

# How To Build HOT RODS

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# More Dash for the Rambler Nash

*You needn't sacrifice regular road performance of late-model cars to give 'em that added zip; this Rambler is a case in point.*

*By Fran Newman*

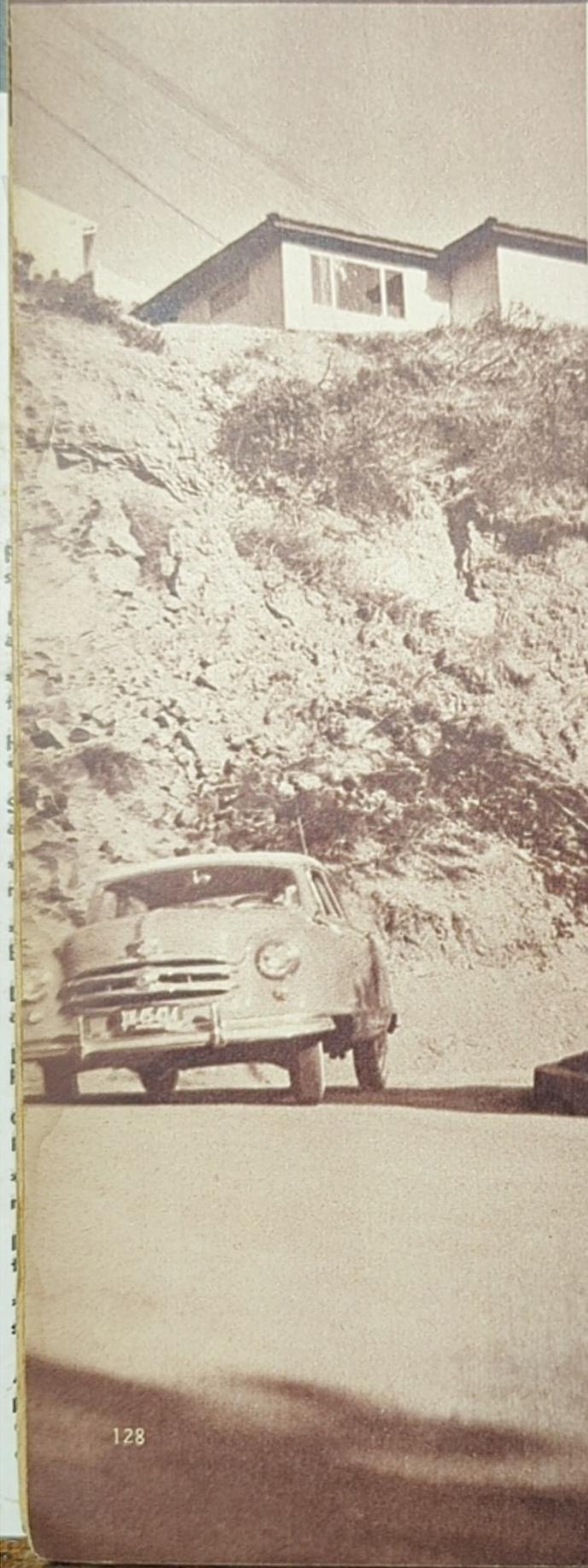
**F**OR a living, I play a hot sax, but for play, give me a hot car every time. I guess I'm just a bug when it comes to cars, especially one that can get up and go when you feed the juice to it. That's what I had in mind when I went shopping for a new car. Being a musician keeps me and my instruments pretty much on the go, so what I needed mainly was a good utility car, but it had to have good driving characteristics—and a powerplant that could be souped up.

I found my dream when I test-hopped a new 1951 Nash Rambler convertible. The car had everything I wanted in the way of comfort and handling characteristics. Tight high speed turns never fazed it. It just clung to the road and sailed merrily 'round the bends. It was terrific on high speeds and didn't wander or try to take to the air. These good features are probably due to the fact that the Rambler has its coils mounted directly over the king-pins, instead of inside them like on other cars.

Having found my dream car, the next step was to convert its engine to a dream engine, so I took my problem to Ray Brown, who is well-known for creating "dream" engines. Ray's first suggestion was, "If you really want to get away, why not put a Merc in it?"

