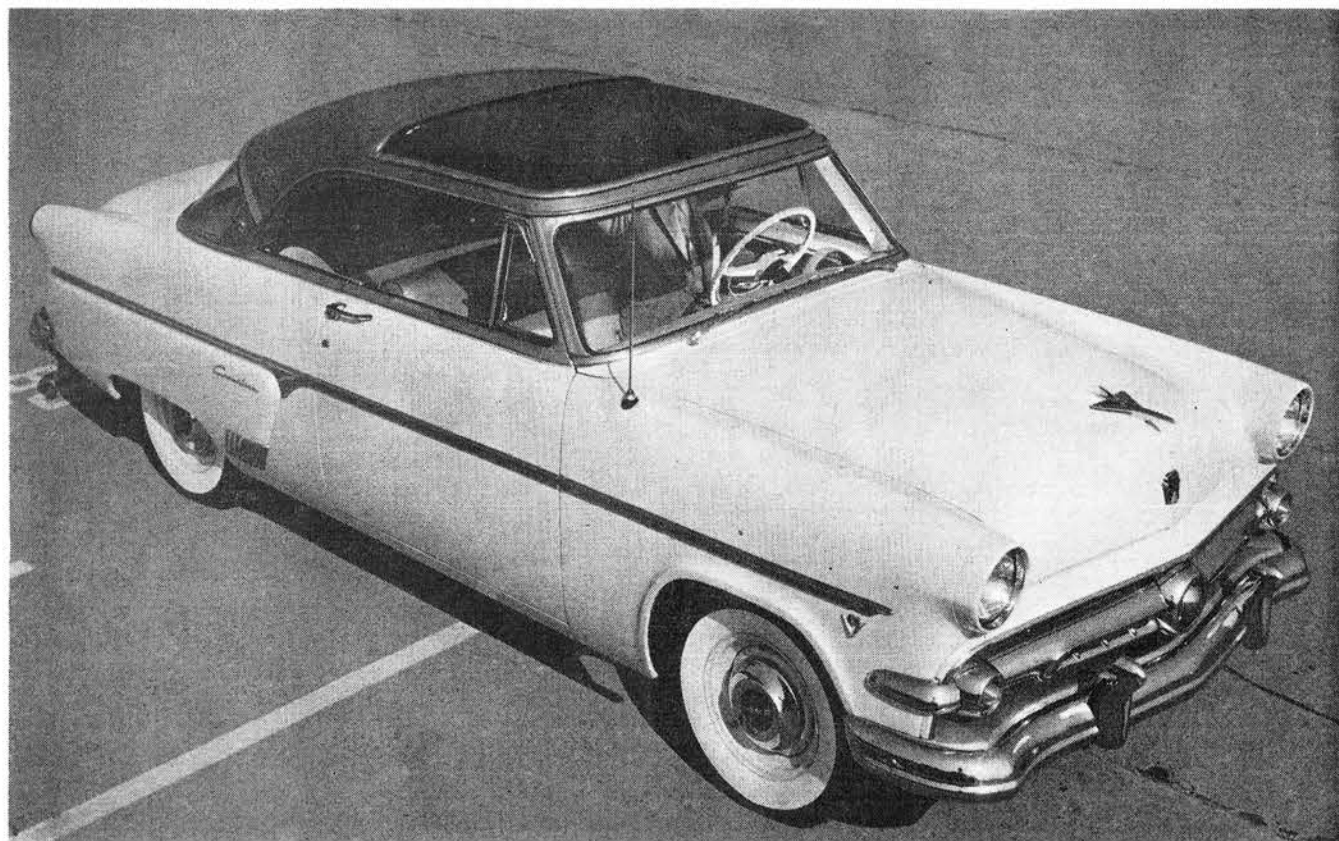




FIRST TEST REPORT ON THE . . .

FORD FOR '54

Introduction of the 1954 Ford with its all-new overhead valve V-8 engine and many other features is a highly significant development on the motoring scene. Impressed with the importance of this in advance, MOTOR LIFE sent Correspondent George Johnson to Detroit. His assignment: Put the new car through its paces, bring back a first-hand report. To round out the coverage, MOTOR LIFE had Engine Expert Barney Navarro prepare an analysis of the modification possibilities of the new overhead valve V-8 engine, which will be found on page 18. But, first of all, Johnson's story.—Ed.

