

HUDSON

Service Merchandiser

Dedicated to the interest of field service, parts and accessory merchandising.



VOL. 5 NO. 8

AUGUST 1953

HUDSON  APPROVED		MILES									
Preventive Service		1000	2000	4000	5000	6000	8000	10000	12000	25000	
LUBRICATION	MAINTENANCE SUGGESTED EVERY										
	Chassis Lubrication	■	■	■	■	■	■	■	■	■	
	Inspect Hydra-Matic Trans. Oil Level	■	■	■	■	■	■	■	■	■	
	Replace Oil Filter Cridg.-Clean Oil Fil. Cap	■	■	■	■	■	■	■	■	■	
	Clean and Repack Wheel-Brgs.	■	■	■	■	■	■	■	■	■	
	Change Std. Trans. and Overdrive Lube	■	■	■	■	■	■	■	■	■	
	Check Level-Add Lube If Needed	■	■	■	■	■	■	■	■	■	
	Drain and Refill Clutch	■	■	■	■	■	■	■	■	■	
	Rear Axle-Drain and Refill	■	■	■	■	■	■	■	■	■	
	Hydra-Matic Drive Trans.-Drain and Refill	■	■	■	■	■	■	■	■	■	
ENGINE	Change Engine Oil	■	■	■	■	■	■	■	■	■	
	Air Cleaner-Clean and Re-Oil	■	■	■	■	■	■	■	■	■	
	Minor Engine Tune-Up	■	■	■	■	■	■	■	■	■	
	Major Engine Tune-Up	■	■	■	■	■	■	■	■	■	
	Clean and Adjust Spark Plugs	■	■	■	■	■	■	■	■	■	
	Clean and Adjust Carburetor	■	■	■	■	■	■	■	■	■	
	Change Spark Plugs	■	■	■	■	■	■	■	■	■	
	Inspect and Adjust Brakes	■	■	■	■	■	■	■	■	■	
	Clean and Lubricate Brake Cables	■	■	■	■	■	■	■	■	■	
	Safety Inspection-Check Brakes	■	■	■	■	■	■	■	■	■	
SAFETY	Check and Adjust Headlamps	■	■	■	■	■	■	■	■	■	
	Check Generator Charging Rate	■	■	■	■	■	■	■	■	■	
	Check All Lights and Wiring Connections	■	■	■	■	■	■	■	■	■	
	Refill Battery and Clean Terminals	■	■	■	■	■	■	■	■	■	
	Align Front Wheels	■	■	■	■	■	■	■	■	■	
	Cross Switch Tires	■	■	■	■	■	■	■	■	■	
	Adjust Steering Gear	■	■	■	■	■	■	■	■	■	
		■	■	■	■	■	■	■	■	■	
		■	■	■	■	■	■	■	■	■	
		■	■	■	■	■	■	■	■	■	
YOUR HUDSON DEALER KNOWS YOUR HUDSON BEST											

A SILENT SALESMAN THAT'S ALWAYS ON THE JOB

Service Posters and Reminder Boards have definitely proven their effectiveness. With very few exceptions, every successful service operation uses them to the fullest extent. Hudson's Preventive Maintenance Customer Reminder Board is a trump ace in the field of business-getting posters.

The very life and efficiency of every motor car is dependent upon the right lubrication at the proper time. This is a vital part of every Dealer's business: you may be sure of continuous customer contact when this business is secured.

If you do not already have one of these Reminder Boards, order yours today.

T-167

HUDSON MOTOR CAR COMPANY • DETROIT 15, MICHIGAN



HISTORY OF THE HUDSON MOTOR CAR COMPANY (Continued)

PLANT FENCED WITH RAILS

With the success of its first model, the company purchased some of the ground now occupied by its present plant, early in 1910, a tract at Jefferson and Conner Avenues—five miles from the Detroit City Hall. At that time, the site still had the original split-rail fence around it.

Here was erected at once the nucleus of the present Hudson factories. The buildings, with a floor space of 172,000 square feet, were constructed for progressive manufacturing, and provisions were made for future additions.

