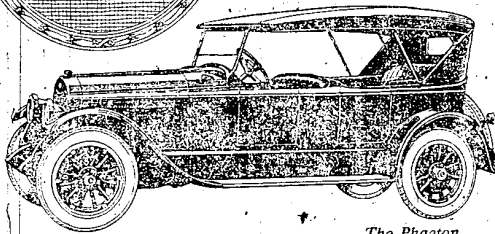


LINCOLN

Get Behind the Wheel



Mechanical perfection in Lincoln construction assures a higher degree of safety, a greater realization of comfort, than can be obtained from other motor cars regardless of price or claims.

Without qualification, the Lincoln is the finest automobile that superior manufacturing skill can develop.

FORD SALES & SERVICE

Phone 151 Olin Russell Prop. Farmington.

The Phaeton
\$3800
F.O.B. DETROIT
Ten Body Types

QUALITY OF OIL IS IMPORTANT

Poor Lubrication Generally the Cause of Excessive Piston Friction.

REDUCES POWER OF ENGINE

Unbroken Oil Film Should Always Be Maintained Between Piston and Cylinder Walls—Thin Oil Detrimental to Vital Piston

It is not generally realized how much the useful power of an engine is reduced by the friction of its various parts. The piston rings, for instance, are the greatest source of friction in the engine. If not properly lubricated, they will cause abnormal in amount, car performance suffers in a marked degree. The fuel they do not all work upon the pistons, but if this force is too largely wasted in overcoming their friction, the power left over for moving the car is seriously reduced.

In the case of cars, in the engines of which new tight-fitted pistons and rings have just been installed, useful power is sometimes diminished by undue piston friction, and even slight grades cannot be negotiated on "high" until these parts become smoothed and "worn in" by their prolonged mutual rubbing action. Such a condition is, of course, entirely avoidable by the use of the right oil. In fact, it is a fact that, without causing acute damage to the parts, excessive friction may exist during much of the time that an engine is in operation, to the detriment of its performance and with excessive gasoline consumption.

To secure perfect piston lubrication, and thus to minimize friction, it is essential that there should always be an unbroken oil film maintained between pistons and cylinder walls. To insure this, the oil must not become so thin as to be squeezed out from between their opposing surfaces. Detrimental thinning of the oil may result from its quality or its grade being such that it loses its "body" or thickness. The higher engine temperatures, or may be due to unburned fuel passing the pistons, dissolving the lubricant upon them and entering the crank-case below.

The precautions necessary to be taken to insure quality and such initial viscosity as shall not become watery at the highest allowable engine temperature and, furthermore, to renew the oil supply before it becomes objectionably thinned by the addition of unburned gasoline components.

You Auto Know

That if engine trouble develops which is not easily diagnosed, the chances are that the pistons and rings are at fault. It is therefore always well to examine these before delving further into the more delicate parts of the mechanism.

This may be done in a manner sufficiently accurate for practical purposes by cranking the engine up to high pressure, and then allowing it to start for a minute or two before putting the pet or priming-cock to see if there is any compression. By trying in turn, piston ring troubles may usually be located in this manner. For the compression will leak out past faulty piston rings, while it will be held by those which are properly fitted. In this connection, the valves must also be considered. If they leak, it is almost impossible to get good compression in the cylinder. Both the valves and the piston rings should be tested, however, before one attempts to tinker with the carburetor, which is usually blamed when other parts are at fault. (Copyright, 1932, by The Wheeler Syndicate, Inc.)

AUTOMOBILE NEWS

Test the valve spring for strength.

Keep spark well advanced and save gas. An indolent piston is best for marking the spot where a leak is found in a tube. The indolent mark will remain, as the wet rubber helps dissolve the lead of the pencil.

Be sure to have the valve stem and stay bolts tight on the stem. If attached to the rim of the wheel, it will keep water and dirt from getting into the casing on water dirty road.

A monthly inspection should be made of the brake rods and connecting parts. Clean off all accumulated dirt and rust, so that they will act as freely and efficiently as possible.

You Auto Know

That, in addition to the visible and external parts of the car which need attention—parts which are marked with grease cups, grease-gun connections and the like—there are also a number of other places which should be watched, particularly as these are out of sight and only therefore be easily forgotten. One of the most important of these is the "universal joint," where the load is very heavy and practically continuous.

