QUALITY CHARGING STATION
OR SCALE.

REFRIGERANT CAPACITIES:

134a SYSTEM
• CHARGE WITH 1.8 LBS. OF REFRIGERANT

R-12 SYSTEM
• CHARGE WITH 2.0 LBS. OF REFRIGERANT

LUBRICANT CAPACITIES:
• NEW COMPRESSOR - NO ADDITIONAL OIL NEEDED.
• USED COMPRESSOR - CONSULT VINTAGE AIR
INSTALLATION INSTRUCTIONS FOR

BEFORE STARTING THE AIR CONDITIONER INSTALLATION, CHECK FOR PROPER OPERATION OF ALL COMPONENTS (RADIO, LIGHTS, WIPERS, ETC.). STUDY THE INSTRUCTIONS, ILLUSTRATIONS AND DIAGRAMS. FOR EASE OF INSTALLATION CHECK OFF (√) EACH PROCEDURE PRIOR TO MOVING ON TO THE NEXT STEP.

ENGINE COMPARTMENT

REMOVE THE FOLLOWING:

1. HOOD FOR EASE OF INSTALLATION
2. BATTERY FOR ACCESS, IF MOUNTED ON PASSENGER SIDE. IF MOUNTED ON DRIVER SIDE, DISCONNECT (-) NEGATIVE TERMINAL.
3. O.E.M. HEATER COVER
4. O.E.M. EXPANSION TANK

FIGURE 1

PASSenger COMPARTMENT

REMOVE THE FOLLOWING:

1. GLOVE BOX, DOOR AND MOUNTING PANEL (RETAIIN).
2. RIGHT AND LEFT SIDE CONSOLE PANELS.
3. HEAT DISTRIBUTION DUCTS.
4. O.E.M. HEATER.
5. DEFOST DUCT.
6. O.E.M. HEATER CABLES (RETAIIN) (SEE FIGURE 3).

NOTE: REPLACEMENT SWITCH/CABLE ASSEMBLY AVAILABLE FROM VINTAGE AIR.

FIGURE 3

FIGURE 2

FIGURE 4
• REMOVE AND REASSEMBLE HOOD RELEASE HANDLE AND BRACKET WITH SUPPLIED SPACERS (RETAIN). (SEE FIGURE 4). MAY NEED TO REPOSITION INWARD. (USE FACTORY HOLES).

• INSTALL THE NEW DEFROSTER DUCT IN THE ORIGINAL LOCATION USING OEM NUTS. SEE FIGURE 6.

• ATTACH LEFT SIDE OEM CABLE TO A/C HEAT DOOR AND SECURE AS SHOWN IN FIGURE 7.

• ATTACH RIGHT SIDE OEM CABLE TO DEFROST DOOR AND SECURE AS SHOWN IN FIGURE 8.

• THE EVAPORATOR IS INSTALLED BEHIND THE GLOVE BOX ON THE PASSENGER SIDE.

• LIFT THE UNIT INTO PLACE AND ATTACH THE BLOWER HOUSING BRACKET TO THE OEM GLOVE BOX HINGE USING THE OEM BOLT. (SEE FIGURE 5).

• SECURE THE EVAPORATOR UNIT TO THE FIREWALL BY INSTALLING ONE 1/4" x 1" BOLT AND WASHER (FROM ENGINE SIDE). SEE FIGURE 9.

• DRILL A 5/8" HOLE 3" BELOW THE FIREWALL COVER AND IN-LINE WITH THE DRAIN TUBE IN THE BOTTOM OF THE UNIT. INSERT THE 1/2" DRAIN HOSE THRU THE FIREWALL AND ATTACH TO DRAIN TUBE ON UNIT. (SEE FIGURE 5).

• RE-ATTACH CABLES TO UPPER CONSOLE. (SEE FIGURE 5).
• Attach driver side and passenger side round louvers as shown in Figures 1, 2, 3 & 4. Use screws supplied. (If car is a standard shift, depress the clutch pedal in order to install louvers).

• Stretch duct hoses out to maximum length and cut to sizes shown. Route all duct hoses and attach to vents and units.

Note: With unit in place, stretch the duct hoses tightly to their corresponding outlets on the unit and recheck the lengths. Ensure that the hose is pulled tightly with a minimum of kinks or sharp bends. This will ensure maximum air flow.