"FIRSTS" IN 1910

In 1910 Hudson engineers introduced the first die-cast bearings and fluid cushion clutch to be used in the industry.

Model 33, with cylinders cast en bloc, introduced the unit power plant with motor, clutch and transmission assembled as a unit. A simplified chassis and a multiple disc clutch with cork inserts were used. Plans for an additional 128,000 square feet of factory floor space were drawn up, and building began late in 1911 in an effort to keep up with the demand for this popular car.

Hudson designers and engineers were early impressed with the superiorities of the 6-cylinder power plant over the engines then in general use, and in July of 1912, Hudson built the first 6-cylinder automobile to sell at the medium price. This was Model 54, one of the larger of the fine American cars of its day. In the same year a Hudson roadster became the first low-priced car to do 60 miles per hour.

FIRST LIGHTER-WEIGHT CAR

Just previous to the 1914 New York Auto Show, Hudson engineers completed design work for the Hudson Six-Forty, the first Six of moderate weight built in America. A car of this model was displayed on a platform scale at the Show and it attracted a tremendous amount of attention and favorable comment because,

although it weighed 2680 pounds, it was hundreds of pounds lighter than other sixes of its day. Another Hudson "first" was introduced in 1914—the 4-speed over-drive transmission.

With change-over to exclusive 6-cylinder construction in 1914, Hudson designers interested themselves in control and prevention of engine vibration, with its destructive effect on power and speed.

EARLY HIGH COMPRESSION DEVELOPMENTS

In 1915 Hudson perfected, and at the New York Show of 1916 displayed, the first Hudson Super-Six engine. This history-making motor featured the first fully balanced crankshaft, which made possible a car so much smoother and faster that it revolutionized automobile engine design. This crankshaft is in universal use today.

This engine, the high compression engine of the day, also represented the first major stride toward today's high compression achievements. It had a compression ratio of 5 to 1, a truly great improvement over other engines of the time. Today, Hudson's high-compression Super-Six and Super-Eight engines have provisions for compression ratios up to 12.5 to 1.

As a result of the fully balanced crankshaft, a marked increase in engine speed, with additional smoothness, was attained with the Super-Six. This, together with the advance in compression ratio, made possible a remarkable increase in horsepower.

Getting as much horsepower as possible out of an automobile engine had been Hudson's chief purpose in designing the original Super-Six. The extent to which the increased engine speed and higher compression ratio made that possible is indicated in the relative horsepower measurements: the first Super-Six increased a 48 horsepower output to 76, without increasing the bore or stroke of the previous engine.

The engine also made possible remarkable economy increases.

The first Super-Six, with its early-day high compression features, was the first of the famous Hudson L-head engines whose development over the years led directly to the present Super-Six and Super-Eight.

Demand for the Super-Six was so great that production reached 26,393 units in 1916, with production workers hard on the heels of builders hurrying to increase the floor space at the Hudson plant to 847,000 square feet.

The same year Hudson appeared on the speedways of America and made the most sensational sweep of victories ever won by any stock car manufacturer.

ANOTHER NEW MANUAL is just off the press. It's the Flat Rate Manual for Jet and Super Jet. Each Dealer will no doubt have received a copy at this time. Any additional copies may be had by specifying Stock Number T-181 on your regular order form to Zones or Distributors. It's priced at 50 cents per copy.

TO ALL HUDSON MAINTENANCE AND PARTS MEN OVERSEAS

W. H. THORESON—Director of Overseas Operation

I am taking this opportunity to extend a message of greeting to each and every one of you who are engaged in the Parts and Service Field of Hudson Cars in all overseas countries.

When the Service Merchandiser was inaugurated four years ago, with the object of assisting the field personnel in technical training and field service problems, as well as in matters of Accessory, Parts and Service Merchandising, plans were laid so that, beginning with the first issue, everyone engaged in Hudson service work abroad would regularly receive a copy of this very valuable service publication each month through their Distributor.

We want you to know that we are interested in assisting you in your work. The Service Merchandiser is dedicated to the aid of all engaged in field maintenance. We trust that you feel as we do—that this publication is for you, that you have enjoyed it—and more—benefited by the careful reading of its contents.

