HUDSON EIGHT

SERVICE OPERATIONS MANUAL

For the 1930 Hudson Great Eight

Also recommended for:

1931 & 1932 Greater Eight, 1933 Major Eight

HUDSON MOTOR CAR COMPANY

DETROIT, MICHIGAN, U. S. A.

Printed in U. S. A

Introduction

This manual contains instructions for service operations. Since These instructions are not illustrated, it is recommended that you use them along with the illustrated chassis and body parts catalogs. The illustrations in those volumes will be helpful in understanding these instructions

TABLE OF CONTENTS

AXLES

FRONT AXLE

REAR AXLE

PROCEDURE OF OPERATION

Set front wheels in straight ahead driving position. Check front wheel Toe-in with a gauge. Toe-in should be zero or range between that and one-eighth inch, with wheels in straight ahead position. Loosen tie rod socket clamp bolts, both ends of tie rod. Turn tie rod to obtain proper adjustment. Tighten socket clamp bolts.

Remarks

ALIGN FRONT WHEELS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Toe-in—0 to 1/8"
Caster—1°
Camber—1 °
Recommended tire pressure -
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-255 Aligning Fixture

Note: Right end of tie rod has right hand thread; left end of tie rod has left hand thread.

Suggestions: Before aligning, check wheel bearing adjustment Wheels should turn freely, run true, and have no perceptible side movement. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Imperfect wheel balance may cause tramp.

PROCEDURE OF OPERATION

Raise front end of car. Try wheels for loose bearings. Wheels should turn freely but should have no perceptible side play when grasped at the top and bottom. If play can be felt, determine whether it is in spindle pin bushings or wheel bearings. Examine tie rod and drag link connections. Check axle caster and wheel camber with a gauge. Also check wheel Toe-in with a gauge. See that. spring clips are tight, and that shock absorbers function properly.

Remarks:

INSPECT FRONT AXLE ASSEMBLY

HUDSON
GREAT EIGHT

INSPECT FRONT AXLE ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Toe-in—0 to 1/8"
Caster—1°
Camber—1 °
Recommended tire pressure—
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-161 Axle stand
HE-255 Wheel aligning fixture
HE-316 Spring clip wrench
HE-270 Camber and caster gauge

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. Keep tires inflated to proper pressure. In case of shimmy, increase pressure 5. to 8 pounds. Imperfect wheel balance may cause wheel tramp. Examine all front end bolts and connections for general tightness. Shimmy may, be caused by excessive caster, unbalanced wheels, worn king pins or bushings, low or unequal tire pressure.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel nuts. Remove wheels. Disconnect shock absorbers. Remove brake pull rods. Disconnect drag link front end. Remove spring clips. Lower axle assembly. **REPLACE** axle assembly. Raise axle assembly. Replace spring clips. Replace spring clip nuts. Connect shock absorbers. Connect drag link. Replace drag link ball nut. Connect brake pull rods. Replace wheels. Replace wheel nuts. Replace wheel nut cotter pins. Replace hub caps. Lower front end of car. Align wheels. Adjust brakes. Check axle caster.

Remarks:

Install Axle Assembly (Includes Adjust Brakes & Align Wheels) **HUDSON GREAT EIGHT**

Install Axle Assembly (Includes Adjust Brakes & Align Wheels) **HUDSON GREAT EIGHT**

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure—
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-162 Axle stands
HE-272 Hub cap wrench.
HE- 70 Bearing puller
HE-255 Wheel aligner
HE-271 Tie rod ball puller
HE-278 Brake adjusting tool
HE-270 Caster gauge
HE-316 Spring clip wrench

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure from 5 to 8 pounds. Loose front spring bolts may cause shimmy. Imperfect wheel balance may cause tramp. Examine all front end - bolts and connections for general tightness. Determine that brakes are not dragging before trying to adjust wheel bearings.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel nuts. Remove wheels. Disconnect shock absorbers. Disconnect brake pull rods. Disconnect tie rod from steering arms. Remove drag link ball nut. Disconnect drag link (front end). Disconnect shock absorbers. Remove spring clips. Lower front axle assembly. Remove cotter pins from bolt nuts holding dust shields to spindles. Remove nuts. Remove, bolts. Remove dust shields and brake shoes. Remove spindle plugs. Remove spindle plug gaskets. Remove spindle pivot pin locks. Remove spindle pivot pins. Remove spindle pivot bearings. Remove spindles. Remove axle center. **REPLACE** axle center. Replace spindles. Replace pivot pin bearings. Replace spindle pivot pins. Replace spindle plug gaskets. Replace spindle plugs. Replace dust. shields and brake shoes. Replace bolts holding dust shields to spindles. Replace nuts. Replace cotter-pins. Raise axle assembly. Replace spring clips. Connect shock absorbers. Connect drag link front end. Replace drag link ball nut, Connect tie rod to steering arms. Connect brake pull rods. Replace wheels. Replace wheel nuts. Replace wheel nut cotter pins. Replace hub caps. Lower car. Adjust brakes. Align wheels. Check axle caster.

Remarks:

Install Axle Assembly (Includes Adjust Brakes & Align Wheels)

HUDSON GREAT EIGHT

Install Axle Assembly (Includes Adjust Brakes & Align Wheels)

HUDSON GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure -
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-162 Axle stands
HE-272 Hub cap wrench.
HE-70 Bearing puller
HE-255 Wheel aligner
HE-271 Tie rod ball puller
HE-278 Brake adjusting tool
HE-270 Caster gauge
HE- 316 Spring clip wrench

Suggestions: Determine that brakes are not dragging before trying to adjust wheel bearings. Loose front spring bolts may cause shimmy. Imperfect wheel balance may cause tramp. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub cap. Remove wheel nut cotter pin. Remove wheel nut. Remove wheel. Disconnect brake pull rod. Remove cotter-pins from bolts holding dust shield to spindle. Remove nuts. Remove bolts. Remove dust shields and brake shoes from spindle. Remove spindle plugs. Remove spindle plug gaskets. Remove spindle pivot pin lock. Remove spindle pivot pin. Remove spindle bearing. **REPLACE** spindle bearing. Replace spindle pivot pin. Replace spindle pin lock. Replace - spindle pivot pin plug gaskets. Replace spindle pivot pin plugs. Replace dust shield and brake shoes on spindle. Replace bolts holding dust shield to spindle. Replace nuts. Replace cotter pins. Connect brake pull rod. Replace wheel. Replace wheel nut. Replace wheel nut cotter Pin: Replace hub cap. Lower front end of car.

Remarks:

INSTALL BEARING (SPINDLE PIVOT PIN)

HUDSON
GREAT EIGHT

INSTALL BEARING (SPINDLE PIVOT PIN)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure -
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-162 Axle stands
HE-272 Hub cap wrench

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure from 5 to 8 pounds. Loose front spring bolts may cause shimmy. Imperfect wheel balance may cause tramp. Examine all front end bolts and connections for general tightness. Wheels should run true.

PROCEDURE OF OPERATION

Remove drag link oilers. Remove drag link boots. Remove cotter pins holding drag link plugs,. front arid rear. :Remove drag link. plugs. Remove ball seats and springs. Remove drag link. **REPLACE** drag link. Replace drag link ball springs and seats. Replace drag link plugs and cotter pins. Replace boots. Replace oilers.

Remarks:

INSTALL DRAG LINK

HUDSON
GREAT EIGHT

INSTALL DRAG LINK

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure—
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-143 Screwdriver

Suggestions: Grease ball seats with cup grease before replacing boots. Examine for worn steering arm balls and seats; and for broken ball seat springs. Examine all front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub cap. Remove wheel nut cotter pin. Remove wheel nut. Remove wheel. Remove steering arm nuts. Remove steering arm. Disconnect brake pull rod. Remove cotter pins from bolt nuts holding dust shield to spindle. Remove huts, remove bolts. Remove dust shield and brake shoes. Remove spindle plugs. Remove spindle plug gaskets. Remove spindle pivot pin lock. Remove spindle pivot pin. Remove spindle pivot pin bearing. Remove spindle assembly. **REPLACE** spindle assembly. Replace spindle pivot pin bearing. Replace spindle pivot pin. Replace spindle pivot pin lock. Replace spindle plug gaskets. Replace spindle plugs. Replace dust shield and brake shoes. Replace bolts holding dust shield to spindle. Replace nuts. Replace cotter pin. Connect brake pull rod. Replace steering arm and nuts. Replace wheel. Replace wheel nut. Replace wheel nut cotter pin. Replace hub cap. Lower front end of car. Check wheel alignment.

INSTALL SPINDLE ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL SPINDLE ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure—
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-161 Axle stands
H-272 Hub cap wrench
HE-70 Bearing puller
HE-225 Wheel aligner

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure from 5 to 8 pounds. Loose front spring bolts may cause shimmy. Imperfect wheel balance may cause tramp. Examine all front end bolts and connections for general tightness. Wheels should run true.

PROCEDURE OF OPERATION

Raise front end of car. Remove wheel nut cotter pin. Remove wheel nut. Remove wheel. Disconnect brake pull rod. Remove cotter pins from bolt nuts holding dust shield to spindle. Remove nuts. Remove bolts, Remove dust shield and brake shoes Remove spindle plugs. Remove spindle plug gaskets. Remove spindle pivot pin lock. Remove spindle pivot pin and bearing. **REPLACE** spindle pivot pin and bearing. Replace spindle pivot pin lock. Replace spindle plug gaskets. Replace spindle plugs. Replace brake shoes and dust shield. Replace bolts holding dust shields to spindle. Replace nuts. Replace cotter pins. Connect brake pull rod. Replace wheel. Replace wheel nut. Replace wheel nut cotter pin. Replace hub cap. Lower front end of car. Check front wheel alignment.

Remarks:

INSTALL SPINDLE PIVOT PIN

HUDSON
GREAT EIGHT

INSTALL SPINDLE PIVOT PIN

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°
Tire pressure -
Normal—32 pounds
High speed—40 pounds

SPECIAL TOOLS

HE-161 Axle stands
H-272 Hub cap wrench
HE-225 Wheel aligner

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure from 5 to 8 pounds. Loose front spring bolts may cause shimmy. Imperfect wheel balance may cause tramp. Examine all front end bolts and connections for general tightness. Wheels should run true.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub cap, left wheel. Remove cotter pin and wheel nut. Remove wheel. Remove cotter pins and nuts, steering arm to dust shield. Remove cotter pin and nut, drag link ball to steering arm. Remove cotter pin and nut, tie rod ball to. steering arm. Remove steering arm. **REPLACE** steering arm. Replace steering arm on dust shield. Replace nuts and cotter pins, steering arm to dust shield. Reconnect drag link ball to steering arm. Replace nut and cotter pin. Reconnect tie rod ball to steering arm. Replace nut and cotter pin. Lower front end of car. Check wheel alignment.

Remarks:

INSTALL STEERING ARM (LEFT)

HUDSON GREAT EIGHT

INSTALL STEERING ARM (LEFT)

HUDSON GREAT EIGHT

ADJUSTMENTS

Toe-in— 0 to 1/8"
Caster—1°
Camber—1°

SPECIAL TOOLS

HE-161 Axle stands
H-272 Hub cap wrench
HE-225 Wheel aligner
HE-271 Tie rod ball puller

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. In case of shimmy, increase tire pressure 5 to 8 pounds. Imperfect wheel balance may cause tramp. Loose front spring bolts may cause shimmy. Examine front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub cap. Remove spindle cotter pin and wheel nut. Remove wheel. Remove cotter pins (steering arm to dust shield nuts). Remove nuts. Remove cotter pin (tie rod ball nut). Remove tie rod ball nut. Remove steering arm. **REPLACE** steering arm. Replace steering arm to dust shield nuts and cotter pins. Connect tie rod ball to steering arm. Replace cotter pin. Replace wheel. Replace wheel nut. Replace cotter pin. Replace hub cap. Lower car.

Remarks:

INSTALL STEERING ARM (RIGHT)

HUDSON
GREAT EIGHT

INSTALL STEERING ARM (RIGHT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Toe-in— 0 to 1/8"
Caster—1°
Camber—1°

SPECIAL TOOLS

HE-161 Axle stands
H-272 Hub cap wrench
HE-225 Wheel aligner
HE-271 Tie rod ball puller

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. A good spindle arm gauge is of great advantage in checking for bent arm. In case of shimmy, increase tire pressure 5 to 8. pounds. Examine front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove cotter pins and nuts, tie rod balls to steering arms, both ends. Remove tie rod assembly. **REPLACE** tie rod assembly. Replace tie rod ball nuts, both ends. Replace tie rod ball nut cotter pins, both ends. Lower front end of car. Check for proper wheel alignment. Align wheels. Be sure tie rod socket clamp nuts are tight.

Remarks:

INSTALL TIE ROD ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL TIE ROD ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Toe-in—0 to 1/8"
Caster—1°
Camber—1°

Note: Right end of tie rod has right hand thread. Left end of tie rod has left hand thread.

SPECIAL TOOLS

HE-225 Wheel aligner
HE-161 Axle stands
HE-271 Tie rod ball puller

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. A good spindle arm gauge is of great advantage in checking for bent arm. In case of shimmy, increase tire pressure 5 to 8 pounds. Examine front end bolts and connections for general tightness. Check shock absorbers for proper action.

PROCEDURE OF OPERATION

Raise front end of. car. Remove tie rod ball to steering arm cotter pins and nuts both ends. Remove, tie rod assembly. Loosen tie rod socket clamp. nuts, both ends. Remove tie rod. **REPLACE** tie rod**.** Do not tighten socket clamps. Reconnect tie rod balls to steering arms. Tighten tie rod ball nuts and replace cotter pins. Lower front end of car. Check wheels for proper alignment. Align wheels. Tighten socket clamp nuts.

Remarks::

INSTALL TIE ROD ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL TIE ROD ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Toe-in—0 to 1/8"
Caster—1°
Camber—1°

Note: The right end of tie rod has right hand thread. The left end of tie rod has left hand thread.

SPECIAL TOOLS

HE-225 Wheel aligner
HE-161 Axle stands
HE-271 Tie rod ball puller

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. In case of shimmy, increase tire pressure 5 to 8 pounds. Imperfect wheel balance may cause tramp. Loose front spring bolts may cause shimmy. Examine front end bolts and connections for general tightness. Check shock absorbers for proper action.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub caps. Remove wheel nuts. Remove wheels. Disconnect brake pull rods. Disconnect tie rod from steering arms. Disconnect drag link front end, Remove nuts and bolts holding dust shields to spindles. Remove dust shields and brake shoes. Remove spindle plugs and gaskets. Remove spindle pivot pin locks. Remove pivot pins. Remove pivot pin bearings. Remove spindle assemblies. Remove spindle bushings. **REPLACE** spindle bushings. Burnish bushings. Replace spindle assemblies. Replace pivot pin bearings. Replace pivot pins. Replace pivot pin locks. Replace spindle plug gaskets and plugs. Replace dust shields and brake shoes. Replace dust shield bolts, nuts, and cotter pins. Connect tie rod. Connect brake pull rods. Replace wheels. Replace wheel nuts and cotter pins. Replace hub caps. Lower front end of car.

Remarks:

INSTALL TIE ROD (ONLY)

HUDSON
GREAT EIGHT

INSTALL TIE ROD (ONLY)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Toe-in—0 to 1/8"'
Caster—1°
Camber—1°

Note: Right end of tie rod has right hand thread. Left end of tie rod has left hand thread.

SPECIAL TOOLS

HE-162 Axle stands
H-272 Hub cap wrench
HE-208 Spindle bushing remover and inserter
HE-290 Spindle bushing burnisher
HE-255 Wheel aligner
HE-271 Tie rod ball puller

Suggestions: Wheels should turn freely, run true, and have no perceptible side movement. In case of shimmy, increase tire pressure 5 to 8 pounds. Imperfect wheel balance may cause tramp. Loose front spring bolts may cause shimmy. Examine front end bolts and connections for general tightness. Check shock absorbers for proper action.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps, both sides. Remove axle shaft cotter pins and nuts. Remove wheels. Remove wheel bearing cap bolts. Remove wheel bearing caps. Remove or insert shims to adjust bearings and equalize axle shafts. **REPLACE** bearing caps. Replace bearing cap bolts and tighten securely. Test end play in axle shaft. If end play **is** not correct, remove bearing Caps and add or remove shims until end play is from .005" to .010" when bearing caps are bolted up securely. **REPLACE** wheels. Replace axle shaft nuts. Replace axle shaft nut cotter pins. Replace hub caps. Lower rear end of car.

Remarks:

ADJUST AXLE SHAFT END PLAY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—. 005 "-.010"
Shafts should turn freely after adjustment.

Note: Removal or addition of shims should be made on both sides in order to preserve axle shaft alignment and prevent interference of brake drums and brackets.

SPECIAL TOOLS

HE-163 Rear axle stand
H-272 Hub cap wrench
H-311 Wheel puller .
HE-113 Axle shaft nut wrench
HE-320 Dial indicator
HE-309 Wheel puller wrench

Suggestions: Insufficient end play causes excessive wear of axle shaft buttons. Dry axle shaft buttons often cause squeaks. A small amount of grease between the buttons will prevent this condition. A squeak may also be caused by axle shaft rubbing against rivet on inside of housing. Tighten wheel nut securely to prevent click when starting.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheels. Remove axle shafts. Disconnect propeller shaft at rear flange. Remove carrier and gear set assembly and mount in carrier stand on bench. Test pinion shaft end play. Remove cotter pin and nut holding companion flange to pinion shaft. Pull flange from pinion shaft. Remove pinion shaft housing from carrier. Remove pinion shaft. Add or remove shims to adjust bearing. **REPLACE** pinion shaft in housing. Replace companion flange. Replace pinion shaft nut and tighten securely. Test pinion shaft end play. If not correct, again disassemble and add or remove shims. Pinion should have no end play when flange nut is tight; and should exert a drag when turned by hand. Replace flange nut cotter pin. Replace pinion shaft housing on carrier, using correct shim thickness so that back face of pinion teeth is flush with outside face of drive gear teeth. Adjust drive gear as follows: Remove bearing adjusting nut locks. Turn adjusting nuts, to right or left (being careful to turn each nut the same amount) until correct mesh of gear and pinion is secured. There should be from .006" to .008" backlash. REPLACE adjusting nut locks and clamp bolts. Replace carrier and gear assembly in axle housing. Connect propeller shaft. Replace axle shafts. Replace bearing caps and shims. Replace wheels. Replace axle shaft nuts and cotter pins. Replace hub caps. Lower car. Lubricate axle.

Remarks:

ADJUST DRIVE GEAR AND PINION (Includes Removing Carrier

HUDSON
GREAT EIGHT

ADJUST DRIVE GEAR AND PINION (Includes Removing Carrier

HUDSON
GREAT EIGHT

ADUSTMENTS

Pinion bearing—Pinion should have no end play and should exert a drag when turned by hand.
Drive gear bearing - Remove all end play in bearing; then tighten each adjusting nut one notch.
Back lash—.006"-.008"
Axle shaft end play—.005"-.010"
Axle oil capacity—4 lbs.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Axle shaft nut wrench
h—311 Wheel puller
HE-275 Rear axle carrier stand
HE-48 Flange puller
HE-2 74 Bearing adjusting nut wrench
HE-292 Pinion carrier puller
HE-309 Wheel puller wrench

Suggestions: Tighten and lock pinion shaft nut securely to maintain bearing adjustment. Tighten axle shaft nuts securely to prevent wheel click when starting. It is advisable to road test car after repairs are completed.

