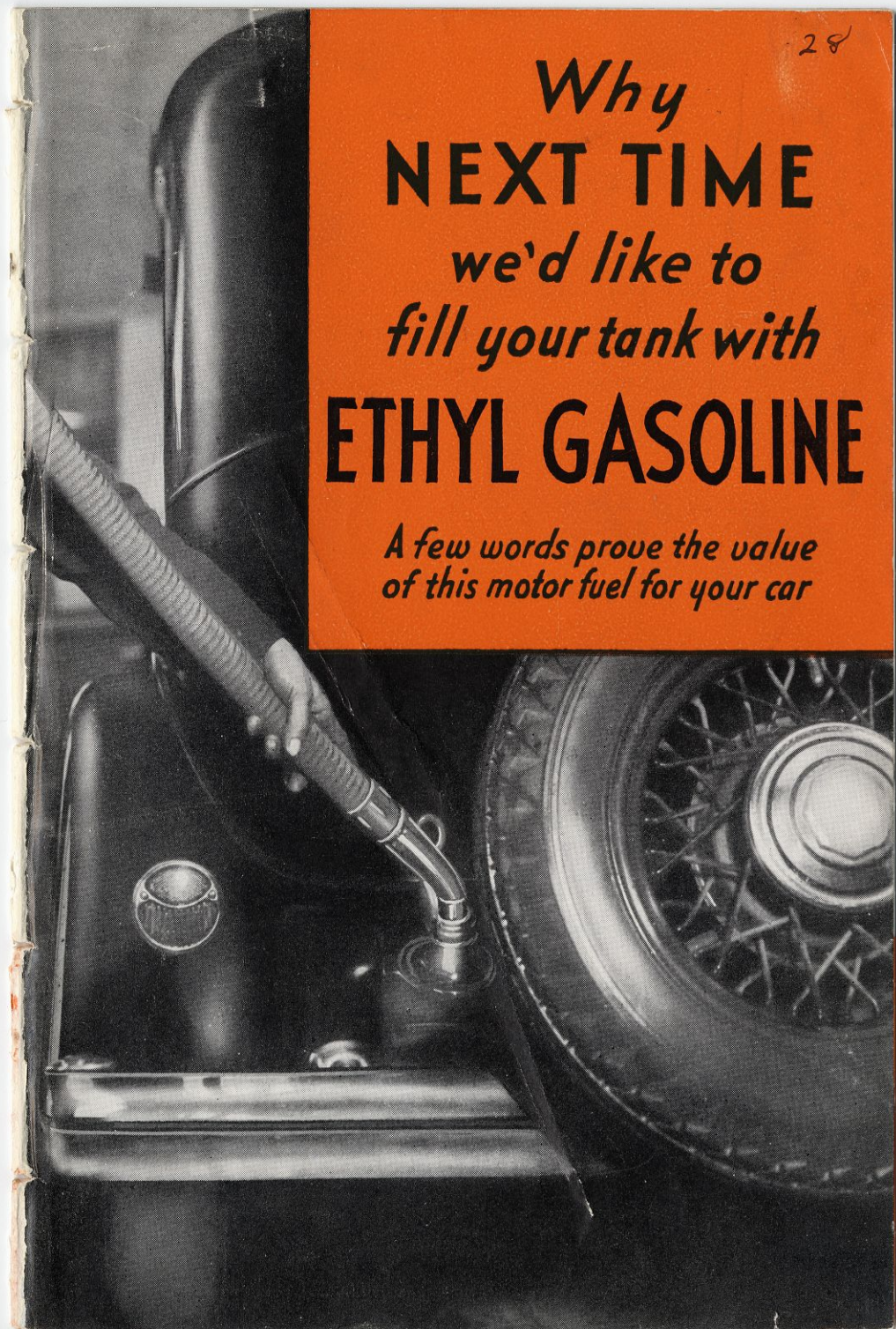


*Why*  
**NEXT TIME**  
*we'd like to*  
*fill your tank with*  
**ETHYL GASOLINE**

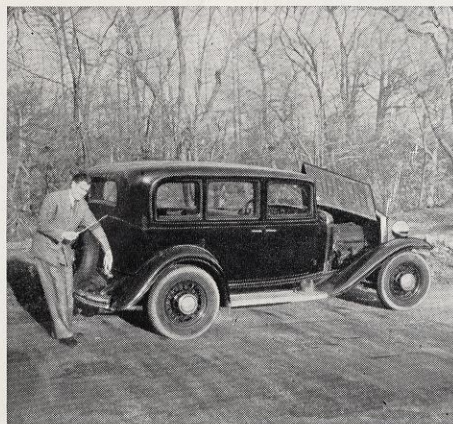
*A few words prove the value  
of this motor fuel for your car*





**H**AVE you ever found yourself on a lonely road miles from the nearest town, with not a drop of gasoline in your tank? Then you've realized how important gasoline really is.

