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Service Manuals

REFRIGERATION

VENDOR GROUP I
VENDOR GROUP II

4

c o n t e n t s

4

HOW THE REFRIGERATION SYSTEM WORKS

INTRODUCTION

The refrigeration system in your Cavalier Vendor is the result of extensive engineering and testing under laboratory and field conditions to furnish the finest performance with trouble free service for many years. These systems are produced under specialized production techniques using the finest component parts available. Each system has been specifically designed and tailored to meet the individual application. In order that a sound basic knowledge be acquired on the principals of refrigeration and function of the component parts, the information in this manual has been prepared.

REFRIGERATION CYCLE

(Reference Figure 1)

While refrigeration is the process of transferring or removing heat, resulting in a temperature below that of the surrounding environment, the maintenance of the correct temperature in a refrigerated compartment is dependent upon the intermittent circulation and evaporation of refrigerant in the Evaporator. This is done as follows:

The Compressor Motor is started when the temperature rises above a predetermined level. This is accomplished by means of a Thermostatic Control which has a heat sensitive element located on the Evaporator. The Compressor pumps the heat-laden gas out of the Evaporator through the Suction Line and into the Compressor. The low pressure gas is then compressed by the piston and forced through the discharge valve into the Condenser.

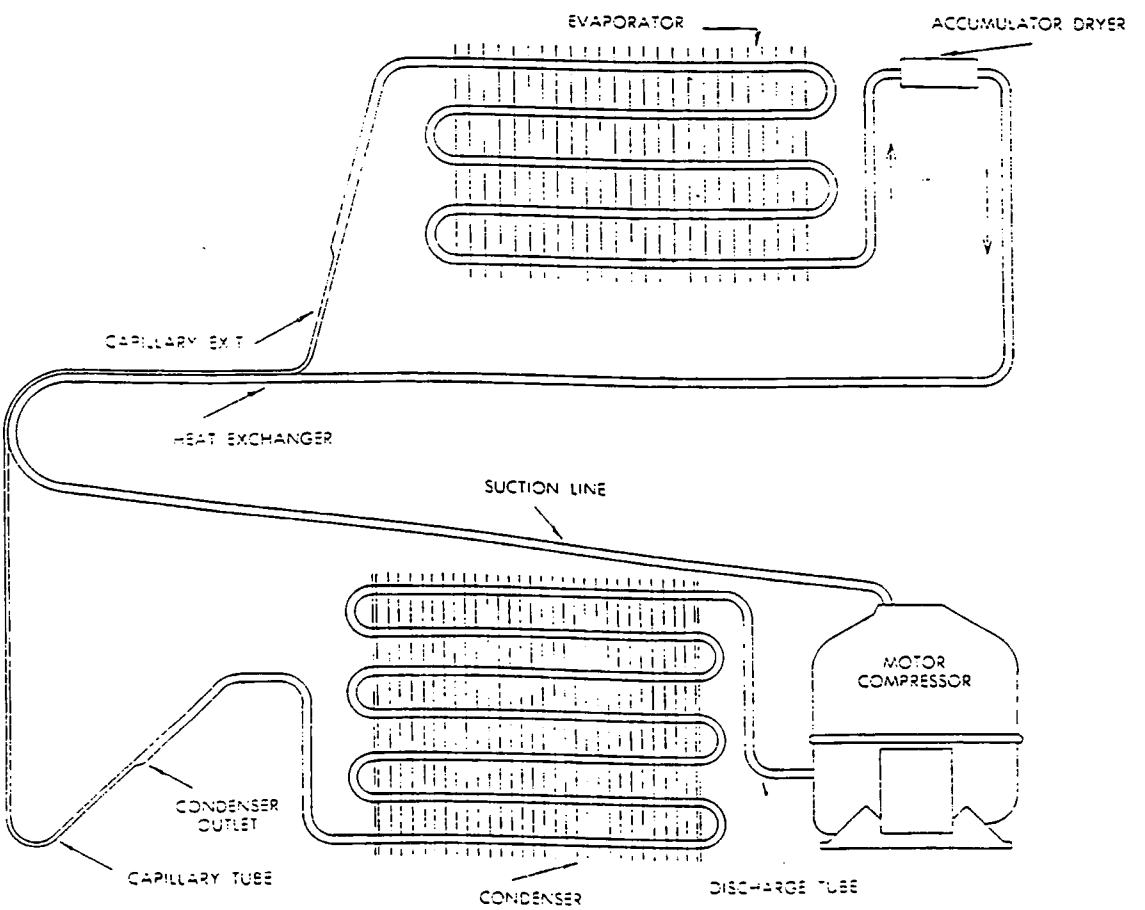


Figure 1. SCHEMATIC REFRIGERATION CYCLE

REFRIGERATION CYCLE (Cont.)

The part of the system from the Capillary Exit to the discharge valve in the Compressor is called the low pressure side. That part of the system extending from the discharge valve, through the Condenser and Capillary Tube up to the Capillary Tube Exit is called the high pressure side.

As the high pressure vapor leaves the Compressor and enters the Condenser the higher temperature vapor loses its heat to the air by means of radiating fins forming part of the Condenser. The result is that the high pressure vapor is converted into liquid refrigerant, which is pumped through the Capillary Tube into the Evaporator.

As the liquid refrigerant in the Evaporator is subject to a much lower pressure, due to the suction of the Compressor, it follows that evaporation of the liquid refrigerant will take place at a reduced pressure and temperature with the result that heat is absorbed from the refrigerated compartment. As the pressure and temperature in the Evaporator are being lowered by the Compressor, a point is reached where the refrigerated chamber has lost sufficient heat to lower the temperature to the point where the Temperature Control will break the motor circuit and stop the Compressor.

The lower suction pressure will soon rise due to the sustained boiling point of the refrigerant. When the boiling stops, the refrigerant ceases to absorb heat which results in the rise of the refrigerated chamber temperature.

Finally the point is reached where the Thermostatic Control in the refrigerated space causes the motor to cut in, starting the compressor and beginning the refrigeration cycle over again.

