

1000
HUDSON
1555

**O
W
N
E
R
S'**



**M
A
N
U
A
L**

FOREWORD

As is natural in any investment, the buyer is anxious to get all the benefits and dividends obtainable. When you purchase an automobile you have made an investment in a motor car that is expected to render you many happy miles of safe, economical and efficient transportation.

In order to fulfill these requirements, certain knowledge of the operation features, construction and service operations of your car is necessary.

Therefore, this Owner's Manual has been prepared at great expense more fully to acquaint you with your Hudson car. Before you drive your car, take just a few minutes to study its contents. It will serve to guide you as a friend. Be sure to place it back in the locker box for future reference.

HUDSON MOTOR CAR COMPANY

Service Department
Detroit, Mich.

WARRANTY

"We warrant each new car manufactured by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory any part or parts thereof, including all equipment or trade accessories (except tires) supplied by the Car Manufacturer, which shall, within ninety (90) days after making delivery of such vehicle to the original purchaser, or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied, and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale of our vehicles.

"This warranty shall not apply to any vehicle which shall have been repaired or altered by other than an Authorized Hudson dealer in any way so as, in the judgment of the Manufacturer, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident."

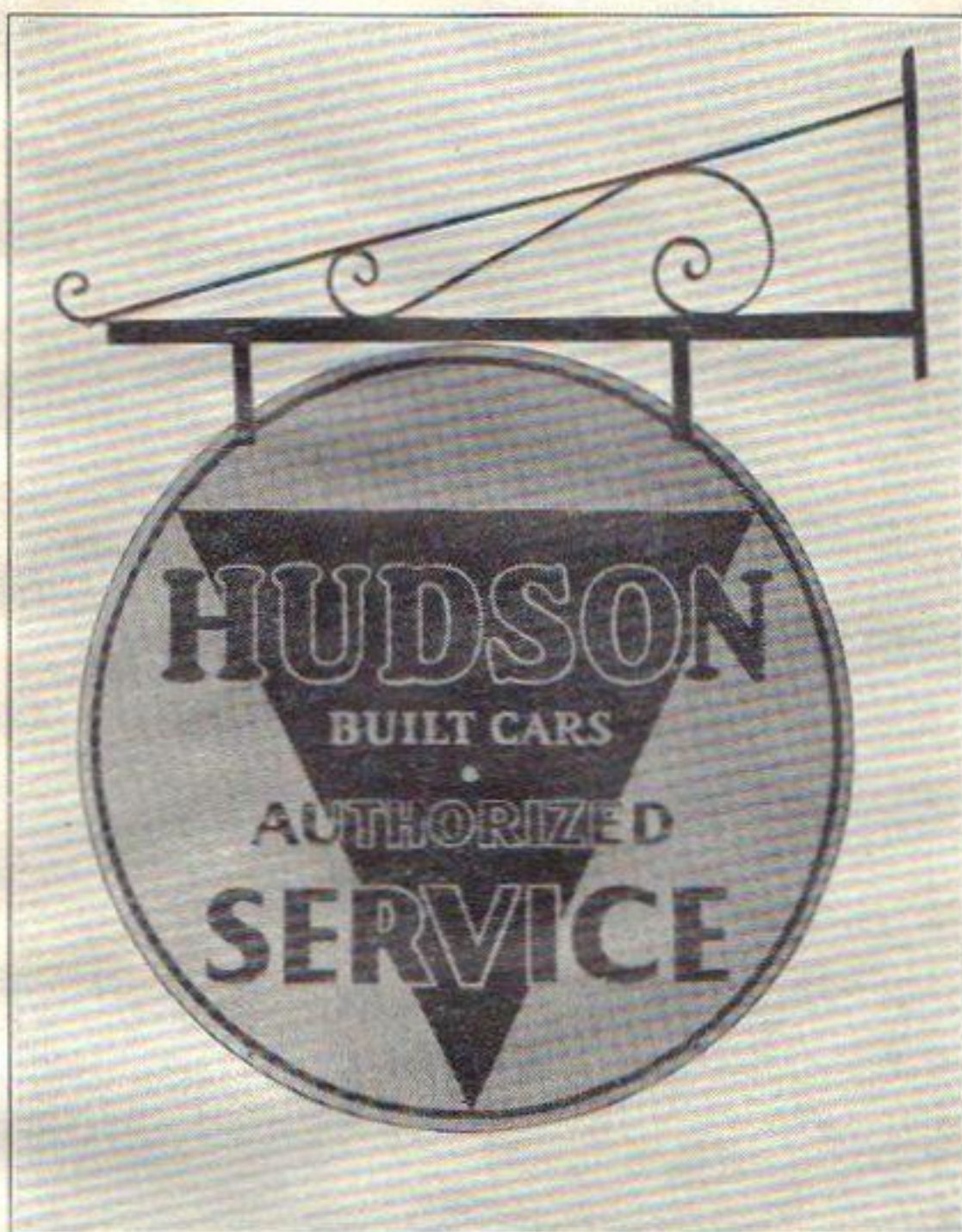
HUDSON MOTOR CAR COMPANY

Detroit, Michigan, U. S. A.

The Hudson Motor Car Company reserves the right to make any changes in or improvements on its products without incurring any liability or obligation whatever, and without being required to make any corresponding changes or improvements on products theretofore manufactured or sold.

Authorized Hudson Service Stations

The majority of automobile owners are conscientious in the service requirements of their cars and unhesitantly call on their car dealer for service as and when it is required. These car owners realize that their Hudson dealer is in a position to render the satisfactory and efficient service to which they are entitled.



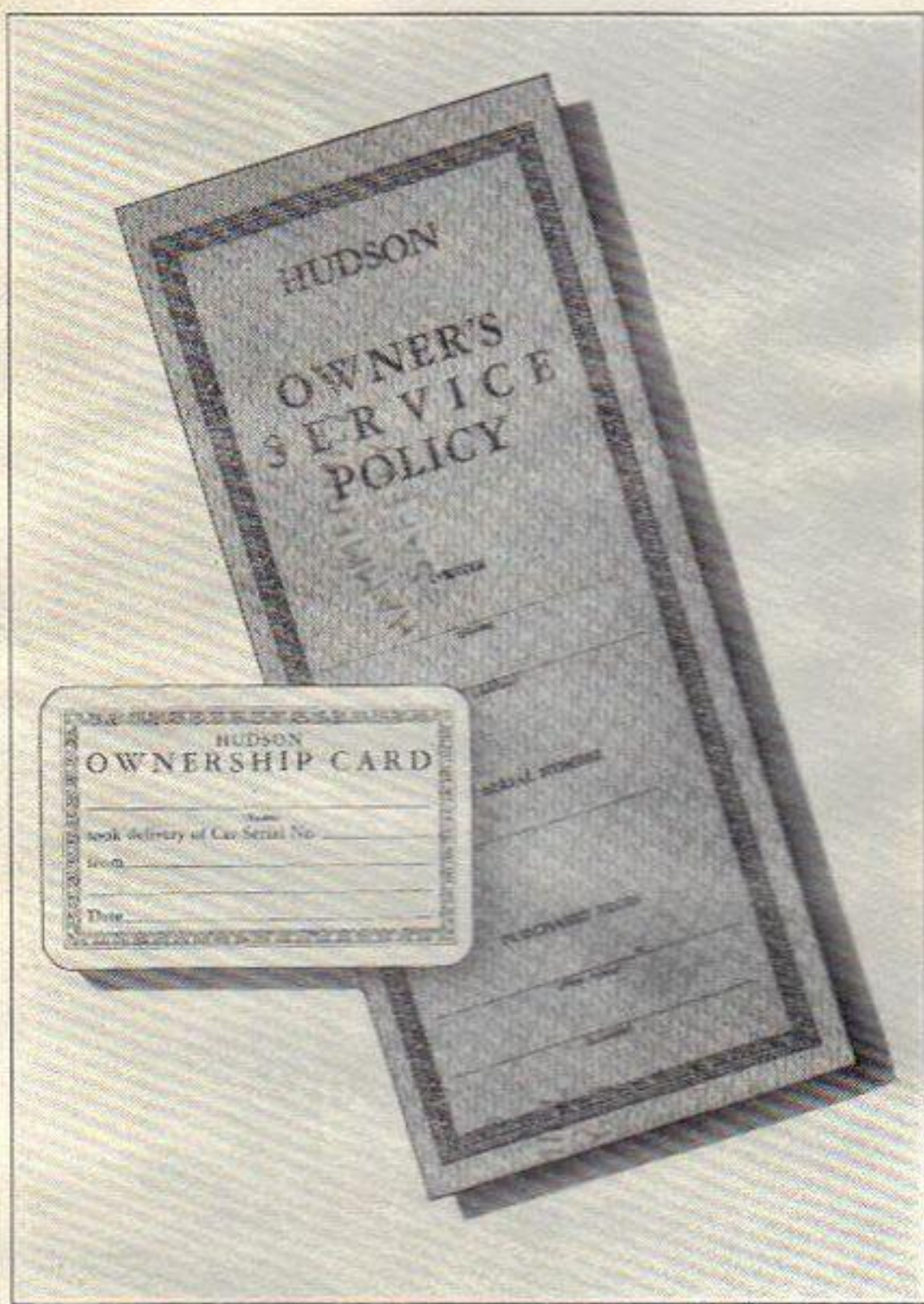
When touring or away from familiar surroundings the occasion may arise for service needs. Look for the Hudson Authorized Service sign, illustrated above. The Hudson dealer displaying this sign is your assurance of the same efficient, friendly service you receive at home. It is your further assurance that his Service Department stocks only genuine Hudson parts; uses factory approved service tools and methods and employs careful and courteous mechanics.

Did You Know —

1. At the time of delivery of your Hudson car you were provided with an Owner's Service Policy and Ownership Card which entitle you to certain provisions as outlined in the Standard New Car Warranty?

Be sure that the two forms, illustrated here, have been properly filled in and signed. Read the Policy carefully so that you fully

understand all its provisions. The Policy form should be placed in the locker box and the Ownership Card in your billfold for future reference if required.



2. Your tires and battery are covered by similar warranties by their individual manufacturer. Be sure your dealer has filled in the necessary forms to give you the necessary protection.

3. Insurance regulations prohibit stamping key numbers on the locks. Space is provided on the Ownership Card for key numbers. **BE SURE TO**

RECORD THE NUMBERS ON THE CARD AS LOST KEYS CAN BE REPLACED ONLY BY ORDERING ACCORDING TO KEY NUMBER.

The ignition and door safety lock key has the round handle. The key with the octagonal shaped handle is matched to the locker box lock and rear compartment or trunk lid locks.

INSPECTION AND ADJUSTMENT SERVICE

See provisions outlined in Owner's Service Policy. The inspections and adjustments include the following operations:

500-MILE NEW CAR INSPECTION AND ADJUSTMENT

All Models

- | | |
|--|--|
| 1. Install Fender and Seat Covers | 17. Tune-up Engine |
| 2. Check Operation of Windows | 18. Tighten Cylinder Head Stud Nuts |
| 3. Check Operation of All Locks | 19. Tighten Manifolds |
| 4. Check Front Seat Adjustment | 20. Inspect Cooling System and Connections (anti-freeze in winter) |
| 5. Check Operation of Signals and Instruments | 21. Check Front Wheel Bearing Adjustment |
| 6. Check Operation of Cowl Ventilator | 22. Check Pitman Arm for Tightness |
| 7. Check Operation of All Lights and Aiming of Headlamps | 23. Check Clutch Pedal Clearance |
| 8. Check Operation of Windshield Wiper | 24. Check Rear Wheel Hubs for Tightness |
| 9. Check Operation of Electric Hand* | 25. Check Wheel Hub Bolts |
| 10. Check Operation of Handy-Shift | 26. Check Spring Clips |
| 11. Check Operation of Automatic Clutch Control* | 27. Check Tire Pressure |
| 12. Check Battery and Connections | 28. Check Front Wheel Alignment |
| 13. Remove Carburetor Governor | 29. Check Body Bolts for Tightness |
| 14. Check Fan Belt Adjustment | 30. Clean Interior and Glass |
| 15. Check Generator Charging Rate | 31. Check Brake Operation |
| 16. Adjust Tappets—Engine Hot | 32. Check Steering |
| | 33. Road Test |

1,500-MILE NEW CAR INSPECTION AND ADJUSTMENT

All Models Except Hudson 112 and Hudson Business Cars

- | | |
|---|--|
| 1. Install Fender and Seat Covers | 11. Check Fan Belt Adjustment |
| 2. Check Operation of All Locks | 12. Check Generator Charging Rate |
| 3. Check Operation of Signals and Instruments | 13. Tune-up Engine |
| 4. Check Operation of All Lights | 14. Check Spring Clips |
| 5. Check Operation of Windshield Wiper | 15. Check Wheel Hub Bolts |
| 6. Check Operation of Electric Hand* | 16. Check Front Wheel Bearing Adjustment |
| 7. Check Operation of Handy-Shift | 17. Check Tire Pressure |
| 8. Check Operation of Automatic Clutch Control* | 18. Check Wheel Alignment |
| 9. Inspect Cooling System and Connections (anti-freeze in winter) | 19. Clean Interior and Glass |
| 10. Check Battery and Connections | 20. Check Brake Operation |
| | 21. Check Steering |
| | 22. Road Test |

Engine oil, lubricants and chassis lubrication are maintenance items for which owner is expected to pay.

*Optional Equipment.

LICENSE INFORMATION

BODY TYPES AND WEIGHTS

Hudson 112 Models

112" Wheelbase—Serial Number 90101 and up

3-Passenger Coupe	2587 lbs.	Touring Brougham	2682 lbs.
Victoria Coupe	2622 lbs.	Convertible Brougham	
Convertible Coupe		Touring Sedan	2712 lbs.

Hudson Six Models

118" Wheelbase—Serial Number 92101 and up

3-Passenger Coupe	2757 lbs.	Touring Brougham	2847 lbs.
Victoria Coupe	2787 lbs.	Convertible Brougham	
Convertible Coupe		Touring Sedan	2897 lbs.

Hudson Country Club Six

122" Wheelbase—Serial Number 93101 and up

3-Passenger Coupe	2848 lbs.	Touring Brougham	2968 lbs.
Victoria Coupe	2893 lbs.	Convertible Brougham	
Convertible Coupe		Touring Sedan	3023 lbs.

Hudson Country Club Eight

122" Wheelbase—Serial Number 95101 and up

3-Passenger Coupe	3003 lbs.	Touring Brougham	3138 lbs.
Victoria Coupe	3053 lbs.	Convertible Brougham	
Convertible Coupe		Touring Sedan	3193 lbs.

Hudson Country Club Custom Sedan

129" Wheelbase—Serial Number 97101 and up

Touring Sedan	3268 lbs.
---------------	-----------

Hudson Business Cars

112" Wheelbase—Serial Number 90101 and up

Utility Coupe	Cab Pickup
Utility Coach	Panel Delivery
Cab	Station Wagon

Hudson Business Cars

119" Wheelbase—Serial Number 98101 and up

Cab	Panel Delivery
Cab Pickup	Touring Sedan

Car and Engine Serial Numbers

The car serial number is stamped on a plate attached to the right front door hinge pillar post.

The engine number (same as car number) is stamped on top of the cylinder block between Nos. 1 and 2 exhaust manifold flanges.

Models	Number Cyls.	Bore	Stroke	A. M. A. H. P.	Piston Displacement
Hudson 112.....	6	3"	4 $\frac{1}{8}$ "	21.6	175 cu. in.
Hudson Six.....	6	3"	5"	21.6	212 cu. in.
Hudson Country Club Six.....	6	3"	5"	21.6	212 cu. in.
Hudson Country Club Eight....	8	3"	4 $\frac{1}{2}$ "	28.8	254 cu. in.
Hudson Country Club Custom Sedan.....	8	3"	4 $\frac{1}{2}$ "	28.8	254 cu. in.
Hudson Business Cars, 112" W.B.	6	3"	4 $\frac{1}{8}$ "	21.6	175 cu. in.
Hudson Business Cars, 119" W.B.	6	3"	5"	21.6	212 cu. in.

TECHNICAL INFORMATION

ENGINE

Compression Ratio

Hudson 112 and Hudson 112" W.B. Business models.....	6.50 to 1
All other models.....	6.25 to 1

Horsepower (Actual)

Hudson 112 and Hudson 112" W.B. Business models. 86 @ 4000 R.P.M.	
Hudson Six and Hudson 119" W.B. Business models. 96 @ 3900 R.P.M.	
Hudson Country Club Six.....	101 @ 4000 R.P.M.
Hudson Country Club Eight and Hudson Country Club Custom Sedan.....	122 @ 4200 R.P.M.

Main Bearings—Number

6-cylinder models.....	3
8-cylinder models.....	5

Main Bearing End Play

All models.....	.006" to .012"
-----------------	----------------

Connecting Rod Bearings

Clearance (upper).....	.0003"
Clearance (lower).....	.001"
End play (lower).....	.007" to .013"

Pistons

Skirt clearance.....	.002"
Oil rings.....	2
Oil ring width.....	$\frac{3}{16}$ "
Compression rings.....	2
Compression ring width.....	$\frac{3}{32}$ "

Valves

Stem clearance—intake.....	.0025"
Stem clearance—exhaust.....	.004"
Tappet clearance—intake (hot)	.006"
Tappet clearance—exhaust (hot).....	.008"

Camshaft drive

All models.....	Silent helical gear
-----------------	---------------------

FUEL SYSTEM

Carburetor

Make.....	Carter
Size—Hudson 112, Hudson Six and Hudson Business models.	1 $\frac{1}{4}$ " Single
All other models.....	1" Duplex

Choke Control

Hudson 112, Hudson Six and Hudson Business models.....	Manual
All other models.....	Automatic

Heat Control

Hudson 112, Hudson Six and Hudson Business models.....	Manual
All other models.....	Automatic

Air Cleaner

Standard.....	Oil Wetted Type
Optional.....	Oil Bath Type

STARTING, LIGHTING AND IGNITION

MakeAutolite	Firing Order
Generator Type3rd brush	6-cylinder models.....1, 5, 3, 6, 2, 4
	8-cylinder models...1, 6, 2, 5, 8, 3, 7, 4
Voltage Regulator	Spark Plugs
Hudson 112 and Hudson Business models.....Optional	Make and type.....Champion, J-8
All other models.....Standard	Size.....14 M.M.
	Gap......032"
Charging Rate	Battery
With voltage regulator...26 to 29 Amperes (hot)	Make.....National
Without voltage regulator...17 to 19 Amperes (hot)	Dimensions—
Distributor Spark Control Automatic	6-cylinder models.....L—10 $\frac{3}{16}$ "
	W—7 $\frac{1}{4}$ "
	H—7 $\frac{13}{16}$ "
Contact Point Gap	8-cylinder models.....L—11 $\frac{3}{4}$ "
6-cylinder models......020"	W—7 $\frac{1}{4}$ "
8-cylinder models......017"	H—7 $\frac{13}{16}$ "
Ignition Timing	Number of Plates—
Hudson 112 and Hudson 112" W.B. Business models.... $\frac{1}{4}$ " B. U. D. C.	6-cylinder models.....17
All other models.....Dead center	8-cylinder models.....19
	Terminal grounded.....Positive

TRANSMISSION

Gear Ratio	
Low.....2.42 to 1	High.....1 to 1
Intermediate.....1.6 to 1	Reverse.....2.99 to 1

FRONT AXLE

Torque Control	Camber1° to 1 $\frac{1}{2}$ °
Hudson 112 and Hudson Business models.....Front springs	Caster1° to 2°
All other models.....Torque arms	Toe-in0 to $\frac{1}{8}$ "

REAR AXLE

TypeSemi-floating	Gear Ratios
	Passenger cars—Standard...4 $\frac{1}{9}$ to 1
	Optional...4 $\frac{5}{9}$ to 1
Gear TypeHelical bevel	Business cars —Standard...4 $\frac{5}{9}$ to 1
	Optional...4 $\frac{1}{9}$ to 1

BRAKES

TypeBendix Hydraulic	Hudson Country Club Eight and Hudson Country Club Custom Sedan.....11 $\frac{1}{8}$ " x 1 $\frac{3}{4}$ "
Size	Lining Clearance010"
Hudson 112 and Hudson Utility Coach and Coupe models 9 $\frac{1}{16}$ " x 1 $\frac{3}{4}$ "	Mechanical Follow-up Clearance ...1 $\frac{7}{16}$ "
Hudson Six, Hudson Country Club Six and Hudson Business models.....10 $\frac{1}{16}$ " x 1 $\frac{3}{4}$ "	Pedal to Floor Board Clearance ... $\frac{1}{4}$ "

Cooling System

6-cylinder models.....	12½ quarts	10½ quarts	11¾ liters
8-cylinder models.....	17½ quarts	14½ quarts	16½ liters

Engine Crankcase

6-cylinder models —dry.....	5½ quarts	4½ quarts	5¼ liters
refill....	4½ quarts	3¾ quarts	4¼ liters
8-cylinder models —dry.....	9 quarts	7 quarts	8½ liters
refill....	7 quarts	6 quarts	6½ liters

Clutch

All models.....	⅓ pint	¼ pint	160 c.c.
-----------------	--------	--------	----------

Transmission

All models.....	2¼ lbs.	2¼ lbs.	1.02 kgs.
-----------------	---------	---------	-----------

Rear Axle

All models.....	2¾ lbs.	2¾ lbs.	1.24 kgs.
-----------------	---------	---------	-----------

Shock Absorbers—Front

Hudson 112, Hudson Six and Hudson Business models...	5 oz.	5 oz.	148 c.c.
All other models.....	6⅛ oz.	6⅛ oz.	182 c.c.

Shock Absorbers—Rear

Hudson 112, Hudson Six and Hudson Business models..	5½ oz.	5½ oz.	163 c.c.
All other models.....	6¼ oz.	6¼ oz.	187 c.c.

BREAKING-IN PERIOD

Your Hudson car was designed by capable engineers, in accordance with the best practices determined by years of practice and research. It was built under the most exacting precision methods and rigidly inspected throughout its manufacture and assembly.

You, as the purchaser of this fine motor car, will naturally want to maintain its high standard of efficiency, performance and economical operation throughout the period of ownership. These results can best be obtained by careful, intelligent operation during the breaking-in period. During the early life of the car, the closely fitted parts may wear rapidly if overheated due to high speed operation. To maintain an even wearing-in and polishing of frictional surfaces, proper lubrication and careful attention to speed, for at least the first thousand miles, are essential.

Brakes should be applied carefully during this period to avoid scoring the brake linings and drums.

Careful acceleration is also one of the essentials during the early life of the car.

The following table will serve to guide you in the speed limits at which the car should be driven during the breaking-in period:

0-250 MILES

Do not exceed 40 miles per hour in high gear or 20 miles per hour in second. Do not accelerate rapidly. Use second speed on steep grades.

250-500 MILES

Do not exceed 50 miles per hour in high gear or 25 miles per hour in second.

500-1,000 MILES

During this period the speed should not exceed 60 miles per hour in high gear.

CARBURETOR GOVERNOR

To assure your car reaching you in good condition, and to protect the mechanism against possible damage due to high speed driving, a governor has been installed on your carburetor by the factory. While the governor is in place it will restrict acceleration and top speed, and will also slightly increase the carburetor air intake noise.

