TERRAPLANE HUDSON

Service

TECHNICAL INFORMATION
PARTS—ACCESSORIES
MERCHANDISING

Issue 1 DECEMBER, 1934 1935 Series

1935 NEW CAR PROGRAM IS UNDER WAY

The 1935 cars are being shown or have been displayed at various dealer meetings throughout the United States: These introductions from year to year, immediately create interest and enthusiasm among our present owners, new car prospects, the general automobile buying public and our field organization.

Service is going to play a big part in the continued popularity of our line of automobiles. It is, therefore, not out of place at this time just to take inventory of ourselves, our organization and our places of business as to just what we are going to do, or should do, in setting up for the proper type of service in 1935.

Start creating an even greater confidence in our ability to serve well and promptly. We should think more of the tremendously important part our service plays in our selling program. Develop that confident smile to customers when they come into our service stations.

Our mutual aim and purpose in 1935 should be to establish a type of relationship with our customers which will merit a reputation for rendering a service second to none in the industry.

T. H. STAMBAUGH
General Service Manager

Printed in U. S. A.

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Merchandise 1934 Radios

When a new line of automobiles is introduced for a coming year, we are so interested and enthusiastic about the new line that many times we forget our opportunities with the cars which have just gone out of production. This particularly obtains with accessories. An automobile is an automobile, whether it is purchased at the beginning of the season, the middle of the season, or any time later in the year. Pride in ownership in that automobile is still a big factor in its possession. Accessories lend themselves to cars of the previous year as well as they do to the coming year.

Results for 1934 have been very satisfactory, and we are sure that the market on 1934 cars is just as great as it has been any time during the year. For instance, we are going to continue to carry stocks of the 1934 radios all through 1935 because we fully believe that a large number of these radios can be sold to 1934 owners. One thing which we have just done with the 1934 radio is to change the list price from $39.95 to $44.95, to include a $5.00 commission for the retail salesmen and service men. This certainly will be an incentive to them.

While retail salesmen are waiting for delivery of 1935 cars, they should contact every one of their 1934 owners to try to sell them a radio. A Five Dollar ($5.00) Bill will look pretty good on every one of these sales. Retail service men are going to have an opportunity to make some money for themselves, by approaching owners when these owners come into their service stations.

Accessories As Christmas Presents

Don't miss your opportunity to use the accessory program as one of the finest mediums for Christmas presents. There are many outstanding things in the list which lend themselves particularly to fine Christmas offerings as between friends or business associates, or between ourselves.

So many times people desiring to make gifts are stumped as to just what to pick out and which will be most acceptable and serviceable to their friends. A suggestion from you in a letter to all of your owners will be very helpful to them and to your business. For instance, the owner of a 1934 car would certainly like to have a radio in the event that his car is not so equipped. Another practical present would be a heater. There are many items in the accessory list which have their various ranges of price and will fit the pocketbook of every buyer.

Trunks For 1934 And 1935 Cars

The field organization is in a splendid position with reference to trunks for 1934 and 1935 cars. We will continue to stock 1934 sedan and coach trunks all through 1935.

You undoubtedly understand that the 1935 production trunk which is installed as an option at the factory, is not adapted to field installation.

Therefore, to take care of your field requirements on these cars, we will furnish 1935 Service Trunks for field installation. These sedan and coach trunks are now available through the service parts department.

The general appearance of these 1935 service trunks is similar to the 1934; however, due to differences in the contour of the rear panels of the 1934 and 1935 bodies the trunks for field installation are not interchangeable.

List prices and part numbers have already been announced in the Accessory Price List bulletins.

Heaters Interchangeable With 1934-1935 Cars

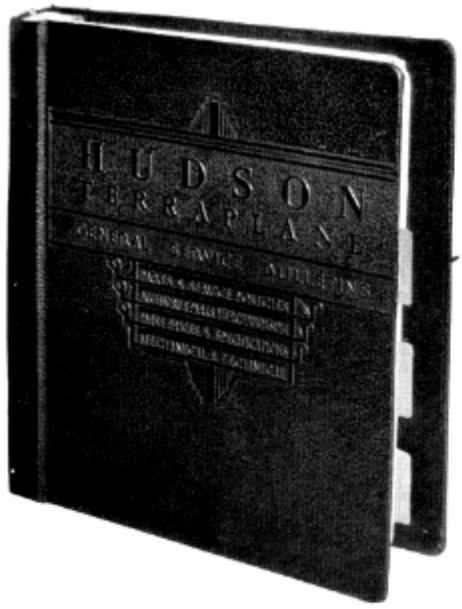
When the heaters were selected for our 1934 accessory program they were placed in the line for both the 1934 and 1935 cars. We want to take this occasion and opportunity to notify the field organization that there will be no changes in heaters, nor will there be any additional heater in our program for the 1935 cars. The present heater which you are merchandising is the only Hudson and Terraplane heater you will have during this winter season. When 1935 cars are sold, take advantage of the opportunity to sell a heater with them at the time of car delivery.

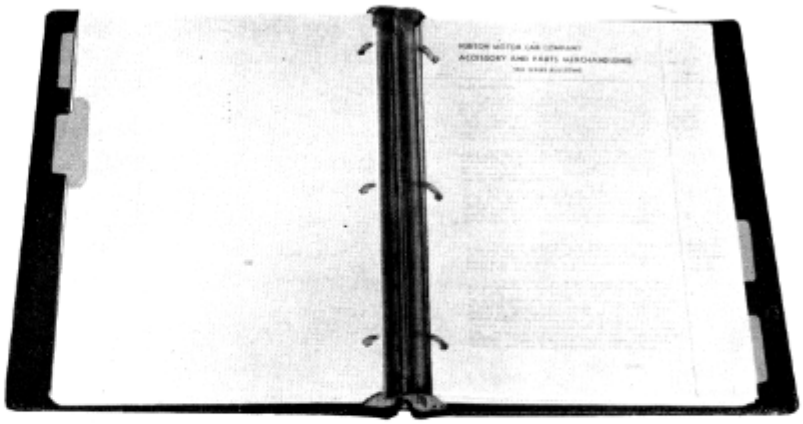
"Terraplane Hudson Service"

The purpose of this publication is to distribute valuable information on every phase of servicing Terraplane and Hudson cars. The material appearing in the various issues is selected because of its timeliness and general interest.

There are undoubtedly subjects which would be of special interest, which may not suggest themselves to the staff. You are, therefore, invited to submit your suggestions. A hint on some service operation, an effective means of increasing customer business or reducing shop costs, will be appreciated by other readers.

Terraplane Hudson Service is published the tenth of each month. If you do not get your copy, ask for it.





Bulletin Binders

The illustration reveals the improved construction of the new bulletin binder that has been adopted for 1935. The mechanism is sturdy and opens wide, so that material can easily be inserted or removed. The backs lie flat, so that it is easy to write on the full page with the binder open and without the pages slipping off the pins. The pins are only slightly curved and are long enough to extend well above the page pack even when the binder is full.

The cover definitely identifies the purpose of the binder, while the four index sheet tabs are marked to indicate the four subdivisions under which bulletins will be issued in 1935.

The information contained in these bulletins is of vital importance in the operation of every Terraplane-Hudson Service Department. Correct filing and easy access is essential if they are to serve their full purpose. This binder is especially adapted for this use, and no Service Department can afford to be without at least one. The price is $1.50 net. Dealers should place their orders with their distributors, and distributors' orders should be placed with the Factory Parts Department.

Information on Ordering Parts

To obtain the best service on parts shipments, orders should be placed on factory forms 3238, 6582, and separate pages, consisting of 4 copies, used for the various classes of material which are identified by the letter prefix on part numbers. The first three copies of each page should be sent to the factory and the fourth copy retained by the Distributor.

Parts are stored at the factory in five different groups, which are, as follows:

Large sheet metal parts (Fenders, bonnets, splashers, etc.)	Group A
Small parts, stored in bins	Group B
Large parts, not adaptable to bins	Group C
Competitive parts	Group F
Accessories	Group HA

Part numbers in each group have the group letter for a prefix. When parts from two or more of these groups appear on the same page, it is necessary to rewrite the order at the factory and shipment of material is delayed. The same applies to orders not placed on factory order forms. All orders for upholstery cloth and upholstered parts must specify the car serial number and the type of cloth, such as brown cord, gray mohair, etc. A sample of cloth should be furnished when possible.

When ordering painted parts specify car number, color of part, and stripe. Stationery and literature should be ordered separate from parts. Perpetual inventory cards form 100 M. C. Co. should be ordered direct from Shaw Walker Master-craft Corp., 6535 Russell Street, Detroit, Michigan.

The packing slip must be returned with a claim of discrepancy in shipment.

1935 Engines

The engines fitted to the 1935 Hudson and Terraplane models, while remaining the same in general design as the ones employed during the past year, incorporate certain refinements which make them even more powerful and efficient. Improvements in cylinder head and combustion chamber design and valve operation permit higher compression and better breathing, resulting in higher horsepower output.

In the 1935 engines the lowest compression ratio used is 6.00:1, which is standard on all models excepting the Hudson Six which carries a 6.25:1 ratio head. One piece cast iron cylinder heads are regular equipment on all models with a special high compression head available as an option. This cylinder head has a compression ratio of 7:1 and is of the composite type, employing an aluminum alloy for the head proper and cast iron for water compartment or top cover. The six cylinder engines employed in the Terraplane Special and DeLuxe models, as well as the Hudson Six model, have cylinders of 3 inch bore and 5 inch stroke, 212 cubic inch piston displacement, and an N.A.C.C. horsepower rating of 21.6.

The Terraplane engines with 6.00:1 ratio cylinder heads develop 88 actual horsepower @ 3800 R.P.M., while the Hudson Six engine with a compression ratio of 6.25:1, develops 93 horsepower @ 3800 R.P.M. When the special 7:1 ratio, two piece cylinder head is fitted, the output of all of the six cylinder engines is increased to 100 horsepower, also delivered at 3800 R.P.M. The engines used in all of the 1935 Hudson Eight models have cylinder dimensions identical with the 1934 cars, namely, 3 inch bore and 4¾ inch stroke. The piston displacement is 254 cubic inches and the N.A.C.C. horsepower rating is 28.8. With the standard 6 to 1 ratio cast iron cylinder head, these engines develop 113 horsepower at 3800 R.P.M., and when the special composite head of 7 to 1 ratio is used, this is increased to 124 horsepower at the slightly higher engine R.P.M. of 4000.

The roll cam design valve tappets which have proven so successful since their introduction a year ago are continued for 1935. A slight modification in the lower part or shoe, however, plays an important part in the improved performance of the new engines. This consists of a change in machining the bottom of the tappet, which comes in contact with the cam, to a larger radius, which considerably increases the effective opening of the valves and permits fuller charges to enter the cylinders. In order to take full advantage of the better "breathing" thus made possible, the contour of the combustion chamber has been slightly altered by adding a step immediately above the exhaust valve which is approximately ⅛" lower than the adjacent portion of the head. This results in better turbulence, more even distribution and better firing of the charge.

Steel cylinder head gaskets with certain modifications are continued on all of the 1935 engines. This material, which is less subject to deterioration by electrolytic action possesses sufficient strength to prevent blowing out between cylinders, which is frequently experienced on high compression engines when copper gaskets are employed. The use of a lighter gauge steel lining for the new gaskets permits the cylinder head to be drawn down tight enough to prevent leaks with considerably less pressure than heretofore, which will also result in much lower strains on the cylinder head studs as well as less cylinder distortion.

From the standpoint of appearance, the piston used in the 1935 Hudson and Terraplane engines perhaps shows more evidence of a design change than any other engine part. Like the pistons previously used, the new parts are of silicon aluminum alloy which is somewhat lighter than aluminum and dissipates heat more rapidly. They are of modified "T" slot design to compensate for expansion and cam ground to give an even bearing on the cylinder wall. Four piston rings are still used, but instead of locating all of them between the piston pin and the top of the piston as has been past practice, the lower oil control ring is now located below the piston pin while the upper oil ring and two compression rings remain above the piston pin. This arrangement provides a wide space or land between the top of the piston and the upper ring and locates all of the rings lower down on the piston, with the result that they are farther removed from the top of the piston or "heat zone" and operate at considerably lower temperatures. This prevents closing of the oil return slots and holes in the rings and pistons due to excessive carbonization of the oil, thus securing much better oil control and oil economy. Locating the lower oil control ring below the piston pin also improves its efficiency by reason of the fact that in its new location near the bottom of the piston it will be relatively unaffected by the slight distortion which is sometimes encountered at the top of the cylinder bores and which is generally caused by uneven or excessive tightening of the cylinder head stud nuts. As has been past practice, all of the piston rings, including the lower oil ring are pinned to prevent rotation and insure proper wearing-in with the cylinders.

