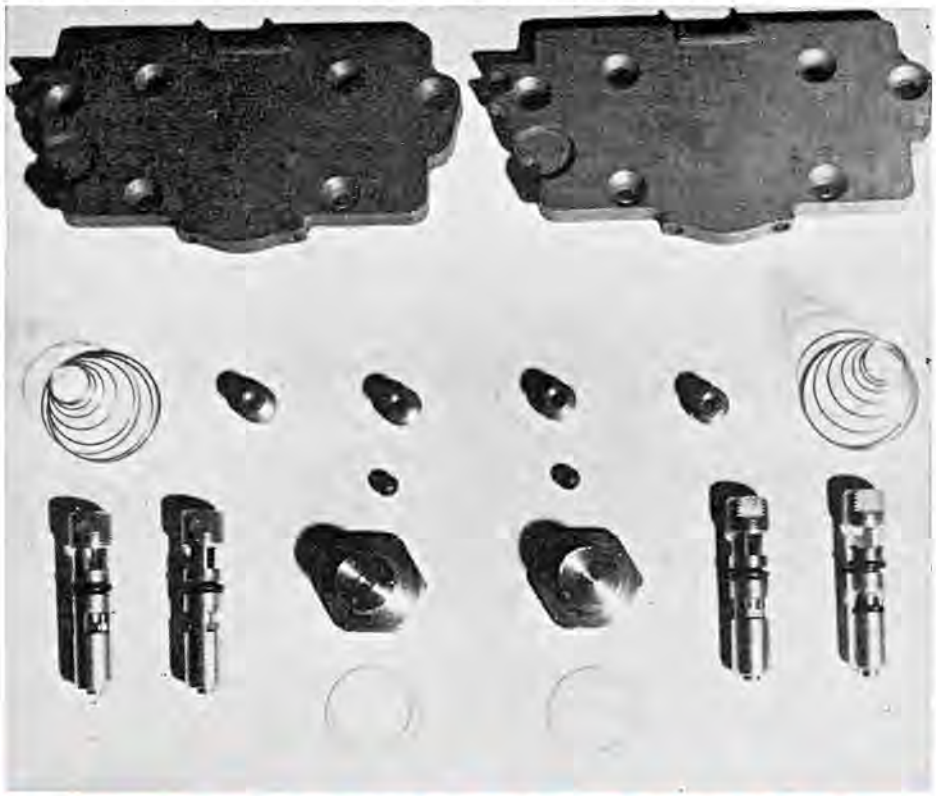
Those carbs don't always work to perfection right out of the box. A few bits and pieces and a little know-how will turn the trick



HOLLEY FIXER

Text and photos by Lee Kelley

Having trouble making those Holleys work on your new Tunnel Ram or Ram Log manifold? Many Edelbrock customers were complaining of below-par performances from their new carburetor-manifold combinations, so Vic Edelbrock took to the field (the drag strip) to determine the cause for all the commotion. What he found will be of interest to all performance enthusiasts who use Holleys, particularly those who use Tunnel Ram or Ram Log manifolds.

One of the first things Vic noticed was that most of the cars equipped with Holleys seemed to be "running out of gas" under hard acceleration. After some lengthy testing, Vic found that the float levels in the Holleys were not set high enough. He found that the old method of setting the floats (removing the inspection plug and setting the gas level just to the bottom of the inspection hole) was not adequate for performance engines. The reason? At idle, with high fuel pump pressure, the needles are jiggling off their seats (seeping) just a little and when the plugs are removed, fuel will spurt out, even though the float levels aren't high enough. If the floats are lowered, fuel volume in the bowls will be decreased and fuel will slosh away from the jets under acceleration. Fuel pump pressure was also found to be a culprit. Most competitors were running without a fuel pressure gauge, so they didn't know that their fuel system was inadequate. Under full throttle, some of the pump pressures tested were falling to as low as one pound. Vic compiled his findings, and here's the scoop on how to set up the Holleys and the related fuel system.