PROCEDURE OF OPERATION

Disconnect propeller shaft at rear universal joint flange. Remove nuts holding pinion shaft housing to carrier. Remove pinion shaft housing assembly. Remove cotter pin and nut holding flange to pinion shaft. Pull flange off pinion shaft. Remove pinion shaft, adjusting sleeve and shims from housing. Add or remove shims to adjust bearing, and reassemble in housing. **REPLACE** universal joint flange. Replace shaft nut and tighten securely. Test bearing adjustment. Pinion should have no end play and should exert a slight drag when turned by hand. Replace flange nut cotter pin. Replace pinion housing assembly on carrier, adding or removing shims for proper pinion adjustment. Replace nuts holding housing to carrier. Connect propeller shaft, being sure that flange nuts are tight and properly locked.

Remarks:

ADJUST DRIVE PINION (ONLY) END PLAY AND MESH

HUDSON
GREAT EIGHT

ADJUST DRIVE PINION (ONLY) END PLAY AND MESH

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pinion bearing adjustment—Pinion should have no end play and, should exert a slight drag when turned by hand.
Back lash—.006" to .008"

SPECIAL TOOLS

HE-48 Flange puller
HE-292 Pinion carrier puller
HE-276 Oil seal puller

Suggestions: It is usually advisable to road test after adjusting pinion. A final adjustment often eliminates slight noises on pull or coast. Tighten pinion shaft nut securely in order to maintain bearing adjustment.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove axle shaft nuts. Remove wheels, Remove wheel bearing caps and shims. Remove axle shafts. Disconnect brake pull rods. Disconnect shock absorbers. Disconnect propeller shaft at rear flange. Remove rear spring clips. Remove rear spring rear shackle bolts. Remove axle housing from under car. Remove axle housing cover. Remove differential carrier and gear set assembly. Remove brake shoes and springs. Remove operating shafts and levers. **REPLACE** brake operating shafts and levers. Replace brake shoes and springs. Replace differential carrier and gear set assembly. Replace axle housing under car. Raise rear springs and replace shackle bolts. Replace rear spring clips. Replace shock absorbers. Connect brake pull rods. Replace axle shafts. Replace wheel bearing caps and shims. Replace bearing cap bolts and tighten securely. Test end play in axle shafts. Replace wheels. Replace axle shaft nuts. Replace axle shaft nut cotter pins. Replace rear housing cover. Adjust brakes. Lower rear end of car. Lubricate axle.

Remarks:

INSTALL REAR AXLE HOUSING

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GREAT EIGHT

INSTALL REAR AXLE HOUSING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"

Note: Rear wheel bearing cap shims should be divided on each side so as to prevent interference of brake drums and brackets.

Note: Tighten axle shaft nuts securely to avoid wheel clicks when starting.

Axle oil capacity—4 lbs.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Axle shaft nut wrench
h—311 Wheel puller
HE-320 Dial indicator
HE-309 Wheel puller wrench
HE-316 Spring clip wrench

Suggestions: Fill each compartment of rear axle wheel bearing with 10 ounces of wheel bearing grease. A bent axle shaft will have about the same effect as an eccentric drum. Dry axle shaft buttons often cause squeaks, and a small amount of grease between the buttons will prevent this condition.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub cap. Remove axle shaft nut cotter pin. Remove axle nut. Remove wheel. Remove wheel bearing cap bolts. Remove bearing cap and shims. Remove axle shaft and bearing assembly. Remove bearing from axle shaft. **REPLACE** bearing on shaft. Grease bearing. Replace axle shaft and bearing assembly: Replace bearing shaft and shims. Replace bearing cap bolts and tighten securely. Test axle shaft end, play. Replace wheel. Replace axle shaft nut. Replace axle shaft nut cotter pin. Replace hub cap. Lower rear end of car.

Remarks:

INSTALL AXLE SHAFT

HUDSON
GREAT EIGHT

INSTALL AXLE SHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"

Note: Tighten axle shaft nut securely to avoid wheel click when starting,

SPECIAL TOOLS

HE-163 Rear axle stand
H-272 Hub cap wrench
HE-113 Axle shaft nut wrench
h—311 Wheel puller
HE-70 Bearing cone and roll puller
No. 59 Clamp
HE-320 Dial indicator
HE-309 Wheel puller wrench

Suggestions: A bent axle shaft will have about the same effect as an eccentric drum. Dry axle shaft buttons often Cause squeaks, and a small - amount of grease between the buttons will prevent this condition. Be sure that axle shaft does not rub against rivet in axle housing.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps, both wheels. Remove axle shaft nut cotter: pins. Remove axle shaft nuts. Remove wheel. Remove wheel bearing cap bolts. Remove wheel bearing caps and shims. Remove axle shafts and bearing assemblies. Remove bearing from one shaft. **REPLACE** bearing on shaft. Replace axle shafts and bearings assemblies. Replace wheel bearing caps and "shims. Replace wheel bearing cap bolts, and' tighten securely. Test axle shaft end play. Replace wheels. Replace axle shaft nuts. Replace axle shaft nut cotter pins. Replace hub caps. Lower rear end of car.

Remarks:

Install Axle Shaft (When Necessary to Remove Both Shafts) HUDSON GREAT EIGHT

Install Axle Shaft (When Necessary to Remove Both Shafts) HUDSON GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"

Note: Rear wheel bearing cap shims should be equally divided on each side so as to prevent interference of brake drums and brackets.

Note: Tighten axle shaft nut securely to avoid wheel click when starting.

SPECIAL TOOLS

HE-163 Rear axle stand
H-272 Hub cap wrench
HE-113 Axle shaft nut wrench
h—311 Wheel puller
HE- 70 Bearing cone and roll puller
No. 59. clamp
HE-320 Dial indicator
HE-309 Wheel puller wrench

Suggestions: A bent axle shaft will have about the same effect as an eccentric drum. Dry axle shaft buttons often cause squeaks, and a small amount of grease between the buttons will prevent this condition. Be sure that axle shaft does not rub against rivet in axle housing.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove axle shaft nut cotter pins. Remove axle shaft nuts. Remove wheels. Remove wheel bearing cap bolts. Remove wheel bearing caps and shims. Remove axle shafts. Disconnect propeller shaft at rear flange. Remove bolts holding differential carrier to housing. Remove differential carrier., and gear set assembly. Remove carrier clamp bolts. Remove differential bearing adjusting nut locks. Remove bearing adjusting nuts. Remove differential case and drive gear assembly. Remove differential bearings. **REPLACE** differential bearings. Replace differential and drive gear assembly. Replace bearing adjusting nuts. Adjust drive gear. Replace bearing adjusting nut locks. Replace carrier clamp bolts, nuts and cotter pins. Replace differential carrier and gear set assembly. Connect propeller shaft. Replace axle shafts. Replace wheel bearing caps and shims. Replace wheel bearing cap bolts. Replace wheels. Replace axle shaft nuts. Replace axle shaft nut cotter pins. Replace hub caps. Lower rear end of car. Lubricate axle.

Remarks:

INSTALL DIFFERENTIAL BEARINGS

HUDSON
GREAT EIGHT

INSTALL DIFFERENTIAL BEARINGS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005 ":010"
Back lash—.006".008"'
Drive gear bearing adjustment—Remove all end play in bearing; then tighten each adjusting nut one notch.

Note: Tighten: axle shaft nuts securely to avoid wheel click when: starting.

Note: Adjust pinion, so that back face of pinion teeth. is flush with outside face Of drive gear.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Axle nut wrench
. h—311 Wheel puller
HE-274 Differential bearing adjusting wrench
HE-70 Bearing cone. and roll puller
No. 59 Clamp
No. 36 Plug
HE-275 Differential carrier stand
HE-309 Wheel puller wrench

Suggestions: It is usually advisable to road test after adjusting gears. A final adjustment of the pinion or gear often eliminates slight noise on pull or coast.

Note that drive gear bearing adjustment is somewhat tighter than recommended on previous models.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel nuts. Remove wheels. Remove wheel bearing caps and shims. Remove axle shafts. Disconnect propeller shaft at rear flange. Remove differential carrier and, gear set assembly. Loosen carrier clamp bolts. Remove. bearing adjusting nuts. Remove. differential and drive gear assembly. Remove differential bearings. Remove drive gear. Remove bolts holding two halves of differential case together. Remove differential gears from case. **REPLACE** differential gears in case. Replace differential case bolts. Replace drive gear. Replace bearing adjusting nuts. Replace differential and drive gear assembly. Adjust drive gear. Replace adjusting nut locks. Replace differential carrier and gear set assembly in axle housing. Connect propeller. shaft. Replace axle shafts. Replace wheel bearing caps and shims. Replace wheels. Replace wheel nuts. Replace wheel nut cotter pin. Replace hub cap. Lower rear end of car. Lubricate axle.

Remarks

INSTALL DIFFERENTIAL CASE

HUDSON
GREAT EIGHT

INSTALL DIFFERENTIAL CASE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"
Back lash—.006"-.008"
Drive gear bearing adjustment—Remove all end play in bearing; then tighten each adjusting nut one notch.
Axle oil capacity—4 lbs.

Note: Adjust pinion so that back face of pinion teeth is flush with face of drive gear teeth.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Axle nut wrench
h—311 Wheel puller Differential bearing adjusting wrench
HE-70 Differential bearing puller
No. 59 Clamp
No. 36 Plug
HE-275 Differential carrier stand
HE-309 Wheel puller wrench

Suggestions: it is usually advisable to road test after adjusting gears. A final adjustment of the pinion or gear often eliminates slight noise on pull or coast. Tighten axle shaft nuts securely to avoid wheel click when starting.

Note that drive gear bearing adjustment is somewhat tighter than recommended on previous models.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel. nuts. Remove wheels. Remove bolts from' wheel bearing caps. Remove wheel bearing caps and shims. Remove axle shafts. Disconnect propeller shaft at rear flange. Remove bolts holding differential carrier to housing. Remove differential carrier and gear set. **REPLACE** differential carrier and gear set. Connect propeller shaft at rear flange. Replace rear axle shafts. Replace wheel bearing caps and shims. Equalize shafts by placing same amount of shims on each side. Replace bolts in wheel bearing caps. Replace rear wheels. Replace rear wheel nuts. Replace rear wheel nut cotter-pins. Replace hub caps. Lower rear end of car. Lubricate axle.

Remarks:

DIFFERENTIAL CARRIER AND GEAR SET HUDSON GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"
Back lash—:006"-.008"

Note: Tighten axle. shaft nuts securely to avoid wheel click in starting.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
h—311 Wheel puller .
HE-113 Axle nut wrench
HE-274 Differential adjusting nut wrench
HE-309 Wheel puller wrench

Suggestions: Use new differential carrier gasket. Usually it is advisable to road test after adjusting gears. A final adjustment of the pinion or gear often eliminates slight noise on the pull or. coast. Dry axle shaft buttons . often cause squeaks, a small amount of grease between the buttons will prevent this condition.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel nuts. Remove wheels. Remove wheel bearing caps and shims. Remove - aide shafts. Disconnect propeller shaft at rear. flange. Remove differential carrier and gear set assembly. Remove' carrier clamp bolts, Remove bearing adjusting nuts. Remove differential and drive gear assembly. Remove bolts holding two halves of differential case together. Remove differential gears from differential Case. **REPLACE** differential gears in differential case. Replace bolts holding two halves of differential case together. Replace differential and drive gear assembly. Replace bearing adjusting nuts. Adjust drive gear. Replace adjusting nut locks. Replace clamp bolts, nuts and cotter pins. Replace differential carrier and gear set assembly. Connect propeller shaft at rear flange. Replace axle shafts. Replace wheel bearing caps and shims. Replace wheels. Replace wheel nuts. Replace wheel nut cotter pins. Replace hub caps. Lower rear end of car. Lubricate axle.

Remarks:

INSTALL DIFFERENTIAL CASE GEARS

HUDSON
GREAT EIGHT

INSTALL DIFFERENTIAL CASE GEARS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"
Back lash—.006"-.008"
Drive gear bearing adjustment—Remove all end play in bearing; then tighten each adjusting nut one notch.
Axle oil capacity—4 lbs.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Axle nut wrench
h—311 Wheel puller
HE-274 Differential bearing adjusting wrench
HE-275 Differential carrier stand.
HE-309 Wheel puller wrench

Suggestions: Usually it is advisable to road test after adjusting gears. A final adjustment of the pinion or gear often eliminates slight noise on pull or coast.

Note that drive gear bearing adjustment is somewhat tighter than recommended on previous models.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheel nut cotter pins. Remove wheel nuts. Remove wheels. Remove wheel bearing caps and shims. Remove - aide shafts. Disconnect propeller shaft at rear. flange. Remove differential carrier and gear set assembly. Remove carrier clamp bolts, Remove bearing adjusting nuts. Remove differential and drive gear assembly. Remove bolts holding two halves of differential case together. Remove differential gears from differential Case. **REPLACE** differential gears in differential case. Replace bolts holding two halves of differential case together. Replace differential and drive gear assembly. Replace bearing adjusting nuts. Adjust drive gear. Replace adjusting nut locks. Replace clamp bolts, nuts and cotter pins. Replace differential carrier and gear set assembly. Connect propeller shaft at rear flange. Replace axle shafts. Replace wheel bearing caps and shims. Replace wheels. Replace wheel nuts. Replace wheel nut cotter pins, Replace hub caps. Lower rear end of car. Lubricate axle.

Remarks:

INSTALL DRIVE GEAR

HUDSON
GREAT EIGHT

INSTALL DRIVE GEAR

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010".
Back lash—.006."-.008"
Maximum run—out of drive gear-.005"
Note: Adjust pinion so that back face of pinion teeth is flush with outside face of drive gear teeth.
Drive gear bearing adjustment—Remove all end play in bearing; then tighten each adjusting nut one notch.
Axle oil capacity—4 lbs.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-113 Aide nut wrench
HE-311 Wheel puller
HE-274 Differential bearing adjustment wrench
HE-275 Differential carrier stand
HE-309 Wheel puller wrench .

Suggestions: Usually it is advisable to road test after adjusting gears. A final adjustment of the pinion or gear often eliminates slight noise on pull or coast.

Note that drive gear bearing adjustment is somewhat tighter than recommended on previous models.

PROCEDURE OF OPERATION

Disconnect propeller shaft at rear universal joint. Remove nut holding companion flange to pinion shaft. Remove four nuts holding pinion housing to differential. carrier. Using special tool No. HE-292 remove pinion housing assembly. Remove companion:, flange from pinion shaft. Remove drive pinion. Remove pinion shaft oil seal. Remove pinion bearings. **REPLACE** pinion bearings, bearing spacer, and spacer shims. Replace pinion shaft. Replace oil seal. Replace companion flange. Replace flange nut aril: tighten securely. Test pinion shaft end play. If bearing adjustment is not correct, again disassemble and or remove shims to secure proper bearing adjustment; tightening securely before testing. Replace flange nut cotter pin. Replace pinion housing on carrier, using shims to secure correct pinion adjustment. Replace nuts holding housing to carrier. Connect propeller shaft, being sure that flange nuts are tight and properly locked.

Remarks:

INSTALL DRIVE PINION BEARINGS

HUDSON
GREAT EIGHT

INSTALL DRIVE PINION BEARINGS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pinion bearing adjustment—Pinion should have end play,and should exert a slight drag when turned by hand.
Back lash—.006"-.008".

SPECIAL TOOLS

HE- 48 Flange Puller
HE-292 Pinion, carrier puller
HE-276 Oil seal puller
HE-275 Pinion carrier stand
HE-293 Bearing remover and inserter

Suggestions: Tighten pinion shaft nut securely in order to maintain bearing adjustment. A road test is advisable after completing :repairs. A final adjustment often eliminates slight gear noise on pull or coast.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub caps. Remove wheel nuts. Remove wheels. Remove wheel bearing caps and shims. Remove axle shafts. Disconnect propeller shaft. Remove differential carrier and gear set. Loosen carrier clamp bolts both sides. Remove adjusting nuts. Remove differential case and drive gear. Straighten lugs on nuts holding drive gear. to differential. Remove nuts. Remove drive gear. **REPLACE** drive gear. Replace nuts and locks. Replace differential case and drive gear on carrier. Remove pinion shaft housing assembly from carrier. Remove cotter pin and nut holding universal joint flange to pinion shaft. Pull flange from pinion shaft. Remove pinion shaft from housing. Remove bearing from shaft. Replace bearing on new shaft and reassemble in housing. Replace flange. Replace pinion shaft nut and tighten securely. Test pinion shaft end play. If not correct, disassemble and add or remove shims to obtain correct bearing adjustment. Replace housing assembly on carrier using correct shim thickness to obtain proper pinion adjustment. Adjust drive gear for mesh. Replace carrier assembly on axle housing. Connect propeller shaft. Replace axle shafts. Replace bearing caps. Replace wheels. Replace axle nuts and cotter pins. Replace hub caps. Lower car. Lubricate axle.

Remarks:

INSTALL DRIVE GEAR AND PINION

HUDSON
GREAT EIGHT

INSTALL DRIVE GEAR AND PINION

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—.005"-.010"
Back lash—.006"-.008"
Maximum run out of drive gear—.005"
Drive gear bearing adjustment—Remove all end play from bearing; then tighten each adjusting nut one notch.
Pinion bearing adjustment—Pinion should have no end play; and should exert a slight drag when turned by hand.

Note: Tighten axle shafts securely to avoid wheel click when starting.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hub cap wrench
HE-311 Wheel puller
HE-113 Axle nut wrench
HE-274 Differential adjusting wrench
HE-275 Differential carrier stand
HE-309 Wheel puller wrench

Suggestions: Usually it is advisable to road test after adjusting gears. A final adjustment often eliminates slight noises on the pull or coast. Dry axle buttons often cause squeaks. A small amount of grease between the buttons prevent this condition. Note that drive gear bearing adjustment is somewhat tighter than recommended on previous models.

PROCEDURE OF OPERATION

Raise rear end of car. Remove hub cap. Remove axle nut cotter pin. Remove axle shaft nut. Remove wheel. Remove wheel bearing cap bolts. Remove wheel bearing cap and shims. Remove axle shaft. Remove axle housing felt retainer. Remove felt washers from retainer. **REPLACE** axle housing felt washers. Replace axle housing felt retainer. Replace axle shaft. Remove dust washer from wheel bearing cap. Replace dust washer. Replace bearing cap and shims. Replace bearing cap bolts. Replace wheel. Replace axle shaft nut. Replace axle nut cotter pin. Replace hub cap. Lower rear end of car.

Remarks:

INSTALL FELT WASHERS (Rear Wheel Grease Retainer)

HUDSON
GREAT EIGHT

INSTALL FELT WASHERS (Rear Wheel Grease Retainer)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play-.005"-.010"

Note: Rear wheel bearing cap shims should be divided equally on each side to prevent interference of brake drums and brackets.