Without gasoline your car is just so much metal, wood and rubber. Gasoline gives your car *life*. And the amount of life it gets depends on the kind of gasoline you use. That's why we think you'll be interested in reading a few pages about gasoline and about how to select the best fuel for your car.



**D**OES it surprise you to know that there are only two kinds of gasoline? Of course there are more *brands* than you have fingers and toes to count on... but basically you will find only two important classifications of gasoline.

First, there's ordinary, plain gasoline. Second, there's gasoline that contains Ethyl fluid. That's *Ethyl Gasoline*. Practically every oil company now sells both kinds and you'll find "Ethyl" pumps and "non-Ethyl" pumps standing side by side in almost every station you drive into. Take your choice—but first read the facts about both kinds!

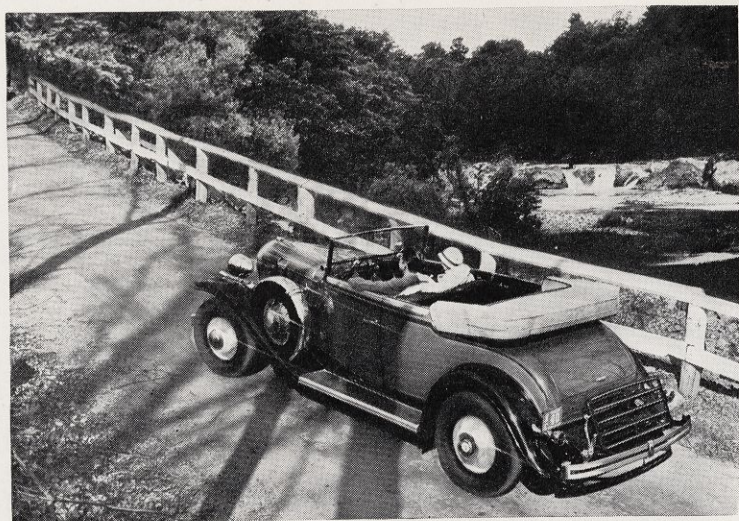
Plain gasoline will run your car, but Ethyl Gasoline will run it very much better. It brings a new joy and pleasure to motoring, steps up the performance of your car, and really costs you less in the long run. The reason for this is very simple.

Engineers have found that even good plain gasoline has a



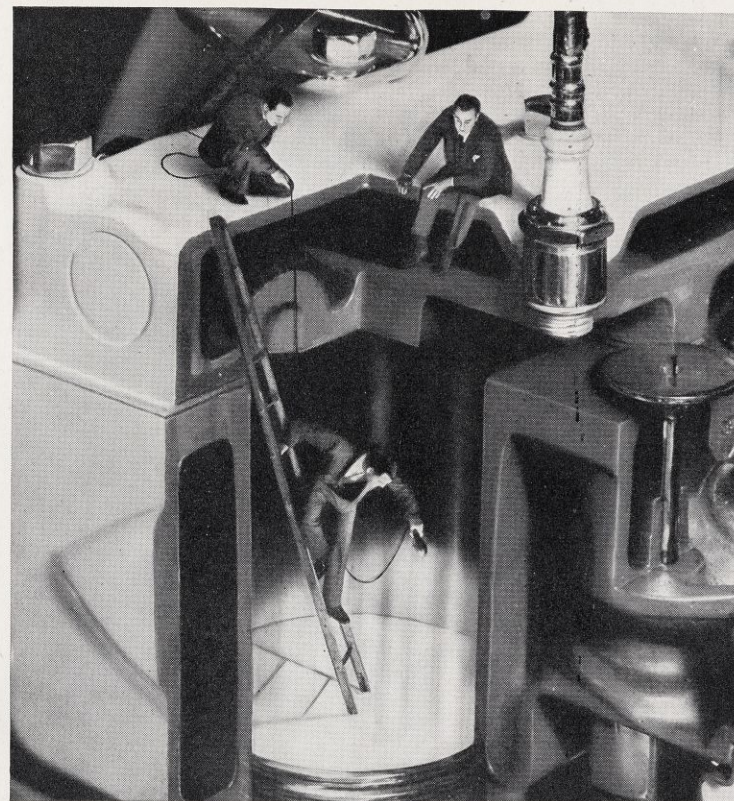
**SEVEN YEARS** Thomas Midgley, Jr., and T.A. Boyd of General Motors searched for something that would control gasoline explosions. In 1921 they discovered Ethyl fluid... a combination of tetraethyl lead and small amounts of other chemicals. Since then Ethyl Gasoline has been constantly improved to keep up with the improvements in motor cars.