Hudson Cars have always been outstanding in performance and responsive to adjustment. Hudson has been among the leaders of motor car development and was one of the first to recognize the necessity of schooling and training the mechanic in modern design, new methods, special tools and latest equipment. Hudson's Factory Permanent School is the answer. It is open to all Hudson mechanics throughout the entire year and has enrolled pupils from Central and South America, Africa, India and European countries.

The Hudson Service Merchandiser most heartily welcomes photographs, suggestions, new service ideas and interesting articles from all of you wherever you may be. Feel free to write to us any time you have material that you believe would be suitable for publication in your Service Merchandiser.

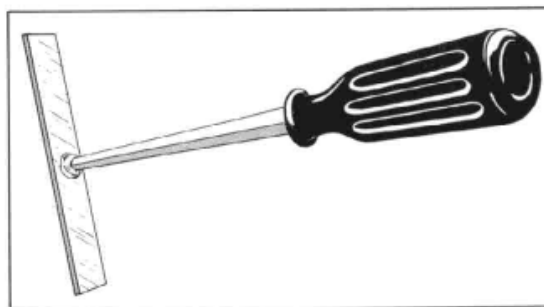


DEVisING AN EFFECTIVE TOOL to simplify a job, Mr. Carl De Luca, of De Luca Motor Co., Hudson Dealer at Cranston, Rhode Island, writes:

"In removing radios from cars with push button tuning control, the push buttons must be pressed in so as to clear the dash support. A man just does not have that many hands.



"I find the tool sketched below makes the job easier and faster."



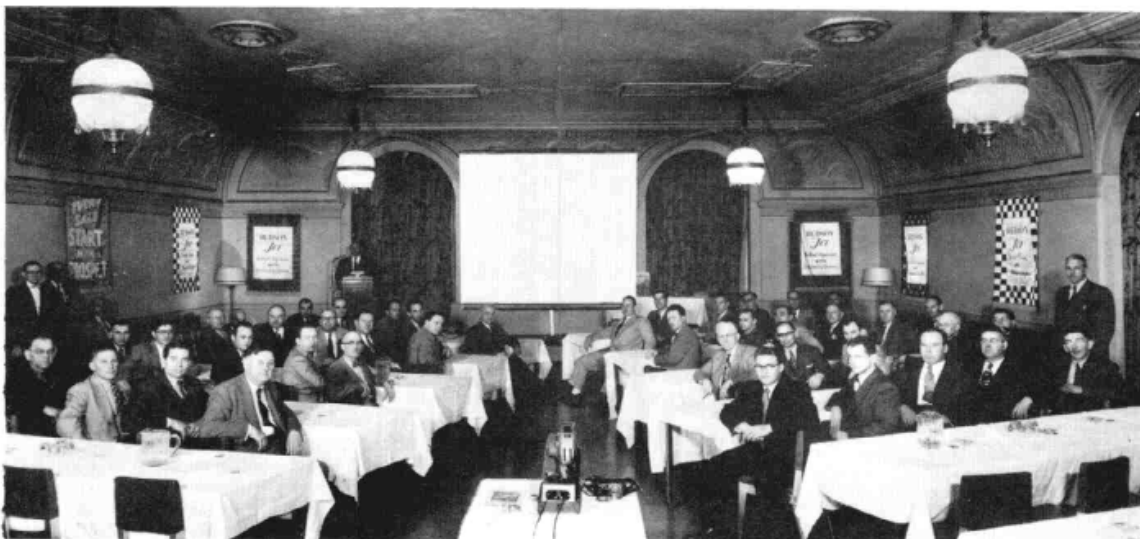
"Found a few instances where the pig tail from the antenna lead was not connected to the antenna rod—(213891). This caused pig tail to ground on the cowl account of rubber grommet slipping down the antenna and the rod would short on top of cowl. To keep the grommet in place, I wrap a piece of tape around the antenna tube below the grommet."

AN EASIER WAY to install an antenna wire on the Hudson Jet is suggested by J. W. Meyer, Service Manager for Castle Garage, Hudson Dealer at New Castle, Pennsylvania, who writes as follows: "... It can be simplified by using a long speedometer cable to pull the wire through. Push cable through opening drilled in the roof for antenna; cable will follow contour of windshield and corner post. Tape antenna wire to end of cable and pull through."

