HOW TO CHECK A USED BLOWER

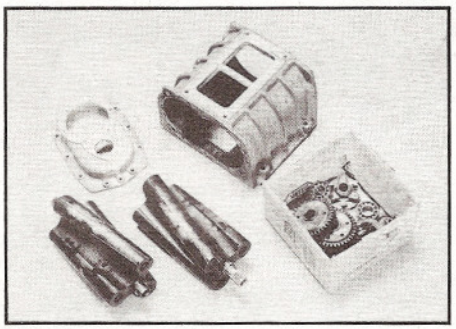
These days you are likely to see quite a few used GMC superchargers offered for sale at swap meets, at speed shops, and in classified ads. In some cases a used blower—especially one that comes complete with a good drive, manifold, carbs, linkage, and so on to fit on your engine—can be a good bargain. But more times than not, a used blower is being sold because it is "used up." The problem is that you often cannot tell, just by looking, whether a used GMC is worth the asking price.

There are three categories of used GMC's, and this includes street or race prepped superchargers as well as stockers straight off of a diesel. The first category are blowers which are good enough to bolt on a street motor and run as-is. Very few used blowers fall into this group, and it often takes the feel and the eye of a blower expert to determine that a used blower is good. The second category are blowers which can be rebuilt for good street use. When shopping for a used blower, your best bet is to assume that you will have to have the blower "freshened up"—and pay for it accordingly. If the blower has already been set up for street use, you might get away with having just the bearings and seals replaced and having the clearances rechecked. But if the blower shop has to reset clearances, they will have to go through all the steps outlined in the previous section. In essence, a good rebuildable GMC is basically a good "core," that is, a good case, rotors, gears, front cover, and possibly end plates. In this case, a good stock diesel blower is just as good as one that came off a hot rod...perhaps better.

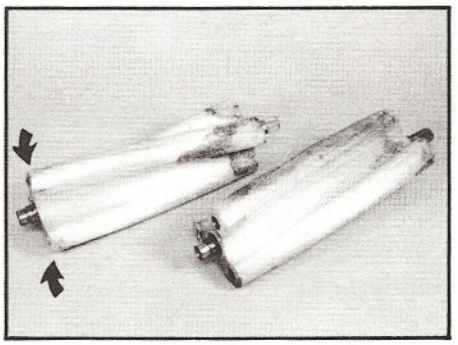
The third category of used blowers is for those which are not rebuildable. These are pure junk and are good for nothing other than wall decorations or door stops. The case and the rotors are the essential ingredients of any GMC supercharger—the other components are fairly inexpensive to replace. Neither rotors nor cases can be repaired; and if one is damaged, usually the whole blower is no good. Hardly anybody buys new rotors or cases from GMC because they are so expensive. So the plan is to find a good core at a reasonable price and then have it gone through by a reputable blower shop.

As we said, it really takes a trained hand and eye to determine whether a used blower is rebuildable or not, but there are some sure signs that a blower is *not* worth buying. In the following photos Don Hampton shows several ways to check out a used blower, many of which you can do on the spot (i.e., at the swap meet). However, a really good blower inspection requires disassembly and cleaning of the parts. If possible, you would be smartest to buy any used blower only on the contingency that you be allowed to have a professional check it out and proclaim it healthy before you pay for it in full.

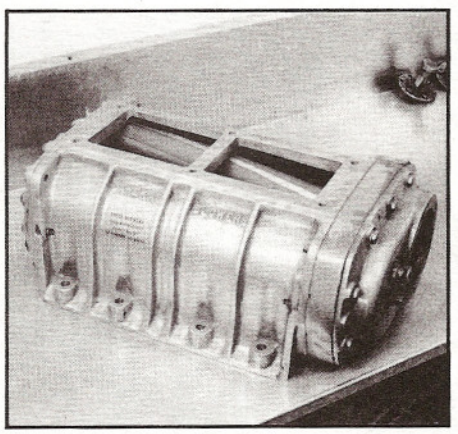
Buying a used blower at a swap meet can be a risky business. This 6-71 with dual carbs and manifold might be a great deal if the price is low enough, but you can't tell without checking it...or having an expert check it. Note that this blower has stock end plates and front cover, and few drive components.



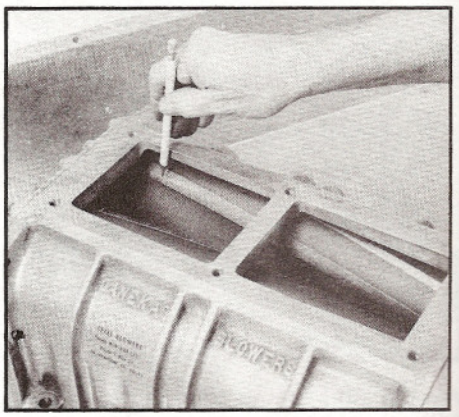
If you're going to have the blower rebuilt (which is the smartest approach), you might as well buy a good, stock, used core off of a diesel, like this 4-71, rather than paying for a supposedly "prepped" performance blower. However, note the oil on these rotors and the inside of the case.



