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# HUDSON-TERRAPLANE SERVICE MAGAZINE

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INFORMATION ON PARTS • ACCESSORIES  
AND TECHNICAL MATTERS

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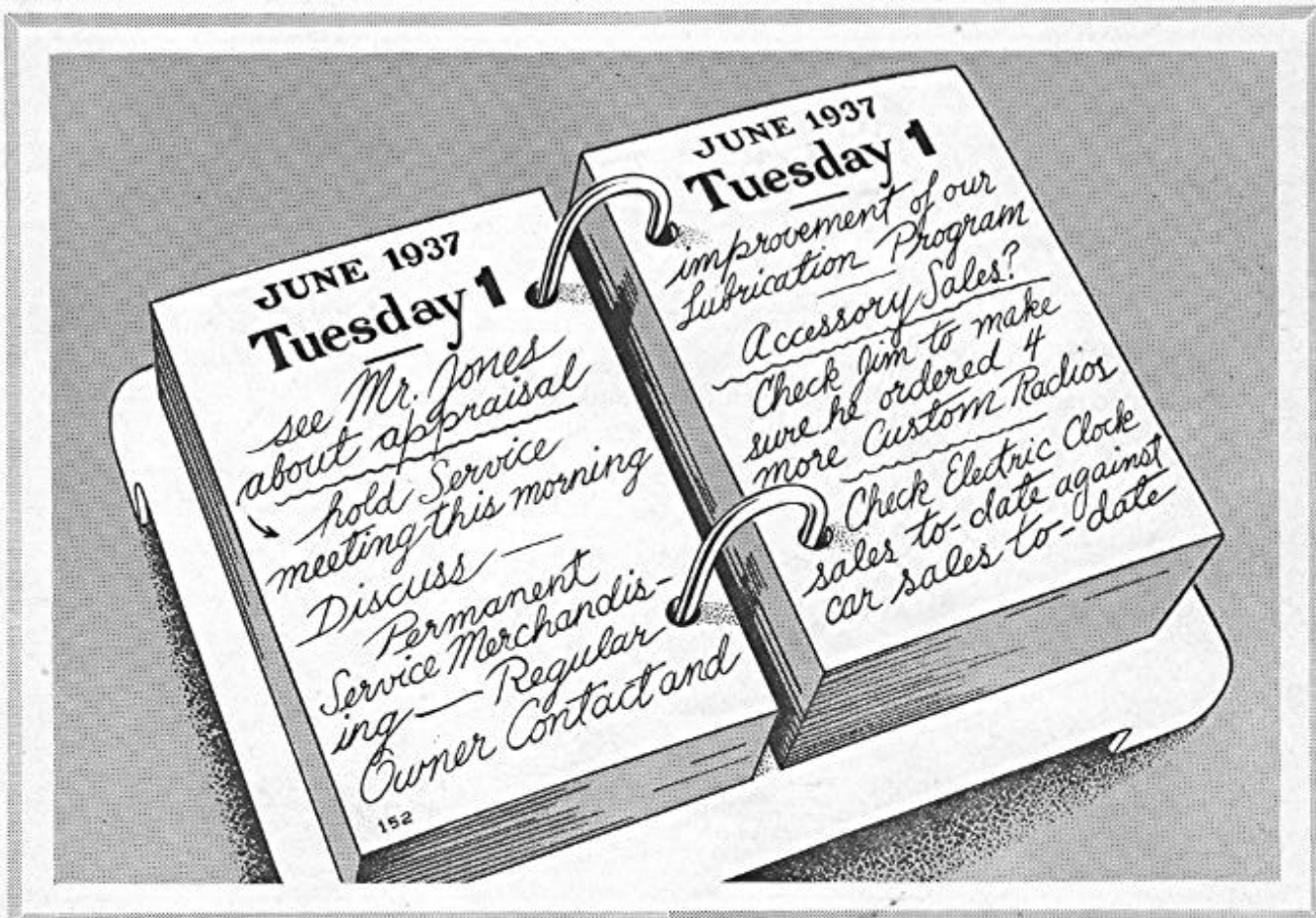
Issue 9

June 1937

1937 Series

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HUDSON MOTOR CAR CO. • DETROIT, MICH., U. S. A.

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(Issues 1, 2, 3, 4, 5, 6, 7, 8 and 9)

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# PERMANENT SERVICE MERCHANDISING



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## SHOW KEEN INTEREST IN OWNERS' SERVICE

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Our No. 4 Message on Permanent Service Merchandising created so much favorable comment that we are reprinting it here for your ready reference.

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### A CONSTANT DISPLAY OF INTEREST IN ALL OF YOUR OWNERS

- (a) Good Impressions At The Time Of New Car Delivery.
- (b) Clear Instructions On Car And Policies Governing The Relationship.
- (c) Acquaintance With The Service Manager, Service Salesmen or Head Mechanic.
- (d) Sale Of a Prepaid Lubrication Contract.
- (e) In The Absence Of (d) Owner Urged To Have Lubrications And Oil Changes Handled By Dealer's Shop.
- (f) Interested Follow-Up Calls By Retail Salesman Who Sold Car To Check Satisfaction (And Get Prospects).
- (g) Occasional Telephone Calls By One Of Dealer's Service Personnel To Inquire If Operation Is Okey.
- (h) Remember That Every Owner Contact In The Service Station Has A Potential Dollar Value.
- (i) Adopt A Real Friendly Attitude On Every Contact.
- (j) Prove To The Customer That You Are Interested By Giving Him Immediate Attention Upon Entering The Station.
- (k) Do Not Argue With Customers. It is Upon Them You Have To Depend For Your Business.
- (l) Impress Men Who Contact Customers With The Great Value Of The Smile.

# Testing For High Speed Carburetor Performance

There certainly is no need at this time to go into a long discussion of carburetor functioning or servicing as section 4 of the Mechanical Procedure Manual and Reference Sheet No. 6 covers this completely. We do, however, want to call your attention to some of the information contained in these references as it relates to engine tune-up.

On page 4, section 4 of the Mechanical Procedure Manual are three headings: Low Speed Operation—High Speed Operation—The Accelerating Pump. These are the three divisions of the carburetor which must be considered, and considered separately, to obtain maximum performance and economy.

Under the heading of Low Speed Operation, we find that the low speed system which consists of the idle jets and passages and idle adjusting screws, supplies the gasoline from idle speed up to about 20 miles per hour. Now in the Engine Tune-up (Section 3) we make our final check of the tune-up with a Vacuum gauge at *idle speed*. Our Vacuum gauge check therefore, so far as the carburetor is concerned, applies only to performance at idle speed and not to performance at speeds above 20 miles per hour or during acceleration.

This does not mean that we cannot check the high speed operation, however, it has been necessary, as outlined in the Tune-up Section (Section 4, Paragraphs 21-22-23) to remove the carburetor, disassemble it and measure the float level, metering pin position and accelerator pump stroke as well as inspect jets and gaskets and clean generally. The alternative has been to install a gasoline per mile gauge and make a road test to determine the need of this carburetor overhaul or to check the effectiveness after it had been completed.