When your car is returned to your dealer for the 500-mile inspection, the governor will be removed and the engine tuned up. Although the speed restriction has been removed, you should continue to be diligent in operating the car at moderate speeds until it has completed its run-in period.

OPERATION



Figure 1

Front Seat Adjustment

The front seat may be adjusted to suit the individual driver's requirements by merely raising the lever, shown in Figure 1, and moving the seat forward or backward.



Figure 2

Steering Wheel

To insure the best steering wheel position a spacer adjustment is provided in the steering gear column bracket. On all models except Hudson 112 and Hudson Business models the spacer (A), Figure 2, may be removed to raise the steering wheel approximately one-half inch. On all models a spacer may be added to lower the steering wheel position. Your Hudson dealer will be glad to make this adjustment should it be required.

Front Seat Height

Spacers are available for installation between the front seat frame and seat tracks to raise the seat or change its position. Your Hudson dealer can arrange for this adjustment.

Fuel Gauge

The electric fuel gauge operates only when the ignition is turned on. When the pointer reaches the empty mark on the dial a reserve supply of fuel remains in the tank. For this reason it is seldom possible to add the full capacity of the tank when the gauge reads "Empty."

Water Temperature Gauge

The water temperature gauge is electrically operated and indicates the engine temperature only when the ignition switch is on.

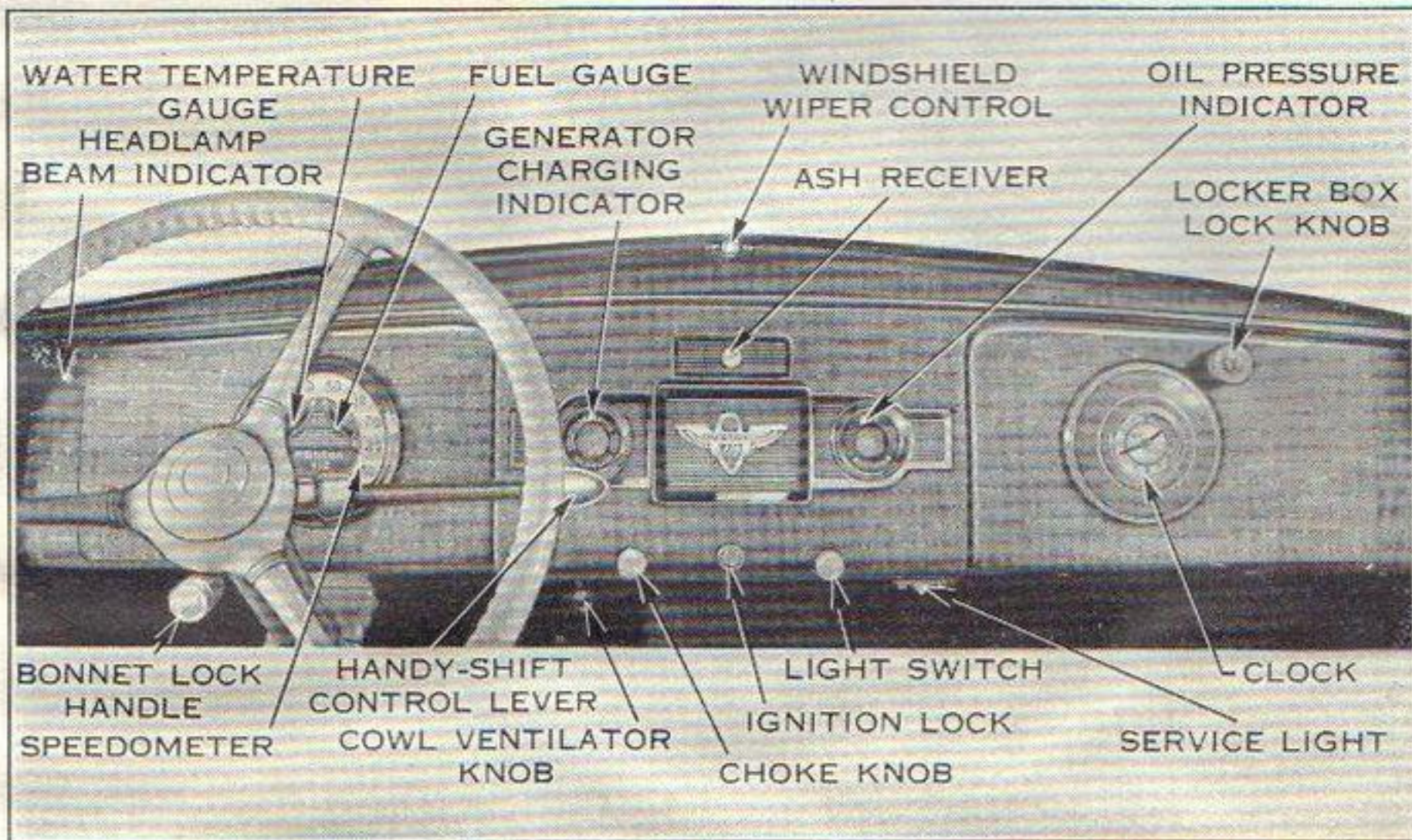


Figure 3—Hudson 112

Oil Pressure Indicator

The oil pressure indicator shows at a glance whether or not the oiling system is operating properly.

As the ignition key is turned on, the word "No" is illuminated, indicating that the oiling system is not functioning. Immediately after the engine is started the small light should go out, indicating that the oil pump is operating satisfactorily. A slight flickering of the light at idle speed should cause no concern; however, should the light flicker or turn on while the engine is running above idle speed, the engine should be turned off and the source of the difficulty ascertained.

Generator Charging Indicator

The generator charging indicator tells at a glance whether or not the generator is charging.

As the ignition key is turned on, or when the engine is operating at idle speed, the word "Not" will be illuminated by a small bulb located behind the lens.

Should the light burn when the engine is operating above idle speed, it indicates that the generator is not charging and the system should immediately be checked by your Hudson dealer.

Ignition Switch

Turning the key to the right turns on the ignition. Be sure to remove key when car is left idle.

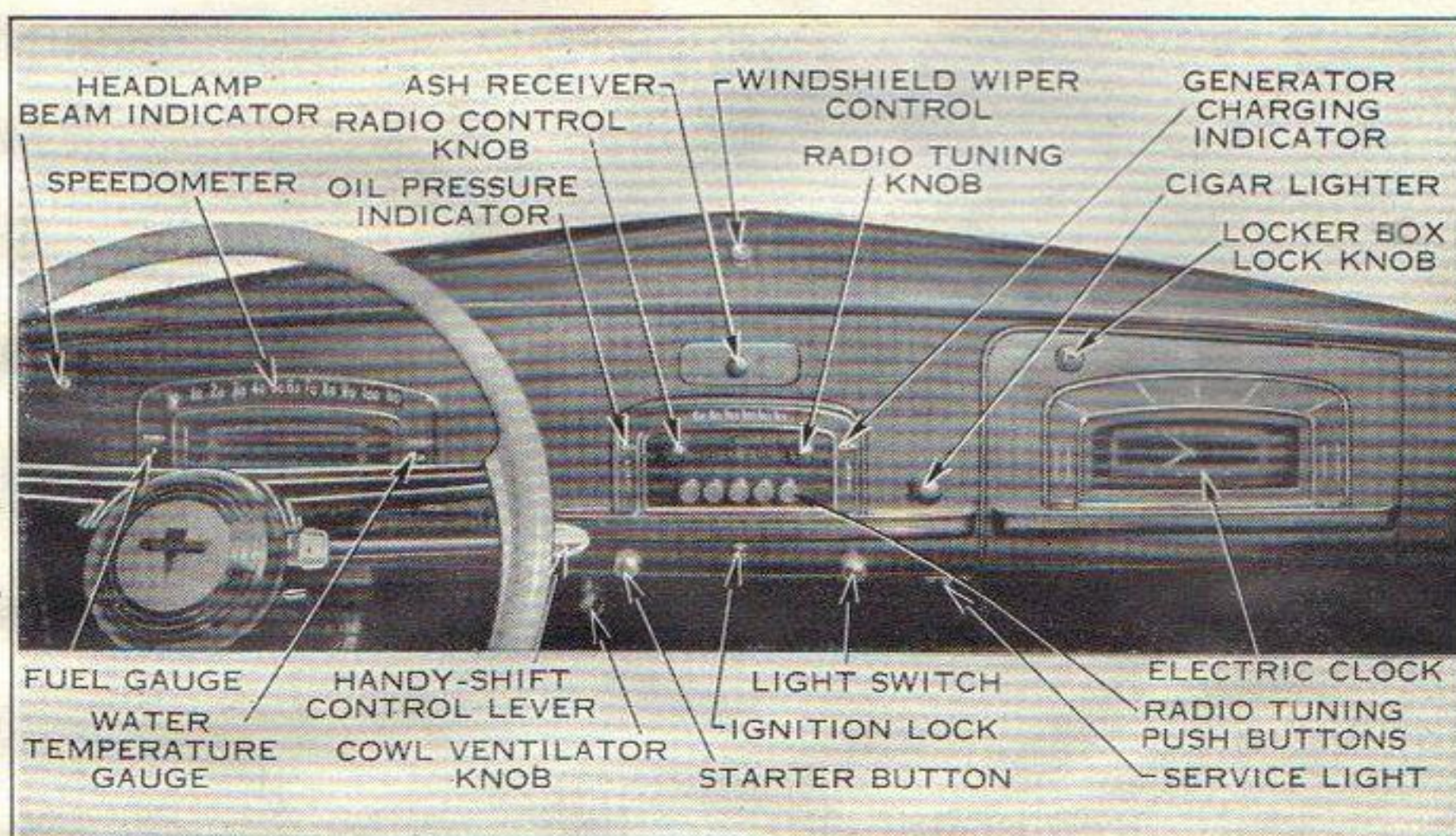


Figure 5—Hudson Country Club Models

maximum illumination. A beam indicator on the instrument panel indicates when the lights are in the highway driving position.

The **front compartment light switch** is of the sliding type and is located on the right side of the lower flange of the instrument panel.

The dome lamp switch on Touring Sedans, Touring Broughams and Coupes is located on the right hand door lock pillar and is of the sliding type.

In addition an automatic switch is provided on Hudson Country Club Custom Touring Sedans and is so connected with the headlights that the dome lamp is automatically illuminated upon opening the rear right door.

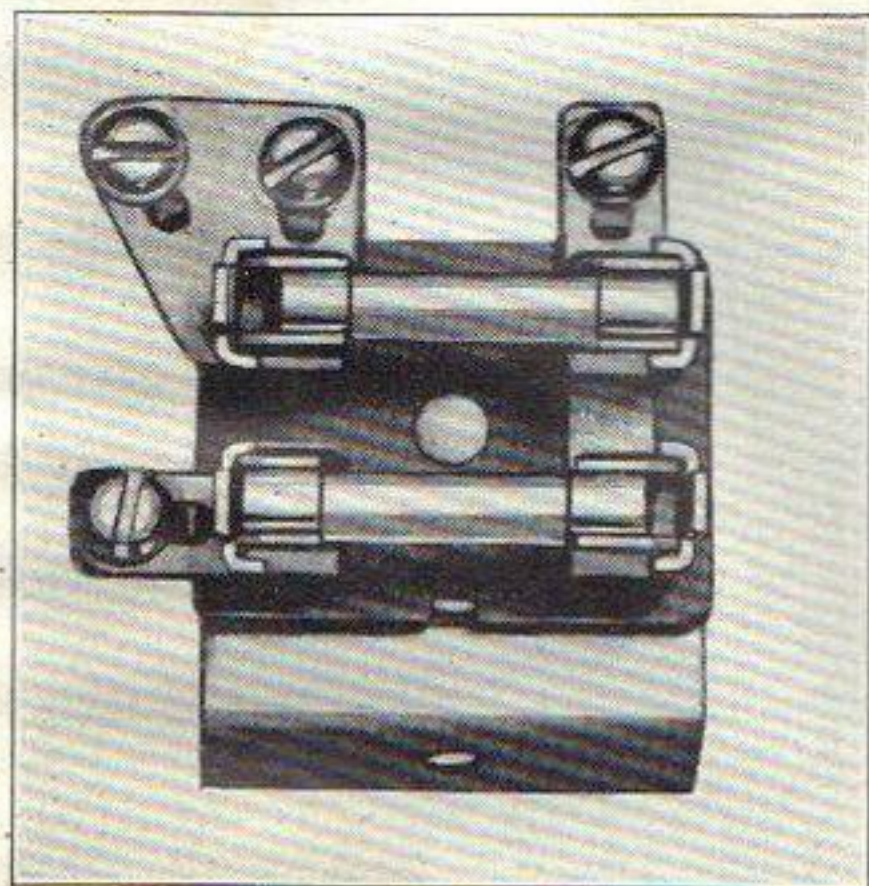


Figure 6

Fuses

To provide for greater accessibility the fuse block, Figure 6, is separate from the main light switch and is located on the lower flange of the instrument panel. It has two fuses, one for the lighting switch and the other for accessories which may be added.

The accessory fuse is provided with two terminals to make available sufficient capacity for connecting accessories.

disengaged clutch condition and will result in loss of power and eventually damage the clutch driving disc.

It is good practice to depress the clutch pedal to the floor board each time the engine is started as this releases the engine drive from the transmission and permits cranking the engine more rapidly and facilitates starting, particularly in cold weather.

Brake Pedal

The brakes are hydraulically operated on all four wheels by foot pressure applied to the brake pedal.

An exclusive safety feature in the braking system provides for mechanical operation of the rear brakes automatically in event of derangement of the hydraulic system. By this means the brakes are automatically applied by additional travel of the foot pedal.

Parking Brake

The hand or parking brake system utilizes the rear wheel brake shoes operated by means of heavy non-stretching steel cables through an equalizer.

Hand brakes are applied by pulling upward on the lever grip located under the instrument panel to the left of the steering gear column.

The brakes may be released by turning the handle slightly to the right and allowing it to return automatically to released position. See Brake Control Layout, page 51.

Transmission Control

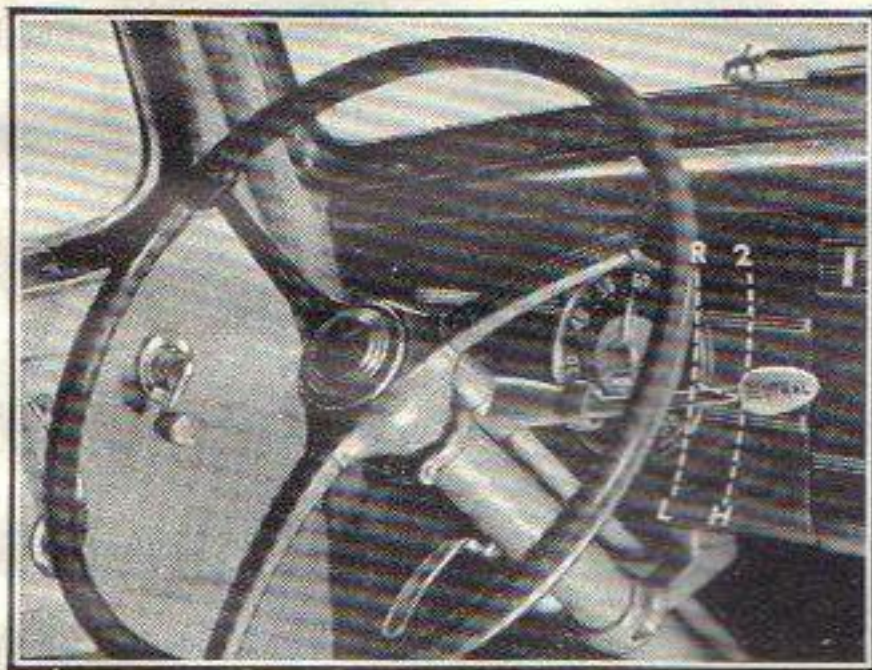


Figure 7

The transmission control lever is mounted in a horizontal position on the steering column below the steering wheel, Figure 7. Although its position is changed, the movement of the lever in making the various shifts is in the conventional manner.

Raise the lever and move rearward for first gear and forward for reverse. Depress the lever and move forward for second speed and rearward for high gear. When the car is equipped

with Automatic Clutch Control it is necessary merely to raise the foot from the accelerator pedal as the shift is made.

ELECTRIC HAND

The operation of the Electric Hand is controlled by a small lever attached to a mounting on the steering column, just below the

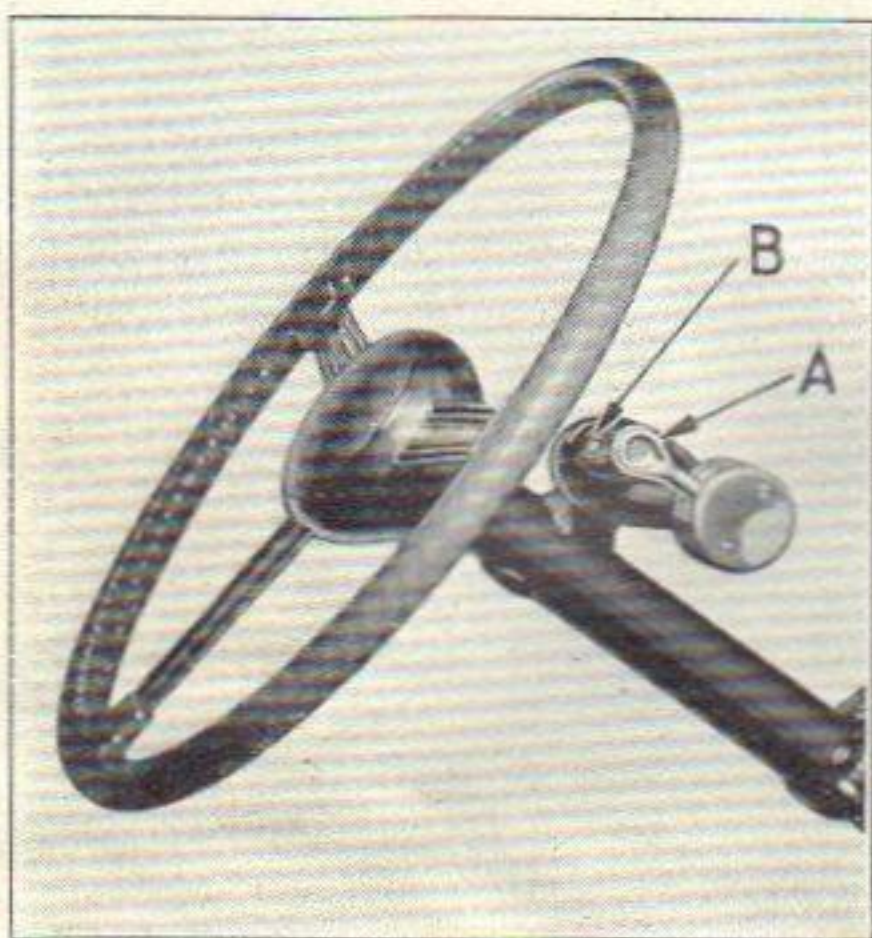


Figure 8

steering wheel. The gear is selected merely by moving the small lever (A), Figure 8, with a finger of the right hand. Then, by depressing the clutch pedal fully to the floor board, the actual shifting of gears is accomplished.

The method of selecting gears, that is, the positions to which the selector lever is moved, is in the same rotation as that used in the conventional manual shift. The neutral position of the selector lever is to the extreme right in line with the central opening of the "H" plate.

A small "off and on" switch (B) is provided on the selector switch to prevent tampering

with the shifting mechanism, and is used also to make the "Electric Hand" inoperative when the car is being serviced.

We suggest the following procedure in operating the "Electric Hand" equipped car:

- (a) Be certain the "off and on" switch is in "on" position.
- (b) Depress clutch pedal fully to the floor board.
- (c) Turn ignition switch "on."
- (d) Press starter button.

Now with the engine running and the clutch disengaged (if Automatic Clutch Control is being used, it is not necessary to hold the clutch disengaged with the foot after the engine is started; simply take the foot off the accelerator pedal), move the selector lever to the low or reverse gear position, whichever is desired, and the shift should be accomplished immediately. Allow the clutch to engage while depressing the accelerator pedal and the car will move normally in the gear selected.

If for any reason the low and reverse gears should fail to mesh properly as the desired position is selected from neutral, a tension is automatically applied to the selector lever which is evident to the driver if the finger is resting on the lever; or, in the event that the finger is removed after the selector lever is placed in position, it will automatically return to neutral.

The action just described is termed as "tooth abutment indication" and, in order to complete the shift, it is necessary to raise the foot slightly from the clutch pedal (or, if the car is equipped with Automatic Clutch Control, depress accelerator lightly) to obtain proper gear mesh. Then repeat the gear selection procedure.

When it is desired to make another shift, simply depress the clutch pedal, move the lever into the gear position desired, and allow the clutch to re-engage.

The need of a **gear shift lever** is eliminated on cars equipped with "Electric Hand"; however, a lever is provided in a pocket mounted on the inside of the right hand front door hinge pillar should it be necessary to shift the gears when the engine is not running. Inasmuch as the operating force of the "Electric Hand" is vacuum, and this is not available unless the engine is running, it is impossible to shift gears unless the hand gear shifting lever which is provided is used. This lever may be used by removing the cap in the floor mat, which exposes the top of the transmission control. Any desired shift can be made with this lever by simply depressing the clutch pedal to disengage the clutch. The "off and on" switch on the selector mounting should be turned "off" when shifting lever is in place.

HYDRAULIC HILL-HOLD

When the car is equipped with Hydraulic Hill-Hold, in addition to the Automatic Clutch Control, the clutch pedal must be depressed manually in order for the Hydraulic Hill-Hold to function with the car at rest on a grade. This is necessary in view of the fact that the Hydraulic Hill-Hold is actuated by movement of the clutch pedal, which remains in the engaged position when the Automatic Clutch Control is in operation.

BONNET RAISING

The engine bonnet is locked from the driver's compartment to prevent access to the engine compartment when the car doors are locked.

The locking handle is mounted on the lower flange of the instrument panel to the left of the steering column.

To unlock the bonnet, grasp the handle and push it forward. This action rotates a transverse tie rod which releases the two locking fingers in the engine compartment, permitting the bonnet to be raised.

To raise the bonnet, grasp it on either side at the rear and raise it as high as possible to open the supporting hinge.

CAUTION: To be sure the hinge is fully opened, press it forward at the center before releasing hold on bonnet.

The bonnet may be lowered by lifting it slightly with one hand and pulling back the hinge with the other. Lock the bonnet in place by pulling the locking handle.

STARTING THE ENGINE

The carburetors on Hudson 112, Hudson Six and Hudson Business models are equipped with a manually operated choke, controlled by a button on the instrument panel. When starting a cold

Factory-authorized lubrication is your assurance that the proper grades of lubricants will be installed in your car. We, therefore, urge you to consult your Hudson dealer on all lubrication needs.

For your guidance, a chassis lubrication chart is attached to the front cover of this manual, and another quick reference chart will be found on the left side of the dash in the engine compartment. Study these charts carefully and be diligent in following the instructions contained therein.

The lubricants placed in your car at the time of manufacture are of the highest types available and **NEED NOT** be removed until the recommended change period has been reached.

