

General Service Bulletin

MJ-X Oil Additive to Address High Superheat and Low Suction Pressure for TXVs Only (Patent Pending)

Models

See Page 6 for complete model list

Serial

13401***F to 14445****F

Bulletin: UN-SVB020B-EN

Date: October 14, 2014

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this bulletin and on the tags, stickers, and labels, as well as the instructions below:

- Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate MSDS sheets and OSHA guidelines for proper PPE.
- When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations.
- If there is a risk of arc or flash, technicians MUST put on all Personal Protective Equipment (PPE) in accordance with NFPA 70E or other country-specific requirements for arc flash protection, PRIOR to servicing the unit.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully:

⚠ WARNING Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE: Indicates a situation that could result in equipment or property-damage only accidents.

⚠ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER and DISCHARGE CAPACITORS BEFORE SERVICING

⚠ WARNING

This information is intended for use by individuals possessing adequate backgrounds of electrical and mechanical experience. Any attempt to repair a central air conditioning product may result in personal injury and/or property damage. The manufacture or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ WARNING

LIVE ELECTRICAL COMPONENTS!
During installation, testing, servicing, and troubleshooting of this product, it may be necessary to work with live electrical components. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Introduction

The purpose of this bulletin is to address recent reports of issues with TXVs used in air handler and furnace coil product lines, predominately found in the 1.5-3.0 ton units. Reported issues include higher than normal superheat and lower than normal suction pressure which have generally appeared at start-up or within a short period of runtime (typically 60-90 days). This is a fix on fail action. This is not a safety issue.

Discussion

We have brought back numerous valves from the field and a thorough analysis has been conducted. Findings to date show that a majority of the valves inspected contained debris on the push pin and spring. This debris on the push pin and spring may cause the valve to stick.

Action Field

For TXVs that exhibit the low suction pressure (<95 PSIG) and high superheat (> 30° F), an oil additive needs to be installed into the refrigerant system. The addition of this oil additive has been shown to dissolve the debris on the push pin and spring assembly freeing up the movement of the push pin.

Repair and Installation Instructions

Add 4 ounces of MJ-X oil additive (CHM01005) to the refrigerant system while the compressor is running. Follow the steps on page #5 after the MJ-X is added to the system.

Important:

MJ-X oil additive (CHM01005) is an approved oil additive when applied as directed in this service bulletin.

NOTICE:

Compressor Damage!

Do not add more than 4 ounces to one circuit. Adding more additive than recommended will not speed up the process and could result in damage to the compressor.

Note: Oil injection tool is not provided for by this bulletin. Oil injection tool may be purchased through Trane parts.

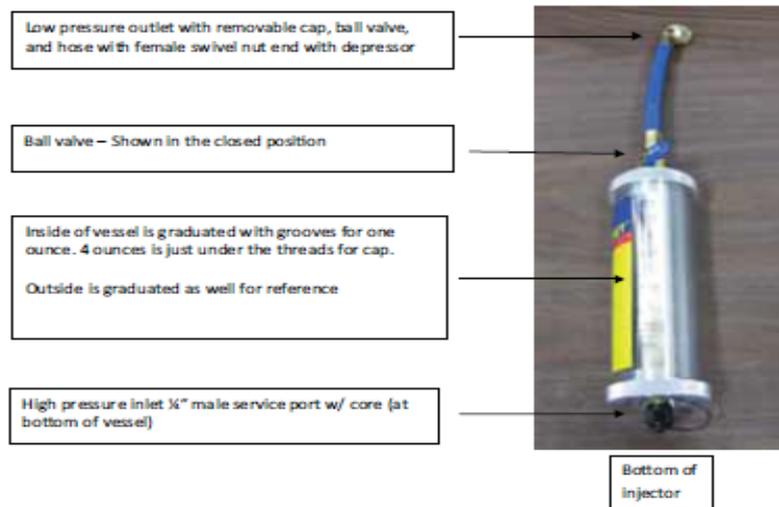
The following is a general description of how to add MJ-X oil additive (CHM01005) to the refrigerant system using a Yellow Jacket or similar injection tool. If other injection tools are used follow the manufacture's instructions for proper use of the tool.