BY GEORGE JOHNSON

WHAT KIND of a car does Ford have for '54? It was a hot, sunny day in early fall when I arrived in Detroit to get the answer to that important question. For nearly a week I drove the cars, studied them and weighed the results. Let's have a look, on paper, at the facts and figures.

Ford's big proving ground is the ideal course for testing a car. Rugged is too mild a word to describe the man-made conditions. Roads full of chuck holes, bumpy track crossings, steep grades, frame-wrenching twists in pavement—plus a banked track for long, easy speed runs. And we went over all of them!

The testing and detailed examinations covered a variety of cars. A few were 1953 Fords equipped with the new '54 ohv V-8, put together primarily for engine checks. The rest were complete '54 models, prototypes set up for shakedown runs

of all the features. In fairness to Ford, I should say that not all of the cars were in top condition, some having been through very rough treatment before my arrival.

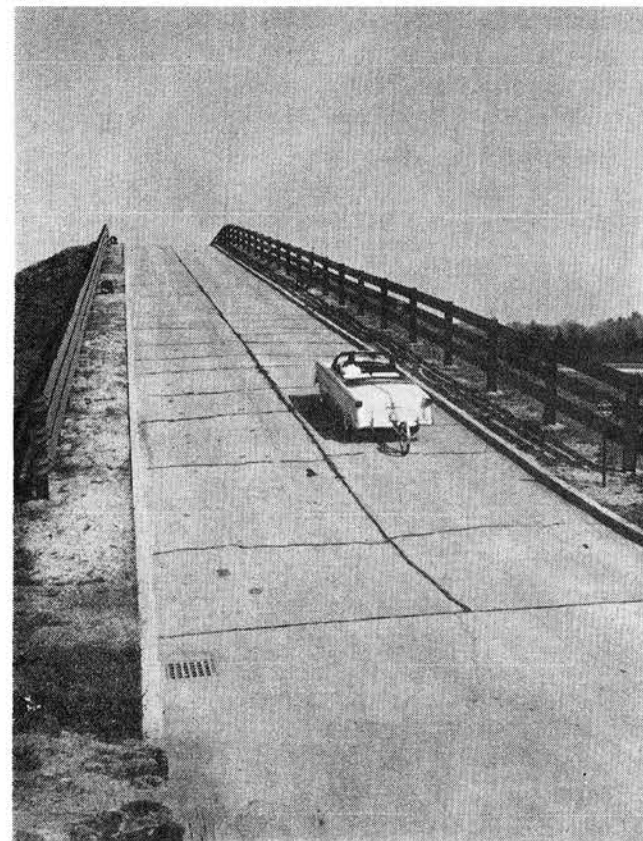
Since the '54 models mark the first major engine change by Ford in more than 20 years, performance was the first item I had in mind. To point up the improvement, tests were made with stock two-door sedans using standard transmission. Here are comparison figures, listing the new engine's acceleration alongside that clocked by one of the old faithful flathead V-8s:

	'54 OHV-V-8	'53 FLATHEAD
0-30 mph, seconds	5.4	6.1
0-45 mph, seconds	12.1	13.1
0-60 mph, seconds	16.2	20.1
Standing Quarter-Mile, seconds	18.7	21.5
Top Speed, mph	93.9	87

Acceleration, of course, was not the only yardstick we used to measure the new engine's performance. Its efficiency is also indicated by miles per gallon. So under a similar setup, we made another comparison:

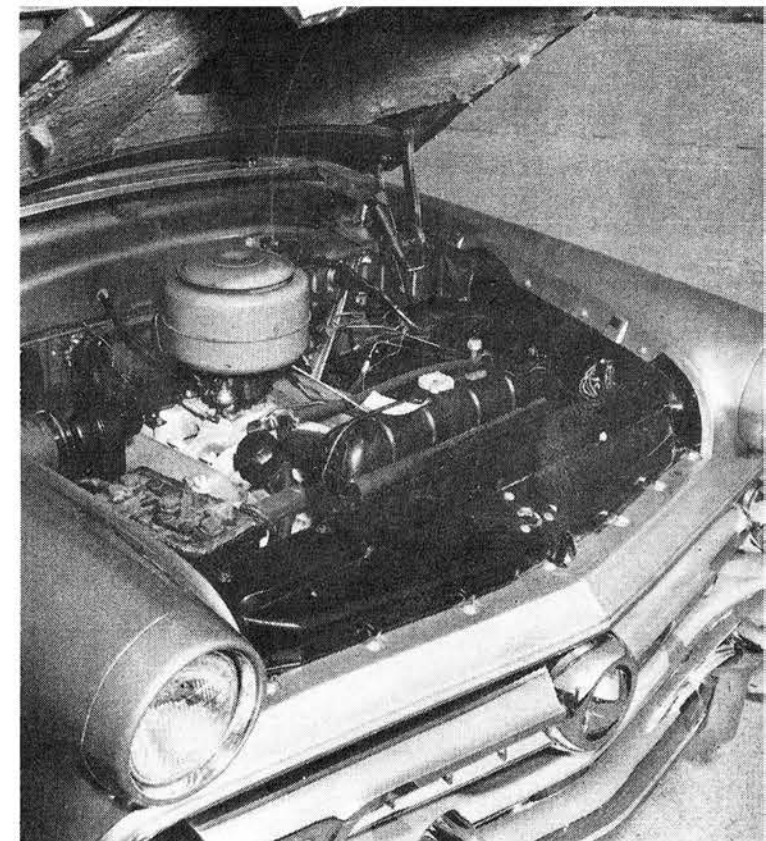
	'54 OHV V-8	'53 FLATHEAD
Steady 30 mph	22.4	21
Steady 45 mph	20.3	19.2
Steady 60 mph	17.7	16.0

The figures speak for themselves and any comment on them would be superfluous. However, they do not demonstrate the smoothness of the new engine. The familiar old



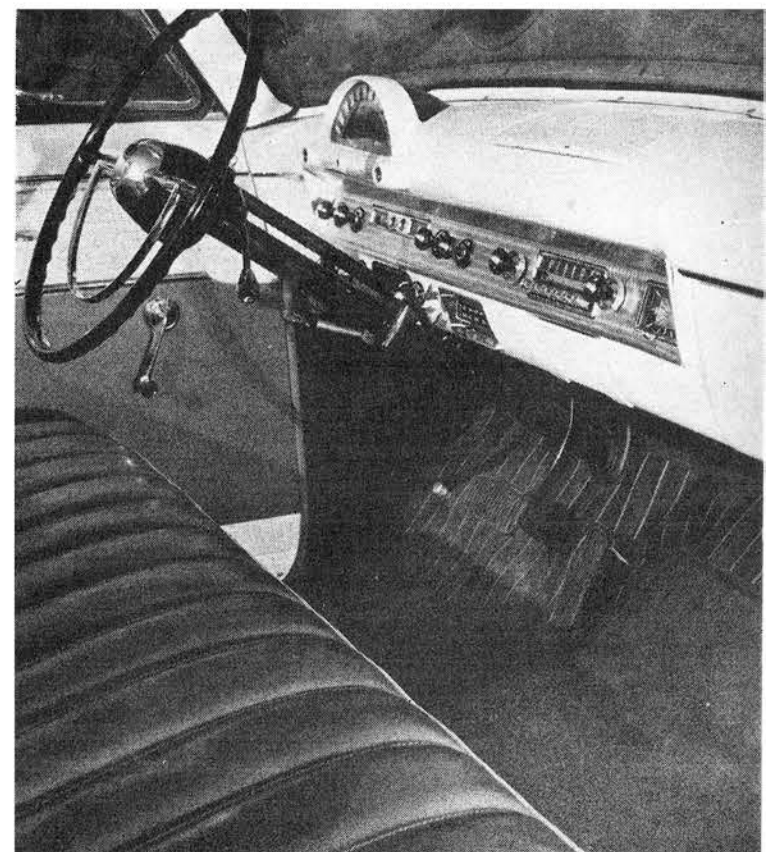
Trailing a fifth wheel, a Ford convertible samples the pulling power of the new ohv V-8 on the 17 per cent grade of an artificial hill at company's proving ground track

Test driver has a look at the new plexiglass top which is tinted to eliminate most of heat rays from the sun. Overall view of the model showing styling is at top of opposite page



Switch in engines has had good and bad points from accessibility angle. However, the change in the suspension and frame clears oil pan area, permitting much easier removal

Ford made a major dash change. Most notable is unique mounting of speedometer made of transparent plastic. Instrument panel and knobs are recessed for increased safety