Note: Tighten axle shaft nut securely to prevent wheel click when starting.

SPECIAL TOOLS

HE-163 Rear axle stands
H-272 Hup cap wrench
HE-113 Axle nut wrench
HE-311 Wheel puller
HE-277 Grease retainer puller
HE-309 Wheel puller wrench

Suggestions: Soak felt washers in oil before installing. A small amount of grease between the axle shaft buttons will prevent squeaks at this point. Clean grease from brake shoes and drums.

PROCEDURE OF OPERATION

Disconnect propeller shaft at rear universal joint. Remove cotter pip and nut holding universal joint companion flange to pinion shaft. Pull flange from shaft. Using special tool No. HE-276 remover oil seal assembly from pinion housing. **REPLACE** oil seal assembly. Replace companion flange. Replace pinion shaft nut and tighten securely. Replace pinion shaft nut cotter pin. Connect propeller shaft, being sure that nuts are tight and properly locked.

Remarks:

INSTALL PINION SHAFT OIL SEAL

HUDSON
GREAT EIGHT

INSTALL PINION SHAFT OIL SEAL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pinion bearing—Pinion should have no end play and should exert a slight drag when turned by hand.

SPECIAL TOOLS

HE- 48 Flange puller
HE-276 Oil seal puller

Suggestions: Soak pinion housing oil seal thoroughly in motor oil before assembly. When oil seal is removed make sure that oil return hole is not obstructed.

BODY

BODY

SPECIAL BODY OPERATIONS

PROCEDURE OF OPERATION

Remove screws which hold rear window finish moulding in place. Remove moulding. Remove trim panel directly above window. Loosen edge of trim on each side of window. Remove 2 screws which hold trim stick above curtain. Remove curtain and bracket assembly. Remove curtain. **REPLACE** curtain. Replace curtain and bracket assembly. Replace screws holding trim stick. Tack edge of trim on window frame. Replace trim above window. Replace window finish moulding. Tack down curtain guide ropes.

Remarks:

INSTALL CURTAIN (Rear Window) HUDSON GREAT EIGHT

INSTALL CURTAIN (Rear Window) HUDSON GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions:

PROCEDURE OF OPERATION

Turn dome lamp door to the left or counter clockwise and remove. Remove three screws which secure dome lamp to top. Lower dome lamp and disconnect: wires. Remove dome lamp. **REPLACE** dome lamp. Connect wires and test light. Replace dome lamp screws. Replace dome lamp door, turning it to the right to lock in place.

Remarks:

INSTALL DOME LAMP ASSEMBLY

HUDSON GREAT EIGHT

INSTALL DOME LAMP ASSEMBLY

HUDSON GREAT EIGHT

ADJUSTMENTS

Dome lamp bulb: Mazda No. 63, 3 candle power, 6—8 volts single contact.

SPECIAL TOOLS

Suggestions:

PROCEDURE OF OPERATION

Remove 2 lower screws in hinge pillar trim retainer. Remove 2 screws in cowl quarter kick panel. Pull out rear. end of kick panel and remove 2 screws which hold front end of check strap. Remove door hinge to pillar screws. Remove door and hinge assembly. Remove. hinge to door screws. Remove door. **REPLACE** door. Replace hinge on door, and tighten screws securely. Replace door and hinge assembly. Replace hinge to pillar screws and tighten securely. Replace screws holding check strap to body. Replace kick. panel screws. Replace hinge pillar trim retainer screws. Adjust striker plate.

Remarks:

INSTALL DOOR ASSEMBLY (Front)

HUDSON
GREAT EIGHT

INSTALL DOOR ASSEMBLY (Front)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Door should fit contour of body and should have about 1/4" clearance between top of door and drip moulding.

SPECIAL TOOLS

Suggestions: Examine dovetail and striker plate and replace if worn. Skeleton doors are equipped with lock assembly and regulator, but have no glass nor trim. Adjust striker plate; and check door lock and window regulator.

PROCEDURE OF OPERATION

Remove 2 lower screws in hinge pillar trim retainer. Remove 2 screws in cowl quarter kick panel. Pull out rear end of kick panel and remove 2 screws which hold check strap to body. Remove screws in bottom of door window finish moulding. Remove 3 screws on top of door and 2 screws in trim panel above window. Remove window finish moulding and header strip assembly. Remove door inside handle and regulator handle. Remove door trim panel. Remove check strap. **REPLACE** check strap. Replace trim panel. Replace handles. Replace window finish moulding and header strip assembly. Replace screws. Replace check strap to body screws. Replace kick pad. Replace hinge pillar trim retainer.

Remarks:

INSTALL DOOR CHECK STRAP (Front)

HUDSON
GREAT EIGHT

INSTALL DOOR CHECK STRAP (Front)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Adjust door bumpers, striker plate and dovetail glass and trim.

PROCEDURE OF OPERATION

Remove 4 screws in bottom of door window finish moulding. Remove 3 screws on top of door. Remove 2 screws in trim strip above window. Remove window finish moulding and weather-strip assembly. Raise window to the top of its travel. Guide regulator roller through groove in lower channel and remove glass and channel assembly. Remove lower channel from glass. **REPLACE** glass. Replace glass and channel assembly. Replace finish moulding and weather-strip assembly. Replace screws in weather-strip and window moulding. Test to see that regulator operates properly.

Remarks:

INSTALL GLASS (Door Window)

HUDSON
GREAT EIGHT

INSTALL GLASS (Door Window)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Glass should slide easily in its channels, but should not be loose enough to cause rattle.

SPECIAL TOOLS

Suggestions : Clean glass and door trim before completing job. For glass specifications see factory Reference Sheet No. 19 for January, 1930.

PROCEDURE OF OPERATION

Remove rear seat cushion and seat back. Remove screws in quarter window finish moulding. Remove finish moulding. Remove lower quarter trim panel assembly. Loosen trim at top and sides of window. Remove screws holding window frame to body. Remove window glass, regulator and frame assembly. Remove glass and lower channel assembly. Remove glass from channel. **REPLACE** glass. Replace glass and channel assembly in frame. Replace frame and bolt to body. Replace trim. Replace window finish moulding. Replace regulator handle. Replace rear seat back and cushion.

Remarks:

INSTALL GLASS (Quarter Window) COACH **HUDSON GREAT EIGHT**

INSTALL GLASS (Quarter Window) COACH **HUDSON GREAT EIGHT**

ADJUSTMENTS

Dimensions of glass:.
Height—13-11/16"
Width—28-13/32"
Thickness—5/32" to 9/32"

SPECIAL TOOLS

Suggestions: Lubricate regulator mechanism. Glass should raise and lower easily, but should fit channels tightly enough to prevent rattles.

PROCEDURE OF OPERATION

Remove screws which secure windshield regulator to cowl. Remove windshield cleaner arm. Raise windshield and remove by sliding from hinge. Remove two screws in each lower corner clip of windshield. Remove windshield lower frame and weather-strip. Remove glass. **REPLACE** glass. Replace weather-strip. Replace lower frame. Replace corner clip screws. Replace windshield. Replace windshield cleaner arm. Connect windshield regulator,

Remarks

INSTALL GLASS (Windshield)

HUDSON
GREAT EIGHT

INSTALL GLASS (Windshield)

HUDSON
GREAT EIGHT

ADJUSTMENTS

In replacing windshield, center frame so that weather-strip hits body squarely on both sides.

Adjust rubber bumpers to compress 1/32" when windshield is closed

SPECIAL TOOLS

Suggestions: Examine weather-strip to see that it closes tightly against body. For glass specifications, see factory reference sheet No. 19 for January, 1930.

PROCEDURE OF OPERATION

Disconnect ammeter feed wire at starter switch. Disconnect speedometer cable at speedometer. Remove dash light sockets. Disconnect wires from ammeter. Remove 2 screws holding engine temperature indicator to frame. Remove temperature indicator. Disconnect oil pressure gauge pipe. Disconnect carburetor choker control. Remove 4 screws which hold instrument frame. to cowl panel. Remove instrument frame and instrument assembly. Remove instruments from frame. Remove instrument frame. **REPLACE** instrument frame. Replace instruments on frame. Replace frame on cowl and tighten screws securely. Connect carburetor choke control. Connect oil pressure gauge pipe. Replace temperature indicator. Replace dash lights. Connect speedometer cable. Connect ammeter wires. Connect feed wire at starter switch.

Remarks:

INSTALL INSTRUMENT FRAME

HUDSON
GREAT EIGHT

INSTALL INSTRUMENT FRAME

HUDSON
GREAT EIGHT

ADJUSTMENTS

Normal generator charge rate:
Maximum 10-1/2—11-1/2 amperes; hot.
Maximum 14-16 amperes; cold.
Normal oil pressure gauge reading: 3 pounds.
Dashlight bulbs: Mazda No. 63, 3 candle power, 6-8 volts, single contact.

SPECIAL TOOLS

Suggestions: After installation is complete, test all instruments to determine that they operate properly.

PROCEDURE OF OPERATION

Remove 4 screws in bottom of door window finish moulding. Remove 3 screws on top of door. Remove 2 screws in weather strip above window. Remove window finish moulding and weather strip assembly. Remove door inside handle and regulator handle. Remove door trim panel. Remove door outside handle. Remove 5 screws which hold door trim retainer. Remove retainer. Remove 3 screws and nuts holding lock remote control assembly,. and remove assembly. Remove 4 door lock to frame screws. Remove door lock. **REPLACE** door lock. Replace lock to frame screws. Replace remote control. Replace screws and nuts. Replace door trim retainer and screws. Replace door trim panel. Replace tension springs on regulator handle and remote control handle, Replace handles. Replace window finish moulding and weather-strip assembly. Replace screws. Adjust striker plate. Test lock.

Remarks:

INSTALL DOOR LOCK ASSEMBLY **HUDSON GREAT EIGHT**

INSTALL DOOR LOCK ASSEMBLY **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Lubricate lock and regulator mechanism with a few drops of light oil. Inside handles may be removed by pushing escutcheon plate in against trim panel and removing pin in handle. See that dovetail, striker plate and door bumpers are properly adjusted.

PROCEDURE OF OPERATION

Remove 4 screws in bottom of door window finish moulding. Remove 3 screws on top of door and 2 screws in weather-strip above window. Remove window finish moulding and weather-strip :assembly. Remove door inside handle and regulator handle. Remove door trim panel. Raise glass and free regulator arm roller from lower channel. Remove screws holding regulator to door frame. Remove regulator. **REPLACE** regulator. Replace regulator to frame screws. Raise regulator arm to its highest point and slip roller into window channel. Replace door trim panel. Replace tension springs on regulator handle and remote control handle. Replace handles. Replace window finish moulding and weather-strip assembly. Replace screws. Test regulator.

Remarks:

INSTALL REGULATOR (Door Window)

HUDSON
GREAT EIGHT

INSTALL REGULATOR (Door Window)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Lubricate regulator mechanism with a few drops of engine oil. See that dovetail, striker plate and bumpers are properly adjusted. Clean glass and trim.

PROCEDURE OF OPERATION

Remove top deck roof moulding, taking care not to mar finish on body. Remove tacks in deck. Remove top deck. See that padding is in place. **REPLACE** deck. Tack down at center of rear edge. Tack down at center of front edge, stretching deck with fingers only. Carefully tack edge of deck all around, stretching just enough to remove the wrinkles. Trim deck along outside edge of groove in roof rail. Lay strips of dum dum (No. 1896 Dolphin. Top Sealer) 1/2" in width and about 1/8" thick to cover edge of top deck all around; overlapping strips so that there will be no open spaces. Use new roof moulding and nail down securely, being careful to get a good fit between corners and sides. Trim off excess of dum dum. Carefully seal crack between inside edge of roof moulding and top deck with a good liquid sealing compound, such as No. 1390 Dolphin Drip Moulding Cement.

Remarks:

INSTALL TOP DECK (Coach, Coupe, Std. Sedan)

HUDSON GREAT EIGHT

INSTALL TOP DECK (Coach, Coupe, Std. Sedan)

HUDSON GREAT EIGHT

MATERIAL	SPECIAL TOOLS
Top deck. Roof moulding Roof moulding nails. No. 1896 top sealer. No. 1390 drip moulding cement.	

Suggestions: The sealing operation is very important and should be carefully done. The sealing compounds mentioned are made by Dolphin Paints and Varnish Co., of Toledo, Ohio. The liquid sealer may best be applied by means of a grease gun which will force the sealer out in a small stream.

PROCEDURE OF OPERATION

Remove two screws and nuts holding operating handle to cowl ventilator cover. Remove handle and spring. Remove four cap screws and two tapping plates which hold cowl ventilating cover to hinge. Remove cover. **REPLACE** cover. Replace tapping plates and four cap screws, but do not tighten. Replace roller spring. Replace operating handle. Replace operating handle screws and nuts. Close cover. Center cover and adjust to press evenly on rubber. Tighten cap screws holding cover to hinge.

Remarks:

INSTALL COWL VENTILATOR COVER

HUDSON
GREAT EIGHT

INSTALL COWL VENTILATOR COVER

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cover should be centered and should press firmly and evenly on rubber.

SPECIAL TOOLS

Suggestions: See that drain hose is not damaged nor obstructed. Lubricate spring roller with a drop of oil so that it will slide easily in its guide. See that rubber weather-strip is not damaged; and is securely cemented to cowl.

PROCEDURE OF OPERATION

Remove windshield cleaner arm and rubber. Remove windshield cleaner inside handle. Remove control valve button. Remove rear view mirror. Remove four screws holding windshield header trim panel. Remove trim panel. Remove two screws holding windshield cleaner. Remove windshield cleaner. **REPLACE** windshield cleaner, and bolt to header. Connect suction tube. Replace trim panel. Replace trim panel screws. Replace windshield cleaner handle and control button. Replace rear view mirror. Replace windshield cleaner arm.

Remarks:

INSTALL WINDSHIELD CLEANER

HUDSON
GREAT EIGHT

INSTALL WINDSHIELD CLEANER

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Be sure that rubber is in contact with glass at all points throughout its travel. See that suction tube is not pinched nor obstructed, and that it does not leak. Windshield cleaner is manufactured by Trico Corporation, Buffalo, N. Y.

PROCEDURE OF OPERATION

Remove two screws which secure windshield regulator to cowl. Remove windshield cleaner arm and rubber. Raise windshield and remove by sliding from hinge. **REPLACE** windshield assembly. Replace windshield cleaner arm. Replace windshield regulator screws.

Remarks: If it is desired to remove the hinge, first remove the rear view mirror. Remove windshield cleaner inside handle and control button. Remove windshield header trim panel. Remove screws holding windshield hinge to header.

INSTALL WINDSHIELD ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL WINDSHIELD ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

In replacing windshield, center frame so that weatherstrip hits body squarely on both sides.

Adjust rubber bumpers to compress 1/32" when windshield is closed.

SPECIAL TOOLS

Suggestions: Examine weatherstrip to see that it closes tightly against body. If top corners of rubber buckle when windshield is closed carefully bevel top edge at an angle of about 50°. This allows rubber to more closely fit contour of body.

PROCEDURE OF OPERATION

Leak at this point is caused by rain getting under the edge of the cowl top finish moulding and dripping through the boles in cowl.

REMEDY—Remove the nuts, leather and steel washers. from four studs which hold the finish plate to the cowl. Remove finish plate and inspect the rubber gasket to see that it is not damaged. If the crack between the cowl and windshield panels just to the rear of finish plate appears to be open; carefully plug it with sealing compound or "dum-dum". **REPLACE** cowl finish plate and gasket. Shellac the leather washers on both sides; replace leather washers,. flat washers, lock washers and nuts. Center finish plate on cowl and tighten: nuts securely.

Remarks:

RAIN LEAK AT COWL TOP FINISH MOULDING

HUDSON
GREAT EIGHT

RAIN LEAK AT COWL TOP FINISH MOULDING

HUDSON
GREAT EIGHT

MATERIAL	SPECIAL TOOLS
Shellac. Du-dum: No. 1896 Dolphin top sealer.	

Suggestions: The top sealer is manufactured by Dolphin Paints & Varnish Company, of Toledo, Ohio.

PROCEDURE OF OPERATION

Leak at this point is caused by rain entering the opening above the door hinge upper rubber filler.

REMEDY—Remove screw which holds the door hinge upper filler retainer in place. Remove retainer and rubber filler. Examine rubber to see that it is not damaged; also that it is of the later type which is 2-3/4" in length and has a slotted hole instead of a large round hole. **REPLACE** rubber so that free edge turns back to the rear of hinge. Raise rubber so that top edge is tight against roof rail. Do not run rubber up ahead of roof rail. Replace retainer and screw.

Remarks:

RAIN LEAK AT FRONT DOOR (Top Front Corner)

HUDSON
GREAT EIGHT

RAIN LEAK AT FRONT DOOR (Top Front Corner)

HUDSON
GREAT EIGHT

MATERIAL	SPECIAL TOOLS
BO 86248 Door hinge upper filler. BO 86249 Door hinge upper filler retainer. BO 18465 Retainer screw.	

Suggestions:

PROCEDURE OF OPERATION

Leaks at these points are due to water entering crack along outer edge of roof corner moulding.

Do not remove corner moulding unless it is loose, as this will destroy the seal between moulding and top deck.

If corner moulding is loose, remove it. Lay a flat strip of dum—dum (No. 1896 Dolphin Top Sealer) 1/2" wide, to cover edge of top deck. **REPLACE** corner moulding and nail down securely.

Carefully seal cracks along each edge of moulding with a good liquid sealing compound, such as No. 1390 Dolphin Drip Moulding Cement. This may best be applied with a grease gun which will force the sealer out in a small stream. This operation is very important, and should be carefully done.

Remarks:

LEAKS AT CORNERS OF TOP DECK

HUDSON
GREAT EIGHT

LEAKS AT CORNERS OF TOP DECK

HUDSON
GREAT EIGHT

MATERIAL	SPECIAL TOOLS
No. 1896 Top sealer. No. 1390 Drip Moulding and Cement. Dolphin Paints & Varnish Co., Toledo, Ohio.	

Suggestions:

PROCEDURE OF OPERATION

Water which works past the windshield rubber weather strip collects at each lower corner inside windshield and overflows directly beneath windshield rubber bumper; then runs down door post or drips from lower edge of instrument panel. Examine windshield weather strip to see that it closes tightly. If top corners of rubber buckle when windshield is closed, bevel top edge at an angle of about 50°. This allows rubber to more closely fit contour of body. Remove windshield. Make punch mark at lower corner curve contour of cowl. This will be almost directly below inner edge of rubber bumper and about 3/16" ahead of edge of flange on instrument panel. Remove rubber bumper retainer strip. Using a 1/4" drill which **is** at least 3" long outside of chuck; drill straight through cowl and hinge pillar post with drill pointing slightly back, and down at an angle of 35° to the horizontal. Clean paint from around edge of hole and cowl, and tin with solder. Insert **a** straight piece of 1/4" copper tube 2-1/2" long, so that lower end is inside of pillar post and upper end is about flush with cowl. Carefully solder upper end of tube to cowl. Trim down flush. This provides a drain to lead the water away before it collects and overflows into car.

