SUGGESTIONS FOR CARE OF SPRINGS

Paying Bit of Attention to Your Auto Springs Will Protect the Working Parts of the Car and Give Added Comfort.

The ordinary amount of work that is thrown upon the spring suspension of an automobile is entirely out of proportion to the slight care that is generally given it. The shocks of cobblestones, ruts and "thank-you-ma'ams," multiplied thousands of times by momentum and repeated incessantly throughout every mile of travel, must all be met by the springs, cushioned and transmitted to the car occupants and mechanism in the form of harmless undulations.

The proper care of springs is a very simple matter, and the slight effort involved will be repaid many times by the added comfort derived, to say nothing of the added protection to all the working parts of the car.

When Buick cars leave the factory, the springs are all properly lubricated, and particular attention is given to the springs in manufacture to see that every leaf and shackle and bolt is built to give smooth action and long wear.

Some extra attention should be given to the springs during the breaking in process, just as it is advisable to let the motor wear in carefully until it "finds itself"—say during the first five hundred or one thousand miles.

The weight of the car and passengers upon the springs will soon cause the springs to take what is known as a permanent set—that is, the slight elongation which is natural to steel will take place and the springs will lower a small fraction of an inch. Allowance for this "set" is of course made in manufacture. As a result of the elongation, the spring clips (see illustration) will naturally loosen a trifle, and for this reason they are fastened in place with hexagon bolts and nuts so they may be tightened.

KEEP CLIPS TIGHT.

It is esential to the life of the springs that the spring clips be kept tight at all times, in order that the spring leaves may be held tightly together. The reason for this is that if the leaves are not held firmly in place there is a possibility of one or more of them breaking if an unusually severe bump is encountered. Spring leaves do not break on the descent, but always on the rebound; and it is during this phase of their action that the leaves must hold together in order to divide up the shock. So the clips should be watched frequently during the first hundred miles, and after that at longer intervals.

Once or twice a season it is advisable to jack the car up in such a manner that all the weight is supported by the jack and the frame. Then loosen the spring clips and spread the leaves apart, and with a thin, flat instrument, such as a hack saw blade, liberally smear the surfaces of the leaves with a mixture of flake graphite and motor oil. This is an excellent spring lubricant and will permit the leaves to slide over each other with very little friction, thus giving the same smoothness of action as when the car was new. The leaves are all lubricated at the factory before assembling, but in time the lubricant will be forced out by the spring action and by water ,mud, etc.

KEEP CAPS FILLED.

The spring shackle bolts are fitted with grease cups. These grease cups should always be kept filled and turned down. Remember that the shackles are in an exposed position and that mud and water are constantly being splashed on them while driving or when the car is being washed. Like anything else made of steel, they will rust or wear if not kept well greased, but a few minutes every week will suffice to keep them properly lubricated.

Keep the large U-bolts that hold the springs in the center tight. The same general rule applies to them as to the spring clips, particularly during the first few hundred miles of use.

Your auto licenses are past due. Call at Assessor's office at once. W. A. Kincaid. —Adv. tf.

CHIROPODY AND ELECTROLYSIS. Room 312, Overland. Dr. D. E. Armstrong. Adv. tf.

MOTOR CAR PURCHASER SHOULD BUY AUTO ADAPTED TO HIS OWN INDIVIDUAL NEEDS

There is a point, and quite an important point, in connection with the everyday use of a motor car, that motorists generally should take into consideration when buying a motor car. That point is how well the motor car in question is adapted to the individual needs of the purchaser from the standpoint of performance.

To illustrate. A man who uses his car entirely or largely within the limits of a big city must use it within certain well defined speed limits in order to comply with the ordinances and the driving conditions encountered. In traffic he must throttle down to five or seven miles an hour, drive from 10 to 15 miles an hour through the business district and from 15 to 20 miles an hour in the outlying districts. To give him good service, his motor car must perform economically and efficiently within those speed limits, and have sufficient reserve power to accelerate smoothly and quickly at low speeds.

On the other hand, a farmer or any other owner whose driving is done mostly in the country encounters entirely different conditions, as the major part of his driving is done at speeds in excess of 20 miles an hour. In some states the speed in the country is confined by law to 25 miles an hour, with an allowance of five miles an hour for variation in speedometers, thus giving a maximum of 30 miles an hour. In other states the law is less specific, merely stating that drivers must drive with "due caution," so that the matter is left entirely to the driver's judgment and a smooth stretch of road with no obstructions may cause him to speed up to 50 or 60 miles an hour, if his car will go that fast.

