



HUDSON OWNER MANUAL

51

OPERATION, MAINTENANCE AND
LUBRICATION INSTRUCTIONS

HUDSON MOTOR CAR COMPANY

DETROIT 14, MICHIGAN, U. S. A.

Welcome

Your selection of a new Hudson Motor car is gratifying to us and we are happy to welcome you to the ever growing family of Hudson owners.

We share in your pride of ownership and are sure you will derive the many miles of enjoyable service to which you looked forward when purchasing it.

Your new Hudson has been carefully engineered and built and naturally, you will want to keep it trouble free and protect the investment in your purchase to the utmost.

With this thought in mind, we have prepared this Owner's Manual which contains comprehensive information to assist in giving this fine piece of mechanism the care and attention it deserves. In its pages you will find many suggestions to acquaint you with its construction, operating features and maintenance requirements.

Take a few minutes to study this manual at your early convenience. It contains a wealth of information—just the things you will want to know. Then place it in the locker box where it will be available for future reference.

HUDSON MOTOR CAR COMPANY

Service Department

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.

OWNER'S SERVICE POLICY

When you purchased your new Hudson, the Distributor or Dealer from whom you bought the car presented you with your Hudson Owner's Service Policy. We cannot too greatly impress you with the need for reading it fully and becoming acquainted with its provisions.



This policy includes two coupons which entitle you to the 1000 and 2000 Mile Inspections without charge and outlines our obligations as Manufacturer as well as those of the Car Dealer and the Owner. It also contains other pertinent information regarding the new car inspections and fully explains the provisions of the new car warranty concerning the replacement of parts.

A full knowledge of its contents will preclude the possibility of misunderstandings should it be necessary to consult your own or some other Hudson Dealer in regard to the provisions outlined.

AUTHORIZED HUDSON SERVICE STATIONS



Your Authorized Hudson Dealer is the logical place to visit for the best available service on your Hudson car. It is to his best interests to keep your car in good operating condition at the lowest possible cost.

In event the need for service arises when touring or away from home, look for the Authorized Hudson Dealer 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 handles genuine Hudson parts, uses factory approved methods and tools and employs capable and courteous mechanics.

FIRST THINGS TO DO

When your new Hudson is delivered to you, make sure that:

1. Owner's Service Policy has been properly filled in and its provisions fully explained to you.
2. Identification Card is completely filled in on both sides and key numbers recorded.
3. Radio Warranty Registration Card is filled in and attached to radio.
4. Battery is properly registered with a National Battery Dealer.

INSPECTION AND ADJUSTMENT SERVICE

Your Hudson Owner's Service Policy entitles you to inspection and adjustment service, which will be performed by the Hudson Dealer who sold the car, without charge, except for supplies and lubricants used. These inspections will be made at the expiration of 1,000 miles and again after 2,000 miles of driving.

If these services become due while you are touring or away from home, they may be performed by any authorized Hudson Dealer, who will make a charge of not more than \$6.00 for the 1,000 mile inspection and \$12.00 for the 2,000 mile inspection. The dealer who made the inspection will furnish you with a receipted bill and sign the inspection coupon attached to your warranty, which should then be presented to the dealer (who sold the car) on your return. Your dealer will then credit your account in the above amount for each inspection performed. We suggest that you carefully read the Owner's Service Policy so that you may become fully acquainted with this and its other provisions.

The inspection and adjustment service consists of the following:

1,000 Mile Inspection

- | | |
|---|---|
| 1. Hand and Foot Brake Operation. | 12. Check Rear Wheel Hubs for Tightness. |
| 2. Operation of All Locks. | 13. Check Wheel Hub Bolts. |
| 3. Signals and Instruments. | 14. Check Spring Mounting Clips. |
| 4. Clutch Pedal Clearance. | 15. Road Test. |
| 5. Change Clutch Oil. | 16. Check Transmission Fluid Level. |
| 6. Battery and Connections. | 17. Check Neutral Safety Switch. |
| 7. Check Oil Level, Engine, Transmission and Rear Axle. | 18. Check Selector Lever Positions. |
| 8. Check Ignition Timing. | 19. Check Engine Idle Speed. |
| 9. Adjust Carburetor Idle. | 20. Check Throttle Adjustment. |
| 10. Tighten Cylinder Head Bolts. | 21. Check for Fluid Leaks. |
| 11. Cooling System and Coolant. | 22. Road Test, using Hydra-Matic Diagnosis Sheet. |

NOTE: Items 16-22 apply to cars equipped with Hydra-Matic Drive.

2,000 Mile Inspection

- | | |
|---|---|
| 1. Hand and Foot Brake Operation. | 14. Check Wheel Hub Bolts. |
| 2. Signals and Instruments. | 15. Check Operation of Super-Matic Drive, Drive-Master and Overdrive. |
| 3. Operation of all Lights. | 16. Tighten Manifold Nuts. |
| 4. Operation of Windshield Wipers. | 17. Road Test Car. |
| 5. Battery and Connections. | 18. Check Transmission Fluid Level. |
| 6. Check Oil Level, Engine, Transmission and Rear Axle. | 19. Check Neutral Safety Switch. |
| 7. Check Generator Charging Rate. | 20. Check Selector Lever Positions. |
| 8. Cooling System and Connections. | 21. Check Engine Idle Speed. |
| 9. Adjust Tappets—Engine Hot. | 22. Check Throttle Adjustment. |
| 10. Clean and Regap Spark Plugs. | 23. Check for Fluid Leaks. |
| 11. Clean and Adjust Distributor Points. | 24. Make Band Adjustment. |
| 12. Check Ignition Timing. | 25. Road Test, using Hydra-Matic Diagnosis Sheet. |
| 13. Adjust Carburetor Idle. | |

NOTE: Items 18-25 apply to cars equipped with Hydra-Matic Drive.

MODEL DESIGNATIONS

Hudson cars are built in the Pacemaker Custom, Super Six Custom, Commodore Six Custom, Commodore Eight Custom and Hornet Series and are designated as follows:

	Model		Model
Pacemaker Custom —		Commodore Six Custom —	
6 Cylinder —	4A	6 Cylinder —	6A
Super Six Custom —		Hornet—6 Cylinder —	7A
6 Cylinder —	5A	Commodore Eight Custom —	
		8 Cylinder —	8A

LICENSE INFORMATION

PACEMAKER CUSTOM — MODEL 4A

Body Types	Wheel-base	Starting Serial No.	No. of Cyls.	Bore	Stroke	A.M.A. H.P.	Weight Pounds
Brougham	119"	1001	6	3-9/16"	3-7/8"	30.4	
4 Door Sedan	119"	and	6	3-9/16"	3-7/8"	30.4	
Business Coupe	119"	up	6	3-9/16"	3-7/8"	30.4	
Club Coupe	119"		6	3-9/16"	3-7/8"	30.4	
Convertible Brougham	119"		6	3-9/16"	3-7/8"	30.4	

SUPER SIX CUSTOM — MODEL 5A

Brougham	124"	1001	6	3-9/16"	4-3/8"	30.4	
4 Door Sedan	124"	and	6	3-9/16"	4-3/8"	30.4	
Club Coupe	124"	up	6	3-9/16"	4-3/8"	30.4	
Convertible Brougham	124"		6	3-9/16"	4-3/8"	30.4	

COMMODORE SIX CUSTOM — MODEL 6A

4 Door Sedan	124"	1001	6	3-9/16"	4-3/8"	30.4	
Club Coupe	124"	and	6	3-9/16"	4-3/8"	30.4	
Convertible Brougham	124"	up	6	3-9/16"	4-3/8"	30.4	

HORNET — MODEL 7A

4 Door Sedan	124"	1001	6	3-13/16"	4-1/2"	34.9	
Club Coupe	124"	and	6	3-13/16"	4-1/2"	34.9	
Convertible Brougham	124"	up	6	3-13/16"	4-1/2"	34.9	

COMMODORE EIGHT CUSTOM — MODEL 8A

4 Door Sedan	124"	1001	8	3"	4-1/2"	28.8	
Club Coupe	124"	and	8	3"	4-1/2"	28.8	
Convertible Brougham	124"	up	8	3"	4-1/2"	28.8	

The car model designation and the car serial number which is the same as the engine number, are stamped on a metal plate attached to the right front door hinge pillar post. Cars are numbered in consecutive order regardless of model.

The engine number is stamped on the top of the cylinder between numbers 1 and 2 exhaust manifold flanges on eight cylinder engines and on the right side of the cylinder at the upper front end, stamped vertically, on six cylinder engines.

A code letter or number indicating the paint color is stamped on the upper hinge of the right front door.

TECHNICAL INFORMATION

ENGINE

Series and Model	Pacemaker Custom 6 Cylinder Model 4A	Super Six Custom, Commodore Six Custom 6 Cylinder Models 5A-6A
Arrangement	L Head	L Head
Bore and Stroke	3-9/16" x 3-7/8"	3-9/16" x 4-3/8"
Piston Displacement	232 Cu. In.	262 Cu. In.
Horsepower—Taxable	30.4	30.4
Actual	112 at 4000	123 at 4000
Torque	175 at 1600	200 at 1600
Compression Ratio	6.7:1 or 7.2:1	6.7:1 or 7.2:1
Engine Mountings	Rubber	Rubber
Camshaft Drive	Morse Chain	Morse Chain
Camshaft Bearings	4-Steel—Babbitt	4-Steel—Babbitt
Crankshaft Type	Compensated	Compensated
Crankshaft Bearings	4-Steel—Babbitt	4-Steel—Babbitt
Connecting Rods —		
Length—Center to Center	8-1/8"	8-1/8"
Lower End Bearing	Replaceable	Replaceable
Material	Steel—Babbitt	Steel—Babbitt
Upper End Bearing	Steel—Babbitt	Steel—Babbitt
Diameter and Length	31/32" x 1-1/8"	31/32" x 1-1/8"
Pistons—Type	Cam Ground	Cam Ground
Material	Aluminum Alloy	Aluminum Alloy
Clearance	.0015" to .002"	.0015" to .002"
Piston Pin—Type and Length	Floating 2-15/16"	Floating 2-15/16"
Diameter	31-32"	31-32"
Piston Rings	4—Cast Iron, Pinned	4—Cast Iron, Pinned
Compression Rings	2	2
Oil Control Rings	2—1 below pin	2—1 below pin
Gap Clearance—All Rings	.007" to .012"	.007" to .012"
Valves—Intake—Head Outside Diameter	1-53/64"	1-53/64"
Lift	11/32"	11/32"
Clearance—Hot	.008"	.008"
Valves—Exhaust—Head Outside Diameter	1-9/16"	1-9/16"
Lift	11/32"	11/32"
Clearance—Hot	.010"	.010"
Lubrication	Pressure	Pressure
Pump Type	Rotor	Rotor
Oil Capacity—Quarts	7-1/2—Dry 7—Refill	7-1/2—Dry 7—Refill

TECHNICAL INFORMATION

ENGINE

Series and Model	Hornet 6 Cylinder Model 7A	Commodore Eight Custom 8 Cylinder Model 8A
Arrangement	L Head	L Head
Bore and Stroke	3-13/16" x 4-1/2"	3" x 4-1/2"
Piston Displacement	308 Cu. In.	254 Cu. In.
Horsepower—Taxable	34.9	28.8
Actual	145 at 3800	128 at 4200
Torque	257 at 1800	198 at 1600
Compression Ratio	7.2:1 or 6.7:1	6.7:1 or 7.2:1
Engine Mountings	Rubber	Rubber
Camshaft Drive	Morse Chain	Gears
Camshaft Bearings	4-Steel—Babbitt	5-Steel—Babbitt
Crankshaft Type	Compensated	Compensated
Crankshaft Bearings	4-Steel—Babbitt	5-Bronze—Babbitt
Connecting Rods—		
Length—Center to Center	8-1/8"	8-3/16"
Lower End Bearing	Replaceable	Integral
Material	Steel—Babbitt	Spun—Babbitt
Upper End Bearing	Steel—Babbitt	Bronze
Diameter and Length	31/32" x 1-1/8"	3/4" x 29/32"
Pistons—Type	Cam Ground	Cam Ground
Material	Aluminum Alloy	Aluminum Alloy
Clearance	.002" to .0025"	.0015" to .002"
Piston Pin—Type and Length	Floating 2-15/16"	Floating 2-7/16"
Diameter	31/32"	3/4"
Piston Rings	4—Cast Iron, Pinned	4—Cast Iron, Pinned
Compression Rings	2	2
Oil Control Rings	2—1 below pin	2—1 below pin
Gap Clearance—All Rings	.006" to .014"	.004" to .009"
Valves—Intake—Head Outside Diameter	1-53/64"	1-1/2"
Lift	11/32"	11/32"
Clearance—Hot	.008"	.008"
Valves—Exhaust—Head Outside Diameter	1-9/16"	1-3/8"
Lift	11/32"	11/32"
Clearance—Hot	.010"	.010"
Lubrication	Pressure	Duo-Flo
Pump Type	Rotor	Oscillating Plunger
Oil Capacity—Quarts	7-1/2—Dry 7—Refill	8—Dry 7—Refill

TRANSMISSION

Type	Synchro-Mesh
Speeds	3 Fwd., 1 Rev.
Gear Type	All Helical
Gear Ratio—Low	2.88:1
Second	1.82:1
High	1:1
Reverse	3.5:1
Lubrication—	
Summer	90 E.P. Mild
Winter	80 E.P. Mild
Capacity—	
Without	
Overdrive	2 Pints
With Super-Matic Drive or Overdrive	3-1/4 Pints

CLUTCH

Type	Single Plate, Oil Cushioned, Cork Insert
Pilot Bearing	Ball
Throwout Bearing	Ball
Pedal Lash	1-1/2"
Lubricant	1/3 Pint Hudsonite

FRONT SUSPENSION

Type	Coil Spring
Camber	1/2 to 1-1/2 deg.
Caster	1/2 to 1-1/2 deg.
Toe-In	0 to 1/16"
Pivot Pin	
Inclination	3 deg. 36 min.
Wheel Bearings	Adj. Taper Roller

TIRES

Type	Super Cushion
Size—Standard	7.10 x 15, 4 Ply
Optional	7.60 x 15, 4 Ply
Wheel Size—	
Standard	5.00 x 15
Optional	5.50 x 15
Inflation	
Pressures	Front—26 Lbs.
	Cold
	Rear—24 Lbs.
	Cold

REAR AXLE

Type	Semi-Floating
Gear and Pinion	Hypoid
Ratios	4.1, 4.55, 3.58
Pinion Bearings	Taper Roller
Adjustment	Shim
Differential	
Bearings	Taper Roller
Adjustment	Adjusting Nuts
Rear Wheel	
Bearings	Taper Roller
Adjustment	Shim
Gear and Pinion	
Back Lash	.004" to .006"

REAR AXLE (Continued)

Lubricant	S.A.E. 90 Multi-Purpose Gear Lube
Capacity	3-1/2 Pints

PROPELLER SHAFT

Universal Joints:	
Type	Needle Bearing
Number	Three
Center Bearing	Annular Ball Bearing
Lubrication	Prelubricated
Spline	
Lubrication	Pressure Fitting
Universal	
Lubrication	Pressure Fitting

REAR SPRINGS

Type	Semi-Elliptic
Length and Width	54" x 1-3/4"
Shackle Type	Threaded "U"
Lubricant	Viscous Lubricant

COOLING SYSTEM

Capacities:	
Without Heater	18-1/2 Quarts
With Heater	19-1/2 Quarts
Pump Type	6 Vane Impeller
Temperature	
Control	Thermostat—By-Pass

Pump and	
Fan Drive	Vee Belt
Fan	4 Blade
Belt Adjustment	At Generator
Pump Bearings	Prelubricated

FUEL SYSTEM

Carburetor:	
Make	Carter
Type	
WAI-749 S,	1-1/2",
Single	(Model 4A)
WGD-776 S,	1-1/4", (Models
Dual	5A, 6A and 7A)
WGD-773 S,	1-1/4",
Dual	(Model 8A)
Choke	Automatic
Heat Control	Thermostatic
Fuel Delivery	Pressure Pump
Air Cleaner—	
Standard	Oil Wetted
Air Cleaner—	
Optional	Oil Bath
Fuel Tank	20 U.S. Gallons

BRAKES

Type	Duo-Automatic
Diameter	11"
Width-Front	
Model 4A	1-3/4"
Models 5A, 6A,	

BRAKES (Continued)

7A and 8A	2-1/4"
Width-Rear	1-3/4"
Lining Clearance	.010"
Free Pedal Travel	1/4"

DIMENSIONS

Overall Length,	
Inc. Bumpers	
Model 4A	201-1/2"
Models 5A, 6A,	
7A and 8A	208"
Overall Width	
Model 4A	77-1/16"
Models 5A, 6A,	
7A and 8A	77-5/8"
Overall Height	60-3/8"
Road Clearance—	
Front	8-1/8"
Road Clearance—	
Rear	8-1/8"
Turning Radius	
Right—	
Model 4A	19 Ft. 8 In.
Models 5A, 6A,	
7A and 8A	21 Ft. 2 In.
Left—Model 4A	19 Ft. 8 In.
Models 5A, 6A,	
7A and 8A	20 Ft. 5 In.

STEERING GEAR

Type	Worm and Triple Tooth Roller
Ratio	
Model 4A	18.2 to 1
Models 5A, 6A,	
7A and 8A	20.4 to 1
Worm Bearings	Taper Roller Adjustable
Cross Shaft	
Bearings	Needle Roller
Lubricant	90 E.P. Gear Lube

ELECTRICAL EQUIPMENT

Make	Auto-Lite
Distributor	
Rotation	Clockwise
Drive	Camshaft
Advance	Vac. & Centrifugal
Contact Point	
Gap	
Models 4A 5A,	
6A and 7A	.020"
Model 8A	.017"
Timing	T.D.C.
Firing Order	
Models 4A, 5A,	
6A and 7A	1-5-3-6-2-4
Model 8A	1-6-2-5-8-3-7-4
Generator—Type	Shunt Wound
Drive	Vee Belt
Chg. Rate,	
Hot—Cold	35 Amps. at 8 Volts
Starting Motor	
Drive	Bendix
Control	Solenoid
Battery—Make	National—6 Volt
Plates and	
Capacity	51—100 Amps.
Terminal	
Grounded	Positive
Location	Left Side, under Hood
Spark Plugs—	
Cast Iron and	Champion—H8-14
Aluminum Head	M.M.
Gap	.032"

LAMP BULBS

	No.	C. P.	Base
Headlight (Sealed Beam Type)	4030	Sealed	Sealed
Ornament Light	55	2	Single
Parking Light with Direction			
Indicator	1154	21-3	Double
Tail and Stop Light	1154	21-3	Double
License Light	63	3	Single
Dome Light—Front	87	15	Single
Rear Quarter Lights (2)	81	6	Single
Clock	55	2	Single
Speedometer	55	2	Single
Instrument Cluster	55	2	Single
Direction Indicator	55	2	Single
Radio	55	2	Single

Headlight Beam Indicator	55	2	Single
Ignition Lock	55	2	Single
Courtesy Light	87	15	Single
Fog Light—Sealed Beam	4015A	Sealed	Sealed
Spot Light—Sealed Beam	4535	Sealed	Sealed
Parking Light	63	3	Single
Generator and Oil Indicator	55	2	Single

CAPACITIES

Cooling System	U.S.—18-1/2 Quarts*	Engine Oil—Refill	U.S.—7 Quarts
	Imperial—15-1/4 Quarts		Imperial—6 Quarts
	Metric—17-3/4 Liters		Metric—6-1/2 Liters
Gasoline Tank	U.S.—20 Gals.	Clutch	U.S.—1/3 Pint
	Imperial—16-2/3 Gals.		Imperial—1/4 Pint
	Metric—75-3/4 Liters		Metric—160 C.C.
Engine Oil—Dry Models 4A, 5A, 6A and 7A	U.S.—7-1/2 Quarts	Transmission	U.S.—2 Lbs.
	Imperial—6-1/2 Quarts		Imperial—2 Lbs.
	Metric—7 Liters	Transmission and Overdrive	Metric—.91 Kgs.
Model 8A	U.S.—8 Quarts		U.S.—3-1/4 Lbs.
	Imperial—6-2/3 Quarts		Imperial—3-1/4 Lbs.
	Metric—7-1/2 Liters		Metric—1.47 Kgs.
		Rear Axle	U.S.—3-1/2 Lbs.
			Imperial—3 Lbs.
			Metric—1.6 Kgs.

*Cars with Heater—Add 1 Quart

LUBRICATION

Present day high speed driving, fast acceleration and closely fitted precision machined parts, place engine and chassis lubrication in the category of highly specialized services. A definite plan of application is necessary to provide the various working surfaces with the right amount of the correct lubricant at the proper time. Contrary to general belief, one lubricant will not suffice for all parts of the chassis. The varying load demands and operating conditions which the various parts are subjected to, call for different types of lubricants to minimize friction and reduce wear.

