OPERATION

&

MAINTENANCE

MANUAL

RRC750

GEN I

Refrigerant Technologies, Inc.
4075 East Market Street
York, Pennsylvania 17402

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RRC750 (GEN I)

BEFORE USING THE RRC750

Check for any shipping damage If damaged, place a claim with carrier.

DO NOT USE A DAMAGED UNIT.

Verify that you have received the following:

RRC750 Machine

Three Foot Refrigerant Hose

Eight Foot Refrigerant Hose

Oil Syringe

Oil Drain Cup

DOT Approved Cylinder

The RRC750 should not be operated or maintained by any person who has not read all the contents of this manual. Failure to read and comply with these instructions or any one of the limitations noted herein can result in serious injury and/or property damage.

These general instructions deal with the normal operation and maintenance situations encountered with the RRC750. The instructions should not be interpreted to anticipate every possible contingency.

It is the responsibility of the owner/user to operate the RRC750 in accordance with all specifications and laws which may apply.

The following pages contain rules for safe operation of the RRC750. Taking precedence over any specified rule listed herein, however, is the most important rule of all:

"USE COMMON SENSE".

A few minutes spent reading these instructions can make an operator aware of dangerous practices to avoid and precautions to take for his own safety and the safety of others.

A regular schedule of inspection of the RRC750 should be established and records maintained with special attention given to hoses and replaceable filters.

SAFETY PRECAUTIONS

- Wear safety glasses and protective gloves. Refrigerant has a very low boiling point and can cause frostbite.
- Follow the RRC750 operating procedures sequentially to avoid prematurely disconnecting hoses or opening valves which may release refrigerant to the atmosphere.
- Do not expose the RRC750 to moisture or operate in wet areas.
- Use the RRC750 in locations with mechanical ventilation that provides at least four air changes per hour or locate the unit 18 inches above the floor.
- Service hoses used with the RRC750 must have shutoff devices within 12 inches of the connection point to the system being serviced to minimize the introduction of non-condensable gases into the recovery unit and the release of refrigerant when being disconnected.
- Disconnect power before performing any maintenance or service on the RRC750.
- Avoid using an extension cord with the RRC750. If necessary, use a good condition, UL listed, 3-wire grounded, #14 AWG extension cord of the shortest possible length.
- Do not introduce refrigerant in the liquid state into the RRC750 from any source having greater than a 4.5 lb. capacity. Steady introduction of large amounts of liquid refrigerant may cause the RRC750 to malfunction.
- Connect RRC750 to grounded and protected 115 VAC - 60 HZ power source.
- Recover R-12 refrigerant only.

PRE-CHARGING THE RRC750

Vehicles requiring service often do not have a full charge of refrigerant. To avoid unnecessary repositioning of hoses it is recommended that the RRC750 be pre-charged until about 4 pounds of liquid refrigerant can be seen in the Internal Cylinder Sight Glass. The Sight Glass is visible through the longer of two slots in the right side of the RRC750.

> **NOTE:** As refrigerant is processed by the RRC750, temperature variations can cause vapor to change to liquid which may temporarily settle in various internal components.
>
> If a known amount of refrigerant has been introduced into the RRC750 it may not all be seen in the Internal Charging Cylinder Sight Glass.
>
> This is normal and nothing to be concerned about.
>
> The refrigerant has not been lost.

To pre-charge the RRC750 follow these steps:

Set the following:
- Main Power Off
- Recover/Reclaim Selected
- Inlet Port Closed
- Outlet Port Closed

Connect the 3 ft. hose between the Inlet Port and the VAPOR PORT of a cylinder of clean refrigerant. Open the valves at both ends of the hose (If applicable) and the refrigerant cylinder vapor port valve. **DO NOT TURN CYLINDER UP-SIDE-DOWN.** Open the Inlet Port and turn the Main Power Switch to On.

The Compressor-On Light will illuminate and the RRC750 will recover/reclaim refrigerant into the Internal Cylinder. Observe the liquid refrigerant level rise in the Internal Cylinder Sight Glass and when at the desired level (approximately 4 lbs.) close the valve on the refrigerant cylinder.

The cylinder of clean refrigerant can be immersed in warm water to speed this process. Allow the RRC750 to continue running until the Compressor-On Light goes off. This will evacuate the 3 ft. hose.

When the Compressor-On Light goes off, close the Inlet Port and turn the Main Power Switch to Off. Close both valves on the 3 ft. hose.

RECOVER/RECLAIM MODE

Set the following:
- Main Power Off
- Recover/Reclaim Selected
- Inlet Port Closed
- Outlet Port Closed

Connect the 3 ft. hose between the Outlet Port and the VAPOR valve on the External Cylinder of the RRC750.

Open Outlet Port and Hose Valves (where applicable).

> **NOTE:** The 3 ft. hose should always be connected between the Outlet Port and the VAPOR valve on the RRC750 External Cylinder during a Recover/Recycle mode of operation.
>
> This is necessary to permit refrigerant to be transferred to the External Cylinder once the Internal Cylinder fills to capacity.
>
> When the Internal Cylinder fills to capacity the Internal Cylinder Full Light will illuminate.
>
> The External Cylinder will then fill to capacity and the External Cylinder Full Light will illuminate. The RRC750 will then cease recovering refrigerant.