Remarks:

RAIN LEAK AT WINDSHIELD

HUDSON
GREAT EIGHT

RAIN LEAK AT WINDSHIELD

HUDSON
GREAT EIGHT

MATERIAL

2 pieces 1/4" copper tubing 2-1/2" long.

SPECIAL TOOLS

Suggestions:

BRAKES

PROCEDURE OF OPERATION

Jack up car so all four wheels are off the floor. Have brakes released. Loosen lock—nut on eccentric adjustment. (This adjustment centralizes the. shoes.) Turn eccentric in direction wheel revolves when car is moving forward, until a. very slight brake drag is felt when wheel is turned by hand. Hold eccentric with wrench and tighten locknut slightly. Make this adjustment at each wheel. Remove adjusting screw cover. Tighten adjusting screw until the wheel can just be turned with one hand. Make this adjustment on each wheel and be sure adjustment is alike on all wheels. Turn back adjusting screw until only a slight brake drag remains. Make this adjustment at each wheel. Loosen locknut on eccentric adjustment. Turn eccentric back in opposite direction to which wheel revolves when car is moving ahead, until wheel is just free of brake drag. Tighten locknut securely. Make this adjustment at each wheel. Depress brake pedal 2 inches and hold in this position. Try brake holding effect by turning wheels by hand or brake testing tool. The two front wheels should be alike. If not, loosen adjusting screw on tight wheel until both wheels are the same. Balance the rear wheels in the same manner. **REPLACE** cover plates. Lower car.

Remarks:

ADJUST BRAKES

HUDSON
GREAT EIGHT

ADJUST BRAKES

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be at least 1/4-inch, brakes released

Note: Anchor pins should be adjusted only when fitting new shoes, when anchor pins are found loose, or when other adjustments fail to give satisfactory results.

SPECIAL TOOLS

HE-161 Axle stands
HE-163 Axle stands
HE-264 Lock nut wrench
HE-265 Eccentric cam screw wrench
HE-278 Brake adjusting tools
HE- 21 Anchor bolt wrench

The center of the ball on the front control lever should be 1/4" to 5/16" back of the center of king pin when brake is in the "off" position, and there should be a very slight backlash between ball and lever. There should be a similar backlash in the rear control levers.

Suggestions: Be sure that foot pedal and cross shaft return freely to their stops when in the "off" position. Cross shaft should be firm in its roller bearings. Check spring clips and if loose tighten before adjusting brakes. Brake squeak is usually caused by faulty adjustment. Sensitive brakes may be caused by loose spring clips, loose anchor pins, and loose carrier brackets.

PROCEDURE OF OPERATION

Disconnect cross shaft pull rod. Adjust stop screw at lower part of brake pedal so that there is 1/4-inch or more clearance between pedal and floor board when brakes are fully released. Connect cross shaft to pull rod.

Remarks: Be sure that brake pedal and cross shaft return freely to their stops when in the "off" position.

ADJUST BRAKE PEDAL CLEARANCE

HUDSON
GREAT EIGHT

ADJUST BRAKE PEDAL CLEARANCE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal: clearance between pedal and floor. board should be 1/4-inch or more with brakes released.

SPECIAL TOOLS

Suggestions: Oil and grease on the linings cause the brakes to grab. A similar action may result from the use of excessive saturant. Brake squeak is usually caused by faulty adjustment. Sensitive brakes may be caused by loose U-bolts, loose anchor pins, loose carrier brackets.

PROCEDURE OF OPERATION

Raise car. Remove hub cap. Remove wheel nut cotter pin. Remove axle nut. Remove wheel. Remove nuts and bolts holding brake drum to wheel. Remove brake drum. **REPLACE** brake drum. Replace hub bolts and nuts. Replace wheel. Replace wheel nut and cotter pin. Adjust brakes. Lower car

.

Remarks:

INSTALL BRAKE DRUM

HUDSON
GREAT EIGHT

INSTALL BRAKE DRUM

HUDSON
GREAT EIGHT

ADJUSTMENTS

Brake drum must not run out of round more. than .015"

SPECIAL TOOLS

HE-162 Front axle stands
HE-163 Rear axle stands
H-272 Hub cap wrench
h—311 Wheel puller
HE-113 Axle nut wrench
HE-268 Brake adjusting fixture

Suggestions: Tighten rear wheel nut securely to prevent wheel click when starting. Be sure brake shoes and drum are free from grease.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove clevis pin from bottom of hand brake lever and disconnect hand brake pull rod. Remove cotter pin and spring from hand brake lever pivot. Remove hand brake lever assembly. Hand brake lever assembly can be removed by pulling down through slot in floor board from under car. **REPLACE** hand brake lever assembly. Replace spring, washer and cotter pin in hand brake lever pivot. Replace hand brake pull rod. Replace front compartment mat.

Remarks:

INSTALL LEVER (EMERGENCY HAND)

HUDSON
GREAT EIGHT

INSTALL LEVER (EMERGENCY HAND)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be 1/4-inch or more, brakes released.

SPECIAL TOOLS

Suggestions: Be sure brake lever latch is in proper position on brake ratchet. Teeth on brake ratchet should be in good condition, and ratchet plate must be correctly spaced to line up with pawl.

PROCEDURE OF OPERATION

Remove clevis pin, pull rod to front idler lever. Remove clevis and lock nut from pull rod. Remove pull rod from brake operating lever. Remove oiler. Remove dust cover and washer. Remove operating lever pivot. Remove operating lever. **REPLACE** operating lever. Replace operating lever pivot. Replace dust cover. Replace washer. Replace oiler. Replace pull rod in operating lever. Replace lock nut and clevis on pull rod. Reconnect pull rod in operating lever. Replace lock nut and clevis on pull rod. Reconnect pull rod clevis to idler lever. Check brake adjustment.

Remarks:

INSTALL LEVER (BRAKE OPERATING, ON FRONT AXLE)

HUDSON
GREAT EIGHT

INSTALL LEVER (BRAKE OPERATING, ON FRONT AXLE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be 1/4" or more—brakes released.

Center of ball on control lever should be 1/4" to 5/16" back of center of king pin when brake, is in "off" position. There should be a very slight backlash between the ball and lever.

SPECIAL TOOLS

Suggestions: Oil and grease on the linings cause the brakes to grab. A similar action may result from the use of excessive saturant. Brake squeak is usually caused by faulty adjustment. Inspect front end bolts and connections for general tightness. Keep tires inflated to recommended pressure. In case of "shimmy" increase pressure from 5 to 8 pounds.

PROCEDURE OF OPERATION

Installation can be readily performed from underneath car without disturbing floor mat or boards. Disconnect latch rod at pawl (lever latch). Remove pawl. **REPLACE** pawl. Connect latch rod to pawl. Check alignment of pawl with ratchet plate.

Remarks

INSTALL PAWL (LATCH ROD)

HUDSON
GREAT EIGHT

INSTALL PAWL (LATCH ROD)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be 1/4" or more, brakes released.

SPECIAL TOOLS

Suggestions: Be sure brake lever latch is in proper position on ratchet. Teeth on the brake ratchet should be in good condition, and alignment must be such that pawl will ride squarely on ratchet plate.

PROCEDURE OF OPERATION

Remove front compartment Remove toe and floor board. Remove clevis pin from bottom of brake pedal. Disconnect brake pedal from pull rod. Drive out taper pin from clutch pedal Remove clutch pedal. Remove brake pedal. **REPLACE** brake pedal. Replace clutch pedal. Replace taper pin in clutch pedal. Connect pull rod to brake pedal Replace clevis Pin at bottom of brake pedal. Replace toe and floorboard: Replace front compartment mat.

Remarks::

INSTALL PEDAL (BRAKE)

HUDSON
GREAT EIGHT

INSTALL PEDAL (BRAKE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be 1/4" or more, brakes released.

SPECIAL TOOLS

Suggestions: Be sure that the foot pedal, cross shaft, and other parts of the brake hook—up return freely to their stops when in the "off" or released position. Oil and grease on the linings cause the brakes to grab. A similar action may result from the use of excessive saturant. Brake squeak is usually caused by faulty adjustment.

PROCEDURE OF OPERATION

This installation may be made froth underneath: car without removing floor mat or board. Disconnect pawl (lever latch) from latch rod and hand brake lever. Remove pawl. Remove two bolts holding ratchet sector to frame. Remove sector. **REPLACE** ratchet sector. Replace sector bolts. Replace pawl. Connect latch rod.

Remarks:

INSTALL SECTOR AND PAWL

HUDSON
GREAT EIGHT

INSTALL SECTOR AND PAWL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Pedal clearance between pedal and toe board should be 1/4" or more, brakes released.

SPECIAL TOOLS

Suggestions: Alignment of pawl and ratchet sector must be such that pawl rides squarely on sector and engages teeth firmly.

PROCEDURE OF OPERATION

Raise car. Remove hub cap. Remove wheel nut cotter pins. Remove wheel nut. Remove wheel. Remove springs from brake shoes. Remove cotter pins from brake anchor pins. Remove washers. Remove brake shoes. **REPLACE** brake shoes., Replace washers on brake anchor pins. Replace cotter pins. Replace springs on brake shoes. Replace wheel. Replace wheel nut. Replace wheel nut cotter pin. Replace hub cap. Adjust brakes. Lower car.

Remarks:

INSTALL SHOE (BENDIX) 1-SET

HUDSON
GREAT EIGHT

INSTALL SHOE (BENDIX) 1-SET

HUDSON
GREAT EIGHT

ADJUSTMENTS

Adjustment of anchor pins—Raise car. There should be a slight back lash in the front and rear control levers. Loosen eccentric adjustment lock nut. Turn eccentric adjustment which centralizes the shoes, until a slight drag is felt when the wheel is turned. Tighten lock nut slightly. Loosen anchor nuts free of lock washers. Remove adjusting screw plate and turn screw until the shoes are against the drums so that the wheel can just be turned. This tightness should be the same on all wheels. Tighten anchor nuts securely. Adjust the clearance of the shoes by turning back the screw until only a slight drag remains. Loosen eccentric lock nut and turn eccentric which centralizes the shoes until the wheel is just free of brake drag. Hold eccentric and tighten lock nut securely. Depress brake pedal 2 inches. Turn the two front wheels. They should turn alike. if not, loosen the adjusting screw on the tight wheel until both wheels are the same. Balance the two rear wheels in the same manner. Lower car.

Note: Be sure that cross shaft is tight against cross shaft top. Spring clips should be checked and tightened if found loose, before attempting to adjust brakes. Anchor pins should be adjusted only when fitting new shoes, when anchors pins are. found loose or when other adjustments fail to give results.

SPECIAL TOOLS

HE-268 Brake adjusting fixture
HE-163 Axle stands -
HE-161 Axle stands
HE- 21 Anchor bolt wrench
H-272 Hub cap wrench
HE-113 Axle nut wrench
h—311 Wheel puller
h—206 Adjusting nut wrench
HE-278 Brake adjusting tools

PROCEDURE OF OPERATION

Raise car. Remove hub cap. Remove wheel nut cotter pin. Remove wheel nut. Remove wheel. Remove brake spring. **REPLACE** brake spring. Replace wheel. Replace wheel nut. Replace wheel nut cotter pin. Replace hub cap. Lower car.

Remarks:

INSTALL SPRING (INTERNAL)

HUDSON
GREAT EIGHT

INSTALL SPRING (INTERNAL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Brake pedal clearance between pedal and toe board should be 1/4" or more, brakes released.

SPECIAL TOOLS

HE-163 Axle stand
HE-272 Hub cap wrench
h—311 Wheel puller
HE-113 Axle nut wrench

Suggestions: A few drops of penetrating oil on adjusting bolt and nuts will aid in turning easily.

CLUTCH

PROCEDURE OF OPERATION

This adjustment is made from underneath car. Remove clevis pin which connects throw-out yoke with adjustable link. Loosen adjustable link lock nut. Turn adjustable link to, adjust clearance between clutch pedal and rear slot in toe board. This clearance should be three-quarters of an inch when pedal is in normal position. **REPLACE** clevis pin. Tighten lock nut.

Remarks:

ADJUST CLUTCH PEDAL **HUDSON GREAT EIGHT**

ADJUST CLUTCH PEDAL **HUDSON GREAT EIGHT**

ADJUSTMENTS

There should be 3/4" clearance between clutch pedal and floor board, when pedal is in normal position.

SPECIAL TOOLS

Suggestions: Clutch lubricant—one quarter pint of a mixture consisting of 1/8 pint of motor oil and 1/8 pint kerosene. Too much oil may cause clutch to slip, too much kerosene may cause clutch to "grab".

PROCEDURE OF OPERATION

Raise right side of hood. Crank engine until clutch drain plug in fly. wheel appears through the sight hole in rear engine plate. Using special wrench HE-328, remove clutch drain plug. Crank engine very slowly with hand crank one or more complete revolutions. This allows old oil to drain. Replenish clutch oil, using one—quarter pint of a mixture consisting of 1/8 pint motor oil and 1/8 pint kerosene. **REPLACE** clutch drain plug. Lower hood.

Remarks:

DRAIN AND REFILL CLUTCH

HUDSON GREAT EIGHT

DRAIN AND REFILL CLUTCH

HUDSON GREAT EIGHT

ADJUSTMENTS

Clutch lubricant—1/8 pint motor oil,
1 /8 pint kerosene

There must be 1/4" clearance between clutch pedal and toe-board with pedal in normal position.

SPECIAL TOOLS

HE-328 Clutch drain Plug wrench

Suggestions: A small amount of graphite grease on threads of drain plug will prevent sticking when it is again removed. Too much oil m clutch may cause clutch to slip. Too much kerosene may cause clutch to "grab".

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor board. Disconnect foot brake pull rod. Remove adjustable link clevis pin and disconnect throw-out yoke. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission assembly. Remove clutch throw-out assembly. Remove clutch cover cap screws. Remove clutch assembly. Remove clutch driving plate. **REPLACE** driving plate. Replace clutch assembly. Replace transmission. Replace fly wheel guard. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shaft. Connect throw-out yoke. Replace adjustable link clevis pin. Connect foot brake pull rod. Replace toe and floor board. Replace mat. Replenish oil in clutch.

INSTALL CLUTCH DRIVING PLATE

HUDSON
GREAT EIGHT

INSTALL CLUTCH DRIVING PLATE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and floor-board.
Clutch lubricant—1/8 pint motor oil,
1/8 pint kerosene

SPECIAL TOOLS

HE-279 Clutch plate aligning tool
HE-328 Clutch drain plug wrench

Suggestions: Dip cork disc assembly in motor oil before installing. Repack throw-out bearing with fibre grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to grab. Check clutch surfaces on flywheel and pressure plate. Check for warped pressure plate. Use new clutch cover gasket.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot: brake pull rod. Remove adjustable link clevis pin, and disconnect throw-out yoke. Disconnect. speedometer shaft. Disconnect propeller shaft. Remove transmission control assembly. Remove fly-wheel guard. Remove transmission. Remove clutch throw-out sleeve. Remove clutch cover cap screws. Remove clutch assembly. Remove clutch driving plate. Remove clutch pilot bearing. **REPLACE** clutch pilot bearing. Replace clutch driving plate. Replace clutch assembly. Replace clutch cover screws. Replace clutch throw-out sleeves. Replace transmission. Replace flywheel guard. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shaft. Connect throw-out yoke. Connect foot brake pull rod. Replace toe and floor boards. Replace mat. Replenish oil in clutch.

Remarks:

INSTALL CLUTCH PILOT BEARING

HUDSON
GREAT EIGHT

INSTALL CLUTCH PILOT BEARING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal 3/4" clearance between pedal and toe-board

Clutch lubricant—1/8 pint motor oil,
1/8 pint kerosene

SPECIAL TOOLS

HE-279 Clutch plate aligning tool
HE-328 Clutch drain plug wrench

Suggestions: Repack throw-out bearing with fibre grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab"

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin and disconnect throw-out yoke. Disconnect speedometer shaft at transmission. Disconnect propeller shaft, front end. Remove flywheel guard. Remove bolts holding transmission to engine and remove transmission assembly. Remove clutch throw-out assembly. Remove clutch cover cap screws. Remove clutch assembly. Disassemble clutch, using special fixture HE-280. Remove pressure plate. **REPLACE** pressure plate. Assemble clutch. Replace clutch assembly. Replace clutch cover cap screws. Replace throw-out assembly. Replace transmission assembly. Replace flywheel guard. Connect propeller shaft. Connect speedometer cable. Connect clutch throw-out adjusting link. Connect brake rod. Replace toe and floor boards. Replace mat. Check clutch pedal adjustment. Replenish oil in clutch.

Remarks:

INSTALL CLUTCH PRESSURE PLATE

HUDSON
GREAT EIGHT

INSTALL CLUTCH PRESSURE PLATE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and toe board. Clutch lubricant—1/8 pint motor oil, 1/8 pint kerosene

SPECIAL TOOLS

HE-280 Clutch assembling fixture
HE-279 Clutch plate aligning tool
HE-328 Clutch drain plug wrench

Suggestions: Carefully examine clutch driving plate and surfaces of flywheel and pressure plate. Use new clutch cover gasket. Repack throw-out bearing with fibre grease.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin and disconnect throw-out yoke. Disconnect speedometer shaft at transmission. Disconnect propeller shaft, front end. Remove flywheel guard. Remove bolts holding transmission to engine and remove transmission assembly. Remove clutch throw-out assembly. Remove clutch cover cap screws, Remove clutch assembly. Disassemble clutch using special fixture HE-280. Remove clutch spring. **REPLACE** clutch spring. Assemble clutch. Replace clutch assembly. Replace clutch cover cap screws. Replace throw-out assembly. Replace transmission assembly. Replace flywheel guard. Connect propeller shaft. Connect speedometer cable. Connect clutch throw-out adjusting link. Connect brake rod. Replace toe and floor boards. Replace mat. Check clutch pedal adjustment. Replenish oil in clutch.

Remarks:

INSTALL CLUTCH SPRING

HUDSON
GREAT EIGHT

INSTALL CLUTCH SPRING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and toe—board.
Clutch lubricant—1/8 pint motor oil,
—1/8 pint kerosene.
Clutch spring free length—2-7/8" approximately
Clutch spring length under load of 140 lbs.—1-5/8"

SPECIAL TOOLS

HE-280 Clutch assembling fixture
HE-279 Clutch plate aligning tool
HE-328 Clutch drain plug wrench

Suggestions: Repack throw-out bearing with fiber grease. Use new clutch cover gasket. Too much oil may make clutch slip; too much kerosene may make clutch grab.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin, and disconnect throw-out yoke. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission control assembly. Remove transmission. Remove clutch throw-out assembly, Dissemble clutch throw-out assembly. Remove thrust bearing. **REPLACE** thrust bearing. Assemble throw-out assembly. Replace throw-out assembly. Replace transmission assembly. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shaft. Connect throw-out yoke. Replace adjustable link clevis pin. Connect foot brake pull rod. Replace toe and floor boards. Replace mat.

Remarks:

INSTALL CLUTCH THROWOUT BEARING

HUDSON
GREAT EIGHT

INSTALL CLUTCH THROWOUT BEARING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and toe-board.

