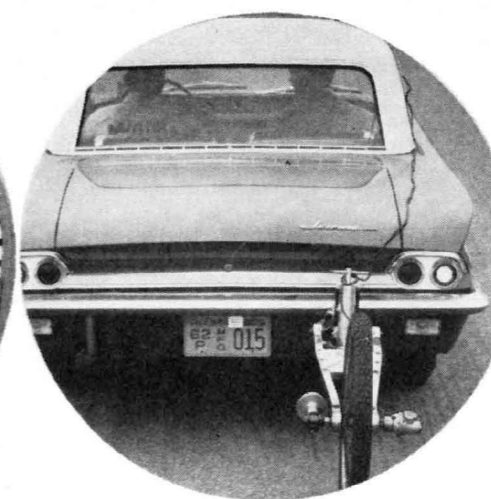
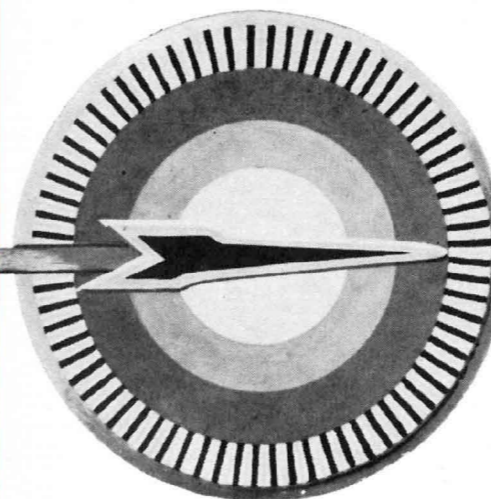


Oldsmobile F-85

# JETFIRE



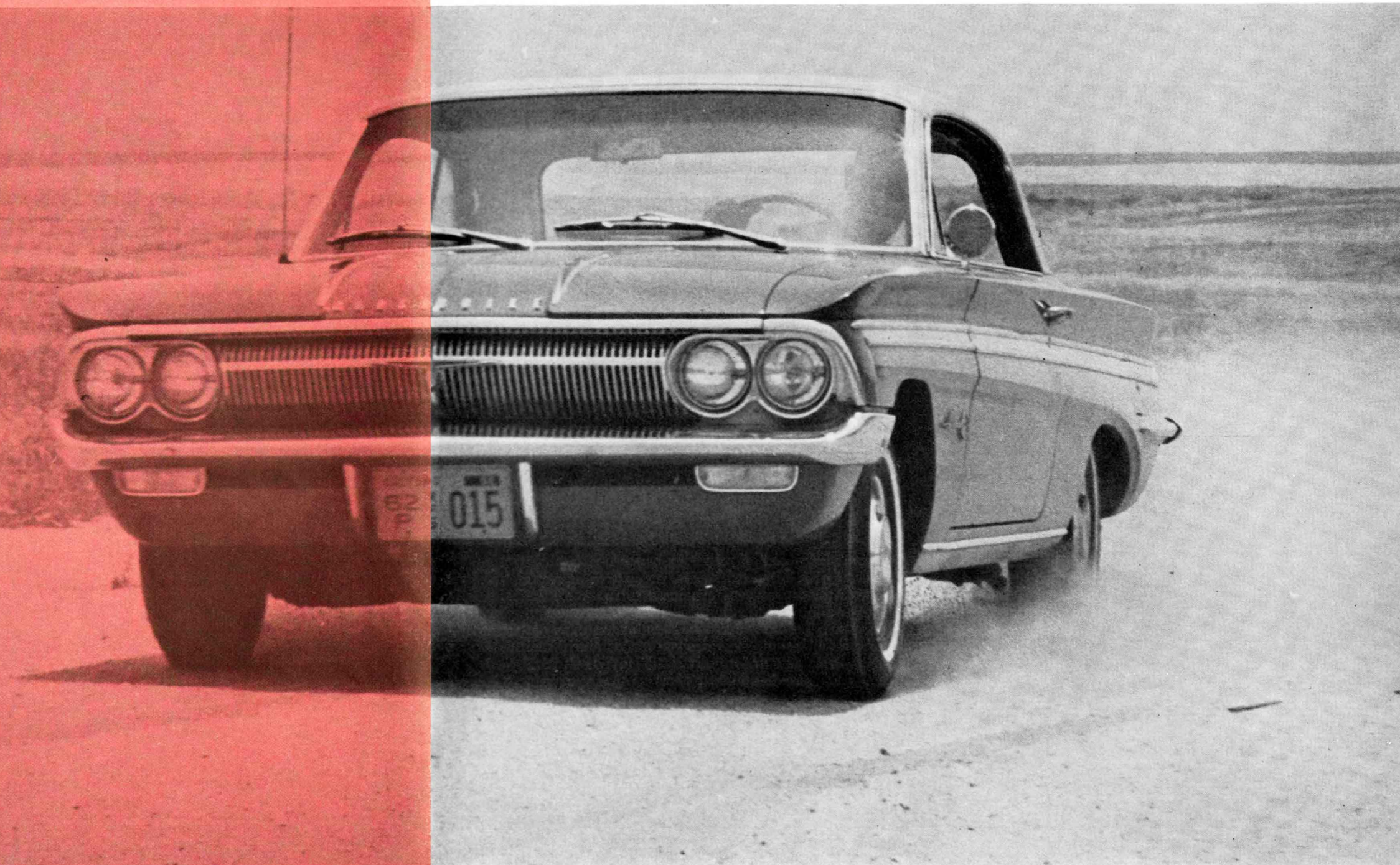
## A compact performance contender that features turbo supercharging