CAR MUST PERFORM WELL.

These two cases represent the extremes, but they are sufficient to illustrate the point that a motor car for miscellaneous city and country driving must perform well at all speeds from five to 60 miles per hour.

This presents a problem for the designing engineers that is extremely difficult of solution. It is purely a question of motor design and manufacture.

Power and flexibility in the motor give the desired result, particularly if power and flexibility can be combined with economical operation. This combination in the valve-in-head motor is an accomplished fact, and is responsible for the performance that puts Buick cars in a class by themselves from a mechanical standpoint.

In discussing internal combustion motors, it is first necessary to get one gact firmly fixed in mind, namely—that they are all heat engines. In other words, they derive their power by converting the fuel used in operating them into heat, and it is the expansion of the heated gases resulting from each explosion in the cylinders that supplies the impulses necessary to run the motors.

HEAT UNITS MEAN POWER.

So, as far as the motor is concerned, a gallon of gasoline represents so many heat units, and the greater the percentage of these heat units that can be converted into actual working power, the greater the efficiency—or economy—of the motor will be.

In engineering terms, this principle is known as thermal efficiency.

Unfortunately, it is impracticable to use all of the heat generated in such a motor for power, because unless some means of cooling the motor is used the heat soon becomes so great as to be destructive.

So, in making the cylinder castings, water passages are cast around the cylinders in such a manner as to allow the excess heat to escape through the cylinder walls into the water, which in turn is cooled by the radiator on the front of the car.

It is quite evident, therefore, that the less water jacketed space there is in a motor, the greater the thermal (heat) efficiency will be, because a smaller area of the cylinder walls and combustion chamber will be exposed to the cooling influence of the water.

VALVE-IN-HEAD BEST DESIGN.

This brings us to the biggest reason for the valve-in-head design, because the arrangement of the valves permits of a smaller, more compact combustion chamber than is possible in either the L-head or T-head type.

To make this statement still clearer, it should be understood that in all cases, both inlet and exhaust valves form a part of the combustion chamber, where the heat is greatest, and in consequence it is necessary to water jacket the valve chambers as well as the tops and sides of the cylinders.

In the L-head motor there is a large pocket on the side of each cylinder in which the valves are located. This pocket is water jacketed.

In the T-head motor, there is a pocket on each side of the cylinder, one containing the inlet valve and the other the exhaust valve. These pockets also are water jacketed.

In the valve-in-head motor there is just a plain, unbroken cylinder, with the valves located in the head of the cylinder. And as this space is already water jacketed, it follows that the valve-in-head type affords the minimum of water jacketed space that is possible to be secured for any given size of cylinder.

Now, if we regard our gasoline as so many heat units, it is quite apparent that the less of these heat units that are wasted through the water jacketed surfaces, the more of them will be left in the form of actual, usable power directed against the pistons.

(Buick Bulletin)

HELPFUL HINTS

(Continued From Page One.)

speeds if the plugs are kept in proper condition.

TIRE TALC.

Tire talc, rather than graphite and other oily preparations, makes the best lubricator between the inner tube and the casing, according to a prominent rubber company.

Motorists are cautioned, however, to exercise care in the use of tire talc, as too much is fully as damaging as too little. Too free use of tire talc—a special prepared soapstone for tire use—will cause a quantity of the powder collecting in one place, generate heat, give the tube a soft and bubbly appearance and form a weak spot. The talc should be distributed evenly over the surface, sifting on rotating tube is a simple and efficient method.

Graphite is an excellent lubricator for tire subjected to extra heavy duty and excessive speeds. Racing drivers use graphite, but only after sifting through a sieve made of cheesecloth on to the revolving tube. This method is necessary, otherwise several flakes of graphite might accumulate in one point, thereby causing deterioration—the oil in graphite being a foe to rubber.

For the average motorist—for the man who does not run his car continuously, day in and day out, the judicious use of tire talc is strongly recommended.

KING BOLT.

Keep a watchful eye on the king bolt in the steering knuckle. If it wears through the axle will drop, causing a serious accident. If the knuckle through which it passes seems out of true take it apart. If the pin is worn it must be replaced, but if the bushing is worn it will have to be relined. Turn down the grease cups on top of the bolt every day and this danger will be removed for a long time.