Dust Area Operation

When operating a motor car in dusty areas, or continuously over unpaved roads, it is imperative that greater precautions be taken to prevent dust and abrasives from damaging the bearings, pistons, rings, spring shackles, spindle pivot pins, etc.

When dust mixes with oil or lubricants it forms a highly abrasive substance. It is important under such conditions that more frequent attention be given to chassis and engine lubrication, air cleaner and fuel system cleaning than the periods mentioned in this instruction book.

The greatest factor in preventing damage to the carburetor and engine is the use of Oil Bath Carburetor Air Cleaner described on page 30, which insures efficient filtering of the air before entering the carburetor and engine.

Tourists contemplating trips through dust areas as well as car owners living in these areas should have an Oil Bath Carburetor Air Cleaner installed by their dealer. The cost is nominal when considering the added protection obtainable.

The frequency with which the air cleaner should be cleaned and reoiled depends, of course, upon local dust conditions. The protection which this type of air cleaner affords will be appreciated by noting the accumulation of dust and dirt found in the air cleaner oil reservoir below the filter unit.

Listed below are points which should be checked and handled in accordance with local conditions:

1. Fuel System:

- (a) Clean and service air cleaner as outlined on page 30.
- (b) Clean fuel lines.
- (c) Clean carburetor.
- (d) Clean fuel pump.

2. Crankcase:

- (a) Clean ventilator and insert wads of fine metal gauze or fine mesh screen in lower end.
- (b) Drain oil, remove oil pan, clean thoroughly, reinstall and refill with fresh new oil.

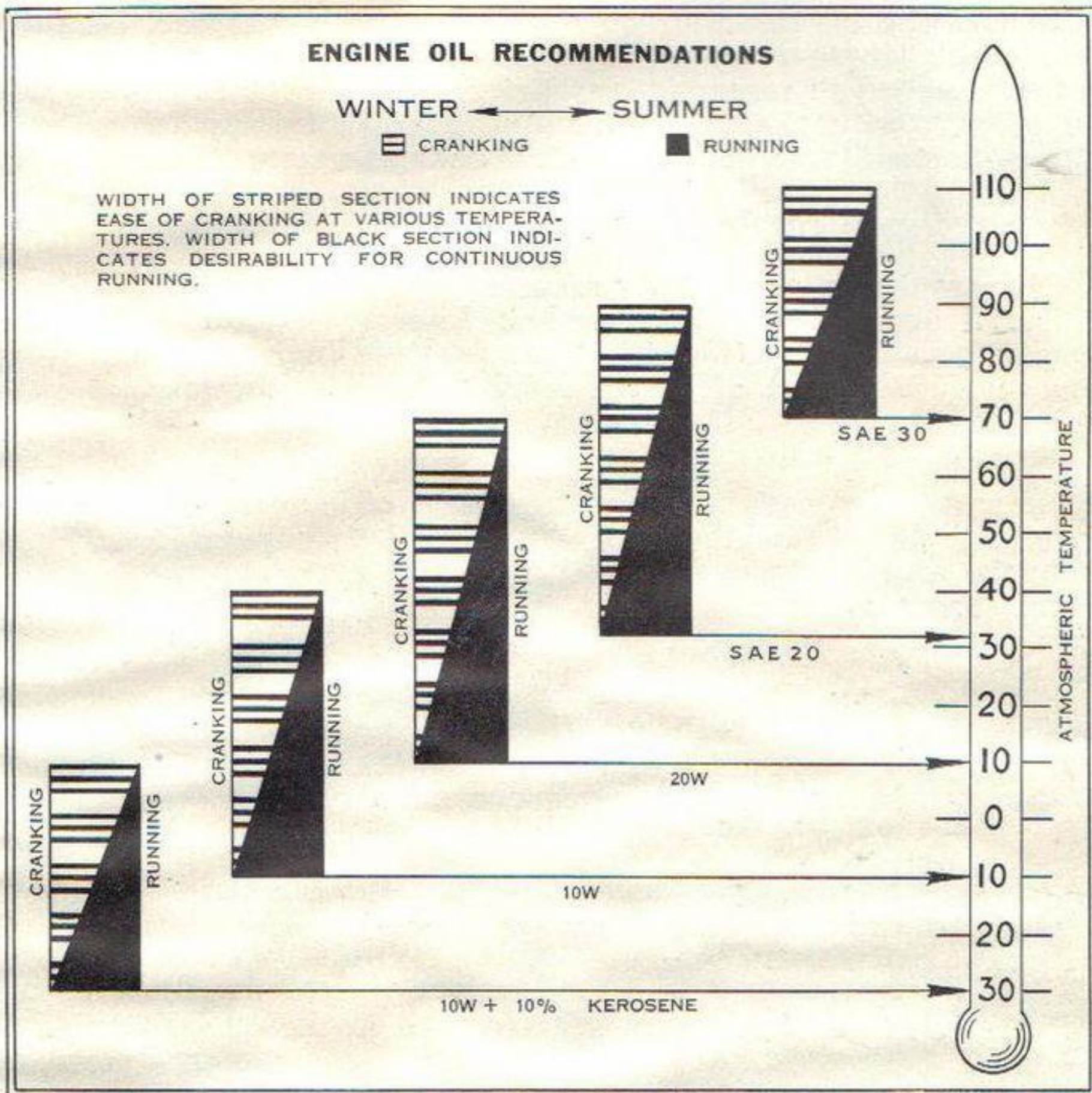


Figure 9

mendations of the manufacturer of the product. Only light, finely refined oils should be added to the gasoline and not to exceed one quart to a full tank of gasoline.

Even where these special practices are followed, the recommendations of the foregoing paragraphs as to speeds and operation should be adhered to strictly.

ENGINE OIL CAPACITY—6-CYLINDER MODELS

The crankcase oil capacity is five and one-half quarts (four and one-half Imperial quarts—five and one-quarter Liters). After draining the engine, four and one-half quarts (three and three-quarters Imperial quarts—four and one-quarter Liters) of oil are required to refill the crankcase to the proper level.

Should the oil reservoir be removed for any purpose, be sure one quart (three-quarters Imperial quart—one Liter) is poured into the upper oil reservoir tray before attaching it to the engine. Then refill with the usual four and one-half quarts (three and three-quarters Imperial quarts—four and one-quarter Liters) of oil.

ENGINE OIL CAPACITY—8-CYLINDER MODELS

The crankcase oil capacity is nine quarts (seven and one-half Imperial quarts—eight and one-half Liters). After draining the engine, seven quarts (five and three-quarters Imperial quarts—six and one-half Liters) of oil are required to refill the crankcase to the proper level.

Should the oil reservoir be removed for any purpose, be sure two quarts (one and three-quarters Imperial quarts—two Liters) of oil are poured into the upper oil reservoir tray before attaching it to the engine. Then refill with the usual seven quarts (five and three-quarters Imperial quarts—six and one-half Liters) of oil.

Checking Level and Adding Oil

The oil level gauge, located on the left side of the engine, illustrated in Figure 10, is of the bayonet type with the lower portion marked "Low" and above this another portion marked "Oil Level Range."

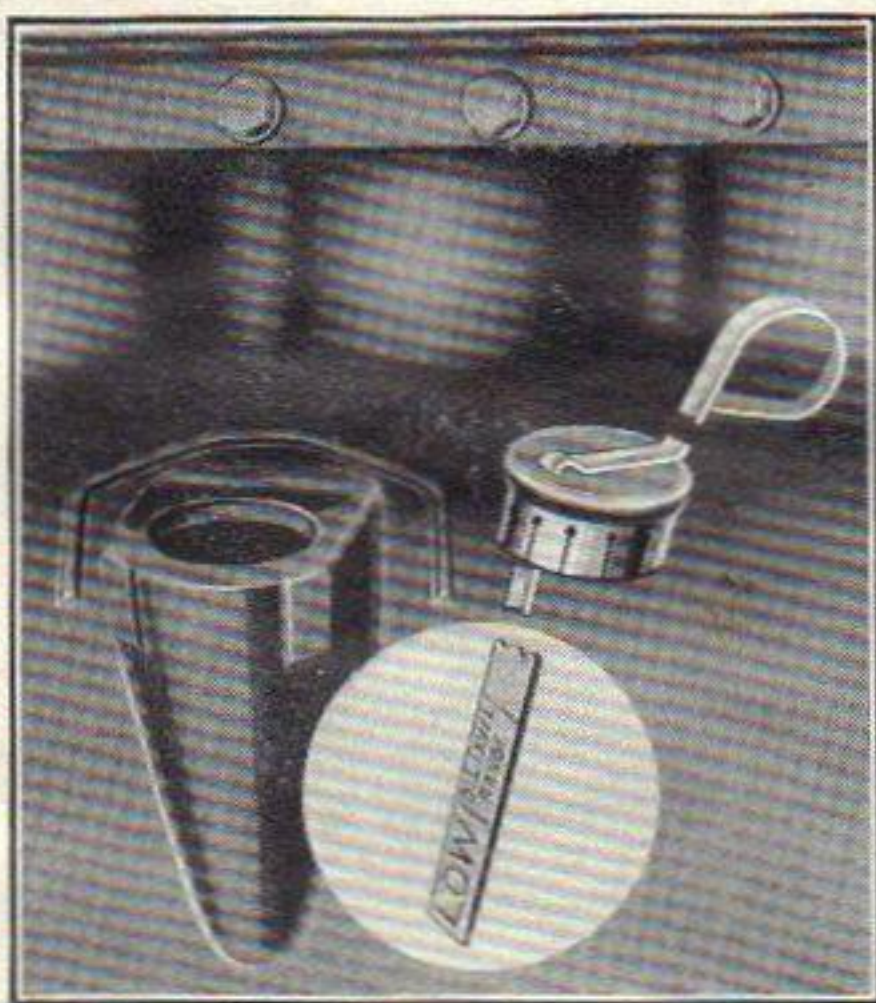


Figure 10

The oil level should be checked frequently and sufficient oil added to maintain the level within the "Oil Level Range."

More accurate readings can be obtained if the oil is permitted to drain back into the reservoir for a few minutes after the engine has been turned off. By maintaining the level within the "Oil Level Range" adequate lubrication is provided. Should the level drop to the "Low" mark, it indicates two and one-half quarts (two Imperial quarts — two and one-quarter Liters) of oil are required to raise the level to the top of the "Oil Level Range."

If the oil level is low and the speedometer reading indicates that the oil change period is near at hand, it is more economical to drain out the old oil and refill with new fresh oil of the proper grade.

Oil Economy

Oil economy, similar to gasoline economy, is dependent on the speeds at which the car is driven. At consistently high speeds, due to higher operating engine temperature, engine oil is naturally thinned down and usage becomes greater. Statistics based on actual tests of a number of makes of cars indicate oil consumption at 50 miles per hour to be nearly seven times greater than at 30 miles per hour.

ENGINE

Design

Hudson built engines are of the "L" head type, developing unusual power, efficiency and economy of operation.

Crankcase and Cylinder Block

The crankcase and cylinder block, cast integrally, is of high chrome alloy. The valve seats are machined in the cylinder block, which provides for quick dissipation of heat, thus prolonging valve life and resulting in freedom from frequent valve grinding.

Pistons

Pistons are of low expansion silicon aluminum alloy, cam ground and T-slotted, which permits close fitting in the smooth finish cylinder bores.

Two compression rings and one oil ring are provided above the piston pin and one oil ring is located below the piston pin. All rings are pinned in place to prevent rotation in the ring grooves.

Piston pins are of full floating design and are a hand press fit in diamond bored piston pin bosses at 200° F.

Connecting Rods

Connecting rods are of drop-forged steel, I-beam construction with spun babbitt lower bearings. Special spring steel locking nuts are used to securely lock the connecting rod bolts.

Crankshaft

The crankshaft is a heavy drop-forging provided with integral counterweights and it is dynamically and statically balanced. A vibration dampener is employed at the front end of the engine to dampen out engine vibration at its source. All crankshaft bearings are bronze-backed with babbitt linings and are adjustable by shims.

Camshaft, Tappets and Valves

The camshaft is electric furnace alloy supported by three large babbitt bearings in 6-cylinder engines and by five bearings in the 8-cylinder models. The camshaft drive is through a fibre gear driven by a steel gear pressed on the crankshaft and keyed to it.

The tappets are of the roller cam type and are adjustable to maintain proper operating clearances. Tappet guides are replaceable.

The exhaust valves are of silichrome alloy steel and intake valves are of special nickel chromium steel. Valve guides are replaceable.

Valve Tappet Adjustment

To assure proper valve tappet clearance under all operating conditions, it is essential that tappets be adjusted while the engine is at normal operating temperature.

Tappets may be adjusted by removing the right front wheel, fender dust shield and tappet compartment covers.

Exhaust valve clearance should be .008" and intake valves should be adjusted to .006".

Valve locations are as follows:

6-Cylinder Models—

Exhaust valves Nos. 1-3-6-7-10-12

Intake valves Nos. 2-4-5-8-9-11

8-Cylinder Models—

Exhaust valves Nos. 1-4-5-8-9-12-13-16

Intake valves Nos. 2-3-6-7-10-11-14-15

Valve Timing

The valve timing is determined by the meshing of the crankshaft and camshaft gears. The tooth of the crankshaft gear with the punch-mark on the front face should mesh between the two punch-marked teeth of the camshaft gear.

Engine Lubrication

The time-proven Hudson Duo-flo Automatic Lubrication System, employing a large oscillating plunger pump at the front end and a check valve at the rear end of the engine, provides adequate lubrication from the moment the engine is started and throughout its entire operating range.

The oscillating plunger pump serves to draw the oil from the reservoir and distribute it to the front and rear ends of the engine through large external pipes. As the oil is picked up by the connecting rod dippers it is vigorously distributed throughout the inside of the engine, providing positive lubrication to every moving part. As the oil drains down the side of the crankcase it is accumulated in pockets above the camshaft and crankshaft bearings, from where it is fed to the bearings.

The spray created by the action of the connecting rod dippers through the oil insures an abundance of oil to the pistons, pins, rings and valves.

Crankcase Ventilation and Oil Conditioning

Harmful diluents consisting of unburned gasoline and condensation are drawn from the crankcase by vacuum created by the ventilator tubes located on the right side of the engine and leading from the valve chamber.

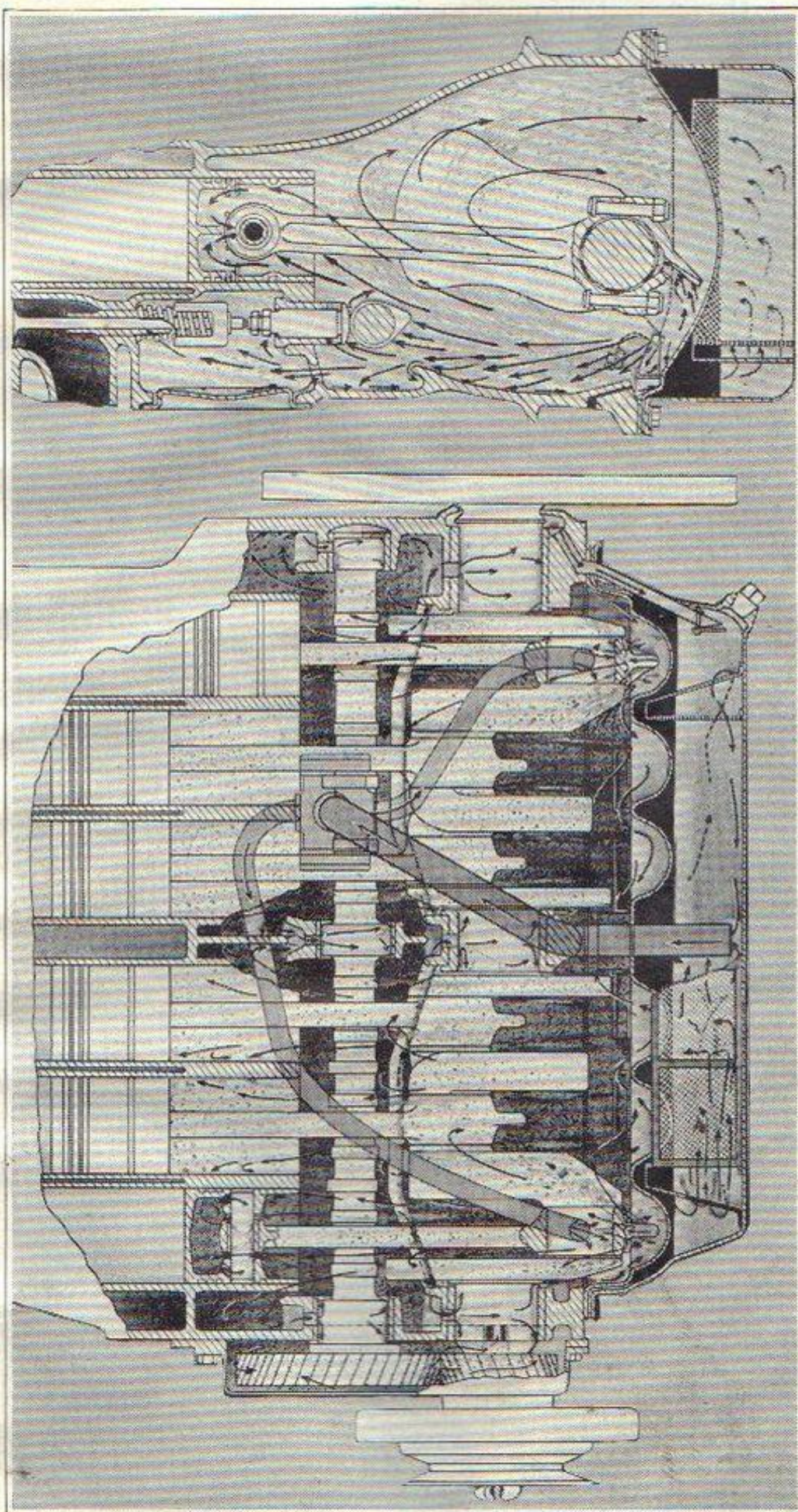


Figure 11

the gasket and tighten the nuts securely to avoid exhaust leaks at this point.

Carburetor—Hudson Country Club Six, Hudson Country Club Eight and Hudson Country Club Custom Sedan

The carburetor, Figure 13, is of the 1" Duplex down-draft type, incorporating Climatic Control (self-controlled choke), accelerating pump, anti-percolator valve, fast idle and automatic heat control features.

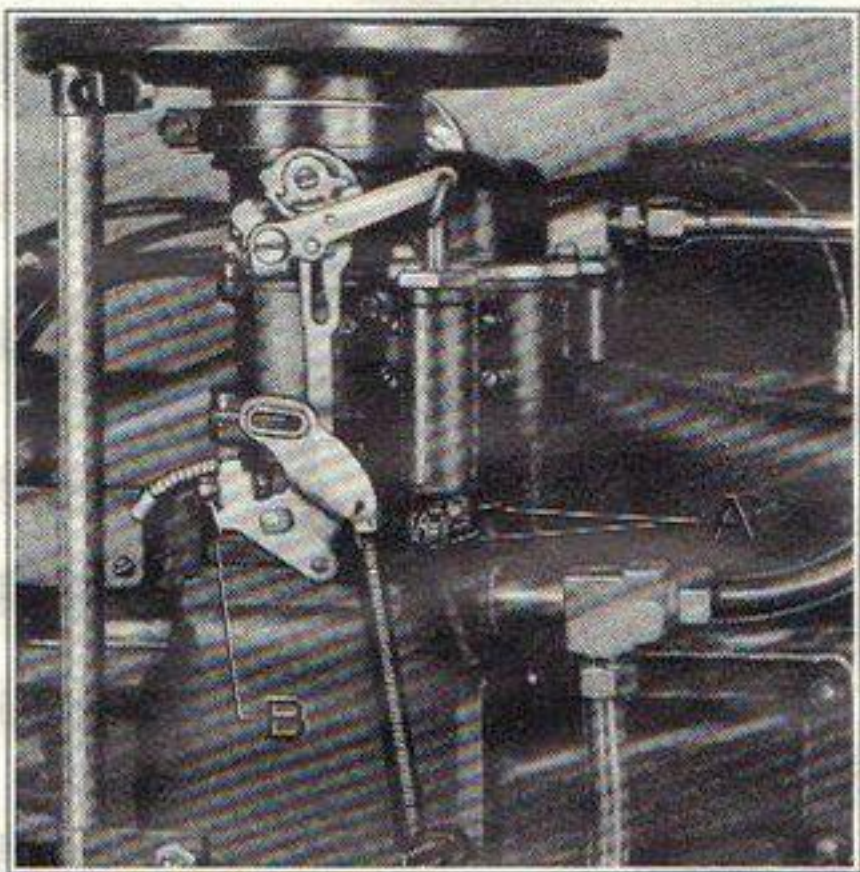


Figure 13

Two metering pins are provided, each of which proportions the fuel mixture for its respective carburetor barrel.

On the 6-cylinder models, one barrel supplies the three forward cylinders and the other barrel supplies the three rear cylinders.

On the 8-cylinder models, one barrel supplies the four center cylinders and the other barrel supplies the two cylinders at each end of the engine.

Choke

The automatic choke feature provides the exact amount of choking required to obtain easy starting without the danger of stalling and flooding. A fast idle provision is incorporated which holds the throttle open the correct amount until the engine has warmed up sufficiently to run smoothly.

The choke valve is operated by a thermostatic spring enclosed in an insulated housing on the carburetor, which is controlled by hot air drawn off the exhaust manifold through the hot air stove and flexible tubing. At temperatures below 75° F. the spring tension on the choke valve is sufficient to hold it closed. As the temperature increases the tension on the spring is released, allowing the choke valve to open automatically.

Manifold Heat Control

The exhaust manifold heat control valve is also operated automatically by a thermostatic spring, supplying the correct amount of heat to the intake manifold under all operating conditions.

CARBURETOR AIR CLEANERS

The standard carburetor air cleaner filter unit should be cleaned in gasoline and reoiled in S.A.E. 50 engine oil every 2,000 miles.

Following extensive service, it may be advisable to replace the filter unit which is available at low cost.

The oil bath carburetor air cleaner which is available as optional equipment or accessory should be cleaned and refilled every 2,000 miles with the same grade of oil used in the engine.