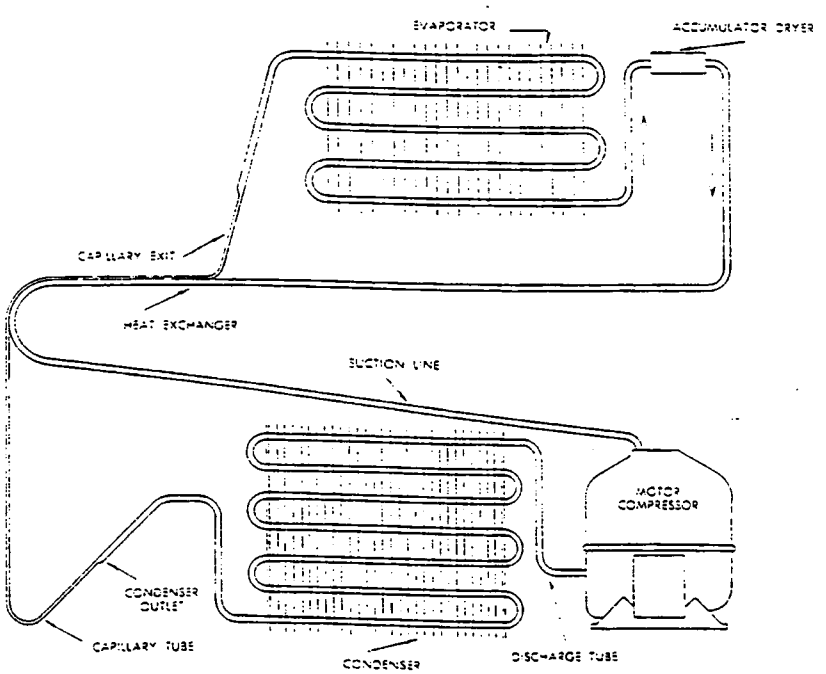


Figure 1. SCHEMATIC REFRIGERATION CYCLE

MECHANICAL PARTS

COMPRESSOR

The Compressor is a pump which draws low pressure heat-laden gas from the Evaporator and forces it into the Condenser under high pressure.

CONDENSER

The Condenser removes the heat from the high pressure vapor discharged from the Compressor, changing it to a liquid.

CAPILLARY TUBE

The Capillary Tube is a metering device for the liquid refrigerant going to the Evaporator.

EVAPORATOR

The Evaporator is the low pressure point due to the suction of the Compressor, where the refrigerant boils and absorbs heat from the cooling compartment.

SUCTION LINE

The Suction Line returns the heat-laden gas to the Compressor from the Evaporator.

ELECTRICAL PARTS

TEMPERATURE CONTROL

The Temperature Control is made up of the Temperature Control Switch, the Bulb, and the Bellows. The Bulb, which is filled with a special liquid, is connected to the Bellows with a tube. Heat in the cabinet makes the liquid expand in the Bulb causing the Bellows to work the Switch and close the Compressor and Condenser Fan Motor circuits. The Refrigeration Unit runs until it cools the Bulb down to the cut-out setting of the Control. At this point the liquid in the Bulb has cooled and shrunk enough to pull the Switch open. This turns off the refrigeration until the Bulb warms up to the cut-in point again.

COMPRESSOR MOTOR

The Compressor Motor (hermetically sealed in the Compressor housing) runs the mechanical parts of the Compressor. It is started and stopped by the Temperature Control Switch and the Thermal Overload Switch.

EVAPORATOR FAN MOTOR

The Evaporator Fan Motor (located in the cooling compartment) circulates air across the Evaporator and throughout the cooling compartment. The Evaporator Fan Motor runs continuously.

CONDENSER FAN MOTOR

The Condenser Fan Motor (between the Compressor and the Condenser) runs a fan that forces air through the Condenser Coils. It starts when the Temperature Control Switch closes It stops when the Temperature Control Switch opens. Because its winding is in parallel with the Compressor Motor, the two Motors start and stop together in normal operation.

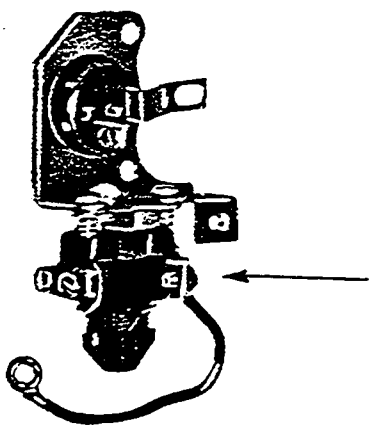
STARTING CAPACITOR (C-244C, CS-244C)

The Starting Capacitor (mounted on or near the Compressor Terminal Cover) helps to start the Compressor Motor. It is in the Starting Winding Circuit. The current is turned on and off by the Starting Relay Switch.

There are two types of starting and overload protection devices used on Cavalier Vendors described in this manual. Although they accomplish substantially the same results there are some differences in the way they operate.

SEPARATE STARTING RELAY AND THERMAL OVERLOAD ASSEMBLY

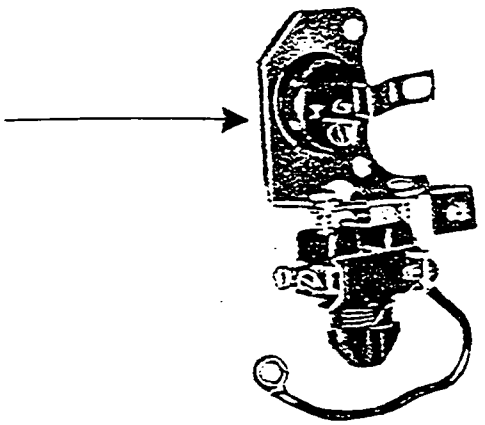
(This arrangement is used on the C-244C and the CS-244C)



STARTING RELAY

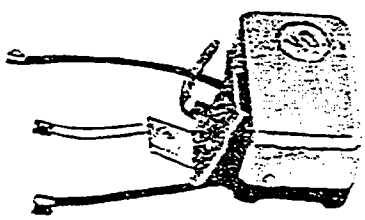
The Starting Relay (located inside the Compressor Terminal Cover) is a Magnetic Relay with a gravity return. It is made up of a Relay Coil and one set of contacts. The Relay Coil is in series with the Running Winding of the Compressor Motor. When the Compressor Motor tries to start, the Running Winding draws a heavy current through the Relay Coil causing the Relay to close the Contacts in the Starting Winding Circuit. When the Compressor Motor starts and picks up speed, the current in the Running Winding and Starting Relay Coil drops off to the point where gravity pulls the Relay Contacts open. This breaks the circuit to the Starting Winding. The Motor continues to run on the Running Winding only.

ELECTRICAL PARTS (Cont.)



THERMAL OVERLOAD ASSEMBLY

The Thermal Overload Switch (located inside the Compressor Terminal Cover) is made up of a Heater Coil and a bi-metal disc. The Heater Coil allows normal current to start and run the Compressor. The bi-metal disc will break both Starting and Running Winding Circuits if an abnormal amount of current should occur. If the Compressor Motor Winding temperature should increase for reasons other than electrical, the bi-metal disc will reverse and open both circuits. When the Compressor Motor temperature cools to the safe limit, the bi-metal disc will close the Starting and Running Winding Circuits.