"... a new joy and pleasure in motoring."

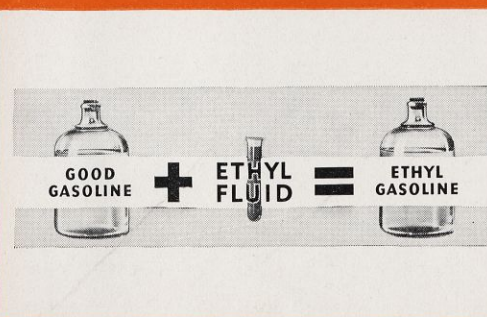
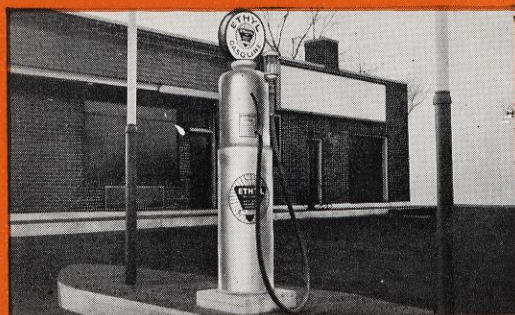
bad habit. *It knocks.* You've probably heard a knock. It's that ping-ping-ping that comes from deep inside your engine when you suddenly call on it for more power. Would you like to see what really happens when gasoline knocks?



"... a picture trip to the inside of an engine"

#### 97 Oil Companies

are now licensed to make and sell Ethyl Gasoline. More Ethyl is sold than any other brand of gasoline. No matter where you drive in the United States or Canada, you'll be able to buy Ethyl Gasoline.

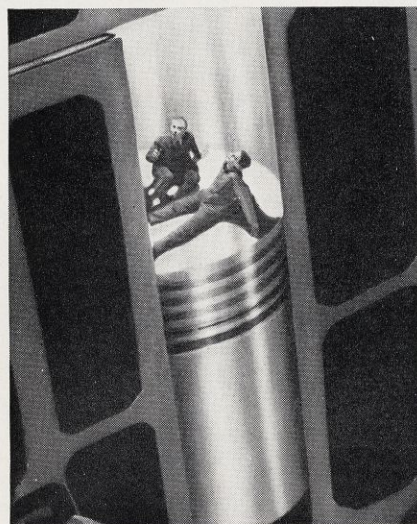


ETHYL GASOLINE  
is *good* gasoline  
*plus* ETHYL FLUID



Then let's take a picture trip to the inside of an engine and learn the truth:—

Here we are inside a cylinder. Hold tight. The motor's moving. The piston sinks beneath our feet. Just plain gasoline is coming in through the intake valve. The valve snaps shut and the piston comes flying up, rapidly compressing the charge into a tiny space. Our ears ring—this is a high compression engine, the kind that squeezes the *most* power out of gasoline.



*"... our ears ring—this is a high compression engine."*

Bzzzz-p. That was the spark plug—it set the gasoline ablaze. The pressure shoots up—the piston is driven down. We're beginning to get some power now.



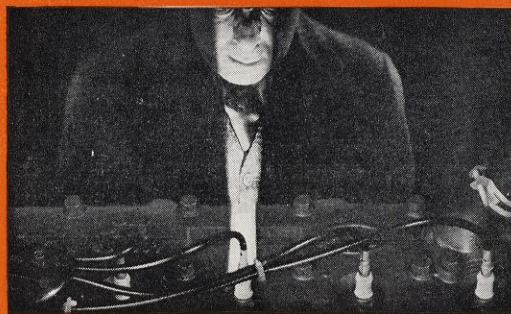
A terrific blast knocks us flat. Something up there detonated like dynamite. It was the unburned portion of the gasoline that couldn't stand the pressure.