Description of Yellow Jacket Oil Injector used in this example procedure:

- Part number #69562 4 oz. oil injector (TOL01532)
- Replacement O-ring for cap #69564 (5 pk) (RNG02044)

Note: For purposes of this procedure the top of the injector will be the short process hose and the bottom will be the removable cap with the service port as shown in Figure 1.

Figure 1. Yellow Jacket oil injector



Other equipment required

- MJX oil additive
- Manifold gage set for R-410A
- Safety glasses and gloves
- Clean rag for setting top cap aside

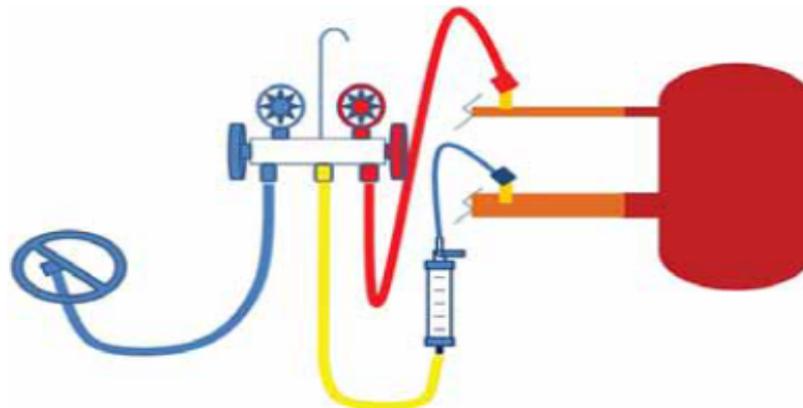
Procedure

⚠ CAUTION

Hazardous Pressure!
The following procedure involves working with gas under pressure. Always keep the injector and hose fitting pointed in a safe direction. For [Step 13](#) and [Step 20](#), allow gas to escape at a low rate. Failure to follow instructions could result in minor to moderate injury.

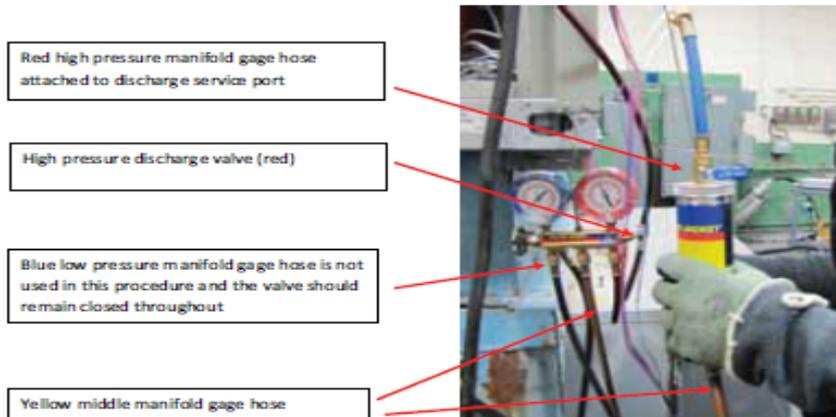
When injecting the oil additive it is necessary to connect the injector to the high side through the pressure gauge, purge the gauge lines and injector, then after the injector is filled with oil additive, purge again. After purging the injector, the injector hose is connected to the suction line for injection into the system. Detailed instructions are listed below.

Figure 2. Connecting the injector to the high side



1. Make sure the evaporator coil is clear of ice. Allow the indoor fan to

- run to melt it quicker if necessary but do not run the compressors while ice is present.
2. Allow the circuit in which the oil additive will be injected to run a minimum of 5 minutes. The following procedure must be performed while the compressor is running. The unit does not need to be turned off if it is already operating but it does need to remain running.
3. Verify that both valves of the R-410A manifold gage set are closed.

Figure 3. Set up


4. Connect the high pressure line (red) to the compressor discharge service port of the circuit that the oil additive will be injected into.
5. Connect the middle manifold hose (yellow) to the bottom (inlet) port of the injector.
6. With the injector upright, remove the cap with the valve and short hose.
7. Slowly and slightly open the manifold gage discharge valve to purge the hoses up to the injector.
8. Pour in the prescribed amount of oil additive using the 1 oz graduations as a guide.