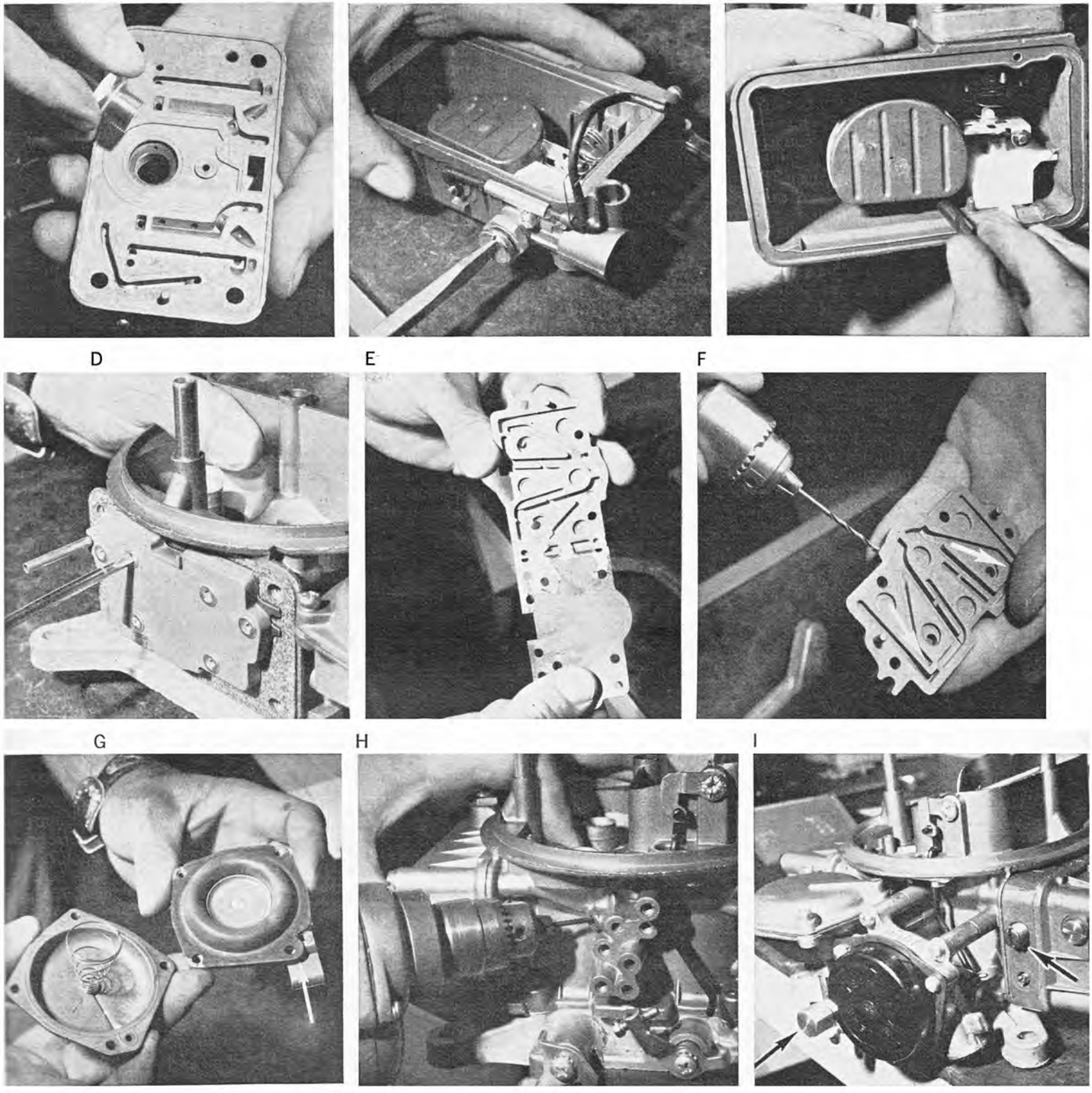
The carburetor that we'll use for an example is the 1850 (1-14) rated 600 cfm. Edelbrock uses two of these on his Tunnel Ram for engines of 327 cubic inches and under. The first step, once the carburetor is off the manifold, is to remove the primary bowl. Next, remove the power valve and plug the hole. Edelbrock uses a special plug with a gasket to assure that the two holes of the valve are closed. Remove the stock primary jets and replace them with Holley #75 jets. Use Holley jets only; they are flow-rated jets and should not be drilled to a larger size. The #75 jets will put the hot rodder in the ball park as far as jetting is concerned with the 1850 carbs on the Tunnel Ram. Slightly richer or leaner mixtures may be used for fine tuning.