Coincident with the redesigning of the pistons a new type of cylinder wall finish is given to the 1935 Hudson and Terraplane engines. This is termed a satin finish and is obtained by using cylinder honing stones of 300 grit instead of the 150 grit stones formerly used. To insure a greater degree of accuracy, an additional honing operation has been added in the finishing of the cylinder bores in which only a very small amount of stock is removed. This removes any possible discrepancies existing after the earlier honing operations due to the hardness of the material used in the cylinder blocks and in conjunction with the finer grit stones provides cylinder bores which have a high finish and are accurate to within very close limits.

1935 Bodies

The Hudson built bodies used on the 1935 Hudson and Terraplane closed models are of all steel construction, incorporating a steel floor as well as a steel roof securely welded to form an integral structure. As with the 1934 bodies, no wood whatever is used for structural purposes, the use of this material being confined to the bows across the top to which the headlining attaches.

Perhaps the most outstanding of the numerous developments and improvements to be found in these new bodies is the steel roof now used on all closed models. With this construction a strong one piece steel pressing arched to the proper curvature and formed with a flange around its circumference is recessed into a corresponding flange, formed in the roof quarter panels to which it is spot welded at close intervals. This welding is for structural purposes only and is not relied upon to obtain a water tight joint. In the groove formed at the junction of the flanges of the steel roof and quarter panels and above the welding a special rubber sealing compound which remains elastic after hardening, is used. This together with a specially designed rubber strip, which tightly fits into the groove on top of the sealing compound and entirely surrounds the steel roof, effectively guards against the entrance of any moisture and gives a finished appearance to the joint. To prevent "drumming," which was the principal objection to the steel roofs used on some of the earlier cars, the steel roof has a layer of sound deadening material cemented to its underside. The wooden bows which extend across the top have wide strips of pressed board attached to their upper edges throughout their full length which do not quite come in contact with the lining of the roof. With this arrangement any up and down movement of the roof resulting from vibration is arrested, eliminating any objectionable noise.

By the adoption of the steel roof and new heavy brackets or reinforcements at the front upper corners, the roof panels and front pillars are tied together much more securely than heretofore. This also permits the elimination of the diagonal roof braces and greatly increases the overall strength and safety of the body.

For the purpose of preventing wind noises, the door hinges are set in closer to the body and rubber wind cords and seals are fitted to the top of the body and windshield pillars in such a manner that they are compressed by the flanges of the front and rear doors. In addition to preventing noise, this, of course, will eliminate the possibility of any water coming in over the tops of the door when driving in heavy rains.

In the designing of the new bodies a great deal of thought and painstaking detail has been given to the matter of preventing the entrance of dust and water, which has become an important factor since the advent of draftless ventilation. All openings in the rear compartments, floor and under seats are now tightly sealed with an elastic rubber sealing compound and rubber or metal plugs. Under the rear quarter windows of the sedan models, large stamped drain troughs provided with suitable drain hoses are fitted, while adequate fabric troughs are used on all coach models. In addition, the quarter window channels have been redesigned so that there is less possibility of water entering at this point. The double rear windows now used are set in rubber and better sealed than heretofore, while in the case of the business and rumble coupe rear window, a splash shield fitted to the large drain trough underneath, prevents water from entering the luggage compartment.

A crank operated worm and sector type of windshield regulator is now used in place of the two position lever type fitted to the 1934 models. This new regulator is simpler, more compact and permits opening the windshield to any degree within its operating range. It is self locking in any position and permits drawing the windshield tightly against the body in the closed position, which increases the effectiveness of the windshield weatherseal.

In designing the cowl for the 1935 bodies, large troughs or drains which have been incorporated in the top section immediately under the rear part of the bonnet effectively prevent any water which may find its way in between the bonnet and cowl, from dripping on the engine and interfering with the ignition.

Adjustable front seats are, of course, retained for all models. The adjusting mechanism has been changed, however, so that instead of a "T" handle which operated by pulling up, the new device has a lever at the left front corner of the seat which, when moved sidewise, releases the lock and permits the seat to be moved forward or backward.

The seat cushions and springs have been redesigned for better comfort and the new method of trimming employed in the 1935 bodies considerably increases the effective width of the rear seat. To take full advantage of this, the rear quarter window operating handle on the sedan models has been moved from the conventional location below to a point above the window where it is out of the way and yet easily accessible.

Draftless ventilation on the Terraplane Special series cars is obtained in a somewhat different manner than on the other models, in that there are no separate ventilating wings fitted to the front doors. Instead the front door regulator mechanism is designed to both raise and lower the one piece glass as well as to move it forward and backward. This is done by movement of the single crank, the turning of which raises the glass, and continued movement after the glass is raised results in the window moving forward in the door. With this arrangement, it is possible to have an opening at the front edge of the window up to one inch in width, which together with the sliding rear quarter windows on the sedan models provides a simple and effective means of individual ventilation. New door glass channels and a felt covered weatherstrip which is pressed against the inside of the door glass its entire width by the garnish moulding, minimize window rattles and air currents entering the body.

The Electric Hand

Transmission Control

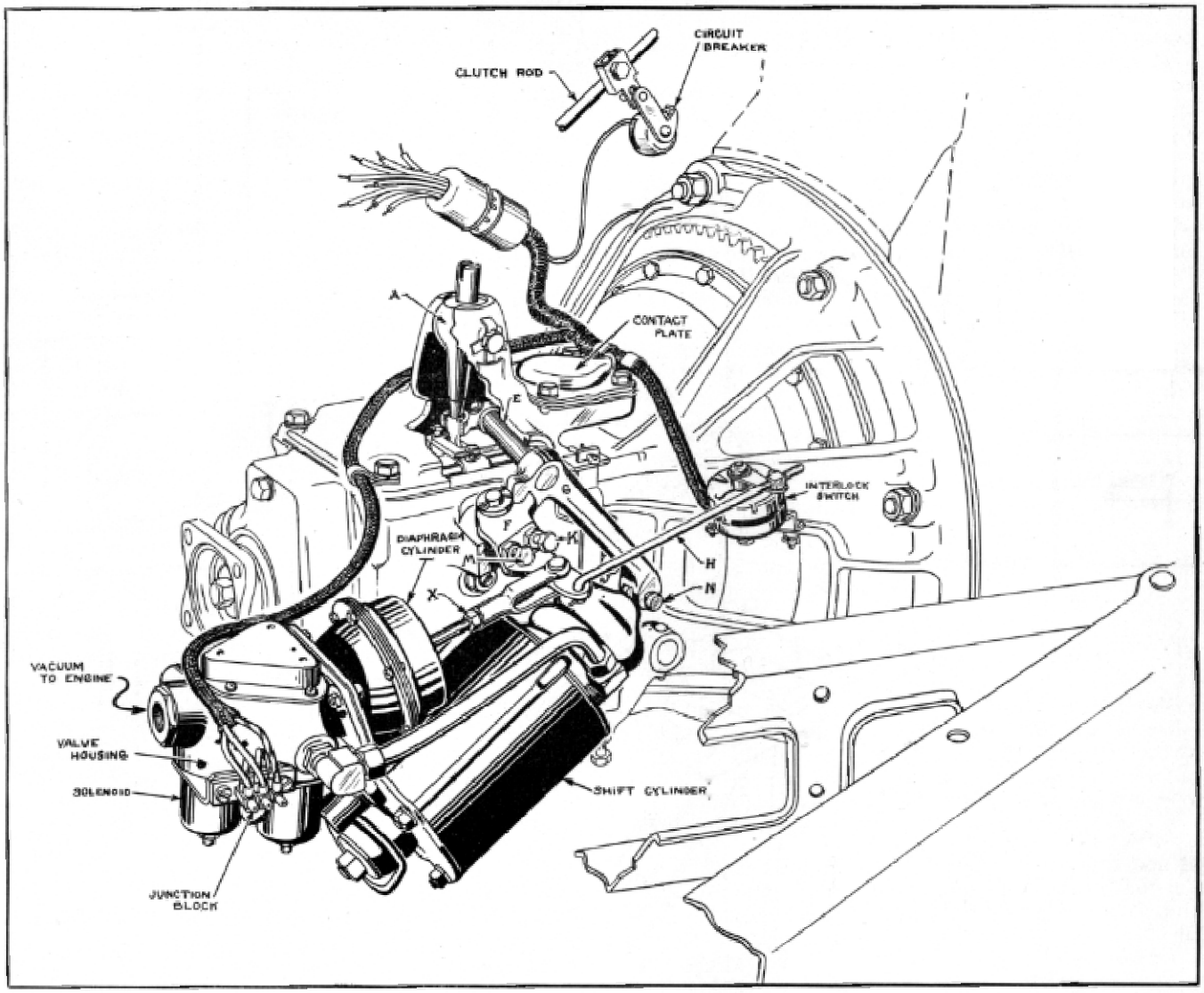


Figure 1

The Electric Hand provides a means of mechanically performing shifting operations formerly done manually.

The conventional selective type transmission has two shifting rails, each having a neutral, a forward, and rearward position. The selection of the proper rail is obtained by moving the shifting lever sideways to engage a slot in the fork of the rail desired after which movement of the rail and gear engagement is obtained by moving the shifting lever forward or backward. These same operations are performed by the Electric Hand.

The diaphragm cylinder contains a spring which presses forward holding bellcrank F in the position shown so that the shifting lever is held to the left in engagement with the slot in the fork of the high and second shifting rail. By admitting vacuum to the rear of the diaphragm it is moved backward, rotating F clockwise, drawing lever G to the right and also the shifting lever into engagement with the slot in the fork of the low and reverse shifting rail. Referring to Fig. 2, the vacuum connection is shown from the diaphragm cylinder to the valve controlled by solenoid No. 3. The Plunger 22 is held in the upward position by its return spring, the vacuum from the engine is cut off and the atmospheric vent is connected below the plunger to the diaphragm cylinder line allowing the spring Y to force the diaphragm forward.

When the solenoid is energized, plunger 22 is drawn down, cutting off the atmospheric vent and connecting the engine vacuum around the reduced diameter of the plunger, to the diaphragm cylinder (Fig. 3).