Most cars are so constructed that the housings which cover this joint may be filled with heavy oil, and then left alone for an indefinite period, depending upon the average mileage of the car. But this oil, like other lubricants, thins out in time and also becomes clogged with dust and particles of metal from the wearing parts. Care should therefore be taken to see that it is changed regularly, for damage to the universal joint means a considerable expense and loss of time for repairs.

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AUTOMOBILE NEWS

Spark plug spares are frequently injured while being carried in the toolbox.

Gasoline saving requires well inflated tires, as loose underinflated tires use more power.

Remember that good oil is absolutely necessary for gasoline economy, and it saves engine wear as well.

In filling the radiator of the car allow enough water to pass in it to bring the level over the end of the vent pipe.

Worn engine bearings can be detected by the oil gauge pressure. As the bearings wear the oil circulates more freely and the pressure drops.

Not all car owners know that pure rain water is the best that can be used in the cooling system. This is because it is free from mineral substances.

A convenient addition to the tool box is a small packet of wire nails of different sizes. These nails may be used to replace lost cotter pins and for many other purposes.

Keep watch of your wheels to see if they are thrown out of alignment by road shocks, wear, etc. The rear wheels should be absolutely parallel, but the front wheels are never so.

When caught with all four wheels of the car on wet or icy roads, the only safe way to get out without serious skidding is to slow down and sharply turn the front wheels to the right or left.

Where gear cages or differential housings are provided with vents to permit the escape of air under pressure that results from heating, care should be taken to see that the vents are kept free.

A common trick among those who ride in motor cars, which is nevertheless a bad practice, is that of slamming the doors. Door slamming rocks the hinges and loosens the door until it becomes wobbly and hangs loosely.

AUTOMOBILE NEWS

Wash the car with a light stream and a sponge.

Soft water or clear rain water is best to use in the cooling system of the engine.

The varnish of a new car is benefited and hardened by washing with clear, cold water.

An excellent lubricant for small and exposed parts is a mixture of half and half engine oil and kerosene.

When grinding valves, be careful not to let particles of emery get into the cylinders.

An overloaded or an underinflated tire heats more rapidly than a properly loaded or properly inflated tire.

When a car has been standing idle for some time drain the float chamber of the carburetor. This will get rid of any sediment or water.

It is customary to overhaul a motor at least once a year. The valves are ground, carbon removed, bearings retightened and worn parts rebushed or replaced.

Wood That Will Not Float. Clitannian walnut is heavier than water and will not float.

Algebra's Original Meaning. Algebra is an Italian word derived from the Arabic al-jabr, meaning the reunion of broken parts. It was in early use in the sense of bone-setting.

RED CROSS PUTS UP \$9,739,872

Year's Budget Stresses Relief and Services at Home and Overseas.

MILLIONS FOR VETERAN AID

Over \$3,000,000 Allotted to the Disabled—Foreign Work Lessens.

Washington.—Expenditures totaling \$9,739,872.47 for carrying through its program of services and relief during the fiscal year in the United States and overseas are authorized in the budget of the American Red Cross, effective July 1, 1932. This total is \$2,735,973 less than the expenditures for the last fiscal year, when disbursements reached \$12,475,847.09. It is announced at National Headquarters in a statement emphasizing the necessity of continued support of the organization by contributions during the annual Roll Call, November 12-November 30 inclusive. This total for the budget is exclusive of the large financial operations of the 3,200 active Red Cross Chapters, which, it is estimated, will more than double the total.

War Veterans Have First Call

First call on Red Cross funds is for the disabled ex-service men, of whom 27,467 were receiving treatment from the Government on June 1 last. This work for veterans and their families in a wide variety of service that the Government is not authorized to render and for which it has neither funds nor facilities has the call on \$3,000,000 during the current year, or about \$300,000 more than was expended last year for soldier service. Adding the funds disbursed in this humanitarian work of physical reconstruction following the World War by the Chapters throughout the country will approximate a total for the current year approaching \$10,000,000. This work, in the opinion of the Surgeon General's office, will not reach its peak before 1935.

Through its Chapters the American Red Cross is equipped to deal with the individual ex-service man, help him in his problems, and difficulties, provide immediately for his necessities, and open the way for him to the Government compensation and aid to which he is entitled. The extension of this work to the families of such men proves to them that the Red Cross has lost none of its sympathy nor will it service manifested in wartime. Similarly the service goes out to the men still in the Army and Navy, 11,087 of whom were in treatment in Government hospitals on June 1, 1932.