The time required to make a gasoline mileage test and in some cases the distance to be driven to get an open road has prevented the use of the gas-per-mile gauge as a part of the regular tune-up equipment, its use generally being confined to use for demonstration or in cases of owner complaints of poor gasoline mileage.

There have been many attempts to develop equipment which would tell exactly how the carburetor was functioning throughout the driving speed range. The obvious answer was in exhaust gas analysis; however, the solution was not so simple.

The first exhaust gas analyzers offered for Automobile Service work were slow in operation, inaccurate due to condensation in the exhaust line, inability to get a true sample of the exhaust gas and change in reading due to atmospheric temperature changes.

In addition to inaccuracy, the analyzers were given a bad name due to the wide claims made for them and lack of knowledge of correct application.

All these shortcomings have been realized and constant effort has been made to develop a truly accurate, fast and easily operated exhaust gas analyzer. These drawbacks have been overcome and the Sun Combustion Tester which has recently been made

available, completes a line of accurate engine testing equipment, making it now possible to completely diagnose and correct any condition which may exist in the engine or its electrical equipment at any speed



*HMO-169 Combustion Tester*

of car operation, without moving the car off the service floor.

The Combustion Tester does not replace any equipment previously used. It is an entirely new piece of equipment for testing the moderate and high speed carburetor performance for which there has previously been no accurate check available for the service shop.

The fact that all tests are made with the car standing on the floor often brings up the question of obtaining results comparable to actual driving conditions. Our own Engineering Laboratories have answered this question by making tests with the Com-

bustion Tester first on the floor, then at various speeds on the road. They report the instrument not only gives accurate results but that repeated tests over a period of time show identical results proving that the variables which cause inaccuracies in exhaust gas analysis have been eliminated in this Combustion Tester.

This equipment is designed to assist in selling service and is extremely simple to operate. There are two dials as shown in the illustration, however, the one to the left is a standard vacuum gauge; the one to the right being the direct reading of the gas analysis.

The vacuum gauge is used to determine the condition of valves, compression, ignition and low speed carburetion as these must all be in good condition before correct burning of fuel can be expected.

The Combustion Tester itself is used to recheck the low speed carburetion and to check the high speed carburetor operation and functioning of the acceleration pump. This test is made by placing the hose end in the exhaust pipe. The motor driven induction impeller, which is located in the glass covered housing at the bottom of the Test panel, draws in the sample of exhaust gas and its analysis is recorded on the right hand dial.

The test at various speeds is made by simply changing the engine throttle to give the desired engine speed and reading the tester gauge which constantly shows whether proper burning is being obtained.

The simplicity of operation, the accuracy of determining performance and gasoline mileage almost at a glance, makes this Combustion Tester an unusually valuable piece of equipment, both by eliminating guess work and in saving time of unnecessarily rebuilding carburetors and the time ordinarily taken for road tests.

The Sun Combustion Tester is available through Hinckley-Myers Company of Jackson, Michigan, and is sold with the same personal instruction and broad guaranty that has been a feature of the Sun Motor Testers.

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"SELL RADIOS DURING JUNE"

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## Remove Hose Line Thermostats

Hose line thermostats definitely restrict the flow of water from the engine to the radiator even when wide open. This restriction is of no consequence in cool or cold weather when a car heater is required.

When the air temperatures are such that heaters are not required, this restriction may be sufficient to cause overheating. It is, therefore, recommended that the hose line thermostat be removed for warm weather.

At the same time, the exhaust manifold damper valve should be set with the arrow straight up except in extremely hot climates when the valve should be turned so that the arrow points to the letter "S" on the manifold.

## The Answers to These Questions Will Help to Maintain Smooth Clutch Action

- (1) What is the effect of too much clearance between the clutch pedal and toe board?
- (2) What condition may develop on the surface of the clutch disc corks if ordinary oil mixtures are used instead of Hudsonite as specified?
- (3) What is the effect of adjusting the automatic clutch piston rod too short?
- (4) What is the effect of insufficient lash in the throttle rod on automatic clutch operation?
- (5) What is the effect of improper initial position of the cushion valve?
- (6) What will be the effect on disengagement of the clutch if the accelerator plunger rod is adjusted too long or the throttle linkage binds so that it does not snap back fully when the foot is removed from the accelerator pedal?
- (7) If the automatic clutch on a 1937 Hudson or Terraplane disengages when the foot is removed from the accelerator pedal at speeds over 20 miles an hour in high gear with standard shift, what wires and switches should be checked?
- (8) If the condition stated in question 7 exists on a car also equipped with Electric Hand, what additional switch and wiring should be checked?
- (9) If the automatic clutch engages correctly at low throttle but is slow in engagement at half throttle, what changes should be made in the control valve? (See new Automatic Clutch Information in Procedure Manual.)
- (10) What conditions in the automatic clutch cylinder and piston will cause slow disengagement? Rapid engagement?

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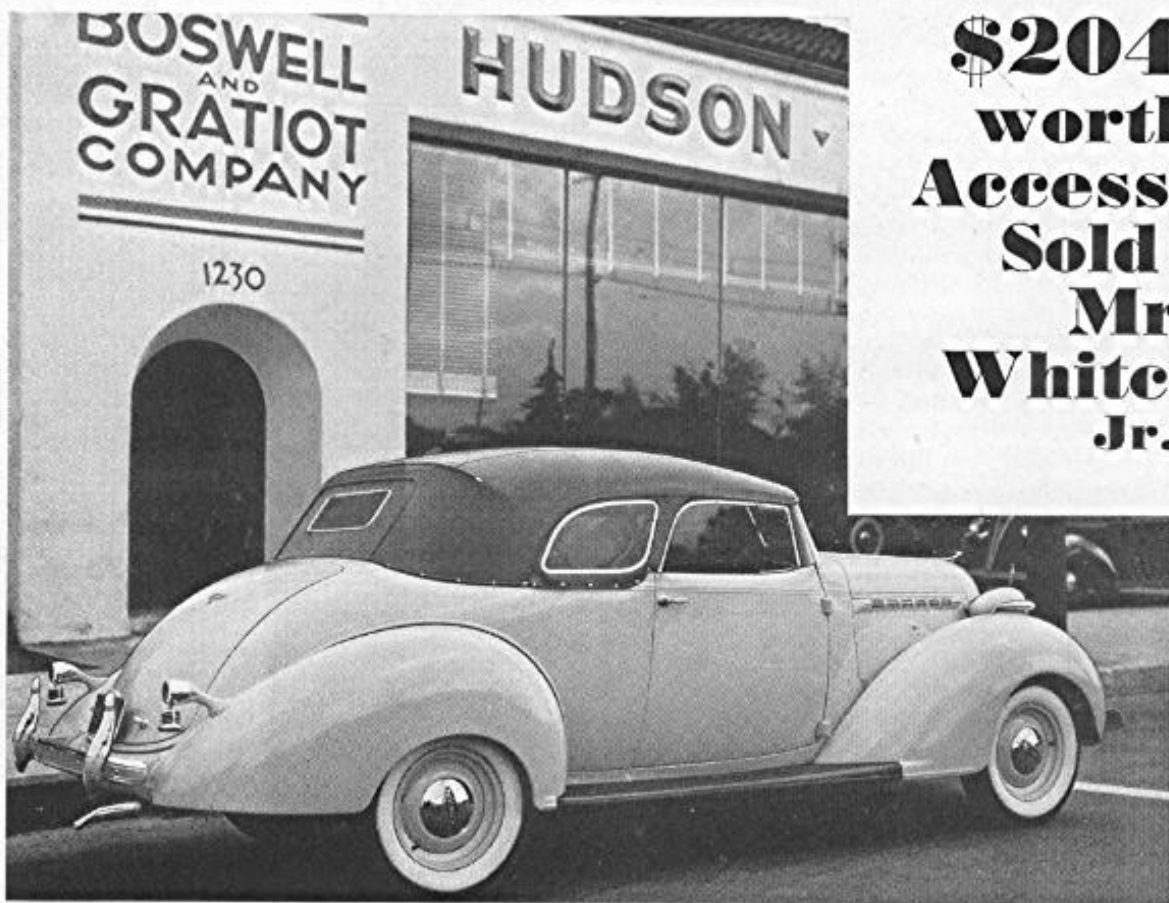
## Mechanical Procedure Manual Supplement