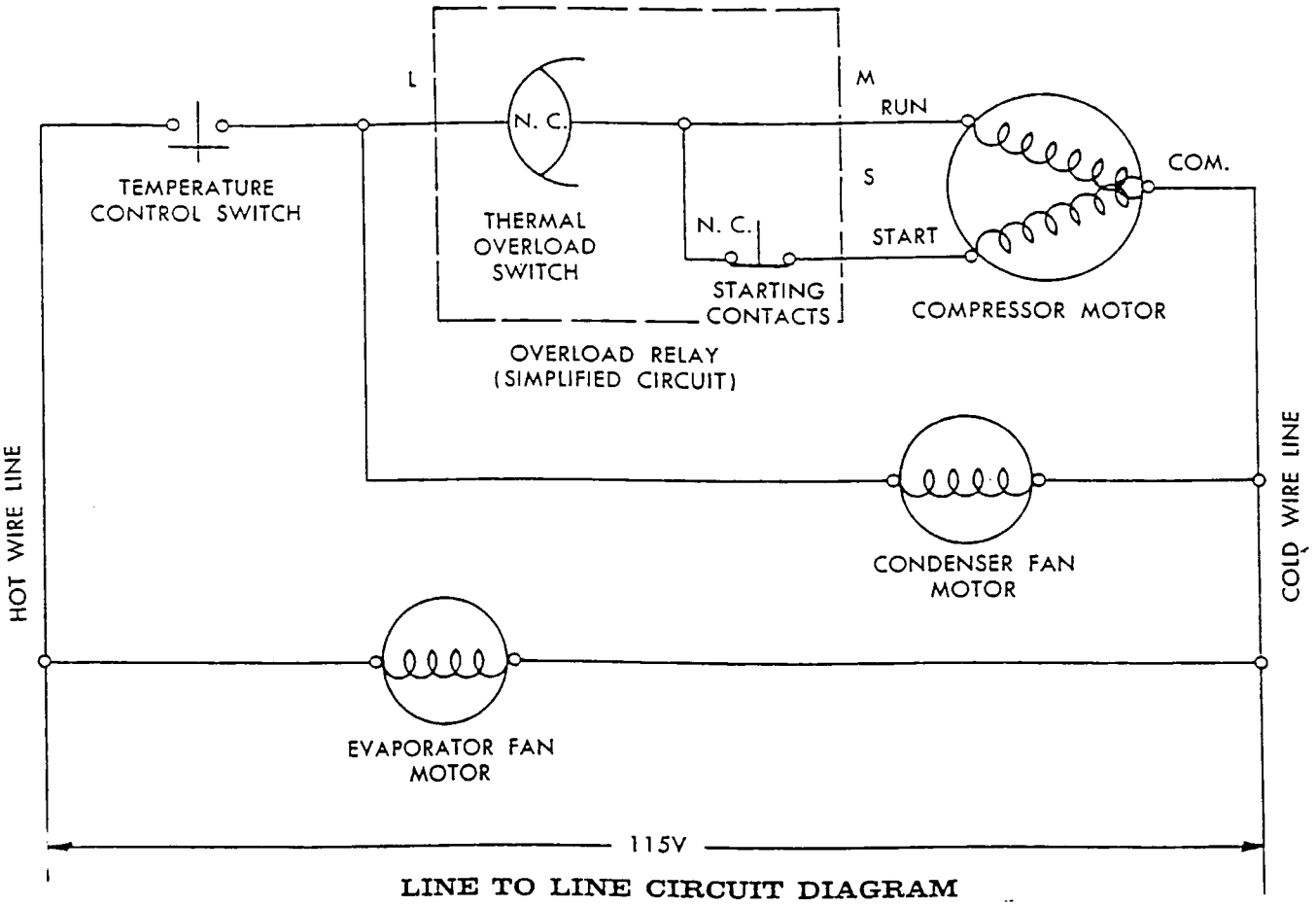
COMBINATION OVERLOAD RELAY

This device is used on all vendors covered in this manual using pancake type compressors (CS-64C, CS-80C, CS-96C, C-148C, CS-148C).

In it, as with the separate Magnetic Starting Relay, there is a set of Contacts in the Starting Winding Circuit of the Compressor Motor which breaks the circuit after the Compressor starts. However, here the Contacts stay closed when the Compressor is not turned on. When electricity is applied to the circuit, the heavy surge of current through both windings of the Compressor also flows through a bi-metal strip in the Relay which bends causing the Starting Winding Contacts to open. After the Compressor starts, the current drawn by the Running Winding supplies enough heat to keep the Starting Winding Contacts open. When the Compressor shuts off, the bi-metal strip cools and closes the contacts again.

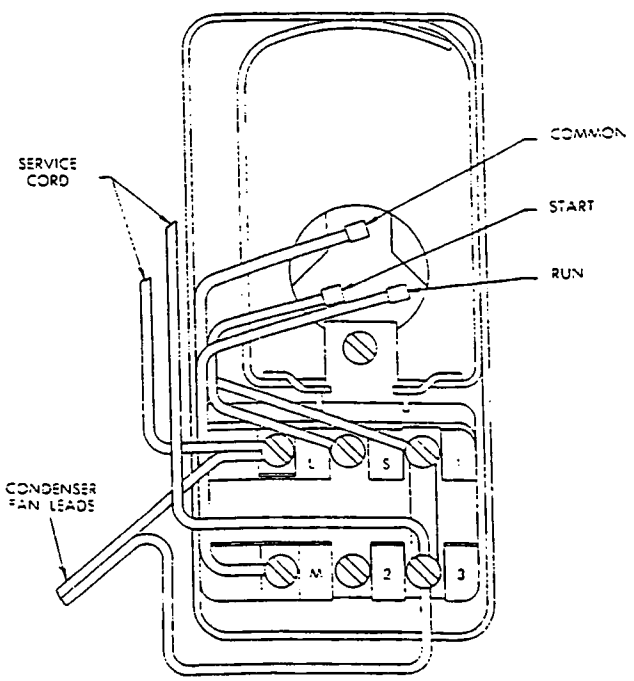
Also, in this device there is a set of Contacts which serves the same function as the separate Thermal Overload Assembly. When the Compressor draws too much current for any length of time or when the Compressor gets too hot, a bi-metal strip causes these Contacts to open both the Starting and Running Windings. When the bi-metal strip cools, it closes the Circuit again. This Circuit differs from the separate Thermal Overload Assembly in that the Overload Contacts are in the line ahead of the Run and Start Windings instead of in the common or return side of the Motor Windings. This will make a difference only in trouble shooting the system.