SPECIAL TOOLS

Suggestions: Repack throw-out bearing with fibre grease.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin and disconnect throw-out yoke. Disconnect speedometer shaft at transmission, Disconnect propeller shaft, front end. Remove flywheel guard:. Remove transmission assembly. Remove throw-out yoke pivot bolt. Remove throw-out yoke. **REPLACE** throw-out yoke. Replace pivot bolt. Replace transmission assembly. Replace flywheel guard. Connect propeller shaft. Connect speedometer shaft. Connect adjustable link to throw-out. Connect brake rod. Replace toe and floor boards. Replace mat. Test clutch pedal adjustment.

Remarks:

INSTALL CLUTCH throw-out YOKE

HUDSON
GREAT EIGHT

INSTALL CLUTCH throw-out YOKE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and toe board when pedal is in normal position.

SPECIAL TOOLS

Suggestions: It is as cheap and more satisfactory to replace throw-out yoke instead of re-bushing the old yoke.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and, floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission control assembly. Remove fly wheel guard. Remove transmission. Remove clutch throw-out assembly. Remove clutch cover cap screws. Remove clutch assembly. Remove driving plate. Remove pilot bearing. **REPLACE** pilot bearing. Replace driving plate. Dissemble clutch and examine all parts carefully. Assemble clutch, using new parts where necessary. Replace clutch assembly. Replace clutch cover cap screws. Replace clutch throw-out assembly. Replace transmission. Replace flywheel guard. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shift. Connect throw-out yoke. Connect foot brake pull rod. Replace toe and floor boards. Replace mat. Replenish clutch oil.

Remarks:

OVERHAUL CLUTCH **HUDSON GREAT EIGHT**

OVERHAUL CLUTCH **HUDSON GREAT EIGHT**

ADJUSTMENTS

Clutch pedal—3/4" clearance between pedal and toe board. Clutch lubricant—1/8 pint motor oil, — 1/8 pint kerosene.
Clutch spring free length—Approximately 2-7/8"
Clutch spring length under load of 140 lbs.—1-5/8"

SPECIAL TOOLS

HE-280 Clutch assembly fixture
HE-279 Clutch plate aligning tool
HE-328 Clutch drain plug wrench

Suggestions: Carefully check clutch surfaces of flywheel and pressure plate. Examine pressure plate for shrinkage cracks. Repack throw-out bearing with fibre grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab."

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission control assembly. Remove flywheel guard. Remove transmission. Remove clutch throw-out assembly. Remove clutch cover cap screws. Remove clutch assembly. Remove driving plate. Remove pilot bear:ing. **REPLACE** pilot bearing. Replace driving plate. Disassemble clutch, and examine all parts carefully. Assemble clutch, using new parts where necessary. Replace clutch assembly. Replace clutch cover cap screws. Replace clutch throw-out assembly. Pull universal flange from main shaft. Remove rear bearing cap screws. Remove rear bearing cap. Remove or replace shim to correct main shaft end play: Replace rear bearing cap, Remove or replace shim to correct main shaft end. play. Replace rear bearing cap. .Replace rear bearing cap screws. Replace universal flange. Replace. transmission. Replace flywheel guard. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shaft. Connect throw-out yoke. Connect foot brake pull rod. Replace toe and floor boards. Replace mat. Replenish oil in clutch.

Remarks:

Overhaul Clutch and Adjust Transmission End Play

HUDSON
GREAT EIGHT

Overhaul Clutch and Adjust Transmission End Play

HUDSON
GREAT EIGHT

ADJUSTMENTS

Adjust clutch to have 3/4" play between pedal and toe board.
Main shaft end play—.006"-.009"
Clutch lubricant—1/8 pint motor oil,
—1/8 pint kerosene
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-280 Clutch assembly fixture
HE- 48 Flange puller
HE-328 Clutch drain plug wrench
HE-279 Clutch plate aligning tool

Suggestions: Carefully examine pressure plate for shrinkage cracks. Check clutch surfaces of flywheel and pressure plate. Repack throw-out bearing with fibre grease. Too much lubricating oil may cause the clutch to slip Too much kerosene may cause the clutch to "grab."

COOLING AND EXHAUST

COOLING SYSTEM

EXHAUST SYSTEM

PROCEDURE OF OPERATION

Raise left side of hood. See that fan arm supporting stud is tight in cylinder block. (This stud has a left hand thread.) Loosen fan supporting arm lock stud. Raise or lower fan to adjust fan belt. Tighten fan supporting arm lock stud. Lower hood.

Remarks:

ADJUST FAN BELT

HUDSON
GREAT EIGHT

ADJUST FAN BELT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt adjustment is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and water pump pulleys.

Note: Before adjusting belt, be sure that fan supporting arm cylinder stud is tight. This stud has a left hand thread.

SPECIAL TOOLS

Suggestions:. Fan blades should be Properly aligned between radiator and fan belt and should run true. Fan should be well lubricated Too tight an adjustment of belt causes excessive wear on fan and water pump bearings.

PROCEDURE OF OPERATION

Loosen lower water hose clamp at radiator. Remove hose and allow radiator to drain. Flush radiator by forcing water up through radiator and through, cylinder block in a reverse direction to normal flow when car is in operation. Continue to flush until water is free from rust and other sediment. **REPLACE** hose. Tighten clamp. Refill radiator. Test for leaks.

Remarks:

FLUSH AND REFILL COOLING SYSTEM **HUDSON GREAT EIGHT**

FLUSH AND REFILL COOLING SYSTEM **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Possible reasons for overheating: Water supply insufficient, cooling system dirty. Dissolve about two pounds of sal soda in hot water and pour in radiator, run engine for a few minutes, then drain and flush with clean water. Hose connection leak, lack of motor oil, loose or broken fan belt, incorrect ignition timing, brakes dragging, radiator shutters completely or partially closed.

PROCEDURE OF OPERATION

Raise left side of hood. Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove fan spindle nut Remove fait . **REPLACE** fan. Replace fan spindle nut and tighten securely. Replace fan and arm assembly, aligning fan so that blades are midway between radiator and fan belt. Tighten fan arm lock stud nut. Lower hood.

Remarks:

INSTALL FAN

HUDSON
GREAT EIGHT

INSTALL FAN

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt tension is correct when middle: point of upper span can be deflected, by finger pressure, below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

Suggestions: Fan blades should be properly aligned and run true. Center fan carefully between radiator and fan belt. Fan should be well lubricated with fiber grease. Be sure that supporting, arm stud is tight in cylinder. Stud has left hand thread.

PROCEDURE OF OPERATION

Raise left side of hood. Loosen nut on fan supporting arm lock stud. Slip belt off water pump pulley, over fan and off lower pulley. It may be necessary to pry pan down slightly under lower pulley in order to remove belt **REPLACE** fan belt. Align fan so that blades run midway between radiator and belt. Tighten fan supporting arm lock stud nut. Lower hood:

Remarks:

INSTALL FAN BELT

HUDSON
GREAT EIGHT

INSTALL FAN BELT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt tension is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

Align fan so that blades are mid-way between radiator and fan belt.

SPECIAL TOOLS

Suggestions: Be sure fan arm stud is tight in cylinder block. Stud has left hand thread. Lubricate fan with fibre grease. Too tight an adjustment of the fan. belt causes excessive wear of fan and water pump bearings.

PROCEDURE OF OPERATION

Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove four bolts holding fan blades to hub. Remove fan blades. **REPLACE** fan blades, using correct number of shims to insure sufficient end play. Replace fan blade fastening bolts. Replace fan and arm assembly, aligning fan so that blades run midway between radiator and fan. belt. Tighten fan arm lock stud nut.

Remarks:

INSTALL FAN BLADES

HUDSON
GREAT EIGHT

INSTALL FAN BLADES

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt tension is correct when middle point of upper span can be ,deflected, by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

Suggestions: After new blades are installed, fan should be tested for perfect balance. An unbalanced fan causes intermittent or surging vibration at a speed of about 30 miles per hour. Fan blade should. be properly aligned and run true. Center fan carefully between radiator and fan belt. Fan should be well lubricated with fiber grease. Be sure that supporting arm stud is tight in cylinder. Stud has left hand thread.

PROCEDURE OF OPERATION

Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove fan spindle nut. Remove fan arm. Remove alemite fitting. Remove four bolts holding fan blades to hub. Remove blades, Remove ball, ball retainer, and spring. Remove fan hub from spindle. Remove thrust washer. **REPLACE** thrust washer. Replace hub on spindle. Replace spring, ball retainer, and ball in spindle. Replace blades, using shims as required to give sufficient end play. Replace fan blade fastening bolts. Replace fan arm. Replace alemite fitting. Replace spindle nut and . tighten securely. Replace fan and arm assembly. Adjust fan belt. Tighten supporting arm lock stud nut.

Remarks:

INSTALL FAN HUB

HUDSON
GREAT EIGHT

INSTALL FAN HUB

HUDSON
GREAT EIGHT

ADJUSTMENTS

Hub inside diameter—1.432".
Spindle outside diameter—1.430".

Fan belt tension is correct. when middle point of upper span can be deflected by finger pressure, 5/8" below a straight edge laid across fan. and pump pulleys.

SPECIAL TOOLS

Suggestions: Fan blades should be properly aligned and run true. Center fan carefully between radiator and fan belt. Fan should be well lubricated with fiber grease. Be sure that supporting arm stud is tight in cylinder block. Stud has left hand thread.

PROCEDURE OF OPERATION

Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove four bolts holding fan blades to hub. Remove fan blades and shims. Remove hub gasket. **REPLACE** fan hub gasket. Replace fan blades, using shims as required to insure sufficient end play. Replace fan blade fastening bolts. Replace fan and arm assembly, aligning fan so that blades run midway between radiator and fan belt. Tighten supporting arm lock stud nut.

Remarks:

INSTALL FAN HUB GASKET

HUDSON
GREAT EIGHT

INSTALL FAN HUB GASKET

HUDSON
GREAT EIGHT

ADJUSTMENTS

Note: Fan blades should be replaced in original position to maintain balance.

SPECIAL TOOLS

Suggestions: Fan blades should be properly aligned and run true. Center fan carefully between radiator and fan belt. Fan should be well lubricated with fiber. grease.

PROCEDURE OF OPERATION

Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove fan spindle nut. Remove fan arm:. Remove alemite fitting. Remove four fan blade fastening bolt Remove fan blades. Remove spindle ball, ball retainer and spring. Remove fan hub. Remove spindle. **REPLACE** spindle. Remove thrust washer. Replace thrust washer. Replace fan hub. Replace spindle spring, ball seat and ball. Replace fan blades. Replace fan blade fastening bolts. Replace spindle alemite fitting. Replace fan arm. Replace spindle nut and tighten securely. Replace fan and arm assembly. Tighten supporting arm lock stud nut.

Remarks:

INSTALL FAN HUB AND SPINDLE

HUDSON
GREAT EIGHT

INSTALL FAN HUB AND SPINDLE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Hub inside diameter—1.432"
Spindle outside diameter—1.430"

Note: Replace fan blades in original position to maintain balance.

SPECIAL TOOLS

Suggestions: In replacing blades, use shims as required to give sufficient end play. Lubricate fan with fiber grease. Align fan so that blades run midway between radiator and fan belt.

PROCEDURE OF OPERATION

Loosen nut on fan supporting arm lock stud. Remove fan and arm assembly. Remove fan spindle nut. Remove fan arm. Remove alemite fitting. Remove four fan blade fastening bolts. Remove fan blades. Remove spindle ball, ball seat and spring. Remove spindle. **REPLACE** spindle, Replace spindle spring, ball seat and ball. Replace fan blades. Replace fan blade fastening bolts. Replace alemite fitting. Replace fan arm. Replace spindle nut and tighten securely. Replace fan and arm assembly. Tighten supporting arm lock stud nut.

Remarks:

INSTALL FAN SPINDLE

HUDSON
GREAT EIGHT

INSTALL FAN SPINDLE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt adjustment is correct when the middle point of upper span can be, deflected, by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

Note: Replace blades in original position in order to maintain balance.

SPECIAL TOOLS

Suggestions: Fan should be well lubricated with fiber grease. Blades should run true and fan aligned so that blades run midway between radiator and fan belt.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Remove nuts from bolts which. hold radiator to frame cross member. Loosen upper and lower hose clamps. Unscrew radiator tie rods from radiator shell. Remove shutter control at radiator. Loosen headlamp connections from terminal block. Lift off radiator. Remove nuts which hold shell to, core. Remove core. **REPLACE** radiator core. Replace nuts which hold shell. Replace radiator assembly on car. Connect radiator tie rods. Replace hose connections. Connect shutter control. Replace hood. Line up radiator shell with hood. Tighten radiator support bolts. Connect wires to terminal block. Refill cooling system.

Remarks:

INSTALL RADIATOR CORE

HUDSON
GREAT EIGHT

INSTALL RADIATOR CORE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Tighten radiator anchor bolts so that rubber mounting shims are compressed 1/32".

There should be at least 1/8" clearance at front edge of hood.

SPECIAL TOOLS

Suggestions: Rubber mounting pad should be placed against radiator strap; and steel spacer next to frame cross member. Be sure that bottom edge of lacing ledge on shell does not rest on fender apron. There should be 3/16" clearance at this point. A piece of rubber hose of 3/8" inside diameter and 28" long will facilitate draining radiator. Free up and lubricate shutters before assembling.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Remove nuts from bolts which hold radiator to frame cross members. Loosen upper and lower radiator hose clamps. Unscrew radiator tie rods from radiator shell. Remove shutter control at radiator. Loosen headlamp connections and remove wires from terminal block. Lift off radiator. **REPLACE** radiator. Connect radiator tie rods. Replace hose connections. Connect shutter control. Replace hood. Align radiator shell with hood. Tighten radiator support bolts. Connect headlamp wires. Refill cooling system.

Remarks:

REMOVE AND REPLACE RADIATOR FOR TEST

HUDSON
GREAT EIGHT

REMOVE AND REPLACE RADIATOR FOR TEST

HUDSON
GREAT EIGHT

ADJUSTMENTS

Tighten radiator anchor bolts so that rubber mounting shims are compressed 1/32".

There should be at least 1/8" clearance at front edge of hood

SPECIAL TOOLS

Suggestions: Be sure that bottom of lacing ledge on shell does not rest on fender apron. There should be 3/16" clearance at this point. A small amount of cup grease on hood lacing will prevent squeak. Lubricate shutter pivots with a few drops of light oil.

PROCEDURE OF OPERATION

Raise left side of hood. Remove bolt which secures control wire to shutter operating rail. Straighten end of wire. Remove 2 screws and nuts which hold shutter control tube clip to radiator tie rod. Loosen clamp screw in shutter control tube clip on radiator shell. Remove two cotter pins and silencing spring on shutter control plunger under cowl. Loosen nut which secures control tube to cowl bracket. Slide tube out of slot in bracket and remove tube and wire assembly. **REPLACE** control tube, and wire assembly. Connect plunger to ratchet rod and replace silencing spring and cotter pins. Tighten control tube bracket nut. Connect wire to shutter operating rail. Replace tie rod clip. Tighten screw in radiator shell dip. Lower hood.

Remarks:

INSTALL SHUTTER CONTROL WIRE

HUDSON
GREAT EIGHT

INSTALL SHUTTER CONTROL WIRE

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Be sure that shutters may be fully opened and closed. Oil shutter pivots with a few drops of light machine oil.

PROCEDURE OF OPERATION

Drain cooling system. Loosen water pump hose clamps. Remove cap screws holding water pump assembly to engine support plate. Remove water pump assembly, bringing pulley back through hole in engine plate. **REPLACE** water pump assembly, Replace cap screws holding water pump to engine plate. Replace hose connections and tighten hose clamps. Refill cooling system.

Remarks:

INSTALL WATER PUMP ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL WATER PUMP ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt has correct tension when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and water pump pulleys.

Note: Water pump packing gland nut should be tightened with fingers

SPECIAL TOOLS

Suggestions: Check fan belt adjustment. Too tight an adjustment causes excessive wear on fan and water pump bearings.

PROCEDURE OF OPERATION

Drain radiator. Loosen water pump hose clamp. Remove hose. Loosen lower radiator hose clamp. Remove cap screws holding water pump assembly, to front engine plate. Remove water pump assembly. Remove cap screws holding two halves of water pump together. Remove water pump rear body. Pull impeller from shaft: Unscrew packing nut. Remove drive pulley and shaft assembly. If necessary, ream bushings in new water pump body. Install packing, packing retainer, and packing nut. **REPLACE** shaft and pulley assembly. Replace impeller on shaft. Re-assemble two halves of pump body, using new gasket. Replace water pump assembly on engine plate. Replace cap screws which hold pump assembly. Replace hose connections and tighten clamps. Refill cooling system.

Remarks:

INSTALL WATER PUMP BODY (FRONT)

HUDSON
GREAT EIGHT

INSTALL WATER PUMP BODY (FRONT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Water pump shaft end play—1/32"

Fan belt tension is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and water pump pulleys.

SPECIAL TOOLS

h—281 Water pump impeller paler.
h—283 Water pump bushing reamer

Suggestions: Tighten water pump packing gland nut with fingers only. It is not necessary to loosen belt adjustment in order to remove or replace water pump; but belt tension should be checked after pump is installed.

PROCEDURE OF OPERATION

Drain radiator. Raise left side of hood. Loosen hose clamp on water pump to cylinder hose. Remove hose. Remove cap screws holding. water pump body rear to water pump body front. Remove water pump body. **REPLACE** water pump body. Replace' cap screws. Replace water pump hose. Tighten hose clamp. Refill radiator. Lower hood.

Remarks:

INSTALL WATER PUMP BODY (REAR)

HUDSON
GREAT EIGHT

INSTALL WATER PUMP BODY (REAR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Water, pump shaft end play—1/32"

Note: Water pump packing nut should be tightened with fingers only.

SPECIAL TOOLS

Suggestions: Use new water pump body gasket. A fan belt adjustment which is too tight causes excessive wear on fan and water pump bearings.

PROCEDURE OF OPERATION

Drain radiator. Loosen water pump to cylinder hose clamps. Remove hose. Loosen lower radiator hose clamp. Remove bolts holding water pump. assembly to engine plate. Remove pump assembly. Remove water pump body bolts. Remove rear body. Pull impeller from shaft. Remove rear thrust washer. Remove pulley and shaft assembly. Remove packing nut and retainer. Remove packing. Remove bushings. **REPLACE** bushings. Ream bushings to size. Replace shaft and pulley assembly. Replace rear thrust washer. Replace water pump impeller. Replace rear body and tighten body bolts. Replace packing and tighten packing nut. Replace water pump assembly on engine plate. Replace hose connections. Tighten hose clamps. Refill radiator.

Remarks:

INSTALL WATER PUMP BUSHINGS

HUDSON
GREAT EIGHT

INSTALL WATER PUMP BUSHINGS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Water pump shaft end play—1/32"
Bushing inside diameter—.552" to .553" after pressing in place.

Note: Tighten packing nut with fingers only.

SPECIAL TOOLS

Suggestions: Pack pockets around bushings with cup grease before installing bushings. Check belt tension after pump is installed.