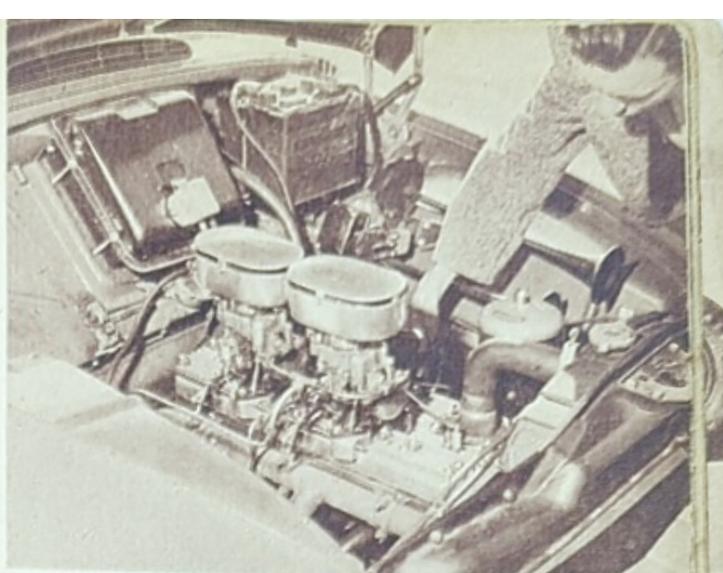
But I wasn't anxious to take a chance on losing the car's handling characteristics by dumping an extra 200 pounds of engine in it, so I said, "No, let's just soup up this Nash engine and keep the car down to its original 2,430 pounds."

**Fran Newman's Nash Rambler corners beautifully at high speed and holds tight to the road in turns.**

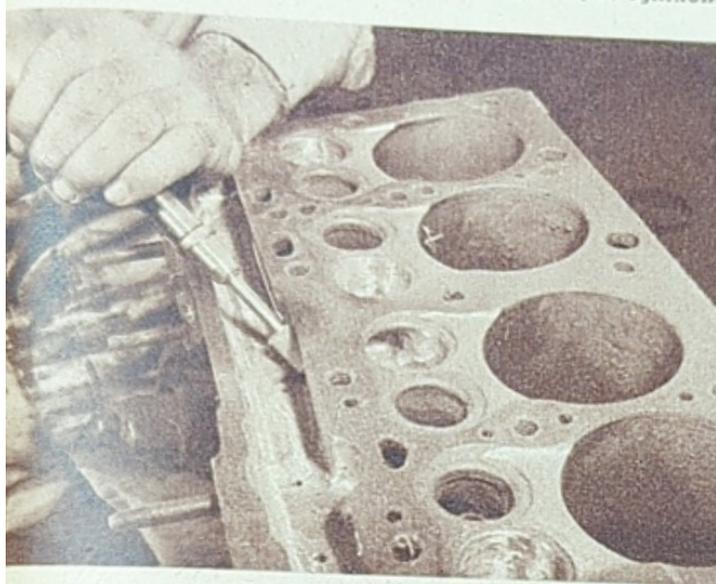




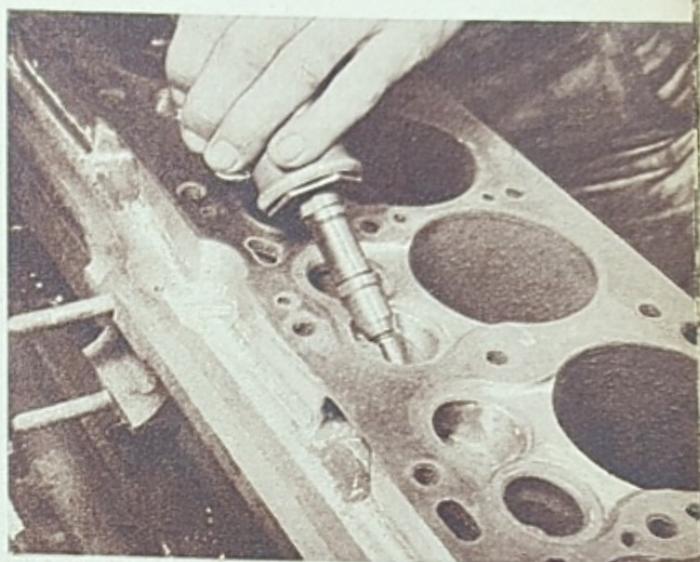
Ray Brown, who handled this neat job of soup-up, gives Fran the low-down on high-output ignition.