Connect the 8 ft. hose between the Inlet Port of the RRC750 and the center port of a Gauge Manifold. Attach the High and Low Gauge Manifold Hoses to the A/C system per the vehicle manufacturer's instructions.

It is recommended that the High and Low Gauge Manifold Hoses have shut-off devices within 12 in. of the ends connected to the vehicle A/C system. This will permit the recovery of refrigerant from the hoses.

Open the Gauge Manifold valves. Open the Inlet Port on the RRC750 and turn the Main Power Switch to On.

The Ready Light and Compressor-On light will illuminate. The Compressor will be heard operating as refrigerant is recovered from the vehicle.

NOTE: Several audible changes may be heard during the recovery process. The oil recirculation and non-condensable gas venting circuits will cycle periodically. The fan will start running as pressure increases.

Refrigerant flow through check valves causes a "sizzle-type" sound.

If the Internal Cylinder fills to capacity, a solenoid may be heard energizing and directing refrigerant flow to the External Cylinder.

These changing "noises" are normal and nothing to be concerned about.

The RRC750 will recover refrigerant from the A/C system until a vacuum is sensed. The Compressor will turn off and the Compressor-On Light will turn off.

• DO NOT TURN THE RRC750 OFF OR DISCONNECT HOSES •

A small quantity of Liquid refrigerant will probably remain in the vehicle's A/C system. This liquid will vaporize as the system components again warm to ambient temperature. This can be detected by noticing an increase in pressure readings on the Gauge Manifold.

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When the pressure increases to a preset level, the RRC750 will again start to recover refrigerant. The Compressor will turn on and the Compressor-On Light will illuminate.

Allow this sequence to repeat until the Compressor-On Light remains off continuously for 2 minutes.

Close all hose valves and the Gauge Manifold valves. Turn the Inlet Port off on the RRC750. Turn the Main Power Switch to Off.

Slowly open the Oil Drain Valve on the right side of the RRC750 to drain any oil which may have been removed from the A/C system. Refer to the A/C system manufacturer's manual for recommendations concerning the need to add lubrication during the charging procedure.

Hoses can now be disconnected and the A/C system serviced.

CHARGE MODE

Determine the refrigerant capacity of the A/C system to be charged. This data is usually printed on a tag located on the accumulator or under the hood. Convert this quantity to pounds (if necessary) for setting the RRC750 charge indicator.

The RRC750 Internal Cylinder Sight Glass has a sliding indicator to assist in setting the charge requirement.

The following will determine where to set the indicator prior to starting the charge mode:

(RRC750 Liquid Level) - (A/C System Capacity) = Indicator Setting

EXAMPLE: The level of liquid visible in the RRC750 Internal Cylinder Sight Glass is 7.4 and the A/C system capacity is 3.2 lbs. The following calculation results...

$$(7.4) - (3.2) = 4.2$$

Therefore, the sliding indicator should be set at 4.2 lbs. in this example. When the liquid level lowers to the 4.2 mark, a charge of 3.2 lbs. will have been delivered.

NOTE: The Sight Glass on the RRC750 Internal Cylinder is marked in pounds.

Do not confuse the graduation marks as being ounces.

Set the following:

Main Power Off
Charge Selected
Inlet Port Closed
Outlet Port Closed

Connect a vacuum pump to the 8 ft. hose attached to the center port of the Gauge Manifold. Open all valves and completely evacuate and check the A/C system for leaks.

Close all valves. Disconnect the 8 ft. hose from the vacuum pump and connect to the Outlet Port of the RRC750. Open the shut-off valves (if applicable) on both ends of the hose.

Set the Main Power Switch to On. Slowly open the Outlet Port on the RRC750.

• DO NOT START THE VEHICLE'S ENGINE •

• OPEN HIGH SIDE VALVE ONLY ON GAUGE MANIFOLD •

Refrigerant will flow into the high side of the vehicle's A/C system. Closely monitor the liquid level as it lowers in the Internal Cylinder Sight Glass.

Turn the Main Power Switch to Off as soon as the level drops to the sliding indicator. Close the RRC750 Outlet Port.

Close High Side Gauge Manifold Valve.

The vehicle can now be started and the A/C system checked by monitoring the Gauge Manifold pressure indications.

Close valves (if applicable) at the ends of the High and Low Side Hoses. Disconnect from the A/C system.

Close the shut-off valves on the 8 ft. hose connected to the center port of the Gauge Manifold.

Disconnect this hose from the Outlet Port and reconnect to the Inlet Port of the RRC750.

Set the RRC750 to Recovery/Reclaim and the Main Power to On. Open the Inlet Port, Gauge Manifold Valves, and 8 ft. hose valves. The RRC750 will recover the refrigerant remaining in the hoses and Gauge Manifold.

When the Compressor-On Light goes off, close the Inlet Port and turn the Main Power Switch Off.