SERVICE OF THE MONTH POSTER FOR SEPTEMBER



Looking ahead with well-organized plans is the keynote to successful service operation. Here's a preview of your September Poster with ample time for a careful get-ready.



CINCINNATI DEALERS' MEETING

Conducted under the direction of the Cincinnati Zone, a highly instructive meeting outlining Factory Options, Parts and Accessories, also the 5-Star Program, was recently held in the Alms Hotel of that city. The meeting was attended by representatives of thirty Dealers' organizations.

Following is the order in which the meeting was held:

Opening Remarks—by Zone Manager, John W. Merrin.

Option and Accessory Program—by Assistant Zone Manager, J. H. Heitman.

Parts and Service Merchandising—by Zone Parts and Service Manager, B. A. Kroger.

Five-Star Program—by B. A. Kroger.

Meeting closed by Zone Manager, John W. Merrin.

AVOID INHALING CARBON DUST

The existence of lead poisoning has long been known. Such toxic effects are possible through lead particles entering the blood stream through an open wound, being taken inwardly in minute particles, or with the air one breathes.

In automobile body shops, where lead is freely used in soldering and as a metal filler for low points, such lead dare not be dressed off with a sander or burnisher account of producing a lead dust in the air which could affect practically all workmen in that area, eventually causing lead poisoning.

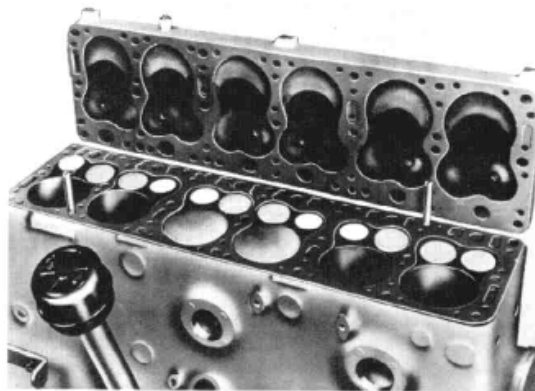
It took battery manufacturers many years to entirely overcome the danger of lead poisoning in varying degrees. Even after eliminating lead dust from the factory atmosphere by suction fans and blowers, it was found that not infrequent instances of serious and even fatal cases of lead poisoning resulted, because the men whose hands or clothing came in direct contact with lead oxide, ate their lunch without first having washed their hands.

Since the introduction of Tetra Ethyl Lead as an anti-knock in automobile fuel, it has been recognized that there is some lead content in the carbon of the combustion chambers of engines that use leaded fuels. When removing carbon from combustion chambers with a brush or burnisher, the mechanic should avoid, as far as possible, inhaling the dust.

The health of some mechanics may have been affected in a minor degree by lead poisoning without their knowing fully the cause. We should all keep in mind the danger of both carbon monoxide and lead poisoning.

VALVES—1C AND 2C ENGINES

The valve sequence as shown in Figure 6, Page 27, of the Jet Procedure Manual is not applicable to the Jet Engine.



In order to avoid any confusion in this connection, the above illustration shows the correct sequence of intake and exhaust valves of the Jet Engine.

BE PREPARED ...

TO SELL HUDSON APPROVED ANTI-FREEZE

Some people like Regular, others like Permanent ... but, no matter how your customers want it ... Regular, Permanent, Quarts, Gallons, or Drums ... we have it, packaged to meet your requirements!

Selling Anti-Freeze is profitable business WHEN YOU SELL THE BEST! The best anti-freeze for Hudson cars is Hudson Approved Anti-Freeze—laboratory-tested and performance-rated by Hudson Engineers.

Nobody needs anti-freeze now, but some morning soon—there will be “frost on the pumpkin” and everybody will want anti-freeze ... and right then! If you are smart, and order your Hudson Approved Anti-Freeze in advance, you will be ready to deliver right then—and make a nice extra seasonal profit!