CIRCUIT DIAGRAMS

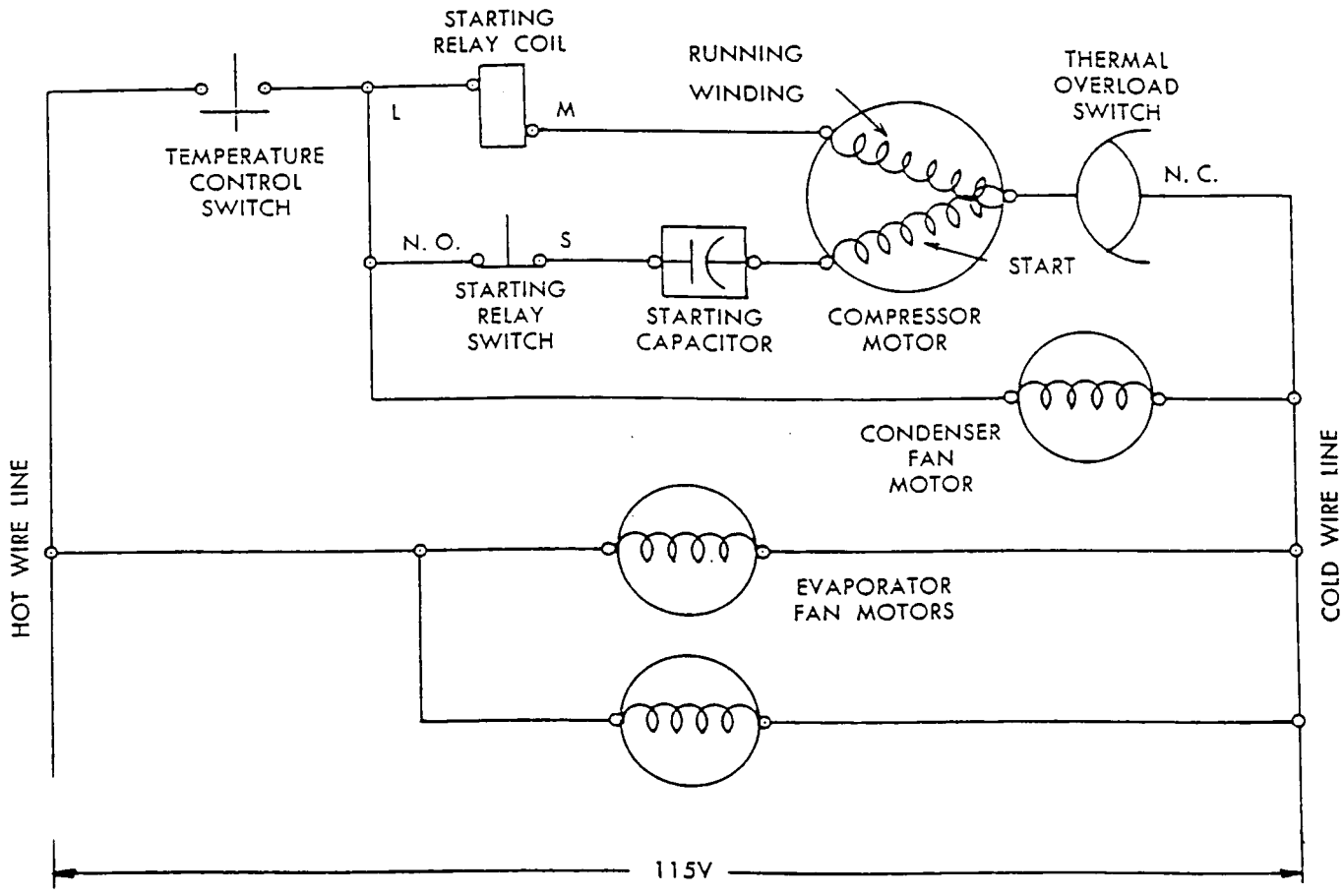


LINE TO LINE CIRCUIT DIAGRAM

(Diagram for CS-64C, CS-80C, CS-96C, C-148C, CS-148C)



WIRING DIAGRAM



LINE TO LINE CIRCUIT DIAGRAM

(Diagram for C-244C and CS-244C)

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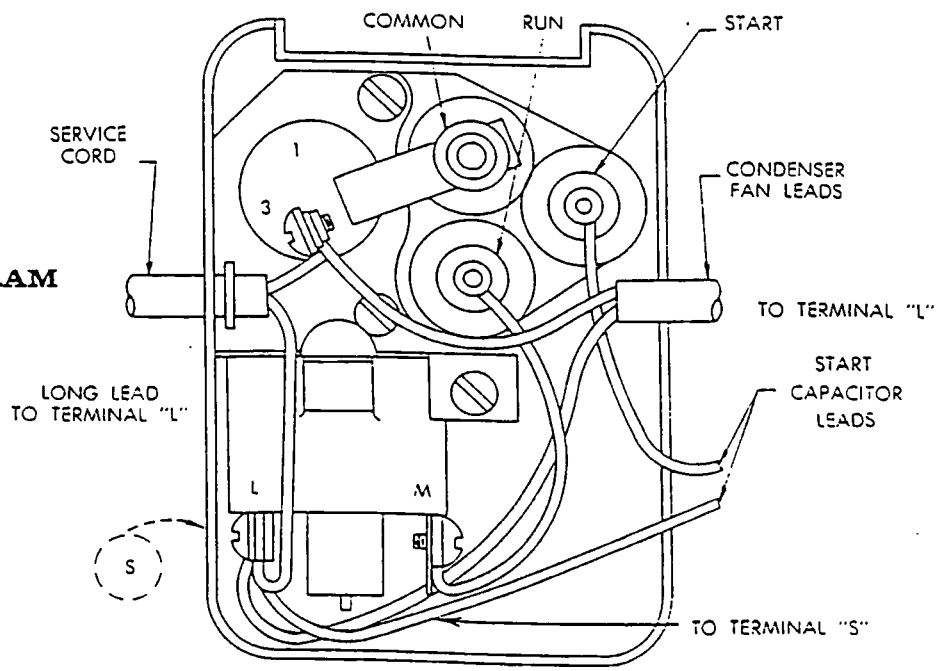
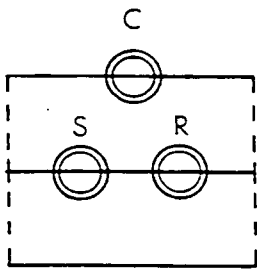
WIRING DIAGRAM



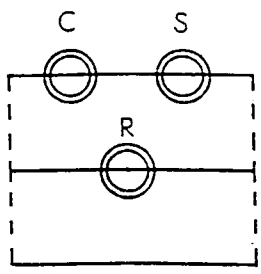
IDENTIFICATION OF COMPRESSOR TERMINALS

There are several different types of Terminals used on the various models of Tecumseh Compressors. This section is designed to show the various Terminal arrangements with an explanation on identification of Terminals in every case.

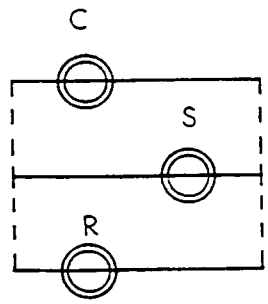
Tecumseh Terminals are always thought of in the order: Common, Start, Run. To "read" the Terminals, we read the order exactly as we would read a book; that is, we start at the top left corner and read across the first "line" from left to right. When there is no more on the first line we drop to the second line and starting at the left and read across. In some cases we need three "lines" to complete our identification. Note the illustration.