New supplementary pages are being mailed for the Mechanical Procedure Manual. These deal mainly with information on the 1937 Hudsons and Terraplanes which was not available at the start of the production season.

There is also a completely new Automatic Clutch Section and complete information on installation and servicing of the Hill Hold.

Insert these new pages in your manual as soon as they are received and then read them carefully.

The pages can easily be identified after insertion in the manual as they are all marked "Issued May 1937."



**\$204.20**  
**worth of**  
**Accessories**  
**Sold To**  
**Mr.**  
**Whitcomb**  
**Jr.**

*Here's a real job of Accessory Selling done by the Boswell Gratiot Co., Glendale, California. They recently delivered a new car to Mr. George Whitcomb, Jr., which included these extra items amounting to \$204.20—Selective Automatic Shift, Custom Radio, Custom Heater, Defroster, Cigar Lighter, Chromium*

*Fender Lamps, Gas Tank Locking Cap, License Plate Frames, 2 Safety Swinging Stop Lights, Hill-Hold, Tail Pipe Extension, Electric Clocks, and 5 Grille Guards.*

*This is just one more proof that Accessories can be sold at the time of the new car sale.*

**COMING ...** *the Group Sales Program ... with scores of visitors invited to look over YOUR Service Station!*

**COMING ...** *tourists on their way through YOUR town ... bringing BUSINESS!*

Let's sit down and discuss the coming summer from a service business standpoint. First, and most important of all, is the Hudson and Terraplane Group Sales Program for Selected Prospective Car Buyers.

If you haven't heard about this plan by the time you're reading this—you will, and very soon. Suffice it to say, it's the greatest group selling plan ever offered to Hudson and Terraplane dealers!

One of the principal functions of the plan is to get a crowd of interested prospects into your establishment on an evening soon, and while they are present—give them an opportunity to look you over—from

a new car standpoint as well as the service you give a new owner after he's bought your car.

Picture with us, if you will, 50 to 75 people who are definitely going to buy new cars soon, inspecting your service layout. What will they see? What impression will you leave with them?

Naturally you'll want everything to look clean, neat and orderly—and this includes the repair men. Clean uniforms, clean faces and hands. Everybody on his toes to explain equipment and tools, and *sell* your service.

Next, you'll want your equipment and tools in tip-top shape. Benches, tool kits, lubricating section, re-

pair section, parts and accessory sections to be in good order.

As the visitors stroll through you'll want them to stop and talk to your service manager. Let him explain the regular system of check-up you employ on new cars, the periodic inspections you make during the break-in period and the follow-up system in use to be sure new owners are thoroughly satisfied and that their new cars are performing efficiently.

You're going to find some visitors who like to get right down in the grease pit and see a car gone over from underneath—or watch one of your boys operate the lubrication hoist. Don't forget there are lots of people who are mechanically-minded. They will want to discuss special tools and their functions in keeping an automobile in good condition.

All the time this service inspection is going on, here's what the average visitor will be thinking—“Well, this man surely knows his business when it comes to service. This service station is neat as a pin. I wouldn't be afraid to bring my new car in here. I'm pretty sure I'd get it back without the usual dirt and grease on the steering wheel or the spots on the upholstery.

“Yes, and these repair men—they're clean-cut, look like they know their business. They certainly know their tools and equipment. There's a place for everything and everything is in its place.

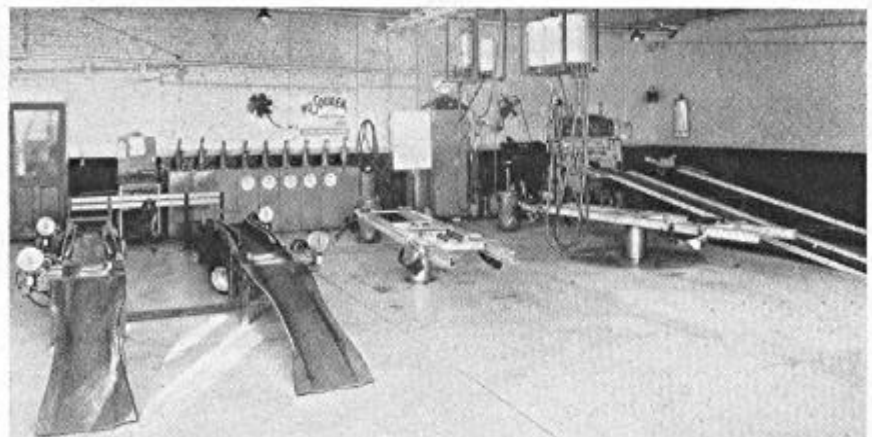
“All in all”—the visitor concludes—“if I'm going to buy a new car, this is the kind of service station and these are the kind of men I'm sure will take care of it in good shape!”

So . . . let's go through your service department with all of this in mind. Have you the Authorized Hudson and Terraplane service sign? Does it stand out during the day and shine out at night—tell the world about you and the service you offer?

Now, tools and equipment—are they modern and up-to-date? Properly racked? Placed to the best advantage? Step over to your parts stock—can you make any improvement here—add parts, fill empty bins, dust-up and clean-up the parts you now have?

Accessories . . . are they displayed on the approved factory board, and have you a good variety

Here is a picture of a high class Brake, Lubrication and Front Axle Service, operated by Bill Denhard, Denhard Motors, Inc., St. Louis, Mo. Bill believes in service, he has long been associated with Hudson motor cars and realized years ago, the way to keep customers happy is a well tuned motor and a thoroughly lubricated car. Bill says, “the best equipment, is none too good for my customers.”



of them? How about fog lamps, ventilating fans, seat covers, clocks and radios, swinging safety lamps? What's missing? Let's check that here and now and get an order off to the distributor tonight.

