

Popular Science

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INVENTIONS
—
DISCOVERIES
—
RADIO
—
AUTOMOBILES
—
AVIATION
—
HOME WORKSHOP

\$10,000.00
IN CASH PRIZES



**What's Wrong ?
in this Picture ?**

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Odd Jobs on Your Car Made Easier

How to Save Time and

Cost in Repair Work

ONE of the first things that the owner of a new Ford learns is that it pays to keep the fan belt at the proper tension. If allowed to run too loose, the motor will overheat in warm weather and when the tension is set too tight, the belt wears out in a short time.

One ingenious owner has overcome both difficulties in a very simple manner. His method of maintaining the fan belt always at the proper tension is clearly shown in Fig. 1. It consists of a small bent lever or plate that is placed under the head of the bolt that holds the fan pulley arm in place. The bolt is not drawn tight, so the arm is free to move about it.

To this bent plate is attached a light coil spring, the other end of which is attached to the pulley arm by means of a wire. A soft iron wire is run from this bent plate to the fan adjustment screw, which has been screwed out of contact with the arm. This wire is double and is twisted with a screwdriver until the proper tension has been put on the belt.

After some months of wear the belt naturally will stretch to some extent, and then it will be necessary to twist the wire a few turns to bring the tension of the spring up to the proper point. As the strain on the bent arm is not severe, it can be made of fairly light stock that can be bent up easily in the vise in the owner's garage.

IF YOUR Ford car spring happens to break on a cold, rainy day, perhaps far from a service station, you can replace the broken leaf with the tools generally carried in your kit, provided you make a practice, as I do, of carrying a spare leaf.

Jack up your car, remove the spring, and unloose the retaining ball to allow the leaves to fall apart. Insert the new leaf, letting all the leaves lie in place crosswise, as shown in Fig. 2.

Screw up the nut on the retaining bolt, but not tightly. Hammer the leaves until they are in their correct position, when the spring may be put in your car. You're off again with no repair bill to pay or a long, distracting wait.—C. B. DARNELL, Katy, Tex.

MANY owners of automobiles that are fitted with multi-plate clutches have difficulty in cleaning out the gummy oil between the plates.

It is a good idea to cut a wooden bar to just the right length so that it can be wedged in between the driver's seat and the clutch pedal when the latter is de-

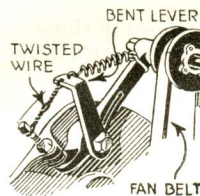


Fig. 1—A simple device to maintain fan belt at proper tension

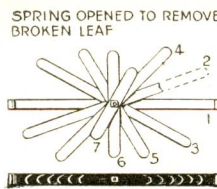


Fig. 2—How to arrange Ford leaves to replace broken spring

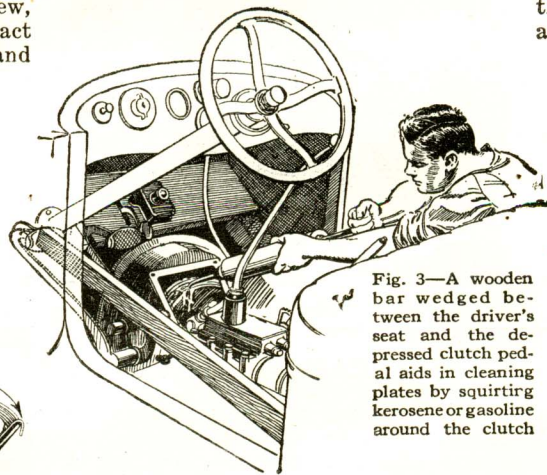


Fig. 3—A wooden bar wedged between the driver's seat and the depressed clutch pedal aids in cleaning plates by squirting kerosene or gasoline around the clutch

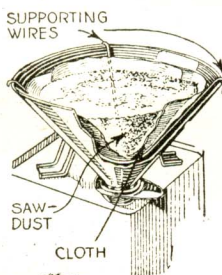


Fig. 4—Effective method of filtering crankcase oil for use on springs

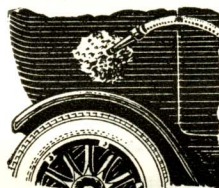


Fig. 5—To protect finish in washing, hold hose nozzle against sponge

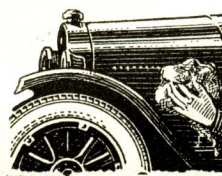


Fig. 6—In polishing, move the chamois always in straight, parallel lines

pressed, as in Fig. 3. Then, when the kerosene or gasoline is squirted around the clutch, it will flow between the plates and clean them thoroughly.

If the clutch pedal is not held down in this way, the clutch spring holds the plates so tightly together that it is impossible for cleaning fluid to get between them.

The same effect can, of course, be obtained by having an assistant hold the clutch pedal down by foot pressure.

USUALLY the car-owner wishes to save his crankcase oil for springs, etc. It is much improved by filtering through a piece of close-woven cloth, or thin felt, and sawdust, as shown in Fig. 4. A funnel is handy, with a few pieces of wire hung over the edge on the inside,

to allow the oil to seep through a larger area of cloth.

Fill the hollow in the cloth with sawdust, and pour the oil on top. It will be found that filtering is much easier when the oil is warm. A little of the oily sawdust thrown on a dusty garage floor will keep the dust from flying when sweeping.

INSTEAD of squirting a stream of water from the nozzle of the hose directly against the varnished surface of the car, it is much better to hold a sponge against the nozzle, as in Fig. 5, and allow the water to dribble through it on to the varnished surface.

This method will prevent the rushing water combined with the dust from acting as an abrasive and destroying the finish.

When drying the car and polishing with the chamois, be sure to move the chamois along the surface in straight parallel lines as in Fig. 6. It is bad practice to scrub the varnish with a circular motion, as this procedure is bound to result in myriads of circular scratches that catch the light and spoil the appearance of the car.

ONE car-owner who had stopped a short time before at a service station to have the fan belt adjusted,

discovered that his radiator was overheated. Upon investigating, he found that the fan had been moved, so that the blades had cut a clean slice through the radiator hose.

Since a repair had to be made immediately, the owner wound and cemented the tube with tire tape and shellac, as in Fig. 7. This lasted

until the rubber hose was no longer serviceable. The same method can be adopted for protecting the radiator hose, not only against cuts, but also against the injurious effects of oil and heat.

You will find that radiator hose so protected will last twice as long as an unprotected hose.—G. A. L.

KNOCK in high-compression gasoline engines can be foiled by lead atoms, which capture electrons before they can start an explosion, according to a new theory advanced by Prof. G. L. Wendt, head of the Department of Chemistry in Pennsylvania State College. The function of anti-knock compounds, such as tetraethyl lead, the professor explains, is to absorb these electrons and prevent too rapid spread of the flame.

It has been shown that one part of tetraethyl lead in 1300 of gasoline causes a marked suppression of knocking.

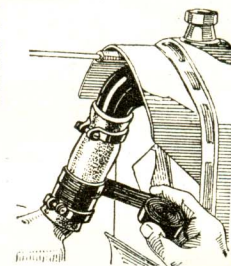


Fig. 7—Repairing broken radiator hose by winding with tire tape and cementing with shellac