Your Authorized Hudson Dealer has been provided with the correct factory lubrication specifications for your car, as well as the definite plan of application. This is your assurance that the lubrication requirements of your car will be met with the greatest care. Be sure to consult him on this most important matter.

For your guidance, a copy of the Lubrication Chart is attached to the front cover of this manual. Additional information regarding the lubrication requirements of your car are given in the Lubrication Schedule shown below and elsewhere in this manual under the description of the various units.

The lubricants placed in your car at the time of assembly are of the best quality and need not be changed until the recommended change period shown in the Lubrication Schedule has been reached.

LUBRICATION SCHEDULE

AT 500 MILES

Drain engine oil reservoir and refill with new oil of good quality. See "The Proper Engine Oil to Use," Page 15.

EVERY 1,000 MILES

Viscous Chassis Lubricant

	Points		Points
Drag Link	2	Tie Rod End	4
Upper Support Arm Eccentric Bushing	2	Steering Spindle Pivot Pins	2
Upper Support Arm Pivot Bushing	4	Gear Shift Bell Crank Pivot	1
Lower Support Arm Pivot Bushing	4	Clutch Pedal Bearing	1
Lower Support Arm Support Bushing	2	Clutch Throwout Bearing	1
Center Steering Arm Pivot Bearing	1	Universal Joint Spline	1
		Rear Spring Shackle Bushing	4

Engine Oil

	Points		Points
Engine	Check Oil Level	Rear Compartment Door Lock	1
Door Hinge	4 or 8	Hood Hinge	8
Gasoline Tank Filler Door Hinge and Spring	3	Windshield Wiper Pulleys	4

Water Resistant Lubricant

	Points		Points
Windshield Cables at Pulleys	4	Rear Compartment Door Latch and Striker	1
Door Check Arms	2 or 4	Hood Prop	2
Courtesy Light Switch	2 or 4	Hood Upper Lock	1
Door Lock Bolt and Slide	2 or 4	Hood Lower Lock	1
Door Striker	2 or 4	Hood Lower Lock and Control Wire	2
Rear Compartment Door Hinge	2		

E. P. Gear Lubricant—S.A.E. 80 Winter, S.A.E. 90 Summer

Transmission	Check Level	Steering Gear	Check Level
Overdrive	Check Level		

HYDRA-MATIC DRIVE FLUID

Hydra-Matic Drive Transmission	Check Level
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Multi Purpose Gear Lubricant—S.A.E. 90

Rear Axle	Check Level
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Gear Oil—S.A.E. 140

Universal Joint Needle Rollers	3 Points
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Distilled Water

Check Battery Electrolyte level and gravity.

Water or Anti-Freeze

Check Coolant level and Anti-Freeze strength.

Hudson Hydraulic Brake Fluid

Check Brake Master Cylinder fluid level.

EVERY 2,000 MILES

Perform operations included in 1,000 mile lubrication, in addition to the following:

Engine Oil

Engine—Drain Oil Reservoir and refill.	Air Cleaner—Standard—Wash and re-oil
See "Proper Oil to Use," Page 15	Air Cleaner—Oil Bath—
Generator 2 Points	Remove, wash and add new oil
Starting Motor (5A, 6A, 7A	Oil Filler Pipe Cap—Wash and re-oil
and 8A Series) 2 Points	Throttle Operating Linkage..... All Joints
4A Series—No lubrication	Brake Operating Linkage..... All Joints
Distributor 4 Points	Drive-Master Linkage..... All Joints

EVERY 5,000 MILES

Perform operations included in 1,000 mile and 2,000 mile lubrications, in addition to the following:

Hudsonite Clutch Compound

Clutch Drain and Refill

E. P. Gear Lubricant—S.A.E. 80 Winter, S.A.E. 90 Summer

Transmission..... Drain and Refill Overdrive..... Drain and Refill

Viscous Chassis Lubricant

Brake Cables Clean and Lubricate Oil Filter..... Renew Cartridge

EVERY 10,000 MILES

Perform operations included in 1,000 mile, 2,000 mile and 5,000 mile lubrications, in addition to the following:

Multi Purpose Gear Lubricant—S.A.E. 90

Rear Axle Drain and Refill

IMPORTANT: When checking the level of the lubricant in the rear axle and transmission, make sure that the lubricant has stopped foaming. If the car has been run for a considerable length of time, it should be permitted to stand long enough to allow the oil to reach the true level before checking.

Viscous Chassis Lubricant

Rear Spring Covers..... Inject lubricant into cover with special lubricating clamp
(Springs without covers must not be lubricated)

Sodium Soap Base Lubricant

Front Wheel Bearings Remove, clean and repack
Rear Wheel Bearings Remove, clean and repack

Hudson Shock Absorber Oil

Drive-Master Clutch Power Cylinder..... Remove plug and inject 1 ounce oil
Gear Shift Power Cylinder Disconnect elbow and inject 1 ounce oil

EVERY 15,000 MILES**Hydra-Matic Drive Fluid**

Hydra-Matic Drive Transmission Drain and refill

BREAK-IN OIL

Should the use of so called "break-in" oils or special compounds for breaking in new engines be decided upon, make sure the supplier guarantees that they contain no harmful ingredients.

ENGINE OIL CAPACITIES

The total engine oil capacity is $7\frac{1}{2}$ quarts for six cylinder and 8 quarts for eight cylinder engines. When the oil is drained in the conventional manner, the refilling quantity is 7 quarts for both six and eight cylinder engines.

When the oil reservoir is removed for cleaning or during service work, one quart should be placed in the oil reservoir tray of eight cylinder engines before the reservoir is installed. The remaining seven quarts should then be placed in the reservoir through the crankcase filler opening. In six cylinder engines, the entire quantity is poured through the crankcase oil filler pipe.

CHECKING ENGINE OIL LEVEL

An engine in normal operating condition is expected to use some oil and it is, therefore, not unusual to add oil between change periods. Its rate of usage is governed by the individual engine and is dependent on operating speeds, temperatures and the viscosity and quality of the oil used.

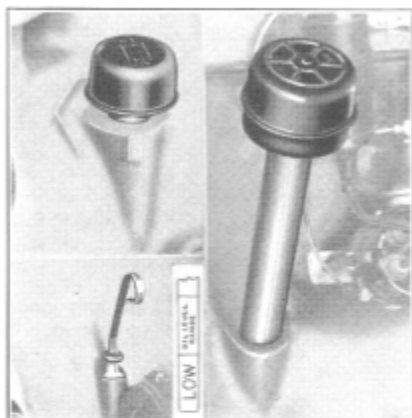


Figure 1

The level should be checked each time fuel is added. The oil level gauge is located on the left side of the engine and is divided at its lower end to show the "Oil Level Range" and the "Low Range."

For normal operation, the oil level is satisfactory when it is within the "Oil Level Range." For high speed operation, the level should be maintained at the full mark, which is the top line on the "Oil Level Range."

To make an accurate check, it is best to wait a minute or two after shutting off the engine to permit the oil to drain back into the reservoir.

Approximately three and one-half quarts of oil are required to bring the level from low to full in both six and eight cylinder engines. If the level happens to be low and the speedometer indicates that the oil change period is near at hand, it is more economical to have the oil changed at that time.

WHEN TO CHANGE ENGINE OIL

The oil which is placed in the engine at the factory should be drained and replaced after the first 500 miles of operation.

Thereafter, at intervals of 2,000 miles, the reservoir should be drained and refilled with new oil of good quality. If the car is operated constantly in dusty areas or for short distances at low speeds during cold weather, which permits foreign matter and sludge to accumulate, it should be changed more frequently. However, the actual change period is largely dependent on the individual driving circumstances.

The oil is drained by removing the plug at the rear of the oil reservoir. To insure complete draining, it is important that the operation be performed while the engine is warm.

It is good practice to remove the oil reservoir at least twice a year, preferably in the spring and fall, to permit thorough cleaning of the screens and par

Caution: The use of flushing oil or compounds is not recommended. However, in the event they are used, it will be necessary to remove the oil reservoir and thoroughly clean it out before installing the new oil.

THE PROPER ENGINE OIL TO USE

The use of high-grade engine oil of the correct type is of great importance in obtaining maximum performance and satisfaction from your car. Select oils from the well-known and dependable brands, of which there are many on the market, and of the proper viscosity to suit your seasonal and driving requirements.

The oil refiners or marketers supplying oils are responsible for the quality of their product and their reputation is the car owner's best assurance of receiving high-grade lubricants.

TYPES OF OIL

The various types of oil marketed for engine lubrication have been defined by the American Petroleum Institute, as follows:

REGULAR MOTOR OIL—This term is used to designate a straight mineral oil. Oils of this type are generally suitable under moderate driving conditions.

PREMIUM MOTOR OIL—This term is used to designate an oil having proved oxidation, stability and bearing corrosion preventive properties. Oils of this type are generally suitable for use where operating conditions are such that regular oils do not give satisfactory service.

HEAVY-DUTY MOTOR OIL—This term is used to designate an oil having proved oxidation, stability, bearing corrosion preventive properties and detergent-dispersent characteristics. Oils of this type are generally suitable for use in both high-speed diesel and gasoline engines under heavy-duty service conditions.

It is most important that the oil should have the ability to flow at low temperatures to permit easy starting and at the same time, afford

adequate lubrication when the engine is at normal operating temperatures. The oil selected should be based on its ability to perform these two functions at the lowest anticipated temperatures expected before the next oil change period. The following table will be helpful in making this selection.

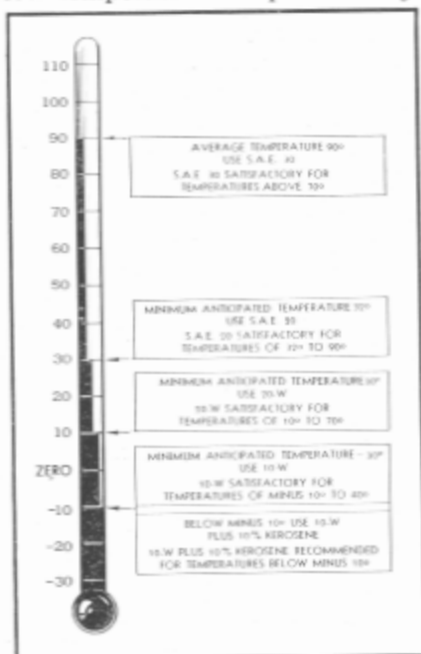


Figure 2

NOTE: Kerosene should be added only when temperatures below -10° are expected for long periods.

NOTE: Kerosene should be added only when temperatures below -10° are expected for long periods.

Your Authorized Hudson Dealer, who has had long experience with the brands of oil available in your locality, will be glad to help you with your lubrication problems.

OPERATING CONTROLS

Arrangement and functions of the instruments and controls of your new Hudson have been planned for maximum convenience and comfort of the driver, as well as for safety. As you will want to know all about the controls before driving your new car, we recommend that you read the following instructions carefully.

SEAT ADJUSTING LEVER

—Raising the lever on the left side of the front seat permits the seat to be moved forward or backward to the position most convenient for the driver. As the seat moves forward, it rises, permitting short persons to sit higher; thus making for better vision. Seat locks in position when lever is released.



Figure 3

- (1) **DIRECTION INDICATOR LIGHT**—Light flashes with front and rear indicator signals.
- (2) **STARTER BUTTON**—Pressing button in with ignition switch turned on operates the starter. On cars equipped with Super-Matic Drive, or Drive-Master, the clutch pedal must be pushed down before the starter will operate. On cars equipped with Hydra-Matic Drive, the selector lever must be in the neutral or "N" position before the engine will start. Do not press button when engine is running or car is in gear.
- (3) **SPEEDOMETER**—Includes mileage indicator showing accumulated mileage.
- (4) **HEADLIGHT BEAM INDICATOR**—Shows red when headlight beam is in upper or country driving position.
- (5) **HORN OPERATING BUTTON**—Press down to operate horns.
- (6) **OIL PRESSURE INDICATOR**—Shows red when ignition is turned on and engine not running. Light should go out when engine is started. If it does not, shut off engine and determine cause.
- (7) **FUEL GAUGE**—Indicates the level of the fuel in the gasoline tank when the ignition switch is turned on. When needle reaches "empty" mark, approximately 1½ gallons of fuel remain in reserve.
- (8) **WINDSHIELD WIPER CONTROL KNOB**—Left position "Off." Turning knob to right or clockwise turns on and regulates speed of wipers. When car is equipped with a windshield washer as an accessory pressing down the button in the center of the knob supplies solution for washing windshield.
- (9) **TEMPERATURE GAUGE**—Indicates temperature of water or anti-freeze when ignition is turned on.
- (10) **LIGHTING CONTROL SWITCH**—Controls instrument lights, headlights, ornament light, parking lights, license light and tail lights. Turning knob to first position at right gives parking lights, ornament light, instrument lights, license light and tail lights. Moving knob to second position to right turns on the headlights in addition to other lights. Turning knob to extreme left position turns off all lights.
- (11) **GENERATOR CHARGE INDICATOR**—Shows red when ignition is turned on and when engine is running at low speed. Light should go out as speed is increased.

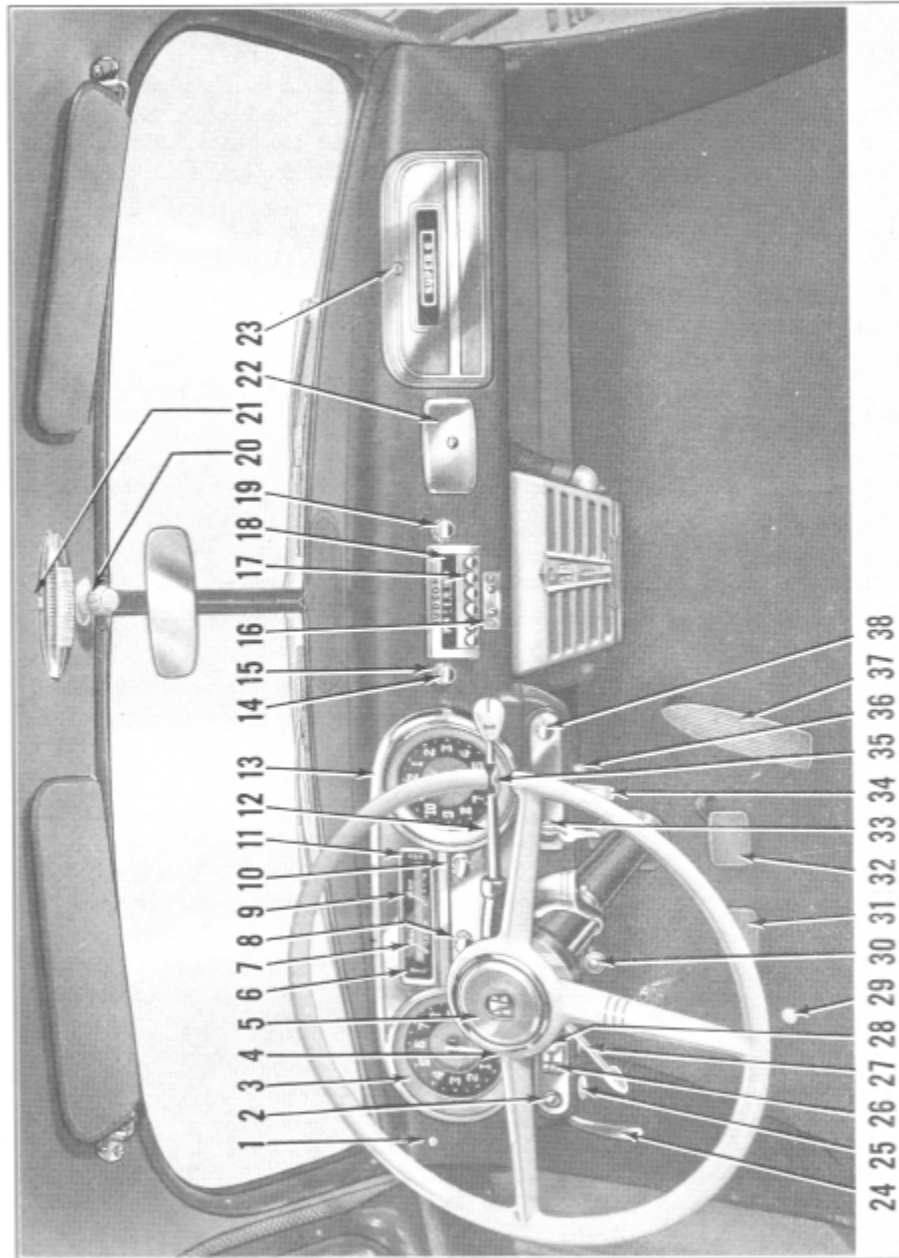


Figure 4

(12) **GEAR SHIFT LEVER** — Standard Transmission — Should always be placed in neutral position before starting engine. Raise knob and move lever forward for reverse gear and rearward for low gear. Move lever to neutral, depress and slide forward for second gear and rearward for high gear. If car is equipped with Hudson Super-Matic Drive, Drive-Master or Hydra-Matic Drive, follow separate instructions shown on pages 49, 50 and 52.

(13) **CLOCK**—Mechanical clock requires winding every day. Turn knob clockwise to wind. Electric clock requires no winding and is protected by a fuse at the back. On both types, hands are set by pulling out and turning knob. (35).

(14) **RADIO ON AND OFF AND VOLUME CONTROL KNOB**—Off in extreme left position. Turning knob to right turns on radio and regulates volume.

(15) **RADIO TONE CONTROL RING**—Turning to right from mid-position brings out the high notes and to left emphasizes the bass notes. See Radio Owner's Manual.

(16) **SUPER-MATIC DRIVE AND DRIVE-MASTER CONTROL SWITCH**—Push button "On" for automatic gear shifting. Pushing "Off" button permits conventional operation of clutch and gear shifting.

(17) **RADIO AUTOMATIC TUNING BUTTONS**—Press in button for automatic tuning of station desired.

(18) **RADIO STATION DIAL**—Indicates station frequency.

(19) **RADIO MANUAL TUNING KNOB** — Turn knob to tune in stations manually.

(20) **RADIO ANTENNA OPERATING KNOB**—To raise antenna, press in knob slightly and turn to right or left one-half turn. To extend antenna, turn knob one-quarter turn, pull out inner or telescopic section of antenna and turn knob until antenna is in upright position.

(21) **DOVE LIGHT SWITCH**—Sliding switch operates front dome light. Rear compartment dome lights operated by sliding switch on right door pillar.

(22) **ASH RECEIVER**—Sliding drawer type—Pulls out.

(23) **LOCKER BOX LOCK**—Press it to open door. Locks by inserting key and turning one-quarter turn to left.

(24) **PARKING BRAKE LEVER**—Apply brakes by pulling lever backward and pressing down brake pedal at the same time. Release brakes by turning handle to right and pushing it down as far as it will go.

(25) **HOOD UNLOCKING HANDLE**—Pull handle to release lock. Then release safety catch by reaching finger under louvre at front of hood and pulling lever forward. Grasp hood at front end and raise. To lock, lower hood and press down on front end.

(26) **WEATHER-CONTROL HEAT REGULATOR LEVER**—Controls water circulating through heater. Moving lever to right increases and to left decreases temperature. At extreme left position heat is entirely shut off.

(27) **DIRECTION INDICATOR LEVER**—Push lever upward for right turn and downward for left turn. Lever returns to "Off" position automatically when turn is completed.

(28) **WEATHER-CONTROL SWITCH**—Controls operation of fans for defrosting windshield and circulating air when car is standing. Extreme left position of knob "Off." First position at right provides low speed and extreme right position high speed operation of fans.

(29) **HEADLIGHT FOOT SWITCH**—Controls country (upper) and traffic (lower) beams. When meeting oncoming traffic and beam indicator shows red, depress foot switch once and release for passing beam. Pressing and releasing switch the second time restores light beams to upper or country driving position.

(30) **SUPER-MATIC DRIVE FOURTH SPEED CONTROL KNOB OR OVERDRIVE CONTROL KNOB**—Push knob all the way in for automatic operation of fourth speed on Super-Matic Drive equipped cars or for Overdrive on cars having this equipment.

(31) **CLUTCH PEDAL** — Should be depressed fully to floorboard when starting the engine and shifting gears. On cars equipped with Hudson Super-Matic Drive or Drive-Master, this must be done before pressing the starter button or the starter will not operate. When starting the engine, particularly in cold weather, depressing the clutch pedal manually will eliminate transmission gear drag and facilitate starting.

(32) **BRAKE PEDAL**—Controls hydraulic operation of brakes on all wheels. Also operates reserve mechanical system on rear wheels in event of disablement of hydraulic system.

(33) **IGNITION LOCK**—Inserting and turning key to right turns ignition on. When lighting switch is turned to first "On" position lock is illuminated.

