

## HOW TO REMEDY SPARK PLUG ILLS

William H. Stewart, Jr., Describes Causes of Ignition Trouble, How to Locate Them and Cure.

"If your motor is misfiring do not condemn the spark plug until you know it is a fault," says William H. Stewart, Jr., president of the Stewart Automobile school. "To determine this you must note which cylinder is misfiring. Short circuit each spark plug in succession with a wooden handled screwdriver. When engine slows down you have cut out a live plug. If engine does not lessen speed when its plug is short circuited, you are reasonably sure that that cylinder is not firing.

"Disconnect the wire from the plug and start engine, holding wire approximately one-quarter inch from plug terminal. If a good spark jumps you will undoubtedly find the trouble due to a faulty plug or a faulty cylinder. If no spark jumps, the trouble must be traced elsewhere in the ignition system.

"Assuming that a good spark is shown at the wire terminal when tested in this manner, the next step is to test the plug. This may be done by removing it and laying on top of cylinder.

"To determine whether or not the insulator is defective, the spark gap should be opened considerably in order to create a resistance equal to that under which plug functions in cylinder under compression. A defective or carbonized insulator can be located in this manner.

### Cleaning Insulator.

"If the insulator is simply carbonized or coated with oil and carbon, causing a short circuit, then this should be carefully cleaned with a cloth or soft brush saturated with gasoline. Touch up the points with emery cloth, but do not use emery on glazed porcelain, as this will roughen and cause insulator to carbonize more readily.

"After cleaning and assembling, considerable care must be exercised in making the final adjustment. Few persons can judge within a few thousandths of an inch, and quite often an irregular motor is caused by improper adjustment of the spark plug points. Conditions vary in different motors, equipped with different ignition systems, but a gauge of some sort should be used to adjust the plug points.

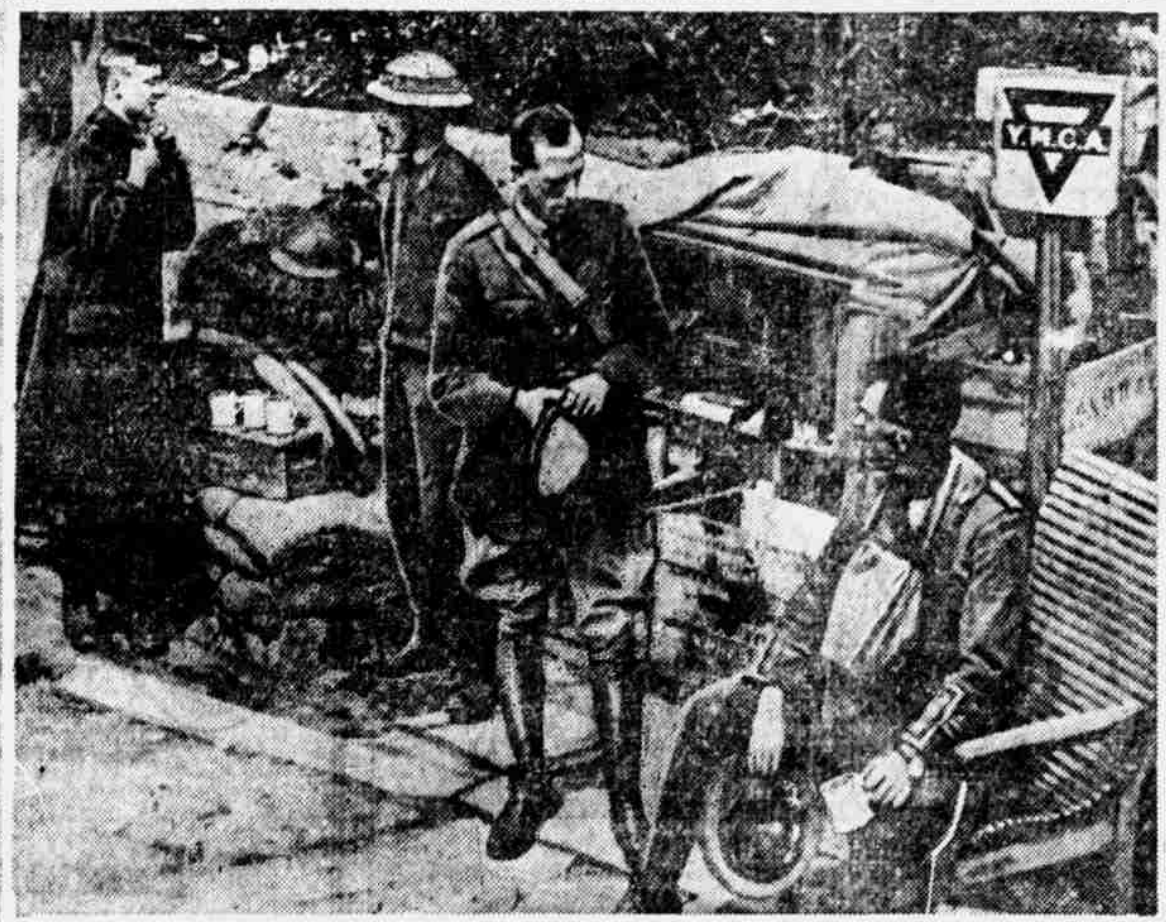
"Around almost every garage or shop will be found some broken eight or 10-inch hack saw blades. A piece of one of these blades will be found to serve as a very good gauge in the adjustment of the plug points."

