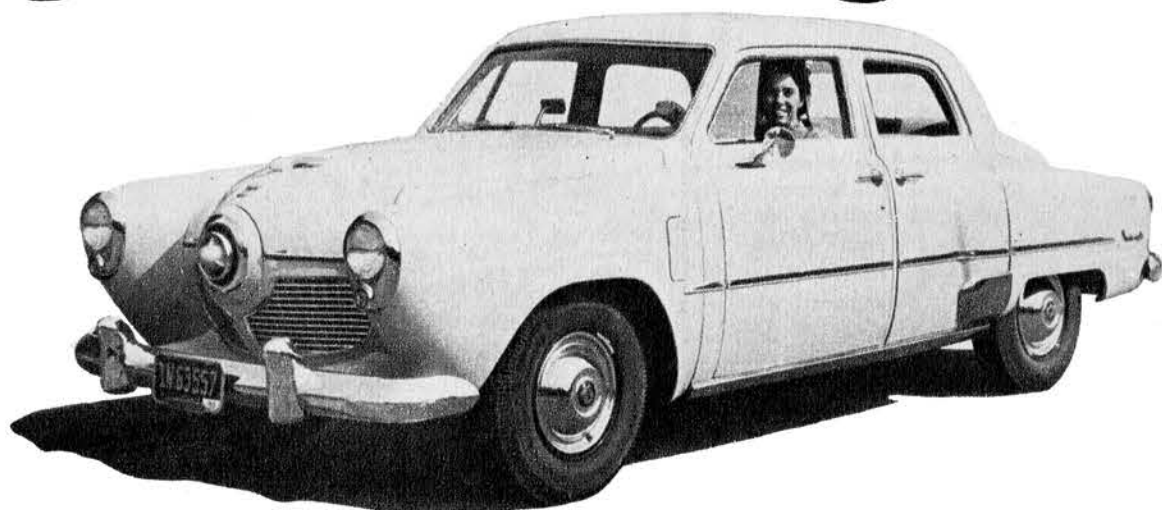


# Studebaker



## ROAD TEST

Hop Up puts a housewife's hopped up Studebaker sedan through its paces.

by California Bill

**O**CCASIONALLY, something rather strange happens in the magazine business, and this is one of those times.

Knowing that Bill Sienkiewicz of the W & S Tool Co. in Los Angeles owned a 1951 Studebaker that had been given the speed treatment (because he and I

Lois doesn't look like the Hop Up type.



had done it together) I asked if we could use the automobile for a road test. Bill told us we'd have to ask his wife, for it was her car!

So, after talking with the missus, we were able to get her 1951 Studebaker 4 door sedan for a road test.

If some of you fellows are having trouble getting your wife to agree to the necessary expenditure of hopping up the family car for a little fun and safety, better read on!

Both Bill and his wife told me that they felt the car was far safer to drive with the extra horsepower. As they explained: "Quite often when you start to pass a car that has been poking along in front of you, the joker will want to race you to keep you from getting ahead of him. Since most stock cars are fairly evenly matched you *have* to have more hp to pass in safety and eliminate the hazard caused by such inconsiderate drivers, of which there are many."

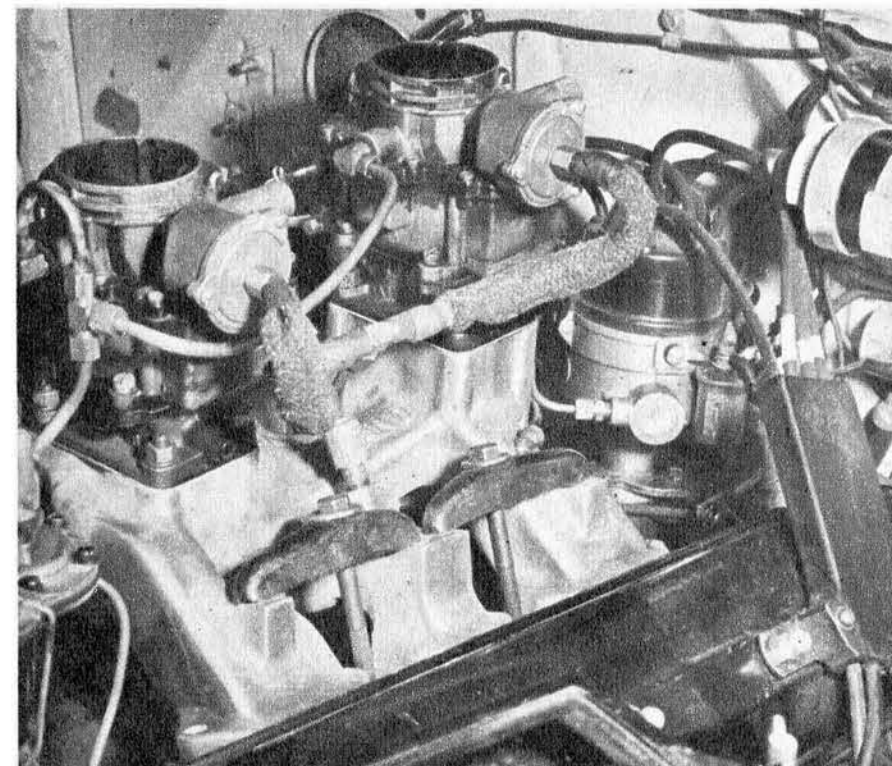
While Bill made the speed equipment additions to his machine over a period of time, they were all made with a final

