

DOC'S BLOCKS
AUTOMOTIVE AIR CONDITIONING REPAIR

Question:

Is there a simple method to diagnose an AC system?

Answer:

Nothing is ever simple when determining the malfunction of a system. However, a person's habits can assist in knowing where to look. It is always best to remember that for every action there is a reaction. When a system fails, there had to be a reason. Simply replacing parts doesn't guarantee that the system will perform after it has been restored.

Developing habits that will answer questions at a later time is the best method of diagnosis.

Following is a list of things that should be habit to do and observe whenever working on an AC system.

- Using an identifier, did the test of the refrigerant show to be contaminated?
- How much refrigerant was removed from the system?
- If replacing the compressor, how much oil can be poured from the unit and what was its condition?
- When replacing the accumulator, how much oil can be drained from the unit and what was its color?
- If replacing the expansion valve, is there restriction in the inlet port and can you blow through the valve?
- Flushing the system will remove the oil and possibly any foreign material that got into the system from the compressor. Using a rag, try to capture as much flush being blown out of the component. Was there material removed?
- Has the oil level been reestablished to the correct level and installed in the correct places?
- Charge the system at 70% of the suggested charge. Charge at 80 % of the posted charge on an ATC system. Is virgin or recycled refrigerant being used?

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- Will the clutch cycle and at what pressures? On a Variable displacement compressor, does the compressor adjust according to the heat load?

With all this information, if the system doesn't work, it is known what it isn't! The amount of time required to make all these observations won't take but a few seconds.

If the system doesn't work, test for temperatures by the sub cooling or superheat methods. With all the above information, the procedures of testing become much simpler and yes, much easier.