Driver's side: 2-1/2" x 18"
Passenger's side: 2-1/2" x 56"
Driver's console: 2" x 16"
Passenger's console: 2" x 8"
Defrost duct: 2-1/2" x 8"

• Check duct hoses for clearance with wiper arms.

• Attach console side ducts - See Figure 14. If vehicle is equipped with an electric antenna, cut hole in console side and attach switch in OEM location.
**Engine Compartment & Condenser Brackets 1963-65 Corvette Only**

- Install fresh air cover. See Figure 17.

- Mount condenser assembly to front side of radiator support using two OEM bolts from upper radiator mount and two OEM bolts from bottom of support rods. (Remove top 2 OEM bolts, loosen lower two OEM bolts). See Figure 15. (Attach brackets per instructions below).

- Attach compressor bracket to engine using instructions and hardware included with bracket. Position compressor so that the outlet fittings are directed toward the passenger side inner fender. See Figure 16.

- Install fan belt and adjust tension. (Customer supplied).

- Check belt for clearance at inner fender, A-frame and lower radiator hose.

*Figure 15*

*Figure 16*

Attach 1963-65 Corvette Condenser Brackets as follows:

- Refer to the condenser view in Figure 15. "Right" and "left" here pertain to viewing the condenser from the front.

- For the passenger side, find the left-most hole which corresponds to the year of the car for which the installation is being performed, and align this hole with the left-most hole on the condenser.

- For the driver side, find the right-most hole which corresponds to the year of the car for which the installation is being performed, and align this hole with the right-most hole on the condenser. (Note: Driver-side bracket and hole positions are not mirror images of passenger side. Make sure to refer to correct detail in Figure 15.) Check distance between slots.

*Figure 17*
ENGINE COMPARTMENT & CONDENSER BRACKETS 1966-67 CORVETTE ONLY

- Install fresh air cover. See Figure 20.

- Mount condenser assembly to front side of radiator support using two OEM bolts from upper radiator mount and two OEM bolts from bottom of support rods. (Remove top 2 OEM bolts, loosen lower two OEM bolts). See Figure 18. Remove radiator & fan shroud bolts. Raise radiator 1" to 1-1/2" for access to lower bolts.
  (Attach brackets per instructions below).

- Attach compressor bracket to engine using instructions and hardware included with bracket kit. Position compressor so that the outlet fittings are directed toward the passenger side inner fender. Tabs "A" & "E" are up. See Figure 19.

- Install fan belt and adjust tension. (Big block uses middle groove).

- Check belt for clearance at inner fender, a-frame and lower radiator hose.

ATTACH 1966-67 CORVETTE CONDENSER BRACKETS AS FOLLOWS:
- Refer to the condenser view in Figure 15. "Right" and "Left" here pertain to viewing the condenser from the front.
- For the passenger side, find the left-most hole which corresponds to the year of the car for which the installation is being performed, and align this hole with the left-most hole on the condenser.
- For the driver side, find the right-most hole which corresponds to the year of the car for which the installation in being performed, and align this hole with the right-most hole on the condenser. (Note: Driver-side bracket and hole positions are NOT mirror images of passenger side. Make sure to refer to correct detail in Figure 18.) Check distance between slots.

ENGINE COMPARTMENT 1966-67 CORVETTE ONLY CONTINUED ON PAGE 7.
REFRIGERATION HOSE ROUTING 1963-65 CORVETTE ONLY

- LUBRICATE O’RINGS AND FITTINGS AND ATTACH THE #8 HARDLINE TO THE UPPER CONDENSER OUTLET. SEE FIGURE 21.


![Diagram of the 1963-65 Corvette hardline assembly.](image)

- ROUTE #6 AND #10 A/C HOSES AND HEATER HOSES THROUGH FIREWALL COVER BEFORE ATTACHING HOSES TO EVAPORATOR. SEE FIGURE 22.

![Diagram showing hose routing.](image)

- LUBRICATE O’RINGS AND FITTINGS AND ATTACH #6 AND #10 A/C HOSES TO THE EVAPORATOR. (#6 #90° FEMALE O’RING FITTING AND #10 STRAIGHT FEMALE O’RING FITTING TO THE EVAPORATOR.) SEE FIGURE 24 & FIGURE 25. ATTACH HEATER HOSES TO THE EVAPORATOR. SEE FIGURE 24.

