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.**

## 2011 Technical Services Managers Meeting

April marked the beginning of another training season for our annual Technical Services and Training Managers Meeting. Company-owned and Independent TSMs (Technical Service Managers) and TMs (Training Managers) traveled to Houston to participate in the meeting.

Goodman uses the Technical Services' resources and the talent of many departments and outside speakers to keep everyone on the distribution side up to date. The more knowledgeable, the better prepared and the better trained our team is, the more we will stand head and shoulders above the rest.

At this year's meeting we had a total attendance of 83 COD and Independent representatives. Of this total, 21 attendees were from COD with 5 new attendees and 62 attendees were from Independent Distributors with a total of 21 new attendees. This new attendance total of 26 representatives for this year's meeting shows how important these meetings are and allows us to provide the necessary training materials for you to provide first class technical training to your dealers.

One final note from the meeting, an online survey notice was sent out on April 7, 2011 for your feedback which will allow us to continue to improve these meetings year after year. The cutoff date for completion of the survey is April 30, 2011.

Thank you again to all those who attended this year's meeting, and we hope that if you were not able to attend this year's meeting that you will plan on attending next year's meeting. All product presentations are available in the Toolkit section under Goodman® or Amana® Training Programs in the Partner Link section of the Goodman® and Amana® websites.



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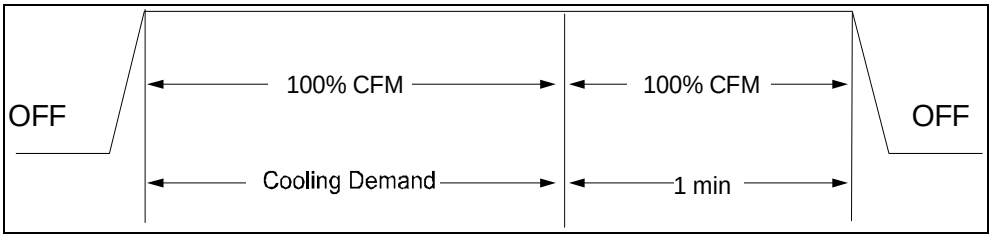
# Furnace Ramping Profiles

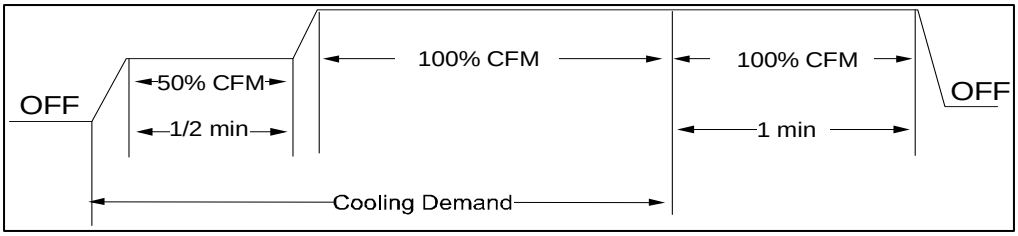
The use of furnace cooling ramping profiles is a very effective way to reduce humidity. This feature is built into our "V" / "VC" model furnaces. Ramping profiles can be selected by setting dip switches 5 & 6 and also on the communicating thermostat in the cool setup menu. During a call for cooling the indoor fan motor will follow the routine of the ramping profile selected rather than operating immediately at 100% of the cooling CFM. There are four possible selections;

**Profile A** (factory default) provides only an OFF delay of one (1) minute at 100% of the cooling demand airflow.




Profile "A"

**Profile B** ramps up to full cooling demand airflow by first stepping up to 50% of the full demand for 30 seconds. The motor then ramps to 100% of the required airflow. A one (1) minute OFF delay at 100% of the cooling airflow is provided.