### Automobile Industries

#### Co-Operate With Government

Active co-operation of the automobile industries committee and the officials of the different departments of the army and navy at the war industries board was assured when Chairman A. W. Copland pledged the men, material and equipment of 550 automobile plants and 1,080 parts and accessory makers to the war needs. So much of the vast production facilities of the automobile industry as may be needed by the government will be devoted to war work, for which its vast manufacturing capabilities are so well adapted.

ONE OF THE YOUNG MEN'S CHRISTIAN ASSOCIATION HEADQUARTERS at the camp of the American troops in France. Many of the Xmas presents from the folks at home for the boys under Pershing will be distributed through such Y. M. C. A. stations as this.



Y.M.C.A. IN FRANCE.

British Official Photo.

## Auto Service Department of The Omaha Bee

I am rebuilding an old Ford car into a racer, which I intend to use at various county fairs and other meets. I find, however, that the carburetor now on the car will not give me the speed I want. What carburetor would you suggest and also would you advise the old gears for regular speed gears?—T. L. D.

There are any number of standard makes of carburetors, such as Stromberg, Rayfield, Schebler, etc., any of which will probably be found satisfactory. I would suggest that you get a larger carburetor and manifold, so that a better charge will be sucked into the cylinders. By all means change the rear axle gear ratio. Use 2 1/4 or 2 1/2 to 1. In addition to these changes you might increase the compression pressure by having the cylinder head trimmed down, or you might install a 16-valve cylinder head, a special part which is on the market. Your carburetion troubles are due to poor mixture or possibly to incorrect valve timing.

A few weeks ago I purchased a vaporizing device, which was claimed to increase my miles per gallon by at least 25 per cent. As far as I can see, the device has done this, but I notice that my engine runs much faster and that my spark plugs are red, something that never happened before.—Careful Driver.

The engine runs faster and the economy is better because the mixture is better. You can throttle the engine down lower by resetting the stop screw, which limits the throttle move-

ment. I do not understand what you mean by saying that your spark plugs are red, though they never were before. Do you mean that they become so hot that they turn red, or do you refer to a tendency to rusting?

Is it necessary to make any changes in order to install a vacuum fuel feed system on a car that now uses pressure?—Ding.

