

Installation Instructions

Hard Shutoff
Thermostatic
Expansion
Valve Kit


KSATX0601HSO
KSATX0701HSO

NOTE: Read the entire instruction manual before starting the installation.


SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory authorized kits or accessories when modifying products.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit, in instructions, or in manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices, which **would** result in minor personal injury or product and property damage.

 **WARNING:** Before beginning any installation or modification, be sure the main electrical disconnect is in the OFF position. TAG THE DISCONNECT SWITCH WITH A SUITABLE WARNING LABEL. Electrical shock can cause personal injury or death.

INTRODUCTION

This instruction covers the installation of thermostatic expansion valve (TXV) kit Part No. KSATX0601HSO and KSATX0701HSO in all split-system air conditioners and heat pumps using R-22. Refer to Table 1 for kit contents and Table 2 for kit part numbers and usage.

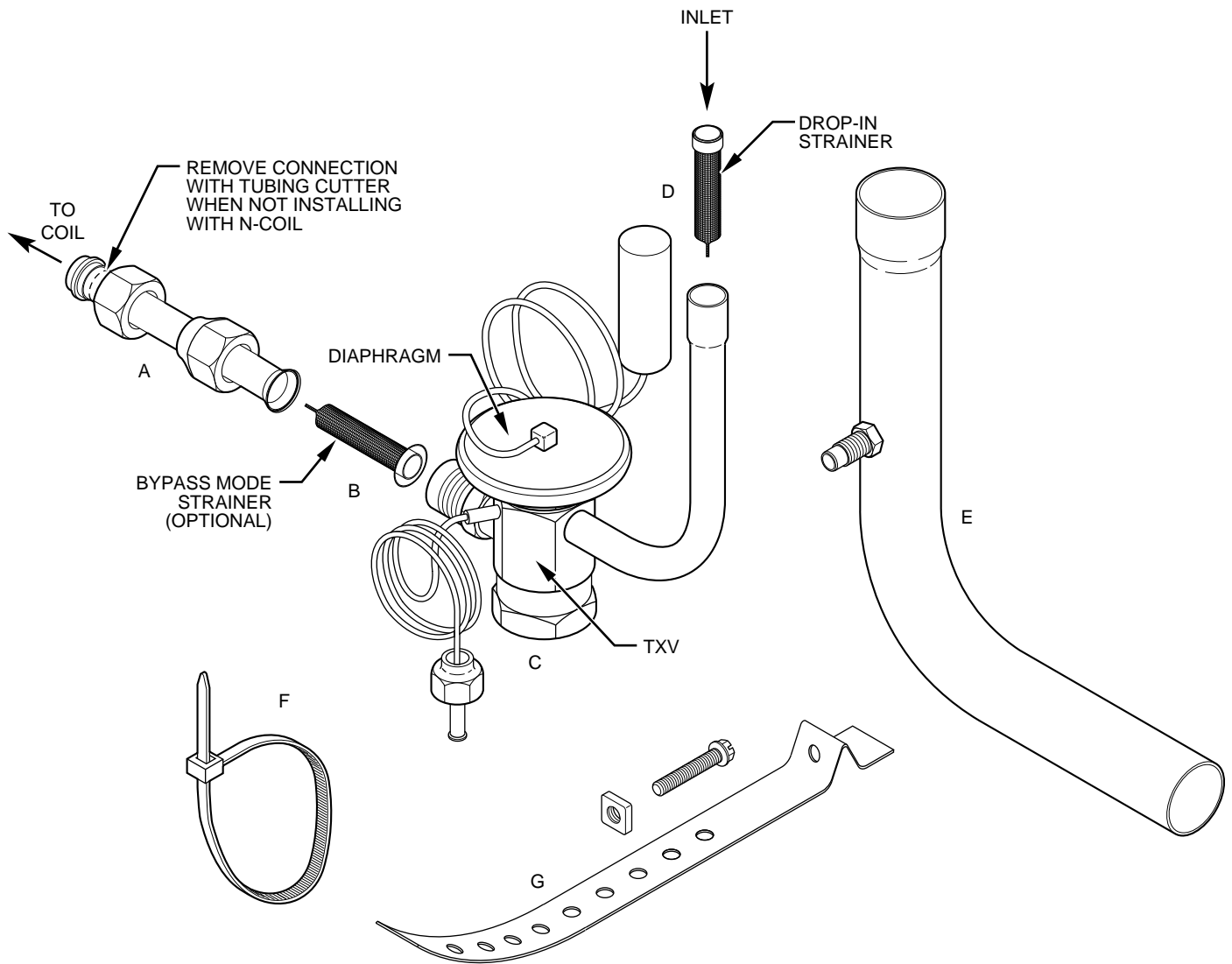
Table 1—Kit Contents

PART NAME	QUANTITY		IDENTIFIER IN FIGURE 1
	KSATX0601HSO	KSATX0701HSO	
Thermostatic Expansion Valve (TXV) Assembly	1	1	C
Vapor Elbow with Equalizer Adapter—5/8 in.	1	—	E
Vapor Elbow with Equalizer Adapter—3/4 in.	1	—	
Vapor Elbow with Equalizer Adapter—7/8 in.	1	1	
Wire Tie	3	3	F
Bulb Strap	2	2	G
N-Coil Liquid Line Adapter Assembly	1	1	A
Drop-In Strainer	1	1	D
Bypass Mode Strainer	1	1	B
Installation Instructions	1	1	—

Table 2—Kit Part Numbers and Usage

NOMINAL CAPACITY (TONS)	VAPOR ELBOW WITH EQUALIZER ADAPTER (IN. OD)	KIT PART NO.
1—3-1/2	5/8	KSATX0601HSO
	3/4	
	7/8	
4, 5	7/8	KSATX0701HSO

The KSATX0601HSO and KSATX0701HSO TXVs are hard shutoff TXVs. A hard shutoff TXV has no bleedport and allows no bleed-through after system shutdown. No pressure equalization occurs. Due to unequalized system pressure, a start capacitor and relay must be installed on all single-phase units.