Profile "B"



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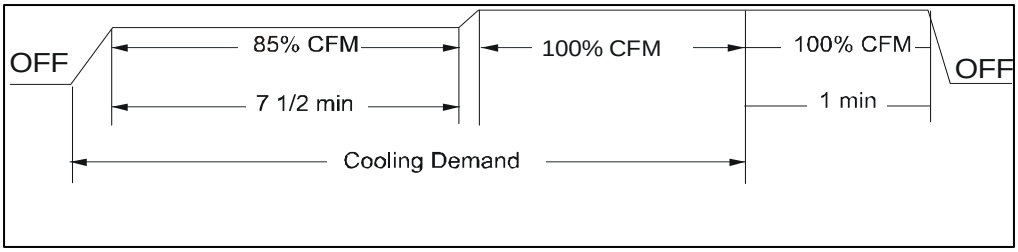
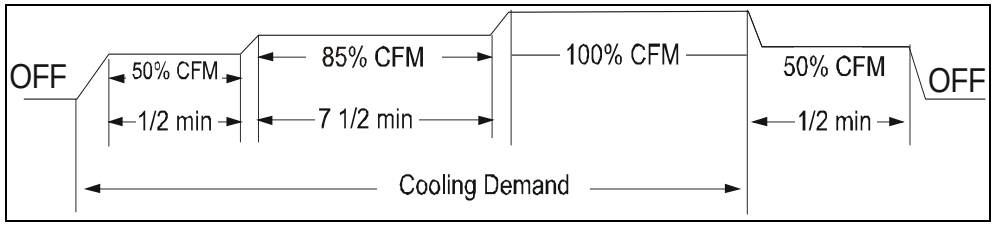
# Furnace Ramping Profiles Continued

**Profile C** ramps up to 85% of the full cooling demand airflow and operates there for approximately 7 1/2 minutes. The motor then steps up to the full demand airflow. Profile C also has a one (1) minute 100% OFF delay.




Profile "C"

**Profile D** ramps up to 50% of the demand for 1/2 minute, then ramps to 85% of the full cooling demand airflow and operates there for approximately 7 1/2 minutes. The motor then steps up to the full demand airflow. Profile D has a 1/2 minute at 50% airflow OFF delay.




Profile "D"



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# Split-System Suction Valve

In our continuing effort to offer product improvements to our customers, we will be introducing a newly designed suction valve in the split system units in the late 3rd quarter of 2011. The new valve will have an angled-gage fitting making access for connecting gage hoses easier for the technicians. This valve will be used on all split condenser AC and heat pump units.

# Proper V-Belt Maintenance and Adjustment

Properly adjusting and maintaining your systems belts increases belt, motor and bearing life for your HVAC system. It is important to note that V-belts will stretch and slip long before they break. Therefore, it is not recommended to use V-belt dressing to solve tensioning and belt problems.

There are different types of belts: A, B, AX, BX, etc.... AX and BX belts are more commonly used in high torque situations. This is important for selecting the correct belt(s) for the system. Remember that if the system has 2 or more belts per pulley/sheave, they should be changed at the same time and by the same belt manufacturer. This will ensure uniformity between the belts. Once the belt(s) are removed, visually inspect the pulleys/sheaves for alignment, glazing and grooving. Installing new belts on worn and misaligned pulleys/sheaves will shorten the life of your new belt(s).

Once the new belts are installed, it is now time to adjust the tension of the belt(s). **Note:** Do not use the 1" rule since diferent belts have different tensioning requirements. A belt tensioning tool should be used for this along with the equipment manufacturer's tensioning chart.