About the only change to be made consists in drilling and tapping the inlet manifold, unless it is necessary to install extensive bracketing to support the tank. If the tank is attached to the dash, the only connections necessary are a pipe from the rear tank to the vacuum tank, two leads from the latter, one to the manifold and the other to the carburetor. Be sure that you get the right sized tank for your particular car.

Do you recommend the use of inner liners for tires? I cannot see why these are not a valuable aid in getting maximum mileage from casings.—A. M. W.

Inner liners are very good things when properly employed. I do not believe that they will prove economical in new casings, where there is no occasion for reinforcement. When inner liners are placed in tires that have seen much service and are consequently becoming weakened, they will strengthen the casing and permit considerable stretching of its useful life.

What merit is there in camphor balls or other so-called carbon chasers introduced into gasoline and in what

proportion should the camphor balls be used?—R. T. D.

There is practically no merit in the usual run of compounds designed to be placed in the gasoline. Camphor balls or naphthalene are simply hydrocarbons, adding nothing to the value of the fuel, in fact probably detracts something from it.

### What Ho! Johnny Kilbane

#### Is Wearing a Wrist Watch

Johnny Kilbane, the featherweight champion, is wearing a wrist watch and a pair of riding boots, the gifts of Cleveland admirers. Kilbane is chief instructor at Camp Sherman, O.



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2518 Farnam St.—Phone Douglas 4878.

# OLYMPIAN

OLYMPIAN was a mythic mount upon whose shoulders the world's mightiest warriors of antiquity were seated. These qualities were required for the power, strength, beauty and grace ascribed to them in superhuman degree. So much so, in fact, that the Olympian name was held primarily in reverence and honor these god-like qualities in mortal man. There drank and drank in quantities of strength, speed and endurance—the reward a simple wreath of laurel. Today the "Golden Age" is deemed in the memory of man. Yet the admiration of these same attributes still lives. Is it not then fitting that this car—characterized by beauty, speed, power and endurance—be named Olympian?

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It has a smooth-running, high-speed, four-cylinder engine that averages 18 miles on a gallon of gasoline.

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And remember—you can choose from a wide variety of colors. Red, gray, blue, green, maroon in numerous shades—and painted by hand to last the life of the car.

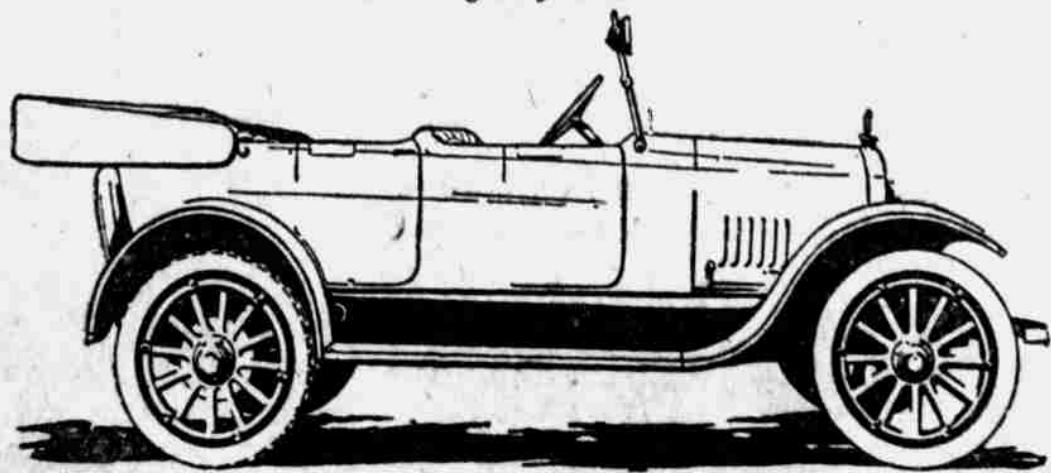
You must see the Olympian. You will be delighted with its flawless, satin finish and beautiful double-cowl lines.

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