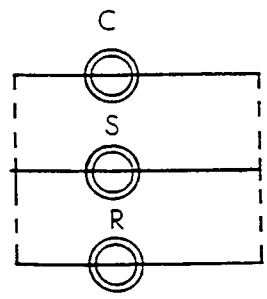
PANCAKE
Glass Terminals



SINGLES
Glass Terminals



SINGLES
Built-up Terminals



PANCAKES
Built-up Terminals

HOW TO TAKE CARE OF THE REFRIGERATION SYSTEM

WHAT TO CLEAN

CONDENSER

Clean dirt and lint from the Condenser with a brush, vacuum cleaner, or compressed air.

EVAPORATOR

When frost and ice cover the Evaporator, unplug the vendor so it will defrost. After defrosting, clean the Evaporator with a solution of baking soda in warm water. Try to determine reason for icing.

THINGS TO ADJUST

TEMPERATURE CONTROL

The purpose of this adjustment is to set the bottle temperature desired. The adjustment should be made if the delivered bottles are too warm or too cold. If the Control is turned clockwise it will make the bottles colder and counterclockwise, it will make them warmer. Turn the adjustment one or two numbers higher or lower. Wait at least one hour and check bottle temperature again.

ADJUSTMENT OF TEMPERATURE CONTROL FOR HIGH ALTITUDES

At altitudes of 2,000 feet or above the Range Screw should be adjusted to compensate for the change in atmospheric pressure. If this is not done there is danger that the Evaporator will "ice up" since the cut-in temperature of the Control will be too low.

The Range Screw is located under the fiber cover of the Temperature Control and can be identified by the word "cold" and the arrow pointing counterclockwise. This Screw should be turned *WARMER* which is *clockwise* and *opposite the arrow direction*. The amount to be turned is given in the following altitude chart for each model vendor.

This adjustment of the Range Screw will give correct compensation for altitude. The other Internal Adjustment Screws on the Control such as the "Pick Up" Screw and the "Differential" Screw are not affected by altitude and should not be adjusted. Adjustment of these Screws is made at the factory under carefully controlled conditions and they should not be adjusted in the field.

Altitude Above Sea Level	Vendors: CS-64C, CS-80C, CS-96C (Control No. BE-691-B)	Vendors: C-148C, CS-148C, C-244C, CS-244C (Control No. BE-607-B)
2,000 feet	1/8 turn	1/4 turn
3,000 feet	1/4 turn	3/8 turn
4,000 feet	1/4 turn	1/2 turn
5,000 feet	3/8 turn	5/8 turn
6,000 feet	1/2 turn	3/4 turn
7,000 feet	1/2 turn	7/8 turn
8,000 feet	5/8 turn	1 full turn
9,000 feet	5/8 turn	1 1/8 turn
10,000 feet	3/4 turn	1 1/4 turn

CORRECTING TROUBLES

The Table on the next pages "How to Correct Common Refrigeration Troubles" is to be used when your refrigeration unit is not working right. Find the heading that describes your trouble and check the possible causes that are listed. Make sure that you have found the true cause according to the center column. It will then be necessary either to repair the part that is causing trouble, or put in a new part.

This table does not list *all* the possible causes which can be responsible for your trouble, but it does have all the *common* causes. If your vendor has a trouble that is not caused by the possibilities given here, study "How the Refrigeration System Works," in the front of the Refrigeration Section, to solve your problem.

Where the trouble chart calls for the use of a test lamp, use any 110 Volt light bulb in a socket with insulated leads several feet long and insulated test probes. These checks are to be made with the vendor plugged in, but be careful not to touch any "live" electrical terminals except with the probes.

HOW TO CORRECT COMMON REFRIGERATION TROUBLES

A Possible Cause Is	To Make Sure	This Is What To Do
Neither the Compressor, the Condenser Fan Motor, nor the Evaporator Fan Motor runs.		
The Vendor is not plugged in.	Look to see.	Plug in the Vendor.
The power is off.	Plug a 110 Volt lamp into the Outlet. If it doesn't light,	Get power to the Outlet.
A wire in the Wiring Harness is broken.	If the Vendor is plugged into a good Outlet and nothing runs, it is probable that the Wiring Harness is defective.	Find the break and repair it or replace the Harness.
The Condenser Fan Motor and the Compressor Motor do not run but the Evaporator Fan Motor does.		
The Temperature Control Switch is not turned on.	Look to see.	Turn to ≒4 setting.
The Temperature Control Switch is bad.	Put the probes of the 110 Volt test lamp on the Terminals of the Control (one on each). If the lamp lights,	Replace the Control.
The Wiring Harness is damaged.	Look for cuts in the Harness.	Splice the cut and tape.
The Compressor Motor does not run, but the Condenser Fan Motor does.		
The Compressor is too hot.	Feel the Compressor. If it is hot to the touch,	Allow it to cool.
The Combination Overload Relay is bad. (CS-64C, CS-80C, CS-96C, C-148C, CS-148C)	Unplug the vendor. Remove the Terminal Cover from the Compressor. Remove the red wire from Terminal M and the white wire from Terminal S and connect them both to Terminal L, plug the vendor back in for 5 seconds. If the Compressor runs, the Overload Relay is bad. (Do not leave the vendor plugged in longer than 30 seconds or the Motor may become overheated.)	Replace it.
The Thermal Overload Switch is bad. (C-244C, CS-244C)	Unplug the vendor for 5 minutes. Take the Terminal Cover off the Compressor. Put the probes of the test lamp on Terminal 1 and Terminal 3 of the Thermal Overload Switch. Plug the vendor back in. If the lamp comes on when the vendor is plugged in,	Replace the Thermal Overload Switch.
The Starting Relay is bad. (C-244C, CS-244C)	Unplug the vendor. Short the three Terminals on the Starting Relay together with a shorting wire from one to the other. Plug the vendor back in. If the vendor starts, the Relay is bad.	Replace the Starting Relay.

HOW TO CORRECT COMMON REFRIGERATION TROUBLES (Cont.)

A Possible Cause Is	To Make Sure	This Is What To Do
The Thermal Overload is over protecting.	Check the other causes and if no other trouble is found, try a new Thermal Overload Switch (C-244C, CS-244C) or Overload Relay Combination (other vendors). If it helps,	Leave it in.
The bottles are too warm. (The Unit cycles and both Compressor and Condenser Fan Motor turn on and off together.)		
The Temperature Control is set too warm.	Turn the Control to a colder setting and if it helps,	Leave it there.
The Evaporator Blower Motor is not running.	Open the Cabinet door and listen. If it is not running,	Get Voltage to the Motor or replace it if it is bad.
The Evaporator is iced up.	Look to see.	Try a new Temperature Control.
The Temperature Control is bad.	Check the other possible causes above and if no trouble is found,	Try a new Temperature Control Switch.
The Compressor is cycling on the overload switch.	If "The Compressor starts but cuts off while the Condenser Fan Motor Continues to run."	Make the checks under that heading.
The Bottles are Too Cold.		
The Temperature Control is set too cold.	Look at the setting. If it is not at the warmest position,	Set it to a warmer position.
A Delivery Door stands open.	Look, and if it does,	Find the cause, and fix it.
The Door Gasket does not seal all the way around.	Close the Cabinet Door with a strip of paper between the Gasket and the Cabinet. If the paper is not clamped in place by the Gasket every place this is tried around the Door,	Move the Cabinet Door Latch Catch in to tighten the door. Seal.
The Temperature Control is bad.	If none of the above troubles is found, try a new Temperature Control. If the vendor works properly,	Leave it in.