SPECIFICATIONS OF RRC750:

Refrigerant	R-12
Power	115 VAC - 60 HZ
Power Consumption	495 Watts
Starting Current	27 AMPS
Operating Current	5.3 AMPS
Internal Cylinder Capacity	8.9 $\pm$ 0.1 Lbs.
Inlet & Outlet Ports	1/4 Male Flare
Weight	165 Lbs.
Overall Dimensions	16 X 20 X 38 In. Nominal

HOW THE RRC750 RECOVERS & RECYCLES REFRIGERANT

Following is a description of the purpose and performance characteristics of the components within the RRC750. The items are discussed in the order as seen by refrigerant as it flows through the unit from the Inlet Port to the Outlet Port.

Refer to the Flow Diagram and Circuit Diagram in the Appendix.

SUCTION ACCUMULATOR

This device may be designated by several different names, the most common being:

- SUCTION ACCUMULATOR
- SUCTION RECEIVER
- SUCTION OIL SEPARATOR

Vapor and/or saturated liquid refrigerant from the vehicle A/C system enters the Suction Accumulator through the Inlet Port.

Refrigerant still in the liquid state will vaporize in the Suction Accumulator due to the increase in volume.

As the refrigerant changes direction of travel as it passes through the Suction Accumulator, oil droplets (with greater mass than the refrigerant vapor) are slung towards the container walls where they collect and migrate to the bottom.

This oil is removed from the Suction Accumulator through the Oil Drain Valve and measured after each recovery cycle to determine the need to add oil to the vehicle's A/C system.

The Low Pressure Switch (SP-1) mounted on the Suction Accumulator opens when a vacuum of 8 $\pm$ 2 In. Hg. is detected. This stops the recovery process. This switch closes again when a pressure greater than 7 $\pm$ 4 PSIG is reached.

ACID FILTER

Refrigerant enters the Acid Filter through a port on the top and travels through a solid desiccant core where organic and volatile contaminates are filtered, moisture is absorbed, and acid is removed. The refrigerant travels from the outside to the inside of the desiccant core and then out through the bottom port.

Refrigerants react with water to form hydrochloric and hydrofluoric acids which are corrosive to equipment and contaminate oil. Removal of acid at this stage is important to protect the

Compressor and other RRC750 components.

The Acid Filter must be replaced after every 500 hours of operation.

CHECK VALVE (1 PSI)

The Check Valve permits forward refrigerant flow when the output pressure from the Acid Filter is 1 lb. or greater than pressure at the output side of the Check Valve. The primary purpose of this check valve is to prevent flow of oil backwards towards the Acid Filter during the Oil Return Cycle from the Oil Separator.

SUCTION SHUTDOWN SOLENOID VALVE Y-20

Prevents flow of refrigerant to the Compressor when not operating.

SUCTION PRESSURE REGULATING VALVE

This valve is sensitive only to the pressure at the outlet port. The pressure range at which the valve is open is increased or decreased by adjusting a spring which acts on an internal bellows.

Inlet pressure to the valve is exerted on the bellows and the top of the seat disk. Since the effective areas of the bellows and seat disk are equal, the inlet pressure has no affect on the valve operation.

The output pressure of the valve acts on the underside of the seat disk and exerts a pressure in the closing direction. This force is opposed by a spring which is adjusted to set the pressure at which the valve closes.

During production of the RRC750, this valve is adjusted to limit the mass flow rate to 10 ± 2 PSIG during normal operation.

COMPRESSOR

Refrigerant is compressed, resulting in an increase of temperature. This temperature rise is due to the total heat of the vapor being squeezed into a smaller space.

The compression of gaseous refrigerant in a compressor is considered to be near a state of Adiabatic Compression. Adiabatic refers to the process whereby a gas is compressed (or expanded) without any transfer of heat into it during the compression (or expansion).

A very slight increase in temperature may be due to frictional heat generated within the Compressor.

A sight tube is mounted on the Compressor for monitoring the oil level. The Maintenance Section of this manual describes procedures for adding oil as required.

HIGH PRESSURE SWITCH (SP-1)

The High Pressure Switch opens-on-rise at a pressure of 261 ± 7 PSIG and closes on-fall at 203 ± 7 PSIG. The Compressor turns off and Solenoid Valves Y9 and Y20 close to prevent flow of refrigerant through the system.

OIL SEPARATOR

Two internal tubular screens with pointed ends, separated by a baffle plate, cause oil to be separated from the refrigerant vapor. The oil collects on the screens and flows to the tips where it drips into the bottom of the canister. The change in direction of travel caused by the baffle plate also causes oil to be flung from the vapor.

The efficiency of oil removal is 80-85%

The oil which collects in the bottom of the canister is recirculated to the Compressor via Solenoid Valve Y21. A timer initiates this return for 10 seconds at a rate of once every 180 seconds.

CHECK VALVE (5 PSI)

The Check Valve permits forward refrigerant flow when pressure from the outlet of the Oil Separator is 5 lbs. or more than the outlet pressure of the Check Valve.

OIL MIST FILTER

A final filtering of the refrigerant to remove oil is accomplished by a fine composition filter element. Refrigerant enters through the bottom of the canister to the inside of the element, passes through the element towards the outside, and then exits from the top of the canister. The removal of oil is important to prevent clogging the Filter-Drier which removes harmful moisture from the refrigerant.

The Oil Mist Filter must be replaced after every 250 hours of operation

FILTER-DRIER

Refrigerant enters the top of the canister and flows through a perforated plate and then through moisture absorbing desiccant. Moisture removal is very important due to the formation of acids which result when water and refrigerant are allowed to mix.