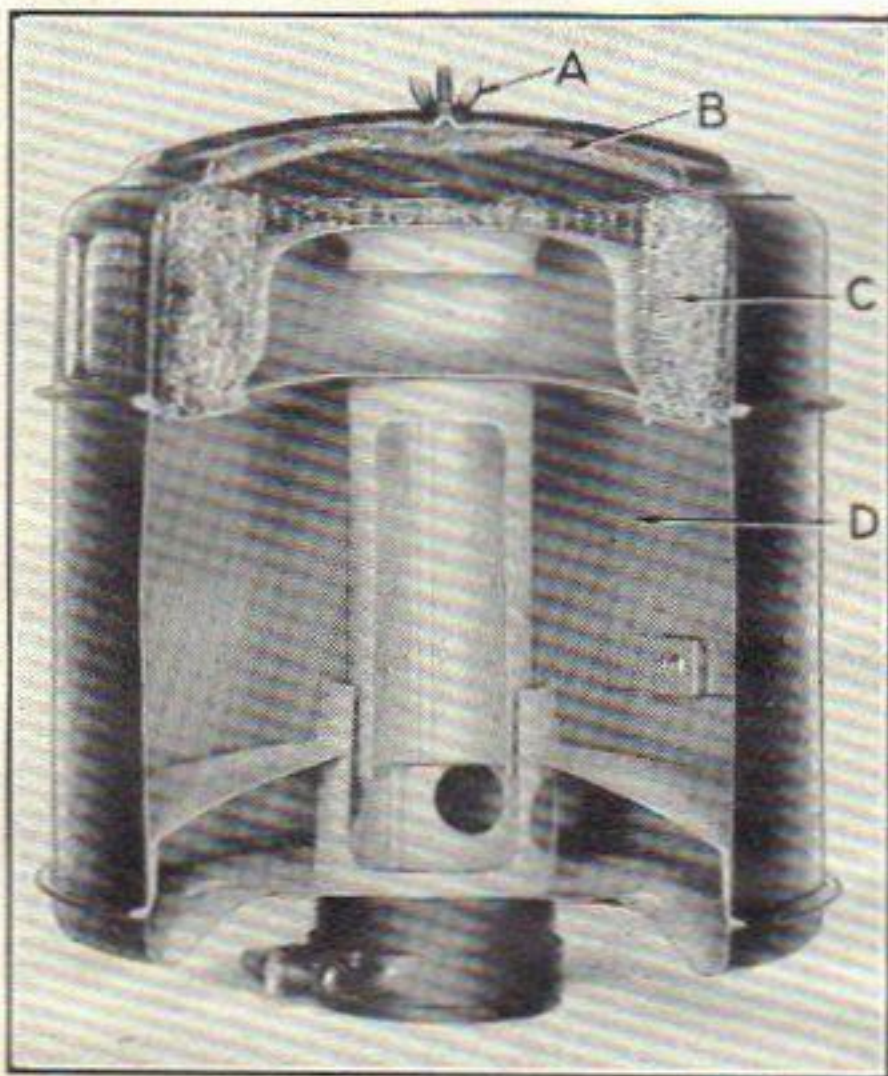


Figure 14

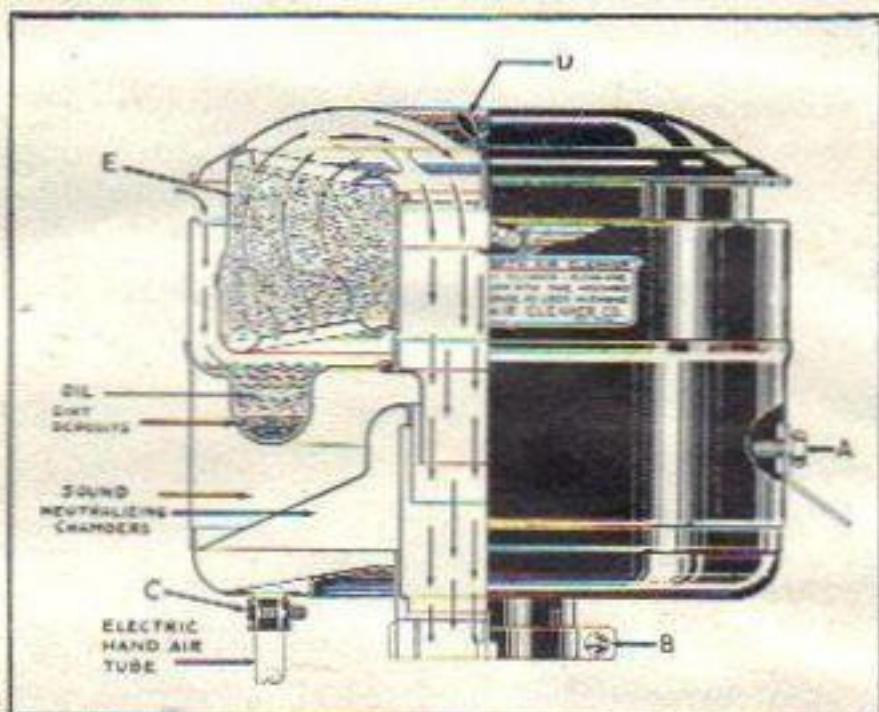


Figure 15

Cleaning and Reoiling Instructions

Standard Air Cleaner

1. Remove wing nut (A), cover and pad (B) and filter unit (C), Figure 14.
2. Wash filter unit in gasoline and drain or blow dry.
3. Dip filter unit in S.A.E. 50 engine oil and drain off excess.
4. Reinstall filter unit, cover and wing nut.

Oil Bath Air Cleaner

1. Remove air cleaner from carburetor by removing body brace bolt (A), Figure 15, and cleaner body clamp screw (B) at carburetor air horn. On Electric Hand equipped cars also loosen Electric Hand air inlet pipe clamp screw (C).
2. Remove wing nut (D) and lift out filter unit (E) and, if necessary, wash in kerosene and blow dry.
3. Remove old oil from oil sump, scrape out dirt deposits and clean thoroughly with kerosene.
4. Refill sump with one measured pint of new engine oil of the same grade as used in the engine.
5. Check filter unit gasket, reinstall filter unit (E) and install wing nut (D).
6. Reinstall air cleaner on carburetor and tighten clamp screws.

Fuel Pump—Hudson 112 and Hudson 112" W.B. Business Cars

The fuel pump, Figure 16, is located on the right side of the engine and is operated by an eccentric on the camshaft.

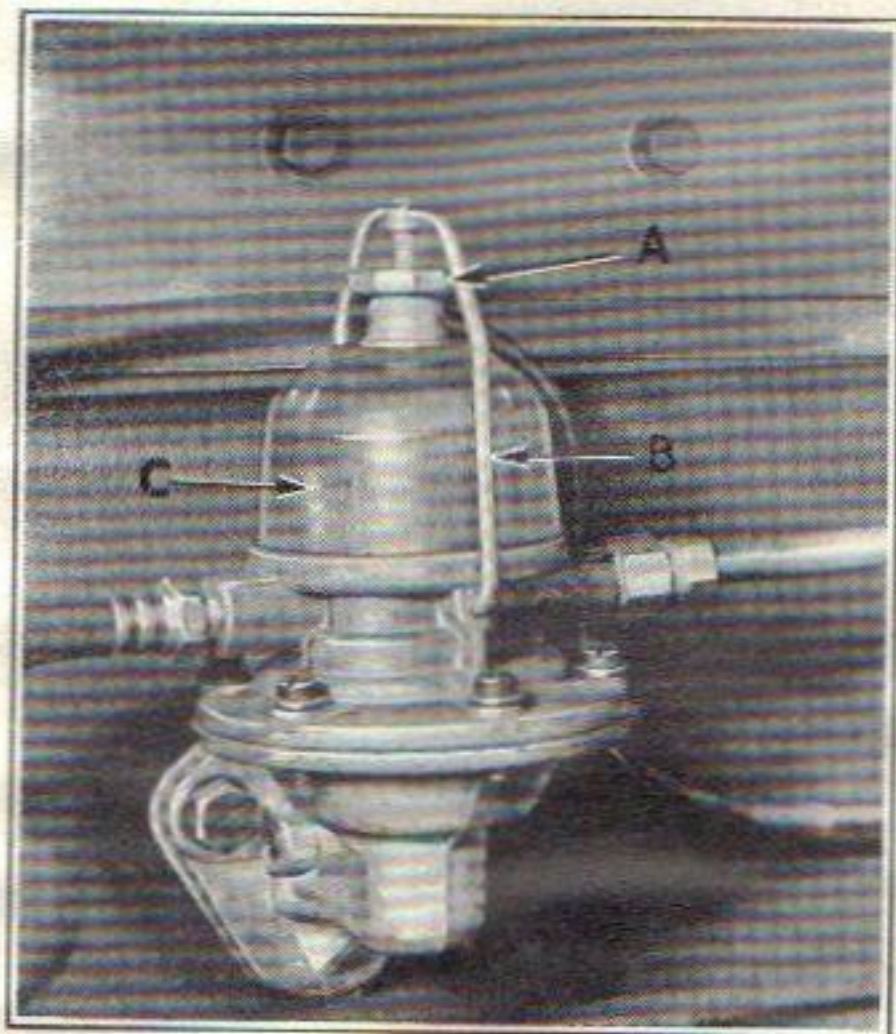


Figure 16

Every 2,000 miles, or oftener if local conditions warrant, the glass bowl (C) and screen should be removed for cleaning by turning nut (A) counterclockwise and swinging strap (B) to one side. Before replacing the parts, carefully examine the screen and gasket and replace if necessary.

Fuel Pump—All Models Except Hudson 112 and Hudson 112" W.B. Business Cars

Delivery of gasoline to the carburetor is by means of a diaphragm type fuel pump, Figure 17, operated from an eccentric on the camshaft.

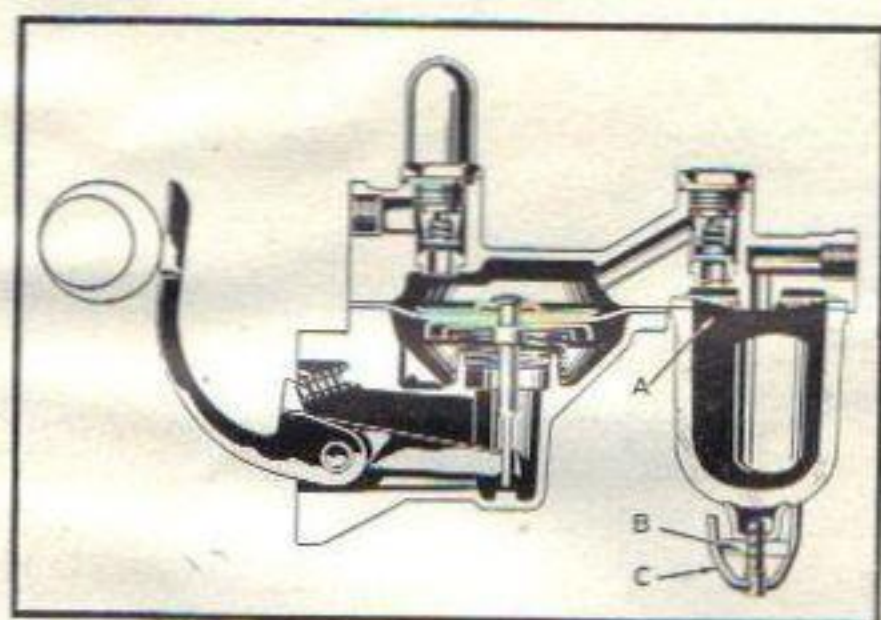


Figure 17

A filter screen and sediment bowl (A) are provided to prevent foreign matter in the gasoline from reaching the carburetor. This bowl and screen should be removed and cleaned every 2,000 miles or oftener if the accumulation in the bowl necessitates it.

To remove the bowl and screen, loosen nut (B) and swing strap (C) to one side. Before replacing parts, carefully examine the screen and bowl gasket and replace if damaged.

Combination Fuel and Vacuum Pump (Optional or Accessory)

The combination fuel and vacuum pump, which is available as optional equipment or an accessory, incorporates a vacuum pump to provide greater vacuum to improve operation of the windshield wipers on acceleration and particularly in negotiating upgrades when engine vacuum is generally low.

A filter screen and sediment bowl are provided to prevent foreign matter in the gasoline from reaching the carburetor. The bowl and screen should be removed and cleaned every 2,000 miles or

as often as local conditions warrant. An air filter screen is also located in the vacuum pump section of the pump at the top, and this also should be cleaned every 5,000 miles.

To remove gasoline filter screen and bowl, loosen cap screw at bottom of bowl and remove bowl and cap screw together. Slip screen down off shoulder. Clean bowl and screen. Replace screen, being sure screen retainer ears point downward. Replace bowl and cap screw together. Tighten cap screw.

To remove air filter cap and screen, take out cap screw at top. Lift off cap and screen retainer. Remove screen by inserting knife blade at edge of screen. Clean screen and bowl and replace parts. When replacing cap note carefully that it is replaced in exactly the same position from which it was removed. The depressed section of the cap gasket should be over the screen and retainer.

Gasoline Tank—Hudson 112 and Utility Models

The gasoline tank capacity is 12½ gallons (10½ Imperial gallons—47¼ Liters).

All Other Models

The gasoline tank capacity is 16½ gallons (13¾ Imperial gallons—62½ Liters).

All gasoline tanks are provided with a filter screen surrounding the outlet pipe to prevent foreign particles from reaching the fuel system.

Condensation and any accumulation of foreign matter may be drained from the gasoline tank by removing the drain plug at the rear left lower corner of the tank.

COOLING SYSTEM

Operation

The cooling system is of the pressure pump circulation type with thermostatic control.

On Hudson 112 and Hudson Business models the thermostat is located in the water outlet (C), Figure 18, and restricts circulation of the coolant through the radiator until the water has reached a temperature of 150° to 155°.

On all other models a by-pass is incorporated in the water pump in addition to the thermostat to permit circulation of coolant through the cylinder block until the water has reached a temperature of 150° to 155°.



Figure 18

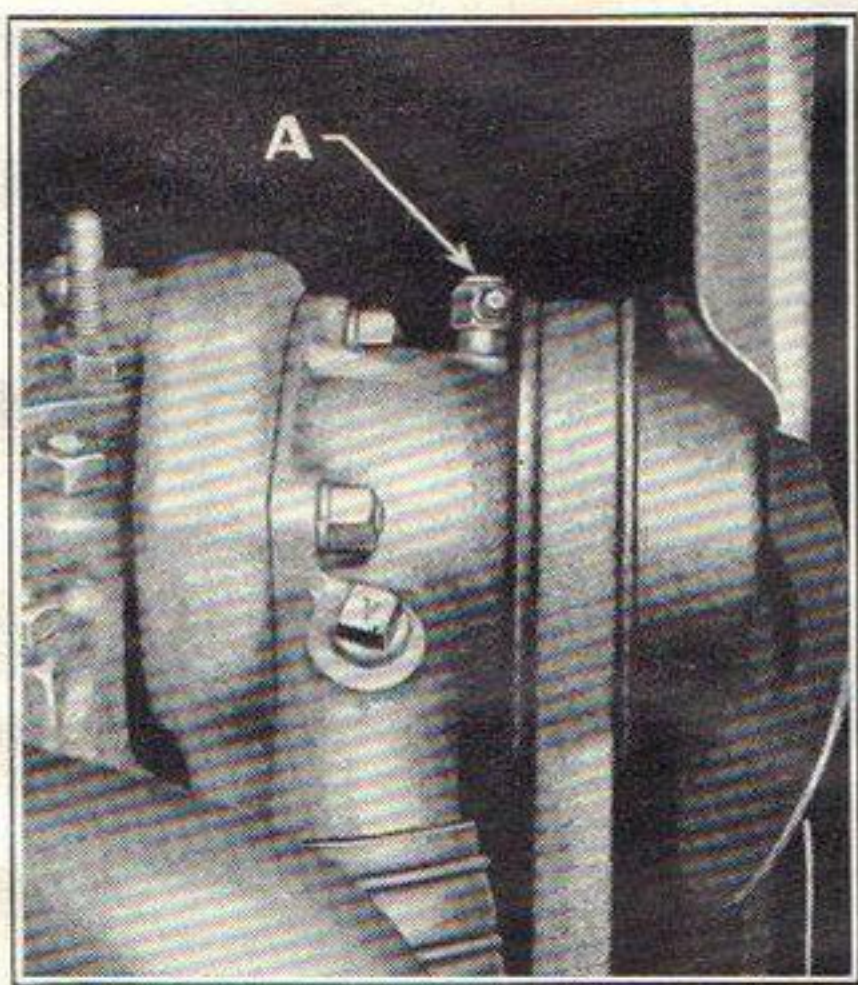


Figure 19

At this temperature the thermostat begins to open, permitting circulation through the radiator. The thermostat is fully opened at 185°.

Water Pump

The water pump and fan, Figure 19, is of the packless type, which requires no adjustment. It is driven by a "V" type fan belt, which also drives the generator.

Lubrication

Every 1,000 miles the pump should be lubricated through the metered fitting (A) with a high-grade aluminum soap base lubricant until the excess lubricant

flows out through the opening at top of fitting.

Draining

To drain the cooling system completely, open the drain cock at the lower left corner of the radiator, under the hood, and also remove the pipe plug from the left rear lower corner of the cylinder block.

Care

To maintain proper cooling efficiency, it is essential that the radiator be kept clean of scale and corrosion, due to electrolytic action of water-containing minerals and also deposits of minerals when the water is heated. Hudson Rust and Corrosion Inhibitor will protect the inner surfaces of the cooling system against the formation of rust if placed in the engine when new.

Unless special steps are taken to prevent these deposits, the cooling system should be cleaned twice a year. This cleaning is most effective when the reverse flushing method is used to remove deposits after they have been loosened by the use of Hudson Radiator Cleaner. Reverse flushing requires the use of special equipment operated by compressed air, and you should have this done by your Hudson dealer.

To clean the radiator, run the engine a few minutes to circulate the water and stir up loose sediment. Stop the engine and drain all water from the system.

Dissolve the contents of a container of Hudson Radiator Cleaner in a bucket of hot water (be sure the material is completely dissolved). Pour the solution into the radiator, then fill the radiator almost full of water.

8-CYLINDER MODELS

Temperature	Thermo-Royal			Ethylene Glycol (Prestone or Equivalent)			Methanol or Denatured Alcohol		
	Quarts		Liters	Quarts		Liters	Quarts		Liters
	U. S.	Imp.	Metric	U. S.	Imp.	Metric	U. S.	Imp.	Metric
+20°	3½	3	3⅓	3	2½	2¾	3	2½	2¾
+10°	5¼	4½	5	4½	3¾	4¼	4¾	4	4½
0°	6¼	5¼	6	6	5	5½	6	5	5½
-10°	7	6	6½	7	6	6½	7½	6	7
-20°	8	6½	7½	7¾	6½	7¼	8½	7	8
-30°	9½	8	9	8	6½	7½	9½	8	9

STARTING MOTOR

Hudson 112, Utility and Commercial Models 112" and 119" W.B.

The starting motor used on these models is of the foot operated type. The starter rod button is located on the toe board, immediately below the steering column.

**Hudson Six, Country Club Six, Country Club Eight
and Country Club Custom Sedan**

The starting motor, Figure 20, used on these models is operated by a solenoid switch (A) mounted on top of the starter. Control of the starting motor is by means of a push button type switch located on the instrument panel. The starting motor may also be operated by removing cap (B) at the rear of the solenoid switch and pushing the plunger.

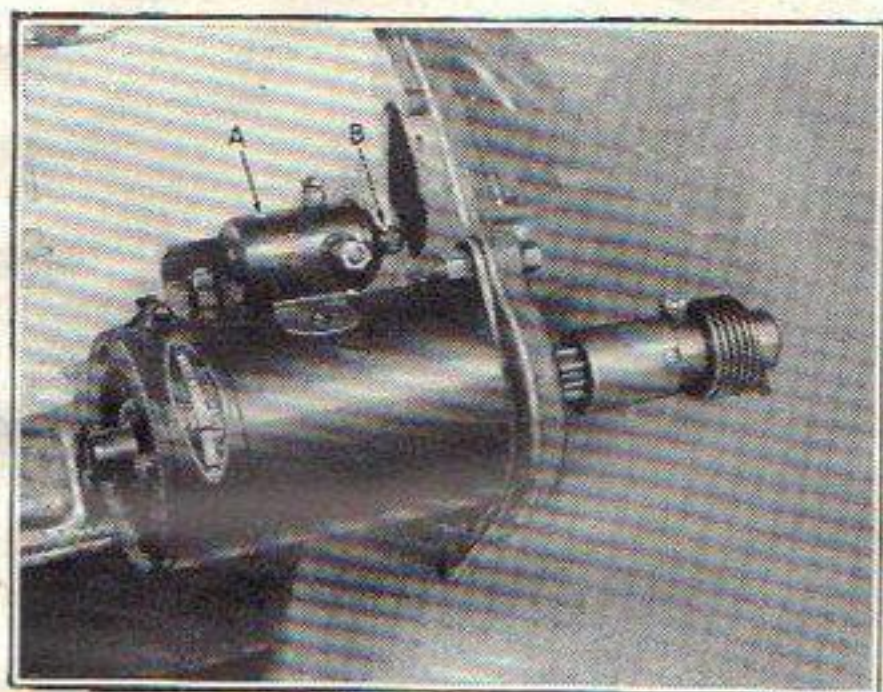


Figure 20

Lubrication

The front and rear bearings should be lubricated every 1,000 miles with engine oil applied through oilers at the front and rear of the starting motor. Do this sparingly to prevent over-oiling.

The Bendix drive threads should be cleaned occasionally with a brush dipped in kerosene to remove gum and dirt. Do not oil the threads as the kerosene will provide all the lubrication required.

GENERATOR

The generator, Figure 21, is of the fully ventilated type, cooled by air drawn through from the rear by means of a suction fan located on the front end of the generator.

The maximum output is reached at a car speed of approximately thirty-five miles per hour.

Hudson 112 and Hudson Business Cars

The maximum generator output on these models, which is controlled by the third brush, should be between 17 and 19 amperes with hot generator.

When the car is equipped with radio or other electrical accessories, which necessitate higher current output, a high rate generator with external voltage regulator should be installed. This equipment permits a maximum generator output of 26 to 29 amperes with hot generator.