![Diagram showing hose connections.](image)


![Diagram showing wrap-around connections.](image)

1963-65 CORVETTE ONLY CONTINUED ON PAGE 8.
REFRIGERATION HOSE ROUTING 1966-67 CORVETTE ONLY

- LUBRICATE O’RINGS AND FITTINGS AND ATTACH THE #8 HARDLINE TO THE UPPER CONDENSER OUTLET AND ROUTE OVER PASSENGER SIDE OF CORE SUPPORT. SEE FIGURE 26.


![Diagram of refrigeration hose routing](image)

- ROUTE THE #6 AND #10 A/C HOSES AND HEATER HOSES THROUGH THE FIREWALL COVER, BEFORE ATTACHING HOSES TO THE EVAPORATOR. (SEE FIGURE 27).

![Diagram of hose routing through firewall](image)

- LUBRICATE O’RINGS AND FITTINGS AND ATTACH #6 AND #10 A/C HOSES TO THE EVAPORATOR. (#6 90° FEMALE O’RING FITTING AND #10 STRAIGHT FEMALE O’RING FITTING TO THE EVAPORATOR.) SEE FIGURE 28 & FIGURE 30. ATTACH HEATER HOSES TO THE EVAPORATOR. SEE FIGURE 28.

![Diagram of hose fittings](image)


![Diagram of wrapping fittings](image)

FIGURE 28

FIGURE 29

FIGURE 30

**REFRIGERATION HOSE ROUTING 1963-65 CORVETTE ONLY**

- Lubricate O' rings and fittings and attach the #10 suction hose to the compressor (1/2" I.D. hose 35° long, 135° female O' ring on compressor end and straight on evaporator end). See Figure 31.

- Lubricate O' rings and fittings and attach #8 discharge hose (90° female O' ring on compressor end and straight female O' ring to #8 hardline from condenser). See Figure 31.

- Lubricate O' rings and fittings and attach the #6 liquid hose to #6 hardline at fenderwell and to evaporator (5/16" I.D. hose 26" long with 90° female O' ring fitting on each end). See Figure 31.

Install binary switch on #6 T-spline as shown in Figure 32.

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**FIGURE 31**

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**FIGURE 32**

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* Attach Adel clamps to #6 hardline. See Figure 31.

* After all evaporator connections are secure, attach firewall cover to firewall using (4) 1/4" x 1" bolts, washers, and nuts provided.
A/C HOSE KIT INSTALLATION 1966-67 CORVETTE ONLY

1. Lubricate O-rings and fittings and attach the #10 suction hose to the compressor (1/2" I.D. hose 35" long, 135° female O-ring on compressor end and straight on evaporator end). See Figure 33.

2. Lubricate O-rings and fittings and attach #8 discharge hose (90° female O-ring on compressor end and straight female O-ring to #8 hardline from condenser). See Figure 39.

3. Lubricate O-rings and fittings and attach the #6 liquid hose to #6 hardline at fenderwell and to evaporator (5/16" I.D. hose 26" long with 90° female O-ring fitting on each end). See Figure 30.

Install binary switch on #6 T-splice as shown in Figure 34.

* After all evaporator connections are secure, attach firewall cover to firewall using (4) 1/4" x 1" bolts, washers, and nuts provided.
HEATER HOSE ROUTING

IMPORTANT - DO NOT OVER TIGHTEN FITTINGS AND CLAMPS!

RED POWER WIRE (TO BATT. +)

ENGINE VACUUM HOSE

BLUE WIRE FROM THERMOSTAT TO BINARY SWITCH

FIREWALL COVER

ROUTE BEHIND BATT. & EXPANSION TANK AS NECESSARY

EXPANSION TANK (SMALL BLOCK)

5/8" HEATER HOSE FROM HEATER CORE

3/4" HEATER HOSE

EXPANSION TANK

HEATER HOSE TEE 3/4" - 5/8"

3/4" HEATER HOSE TO WATER PUMP

5/8" HEATER HOSE TO WATER PUMP

5/8" HEATER HOSE FROM HEATER CORE

3/4" HOSE TO 5/8" REDUCER

3/4" TO 5/8" REDUCER

5/8" HEATER HOSE

RETURN TO WATER PUMP

FROM INTAKE MANIFOLD

SMALL BLOCK ← or → BIG BLOCK
OPERATION OF CONTROLS

OFF - BOTH KNOBS IN.
ROTATE FAN SPEED SWITCH TO FULL COUNTER-CLOCKWISE POSITION.