How long has it been since you and your service manager had a good talk? Let's get him started on all the things to be done to get ready for summer sales.

And tourists . . . realize that there will be many Hudson and Terraplane owners touring through your town this summer. Good customers for you. You'll have a chance to sell them gas, oil, lubrication and accessories. Over-night storage gives you an opportunity to sell a waxing job here and there or car wash and polish.

Repairs? Of course, and they will undoubtedly have to be done in a hurry—so check over equipment carefully. Don't let Service Stations and Independent Garages cut in on this tourist business. Contact hotels. Give them business cards. Ask desk clerks to send owners to you. It's worth a small commission to have these boys on your side. Contact them. Get acquainted. Do them a few favors—then watch this transient business start to drive in your service door.

#### *Service Swings Many A Sale*

Finally, realize that your service station is one of the best *new car salesmen you have*. In that important period just before the order is presented for signature, many a new car prospect forms his opinion of you—whether you are a responsible business man, whether you are ready and equipped to take care of his needs after he's purchased your car, whether you have competent service help, modern facilities, up-to-date tools and equipment, clean, orderly premises.

In short—more times than you think—the sale hangs in the balance while all these thoughts range through the prospect's mind. What to do about it? *Sell service* by showing your Service Department to your prospects . . . and when you do, be sure the service you offer *looks* and *is* the best service in town. If you do this there can only be one result—*more sales, more profits!*

# Service Department On A Cash Basis

We believe it will be decidedly to the advantage of our Dealers if they will get their Service Departments on a "Cash Basis." The subject at least is important enough for every Dealer to study just what his Accounts Receivable have been on shop work sold the customers, for the purpose of finding out two things:

First: What the losses have been over a period of time and how collectible those delinquent accounts are at this time.

Second: Figure out what cars or other merchandise could be purchased with the total amount which is usually in these Accounts Receivable.

In changing over to a cash basis it is entirely possible that a few customers may be offended, but it certainly can be explained to them that by reason of

the manner in which you have to purchase cars and other items in your business, your money must turn over quickly and it must be available for these purchases.

There always are, of course, two or three preferred customers whose credit is unquestionable and who may have to be handled on the "charge" basis, but who usually pay their bills promptly at the end of the month. A study of your Accounts Receivable and the customers in that group will easily bring this out for purposes of careful selection.

You owe it to your business and you owe it to yourselves to get your shop on a cash basis, and it is surprising how quickly the changeover can be made and how quickly the owners become accustomed to this plan of operating.

## ACCESSORY

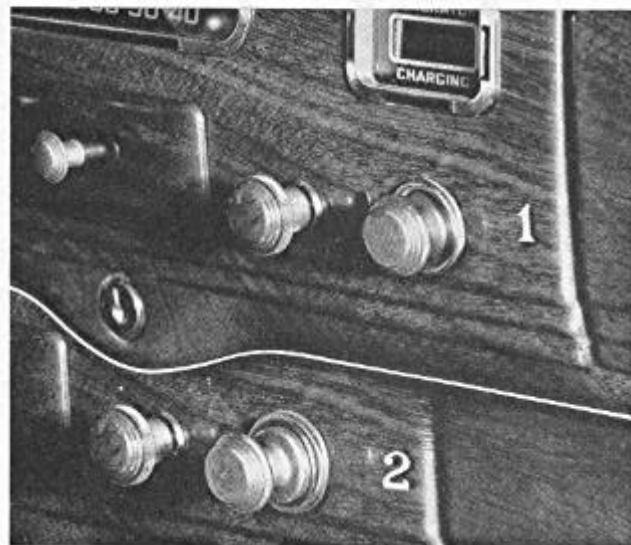


## HIGHLIGHTS

### New Sensational Cigar Lighter Now Available

A new thermostatic automatic cigar lighter (Part No. HA-124616) has just been added to the line of Hudson Approved Accessories.

Fumbling, . . . holding, . . . and dangerous one-hand



blind driving has been eliminated. The automatic lighter allows motorists to keep their hands on the wheel, their eyes on the road and their minds on their driving.

Here's a lighter that's never too hot, never too cold . . . it's thermostatically controlled.

Here's how it works. First you press in on the lighter knob—No. 1 in the illustration shows the

lighter in this position. You do not have to hold the lighter in, just let go. The lighter then automatically heats to the proper temperature, when this point is reached the lighter signals by clicking out to the position shown as No. 2 on the illustration assuring a perfect light.

### Heater Quota Busters

The 1936-37 heater quota period is officially over on June 1st. At the time the magazine went to press the Distributing points listed below had exceeded their quota for the Season.

Atlanta	Huntington	Portland, Ore.
Baltimore	Hutchinson	Rochester
Birmingham	Kalamazoo	Salina
Boise	Mankato	San Antonio
Boston	Meridian	San Francisco
Buffalo	Milwaukee	Seattle
Charlotte	Minot	South Bend
Chicago	Montgomery	Springfield
Cincinnati	Montpelier	Syracuse
Cleveland	Nashville	Tulsa
Columbia	New Orleans	Washington
Columbus	Okmulgee	Youngstown
Dallas	Peoria	Spokane
Denver	Philadelphia	
El Paso	Pittsburgh	

The group of Distributing points listed below reached 90% or better.

Albany	Grand Rapids	New York
Detroit	Hartford	Reno
Duluth	Indianapolis	St. Louis
Fort Wayne	Minneapolis	Wheeling

Did you as a Dealer contribute your share of the



business which enabled your territory to go over the top? Let's start thinking right now about our quota for next season and how we are going to beat it. There is plenty of evidence that it can be done.

A great many Dealers are failing to cash in on Radiator Grille Guard Sales. Let's go after this business! Show owners how they can buy \$22.50 worth of protection for only \$2.50, because a new Radiator Grille for the 1937 Hudson or Terraplane costs \$22.50. Sell this protection to your owners.

Now is the most opportune time to sell Glare Shields, Ventilator Fans, Wax, Polish, Upholstery Cleaner, Windshield Wipers, Thermometers, Fog Lights, Fender Lamps, and Radiator Grille Screens. Keep these items well displayed during the Summer months.

Fender Guides are an always popular Accessory item which offers a means of safer driving and a protection to the front fenders.

The cost of repairing one dent in a front fender would pay for these guides.

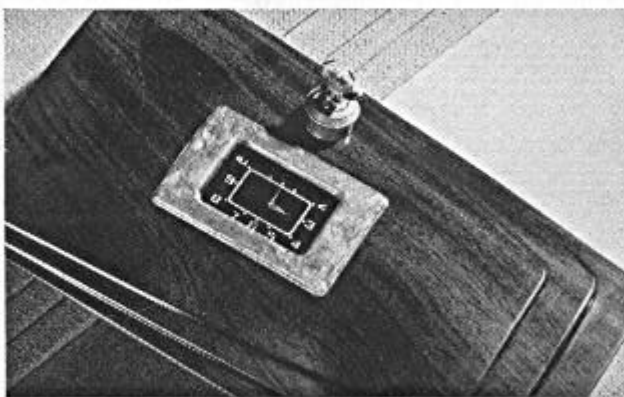
Good driving depends a great deal on judging distances, but when one is parking or driving in city traffic there is no need of gambling on clearances.