Continued on page 9

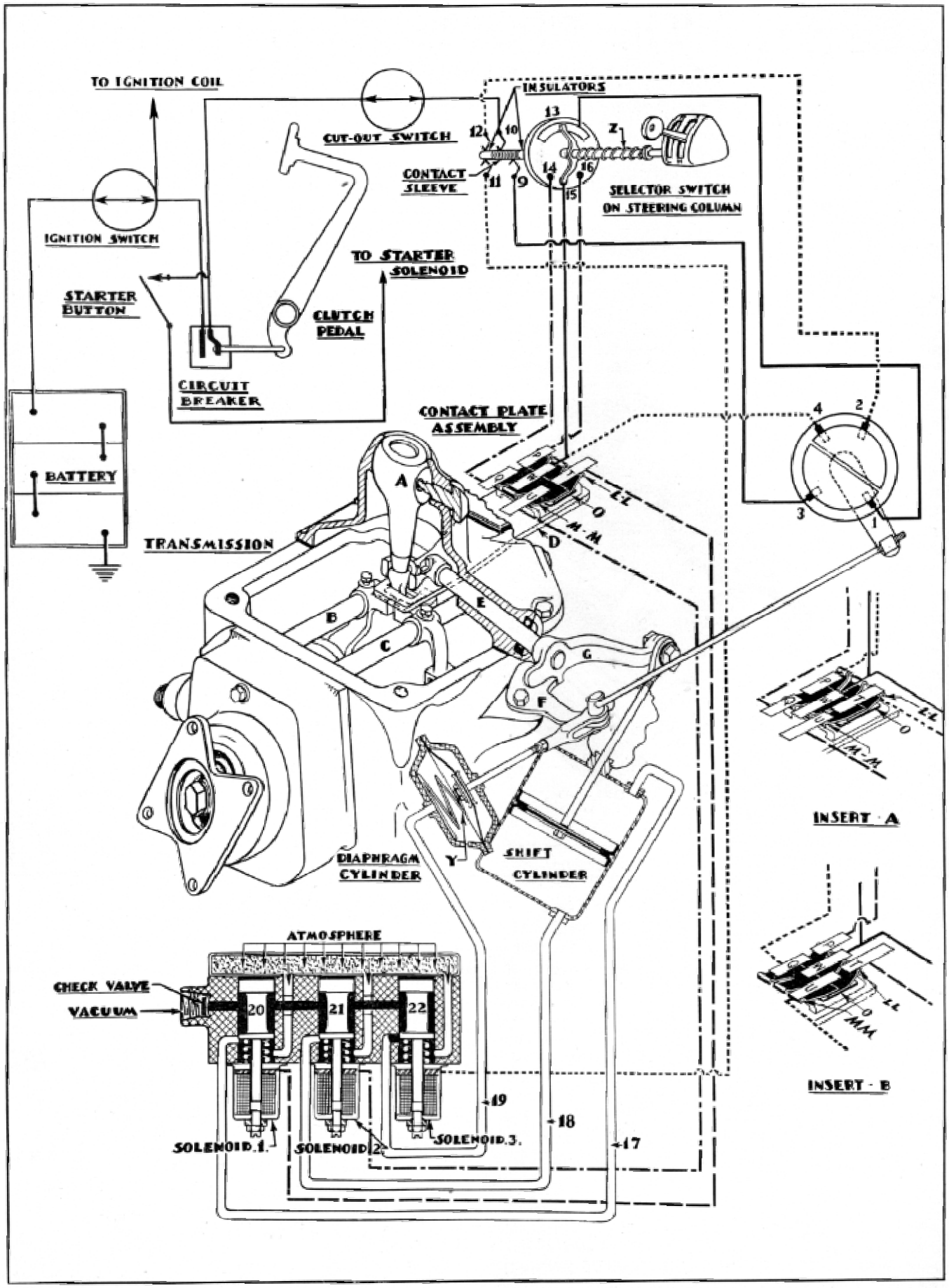

TO IGNITION COIL
CUT-OUT SWITCH
INSULATORS
CONTACT SLEEVE
SELECTOR SWITCH ON STEERING COLUMN
IGNITION SWITCH
TO STARTER SOLENOID
STARTER BUTTON
CLUTCH PEDAL
CIRCUIT BREAKER
BATTERY
CONTACT PLATE ASSEMBLY
TRANSMISSION
DIAPHRAGM CYLINDER
SHIFT CYLINDER
INSERT - A
INSERT - B
ATMOSPHERE
CHECK VALVE
VACUUM
SOLENOID 1.
SOLENOID 2.
SOLENOID 3.

Figure 2

Continued from page 7

When solenoid No. 3 is not energized the spring Y holds the shifting lever "A" engaged with the high and second shift rail (Fig. 2).

When solenoid No. 3 is energized the vacuum draws the diaphragm backward, holding the shift lever "A" engaged with the low and reverse rail (Fig. 3).

The Shift Cylinder has a vacuum line connected to both the front and rear of the piston. The connection to the front is connected to the valve controlled by solenoid No. 1 and the connection to the rear to the valve controlled by solenoid No. 2. The linkage between the Shift Cylinder Piston and the lower end of the shift lever "A" requires both to move in the same direction.

When solenoid No. 1 is energized, the piston and lever "A" move forward. When solenoid No. 2 is energized, the piston and lever "A" move backward. When neither No. 1 nor No. 2 solenoid are energized both sides of the shift cylinder are open to the atmosphere and the piston is at rest.

Solenoid No. 1 is connected to the stationary bar T of the contact plate and will be energized whenever the circuit from the battery is completed to T. Likewise, solenoid No. 2 is connected to stationary bar U of the contact plate and will be energized by completing the battery circuit to U.

The sliding contacts LL and MM are insulated from each other as well as from their mounting and are moved forward or backward with the transmission lever movement through the connecting bar D. Sidewise movement of the shifting lever "A" does not affect the position of the sliding contacts LL and MM.

The circuit from the battery to T can be completed through the three fingers of sliding contact LL, from either the stationary bar W or P; while the circuit from the battery can be completed to bar U through the three fingers of sliding contact MM from stationary bars O or W.

The connection from solenoid No. 3 is direct to contact 11 on the shaft of the selector switch.

From the preceding explanations the following facts have been established:

(1) *Where the circuit is completed from the battery to T the shifting rail movement will be forward.*

(2) *When the circuit is completed from the battery to U the shifting rail movement will be to the rear.*

(3) *When the circuit to 11 is open, the shifting lever "A" will be pressed toward the notch in the high and second shifting rail, B.*

(4) *When the circuit 11 is closed, the shifting lever "A" will be drawn toward the low and reverse shifting rail, C.*

The selector switch, in conjunction with the contact plate and the interlock switch (Fig. 1), controls the circuits to these points.

The selector switch Fig. 2 has five positions arranged in the form of the letter H. The cross bar represents the neutral position while the four ends of the uprights of the H correspond to the four gear positions of the transmission and are arranged in the same order as the positions of the conventional transmission shifting lever.

In Fig. 2 the selector switch is shown in its normal neutral position. The spring "Z" holds the shaft and the lever to the right end of the cross bar of the H in line with the high and second gear positions. Note that this corresponds to the normal position of the shifting lever "A" which is held in proper engagement for a direct shift into high or second by the spring "Y" of the diaphragm cylinder. It is, therefore, unnecessary to provide a contact for 11 for shifting to high or second gear as no cross shift is required and 11 rests on an insulated sleeve on the selector switch shaft. If, however, the control lever is pushed to the left of the cross bar, in line with low and reverse positions, it is necessary to have a cross shift to engage the low and reverse shifting rail. The contact sleeve on the selector switch shaft is moved to the left by the left movement of the control lever so that it is contacted by 11.

The rotating motion of the selector switch lever rotates a contact bar which is always in contact with sector 13 and also contacts 14 when the lever is in reverse or second, 15 when in neutral and 16 when in high or low.

Having now provided the means of shifting the transmission and a switch for selecting the gear required, the actual circuits for obtaining the desired movements for a given position of the transmission and selector switch will now be considered.

The circuit from the battery leads to the ignition switch to the circuit breaker on the clutch pedal, (circuit closed with clutch depressed) the cut off switch on the selector switch housing to contact 10 which is at all times in contact with the sleeve on the shaft of the selector switch.

With the selector switch in the normal neutral position and the transmission in neutral as shown in Fig. 2 the circuit from 10 is completed to 9 to 3 and 1 on the interlock switch to 13 and 15 on the selector rotary switch to contact bar W. (Circuit shown in solid lines.)

With the transmission in neutral, neither LL nor MM contact W, so that the circuit is broken at this point and no movement of the shift rails is obtained.

If, however, the transmission were in high gear, the shifting lever "A" would be forward holding LL and MM forward as shown in Insert A. This would bring the middle finger of MM in contact with W closing the circuit to U and solenoid No. 2, and the shifting lever "A" would be moved backward to neutral at which point contact would be broken as in the main diagram of Fig. 2 and movement would cease.

With the transmission in second gear the contacts LL and MM would be moved backward (Insert B) and contact would be made from W to LL to solenoid No. 1 and the shifting lever would move forward to neutral breaking the contact.

It is readily seen that moving the selector switch down into high gear position would not affect the

circuit except from 13 to 16 which would connect (circuit in broken line) to P through LL to solenoid No. 1 and shift rail B would be moved forward from neutral engaging high gear. As the shifting lever and rail moved forward LL and MM would also move forward and the contact between P and LL would be broken, as shown in Insert A. Note that contact is made from P to LL to T with the contact plate either in neutral or the backward position; and the shift would be made to high gear if the transmission was in either second or neutral when the selector switch was moved to high gear position.

Now, moving the selector switch over to the second gear position completes the circuit (dash dot lines) from 13 to 14 to Q through MM to solenoid No. 2, moving the shift rail B backward from neutral to second gear position at which point the contact between Q and MM is broken (Insert B).

Note that contact is completed from Q to MM to U both with the contact block in neutral and the forward position so that the shift would have been made to second gear if the transmission were in either high or neutral when the selector switch was moved to the second gear position.

Fig. 3 shows the selector switch in neutral but moved to the left of the cross bar of the H and the transmission in neutral. With the left movement of the selector switch lever, the contact sleeve has also moved to the left, breaking contact with 9 and contacting 11 and 12. (Completed circuits shown in solid lines.) Solenoid No. 3 having been energized from contact 11 has moved the shifting lever into contact with the fork of shifting rail C so that forward and backward movement will now engage low or reverse gears. Note also that the interlock switch has been turned by the backward movement of the diaphragm.

The circuit from 12 is to 2-1 on the interlock switch to 13 to 15 to W. This duplicates the condition in Fig. 2 so that the transmission will be returned to neutral from either low or reverse. Turning the selector to contact 14 now corresponds to reverse and 16 to low gear and forward or backward movement of the shifting lever will engage and disengage low and reverse in the same manner that high and second were controlled in Fig. 2. (Circuit for low shown in broken lines, circuit for reverse in dot and dash.)

Fig. 4 shows the transmission in low gear and the selector switch in high. The shifting lever is held to the right as the spring Y cannot force it to the left until the shifting rail has moved to neutral, and the interlock switch is still held in the low and reverse position as in Fig. 3.

When the clutch pedal is depressed the circuit (solid lines) is closed through 10-9 to 3-4 on the interlock switch to W. As shown previously, a completed circuit to W caused the transmission to move to neutral. In this instance the controlling circuit (solid lines) is from W through MM to U to solenoid No. 2 and the first part of the shift will be from low to neutral.

As soon as the shifting lever "A" reaches the neutral position, the spring Y forces it to the left to engage in rail B. This cross movement also turns the interlock switch back to the high and second position as shown in the insert, so that the circuit from 9 is changed (changed circuit shown in broken lines) to 3 to 1 on the interlock switch to 13 and with the selector switch set for high gear, to 16 to P—LL to T and a normal shift from neutral to high is made.

Had the selector switch been set in second gear the connections would be the same until neutral is reached when the circuit will be completed (circuit in dot and dash) from 13 to 14 to Q—MM to U, causing a normal neutral to second shift.

Fig. 5 shows the transmission in high gear and the selector switch set for low. The interlock switch is in the high and second position.

When the clutch pedal is depressed (completed circuits in solid lines) the circuit is completed from 10 to both 11 and 12. The circuit from 11 energizes solenoid No. 3, but since the shifting lever "A" cannot move to the right until shift rail B reaches the neutral position, no movement is caused and the interlock switch remains in the high and second positions.

The circuit from 12 is completed to 2-4 on the interlock switch to contact bar W through MM to U, causing the shift rail B to be moved backward to neutral. Here the movement is arrested by breaking contact between W and MM and the vacuum acting on the diaphragm causes the shift lever "A" to move to the right rotating the interlock switch to the low and reverse position.

