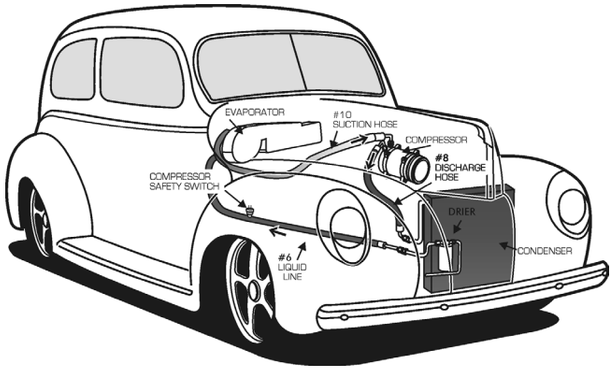
with HFC-134a, and with a double evaporator the condenser should be at least 600 square inches with HFC-134a, provided air flow and temperature were good. For most street rods that is not necessary or possible. Using the GM/A-6 compressor has been a painful and costly experience for many street rodders.

The GM/Frigidaire R-4 is the short (7 1/2-inch) and fat (7-inch dia.) compressor found on the late GM cars. It has just under 10-cubic inches of displacement per revolution, with four cylinders radiating from its crankshaft. It has basically the same characteristics as the A-6 compressor, except it seems to fit in smaller spaces and is much lighter due to its mostly aluminum construction. The R-4 is larger in capacity than we like in an average street rod, however, it would be a better choice than its bigger brother, the A-6. Rebuilt compressors are not recommended on GM R-4. The GM/Frigidaire DA-6 compressor is slightly larger than a Sanden compressor and will work okay on most street rods. It is an axial compressor with just under 10 cubic inches displacement. Mounting is more difficult on non OEM applications and new replacement costs are high. Rebuilt compressors are not recommended on this model.



The Ford Nippondenso compressor is an axial compressor with about 9.5 cubic inches of displacement. It's fine on applications where OEM equipment is used on your engine. Mounting is more difficult on non OEM applications and new replacement costs are high. We don't recommend rebuilt compressors of this model.

Compressor Capacity is Critical

Capacity is critical in selecting a compressor. Why? The old saying, "a chain is only as strong as its weakest link," comes into play when you select a compressor size or capacity. The weak link in most street rod air conditioning systems is the condenser's ability to handle the demands of the other components. These demands are to condense the refrigerant (R-12) enough to keep the compressor head pressure and corresponding refrigerant temperature within acceptable operating limits (approx. twice the ambient temperature of the day, plus fifteen percent) and to supply the evaporator with adequate refrigerant. Generally speaking, if a compressor has too much capacity the result will be excessive head (internal) pressure and temperature, compressor damage and excessive load on the engine. If a compressor has too little capacity the system will suffer inadequate evaporator performance. Our basic minimum given in the condenser part of this article is larger than most street rods are using; however, we will use that as our standard size condenser. A compressor of 8 or 8.5 cubic inches of displacement per revolution is ideal for a street rod with our standard size condenser, and an average size aftermarket evaporator (approx. 200 cubic inches of coil mass). We would always lean toward a smaller compressor before going to a larger one. Compressor matching makes good sense and will be more critical with use of the new refrigerants.

Safety Switches

Here, we should mention system protection switches. An excessive head-pressure safety switch cuts off the compressor if internal pressure exceeds safe limits and then cuts the compressor back on when the pressure is back down within those limits. A low pressure switch* cuts the compressor off when there is excessive refrigerant loss. A binary switch incorporates both of these protections. A trinary switch incorporates both high and low pressure cut offs with an electric fan engagement signal feature. These switches are great insurance on any system, and should always be incorporated. (*See page 63 for safety switches.)

Compressor Mounting

Another consideration for compressor selection is the way it fits into your available space and how it mounts to the engine. Compressor brackets are available for both the York and Sanden type compressors that will fit in most street rods. The radial compressors are easiest to mount, because of their alternator style mounting.

TOTALLY COOL*ed* GALLERY

When valued Vintage Air dealer, Year One decided to get into the Mustang parts market they did it in their usual way - Over the top! Year One built this amazing fastback with all the best parts and accessories including a complete Vintage Air Gen-II system. Watch for this bright blue pony on Power Tour and at events near you.