(34) **COWL VENTILATOR HANDLE**—Should be pushed forward to open cowl ventilator and pulled back to close it. When Hudson Weather-Control is installed, temperature is regulated by ventilator opening. (See Weather-Control Instructions.)

(35) **CLOCK KNOB**—Turn to wind mechanical type clock. Pull out and turn to set hands on both mechanical and electric type clocks.

(36) **INSTRUMENT LIGHT RHEOSTAT**—Controls the brilliance of the instrument lights. Turning knob to right decreases and to left increases amount of light. Turning knob to extreme left turns out lights entirely.

(37) **ACCELERATOR PEDAL**

—Controls the speed of the engine and car. Never pump the accelerator pedal when starting the engine as it will result in flooding. When starting a cold engine, the accelerator pedal should be pressed half way and released slowly before cranking. (See "To Start Engine.") The accelerator also controls the operation of gear shifting on cars equipped with Hudson Super-Matic Drive, Drive-Master and Overdrive on cars fitted with these devices.

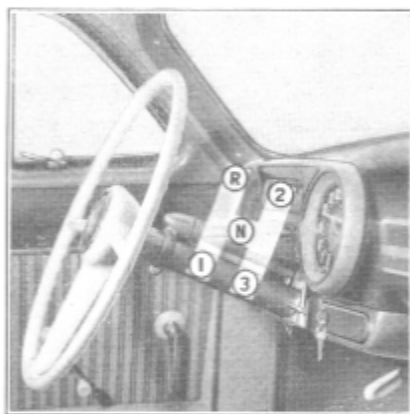


Figure 5

(38) **CIGAR LIGHTER** — Press in to operate. Automatically pushes out when proper temperature has been reached.

DRIVING YOUR NEW CAR

Before your new Hudson automobile was delivered to you, your Dealer checked it over thoroughly to be sure that all adjustments were in order; all lubrication fittings and units of the car properly lubricated; the cooling system filled to the proper level, and the tires inflated to the proper pressures.

When starting with a cold engine, always keep the speed near 30 until the engine reaches normal operating temperature. This is good practice at any time but especially necessary when the engine is new and the moving parts not worn in. For the first 250 miles keep the speed under 40 but drive as little as possible under 25. Between 250 miles and 500 miles the top limit may be increased to 50 and between 500 and 1000 miles to 60.

At least a third of the mileage of each period should be driven at or near the maximum speed recommended. Do not drive at constant speed for any length of time but vary the speed within the recommended limits. At no time during the first 1000 miles should the throttle be opened fully for quick acceleration or hill climbing.

The first 1000 miles are very important to your new engine and a little care during this time will pay off in added economy throughout a longer life.

After the first 500 miles of driving return your car to your Dealer to have the oil changed, as it is good practice to have fresh clean oil in the engine before starting to drive at the increased speeds permissible during the second 500 miles of the break-in.

STARTING THE ENGINE

The carburetor is fitted with an automatic choke which correctly proportions the fuel mixture during the starting and warm-up period.

1. Place gear shift lever in neutral position.
2. Depress clutch pedal.
3. Turn on ignition switch.
4. If engine is completely cold from standing for several hours or overnight, depress the accelerator pedal at least one-half way and release fully, then press starter button.

ON CARS EQUIPPED WITH SUPER-MATIC DRIVE OR DRIVE-MASTER THE CLUTCH PEDAL MUST BE DE-PRESSED OR THE STARTER WILL NOT OPERATE. ON CARS EQUIPPED WITH HYDRA-MATIC DRIVE, THE ENGINE WILL NOT START UNLESS THE SELECTOR LEVER IS IN THE NEUTRAL (N) POSITION. After engine has started, it will run at high idle speed for warm-up. When the engine is warm, a slight depression and release of the accelerator pedal will permit the throttle to return to normal idle.

5. If engine is warm from previous running and has not been standing long enough to become completely cold, depress the accelerator pedal one-quarter to one-half way and hold in this position while cranking.

TO START CAR

After the engine has been started and the clutch pedal depressed, raise transmission control lever and move it forward for reverse gear, or rearward for low gear. Move lever to neutral, depress and slide it forward for second gear, or rearward for high gear.

If the car is equipped with Hudson Super-Matic Drive, Drive-Master, Overdrive or Hydra-Matic Drive, follow Special Operating Instructions on pages 49, 50, 51 and 52.

CARBON MONOXIDE GAS

CARBON MONOXIDE, A DEADLY, COLORLESS, ODORLESS GAS IS ALWAYS PRESENT IN THE EXHAUST OF THE INTERNAL COMBUSTION ENGINE. GARAGE DOORS SHOULD ALWAYS BE FULLY OPENED WHEN STARTING OR RUNNING THE ENGINE.

LOCKING YOUR CAR

When your car was delivered to you, it was provided with two sets of keys. The keys with round handles fit the ignition and both front door outside locks. The keys with the octagonal shaped handles fit the locker box door and rear compartment lock.

All keys are numbered and these numbers should be registered on your Owner Identification Card, as well as some other suitable place where they will be available should the keys become lost. As insurance regulations prohibit the stamping of key numbers on lock cylinders, misplaced or lost keys can be obtained from your Hudson Dealer only by referring to key change number.

Many cars are driven away by unscrupulous persons simply because the ignition key was left in the lock. Make it a practice to *remove the keys if the car is to be left unattended even for a few minutes.*

DOOR LOCK OPERATION

TO OPEN DOORS

FROM OUTSIDE — Outside door handles are of the stationary type, fitted with a push button at the end. To open the door, grasp the handle and press in the push button with the heel of the hand or the thumb. Push door to close.

Caution: Door will not close if latch bolt has been moved upward from lower end of curved slot in door. To return latch bolt to lower end of slot, lift inside safety button to "up" position, then operate outside or inside door handle.

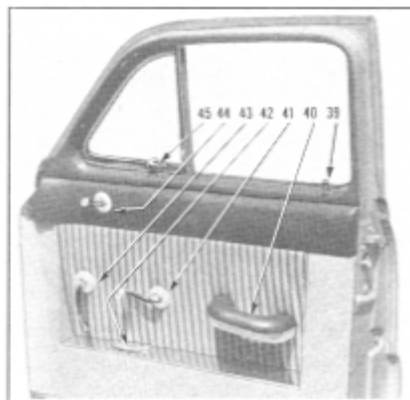


Figure 6

FROM INSIDE—Front doors—rotate inside handle (43) by pulling backward. Rear doors—rotate inside handle by pressing down.

Doors cannot be opened from inside or outside unless inside safety buttons in garnish mouldings are in the "up" position.

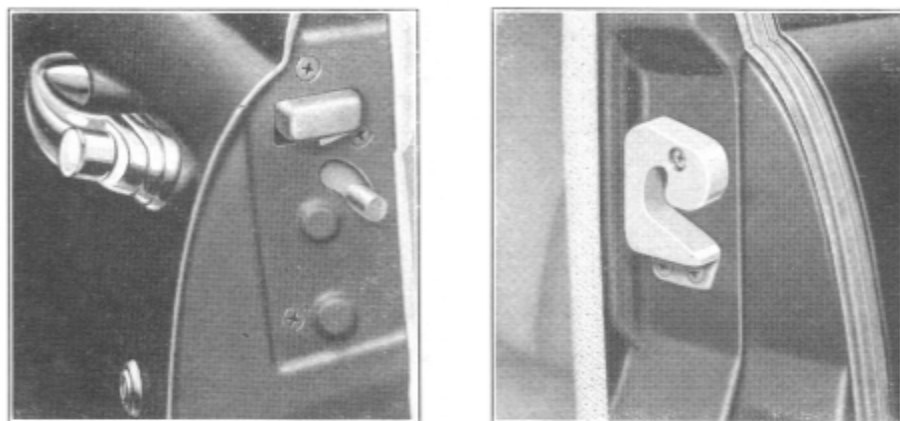


Figure 7

TO LOCK DOORS

FROM INSIDE—Push down inside safety buttons (39) in garnish moulding.

WHEN LEAVING CAR—Close windows with doors closed. Push down inside safety buttons on all doors except the front one from which you are leaving. Close front door and turn lock with key until inside safety button is "Down." Turn key back to vertical position and remove.

LOCKER BOX DOOR

To lock the door, turn key one-quarter turn clockwise and remove. To unlock door, turn key one-quarter turn counter-clockwise and remove.

When door is unlocked, it can be opened by pressing in on lock cylinder face.

REAR COMPARTMENT DOOR

To safeguard the spare tire, tools and any luggage you may be carrying, always lock the rear compartment door. Turning the key one-quarter turn clockwise unlocks the lock. To open, lift the door by placing the hand under the ornament. To lock it, remove key and close the door.

LOCKING THE HOOD

The hood of your Hudson car is designed to open at the front and is provided with a locking arrangement to prevent the battery, engine and accessories from being tampered with.

The hood lock is controlled by a handle located under the instrument

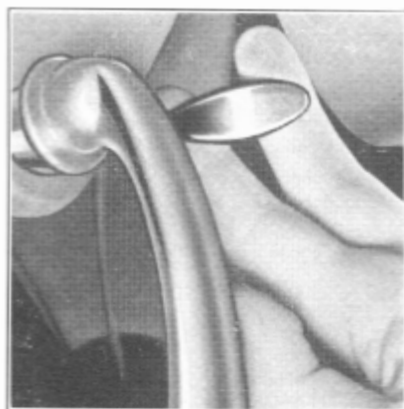


Figure 8



Figure 9

panel on the left side. Pulling out the handle releases the lock and raises the front end of the hood slightly to the safety catch position.

The safety catch can then be released by reaching under the louvre at the front of the car and pulling the catch forward and raising the front end of the hood at the same time. Spring loaded hinges assist in raising the hood and strong, self-locking supports hold it up.

To lock, lower the hood and press down at the front end to engage the safety catch and lock.

TIRES

INFLATION PRESSURES

Maintaining Proper Tire Pressure is the most important factor in obtaining maximum tire life, proper car handling and best riding qualities.

As tires get hot from impact with the road and internal friction while flexing, the air pressure increases. Since the actual temperature of the tire, and therefore the pressure in the tire, is dependent on the speeds at which the car is driven and the nature of the road surface, accurate measurement of pressure can be made only when the tires are "cold" (after car has been standing several hours).

Keep tires inflated to the following pressure:

Size	Front	Rear
7.10 x 15	26 pounds cold	24 pounds cold
7.60 x 15	26 pounds cold	24 pounds cold

Normal city driving will cause a pressure build-up of at least three pounds above the "cold" pressure while highway driving will cause a pressure build-up of at least five pounds above "cold" pressure. Use these pressure build-up values only as a guide when it is necessary to

check tire pressures hot. Never reduce (bleed) build-up pressure in a tire. The tire is designed to protect itself by building up a safe pressure of a few pounds after it is run. This avoids excessive sidewall flexing and heat—both of which are detrimental to a tire.

Ordinarily tire pressure should be checked at least once a week. However, when touring, or if the car is driven extensively, they should be checked every morning before starting out.

Tire valve caps should be finger tight to prevent loss of air due to a leaky valve and to prevent dirt getting into the valve. Replace missing valve caps promptly.

MINIMIZING TIRE WEAR

By changing the position of the tires every 2500 to 3000 miles, they will last much longer. It is not necessary to remove the tires from the wheels but simply switch the complete wheel and tire so as to change the direction of rotation.

To avoid having more than one wheel jacked up at a time, always start, by installing the spare wheel and tire first, then follow through as shown in Figure 11.

TIRE AND WHEEL BALANCE

Proper tire and wheel balance is essential to prevent undue tire wear and high speed wheel tramp, both of which contribute to poor handling, certain riding discomforts and excessive wear of front end parts. Tires and tubes are balanced at the time of assembly at the factory. The balancing marks are indicated on the tire by a small red mark. Whenever a tire is removed from the wheel, it should always be reinstalled with the red mark aligned with the valve stem.

Although tires and wheels are balanced when they leave the factory, subsequent tire wear causes them to go out of balance. To maintain proper balance and assist in prolonging tire life, it is the tire manufacturers' recommendation that the wheel and tire assemblies be checked for balance every 2,500 miles and whenever a tire is repaired or re-capped. Your Authorized Hudson Dealer has the necessary equipment to perform this work.

DISMOUNTING AND REMOUNTING TIRES

TO DISMOUNT—Deflate the tube completely. Stand on the tire with both feet to force the bead away from the rim. Push the valve stem back into the tire. With two tire tools inserted about eight inches apart

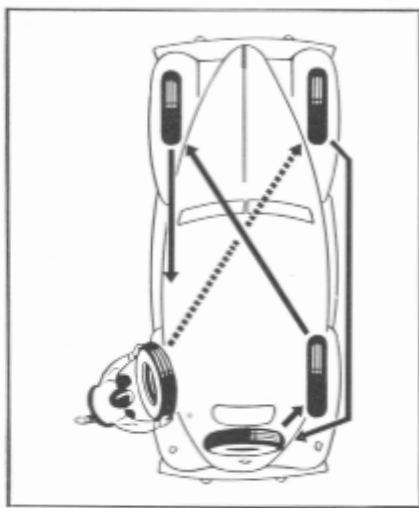


Figure 10

between the bead and the rim, raise the bead over the rim. **BE CAREFUL NOT TO PINCH THE TUBE WITH THE TOOLS.** With one tool in position, move the other tool around the rim and remove the remainder of the bead. Then remove the tube.

Stand wheel in upright position with inner bead in rim well. Apply liquid soap around both sides of rim. Insert both tire tools between bead and rim and pry tire out of rim.

TO REMOUNT TIRE—Coat both beads of tire with liquid soap to help slide them over the rim. Inflate tube just enough to round it out, then insert it in the tire, placing the valve stem directly in line with the red balancing mark on the tire. Place the tire on the wheel, carefully guiding valve stem into the hole in the rim. Push the inner bead over the rim and into well at valve stem and force balance of bead over the rim. It may be necessary to force a small remaining portion of the bead over the rim with the tire tool.

Insert the tire tool between outer bead and rim at a point opposite the valve stem and work bead over the rim. Leave tool in place and work other tool around bead and force remainder of the bead over the rim. **BE CAREFUL NOT TO DAMAGE THE TUBE WITH THE TOOL.**

Inflate tire slowly, carefully checking beads to see that both are seating properly on the rim. The tire may be centered by bouncing it a few times. Inflate tire to recommended pressure.

SPARE TIRE AND WHEEL

To remove the spare tire and wheel mounted in the rear compartment, take out the clamp bolt and plate, using the wheel hub bolt wrench.

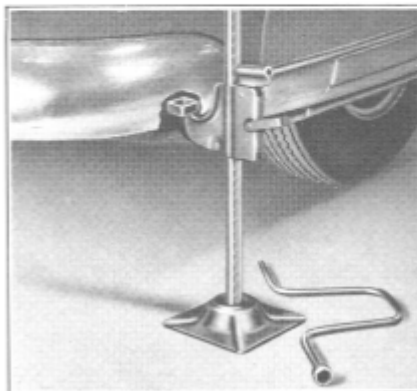


Figure 11



Figure 12

USING THE BUMPER JACK

Your New Hudson is provided with special jack lifting pads built into the frame at the front and at the sides near the rear, which assure maximum lifting efficiency and safety and prevents the possibility of springing the bumpers. (Figures 11 and 13.)

Set the parking brake securely and block the wheel opposite the one being changed to prevent any movement of the car. Set the jack base on a level and solid footing and engage the lifting lug of the jack in the socket of the frame pad, as shown. The wheel bolt wrench is designed for use as a handle to operate the jack.

When removing a rear wheel, it is necessary to take off the wheel cover which is a part of the rocker panel opposite the rear wheel (Figure 12). This can best be done after the car is jacked up, by reaching under and raising up the loop at each end of the attaching rod until it is clear of its hook, as shown.

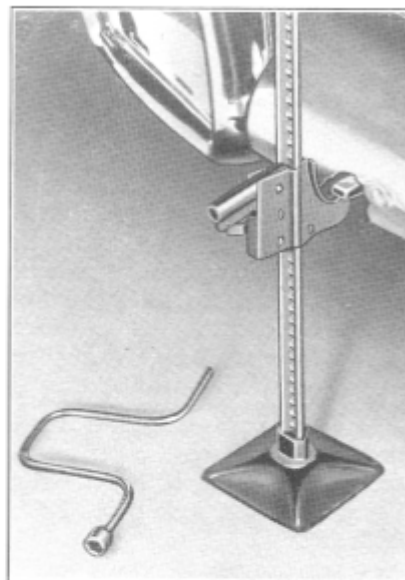


Figure 13

CHANGING THE WHEEL AND TIRE

Before raising the car, remove the hub cap with a screw driver and with the hub bolt wrench (jack wrench) loosen the hub bolts one turn. Raise the car sufficiently to clear the ground and then remove all hub bolts and take off tire and wheel.

When installing the spare, be sure the pilot stud in the hub is in the top position, then slide wheel onto hub using pilot stud as a guide. After wheel has been installed and car lowered, again check tightness of hub bolts and replace hub cap.

ENGINES

ENGINE FEATURES—SIX CYLINDER

Hudson six cylinder engines are of "L" head design, mounted in live rubber cushions to prevent sound or vibration being transmitted to the body.

CYLINDER HEAD — High turbulence type for better fuel combustion.

CRANKSHAFT—Drop forged steel, fully compensated and equipped

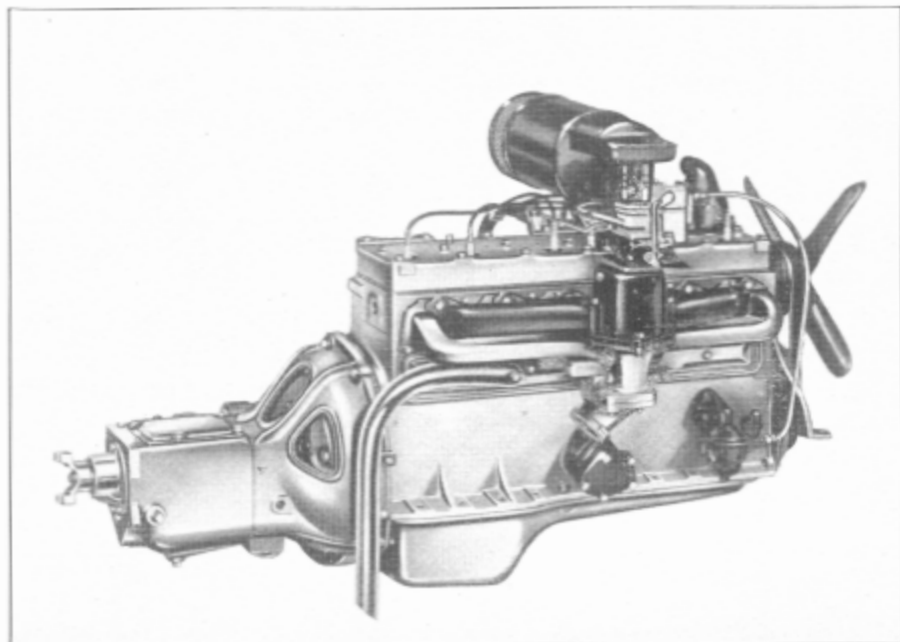


Figure 14

with rubber-insulated vibration damper, balanced at rest and in motion; four precision type, steel-backed, babbitt-lined main bearings.

PISTONS — Cam ground, aluminum alloy, fitted with four pinned piston rings.

CONNECTING RODS — Drop-forged, high manganese alloy, with replaceable, steel-backed, babbitt-lined precision type bearings.

CAMSHAFT—Nickel-chrome-molybdenum-iron alloy, with angular ground cams for positive rotation of tappet. Heat treated for extreme hardness. Phosphate coated for better lubrication. Bearings pressure lubricated.

TAPPETS—Rotating mushroom type with special self-locking adjusting screw. Pressure lubricated.

VALVES — Special alloy. Installed at angle for faster intake and exhaust flow. Grooved for conical spring seat retainer. Valve seats integral with cylinder block, cooled around entire surfaces. Exhaust valves are of high nickel-chrome alloy.

CYLINDER BLOCK—High chrome alloy, entire block as hard as ordinary valve seat inserts. Water jackets full length of cylinders and all around each cylinder.

CARBURETION—Direct passage of fuel through radial manifold to combustion chamber. Dual and single down-draft types. Automatic choke. Climatic control. Anti-percolator valve.

LUBRICATION—Full pressure lubrication to 32 points. Float type oil intake draws clean oil from point just below top level in oil pan.

ENGINE FEATURES—EIGHT CYLINDER

Hudson eight cylinder engines are of "L" head design, mounted in live rubber cushions to prevent sound or vibration being transmitted to the body.

CYLINDER HEAD — High turbulence type for better fuel combustion.

CRANKSHAFT—Drop-forged, fully compensated and equipped with rubber-insulated damper, balanced at rest and in motion; five long-wearing, bronze-backed main bearings.