Desiccant in the Filter-Drier must be changed after every 75 hours of operation.

CONDENSER (COOLED BY FAN)

The high temperature, high pressure refrigerant vapor is cooled by air moving over the finned Condenser. The vapor condenses into liquid form as it is cooled.

ANTI-MIGRATION SOLENOID (Y9)

Prevents backward flow of refrigerant from the Internal Cylinder when the Compressor is not operating.

MOISTURE INDICATOR

As liquid refrigerant flows through the Moisture Indicator, an H_2O sensitive plate will change color to indicate moisture.

INTERNAL CYLINDER

Liquid refrigerant flows vertically upward and discharges from the entry tube in the Internal Cylinder. This flow pattern tends to separate any non-condensable gases from the refrigerant. The level of liquid refrigerant which collects in the Internal Cylinder can be viewed in the sight glass.

A float valve in the Internal Cylinder causes refrigerant to be routed to the External-Cylinder when the level reaches approximately 9 lbs.

A heating element mounted in the shell of the Internal Cylinder causes an increase in pressure of the refrigerant to assist the transfer into the vehicle's A/C system during the charging cycle.

NON-CONDENSABLE GASES PURGE SWITCH (SP-4)

The venting of non-condensable gases (Air) is performed by SP-4.

When the Air concentration in the Internal Cylinder reaches 200 PSIG, SP-4 activates the Non-condensable Gas Discharge Solenoid (Y8). The Air is slowly vented until the pressure reaches 175 PSIG.

CHARGING SOLENOID VALVE (Y-15)

Energized when RRC750 is in Charge Mode. Liquid refrigerant is allowed to flow to the vehicle's A/C system via the Outlet Port.

S10 also energizes when in Recover/Reclaim Mode and the Internal Cylinder is full. When the Outlet Port is connected via hose to the External Cylinder, the cylinder will fill until the Weight Dish Limit Switch is activated. The RRC750 will then stop the Recover/Reclaim process.

VALVE 4 & 5

Manual operation of 3-way Valves 4 and 5 facilitates purging refrigerant from the filters prior to their removal. Operation of these valves is described in the Maintenance Section of this manual.

FAN/HEATER CONTROL SWITCH (SP-3)

Operation of the Condenser Fan and Heating Element is controlled by a pressure switch set at 175 PSIG increasing pressure and reset at 150 PSIG decreasing pressure. When in Recover Mode the Heating Element is locked out of the circuit and the Fan runs as Internal Cylinder pressure rises above the set point. In Charge Mode the Fan is locked out of the circuit and the Heating Element energizes as pressure goes below the reset point.

SCHEDULED MAINTENANCE

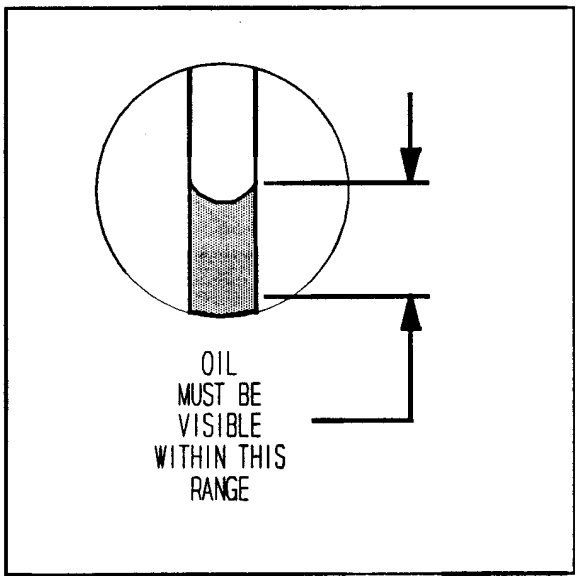
BEFORE EACH USE...

Check the oil level in the Compressor before each Recover/Reclaim operation of the RRC750. A cut-out in the left side of the Compressor Cabinet Cover makes the Oil Level Sight Tube visible.

The oil level should be visible in the cut-out and within the range indicated in the illustration.

If the oil level is not visible, proceed with the Recover/Reclaim operation and recheck the oil level when complete.

If the level is still not visible, oil must be added.



Remove the Oil Fill Cap on the Compressor. Allow the pressure to equalize.

Use the Oil Syringe to add Type 3GS Refrigeration Oil until the level is visible within the range illustrated. Add one syringe full at a time. Wait 5 minutes between each syringe full for the oil to settle.

THE OIL LEVEL MUST NEVER BE ABOVE THE MIDDLE OF THE CUT-OUT

Replace the Oil Fill Cap on the Compressor before applying power to the RRC750.

AFTER EVERY 10 HOURS OF OPERATION..

Clean the Condenser to maintain high efficiency performance of the RRC750. Remove the Compressor Compartment Cover and blow compressed air through the coils to remove any debris. It may be necessary to use a soft brush if the coil is very dirty.

Do not bend the fins on the Condenser coil. Air flow will be restricted and cause damage to the RRC750. Replace the Compressor Compartment Cover before applying power to the RRC750.