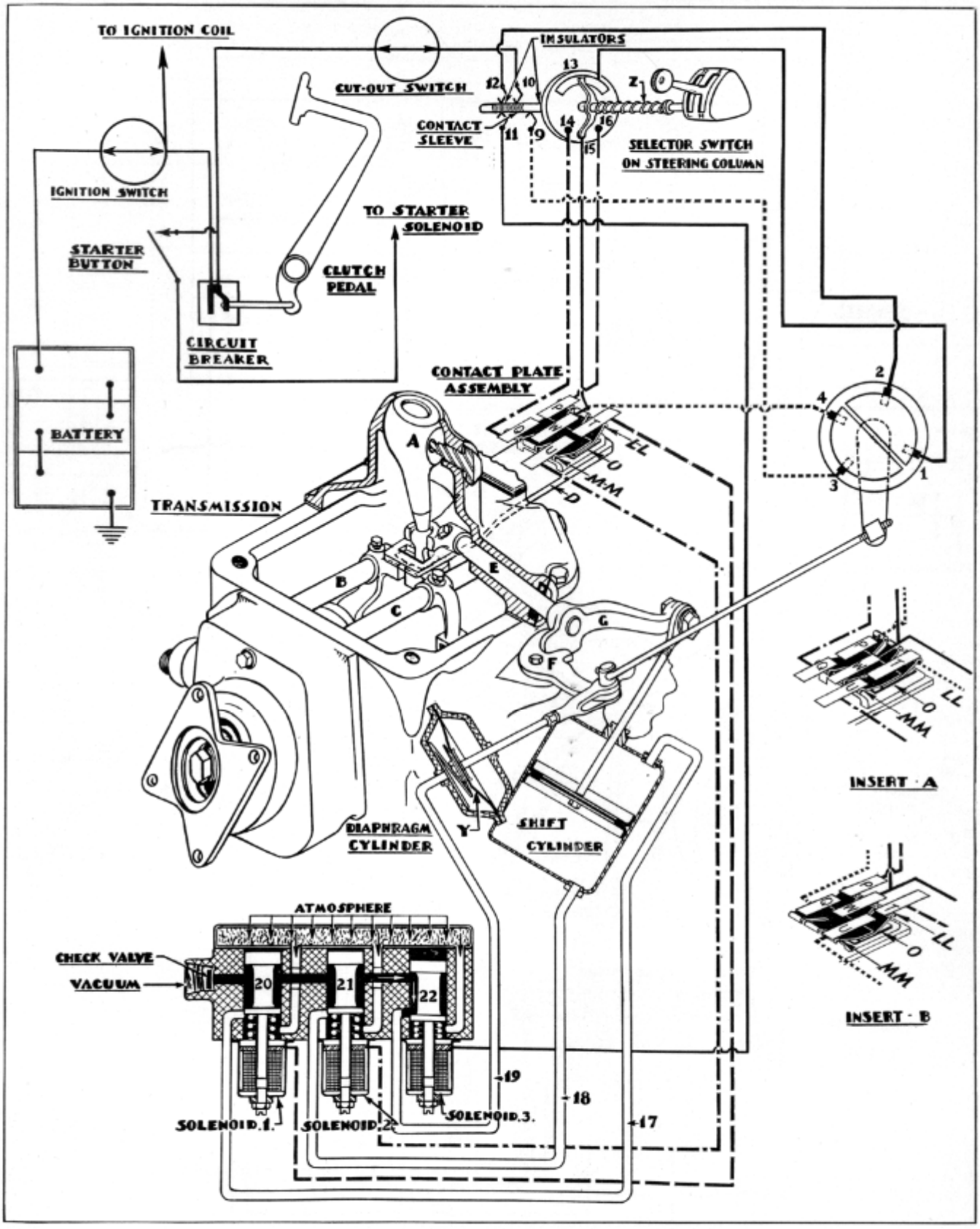
The circuit from 12 has now been changed as shown in the insert and is completed (circuit in broken line) through 2-1 of the interlock switch to 13 to 16 to P through LL to T causing a normal neutral to low shift.

Had the selector switch been set to reverse, connecting 13 and 14, the circuit (circuit in dot and dash) would then have been completed to Q through MM to U, causing a normal neutral to reverse shift.

In this discussion it has been seen that the interlock switch has no function so long as the selector switch and the gear shift lever are set so that a straight forward or backward movement of the shift lever "A" is required; however, if a cross movement of the shifting lever "A" is required to complete the desired shift, it requires the transmission to come to neutral and will not permit any further movement of the shifting rails until the cross movement is completed.

As a safety factor the circuit breaker makes it impossible to make a shift until the clutch has been disengaged.

Due to the fact that the selector switch lever can be moved to any position after the engine has been stopped without a shift being made, it is impossible to tell by the position of the selector switch lever whether or not the car is in gear when the engine is dead. To prevent starting of the engine with the car in gear a circuit breaker on the clutch pedal requires the disengagement of the clutch before the starter switch circuit is complete.


TO IGNITION COIL
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INSULATORS
CONTACT SLEEVE
SELECTOR SWITCH ON STEERING COLUMN
IGNITION SWITCH
TO STARTER SOLENOID
STARTER BUTTON
CLUTCH PEDAL
CIRCUIT BREAKER
BATTERY
CONTACT PLATE ASSEMBLY
TRANSMISSION
DIAPHRAGM CYLINDER
SHIFT CYLINDER
ATMOSPHERE
CHECK VALVE
VACUUM
SOLENOID.1.
SOLENOID.2.
SOLENOID.3.
INSERT · A
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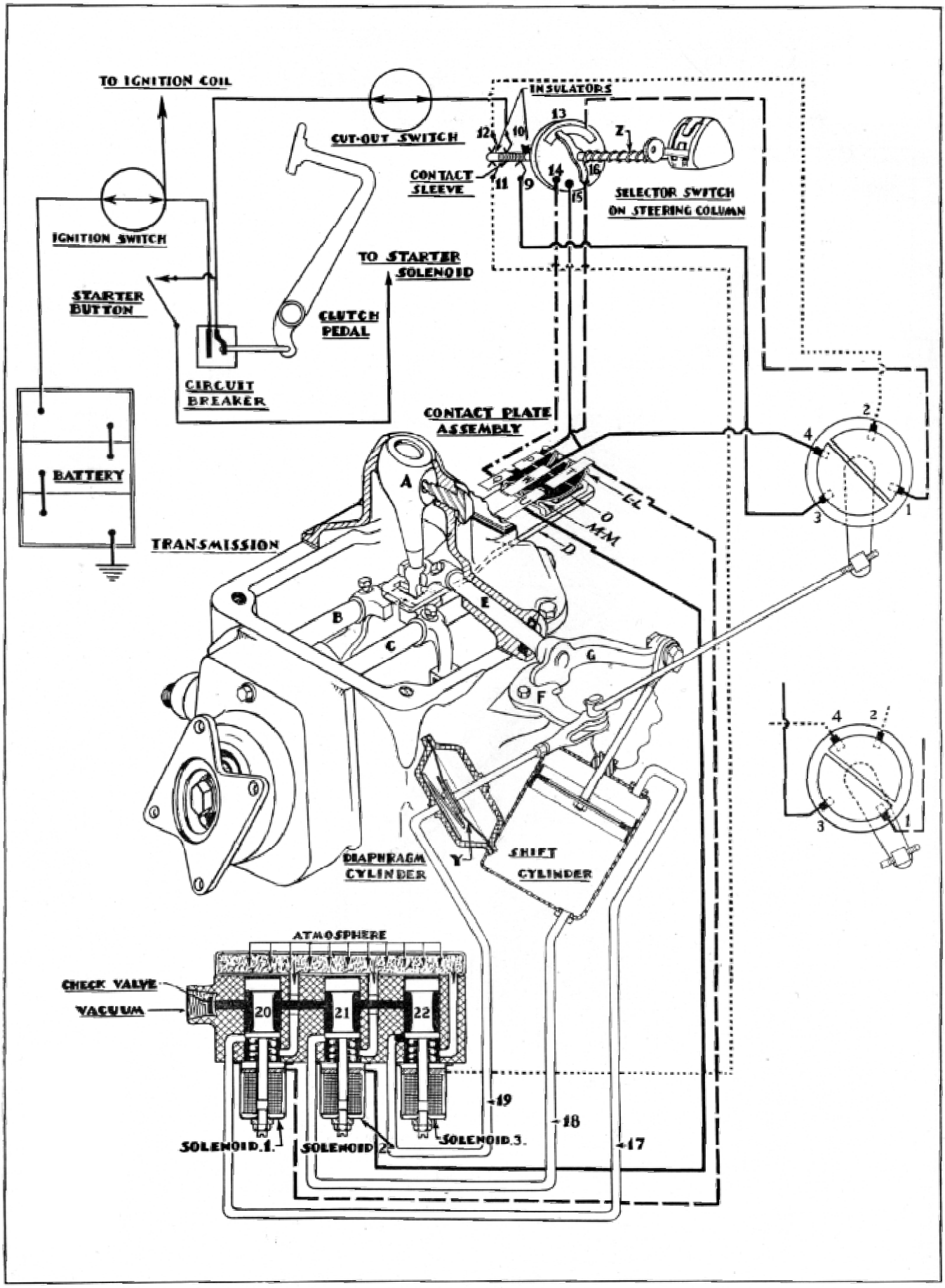
Figure 3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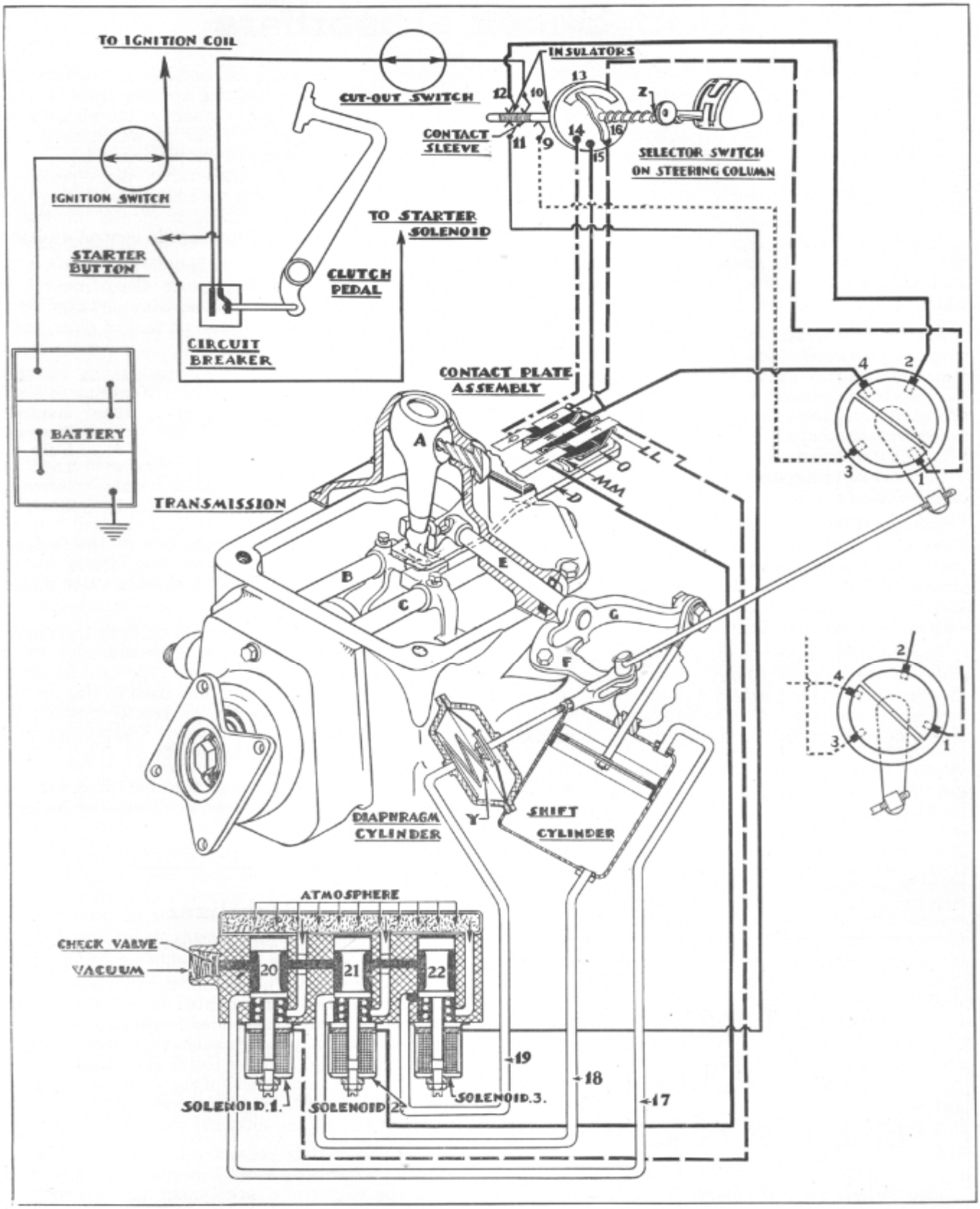
TRANSMISSION
DIAPHRAGM CYLINDER
SHIFT CYLINDER
ATMOSPHERE
CHECK VALVE
VACUUM
SOLENOID 1.
SOLENOID 2.
SOLENOID 3.