by Jim Wright, Technical Editor

**A**FTER SEVERAL FALSE STARTS and a long delay, Oldsmobile has finally put the turbo-charged F-85 Jetfire on the market. This is a move they may be regretting before the year is up, because as a performance package it leaves much to be desired.

Except for the installation of the turbo-charger and its related equipment (including a "performance gauge" mounted on the console), the Jetfire is basically a Cutlass Sports Coupe. Both differ from the standard F-85 in that they have bucket seats, and offer a center console, floor-mounted shift lever and vinyl-covered top as optional equipment.

The test car was equipped with power steering, three-speed Hydra-Matic (the four-speed manual just wasn't available) and the standard 3.36-to-1 rear axle. Fueled up and ready to run, the Jetfire weighs in at just over 2850 pounds, so it can't be said that the car is overweight. With two aboard,



## Oldsmobile F-85 Jetfire *continued*

plus the test equipment, the weight was up to 3250 pounds when we ran our tests.

The turbo-charger package ups the horsepower from the standard 155 at 4800 rpm to 215 at 4600 rpm — or one hp per cubic inch, which in itself is very good. We made six 0-to-30, 0-to-45 and 0-to-60-mph tests before we were convinced that 3.7, 6.4 and 10.2 seconds were the best the car would do.

Compared with what we had posted in our 1961 test of a standard 155-hp, four-door sedan (see MT for February, 1961), these Jetfire times are not at all impressive. The '61 with Hydra-Matic had e.t.'s of 4.5, 8.2 and 12.7 seconds. With a three-speed manual these times dropped to 4.5, 7.4 and 11.9 seconds.

