

PROJECT JUDGE:



PHASE ONE

POP ROD'S NEWEST PROJECT CAR HAS ALREADY PROVEN ITSELF TO BE A STRONG STREET/STRIP PERFORMER.

By Lee Kelley

Alright, Pontiac fans, here's the first installment on POP ROD's Project Judge that you've been hearing so much about since last December. To refresh your memory just a little, our newest project car came with a 366 hp Ram Air engine displacing 400 cubic inches, a three-speed transmission with Hurst linkage and a 3.55 rear end (positraction of course). We picked up the Judge at a Pontiac news conference at Riverside, Calif., where a host of newspaper writers-turned-racers had already managed to mangle the two-three syncho in our transmission. The transmission goes into third alright under a hard shift, but it makes quite a noise!

We liked the Judge right from the

first moment we climbed behind the wheel. Everything just seemed to fit; the instruments were all in the right place, the steering wheel was just the right size for a performance car and even the three-speed shifter didn't bother us too much, though a four-speed would definitely be the hot setup. A couple of quick laps around the Riverside course and we were convinced that the special suspension package that's standard on the Judge is one of the best we've encountered. And those power-assisted front disc brakes are just the answer for quick, sudden stops.

Project Judge had less than 600 miles on it when we hit the dragstrip at Riverside for initial testing. Even

though the engine was still very tight, we managed a 14.13-second ET at 98.36 mph. All shifts were made at 5800 rpm with starting line rpm held to 3000 because of the street tires. The longer we shifted the three-speed the less we liked it. There's just not that same "tight" feeling with a three-speed that there is with the tried-and-true four-speed. Power shifts, at least from first to second, are out of the question, and even with the new advances in three-speeds (fully synchronized) the four-speeds are still much stronger. 'Nuff said.

After our first experience with the quarter-mile we proceeded to put a few miles on the Judge. Driving around town was a ball because every-



Harold Lawrence checked out the Judge's distributor on a Sun 500 t4ster, then replaced the advance bushing to limit initial advance to 10 distributor degrees. He also set up a new advance curve so that total advance was reached at 2500 rpm.

one wanted to know what kind of car we had. Where did we get that groovy gear spoiler? Is that a custom paint job? Does that thing run as good as it looks? Everyone wanted to know something a little different about the special GTO from Pontiac. And every hot rodder wanted a piece of the action. The Judge had arrived.

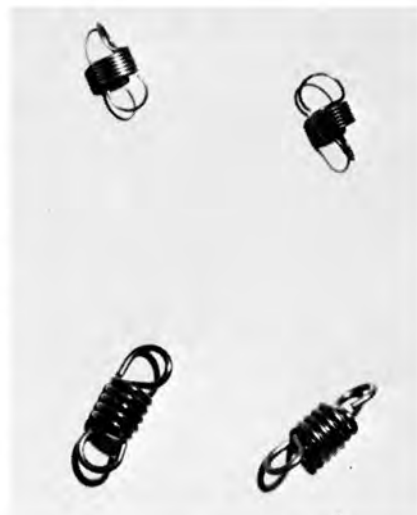
With slightly over 1000 miles on the Judge, we journeyed to Orange County Raceway for another crack at the quarter. We still hadn't touched the engine; it was just like it came off the assembly line. Using the Goodyear Polyglas street tires we came up with a best of 14.05 seconds ET with a speed of 100.67 mph. Then we changed to a set of Goodyear 8.00/8.50 x 14's and

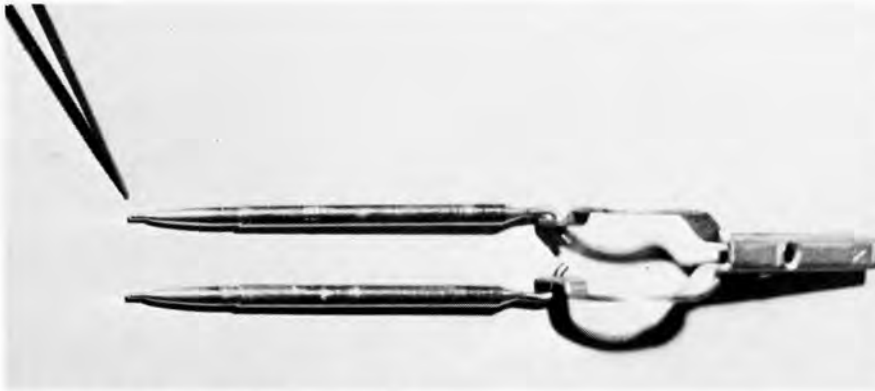
went 13.95 seconds at 99.55 mph. The Goodyear slicks were just a shade too tall for us to pull in third gear with our 3.55 rear gear, so we lost in the mph column, but our ET was lowered because we could come off the line harder. So we had Project Judge in the 13s and we hadn't even touched the engine! Needless to say, we already have visions of low-12-second ETs with this car.