Newman takes a look at his newly-souped Nash engine; twin carbs have Edmunds air cleaners.



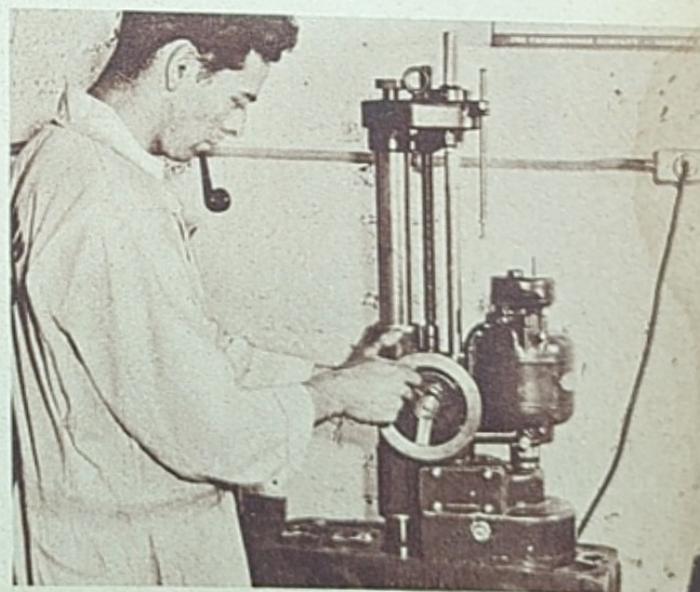
Porting and relieving the block; here, the intake channels are being enlarged for better fuel flow.



Ray grinds out all corners and obstructions in the intake ports; Nash block received full treatment.



After being ground, all surfaces of the ported and relieved block were polished to glistening finish.



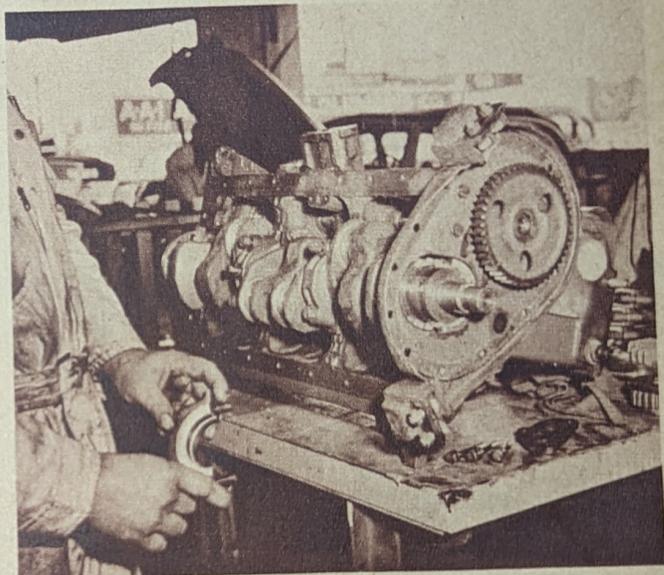
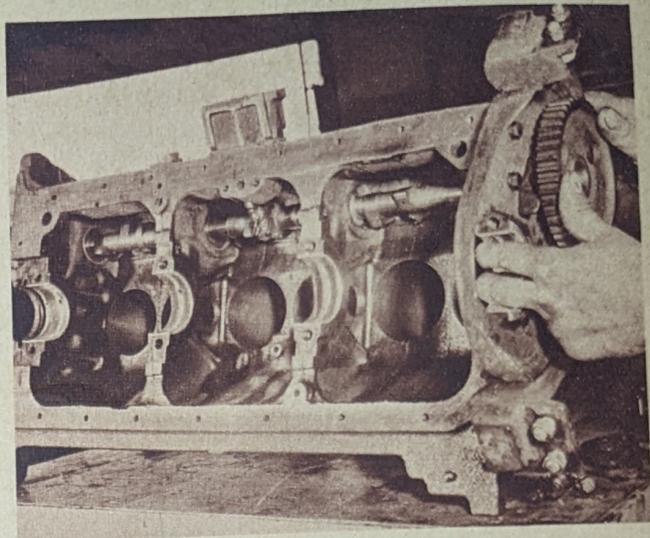
Cylinders of the Rambler were overbored 0.060 in. for installation of new Sterling oversize pistons.



