



Technical Service Bulletin - TBJ011

Date: October 6, 2009

Product: All R-22 units with TXVs

Issue:

The supplier of ClimateMaster's Thermal Expansion Valves (TXV), has reported that their R-22 TXV power heads, model BBIVE, may have a reduced-response to temperature changes of the refrigerant suction line. Specifically the power element/sensing bulb refrigerant charge may fail to control the valve. The failure is such that the valve will not accurately regulate refrigerant properly, starving the evaporative coil which results in high superheat and subcooling.

This condition can cause code 4 and 5 faults (FP1 & FP2). An effected unit will be more susceptible to these faults with lower entering water temperatures and/or water-flow in the heating mode or lower entering air temperatures and/or air-flow in the cooling mode.

Effected Range:

Sporlan date codes of 00107 (1st day of 2007) to 29308 (293rd day of 2008). ClimateMaster serial numbers K101* - M108*. Failures have predominately been in unit sizes of 15,000 BTU capacity and less.

Solution:

When addressing units with code 4 or 5 fault codes, ClimateMaster recommends that all other conditions that may cause these faults be checked and verified to be correct before condemning the TXV. Other causes of Code 4 & 5 are:

- Lower than recommended entering water temperatures in heating mode
- Lower than recommended water flow through the unit in heating mode
- Lower than recommended entering air temperatures in the cooling mode
- Lower than recommended airflow through the unit in cooling mode
- TXV sensing bulb lose, un-insulated or incorrectly placed (bulb should be in the 10 or 2 o'clock position on horizontal lines, vertical lines are not position sensitive)
- Low on refrigerant charge, check system for refrigerant leaks
- Restriction in the refrigerant circuit

If all the above have been verified to be correct, superheat and subcooling readings should be taken and compared to the "Unit Operating/Pressures Conditions" section of the unit's IOM (Installation Operation Maintenance) manual. Notice that refrigerant pressures, superheat and subcooling is dependent upon entering water temperature and the water flow rate; readings are also based on 70 degree entering air in heating mode and 80 degree entering air in cooling mode. Units with higher than normal superheat and subcooling readings indicate a restriction in the refrigerant circuit; likely resulting from the "wet ballast" condition as described above and the TXV power head will need to be replaced by following the steps outlined below:



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1. Recover refrigerant from the unit in accordance with EPA regulations into a clean recovery bottle
2. Carefully remove the sensing bulb from the suction line
3. Carefully remove the power head from the TXV valve body using a back up wrench
4. Install new power head per Sporlan instructions attached
5. Reattach sensing bulb and reinsulated with cork tape or equivalent
6. Evacuate refrigerant system to 300 microns and verify there are no refrigerant leaks
7. Recharge unit to factory specifications and test its operation with the recovered refrigerant
8. Check operation of unit in both heating and cooling modes to verify no other problems exist
9. Carefully package the removed power head in the packaging the replacement power head came in; this part will need to be returned to ClimateMaster through the ClimateMaster Representative or Distributor under a Return Authorization (RA) number.

If you have questions at any point during the diagnostic or servicing of the unit, please call ClimateMaster's Technical Support Department at 1-800-299-9747.

Replacement Parts Ordering

Replacement parts should be ordered on the Business Center.

Original valve PN's with 33B0002N** prefix will use the S33S0002N90 (KT-43-VGA)

Original valve PN's with 682663** prefix will use the S33S0002N91 (KT-43-VGAS)

Reimbursement:

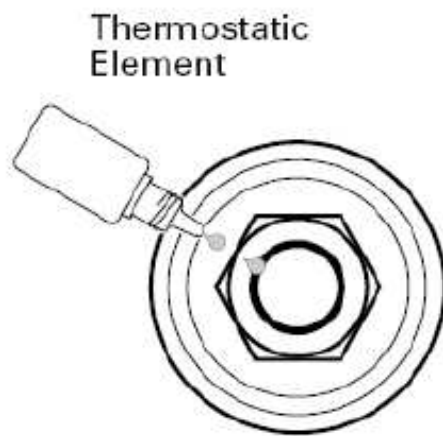
ClimateMaster will issue a \$150.00 labor allowance for each power head replaced and a \$35.00 trip charge per job site. To receive credit; 1) the power head MUST be returned to ClimateMaster with a Factory Return Authorization Number clearly marked on the outside of the box, and 2) a completed inspection / replacement form MUST be included for each power head replaced. To obtain a factory Return Authorization Number contact your Distributor or Factory Representative.

If a single job has more than 5 units requiring replacement, ClimateMaster Technical Service Department MUST be contacted for Pre-Approval at 1-800-299-9747.



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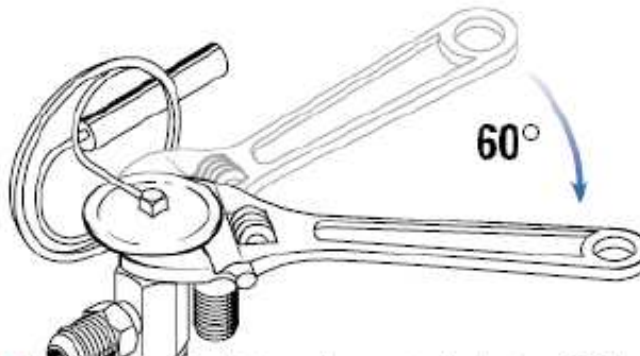
INSTRUCTIONS FOR TXV POWER HEAD REPLACEMENT



5 (Oil) Lubricate lock ring surface.

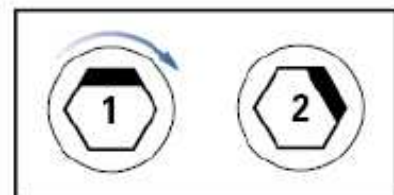


6 Hand tighten element.



7 After hand tight, turn element clockwise 60° (or movement equal to one hex flat).

View of Element



Before

After



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TXV POWER HEAD REPLACEMENT FORM

Please complete this form and return to your distributor or factory representative

Date	<input type="text"/>
Contractor name:	<input type="text"/>
Contractor phone number:	<input type="text"/>
Job name:	<input type="text"/>
Distributor or Factory Rep name:	<input type="text"/>
Unit Model number(s) :	<input type="text"/>
Unit serial number(s):	<input type="text"/>
Entering Water Temperature	<input type="text"/>
Superheat prior to replacement	<input type="text"/>
Subcooling prior to replacement	<input type="text"/>

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