Rough treatment received by cars at Ford's track is illustrated as a '53 model powered by new ohv V-8 takes railroad crossing setup with a high bounce. Tests like this also gave new front end suspension system a severe beating and demonstrated the easier handling characteristics as well as simpler repair operation

The ball joint front end on Ford for '54 is compared with arrangement used on 1953 and earlier models. Originally introduced on the '52 Lincoln, the suspension system has longer arms which reduce road shock. The kingpin is eliminated and lubrication points have been trimmed from 16 to four. Principle used is similar to the human arm; it can move up and down and at the same time rotate for steering movement

throb of power strokes has been softened, I found. In fact, they've been virtually silenced and, at any speed, the operation is scarcely audible. The only apparent sound of movement while at speed comes from the windstream flowing over the body and the steady hum of the tires on the pavement.

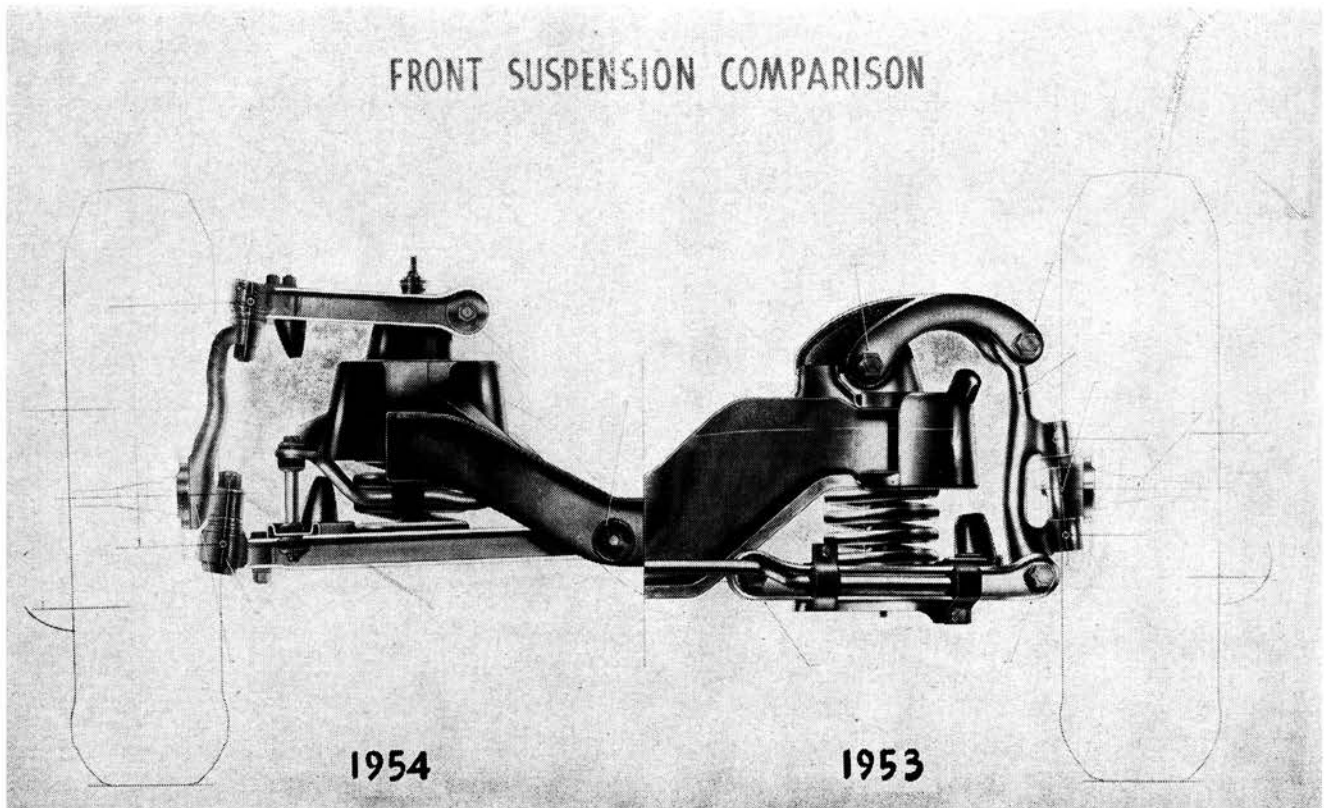
More comment on the engine is due. But at this point it's appropriate, when speaking of over-the-road travel, to touch upon another important item in the '54—the front suspension system.