From the strip we proceeded to Ak Miller's Garage in Pico Rivera, Calif., where Jack Lufkin put the Judge on the chassis dyno. We were surprised to see that the Judge had only 190 hp to the rear wheels at 4500 rpm because we've seen other super cars pull over 200 rear wheel horsepower and still not break into the 13s. Our only conclusion is that the Judge is well prepared and uses every bit of its available horsepower. We left Ak's shop and headed for Doug's Headers in Whittier, Calif., where Doug Thorley had arranged to install a set of headers on our car. Doug explained that 1-3/4-inch tubing had worked out the best on the four-tube headers for the



To change the advance curve, Harold replaced the stock distributor springs with the much lighter Iskenderian ignition springs. With a little experimenting the advance curve can be tailored to fit any situation.

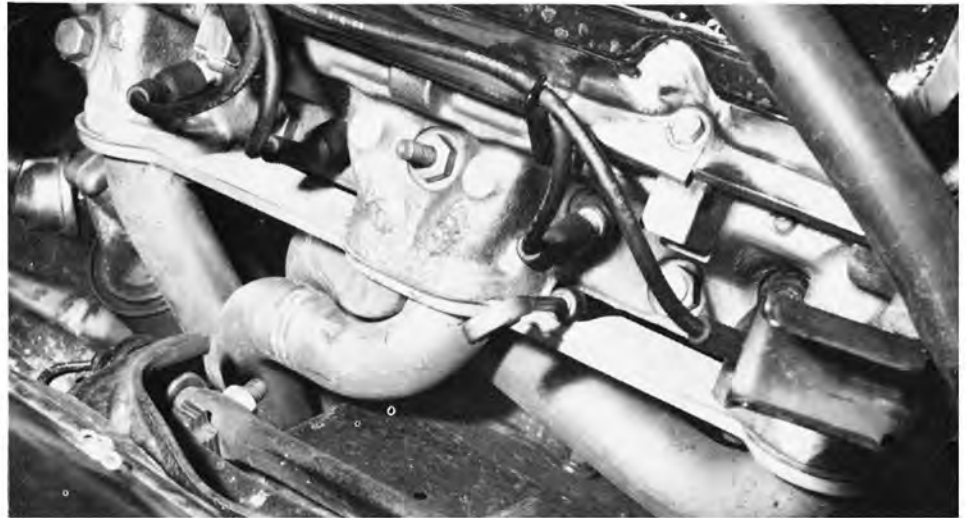




Here's a true hot rodder's procedure that we used but that is not recommended if smaller metering rods are available: file about .003-inch off the diameters of the ends of the metering rods to richen the Quadrajets. Have an extra set on hand, just in case!

We realized a 15 hp gain at the rear wheels from the addition of a set of Doug's headers (20 hp after rejetting). Headers are still the best buy for the hot rodding dollar, horsepower-wise.

Harold reinstalled the reworked stock distributor and set total advance at 36 degrees. With just these few changes the Judge felt like a different car. It was more responsive and ran quicker.



"small" 400-inch Ram Air. Two-inch tubing is used on the Ram Air IV engines. Each tube is 36 inches long and empties into a three-inch diameter collector. Doug also advised us to take the car back to Ak's for a tuneup because the headers would make the engine run extremely lean. We had to agree because we noticed that we were on the lean side even before header installation due to the smog control system.

Back at Ak's Garage, we ran the Judge through its paces on the dyno and it responded with a healthy 205 hp at 4500 rpm, a 15 hp increase with the addition of headers alone! And the air/fuel meter showed that the mixture was extremely lean! Jack pulled the metering rods out of the Rochester



Quadrjet and proceeded to file .003-inch off the diameters of the ends of the rods. A word of caution: this is not a recommended procedure and certainly not a job for amateurs. If you can't get smaller metering rods than the ones in your carburetor, then buy an extra set of the ones you have so that when you start whittling away you'll have a spare set, just in case. With the mixture richened up, the Judge responded with 210 hp at 4500 rpm. There was on other change that we wanted to make before we headed back to the strip, and that was in the ignition department.

