

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 66 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 today are primarily designed for Sanden type compressors to fit in most street rods. The axial compressors are easiest to mount, because of their alternator style mounting. Adapters for older York type compressor brackets can retro-fit the Sanden unit.

Because the Sandens operate much more smoothly, they require less bracketry as well. Generally, bracket building for air conditioning compressors follows the same principles as any other steel bracket design and fabrication; the simpler the better. There are a few things, however, that are peculiar to this type of bracket. You must have a way to adjust the tension of the driving belt. Sliding the compressor, or using an idler pulley mounted on an adjustable eccentric is the simplest way to adjust belt tension. On a driving belt, there is always a tight side and a slack side. The tensioner must always be installed on slack run of the driving belt. This increases the bearing life of the idler by putting less load on it and reduces belt flop which is always greatest on the slack run of the belt. You should also make sure you have enough belt contacting all pulleys that are driving or driven by that belt. This area is called the "arc of contact." See

pages 56-64 for a selection of engine-specific brackets. For the ultimate in engine accessory drive systems check out our road and track tested Front Runner™ drives on pages 56-60.

Selecting An Evaporator

The evaporator is called that because it absorbs heat from the air inside the car which evaporates the refrigerant running through the system. That heat is carried off with the refrigerant to be given off to the cool air flowing across the condenser. It takes heat from the recirculating cabin air and gives it off to the outside air. Whether the system is a built-in behind the dash unit or a below the dash style unit the job is the same. For the past thirty years the goal of most street rodders has been to conceal as



much of the air conditioning system as possible purely for appearance considerations.

The tough part for manufacturers has been to build a compact enough system to fit behind the dash in smaller early model street rods. When component size was reduced, compensation for efficiency became necessary. Blower motors can turn faster and evaporator coils can be fed better, but in most cases when component size was reduced, capacity also reduced. However, after thirty years of engineering and testing we have overcome most of the early limitations. Through our incorporation of computer "virtual" flow testing, servo motor-driven air doors (a Vintage Air first), and super efficient cooling and heating coils, we can now deliver per-

formance and air flow comparable with OEM systems. See our revolutionary Gen IV system on page 42 and in many of our SureFit bolt-in kits beginning on page 16.

Installing The Evaporator

When installing the evaporator, it has to be set in the car with the drain pan and tubes down so the condensation will drain. The dash (air) louvers should be positioned so they blow on the driver and passengers directly, under or through the dash when possible. Other locations usually produce disappointing results. The louvers should be as close to the evaporator as possible. If used, the thermostat capillary tube* should be inserted at least 4 inches into the evaporator coil, and the blower should always recirculate the cabin air. When your refrigerant hoses must go through sheet metal, use either a refrigerant hose grommet or bulkhead fitting. Your drier should always be positioned to produce a "liquid seal" at the pick-up tube (this will be vertical for most driers). We recommend mounting the drier inside the passenger area whenever possible. When your suction line and liquid line run parallel, they can be tied together. The difference in temperature will better help the refrigerant in each line do its job.

Insulation Is A Must

An air conditioner has to remove heat faster than it is added to the cabin of the vehicle, so it is important to reduce the heat added. Just like reducing weight on a race car so the engine can do more, we reduce heat load in a car by insulating thoroughly, sealing doors and windows, and even tinting the glass. This should be a major step when adding an air conditioning system to any car, and will determine how well the system satisfies your needs.

This information should give you a basic understanding of automotive air conditioning and aid you in selecting the proper components for your particular needs. We encourage you to call one of our distributors or our technical staff with any questions you may have about air conditioning your street rod, classic car or truck.

WE WROTE THE BOOK ON AIR CONDITIONING

Jack Chisenhall, along with Norm Davis, have an all new book on street rod and performance automotive air conditioning systems. It's everything you need to know to understand how air conditioning works in your car with plenty of tech info on installations, component selection and do's & don'ts. Available at book stores nationwide, through your Vintage Air distributor or directly from Vintage Air.