With a pair of Hudson fender guides, indicating to the driver the distance between the outside edge of the front fenders and other objects on the road, there is little possibility of ever smashing a fender.

Tell your customers about this advantage. A new car involves a large investment, why not protect it?

## How Many of Your Owners Have a Clock in Their Cars?

Check every car as it comes in for Service. You'll be surprised how few cars are equipped with clocks. These owners are a prospect for a mirror clock or electric clock. Suggest clocks to these owners.



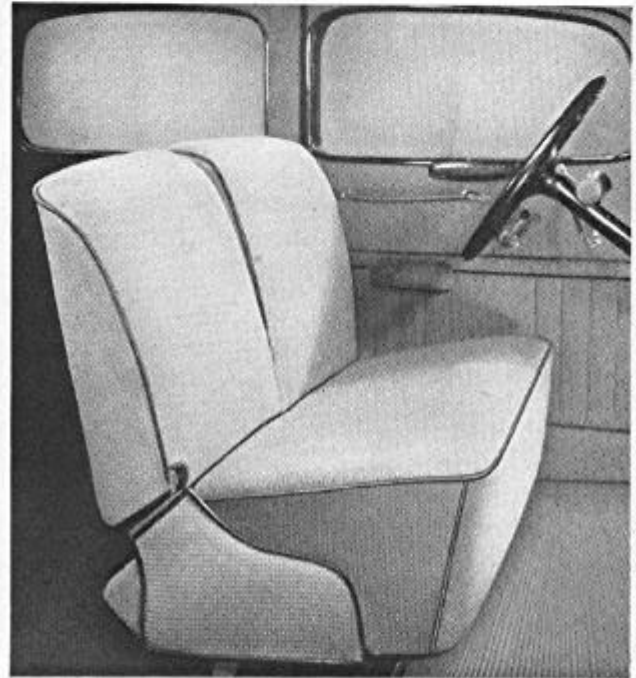
The Hudson Electric Clock is an excellent time-piece of quality and fine workmanship. It is designed exclusively for Hudson and Terraplane cars. Your owners will want a clock which blends with the interior motif and instrument cluster design of their cars.

## Seat Cover Season Is Here!

Now is the time to organize an effective Seat Cover merchandising program.

How many of your customers know about Hudson Seat Covers? Let all of your customers know you sell Seat Covers by keeping a package of Seat Covers prominently displayed at all times.

Let's not be afraid to ask people to buy. Many customers do not buy just because they are not asked. Volume business is obtained by aggressive salesmanship and not just order taking.



There are many reasons why Hudson Seat Covers are superior to other Seat Covers and one should tell Hudson and Terraplane owners about those features which make Hudson Seat Covers outstanding.

Here are eight important reasons.

First of all, Hudson Seat Covers are custom built and tailored to fit only Hudson and Terraplane cars. Second, the material used is superior in quality to that used in other seat covers. Third, fine workmanship and sturdy construction. Fourth, color and design harmonizes with the interiors of Hudson and Terraplane cars. Fifth, they can be easily cleaned by sponging with soap and water. Sixth, they offer a real protection to the interior of cars. Seventh, most comfortable because they fit the seats snugly and do not wrinkle up under the passengers. Eighth and last they give added coolness to summer driving because the basket weave construction permits circulation of air through the material.

So let's tell Hudson and Terraplane owners about these outstanding features. Let's invite them to compare Hudson Seat Covers with other Seat Covers. Let's make them realize that Hudson Seat Covers offer the greatest dollar for dollar value. Let's Sell Seat Covers Now!

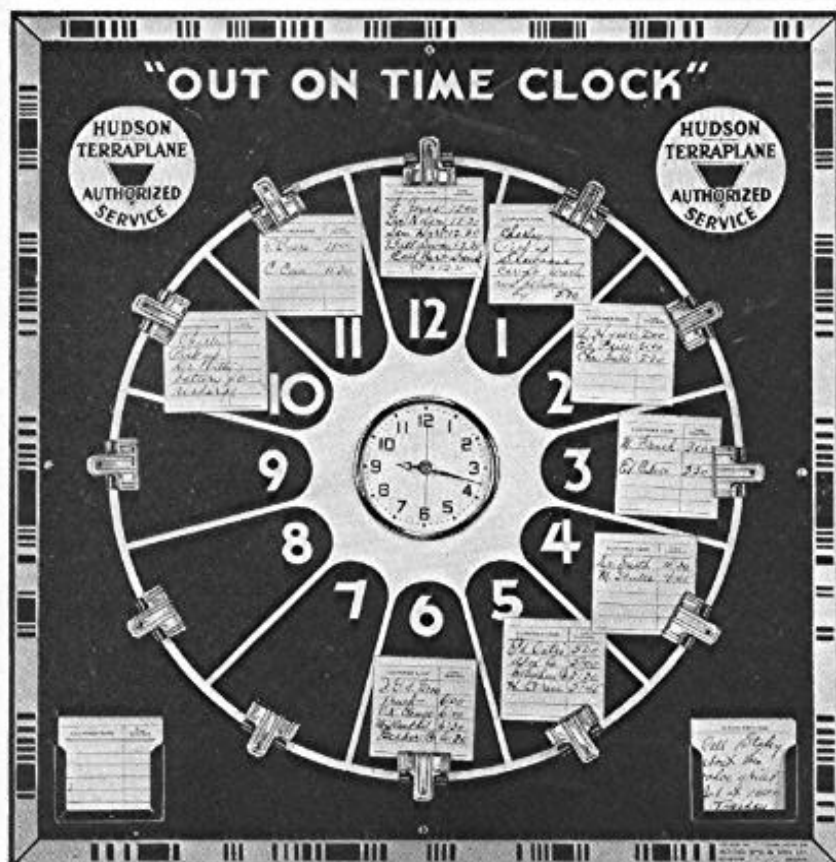
# "Out On Time" Clock

Our attention has been called to a piece of Service Station equipment which certainly has considerable merit and enthusiastic reports have been received from Dealers who are using this device.

With the use of the "Out On Time" Clock a visual record is provided of all the jobs in the shop and the time of day they have been promised. When the customer's order is written up a glance at the work on the clock makes possible an accurate determination of time in which the job can be turned out. Card is then filled in and attached to clock in the proper place. This can all be seen by the customer before he leaves. He knows that he can get his car on time as he sees his ticket attached to the clock he is impressed by the attention paid to his job, by the business-like attending to work on schedule.

This equipment is available complete with a supply of cards equipped with Electric Clock at a price of \$10.50 through Houser Eng. & Mfg. Co., Bluffton, Ind.

