HUDSON Service Merchandiser

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

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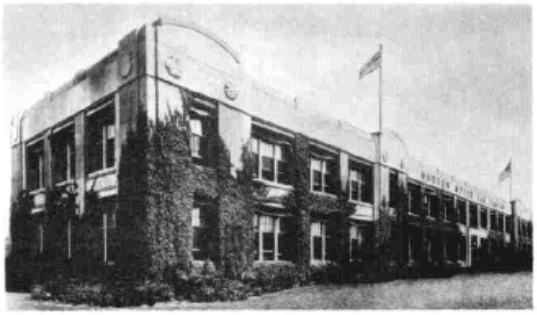
HUDSON MOTOR CAR COMPANY • DETROIT 15, MICHIGAN



HISTORY OF THE HUDSON MOTOR CAR COMPANY

(Continued)

MILLIONS VIEW CAR AT SHOWINGS

Private showings of the new car were held in Detroit late in October of 1947, and early in November for Hudson distributors, dealers, employes and suppliers. These showings subsequently moved to New York, Washington, Chicago, Fort Worth, and San Francisco.

Public showings began December 7 throughout the nation. The immense public interest in the new Hudson was indicated by the fact that 4,000,000 people went to Hudson showrooms to see it the first day, and during the first week, 10,000,000 people crowded around to get their first look.

The car they saw marks the beginning of a new era in automobile design. Certainly its manufacture has a long record in successful pioneering. Certainly it is backed by adequate factory and service resources, but over and above all, the car is a definite and final answer to many problems as old as the industry.

For years one of the biggest problems in automobile design had been interior headroom versus low silhouette. Designers had tugged and hauled indecisively with these factors, giving their cars a little of each, but failing to give adequately of both.

Bound by design precedent calling for bodies on top of frames, automobile builders could provide adequate headroom by building a high-silhouette car at the expense of stability, beauty and safety, or they could build streamlined cars by encroaching upon passengers' headroom and comfort.

Until the advent of the new Hudson, the car you "step-down" into, no American manufacturer provided a really low silhouette with its combined advantages of greater beauty, stability, "hug-the-road" ride and safety, and at the same time provided adequate interior headroom and comfort.

THE NEW CAR'S ACHIEVEMENTS

But through a new principle of motor-car design, Hudson achieves both a new, low silhouette and greatly increased interior roominess. The new Hudson offers more headroom and roomier seats than in any mass-produced car built at this time. All of this roominess is provided in a car that is only five feet from ground to top.

The successful combination of these factors is achieved in this way—Hudson lowers the roof of the car, obtaining the low silhouette, *and* lowers the floor of the car down within the base frame, thus full-height seats can be lowered to harmonize with the new lower top and provide added roominess.

This apparently simple, but actually difficult feat, required fundamental structural changes in the car; the scrapping of manufacturing techniques which had been traditional in the industry; the development of new equipment, and the investment of millions of dollars in highly specialized new plant investment.

PARKING WITH POWER BRAKES

The power braking system, available as optional equipment on the 1954 Hudson Hornet, Super Wasp and Wasp Models, includes a combined vacuum and hydraulic power unit utilizing engine vacuum for its operation.

The braking ease resulting from the very light pedal pressure required to apply the brakes, is further enhanced by the greatly reduced pedal travel, which makes it possible to pivot the right foot at the heel and merely move the ball of the foot from the accelerator pedal to the brake pedal and vice versa when driving.

Since engine vacuum does most of the work in stopping the car, it is, of course, necessary that the engine be running *at all times* in order to have the advantage of power brakes. Should the engine stall while the car is in motion, engine vacuum will still assist in making up to three brake applications due to the vacuum carried in the reserve vacuum tank incorporated in the system. This will enable the car to be stopped safely at any time. After this has been exhausted, further stops with the engine inoperative are made by hydraulic application alone. THIS REQUIRES GREATLY INCREASED PRESSURE AGAINST THE BRAKE PEDAL. The increase in pedal pressure on cars equipped with Overdrive, is slightly greater when the engine is inoperative at car speeds below 18 miles per hour, due to free wheeling.