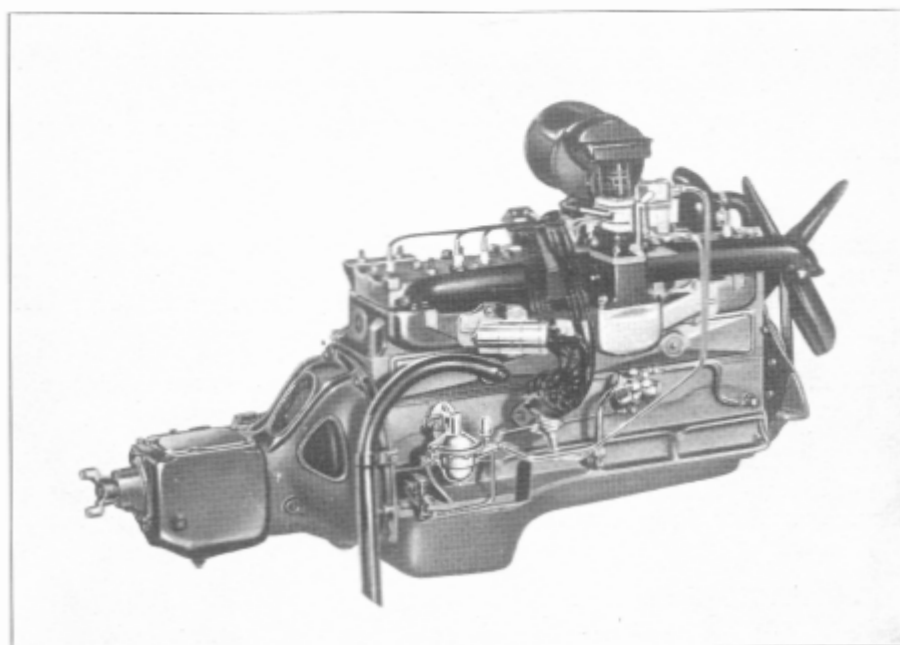


Figure 15

PISTONS—Cam ground, tee slot, aluminum alloy, fitted with four pinned, piston rings.

CONNECTING RODS — Drop-forged, high manganese alloy for greater strength. Bearings with centrifugally installed babbitt metal.

CAMSHAFT — Nickel-chrome-molybdenum-iron alloy, heat treated for maximum hardness, specially treated for smooth finish. Large babbitt bearings.

TAPPETS—Exclusive roller cam design. Rotating cam lobe maintains constant contact, requires less adjustment, wears longer.

VALVES — Special alloy steel. Exhaust valves have high chrome content to resist high temperatures.

CYLINDER BLOCK—Super-hard chrome alloy. Provides wear resisting cylinder bores, eliminates need for special valve seat inserts. Entire block is as hard as ordinary valve seat inserts.

CARBURETION — Down-draft type. Dual flow to combustion chambers for more complete combustion. Radial intake manifold provides direct, free flow passages for fuel mixture. Automatic choke. Climatic control. Vacuum controlled metering rods. Air cleaner.

LUBRICATION—Exclusive Duo-Flo supplies oil in direct ratio to engine speed. Lubricates every part at first turn of crankshaft. Float type oil intake draws clean oil from point just below surface of oil in pan.

VALVE TAPPET ADJUSTMENT

Correct valve tappet adjustment is vital to good engine operation and it is important, therefore, that the specified clearance between the adjusting screws and valve stems be maintained at all times. These are as follows:

	Six Cylinder Engine	Eight Cylinder Engine
Intake Valves	.008"	.008"
Exhaust Valves	.010"	.010"

Tappets should be checked and adjusted only after the engine has been run long enough to attain normal operating temperature. Be sure to use an accurate feeler gauge.

The valve locations, counting from the front of the engine, are as follows:

	Six Cylinder Engine	Eight Cylinder Engine
Intake Valves	2-4-5-8-9-11	2-3-6-7-10-11-14-15
Exhaust Valves	1-3-6-7-10-12	1-4-5-8-9-12-13-16

COOLING SYSTEM

The cooling system is of the pressure type, employing a cellular, tubular radiator, centrifugal pump and four blade fan.

The water pump has a large six vane impeller and the shaft is mounted on a double row ball bearing with grease sealed in and requiring no lubrication attention. A new type spring loaded bellows seal and composition thrust washers prevent leakage around the shaft.

By-pass type thermostats are used which permit quick engine warm-up by restricting the coolant circulation through the radiator and by-passing it around the cylinder block. The thermostat begins to open at temperatures of from 150 to 155 degrees and is wide open at 185 degrees.

A large 4 blade fan, with blades unevenly spaced to minimize sound, is used.

COOLING SYSTEM CAPACITY —18½ Qts.

Cars equipped with heater require one additional quart. Maintain level within ½" of the overflow when using water and within ¾" of overflow when using anti-freeze.

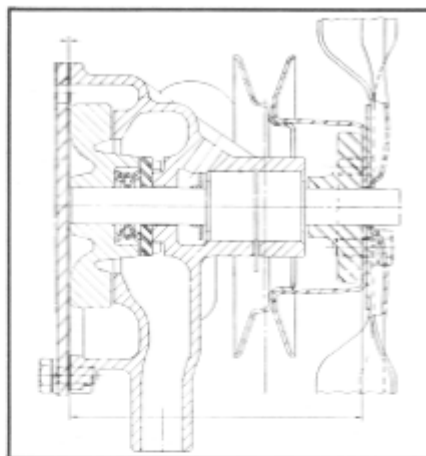


Figure 16

RADIATOR CAP

All Models use a special radiator cap which is designed to maintain a slight pressure in the cooling system. It is important that this cap is always turned down tightly to maintain the correct pressure.

CAUTION: When removing the filler cap while the engine is hot, *always turn cap slowly until the stop is reached. Keep the cap in this position until all pressure has been released, then turn cap fully to the left and remove.*

TO DRAIN the radiator only, turn handle of the drain cock located at the lower right corner of the radiator, counter-clockwise. To drain the complete cooling system, also remove the pipe plug located at the left rear corner of the cylinder block.

NOTE: If it becomes necessary to drain the radiator when it contains anti-freeze and it is desired to save it, a piece of hose may be fitted over the end of the drain cock and the loose end placed in a container.

PROPER CARE of the cooling system is highly essential to maintain efficient engine operation. Rust and scale in the cylinder block is a natural product of water and iron. Therefore, unless the necessary precautions are taken to prevent this accumulation, which acts as an insulator, so-called "hot spots" may result through the inability of the water to cool the cylinders and the area adjacent to the valve seats.

The use of Hudson Rust and Corrosion Inhibitor in the cooling system prior to adding anti-freeze in the fall and after draining in the spring will assist to a large measure in keeping the system clean and permit efficient circulation. This product is available through all Authorized Hudson Dealers.

FAN BELT

The fan belt is of the "V" type and drives the water pump and generator through the vibration dampener pulley.

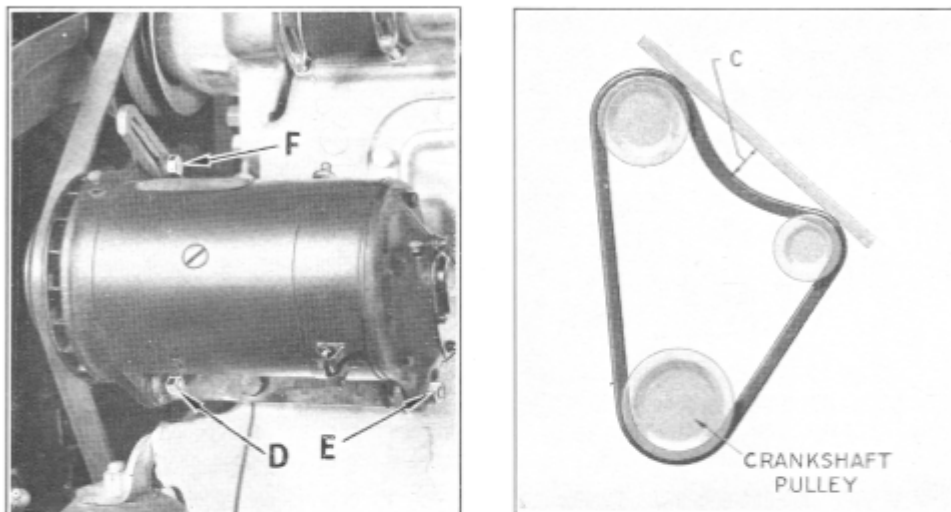


Figure 17

The belt is adjustable by means of a swinging generator mounting. Moving the generator away from the engine increases the belt tension while moving it towards the engine decreases its tension. Belt adjustment is correct when it is possible to depress the belt approximately $\frac{3}{4}$ ", as shown at "C" in the illustration.

Adjustment is made by loosening cap screws and nuts (D), (E) and (F). When proper position has been obtained, be sure to tighten screws and nuts securely.

ANTI-FREEZE

Before installing any anti-freeze when preparing for winter operation, it is good practice to always drain and flush the cooling system to insure unrestricted circulation. Also carefully check all hoses and gaskets for leaks or signs of deterioration.

Avoid the use of anti-freeze solutions containing calcium salts, or other ingredients which promote electrolytic action. Glucose and honey clog the radiator; kerosene and fuel oil when hot, expel inflammable vapors and, therefore, solutions containing these ingredients should never be used. NOTE: Do not mix permanent and temporary anti-freeze solutions.

The following anti-freeze table will be helpful in determining the quantity of anti-freeze for proper protection.

Protection Temperature	Hudson Anti-Freeze Qts.	Methanol Qts.	Ethylene Glycol (Prestone or Equivalent) Qts.
+10	5	4	4 ³ / ₄
0	6 ³ / ₄	5 ¹ / ₄	6 ¹ / ₄
-10	8	6 ¹ / ₄	7
-20	9	7 ¹ / ₄	8
-30	11	8 ¹ / ₄	9

CARBURETOR AND FUEL SYSTEM

FUEL RECOMMENDATIONS

The engine of your Hudson car is designed to give good performance and economy with regular grades of gasoline. One of the most important factors in getting the most out of the fuels available, is correct ignition timing.

The lower grades of gasoline should be avoided in the present day high compression engines, as they tend to cause "pinging" under normal load conditions, which requires that the spark be retarded for quieter operation. Retarding the spark naturally affects the performance of the car, as well as economy of operation and, therefore, no saving in operation is obtained. Also avoid the use of fuels which tend to gum up quickly as they materially affect the operation of the engine.

Premium grades of fuel, such as Ethyl, which have a higher octane rating, permit the use of a more advanced spark timing without knock or "pinging." This will result in improved performance and economy. It should be remembered, however, that these extra advantages cannot be obtained from this type of fuel unless the spark timing is advanced.

For information on "Ignition Timing" see page 41.

FUEL ECONOMY

Gasoline mileage is the subject of considerable discussion among motorists. We hear a good deal about the results obtained by certain owners which may cause others to wonder how the claims are substantiated. Unless we understand the conditions under which the figures were obtained, they mean very little to us.

There are many factors governing gasoline mileage, such as car speed, road conditions, varying wind velocity, temperature changes, heavy traffic and frequent stops. All of these conditions have a direct bearing on the gasoline mileage your car can give. There are, however, a number of things you can do in driving to improve your gasoline mileage.

1. Avoid unnecessary acceleration of the engine.
2. Warm up the engine by letting it run idle for a few minutes when starting, to permit the oil to circulate properly. This is especially important in cold weather.

CAUTION: Avoid racing the engine during the warm-up period.

3. Accelerate slowly.
4. Do not drive in low or second speed gears unnecessarily.
5. Maintain as nearly uniform speed as possible when driving in city traffic.
6. Avoid sudden and unnecessary stops.
7. Keep tires inflated to the recommended pressure.
8. Do not idle the engine unnecessarily.
9. Use engine oil of the proper viscosity.
10. Keep your car properly lubricated.
11. Have the engine of your car tuned by an Authorized Hudson Dealer each 5,000 miles. He will check its operation and make any necessary adjustments, including ignition timing, contact points, spark plugs, valve adjustment and other important details which have a direct bearing on operating economy.

CARBURETORS

The carburetors of the dual and single down-draft, automatic choke type, incorporating vacuum controlled metering rods, accelerating pump, and fast idle features. A filter screen is also incorporated at the fuel inlet to prevent the entrance of foreign particles which would otherwise clog the small drilled passages and jets in the carburetor.

ADJUSTMENTS—There are no adjustments on the carburetor that will affect high speed operation. Therefore, any servicing the carburetor may require, other than minor adjustments that affect operation at idle speed only, should be performed by your Authorized Hudson Dealer who has the special tools and gauges required to service these units.

IDLE MIXTURE ADJUSTMENT—This adjustment is made by turning the idle adjusting screws (A). The normal position of these screws is $\frac{1}{2}$ to $1\frac{1}{2}$ turn off their seats. To adjust them, turn both screws into their seats and then out exactly one turn. Re-adjust for smooth idling. Turning the screws in a clockwise direction produces a leaner mixture and turning them in a counter-clockwise direction results in a richer mixture.

THROTTLE ADJUSTING SCREW (B)—controls the engine idle speed. This screw should be adjusted to give a speed of $7\frac{1}{2}$ to 8 miles per hour in high gear.

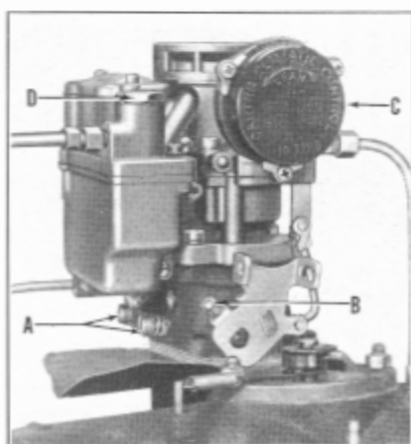


Figure 18

NOTE: Before making the idle Mixture and Throttle Adjusting Screw Adjustments, be sure the engine has been run long enough to reach normal operating temperature. Never make these adjustments when engine is cold.

If these adjustments do not produce satisfactory results, the engine may require an Engine Tune-up and you should consult your Authorized Hudson Dealer.

AUTOMATIC CHOKE CONTROL — Automatically proportions the fuel and air requirements for both starting and engine warm-up.

The thermostatic housing spring which is contained within the thermostat housing (C), is calibrated to hold the choke valve closed at a temperature of 75° F. when it is set at the factory. As the engine warms up the hot air drawn into the thermostat housing through a pipe passing through the exhaust manifold, causes the thermostatic coil spring to release its tension on the choke valve, permitting it to open gradually. Thus as the engine temperature increases, the choke valve gradually opens, resulting in a leaner mixture being fed into the engine to meet operating requirements.

Any service required on the Automatic Choke should be referred to your Authorized Hudson Dealer.

MANIFOLD HEAT CONTROL VALVE—is automatic and requires no adjustment.

FILTER SCREEN CAP (D)—should be removed and the screen cleaned every 2,000 miles.

CARBURETOR AIR CLEANERS

THE OIL WETTED type air cleaner is used as standard equipment on all models. In this type cleaner the wire gauze is oil soaked and as the air passes through it, foreign particles are removed, thereby permitting only clean air to enter the carburetor.

At periods of 2,000 miles, or oftener if local conditions warrant, the filter unit should be taken out by removing wing nut and lifting off cover. Clean off old oil and dirt by dipping it in kerosene. Blow it dry and re-oil by dipping it in engine oil, using the same grade as used in the engine. Permit excess oil to drain off and reinstall it in the cleaner.

The **OIL BATH** air cleaner is available as an option or may be installed by your Authorized Hudson Dealer. In this unit, dirt is washed out of the air by the oil spray created as the incoming air strikes the oil in the sump.

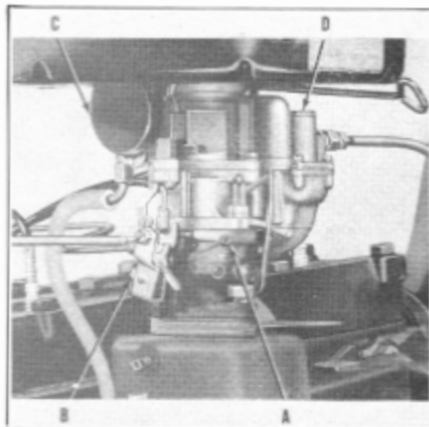


Figure 19



Figure 20

The oil bath type air cleaners should be serviced at 2,000 mile intervals or more frequently during severe dust conditions, as follows:

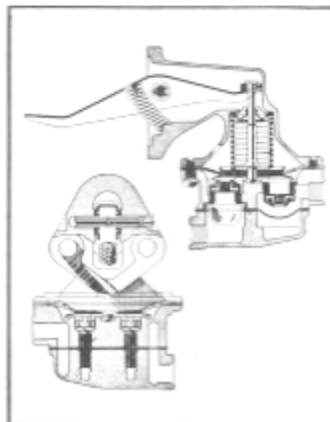
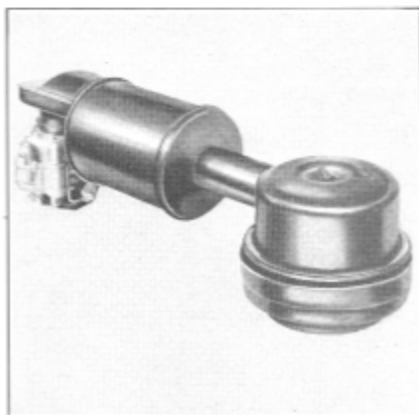
SIX CYLINDER ENGINES

1. Loosen long clamp screw at base, lift up and take off cleaner.
2. Remove wing nut at top of cleaner, take out upper section and wash filter element in gasoline. Do not oil.
3. Remove old oil, wash out cleaner base and refill to level indicated with one pint of S.A.E. 50 oil at temperatures

above 32 degrees and S.A.E. 20 oil at temperatures below 32 degrees.

CAUTION: Do not fill above level mark.

4. Install upper section of cleaner and tighten wing nut.
5. Install cleaner on carburetor horn and turn clamping screw up moderately tight to avoid distorting carburetor air horn.



EIGHT CYLINDER ENGINES

1. Unscrew and remove wing bolt at top of cleaner. (Fig. 21.)
2. Remove lower section of cleaner.
3. Lift out filter element, clean in gasoline and drain.
4. Remove old oil, wash out base and refill to level indicated with *one pint* of new oil of the following body: S.A.E. 50 oil at temperatures above 32 degrees and S.A.E. 20 oil at temperatures below 32 degrees. **CAUTION:** Do not fill above level mark.
5. Place filter element and container in position without oiling and install lower section of cleaner with the dirt shield facing the front of the car.
6. Install and tighten wing bolt.

FUEL PUMPS

The **STANDARD FUEL PUMP** (Fig. 22,) is of the mechanically operated diaphragm type and requires no periodic service attention.

The air filter screen should also be cleaned at 2,000 mile intervals. This is accomplished by removing top cover screw (E) and cover (F). Before replacing the screen and cover, carefully examine screen (G) and gasket (H) and renew if necessary.

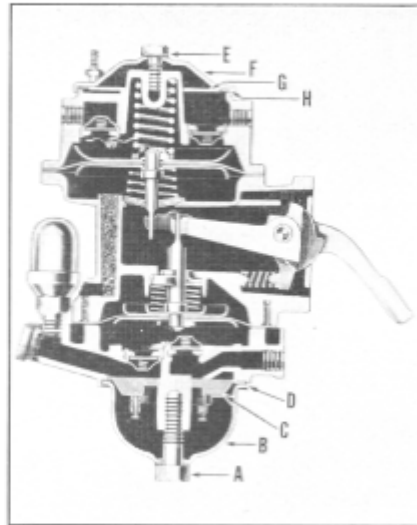


Figure 23

The **COMBINATION FUEL AND VACUUM PUMP** (Fig. 23) is provided with a screen which should be cleaned every 2000 miles by removing the lower cap screw (A) and bowl (B). Before replacing screen (C) and bowl gasket (D), carefully examine them and renew if necessary.

STARTING, LIGHTING AND IGNITION

BATTERY

The battery is located in the front left corner of the engine compartment where it is easily accessible for servicing. It is of the 51 plate

type, 100 ampere hour capacity and has the positive post grounded.

The service you receive from your battery depends on the care it is given. The following suggestions will help you get the most out of your battery:

Only a fully charged battery (1.280 specific gravity) will perform efficiently. Have your battery checked at frequent intervals by your dealer to insure the best performance.

Low water level causes the plates to dry out resulting in premature battery failure.

Keep the cells filled to the square with distilled water.

Keep terminal connections tight and free from corrosion and top of the battery clean and dry. Be sure the battery is properly secured in the carrier.

Winter driving conditions create a heavier demand on the battery. When adding water in cold weather do so immediately before driving the car, or run the engine for a short time to insure the water mixing properly with the battery solution. Unless this precaution is taken freezing and battery damage may be experienced.