Figure 4


TO IGNITION COIL
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CONTACT PLATE ASSEMBLY
BATTERY
TRANSMISSION
DIAPHRAGM CYLINDER
SHIFT CYLINDER
ATMOSPHERE
CHECK VALVE
VACUUM
SOLENOID.1.
SOLENOID.2.
SOLENOID.3.

Figure 5

1935 Shock Absorbers

The shock absorbers on 1935 Terraplane and Hudson cars are of the direct action type having a large control capacity with low oil pressures. This together with the fact that the oil seal can be placed approximately six inches above the oil in the reservoir practically eliminates oil loss, thus maintaining original control for an extremely long period.

The passages for the flow of oil through the pistons have been designed so that no "swishing" of the oil will be heard when the shock absorbers are operated. This has been obtained by a new valve construction which also improves the ride control.

The shock absorber pistons are fitted with a valve which is completely closed at the beginning of the rebound stroke. When a predetermined pressure is built up in the working cylinder, the valve is forced open and oil is passed through until the chassis spring movement is dampened and the pressure decreases below that required to open the valve. The valve then closes stopping the flow of oil and bringing the chassis spring to rest.

The pressure at which the valve used in the Terraplane shock absorber opens is determined by the weight of a spring steel disc which is permanently assembled to the piston. By replacing the piston assembly with one having a spring disc of different weight, the ride control can be changed.

The following table shows the piston assemblies available through the factory parts department for the Terraplane shock absorbers together with part numbers, piston, identification numbers (stamped on upper face of piston) and the control obtained.

Part No.	*Part Name*	*Identification Number*	*Control Obtained*
47740	Front Piston and Valve Assembly	A4215	Standard
47741	Rear Piston and Valve Assembly	A4026	Standard
47742	Front Piston and Valve Assembly	A5015	Heavy
47743	Rear Piston and Valve Assembly	A4824	Heavy
47744	Front Piston and Valve Assembly	A3615	Light
47745	Rear Piston and Valve Assembly	A3426	Light

The valves used in the Hudson shock absorbers are held closed by a helical spring and are assembled to the piston rod and held in place by the piston and piston nut. The parts in order in which they are assembled on the piston rod are: piston rod bushing—valve spring—valve plate—valve disc—piston—piston nut. The control is variable by replacing the valve plate with one having a greater or lesser capacity depending on the change in control desired.

The following table shows the valve plates available through the factory parts department for Hudson shock absorbers together with part numbers, identification numbers (etched on face of plate) and the control obtained:

Part No.	*Part Name*	*Identification Number*	*Control Obtained*
47746	Valve Plate—Front	10	Standard
46026	Valve Plate—Rear	7	Standard
47748	Valve Plate—Front	8	Light
46028	Valve Plate—Rear	6	Light
47747	Valve Plate—Front	11	Heavy
47748	Valve Plate—Rear	8	Heavy

All shock absorbers fitted to cars at the factory and service units supplied by the factory parts department will be fitted with pistons or valve plates to give standard control.

The rubber cushion mountings on both the upper and lower ends of the shock absorbers have been redesigned. They are of the same type used in 1934, however all parts have been increased in size giving larger bearing areas as well as greater cushioning by virtue of the resultant increase of approximately 75% in the volume of rubber used.

Terraplane-Hudson shock absorber fluid can be obtained on regular parts orders from the factory parts department.

Stabilizer

All cars equipped with Axleflex will also carry a rear spring stabilizer; the function of which is to reduce body sway. The stabilizer consists of a $\frac{13}{16}$" molybdenum steel bar mounted in the frame side members on rubber suspended bearings of graphite bronze. An arm is splined to each end of the stabilizer bar and connected by links to the rear spring center mounting. The forward end of the arms carry rubber bushings lined with graphite bronze sleeves; while the lower end of the links are mounted in rubber.

In operation it is necessary for the stabilizer to twist to permit body sway. Since molybdenum steel has a high degree of elasticity, the bar will twist to resist body sway and bring the body back to normal position as soon as the sidewise force tending to tip the body is overcome.

1935 Brakes

Bendix Equal Action Duo Servo Type Rotary Equalizer—Cable Control

The 1935 Terraplane and Hudson Brakes are of the Bendix Equal Action Duo Servo type and incorporate a number of new features which insure equal, softer action, increased power, longer life and make the need for adjustment less frequent.

The brake drums are heavier than those formerly used and are machined and polished on the wearing surface. The maximum tolerance for eccentricity has been reduced to .005".

The brake shoes have been redesigned so that they more readily conform to the contour of the drum, thereby giving more equal pressure over the entire contact surface. This results in less lining wear and reduced tendency to score or distort the brake drums.

The brake control layout, Fig. 1, has been completely redesigned to insure equal movement transmitted to each brake shoe regardless of the force applied to the pedal. The pedal push rod acts directly against the left end of a rugged drop forged Rotary Equalizer which is pivotted under the center of the frame "X" member. The four cables connecting to the wheel brakes are attached to the Rotary Equalizer, each located 1⅞ inches from the pivot pin, and all at the same angle to their leverage arms represented by a line drawn through the attaching clevis pin and the equalizer pivot. (Fig. 1—upper insert). This insures equal movement of all cables throughout their entire range of movement. Since the connections are close to the pivot and the section of the drop forged Rotary Equalizer is large, any possibility of distortion even under loads of several times that which it is possible to apply to the pedal, is eliminated.

The hand brake has been located to the left of the driver with the mounting on the body dash panel. The lever extends downward from the pivot on the dash bracket so that the hand grip is conveniently located just below the instrument panel. The hand brake lever is connected to the right side of the Rotary Equalizer by a cable and actuates all four wheel brakes.

General Adjustment Instructions

The Brake Control System: The proper functioning of the brake control system is of vital importance. A freely operating brake control system permits its return to the stop provided which is a return rest at the rotary equalizer on the chassis. With the brake control system returning to the maximum released position, a longer period of operation can be expected before readjustment is necessary. No backlash should be present at the brake pedal or at the operating lever of each brake. See Paragraph 4 for adjustment of pedal rod. Do not adjust cable length except with shoes expanded as outlined in Paragraph 8.

Lubrication: The brake pedal and rotary equalizer bearings, clevis connections and other frictional parts of the braking system should be lubricated every 1000 miles of car service to insure their free return to the stops provided. Lubrication of the cable and conduit control is described in Paragraphs 14 and 15.

Return Springs: To hasten the release action of a brake control system that has been in service some time, the uniformed mechanic will some times install additional return springs at various points in the brake control system. This is detrimental to satisfactory brake performance, will increase the pedal pressure and is entirely unnecessary. It will be found that correct lubrication and proper adjustment will produce satisfactory operation of the brake control system. Check all return springs. Replace, if found weak or broken.

General Points of Importance: Satisfactory braking performance can be obtained only when all four brakes are functioning alike. The brake control system should be well lubricated, the spring clips holding the chassis springs to the front and rear axles tight, wheel bearings properly adjusted, and the four brakes balanced. The braking system should be broken-in carefully just the same as other mechanical units of the car. Hard application of the brakes before the linings have become polished may gall the linings or score the drums. It is very essential that the parking brake system be effective at all times. Adjustment for lining wear should be made when the brake pedal can be depressed within 1½" of the toe board at the end of a heavy brake application.

Oily or Greasy Brake Lining: Much braking trouble will be avoided if the lubrication of the rear axle and front wheel bearings is held to the correct amount and not over-done. Where it is found that the brake lining has become excessively saturated with oil or grease, heavy pedal pressure or possibly sensitive brake action will result and the only cure is replacing the brake lining. If molded lining becomes not overly saturated with the lubricant it may be possible to remove the lubricant from the lining with the use of high test gasoline.

Lining Renewal: When lining renewal is required, use only genuine Hudson-Terraplane lining which is available from the factory parts department, boxed in complete sets (lining and rivets for one car).

There are only two adjustments in a braking system of this type to compensate for brake lining wear. These points (at the brakes proper) are as follows:

Continued on page 17

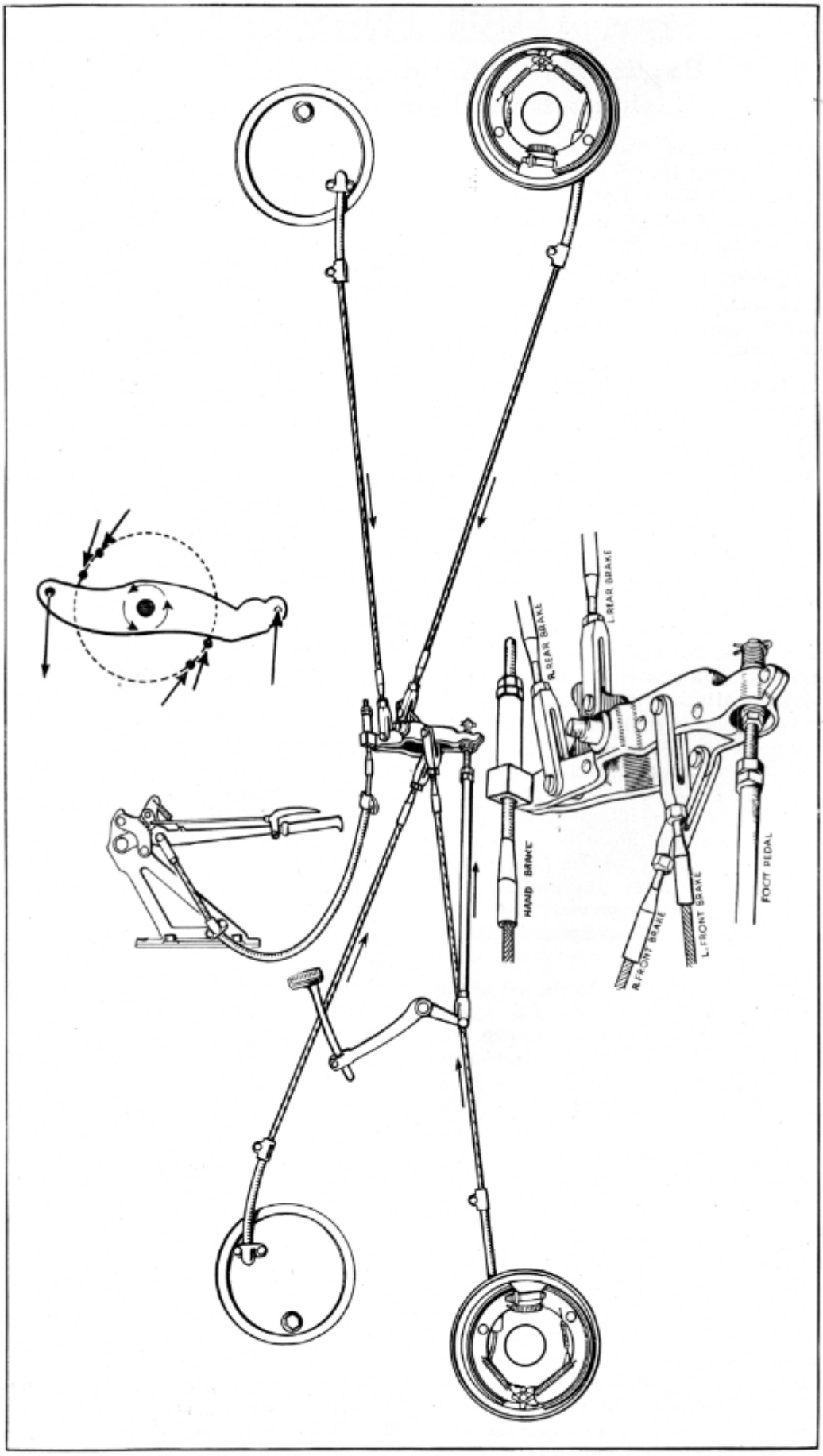

R.REAR BRAKE
L.REAR BRAKE
HAND BRAKE
R.FRONT BRAKE
L.FRONT BRAKE
FOOT PEDAL

Figure 1

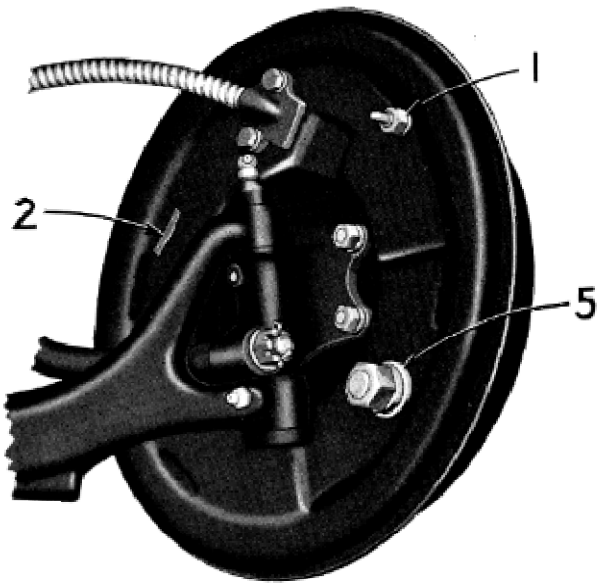


Figure 2—Left Front Brake

Continued from page 15

The Eccentric Adjustment—1-Fig. 2. This adjustment centralizes the brake shoe in the brake drum.