Ray then carefully sanded the bored out cylinders with a cylinder hone to give the required finish.

Souping a Nash sounded like fun to Ray and he went to it with high enthusiasm. He was curious, himself, to see what could be done with this type of engine. The first test was to replace the stock head with an Edmunds 8:1 high compression head and twin carbs. We checked this first step out on a dynamometer to see what, if any, the improvement would be. I still can't believe it, but just that little change brought the horsepower up from its stock-rated 82 hp to 102 hp!

The re-ground  $\frac{3}{4}$ -race Winfield cam is fitted into the Nash block, then the timing gear is attached.

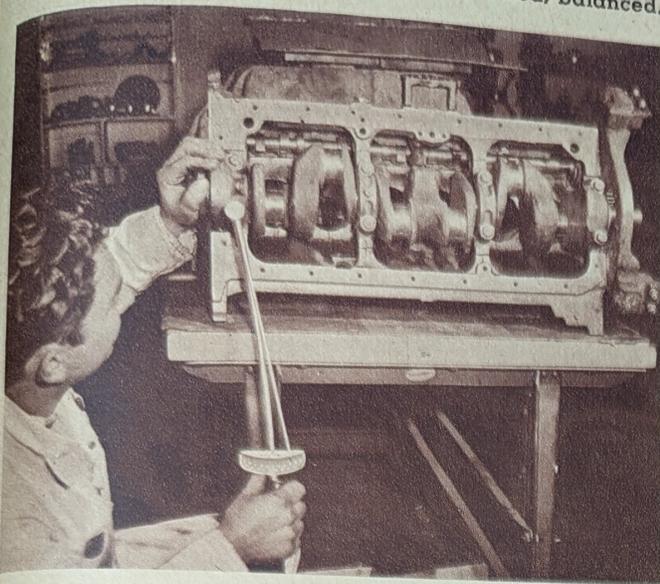


The stock crankshaft was balanced, but otherwise remained stock; the stroke stayed stock at  $3\frac{3}{4}$  in.

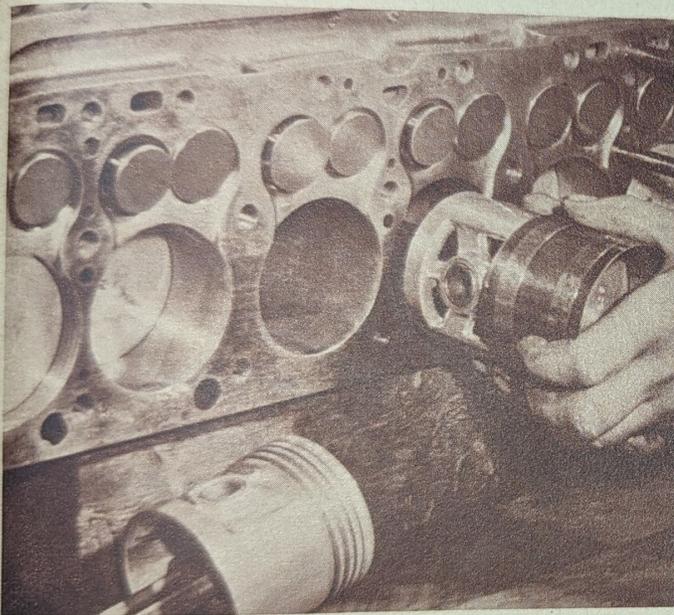
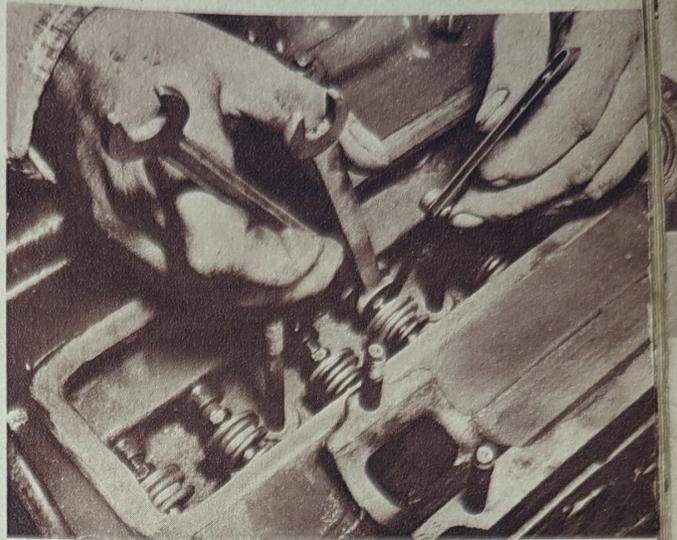
Now I was getting hopped up, and I told Ray to give it the works—anything it needed to produce maximum engine efficiency with a minimum loss in idling characteristics and street performance—and incidentally, a minimum loss in my pocket-book. I still have to drive this car through city traffic as well as on the open highways, and I didn't want to fight an engine that wouldn't be content to sit quiet until feeding time.