GENERATORS

The generators used on all models are of the fully ventilated, high output shunt type with voltage regulation. The generator is driven from the crankshaft through a "V" type, adjustable fan belt which also operates the water pump.

The maximum output on all models is 35 amperes at 8 volts.

Maximum output is reached at a car speed of about 22 miles per hour. Adjustment of the output is dependent on battery voltage and, therefore, any adjustments required should be made by your Authorized Hudson Dealer, who has the proper checking equipment.

LUBRICATION — The front and rear armature bearings should be lubricated every 2,000 miles by applying a few drops of light engine oil to oilers. (A) and (B). *Avoid over-oiling.*

VOLTAGE REGULATOR

This highly sensitive device au-

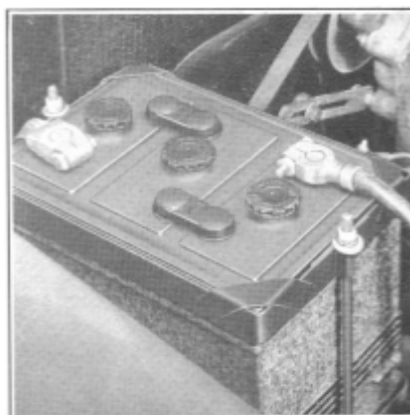


Figure 24

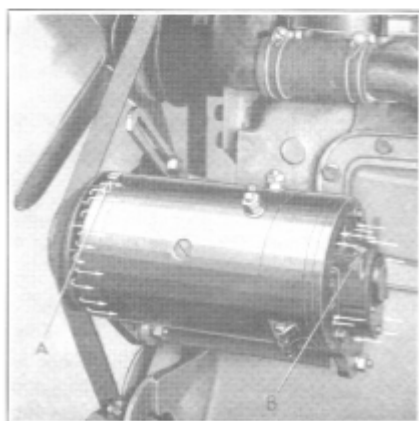


Figure 25

tomatically increases the amount of current flowing into the battery when it is low due to heavy electrical loads and reduces the current flow when the battery voltage reaches a predetermined value. This prevents damage to battery and other electrical units from excessively high voltage.

As special equipment is required to test this unit, and as the cover is sealed in place, the regulator should never be tampered with. See your Authorized Hudson Dealer if it requires checking.

STARTING MOTOR

The starting motor is located at the rear left corner of the engine and is operated by a separate solenoid switch. Control of the starting motor is by means of a push button located on the instrument panel to the left of the steering column. The starter control is operative only when the ignition switch is turned on.

A small button located at the rear end of the solenoid switch is exposed by unscrewing a cap and may be used to permit cranking the engine when checking ignition timing or changing clutch compound.

LUBRICATION — The front and rear armature bearings should be lubricated every 2,000 miles by applying a few drops of light engine oil to oilers. (A) and (B).

Avoid over-oiling.

No oiling is required on 4A Series starter.

The Bendix drive pinion 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.

DISTRIBUTOR

The distributor incorporates an automatic governor advance and in addition, a diaphragm advance control (A), operated by engine vacuum.

The automatic governor advance provides the proper ignition timing in direct proportion to engine speed.

The diaphragm advance control provides additional spark advance over the governor advance, through engine vacuum, for maximum fuel economy. When the engine is running under light load and engine vacuum is high, the distributor is rotated to the maximum advanced position. However, under heavy load conditions, as when the throttle is opened for additional acceleration or hill climbing, and engine vacuum is low, the distributor is rotated to the retarded position to prevent fuel detonation or pinging.

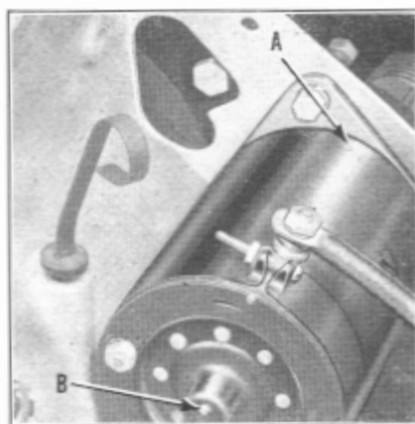


Figure 26

LUBRICATION

Place a few drops of light engine oil in the oil cup (B) every 2,000 miles. At the same time, apply a few drops of oil to wick (E) at the top of the distributor shaft, to the contact arm pivot (G) and to the lobes of the cam (C). **CAUTION:** Do not over-oil.

CONTACT POINT ADJUSTMENT

The distributor contact points should be clean, smooth and make full contact. The proper gap adjustment is .020" for the six cylinder and .017" for eight cylinder distributor. The points are adjusted by removing the distributor cap and rotor and cranking the engine until the fiber block on the contact arm rests on the highest point of the cam lobe (C). Then loosen lock screw (F) and turn adjusting screw (D) until the correct gap is obtained. Tighten lock screw and recheck the gap.

IGNITION TIMING

Remove spark plug from No. 1 (front cylinder), place finger over spark plug hole and crank the engine until air pressure against the finger indicates that the piston is coming up on the compression stroke. Then continue cranking slowly until the mark "UDC-1" lines up with opening in the rear engine support plate, as shown.

The engine can be cranked (ignition "off") by removing the knurled cap on the starting motor solenoid and pressing the button in quick succession.

The distributor rotation is clockwise. Loosen the distributor advance arm screw (I) and rotate the distributor housing clockwise to the limit of the slot in quadrant. Take off the distributor cap and remove the central wire from the cap. Place the bare end $\frac{1}{8}$ " from the cylinder head. Turn on the ignition and rotate the distributor body counter-clockwise slowly just until a spark jumps from the high tension wire to the cylinder head. Tighten screw (I), replace central cable in cap, and clamp cap on distributor.

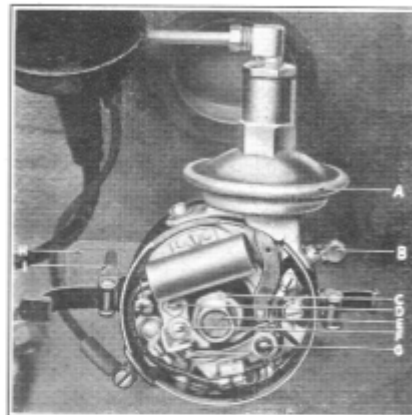


Figure 27



Figure 28

With the distributor cap in position, the metal strip on the rotor should be directly in line with No. 1 terminal. The cables should be in the cap terminals in the order, 1-5-3-6-2-4 or 1-6-2-5-8-3-7-4, following in a clockwise rotation.

The foregoing is approximate normal timing for regular or non-premium fuels at or near sea level. For final setting see "Fuel and Altitude Compensation."

FUEL AND ALTITUDE COMPENSATION

When Ethyl or premium fuels are used in place of the regular or non-premium grades, a more advanced spark timing should be used and final tests should be made on the road. Also when operating a car at high altitudes, it will be found that a more advanced spark timing can be used than at or near sea level.

To determine proper spark timing for these conditions, with engine at normal operating temperature, accelerate at full throttle from 10 miles per hour in high gear. A "ping" should be noted at approximately 15 miles per hour. If no "ping" is heard, loosen the distributor quadrant screw (I), and rotate distributor body in a counter-clockwise direction one graduation mark at a time until the "ping" is heard. Under no circumstances, however, should the pointer on the rear engine support be more than 1 inch (on 1st short mark) before the U.D.C.-1 mark on flywheel.

If the "pinging" is heard at speeds above those previously mentioned, retard the spark timing by loosening the clamp screw and rotate distributor body in opposite direction, one graduation mark at a time until the proper setting is obtained.

HEADLAMPS

Hudson cars employ the headlighting system known as "Sealed Beam" in which the light source, the reflector, the lens, and the gasket are all assembled in one securely sealed unit. When the filament burns out or the lens break, the entire unit is discarded and a new one installed, thereby assuring maximum lighting efficiency throughout the life of the car. "Sealed Beam" headlamps provide two separate and distinct beams.

1. A country (upper) beam is provided to illuminate evenly for a considerable distance ahead of the car. This beam is for use on the open highway when no other vehicles are approaching.

2. A traffic (lower) beam is also provided and is low enough on the left side to avoid glare in the eyes of oncoming drivers. It should always

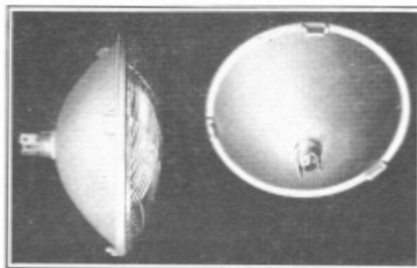


Figure 29

be used when meeting other vehicles. This beam is designed so that it does not throw any dazzling light into the eyes of the approaching driver under any condition of car loading. At the same time distribution of light is such that the right side of the road is illuminated as far ahead as is practical without causing glare on curves.

By turning the lighting switch knob on instrument panel to first position, the parking lights, instrument lights, bonnet light, license light and tail lights are turned on. Turning the knob to the second position turns on these lights in addition to the headlights. The country (upper) or traffic (lower) headlight beams are obtained by pressing the foot switch.

When the country (upper) beams are lighted, a red pilot bulb in the speedometer dial will be illuminated, making it convenient for the driver to determine when this beam is in use. Always use the traffic (lower) beam when meeting oncoming traffic.

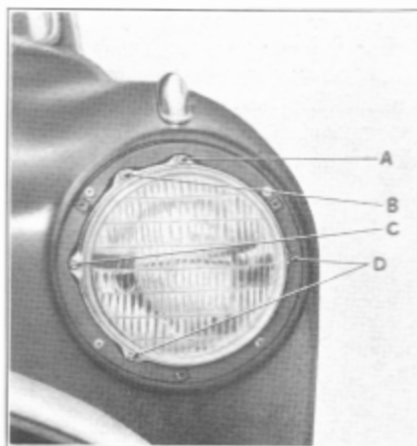


Figure 30



Figure 31

To Service Unit:

1. Remove headlamp lens rim by taking out the three screws.
2. Loosen, but do not remove, the three screws (B) (Fig. 30) holding the retaining ring. (Do not disturb the aiming screws (A and C) at the top and left side of the unit.)
3. Remove retaining ring by rotating counter-clockwise, allowing the reflector unit to be removed.
4. Remove the reflector plug from the reflector unit.
5. Install new unit by reversing above operations.

"SEALED BEAM" HEADLAMP AIMING ADJUSTMENT

To obtain the maximum results in road illumination and the safety that has been built into the headlighting equipment, the headlamps must be properly aimed. (Fig. 32.)

Place the car on a level position with a light-colored vertical screen 25 feet ahead. For best road lighting results, draw a horizontal line

CIRCUIT BREAKERS AND FUSES

A circuit breaker incorporated in the lighting switch and an auxiliary circuit breaker mounted on the instrument panel protects the lighting and other circuits against damage in the event of a short or other derangement in the electrical system. Separate fuses are also employed for the protection of optional equipment and accessory items, as follows:

The Electric Clock—has a 3 ampere fuse contained in the fuse case located at the back of the clock.

Weather-Control—is protected by a 14 ampere fuse located in a fuse case on the left side of the heater housing.

Radio—includes a 14 ampere fuse contained in the fuse case incorporated in the "A" lead wire.

Super-Matic Drive and Drive-Master—is protected by a 14 ampere fuse located in the Drive-Master control switch on the instrument panel.

Overdrive Circuit—is protected by a 30 ampere fuse fitted in a bayonet socket holder near the "B" terminal of the voltage regulator.

Direction Indicator—has a fuse of 10 ampere capacity located in a fuse case attached to the flasher unit lead wire.

CLUTCH

A Fluid Cushioned Clutch incorporating a single cork-insert disc, is used exclusively in Hudson cars to assure smooth engagement. Long life is assured through triple sealing the unit against fluid loss. Heat developed within the clutch is kept at a minimum through proper ventilation and the constant bath of fluid within the housing.

The only attention required is lubrication and a periodic check of the pedal-to-floor board clearance to insure full travel of the clutch pedal.

CLUTCH PEDAL ADJUSTMENT

To assure full disengagement of the clutch to prevent clashing when shifting gears and also to prevent the clutch pedal from riding against the floor board, $1\frac{1}{2}$ " clearance must be maintained between the floor board and rear face of pedal.

This can be adjusted by loosening lock nut (A), removing cotter pin and clevis pin (C), and turning yoke (B) to increase or decrease the clearance as required. Replace clevis pin and cotter pin and tighten lock nut securely.

LUBRICATION

The clutch throwout bearing should be lubricated every 1,000 miles, using viscous chassis lubricant applied through the grease fitting on the right side of the clutch housing.

The clutch pedal shaft bushings should also be lubricated at inter-

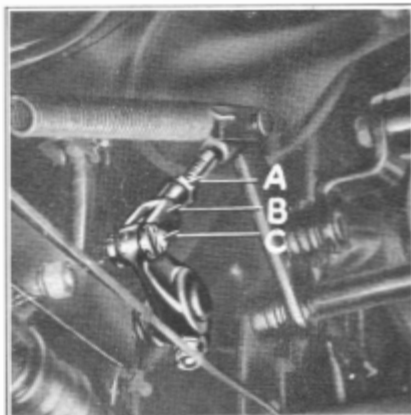


Figure 33

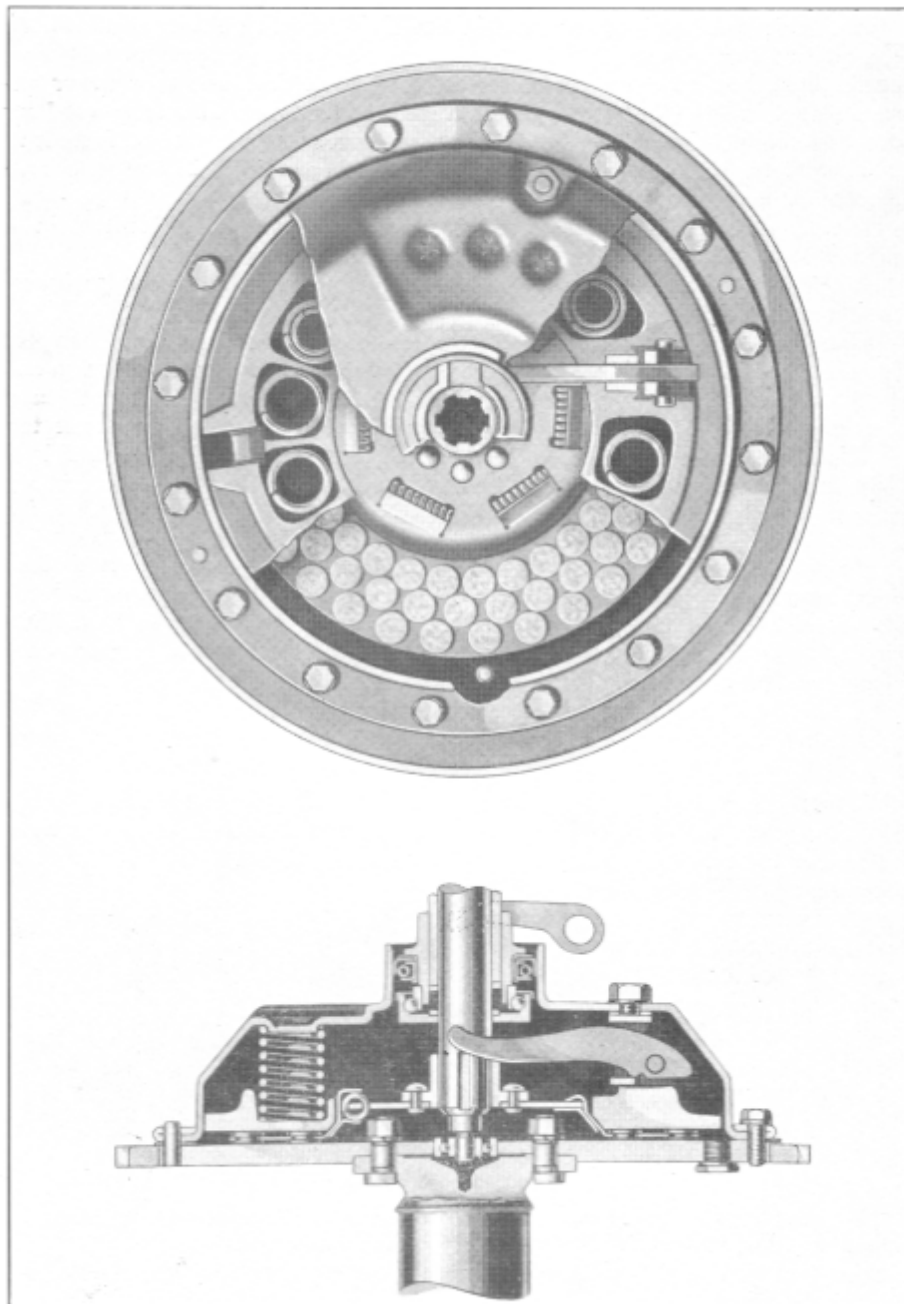


Figure 34

vals of 1,000 miles, using viscous chassis lubricant applied through the grease fitting on the bottom of the pedal, reached from underneath the car.

Every 5,000 miles the clutch should be drained and refilled with HUDSONITE CLUTCH COMPOUND, which is produced in the Hudson Engineering Laboratories, and is available through all Authorized Hudson Dealers. The exclusive use of this compound is your assurance of obtaining smooth, even clutch action.

The clutch is drained without disturbing the flywheel guard by removing hex plug (A) in the front face of the flywheel. Then rotate the flywheel until the first star stamped on the flywheel face appears in inspection hole over starter motor and allow the old fluid to drain out. Turn flywheel until filler hole re-appears and refill with 1/3 pint of HUDSONITE CLUTCH COMPOUND. Replace plug and tighten securely.

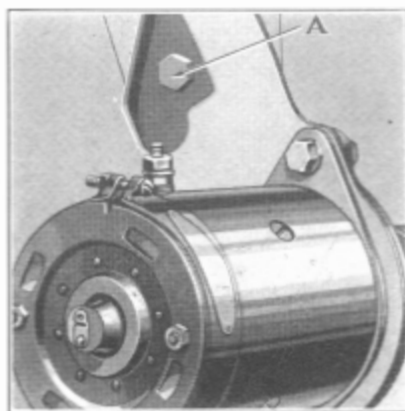


Figure 35

TRANSMISSION

The transmission is of the synchronized design, incorporating the "blocker type" synchronizing unit, which assures an absence of gear clashing when shifting. It provides three speeds forward and one reverse. All gears are of helical cut tooth design for quiet operation in all speeds.

Gear shifting is accomplished by a steering column gear shift lever. The four speeds are in the conventional "H" plate order. When in neutral the shift lever is in a horizontal position in the second and high rail. To shift into reverse gear, the lever must be raised and moved forward. Movement to low gear is by pulling the lever backward in the same rail. The shift into second gear is forward to neutral position, then press lever down and move forward. Moving the lever backward gives high gear position.

LUBRICATION—STANDARD TRANSMISSION

The transmission is fitted with one drain plug located at the bottom of the case and one filler plug on the right side.

Remove the filler plug every 1,000 miles and check fluid level. Permit car to stand idle a few minutes before checking the level. This will allow the foam to subside and assure a check of the actual oil level.

At intervals of 5,000 miles the oil should be drained and the trans-

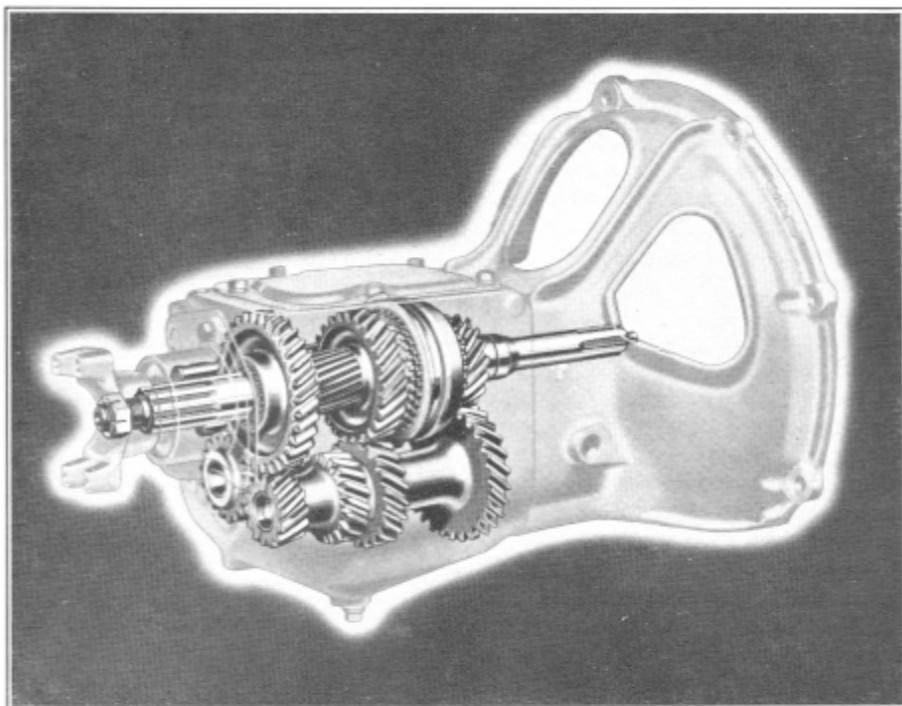


Figure 36

mission refilled with new lubricant. In summer use 2 pounds of S.A.E. 90 E.P. gear oil and in winter use S.A.E. 80 E.P. grade. If the unit is flushed out, it should be refilled with 2¼ pounds of the proper lubricant.