picture in mind of what he wanted in the way of performance. This is a wise move for anyone to make in hopping up their cars. Always have a plan.

Don't just add equipment in a helter skelter manner and then expect the final result to give you much additional performance. Granted that you may hit it lucky and get a good combination, but the odds are "agin" it.

Bill and I talked over his ideas for adding horses before a single nut was removed from the engine. Even so, we still had our troubles as the two of us worked on this engine.

A simple thing like installing a Mallory two point distributor and coil just about severed our long friendship. Somehow I got the gear pinned onto the new distributor without regard for clearance between the gear and the end of the distributor housing. This was fine when the distributor was cold, but when Bill got about 30 miles out of Los Angeles and started over the Angeles Crest Highway—Brrt! Pst! Clatter! Engine stops producing power or



Left side of dual manifold installation.

anything else rather shortly. Family out with friends for pleasure drive. Help of other friends solicited for tow back to town. Bill was really nice about it, but somehow it wasn't hard to tell that he was upset. In fact, this little episode just about ended our hopping up Lois' new Studebaker.

But, we were finally able to locate a new camshaft and distributor gear. Since the V-8's were completely new at that time, it was next to impossible to buy parts for them. We had to wait while they were shipped air mail from the factory. This seemed to take months, though it was only a week. Bill's missus was getting rather unhappy about the brand new car sitting in the garage and parts strewn all over tables and covered with newspapers. The distributor shaft had frozen and the camshaft just kept on turning, with the inevitable result that both gears looked as if they had just traveled through a very effective corn sheller. If this had been one of the later V-8s with the steel billet camshaft, the chances are pretty good that neither gear would have been damaged.

The Mallory ignition set up (coil and distributor) has not given a minute's trouble since it was installed. The original points are still in use and unpitted after 5000 miles of hard use. The distributor advance curve had to be changed by J. F. Dixon Co. so that the spark would not cover such a wide range and so that the spark would be more advanced in the idle position and still advance the correct amount at top RPM.