AFTER EVERY 75 HOURS OF OPERATION

Replace desiccant material in Filter-Drier. See Filter-Drier Maintenance below

AFTER EVERY 250 HOURS OF OPERATION

Replace core in Oil Mist Filter. See Oil Mist Filter Maintenance below

AFTER EVERY 500 HOURS OF OPERATION

Replace Acid Filter. See Acid Filter Maintenance below.

REFRIGERANT MUST BE RECOVERED FROM FILTERS PRIOR TO ANY MAINTENANCE PROCEDURES.

THIS FEATURE HAS BEEN DESIGNED INTO THE RRC750 TO ENABLE EASY FILTER CHANGES.

THE FOLLOWING SECTION DESCRIBES HOW TO PURGE THE FILTERS PRIOR TO DISCONNECTION.

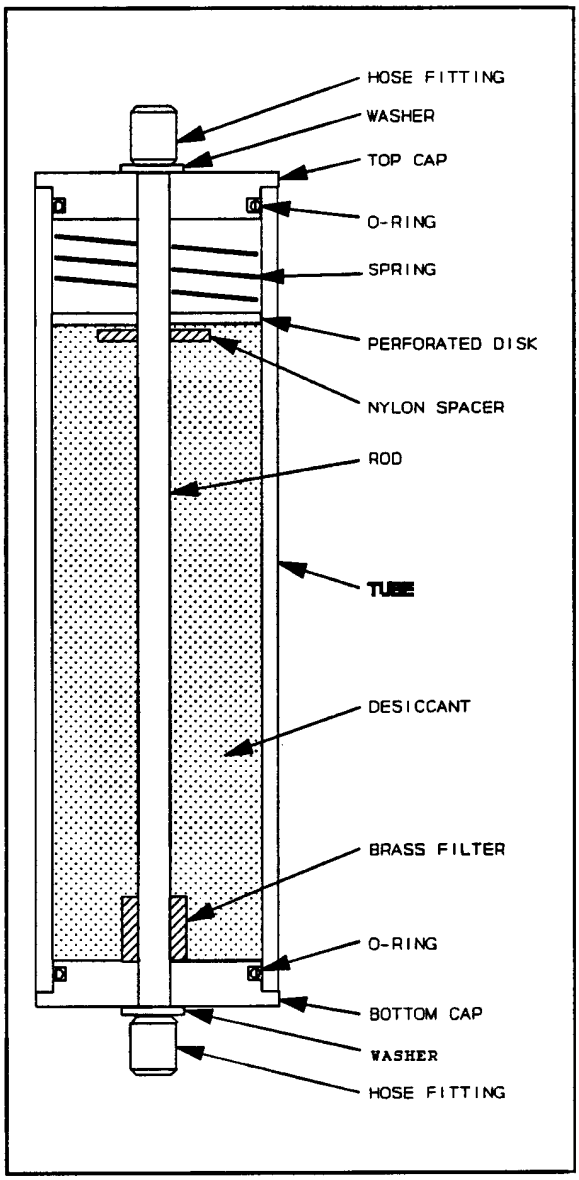
PURGING REFRIGERANT FROM FILTERS

Recover refrigerant from the filters prior to removal by following these steps:

- Disconnect power from RRC750.
- Close the Inlet Port.
- Remove Main Cabinet Cover.
- Locate the two Filter Service Valves inside the Main Cabinet. These valves have yellow handles and are mounted on a filter support bracket.
- Move BOTH handles to the SERVICE position. A label mounted nearby indicates with an arrow the valve handle positions for Service and Operation.
- Set Mode Selector Switch to RECOVER/RECLAIM.
- Connect power to RRC750 and turn Main Power Switch On
- Let the RRC750 run until the Compressor-On Light turns off. The filters have now been evacuated and can be removed for maintenance.
- Disconnect power from the RRC750

FILTER-DRIER MAINTENANCE

The Filter-Drier is mounted inside on a filter support bracket. This filter is the longer cylinder on the left.



Purge refrigerant from Filter-Drier as explained previously in PURGING REFRIGERANT FROM FILTERS section.

Disconnect the nylon tubes from the top and bottom of the filter.

Loosen and remove the nuts, lock washers and U-bolts to remove the filter.

Replace the desiccant in the Filter-Drier as follows:

- Use wrench on top and bottom to loosen and remove the fittings.
- Remove top and bottom end plates and inner metal tube.
- Remove and discard the desiccant material. This material is non-hazardous and requires no special handling.
- Replace the O-ring seals in the top and bottom end plates.
- Replace washers on top and bottom of Rod.
- Reassemble the Filter-Drier from the bottom. Fill with new desiccant, being careful to prevent getting any desiccant inside the Rod.

Attach the filter to the support bracket with the U-bolt, lock washers, and nuts.

Connect nylon hoses to top and bottom fittings.

Move handles of BOTH Filter Service Valves to the OPERATION position. A label mounted nearby indicates with an arrow the valve handle positions for Service and Operation.

Check for leaks and repair as required.

Replace Main Cabinet Cover.