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Fig. 1—TXV Kit Contents

INSTALLATION

The TXV should be mounted as close to the indoor coil as possible. It may be mounted in any position.

For proper operation, the factory-installed or factory-shipped indoor piston must be removed. The TXV size should be determined based on the nominal capacity of outdoor unit.

NOTE: These instructions assume that TXV is being installed during initial system installation and that coil is unpressurized. If this is not the case, be sure to pump down or evacuate the system before proceeding with TXV installation.

⚠ CAUTION: To prevent personal injury wear safety glasses, protective clothing, and gloves when handling refrigerant. Do not vent refrigerant to atmosphere.

PROCEDURE 1—INSTALLATION OF TXV ON N-COILS

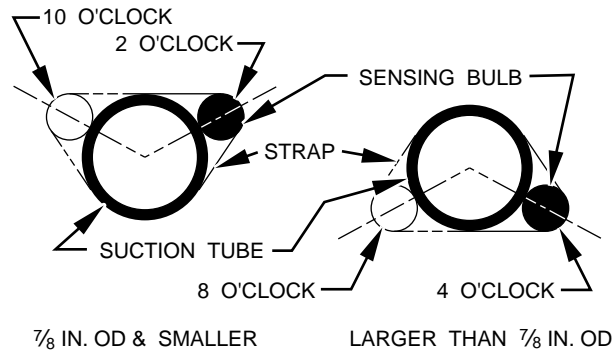
1. Loosen and remove piston retainer nut on N-Coil.
2. Discard sweat adapter/piston retainer assembly shipped with N-Coil.
3. Remove and discard factory-installed piston.

NOTE: If piston is not removed from piston body, TXV will not function properly.

4. Install N-Coil liquid line adapter assembly provided in kit. (See Fig. 1A.) Tighten nut 1/2 turn with wrench after hand tightening.

NOTE: Make sure teflon seal ring is in place and undamaged when installing N-Coil liquid line adapter assembly.

5. For heat pump installations, install bypass mode strainer if TXV is to be mounted in any position other than vertical upright. (See Fig. 1B.)
6. Attach TXV to N-Coil liquid line adapter assembly flare end. Use backup wrench to avoid damaging tubing.
7. Proceed to Procedure 4 for remainder of installation.



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Fig. 2—Positioning of Sensing Bulb

PROCEDURE 2—INSTALLATION OF TXV ON FAN COILS AND FURNACE COILS OTHER THAN N-COIL WITH METERING DEVICE LOCATED OUTSIDE UNIT CASING

1. Remove piston retainer being careful not to damage seating surface or O-ring.
2. Remove and discard factory-installed piston.

NOTE: If piston is not removed from piston body, TXV will not function properly.

3. Reinstall piston retainer in piston body and sweat flare adapter (coil liquid line connection).
4. Remove N-Coil piston retainer fitting from liquid line adapter assembly provided in kit using tubing cutter. (See Fig. 1A.)
5. Insert cut end of liquid line adapter assembly into belled end of coil liquid line connection and braze.
6. For heat pump installations, install bypass mode strainer if TXV is to be mounted in any position other than vertical upright. (See Fig. 1B.)
7. Attach TXV to liquid line adapter assembly flare end. Use backup wrench to avoid damaging tubing.
8. Proceed to Procedure 4 for remainder of installation.

PROCEDURE 3—INSTALLATION OF TXV ON FAN COILS AND FURNACE COILS OTHER THAN N-COIL WITH METERING DEVICE LOCATED INSIDE UNIT CASING

1. Loosen and remove hex nut and liquid tube from piston body taking care not to damage or lose teflon ring seal.
2. Remove and discard factory-installed piston.

NOTE: If piston is not removed from piston body, TXV will not function properly.

3. Reinstall hex nut, liquid tube, and teflon seal ring onto piston body.
4. Remove N-Coil piston retainer fitting from liquid line adapter assembly provided in kit using tubing cutter. (See Fig. 1A.)
5. Insert cut end of liquid line adapter assembly into open end of coil liquid line and braze.
6. For heat pump installations, install bypass mode strainer if TXV is to be mounted in any position other than vertical upright. (See Fig. 1B.)
7. Attach TXV to liquid line adapter assembly flare end. Use backup wrench to avoid damaging tubing.
8. Proceed to Procedure 4 for remainder of installation.

PROCEDURE 4—TUBING CONNECTIONS

1. Select appropriate size of vapor elbow with equalizer adapter tube from kit. (See Fig. 1E.)
2. Braze 1 end of vapor elbow with equalizer adapter tube to coil suction line. Braze other end to field suction line from outdoor unit.
3. Connect free end of TXV equalizer tube to 1/4-in. equalizer fitting on vapor elbow with equalizer adapter tube. (See Fig. 1E.) Tighten to 140 in. lb using backup wrench on equalizer fitting to prevent damage to fitting.
4. Attach TXV bulb to horizontal section of suction line using straps provided in kit. (See Fig. 1G.) Refer to Fig. 2 for positioning of sensing bulb.
5. Insulate bulb with field-supplied insulation tape.
6. Install drop-in strainer into belled end of TXV liquid line. (See Fig. 1D.)
7. Insert field liquid line from outdoor unit into belled end of TXV liquid line and braze.
8. Insulate liquid line between TXV assembly and coil connection with field-supplied insulation tape to prevent sweating.
9. Proceed with unit installation.

SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

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- Installation Overview
- Operating Sequence

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