Should hard shifting be encountered in extremely cold weather, drain out 2 ounces of transmission oil, add 2 ounces of kerosene and refill to proper level with oil.

LUBRICATION—TRANSMISSION WITH OVERDRIVE

As the same grades of gear oil recommended for the transmission are used in the Overdrive, communicating passages are provided between the two units. Separate drain and filler plugs are also provided in the Overdrive housing. The drain plug is located on the bottom and the filler plug is on the right side of the housing.

To check fluid level, first remove Overdrive filler plug and determine level, which should be even with lower edge of hole. If level is low, refill to correct level. Then check oil level in transmission and refill as required.

To drain and refill, first be sure lubricant is warm as it will flow more freely. Remove both drain plugs and drain all old lubricant. Replace plugs. Refill Overdrive first, permitting level to come up to

bottom of filler plug hole. Next refill transmission to bottom of level of the filler plug hole. Replace both plugs.

Should it be necessary to thin the lubricant to facilitate shifting in extremely cold weather, drain out $2\frac{1}{2}$ ounces of lubricant, add $2\frac{1}{2}$ ounces of kerosene and then refill to proper level with oil.

HUDSON SUPER-MATIC DRIVE

Hudson Super-Matic Drive provides automatic shifting through three forward speeds yet gives the driver complete control of shifting at every speed.

An ultra low gear is also provided for adverse conditions while the automatic fourth speed is higher than direct drive giving reduced engine speed for smooth, economical operation.

With the Super-Matic "On" button (16—Fig. 4) pushed in, the automatic fourth speed knob (30—Fig. 4) pushed in and shift lever (12—Fig. 4) in driving position, the driving of the car is controlled entirely by the accelerator pedal (37—Fig. 4).

OPERATION

To start the car forward, start the engine (see "Starting the Engine," Page 22), place the gear shift lever (12—Fig. 4) in the third gear position. Depress the accelerator pedal and the car will move forward in accelerating gear.

When the car has been accelerated to the desired speed (above 14 miles per hour) momentary release of the accelerator pedal will permit the shift into the third gear and at speeds above 20 miles per hour again releasing the accelerator pedal permits the shift into fourth gear.

When slowing down, the transmission will automatically shift down to third gear when the car speed drops to 18 miles per hour and to accelerating gear when the speed reaches 10 miles per hour so that the proper ratio for easy maneuverability and fast acceleration is always available.

If rapid acceleration is desired above twenty miles per hour the shift is made from fourth to third gear by depressing the accelerator fully. When the desired speed is reached fourth gear is again engaged by momentarily releasing the accelerator pedal.

To use low gear, bring the car to a stop, move the shift lever to neutral and hesitate momentarily, lift and pull down to low gear position. Depress the accelerator to move the car forward. If it is desired to continue forward through the automatic gears simply release the accelerator pedal, move the shift lever to the third gear position and proceed.

To use reverse, bring the car to a stop, move the shift lever to neutral and hesitate momentarily, then lift and push up to reverse position. Depress the accelerator pedal and the car will move to the rear.

MOUNTAIN DRIVING

If steep grades are anticipated it is recommended that the fourth speed be locked out, both for better hill climbing while ascending and more braking effect from the engine while descending. This can be done by pulling out the Automatic fourth speed knob while the car is standing or moving forward at speeds below 18 miles per hour. At speeds above 18 miles per hour it is necessary to depress the accelerator pedal to the floor to revert to third gear before the automatic fourth speed knob can be pulled out. This latter obviously should not be attempted while descending a steep grade or while following closely behind another vehicle.

When on extremely steep down grades and still more braking effect of the engine is desired, depress the clutch pedal, move shift lever to second gear position, release clutch pedal then push Super-Matic "Off" button to prevent free-wheeling.

Automatic shifting can again be obtained by pushing the Super-Matic "On" button and moving the shift lever to the third gear position. Automatic fourth can again be obtained by pushing the automatic fourth speed button in whenever desired.

Adverse Driving—When driving on ice, in deep mud or other conditions which might make it desirous to stay in a particular gear, move the shifting lever to neutral, push the Super-Matic "Off" button and pull the Automatic fourth speed knob fully out. Proceed to drive using the clutch, gear shift and accelerator pedal as with any standard gear shift car.

HUDSON DRIVE-MASTER

Hudson Drive-Master provides automatic gear shifting in two forward gears for all normal driving while a low gear is provided, without necessity of using the clutch pedal, for adverse driving. Reverse shift can also be made without the use of the clutch pedal or the car can be operated in the conventional manner with manual operation of the clutch pedal and gear shifting lever.

OPERATION

To start the car forward, start the engine (see "Starting the Engine," Page 22), place the gear shift lever in the high gear position (12—Fig. 4). Depress the accelerator pedal and the car will move forward in the accelerating gear.

When the car has been accelerated to the desired speed (above 14 miles per hour), momentary release of the accelerator pedal will permit the shift into high gear.

When slowing down the transmission will automatically shift to the accelerating gear at about 12 miles per hour in preparation for acceleration or starting after a stop.

To use low gear, move the shift lever to neutral, hesitate momentarily, then lift the shift lever and pull back to low gear position (12—Fig. 4). To use reverse, push up on shifting lever from neutral to reverse position (12—Fig. 4) and depress the accelerator to move car backwards.

If car is being moved forward in low gear and it is desired to revert to the automatic gears, release the accelerator pedal, move shift lever to third gear position and depress the accelerator pedal and proceed.

When rapid acceleration is desired when driving in high gear below 18 miles per hour, move shift lever to second gear position, release accelerator momentarily and the transmission will shift into accelerating gear. If driving at speeds above 20 miles an hour in high gear, the clutch pedal must be depressed and the shift lever moved to second gear position to obtain the accelerating gear.

When using the accelerating gear for greater engine braking effort when descending steep grades, push the Drive Master "Off" button to prevent free-wheeling. Automatic shifting is again obtained by pushing the "On" button and moving the shift lever to high gear position.

TRANSMISSION OVERDRIVE

The Overdrive provides a fourth gear automatically available at speeds above 22 miles per hour, reducing engine speed and giving maximum fuel economy.

OPERATION

With the Overdrive knob (30—Fig. 4) pushed in start car and accelerate to a speed above 22 miles per hour. Release the accelerator pedal momentarily and the shift to Overdrive is completed.

When slowing down the shift will be made back to high gear automatically at 18 miles per hour.

If it is desired to revert to high gear above 18 miles per hour for rapid acceleration, depress the accelerator pedal fully. When the desired car speed is reached release the accelerator pedal and Overdrive will again become engaged.

When driving at speeds below 18 miles per hour with the Overdrive knob pushed in, the car is free-wheeling and a shift to first or second gear can be made by moving the shifting lever to the desired gear without depressing the clutch.

When Overdrive and free-wheeling is not desired, as in heavy traffic, on icy or slippery pavements or on steep grades, simply pull the Overdrive control knob out while the car is standing or moving at less than 18 miles per hour. If a clicking sound is heard after pulling the knob out, depress the accelerator pedal slightly to bring the engine speed up to the car speed and the shift will be completed.

When driving at speeds above 22 miles per hour it is necessary to depress the accelerator pedal fully to revert to direct drive and then pull out the control knob.

HYDRA-MATIC DRIVE

The Hudson with Hydra-Matic Drive provides four forward speeds with automatic shifting of gears in all speeds. No clutch pedal is used.

Control is by the selector lever located below the steering wheel which is used to select the two forward speed ranges, neutral and reverse. These positions are shown on the indicator dial at the top of the steering column and the pointer on the selector lever clearly shows which range the control is in. The four positions and their markings are as follows:

N—Neutral

DR—Driving Range — For all normal forward driving.

LO—Low Range — When maximum power is required as when pulling in sand and up steep grades. Also used as a brake when descending steep grades.

R—Reverse — (Selector lever must be raised slightly when entering the reverse position.)



Figure 37

STARTING THE ENGINE

The selector lever must always be in the neutral (N) position before starting the engine. Unless this is done, the engine cannot be started as a safety provision prevents the starter from cranking the engine while the transmission is in gear.

PUSHING OR TOWING TO START ENGINE

Should it become necessary to start the engine by pushing or towing the car, this can be done by moving the car with the selector lever in the "N" or *neutral position* until a speed of approximately 20 miles per hour is reached. Then move the selector lever to the "DR" range position (never to "LO") and the engine will turn over. The possibility of damage due to sudden acceleration after the engine starts is avoided if the car is pushed instead of towed. Do not tow or push the car faster than 25 miles per hour. If for any reason, the car has to be towed or pushed at higher speeds or if the transmission has not been operating properly, the propeller shaft must first be disconnected at the *rear universal joint*.

NORMAL DRIVING

After the engine has started, move the selector lever to the "DR" position for normal forward driving. When the accelerator pedal is depressed and the engine speed increased above idling, the car will move forward. Nothing further need be done by the driver as the shifting through all forward speeds is done automatically, as the car speed increases. The shifts will be made at progressively higher car speed ranges depending upon the amount of pressure on the accelerator pedal. Heavy pressure on the accelerator pedal will cause the shifts to occur at higher speeds than with slight pedal pressure.

STOPPING THE CAR

To stop the car, simply release pressure on the accelerator pedal, leaving the selector lever in the "DR" position. This allows the engine to remain "in gear" and helps to slow down the car. Apply the brakes in the usual manner. *Caution:* Never leave the car with the engine running unless the selector lever is in the neutral or "N" position and the parking brake fully applied. This prevents the car from starting if the accelerator pedal is accidentally depressed.

PASSING

For quick acceleration when passing or climbing grades, Hydra-Matic Drive automatically down shifts from 4th to 3rd gear when the accelerator pedal is pressed all the way to the floor. This feature is effective only at car speeds up to 60 miles per hour.

LO RANGE

In the low range ("LO") position, the transmission operates only in first and second speeds and will not change to third and fourth regardless of engine speed. This provides maximum engine power for climbing steep grades and pulling through deep sand, as well as increased engine braking for descending steep grades and where traffic regulations require the use of second gear. The change from "DR" to "LO" range can be made at any speed below 48 miles per hour on dry pavements. Do not use the "LO" position on wet or slippery roads due to the possibility of skidding.

REVERSE

The car must be brought to a *complete stop* before going into reverse. With engine idling, raise selector lever toward steering wheel and *slowly* move it to the "R" position. If resistance is felt when going from the "LO" to "R" position, pause slightly. The "R" position also provides an effective and positive means for holding the car when parking on steep grades. With the car standing still, raise and move selector lever to "R" position after turning ignition off and waiting a few seconds.

HOLDING CAR ON GRADES

By slightly depressing the accelerator pedal with the selector lever in the "DR" position, it is possible to hold the car from moving backward when stopping on slight upgrades. This practice, however, is not recommended on steep grades or for an extensive length of time.

COASTING IN NEUTRAL

CAUTION: Never coast with the transmission in neutral ("N" position). Having the car in gear when moving results in greater safety and eliminates the possibility of transmission damage which might occur under some conditions.

MAINTENANCE

Every 1000 miles the level of the fluid in the transmission should be checked and the unit should be drained and refilled every 15,000 miles. Correct operation of Hydra-Matic Drive depends greatly on the use of a fluid meeting exacting specifications and it is, therefore, most important that Hudson Hydra-Matic Drive Fluid, obtainable from Hudson Dealers, be used. Approved Hydra-Matic Fluid is also being sold by some of the major oil companies in sealed cans bearing the "Armour Qualification-Automatic Transmission Fluid, Type A" symbol "AQ-ATF" on the cans. Fluid level is checked by removing the combination dip stick and filler cap which is reached through an opening in the floor panel on the right side. Checking the fluid level should always be done with the wheels blocked and the engine running at idle speed. The total fluid capacity for refilling purposes is 11 quarts.

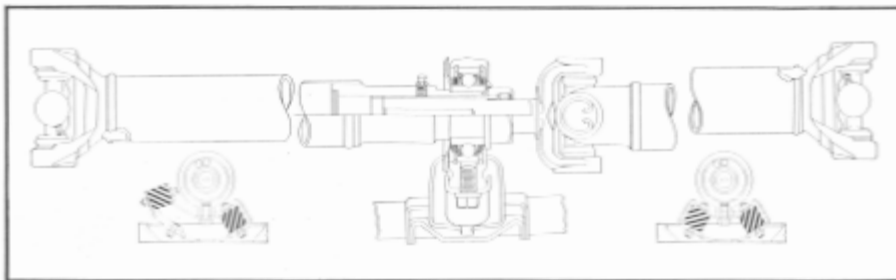


Figure 38

PROPELLER SHAFT AND UNIVERSAL JOINTS

The engine power is transmitted to the rear axle through two tubular propeller shafts, which permits low center of gravity and smooth operation. The front propeller shaft is supported near the rear end in an annular ball bearing mounted in rubber to absorb any vibration and noise. Three universal joints of the needle roller bearing type are employed, one at the front end of the front shaft, one between the front and rear shafts and another at the rear end of the rear shaft.

LUBRICATION

Each universal joint is provided with means of lubricating the needle rollers through drilled passages and pressure type grease fittings. The splined sleeve of the middle joint is also lubricated through a pressure fitting. S.A.E. 140 Gear Oil should be applied to the needle roller bearings and viscous chassis lubricant to the splined sleeve fitting each 1,000 miles, using a hand gun or a special adapter on the lubricating hose nozzle, to guard against excessive pressures.

REAR AXLE

The rear axle is of the semi-floating type employing hypoid gears having teeth cut so that the driving pinion meshes with the ring gear considerably below the center line of the differential. This design provides quieter operation, increased gear tooth strength and a lower car floor with minimum raised section for the propeller shaft. High grade alloy steel is used throughout for gears and shafts and tapered adjustable roller bearings support the differential assembly, drive pinion and the outer ends of the axle drive shafts.

As the axle bearings are accurately adjusted under load at the factory, no further attention should be required. Special equipment is necessary to properly service this unit; therefore, any adjustments or repairs required should be referred to your Authorized Hudson Dealer.

LUBRICATION

The lubricant with which the axle is filled at the factory is especially suited for protection of the gears during the break-in period. This lubricant should be left in the axle for at least the first 10,000 miles.

The level of the oil in the axle housing should be checked every 1,000 miles and if low, brought up to the level of the filler plug by adding a S.A.E. 90 Multi-Purpose Gear Lubricant which has been qualified under U.S. Army Specification 2-105B.

As all gear oils have a tendency to foam due to agitation, the car should be permitted to stand about fifteen minutes to allow foam to subside before checking the level.

Although seasonal changes are not required it is recommended that the lubricant be removed from the axle housing and 3½ lbs. (1.5 kgs.) of new Multi-Purpose Gear Lubricant be installed at least once a year or every 10,000 miles.

Rear wheel bearings should be removed, cleaned, and repacked every 10,000 miles with 1½ ounces of milled sodium soap base lubricant. A special puller is required to remove the hubs; therefore, this operation should be performed by your Authorized Hudson Dealer.

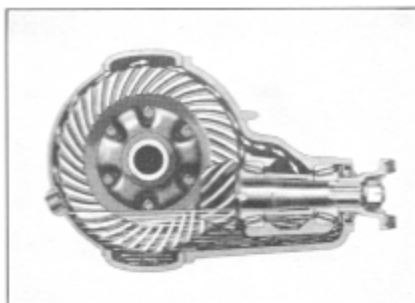


Figure 39

BRAKE SYSTEM

BRAKES

Patented Double-Safe Hydraulic Brakes employing a reserve mechanical system operating from the same brake pedal, are used.

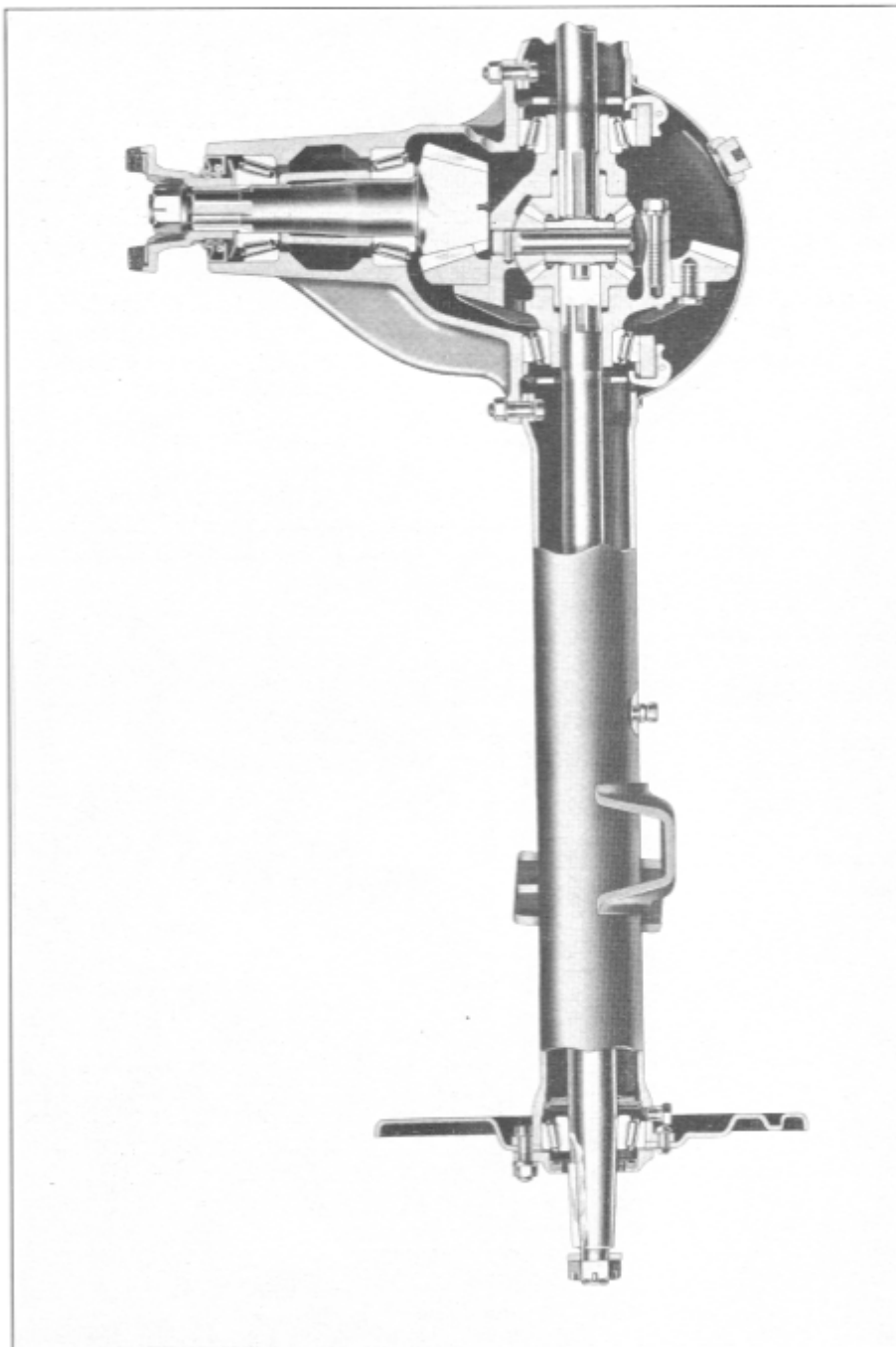


Figure 40

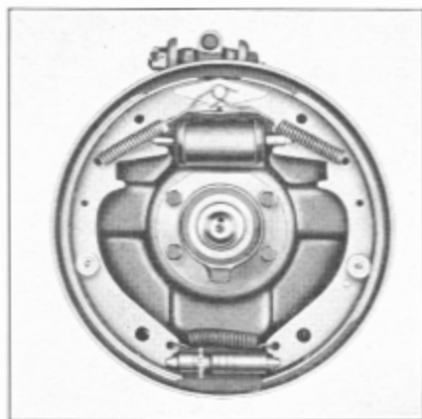


Figure 41

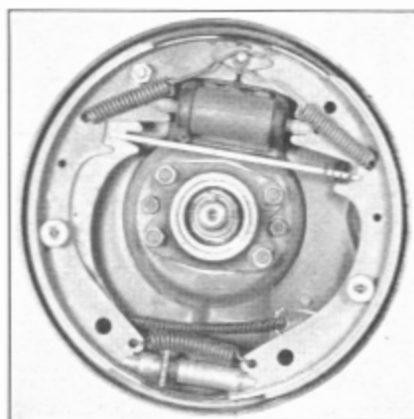


Figure 42

The brakes are of the Bendix Duo-Servo single anchor type, employing wide shoes and large wheel cylinders for maximum brake efficiency and smooth stopping. The shoes are expanded at the top or anchor end by the wheel cylinders, which are actuated by hydraulic pressure exerted by the master cylinder through foot pressure applied to the brake pedal.