Important: Always remove the cap with the valve and short hose with the valve in the open position. Once the cap is seated hand tight, the valve should then be closed.

9. With the ball valve still open, replace the cap with the ball valve and hose.

Important: Make sure the cap O-ring slides into place (keep ball valve open).

10. When the cap with the ball valve and hose is fully threaded in hand tight close the ball valve.
11. While keeping the injector upright, slightly and slowly open the manifold gage discharge valve (red hose) to pressurize the gage hoses and the injector.
12. Close the manifold gage discharge valve (red hose).
13. Slightly and slowly open the ball valve to allow a small amount of gas pressure to escape the injector. This effectively purges the hoses and injector of any air. Once any fluid escapes quickly close the ball valve again to seal it.
14. With the ball valve closed connect the hose of the injector to the suction service port of the circuit that the oil additive will be injected into.
15. Turn the injector upside down so that the ball valve and hose are at the bottom, and fully open the ball valve.
16. Open the high pressure discharge valve (red hose) of the manifold gage set slightly for approximately 1 minute. The yellow gage hose should warm up indicating the flow of hot gas.
17. After approximately 1 minute close the high pressure discharge valve (red hose) of the manifold gage set.
18. Once the high pressure discharge valve (red hose) of the manifold gage set is closed wait an additional 1 minute for the injector to equalize with the suction pressure of the unit.
19. Fully close the ball valve of the injector and remove the injector process hose from the suction service port.
20. Open the ball valve slightly to allow it to equalize with the atmosphere.

Note

After injection of CHM01005 is complete
attach label LBL00427 to the unit

Alternate Method to Install CHM01005:

1. With the unit operating close the liquid service valve and store the system refrigerant charge in the outdoor unit.
2. When the suction pressure reaches 20 PSIG shut the unit off and close the suction service valve. Do not allow the suction pressure to drop below 20 PSIG.
3. Recovery any refrigerant that remains in the external piping system.
4. Pull a vacuum on the external piping to less than 29" mercury or 1000 microns for a period of 10 minutes.
5. Close both the Liquid and Suction gauge valves on the manifold set.
6. Insert the common (center) hose of the manifold set into the bottle of CHM01005. Make sure the hose goes all the way to the bottom of the bottle.
7. Open both the Liquid and Suction gauge valves on the manifold set. (This will draw the CHM01005 not the refrigerant system).
8. Allow all of the CHM01005 to be drawn into the piping system until the vacuum has reached atmospheric pressure. The bottle should be empty.
9. Close both the Liquid and Suction gauge valves on the manifold set.
10. Using dry nitrogen or similar product purge any remaining oil additive that is in the manifold set and hoses into the refrigerant system by pressurizing the external piping system to 25psig.
11. Purge the dry nitrogen to the atmosphere.
12. Pull another vacuum to 500 microns or less.
13. Release the charge that was stored in the outdoor unit to the piping system.
14. Add Label part number LBL00427 to the unit.
15. Follow the steps to on page #6 after adding CHM01005 to the refrigerant system.

Do Not use the unit compressor to draw the CHM01005 additive into the refrigerant system. Using the unit compressor to create a vacuum deep enough to draw the additive in could damage the

After adding MJ-X Oil Additive complete the following steps:

1. Operate the unit in the heating mode.
2. If the outdoor unit is a heat pump, place system in the heating mode of operation for 15 minutes.
3. If the system has a gas furnace, cycle off the air conditioner and cycle on the gas furnace for 15 minutes of run time.
4. If the system is an electric/electric system, cycle off the air conditioning and place the TXV sensing bulb in a bath of hot water for 15 minutes.
5. Place the system back into the cooling mode of operation and allow it to operate for 15 minutes. Note any performance changes.
6. Did the system performance improve to > 95 PSIG Suction Pressure?
7. If yes, the MJ-X oil additive is clearing the restriction. No further work required.
8. If no, repeat steps 1-5
9. Did the system performance improve to Suction Pressure > 95 PSIG?
10. If yes, the MJ-X oil additive is clearing the restriction. No further work required
11. If no, replace the TXV

Note:

It May take up to 48 hours of operation for the system to return to normal operating conditions.

