

# New Car Suspension Has Quiet Smoothness

The new "Rolls Royce quiet-ness" is due to a completely new suspension, engineers' term for the way the body can move up and down on springs rather than resting directly on the axles like a coaster wagon.

Several years were spent in developing the new suspension and much of that effort was directed at a single problem, a bump on the road.

To keep a bump in the road from being felt inside the car, engineers plan ways to absorb the bump before it gets to the passenger. In most cars, the tires do the work and the springs do the rest.

One way to absorb bumps is to put on nice fat tires. But a fat tire is flexible like a balloon and will roll under when you drive the car around a corner.

The new low profile tire design is balloon-tire-wide for good shock absorption but it's kept low in height to resist rolling under. It can absorb that bump better than ever before, and, as an extra dividend, it improves the handling of the car, too.

PART OF that bump may get through the tire and cause the wheel to move. Like a wheelbarrow, it's easier on the operator and the wheelbarrow to pull it over a bump than to push it over. To make the job easier, drag struts are used in front and trailing arms in the rear that pull the wheels over the bumps rather than pushing them.

The drag struts and trailing arms also let the wheel move back to cushion the shock that strikes the bump before it starts to rise. As the bump forces the wheels to go up and over it, the springs come into the act. Naturally, the more limber the spring is, the more readily it can absorb the bump.

Leaf springs and coil springs have been used on previous cars to do the job. The coils worked fine but, like the balloon tires, they can wobble around. Leaf springs don't

wobble. They can keep the rear axle in place as well as providing a springing action up and down. But leaf springs contain friction between the leaves that lets a creasing rather than resting directly on the axles like a coaster wagon before they start doing their job.

DURING RECENT years, Ford engineers have taken a real deal of that friction out of the leaf springs and reduced that shock. But the coil springs used on the front looked good to engineers for the rear as well if they could do the springing job alone without having to keep the rear axle in place.

The engineers specified the trailing arms to pull the rear wheels over bumps, keep the rear axle in place, and absorb braking and driving forces. Because the rear axle wants to turn the opposite way to the rear wheels when they're working, a third link is added to resist axle rotation. And, finally, a track bar prevents the rear axle from moving to the right or to the left under the car.

THAT MADE possible coil springs all around doing only the job they do best, absorbing bumps. With many suspensions, that engineers realized that even a coil spring isn't perfect. When you push on one end, the other end tries to move away. The harder you push, the harder it tries.

Like the coil spring, the torque box also tries to get away from the force on the other end so there's still some of that bump headed for the passenger compartment. If engineers came up with the final unique touch that makes the new suspension so adept at its job.

They arranged for the rugged to the frame surrounding the passenger compartment to absorb that final bit of bump by twisting ever so slightly. They did that by designing a rigid body that could be cradled into the frame. Designed to do the job, it did not require frame support, the body then could be fastened only at the front and at the rear.

# Charter Revision Group Reports in Beverly Hills

BEVERLY HILLS — The report of the charter revision committee, recommending a change in the method of filling unexpired council terms, was made to the council at its regular meeting Dec. 7.

Councilman Edward M. Shortleft, chairman of the committee, told the council that in studying the village charter, the committee had found no need for change except in one instance.

Shortleft said the change would be that in any given election, the number of councilmen to be elected, usually four, would be increased by the number of appointments to fill

unexpired terms which had been made in that year.

Three would be the highest number of extra councilmen on the ballot.

IN THIS way, councilmen who had been appointed to fill unexpired terms would run for election. The three highest vote-getters would get the two-year terms and the fourth a one-year term. If there are unexpired term seats on the ballot, the next highest number of votes would be for the remainder of unexpired term or terms.

Shortleft objected by walking

out last spring when President Pro Tem Hugh G. Alorton, Jr., who had been elected for a one-year term, stepped down and was reappointed to fill Council President Marvin E. Cline's two-year term. Cline was transferred out of the state soon after the election.

The proposal was laid on the table for 30 days—standard procedure for charter revision proposals for charter revision proposals. It will be studied by the council.

IN OTHER business, a public hearing was set for Monday, Jan. 18, on the matter of reorganizing

in Southfield north of 13 Mile from Residential 1 to Business 2.

The council okayed a request to increase the contract on the village landscaping and to accept the low bid of Gomo Equipment Co. to move the present storage building back 200 feet. The date of the move was left up to the village manager.

Shortleft voted no on the motion as he thought the building should be eliminated entirely.

A request from John Hillcock of the Medical Village Associates for rezoning a portion of the property to allow for more office space was

referred to the planning commission for study. The commission was requested by the council to consider the finished landscaping and greenbelt as part of the proposal.

DONALD EASTON, 17880 Kirkshire, and the Ascension Lutheran Church were each granted the right to sell Christmas trees on their property.

A refund of \$88.48 was made to about \$43 per acre to about \$196 George Barker, 31437 Greenfield, per acre.

for sewage disposal charges. President Hugh G. Alorton, Jr., proclaimed January as March of Dimes month.

The value of Michigan farm land and buildings has increased four-fold in the last 25 years. The latest figures from Michigan State University agricultural economists show that values have jumped from about \$43 per acre to about \$196 per acre.

Dec. 17, 1964 THE BIRMINGHAM (MICH.) ECCENTRIC 3-F

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