Owners should be instructed, in the event the engine stalls on a grade, to apply the parking brakes AT ONCE to hold the car while the engine is re-started. Increasing the pressure on the brake pedal, while pulling the hand lever, will greatly assist in doing this. When parking power-brake equipped cars with manual shift transmissions on grades, place shift lever in *low speed position* and firmly apply parking brakes. On cars with Hydra-Matic Drive, place shift lever in *reverse position.*

The possibility of engine stalling, with the resultant loss of power assistance, can be greatly minimized by keeping the engine properly tuned at all times and maintaining the engine idling at the recommended minimum idling speeds.

Due to the greatly reduced pedal travel with power brakes, it is important that the brake adjustment and lining condition be checked if the pedal comes within 1½ inches of the floorboard with the engine running.

ACCESSORY SALES AT CHRISTMASTIME MEANS BONUS PROFITS FOR YOU!

Be sure to suggest Accessory GIFT ITEMS to your Customers . . . Hudson Approved Accessories are used, enjoyed, and remembered throughout the year.

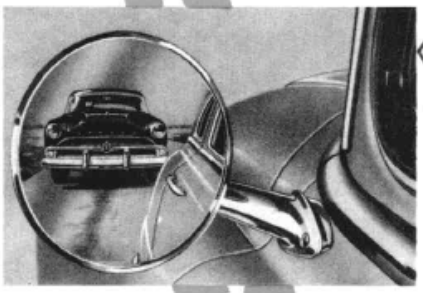
Point out that a fine family car deserves fine family Accessories!

CUSTOM SEAT COVERS—enable Customers to tailor the interiors of their Hudsons to suit their personal preferences! Hudson covers are beautiful, practical and much desired. They absorb the wear and tear of usage and keep upholstery clean and looking like new!

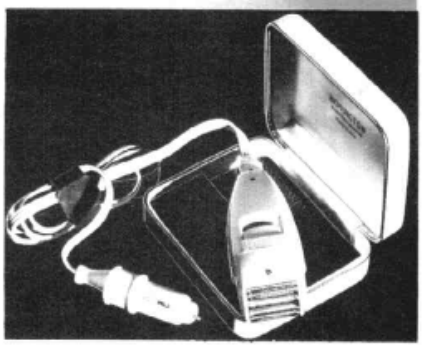
HAND PORTABLE SPOTLIGHT — Plugs into cigarette lighter receptacle. Powerful beam is excellent for use inside or outside the car. A useful trouble light.

BACK-UP LIGHTS—Simplifies backing out of driveways and parking at night—especially for wives and daughters. Automatically floods area behind car with light when transmission is shifted into reverse.

WINDOW VENTSHADES—Stainless steel sunshades permit open-window ventilation in rain and snow. Provide greater family comfort in *any* weather!



OUTSIDE REAR VIEW MIRROR—Large, easy to adjust for proper rear visibility and safer driving on today's crowded highways. Beautiful streamlined design matches Hudson styling.



ELECTRIC SHAVER—Always ready for use, at home or on the road. Operated on both car battery direct current and 110 volt A.C. A pleasant surprise for Dad on Christmas morning!

Remember — for more Accessory sales at Christmastime,

FAMILY APPEAL IS SALES APPEAL

POWER BRAKES

The power braking system, available on the Hudson Hornet, Super Wasp and Wasp Models, includes a combined vacuum and hydraulic power unit utilizing engine vacuum for operation.

The braking ease resulting from the very light pedal pressure required to apply the brakes is further enhanced by the greatly reduced pedal travel, which makes it possible to pivot the right foot at the heel and merely move the ball of the foot from the accelerator pedal to the brake pedal and vice versa when driving.

The Power System consists of a vacuum power cylinder, a vacuum piston and a control valve assembly and a piston return spring. The piston and control valve assembly is composed of a piston, piston packing and retainers, a slide valve, valve push rod, a reaction diaphragm and a counter reaction spring, See Figure 1.

PRINCIPLES OF OPERATION

With the brake pedal released, the slide valve inside of the piston, is held in released position by the valve return spring, keeping the atmospheric port open, See Figure 1.

With atmospheric pressure on both sides of the piston, tension of the piston return spring holds the piston in released position. This piston return spring acts against the hydraulic plunger, holding it also in released position, thus keeping the compensating port of the master cylinder open to permit the hydraulic brake fluid to flow between the reservoir and the hydraulic cylinder as required.