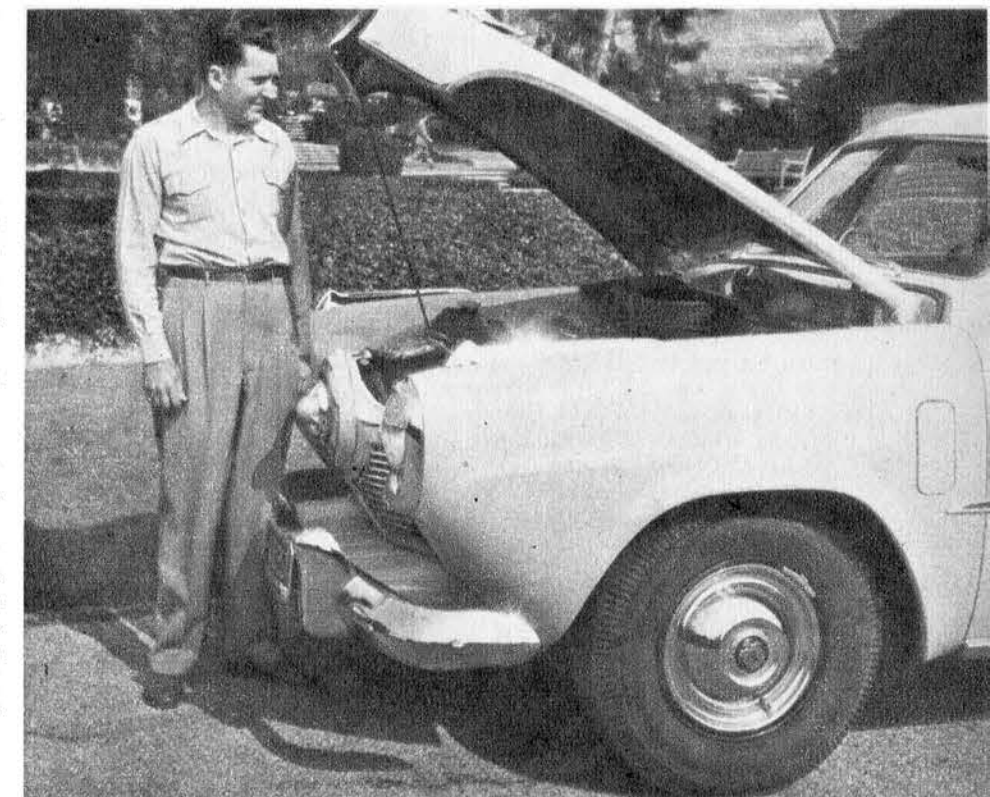
Once we got the car running again, everyone was happy. While the cam-

was not too much we could do about the difficulty as Lois wanted to retain the soft stock clutch. Care must be exercised when shifting so that full throttle is not applied till the clutch has fully taken hold.

Several months went by. Bill and I discussed the possibility of adding a cam and manifold as the Stude still was no match (performancewise) for the light Ford with the Merc engine. By this time, steel billets were available and we got one of the first, lugged it over to Bill Spalding and told him that we were interested in a quiet, smooth running camshaft with lots of torque. We got that and more too.

Because we had to remove the rocker arms, etc., to install the cam, we decided that the car did not have sufficient compression and again removed the heads. We milled an additional forty thousandths from them, making a total mill of .102". At this time we ground out all irregularities from the ports and combustion chambers, paying careful attention to remove the pockets which surrounded the valves. This undoubtedly lowered the compression as much as we raised it by the additional milling, but the added breathing characteristics more than made up for any compression that we lost. The ports in the Studebaker heads are twisty and hard to get at, and you really can't do much toward opening them up. It is next to impossible to get the nose of a

Bill is proud of the neat installation and clean condition of Stude engine.



grinder far enough into the ports to do any real good. Therefore, we were content to polish what we could reach and left the rest alone. The valves were left stock size and seated on the very edge of the valve to take advantage of the port opening and valve size.

Valve springs, retainers and keepers are stock Studebaker, as are the rocker arms. Stu-V makes specially lightened rocker arms, but as yet, the rpm without float are sufficient without resorting to such extremes. These would be great for a competition engine.

To compensate for the approximate .100" milling, .050" washers have been placed under each rocker arm stand to retain the stock relation of rocker arm angle to valve and pushrod. This is essential on any overhead valve engine, unless the pushrods or the valves are shortened when the heads are milled.

After installing the camshaft, manifold and more compression, it was obvious that the stock idling characteristics had been retained and the low speed torque was almost as good as stock. Idling down to 15 mph in high gear could be accomplished before bucking occurred. Acceleration in high gear from sixty to ninety has to be experienced to be believed.

A Weiand manifold was installed with a Nicson ball joint linkage and a pair of Stromberg carburetors similar to those used on the stock Studebaker. One size richer main jets were installed. Gasoline mileage has worked out to over 19 mpg at high touring speeds, with 17 being obtained around town, proving Studebaker's claim that the V-8 is an economical car to operate.

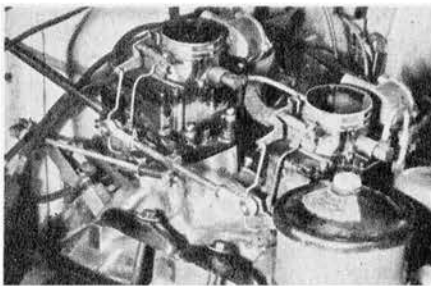
At the present time the carburetion is not what it could be as the linkage is far too touchy. Changes are contemplated in the linkage so that additional pedal travel will be required to operate the carburetors through their range. Throttle linkage can make a car pleasant, or an absolute "bear", to drive, depending on how much time and thought is given the installation.

