GOODMAN TECHNICAL SERVICES

# GoodNews Tech Tips

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**NATE Certification**

Goodman encourages and supports HVAC contractors who earn NATE Certification. The NATE badge is a symbol recognized by an ever-increasing number of homeowners as the official mark of technician excellence.

## Second-Generation Communicating Furnace

This month, we will begin production of the second-generation communicating furnace. The model numbers for these new furnaces will show a minor revision change. The new furnaces will have some additional features, and the new furnace control board will be p/n PCBKF103.

The additional features are as follows and apply to both the 80% and 95% models.

1) Auxiliary Shut Down Circuit (Communicating Mode Only) A normally closed device, such as a float switch, may be used to turn off the furnace and condensing unit in the event of condensate build up.

2) Humidification Circuit (Communicating Mode Only) A dedicated humidifier circuit has been added to the control board. This circuit consists of a relay and a set of HUM contacts - HUM IN, HUM OUT. When used with a communicating thermostat capable of humidifying, such as the CTK02 or CTK03 (when available), this circuit is designed to respond to a request for humidification by powering a humidifier and indoor blower with or without a call for heat.

3) Full Range of Continuous Fan Speeds In a non-communicating installation, the installer may select 25%, 50%, 75% or 100% of maximum CFM by setting dip switches. In a communicating installation, continuous fan speed is still selected at the thermostat, as always.

4) Field Test Mode This feature allows the installer to quickly bring the furnace up to high fire for checking gas manifold pressure. This feature is initiated by simultaneously pressing the fault recall and learn buttons.

The PCBKF103 will be the service replacement for the PCBKF101, PCBKF102 control boards.

***Note: When used as a service part replacing these controls on existing product, the Aux Circuit and the Humidification Relay features are not supported.***



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# End Bell Part Numbers

Goodman had set up End Bell part numbers for Nidec, formerly Emerson, 4-wire communicating motors. Furnaces and air handlers take the same End Bell, and their part numbers are as follows:

½ H.P. End Bell # 0131M00182

¾ H.P. End Bell # 0131M00183

1 H.P. End Bell # 0131M00184

# Furnace Auxiliary Limit Switches

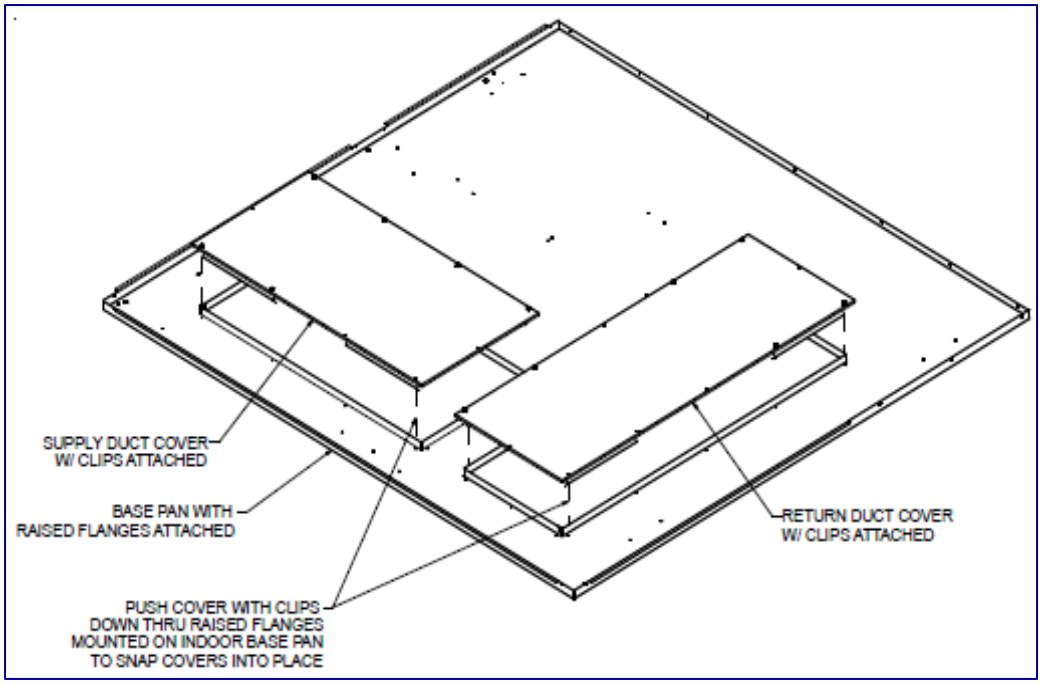
In high-ambient temperature locations, such as attics, it is possible to experience an open furnace auxiliary limit switch during the summer months, and it is important to keep this in mind when doing a furnace installation or complete system installation in the summer. Often, warranty work is done and a switch is replaced when it is not faulty. Auxiliary switches by design have fairly low settings. For example, automatic reset auxiliary limit #0130F00038 opens at 120º ±6º and closes at 80º ±8º.

These switches are carefully selected based on agency requirements for specific tests during product development and should never be replaced with any part not specified for the furnace model number in question.

# Commercial Duct Clips and Covers

Clips have been added to the 3 - 12 1/2 ton light commercial units to fasten the duct panels to the bottom of the unit when setting up for horizontal discharge. Previously, the end panels needed to be secured to the bottom of the unit with screws. All 3 - 12 1/2 ton units are now shipped with clips to attach to the end panels so that the end panels can easily be snapped into place instead of securing with screws.

Goodman also has added a 3/4" raised flange to the supply-and-return side base pans of the 3 - 12.5 ton light commercial units.