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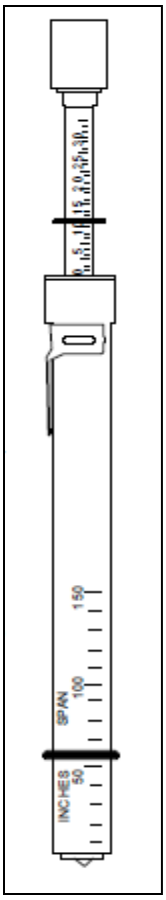
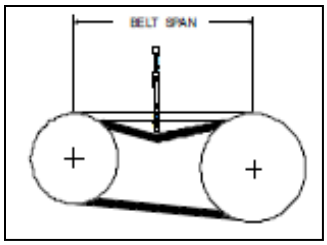
# Proper V-Belt Maintenance and Adjustment Continued




**How to use belt tensioning tool**

1. Measure belt span.
2. Position bottom of large "O" ring on the span scale.
3. Set the small "O" ring on the deflection scale to 0.
4. Place the tension checker squarely on the center of the belt span. Push until the large bottom "O" ring is even with the top of the next belt. **Note:** When using only a single belt, place a straight edge across the pulley/sheave span.
5. Remove the deflection tool and read the amount of deflection on the small "O" ring and adjust accordingly.

After your belts are correctly tightened, run the system for 1 to 3 minutes and recheck the tension. Belt tension should be ideally checked 8 hours, 24 hours, 100 hours, and periodically after that.




3 – 20 Ton Tensioning Table

| MODEL | TYPE | | SHEAVE DIAMETER (in) | DEFLECTION FORCE (lbs) | | DEFLECTION (in) |
|---|---|---|---|---|---|---|
| | BELT | DRIVE | | USED | NEW | |
| 3-5 Ton | A, AX | Standard | 3.0 to 4.0 | 4.1 +/- .5 | 6.1 +/- .6 | 0.188 |
| 7.5 Ton | A, AX | Standard | 2.6 to3.6 | 4.5 +/- .5 | 5.5 +/- .5 | 1/4" + 1/16" |
| | | High Static | 3.0 to 4.0 | 5.0 | 7.4 | 1/4" + 1/16" |
| 8.5 Ton | A, AX | Standard | 2.6 to 3.6 | 4.5 +/- .5 | 5.5 +/- .5 | 1/4" +/- 1/16" |
| 10 Ton | A, AX | Standard | 3.0 to 4.0 | 4.5 +/- .5 | 5.5 +/- .5 | 1/4" +/- 1/16" |
| | | High Static | 3.0 to 4.0 | 5.0 | 7.4 | 1/4" + 1/16" |
| 12.5 Ton | AX | Standard | 2.6 to 3.6 | 4.5 +/- .5 | 5.5 +/- .5 | 1/4" +/- 1/16" |
| | | High Static | 3.6 to 4.6 | 4.9 +/- .5 | 6.0 +/- .5 | 1/4" +/- 1/16" |
| 15 Ton | B, BX | Standard | 4.3 to 5.5 | 5.5 +/- .5 | 8.2 +/- .5 | 1/4" +/- 1/16" |
| | | High Static | 4.3 to 5.5 | 5.5 +/- .5 | 8.2 +/- .5 | 1/4" +/- 1/16" |
| 20 Ton | B, BA | Standard | 4.3 to 5.5 | 5.5 +/- .5 | 8.2 +/- .5 | 1/4" +/- 1/16" |
| | | High Static | 4.3 to 5.5 | 5.5 +/- .5 | 8.2 +/- .5 | 1/4" +/- 1/16" |



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# Dry-Charged R-22 Units

There seems to be some confusion concerning the dry-charged R-22 units from the nitrogen holding charge to the type of oil in the compressor. Remember the following when dealing with the dry-charged units.

1. GSC13/GSH13 Dry-Charged Units are shipped with a **nitrogen** holding charge.
2. This charge <u>must be removed</u> before evacuation and charging.
3. If you don't remove the nitrogen they won't work properly.
4. Compressors have an oil charge from the factory.
5. They are a normal R-22 compressor and use mineral oil.
6. They can not be operated with R-410A.

Hopefully this clears up some of the misconceptions surrounding the R-22 dry charged units, so let's have a great cooling season.

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**Thank goodness for Goodman™.**

## Goodman Technical Services

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

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