Parts Ordering Information

One bottle of MJ-X Oil Additive (CHM01005) and one label (LBL00427) per affected unit as identified in this bulletin.

Note: Oil injection tool is not provided in this bulletin. Oil injection tool may be purchased through Global Parts using part number TOL01532.

Parts should be ordered through normal parts channels.

Material Disposition

Discard any parts in accordance with federal, state and local guidelines after it is determined they are no longer needed.

Affected Models

4A6H3018D1000AA	4A7A3030G1000AA	4TWA3036B3000AA	4TTX6042H1000AA
4A7A3018G1000AA	4A7A4030L1000AA	4TWA3036B4000AA	4TWA3042B3000AA
4A7A4018L1000AA	4TTA3030AD000AA	4TWB3036C1000AB	4TWA3042B4000AA
4TTB3018AA000AA	4TTB3030AA000AA	4TWR3036C1000AA	4TWB3042B1000CA
4TTB3018G1S00AA	4TTB3030G1000AA	4TWR3036C1000AB	4TWB4042G1000BA
4TTB3018H1000AA	4TTB3030G1S00AA	4TWR4036D1000AA	4TWR3042B1000AB
4TTR3018G1000AA	4TTM3030B1000AA	4TWR7036B1000AA	4TWR4042D1000AA
4TTR4018L1000AA	4TTR3030G1000AA	4TWX8036C1000AA	4TWR5042G1000AA
4TWR3018D1000AA	4TTR4030L1000AA	4TWX8036C1000AB	4TWX5042B1000AA
4A6H3024D1000AA	4A6H3036C1000AA	4TWX8036C1C00AA	4A6H7036B1000AA
4A6H7024A1000BA	4A6H3036C1000AB	4TWX8036C1C00AB	4A6H7024A1000AA
4A7A3024G1000AA	4A6H4036D1000AA	4A6H3042B1000AB	
4A7A4024L1000AA	4A6H7036B1000AA	4A6H4042D1000AA	
4A7A7024A1000AA	4A6H7036B1C00AA	4A6H5042G1000AA	
4TTB3024AA000AA	4A7A3036E1000AA	4A7A3042D1000AB	
4TTB3024G1S00AA	4A7A4036L1000AA	4A7A4042L1000AA	
4TTB3024H1000AA	4A7A6036H1000AA	4A7A6042H1000AA	
4TTM3024B1000AA	4A7A7036A1000AA	4TTA3042AD000AA	
4TTR3024G1000AA	4TTA3036AD000AA	4TTA3042D3000CA	
4TTR4024L1000AA	4TTA3036B3000AA	4TTA3042D3S00AA	
4TTR7024A1000AA	4TTA3036B3S00AA	4TTA3042D4000CA	
4TTX6024G1000BA	4TTA3036B4000AA	4TTB3042D1000CA	
4TTX8024A1000AA	4TTB3036AA000AA	4TTB3042D1S00AA	
4TWB3024D1000AA	4TTB6036A1000AA	4TTB6042A1000AA	
4TWR3024D1000AA	4TTR3036E1000AA	4TTM3042A1000BA	
4TWR6024A1000BA	4TTR4036L1000AA	4TTM3042A1000CA	
4TWR7024A1000BA	4TTR6036B1000AA	4TTM3042A1000DA	
4TWX6024G1000BA	4TTR7036A1000AA	4TTR3042D1000AB	
4TWX8024A1000AA	4TTX6036H1000AA	4TTR4042L1000AA	
	4TTX8036A1000AA	4TTR6042B1000AA	



Expiration Date

This bulletin will expire on September 30, 2015

Questions

Dealer and Distributor Personnel: Contact your Local Field Service Representative.

Field Service Representatives: Contact Technical Support in Tyler, TX.

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File Number	
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Stocking Location	Electronic Only

Trane USA Inc. has a policy of continuous product data and product improvement and reserves the right to change design and specifications without notice. Only qualified technicians should perform the installation and servicing of equipment referred to in this bulletin.