This should make a desirable addition to your service equipment.



*Remember that the anti-percolating valves on the carburetors are designed to prevent flooding of the manifold after the engine is stopped. Be sure the anti-percolating valves are properly set to insure easy starting in hot weather.*

*See Section 4 of the Mechanical Procedure Manual for correct adjustment on both single and dual carburetors.*

## Long Distance Lubrication, Featured By The Cohen-Anderson Motor Co., Inc., Portland, Oregon

The term long Distance Lubrication is used and means the lubrication of units that do not come under the regular thousand mile lubrication periods. For instance, wheel bearing packs, universal joints, shock absorbers, transmission and differential, oil changes.

Cohen-Anderson have an agreement which they sign the owners up on selling these lubrications in advance of the time they are necessary, at a given price including materials. When the speedometer reading reaches the mileage at which these operations should be performed they go right ahead and do them, collecting for them at the time the work is performed. The agreement is just to relieve the owner of any more worry on the matter of taking care of these units.

## “A Bird In The Hand”

We are still very much in the midst of the 1937 Car Selling Season. In fact some of our best business is yet to come.

When we say Cars we mean all that should go with it. Radio is one of the most profitable Accessory items on which to concentrate. This goes for the Retail Sales Representative as well as the Dealer.

Do we let too many “bird in the hand” Radio sales get away from us at the time of Car sales? We are fearful that we do. The additional payment per month for an item for which practically every owner has a desire is not great enough to stop the sale.

Baseball is in its most interesting stage and the World Series will be on its way and thousands of our Owners who have not purchased Radios are vitally interested in that sport.

We have said that a special effort should be made to sell Radios at the time of Car sale because it is easier to complete the transaction at that time. This statement is true.

However, there are a great many Radio sales which can be closed with Owners who have purchased Cars in the last few months if somebody in the organization is smart enough to pick out these names and pass them to the Retail Sales Representatives for Follow-Up. A Five Dollar (\$5.00) bill is not to be sneezed at by anybody.

Most of these Cars have been purchased on time payments. There is no reason why the Finance Papers cannot be re-written and the Radio payments included with the Future Car payments.

The boys in the shop have a great opportunity to sell Radios to Owners coming in for lubrication and maintenance purposes. Let's get on this one and not let a single Owner get by without being approached.

The Lubrication Department of Tom Botterill, Inc., Denver, Colorado Distributor is set off by an unusual and most attractive Display background.

Customers cannot help but be attracted by this modern and outstanding set up.



## Service Meeting Program

FOR

JUNE, 1937

### *Subjects for Discussion*

Importance of Your Service Department to the Group Sales Program.....	Page 106
Permanent Service Merchandising.....	Page 103
Questions on Mechanical Procedure.....	Page 105

Vacuum Clutch and Hill Hold . . . New  
Material for Mechanical Procedure  
Manual

### *Material*

June Service Magazine  
and Mechanical Procedure Manual

# Parts Activities As They Relate To Dealers . . .



By T. H. STAMBAUGH, *Director, National Service Operations*

Note: This is the second of a series of five articles by Mr. Stambaugh on the above subject which have or will appear in the Monthly Service Magazine.

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## FINE APPEARING STOCK ROOMS

● **CREATES CONFIDENCE IN OWNERS AND PROSPECTS:** An excellent appearing stock room with Parts in full and orderly display is an asset to any Dealer. It is an asset only, of course, if the inventory is sufficient in variety and quantity to quickly care for all service work involving car operation. Too often it is almost impossible for the Dealer himself to find items which he actually has in stock. Orderliness does away with such occurrences and always promotes better service in the shop.

10

## BINS AND EQUIPMENT

● **CAN BE PROCURED LOCALLY OR IN DISTRIBUTOR CITIES:** All of the equipment necessary to properly set up a Dealer's Parts Department is usually available locally. In the cases of smaller points it can be secured by the Distributor through equipment houses in their own headquarter cities for the Dealer. Finance plans are very liberal so there is little excuse for not having nicely equipped, orderly and clean, as well as good, Parts stocks in Dealers' establishments.

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## DISPLAY MATERIAL

● **AVAILABLE FROM FACTORY:** Display Stands and display material add greatly to the general merchandising atmosphere of the Dealer's Parts Department. Heater Stands, Radio placards and others furnished by the Factory from time to time, not only are attractive, but serve as reminders to the personnel that merchandise is there to be sold. The Factory places many parts in attractive containers carrying the genuine trade-mark, and these likewise should be placed where they can be seen.

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## KEPT IN BETTER CONDITION

● **EXCELLENT FOR DISPLAY PURPOSES:** Gaskets are best kept on gasket boards, both from the viewpoint of better housekeeping and for display purposes. Bins do not serve very well as a receptacle for cork or paper items in this group. Gaskets are fast moving and very important in maintenance operations and, by reason of their nature, are more difficult to watch. Therefore, if all gaskets are kept out in the open, neatly arranged on Display Boards, an adequate inventory is more easily sustained.

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## CLEAN DEPARTMENTS

● **RUBBISH OFF FLOORS:** There is much to be done in the direction of orderliness. Old removed Parts laying in corners or on top of bin sections do not carry much appeal to customers. Material awaiting shipment to Distributors for claims purposes should be placed where it cannot be seen. A little paint here and there works wonders in tidying up exposed walls and wooden equipment. Let's have a lot of pride in the general appearance of our Dealers' Parts Departments.

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**DISTRIBUTORS' PARTS CONTACTS WITH DEALERS**

● **WHOLESALE PARTS ACTIVITIES:** It is to the advantage of Distributors to discuss Parts activities with their Dealers. The movement of Parts in volume, their housing, records on them, and the several merchandising points already covered, form a basis of mutual interest in which all can benefit. Let's place Parts in their proper position with Permanent Service Merchandising.