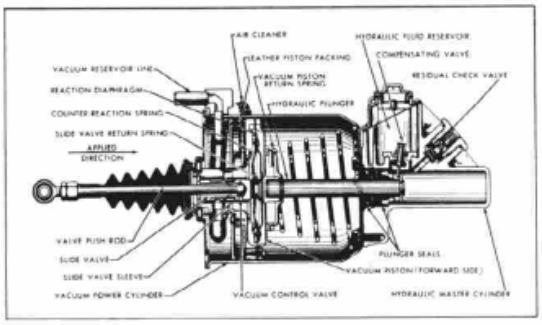


FIGURE 1—RELEASED POSITION

The Hydraulic Master Cylinder contains a hydraulic plunger, a compensating valve, a residual check valve, and fluid reservoir, See Figure 1. The power brake unit is rigidly attached to the dash panel on the engine side. It is operated by the brake pedal through linkage which connects the valve push rod of the power brake with the brake pedal mechanism. There are three external line connections; one to connect the check valve of the power unit with the vacuum source, (intake manifold), another to connect the power unit with the vacuum reserve tank, and another to connect the master cylinder into the hydraulic brake system.

Air for operation of the power unit is supplied through an integral air cleaner. The power unit in the brake system greatly reduces the brake pedal movement, as well as the foot pressure required to stop the vehicle. Should failure occur in the vacuum power system, brake application can be made but more physical effort will be required. A vacuum reserve tank, located on the right fender shield provides a vacuum source for brake operation during short periods of low engine manifold vacuum. The vacuum reserve tank has sufficient capacity for approximately three brake applications with a stalled engine. With no vacuum assist, the pedal pressure required to stop the vehicle is increased appreciably in comparison to the pedal pressure required with vacuum assist.

Owners should be instructed, in the event the engine stalls on a grade, to apply the parking brakes AT ONCE to hold the car while the engine is re-started. Increasing the pressure on the brake pedal, while pulling the hand lever, will greatly assist in doing this. When parking power-brake equipped cars with manual shift transmissions on grades, place shift lever in low speed position and firmly apply parking brakes. On cars with Hydra-Matic Drive, place shift lever in reverse position.

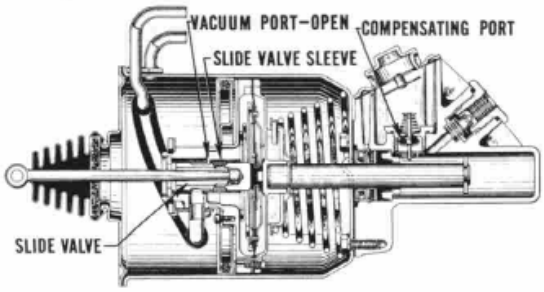


FIGURE 2—APPLIED POSITION

As the brake pedal is depressed, the valve push rod moves the slide valve to close the atmospheric port and open the vacuum port, thus connecting the forward side of the vacuum power piston and rear side of the reaction diaphragm to engine vacuum. The atmospheric pressure present at all times on the rear side of the power cylinder, then moves the piston in the applied direction.

Since the hydraulic plunger is in direct contact with the power piston at all times, any movement of the power piston is transmitted to the hydraulic plunger. The initial movement of the hydraulic plunger in the applied direction closes the compensating valve port, sealing off the fluid reservoir from the hydraulic cylinder.

Further movement of the hydraulic plunger in the applied direction forces fluid out of the hydraulic master cylinder under pressure through the hydraulic lines into the wheel cylinders to apply the brakes.

At the same time that the pressure differential is created in the vacuum cylinder causing the piston to move forward, a similar pressure differential, but in the opposite direction, is created inside of the piston. This pressure differential acts against the reaction diaphragm, which causes it to create a rearward force which is transmitted to the brake pedal. This reactionary force gives the driver a feel of the brakes, since it increases in direct proportion to the amount of pressure applied to the brake pedal.