The Adjusting Screw—Fig. 3. This adjustment centralizes the clearance between the brake lining surface and brake drum to compensate for lining wear.

Do not make any adjustments in the brake control system to compensate for brake lining wear. Remember the only adjustments for lining wear are at the brake shoes, and not in the control system.

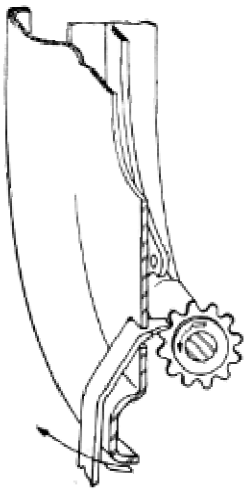


Figure 3

Adjustment For Wear Only

1. Jack up all four wheels in a safe manner.
2. Disconnect all four cables leading to front and rear brakes at the rotary equalizer, by removing clevis pins.
3. Lubricate brake pedal, hand brake lever, rotary equalizer bearings, over-running linkage and all clevises. See that pedal, hand lever, rotary equalizer operate freely and that linkage returns sharply to release stop when pedal and hand lever are released.
4. With the rotary equalizer against the frame bracket stop and the hand lever in the full "off" position, adjust the lock nuts on the lower end of the pedal push rod so that they are against the pedal push tube when the pedal shank is against the rubber bumper on the underside of the toe board bracket. Adjust the sleeve on the end of the hand brake cable so that it is just against the rear face of the rotary equalizer. Be sure the Rotary Equalizer is still against the frame bracket stop after the above adjustments are made.
5. Remove all wheels.
6. Remove adjustment hole covers from brake backing plates (2-Fig. 2) and inspection hole covers from brake drums.
7. *At All Wheels:* Loosen eccentric lock nut (1-Fig. 2) on eccentric adjustment and insert .010″ feeler gauge between the lining of top shoe and brake drum (Fig. 4). Turn the eccentric adjustment in the direction of forward wheel revolution until .010″ feeler is just snug at anchor and adjusting ends of top shoe. Tighten eccentric lock nut. The clearance at both ends of top shoe should not vary more than .003″. Should the variation at both ends be greater than .003″ it will be necessary to relocate anchor pin as outlined in Paragraph 17. (In case of clearance variation it is desirable that clearance at anchor end of shoe be less than at adjusting end). (See Paragraph 19 on varying Servo Action.) *Do not adjust anchor pin unless this inspection shows it necessary.*
8. *At All Wheels:* Expand the brake shoes by turning notched adjusting screw toward rim of backing plate, using Bendix adjusting tool or screw driver (inserted through backing plate), moving outer end of tool toward center of wheel (Fig. 3). Continue until brake drum can just be turned by hand.
9. Pull cables by hand toward rotary equalizer to remove all cable slack and lost motion at cam levers. Adjust clevises so that pin will just enter clevis and rotary equalizer freely. Lock clevis jam nuts and insert clevis pin cotters.

1. Primary Shoe
2. Adjusting Screw
3. Adjusting End of Shoe
4. Secondary Brake Shoe
5. Anchor Pin
6. Primary Shoe Return Spring
7. Cable Return Spring
8. Backing Plate
9. Adjusting Screw Spring
10. Secondary Shoe Return Spring
11. Operating Lever Anti-Rattle Spring
12. Operating Lever
13. Brake Shoe Hold Down Spring
14. Eccentric

Primary and secondary brake shoes are marked with a "P" and "S" respectively. Irrespective of the position in which the brake assembly is mounted on the axle, the primary shoe is always the one "ahead" of the anchor in the direction of the forward rotation of the drum, and transmits servo action to the secondary shoe during a forward braking application. In reverse braking the opposite brake action takes place. The heavier shoe return spring must always be attached to the shoe which "hides" the brake operating lever.

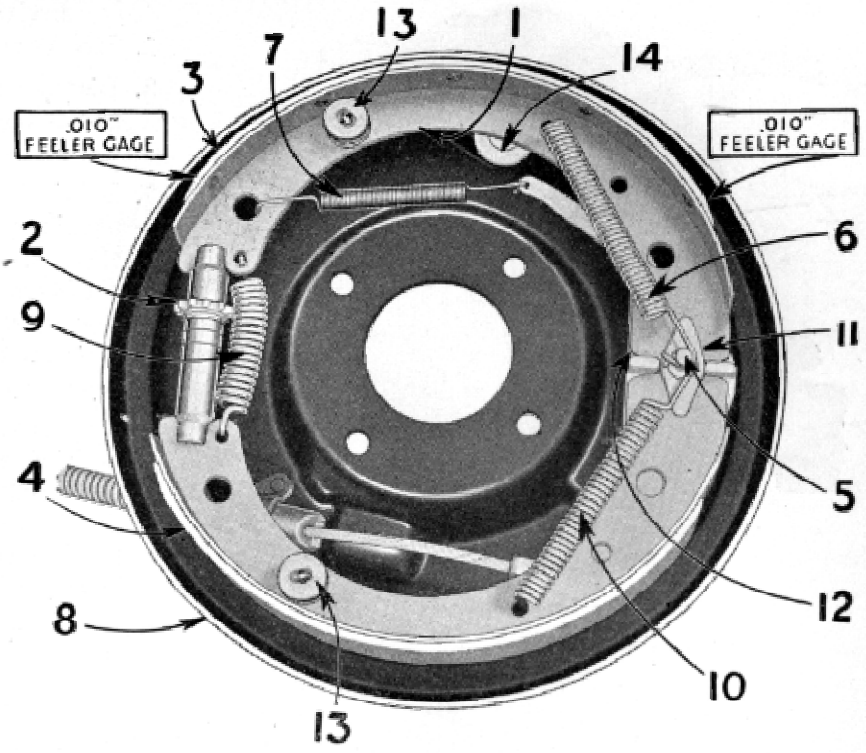


Figure 4—Left Rear Brake Brake Control System

10. Release adjusting screw the same number of notches at each wheel until brake drums are completely free of brake drag. Twelve to fourteen notches usually are sufficient.

11. Depress brake pedal with pedal jack or set hand lever until wheel with the least brake drag can just be turned over by hand. Then back off the adjusting screw on the tight brakes until the brake drag is alike on all four wheels. Pedal reserve should not be less than one-half of total pedal stroke. Recheck adjustments if pedal reserve is less than this.

12. Reassemble the covers at each drum inspection and adjustment hole.

13. Lower car and test on brake testing machine or road. *Always loosen adjusting screw on tight brakes rather than tighten adjusting screw on loose brakes.* This is a safeguard against a car going into service with one or more brakes too tight.

Complete Brake Adjustment

NOTE: These complete brake adjustment instructions are to be followed in cases where an inspection, as in paragraph 7, shows that an adjustment for lining wear only will be inadequate or where new shoes have been installed.

When a complete brake adjustment is required it is recommended that all brake drums be removed and cleaned and brakes cleaned and inspected as to lining condition. After cleaning with a stiff brush and air hose, Bendix Lubriplate grease should be lightly applied to cable ramp, shoe support ledges on backing plate, eccentric, shoe ends and all moving parts at frictional contact points.

After the car has been jacked up, with cables disconnected at rotary equalizer, and the drums and shoe removed continue as follows:

14. Lubricate cable and conduit assemblies by disconnecting cable at brake operating lever, cleaning exposed portion of cable and then pulling cables thru conduits from the brake end to expose that portion of cable which is sheathed by conduit. Clean this portion of cable, lubricate freely with Bendix cable lubricant.

15. Return cable into conduit and connect to brake operating lever, leaving rotary equalizer clevises disconnected. Conduit ends *must always be firmly bottomed in abutment brackets.*

16. Reinstall shoes and shoe parts and drums. Remove adjusting hole covers from backing plate and covers from drum feeler gauge holes if this has not been done.

17. *Anchor Pin Adjustment:* At all four wheels loosen the anchor pin nut (Fig. 5) one turn and tap anchor pin slightly in necessary direction with a soft hammer, and turn the eccentric in the direction of forward wheel rotation to give the specified clearances of .010″ at the adjusting screw end and .010″ at the anchor end of the shoe against which the eccentric operates. TIGHTEN THE ANCHOR PIN NUT AS TIGHT AS POSSIBLE WITH A SIXTEEN INCH WRENCH. Tighten eccentric lock nut. Recheck clearances to insure tightening anchor nut has not disturbed lining to drum clearance.

Figure 5
Sliding Adjustment Type Anchor

18. Continue adjustments as outlined in Paragraphs 8, 9, 10, 11, 12 and 13.

19. *Varying the Amount of Servo Action:* Normal Servo Action is obtained when equal clearance is maintained around the primary shoe. Less clearance at the toe than at the heel of the primary shoe increases the Servo Action. This reduces the pedal pressure required for a given braking effect, however, an excessive variation of this kind will make the brake action severe.

More clearance at the toe than at the heel of the primary shoe will reduce the Servo Action. This will "soften" the brake action, however, and extreme adjustment of this kind will materially increase the pedal pressure required.

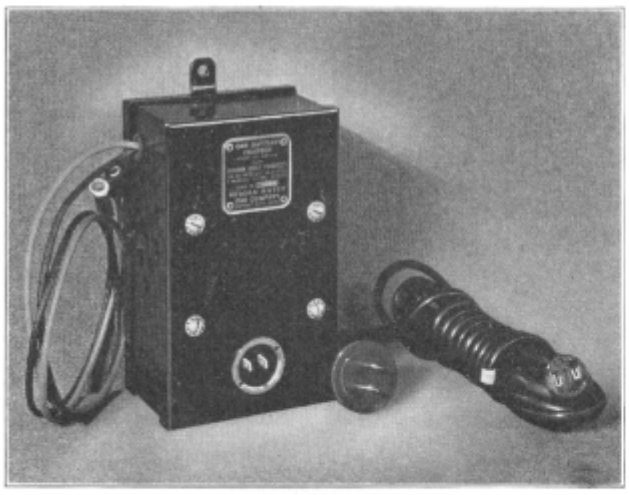
Although .003″ variation in lining clearance is allowed per shoe, it is essential that the variation on all primary shoes on a given car tends to increase the Servo Action or all tend to decrease it. A combination of adjustments which will increase the Servo Action on some shoes and decrease it on others will give unequal braking when the pedal pressure is other than that used when equalizing the braking system.

There are no short cuts to satisfactory brake performance. Follow the recommended procedure step by step. Be accurate in your measurements. This is the only way to reduce the average time per brake adjustment in the shop and also increase owner satisfaction.