Occasionally the bottles will be too cold because the Refrigeration Unit is not working properly and is not able to cool the air in the box down to the cut-out temperature of the Temperature Control. Normally the temperature at which the Unit cuts off is in the low twenties at the warmest position of the Control. If the Unit has a low charge or a leaking valve or for any other reason is not refrigerating properly, it may cool the box down below 30° but not to the cut-out temperature. If this happens the Unit will run for long periods of time and get the bottles too cold.

If the Cabinet is sealed properly and the Condenser is not dirty, nor the air blocked, and if a new Temperature Control does not help, the Refrigeration Unit is probably defective.

A Possible Cause Is	To Make Sure	This Is What To Do
The Compressor Motor is bad.	Make the check titled "The Starting Relay is bad (C-244C, CS-244C)" or "The Overload Relay is bad (CS-64C, CS-80C, CS-96C, C-148C, CS-148C)", as applicable. If the Compressor does not run with this check, it is likely that the Refrigeration Unit is bad. To be sure, make the check with the test lamp leads connected from the Common to the Run Winding Terminals and also from the Common to the Start Winding Terminal. If the test lamp indicates that there is voltage across both Windings, and the Compressor has not run in the last ten minutes,	Change the Refrigeration Unit.
The Starting Capacitor is bad. (C-244C, CS-244C)	Substitute a good Starting Capacitor of the proper rating in place of the one in question. If it works,	Leave it in place.
The Compressor starts but cuts off while the Condenser Fan Motor continues to run.		
The tube from the Compressor to the Condenser is kinked or bent sharply.	Look. If it is,	Try to get the kink out.
	If this does not help, and no other cause can be found for the trouble,	Put in a new Refrigeration Unit.
The Capillary Tube is kinked or bent sharply.	Look. If it is,	Try to get the kink out.
	If this does not help, and no other cause can be found for the trouble,	Put in a new Refrigeration Unit.
The Starting Relay Contacts are sticking closed.	Attach the probes of the test lamp to Terminals L and S. With the Compressor running, if the lamp does not light,	Replace the Starting Relay or Combination Overload Relay.
The Voltage at the vendor is either too high or too low.	When the Compressor starts check the Voltage at the electric outlet. The Voltage should not drop below 105 volts. Running Voltage should be between 105 and 126 Volts.	Have the person in charge of the vendor tell the power company so they can attend to it.
	If an extension cord is used, check the Voltage at both ends while the vendor is plugged in and running. If the Voltage is OK where the extension cord plugs in but is below 105 Volts at the vendor end,	Tell the person in charge of the vendor that the vendor will not run right with that extension cord on it.
Not enough air getting to the Condenser.	See if anything is blocking the air from the outside. If there is,	Take it away.
The Condenser is dirty.	Look.	Clean the Condenser with either a vacuum cleaner, a brush or compressed air.

HOW TO REMOVE REFRIGERATION UNIT FROM CABINET

REFRIGERATION (C-148C, CS-148C)

Take the Tube Guard and the Evaporator Cover off the rear of the vendor. Remove the screws holding the Evaporator on each end.

Remove the two Brackets holding down the high side at the front of the Condenser. Slide the whole unit forward until is clears the rear hold down Brackets, then lift the Unit and pull out the back of the vendor and remove the Evaporator at the same time. Use care to avoid kinking the Refrigerant Lines.

REFRIGERATION (C-244C, CS-244C)

Same as above except the bolts holding the high side down are at the rear.

REFRIGERATION (CS-64C, CS-80C, CS-96C)

Take off the Tube Guard where the Refrigerant Lines cross from outside to inside the Cabinet at front of vendor. Take out the two Bolts holding the high side down at the front of the Condenser. Take out four (4) Screws holding the Evaporator inside the Cabinet. Unplug the power line to the Terminal Block at the bottom of the Door. Pull the unit out the front of the vendor.

TAKING IT APART

MAKE SURE VENDOR IS UNPLUGGED AT POWER SOURCE

Condenser Fan Assembly
(CS-64C, CS-80C, CS-96C, C-148C, CS-148C)

Remove the two brackets at the bottom front of the Compressor Assembly and slide the Compressor Assembly forward about 8 or 10 inches for access to the Condenser Fan. Using a ¼" drive ratchet wrench remove the three hex head Screws holding the Fan Motor to the Mounting Bracket. Work the Motor and Blade to the right and out. Be careful not to bend the Fan Blade. Take the Motor Leads loose at the Compressor Terminal Housing.

Condenser Fan Assembly
(C-244C, CS-244C)

Using a socket wrench remove the Bolts holding the Mounting Bracket to the Compressor and remove from the rear of the vendor. Take the Motor Leads off at the Compressor Terminal Housing.

Evaporator Fan Motor Assemblies
(C-148C, CS-148C, C-244C, CS-244C)

Screwed to the Cabinet Liner from the rear. Take off the round access Covers from the rear of the vendor and remove the insulation. Unplug the Motors.

Temperature Control Switch
(C-148C, CS-148C, C-244C, CS-244C)

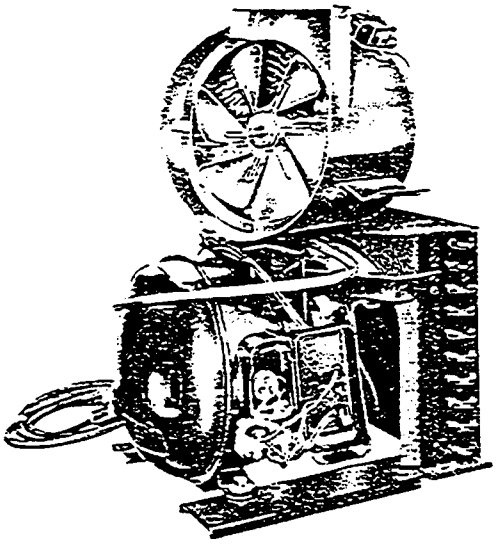
Two Screws hold it to the Evaporator Assembly. Take the big Access Cover from the rear of the vendor to get to them. Remove the Black Plastic Cover from the Terminals at the rear and disconnect the Leads.