HOLDING

During the process of brake application, a stage is reached where the forward advance of the power piston exceeds the forward motion of the slide valve. The advance of the slide valve is determined by the amount of pressure which is applied to the pedal. When this advance of the power piston becomes greater than the slide valve forward motion, the slide valve sleeve, which is an integral part of the piston, will move forward on the slide valve until the slotted passage in the sleeve is covered, See Figure 3.

With the slide valve in the hold position, both the vacuum and atmospheric ports of the slide valve are closed, thus holding the brakes at the pedal position. This holding action continues until pedal pressure against the slide valve is increased or decreased.

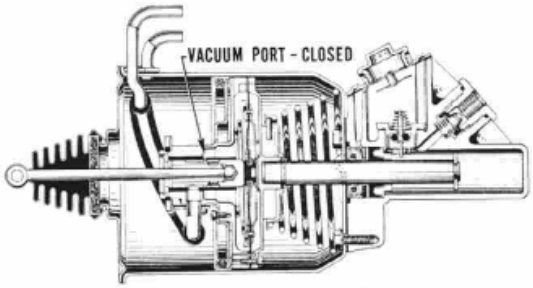


FIGURE 3—SLIDE VALVE TO HOLD POSITION

RELEASING

Upon release of the pressure applied to the brake pedal, the slide valve again returns to its released position to close the vacuum port and reopen the atmospheric port. The vaccum piston return spring returns the vacuum piston and the hydraulic plunger to the released position. As the hydraulic plunger approaches the release end of its stroke, the compensating valve port again opens to insure release of hydraulic pressure.

TESTING POWER BRAKES

Road test by applying the brakes at a speed of about 20 M.P.H. Determine if the vehicle stops evenly and quickly. If the pedal has a spongy feel when brake application is made it is an indication air is present in the hydraulic system. Bleed the system in the usual manner.

With the transmission in neutral, stop the engine and apply the hand brake. Depress the brake pedal several times to exhaust all vacuum in the system. Then depress the pedal and hold in the applied position. Start the engine. If the vacuum system is operating, the pedal will tend to fall away under foot pressure, and less pressure will be required to hold the pedal in the applied position. If no action is felt, the vacuum system is not functioning.

With the engine shut off, exhaust all vacuum in the system. Depress the brake pedal and hold in applied position. If the pedal falls away under this pressure, the hydraulic system is leaking.

NOTE: Due to the greatly reduced pedal travel with power brakes, it is important that the brake adjustment and lining condition be checked if the pedal comes within 1½ inches of the floorboard with the engine running.

WHAT MAKES YOU THINK THERE'S A MIND READER BEHIND YOU?

If the fellow driving the car behind yours is a mind reader, you're safe without making signals.

Unfortunately for you, less than one-tenth of one per cent of the population is made up of professional mind readers.

So you'd better assume that other drivers haven't the slightest idea what you're about to do—stop, slow down, turn left or turn right. A shocking number of all accidents are caused by slowing, stopping or turning without proper signals. That's why you can often prevent an accident by making the proper signals—letting other drivers know, unmistakably, what you plan to do.

Specific hand signals are recommended in the Uniform Vehicle Code. In the event signals in your state differ from these, by all means learn correct signals and use them.

The recommended signal for slowing down, is the left hand out and straight down, palm to the rear —moving from side to side to call attention to it, if necessary.

The stop signal is the left hand out and down, palm to the rear. This should be accompanied or followed by the "go-ahead" signal if all is clear ahead.

A left turn is signalled by the left arm held out straight, a finger pointing to the left. A right turn is signalled by holding the arm straight up, elbow bent at right angles. Or by the mechanical turn signals, if you have them.

Another common but extremely dangerous practice it to pull away from curb parking without first signaling and checking the rear view mirror for oncoming traffic.

In either case, your life is in your hands—or your hand signals.

Good reason to be sure your mechanical turn signals and stop lights are working properly. If not—and if you're relying on them without hand signals—you REALLY need a mind reader behind you. Most of all, you need a visit to the dealer who sold you your car—because his service men know best how to check the electrical system of your make of car for safe operation.

Signalling, remember, is more than just a courtesy—it's a life-saving necessity.

SUGGESTED PROCEDURE FOR LOCATING TIRE THUMP

FIXED OBJECT METHOD OF CHECKING FOR RADIAL RUNOUT (ECCENTRICITY) CONTINUED FROM NOVEMBER ISSUE.