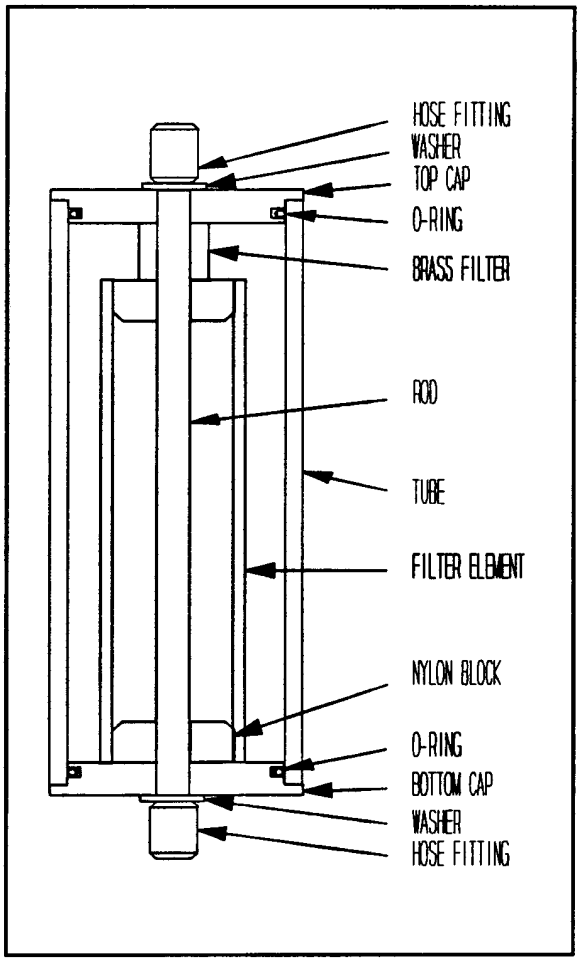
OIL MIST FILTER MAINTENANCE

The Oil Mist Filter is mounted inside on the filter support bracket. This filter is the shorter cylinder on the right.

Purge refrigerant from Oil Mist Filter as explained previously in PURGING REFRIGERANT FROM FILTERS section.

Disconnect the nylon tubes from the top and bottom of the filter.

Loosen and remove the nuts, lock washers, and U-bolt to remove the filter.



Replace the filter element in the Oil Mist Filter as follows:

- Use wrench on top and bottom to loosen and remove the fittings.
- Remove top and bottom end plates and inner metal tube.
- Remove and discard the filter element. This material is non-hazardous and requires no special handling.
- Replace the O-ring seals in the top and bottom end plates.
- Replace washers on top and bottom of Rod
- Reassemble the Oil Mist Filter from the bottom.

Attach the filter to the bracket with the U-bolt, lock washers, and nuts.

Connect nylon hoses to top and bottom fittings.

Move handles of BOTH Filter Service Valves to the OPERATION position. A label mounted nearby indicates with an arrow the valve handle positions for Service and Operation.

Check for leaks and repair as required.

Replace Main Cabinet Cover.

ACID FILTER MAINTENANCE

Purge refrigerant from Acid Filter as explained previously in PURGING REFRIGERANT FROM FILTERS section.

Disconnect the top flare fitting and rotate the Acid Filter out of the lower flare union

Install the new Acid Filter reversing the above steps.

Move handles of BOTH Filter Service Valves to the OPERATION position. A label mounted nearby indicates with an arrow the valve handle positions for Service and Operation.

Check for leaks and repair as required.

Replace Main Cabinet Cover.

PROBLEMS & SOLUTIONS

On rare occasion the RRC750 may seem to be performing differently or not at all. Experience has shown that varying operating conditions can affect the performance characteristics of the RRC750. The temperature of the vehicle A/C System will affect how the RRC750 performs.

Following are typical problems with explanations of the possible cause and solution.

PROBLEM: My RRC750 worked fine all last Summer. I got it out today for the first service job this Spring and it is very slow in evacuating the system.

SOLUTION: Today's Spring temperature may be much lower than the average temperatures during the summer months. Maybe the vehicle was brought in from outside where the temperature is very low.

The refrigerant in the vehicle will not be under as high a pressure at lower temperatures and the RRC750 will take longer to draw a vacuum. More cycles may be required to completely recover the refrigerant.

PROBLEM: I used the RRC750 to service an A/C system earlier today and it worked great. This afternoon I put it in Recover Mode and it won't recover. The Compressor-On Light doesn't even come on.

SOLUTION: The pressure switch on the Suction Accumulator has a close-on-rise setting of 7 $\pm$ 4 PSIG. If there is less than 11 PSIG of refrigerant pressure in the vehicle's A/C System, the RRC750 may fail to start.

Connect a source of refrigerant pressure (for example, the External Cylinder) to the Inlet Port of the RRC750. This will reset the pressure switch so the RRC750 will run when reconnected to the vehicle A/C. It will continue until a vacuum is achieved.

PROBLEM: I put 5 lbs. of refrigerant into the RRC750 using the Recovery/Reclaim Mode. When I checked the sight glass on the Internal Cylinder, there was less than 5 lbs. I lost Refrigerant. The unit must leak.

SOLUTION: Due to temperature changes, some refrigerant may condense into liquid form and stay in tubes and other components in the circuit preceding the Internal Cylinder. This is normal and will explain why all refrigerant is not visible in the sight glass.

PROBLEM: I can not get the RRC750 to draw a vacuum.