If at any time, the hydraulic system should fail due to an accident or some other cause, continued pressure on the foot pedal automatically applies the mechanical reserve system on the rear wheels.

BRAKE FLUID

Numerous rubber parts are used in the hydraulic system which makes necessary the use of brake fluids that are entirely free of mineral oil and other ingredients which are detrimental to the rubber and may cause swelling and early deterioration. Hudson Hydraulic Brake Fluid meets these requirements.

The master cylinder is self-compensating and should be kept at least half full at all times. Always wipe off the master cylinder at the filler plug before removing plug to check the fluid level.

The hydraulic system must be bled if air enters the system. A spongy feeling pedal is usually an indication that bleeding is necessary.

Have your Authorized Hudson Dealer inspect your brakes and check the fluid level periodically, to insure proper operation. This should include a check of the mechanical follow-up linkage.

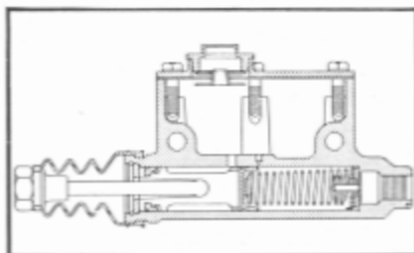


Figure 43

ADJUSTMENTS

To insure proper functioning of the mechanical reserve brake, it is very important that the clevis at the front end of the pull rod attached to the brake pedal be adjusted to maintain a clearance of $1\frac{1}{4}$ " between the rear end of the slot and the clevis pin at all times.

Brake adjustments should be performed by your Authorized Hudson Dealer. However, if an emergency arises where the brakes must be adjusted before you can reach an Authorized Hudson Dealer, the following adjustment procedure to compensate for lining wear can be used.

1. Jack up all wheels clear of the floor.
2. Be sure hand brake is fully released.
3. Remove wheel backing plate adjusting screw hole covers.
4. At each wheel, with a screw driver or suitable tool inserted through the slot in the brake backing plate, expand shoes against drum with adjusting screw by moving outer end of tool toward center of backing plate until a heavy drag is noted when wheel is turned by hand.
5. Back off screw exactly 14 notches at each wheel by moving tool toward outer edge of backing plate.
6. Replace hole covers and lower car to floor.

Test car for brake balance. If one wheel skids before the others, loosen the adjustment rather than tighten the other screws.

A major brake adjustment involves a complete inspection of the braking system—shoe linings, mechanical follow-up, anchor adjustment, and the hydraulic system. This should be necessary only in the event that an adjustment for normal lining wear does not produce satisfactory braking results.

FRONT SUSPENSION

Hudson Individual Front Wheel Suspension is of the angularly set "wish-bone" type, employing large diameter, soft acting coil springs of alloy steel.

The upper and lower control arms are pivoted at their inner ends to permit each wheel to move vertically independently of the other as they pass over road irregularities. They are mounted in threaded bushings adjustable for wear and fitted with rubber sleeves for protection against dirt and water.

LUBRICATION

All front suspension joint grease fittings should be lubricated every 1,000 miles with viscous chassis lubricant. For the various fitting locations see the "Lubrication Chart" at the front of this book.

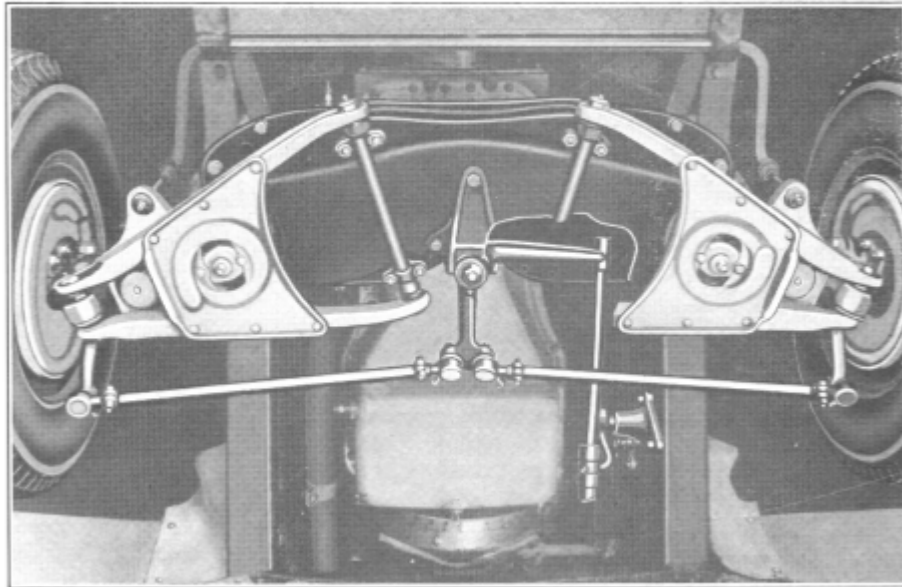


Figure 44

MAINTAINING PROPER FRONT END ALIGNMENT

To prolong tire life, and assure easy car handling and maximum safety, it is essential that proper front end alignment be maintained.

Unintentionally striking the curb a severe blow when turning, parking, or skidding may not cause enough damage to make it visible to the eye, but will be reflected in the handling of the car at high speeds, or in abnormal tire wear.

Proper front end alignment is dependent on proper adjustment of these three factors:

CAMBER, the outward tilt of the front wheels at the top.

CASTER, the backward or forward tilt of the spindle pins at the top.

WHEEL TOE-IN, the setting of the front wheels closer together at the front than at the rear.

Accurate gauges and carefully calibrated equipment are necessary to check and correct alignment. Therefore, it is suggested that any service requirements be referred to your Authorized Hudson Dealer who is best qualified to do this type of work.

FRONT WHEEL BEARINGS

The front wheel bearings are of the tapered roller type, adjustable to compensate for wear and are adequately sealed against lubricant loss.

ADJUSTMENT—To check for looseness, raise the front end of the car, place one hand on the top of the tire and the other hand on the bottom of the tire and alternately pull with one hand while pushing with the other. If there is excessive looseness, adjustment should be made as follows:

Remove outer and inner hub caps using a pry. Remove cotter pin holding nut. Turn nut to the right until a slight drag is felt when turning the wheel by hand. Loosen nut just sufficiently to permit wheel to turn freely. Insert cotter pin, replace hub caps and lower car to floor.

LUBRICATION—Every 10,000 miles, the bearings should be removed, cleaned and repacked with four ounces of milled sodium soap base lubricant. Adjust bearings as instructed under "Adjustment."

STEERING GEAR

The steering gear is of the worm and triple roller tooth design. The worm revolves in two adjustable tapered roller bearings. The roller tooth shaft rotates in two needle roller bearings.

This design provides ease of steering with freedom from frequent adjustments. Provisions for adjustments are, however, incorporated, should they be required after extensive service.

As special equipment is needed to properly service this unit, all operations or adjustments required should be referred to your Authorized Hudson Dealer.

LUBRICATION—Every 1,000 miles, the oil level in the steering gear housing should be checked by removing plug. If level is low, refill to bottom of hole with S.A.E. 90 E.P. gear oil, summer or winter. Be sure plug is securely tightened.

DRAG LINK

The drag link is fitted with adjustable bearings at the front and rear ends. Adjustments are required only in the event that excessive clearance is felt in the bearings and when steering adjustments are made. As special equipment is required to adjust the drag link to its proper relationship to the steer-

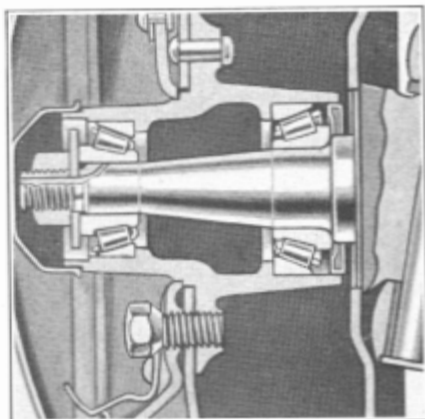


Figure 45

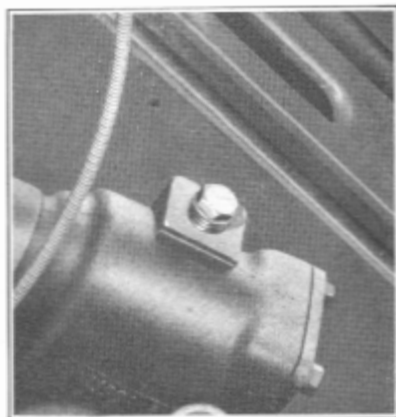


Figure 46

ing gear, all operations should be performed by your Authorized Hudson Dealer.

LUBRICATION—Grease fittings are provided at the front and rear ends and these should be lubricated every 1,000 miles with viscous chassis lubricant.

FRONT LATERAL STABILIZER

The front stabilizer is of the dual acting type, connected to each front suspension lower control arm near the steering spindle end and is com-

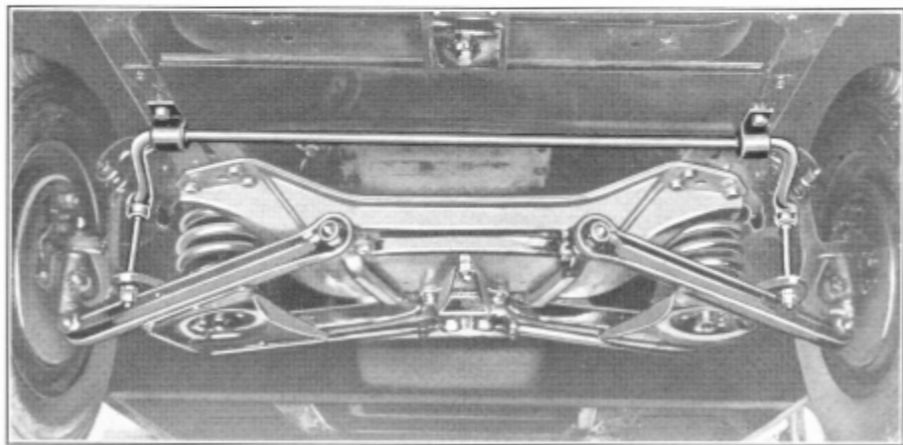


Figure 47

pletely mounted in rubber. It eliminates front end sway and stabilizes the ride on rough roads, in heavy winds and when making sharp turns.

No service attention is required except to see that the connecting link nuts are properly tightened.

REAR LATERAL STABILIZER

A rear lateral stabilizer is used as standard equipment. One end of

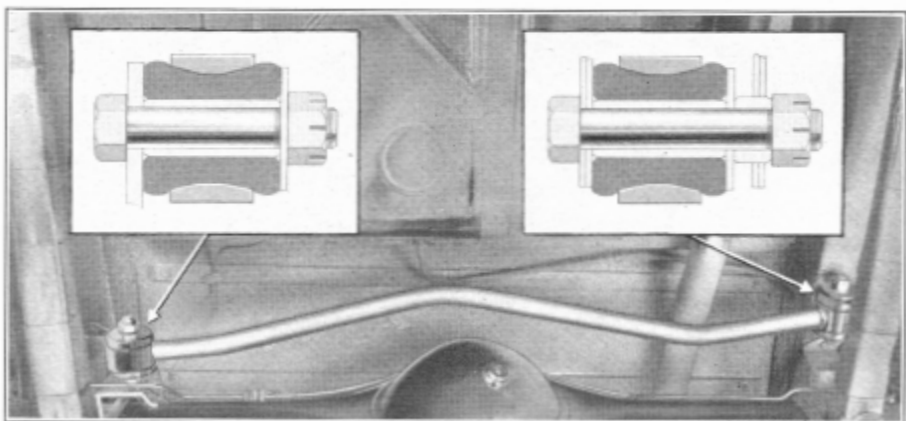


Figure 48

this device is assembled to the frame side member and the other end to the rear axle housing. Its purpose is to control the horizontal movement of the body and car. It also prevents lateral shake of the axle under the car on rough roads.

The ends of the steel bar are cushioned in rubber and no lubrication should be applied to these points.

REAR SPRINGS

Rear springs are of long leaf, semi-elliptical design. The front ends are attached to frame brackets with pivot bolts cushioned in rubber. The rear ends are attached to the frame through threaded, self-adjusting "U" type shackles operating in hardened steel, threaded bushings. The bushing threads are protected from road splash and dirt by rubber seals. The rear springs of some models are fitted with metal covers.

LUBRICATION—Springs with covers should be lubricated with viscous chassis lubricant every 10,000 miles.

Metal Covers—Lubricate through holes in bottom of cover using special tool for this purpose.

Springs without covers must not be lubricated.

Rear shackle bushings are provided with grease fittings and these should be lubricated with viscous chassis lubricant every 1,000 miles.

Rear spring front pivot bolt bushings require no lubrication.

SHOCK ABSORBERS

Direct double acting hydraulic type shock absorbers are used at the front and rear. The front shock absorbers are mounted axially within the front coil springs and are cushioned at the upper and lower ends in rubber grommets.

The rear units are identical in construction to the front units, except that eyes are fitted at the upper and lower ends instead of studs and are also cushioned in rubber. At the upper end they are attached to the frame cross member, while at the lower end they are assembled to the rear spring clip plates.

The fluid is sealed in the shock absorbers and they require no further attention, unless a leak should develop. In this event, the faulty unit should be removed for repair or replacement. As special tools are required to service these shock absorbers, all shock absorber work should be performed by your Authorized Hudson Dealer.

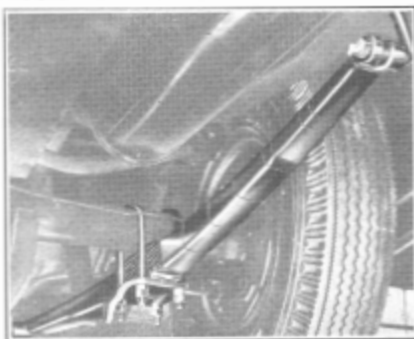


Figure 49



Figure 50

BODY AND FRAME

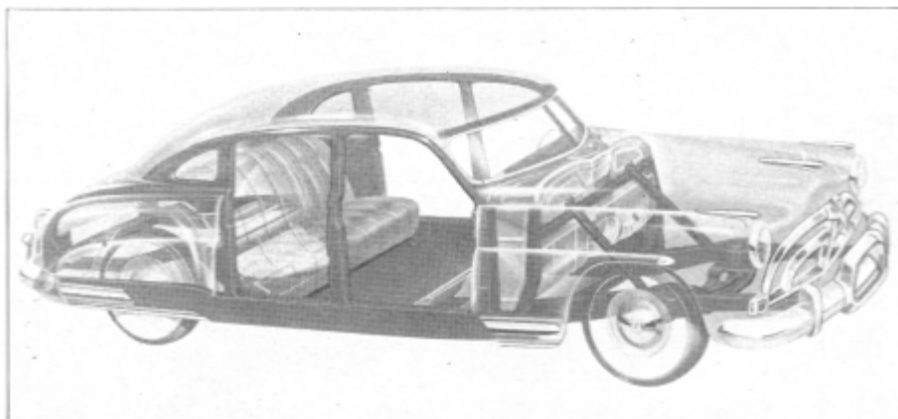


Figure 51

The Hudson **ALL STEEL Monobilt BODY-AND-FRAME** includes box-type foundation frame of sturdy steel girders with all structural members of body-and-frame welded together into a single unit. The strength of steel and the permanence of welding make for rigidity and safety with minimum weight. Outside girders give bumper protection at rear and at both sides, even outside the rear wheels. Lowered floors contribute to a low center of gravity, provide ample head room and maintain road clearance.

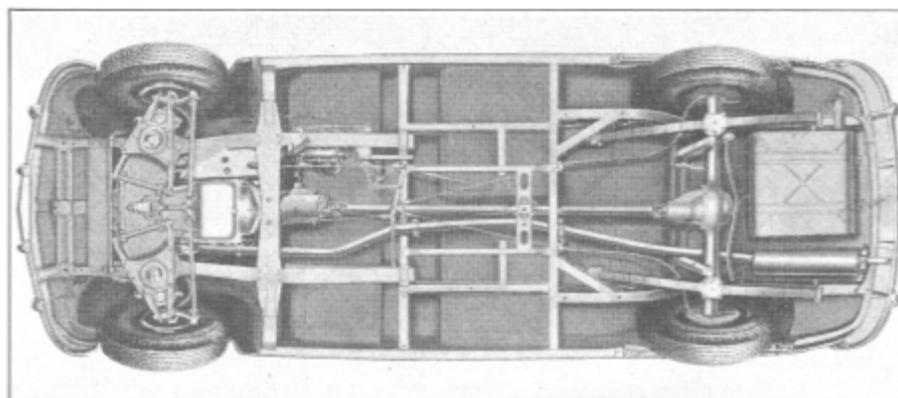


Figure 52

DOOR LOCKS

Rotary door locks of a new design are used and all doors are fitted with stationary type outside handles. A push button at the end of the handle operates the lock and opens the door. When doors are locked, the handle push button moves in and out freely without actuating the lock.

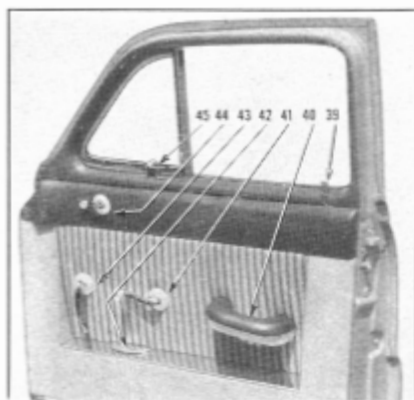


Figure 53

The Inside Safety Button 39 in the garnish molding, must be in the "up" position before the door can be opened by either the inside or outside handles.

To Open Door from Outside, grasp handle and push button either with the heel of the hand or the thumb. Push door to close.

CAUTION: *Door will not close if latch bolt has been moved upward from lower end of curved slot in door. To return latch to lower end of slot, lift inside safety button to "up" position, then operate inside or outside door handle.*

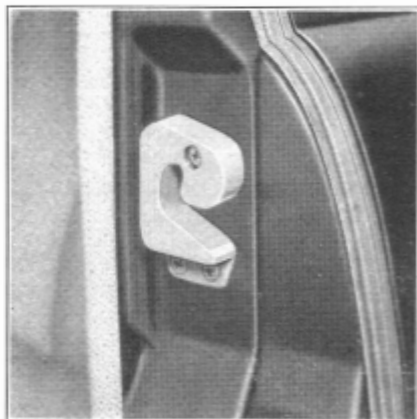
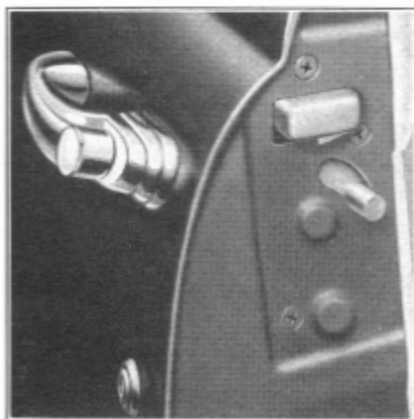


Figure 54 (two views)

To Open Door from Inside—

- Front Door—Rotate inside (43) handle by pulling it backward.
Rear Door—Rotate inside handle by pressing it down.

To Lock Car When Leaving—

- (1) Close windows. With doors closed, push inside safety buttons down on all doors except the front one from which you are leaving.
 - (2) Close front door and turn lock with key until inside safety button is "down." Turn key back to vertical position and remove.
- Doors must be closed before they can be locked either by the inside safety buttons or key.

Door Adjustment—

Door hinges and strikers are adjustable in both horizontal and vertical positions to insure proper door operation. The striker must be adjusted to permit the door to close easily but firmly against the door rubber weatherstrips with the lock fully engaged. When adjusting the striker, it is important that the lower edge of the opening in which the latch bolt operates is 1/16 inch above the bottom of the latch bolt. This provides a slight interference, which is necessary to insure proper engagement of the latch bolt in the slot.

VENTILATOR WINGS

Friction type ventilator wings are employed on Pacemaker Six, Super Six and Super Eight models and crank operated type wings on the Commodore Six and Eight models. The friction type wing is operated by pressing in the button and turning the handle (45) upward. The crank type wing is operated by a regulator controlled by a handle (44).

