

## MOTORISTS' PROBLEMS

Solved for Readers of  
The News-Times.

By William H. Stewart, Jr.

**Motor Department:**—I have a Ford one-ton truck. A good deal of my driving is over exceedingly rough roads. Would one of the standard makes of shock absorbers relieve the jolts while running unloaded, or would they be like the springs already on the car—too stiff to take effect unless one has 1,000 pounds or so for load? W. A. B.

It is very difficult to obtain a shock absorber that will give the desired result under varying conditions. Trucks as a rule are not expected to be easy riding. Primarily the function of a shock absorber is to check the rebound action of the spring, and if you can install some device to accomplish this you will improve matters. We do not recommend any accessories.

**Motor Department:**—I have been a reader of your paper a number of years, therefore wish to ask you to explain a problem for me. The starter on my car runs the battery down quickly. The generator builds up the rest of the battery, but does not seem to furnish current to the starter end. Can you tell me through your query column what to do for same? J. B.

The generator is not supposed to furnish current for the starter except through the battery. Perhaps you use too much current trying to start the engine. Ordinarily the engine should start after a few minutes of the starter, but if you continue to crank with the starter then your battery is bound to become exhausted. The generator will recharge the battery normally, but it cannot replace all the current wasted by excessive cranking of the engine. Be sure that your generator charges the battery at the proper rate when driving 12 or 15 miles an hour. If you do not have an ammeter to register the current it would be advisable to install one.

**Motor Department:**—Without apparent cause I have within a short while broken three right hand rear axles on my car (Overland model 82B-1916). Can you suggest a probable cause, how determined and how remedied? Early answer through your department will be appreciated. P. H.

Undoubtedly you will find the axle housing cracked on that side near the point where the spring is anchored. This will cause an additional strain on the shaft at every turn and cause it to break. Would suggest that you have a new tube riveted in place. When the axle housing and bearings are in good repair and proper alignment you should have no further trouble.

**Motor Department:**—Will appreciate very much if you will answer these questions:—(a) I have a 1918 twin Harley-Davidson that is in first class condition mechanically, but today acts very peculiar. With spark fully advanced it runs O. K., but on full retard, it fires only on cylinder No. 2; never fires on No. 1 except on advance. Interrupter is good, contacts open 15 thousandths of an inch, are not pitted or dirty, timed as by factory marking, new armature, condenser, brushes, cables and spark plugs. What is the trouble? (b) I also have an American Six. With cut-out open it has a sharp metallic sound, seemingly one to be firing six times, but with cut-out closed no unnatural sound occurs. Do you think anything is loose? Also when running from 30 to 45 miles an hour I hear fairly regular a sharp, cracking about six times, then a moment elapses, then six more sharp cracks. It sounds like high tension current jumping across the wires, but engine never misses, cranks easily and has all sorts of power. What is the trouble? (c) The starter is sluggish on starting in the morning and once in a while at other times. Circuit from battery to battery tests O. K. Brushes and switches O. K. Battery tests 7 V., 1,800 gravity. What causes this? (d) Do leak proof rings for pistons of the double seal type have any merit over ordinary diagonal cut rings? (e) Is it proper to take up bearing by reducing shim thickness on crankshaft and connecting rods of a car that has only run 10,000 miles, or should they be scraped and blue-fitted? Does cutting new seats on valves and valve seats have any merit? Answer appreciated. H. R.

(a) Make sure that the interrupter points open 25 thousandths of an inch and see that this occurs for both interruptions. One side of the interrupter may be out a little and cause the trouble mentioned, so check each carefully. (b) Perhaps the cut-out valve causes the click at certain times. If the current jumped the safety gap you would notice the engine misfire. The trouble cannot be serious, since you hear and observe nothing when the cut-out is closed. Sometimes a plug in the exhaust manifold will cause an annoying click under varying conditions. (c) A loose or corroded battery terminal will cause the trouble. Of course, when the engine is cold you must expect greater resistance caused by the chilled lubricating oil. Then again a storage battery is somewhat less efficient when cold. (d) The more carefully pistons are made to seal the joints the better the result. There are many kinds on the market, but no particular make can be recommended through these columns. (e) Slightly worn bearings may be adjusted by removing shims. If the shaft and bearings have been neglected then more careful attention is required. All new bearings must be scraped and fitted carefully. If the valves are badly pitted or grooved they should be cut and ground in until a perfect seat is obtained. Otherwise, ordinary grinding will suffice.

**Motor Department:**—My car is a 1917 model and I am at a loss to tell why it has begun to lose power recently. I am inclined to think the oiling system is plugged up but do not know how to test cylinders to see if they are properly lubricated. The pump must be working properly, as oil flows at the right feed. The engine drags and seems to stall every so often. Hills that I used to

work better. If I stop for 10 or 15 minutes I can't start it until I take out Nos. 1 and 2 plugs and clean them, turn it over once or twice and then she will start to jerk, or if I don't get a good start going up a grade she will do the same thing. Can you suggest a remedy for this trouble, as it is a nuisance to be taking out spark plugs all the time? I will thank you very much for a reply. B. K.

It would seem that the oil works up on Nos. 1 and 2 cylinders in spite of the leakproof rings. This shows that the cylinders are out of round or scored. Grinding must be resorted to as a remedy for this. Possibly a heavier oil might help, as it could not get up on top of the piston so readily. The jerk is due to the cylinders missing explosions from the same cause which prevents the engine from starting—scored plugs. Test your coils and make sure they are not defective.

**Motor Department:**—Kindly advise how to charge volt battery from a resident electric light. Should this charge be from direct or alternating current, and how should it be arranged? Thanking you for your prompt answer to this matter. D. M.