Ray decided that the best compromise

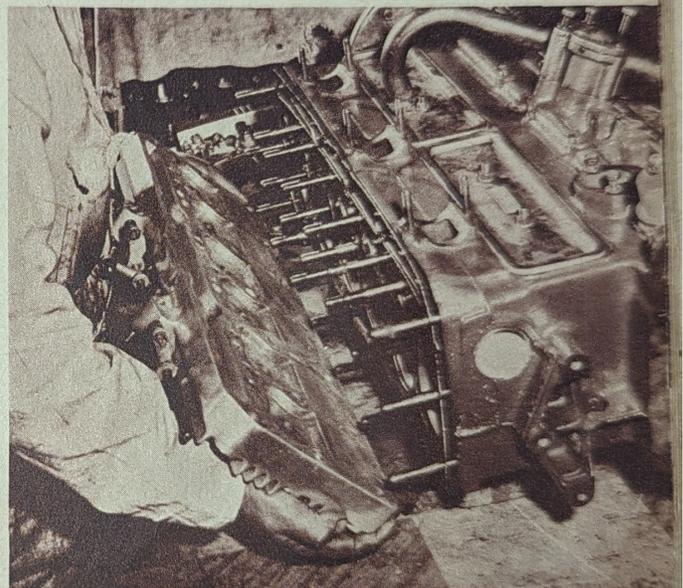
A torque wrench is used to tighten the crankshaft bearing bolts. Stock con rods were used, balanced.



Valve tappets were finely-adjusted. Intakes are set at 0.012 in. while exhausts received 0.014 setting.



Next, the 0.060-in. oversize Sterling pistons go into the block to match the overbored cylinders.



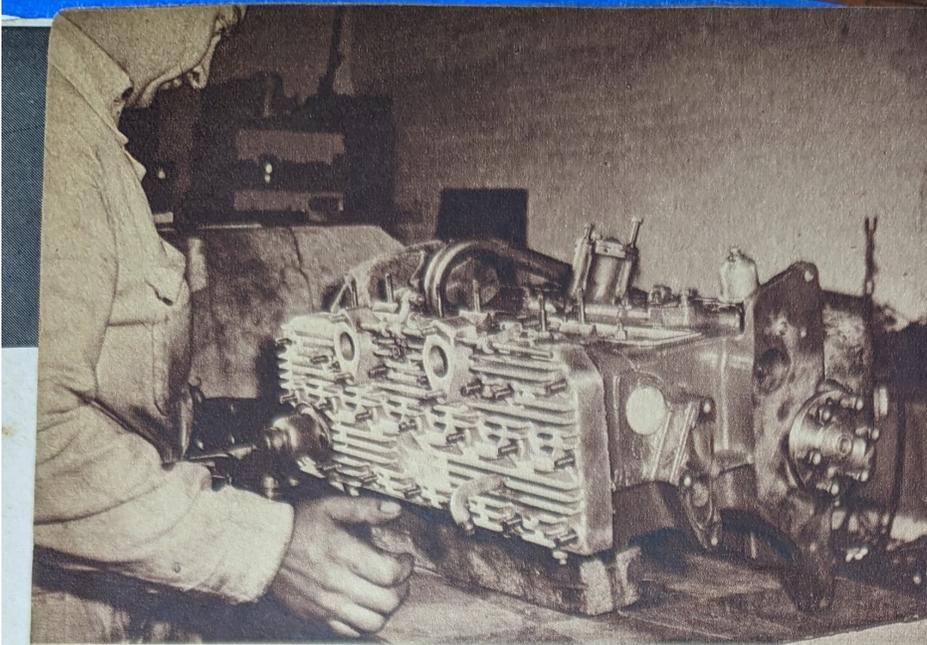
The Edmunds 8:1 compression ratio head raised the horsepower from a stock-rated 82 to a full 102 hp.

for my six-cylinder Nash powerplant would be a modified soup-up—a  $\frac{3}{4}$ -race job. The Nash head and manifold are designed as a single unit. The Edmunds head, with which we replaced it, is designed for dual carburetion which we provided in the form of two 780-S Carter carbs.