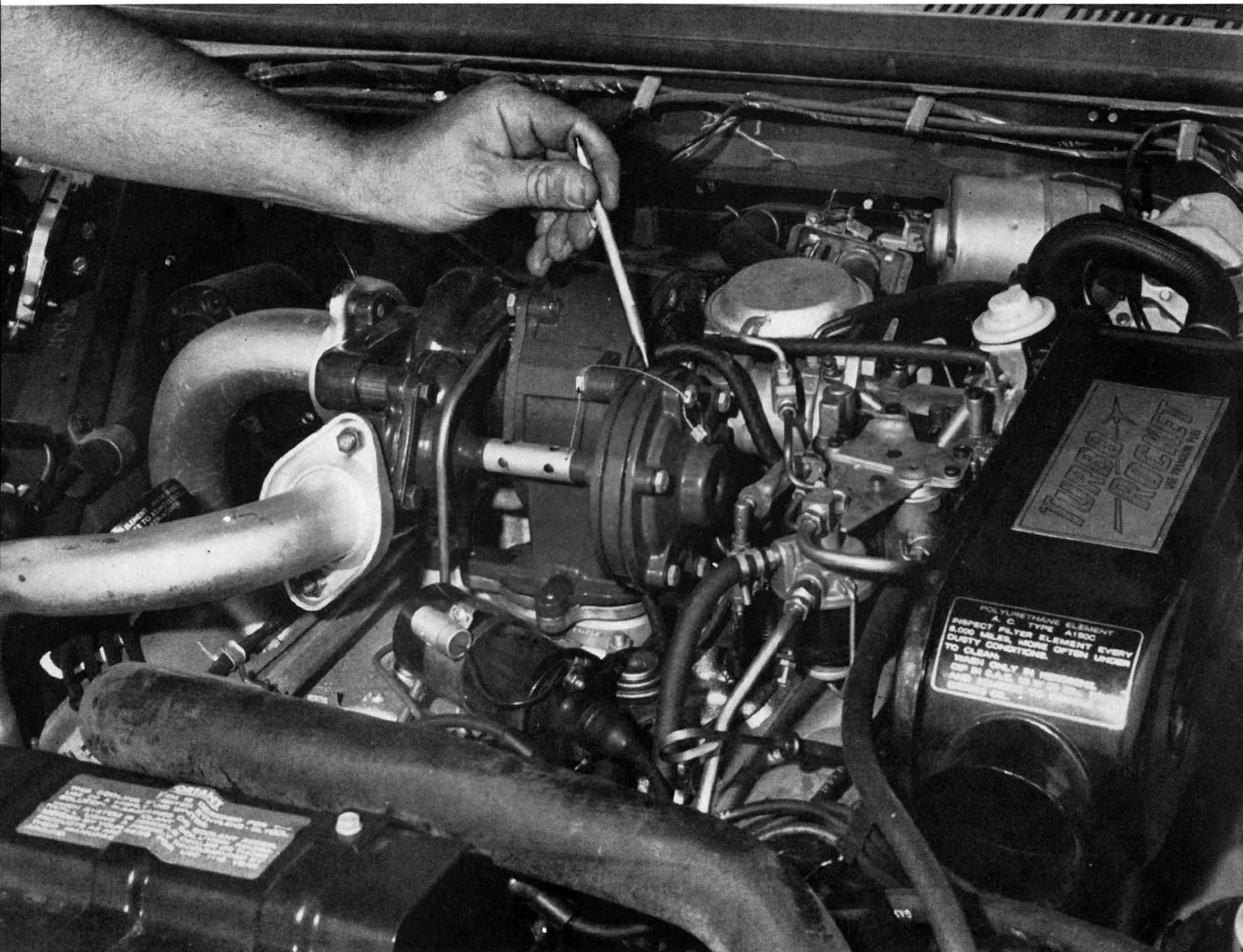
In the quarter-mile, our '62 test car had an 18.7-second e.t. and 80-mph top speed. The '61s weren't run through the quarter, but as a further yardstick for performance, refer to our April '62 test of the 166-hp, four-banger Tempest. The weights of the two cars are comparable, with the Jetfire about 150

pounds lighter. The Tempest had 49 hp less but had one advantage — four in the floor. It turned in fractions of 3.4, 6.2 and 10.5 seconds and had an 80-mph, 18.2-second quarter-mile.