Greater Domestic Program

This year—after five years of constructive effort during the war and after the armistice—brings with it a greater responsibility for domestic service to the American Red Cross. The budget for foreign operations, however, totals \$3,404,000, but of this amount \$1,844,000 is for medical relief and hospital supplies for Russia, which is a part of the gift made by the American Red Cross in 1921 to the Russian famine relief work of the American Relief Administration program. The child health service in Europe continues, moreover, and \$804,000 is appropriated for this work undertaken in 1930. Other items in the stringently diminished foreign program include \$200,000 to support the League of Red Cross Societies, \$22,000 for nurses' training schools instituted by the Red Cross abroad, and \$600,000 for liquidation of the general Red Cross foreign relief program.

Prepared for Emergencies

For disaster relief the Red Cross has set aside \$150,000, and for emergencies in Chapter work \$200,000 to be available for domestic, insular and foreign demands. This is more than \$305,000 above last year's expenditures. For service and assistance to the \$300,000 Chapters and their branches \$1,233,000 is provided by the National organization.

Other budget items of importance in the domestic program include \$200,000 for assistance to other organizations and education institutions for training Red Cross nurses and workers; \$100,000 for Roll Call assistance furnished to Chapters; \$100,000 for unforeseen contingencies.

Of the total budget less than \$500,000 is allotted for management in the National organization. No cash estimate, of course, is possible to weigh the value of the service by volunteers in the Chapters.

THE RED CROSS SUPPLEMENTS GOVERNMENT SERVICE BY MEETING THE PARTICULAR NEEDS OF THE INDIVIDUAL EX-SERVICE MAN. THIS WORK CANNOT GO ON UNLESS YOU SUPPORT IT WITH YOUR MEMBERSHIP DOLLAR. PAY UP TODAY

GEORGE I. COOK

General Blacksmithing
HORSE-SHOEING A SPECIALTY
Farmington, — — — Michigan.

BEST TIRES AT BEST PRICES

U. S. TIRES—PLAIN—USCO—KNOBBY—CORD
GOODYEAR ————— GOODRICH

BUY YOUR TIRES NOW

FORD SALES & SERVICE

Striking New Red Cross Poster

American Red Cross



Chartered by Congress
To Relieve and Prevent Suffering
In Peace and In War
At Home & Abroad

Riveting the attention of the beholder on the fact that the American Red Cross is chartered by Congress as an official volunteer relief organization the dome of the Capitol at Washington, upon which is superimposed a large Red Cross, is the central figure of a new poster for the Annual Red Cross Roll Call. The poster, which has been pronounced one of the most striking of innumerable representations of the famous dome of the work of Franklin Booth, a New York artist of wide renown. It will be displayed throughout the country during the Roll Call period, Armistice Day to Thanksgiving, when the Red Cross membership for 1932 will be enrolled.

You Auto Know

That the slightest lack of alignment in the steering wheels will cause tires to wear out long before their allotted mileage has been secured. This trouble is usually due to slight collisions or even failure to avoid holes in the road. The strain bends the equalizing rod and the wheels are thrown out of true—possibly not enough to be seen with the unaided eye but apparent when measurements are taken. As a result of this, one or both tires "grind" with every revolution of the wheel and the wear comes on the portion of the tire which is not protected by the heavy tread.

The remedy also the prevention of this is to have the front wheels inspected regularly and to keep a constant watch upon the tires to see that they are wearing evenly and that this wear is being taken up by the tread. Reputable tire manufacturers guarantee their product for the minimum and not the maximum number of miles which they ought to deliver and the vast majority of failures to secure this mileage are due to the carelessness of drivers, rather than to faults in the tires themselves. (Copyright, 1932, by The Wheeler Syndicate, Inc.)

PEDAL CONTROL IS ASSURED

Device Illustrated Will Prevent Foot From Bobbing Up and Down on Accelerator.

Rough road driving causes the foot to bob up and down on the accelerator.



Steady Foot Control.

This air control device is made to remedy that steady foot control of gasoline. The large pedal resting on the accelerator has an air cylinder operating over a piston attached to the toe board. It can be adjusted in any car with pedal control.

TIRES HELP MAKE GOOD OF A

Appearance of Machine Is Often Marred By A Greasy and Corroded Tires.

Tires tell mile age history more convincingly even in a speedometer. The appearance of a car is frequently marred by condition of the tires. A new set of tires and a little cleaning up of the car, say old tire man, will accomplish the same results for the old car that a shave, a hair cut and a shine will do for the man who is an old sulk of clothes.

Try A Liner—They Will Satisfy.