



AN EXCHANGE OF TECHNICAL INFORMATION

VOLUME 8 NUMBER 1 ABOUT CARRIER TRANSCOLD CONTAINER PRODUCTS

2nd Quarter 2003

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TechFact

Controller Analyzer

Carrier Transicold will soon be offering a self-contained controller analyzer (pictured below). This analyzer will test the MicroLink 2i controller along with the soon to arrive MicroLink 3. This new tool will assist in quickly diagnosing controller failures.



Availability will be announced with a service parts bulletin later this year.

TechFact

Scroll Start-up Logic

A new extended off-time start-up logic has been implemented with software version 5313. If the compressor has been off for 6 hours or greater it will start in the reverse direction for 10 seconds, then cycle off. After 60 seconds the compressor will start in the forward direction. If the compressor has been off for less than six hours the compressor will start in the forward direction.

This logic applies to both control mode and pre-trip mode tests, which require compressor operation (P6, P7, P8, P10).

? P. Hoover

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Vent Positioning Sensor

Carrier Transicold now offers a vent position sensor (VPS) option for the upper fresh air makeup vent. This option adds the ability to record the position of the vent in the DataCorder.

General Overview

The VPS allows the user to determine position of the fresh air vent via function code 45. This new function code is accessible via the code select key.



The vent position will display for 30 seconds whenever motion corresponding to 5 CMH (3 CFM) or greater is detected. It will scroll in intervals of 5 CMH (3 CFM).

Scrolling to **Function Code 45** will display the “Fresh Air Vent Position”. The display will be in either CFM (English) or CMH (Metric), depending on the setting of code select 28. To display the alternate reading, press the degree C/F key on the keypad. Once released, the display will return to the previous setting. Note, some units are permanently configured to one setting or the other. On these units code select 28 cannot be changed.

Data Recording of the Sensor Position - The position of the vent will be recorded in the DataCorder whenever the unit is running under AC power and the following occurs:

- ~~///~~ On every trip start
- ~~///~~ On every power cycle
- ~~///~~ Midnight
- ~~///~~ Manual change greater than 5 CMH (3 CFM) and remains in that position for 4 minutes. This provides the user with the ability to change the vent setting without generating multiple events in the DataCorder.

Vent Position Sensor Alarm - The fresh air vent position sensor alarm (AL50) will occur if the sensor reading is not stable for 4 minutes or if the sensor is outside of its valid range (shorted or open). This can occur if the wing nut is loose or the panel is defective. To confirm a defective panel, assure that the wing nut is secure and then power cycle the unit. If the alarm immediately reappears as active, the panel should be replaced. The alarm should immediately go inactive, checking for the 4-minute stability requirement. If the alarm reoccurs after the four minutes and the panel was known to have been stable, then the panel should be replaced.

Note, the user has 4 minutes to make necessary adjustments to the vent setting. This time begins on the initial movement of the sensor. The vent can be moved to any position within the 4 minutes. On completion of the first 4 minutes, the vent is required to remain in stable for the next 4 minutes. If vent position changes are detected during the 4 minutes stability period, an alarm will be generated.

Vent Position Sensor Calibration (Only required when installing a new panel) - The vent position sensor is calibrated using the keypad as follows:

1. Rotate the vent to the 0 CMH/ CFM position.
2. Code select 45 will automatically displayed. Press the Enter key and hold for 5 seconds.
3. After the enter key has been pressed ‘CAL’ for calibration is displayed.
4. Press the ALT MODE key on the display and hold for five seconds.
5. After the calibration has been completed, Code 45 will display 0 CMH / CFM.

Software version 5313 is required to operate this option.

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General

Oil Filter Positioning

Question: I have an earlier model of the 69UG undermount generator set which has a horizontal oil filter arrangement. In order to reduce the cleanup time from oil spillage during my oil changes, can the filter housing be rotated 90° to the vertical position?

Answer: Yes, the filter housing can be rotated so that the filter is in the vertical position.

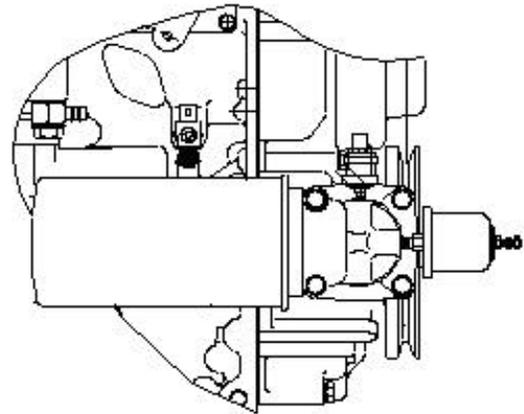
The repositioning of the oil filter housing can easily be performed during the next scheduled oil change by following the instructions below. It is, however, suggested that both "O" rings be replaced before reinstalling the housing, as a precautionary measure.

