

DEALER SERVICE BULLETIN

Number: DSB 14-0012

Date: 10/23/14

Supersedes: DSB 14-0008

Title: 1.5, 2, and 2.5 Ton Condensing Units
Causing Incorrect Super Heat for TXVs in
Residential Split Systems

PRODUCT CATEGORY:

1.5, 2, and 2.5 Ton Split Systems

MODELS AFFECTED:

Bryant:

113AN(A,C,W)0(18,24,30); 113APA030; 116BNA0(18,24,30); 123ANA0(18,24,30);
126BNA0(18,24,30); 127ANA024; 180BNA024; 186BNA0(18,024,030); 187BN(A,C)024;
213ANC0(18,24,30); 213CNA0(18,24,30); 213CPA030; 214CNA0(18,24,30);
215BNA0(18,24,30); 223ANA0(18,24,30); 225BNA0(18,24,30); 226ANA024; 280ANV024;
285BNA0(18,24,30); 286BN(A,C)24; 289BNA024; BA13NA0(18,24,30); BA16NA0(18,24,30);
BH13NA0(18,24,30); BH14NA0(18,24,30)

Carrier:

24ABB3(18,24,30)(A,C,W); 24ABC6(18,24,30)A; 24ACB3(18,24,30)A; 24ACB724A;
24ACC6(18,24,30)A; 24ANB124A; 24ANB6(18,24,30)A; 24ANB724(A,C);
25HBB3(18,24,30)(A,C); 25HBC3(18,24,30)W; 25HBC5(18,24,30)A; 25HCB3(18,24,30)A;
25HCB624A; 25HCC5(18,24,30)A; 25HCD3(18,24,30)A; 25HCD4(18,24,30)A;
25HNB5(18,24,30)A; 25HNB624(A,C); 25HNB924A; 25HNH5(24,30); 25VNA024;
C4A3(18,24,30); CA13NA0(18,24,30); CA16NA0(18,24,30); CH13NA0(18,19,24,25,30,31);
CH14NA0(18,24,30)

Payne:

PA13NA0(18,24,30); PA16NA0(18,24,30); PA17NA024; PH13NB0(18,19,24,25,30,31);
PH15NB0(18,24,30); PH16NA024

Serial Number(s): 4413X - 3814X
4413E - 3814E

SITUATION:

Ongoing testing and reports from the field indicate that Thermostatic Expansion Valves (TXV) in 1.5, 2 and 2.5 ton indoor coils installed with the above listed condensing units may not maintain the correct SuperHeat (SH) in certain situations. The end result is a lack of cooling for the homeowner due to high SH and low suction pressures measured at the outdoor unit.

Carrier has identified the substance that is causing improper TXV operation by restricting the flow of refrigerant through the system. Internal and field testing has confirmed that this

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issue is not caused by the TXV or indoor coil. The TXV metering device is acting as a filter by collecting a substance used in one of the condensing unit's components. Through significant research and testing, Carrier found the cause to be an unauthorized change to a rust inhibitor used by a supplier. The previous rust inhibitor has since been re-introduced to correct this issue in new systems being manufactured going forward. The affected component is used by the majority of HVAC Original Equipment Manufacturers (OEMs) and has impacted much of the industry.

Carrier has thoroughly tested a system additive that has proven to be effective without compromising long term system reliability. This additive will be the solution for systems exhibiting high SH during operation.

SOLUTION:

For installed 1.5, 2, and 2.5 ton condensing units that subsequently exhibit high SH related to this issue, the SOLE solution will be to inject the approved additive into the system and exercise or cycle the TXV valve as described in the "Field Action" section of this bulletin.

FIELD ACTION:

Note: *Other system issues unrelated to this bulletin can also cause high SH, low suction pressure and coils to freeze. A review of some specific sites that have experienced repeat failures has found other causes that were related to air flow and refrigerant charge. Please conduct appropriate checks for refrigerant charge, static pressure, air flow, and correct coil size/orientation/alignment to rule out these potential causes prior to injecting a system with additive under this bulletin.*

Following appropriate system checks to first rule out other potential causes, systems with condensing units listed in the "models affected" section of this bulletin exhibiting high SH and low suction pressure should be injected with additive part # 040232191046, available from your distributor. This is the ONLY additive approved for use.

The additive is a 4 ounce dose (1 bottle). Four ounce injection tools can be procured through your distributor.

Carefully follow the instructions provided with your oil/dye injection tool to install the additive. When installing the additive it is necessary to exercise or cycle the TXV for maximum effectiveness. There are 2 methods to effectively cycle the valve.

Method #1:

This method is only applicable to coils installed on a gas furnace or in a heat pump application. This method uses the furnace or heat pump to warm the indoor refrigerant coil. When ambient conditions are not conducive to operating the furnace or operating in heat pump mode, use Method #2. After injecting the additive into the system operate the system in heat mode for 15 minutes. Once the indoor coil is warm, switch the system to cooling mode for 15 minutes. Once the system has stabilized verify that the SH and suction pressures have improved. If they have not improved utilize Method # 2.

Method #2:

This method involves immersing the TXV bulb into an ice water bath and a hot water bath to cycle the TXV. Carefully remove the TXV bulb from the vapor header of the coil and prepare the hot and cold water baths. Start the system in cooling mode and alternate immersing the bulb from the cold bath to the hot bath every 30 seconds for 5 minutes. After cycling the TXV mount the bulb back onto the vapor header in the factory indented location using an OEM style clamp and insulation. Do not use tape or tie wraps to re-mount the TXV bulb back to the vapor header. Allow the system to operate in cooling mode for 15 minutes and verify that the SH and suction pressures have improved. If they have not improved replace the TXV.