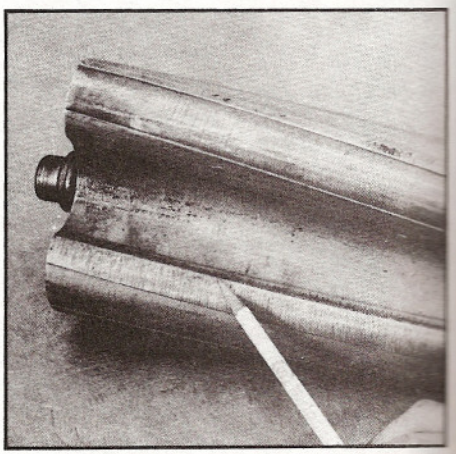
Once you clean the grime off of diesel rotors, you might find surprises like this. This 6-71 blower apparently sat outside for some time, and collected water in it, which corroded the aluminum rotors at one end. And at the other end, some very bad bearings allowed the tips of the lobes to be severely worn away (arrows). These rotors are complete junk.



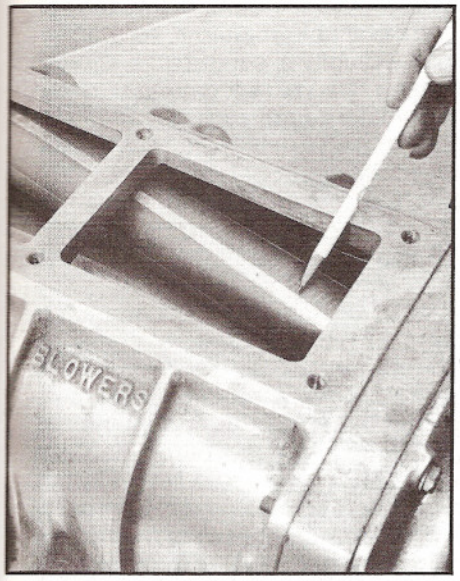
As an example of a typical used blower, Don Hampton picked this old Danekas race 6-71. Begin with a complete visual inspection of the case, end plates, and rotors looking for cracks, obvious warpage, or stripped bolt holes. This one appears fine...but appearances can be deceiving.



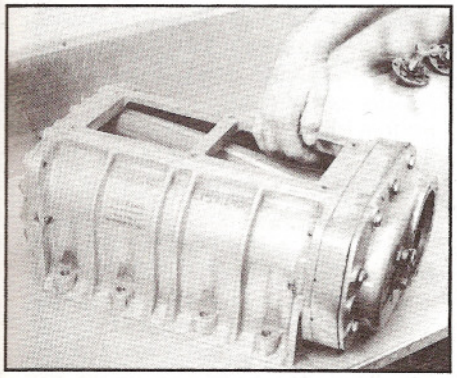
Hampton suggests you be very wary of used race blowers, since they are constantly subjected to severe operating conditions, and most aren't put up for sale until they are no longer rebuildable. One of the first places to check for damage on any blower is the sealing edge of the rotors, as shown. These are gouged and worn.



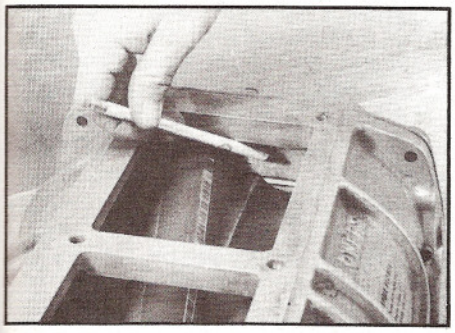
Here Don uses a loose rotor to show what you *don't* want to see. Pay particular attention to the edge closest to the "valley" on either side of each lobe—this edge should not be rounded off.



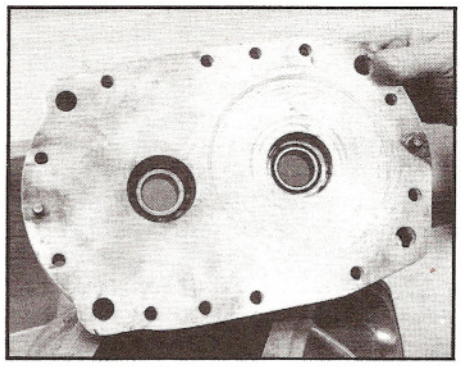
Most people first look at the outer edge of the rotor lobe, but this is usually not where wear is first noticeable (the rotors will usually hit each other before they rub on the case wall). The outer lip, or flat raised edge, of the rotor should be at least .080 to .090-inch tall and should not have any major gouges or dings in it. This one is passable.