Evaporator Fan Motor
(CS-64C, CS-80C, CS-96C)

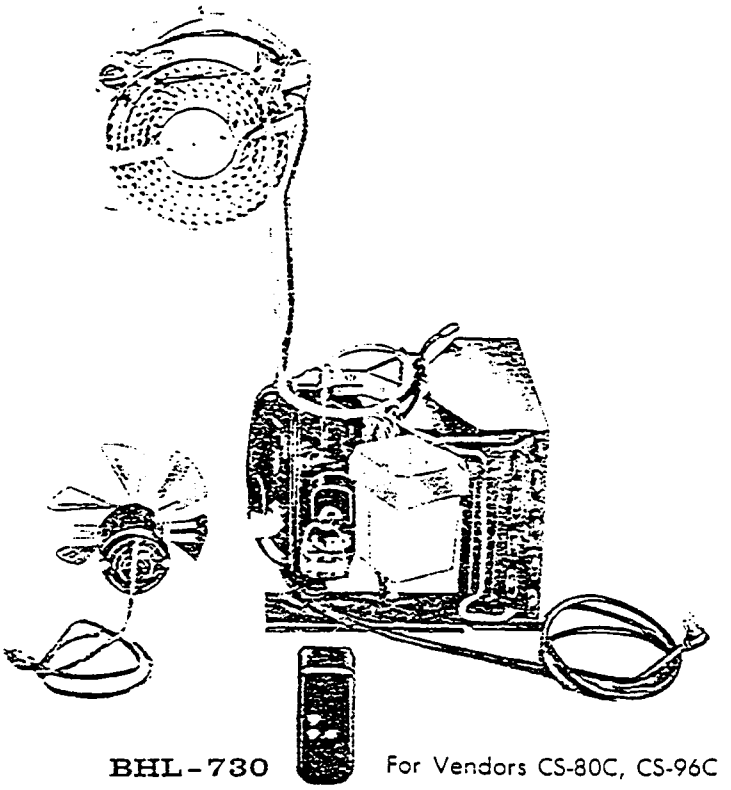
The Evaporator Fan Motor is located behind the Evaporator and it is necessary to move the Evaporator for access to it. Take off the Tube Guard and Cover Plate where the lines cross into the Cabinet from the Compressor. Remove the 4 Screws holding the Evaporator and slide it forward. Be careful not to kink the Refrigerant Lines.

REFRIGERATION

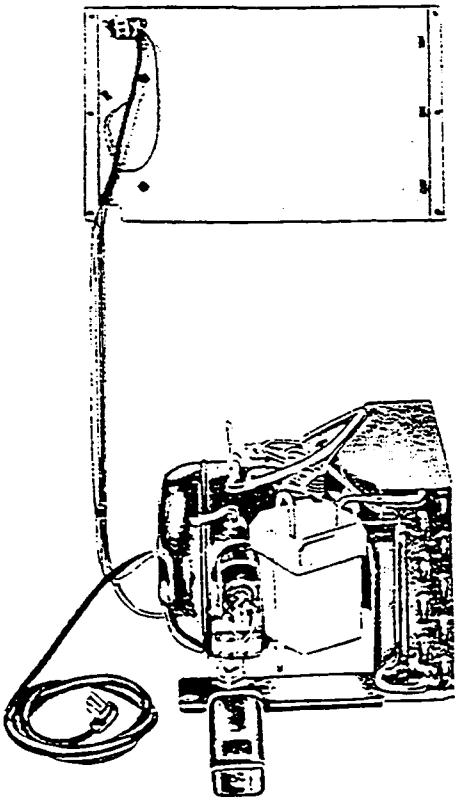
PARTS LIST



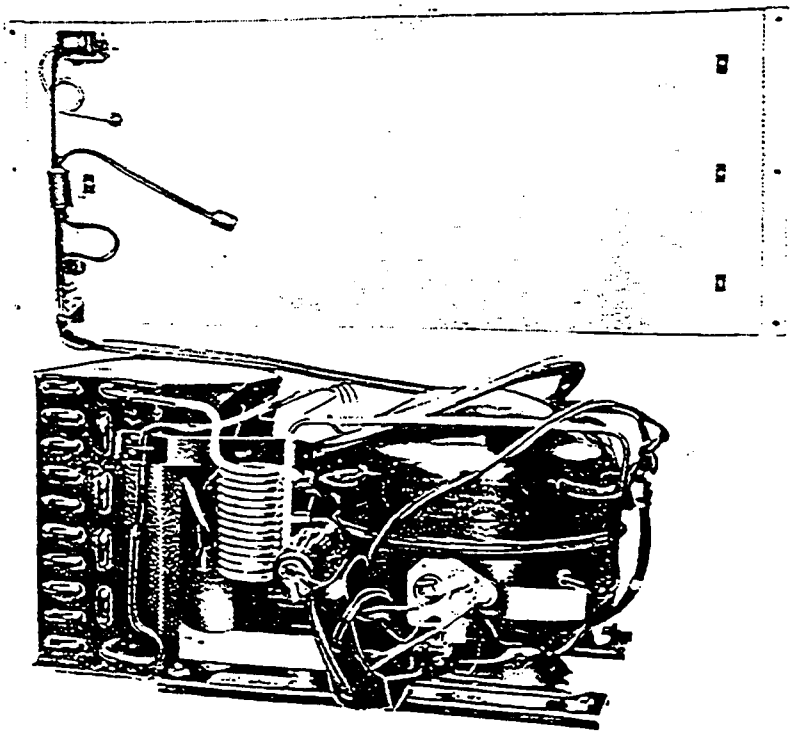
BHL-657
For Vendor CS-64C



BHL-730 For Vendors CS-80C, CS-96C



BHL-729
For Vendors C-148C, CS-148C



BHL-682
For Vendors C-244C, CS-244C

REFRIGERATION PARTS

Vendors CS-64C, CS-80C, CS-96C

PART NAME	PART NUMBER FOR VENDORS	
	CS-64C	CS-80C and CS-96C
Refrigeration Unit, Complete	BHL-657—1/5 h.p.	BHL-730—1/4 h.p.
Overload	R-51 Over-relay	R-41 Over-relay
Relay	R-51 Over-relay	R-41 Over-relay
Thermostat Switch	BE-691 Control A-12	BE-691B Ranco Type A-12
Condenser Fan Motor	BE-161	BE-161B 5 KSP 51AL55 GE
Evaporator Fan Motor	BE-799-B	BE-799-B
Evaporator Fan Blade	BM-2824	BM-2824
Condenser Fan Blade	51501	51501 GE-8114792AA1
Wire Harness	BE-811	BE-811