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# Frequently Asked Questions from the Field Service Technician

We receive numerous questions covering a variety of topics from the service technicians in the field. In order to keep the field better informed of service procedures and product changes at Goodman, we would like to address some of the more popular questions.

**Question:** Is there an approved drop-in replacement refrigerant for R22?

**Answer:** An analysis of many of the proposed R-22 "drop-in" refrigerants has produced the following concerns:

None of the "drop-in" refrigerants result in system performance that is equal to R-22.

System performance ratings will be compromised with alternate refrigerants, and the total cost of ownership could increase.

Many of the alternate refrigerants have higher or similar GWP versus R-22.

Refrigerant - mineral oil miscibility results are unfavorable and can result in system oil trapping.

At this time, for the above reasons, Goodman Mfg Co. and Emerson Climate Technologies, Inc. cannot approve the use of these "drop-in" refrigerants with Copeland brand compressors for residential and light commercial service applications with mineral oil lubricant. This decision will be re-evaluated as new information becomes available. Using alternate refrigerants in place of R-22 in Copeland compressors **will void the applicable warranty.**

**Question:** Does Goodman approve of the use of Stop-Leak products in their units?

**Answer:** Neither Goodman nor our compressor vendors approve of the use of Stop-Leak products in any Goodman®/Amana® units produced by Goodman Mfg Co.

# Frequently Asked Questions from the Field Service Technician Continued

**Question:** Can a Meghometer be used to determine good or bad compressors.

**Answer:** No. A Meghometer should not be used to determine good or bad compressors. There is not an industry recognized specification for mega ohm values for small tonnage compressors. Scroll compressors can have the motor winding end-turns in the oil, which can produce a lower resistance reading to ground. The insulation type is the same for scroll and reciprocating compressors.

The following procedure is the Goodman recommended method to test for grounded compressors and can be found in the split system service manual on the Goodman web site.

**Disconnect all power to the unit**, ensure that **all** power legs are open.

1. **DO NOT** remove protective terminal cover. Disconnect the three leads going to the compressor terminals at the nearest point to the compressor.
2. Identify the leads and using an ohmmeter on the R x 10,000 scale or the highest resistance scale on your ohmmeter, check the resistance between each of the three leads separately to ground (such as an unpainted tube on the compressor).
3. If a ground is indicated, then carefully remove the compressor terminal protective cover and inspect for loose leads or insulation breaks in the lead wires.
4. If no visual problems indicated, carefully remove the leads at the compressor terminals.
5. Carefully retest for ground, directly between compressor terminals and ground.
6. If ground is indicated, replace the compressor.

The resistance reading should be infinity. If there is any reading on meter, there is some continuity to ground, and the compressor should be considered defective.

# Technical Services' Training Coordinator

Goodman's Technical Services Department would like to formally introduce Sasha Lopez as the new Training Coordinator.

Sasha has been with Goodman for six years and comes from the Consumer Affairs Division. In 2010, she obtained her Bachelor of Science in Business Management while with Goodman.

Through her work in Consumer Affairs, she has a vast familiarization with the Goodman®/Amana® line. While there, she handled a high volume of consumer calls, processed warranties and worked towards resolving escalated consumer complaints.

As the training coordinator, she will be working with the Technical Trainers and the Regional Technical Service Managers in coordinating and scheduling training classes and webinars, and she will be working diligently to continue updating and making improvements to the online training calendar.

A lot of people in the industry are already familiar with Sasha, and she continues to dedicate her time and efforts to contribute towards the ongoing growth and success of the organization.

# Service Bulletins

Below is a list of the Service Bulletins that have been released during the 2012 year. Copies of these service bulletins are available on Goodman's Partner Link website at http://partner.goodmanmfg.com. Once you log in to the website, click on "TOOLKIT", which is located at the top of or on the left-hand side of the webpage. Select either the "Amana Dealer Toolkit" or the "Goodman Dealer Toolkit" link. Next, select the "Service Tools" link, and then select the "Service Bulletin" link.

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| SA-017 Rev 1 | DATE: August 13, 2012 | SUBJECT: New Website for Technical Training |
| SA-019 | DATE: June 1, 2012 | SUBJECT: HKR Heater Kits with HKS Instructions |
| SA-018 Rev. 1 | DATE: April 25, 2012 | SUBJECT: Updated LAKT Low Ambient Kit Instructions |
| SA-016 | DATE: March 2, 2012 | SUBJECT: Memory Chip Rework |
| SL-009 Rev. 1 | DATE: July 2, 2012 | SUBJECT: Horizontal Discharge Kit |
| SL-008 | DATE: May 7, 2012 | SUBJECT: Utilizing Economizer Minimum Position on CPG Units |
| SR-044 Rev 3 | DATE: August 1, 2012 | SUBJECT: Return of Failed all Aluminum Coils |

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**Thank goodness for Goodman™.**

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Heating & Air Conditioning
Amana

**Lasts and Lasts and Lasts™.**

**We've become one of the largest manufacturers of residential and light commercial air conditioning, heating, and indoor air quality products and systems by focusing on just one thing-building the most reliable and refreshingly affordable indoor comfort products in the market.**

**The complete line if Goodman brand products are built on the principle of founder Harold Goodman, a former air conditioning contractor.**

**Harold's goal was to manufacture air conditioning and heating equipment that:**

- **Provides industry leading product warranties**
- **Offers greater reliability and longer-lasting performance than competing products**
- **Is designed for quick., trouble-free installations**
- **Makes reliable cooling and heating as affordable as possible.**

**Building our products to Harold's standards, and protecting those products with some of the best limited warranties in the industry, has helped to make the Goodman brand widely recognized as a leading brand in the residential and light commercial heating, ventilation and air conditioning industry today.**

**We're on the web!**

**www.goodmanmfg.com**