FOR A/C - PUSH BOTH KNOBS IN. ROTATE FAN SPEED SWITCH CLOKKWISE TO LOW, MEDIUM, OR HIGH.

FOR HEAT - PULL BLOWER SWITCH OUT. ROTATE FAN SPEED SWITCH CLOKKWISE TO LOW, MEDIUM, OR HIGH.

FOR DEFROST - PULL BLOWER SWITCH OUT. ROTATE FAN SPEED SWITCH CLOKKWISE TO LOW, MEDIUM, OR HIGH. PULL HEAT/DEFROST KNOB OUT.

NOTE: WHEN IN DEFROST MODE POSITION TURN THERMOSTAT KNOB FULL COUNTER-CLOCKWISE AND THEN CLOCKWISE 1/8 TURN OR UNTIL THERMOSTAT CLICKS ON. THIS WILL GIVE OPTIMUM DEFROST PERFORMANCE.

NOTE: REPLACEMENT FAN BLOWER SWITCH/CABLE AVAILABLE FROM VINTAGE AIR IF ORIGINAL SWITCH/CABLE ASSEMBLY IS NOT FUNCTIONAL.
A/C THERMOSTAT ADJUSTMENTS:

1.) SYMPTOM: THE A/C WORKS WELL AT FIRST THEN QUILTS COOLING. THE AIR FLOW FROM THE VENTS IS LOW, AND THE COMRESSOR CLUTCH CYCLES INFREQUENTLY.

SOLUTION: THE THERMOSTAT IS SET TOO COLD AND THE EVAPORATOR IS "ICING UP" AND RESTRICTING AIR FLOW. ALLOW THE ICE TO MELT AND SET THE ROTARY TYPE THERMOSTAT WARMER (COUNTER CLOCKWISE) 1/8 OF A TURN EACH ADJUSTMENT, UNTIL THE DESIRED AIR TEMPERATURE IS REACHED. ADJUST THE SLIDE TYPE THERMOSTAT IN 1/8" INCYRMENTS TOWARDS COLDER UNTIL THE SYMPTOMS DIMINISH.

2.) SYMPTOM: A/C NEVER GETS COLD, AND THE COMRESSOR CLUTCH CYCLES FREQUENTLY.

SOLUTION: THE THERMOSTAT IS SET TOO WARM. SET THE ROTARY TYPE THERMOSTAT COLDER (CLOCKWISE) 1/8 OF A TURN EACH ADJUSTMENT, UNTIL THE DESIRED AIR TEMPERATURE IS REACHED. ADJUST THE SLIDE TYPE THERMOSTAT IN 1/8" INCYRMENTS TOWARDS COLDER UNTIL THE DESIRED AIR TEMP IS REACHED AVOID SETTING THE THERMOSTAT TOO COLD.

3.) SYMPTOM: THE A/C NEVER GETS COLD, SOMETIMES EVEN BLOWS HOT, AND THE A/C COMPRESSOR CLUTCH CYCLES INFREQUENTLY.


IF THE HOSES ARE HOT ....

A) THE HEATER CONTROL VALVE MAY BE INSTALLED BACKWARDS. CHECK THE FLOW DIRECTION ARROW ON THE VALVE AGAINST THE ILLUSTRATION IN YOUR INSTALLATION INSTRUCTIONS.

B) IF CABLE OPERATED: THE VALVE MAY BE MISADJUSTED.

C) IF VACUUM OPERATED: IT MAY BE GETTING VACUUM AT ALL TIMES (CHECK ELECTRIC SOLENOID).

D) THE HEATER CONTROL VALVE MAY BE INSTALLED IN THE WRONG HOSE. IT MUST BE INSTALLED IN THE HOSE COMING FROM THE INTAKE MANIFOLD ENGINE COOLANT PRESSURE PORT.
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CHECKED BY: ____________________  PACKED BY: ____________________  DATE: ____________________