HUDSON permanent ANTI-FREEZE

Finest available ... gives maximum protection. Highest-quality Ethylene Glycol that will not evaporate or boil away. Special corrosion inhibitors provide added protection. Approved by Hudson Engineers for use in Hudson engines.

GALLON—HS-304634

QUART—HS-307522

**HUDSON APPROVED ANTI-FREEZE
IS AVAILABLE NOW ... IN ZONE,
DISTRIBUTOR AND SUPPLIER WAREHOUSES.
ORDER RIGHT AWAY!!!**

ORDER IT NOW ... AND YOU'LL HAVE IT WHEN YOU NEED IT!

Many dealers ordered Hudson Approved Anti-Freeze in the spring ... if you haven't already ordered yours, do so today, for sure!

Order now and specify shipment September 1st ... you won't have to pay for it until October 15th. Or, if shipped October 1st, payment is not due until November 15th! But, by all means, order now and you'll be prepared for this extra seasonal profit.

USED CARS ON YOUR LOT NEED HUDSON APPROVED ANTI-FREEZE TOO!

Be sure to order sufficient drums of Hudson Regular Anti-Freeze to fully protect your Used Car Stock.



HUDSON regular ANTI-FREEZE

Maximum protection at lowest possible cost. Concentrated—requires less for protection. Contains special rust inhibitor and is approved by Hudson Engineers.

54-GAL. DRUM—HS-302402

GALLON—HS-302569



PISTON RINGS—PRODUCTION

JET AND SUPER JET RINGS:

Compression and oil rings used in the Jet and Super Jet Engines in production are of the following sizes: standard and 10 thousandths oversize. These are shown listed on Page 63 of the Group Parts Catalog.

Both the upper and lower compression rings have a 50 degree bevel on the inside, and must be installed on the piston with this bevel **TOWARD THE TOP**. The object of this is to cause a slight twist in the ring when closed in a cylinder bore and produce a line contact between the cylinder wall at the lower edge of the ring. This effects a highly efficient seal.

The upper compression ring may be identified by the fact that it is chrome plated on the outer diameter. Chrome plating not only reduces friction, increases efficiency and affords greater protection to those rings, but also prolongs their life.

The lower compression ring has a Granoseal process coating. Both rings are of the same width, $\frac{5}{16}$ of an inch, and the tension when closed to cylinder size is $7\frac{1}{4}$ to $11\frac{1}{4}$ pounds.

The upper oil ring is Granoseal processed and $\frac{3}{16}$ of an inch wide. The lower oil ring is a plain turned ring, $\frac{5}{32}$ of an inch wide. The tension of both rings when closed to cylinder size is 8 to 12 pounds.

4-C AND 5-C RINGS:

The compression and oil rings used in the 4-C and 5-C Engines in production are standard and 10 thousandths oversize, as are shown on Page 63 of the 1953 Group Parts Catalog.

The upper and lower compression rings are the same. The cylinder contact surface is tin or Cadmium plated. Both rings are $\frac{5}{16}$ of an inch in width. The closing pressure is $8\frac{1}{2}$ to $12\frac{1}{2}$ pounds.

The upper oil ring is .1865/.186 wide and is tin plated. The lower ring is .155/.154 wide and is Granoseal treated. The closing pressure of the upper oil ring is 11 to 15 pounds, that of the lower is 6 to 10 pounds.

7-C RINGS:

Four rings—two compression and two oil rings—are carried on the pistons of the 7-C Engine. The production sizes are standard and 10 thousandths oversize. The upper compression ring has a bevel cut on the inside and must be installed with this bevel **TO THE TOP** of piston. The lower compression ring has a .0005

taper on the outer face and has the word **TOP** stamped on the ring land to designate its installed position.

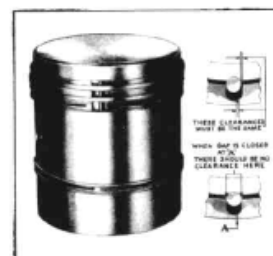
The upper compression ring is $\frac{5}{16}$ of an inch wide and is chrome plated on the outer diameter. The closing pressure is $9\frac{1}{2}$ to $13\frac{1}{2}$ pounds. The lower compression ring, also $\frac{5}{16}$ of an inch in width, is Cadmium or tin plated, having a closing pressure of 10 to 14 pounds.