15

**DISTRIBUTORS' PARTS MANAGER'S ACTIVITIES**

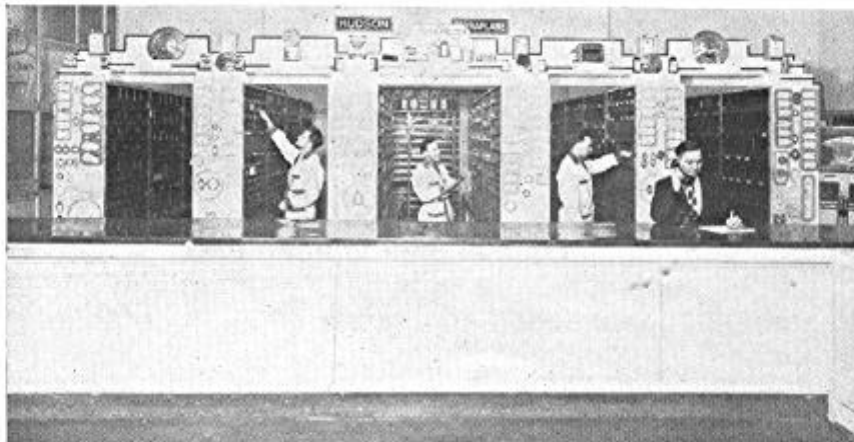
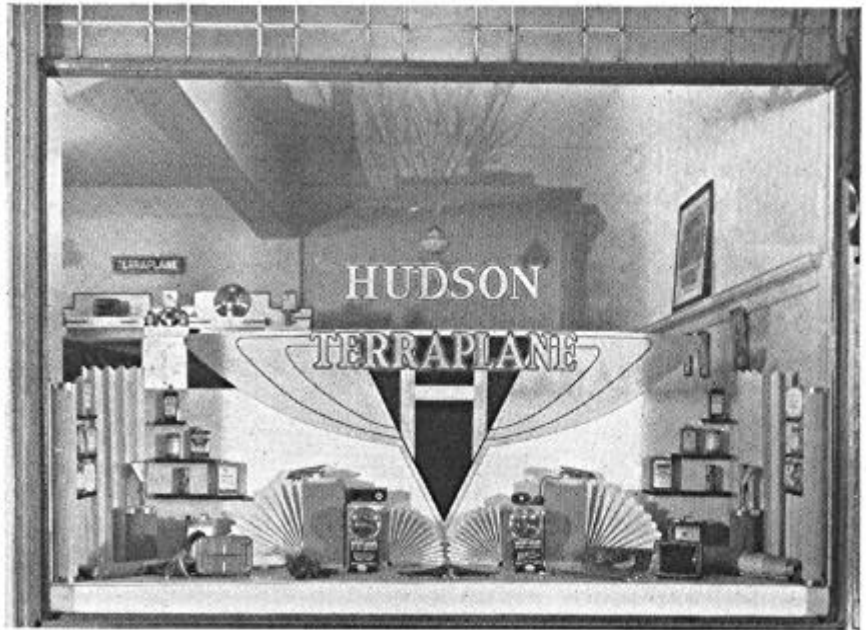
● **THEIR ASSISTANCE VALUABLE:** The parts men of the Distributors are important factors in this profitable phase of the business. They are constantly working with and in a business within a business. They should know the value of a well balanced inventory and the value of meeting demands at the time of requirements.

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**SUGGESTIONS ALWAYS IN ORDER**

● **DO BUSINESS BY TELEPHONE:** These men are in contact with the Dealers by phone several times a month. They know from the Dealers' orders about how Parts are moving and the general condition of the Dealers' inventory. Dealers will be glad to get suggestions over the telephone which are helpful and may save transportation expense and future long distance calls for the Dealer. The Dealers are the Distributors' main outlets in the Parts business, and every effort should be made to assist them with this important activity.—*To be continued in the July Magazine.*

This attractive Accessory Window Display is being featured by our Distributor at Milwaukee, Wisconsin. Also note below the effective Parts Room layout with the Accessory Display above the Parts Bins and the neatly arranged Gasket Boards at the end of each bin.



# Answers to Questions on Mechanical Procedure Manual

Answers to the questions which appeared in the December and January Issues of the Service Magazine were published in the April-May Issue.

The following answers on this page cover the questions which appeared in the February and March Issue of the Service Magazine.

February, 1937, Issue—Page 63

- (1) Q. What passages and jets supply gasoline (a) for idling, (b) for moderate and high speeds, (c) for a cold start?

A. (a) Main jet, idle jet, idle passage, idle ports.  
(b) Main jet, and passages connecting to main nozzle and main nozzle. When accelerating, the accelerating pump, passages, and accelerating jets supply additional gasoline.  
(c) Main jet and passages connecting to main nozzle and main nozzle.

Note: When starting cold, the choke is closed preventing air under atmospheric pressure from entering the air horn so that the vacuum from the manifold extends up to the choke valve. This means that an equal pressure or vacuum exists both at the idle air intake ports and idle delivery ports so no flow is caused through the idle passages. The vacuum existing at the main nozzle causes flow in the high speed system to supply gasoline for starting.

- (2) Q. What adjustment can be made to improve gasoline mileage at low speeds (under 20 miles per hour)?

A. Adjust idle adjusting screw or screws for maximum uniform vacuum gauge reading. The final adjustment should be from  $\frac{1}{4}$  to 1 turn off the seat for the single carburetor and  $\frac{1}{4}$  to  $\frac{3}{4}$  turn for the Duplex.

- (3) Q. If a rich mixture is obtained at idling speed with the idle adjusting screw set within the limits of specifications (Page 22, Section 4, Procedure Manual), what conditions might be responsible?

A. (1) Worn or damaged idle adjusting screw or seat.  
(2) Leak around upper or lower seat of idle jet.  
(3) Worn or damaged metering hole in idle jet.  
(4) Leak at main nozzle gasket.  
(5) High float level.  
(6) Float valve leaking.

- (4) Q. What carburetor adjustments and inspections must be made to insure proper gasoline mileage at speeds above 30 miles per hour?

A. Since all the gasoline is supplied through the main nozzle for speeds above 30 miles per hour, the main nozzle gasket should be checked for leakage, the metering pin position and condition checked, the main jet checked for wear. The float level and float valve should be checked and also the accelerator pump stroke.

- (5) Q. If a "flat spot" is encountered on acceleration, what two systems should be checked—idle jet—idle adjustment—throttle linkage—high speed jet—accelerating passages, valves and plungers—float level—anti-percolating device—metering rod and jet—climatic control?

A. (1) Accelerating passages, valves and plunger.  
(2) The anti-percolating device.

- (6) Q. What precautions should be taken when installing an idle jet? A main nozzle?

A. If an idle jet has been removed the second time, it should be replaced with a new one. Place one gasket on jet and screw it into place securely to be sure a good seal is obtained between the upper end of the jet and the carburetor body and also at the gasket.

When installing a main nozzle, be sure only one good gasket is used and that the nozzle is securely drawn into place to prevent leakage and insure the proper position of the nozzle in the air stream.

- (7) Q. Should the Climatic Control be set richer or leaner in winter than in summer?

A. In cold climates where volatile fuels are used for easy starting in winter, the Climatic Control should be set leaner than for the heavier summer fuels to prevent "engine roll" during the warm-up.

- (8) Q. What determines the time required, after starting the engine, to open the choke valve of the climatic control?

A. The temperature and quantity of air drawn from the exhaust manifold into the climatic control housing. The quantity depends on the tightness of joints in the passages and the condition of the screen in the climatic control.

- (9) Q. How many ampere hours charge should a battery with gravity of less than 1.150 be given to insure proper functioning in the car?

A. Twice the rated ampere hour charge.

- (10) Q. What additional test should be made on a battery which shows equal voltage of all cells under high discharge to be sure it is not worn out?

A. It should be given a Capacity Test with an HMO 125 Battery Servicer to be sure it has sufficient capacity to meet cold cranking demands.

March, 1937, Issue—Page 77

- (1) Q. Why are you better able to correctly lubricate a Hudson or Terraplane than your competitor?

