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TechFact – Mobile Manual

In November of 2014, Carrier Transicold launched a new web portal which allows access to a new kind of manual that is easily viewed on mobile devices such as a smart phone or tablet. The first mobile manuals available were the T365 PrimeLINE with EDGE Technology and T349 NatuRA LINE. Since then, the mobile manual library has grown to ten and includes ThinLINE (T363 and T368), X tendFRESH (T366 and T366S), and the Genset T4i (T343 and T345) and T4 product lines (T360 and T361).

Mobile manuals allow Technical Publications to provide benefits to the end user that the traditional PDF versions cannot. Benefits include quicker download speeds, as the pages are more lightweight than the PDF version, embedding of high quality drawings and schematics, and displaying multimedia such as videos and animations. These benefits and others go a long way towards improving the quality of the technical manuals and helping the technicians to troubleshoot the units.

Since its launch, we have observed an increased flow of visitors to the Mobile Manual site with the T365 PrimeLINE with EDGE Technology leading the way.

From the November 2014 introduction through mid-June, there have been over 2,275 users visiting the manual, with just under 10,000 page views. Since April alone, there have been 1,530 users viewing approximately 5,000 pages of technical information.

With these numbers, we see an increase in usage and we expect this trend to continue as more mobile manuals are made available to the public.

In addition to the mobile manuals, we have launched a Technicians Toolbox which includes the Carrier Transicold Alarm web application, along with other web applications such as reference tables and conversion tools.

With the success of the mobile application, Carrier Transicold plans to continue to build on the Toolbox and welcomes recommendations from the field for new tools to be added, which will aid in the troubleshooting process of the units. Recommendations for additional tool applications can be provided to your regional Carrier Transicold Service Manager.

Following is the link to the Mobile Manual portal.
https://www.transcentral.carrier.com/CPGTechPubs/portal/
TechFact - Fuel Filter Bowl (RG / UG)

As of August 2014 production, Carrier Transicold Container has implemented a change to the 90 degree fuel filter return fitting on top of the fuel filter on both UG and RG Genset units going from a reduced flow to a full flow fitting. This change will reduce the pressure in the filter, reducing the sensitivity to the torque requirement on the filter (18ft / lbs, 2.5 m-Kg). The fitting (P/N 74-00318-00) can be added to any RG or UG genset in the field.

In parallel to this, we have developed a tool to be used when replacing the fuel filter. This tool (P/N 07-00537-00) will help ensure that the fuel filter bowl is torqued appropriately. The torque tool assembly includes a black socket (P/N 07-00537-11) and torque base (P/N 07-00537-02).

Following is an overview of the instructions to install the fitting and use the new tool.

**WARNING:** Be sure power is turned off and the negative battery cable is disconnected before working on the generator set.

A- Instructions for replacing the Fuel Fitting Kit (P/N 74-00318-00) / pictured:
1. Remove cover from Genset unit.
2. Drain a few ounces of fuel from filter by turning the black bleed port (drain valve) counter clockwise.
3. Remove hose clamp and discard.
4. Remove hose from fitting.
5. Remove brass fitting (with orifice) and discard.
6. Add Teflon pipe sealant to the new fitting (without orifice).
7. Install the new fitting into the fuel filter head (position fitting to the side of the head assembly).
8. Mark top of new fitting with white marker/paint pen to show fitting has been changed.
9. Inspect hose, if compromised cut off small section.
10. Reinstall hose and install new clamp.
11. Reinstall cover.

B- Instructions for replacing the Fuel Filter using the Torque Tool Assembly:
1. Bleed the fuel from the filter bowl assembly by turning the black bleed port (drain valve) counter clockwise 2 turns. Loosen the filter element to provide faster flow.
2. Close the bleed port (drain valve) once the bowl is empty.
3. Remove filter element/bowl assembly from the unit using a strap wrench.
4. Drain any excess fuel from the filter.
5. Secure tool base (P/N 07-00537-02) and element in a table vise and remove plastic bowl using the black socket tool (P/N 07-00537-11).
6. Discard used black bevel cut gasket or used blue O-ring, and lubricate the new filter bowl O-ring provided in the kit using clean diesel fuel.
7. Insert the lubricated blue O-ring gasket into the bowl’s O-ring gland/slot.
9. Reinstall the clear bowl until first contact with blue O-ring and filter element.
10. Using black socket (P/N 07-00537-11) with torque wrench, torque to 18ft/lbs. / 2.5 m-Kg.
11. Lubricate the black element square cut gasket using clean diesel fuel.
12. Fill element with clean fuel.
13. Reinstall filter element/bowl assembly to the metallic filter head assembly.
14. Using a strap wrench, tighten assembly ~¾ turn after gasket touches the filter head assembly.
TechFact – TechLINE Articles

Over the years Carrier Transicold has published many TechLINE articles. To assist in your continued utilization of the information, we have categorized and listed the articles alphabetically below.

