

TECH TIP

Why Clean or Change the Expansion Valve When Replacing a Compressor?

The Thermostatic Expansion Valve (TXV) is one of the major components of an air conditioning system. The TXV separates the Discharge side from the Suction side, changing system pressure from high to low, and meters the flow of refrigerant and lubricating oil into the evaporator. Proper metering is critical to the total operation of the air conditioning system. Normal internal wear on system components causes some debris to go through the system. In the case of a major compressor failure, the receiver/dryer traps most of the debris from the compressor, but some debris will find its way into the TXV and begin to plug it. Some valves have an inlet screen that can be cleaned or replaced.

Some technicians may make the wrong choice and not clean or change the valve due to its location. Getting to some TXV's, like the "H" valve pictured at the right, can be an easy job when mounted under the hood. However, many vehicles have the Thermostatic Expansion Valve mounted inside the evaporator housing. Accessing some of these can require major labor time and expense. In these cases, it is far more beneficial to the customer if the valve is replaced instead of cleaned.



It is very difficult to determine if a Thermostat Expansion Valve, like the one pictured on the left, is clean. The only way to be sure the valve is clean is to put it back into operation and run a system performance test. If there is any malfunction, the unit must be disassembled again to change the valve. It is more efficient to change the TXV as part of the compressor renewal.

Remember that an AC system **MUST** be clean for the compressor and other components to function properly. Any debris or contamination at the TXV can prevent proper flow of lubricating oil through the system and its return to the compressor. Reduced oil flow will cause rapid compressor failure.