Engine improvement has received much attention in the postwar years. Far too little notice has been given to the handling qualities of the American automobile. Ford now steps smartly into the spotlight with its ball-joint suspension system which was first introduced on the '52 Lincoln. The system has now been extended to the complete Ford line of cars.

In the ball-joint suspension system, the front wheels are connected to the spring-supported arms coming out on each side of the frame by two simple ball-and-socket joints on each front wheel—one connecting to the top supporting arm and the other to the bottom supporting arm. This allows a four-way movement with a dual purpose: up and down for the road shocks; back and forth for the turning movements.

The benefits of this arrangement are twofold. First, servicing and repair work are simplified. The servicing is easier since lubrication points in the front end are reduced from 16 to four. Repair work is facilitated because the units can be removed and replaced in half the former

FRONT SUSPENSION COMPARISON



time, while wheel alignment is no longer a major operation.

Secondly, a valuable improvement in handling is achieved. Steering is much lighter and requires less effort on the part of the driver. At moderately high speeds, the '54 Ford was swung into a tight circle with only a slight body roll. Furthermore, the tiresome vibration and road shock transmitted through the steering column was markedly reduced.

NOW LET'S get back to the engine. I found that the power plant under the hood was the product of some five years of research by Ford engineers who worked their way through more than 600 variations in design. The one finally decided upon contains a displacement of 239 cubic inches with a bore and stroke of 3.50 x 3.10. Using a compression ratio of 7.2-to-1, it produces a maximum output of 130 hp at 4,200 rpm with torque (lb-ft) rated at 214 from 1,800 to 2,200 rpm. It is important to note that the power increase over the former 115-hp flathead V-8 has been achieved without boosting the displacement.

The greater efficiency comes, naturally, from the combination of new features. In addition, the design promises greater reliability through its rigid construction. To cite all of the improvements that have been incorporated would be impracticable in this report. But a number of them should be noted.

One item pointed to with pride by Ford engineers was the cast, rather than forged, crankshaft which now has five main bearings, as against three in the flathead. The number of counterweights has been brought up to a total of eight, a factor which will assure smoother operation and greater resistance to vibration.

The ohv arrangement has reduced the surface area in the combustion chambers which means less heat loss through the cooling jacket. Valve size has been increased with improved timing. Better breathing of the engine, an essential item for increased power and efficiency, has been accomplished with redesigned porting and manifold for both intake and exhaust systems.

A sidelight on the engine is the fact that the new frame and suspension setup permits lower seating and easier accessibility to the oil pan area from below.

IN STYLING, the '54 Ford incorporates a few major and many minor changes. Greatest single innovation is the appearance in the Ford lineup of the plastic-topped model. My first reaction, aside from personally approving the attractiveness of the model, was what will it be like on a scorching summer day?

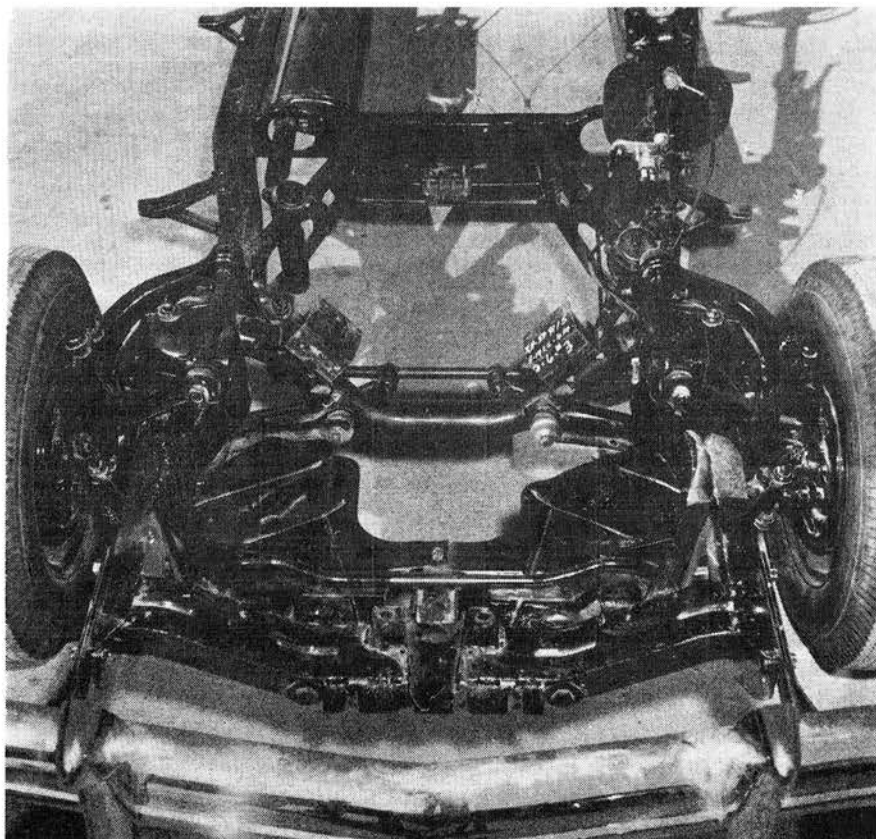
Since the weather already was hot, I had an ideal opportunity to check this car for comfort. After switching between it and a normal steel-roofed sedan, I could detect no noticeable difference. The en-