The upper oil ring is $\frac{3}{16}$ of an inch wide, tin plated on the outer diameter, and the closing pressure is 11 to 15 pounds. The lower oil ring is .154/.155 wide, is Granoseal processed and has a closing pressure of 6 to 10 pounds.

The gap clearance of all rings is .004 to .009. Rings must fit free in ring groove with no tendency to bind. When installing rings on pistons, **BE SURE** that successive rings are assembled in the grooves with their

gap on opposite sides of center line of the retaining pin.

Should the top ring be installed with the short half of the notch on the right side of the pin, the second ring must then be installed with the short half on the left side of the pin and the third in the same relative position as the first. Note illustration above.

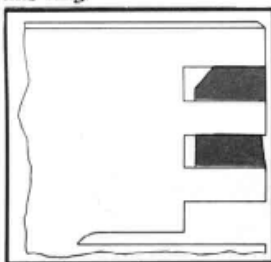


PISTON RINGS—SERVICE

For Service replacement, the following piston ring sets are available: Sealed Power Kromex, Steel Segment Type and Cast Iron Type. Ring sizes are standard and .020 oversize for the 202, 232, 262 and 308 Cubic Inch Engines. For the 254 Cubic Inch Engine (1946-1952, 8 Cyl.), standard, .010 and .020 oversize.

Kromex is a premium replacement ring set and is specially designed for installation without the necessity of reconditioning cylinders. The compression rings seat to cylinders rapidly due to a slight taper on the outer face. The top compression ring is of chrome alloy iron, having a heavy body of chrome bonded to the face of the ring to double resistance to heat, corrosion, friction, scuffing and border-line lubrication. A specially designed spring behind the upper oil ring not only makes for even distribution of wall pressure, but also effects immediate control of oil and prevents blocking of the oil return holes in piston. The sides of all rings are Granosealed to assure proper lubrication.

Steel Segment Type oil ring is also highly satisfactory for use without reconditioning the cylinders, where the original rings are worn and there is some taper or out of round in cylinders. Both upper compression rings are tapered for rapid seating. The upper compression ring is supplemented by steel segments, both at the upper and lower ring land. The specially designed Full Flow inner spring is also used with this ring.



Cast Iron Type ring set is similar to the original production rings. It is recommended that the cylinder walls be trued-up when this set is used for replacement. All rings are Granoseal treated.

The upper ring of each of the above replacement ring sets has a bevel cut-off on the inner face and the ring must be installed with this bevel **TOWARD THE TOP**. All second compression rings are tapered, the rings having the mark **TOP** on the ring land. An expander spring is used behind the second compression ring and the upper oil ring of all three replacement ring sets.

To avoid damaging piston rings or pistons, use KMO-297 Piston Ring Remover and Installer of the correct size.

Complete instructions applying to the installation of various oversize service piston ring sets are contained on each ring wrapper or on a sheet packed within the box.

HYDRA-MATIC—EXTERNAL BAND ADJUSTMENT

The external band adjustment recommendation has been changed to 7.7 turns for the front band on all post war transmissions, with the rear band adjustment remaining at 2 turns. Extensive engineering tests have proved the 7.7 turn front band adjustment more accurately duplicates the recommended 5 turn internal adjustment.

A road test should be made after the bands have been adjusted.

It is still recommended that an internal adjustment be made if the transmission shifts roughly after the external adjustment.

A METHOD OF DETERMINING REAR AXLE RATIO

By Ray Olsen, Berkeley Zone Parts and Service Manager

We have received many inquiries as to how you may determine the Rear Axle Ratio. Some claim that the ratio is not stamped on the housing. Others claim that they have the wrong ratio and want to check it. Some owners have been told that it is necessary to remove the rear end and to count the teeth.

For your information, here is a simple way to correctly determine and check the Rear Axle Ratio:

1. Jack up *one* rear wheel.
2. Mark this wheel so that you can count its revolutions.
3. Mark the propeller shaft with a corresponding mark so that you can count its revolutions.
4. For every two revolutions of the jacked-up wheel, the propeller shaft will revolve exactly the rear axle ratio.