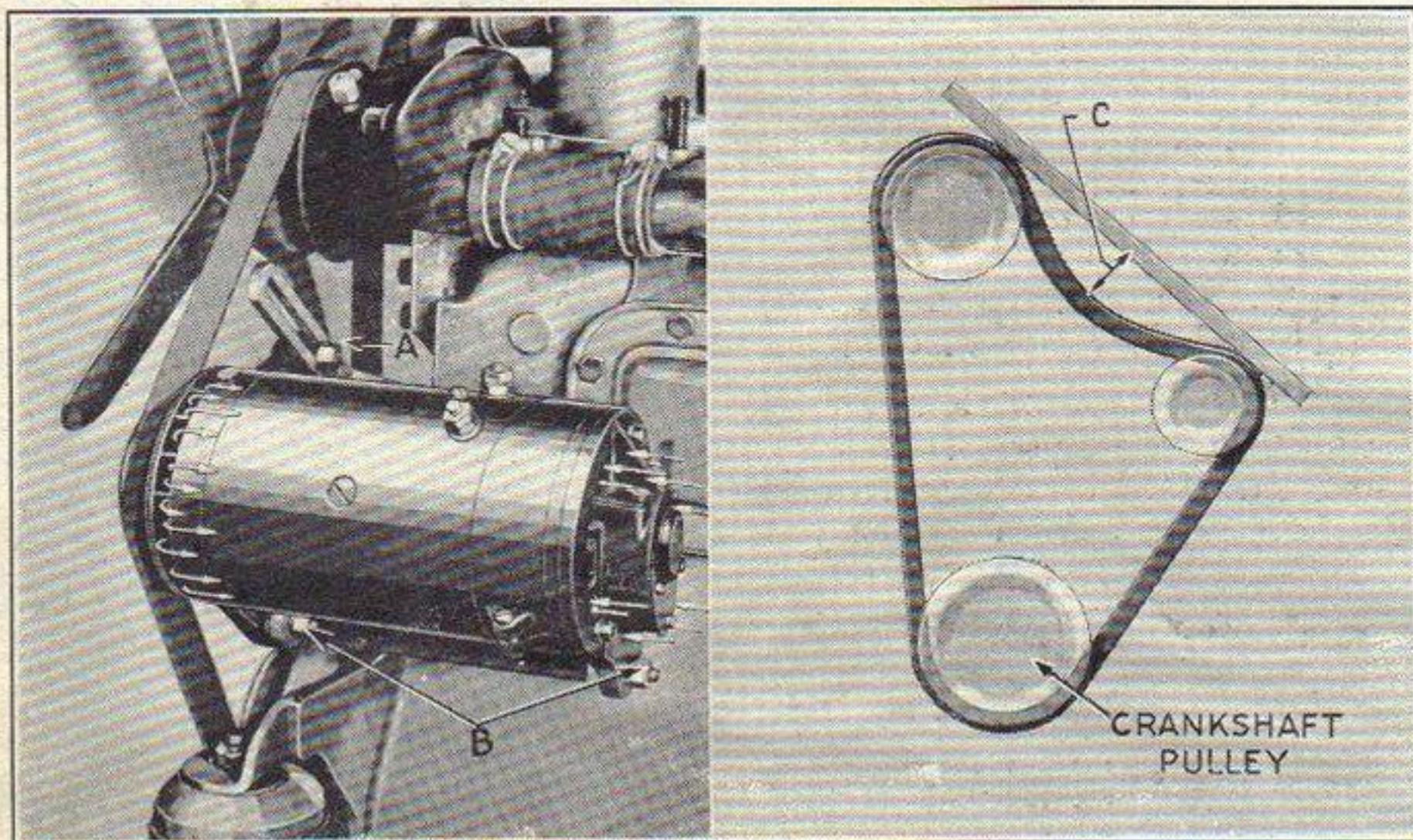


Figure 21

All Other Models

The generator on these models is of the high output type with external voltage regulator, in addition to the third brush, which permits a maximum setting of 26 to 29 amperes with hot generator. Checking the output calls for the use of accurate instruments and should be performed by your Hudson dealer.

All generator readings and adjustments should be made with hot generator, that is, after the engine has been run for 15 or 20 minutes indoors.

Lubrication

Two oil cups are provided on the generator for lubrication of the front and rear bearings. Every 1,000 miles place a few drops of engine oil in the cups. Do this sparingly as over-oiling may cause damage to the brushes and wiring.

FAN BELT

A "V" type belt is used to drive the generator and water pump from the crankshaft pulley. When properly adjusted, to prevent slippage in the pulleys and damage to the bearings, it should be possible to depress the belt $\frac{3}{4}$ " as illustrated at "C," Figure 21.

arm stud and apply a light coating of high temperature grease on contact arm fibre block. Avoid over-oiling.

IGNITION TIMING

To check the ignition timing, remove the spark plug from No. 1 (front) cylinder. Place finger over the spark plug hole and turn over the engine by pressing the starter solenoid push button or starter switch rod in quick successive movements. When air pressure against the finger indicates that the piston is coming up on the compression stroke, continue cranking slowly until the mark U.D.C. 1-6 or U.D.C. 1-8 on the front face of the flywheel is in line with the pointer on the engine support plate as shown at "A" in Figure 24.

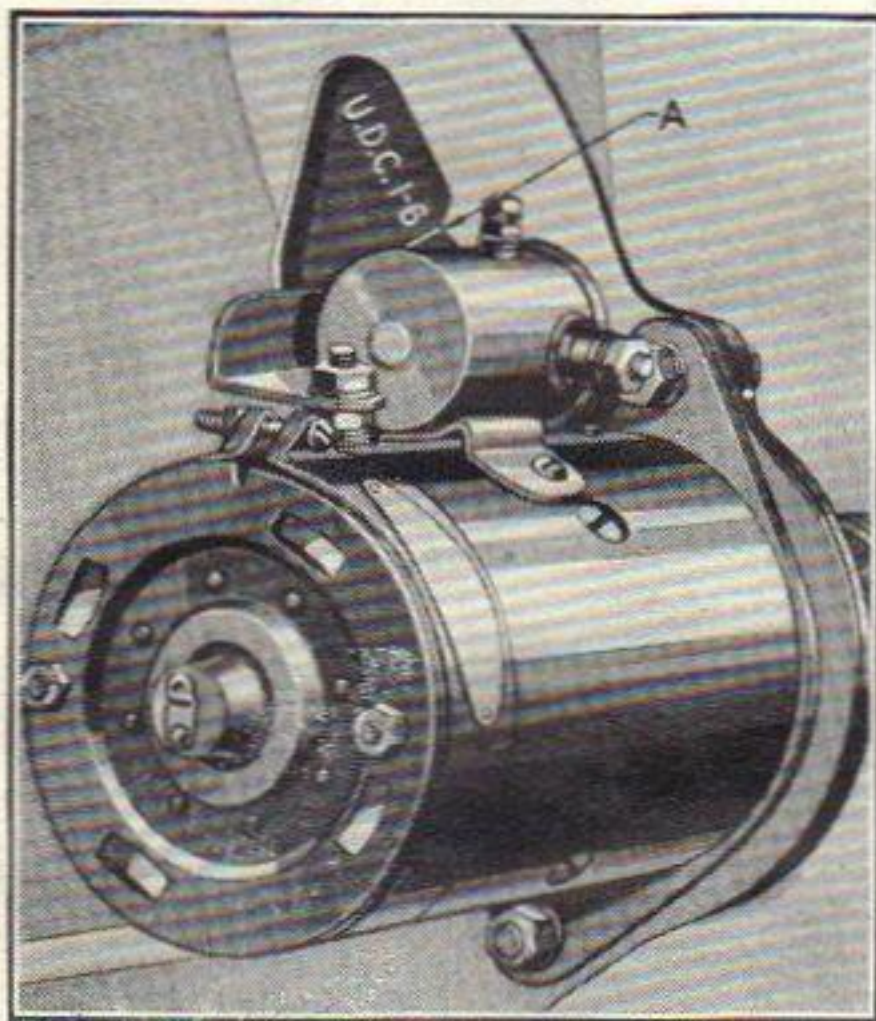


Figure 24

(On the Hudson 112 and Utility and Commercial models, use the same procedure as outlined except stop $\frac{1}{4}$ " before the U.D.C. mark is in line with the pointer.)

Setting Ignition Timing— All Models

Loosen distributor clamp screw (D), Figure 22 or 23, and turn the distributor housing clockwise to the limit of the slot in the

clamping plate (E). Remove the central cable from the distributor cap and place the bare end $\frac{1}{8}$ " from the intake manifold. With the ignition turned on and the U.D.C. 1-6 or U.D.C. 1-8 mark on the flywheel in line with the pointer on the inspection hole, Figure 24, turn the distributor body counterclockwise slowly just until a spark jumps from the high tension wire to the manifold. Tighten clamp screw (D), replace central cable in distributor cap and clamp cap on distributor.

When the distributor cap is in place, the metal strip on the rotor arm should be directly under the terminal to which number one spark plug is attached. The other cables should be in the cap terminals in the order 5-3-6-2-4 in the 6-cylinder models and 6-2-5-8-3-7-4 in 8-cylinder models, following in a clockwise direction. The cable in the center terminal of the distributor cap should go to the central (high tension) terminal of the ignition coil.

Fuel Compensation—All Models

The foregoing operations give normal timing. This, however, due to variations in fuel characteristics (octane rating), is only approx-

imately correct. To get the correct setting the car should be tested on a level, hard-surfaced road for a slight ping on full throttle acceleration at 10 to 15 miles per hour in high gear from a speed of 7 miles per hour. The engine should be at normal operating temperature for this test.

If no ping is heard, the distributor clamping plate screw (D), Figure 22 or 23, should be loosened and the distributor turned counterclockwise one graduation of the clamping plate (E) and the test repeated until the ping is heard.

If the ping is noted at a higher speed, the timing should be retarded by turning the distributor body clockwise slightly until the proper setting is obtained. The higher the octane rating of the fuel being used, the greater the advance required to get maximum performance and fuel economy. However, the timing should not be set more than $\frac{3}{4}$ " ahead of the U.D.C. mark on the flywheel.

BATTERY

Hudson 6-cylinder models are equipped with 17-plate and 8-cylinder models with 19-plate National batteries. The battery is located in the left side of the engine compartment, and is accessible for servicing by raising the bonnet. See Figure 25. The positive post is grounded.

Registration

The battery is covered by a Guarantee and Adjustment Policy by its manufacturer. To obtain the benefits of this policy, the battery must be registered with a National Battery dealer within thirty (30) days after delivery of the car. *Do not neglect to make this registration.*

Care

The battery requires very little attention; however, this attention is important to maintain proper charge and to prolong its life.

At least twice a month in warm weather and once a month



Figure 25

in winter weather distilled water should be added to the battery to maintain the water level not more than $\frac{3}{8}$ " above the top of the plates. During cold weather water should be added just before the car is to be run to prevent the distilled water from freezing before mixing with the battery solution.

Battery connections should be kept tight to reduce the possibility of starting, ignition and lighting difficulties.

A periodic battery hydrometer reading should be taken by your Hudson dealer to insure good battery condition at all times.

ENGINE TUNE-UP

Efficient engine performance and maximum gasoline economy are dependent upon proper engine tune-up. It is recommended that your car be tuned up by your Hudson dealer at least every 5,000 miles. This procedure involves not only carburetor and ignition checking and adjustment but also a thorough checking of engine vacuum and compression, as well as the electrical system.

The following procedure will ordinarily produce satisfactory results:

1. Clean spark plugs and adjust gaps to .032".
2. Clean distributor points and adjust to .020" maximum opening on 6-cylinder engines and .017" opening on 8-cylinder engines. See "Breaker Points," page 37.
3. Check battery and ignition wiring, being sure high tension wires are pressed down securely in their sockets and insulation is in good condition. Battery terminals should be tight and clean.
4. Adjust ignition timing as described on page 38.
5. On single throat carburetors turn idling screw (E), Figure 12, into its seat and back out exactly one turn. On Duplex type carburetors turn two idling screws (A), Figure 13, into their seats alternately and back out exactly three-quarters of a turn.
6. Start engine.
7. When engine has reached normal operating temperature, adjust intake valve tappet clearance to .006" and exhaust valve tappet clearance to .008".
8. Set throttle stop screw (D), Figure 12, on single throat carburetors and screw (B), Figure 13, on Duplex type carburetors so that engine idles at a car speed of seven miles per hour in high gear.
9. Readjust idling screw (E), Figure 12, on single throat carburetors for smooth idling. The final adjustment should be from one-quarter to one turn of the screw from its full in position. On Duplex type carburetors the two idling screws (A), Figure 13, should be adjusted from one-quarter to three-quarters turn out of its full in position.
10. Road test for final ignition timing as described under "Fuel Compensation," page 38.

If the above operations, properly performed, do not restore normal engine performance, the car should be taken to your Hudson dealer for a mechanical inspection.

CLUTCH

The clutch, Figure 26, is of the oil cushioned type with a large single cork insert disc and is driven by friction from the rear face of the steel flywheel and the forward face of the drop-forged steel pressure plate.

The clutch is self-adjusting and requires no other attention than occasionally checking the clutch pedal to floor board clearance and lubrication.

Lubrication

Every 1,000 miles the clutch throwout bearing should be lubricated with one ounce of viscous chassis lubricant through the fitting located on the right side of the clutch housing, reached from beneath the car.

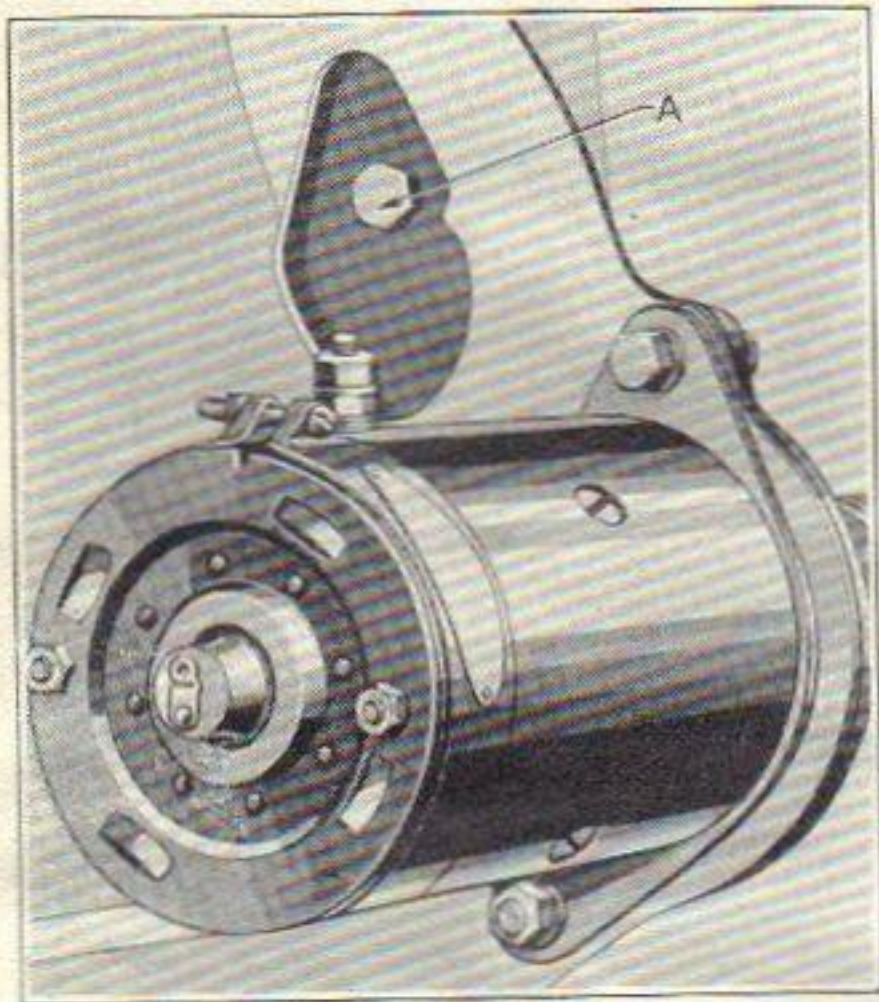


Figure 27

When the car is equipped with Automatic Clutch Control the adapter metered fitting at the rear of the transmission should be lubricated every 1,000 miles with viscous chassis lubricant.

Every 5,000 miles the clutch should be drained by removing the drain plug (A), Figure 27, in the front face of the flywheel and visible through the timing inspection hole in the left side of the engine rear plate.

After removing the plug, turn the engine over slowly until the small star on the flywheel appears through the engine support plate opening. At this point

allow the oil to drain, then turn the engine slowly again until the filler hole appears in the inspection hole. Measure out $\frac{1}{3}$ pint ($\frac{1}{4}$ pint Imperial—160 c.c.) of Hudsonite Clutch Compound and pour it into the clutch. Replace plug and tighten securely. Hudsonite is available only through Authorized Hudson dealers.

Clutch Pedal

The clutch pedal is located to the left of the steering gear column. It must be depressed fully to the floor board on cars equipped with Electric Hand when starting the engine.

Avoid "riding" or resting the foot on the clutch pedal while the car is in motion as this will result in slipping the clutch and might cause damage to the clutch driving surfaces and unnecessary wear of the throwout bearing.

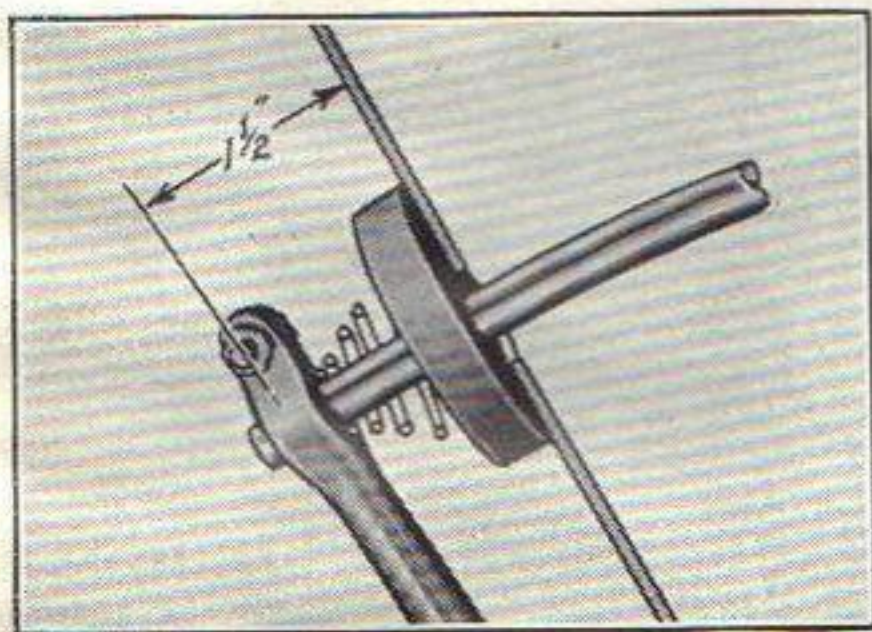


Figure 28

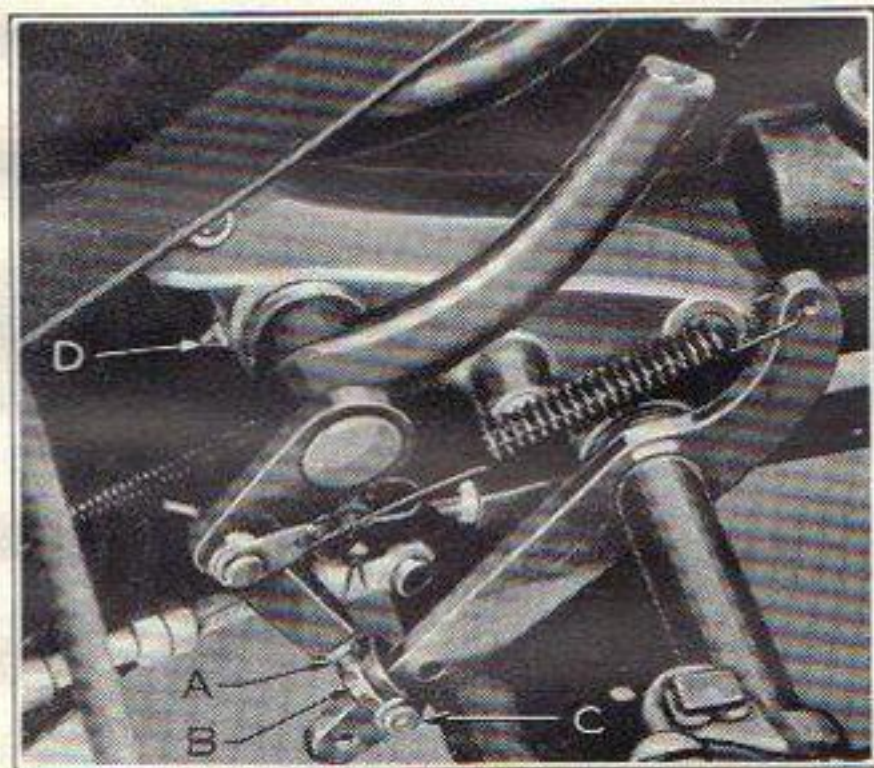


Figure 29

mainshaft drive gear. The countershaft is carried in generous sized steel backed babbitt bearings.

Lubrication

Every 5,000 miles the lubricant should be drained out by removing the drain plug in the bottom of the transmission. After replacing drain plug, remove the filler plug on the left side of the transmission and refill with $2\frac{1}{4}$ pounds (1.02 kgs.) of S.A.E. 90 E.P. gear oil in summer or S.A.E. 80 E.P. gear oil in winter.

Should hard shifting be encountered in extremely cold weather, three ounces of gear oil may be removed and a similar amount of kerosene added to the transmission.

UNIVERSAL JOINTS

The propeller shaft universal joints, Figure 31, are of the needle roller bearing type. The bearings are packed with lubricant at the time of manufacture, and, with the exception of the front joint spline, the universal joints require servicing only at infrequent intervals.

Adjustment

The clutch pedal should be checked periodically to make sure that one and one-half inches lash is maintained between the pedal shank and floor board when the clutch is engaged. See Figure 28.

To adjust for proper clearance, loosen lock nut (A), Figure 29, remove cotter pin and clevis (C), turn yoke (B) to shorten or lengthen the rod, as necessary.

Replace clevis pin (C), cotter pin and tighten lock nut (A) securely.

Lubrication

Every 1,000 miles fitting (D), Figure 29, should be lubricated with viscous chassis lubricant. This fitting is reached from beneath the car.

TRANSMISSION

The transmission, Figure 30, is of compact, quick synchronizing design, incorporating helical cut alloy steel gears and annular ball and needle roller bearings to support the mainshaft and

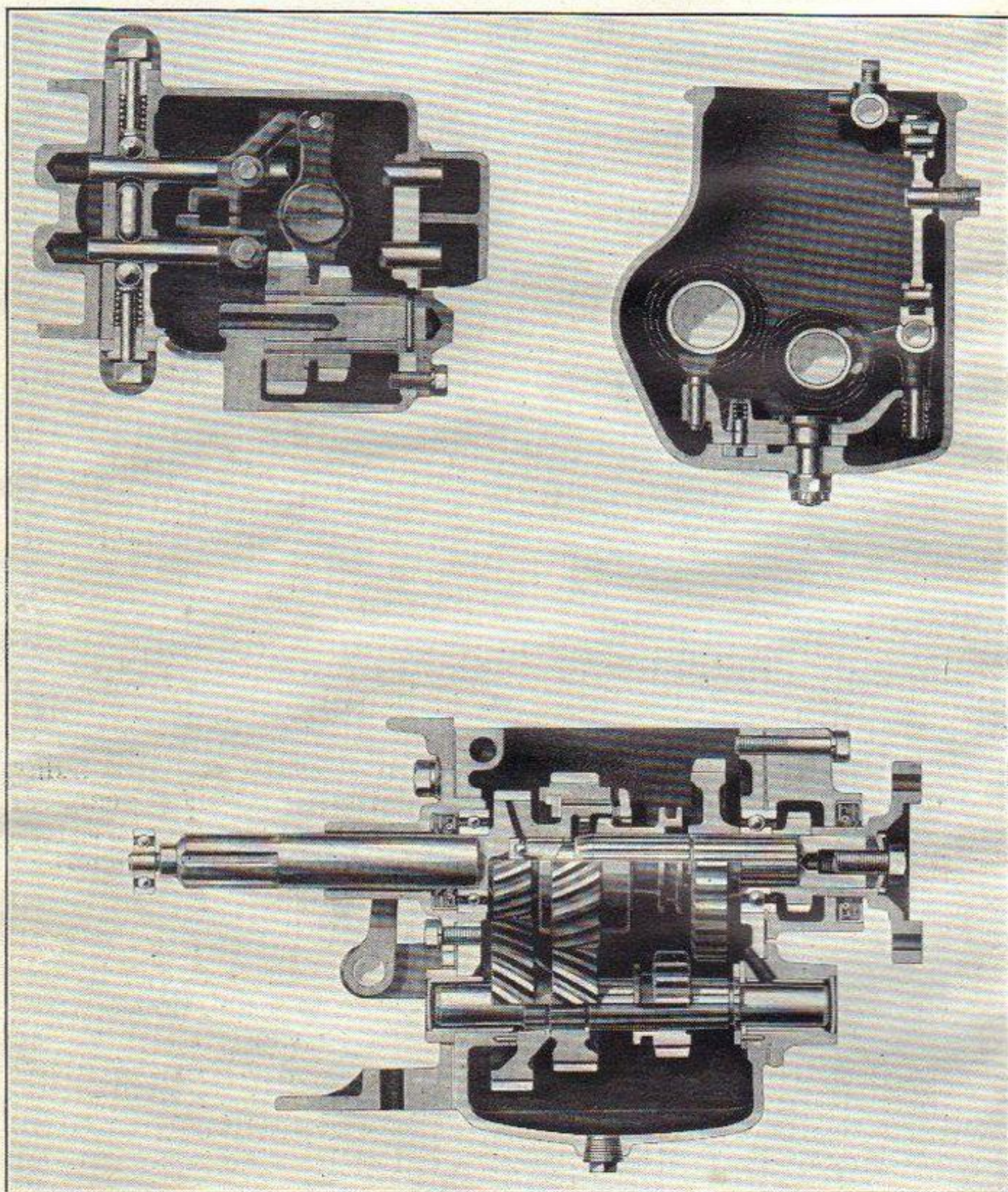


Figure 30

Lubrication

Every 1,000 miles remove the headless pipe plug (A) in the front joint, install a lubrication fitting and lubricate with viscous chassis lubricant. Use a low pressure gun to prevent damage to the oil seal. Be sure to remove fitting and reinstall headless pipe plug. Failure to do this will disturb the balance of the propeller shaft.