(Continued on page 58)



Overall view of '54 Crestline convertible shows that Ford has retained the basic styling lines that proved so popular in 1953. The long, clean look is unchanged and minor refinements made in grille and trim are designed to give the car a lower and wider look. Note the new transparent plastic speedometer in front of the steering wheel

Chassis arrangement for the 1954 Ford models shows the revisions made in frame, suspension system and engine seating. Area below engine has been cleared for servicing through relocation of tubular cross-member, while lower positioning will permit reduction in hood height. Frame side members are of full box section and now surround the coil spring pockets for increased strength and rugged durability



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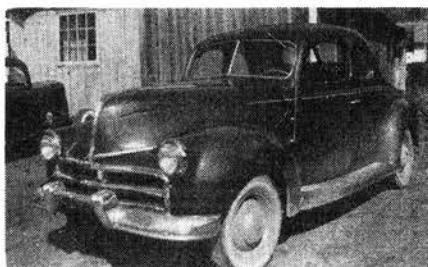
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SOUTHERN CUSTOM

Just a word to say how much we enjoy reading HOP UP & Motor Life Magazine here. I am enclosing a picture of my 1939 Ford coupe. The grille is 1950 Plymouth, headlights are 1941 Chevrolet, front bumper is 1949 Mercury, and tail lights are 1948 Oldsmobile. The dash has been reworked and has 1949 Mercury instruments, the inside door handles are 1949 Ford, and the rear wheels are wide



rim 1941 Mercury with the rims reversed. It is painted a wine metallic.

I did all the work here at my shop (Lamar's Body Shop). I am customizing a 1948 Dodge club coupe now.

Herman L. Lay Alabama City, Alabama

● Very interesting. Let us see the Dodge when you finish.

IMPORTANT AUTO DESIGN CONTEST NOTICE ON PAGE 52

FORD TEST

(Continued from page 17)

gineers later provided me with test data to substantiate my impression. Experiments with instruments have shown there is less than one degree rise of measured temperature in the plastic job. The quarter-inch thick transparent top is tinted to turn back the heat rays.

Another novel treatment appeared on the dash of the '54 Ford. The speedometer, mounted high and in direct line of driver vision, is also of transparent plastic. Rest of the instruments are recessed into a burnished metal panel and are easily accessible for anyone behind the wheel. I noted also that interior dimensions of the glove compartment have been nearly doubled, while the former amperage and oil needles have been replaced by red warning lights.

Exterior changes have been directed at giving the '54 Ford fresh styling and a wider look. Finish on the models I inspected was not important since they were not production units. However, the wide range of optional equipment listed as available for '54 did cause me to reach one conclusion.

Ford is going to make it very difficult for the normal big car buyer to convince himself that he cannot get most of what he wants in a Ford for '54.

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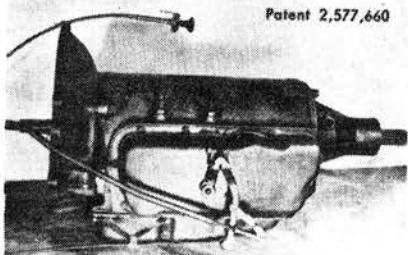


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