It just blew up in a flash of glaring yellow flame. The engine shook and shuddered. There's your knock!

Now we'll try Ethyl Gasoline. The piston compresses the charge and the spark plug flashes just as it did before. But

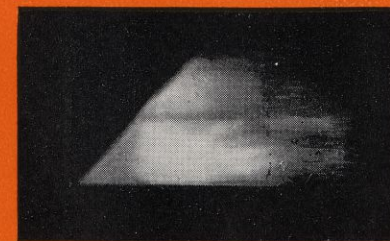
### *Seeing Is Believing*

Detroit engineers put a quartz window in the cylinder head of an engine and took high speed photographs of the actual combustion of motor fuel. On the opposite page you see how plain gasoline and Ethyl Gasoline compare.



### *See The Knock!*

That sudden leap of flame in the middle of the picture was caused by the uncontrolled exploding of ordinary, plain gasoline.



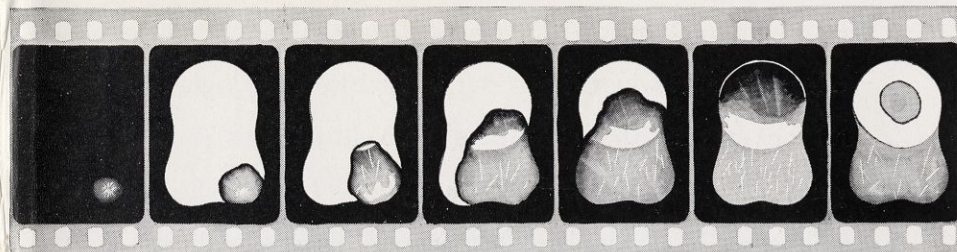
### *Ethyl Fluid*

was added to the gasoline in this test. See how smoothly it burned. Ethyl controls the power of gasoline.



this time the gasoline delivers its power smoothly through the entire burning of the gasoline. There's no detonation—no knock. The Ethyl fluid acts like a policeman—prevents uncontrolled gasoline molecules from exploding like so many little bombs.

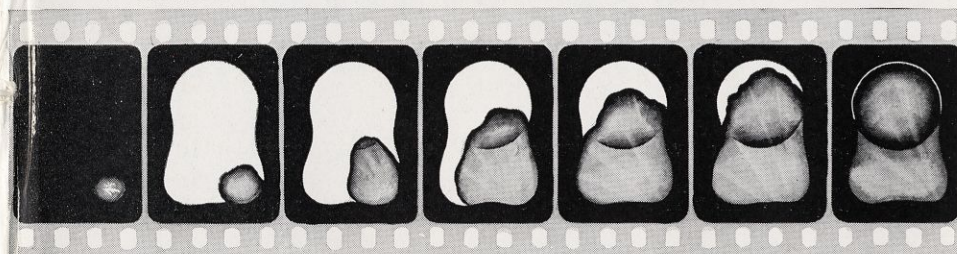
"But did anybody ever really see all that happen?" you ask. Yes, engineers did. No man ever climbed inside an engine, of course, but just recently experimentors were able to get pictures of what we've just described. They peered through quartz windows that were set in the tops of engines. With special cameras they analyzed the burning of plain gasoline and of Ethyl Gasoline. This strip of pictures show how the flame travels across the cylinder when plain gasoline is used.



#### *Wild Power!*

Plain gasoline burns evenly at first—pictures one, two, three, four, and five. Then suddenly—BANG! The rest of the gasoline explodes. This is knock. The last picture shows nothing but afterglow.

See how, in picture No. 6, it suddenly jumps. Plain gasoline burns with a brilliant yellow color. That's important—and in just a moment we'll tell you why. But first look at the way Ethyl burns.



#### *Controlled Combustion!*

Here is Ethyl Gasoline in the same engine. It starts to burn just like plain gasoline. But in the sixth picture when plain gasoline exploded, Ethyl continues to work smoothly and cleanly. No knock here!

During the entire explosion the advance of the flame is smooth and even. *There's no knock.* The flame is a clear blue—like the one in a gas stove. That's because the gasoline is exploding correctly.

#### *Knock Loses Power*

Modern driving demands instant control. Only Ethyl Gasoline can keep your engine pulling smoothly without knocking even at low speeds with wide open throttle. There's less nervous strain, less work, when you get the full performance of your car.



#### *Knock Smashed This Piston*

It is possible for regular gasoline to knock so badly that the head of a piston will be punched right in. That isn't likely to happen in your car, but the continuous punishment of knocking may eventually damage the vital parts of your car.