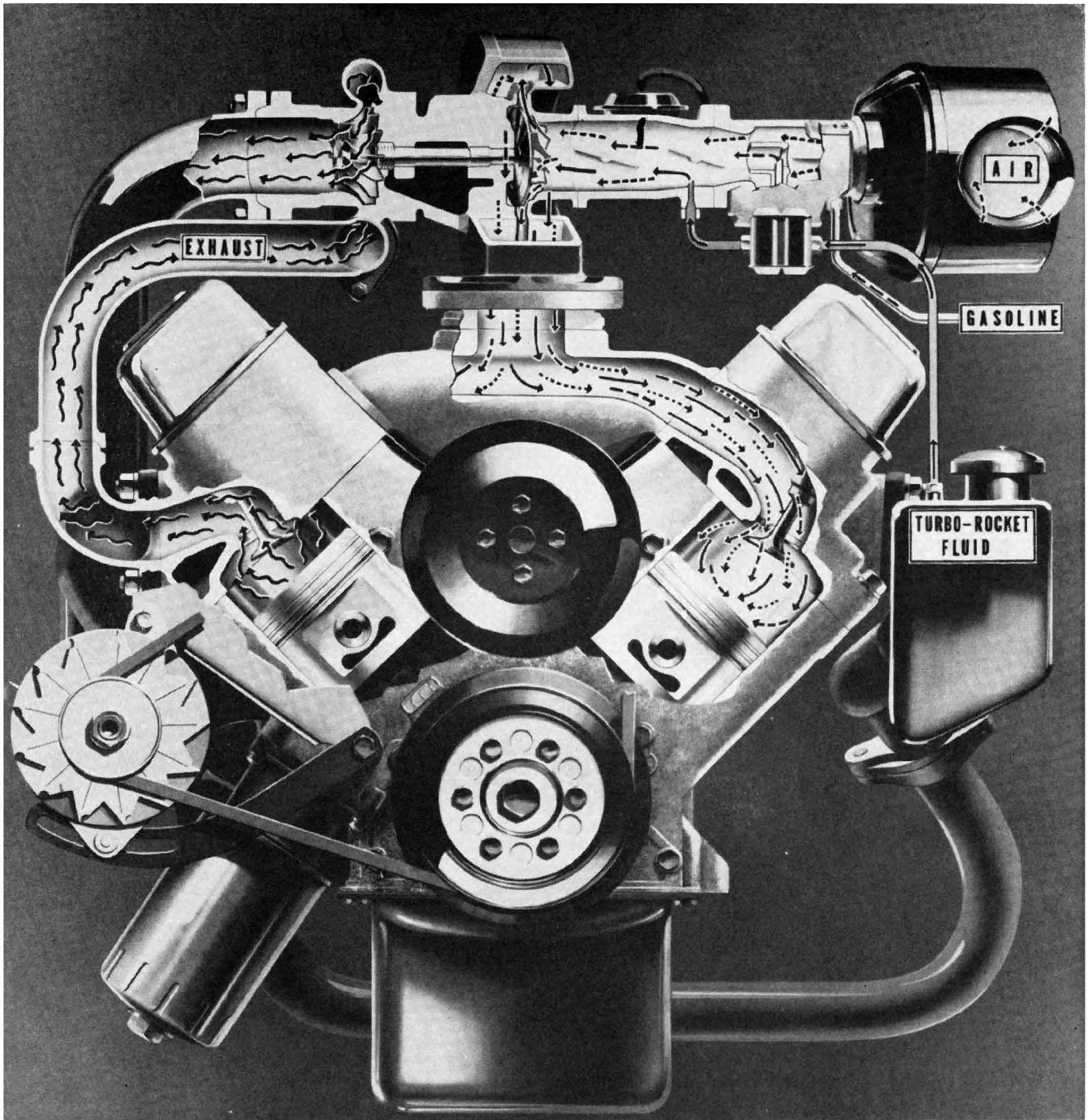
Several top-speed runs in the Jetfire showed that 4600 to 4700 rpm was maximum in top gear — 103 mph. Here again the engine flattens suddenly and completely.

Part of the lack of brilliance must be blamed on the Hydra-Matic in the test car. In our opinion, this is one of the sloppiest-shifting boxes on the market. The unit takes over a full second from the point where it starts to shift and the point where everything is hooked up solid again. The turbo-charger has to share the blame, because its operation also seems less than perfect.

Since we covered the operating principles of this setup in the May issue, we won't go over them again other than to remind you that maximum boost from the charger is governed by a by-pass valve. In other words, when the manifold pressure reaches five pounds above atmospheric, the valve causes part of the exhaust gases to by-pass the turbine wheel, which, in turn, governs the speed of the impeller and the amount of air



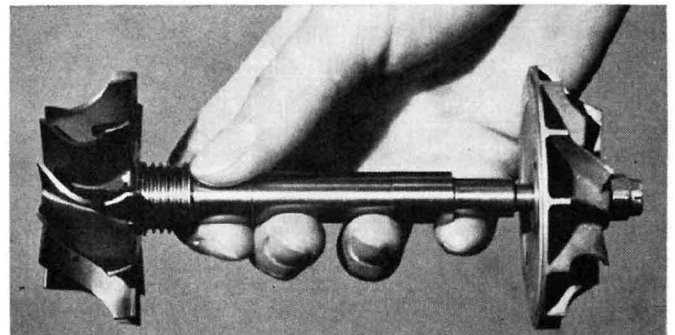
PENCIL POINTS TO BY-PASS VALVE THAT CONTROLS IMPELLER RPM AND BOOST. SYSTEM IS COMPLICATED ENOUGH TO DISCOURAGE HOME TUNERS.