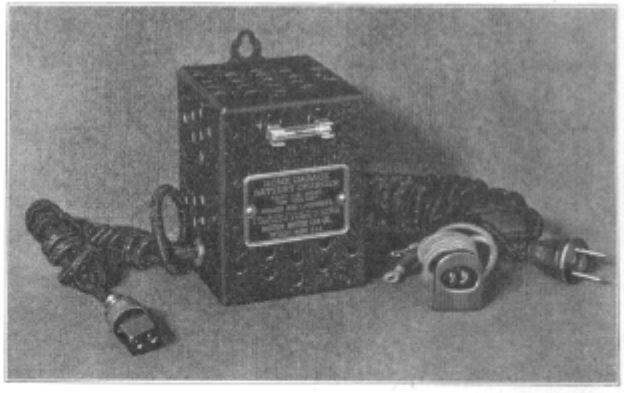
Battery Chargers

With the addition of the garage type charger to the line, you are in position to meet all demands for this type of equipment. Complaints of hard starting due to weak or run-down batteries, prevalent in cold weather, offer you the necessary opening for a sales talk on chargers. Get your share of the business on this profitable accessory during the winter months when the greatest volume is obtainable.

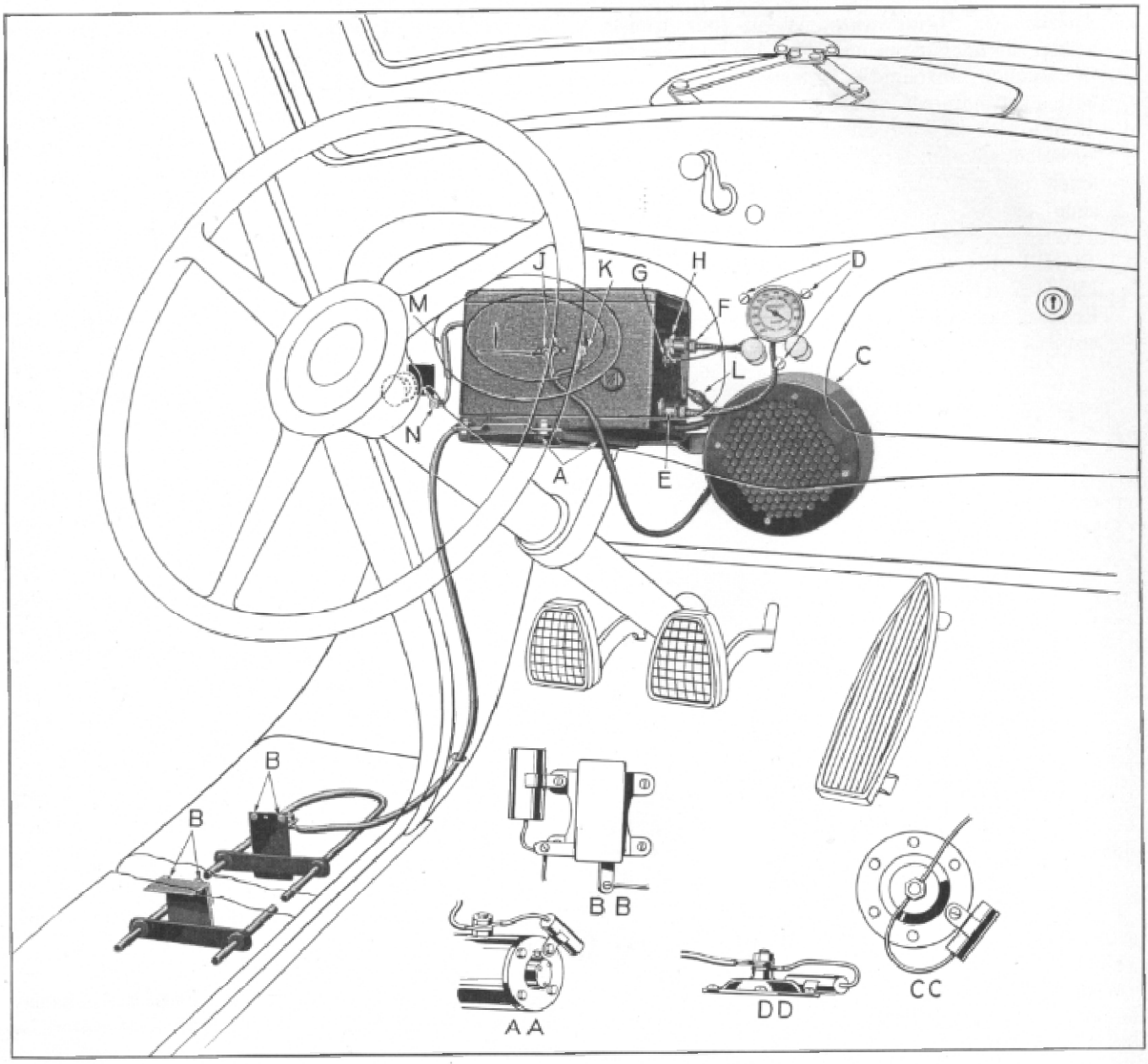
Part No.	*Name*	*List Price*
46694	Car Type	$9.75
46945	Garage Type	8.25



Car Type Charger



Garage Type Charger



1935 Radio

The mounting of the radio in 1935 Terraplanes and Hudsons is provided for so that no drilling or fitting of any kind is necessary. The chassis mounts out of the way behind the left of the instrument panel while the speaker is centrally located on the dash slightly below the level of the instrument panel, giving maximum audibility to all occupants.

The aerial is installed as a unit to brackets provided under the left running board while the lead-in passes up through the body floor panel behind the kick pad directly to the radio.

The radio or the speaker can be removed without disconnecting a single wire except at a separable plug or a plug jack.

Complete instructions for installation will be included in each radio kit. Radio service operations and instructions will be distributed in the near future.

Cold Weather Starting What is it?

The prevailing impression of the owner of a car which will not start readily in cold weather is that there is some deficiency in the design or construction. Within the temperature range encountered by most owners, a design which will give easy starting in warm weather will also be satisfactory in cold weather.

The only variable conditions due to change in temperature are: (1) ease of vaporization of gasoline, and (2) viscosity of the lubricating oil.

The gasolines distributed in most Northern climates in winter are more volatile than those distributed in summer and usually vaporize readily enough for starting.

There are oils of various specifications on the market at all times so that the proper selection of oil is not always easy for an owner. It is the job of every Terraplane Hudson Service Station to acquaint their owners with the need of a correct oil for winter and be able to supply it.

The oils designated as 20 W and 10 W are the only ones suitable for use in climates where the temperatures fall lower than 20° F. above zero. The 20 W specification is used for temperatures from zero to 20° F. above zero, while 10 W is recommended from zero to -15° F. Where still lower temperatures are encountered, 10 W with 10% kerosene should be used.

The oils designated by the W suffix are graded according to their viscosities at the lowest temperatures at which they are recommended. This maximum viscosity is such that the engine can be turned without over-loading the battery and the resultant low voltage which prevents proper functioning of the ignition system.

Do not presume from the aforegoing paragraphs that no mechanical or electrical service operations will be required to insure proper starting and running of the engine during the winter months. After the summer season's usage, with the prevailing high temperatures and continuous high driving speeds, a thorough check-up is required—*not, however, to prepare for winter driving but simply to bring the engine back to normal.*

Renew your effort on your Fall and Winter Service Campaign in an attempt to contact every owner in your territory. If you can't sell them all you can inform them of their needs and prevent unnecessary criticism of their car and your organization. Your efforts will pay both in Parts and Service Profits and greater owner satisfaction.

Correct Warm-Up with Climatic Control

The following paragraphs appeared at the bottom of page 49 (April-July, 1934 issue of Terraplane-Hudson Service):—

"Action of climatic control during warm-up period is affected by the grade of fuel used. Low grade fuels have a tendency to run rich during warm-up and high test fuels lean.

"Best results for starting and warm-up will be obtained with factory setting, i. e., when cast pointer on housing is in line with center mark of calibration.

COLD WEATHER ENGINE TUNE-UP FOR EASY STARTING

1. Battery charged.
2. Not less than 3 volts at distributor points with battery discharge of 400 amps.
3. Distributor points square and clean. Replace if pitted.
4. Distributor points set at .020" maximum opening.
5. Spark plugs clean and adjusted to .022" gap. Replace plugs if used over 10,000 miles.
6. High tension cable insulation not cracked or hardened.
7. Compression good and equal.
8. Valve tappets adjusted to .006" intake —.008" exhaust.
9. Clean carburetor, fuel pump, lines, and screens.
10. Minimum vacuum gauge reading—18 inches of mercury.
11. Generator charging rate—with charge control—22 amps. maximum (cold) on HIGH charging rate—without charge control—17 amps. maximum (cold).
12. Drain and refill crankcase. Use only 10-W or 20-W oil.

(See November issue of Terraplane-Hudson Service for detailed operations.)

"If cold motor shows tendency to run lean during the warm-up period with this setting, turn housing (C) counter-clockwise one mark at a time until desired results are obtained.

"If cold engine has a tendency to load or run rich during warm-up period, revolve housing clockwise one mark at a time until desired results are secured. These adjustments should be made with care."

With the use of winter grade gasolines in mild weather, the engine may run rich during the warm-up periods. An adjustment to correct this, however, should not require a maximum turning of the Climatic Control housing more than two graduations to the lean side. A greater movement than this will decrease the temperature at which the choke valve will close fully and under certain temperature conditions will not choke sufficiently for proper starting. When greater movement of the housing is required to get smooth idling during the warm-up, other conditions are probably responsible.

The conditions most likely to be found are:—

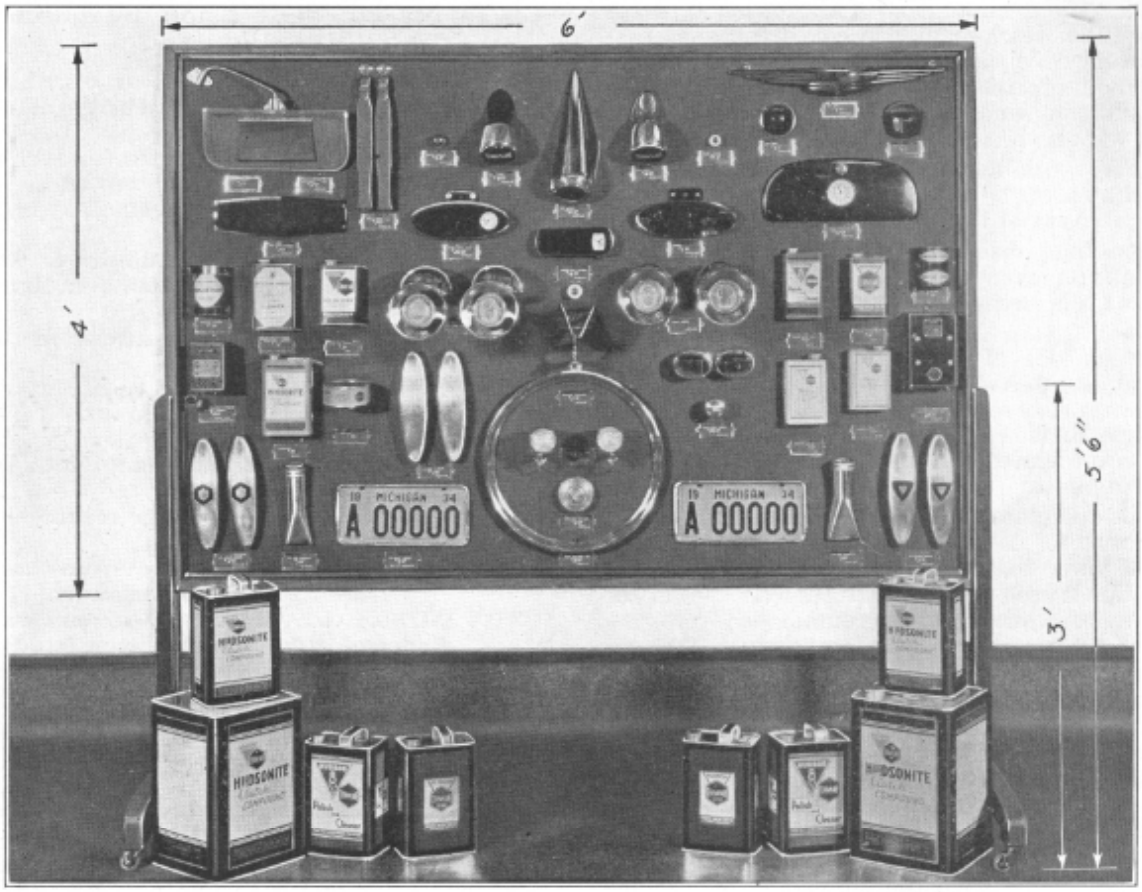
(1) Dirt restricting the air intake of the climatic control manifold stove or the flexible tubing.