The purpose of this method is to determine the amount of radial run-out, which is the difference between the high and the low points of the tire tread.

A tire with an abrupt change in radial run-out is more likely to cause thumping than a tire with a greater amount of change spread over a large amount of the tire's circumference. Also in attempting to determine which one of the four tires is most likely causing thump, a tire with two abrupt changes in run-out is usually not as bad as a tire with one.

When using the fixed object method of checking, proceed as follows:

(A) Raise the car just clear of the floor and let it stand for five or ten minutes so that any possible flat spots due to standing in one position are eliminated.

(B) Place a fixed object close to the tread center approximately half way up the tire.

(C) Be sure the fixed object is firm and not easily moved.

(D) Slowly rotate the tire until the high point is found.

(E) Mark this point with chalk and then move the fixed object so that it lightly touches the tread center at this point.

(F) Rotate the tire to the point where the greatest amount of space exists between the fixed object and the tire: Mark this point with chalk. The measurement taken at this point between the fixed object and the tire is the amount of radial run-out.

(G) Remove tire with most noticeable run-out, in a short distance. NOTE: Before doing this, check wheel rim for run-out.

If wheel rim run-out and tire run-out are found to be at the same point, the total run-out of the complete assembly may be improved by moving the tire so as to shift the relative positions of high and low spot of tire and rim. Following this, again test car out, perferably over the same route previously tested.

The above precedures are designed to find thump caused by a tire. In some instances, tires may not be at fault and further search must be made to find the cause. The following mechanical checking procedure is suggested.

1. Raise car clear of floor and rotate all wheels (one at a time) at as near as possible the speed at which the thump was audible.
2. Check end play of all wheels, also for loose hub caps.
3. See that all front suspension and spindle bolts are free.
4. Examine shock absorbers for proper action and freedom from noise.
5. Wheel eccentricity, measured at the base of rim flange, should not exceed 1/16 of one inch.
6. Look for rim dents or heavy welds in rim that might cause the thump.

In the next and concluding article we will discuss high speed vibration.

CARBURETOR AUTOMATIC CHOKE

It is possible, in some instances, that a sticking choke may be due to improper alignment of the heat tube with the carburetor at the point where it attaches. When this is the case and the heat tube is connected to the hot air inlet in the carburetor, it may either push or pull the coil housing upward and cause a poor alignment of the choke shaft with the air horn and the choke housing.

There are three screws that hold the coil housing (die cast part) to the air horn. It is possible that these screws are sufficiently loose and the coil housing will be misaligned from the main horn when the heat tube is tightened.

The suggested steps to make in correcting this condition are as follows:

1. Remove heat tube from carburetor.
2. Remove thermostat coil housing.
3. Remove cover plate and gasket.
4. Remove unloader trip lever.

Now all three attached screws are visible. Loosen these, if not already loose, and get proper alignment of the choke housing with the air horn so that the choke operates freely.

It is important, in the assembly of the heat tube, that it fits on the coil housing without any undue stress on the heat tube or abnormal tightness of the threads.

Sometimes the choke may bind and become inoperative due to the air cleaner clamp screw having been tightened excessively, causing the carburetor air horn to be distorted.

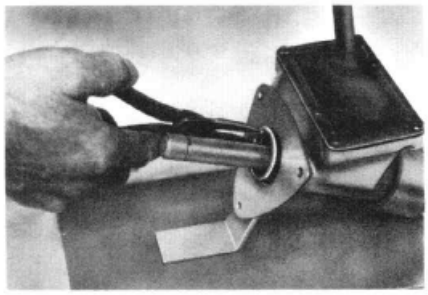
For easy starting and proper warm-up during cold weather, the choke must be functioning properly, fast idle correctly adjusted and manifold heat valve free and responsive.

SERVICE OF THE MONTH POSTER FOR JANUARY

Your January poster covers a very important Mid-Winter check up for all Engines. Mark up an attractive price on this one and stimulate your Service business.