CUTAWAY SHOWS MIXTURE AND EXHAUST FLOW THROUGH THE ENGINE. DETONATION IS PREVENTED BY AN ALCOHOL-WATER INJECTION SYSTEM.

it is pumping. Theoretically, the turbo-charger is supposed to be capable of delivering five pounds of boost at around 2400 rpm (engine speed), and from this point on, the by-pass valve is supposed to control impeller speed to where boost will remain constant up to the horsepower peak at 4600 rpm. This is fine if it works, but in actuality it feels as if the valve isn't allowing the impeller to pump enough mixture to keep a constant manifold pressure.

To explain things more clearly, let's take a trip through the quarter in the Jetfire. On the starting line we put the gear selector in "L." With the foot brake full on, we depress the throttle until the engine rpm's level off — in this case about 2400 rpm. At this point the brakes are released and the throttle is mashed to the floor. The tires break loose just enough to keep the engine from bogging down. Keeping an eye on the



Turbine wheel and impeller are only 2½ inches in diameter but are capable of turning a maximum 90,000 rpm.

## Oldsmobile F-85 Jetfire *continued*

tach, we let the engine wind to where the needle shows signs of slowing — 5500 rpm. The needle on the power gauge is against its peg. So far so good. The acceleration lag between the time the throttle was floored and the time the engine began to come on strong was negligible — about the same as with a wild cam. You note that there wasn't a trace of valve float at 5500, but it's 900 rpm past the power peak and time to shift.

Without letting up on the throttle, the shift lever is flicked

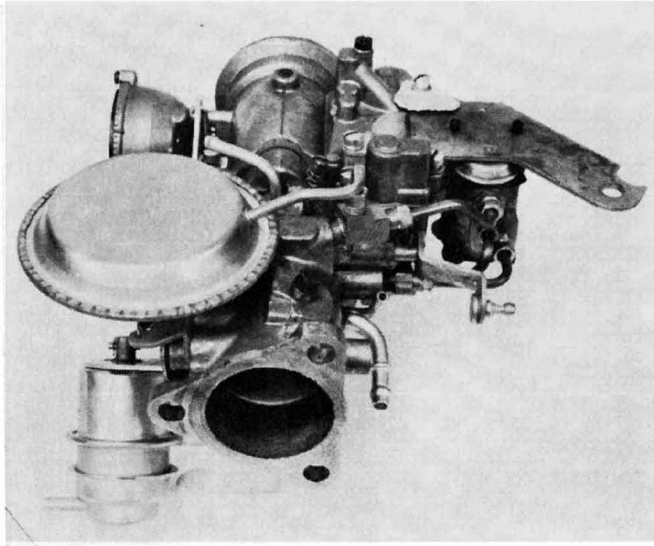
up to the "S" position. You notice that the tach needle jumps 600 rpm momentarily, and then is pulled back to 2600 as the transmission settles down in second gear. You also notice that it took forever to go from first to second. The mill is pulling good through second until the tach needle hits 4600 rpm. At this point, performance takes a flop as the engine flattens out completely — it just won't wind any higher — like dead. To complicate matters, this coincides with the transmission's automatic shift point, and as it slips its way into top gear the engine is stumbling badly.

In high, the rpm's have dropped back to 3100, and there is a decided lag before the engine starts pulling strongly again. But not too strongly, and as you pass through the quarter-mile markers the tach is reading 3800 rpm and the fifth-wheel-operated electric speedometer is at the 80-mph mark. The watches are stopped at 18.7 seconds. You're not satisfied, so you knock off three or four more runs — all with the same results. It just won't do any better.

The power gauge on the console doesn't really tell you too much. It is large and easy to read, but the factory chose to make it real mickey mouse by simply splitting the dial down the middle and marking the low side ECONOMY and the high side POWER. It would have been much more effective if they had installed a straight vacuum/pressure gauge so one could really tell what was going on. As it is, the needle pegs too soon to really be equivalent to five pounds of boost.