DOOR WINDOWS

The door windows on all models are opened and closed by operating the handle (41).

QUARTER WINDOWS

The quarter windows on Brougham and Coupe models are operated by crank handles. On Sedans, except Pacemaker Series, the windows are pivoted and friction controlled.

LUBRICATION

See Body Lubrication Chart on inside of cover for body parts requiring lubrication attention.

CARE OF THE FINISH

Your car is finished with high grade hand rubbed lacquer and with a reasonable amount of care, it should be possible to maintain its original luster for a long time. Constant exposure to the elements—strong sunlight, rain, snow and dust will cause the finish to become dull. If at all possible, it is good practice to park the car in the shade if it is to remain in one place for any great length of time.

To remove grime and dirt the finish should be washed frequently and occasionally it should also be polished.

WASHING the car should never be done when car is warm from standing in the sun. Always wait until the metal has cooled off. If dirt is heavily caked, soak it off first with cold water, using an ordinary garden hose. Apply Hudson Hurricane Auto Shampoo, as outlined in directions on container.

POLISHING the car is necessary at intervals to provide the finish with a protective coat. If ordinary washing does not remove the road grime use Hudson Polish and Cleaner.

A more durable, long lasting, high luster finish can be obtained by cleaning the surface with Hudson Liquid Glaze Cleaner and then applying Hudson Liquid Glaze Sealer.

NEVER polish the car in the sunlight or when the metal is warm. Let it cool first. When cleaning the surface, a slight amount of the color will be seen on the cloth. This, however, should be no cause for alarm as it is merely the loose pigment being cleaned off.

These cleaners and polishes may be purchased from your Authorized Hudson Dealer

CARE OF CHROMIUM PLATED PARTS

Ordinary chromium plated parts require no other attention than the cleaning they receive when the car is washed.

However, in the winter, when many municipalities use salt or calcium chloride to melt ice and snow on the pavements, these parts require a great deal more attention to prevent the finish becoming pitted and corroded. These melting agents are highly destructive to this type of finish and it is important that all trace of the salt be washed off each day.

An application of Hudson Chromium Polish after washing will assist in preserving the finish and provide added protection to the surfaces.

Bumper impact bars that are scratched through the finish should be sprayed with a coating of clear lacquer or have an application of Hudson Chromium Polish to prevent corrosion lifting off the plating.

Hudson Chromium Polish can be purchased from Authorized Hudson Dealers.

CLEANING FABRIC TOPS

Soiled fabric tops used on Convertible models can be cleaned quite satisfactorily if proper instructions are followed.

Hudson Fabric Cleaner, which is available through your Authorized Hudson Dealer, should be used. Select an area slightly larger than the soiled portion and with a soft, clean cloth or sponge moistened with Hudson Fabric Cleaner, rub it in light successive strokes and work toward the center of the soiled area.

CARE OF THE UPHOLSTERY

The same careful attention that you give the upholstered furniture in your home should be accorded the upholstery cloth of your automobile. Dust and dirt blown into the car when the windows are open settles in the fibres of the cloth and its abrasive action tends to wear the cloth and cause an unsightly appearance.

Once a month, it is good practice to brush the upholstery with a whisk broom or better still, use the portable attachments usually supplied with most household vacuum cleaners.

CLEANING THE UPHOLSTERY

Spots on the cushions can easily be cleaned off by using the following instructions.

AVOID using hot water and soap unless specifically called for. **NEVER** use gasoline, as most brands contain tetraethyl of lead or coloring which is harmful to cloth, and it is also highly inflammable.

NOTE: When using cleaning fluid to remove spots, use it sparingly. Just dampen a clean cloth or a sponge with the fluid and select an area slightly larger than the soiled portion and rub from outside in toward the center in successive strokes. This will avoid forming a ring and prevent the spot from spreading.

Hudson Fabric Cleaner referred to herein, is available at all Authorized Hudson Dealers.

Fabric Cleaning—Nylon and Vinyl—soap and water except chewing gum or tar, then proceed as specified.

GREASE SPOTS AND OIL

Scrape off all excess grease with a dull knife. Moisten a cloth or sponge with Hudson Fabric Cleaner and rub spot as directed above.

CHEWING GUM AND TAR

First moisten lightly with Hudson Fabric Cleaner, then scrape off with a dull knife.

CANDY (Except Chocolate)

Moisten a clean cloth in very hot water, rinse out and rub lightly as directed above. If an oily spot remains after drying, rub it lightly with a cloth moistened with Hudson Fabric Cleaner.

CHOCOLATE CANDY

Sponge lightly with **LUKEWARM** water. After drying, rub lightly as directed above with a cloth moistened with Hudson Fabric Cleaner.

ICE CREAM

Sponge lightly with **LUKEWARM** soapsuds, using a neutral soap. Rinse with cold water and allow to dry. If an oily spot remains, rub it lightly as directed above with a cloth moistened with Hudson Fabric Cleaner.

BLOOD

Sponge lightly with **COLD** water. Apply a few drops of household ammonia, then sponge again with **COLD** water.

CAUTION: Never use warm water as it will set the stain.

FRUIT AND WINE

Apply a little hot water to the stain. Rub lightly with a cloth moistened with hot water. Allow it to dry, then rub lightly as directed above with a cloth moistened with Hudson Fabric Cleaner.

CAUTION: Soap or heat applied to a fruit or wine stain will cause it to set.

COSMETICS

Lipstick and creams may be removed by applying a few drops of Hudson Fabric Cleaner to the stain and absorbing it quickly with a blotter. Repeat as necessary until the spot is removed.

SHOE POLISH

Black and tan polish can be removed by rubbing it with a cloth moistened with Hudson Fabric Cleaner.

White polish can usually be removed by brushing with a whisk broom. If this does not remove it, moisten the spot with cold water, let it dry, then brush it again.

URINE

Sponge the spot lightly with a cloth dipped in lukewarm soapsuds (neutral soap) and then rinse well with a clean cloth rinsed in cold water. Next rub the spot with a clean cloth moistened in a solution of one part of household ammonia and five parts of water. After a minute, rinse it off with a clean moist cloth.

DOG AND CAT HAIR

Gather the hair together by rubbing the upholstery with a stiff sponge moistened with water. The hair can then be easily picked off.

RUST SPOTS

Clean these spots by sponging with a cloth moistened with lukewarm soapsuds (neutral soap).

LEATHER AND VINYL PLASTICS

Clean with lukewarm water and any mild soap, such as Castile. Work up a thin suds on a piece of cheese-cloth and rub over the surface. Wipe off the surface the second time, using a piece of cheese-cloth dampened with water. Finish by wiping with a dry cloth.

HUDSON WEATHER-CONTROL

(Optional Equipment)

The Hudson Weather-Control, designed and built into the body structure as a combined ventilating and heating unit, gives maximum comfort with minimum adjustment of controls.

Fresh air is brought into the car through the cowl ventilator which is located high, out of the zone of splash, heavy gas fumes and dust concentration from preceding or passing traffic and gives the cleanest air available for passengers inside the car.

Cold Weather Driving

- (1) As soon as engine temperature gauge hand begins to move to the right (usually less than one mile after a cold start) open the cowl ventilator. (34—Fig. 4—Page 18.)

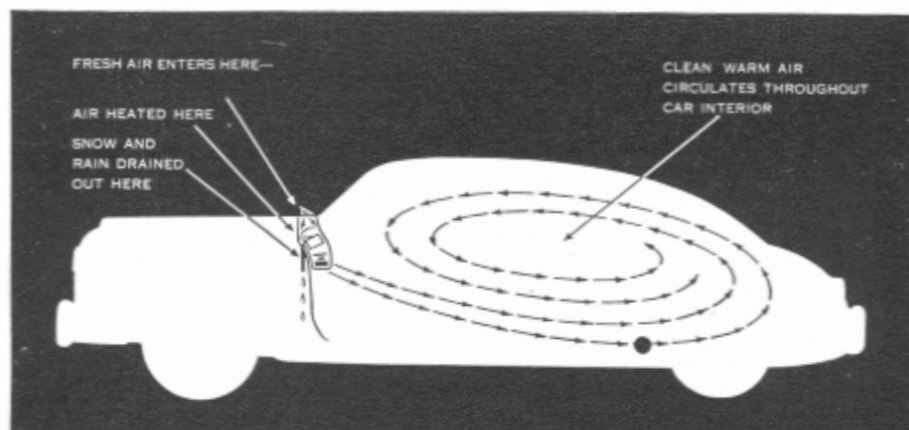


Figure 55

- (2) The automatic temperature control (26—Fig. 4—Page 18) should be set slightly to the right of center. Move to right to increase heat—to left to decrease heat. On Pacemaker models this control is located at the bottom of the heater (2—Fig. 57).
- (3) If car is standing or being driven at slow or intermittent traffic speeds, turn blower control (28—Fig. 4—Page 18) clockwise — first position for high or second position for low. On Pacemaker models control is located on front of heater (3—Fig. 57).
- (4) If fogging or frosting of windshield and windows occurs when passengers enter a cold car, turn the blower control to the first position until cleared.



Figure 56

- (5) If icing occurs on the outside of the windshield, due to snow or rain, turn blower control clockwise to first position. For severe icing it is helpful to move the automatic temperature control to the extreme right. If the inside temperature becomes too high, open front door ventilating wings or lower windows slightly.

A—The cowl ventilator should be kept fully open, after the engine warm-up period, except when driving at high speeds in extremely cold weather when partial closing of the ventilator will increase the temperature of the air entering the car. Water or snow entering the ventilator while driving is trapped and drained off. The ventilator should, however, be closed when the car is left standing outside for long periods while snow is falling.

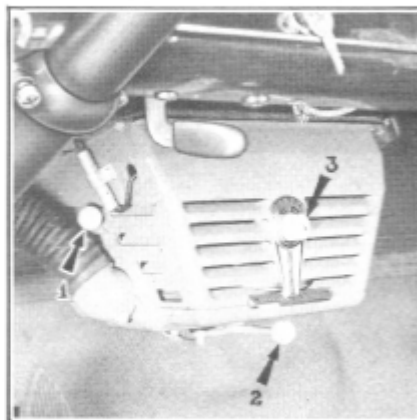


Figure 57

- B—Ventilating wings and windows should be fully closed. Open windows or wings cause loss of heat and prevent normal circulation of air and heat in the passenger compartment. For example, opening a left front door ventilating wing will cause the heated air to flow from the heater outlet directly past the driver and out the ventilating wing. Little or no heat will reach the other passengers.
- C—The temperature control is automatic and once set to the desired temperature requires infrequent adjustment. It is not necessary to move temperature control further to the right for quick heat during engine warm-up. The thermostat automatically opens the control valve wide until the selected temperature in the car is reached, then closes as required to maintain that temperature.
- D—Heat is distributed from the front, back and both sides of the heater case so that a large volume of air can be supplied to adequately heat or cool the entire car interior without an excessive amount of air being directed on any of the front seat passengers. A knob located on the left side of the heater case (1—Fig. 57) controls the amount of air directed on the drivers' feet. The maximum is obtained when the knob is in the up position.

Warm Weather Driving

- (1) Keep cowl ventilator (34—Fig. 4—Page 18) open at all times to get the cleanest air.
- (2) Keep automatic temperature control at extreme left.
- (3) *At low speeds* windows and ventilating wings can be opened as desired. For maximum air intake swing front door ventilating wings out until the desired amount of air is blown across the front compartment. By closing windows and opening rear quarter wings on sedans the full flow of air is directed through the entire passenger compartment.
- (4) *At high speeds* close windows and ventilating wings for minimum wind noise and wind burn. Opening rear quarter ventilating wings slightly on sedans will help maintain full flow of air throughout passenger compartment.
- (5) *When driving on dusty roads* keep the cowl ventilator fully open to bring in the cleanest air possible and keep all windows and ventilating wings closed. This maintains a slight air pressure in the passenger compartment preventing dust from entering.

Opening ventilating wings even slightly at medium or high speeds causes an ejector action drawing air out of the passenger compartment so fast that even with the cowl ventilator open, additional air is drawn into the passenger and luggage compartment, bringing dust with it.

THE COWL VENTILATOR IS LOCATED TO GIVE THE CLEANEST AIR AVAILABLE FOR CAR VENTILATION.

CONVERTIBLE BROUGHAM TOP

The raising and lowering of the top on the Convertible Brougham model is accomplished by power applied through double acting hydraulic cylinders located within the body structure. Power is furnished by a hydraulic pump, electrically driven, mounted behind the rear seat. This unit should be serviced twice a year, adding fluid if necessary to bring level to mark. Use only Hudson Hydraulic Brake Fluid for this purpose. Access to the power unit for servicing is had by removing the cover from the body underpanel.

To insure the top mechanism remaining in good condition, the top should be operated at least once a month.

Power operation of the top is controlled by a two-way switch fitted with a knob located on the instrument panel to the left of the steering column.

TO LOWER TOP:

1. Stop car. Do not attempt to lower or raise top while car is in motion.
2. Release clamps at header on right and left sides.

CAUTION: *Make sure clamps are completely free from the windshield header.*

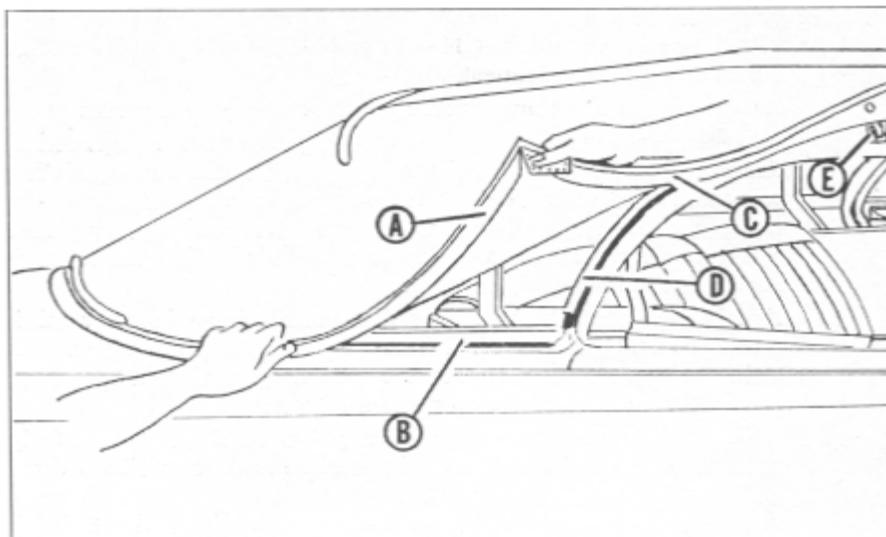


Figure 58

3. Raise top header slightly by hand and *pull out* control knob on instrument panel until top is fully lowered. This may be done with the door and quarter windows in either the up or down position. The rear window may also be in either the up or down position.
4. Tuck in surplus material at sides and install top boot.

TO RAISE TOP:

1. Stop car.
2. Remove top boot.
3. Push top control knob *forward* until top is fully raised.
4. Pull down top header over windshield and attach and fasten clamps at each side.
5. Fasten side quarters of top by engaging flap "A" (Illustration No. 58) under channel "B," starting at the rear end. Continuing forward, enter flap "C" under curved channel "D" and work upward until flap is in place for its full length.
6. Engage the fasteners "E" in the slides on the bow above the doors.

POWER OPERATED WINDOWS

The electrically operated hydraulic pump also furnishes power for raising and lowering the door and quarter windows. Each window is operated by a hydraulic cylinder arrangement and may be raised or lowered to any position by its own control button. Buttons located at each window are operated by pressing down to lower and up to raise the windows.

A group of 4 control buttons is mounted on the left door which permits the driver to operate all windows from a position convenient to the left hand. Counting from the front, buttons Nos. 1 and 2 control the left and right door windows respectively, while buttons Nos. 3 and 4 operate the left and right quarter windows.

RADIO OPERATING INSTRUCTIONS

OFF-ON SWITCH AND VOLUME CONTROL

To turn the receiver on, turn the volume control knob (2) to the right until it clicks and the dial is illuminated. Allow the receiver to reach operating temperature. (Approximately 20 seconds.) To increase the volume, continue to turn this control knob to the right. To turn the receiver off turn the volume control knob to the left until it clicks.

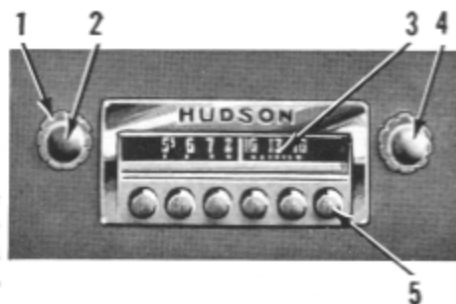


Figure 59

TONE CONTROL

The tone control ring (1) is located directly behind the volume control knob (Figure 59). Rotating this control to the right or left will change the tone of the receiver. The treble position is useful in overcoming wind, noise, etc., when driving, while the bass position brings out the full mellow tones of musical programs. With the tone control set midway, the full tonal range is obtained. Turning to the right will emphasize the high notes, while turning to left will emphasize the bass notes.

MANUAL TUNING

To tune manually it is only necessary to turn the manual tuning knob (4). Tune to exact frequency for the best tone quality. This can be done at any time without disturbing the automatic-setting.

AUTOMATIC TUNING

There are six automatic tuning positions (5), each of which may be adjusted to any desired station. In order to simplify the identification of the stations, it is advisable to set the automatic tuning mechanism in sequence according to frequencies of the stations, beginning with the station broadcasting on the lowest frequency, and progressing to the station broadcasting on the highest frequency. If the positions have not been previously adjusted, proceed as follows:

1. Loosen the first push button by turning it counter clockwise with your fingers.
2. Turn the manual tuning control knob (4) to tune in the desired station. Carefully tune to the middle of the signal for clearest reception.
3. Push the first push button in as far as it will go. Release the button, and tighten securely by turning it clockwise with the fingers.
4. Repeat the above procedure for the remaining five push buttons.

HUDSON APPROVED ACCESSORIES

Your Authorized Hudson Dealer has available for installation on your car, a complete line of Factory Approved Accessories. The addition of these items will greatly enhance the appearance of the car, improve comfort and provide greater safety. Accessories available are:

Back-Up Light	Oil Filter
Battery Filler — Automatic	Oil Filter Cartridge
Battery Charger — Home Type	Radiator Grille Guard
Cigar Lighter	Radio
Clock — Electric	Radio Antenna
Direction Indicator	Rear Bumper Guard
Electric Shaver — Auto Home	Rear Compartment Light
Combination	Rear Seat Radio Speaker
Emergency Trouble Light	Rear Window Wiper
Exhaust Deflector	Seat Covers — Custom Matting
Fire Extinguisher	Seat Covers — Deluxe Matting
Floor Mat — Auxiliary	Seat Covers — Rayon Twill
Fog Lamps	Spare Tire Valve Extension
Front Door Ventilator Wing Shield	Spotlight
Gasoline Filter	Steering Wheel Kit—18"
Gas Tank Locking Cap — Electric	Thermaster 8-hr. Bottle
Glove Box Light — Automatic	Thermaster Portable Refrigerator
Hub Cap Kit — Large	Trunk Light — Automatic
Hydraulic Jack	Underseat Heater
Karvisor	Under Hood Light — Automatic
Kleenex Tissue Dispenser	Weather Control — Automatic
License Plate Frame	Thermostat
Locker Box Light	Wheel Trim Ring
Mirror — Outside Rear View	Window Ventshades
Mirror — Glare Proof	Windshield Washer — Automatic
Mirror — Vanity	

GENUINE HUDSON SUPPLIES

A complete line of high quality supplies, bearing approval of the Hudson Laboratories, is available. These supplies enable the owner to preserve the finish and undercar parts of his car as well as clean interiors and chromium plated parts.

Essential items for the proper maintenance of your car are included in this group. Items stocked by Hudson Dealers are:

Anti-Freeze	PiB—Ignition Insulation
Black Rubber Finish	Polish and Cleaner
Brake Fluid	Polishing Cloth
Car Washing Chamois	Pre Wax Cleaner
Car Washing Sponge	Radiator Flush
Chromium Polish	Radiator Rust Preventive
Combination Cleaner and Wax	Radiator Stop Leak
Convertible Top Dressing	Rubber Lubricant
Door Ease	Rust Dissolver
Fabric Cleaner	Shock Absorber Fluid
Gasket Cement	Spot Remover
General Use Oil	Tar and Road Oil Remover
Glass Cleaner	Tire Pressure Gauge
Glass Sealer—Sealzit	Touch-Up Lacquer
High Gloss Wax	Undercoating
Hudsonite Clutch Compound	White Sidewall Cleaner
Hurricane Auto Shampoo	Windshield Cleaner Blade
Liquid Glaze Cleaner and Sealer	Windshield Washer Solvent
Penetrating Oil	

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