PROCEDURE OF OPERATION

Drain radiator. Loosen water pump to cylinder hose clamp. Remove hose. Loosen lower radiator hose clamp. Remove bolts holding water pump assembly to engine plate. Remove pump assembly. Remove water pump body bolts. Remove rear body. Pull impeller from shaft: **REPLACE** impeller on shaft, allowing 1/32" end play in shaft. Replace rear body and tighten body bolts. Replace pump assembly on engine plate. Replace hose connections and tighten hose clamps. Refill radiator.

INSTALL WATER PUMP IMPELLER

HUDSON
GREAT EIGHT

INSTALL WATER PUMP IMPELLER

HUDSON
GREAT EIGHT

ADJUSTMENTS

Water pump shaft end play—1/32"

Packing nut should be tightened with fingers only.

Fan belt tension is correct when middle point of upper span can be deflected, by finger pressure, 5/8," below a straight edge laid across fan and water pump pulleys.

SPECIAL TOOLS

h—281 Water pump impeller puller.

Suggestions: It is not necessary to loosen fan belt adjustment to remove or install water pump; but belt tension should be checked after pump is replaced. Too tight an adjustment causes excessive wear on fan and pump bearings.

PROCEDURE OF OPERATION

Drain radiator. Loosen water pump hose clamps. Remove hose. Loosen lower radiator hose clamp. Remove cap screws holding water pump assembly to engine support. Remove water pump assembly from engine support. Remove cap screws holding two halves of water pump together. Pull impeller from pump shaft. Unscrew packing nut. Remove drive pulley and drive shaft assembly. **REPLACE** drive pulley and drive shaft assembly. Reassemble impeller on pump shaft. Re-assemble two halves of pump body using new gaskets. Replace water pump assembly in engine support. Replace cap screws holding pump assembly to engine support. Replace water pump hose. Replace radiator hose. Tighten all hose clamps. Refill radiator.

Remarks:

INSTALL WATER PUMP SHAFT AND PULLEY

HUDSON
GREAT EIGHT

INSTALL WATER PUMP SHAFT AND PULLEY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Water pump shaft end play—1/32"
Shaft bushing inside diameter—.552" to .553" after pressing in place.

Note: Water pump shaft and drive pulley are supplied as a unit and should not be disassembled.

SPECIAL TOOLS

h—281 Puller for water pump impeller
h—282 Bushing remover
h—283 Bushing reamer

Suggestions: When installing new shaft, it is advisable to install new bushings as well. New pump packing should be installed at this time. Packing nut should be tightened with fingers only. Check fan belt tension after pump is installed; too much tension causes excessive wear on fan. and pump bearings.

PROCEDURE OF OPERATION

Drain radiator. Loosen water pump to cylinder hose clamps. Remove hose. Loosen lower radiator hose clamp., Remove bolts holding water pump to engine plate. Remove water pump assembly, Remove water pump body bolts. Remove rear body. Pull impeller from shaft. Unscrew packing nut Remove pump shaft and drive pulley assembly. Remove packing and retainer. Remove shaft bushings from pump body. **REPLACE** bushings and ream to size. Replace shaft and pulley, assembly. Replace packing and tighten packing nut. Replace rear thrust washer. Replace impeller on shaft, leaving 1/32" end play. Replace rear cover. Replace water pump assembly on engine plate. Replace hose connections and tighten hose clamps. Refill radiator. Check fan belt tension.

Remarks:

OVERHAUL WATER PUMP **HUDSON GREAT EIGHT**

OVERHAUL WATER PUMP **HUDSON GREAT EIGHT**

ADJUSTMENTS

Water pump shaft end play—1/32"

Bushing inside diameter—.552" to .553" after pressing in place.

Fan belt tension is correct when middle point of upper span can be deflected by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

h—281 Water pump impeller puller
h—282 Bushing remover and inserter
h—283 Bushing line reamer

Suggestions: Replace all worn parts with new. Before installing bushings, pack pockets around bushings in pump body with cup grease. Tighten packing nut with fingers only. It is not necessary to loosen fan belt adjustment before removing or replacing water pump; but belt tension should be checked after pump is installed.

PROCEDURE OF OPERATION

Raise rear end of car. Remove clamp holding tail pipe to gasoline tank strap. Remove bracket holding tail pipe to frame cross member. Loosen clamps at front and rear ends of muffler. Pull tail pipe back clear of muffler. Work muffler back clear of exhaust pipe. Remove muffler. **REPLACE** muffler and position on exhaust pipe. Replace tail pipe and position frame bracket. Replace clamp holding tail pipe to gasoline tank strap. Tighten front and rear muffler clamps. Tighten tail pipe frame bracket. Lower car.

Remarks:

INSTALL MUFFLER

HUDSON
GREAT EIGHT

INSTALL MUFFLER

HUDSON
GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Inspect tail pipe to be sure it is not crushed or obstructed. Obstructions in the exhaust system prevent free escape of gas, and cause a back pressure which will reduce the power of the engine.

PROCEDURE OF OPERATION

Remove bolts and stud holding exhaust pipe to manifold. Loosen clamp holding exhaust pipe in muffler. Remove exhaust pipe. **REPLACE** exhaust pipe. Replace bolt and stud holding exhaust pipe to manifold. Tighten clamp holding exhaust pipe to muffler.

Remarks:

INSTALL EXHAUST PIPE HUDSON GREAT EIGHT

INSTALL EXHAUST PIPE HUDSON GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Check muffler and tail pipe to see that they are not crushed or obstructed. Obstructions in the exhaust system create back pressure which will reduce the power of the engine.

PROCEDURE OF OPERATION

Raise right side of hood. Remove exhaust manifold stud nuts. Remove. three bolts holding carburetor riser to manifold. Disconnect heat control rod. Remove bolts which secure exhaust pipe to manifold. Remove exhaust manifold. Remove exhaust manifold gaskets. **REPLACE** exhaust manifold gaskets. Replace exhaust manifold. Replace manifold stud nuts. Replace exhaust pipe to manifold bolts and nuts. Replace bolts holding carburetor riser to manifold. Connect heat control rod. Lower hood.

Remarks:

INSTALL GASKETS (EXHAUST MANIFOLD)

HUDSON
GREAT EIGHT

INSTALL GASKETS (EXHAUST MANIFOLD)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

HE-l 76 Universal socket wrench
E-298 Cylinder head nut wrench

Suggestions: Inspect manifold for cracks and sand holes.

PROCEDURE OF OPERATION

Raise right side of hood. Remove exhaust manifold stud nuts. Remove three bolts holding carburetor riser to manifold. Disconnect heat control rod. Remove heat control valve. Remove bolts which secure exhaust pipe to manifold. Remove exhaust manifold. **REPLACE** exhaust manifold. Replace manifold stud nuts. Replace exhaust pipe to manifold bolts. Replace bolts holding carburetor riser to manifold. Replace heat control valve. Connect heat control rod. Lower hood.

Remarks:

INSTALL MANIFOLD (EXHAUST)

HUDSON
GREAT EIGHT

INSTALL MANIFOLD (EXHAUST)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

HE-176 Universal socket wrench
E-298 Cylinder head nut wrench

Suggestions: Carefully examine all gaskets and replace if torn or burnt.

PROCEDURE OF OPERATION

Raise rear end of car. Loosen clamp at rear end of muffler. Remove clamp holding tail pipe to gasoline tank strap. Remove bracket holding tail pipe to frame cross member. Remove tail pipe. **REPLACE** tail pipe and position frame bracket. Replace clamp holding tail pipe to gasoline tank strap. Tighten clamp at rear end of muffler. Tighten tail pipe frame bracket. Lower car.

Remarks:

INSTALL TAIL PIPE HUDSON GREAT EIGHT

INSTALL TAIL PIPE HUDSON GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Be sure that muffler and tail pipe clamps are securely tightened to prevent rattle.

ELECTRICAL

PROCEDURE OF OPERATION

Raise right side of hood. Loosen commutator cover, clamp screw. Slide cover back. Move regulating brush to adjust charging rate. Third or regulating brush is held by friction and may be moved by pushing on brush holder with a wooden or other non-conductive rod. To increase charging rate, move brush in the direction of rotation of the generator. **REPLACE** commutator cover and tighten clamp screw. Lower hood.

Remarks:

ADJUST CHARGING RATE

HUDSON
GREAT EIGHT

ADJUST CHARGING RATE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot: 10½-11½ amperes.

Maximum normal charge rate, cold: 14-16 amperes.

Note: This reading should be taken with all lights off.

SPECIAL TOOLS

Suggestions: To increase charging rate, move third brush in the direction of rotation of the generator. Use wood or other non—conductive rod to move brush when generator is running. Lubricate generator bearings with three or four drops of light motor oil. Generator cut out points should be clean and should close at a car speed of about 14 M.P.H.

PROCEDURE OF OPERATION

Remove distributor cover. Crank engine until stationary points (the points nearest to front of engine) are separated to maximum opening. Adjust gap by means of eccentric screw so that maximum gap is .018" to .020". Crank engine until adjustable points (those nearest rear of engine) are separated to maximum opening. Set gap .018" to .020". Both gaps should be exactly the same. Crank engine until UDC 1 and 8 mark on flywheel is exactly in line with timing pointer on the inspection, hole in rear engine plate. Loosen distributor adjusting plate lock screw. Turn distributor until stationary, points are just starting to separate. Tighten adjusting plate lock screw. Crank engine one quarter turn until UDC 3 and 6 mark on flywheel is exactly in line with timing pointer. Loosen two screws which secure adjustable plate upon which points are mounted. Turn plate until points are just starting to separate. Hold plate and tighten screws. **REPLACE** distributor rotor and cover.

Remarks:

ADJUST TIMING (INCLUDES SYNCHRONIZE)

HUDSON
GREAT EIGHT

ADJUST TIMING (INCLUDES SYNCHRONIZE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Firing Order: 1-6-2-5-8-3-7-4
Breaker Point Gap: .018" to .020"

Note: Both gaps must be the same.

Timing: For ordinary fuel; Points to break when UDC mark on flywheel is exactly opposite timing pointer.

Timing: For Ethylized fuel; Points to break when UDC mark on flywheel is exactly 7/8" above the bottom of inspection hole.

SPECIAL TOOLS

HE-291 Engine Timing Gauge

Suggestions: Dress both sets of points smooth and parallel before adjusting. The operation of synchronizing requires great accuracy, and the use of a timing light is recommended. For detailed instructions for timing, see factory reference sheet No. 38.

PROCEDURE OF OPERATION

Place car on a level floor squarely facing a smooth wall 25 feet from the headlamps. Measure height of lamp bulbs from the floor, and draw a horizontal line on the wall at the same height. Sight through windshield along hood and radiator emblem to determine center line of car. From this center line locate centers of lamps and draw two vertical lines on the wall. Turn light switch lever to bright position. Cover left lamp to obscure light beam. Turn focusing screw on rear of right headlamp until light beam has a high intensity at the top and is as narrow as possible measured from top to bottom. Loosen headlamp bracket nut. Aim lamp so that top of beam is just even with horizontal mark on wall and is centered with the vertical line. Tighten headlamp bracket nut. Repeat the focusing operation with the left lamp.

Remarks:

FOCUS HEADLAMPS **HUDSON GREAT EIGHT**

FOCUS HEADLAMPS **HUDSON GREAT EIGHT**

ADJUSTMENTS

Headlamp Bulb:
Mazda No. 1110, double filament, 21 candlepower, double contact base.

SPECIAL TOOLS

HE-305 Headlamp Bracket Nut Socket Wrench

Suggestions: See the headlamp connectors make a good contact; and that wire terminals are tight on switch.

PROCEDURE OF OPERATION

Disconnect ammeter feed wire from starting motor switch terminal. Disconnect wires from ammeter terminal posts. Remove screws which hold ammeter to instrument frame. Remove ammeter. **REPLACE** ammeter. Replace screws balding ammeter to instrument frame. Connect wires to ammeter terminal posts, being sure that wires are located on the correct posts and that nuts are tightened securely. Connect feed wire at starting motor switch. Test ammeter to see that all connections have been correctly made.

Remarks:

INSTALL AMMETER

HUDSON
GREAT EIGHT

INSTALL AMMETER

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot, 10½-11½ amps.

Maximum normal charge rate, cold: 14-16 amps.

Note: Ammeter should indicate zero when lights and ignition are off.

SPECIAL TOOLS

HE-332 Ammeter wrench

Suggestions : Before removing ammeter, disconnect feed wire from starter switch. This will prevent accidental short circuit, which may ruin ammeter. Tighten terminal post nuts securely. A loose feed wire connection causes lights to flicker and burn with excessive brightness when engine is speeded. After installation, test to be sure that charge and discharge are indicated correctly.

PROCEDURE OF OPERATION

Disconnect generator wire. Remove generator coupling rear bolt and clamp. Remove generator strap clamp screw. Remove generator and take to bench for disassembling. Remove nuts from long screw holding end caps to generator frame. Remove drive end bearing cap and armature assembly. Remove screws holding bearing retainer to end cap. Remove end cap. Remove bearing lock ring. Pull bearing from generator shaft. **REASSEMBLE** retainer, bearing, lock ring and end cap on new armature. Replace screws which secure bearing retainer to end cap. Replace armature in generator and bolt end cap to frame. Replace generator assembly on engine. Replace generator coupling clamp, bolt and nut. Replace generator strap clamp screw and tighten securely. Connect generator wire.

Remarks:

INSTALL ARMATURE (GENERATOR)

HUDSON
GREAT EIGHT

INSTALL ARMATURE (GENERATOR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot; 10½-11½ amperes.

Maximum normal charge rate, cold; 14-16 amperes.

Note: This maximum rate should occur at a generator speed of 1900 R.P.M.; an engine speed of 1600 R.P.M.; or a car speed of approximately 30 M.P.H.—with lights off.

SPECIAL TOOLS

Extensive generator repairs should be made only by a competent and well equipped electrical shop.

Consult an authorized Electric Auto-Lite service station.

Suggestions: Lubricate generator bearings with light motor oil, Shape brushes to commutator with fine sandpaper. Check generator cut out—the points should be clean, and should close at a car speed of approximately 14 M.P.H.

PROCEDURE OF OPERATION

Disconnect generator wire. Remove generator coupling rear bolt. and clamp. Remove generator strap clamp screw. Remove generator and take to bench for disassembling. Remove nuts from two long screws holding end caps to generator frame. Remove drive end bearing cap and armature assembly. Remove four screws holding bearing retainer to end cap. Remove end cap. Remove bearing lock ring and spacer. Pull bearing from armature shaft. **REPLACE** bearing on shaft. Replace bearing spacer and lock ring. Replace end cap and assemble to bearing retainer with four screws: Replace armature and end cap. assembly in generator frame, and bolt end cap to frame. Replace generator assembly on engine. Replace generator coupling clamp, bolt and nut. Replace generator strap clamp screw and tighten securely. Connect generator wire.

Remarks:

INSTALL BEARING (GENERATOR)

HUDSON
GREAT EIGHT

INSTALL BEARING (GENERATOR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot; 10½-11½ amperes.

Maximum normal charge rate, cold; 14-16 amperes.

Note: This is ammeter reading with lights off and should occur at a generator speed of 1900. R.P.M.; an engine speed of 1600 R.P.M.; or a car speed of approximately 30 M.P.H.

SPECIAL TOOLS

Extensive generator repairs should be made only by a competent and well equipped electrical shop.

Consult an authorized Electric Auto-Lite service station.

Suggestions: Generator shaft ball bearing is S. A. E. No. 203. Oil bearings with light motor oil. Test armature to determine if it has been by rubbing pole pieces. Clean commutator with fine sandpaper.

PROCEDURE OF OPERATION

Raise left side of hood. Disconnect starter cable from starter switch. Disconnect pull wire from starter switch. Remove bolt and clamp holding rear crankcase breather pipe. Remove breather pipe. Remove three nuts on studs holding starter to engine plate. Remove starter and bendix assembly. Remove bolt holding collar to rear end of starter shaft. Remove bendix drive assembly. **REPLACE** bendix drive assembly. Replace bolt holding collar to starter shaft. Replace starter and bendix assembly. Replace three starter holding stud nuts. Replace crankcase breather pipe. Connect starter switch pull wire. Connect starter cable. Lower hood.

Remarks:

INSTALL BENDIX DRIVE ASSEMBLY HUDSON GREAT EIGHT

INSTALL BENDIX DRIVE ASSEMBLY HUDSON GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: When starter is removed, carefully check for a sprung shaft. Also check for stripped or rough teeth on flywheel gear. Wash grooves of bendix screw with gasoline or kerosene. Do not lubricate.

PROCEDURE OF OPERATION

Disconnect generator wire. Remove generator coupling rear bolt and clamp. Remove. generator strap clamp screw. Spread clamp and remove generator. Remove nuts from long screws holding generator end caps to generator frame. Remove frame screws. Remove commutator end head sand brush assembly. Remove. brushes. **REPLACE** brushes. Replace commutator end head and brush assembly. Replace frame screws and nuts. Replace generator assembly on engine and connect flexible coupling. Replace clamp screw in generator strap and tighten. Connect generator wire.

Remarks:

INSTALL BRUSHES (GENERATOR)

HUDSON
GREAT EIGHT

INSTALL BRUSHES (GENERATOR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot;
10½-11½ amperes.
Maximum normal charge rate, cold;
14-16 amperes.

SPECIAL TOOLS

Extensive generator repairs should be made only by a competent and well equipped electrical shop. Consult an authorized Electric Auto-Lite service station.

Suggestions: Shape brushes to commutator with fine sandpaper. Allow generator to run for some time before making final adjustment of charging rate. This will allow brushes to wear down to a good seat on commutator. Oil bearings with light motor oil.

PROCEDURE OF OPERATION

Disconnect starter button wire at switch. Disconnect battery cable from starter switch and tape end to prevent short circuit. Remove nuts from three bolts holding starting motor to rear engine support. Remove four screws holding commutator end cap to generator frame. Pull end cap off armature shaft and remove field brush from brush holder. Remove rivets holding ground brush leads to end cap and remove brushes. **REPLACE** brushes and rivet leads to end cap. Remove tape from field brush leads and loosen solder with hot iron. Disconnect brush leads. Connect new brush leads, solder and tape. Replace end cap and brush assembly. Replace four screws. Replace starter assembly on engine support and secure with three nuts. Connect battery cable and starting button wire.

Remarks:

INSTALL BRUSHES (STARTER)

HUDSON
GREAT EIGHT

INSTALL BRUSHES (STARTER)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Starting motor type; Auto-Lite MAD-4110.
Normal armature speed; 1362 R.P.M.
Normal amperage draw; 125
Lock amperage; 610

SPECIAL TOOLS

Extensive generator repairs should be made only by a competent and well equipped electrical shop.

Consult an authorized Electric Auto-Lite service station.

Suggestions: Shape brushes to commutator with fine sandpaper. Clean bendix screw with kerosene but do not lubricate.