Harold Lawrence, one of Ak's mechanics, removed the distributor and checked it on the Sun 500 distributor machine. Our distributor had 15 degrees advance (30 crank degrees) in it and the final five degrees (10 crank degrees) was not coming in until 8000 rpm. Since our Ram Air engine was all through at 5800 rpm, we were never seeing that final five distributor degrees! The one encouraging piece of information we had was that we weren't getting any point bounce at 8000 rpm, so we shouldn't have any trouble with our 5800 rpm shifts. Harold disassembled the distributor and replaced the bushing under the weight plate with a slightly larger one to limit the advance in the distributor to 10 degrees. He also made sure that the point contacts were in proper alignment and that all areas that required lubrication were properly attended. He then reassembled the distributor, using stock parts with the exception of the advance springs. In order to bring the advance in quicker, Harold installed a set of Iskenderian ignition springs which are much lighter than stock. These light springs allow the weight plates to open quicker and the advance is brought in at a lower rpm. Back on the distributor machine once again, we now had 10 degrees in the distributor with full advance at 2500 rpm. That's more like it.

Harold reinstalled the distributor in the Judge and put 16 degrees advance on the crank for a total of 36 degrees. We were ready for the strip. This time we chose Irwindale Raceway for our performance tests. With headers open and Goodyear slicks on the rear, we ran 13.65 seconds ET at 101.12 mph. With street tires and open headers we ran 103.56, 104.68 mph, and that's still with a 3.55 gear! All shifts were held to a 5800 rpm limit.

That certainly has to be the best "first-time-out" performance of any project car we've had yet. Our Project Judge is due for some changes in the near future, not the least of which is the addition of a Muncie M22 four-speed transmission, a Royal Pontiac Bobcat package and some different rear end gears. If you think that we have a pretty potent street/strip machine now, wait'll you see what happens to our Judge in the next installment.

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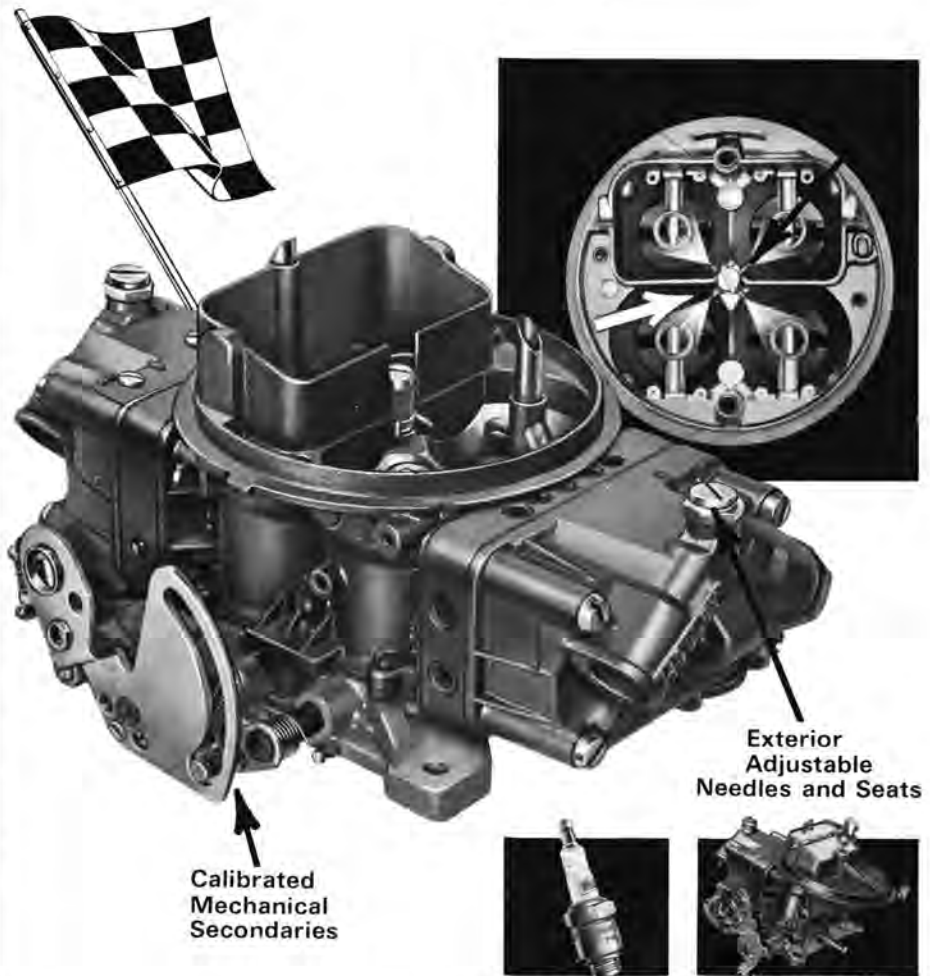
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