

R-1234yf gas within a confined space or allow it to be exposed to a high temperature flame (such as a torch). Consult the Material Safety Data Sheet (MSDS) for further information. Failure to follow these instructions may result in serious personal injury or death.

 **WARNING:** Use extreme care and observe all safety and service precautions related to the use of refrigerants as outlined on refrigerant tank and on recovery and charging equipment. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Before disconnecting any heater water hoses, shut OFF the engine and wait until engine is fully cool. Failure to comply with this warning may result in serious injury or burns from hot liquid escaping from the engine cooling system.

 **WARNING:** The electric booster heater may become hot during use and can burn unprotected skin. Allow enough time for the heater to cool before servicing. Failure to follow this instruction may result in serious personal injury.

DESCRIPTION AND OPERATION > DIAGNOSTIC METHODS > EFFECTIVE DIAGNOSTIC TECHNIQUES

 **NOTE:** Do not use this document in place of Ford-prescribed Symptom Based Diagnostics or Service Information diagnostics. Diagnostic Methods is intended to provide Ford vehicle diagnostic information only for support of Ford-prescribed diagnostics.

The following diagnostic process is critical for consistently successful diagnoses. Random methods work inconsistently and often lead to multiple repairs and the accompanying frustration.

- Understand and verify the **symptom** .
 - Understanding a symptom requires understanding normal operation.
 - Duplicate the concern. Recreate the same conditions that demonstrated the original concern (road testing may be necessary).
- Determine the responsible **system** .
 - Gather data, such as a visual inspection and an OASIS report.
 - Perform system tests, such as pressure tests or DTC retrieval.
- Identify the responsible **component** .
 - Test the suspect component and related parts.
- Determine the root **cause**