PROCEDURE OF OPERATION

Remove distributor cap. Remove rotor. Remove jumper wire connecting the two contact arms. Remove movable point contact arm and spring assembly from its pivot. Remove contact arm. Remove contact screw and lock nut. **REPLACE** contact screw and lock nut. Replace contact arm and spring. Remove stationary point contact arm and spring from pivot. Remove contact arm. Remove 2 screws holding stationary point contact support plate. Remove contact point. **REPLACE** contact point. Replace support plate screws. Replace stationary point contact arm and spring. Replace jumper wire. Remove spark plugs. Crank engine until stationary points are at maximum opening. Adjust gap to .020". Crank engine until movable points are at maximum opening. Adjust gap to .020". Crank engine until UDC 1 and 8 mark on flywheel is in line with timing pointer in rear engine plate. Turn distributor until stationary points are just starting to separate. Tighten distributor in this position. Crank engine one quarter turn until UDC 3 and 6 mark on flywheel is in line with timing, pointer. Loosen two screws which secure adjustable plate upon which points are mounted. Move plate until points are just starting to separate. Hold plate and tighten screws. Replace distributor rotor and cap.

Remarks:

INSTALL CONTACT POINTS (Distributor)

HUDSON
GREAT EIGHT

INSTALL CONTACT POINTS (Distributor)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Firing order: 1-6-2-5-8-3-7-4.
Breaker point gap: .018" to .020".
Note: Both gaps must be the same.

Timing—For ordinary fuel; points to break when UDC mark on flywheel is exactly opposite timing pointer:

Timing—For Ethylized fuel; paints to break when UDC Mark on flywheel is ;exactly 7/8" above the bottom of inspection hole.

SPECIAL TOOLS

HE-291 Engine timing gauge.
HE-193 Ignition wrench kit

Suggestions: Dress both sets of points smooth and parallel before adjusting. The operation of synchronizing requires great accuracy, and the use of a timing light is recommended. For detailed instructions for timing, see factory reference sheet No. 38

PROCEDURE OF OPERATION

This operation involves replacement of the distributor primary terminal post assembly (BZ—33892) as the electrolock cable cannot be detached from this terminal without damaging it.

Disconnect wires on electrolock switch. Using special spanner wrench HE-266, unscrew electrolock mounting nut. Remove distributor cap and rotor. Loosed distributor mounting clamp nut. Remove distributor and electrolock cable assembly. Remove two screws which hold the breaker plate assembly in the distributor. Disconnect condenser wire from primary terminal post. Lift out breaker plate assembly. Remove two screws which secure primary terminal post to breaker plate. Remove terminal post and electrolock cable. **REPLACE** new primary terminal post assembly. Replace screws holding terminal post to breaker. plate. Replace breaker plate in distributor. Replace breaker plate holding screws. Connect condenser wire. Replace distributor assembly. and tighten clamp screw. Replace rotor and cap. Replace electrolock cable: Connect wires on electrolock switch. Connect electrolock cable to distributor by pushing end of cable into terminal post until locking nubs engage in groove.

Remarks

INSTALL ELECTROLOCK

HUDSON
GREAT EIGHT

INSTALL ELECTROLOCK

HUDSON
GREAT EIGHT

ADJUSTMENTS

Breaker point gap: .020".

Note: Both gaps must be exactly the same.

Ignition timing: For ordinary fuel; Points to break when UDC mark on flywheel is exactly opposite timing pointer.

Ignition timing: For Ethylized fuel; Points to break when UDC mark on flywheel is exactly 7/8" above the bottom of inspection hole

SPECIAL TOOLS

HE-266 Electrolock nut wrench

Suggestions: Electrolock cable cannot be disconnected from distributor primary terminal post without damaging either one or both. Check breaker points; clean and adjust if necessary. For detailed timing instructions, see factory reference sheet No. 38.

PROCEDURE OF OPERATION

Raise right side of hood. Remove rear generator coupling rear nut and bolt. Remove generator holding strap clamp screw. Disconnect generator wire.: Remove generator. **REPLACE** generator. Line up hole in generator shaft with hole in coupling and replace coupling bolt. Replace coupling bolt nut. Replace generator holding strap clamp screw and tighten securely. Connect generator wire. Check generator charging rate. Lower hood.

Remarks:

Install Generator

HUDSON
GREAT EIGHT

Install Generator

HUDSON
GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot; 10½-11½ amperes.
Maximum normal charge rate, cold; 14-16 amperes.

Note: This is ammeter reading with lights off and should occur at a generator speed of 1900. R.P.M.; an engine speed of 1600 R.P.M.; or a car speed of approximately 30 M.P.H.

SPECIAL TOOLS

Suggestions: Lubricate generator bearings with three or four drops of light motor oil. Check generator cut out—the points should be clean and should close at a car speed of about 14 M.P.H.

PROCEDURE OF OPERATION

Raise right side of hood. Remove the front and rear of the four generator drive shaft coupling clamp nuts and bolts. Remove clamps. Loosen generator holding strap clamp screw. Slide generator back to free coupling. Remove drive shaft extension and couplings assembly. Remove two coupling clamp bolts. Remove two couplings from extension shaft. **REPLACE** couplings on extension shaft. Replace clamps, bolts and nuts. Replace shaft extension and couplings. Replace coupling clamps, bolts and nuts. Tighten generator holding strap clamp screw. Lower hood.

Remarks:

INSTALL GENERATOR COUPLING HUDSON GREAT EIGHT

ADJUSTMENTS

Maximum normal charge rate, hot; 10½-11½ amperes.
Maximum normal charge rate, cold; 14-16 amperes.

SPECIAL TOOLS

Suggestions: Check generator alignment. Oil generator bearings with three or four drops of light motor oil.

PROCEDURE OF OPERATION

Disconnect horn wire at horn. Loosen lower light switch lever clamp screw. Remove lower switch lever from control tube. Slide control tube up through steering column. Remove 3 screws holding switch lever driving plate to switch disc. Remove switch disc. Remove horn button. **REPLACE** horn mutton. Replace switch disc. Replace switch driving plate screws. Position control tube in steering column. Replace lower switch lever, and tighten clamp screw. Connect horn wire.

Remarks:

INSTALL HORN BUTTON HUDSON GREAT EIGHT

INSTALL HORN BUTTON HUDSON GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: It is not necessary. to entirely remove control tube from steering column in order to remove horn button. Check horn wire to see that insulation is not damaged, particularly where wire enters bottom of control tube.

PROCEDURE OF OPERATION

Raise left side of hood. Disconnect starter cable. Disconnect starter switch pull wire. Remove bolt and clamp which holds crankcase rear breather tube. Remove breather tube. Remove three nuts on studs holding starter to engine plate. Remove starter and bendix assembly. Remove bolt holding bendix collar to starter shaft. Remove bendix assembly. Replace bendix assembly. **REPLACE** starter and bendix assembly. Replace starter holding stud nuts. Replace crankcase breather pipe. Connect starter switch pull wire. Connect starter cable. Lower hood.

Remarks:

INSTALL STARTER

HUDSON
GREAT EIGHT

INSTALL STARTER

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Check for sprung starter shaft. Also check for stripped or rough teeth on flywheel gear. Wash grooves of bendix screw with gasoline or kerosene. Do not lubricate screw.

ENGINE

PROCEDURE OF OPERATION

Raise front end of car. Remove oil reservoir plug and drain oil. Disconnect oil gauge wire. Remove oil reservoir. Remove cotter pins from connecting rod bolt wits. Loosen but do not remove all connecting rod bearing caps. Remove No. 1 rod bearing cap. Remove thin shim, from each side of bearing. **REPLACE** and tighten bearing cap. Test bearing; if lower end of rod can be easily moved by hand, the bearing is too loose. Remove shims until a light hammer blow is required to move the rod. When the adjustment is correct, loosen No. 1 rod bearing cap. In the same manner proceed to adjust the other rods, one at a time. When all rod bearings are properly adjusted tighten all rod bearing bolt nuts. Replace cotter pins. Replace oil reservoir drain plug. Replace oil reservoir. Connect oil gauge wire. Lower front end of car. Replenish oil.

Remarks:

ADJUST BEARINGS (Connecting Rod)

HUDSON
GREAT EIGHT

ADJUST BEARINGS (Connecting Rod)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Rod bearing clearance: .001-.0015
Rod bearing end play: .006-.010

Bearing adjustment is correct when a light hammer blow is required to move lower end of rod lengthwise on crankshaft journal. It is essential that all rods be adjusted evenly so that smooth engine operation may result. Guard against adjusting bearings too tightly.

Oil capacity—reservoir only: 8 quarts
Total: 9½ quarts

SPECIAL TOOLS

HE-161 Axle stand
HE-188 Connecting rod nut wrench

Suggestions: Inspect connecting rod dippers. When the bearing caps are taken off for the removal of shims, the bearings and crank pins should be wiped clean and receive a film of new oil before being replaced. Before replacing oil pan, fill troughs with oil.

PROCEDURE OF OPERATION

Drain oil. Disconnect oil gauge wire. Raise front end of car. Remove oil reservoir cap screws. Remove oil reservoir. Loosen but do not remove connecting rod bearing caps. Remove cap screws holding front main bearing cap to timing gear cover. Remove front main bearing, cap bolt nuts. Remove bearing cap. Remove thin shim from each side. Tighten bearing cap. Turn crank shaft by hand and note drag. If not tight enough, continue to remove shims until a slight resistance is offered to turning. When front bearing is properly adjusted, loosen bearing caps. In the same manner, adjust the other main bearings. Tighten main bearing caps. **REPLACE** cotter pins. Tighten connecting, rod caps. Replace cotter pins. Replace front and rear crank shaft bearing cap packing. Replace oil reservoir. Replace oil reservoir cap screws. Lower front end of car. Refill oil reservoir.

Remarks:

ADJUST BEARINGS (Crankshaft) ALL

HUDSON
GREAT EIGHT

ADJUST BEARINGS (Crankshaft) ALL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Rod bearing clearance: .001-.0015
Rod bearing end play: .006-.012

Bearing adjustment is correct when a light hammer blow is required to move lower end of rod lengthwise on crankshaft journal. It is essential that all rods be adjusted evenly so that smooth engine operation may result. Guard against adjusting bearings too tightly.

Oil capacity—reservoir only: 8 quarts
Total: 9½ quarts

SPECIAL TOOLS

HE-161 Axle stand
HE- 54 Main bearing cap puller
HE-189 Main bearing nut wrench

Suggestions: When making bearing adjustment, it is necessary that the same thickness and number of shims be removed from both sides of the bearing. If shim packs contain no thin shims, remove a .003 or .005 shim and replace with .002. or .003. Before replacing oil reservoir fill troughs with oil. Before attempting to pull front on rear main bearing caps; remove packing from packing grooves.

PROCEDURE OF OPERATION

Drain oil. Disconnect oil gauge wire. Raise front end of car. Remove oil reservoir. Loosen connecting rod bolt nuts. Remove cap screws ,(front main bearing cap to front cover). Remove packing from cap. Remove front main bearing cap. Remove a thin shim from each aide. Install cap and tighten. Turn crank shaft by hand and note drag. Continue to remove shims until a slight resistance is offered to turning. When front main bearing is properly adjusted, loosen the cap. In the same manner, adjust the other main bearings. Remove thin shim from each side of No. 1 rod bearing. Tighten bearing cap. If lower end of rod can be moved easily, the bearing is still too loose. Remove shims until a alight hammer blow is required to move the rod. Loosen rod bearing cap. In the same manner adjust the other rod bearings, one by one. Tighten main bearing cap bolts. **REPLACE** cotter pins. Tighten connecting rod cap bolt nuts. Replace cotter pins. Replace front and rear main bearing cap packing . Replace oil reservoir. Connect oil gauge wire. Lower front end of car. Replenish oil.

Remarks:

ADJUST BEARINGS (Crankshaft and Connecting Rods)

HUDSON
GREAT EIGHT

ADJUST BEARINGS (Crankshaft and Connecting Rods)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Main bearing clearance: .001-.0015
Crank shaft end play: .006-.012
Rod bearing clearance: .001-.0015
Rod bearing end play: .006-.010

Note: When replacing oil reservoir, be sure that oil suction pipe is entered in filter screen cover.

SPECIAL TOOLS

HE-161 Axle stand
HE-188 Connecting rod nut wrench
HE-189 Main bearing nut wrench
HE 54 Main bearing cap puller

Suggestions: Inspect connecting rod dippers. When making bearing adjustment, it is necessary that the same thickness and number of shims be removed from both sides of the bearing. If shim packs contain no thin shims, remove a .003 or .005 shim and replace with one .002 or .003. Before replacing oil reservoir, fill troughs with oil.

PROCEDURE OF OPERATION

Use chain adjustment feeler wrench HE-330. Raise right side of hood. Remove front generator coupling front bolts Remove generator holding strap clamp screw. Raise generator to disengage dowel pin and slide generator and coupling back to allow feeler wrench to be slipped over end of generator drive shaft. Turn crankshaft ahead slightly. with hand crank to get total slack of chain between crankshaft and eccentric sprockets. Tighten feeler wrench on generator shaft. Rock handle of tool to determine amount of free movement in shaft. Straighten locks on three bolts holding eccentric to front engine plate. Remove the bottom bolt. Remove the inside top bolt. Loosen but do not. remove outside top bolt. Turn eccentric to adjust chain. **REPLACE** eccentric bolts and tighten. Bend over locks on bolts. Remove feeler wrench. Replace generator and coupling. Replace front coupling bolt and nut. Tighten generator strap clamp screw. Lower hood.

Remarks:

ADJUST CHAIN

HUDSON
GREAT EIGHT

ADJUST CHAIN

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should, have 7/16" to 3/4" slack, (total up and down movement), at middle point of lower span, between crankshaft and eccentric sprockets.

Note: Chain adjustment is correct when punch mark on handle of feeler wrench has a total movement of 3/32" to 7/32".

SPECIAL TOOLS

HE-330 Chain adjustment feeler wrench

Suggestions: To tighten chain, always turn top of eccentric toward you (away from engine). Always tighten eccentric bolts before checking chain adjustment. If, after adjusting, bolt will not enter hole in eccentric, turn eccentric back slightly until bolt enters.

Before making initial check of adjustment, turn crankshaft ahead slightly in order to get total slack of chain between crankshaft and eccentric sprockets. Otherwise the chain may seem to be tight when actually it is not.

PROCEDURE OF OPERATION

Engine should be warm when tappets are adjusted. Raise right side of hood. Remove tappet compartment cover plates. Turn crankshaft until No. 1 piston is on firing dead center. Loosen tappet adjusting screw lock nut on No 1 exhaust valve. Turn adjusting screw to adjust tappet, using a feeler gauge to determine the clearance between tappet adjusting screw and valve stem. Tighten lock nut. In the same way adjust. No. l intake valve tappet. In the same manner adjust all other tappets, having the corresponding piston on firing dead center. Run engine at idling speed and check—tappet clearance with feeler gauge. **REPLACE** tappet compartment cover plates, Lower hood.

Remarks:

ADJUST VALVE TAPPETS

HUDSON
GREAT EIGHT

ADJUST VALVE TAPPETS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Intake Valve Tappet: .003"-.005", hot.
Exhaust Valve Tappet : . 005"-.007", hot.
Firing order: 1-6-2-5-8-3-7-4.

Note: Tappet clearance is measured by inserting feeler gauge of correct thickness between tappet adjusting screw and valve stem.

SPECIAL TOOLS

HE-158 Tappet adjusting screw wrench
(2 required)
HE-150 Feeler gauge

Suggestions: Before adjusting tappet, engine should be run long enough to attain operating temperature. Due to the expansion of valve stem and tappet, insufficient tappet clearance will prevent valve seating when hot, causing burned or warped valve.

PROCEDURE OF OPERATION

Raise front end of car. Drain oil reservoir. Disconnect oil gauge wire. Remove oil pun bolts. Remove oil pan. Remove three bolts holding flywheel guard. Remove flywheel guard. Remove four bolts and nuts holding rear engine support brace. Remove engine support brace. Remove spark plugs. Remove No. 1 connecting rod bearing cap bolts. Remove bearing cap and shims. Turn crankshaft until No. 1 piston is at its highest . position. Remove piston and rod assembly, bringing piston down to the left of crankshaft. In similar manner, remove all piston and connecting rod assemblies. Remove piston pin lock rings. Remove piston pins. Remove pistons. Align connecting rods on aligning fixture. **REPLACE** pistons on rods. Replace piston pins. Replace piston pin lock rings. Replace piston and connecting rod assemblies in engine. Replace bearing caps, using correct shim thickness to obtain proper bearing adjustment. Replace connecting rod bolts, nuts and cotter pins. Replace rear engine support brace. Replace flywheel guard. Replace oil pan and bolt up securely. Connect oil gauge wire. Lower car. Replenish oil. Replace spark plugs.

Remarks:

ALIGN CONNECTING RODS. (ALL)

HUDSON
GREAT EIGHT

ALIGN CONNECTING RODS. (ALL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Rod bearing clearance : .001"-.0015"
Rod bearing end play: .006"-.010"

Rod bearing adjustment should be such that a light hammer blow is required to move rod endwise on crankshaft journal.

Note: Before removing or replacing piston pin, heat piston to approximately 200 degrees.

SPECIAL TOOLS

HE-161 Front axle stands
HE-188 Connecting rod nut wrench
HE-169 Spark plug wrench
HE-126 Straightening bar
HE-300 Connecting rod and piston aligning fixture

Suggestions: Piston and connecting rod assemblies may be readily removed from bottom of cylinder. Slot in piston must be on left side of engine (side opposite camshaft). Check rods on aligning fixture for bend and twist. Before replacing oil pan, be sure that upper end of each connecting rod rides piston pin midway between piston bosses when crankshaft is turned.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Disconnect spark plug wires and remove plugs. Loosen radiator upper hose clamps. Remove upper hose. Remove bolts holding water outlet manifold to cylinder heads. Remove water outlet manifold. Remove crankcase rear breather tube. Remove ignition coil. Remove horn. Remove cylinder head stud nuts. Remove cylinder heads. Remove cylinder head gaskets. Clean carbon from cylinder heads, pistons and valves, using care to remove all loose particles of carbon to prevent them becoming lodged between piston and cylinder wall, or in the ring grooves. **REPLACE** cylinder head gaskets. Replace cylinder heads. Replace cylinder head stud nuts. Replace crankcase rear breather tube. Replace horn. Replace coil. Replace water outlet manifold and bolt to cylinder heads. Replace cable tube. Replace upper hose and tighten clamps. Replace spark plugs and connect plug wires.

Remarks:

CLEAN CARBON **HUDSON GREAT EIGHT**

CLEAN CARBON **HUDSON GREAT EIGHT**

ADJUSTMENTS

Note: Tighten cylinder head nuts carefully, each a little at a time. After engine has been warmed up, the nuts should again be tightened.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
h—317 Cylinder head nut wrench
HE-169 Spark plug wrench
HE-286 Cylinder head lifting handle (2 required)

Suggestions: Replace cylinder head gaskets if even slightly damaged in removing. Clean carbon by scraping or by means of a wire brush operated by an electric drill. Remove all loose particles of carbon to prevent them becoming lodged in ring grooves or between piston and cylinder wall.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Disconnect spark plug wires and remove plugs. Loosen upper hose clamps. Remove hose. Remove cable tube. Remove horn. Remove ignition coil. Remove water manifold from cylinder head. Remove cylinder head stud nuts. Remove cylinder heads. Remove tappet compartment cover plates. Loosen tappet lock nuts and run down tappet adjusting screws to prevent Valves riding When being' ground. Remove valves by compressing spring With a suitable valve lifter and removing retainer (horse shoe). If necessary, reface valves on a valve re-facing machine. Also examine valve seats in cylinder block and re-seat if badly worn or pitted: Clean carbon from cylinder heads, pistons and valves. Turn crankshaft until No. I piston is on firing' center. Grind No. I intake and exhaust valves. In the same manner, grind all valves, being sure that corresponding piston is on firing dead center, **REPLACE** valves. Replace valve spring retainers. Replace cylinder heads, and tighten nuts securely. Replace water manifold. Replace horn. Replace coil. Replace spark plugs. Replace top hose and tighten clamps. Refill cooling system. Warm up engine. Adjust tappets. Replace tappet compartment cover plates. Replace hood.