In other words:

Two revolutions of the jacked-up wheel will cause the propeller shaft to rotate $4\frac{5}{9}$ turns, $4\frac{1}{10}$ turns, $3\frac{7}{12}$ turns, $3\frac{1}{14}$ turns, $3\frac{1}{11}$ turns, (the axle ratio).

Under these conditions, the differential rear end is operating as a planetary gear train in which:

1. One axle gear is *held* stationary and can be considered as a *sun gear*.
2. The other axle gear is the *power in-put* and can be considered as the *internal gear*.
3. The differential gears, cage and ring gear, are the *out-put* and can be considered as the *cage assembly*.

This operation of the rear end gives a reduction of 2 to 1.

TIRE PRESSURE IS IMPORTANT

Fast driving, long trips and hot weather are the usual motoring combinations of a vacation. Among other things, this adds up to considerable wear and tear on tires. Tests show there is a build-up of three to five pounds as tires reach maximum temperature. The important point here is that only correct tire pressure affords maximum riding comfort and longest tire life.

Some car owners do have their own tire gauge; however, a careful check of many of these, as well as gas station gauges, has shown about 50 per cent to be inaccurate and over 30 per cent to be dangerously inaccurate. Here, again, the Hudson Dealer can render an invaluable service by having available a Certified Accurate Master Gauge, by which Hudson Owners may check the accuracy of the tire gauges they carry in their car.

Yearly average car mileage is mounting and not only safety, but also the most in a comfortable ride and greatest tire life is available by correct tire inflation. This is one of those proven services that may be rendered to your owners at practically no additional cost. It also ties in with selling a tire switch that can be done quickly and profitably with the car on your hoist.

SERVICE MANAGERS' MEETING

We are informed by P. W. Fortune, Philadelphia Zone Parts and Service Manager, of a Service Managers Meeting at Northumberland, Pennsylvania, June 9th, attended by thirty-one Dealer representatives.

**Speedie
Recommends...**



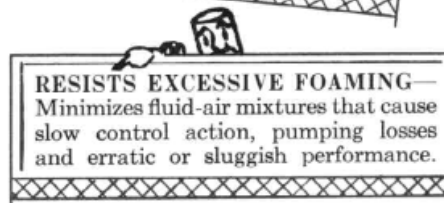
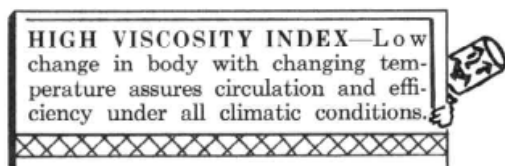
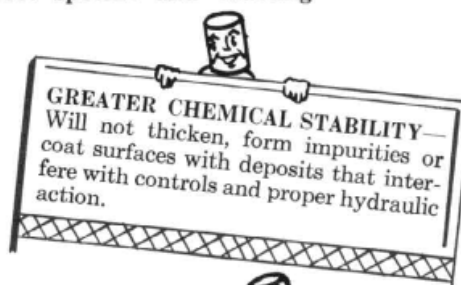
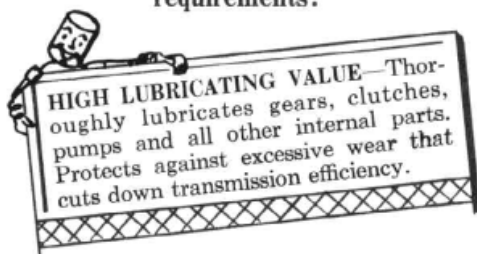
**Hudson-approved
HYDRA-MATIC FLUID**

In 55-gallon drum...

for LOWER DEALER COST and GREATER PROFITS

(Also, in one-quart and five-gallon containers)

Hudson-approved Hydra-Matic Fluid gives best results because it is engineered to meet specific and exacting requirements:



**Be Sure... Be Safe... For best results, use only Hudson-approved
HYDRA-MATIC FLUID. Order your supply **Now!****