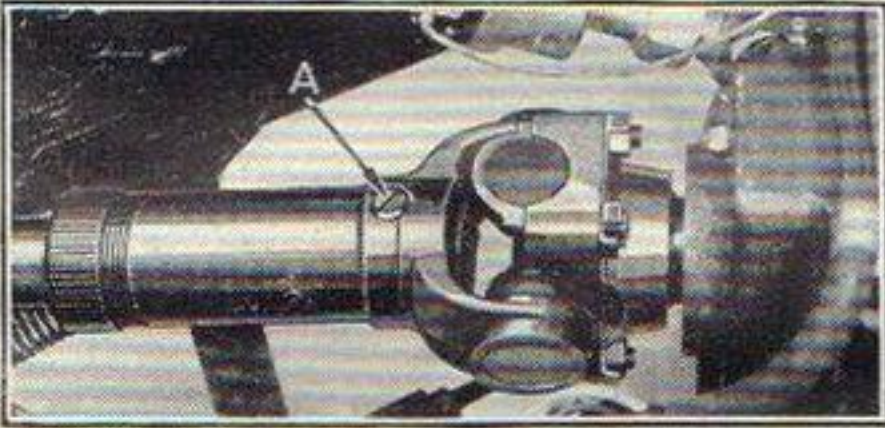


Figure 31

Every 10,000 miles the front and rear universal joints should be disassembled, cleaned and repacked with viscous chassis lubricant. This operation should be performed by your Hudson dealer.

FRONT AXLE

The front axle is a one-piece steel drop forging of the Elliot type with the spindle pivot pins operating in hardened steel bushings and the car load carried on ball thrust bearings. On the Hudson 112 and Utility and Business models the front springs are attached to spring pads forged integrally with the axle by means of heavy

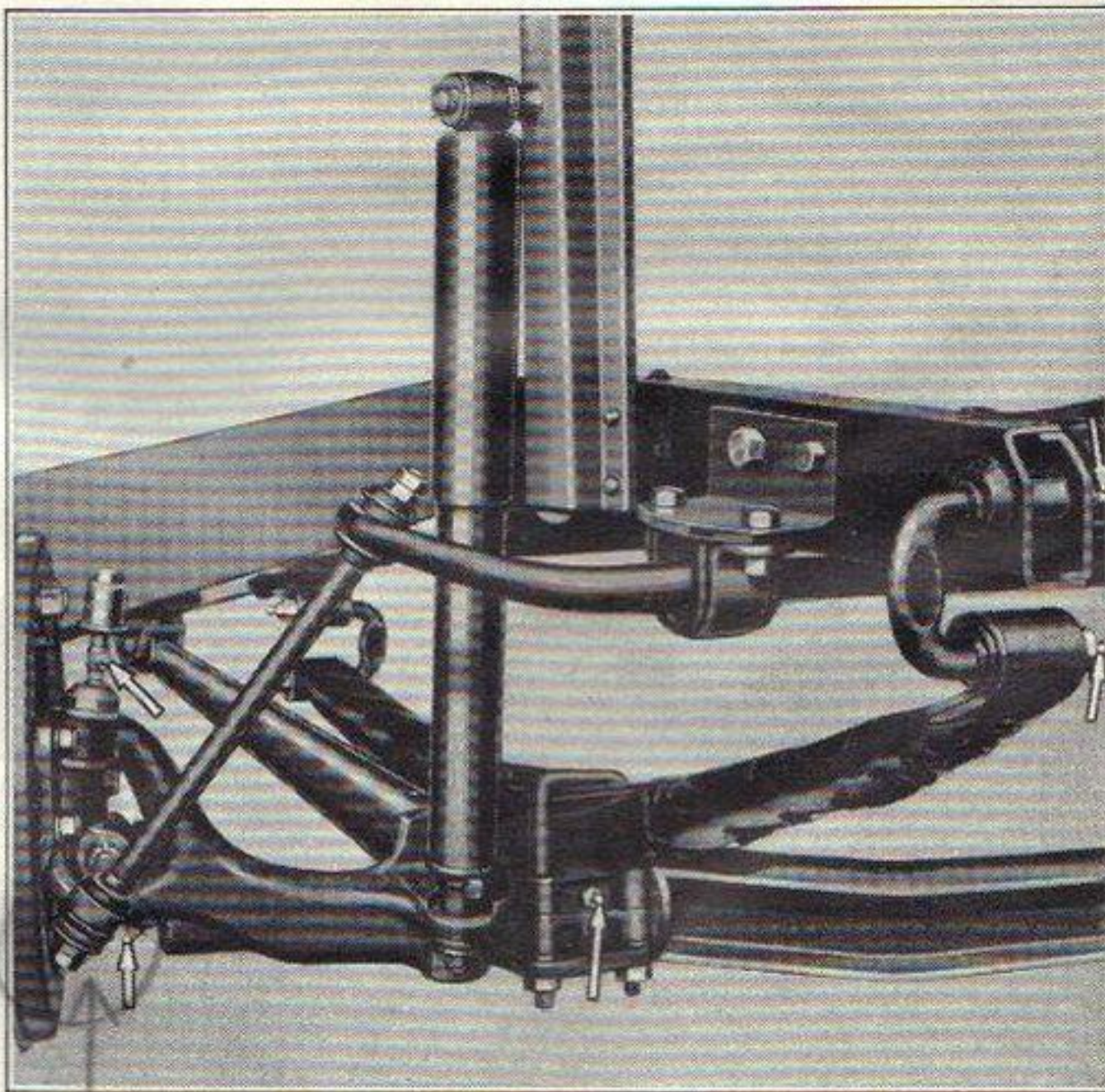


Figure 32

at point (D). To install shims, loosen bolt nuts (B), remove bolts (A) and install shims on both sides.

NOTE: Whenever caster setting is changed it is necessary to readjust the steering gear to the high point position. See page 57.

Camber—All Models

The camber (outward tilt of the front wheels) is 1° to $1\frac{1}{2}^{\circ}$. Should any front axle parts become bent, through accident, and change the camber to the extent that they cannot be straightened without heating, the parts should be replaced with new ones. Heating will destroy the original heat treatment of the parts and may result in sagging or even breakage.

Front Wheel Bearing Adjustment—All Models

After jacking up the front axle and removing the outer and inner hub caps, withdraw the cotter key holding nut (A), Figure 34. Turn nut to the right until a slight drag is felt when turning the front wheel by hand. Then loosen the nut just sufficiently to permit the wheel to turn freely. Insert cotter key, hub caps and lower car.

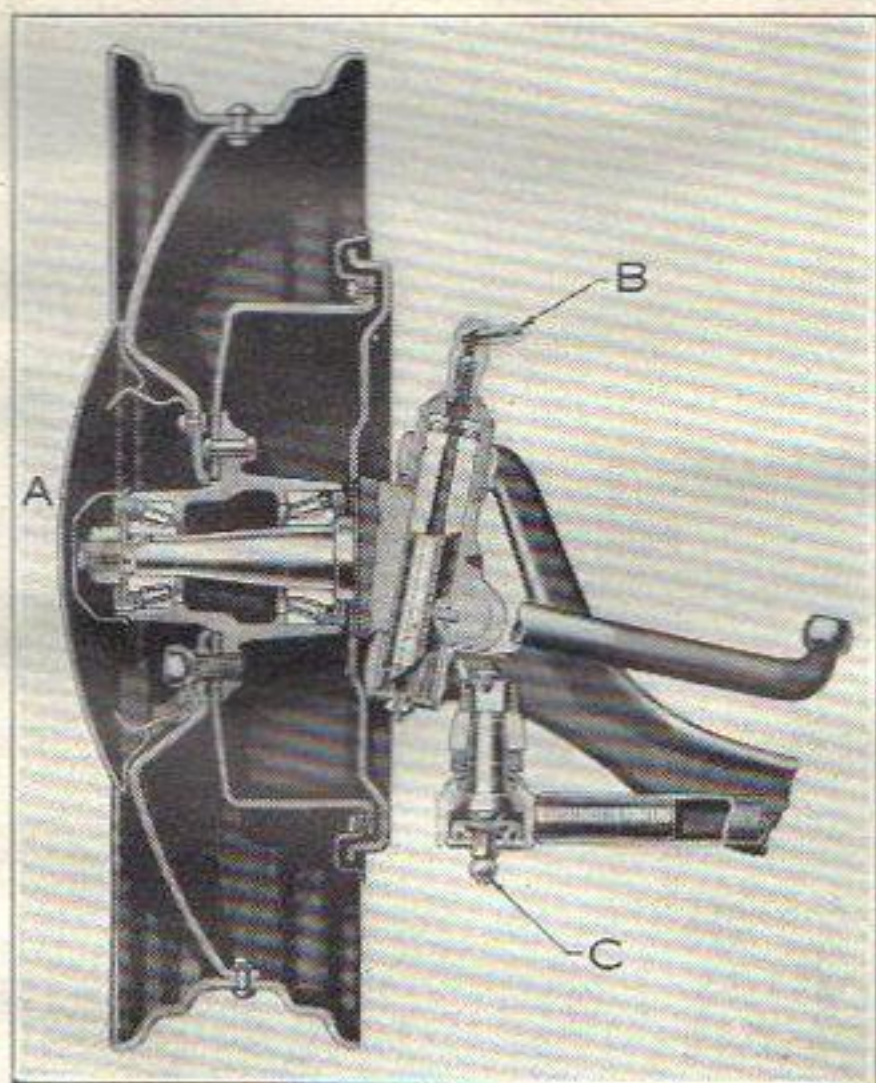


Figure 34

Lubrication

Every 1,000 miles the front axle spindle pivot pin lubrication fittings (B), Figure 34, tie rod end lubrication fittings (C) and front axle bearing lubrication fittings should be lubricated with viscous chassis lubricant.

Front Wheel Bearing Lubrication—All Models

Every 5,000 miles remove the front wheel bearings, clean and repack them with three ounces of milled sodium soap base lubricant. For procedure see "Front Wheel Bearing Adjustment" above.

AUTOPOISE CONTROL

This device (see Figure 32) is mounted on the lower flange of the front end of the frame to maintain road stability, particularly when rounding curves and cutting in and out of traffic at the higher speeds. It is attached to the frame through the use of two large rubber bushings held in place by steel brackets. The ends of the

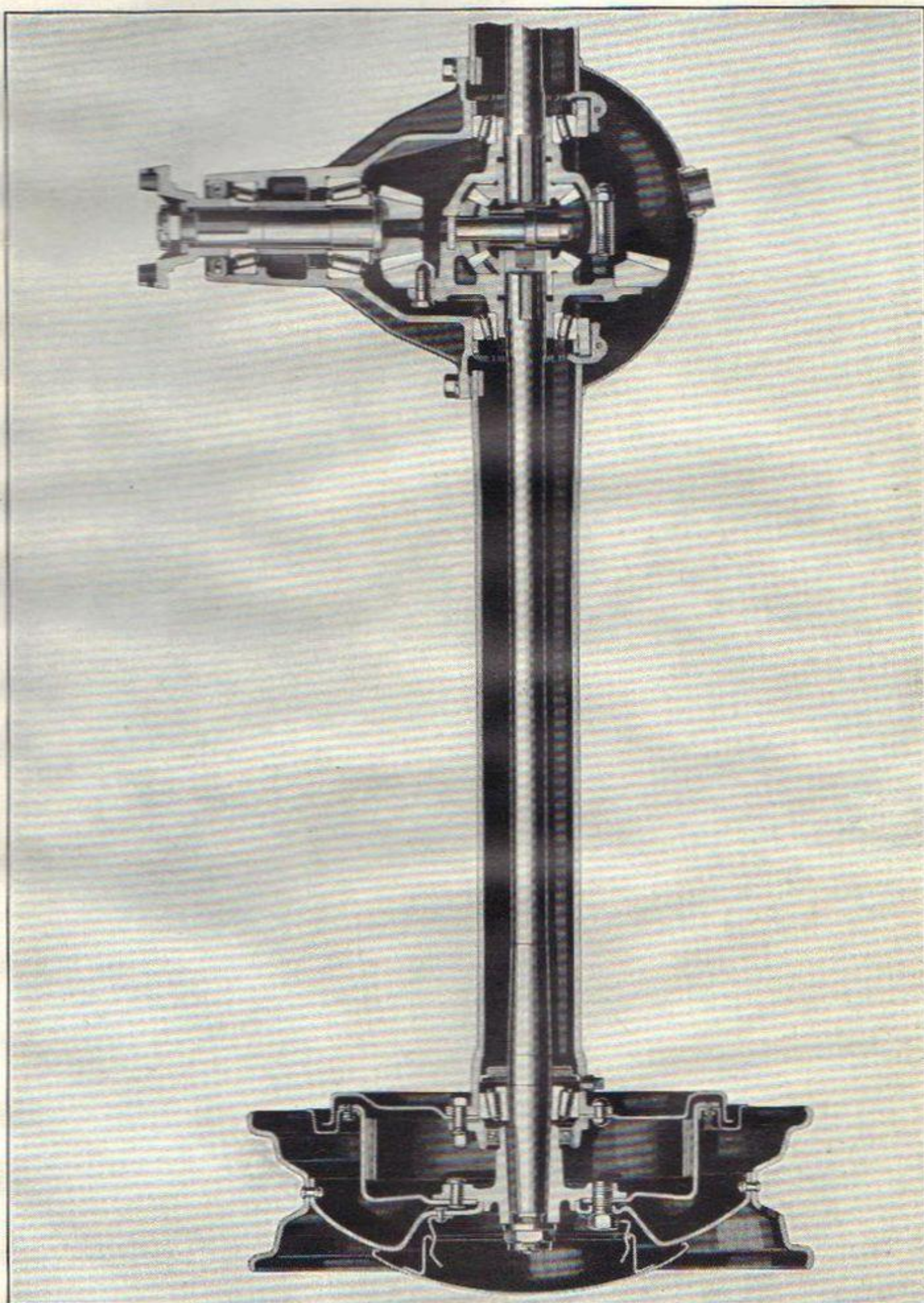


Figure 35

REAR AXLE

The rear axle, Figure 35, is of the semi-floating type incorporating helical cut bevel gears. All parts are readily accessible as the axle shafts and wheel bearings can be removed without disturbing the differential. The differential can be removed as a unit after the axle shafts have been removed.

Rear Wheel Bearing Adjustment

After jacking up the rear axle, remove both rear wheels and hubs. NOTE—A SPECIAL WHEEL PULLER IS NECESSARY TO REMOVE THE HUBS. UNDER NO CONDITIONS SHOULD A KNOCK-OUT TYPE PULLER BE USED, OR THE AXLE END STRUCK A HEAVY BLOW AS THIS MIGHT DAMAGE THE DIFFERENTIAL. Remove the four bearing cap nuts (A), Figure

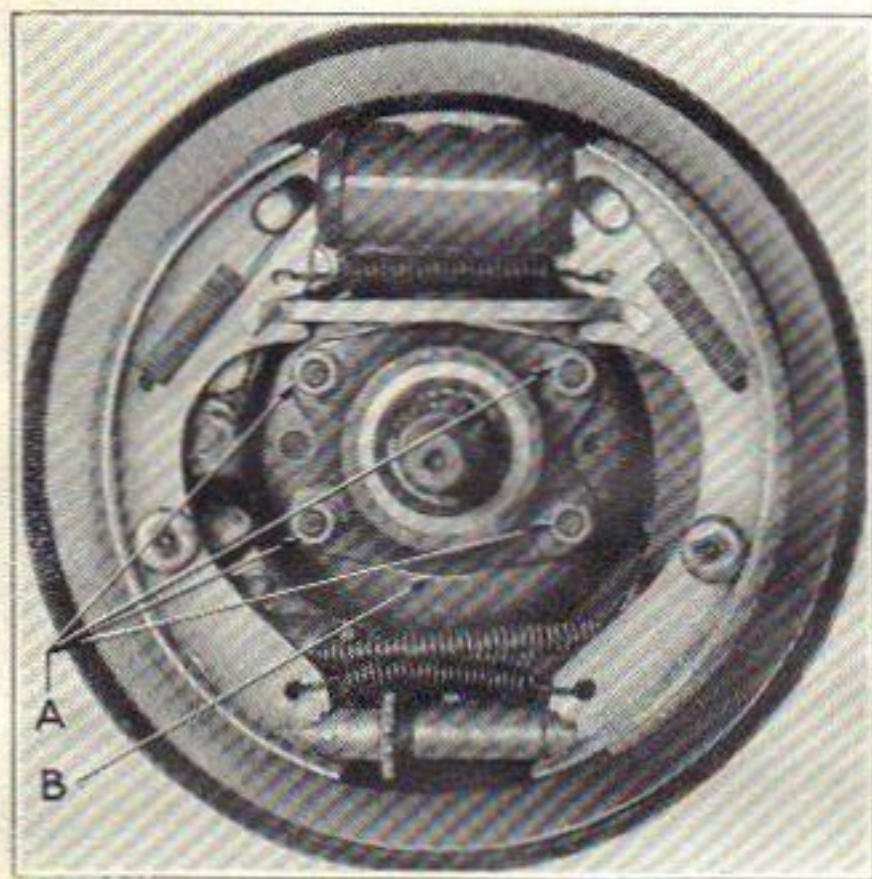


Figure 36

36, and push the bolts out of the backing plate to permit removal of the cap without disturbing the hand brake operating link.

By removing shims (B) under the cap, the end play is decreased. Total end play between axle shafts should be from .005" to .010", which is perceptible by pulling shafts in and out with the hand. It is necessary that the thickness of shims at each rear wheel be approximately the same, so when adjusting remove a thin shim from each side and repeat, if necessary, until only a slight amount of play is evident. Be sure the axle shafts turn freely before building up.

Lubrication

Every 5,000 miles the lubricant should be removed from the axle by means of a special suction gun inserted through the filler plug hole in the rear cover. Refill with 2¾ pounds (1.24 kgs.) of S.A.E. 90 E.P. gear oil summer and winter.

Every 5,000 miles the rear wheel bearings should be removed, cleaned and repacked with 1½ ounces of milled sodium soap base lubricant. (See "Rear Wheel Bearing Adjustment.")

BRAKES

The brakes on Hudson cars are hydraulically operated, with supplementary actuation of the rear brake shoes from both the foot pedal and hand brake control. See Figure 37.

A master cylinder, Figure 38, incorporating compensating features, is mounted on the pedal mounting bracket and is accessible

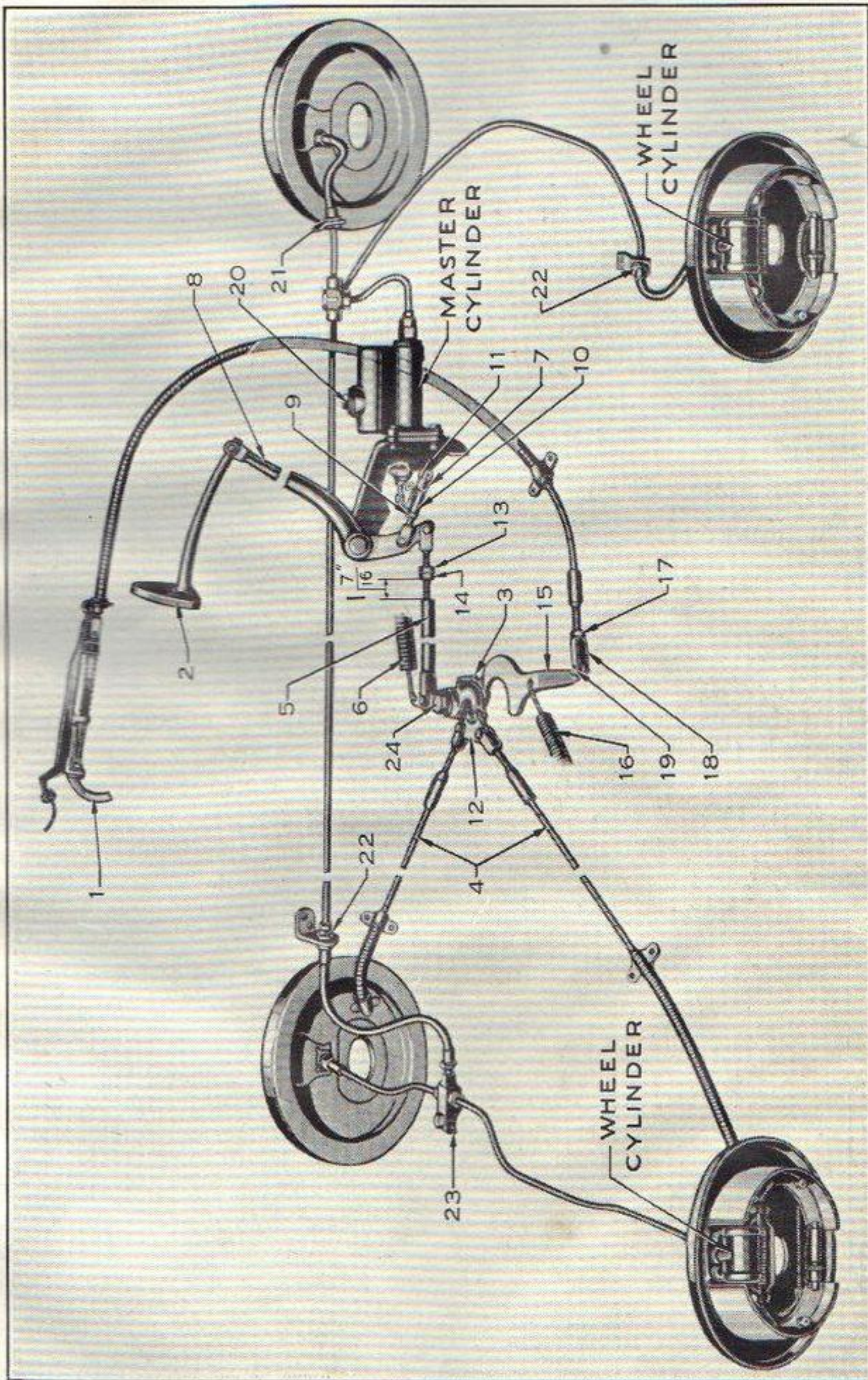


Figure 37

by lifting the bonnet. The master cylinder has an integral reservoir from which additional fluid is supplied to the system as necessary.