SOLUTION: Connect the Gauge Manifold to the Oil Drain Valve on the RRC750. Close the Inlet Port and, with the unit running in Recover/Reclaim Mode, determine if a vacuum can be drawn. If yes, check the charging hoses and Gauge Manifold for possible obstructions.

PROBLEM: When I try to fill the Internal Cylinder from an auxiliary cylinder of clean refrigerant, the RRC750 is really slow or shuts down.

SOLUTION: The auxiliary cylinder cools due to the vaporizing refrigerant within. Then the pressure decreases.

Place the cylinder in a bucket of warm water. This will aid in increasing the speed of recovery by the RRC750.

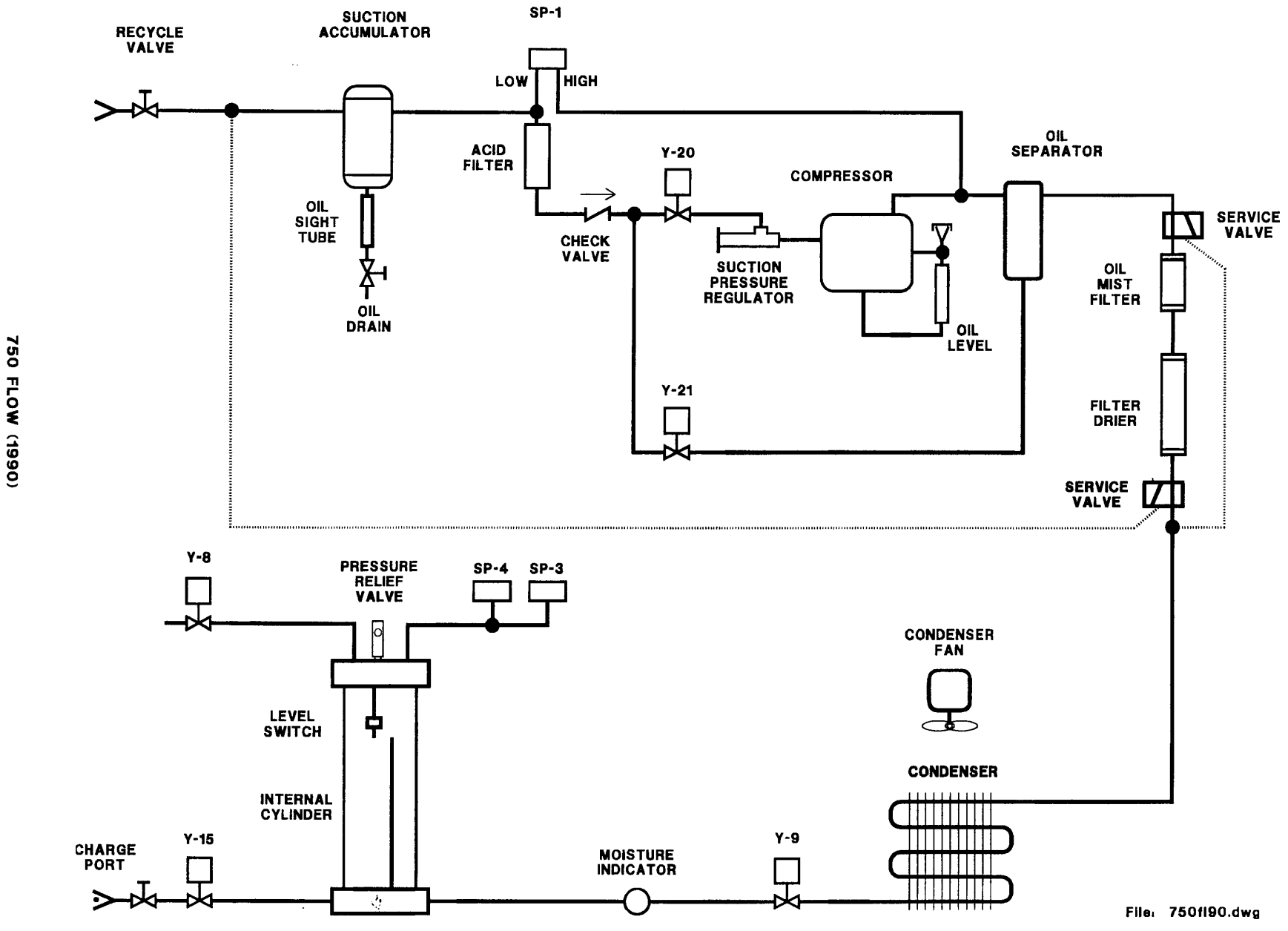
PROBLEM: I filled the RRC750 Internal Cylinder with several small cans of refrigerant and now the unit seems to be continually venting non-condensable gases or is slow to recover.