Following is a recommended procedure for switching the oil filter.

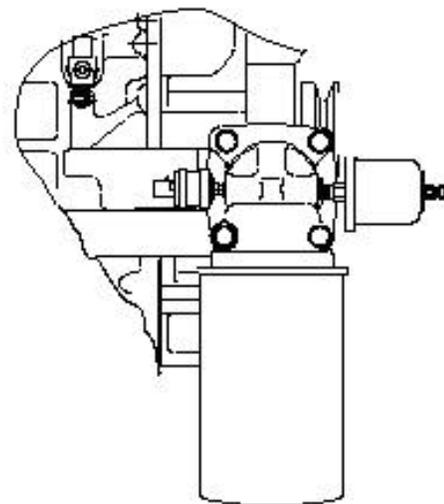
After the oil has been drained from the engine,

1. Disconnect the positive battery cable from the battery
2. Remove the nut and wire from the oil pressure-sending unit and save the nut for reinstallation of the wire.
3. Remove the oil pressure-sending unit from the housing and save.
4. Disconnect the harness from the Low Oil Pressure Switch
5. Remove the 4 bolts securing the oil filter housing to the engine block.
6. Remove the housing from the engine block.
7. Install new "O" rings.
8. Re-install the housing in the vertical position making sure the "O" rings remain intact.
09. Re-install the 4 housing bolts and torque to (15 in-lbs).
10. Remove the pipe plug from the threaded hole that is not being used. Using thread sealer, reinstall the plug into the hole that the oil pressure sending unit was originally located.

11. Clean the threads of the sending unit and install the sending unit (using thread sealer) into the threaded hole from which the pipe plug was just removed.
12. Reconnect both the low oil pressure switch harness and the oil pressure sending wire.
13. Reconnect the positive battery cable.
14. Start engine and check for proper operation and verify that there are no oil leaks.



HORIZONTAL
ARRANGEMENT



VERTICAL
ARRANGEMENT

TechFact

Software

The latest software revisions for the 69NT Reefer units are as follows:

Scroll Units – 5313

Microlink 2 – 1207

Microlink 2i – 5124

Controlled Atmosphere – 3107

Model Number Multi Configuration Card – 12-00402-71

Details on each of these can be viewed in the information center on the Carrier Transicold Web site at <http://www.container.carrier.com>

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TechTip

Evaporator Fan Blades

When removing the black nylon evaporator fan blade, care must be taken to assure that the blade is not damaged. In the past, it was a common practice to insert a screwdriver between the fan blades to keep it from turning. This practice can no longer be used, as the blade is made up of a material that will damage. It is recommended that an impact wrench be used when removing the blade. Do not use the impact wrench when reinstalling, as galling of the stainless steel shaft can occur.

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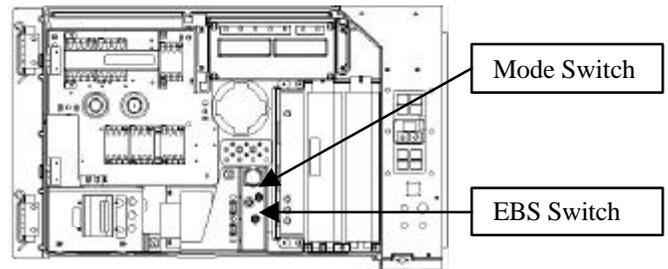
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TechFact

Emergency Bypass Option

Carrier Transicold has introduced the emergency bypass option on its latest scroll unit, EliteLINE model 69NT40-531-09. The EBS (Emergency Bypass Switch) is located inside the control box (pictured below).

The EBS bypass switch functions to bypass the controller in the event of failure. Once activated, it can operate in one of two modes of



operation, FULL COOL or FANS ONLY while still using the system's safety devices (high pressure switch, motor internal protectors, and heat termination thermostat).

There are two switches that control the EBS option, the EBS/NORMAL and the FAN/FULL COOL switch. To activate the option, the EBS switch is placed in the EBS position. Once in the EBS, position the user can select either FAN ONLY operation or FULL COOL operation. **Note, the unit will start in the mode that the switch was last set.** In the “Evaporator Fans Only Operation”, the fan motor contactor will energize, supplying power to the fan motors. If the FULL COOL MODE of operation is selected, the following will also occur:

- ☞☞ The phase detection circuit will detect the phase rotation and close the correct contactor to provide power to the compressor contactor.
- ☞☞ The condenser fan contactor will close to start the condenser fan motor.
- ☞☞ The SMV will open to 100%.

To return the unit to normal control, the EBS switch should be placed in the NORMAL OPERATION position. ? Z Asprovski.