(2) Air leak in flexible tubing or around flexible tubing at climatic control.

(3) Dirt in screen (P—Fig. 4, page 46—April-July issue).

Any condition which will restrict the flow of air to the climatic control housing or add cool air will retard the opening of the choke valve and cause a rich mixture and prolong the period of warm-up.

Accessory Displays



Small Accessory Display Board

The larger accessory display board as illustrated on Page 24 is particularly adapted to the needs of the distributor and larger dealer. The cost is nominal and to assist you in duplicating this display, we are listing below bill of material with approximate cost.

Total overall length—10'
Height board only—7'
Standard—1'
Total height—8'

11 pcs. 1" x 8" x 10' pine—tongued and grooved	$3.80	
2 pcs. 1" x 2" x 10' pine—finished } 2 pcs. 1" x 2" x 7' pine—finished }	.37	
3 pcs. 1" x 8" x 7' pine—rough	.50	
2 pcs. quarter round moulding—10' } 2 pcs. quarter round moulding— 7' }	.27	
1 pc. 2" x 4" x 10' pine	.24	
5 yds. imitation billiard cloth	7.50	
60 name card holders	2.64	
2 prs. casters for base	.50	
Misc. bolts, nuts and screws	.50	
Wiring complete with push buttons	2.82	$19.14
Labor assembling board—10 hrs.	8.00	
Labor installing accessories—10 hrs.	6.00	14.00
		$33.14

The various items of material shown in the bill of material on display boards are used as follows:
The 1 x 8 tongued and grooved pine form the board itself.
For a moulding around the board, the 1 x 2 finish pine is needed, together with the quarter round moulding.
The 2 x 4 pine is used for the base or standard.
The upright of the standard is three feet high, braced to a piece two feet long, on which the casters are mounted.
The name card holders are for the price tags.

The smaller accessory display board illustrated above, should meet the requirements of the smaller dealer or one whose display space is limited. Material needed with approximate cost:—

Size:		
Overall length	6'	
Height	4'	
Base	18"	
Total overall height	5' 6"	

6 pcs. 1" x 8" x 6' pine—tongued and grooved	$1.13	
2 pcs. 1" x 2" x 4' pine—finished } 2 pcs. 1" x 2" x 6' pine—finished }	.22	
3 pcs. 1" x 8" x 4' pine	.30	
2 pcs. quarter round moulding 6' long } 2 pcs. quarter round moulding 4' long }	.16	
1 pc. 2" x 4" x 8' pine	.20	
2 yds. imitation billiard cloth	3.00	
40 name plate holders	1.76	
2 prs. casters for base	.50	
Misc. bolts, nuts and screws	.50	$7.77
Labor assembling board—5 hrs.	4.00	
Labor installing accessories—8 hrs.	4.80	8.80
		$16.57

The billiard cloth is used to cover the board and serve as the background for the accessories.
On the large board we suggest wiring, so that horns, lights and all electrical devices can be demonstrated. For this purpose the rectifier used in connection with the radio display stand can be used.
We will not be in a position to supply these boards completely assembled at the factory as transportation expense will increase the cost considerably over your local expense.

Accessories for Large Board

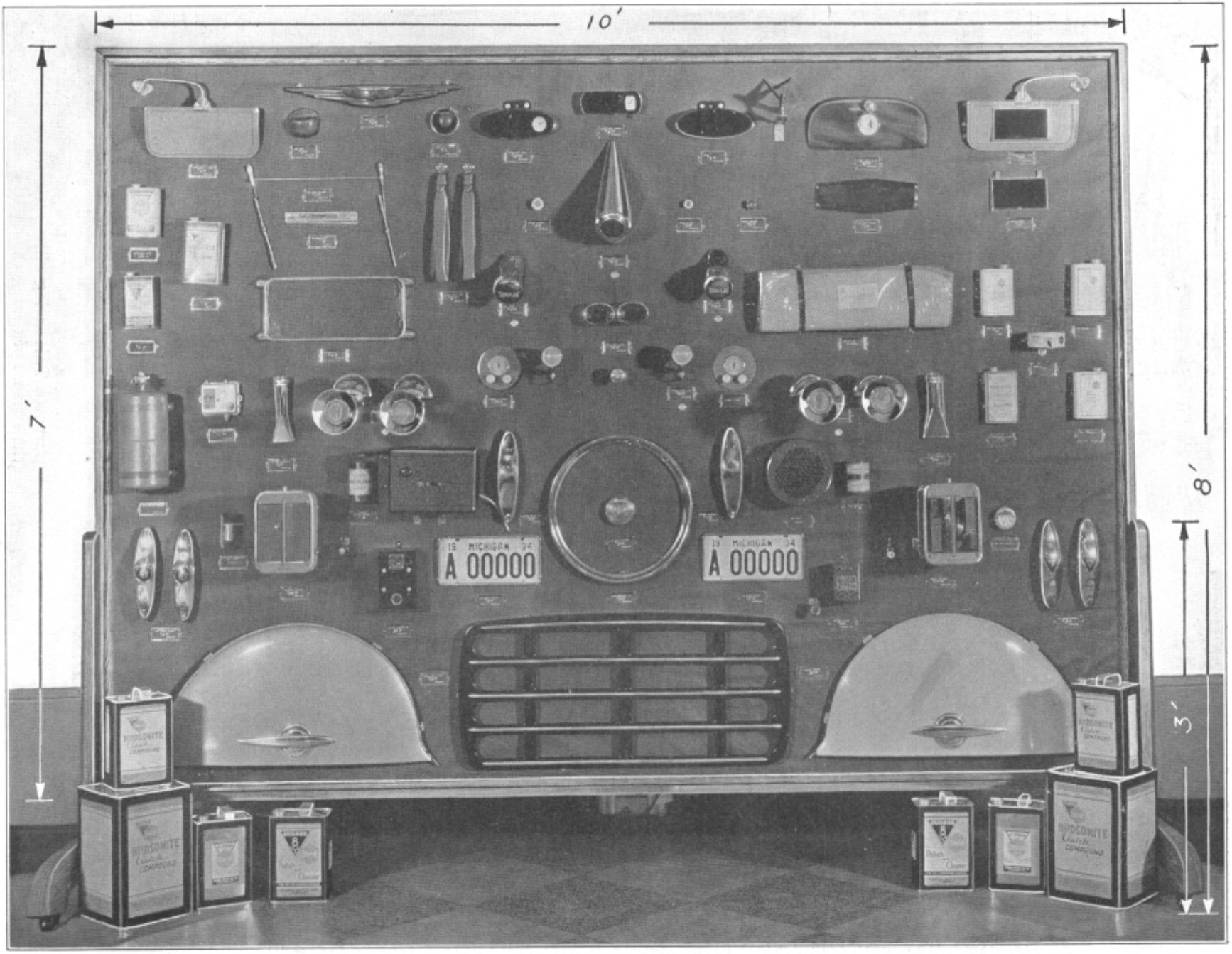
Part No.	*Name*
47938	Twin Horns—Vibrator Type
47939	Twin Horns—Electric Vacuum
46499	Gasoline Tank Cap Lock
114532	Radiator Ornament Crest
111523	Cigar Lighter—Header Board Type
111672	Cigar Lighter—Instrument Panel Type—Ivory
111673	Cigar Lighter—Instrument Panel Type—Walnut
109432	Fender Lamps
109987	Tail Lamp—Chromium, R. H.—Hudson
109988	Tail Lamp—Black Finish, R. H.—Terraplane
109990	Tail Lamp—Chromium, R. H.—Terraplane
114540	Tell-Turn Signal Light
111661	Windshield Cleaner Blades
114541	Windshield Wiper Vacuum Booster
111819	Windshield Cleaner Auxiliary Arm
111928	Defroster and Ice Remover
111028	License Plate Frames
46344	Wheel Mouldings—16 inch
109905-6	Rear Wheel Shields—Lacquer (2)
111308	Front Fender Guards—Terraplane (2)
111309	Front Fender Guards—Hudson (2)
111639	Front Fender Guards—1934 "KS" models and all 1935 Terraplanes (2)
111629	Clock—Mirror Type—30-Hour
111628	Clock—Mirror Type—8-day
111681	Clock—Glove Box Door—Walnut—8-Day
111680	Ash Tray—Window Finish Moulding Type—Walnut
108724	Ash Tray—Walnut—For Door and Rear Quarter Installation
114531	Ash Tray—Instrument Panel Type
108671	Inside Visor, L. H.
108672	Inside Visor, R. H.
113167	Assist Cords (2)
95288	Oval Type Rear View Mirror
114539	Vanity Mirror
111852	Cowl Ventilator Screen
111675	Luggage Carrier Rack Assembly
111676	Seat Cover—Coach Front Seat and Seat Back
44113	Clutch Oil (Hudsonite) Quarts
96812	Polish (Oil Base) Pints
111631	Polish (Wax Base) Pints
111938	Used Car Cleaner—Pints
111939	High Gloss Wax—Can
111684	Radiator Cleaner and Inhibiter
111685	Upholstering Cleaner—Pints
114533	Tire and Running Board Finish—Clear
114534	Tire and Running Board Finish—Black
41198	Startix Kit
46694	Battery Charger (Car Type)
46945	Garage Battery Charger
46946	Car Socket and Wire Assembly
46767	Exhaust Pipe Extension—Terraplane
46766	Exhaust Pipe Extension—Hudson
46816	Hot Water Heater—Standard
46817	Hot Water Heater—Deluxe
46414	Thermostat
46860	Thermostat
45333	Radio—Hudson—134
47734	Radio—1935 models

Accessories for Small Board

Part No.	*Name*
47938	Twin Horns—Vibrator Type
47939	Twin Horns—Electric Vacuum
46499	Gasoline Tank Cap Lock
114532	Radiator Ornament Crest
111523	Cigar Lighter—Header Board Type
111672	Cigar Lighter—Instrument Panel Type—Ivory
111673	Cigar Lighter—Instrument Panel Type—Walnut
109432	Fender Lamps
109987	Tail Lamp—Chromium, R. H.—Hudson
109988	Tail Lamp—Black Finish, R. H.—Terraplane
109990	Tail Lamp—Chromium, R. H.—Terraplane
114540	Tell-Turn Signal Light
111028	License Plate Frames (2)
46344	Wheel Mouldings
111308	Front Fender Guards—Terraplane (2)
111309	Front Fender Guards—Hudson (2)
111629	Clock—Mirror Type—30-Hour
111628	Clock—Mirror Type—8-Day
111681	Clock—Glove Box Door—Walnut—8-Day
111680	Ash Tray—Window Finish Moulding Type Walnut
108724	Ash Tray—Walnut—For Door and Rear Quarter Installation
114531	Ash Tray—Mahogany—Instrument Panel Type
108671	Inside Visor, L. H.
113167	Assist Cords (2)
95288	Oval Type Rear View Mirror
114539	Vanity Mirror
111852	Cowl Ventilator Screen
44113	Clutch Oil (Hudsonite) Quart
96812	Polish (Oil Base) Pint
111631	Polish (Wax Base) Pint
111938	Used Car Cleaner—Pint
111939	High Glass Wax—Can
111684	Radiator Cleaner and Inhibiter
111685	Upholstering Cleaner—Pint
114533	Tire and Running Board Finish—Clear
114534	Tire and Running Board Finish—Black
46694	Battery Charger—Car Type
46945	Garage Battery Charger
46767	Exhaust Pipe Extension—Terraplane
46766	Exhaust Pipe Extension—Hudson

As a special inducement to get Accessory Display Boards set up in both Distributors' and Dealers' show rooms, we will for a limited time grant a ten per cent discount from your regular nets if you will purchase the complete group for either board in one single shipment, irrespective of whether you have certain items now in stock or not.

Such group purchases only apply, however, to Board Displays and are not to be used for stock purposes. This saving will contribute considerably to the expense of having the board built. The proposition applies to both Distributors and Dealers.



Large Accessory Display Board