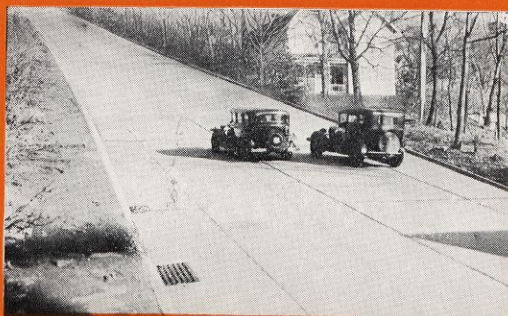
Have you ever noticed how your stove will burn with a yellowish flame when it gets out of adjustment? Engineers and chemists call that color "Carbon Yellow". It's caused by tiny glowing particles of carbon resulting from inefficient combustion. You would see that same yellow when ordinary, plain gasoline is burning.

## HOW ETHYL PROTECTS YOUR CAR

Now you know what knock is. You know what it looks like and how it sounds. But if all knock did was to make a lot of noise and vibration, perhaps we could put up with it. But knock steals power, wastes gasoline (and your money) in *hammering* pistons and cylinder walls. That's why you have to shift gears when your engine knocks badly.

### Better Automobiles

were made possible by Ethyl Gasoline. Car manufacturers are now building cars to take advantage of Ethyl's extra power. They have high compression motors that squeeze more power and mileage out of every drop of gasoline.

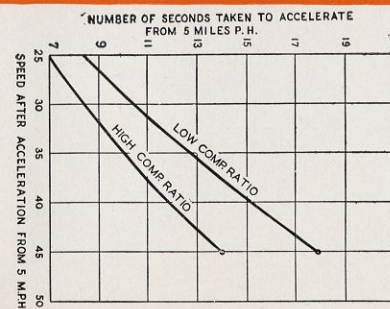


Remember, too, an engine that knocks *badly* on hills and under sudden strains may knock—even though you can't hear it—a great deal of the time.

Knock may damage the vital parts of your engine—Ethyl protects them.

Pistons, crank-pins, crankshafts are designed to be pushed—not HAMMERED. Knocking gasoline literally gives the piston a slap on the nose every time it tries to do some work. The extreme *heat* of knocking combustion also shortens the life of the engine.

Because it prevents harmful knock, Ethyl Gasoline is good insurance against needless, expensive repair bills. Reduced gear shifting and better response also reduce the wear and tear on clutch and transmission.



### This Engineering Chart

shows how high compression improves acceleration. Two cars, identical except for compression ratios, were tested for pick-up on a level road. The car with low compression accelerated from 5 to 45 miles per hour in 18 seconds. The high compression car reached 45 miles per hour in 14 seconds.



## ETHYL GASOLINE IS DOUBLY SAFEGUARDED

The gasoline that is used to make Ethyl Gasoline, must be tested, too. *Before* any oil company adds Ethyl fluid to gasoline, a sample (which has already been tested in its own laboratories) is sent to the Ethyl Gasoline Corporation laboratories for further testing. Gasoline experts test it for excess gum, sulphur, and other impurities. It must be *good* gasoline—or it just can't be made into Ethyl Gasoline.

But even these tests are not enough. *After* it is approved and the oil company adds Ethyl fluid, it is tested all over again. In this way the quality of Ethyl Gasoline is *doubly safeguarded*. Then as a *triple* check, a crew of men constantly collect roadside samples of Ethyl Gasoline for special testing. You *know* when you stop at the Ethyl pump you get gasoline that is good for your car.



### *The Average Life*

of a car is seven years. That means that millions of cars now on the road were manufactured in 1925, 1926 and 1927. The performance of these older cars can be improved by Ethyl Gasoline.

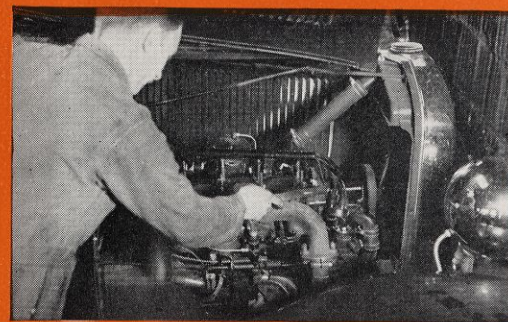
## AUTOMOBILE MANUFACTURERS TAKE ADVANTAGE OF ETHYL'S EXTRA POWER

*... a page for new car owners*

**A**UTOMOBILE engineers have always known that increasing the compression ratio increases the efficiency, power, and performance of their engines. But regular gasoline knocks under high compression.