Loosen the screw in the top of the bowl and remove the needle and seat. Replace the stock .097 needle and seat with Holley's vitron-tipped .110 version. The .097 has small holes in the body compared to the .110's "window" to let in more fuel. Turn the primary bowl upside down and adjust the float level until a #10 drill just barely passes between the top of the float and the top of the bowl. Secure the float in this position, and reassemble the primary bowl.

The next step involves the secondary bowl. Remove it, as well as the secondary plate, being careful not to damage the gasket. Drill the two top air bleed holes to .055-inch. This has nothing to do with the final jet mixture but it eliminates any bogging at low rpm with manual secondaries by richening up the mixture when the butterflies are just barely cracked. Next, drill the secondary plate (this carburetor has no secondary jets) from its stock .067- to .076-inch. When drilling the secondary plate, use a small hand drill; an electric drill will more than likely produce a larger hole than is desired because it is awkward to handle. Loosen the screw on the top of the secondary bowl, then pull out the needle and seat. Here again, replace the stock .097 with a .110 Holley. Set the float level for the secondary bowl following the same procedure outlined for the primary bowl, only this time use a #2 drill as a gauge. If anything, set float levels a little high. Reassemble the secondary bowl.

The final stage of modification involves the vacuum assembly. Remove the choke and vacuum assembly and disassemble the vacuum housing. Remove and discard the ball from the secondary diaphragm and replace the secondary spring with Holley spring No. 38-R-476 (or you can shorten the stock spring until the secondaries are fully open at 5000 rpm). Drill out the shot visible on the side of the carburetor with a #84 drill (.111) and then drill the hole from the primary venturi to the secondary diaphragm from .040- to .081-inch. Once the hole is drilled, plug the outside hole with a new piece of lead shot. Reassemble the vacuum housing and replace it and the choke. Do not leave the choke off the carburetor and do not remove the butterflies. Plug the holes that were used for the automatic choke in the carburetor and the vacuum for the ignition, and the Holley is ready to run.

Vic has put together a kit that will supply everything that is needed to complete these modifications. New secondary plates are provided so drilling the old ones is not necessary. Vic also passed along a few other tips in the carburetor-fuel system department. Run a fuel pressure gauge to have an idea what the fuel system is doing at all times. Maintain no less than 4½ pounds pressure through the traps; that may mean that the fuel pressure at idle will be as high as 7 pounds (pressure higher than 7 pounds at idle is not recommended). Use two electric fuel pumps in parallel, mounted below the pickup in the fuel tank. Mount these pumps as close to the fuel tank as possible. Gas volume is the key to success at high engine rpm. As we stated earlier, Vic found much of this information through testing on his Tunnel Ram, but Holley users everywhere can benefit from most of this information. ■■



A. First step in the Holley modification is to remove the power valve and plug the hole with a special plug and gasket. Make sure the two small holes are sealed. B. Loosen the screw, remove and replace stock needle and seat with vitron-tipped .110 version. C. Turn the primary bowl upside down and adjust the float level until a #10 drill just barely passes between the top of the float and the top of the bowl. Secure the float in this position. D. Remove the secondary plate, being careful not to damage the gasket. E. If the gasket is not carefully removed, it will be destroyed. New gaskets should be checked closely to make sure that they are the proper ones for the carburetor. F. Use a small hand drill to enlarge the secondary plate from its stock .067-inch to .076-inch. Drill the top two air bleed holes (arrows) to .055-inch. G. After removing the choke and vacuum housings, remove and discard the ball from the secondary diaphragm (arrow) and replace the secondary spring with Holley spring No. 38-R-476 (or shorten the stock spring until the secondaries are fully open at 5000 rpm). H. Drill the hole from the primary venturi to the secondary diaphragm from .040- to .081-inch. Once the hole is drilled, plug the outside hole with a new piece of lead shot. I. Plug the holes (arrows) that were used for the automatic choke and the vacuum for the ignition. Edelbrock's new kit (opposite page) provides all components.