Each of these articles can be found by going to the Carrier Transicold container web site at www.container.carrier.com, select Service and Support / TechLINE and scroll down to the desired article date.

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A. Container, sorted by:
   a. Articles of Introduction
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TechFact - PrimeLINE® with EDGE Condenser Motor CTD# 54-00670-20 (Three Phase, Two Speed)

The PrimeLINE EDGE model unit uses a dual speed (High / Low) condenser motor with two sets of Y motor windings. To control the motor in high speed the windings are electrically connected and energized in parallel using the CF and FS Contactors. For Low speed operation the motor windings are energized in series using the LC Contactor.

- CF – Condenser Fan Contactor (High Speed)
- FS – Condenser Fan Contactor (High Speed Shorting)
- LC – Condenser Fan Contactor (Low Speed)

Condenser Motor (Low Speed) -
Contactor LC shall energize. When LC Contactor is energized, LC Contactor T1, T2, T3 delivers three phase power to Condenser Motor Electrical Connector Pin7, Pin9, Pin8 respectively. Condenser Motor Electrical Connector Pin7, Pin9, Pin8 then delivers three phase power to Condenser Motor Winding T1, T2, T3 respectively.

When the LC Contactor is energized, three phase power is delivered to the two sets of Y Motor Winding connected in series.

Note: Motor winding in series has higher impedance, therefore leads to lower power consumption, i.e. Low Speed application.

Condenser Motor (High Speed) - Both
Contactor CF and FS shall energize. When CF energizes, CF Contactor T1, T2, T3 delivers three phase power to Condenser Motor Electrical Connector Pin1, Pin3, Pin2 respectively. Condenser Motor Electrical Connector Pin1, Pin3, Pin2 then delivers three phase power to Condenser Motor Winding T6, T4, T5 respectively. Three phase power is delivered to one set of the Motor Winding (Y connection).

When FS is energized, FS Contactor L1, L2, L3 creates a “jumper” circuit to Condenser Motor Winding T1, T2, T3 respectively. three phase power (from Electrical Connector Pin1, Pin3, Pin2) is delivered to the second sets of Motor Winding (T6,T4,T5).

With the CF and FS Contactors energized, three phase power is delivered to two sets of Y Motor Winding connected in parallel.

Note: Motor winding in parallel has lower impedance, therefore leads to higher power consumption, i.e. High Speed application.

Condenser Motor Essential Notes:
The LC Contactor is electrically interlocked against CF and FS Contactor. This will prevent the CF and FS contactor to engage with the LC is energized, as this would otherwise cause an electrical failure and malfunction.

TECHLINE (November 2014 Issue) contains information on “Condenser Motor Limp Home”, a procedure written to aid installation of a Three Phase Single Speed Condenser Motor into a 69NT40-561-3XX (PrimeLINE with EDGE) unit with a dual speed motor as an emergency when a direct replacement is not readily available.
TechFact – 2015 Global Training Schedule

Listed are the training courses scheduled for the remainder of 2015. Classes are subject to a minimum requirement of 12 students. Approximately 30 days prior to the class start date, registered students will receive an email confirming the class is being conducted along with logistical information. You should not make travel arrangements to attend the class until after you have received this confirmation email. To register for a class to go: [http://www.container.carrier.com](http://www.container.carrier.com) and select Training from the Service & Support tab.

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**TechFact – Mandatory Part Returns (MPR)**

In ongoing efforts to improve the reliability of our products, parts that fail under warranty are inspected for root cause of failure; these inspections, form the basis for continuous improvements to our products. The MPR process is the essential foundation of this ongoing process.

All parts changed under warranty should have an MPR tag attached and the part held on site for 120 days. During warranty claim submittal you will be advised if a part has to be returned under this MPR process. Unless separately advised, Part Shipping locations are:

- North America (USA and Canada) – Return to Syracuse TR20, attention Service Engineering.
- EMEAR – Return to Carrier Transicold, Rotterdam
- All other Countries – Parts should be returned to the Parts warehouse from where the part was purchased.

**TechFact – Software Release Update**

Listed below are the software release versions for operating and working with Carrier Transicold units. Prior to upgrading units you should seek agreement from the equipment owners.

Recip (ML2i/ML3, 5159)/ Scroll (ML2i, 5360 /ML3, 5364) Reciprocating Unit (ML2) – 1207 Controlled Atmosphere – 3115 DataLINE – 2.2 / DataBANK – 0513 Menu – 0116, Software cards with revision greater than 5159 or 5361 must have menu 116 or an error could occur.

After completing a software upgrade, it is important for the user to check the user selectable controller selections (i.e. defrost setting, set point, etc.).

TechLINE is a publication of Carrier Transicold
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Contributors: Christine Bocyck, Mark Donahoe, Tom Graff, Nadir Guenane, Ken Tock

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