A. (1) You have complete detailed information in the Mechanical Procedure Manual and on the

Hudson and Terraplane Wall Charts for each model you lubricate.

(2) You get new information as soon as it is available through the Hudson-Terraplane Service Magazine and Service Bulletins.

(3) You know the complete servicing of Hudson and Terraplane cars and are better able to determine whether lubrication is sufficient or if an adjustment or minor replacement should be made to prevent the necessity of a major repair later.

(4) You can carry the exact lubricant specified for each application as there are only six lubricants required to properly lubricate Hudson and Terraplane cars.

Your competitor dealing with all makes of cars would have to carry many more types of lubricants in various grades to meet the requirements of all cars—so many, in fact, that his inventory of lubricants would make his business unprofitable, so he finds it necessary to substitute a different lubricant or a different body in many cases.

(5) You specialize on Hudson and Terraplane cars and are less likely to overlook points requiring lubrication.

Q. What S. A. E. grade oil should be used in an engine when atmospheric temperatures above 50° F. are expected?

A. Although 20W is a satisfactory lubricant up to 80° F., its desirability for continuous running is not nearly so great at this temperature as that of S. A. E. 30. The S. A. E. 30 is satisfactory from a cranking standpoint at 50° F. and desirable from a continuous running standpoint up to maximum temperatures normally encountered and, therefore, should be used.

Q. What type and S. A. E. grade lubricant should be used in the rear axle and transmission during summer?

A. A "mild" E. P. lubricant of S. A. E. 110 viscosity.

Note: Please note this specification as some specifications have called for S. A. E. 160. It is true that with some brands S. A. E. 160 is satisfactory; however, in most brands S. A. E. 110 more nearly meets our requirements.

Q. If a vacuum gauge gives a uniform reading of 20 inches of mercury at idling speed equal to seven miles per hour but poor fuel economy is experienced, what carburetor adjustments may be responsible?

- A. (1) Metering rod.  
(2) Float level.  
(3) Accelerator pump stroke.

Q. What is the correct generator setting for the following models?

A. (1) 1934, 1935, and 1936 Hudson and Terraplane with charge regulator—22 amps at 8 volts cold.

(2) 1934, 1935, and 1936 Terraplane without charge regulator—17 amps at 8 volts cold.

(3) 1937 Hudson and Terraplane with voltage control—26 amps at 8 volts cold.

(4) 1937 Terraplane without voltage control—19 amps at 8 volts cold.

(6) Q. What is the correct quantity of fluid for the shock absorbers on the following models?

A. 1934, 1935, 1936 Terraplane. Front, 4 oz.; Rear, 5 oz.

1937 Terraplane. Front, 5 oz.; Rear, 5 oz.

1934, 1935, 1936 Hudson. Front, 4¾ oz.; Rear, 5¼ oz.

Note:

1934 Hudson 116" WB uses 5 oz. rear.

1934 Hudson 116" WB with Monroe units, Front, 4 oz.; Rear, 5 oz.

1934 Hudson 122" WB with Monroe units, Front, 4 oz.; Rear, 5½ oz.

1937 Hudson. Front, 6¼ oz.; Rear, 6¼ oz.

(7) Q. What is the effect of wide distributor point setting on car speed?

A. By reducing the length of time the points are closed, the coil does not become "saturated," and the voltage output is low, decreasing the efficiency of burning and reducing the car's top speed.

(8) Q. What is the effect of poor spark plug cable insulation on performance and economy?

A. The loss of voltage through the insulation reduces the voltage at the spark plugs resulting in poor burning. This means less miles per gallon, less acceleration, hill climbing ability, and reduced top speed.

(9) Q. What is the effect of high fuel pump pressure? Low fuel pump pressure?

A. (a) High fuel pump pressure tends to lift the needle valve off the seat or hold it off the seat and flood the carburetor giving poor gas mileage and poor performance.

(b) Low fuel pump pressure tends to promote vapor lock.

(10) Q. What is the correct front and rear tire pressure for the following tire sizes?

A. 16 x 6.00—Front 24, Rear 32.

16 x 6.25—Front 24, Rear 32.

16 x 6.50—Front 24, Rear 32.

15 x 7.00—Front 22, Rear 28.

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Service your Customers' Cars complete before their vacation trip or some one else will get the service and you will get the blame.

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A complete lubrication, engine tune up, brake adjustment and steering check up before a vacation trip is good insurance for a pleasant vacation.

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Sell Fans, Seat Covers, Radios, Spotlights, Fog Lights and Bug Screens to help your owners enjoy their vacation trips.

*Summer Time is  
Seat Cover time!  
Sell Seat Covers Now*

## Keep Battery Covers in Place

The Battery Cover on the 1937 Hudsons and Terraplanes plays an important part in protecting the battery as well as protecting adjacent car parts from battery acid and fumes.

The cover protects the battery against under hood temperatures and also acts as an air scoop taking air from the side of the radiator, directing it around the battery and discharging it through the louvres in the fender side panel.

The evaporation of water from the battery is from three to four times as great in mild weather when the battery cover is not used and increases rapidly with increased temperature.

Since under hood temperatures of 140° are common in summer weather and temperatures as high as 170° have been encountered, it is possible that the battery sealer will be melted and the battery case warped if the cover is not in place.

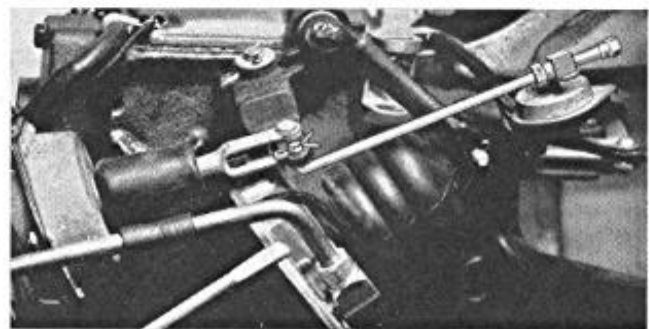
Be sure that the battery cover is in place on every 1937 Hudson and Terraplane in your territory during the hot weather to insure your owners normal battery life with a minimum of attention.

## Electric Hand Interlock Switch

The angle of the interlock switch mounting has been changed slightly and the operating rod inserted in the cross shift lever from the bottom. This change has been made to increase the clearance between the toe board and the rod and became effective in our production on April 30, 1937.

This same change can be readily made in service, if found necessary, by closing the bend in the rod slightly at the cross shift lever end and springing the mounting of the interlock switch so that the rod does not bind in the block on the switch lever.

The revised rods and switches only will be supplied on service parts orders. When making replacements it may, therefore, be necessary to bend the rod or the mounting or both as previously outlined.



It is imperative for normal functioning of the Electric Hand that no binding exist as this will prevent lost motion between the rod and the switch. Check for free movement between the rod and switch lever on all service work on the Electric Hand.



*Here's one which will attract plenty of attention. This original and most appropriate Lubrication Display Background has been effected by the Central Motors, Inc., Pueblo, Colorado. Note also the completeness and fine arrangement of equipment.*