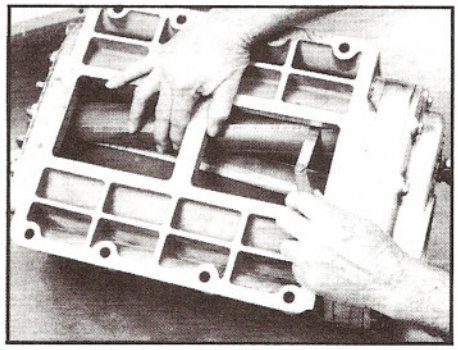
Backfires are the nemesis of any blower, but especially one from a fueler. A backfire will force the rotors up in the case, causing them to hit the case wall along the top. Feel with your hand along the inner wall near the inlet opening, as shown, to feel for gouges or wear caused by a backfire. This blower failed this test. In fact, its rotors have been severely warped by a backfire sometime in the past.



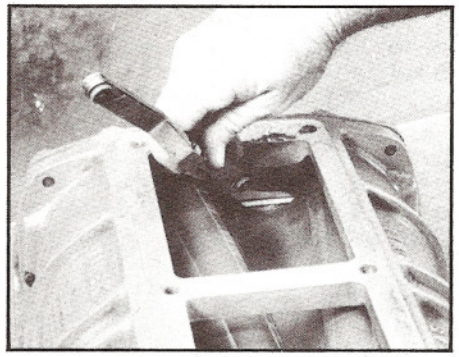
Visually inspect both end plates for wear or deep scratches.



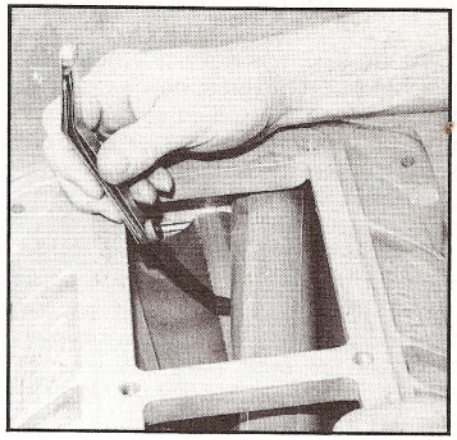
If an end plate is gouged like this one, the blower is not fit for use as-is. However, both the end plate and the end of the rotor (which would also be worn) could be machined smooth again when the blower is rebuilt, so this is not a serious problem...provided the rest of the rotors, and the case, are not worn.



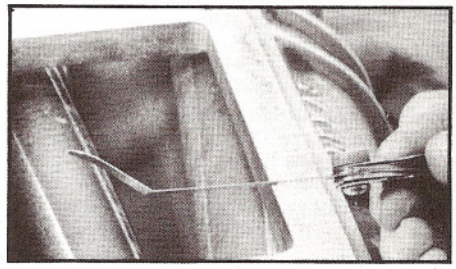
Finally, bring along a set of feeler gauges to check a few clearances. Your purpose is not to see whether the blower clearances are adjusted properly, but to see whether the total clearances around the rotors are within acceptable limits. If not, the rotors, the case, or both are worn beyond repair. Start by checking the rotor-to-case clearance at the outlet (bottom) edges. Measure at all four corners of the outlet opening. Clearance here should be in the neighborhood of .006-.008-inch. If you measure .010-inch clearance at the bottom, and .030-inch or more at the top (along the inlet edges), the rotors and/or case are worn out.



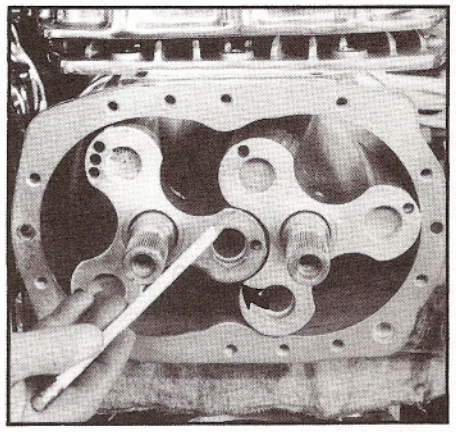
Clearance between the rotors and the end plate should be .018 to .020-inch maximum at the rear, .008 to .010-inch at the front. However, these measurements are not critical if the blower is to be rebuilt.



Finally, check the rotor-to-rotor (C and CC) clearance up the middle. This is a difficult measurement to make if you aren't used to the "feel" of the fit of the gauge between the rotors. You want to measure the clearance at the leading and the trailing edge of each rotor lobe, which should be approximately .020-inch each, or a total of .040-inch. If the total of both the C and CC clearances for any lobe is more than .060-inch, the blower is worn out and not worth buying.



Hampton bends the ends of his feeler gauges as shown to fit the curvature of the rotor lobes in order to get a proper reading between rotors.



On this open blower, Don shows where the clearance between rotors is measured, with the rotors positioned as shown. Then the left rotor would have to be rotated all the way around to measure the other side of the same lobe (arrow), and the feeler gauge would have to be inserted from the right side. If it sounds confusing (and it can be), see if you can take the blower to a shop to have it checked before you put your cash on the table.