The block, however, got a real going over. It was relieved to a depth of  $\frac{1}{8}$  in. and all intake ports were enlarged, with every possible obstruction that might impede the flow of fuel to the cylinders being

carefully ground away. The cylinders were then overbored 0.060 in. to take a new set of Sterling 0.060-in. oversize pistons. Con rods remained stock, but all rods and pistons were carefully weighed to make sure that they balanced.

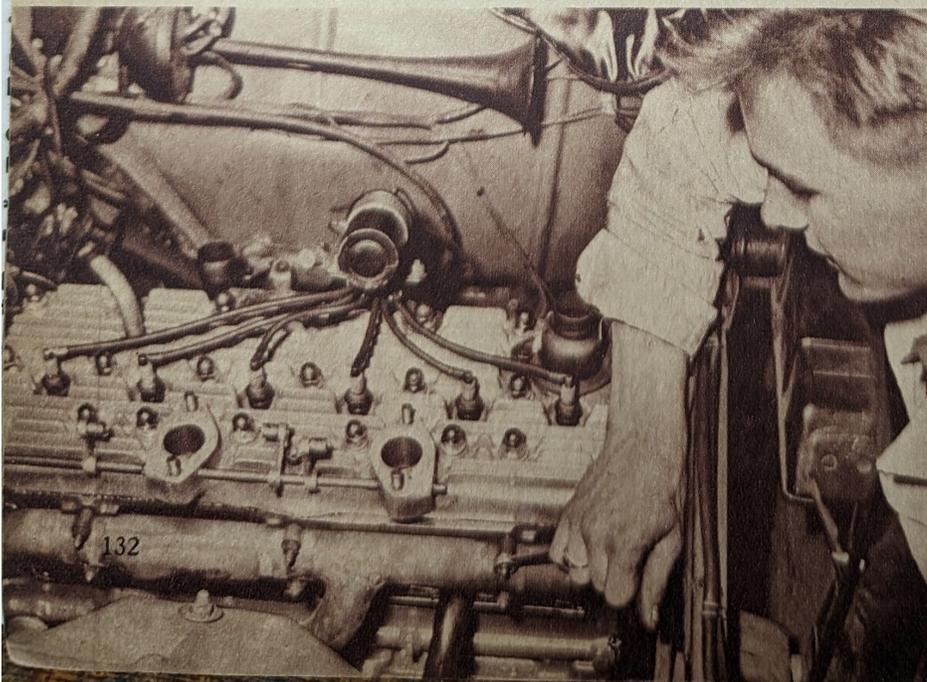
The cam was re-ground to a  $\frac{3}{4}$ -race grind by Winfield. The valves were stock but Ray lightened them by machining the underparts of the valve heads. Adjustable tappets were installed and set at 0.012 in. for the intakes and 0.014 in. for the exhausts.