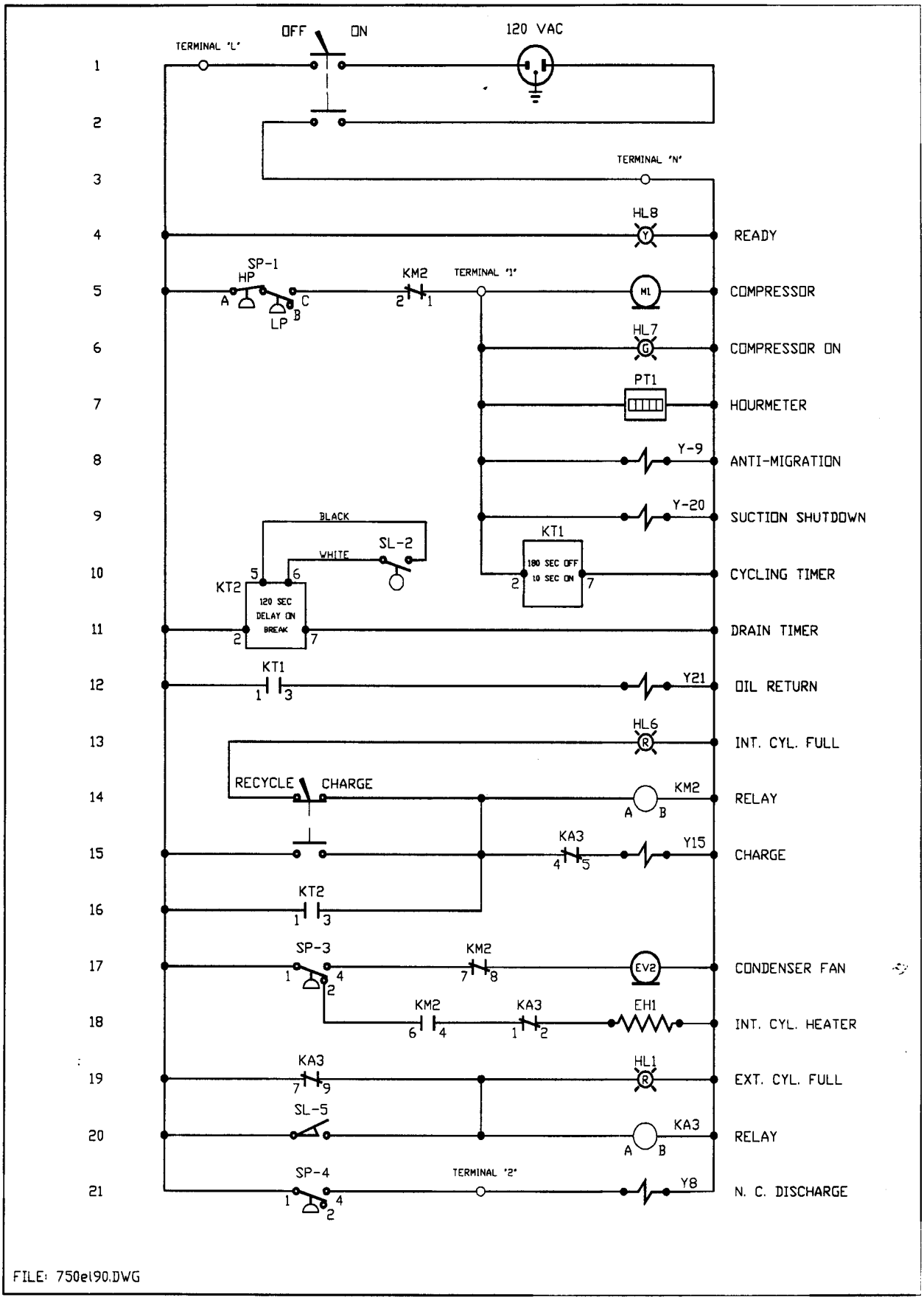
SOLUTION: The frequent venting of non-condensable gases is due to the air which probably entered the inlet hose during the frequent changing of cans. If cans were tipped up-side-down, the RRC750 may have been overfilled with liquid refrigerant. This probably filled the Suction Accumulator with liquid which must vaporize. These symptoms are not a cause for concern and will clear with time.

PROBLEM: I turned a cylinder of new refrigerant up-side-down to precharge the Internal Cylinder with liquid. The Internal Cylinder didn't fill and now the RRC750 won't recover from an A/C system.

SOLUTION: The RRC750 has been overloaded with liquid refrigerant (See Safety Precaution Section at the beginning of this manual). The quickest method to remove the excess liquid which has collected in the Suction Accumulator is to drain it from the Oil Drain on the back of the RRC750. Draw a deep vacuum on an empty cylinder and connect it to the Oil Drain. Open the cylinder valve and the Oil Drain valve.

Close the valves and disconnect the cylinder after the liquid has been emptied into the cylinder. This refrigerant can now be recovered into the RRC750 following normal recovery procedures.


750 FLOW (1990)
RECYCLE VALVE
SUCTION ACCUMULATOR
SP-1
LOW
HIGH
ACID FILTER
Y-20
COMPRESSOR
OIL SEPARATOR
OIL SIGHT TUBE
OIL DRAIN
CHECK VALVE
SUCTION PRESSURE REGULATOR
OIL LEVEL
SERVICE VALVE
OIL MIST FILTER
Y-21
FILTER DRIER
SERVICE VALVE
Y-8
PRESSURE RELIEF VALVE
SP-4
SP-3
CONDENSER FAN
LEVEL SWITCH
INTERNAL CYLINDER
CONDENSER
CHARGE PORT
Y-15
MOISTURE INDICATOR
Y-9
File: 750fl90.dwg



750 SCHEMATIC (1990)