Direct current must enter the battery, but the source may be direct or alternating. A rheostat will be required to bring direct current down to proper amperage for your battery. A rectifier must be used with alternating current. The charging rate starts at one-tenth capacity of battery. A 100 amp. hr. battery must start at 10 amps, a 60 amp. hr. battery at 6 amps, if electrolyte is below tops of plates, add distilled water to cover them one-quarter inch. Connect positive from line to positive of battery and negative to negative. After an hour or two, if cells are gassing freely, reduce charging rate one or two amperes. Keep the cells from bubbling too freely by reducing the charging rate. Battery is fully charged when electrolyte reads 1.275 to 1.300.

**Motor Department:**—Please explain the method of finding the positive and negative terminals of a battery by means of a glass of water. E. T.

The water should have some salt

or electrolyte in it to make it a better conductor, being careful not to let the ends touch. Hydrogen bubbles will form on the negative wire.

**Motor Department:**—Kindly state three causes that will make an exhaust valve work improperly. What will be the effect on an exhaust valve that does not seat properly? Would it be possible for an exhaust valve to be automatic? H. L.

An exhaust valve will not work properly as follows:—Valve lifter out of adjustment; spring broken; stem bent so that it sticks open; head warped; face and seat pitted, burned, or caked with carbon. If valve does not seat, the compression will leak around valve and most of the power from that cylinder will be wasted. An exhaust valve can never be automatic, as it opens against a heavy pressure at the end of the power stroke. This necessitates a positively driven mechanism.

## HELPFUL HINTS.

If your engine is growing noisy look at the valve tappets. If the adjustments are loose the space widens and the valve lifter gives a hammer blow on the valve stem. Adjust the space to the thickness of a visiting card while engine is cold. When motor heats up the valve stem lengthens and take up nearly all the clearance, making but little noise, if any.

When removing any part of the valve mechanism mark the parts which come together so that there will be no mistake in replacing them. When you take off a nut replace it on the stud so that it will not be necessary to hunt for it when wanted. The usual practice of dumping everything into a box is a bad one, as it takes too long to sort out nuts and bolts when parts are to be replaced.

Should a valve spring break and no extra spring be available, do not despair. A metal washer with a hole larger than the valve stem should be placed between the two parts of the spring. This prevents them coiling around each other and so will serve until a new spring can be obtained.

While regrinding valves, it is advisable to use a light spring under

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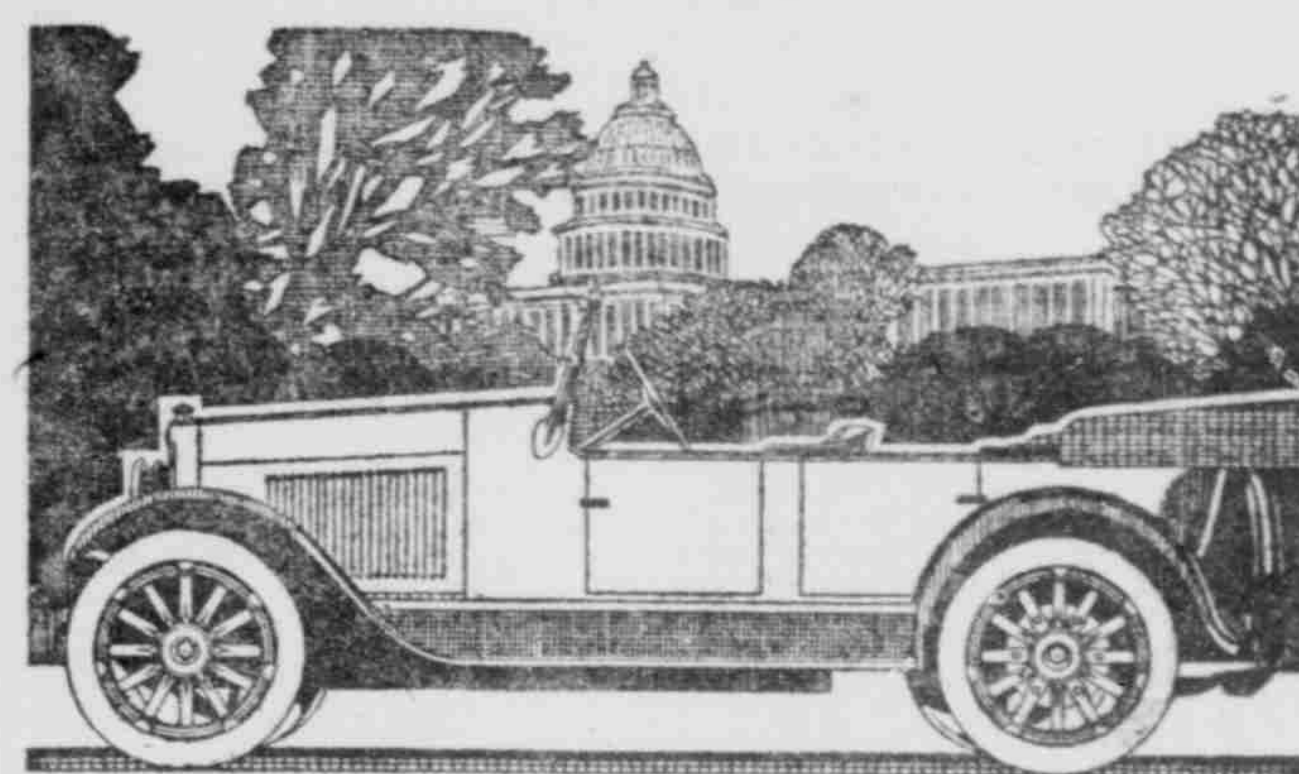
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