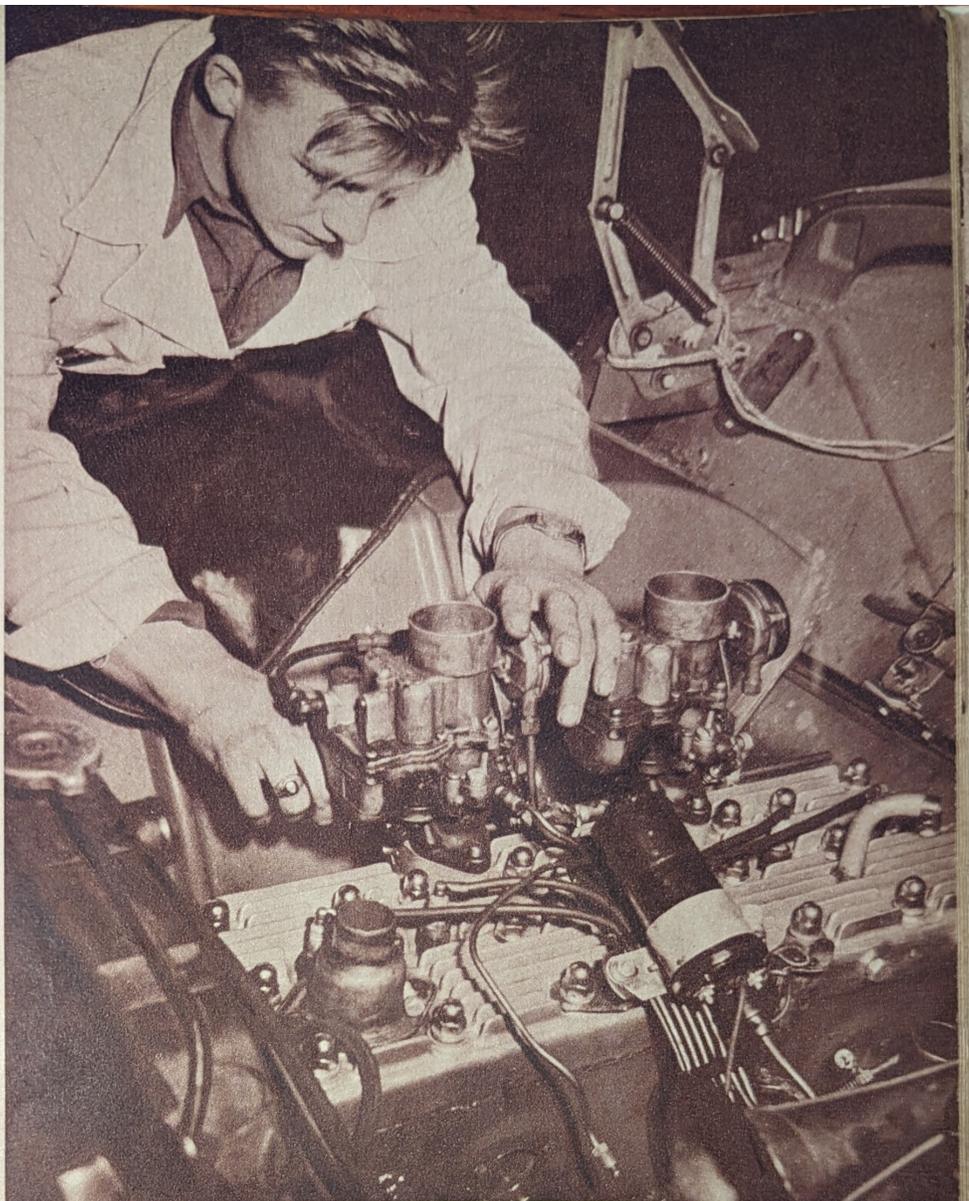
Edmunds 8:1 head mounted and ready for bolting onto the block. The finned high compression head and 2-pot manifold are one unit.



While head is being bolted on, the machined flywheel is attached. Flywheel was lightened eight pounds but retained inherent strength.



Once engine is in car the dual exhaust is next item to be installed. An extra pipe is welded into center of the main exhaust pipe.



Final step is installation of two Carter 780-S carbs. You'll hear more about his hot Rambler when Fran gets rolling at lakes, drags.

The valve seats were re-ground to 30-degree angles for the intakes, and left stock at 45 degrees for the exhausts. Intake ports had been enlarged until the seats were narrowed down to 1/16 in.

The crankshaft was balanced but otherwise remained stock. The stroke also remained stock at 3<sup>3</sup>/<sub>4</sub> in. To take further strain off the engine, the flywheel was machined down until it lost eight pounds of weight but none of its inherent structural characteristics. The stock Autolite ignition worked real good so we left it in. Back pressure was relieved by splicing an extra pipe into the exhaust manifold and providing the engine with a split exhaust system. Two 30-in. straight-through type mufflers, the longest we could find, took care of the noise—and the law.

The engine displacement was increased from its original 172 cu. in. to a final displacement of 179 cu. in., which keeps me in Class A for the lakes and drags, where you'll find me burning up the course as soon as the engine has been broken in properly. •