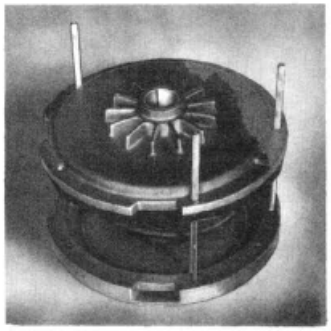
1954 HUDSON ESSENTIAL SERVICE TOOLS

EG-7-54-1 The first four tools listed below are new essential tools for servicing POWER BRAKES and are offered to Hudson Dealers for the first time. **$6.80**



J 4245 Snap Ring Tool — Power Brake

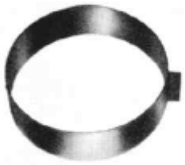
This tool fits into the hole in each ear of the Truarc Snap Ring, thus facilitating removal of the ring which holds guide washer, rubber cup and cup retainer on the hydraulic plunger of the master cylinder.



J 5404 Guide Pin Set (3) Power Brake

The three Guide Pins of this J 5404 Set are required to align the holes in the diaphragm with the holes in the cover when assembling the power brake piston.

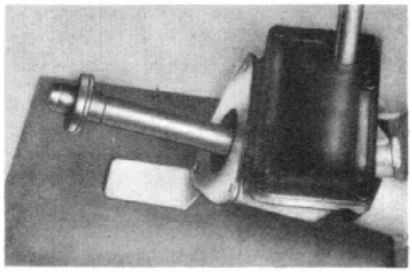
Piston Assembly Ring — Power Brake



J 5406

The component parts of the power brake vacuum piston can be assembled easily and efficiently by using this J 5406 Assembly Ring to hold the parts in place until they are secured.

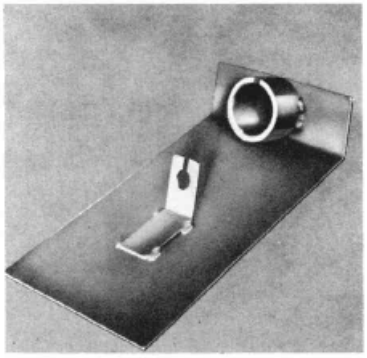
Seal Installation Tool — Power Brake



J 5405

Prior to installing the seal on the hydraulic plunger of the master cylinder, slip this tool over the plunger . . . it's designed to expand the seal over the plunger and protect it from damage during installation.

POWER BRAKE CYLINDER ASSEMBLY STAND



J 5433

Assembly and disassembly of the Power Brake Cylinder is greatly facilitated by the use of this fixture. It is designed so as to provide the angle required for easy service in two positions.

$10.80

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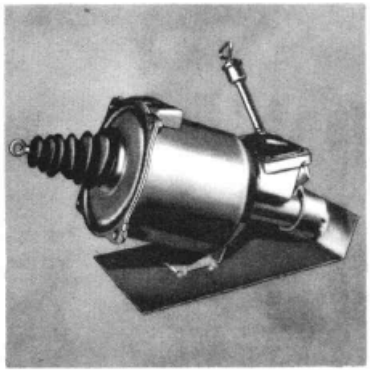

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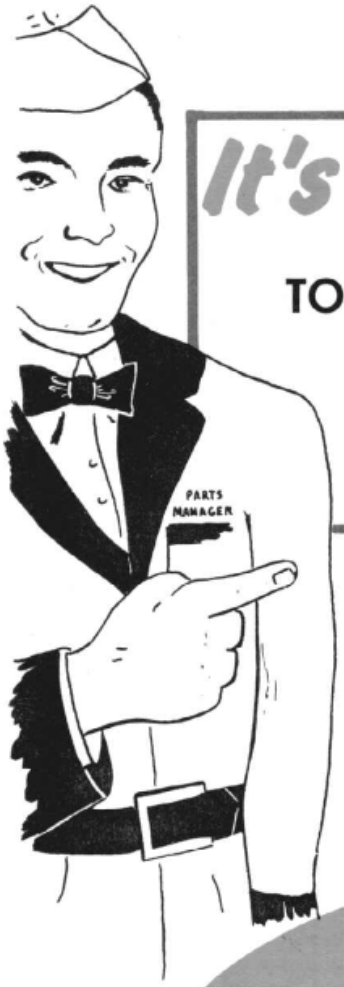

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