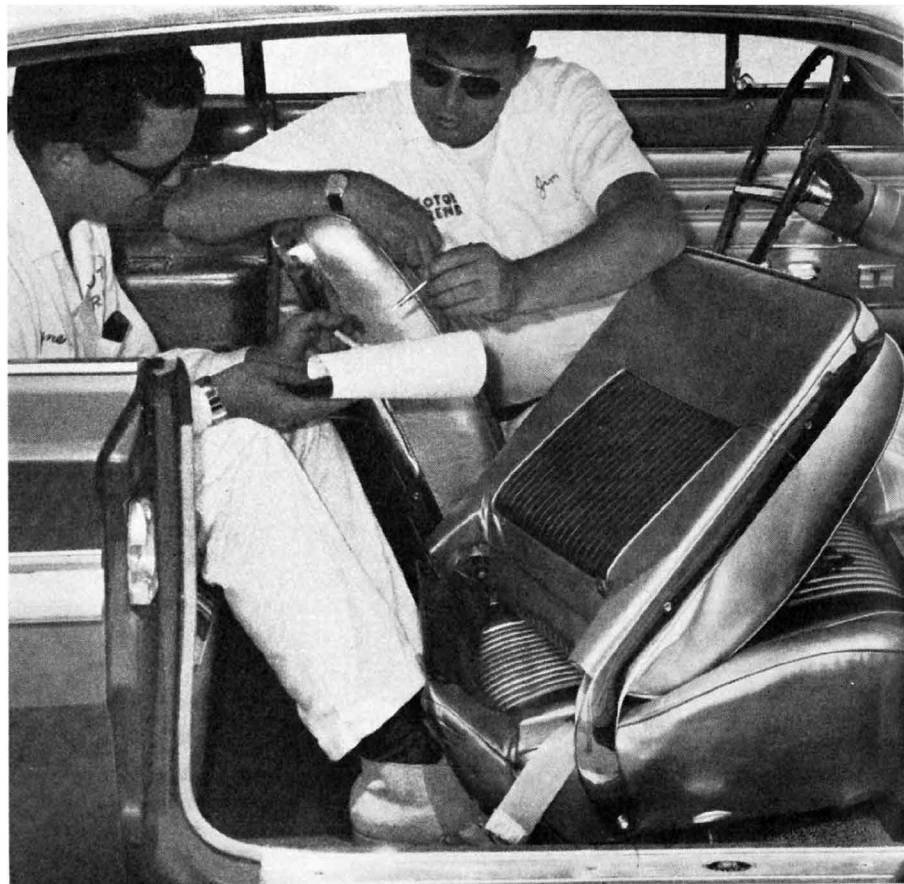
To find out just what was causing the engine to choke off completely would have required a lot of time on somebody's

*Single-throat, side-draft carburetor is similar to the Corvair Spyder unit and reminiscent of the early Corvette's.*



*Usable trunk space is above average for a compact car. Lip could be lower but still doesn't seriously hamper loading and unloading process.*

*Front and rear seats are comfortable and offer adequate hip-, head-, and legroom for four, or occasionally five, above-average-size adults.*



dyno, and we just didn't have the car that long. Anyway, it belonged to Oldsmobile, and they probably wouldn't have appreciated us tearing into it. So the only conclusion we can draw is from the fact that the engine runs out of breath in second and top gear at 4600 to 4700 rpm, which indicates that the blower isn't pumping pressure at this point. The feeling is the same as in a normally aspirated engine with too small a carburetor.

Fuel consumption for 500 miles of all-condition driving averaged out at 14.1 mpg. This figure includes a highway average of 14.7 mpg and an around-town average of 13.5 mpg. Lowest figure seen was the 10.5 mpg recorded during our acceleration tests. The 10.25-to-1 compression ratio, coupled with the boost provided by the blower, naturally means premium-grade fuel only.

The non-power brakes faded completely after the second top-end run, and in spite of a 15-minute cool-down they didn't come back to normal. The brake-down from 30 mph was accomplished in 37 feet, which is good. From 60 mph it took 196 feet, which is the result of the brakes starting to fade badly about halfway through the stop. In this condition they naturally didn't lock up, so the stop was in a straight line.