Ethyl is like a steel spring. The more you squeeze it, the more work you can get out of it—and it doesn't develop a harmful knock. That's why manufacturers can now build *high-compression* cars that get away faster, climb hills better, and get more mileage out of each gallon of Gasoline.

These engines *require* Ethyl Gasoline in order to give the power that their makers want you to have. When new,



### *Ethyl Does Not Remove Carbon*

You can space carbon removals further apart, but the only way to keep your car in first-class condition is to have carbon removed regularly.



some high compression cars may run on plain gasoline; but as carbon accumulates, often within a few hundred miles, they will start to knock unless Ethyl Gasoline is used. *They are built for Ethyl.*

In many new-car instruction books you'll find a printed recommendation to use Ethyl Gasoline.

*... but if you've kept the old car*

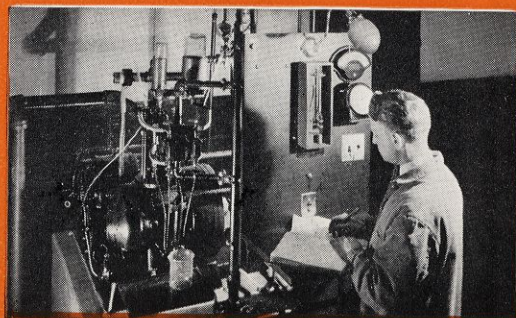
## READ THIS!

Older cars need the extra power of Ethyl, the extra smoothness. The carbon formations in most of them will make ordinary, plain gasoline knock just like high-compression. It is interesting to know that Ethyl first became widely used when very few cars had high-compression engines. But millions of motorists wanted its extra power and economy, wanted its smooth, effortless performance.

### *Ethyl Quality Standards Are Safeguarded*

Both before and after the Ethyl fluid is added, gasoline manufacturers send samples of each batch of gasoline to the Ethyl laboratories. It is carefully tested for distillation characteristics, corrosion, and gum-forming tendencies, sulphur content, and anti-knock value.

In addition a crew of men are constantly collecting samples of Ethyl Gasoline from roadside stations to make sure that you can rely on the Ethyl emblem as the sign of good gasoline.



SUMMER  
OR  
WINTER



## ETHYL GASOLINE WILL RUN YOUR CAR BETTER

The specifications of the base gasoline that is used to make Ethyl Gasoline are changed with the seasons. This is to give you quick, easy starting in winter.

Because Ethyl fluid prevents the overheating caused by knock, Ethyl Gasoline is an ideal summer fuel. Men who daily drive over long, hot stretches of road will tell you, "The hotter the day, the more you need Ethyl!"

You may hear a great deal of talk about summer and winter gasolines, but if you buy Ethyl you can safely forget all the confusing statements. For whether you do your driving under a summer sun or in the dead of winter, you can be sure of the right gasoline when you stop at the Ethyl pump. Its specifications are changed for you.

*Now you know most of the facts about gasoline. They're simple enough, aren't they? And they are all good reasons for buying Ethyl Gasoline all year round.*



### *Wasted Gasoline Is Wasted Money!*

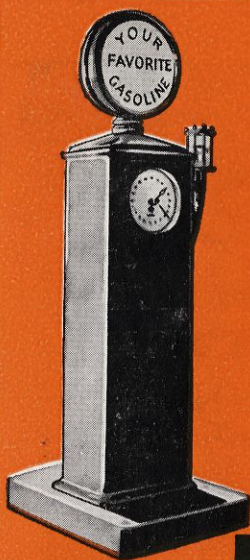
It isn't the price per gallon you pay for gasoline that determines its real value. It's the amount of *power* and the quality of the power you get. Ethyl fluid conserves gasoline power, saves you money in the long run.



### *All Ethyl Gasoline Is Colored Red*

but not all red gasoline is Ethyl Gasoline. You must be careful not to be fooled by imitations. Pumps that deliver genuine Ethyl Gasoline carry the Ethyl emblem right on the pump. Some oil companies also put the name "Ethyl" on their pump globes.





**YOUR FAVORITE  
GASOLINE**



**ETHYL  
FLUID**



**ETHYL  
GASOLINE**