It is essential that the reservoir be kept at least half full at all times to prevent the possibility of air entering the system. Genuine

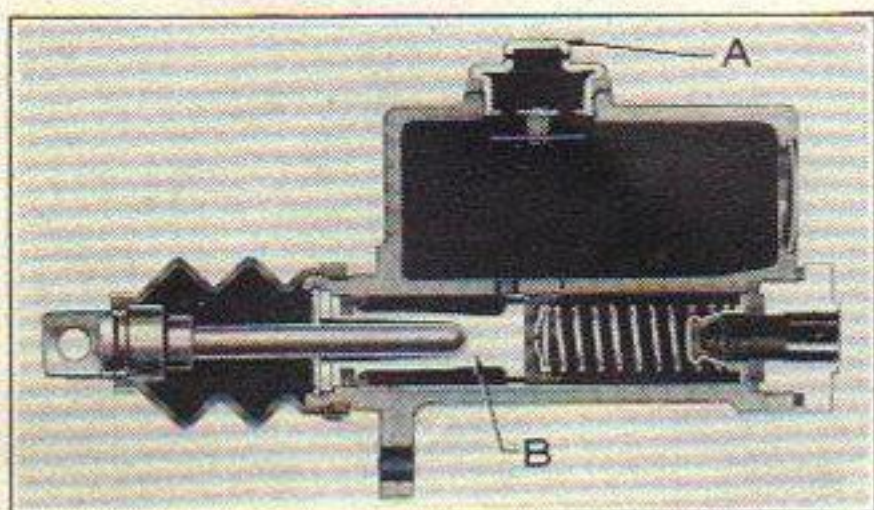


Figure 38

Hudson Hydraulic Brake Fluid should be used to insure against fluids containing mineral oil or other materials detrimental to the rubber parts, which are apt to swell and become inoperative.

Dirt is injurious to the system and extreme care should be taken to wipe off cap (A), Figure 38, before removing for inspection and filling.

As pressure is exerted on the master cylinder piston (B) through the brake pedal, the force built up in the hydraulic brake tubes tends to force outward wheel piston cups and pistons, expanding the brake shoes at the top.

Brake Pedal Adjustment

To insure full return of the master cylinder piston (B), Figure 38, when the brake is released, there must be $\frac{1}{4}$ " clearance between pedal shank (8), Figure 37, and the floor board.

This clearance is obtained by loosening lock nut (9), removing clevis pin (11) and turning connecting link (10) to increase length until clevis pin (11) just enters the rod with the pedal shank (8) $\frac{1}{4}$ " from the toe board and the bell crank against its stop. Reinsert clevis pin (11) in bottom of bell crank, insert cotter key and tighten lock nut (9). This adjustment is important, as failure of the piston to return to the end of the cylinder will cause the brakes to drag.

Hydraulic System

An occasional filling of the master cylinder reservoir should be the only attention required to the hydraulic system unless the reservoir is permitted to run dry, a main line is disconnected or a wheel cylinder is disconnected for service operations. If the cylinder runs dry or a main pipe is disconnected, it is necessary to bleed the air out of the lines at all wheel cylinders. If a wheel cylinder is disconnected, it is necessary to bleed only at that particular cylinder.

Bleeding the System

1. Remove screw and install the end of the bleeder tube (A), Figure 39, in its place and allow end of tube to hang in a jar partially filled with liquid.

Brake Shoe Adjustment

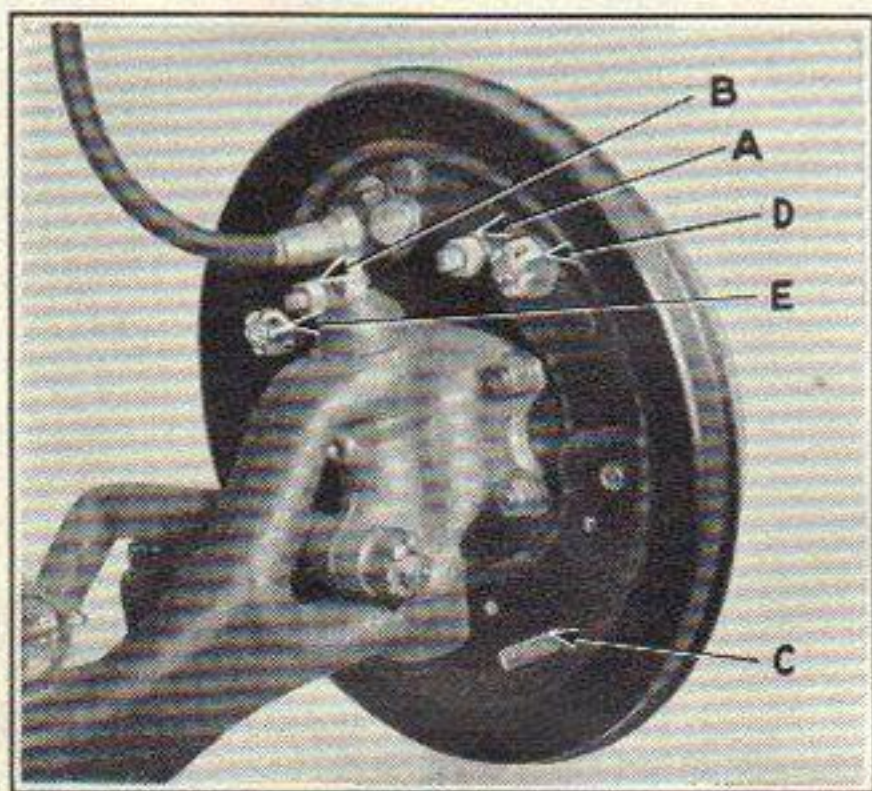


Figure 40

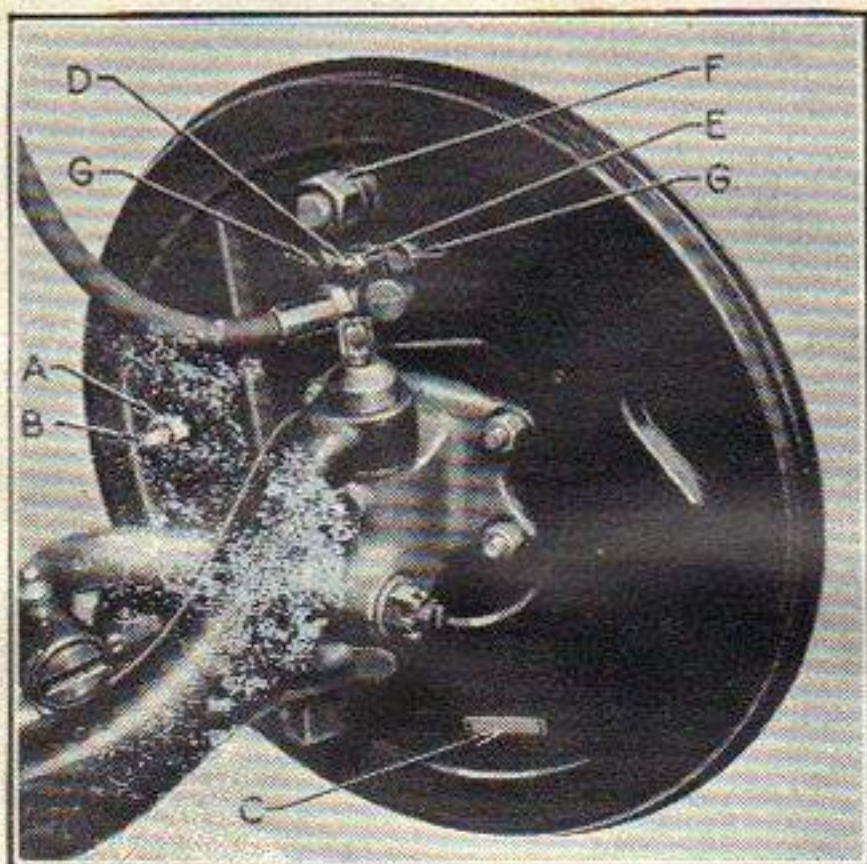


Figure 41

1. Jack up all wheels clear of floor.
2. Remove wheels.
3. Disconnect rear brake cables at equalizer (12), Figure 37, by removing clevis pins.
4. Remove inspection hole covers from brake drums and brake backing plates.
5. On Hudson 112 and Utility Coach and Coupe, insert .010" feeler gauge between brake drum and upper end of lining of primary or upper shoe. Loosen eccentric lock nut (A), Figure 40, and turn eccentric in direction of forward wheel rotation until feeler gauge is just snug. Hold eccentric in position and tighten lock nut.
6. Repeat the above operation on the secondary or rear shoe by adjusting eccentric (B).
7. On all other models insert .010" feeler gauge between drum and lining of secondary or rear shoe.
8. Loosen eccentric nut (A), Figure 41, and turn eccentric (B) in direction of forward wheel rotation until feeler gauge is just snug at anchor (top) and adjusting (lower) ends of secondary shoe. Hold eccentric in position and tighten lock nut.

Should the clearance at both ends of the secondary shoe vary more than .003" it indicates that the anchor pin must be adjusted. See your Hudson dealer on this operation.

9. On all models expand shoes tightly against drums by turning adjusting screw with a screwdriver inserted through slotted hole, moving outer end of screwdriver toward the axle until drums can just be turned by hand.
10. Pull hand brake lever two notches from full release, or until $\frac{1}{8}$ " clearance is obtained between equalizer bar plate and its stop.

11. Pull cables tight and adjust ends so clevis pins just enter holes in equalizer bar (12), Figure 37.
12. Release hand brake.
13. Back off adjusting screws through slot (C), Figure 40 or 41, until brake drum is just free of lining drag. Be sure to back off each screw the same number of turns. Replace adjusting hole covers on brake drums and backing plates.
14. Reinstall wheels and lower car.
15. Test for balance on a level road—avoid testing on side of crowned road.

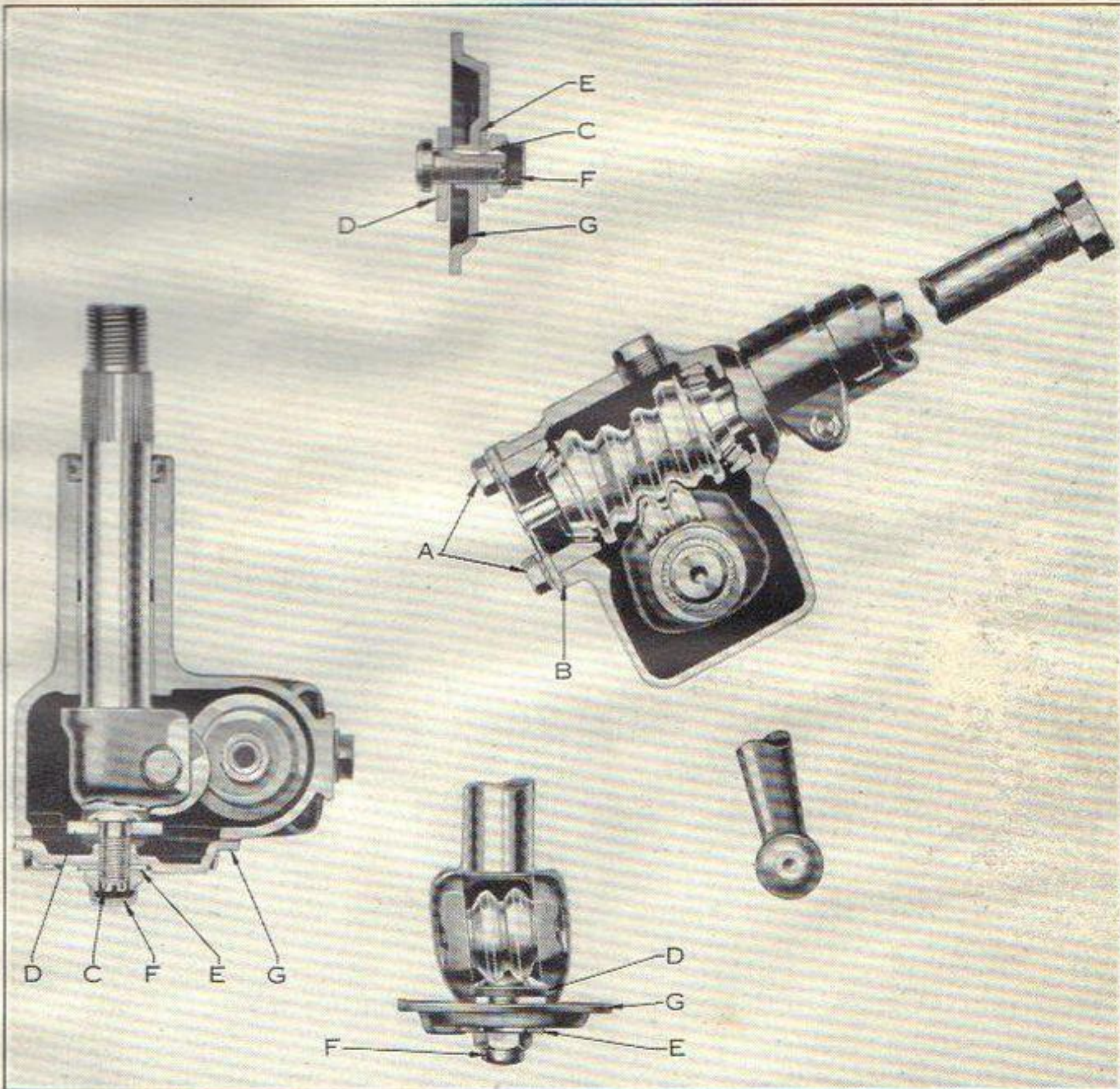


Figure 42

STEERING GEAR

The steering gear, Figure 42, is of the hour-glass worm and needle bearing roller tooth type.

slight amount of play at this point rather than a binding. Set lock plate (E) in position and reinstall cap.

Reinstall drag link and adjust bearings.

Steering Wheel Position

To lower the steering gear to suit the driver's requirements, loosen three housing bolt nuts (B) (one not shown), Figure 43. Remove four steering gear column tube bracket bolt nuts and bolts at instrument panel. Lower steering column and install special spacer between instrument panel and bracket. Reinstall column tube bracket bolts (new longer bolts required) and nuts. Revolve steering wheel to obtain proper gear alignment. Tighten three housing bolt nuts.

Turn steering wheel to high point setting. With front wheels in straight ahead position, reinstall drag link and readjust length of drag link.

Steering Gear High Point

The high point setting may be determined by removing the horn button and observing the groove machined in the top of the steering gear main tube. For correct position the groove should be pointing straight downward. The steering wheel should be installed with the trade-marked spoke (mark underneath spoke) pointing toward rear of car.

Lubrication

Lubricate the steering gear housing through filler plug hole (A), Figure 43, every 5,000 miles with S.A.E. 90 E.P. gear lubricant summer and winter. Fill housing until level reaches filler plug hole. Tighten plug securely.

DRAG LINK

The drag link, Figure 44, is of the adjustable bearing type, with shim packs located to the front and rear of the pitman arm ball.

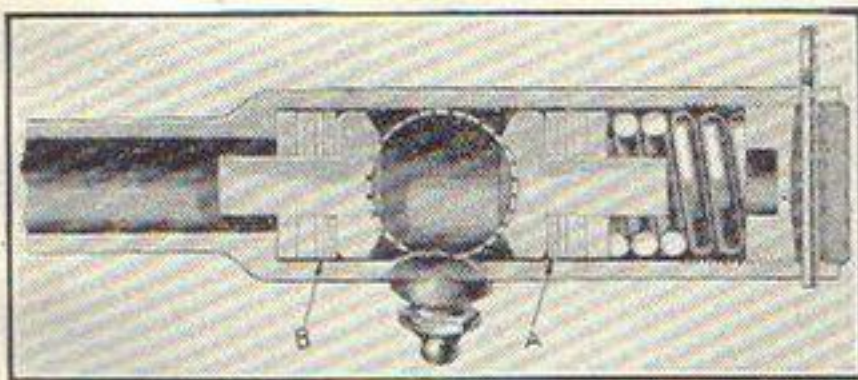


Figure 44

This design makes it possible to obtain proper relationship of the front wheel position to the steering gear high point.

To adjust wheels to the left with the steering gear set on the high point, remove shims from the rear pack (A) at the rear end of the drag link and add them to the front pack (B). To

adjust wheels to the right, remove shims from the front pack (B) and add them to rear pack (A).

Reconnect the drag link to the pitman arm, adjust end plug flush with end of link and lubricate thoroughly.

TIRES

Wear

The tire life an owner can expect to obtain depends upon his driving characteristics. Naturally, due to frictional contact with the road surface, accelerating and braking the car, a certain amount of wear is to be expected.

The wear can be minimized, however, by following a few simple suggestions:

The normal irregular wear of tires, which sometimes produces objectionable noise, can be minimized by changing the front and rear wheel and tire assemblies from right to left and left to right. This will cause the tires to roll in the opposite direction and for best results should be done every 3,000 to 5,000 miles.

Front wheel alignment is also a determining factor in prolonging tire life. Have your dealer check the toe-in, caster and camber periodically.

By avoiding frequent sudden stops and starting, the scrubbing action on tire tread can be minimized. Also avoid rounding curves at high speed—it is better to apply the brakes slightly to reduce the speed when going into a turn and then accelerate gradually as the turn is nearing completion.

Always maintain tire pressures according to factory specifications. See table below.

Pressures

To obtain maximum tire life, proper handling of the car and easy riding qualities it is important that recommended tire pressures be maintained. Pressures should be checked at least once a week and each day when touring.

Lower pressures than recommended result in excessive and uneven tread wear as well as making the tires more susceptible to bruises and punctures. Poor handling of the car under all driving conditions and screeching on turns are also due to lower than recommended pressure.

On the other hand, higher than recommended pressures reduce shock-absorbing qualities.

For all-around average load and driving the following inflation pressures with tires *cold* are recommended:

Size	Front	Rear
16" x 5.50"	24 lbs.	32 lbs.
16" x 6.00"	24 lbs.	32 lbs.
16" x 6.25"	24 lbs.	32 lbs.
16" x 6.50"	24 lbs.	32 lbs.
15" x 7.00"	22 lbs.	28 lbs.

Wheel and Tire Balance

Wheel and tire balance is essential to the proper handling of the car. Before being installed at the factory the tires and wheels are

In Touring Sedan, Touring Brougham, 3-Passenger and Victoria Coupe models the tire and wheel should be tilted slightly to the left after the clamp bolt and clamp have been removed to permit removal from the compartment.

In the Convertible Coupe and Convertible Brougham models the spare tire and wheel may be removed by loosening the rear compartment platform support bolts and lifting the platform which is hinged at the front edge.

TOOLS

A tool kit is supplied with each Hudson car. It contains several wrenches, hammer, screwdriver, spark plug wrench, jack base, jack and wheel hub bolt wrench. The wheel hub bolt wrench can be used as the jack screw operating wrench.

By making it a habit to place the tools in the compartment provided for them the rattles and annoyances attributable to loose tools can be avoided.

Car Jack

The car jack supplied with all Passenger car, Utility Coach and Utility Coupe models is of the bumper type. To raise the car the jack screw is placed squarely in the jack base with the bumper frame bars resting in the jack screw arm groove. Be sure the parking brake has been applied to prevent the car from rolling off the jack.

Raise the car by turning the jack screw clockwise with the wheel hub bolt wrench. Turning the wrench counterclockwise lowers the jack.

HEADLAMPS

The lighting equipment on Hudson-built cars has been designed to provide maximum safe illumination under present-day driving conditions, and at the same time to comply with regulations which call for adequate illumination for both city and highway driving, without the danger of reflecting glare in the eyes of the oncoming driver.

Hudson headlamps employ double filament 32-32 candlepower, flange mounted, prefocused bulbs, which provide a highway driving beam and a passing or city driving beam. Parking bulbs of 1½ candlepower are also incorporated within the lamps of the Hudson 112, Hudson Six and Business models.

Operation

The extreme left position of the lighting switch knob is the "off" position, while the first turn to the right provides parking lights and the extreme right position bright lights. When driving with bright lights, the direction of the beam may be alternated from the highway driving beam to the passing or city driving beam by depressing and releasing the foot switch located to the left of the clutch pedal. An illuminated beam indicator, located on the instru-

ment panel, indicates when the beam is in the highway driving position.

The highway position provides a brilliant wide beam which illuminates the highway for a considerable distance ahead of the car, giving ideal lighting, particularly on long, straight stretches of highway. This beam, however, may cause glare in the eyes of the oncoming driver, and, in the interest of safety and courtesy, the lights should be lowered to the passing or city driving position by depressing the foot control switch located to the left of the clutch pedal.

When driving in foggy weather it is more desirable to drive with the passing beam, as it provides better illumination along the right curb or ditch line.

Maintenance

To retain the efficiency built into the lighting system it requires periodic maintenance the same as other parts of your car. The care required is small but highly essential. Through the safety inspection requirements of some states, lighting engineers have developed some highly efficient headlamp checking equipment which scientifically checks the beam direction as well as bulb brilliancy. A lamp that is improperly aimed just a few degrees may tilt the beam too far upward or downward, thereby sacrificing the brilliancy and efficiency built into the lamp. Lamp bulbs blacken and reflectors become tarnished, which tend to reduce the lamp's efficiency.

In order to maintain the lights at maximum efficiency it is recommended, therefore, that the car's lighting system be checked at least twice a year by your Hudson dealer, who is able to perform this operation quickly and inexpensively.

Before driving the car at night it is good practice to wipe off the mud, dust and insects from the headlamp lens, as well as the windshield, as any covering of them will reduce the efficiency of the headlamps as much as fifty per cent.

Tail lamps and license lamps should also come in for their share of attention, as they serve to warn the driver approaching from the rear of the presence of another vehicle ahead of him. Bulbs and connections should also be carefully checked periodically, and before driving at night it is good practice to take just a moment to examine the rear lights to determine if they are in good order.

Beam Adjustment

1. Place the car on a level floor or driveway squarely in front of a white wall or screen, with the headlamp lens exactly twenty-five feet from the wall or screen.
2. Determine center line of car by sighting along center of rear window and windshield center bar and marking a vertical line ("B"—10" long), Figure 45, on screen.

3. Draw a horizontal line ("AA") on screen at the height of the center of the bulbs. This line should extend three feet to the right and left of the vertical center line.