LOOSE FAN BLADES.

The blades of some fans have the habit of working loose on account of defective riveting at the hubs. For this reason a new fan should be carefully watched for a time. A loose blade can do a good deal of damage to the radiator when it breaks. A great many radiators are severely damaged from this cause.—American Automobile Digest.

USE SHELLAC ON PLATES.

In engines that are provided with a plate on the side to facilitate work on the interior it is not uncommon to find that water is escaping here in spite of the rubber and fabric composition with which it is sealed. As a general thing this condition may be remedied by simply painting the plate with shellac or red lead and then screwing it tightly into place.

ICE FORMS ON THREADS.

Sometimes ice forms on the threads of a radiator drain of the plug type, after it has been removed, and the ice prevents the plub being inserted in place. By holding the fingers against this ice it will generally be melted.

SOME SUGGESTIONS TO GREEN DRIVERS

To Become Competent Operator One Must Keep a Cool Head and Think; Early Morning Best Time.

A word to new drivers:

Take your time during the first month, keep cool and have a reason for everything you do ,and above all, think, do not forget it, think—and you will get along all right.

Know what each pedal of an automobile is for, know what each button will do, but be sure about it, and do not lose your head. Then you will not get into any trouble.

GO SLOWLY AT START.

Early morning is the best time to learn the first stages of driving. Go slowly and keep to the right. Get in the habit of watching for vehicles both on the street you are driving and on the cross streets.

After a short period, when you feel satisfied you have mastered the elementary things, drive later in the day when traffic is heavier. But be careful. This will accustom you to the crowds. During the learning period drive slowly. Do not speed. Most of the trouble comes from driving too fast.

TAKE CARE OF CAR.

Find out all about your car and treat it with consideration. Watch lubrication. You do not go without food for several days, nor should you allow your car to be without sufficient oil and water. Both are necessary for proper performance.

And remember your car is a piece of machinery. It is not infallible. Do not expect the impossible of it. Treat it with consideration and it will return uniform service to you.

LEGAL NOTICE.

NOTICE TO CREDITORS

Estate of James H. Sutton, deceased.

NOTICE IS HEREBY GIVEN by the undersigned Executor of the Last Will and Testament of James H. Sutton, deceased, to the creditors of and all persons having claims against the said deceased, to exhibit them with the necessary vouchers, within ten months after the first publication of this notice, to the said executor at the offices of his attorney, 321-322 Idaho Building, Boise, Idaho, this being the place fixed for the transaction of the business of said estate.

Dated February 14, 1919.

E. C. COOK.

Administrator of the Last Will and Testament of James H. Sutton, deceased.

Wm. C. Dunbar, Attorney for Executor.

—Adv. Sun O M 16

MAXWELL TRUCK SETS AN ECONOMY RECORD

Covers 80 Miles Daily, Makes 110 Stops and Only Uses Four Gallons of Gasoline, An Average of 20 Miles to the Gallon.

In these days of transportation worries, the recent performance of a Maxwell truck, owned and operated by the Lafayette Provision company of Jersey City, N. J., is of special interest and import.

The record made by this truck was the result of a strict cost inquiry made, over a period of several weeks, by the owner and the figures, it is believed, set an economy mark which will stand for a long time.

The Maxwell truck is used in general delivery work by this retail provision firm and averages 80 miles each day making, during that time, no fewer than 110 stops. An accurate account was kept of the gasoline necessary for each daily delivery tour and it was found that this product of Maxwell efficiency made its daily trip with its multitude of stops on less than 4 gallons of gas. An average of 20 miles to the gallon with 110 stops!

It is a well known fact that the necessary stopping and starting consequent on making deliveries to 110 customers use up more gas, by a considerable amount, than a straightaway drive of much greater distance. Yet, this Maxwell truck is plodding over the heights of Jersey City daily, with a capacity load and making its twenty miles to each gallon.

So pleased are the owners of this economical truck that, in a letter to the Maxwell distributor from whom they purchased it, they express a desire to be referred to by prospective buyers.

This latest performance strengthens the impression of value to be gained from a perusal of other marks made by the Maxwell truck—all of them pointing to splendid records for endurance, economy and all-around efficiency.