Testing has shown that the additive identified in this bulletin is highly effective. In the unlikely event a unit experiences a repeat high SH issue after injecting the system under the terms of this bulletin, the TXV will need to be replaced. TXV replacement claims are not managed through this bulletin. Please document and provide the outdoor model and serial number along with original date that the system was injected with the additive to your distributor service manager (DSM).

DO NOT inject a system twice with the additive. A second injection could have negative long term system effects.

Dealers should retain service tickets for potential audit for a minimum period of six (6) months and any replaced TXV's should be retained for minimum period 30 days after claim approval for potential audit. The factory may request some of these for analysis.

Parts/Kits:

Additive Part # 040232191046

Important: Please collect the following information at time of service for the warranty claim.

- Outdoor unit: Model and Serial number – claim is filed against the outdoor unit
- Indoor unit: Model, Serial number, start date, fail date (entered in diagnosis section of claim)
- Description of the TXV diagnosis and malfunction (entered in diagnosis section of claim)

CLAIMING:

Claims for this issue must be filed against one of the outdoor unit models numbers listed in the “MODELS AFFECTED” section at the beginning of this bulletin.

Dealers/Distributors must retain service tickets for potential audit for a minimum period of 6 months and retain any replaced TXVs for a minimum of 30 days following claim approval for potential audit as outlined in the Service Policy Manual.

1. Review the bulletin in its entirety to understand
 - Model numbers impacted
 - Range of serial numbers impacted

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- Failed and replacement parts impacted
- Timing for implementation

2. Start claim in entitlement

Product Name:	13S BASE AC,PURON,2.0T,208/230-1
Model Number:	24ABB324A003
Discrete Model Number:	24ABB324A0033010
Serial Number:	0714E11896
Date Installed:	07/07/2014

Warranty Information

Brand	Application Type	Original Equipment Owner	Component Code	Warranty Length	Installed After	Warranty Start	Warranty Stop
ALL	Owner Occupied Residential	Original	Accessory Exchange	30 days	01/01/2009	07/07/2014	08/06/2014
			Enhanced Parts Warranty	10 years			07/07/2024

SEARCH NEW CLAIM

3. Complete the Header section of the claim

- Select Bulletin as Warranty type
- Enter install date if it doesn't auto-populate

** PAPER CLAIM ** NO

Manufacturer	UTC - United Technologies Corporation		
Dealer	530127109 - BrandOps Carrier Test Dealer	Dealer Location	TEST-TST04 - BrandOps Carrier Test Dealer
Distributor		Distributor Location	
Reference Number	TSTH		
Model Number*	24ABB324A003	<input type="checkbox"/>	Competitive Equipment
Serial Number	0714E11896	<input type="checkbox"/>	Stock Unit
Warranty Type *	Bulletin	Unit Installed/Startup Date	06/01/2014

4. Complete the Customer section of the claim

- Enter Customer name and address if it doesn't auto-populate
- Select Application type
- Select Original equipment owner Y / N

CUSTOMER INFORMATION

Company Name			
First Name	Nicholas	Last Name	Papageorgio
Address Line 1*	2400 Grant Blvd	Address Line 2	
City, State/Province, Postal Code*	Syracuse NY	13208	
Country *	UNITED STATES		
Email			
Phone 1		Phone 2	
Application Type	Owner Occupied Residential	Original Equipment Owner	YES

5. Complete the Service Detail section of the claim

- Enter date of failure and date of repair
- Enter Bulletin number SMB14-0012

SERVICE DETAIL INFORMATION			
Fail Date*	10/1/2014	Repair Date *	10/2/2014
Optional Contract Number		CCS/DSO Job Number	
Bulletin/Authorization Number	SMB14XXXXXX	<input type="checkbox"/> Credit Card Payment	
***** If the unit has been replaced fill in the New Model and Serial fields			
Replacement Model Number		Replacement Serial Number	
Replacement Invoice Number		Replacement Unit Price	
Replacement Disposition		Replacement Mark Up	
Replacement Approved Amount		Requested Replacement Amount	

6. Complete the Part Detail section of the claim

- Check the Causal part box
- Enter failed part quantity of 1
- Enter additive part number 040232191046 as the Failed part number
- Enter replaced part quantity of 1
- Enter additive part number 040232191046 as the Replaced part number

Causal Part	Failed Part Quantity	Failed Part Number	Failed Part Serial Number	Failed Part Install Date	Competitor Part	Replaced Part Quantity	Replaced Part Number	Replaced Part Description	Replaced Part Serial Number	Replaced Part Invoice Number	Part Disposition	Unit Price	Part Mark Up	Part Price Extended
<input checked="" type="checkbox"/>	1	040232191046			<input type="checkbox"/>	1	040232191046			if required				

7. Click SAVE to auto-populate the component code

8. Complete the quality information section of the claim

- Component code T950 will auto-populate based on SAVE (above)
- Leave Labor Repair Type set to No DOA Labor
- Enter diagnosis information, including a description of the TXV malfunction and, if available, the Indoor Unit Model number, Serial number/Date Code, Start Date and Service Date
- Select T951-TXV Restriction / High Superheat as Defect Code

9. Submit claim

Note – If a dealer submits the claim, it will be routed to the distributor for review. The expectation is that the distributor will verify that the claim information is in accordance with the specifications outlined in the bulletin.