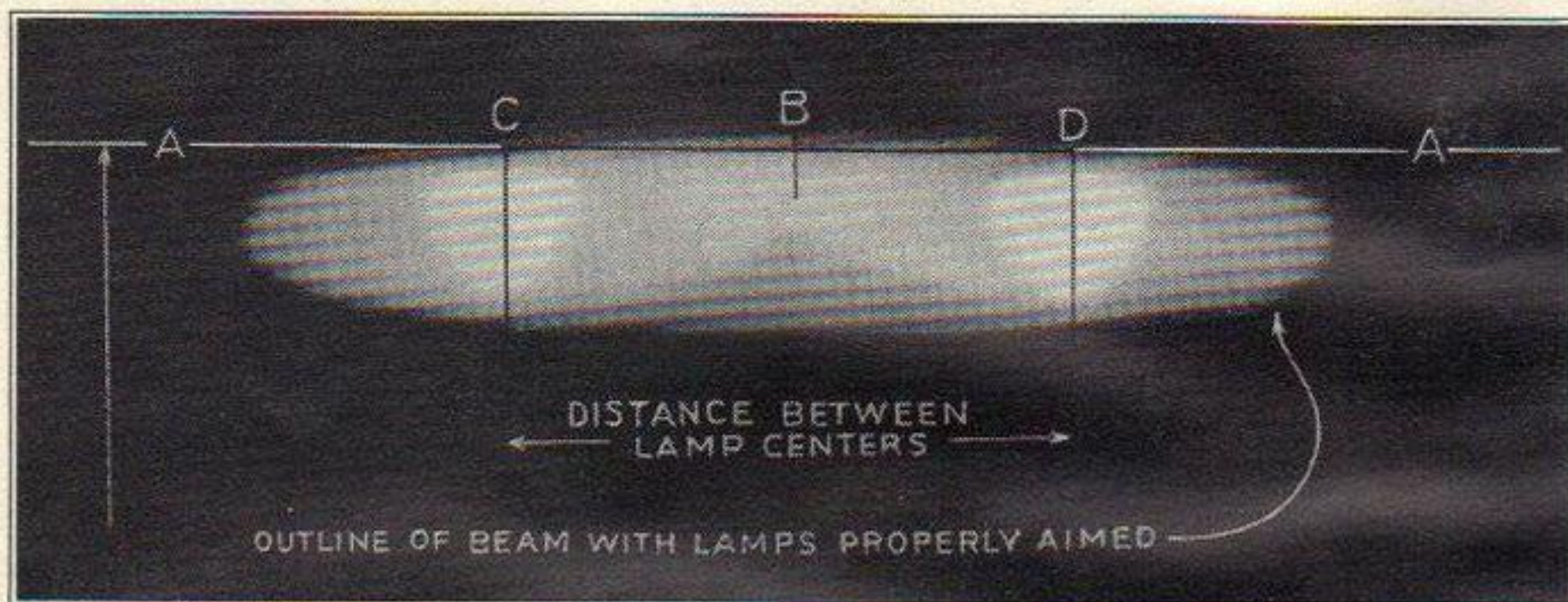


Figure 45

4. Draw two vertical lines ("C and D") on screen $15\frac{1}{4}$ " to right and left of vertical center line ("B") for Hudson 112 and Business models and $24\frac{13}{16}$ " to right and left for all other models.

Without passengers in the car, cover one headlamp to obscure its beam and place lighting switch in the bright or highway driving position. On Hudson 112 and Hudson Business models loosen mounting bolt nut of uncovered lamp and aim lamp so that the center of the beam is on the vertical center line ("C or D"). The center of the beam "hot spot" should be 3" below the horizontal line ("AA"). Tighten mounting bolt nut. Repeat above adjustment on remaining headlamp.

On all other models the following procedure should be carried out to adjust the beam vertically:

Cover one headlamp. Remove lens rim by removing screw "A", Figure 46. Turn adjusting screw marked "V" and located at the left side of the lamp clockwise to lower the beam; counterclockwise to raise it.

To adjust the beam horizontally, turn adjusting screw marked "H" and located at the right side of the lamp clockwise to move the beam to the right; counterclockwise to move it to the left. The center of the beam is on the

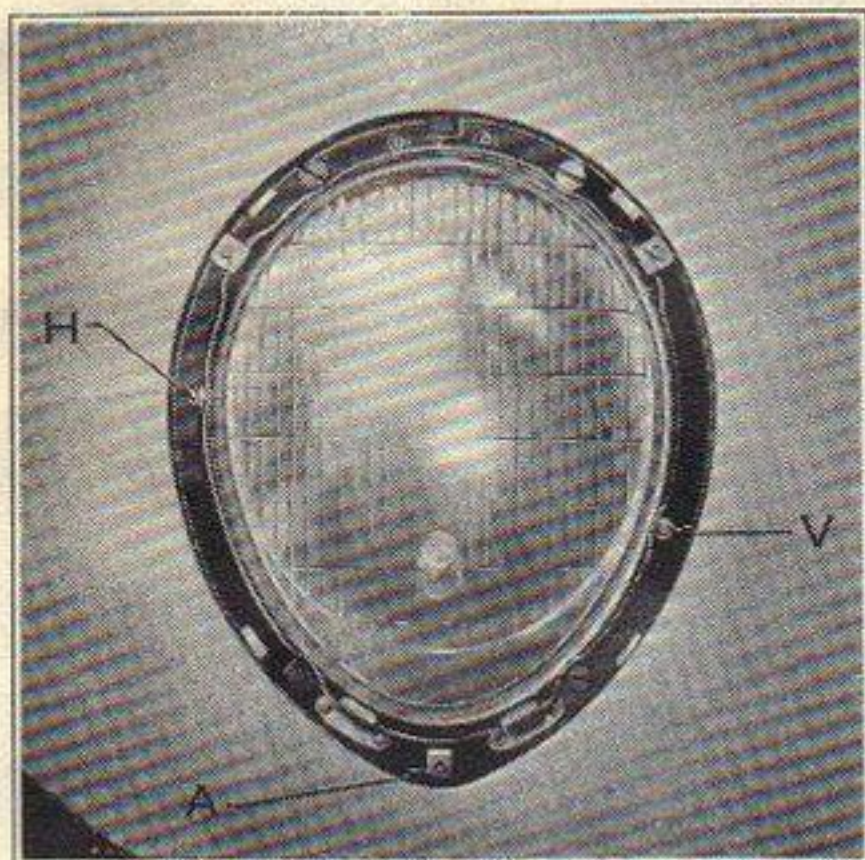


Figure 46

vertical center line ("C or D"). The center of the "hot spot" should be 3" below the horizontal line ("AA"). Reinstall rim. Repeat this operation on remaining lamp.

LAMP BULB SPECIFICATIONS

Position	C.P.	Base	Voltage	Mazda No.
Headlamp—Domestic.....	32-32	D.C.	6-8	2331
Headlamp—Export.....	21-50	D.C.	6-8	2520
Parking.....	1½	S.C.	6-8	55
Bonnet Side Panel Lamp.....	1½	S.C.	6-8	55
Fender Lamp.....	3	S.C.	6-8	63
Dash Signal.....	1	S.C.	6-8	51
Instrument.....	1½	S.C.	6-8	55
Stop and Tail.....	3-21	D.C.	6-8	1158
License Lamp.....	3	S.C.	6-8	63
Dome.....	15	S.C.	6-8	87
Service Lamp.....	1½	S.C.	6-8	55
Beam Indicator.....	1	S.C.	6-8	51
Speedometer.....	1½	S.C.	6-8	55
Radio.....	1½	S.C.	6-8	44

LAMP LENS AND BULB REPLACEMENT

Headlamps

Hudson 112 and Business cars: Loosen screw at bottom of lamp body. Push bottom of lens backward and downward, allowing top to swing out free of the top of the body and lift out. Remove bulb by turning counterclockwise. Replace bulb, turning same in clockwise rotation to lock in reflector. Remove parking bulb by pressing it inward and turning it to release from socket. Replace bulb and lock in place. To replace lens, push it in from bottom and guide it into place. Tighten lens screw.

All other models: Remove screw at bottom of lens rim and lift rim upward and out of slot at top of lamp body. Remove two lens clip screws and clips at top of lamp body and take out lens. Remove and replace bulb as described in previous paragraph. On Hudson Six models: Remove parking bulb by pressing it inward and turning it to release from socket. Replace bulb and lock in place. Reinstall lens, clips and screws. Engage top of lens rim in slot at top of lamp body and install screw at bottom.

Fender Lamps

Remove screw on top of lamp body and lift off body. Replace bulb, body and reinstall body screw.

Bonnet Side Panel Lamps

To remove lens, raise bonnet, remove two screws, washers and cup washers holding lens retainer to side panel and remove lamp. Remove four screws holding back plate in place. To replace lens, assemble lens, cork gasket, back plate and fasten together with

and great care should be taken when adding or checking these solutions. The spots should be rinsed immediately with large quantities of water.

Washing

Washing the car is advisable whenever the finish is heavily caked with mud or so dusty that wiping would scratch the surface. Also due to the general use of salt and calcium chloride in some localities to melt snow and ice from the pavements, washing the car more frequently in the winter months may be advisable. These chemicals are highly corrosive and deteriorate the finish, both lacquer and chrome, if permitted to remain.

Avoid washing the car in the sun or if the body metal is hot due to standing in the sun. Permit the car to cool off naturally in a shady spot before washing. An ordinary garden hose may be used to good advantage to soak the dirt loose before wiping it with a sponge. The sponge should be rinsed frequently to remove abrasives that may cling to it. A clean chamois should be used to dry the finish after it has been thoroughly rinsed.

It may be noted when drying the finish that a slight amount of color may appear on the chamois. However, this should cause no alarm as it is a natural condition of lacquer due to exposure to the elements.

Oil or tar deposited on the finish may be removed by using a reliable tar remover recommended by your Hudson dealer.

Polishing

Due to a slight dulling of the finish after exposure to the weather, it is recommended that the finish be occasionally cleaned and polished with Hudson Cleaner and Wax Base Polish to restore the lustre. However, if a more lasting high lustre is desired, it may be obtained by applying a film of Hudson Wax Polish.

Hudson polishes are carefully compounded and are entirely free of destructive acids and abrasives and may be purchased only through Hudson dealers. Avoid the use of so-called "speed cleaners and polishes" as they do a quick job of cleaning but at the same time remove considerable of the lacquer. Avoid polishing the car if it has been standing in the sun. It is better to apply the polish when the body has cooled.

Chromium-Plated Finish

Chromium-plated parts other than bumper bars require little care other than an occasional cleaning with a damp cloth to remove dust and dirt. No polish is necessary.

Bumper bars, on the other hand, are usually subjected to considerable scuffing and scratching particularly due to parking and heavy traffic conditions and require considerably more care.

Unless deep scratches are looked after immediately, rust spots may appear. Therefore, as soon as possible after deep scratches are noticed, they should be cleaned and a coat of clear lacquer applied. In the event rust spots have already appeared, clean the rust off with a little mild kitchen cleanser before applying the lacquer.

During the winter season when salt and calcium chloride are used on pavements to melt ice and snow, the chromium-plated parts should be wiped or washed off more frequently. A film of Hudson Wax Polish will serve to provide added protection at this season of the year.

CARE OF THE CAR INTERIOR

The care of the interior of your car determines to a large measure the resale value when you contemplate trading in or selling. It is not a difficult job to perform and the small amount of time thus expended will be well repaid by the pride you will derive from its neat appearance.

Dust and particles of dirt if permitted to remain on the upholstery cloth will in time settle between the fibres, and its abrasive action will result in early deterioration of the upholstery. By vacuum cleaning, or using a whisk broom to clean the upholstery, once or twice a month, the life and pleasing appearance can be retained.

Occasionally it becomes necessary to remove soiled spots or stains from the upholstery. This can be accomplished by following a few simple instructions. Before proceeding, however, we would like to mention a few words of caution which will help to improve the appearance of the finished work.

Remove traces of dust with a whisk broom to avoid possibility of rubbing into the cloth during the cleaning process. Avoid the use of hot water and soap unless specifically recommended. Avoid use of gasoline as it is highly inflammable and most brands contain tetraethyl lead or coloring matter which is harmful to upholstery cloth. Avoid the use of ammonia unless specifically recommended. *Rub with the nap rather than against it.*

GREASE SPOTS AND OIL—Excessive grease should be scraped off with a dull knife. A cloth moistened with Hudson Upholstery Cleaner should be applied to the spot and rubbed lightly in the direction of the nap.

CHEWING GUM—Moisten the gum with a few drops of Hudson Upholstery Cleaner and scrape it off with a dull knife.

CANDY—Candy (except chocolate) should be removed by rubbing with a cloth and very hot water. If an oily spot remains after drying, sponge lightly in the direction of the nap with Hudson Upholstery Cleaner.

Chocolate stains should be sponged with *lukewarm water*. After drying, sponge lightly with Hudson Upholstery Cleaner.

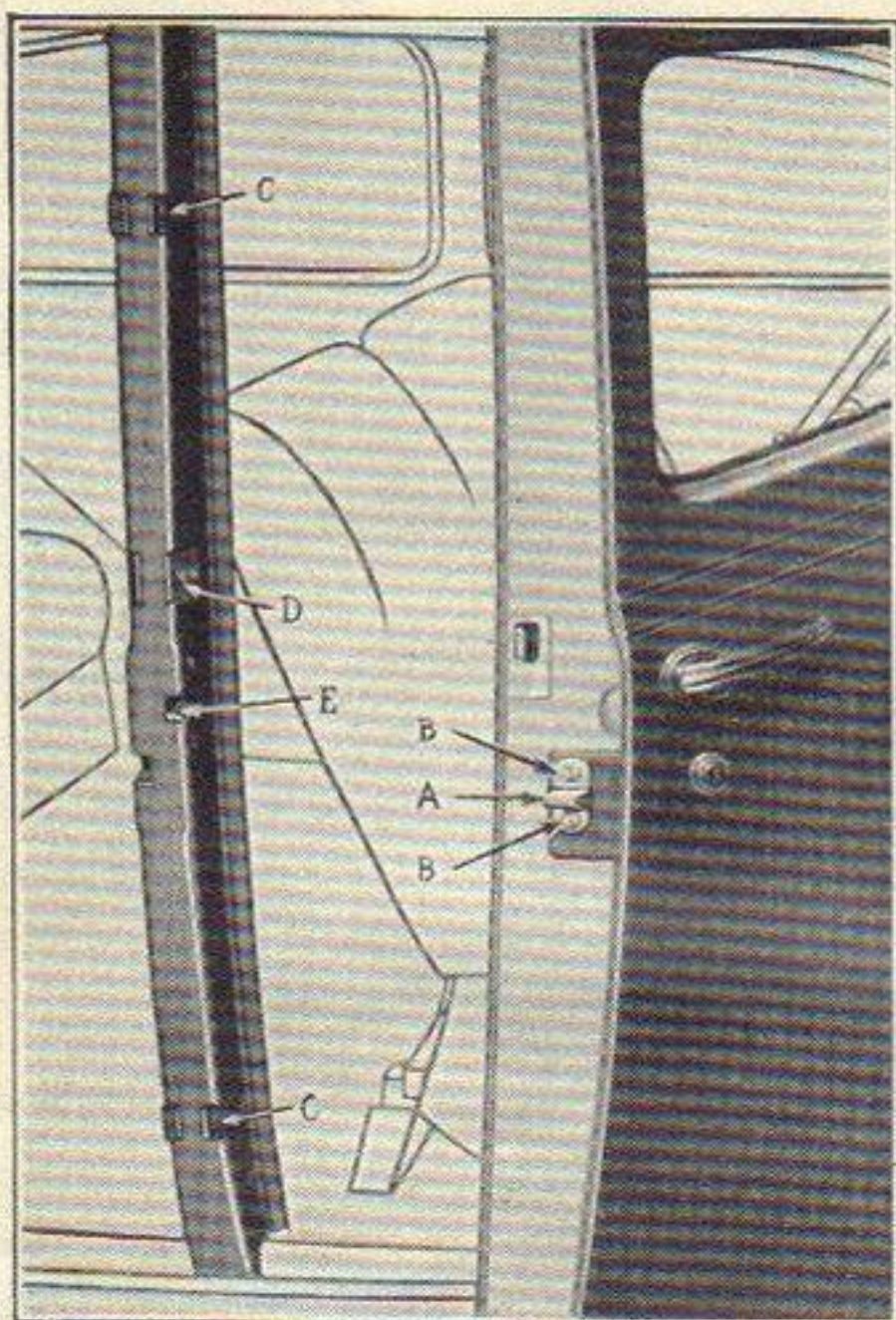


Figure 47

If adjustment is necessary, loosen the bumper fastening screw (C), set in the lock pillar post and move the bumper in or out as necessary to permit the door to close to the proper position. Tighten screws securely.

Door striker plates (D) are adjustable to secure proper in and out regulation of the door position.

Should it be necessary to close the door violently to latch it, or the latch does not hold the door snugly against the bumpers and weatherseal, loosen the striker plate screws in the pillar post, being careful not to remove the screws as the tapping plates inside the pillar post will fall out of position, and move the striker plate in or out as necessary and tighten the screws securely.

All doors are provided with strong steel check rods, imbedded in rubber at the ends, to control the swing of the doors.

HUDSON APPROVED ACCESSORIES

Your Hudson dealer offers you a complete line of Hudson Approved Accessories designed to harmonize with the interior and exterior appointments. They enhance the appearance, increase comfort and add to your pride of ownership.

Each accessory has been chosen for its superiority over competitive items and carries the approval of Hudson engineers.

HUDSON RADIOS

Hudson radios are available in two styles, the lower-priced De luxe set and the higher-priced Custom set. Both sets are of the latest design Automatic Push Button Tuning, incorporating the latest achievements in radio engineering. Hudson radios have been designed to Hudson cars, thereby assuring freedom from noise and ignition interference. By this feature you obtain exceptional tone, faithful reproduction and complete satisfaction in radio reception.

The De luxe set is of the six-tube type with 6" dynamic speaker built-in.

The Custom set is of the seven-tube type with 8" dynamic speaker built integrally with the receiver.

The dial, mounted in the center of the instrument panel, harmonizes beautifully with the instrument panel treatment.

Two antennas, the under-running board and telescopic types, are available. Your Hudson dealer will be glad to demonstrate these fine instruments.

HUDSON HOT WATER HEATERS

Hudson hot water heaters are available in two designs. One is the De luxe type which provides an adequate supply of heat for the majority of cars. The core is deep and it has a quick warm-up period. A built-in thermostat in the engine designed for proper heat control assures a steady stream of uniform heat.

Additional features in heater design provide for supplying hot air to the windshield for defrosting and a side opening for furnishing a flow of hot air to the driver's feet and also for floor warming.

The Custom heater contains a larger core and attractive fittings. Its design provides adequate heat for the largest body models. It also contains the windshield defrosting, foot and floor-warming features used in the De luxe type heater.

As an added feature to provide fresh outside air without the resulting drafts and formation of steam on the windows, a new Fresh Air Unit which is fitted to the back of the heater is available. By this means the cold air taken in through the cowl ventilator is passed through a filter, cleaned and directed through the heater core, where it is warmed and circulated throughout the car.

Additional Hudson Approved Accessories which your Hudson dealer has on display and will be glad to show you are:

Automatic Cigar Lighters
Seat Covers
Vanity Mirror
Rear View Mirror—Door
Mounting
Door Pull-to Cord
Compass
Spot Light
Fog Light
Fender Lights
Fender Guides
Master Bumper Guard

Automatic Windshield Washer
Rear Window Wiper
Vacuum Booster
Glare Shield
Hydraulic Hill-Hold
Air Electric Horns
Cowl Ventilator Screen
Radiator Grille Cover
Radiator Insect Screen
Tail Pipe Extension
Wheel Trim Rings

PREPARING CAR FOR STORAGE

If the car is to be laid up for any length of time, and especially in the winter, the following suggestions should be observed: Drain the water from the cooling system, then run the motor not over one minute to dry out the cylinder water jackets.

Drain the crankcase. Flush out the old oil, then refill with fresh oil. It is also well to pour a little oil into each cylinder through

the spark plug holes to prevent the interior from rusting. Clean the spark plugs and dip the ends into oil to prevent rusting, and replace them.

Crank the engine for about twenty seconds with the ignition switch off and the throttle closed. This insures a distribution of the oil over cylinder walls and valve mechanism.

Disconnect the wires from the storage battery and remove battery to some dry place. It is best to take the battery to a battery service station, where it may receive a freshening charge at least once a month. It is well worth while to take care of the battery.

Go over the chrome or nickel-plated parts with a light coating of vaseline jelly or grease to prevent tarnishing. This should be removed with gasoline before putting the car back into service.

Jack up the car and remove the tires.

If the tires are to be out of service for any length of time, they should be removed from the wheels. The inner tubes should be put in the casings with a small amount of air pressure and the tires stored in some cool, dark place, preferably where there is a slight amount of moisture, since if they become too dry the rubber will harden and lose its elasticity. It is a good idea to wrap tires with cloth to protect them from heat.

Remove all dust from upholstery, wash body clean, put the windows or the top up and cover the car with heavy sheetings or a paper cover especially made for the purpose.

When putting the engine back into service again, remove the spark plugs, inject a small quantity of oil into each cylinder, crank the engine for a few seconds, replace the plugs, turn the ignition "on" and, after the engine has been started on its own power, run slowly for a few minutes.

INDEX

A		Page			Page
Accelerator Pedal	.	16	Draining Cooling System	.	33
Accessories	.	68	Dust Area Operation	.	21
Anti-Freeze	.	34	E		
Ash Receiver	.	16	Electric Hand	.	17
Authorized Hudson Service			Engine	.	7-25
Station	.	3	Engine Oil Capacities	.	23
Automatic Clutch Control	.	16	Engine Oil Selection	.	22
Autopoise Control	.	47	Engine Tune-up	.	40
Axle—Front	.	8-45	F		
Axle—Rear	.	8-50	Fan Belt	.	36
B			Foreword	.	1
Battery	.	39	Front Axle	.	8-45
Battery Warranty	.	4	Front Seat Adjustment	.	12
Body	.	67	Front Seat Height	.	12
Bonnet Raising	.	19	Front Wheel Bearing		
Brakes	.	8-50	Adjustment	.	47
Brake Pedal	.	17	Front Wheel Toe-in	.	46
Breaker Point Adjustment	.	37	Fuel Compensation	.	38
Breaking-in Period	.	11	Fuel Gauge	.	12
C			Fuel Pump	.	31
Camber	.	47	Fuel System	.	7
Capacities	.	9	Fuses	.	15
Carbon Monoxide Gas	.	20	G		
Carburetor Air Cleaner	.	30	Gasoline Tank	.	32
Carburetor and Fuel System		28	Generator	.	35
Carburetor Choke	.	28-29	Generator Charging Indicator		13
Carburetor Governor	.	11	H		
Care of Car Interior	.	66	Headlamps	.	60
Care of Finish	.	64	Heaters	.	69
Care of Folding Tops	.	67	Hydraulic Hill-Hold	.	19
Caster	.	46	I		
Chassis Dimensions	.	9	Ignition Switch	.	13
Clutch	.	42	Ignition Timing	.	38
Clutch Pedal	.	16-42	Inspection and Adjustment		
Clutch Pedal Adjustment	.	43	Service	.	5
Cooling System	.	32	J		
Cowl Ventilator	.	16	Jack	.	60
D					
Distributor	.	37			
Drag Link	.	57			