On taking the car over for the road test I was quite surprised by its performance as I'd merely driven the car around the block once or twice after the cam had been installed and none since that time. A trip to Nicson Engineering showed 135 hp at the rear wheels as compared to the 90 produced by the average stock standard transmission Studebaker V-8.

An Oldsmobile 88 owner had just taken his car off the dyno and stood around waiting for us to fire up the Studebaker. He was more than surprised to see this little bomb putting out a solid 30 hp more than his Olds after the Olds had been tuned to tip-top shape.

Spark plugs have been a problem in

this engine, as many types and heat ranges have been given careful trial. Because the car is driven by Mrs. Sienkiewicz in around town trips, the colder plugs that are necessary for high speed use, load up and the engine starts to run raggedly. This brought a lot of complaints from you know where, and the J-8s that had been so nice on the dynamometer were discarded (after only 200 miles' use) in favor of some H-10s. These are rather warm for hard use and lots of acceleration as we found in our road testing. There was a slight tendency for the engine to "run on" after hard driving. This does not occur with the colder plugs, but then it is necessary to compromise and make the car suitable for town driving with-



Right side of Weiand dual set up showing Nicson ball-joint throttle linkage.

out bucking and loading up no matter who is driving the car.

After leaving Nicson's we took a ride through heavy traffic out Olympic Blvd. to Beverly Hills. The throttle touchiness made for rather unsteady driving until I could get used to it.

The engine runs at a constant 150 to 160 degrees and it occasionally coughs back at you when you romp on the throttle when starting off from slower speeds in second gear. A warmer thermostat would undoubtedly help to cure this condition. The carburetors are hooked up so both automatic chokes are operable, so the warm up speed is a bit too fast. The fast idle linkage on one of the carbs should probably be changed so that it doesn't operate with the choke.

Bill's Studebaker is a standard transmission model with overdrive. He has placed a simple toggle switch on the steering column so that the overdrive ratios can be locked in at all times while the OD selector is in OD. Thus you start in overdrive low, overdrive second and overdrive high without using the conventional gears to get to the overdrive ratios. This makes for smoother driving with the additional power of the hopped up engine.

About the only thing I could find against the general layout of the Studebaker as it came from the factory was that the hill holder arrangement makes backing out of a down hill driveway

rather a terrifying process until you get used to it. Also, the brakes are not the greatest. Actually the brakes are not good enough to enable the full performance of this car to be used. This is true of most modern cars even in stock form and a great deal of judgment should be used in driving so that you don't get in over your head.

Although we didn't get to try the car on any of the local drag strips, and although the clutch slips so badly that it is impossible to stand on the throttle till the clutch is fully engaged, we did prove that this little yellow "wolf in sheep's clothing" will more than out-accelerate the new Cad, Lincoln, Chrysler and the Olds 88 and 98. If you own any of these fine vehicles this may come as a shock to you. Especially when you consider that this little Stude is stock bore and stroke, and displaces a mere 232 cubic inches against the over 300 inches of your gas consuming monster. However, it is true!

Driving a four door sedan that is fully "loaded" gives one a real charge! Smug Olds 88 and Cadillac owners get the surprise of their lives when they "stand on it" putting their foot completely into the carburetor, and here, right alongside toying with them, is a completely stock looking Studebaker.

Truthfully, this is one of the finest hopped up cars I've driven. It idles smoothly and quietly. 45 in low and over 80 in second come up rapidly on the speedometer when accelerating, and the high gear acceleration is out of this world.

The Studebaker is at its best in high gear, open highway traveling. Cornering leaves much to be desired. There has been a bind in the steering since the car was new, which apparently the local dealer cannot remedy. This occurs only when turning left, and the bind can't be traced once the weight is removed from the car to make adjustments or try to find the trouble. If any readers have been able to correct a similar difficulty, please write the Tech. Ed. of HOP UP and we'll appreciate it.

This is one car that disproves the old belief that you can't have a full house in your engine and still expect your wife to drive it. This is Lois's car and Bill seldom does anything to it except to make minor adjustments.

The tappets have not been touched since the cam was installed over 4000 miles ago. The carburetors were set once with a Nicson synchro-gauge and left alone since that time. The spark was set on a chassis dynamometer and no further changes have been needed.

As Lois told me: "If that equipment had been unsatisfactory, it would have been off the engine long ago."