ORDER ALL PARTS BY PART NUMBER AND NAME

REFRIGERATION PARTS

Vendors C-148C, CS-148C, C-244C, CS-244C

PART NAME	PART NUMBER FOR VENDORS	
	C-148C and CS-148C	C-244C and CS-244C
Refrigeration Unit, Complete	BHL-729—1/4 h.p.	BHL-682—1/3 h.p.
Overload	R-41 Over-relay	83031 MRA-929
Relay	R-41 Over-relay	82374 ≠9660-019-170
Thermostat Switch	BE-607 Control A-12	BE-804 Control Ranco A-12
Condenser Fan Motor	BE-161	BE-162 GE-CL2
Evaporator Fan Motor	C-4-2089-2 5KSP51AL330H with 9 1/2" Lead & M-24 Lyall Male Plug	C-4-2089-2 5KSP51AL330H with 9 1/2" Lead & M-24 Lyall Male Plug
Evaporator Fan Blade	C-4-2048	C-4-2048
Condenser Fan Blade	51501	51501
Wire Harness	BE-815	BE-815
Capacitor		85514 GE≠K5859488381
Control Dial Decal	BE-469	BE-469

ORDER ALL PARTS BY PART NUMBER AND NAME

ACCESSORIES

VENDOR NUMBER	KIT NUMBER	KIT DESCRIPTION
CS-64C	B-400-399	Lock Coin Box
CS-80C	B-400-399	
CS-96C	B-400-399	
C-148C	B-400-400	
CS-148C	B-400-400	
C-244C	B-400-400	
CS-244C	B-400-400	
CS-64C	B-400-420	Service Handle and Caster Assembly
CS-80C	B-400-420	
CS-96C	B-400-420	
CS-64C	B-400-415	Caster Assembly
CS-80C	B-400-415	
CS-96C	B-400-415	
C-148C	B-400-416	
CS-148C	B-400-416	
C-244C	B-400-416	
CS-244C	B-400-416	
CS-64C	B-400-419	Electric Counter
CS-80C	B-400-419	
CS-96C	B-400-419	
CS-64C	B-400-404	Panel for Blocking Bottle
CS-80C	B-400-405	(Access Door)
CS-96C	B-400-406	
C-148C	B-400-401	12-oz. Can Spacer Kit
CS-148C	B-400-401	
C-244C	B-400-401	
CS-244C	B-400-401	
C-148C	B-400-407	Non Robber
CS-148C	B-400-407	
C-244C	B-400-408	
CS-244C	B-400-408	

Coin Mech Bypass / Free Vend Kits

One of the most frequent questions we get asked here at ColaMachines is how to set a coin mech to free vend. On machines that did not use an electric mech bypassing is fairly simple. You typicaly just need to adjust a few screws. The real challege is bypassing the electric mechs that were typicaly used in machines after the mid 1950's .

Most of the electric mechs used in the old coke machines can't be set to vend for free. To solve this problem we now offfer bypass switch kits in our online store. To install all you need to do is remove your old mech and plug in our bypass kit. Our bypass switch takes less than five minutes to install and does not require you to cut any wires or solder any connections. All you have to do is plug it in. Once its installed you will never have to use coins, repair, or replace your coin mech again. To vend a drink all you do is press a small microswitch. Its that simple.

You can purchase the kits in our online store by clicking here.

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How to Remove Decals.

Water Release Decals

1. Clean the surface of the machine, fountain, cooler,etc before removing the decal.
2. If its a water release decal you will want apply hot water to it for a few minutes. To do this simply use a rag or towel that has been soaked in hot water.
3. After a few minutes try to get under the surface of the decal using a razor blade, credit card, or something else that is thin. Note: Be careful not to scratch the surface of your machine. The goal is to lift the decal edges up.
4. Grab hold of the decal edges and slowly pull outwards. Note: You may have to continue to add to the decal to loosen it. A spray bottle or the towel should work.
5. When the decal is removed clean the area with Windex.

Adhesive Backed Decals

Adhesive backed decals can sometimes be tough to remove.

1. Heat the decal up slowly using a hot towel.
2. Spray all the edges of the decal with Windex.
3. After a few minutes try to get under the surface of the decal using a razor blade, credit card, or something else that is thin. Note: Be careful not to scratch the surface of your machine.
4. The goal is to lift the decal edges up. Grab hold of the decal edges and slowly pull outwards. Note: You may have to continue to add heat to the decal to loosen it. A spray bottle or the towel should work.
5. When the decal is removed clean the area with Windex.
6. For tough decals try using a hair blow dryer on low heat. Be careful not to make the surface to hot.
7. You may have to experiment a little bit but eventually you should be able to remove the old decal. Note: When decals are removed the paint under them is typical a different shade than the surrounding area. This is because the decal has protected the paint from fading.I am not sure how you can purposely fade this area back to the original color. Rubbing compound may work but I would test it on a hidden area on the machine first. In any case I would in recommend placing another decal of similar or larger size over the original location.



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Paint Manufacturer	Paint Code	Paint Color	Notes
Dupont Centari Acrylic enamel	60807-A	Red	This paint code was posted on our message boards. The paint codes on this site are accurate. Keep in mind that in the 50's, if the plant painting a machine ran out of the red that they normally used, they'd use what was available. We have found there to be several shades of reds on originally painted machines. So if you don't like the bright "Porsche" red color you can go up to the darker reds that are almost a Burgundy and still be authentic. However, Dupont Fleet Red 60807AH is one color that is very true to what most collectors think of as Coke Red. Don't use what is currently called Coke Red from the 60's and later because it's an Orange Red. God's blessings over your projects! Krissy Larry's Unique Collectibles Abbott, TX 254-582-2411
Dupont Centari Acrylic Enamel	6731-A	White	
Dupont Centari	77968A M Alt	Red	I am told that this is a great color for restoring the older Coke Machines. It is not quite as dark as the original color but it is still a great looking color.
Dulux	93-24314-R	Red	Used to paint the body of the machine. This is the color code from the original refinishing guide that Coca-Cola published back in the 50's. The color codes would need to be cross referenced with todays numbers in order to insure that you get the right color.

Dulux	95-967	White	Used for the White lettering on single color machines! This is the color code from the original refinishing guide that Coca-Cola published back in the 50's. The color codes would need to be cross referenced with today's numbers in order to insure that you get the right color.
Dulux	91-6731	White	Used for the white top paint on the two tone machines! This is the color code from the original refinishing guide that Coca-Cola published back in the 50's. The color codes would need to be cross referenced with today's numbers in order to insure that you get the right color.
Dulux	93024314	Red	Used for red lettering on white top two tone machines! This is the color code from the original refinishing guide that Coca-Cola published back in the 50's. The color codes would need to be cross referenced with todays numbers in order to insure that you get the right color
Dupont	60807/Acrylic Enamel	Red	Great restoration color that can used used to paint the early models of Cola Machines.
Dupont	6731A/Acrylic Enamel	White	Great restoration color that can used used to paint the early models of Cola Machines.
Dupont "Intense Blue"	1014 L.R.V. 31%	Blue	Great Color to restore the old Ideal Pepsi Sliders and other Pepsi machines that had the dark blue tone.

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