Coil springs are used on all four corners, and while the ride isn't firm, it isn't quite mushy. The Jetfire handles well under most cornering conditions. It is a basic understeerer, but not excessively so. Suspension geometry keeps body roll to a minimum and the Jetfire is pleasingly flat in short, hard corners. The highway ride is good but would be better if it weren't for

the customary (for GM cars) floating feeling one gets at speed. We don't think that stiffer shock absorbers would hurt the ride any. Road noise is at a minimum, and the turbo-charger didn't add any appreciable volume to the engine noise level, which is low.

Front-seat legroom is adequate, and the seat adjustment and steering wheel location allow a comfortable driving position. Three adults can be carried in the back seat, but two would be more comfortable. The bucket seats are shaped for good support and we found them comfortable. Normal instruments and controls are easy to see and reach. The power gauge is low and you have to take your eyes completely off the road to read it, but as we mentioned, it won't tell you anything anyway. We liked the vinyl upholstery material but its garish silver color was a little too much. It is offered in several other colors, any of which must look better than the silver.

Trunk area is adequate for a car of this size, although there could be more usable room if the spare were relocated either under the floor or as far forward in the area as possible.

In spite of the turbo-charger installation, there still seemed to be enough room in the engine compartment to allow servicing without too much trouble.

This experience with turbo-charging, while not too satisfying, still didn't dampen our enthusiasm for this type of setup. As far as we're concerned, it's definitely one of the ways to go, and we hope that both Oldsmobile and Chevrolet keep it around long enough to develop it fully. But in the meantime, there still are a few problems, here and there, to be solved. /MT



Shift lever is well located and has a positive feel to it. A simple vacuum/pressure gauge would be more effective than the "tell-nothing" economy/power gauge.

## OLDSMOBILE F-85 JETFIRE

2-door, 5-passenger sports coupe

**OPTIONS ON CAR TESTED:** Hydra-Matic, power steering, vinyl top, tinted windshield, whitewall tires

**BASIC PRICE:** \$3049

**PRICE AS TESTED:** \$3733.01 (plus tax and license)

**ODOMETER READING AT START OF TEST:** 355 miles

**RECOMMENDED ENGINE RED LINE:** 5500 rpm

### PERFORMANCE

#### ACCELERATION (2 aboard)

0-30 mph.....	3.7 secs.
0-45 mph.....	6.4
0-60 mph.....	10.2

Standing start 1/4-mile 18.7 secs. and 80 mph

#### Speeds in gears @ shift points

1st .....	28 @ 4300
2nd .....	64 @ 4600

#### Speedometer Error on Test Car

Car's speedometer reading.....	31	46	51	61	71	82
Weston electric speedometer.....	30	45	50	60	70	80

Observed miles per hour per 1000 rpm in top gear.....21.5 mph

Stopping Distances — from 30 mph, 37 ft; from 60 mph, 196 ft.

### SPECIFICATIONS FROM MANUFACTURER

#### Engine

Ohv V-8  
Bore: 3.50 ins.  
Stroke: 2.8 ins.  
Displacement: 215 cubic inches  
Compression ratio: 10.25:1  
Horsepower: 215 @ 4600 rpm  
Torque: 300 lbs.-ft. @ 3200 rpm  
Horsepower per cubic inch: 1.0  
Ignition: 12-volt coil

#### Gearbox

3-speed automatic;  
floor-mounted lever

#### Driveshaft

2-piece; open tube

#### Differential

Hypoid — semi-floating  
Standard ratio: 3.36:1

#### Steering

Integral power  
Turning diameter: 37 ft.  
Turns: 4.75 lock-to-lock

#### Suspension

Front: Independent coil springs;  
upper and lower control arms;  
double-acting tube shocks and  
anti-roll bar  
Rear: Rigid axle; coil springs and  
control links, with double-acting  
tube shocks

#### Wheels and Tires

Steel disc — 4 lugs  
6.50 x 13 4-ply rayon tires

#### Brakes

Hydraulic; cast-iron drums  
Front: 9.5-in. dia. x 2 in. wide  
Rear: 9.5-in. dia x 1.75 in. wide  
Effective lining area: 127 sq. ins.

#### Body and Frame

Unitized  
Wheelbase: 112 ins.  
Track: front and rear, 56 ins.  
Overall length: 188.2 ins.  
Curb weight: 2856 lbs.