Remarks:

GRIND VALVES AND CLEAN CARBON

HUDSON
GREAT EIGHT

GRIND VALVES AND CLEAN CARBON

HUDSON
GREAT EIGHT

ADJUSTMENTS

Intake Valve Tappet:. .003"-.005", hot.
Exhaust Valve Tappet: .005 "-.007", hot.

Note: Tappet clearance is measured with feeler gauge between tappet adjusting screw and valve stem.

Firing order: 1-6-2-5-8-3-7-4.

Spark plug gap: .022"

SPECIAL TOOLS

h—284 Cylinder head nut wrench
h—317 Cylinder head nut wrench
HE-286 Cylinder head lifting handle
HE-120 Valve reseater and port hole reamer
HE-171 Valve grinding brace
HE-302 Tappet adjusting wrench
HE-158 Tappet adjusting wrench
HE-165 Valve lifter
HE-169 Spark plug - wrench
HE-150 Feeler gauge
HE-306 "Stranded" valve puller

Suggestions: Do not lift off cylinder heads by means of the water manifold. Use two cylinder head lifting handles, HE-286. Replace burned or warped valves. After engine has been warmed up, cylinder head nuts should be tightened a second time.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Remove spark plugs. Remove radiator upper hose. Remove water Manifold from cylinder head. Remove cylinder head stud nuts. Remove cylinder heads. Remove tappet cover plates, Loosen tappet . lock—nuts and run down tappet adjusting screws to prevent valves riding when being ground. Remove valves by compressing spring with a suitable valve lifter and removing retainer (horse shoe). Clean carbon from cylinder heads, pistons, valves and valve ports. Turn crankshaft until No: 1 piston is on firing dead center. Grind No. 1 intake and exhaust valves. In similar manner, grind all valves, being sure that corresponding piston is on firing dead center. **REPLACE** valves. Replace valve spring retainers. Replace cylinder heads, and tighten nuts securely. Replace water manifold. Replace horn. Clean, adjust and replace spark pings. Replace top hose and tighten clamps. Refill cooling system. Warm up engine Adjust tappets. Replace tappet cover plates. Remove glass gasoline bowl. from vacuum tank. Clean sediment from bowl. Remove carburetor strainer plug, clean strainer and replace. Replace vacuum tank gasoline bowl. Clean, adjust and synchronize breaker points. Adjust carburetor. Replace hood.

Remarks:

GRIND VALVES, CLEAN CARBON, TUNE ENGINE

HUDSON
GREAT EIGHT

GRIND VALVES, CLEAN CARBON, TUNE ENGINE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Intake Valve Tappet: .003"-.005", hot.
Exhaust Valve Tappet: .005"-.007", hot.
Firing order: 1-6-2-5-8-3-7-4
Spark plug gap: .022"
Breaker point gap: .020"
Ignition timing; ordinary fuel; points to break when UDC I & 8 mark on flywheel is opposite timing pointer.
Ignition timing: Ethylized fuel; points to break when UDC 1 & 8 mark on flywheel is exactly 7/8" ABOVE lower edge of inspection hole.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
h—317 Cylinder head nut wrench
HE-286 Cylinder head lifting handle
HE-120 Valve reseater
HE-171 Valve grinding brace
HE-302 Tappet adjusting wrench
HE-165 Valve lifter
HE-169 Spark plug wrench
HE-150 Feeler gauge
HE-193 Ignition wrench kit

Suggestions: For detailed instructions for synchronizing breaker points, see factory reference sheet No. 38.

PROCEDURE OF OPERATION

Drain radiator. Loosen upper and lower hose clamps. Remove engine hood. Disconnect radiator shutter. control wire at radiator. Unscrew radiator tie rods from radiator shell. Loosen headlamp connections and remove wires from terminal block. Remove nuts from bolts holding radiator assembly to frame cross member. Lift off radiator. Remove small splash guard at front of engine. Remove fan and belt assembly. Pull vibration dampener off the crankshaft. Remove cap screws holding chain cover to engine. Remove chain cover. Inspect. **REPLACE** chain cover and cap screws. Replace vibration dampener and fan. assembly. Replace small splash guard. Replace radiator assembly. Connect head lamp connections and wires to terminal block. Connect radiator tie rods to radiator shell. Connect shutter control wire. Replace engine hood and line up radiator shell to engine hood. Replace nuts holding radiator to frame cross member. Tighten upper and lower hose clamps and fill radiator.

Remarks:

INSPECT (REMOVE CHAIN COVER)

HUDSON
GREAT EIGHT

INSPECT (REMOVE CHAIN COVER)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain: lower span between accessory shaft sprocket and crankshaft sprocket should have 7/16" to 3/4" total up and down movement or slack.

Fan belt: Fan belt adjustment is correct when the middle span can be deflected 5/8" below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller

Suggestions: Inspect condition of chain and sprockets. Check timing marks for correct chain setting. Inspect camshaft sprocket cap screws—be sure they are tight and securely locked. Shellac new gasket on chain cover before replacing cover. Check flange of cover on surface plate.

PROCEDURE OF OPERATION

Remove hood. Drain cooling system. Disconnect spark plug wires and remove plugs. Loosen radiator upper hose clamps. Remove upper hose. Remove eight bolts holding water outlet manifold to cylinder heads. Remove water outlet manifold. Remove two nuts holding cable tube to cylinder heads. Remove ignition coil. Remove. horn. Remove cylinder head stud nuts. Remove cylinder heads. **INSPECT**. Replace cylinder heads. Replace cylinder head stud nuts. Replace horn. Replace coil. Replace, water outlet manifold. Replace water manifold bolts. Replace cable tube. Replace radiator upper hose and tighten clamps. Replace spark plugs and connect plug wires.

Remarks: **Do not** lift off cylinder heads by means of the water outlet manifold. Use two cylinder head lifting handles, HE-286.

INSPECT (REMOVE CYLINDER HEAD)

HUDSON
GREAT EIGHT

INSPECT (REMOVE CYLINDER HEAD)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spark plug gap: .022"

Cylinder head nuts: Tighten nuts carefully, each a little at a time. After engine has been warmed up, the nuts should be tightened a second time.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
HE-286 Cylinder head liftinghandle (2 required)
h—317 Cylinder head nut wrench
HE-169 Spark plug wrench

Suggestions: Inspect for carbon deposit, damaged cylinder head gasket, cracked cylinder head, scored cylinder, burned or warped valve, clogged water passages. Test spark plugs, and adjust gap.

PROCEDURE OF OPERATION

Raise front end of car. Remove oil pan drain plug, and drain oil. Disconnect oil gauge wire. Remove oil pan bolts and lower oil pan assembly. Lift out oil pan tray assembly. Inspect screen. Inspect troughs. See that rear main bearing return is not obstructed. Inspect gaskets. Test oil gauge, unit. Inspect connecting rods, dippers and bearing adjustment. **REPLACE** oil pan tray. Fill dipper troughs with oil. Replace oil pan assembly and bolt to crankcase. Connect oil gauge wire. Replace drain plug. Lower car. Replenish oil.

Remarks:

INSPECT (REMOVE OIL PAN FOR INSPECTION)

HUDSON
GREAT EIGHT

INSPECT (REMOVE OIL PAN FOR INSPECTION)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Connecting rod bearing clearance:
.001"-.0015"
Connecting rod bearing end play: .006"-.010"
Crankshaft end play: .006"-.012"
Oil pan capacity, reservoir only, 8 quarts.
Oil pan capacity, reservoir and trough, 9-1/2 quarts.

SPECIAL TOOLS

HE-161 Front axle stands

Suggestions: Fill dipper troughs with oil before replacing oil pan. Use care to see that oil pan has correct amount of oil. Over filling will cause a leak at the rear main bearing. Tighten oil pan bolts evenly to guard against oil leaks.

PROCEDURE OF OPERATION

Drain radiator. Remove engine hood. Loosen upper and lower hose clamps. Remove nuts from bolts holding radiator to frame cross member. Disconnect head lamp wires at lamps and terminal block. Unscrew radiator tie rods from radiator shell. Lift off radiator. Remove small splash guard at front of engine. Remove fan and fan belt. Pull vibration dampener from crankshaft. Remove front end cover. Remove camshaft sprocket and timing chain. Remove carburetor air cleaner. Remove generator drive shaft couplings. Disconnect oil lines from oil pump. Remove distributor head. Remove bolts holding distributor housing to engine support. Remove distributor housing and eccentric assembly from engine. Drive out pin from stationary coupling on eccentric shaft. Remove stationary coupling. Remove floating coupling and sprocket. Remove eccentric. and eccentric gasket. **REPLACE** eccentric and gasket. Replace sprocket, floating, and stationary couplings. Install assembly on engine support, and replace housing bolts. Replace timing chain and camshaft sprocket. Adjust timing chain. Replace front cover, vibration dampener, and fan assembly. Replace engine splash guard. Replace generator couplings and drive shaft. Connect oil pump pipes. Replace air cleaner. Replace distributor head and set timing with flywheel markings. Replace radiator, connect head lamp wires and radiator tie rods. Tighten hose clamps and replace engine hood. Fill radiator.

Remarks:

INSTALL ADJUSTING ECCENTRIC

HUDSON
GREAT EIGHT

INSTALL ADJUSTING ECCENTRIC

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain: Lower span between accessory shaft and crankshaft sprockets should have 7/16" to 3/4" total up and down movement or slack.

Fan belt: Fan belt adjustment is correct when the middle span can be deflected 5/8" below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller.

Ignition timing: for ordinary fuel; Ignition points to break when UDC mark on flywheel is opposite timing pointer.

Ignition timing: for ethylized fuel. Ignition points to break when UDC mark on flywheel is 7/8" above bottom of inspection hole.

Suggestions: Replace gaskets. Shellac new gasket to timing case cover before replacing cover. For detailed instructions for timing and synchronizing, see factory reference sheet No. 38.

PROCEDURE OF OPERATION

Drain radiator. Remove hood. Loosen upper and lower radiator hose clamps. Disconnect head lamp wires at lamps and terminal block. Remove nuts from bolts holding radiator to frame cross members. Unscrew radiator tie rods. Disconnect shutter controls wire. Lift off radiator assembly. Remove fan and belt. Remove small splash guard at front of engine. Remove starting crank jaw. Remove vibration dampener. Remove timing cover. Remove camshaft sprocket and timing chain. Remove cylinder heads. Remove tappet cover plates. Remove valves and valve springs. Remove tappet and guide assemblies. Remove engine front support bolts. Raise front end of engine slightly to allow camshaft to clear frame cross member. Remove camshaft. **REPLACE** camshaft. Lower front end of engine. Replace engine support bolts. Replace tappet and guide assemblies. Replace valves and springs. Replace cylinder heads. Replace timing chain. Replace camshaft sprocket. Adjust chain. Replace timing gear cover. Replace vibration dampener and crank jaw. Replace splash guard. Replace fan and belt. Replace radiator. Connect headlamp wires, shutter control and tie rods. Bolt core to frame. Replace hose clamps. Refill cooling system. Check tappet adjustment. Replace tappet compartment cover plates.

Remarks:

INSTALL CAMSHAFT

HUDSON
GREAT EIGHT

INSTALL CAMSHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Intake valve tappet-.003"-.005"
Exhaust valve tappet-.005"-.007"
Engine anchor bolts—Draw up nuts so that rubber shims are compressed 1/16".
Chain—Lower span (between crankshaft and eccentric sprockets) should have 7/16" to 3/4" total up and down movement or slack.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
HE-285 Starting crank jaw wrench
HE-286 Cylinder head lifting handles
HE-319 Valve spring compressor
HE-150 Feeler gauge
HE-327 Vibration dampener puller

Note: Camshaft may be removed without removing cylinder head or valves, by blocking up tappets by means of cylinder head nuts placed between edge of tappet guide and crankcase.

Chain timing: Turn crankshaft until UDC 1 & 8 mark on flywheel is exactly in line with timing pointer. Turn camshaft until exhaust valve No. 1 cylinder has just closed, and intake valve is just about to open. Turn eccentric shaft until distributor rotor arm points back toward the rear of car. Install chain so that punch marks on chain coincide with marked teeth on crankshaft and camshaft sprockets. This may require a slight turning of camshaft to allow cap screws to be inserted. Camshaft sprocket can be in stalled on flange in only one position, due to one bolt hole being offset.

PROCEDURE OF OPERATION

Drain water. Remove hood. Loosen upper and lower - hose clamps. Remove nuts from bolts holding radiator to frame cross member. Disconnect headlamp wires from lamps and terminal block. Disconnect shutter control wire. Unscrew radiator tie rods. Lift off radiator. Remove small engine splash guard. Remove fan and belt. Remove starting crank jaw. Pull vibration dampener from crankshaft. Remove cap screws in timing chain cover. Remove cover. Loosen chain eccentric adjustment. Crank engine until one punch mark on chain coincides with marked teeth on crankshaft sprocket; and the other punch mark on chain coincides with marked teeth on camshaft sprocket. Remove camshaft sprocket lock wire and cap screws. Remove camshaft sprocket and chain. Do not alter position of shafts while chain is off. **REPLACE** chain on crankshaft and accessory sprockets so that lower punch mark on chain coincides with marked teeth on crankshaft sprocket. Replace camshaft sprocket in chain so that upper punch mark on chain coincides with marked teeth on camshaft sprocket. Replace sprocket on camshaft. Replace cap screws and lock wire. Adjust chain. Replace timing case cover. Replace engine guard. Replace vibration dampener and crank jaw. Replace fan and belt. Replace radiator. Replace radiator support bolt nuts. Replace tie rods and shutter control wire. Tighten hose clamps. Replenish water. Replace hood.

Remarks:

INSTALL CHAIN

HUDSON
GREAT EIGHT

INSTALL CHAIN

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain: Lower span, between crankshaft and eccentric sprockets, should have 7/16" to 3/4" total up and down movement or slack.

SPECIAL TOOLS

HE-327 Vibration dampener puller.

Chain Setting: If shafts have, been turned while chain is off, proceed as follows: Turn crankshaft so that the DC 1 & 8 mark on flywheel is exactly in line with timing pointer. Turn camshaft until exhaust valve of number one cylinder has just closed and intake valve is just about to open. Turn eccentric sprocket until the distributor rotor arm points straight back toward rear of car. Install chain so that punch marks on chain coincide with marked teeth on camshaft and crankshaft sprockets. This may require a slight turning of camshaft to allow cap screws to be inserted. Camshaft sprocket may be installed on flange in only one position due to one bolt hole being offset.

Suggestions: If it is not desired to install a new chain, old chain may be shortened by removing the "hunting link," thus making it again serviceable and one link shorter. Check sprockets for wear. See factory reference sheet No. 15, June, 1930.

PROCEDURE OF OPERATION

Raise front end of car. Remove oil pan drain plug and drain oil. Disconnect oil gauge wire. Remove oil pan bolts and lower oil pan. Remove cotter pins in bearing cap nuts of rod to be replaced. Remove rod bearing cap nuts. Remove bearing cap and shims. Turn crankshaft until connecting rod to be removed is at its highest position. Remove connecting rod and piston assembly, bringing rod down to the left of crankshaft (side opposite camshaft), and turning crankshaft to allow piston to follow down between counterweight and crank throw. Remove piston pin lock rings. Heat piston and remove piston pin. Remove piston from rod. Ream new connecting rod bushing to fit piston pin. Ream connecting rod bearing to fit crankshaft. Face sides of bearing if necessary to obtain correct end play. Align rod in aligning fixture. Heat piston. **REPLACE** piston on rod and replace piston pin. Replace piston pin locks. Replace piston and rod assembly in engine. Replace rod bearing cap and shims. Replace bearing cap nuts and cotter pins. Fill oil pan troughs with oil. Replace oil pan and bolt to crankcase. Replace drain plug. Connect oil gauge wire. Lower car. Replenish oil.

Remarks:

INSTALL CONNECTING ROD (ONE)

HUDSON
GREAT EIGHT

INSTALL CONNECTING ROD (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Rod bearing clearance: .001"-.0015"
Rod bearing end play: .006"-.010"
Note: Piston must be installed on connecting rod so that slot in piston skirt is opposite dipper opening. When piston is assembled in engine, slot in piston skirt must be on left side of, engine (side opposite camshaft).
Before removing or replacing piston pin, heat piston to approximately 200 degrees F.

SPECIAL TOOLS

HE-161 Axle stands
HE-188 Connecting rod nut wrench
HE-186 Feeler gauge
HE-300 Connecting rod aligning fixture
HE-126 Straightening bar
HE- 86 Piston pin reamer
HE-287 Connecting rod bearing reamer

Suggestions: All connecting rod and piston assemblies may be withdrawn through bottom of cylinder. Bring rod down to the left of crankshaft. If rod is properly aligned, the upper end of rod will ride piston pin midway between piston bosses throughout complete revolution of crankshaft.

PROCEDURE OF OPERATION

Drain radiator. Remove engine hood. Loosen upper and lower radiator hose clamps. Remove nuts from bolts holding radiator to frame cross member. Disconnect head lamp wires from lamps and terminal block. Unscrew radiator tie rods from radiator shell. Disconnect shutter control wire. Lift off radiator assembly. Remove small splash guard at front of engine. Remove fan and fan belt. Remove starting crank jaw and pull vibration dampener from crankshaft. Remove cap screws holding timing chain cover and remove cover and gasket. Install new gasket and felt washer on new timing chain cover and replace on engine. **REPLACE** cap screws holding cover to engine. Replace vibration dampener and starting crank jaw. Replace fan and fan belt. Replace small splash guard at front of engine. Replace radiator and screw radiator tie rods into radiator shell. Connect head lamp wires and shutter control wire. Replace engine hood. Line radiator shell to engine hood and replace nuts on bolts holding radiator to frame cross member. Tighten hose clamps. Fill radiator.

Remarks:

INSTALL COVER (TIMING GEAR CASE)

HUDSON
GREAT EIGHT

INSTALL COVER (TIMING GEAR CASE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt: Adjustment is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

Chain:. Lower span, between crankshaft and eccentric sprockets, should have 7/16" to 3/4" total up and down movement, or slack.

SPECIAL TOOLS

HE-327 Vibration dampener puller

Suggestions: Shellac new gasket to timing case cover before replacing cover. Inspect chain and sprockets. Tighten cover cap screws carefully, each a little at a time.

PROCEDURE OF OPERATION

Remove engine from car and place in engine stand (see INSTALL ENGINE ASSEMBLY) Remove starting crank jaw. Remove vibration dampener. Remove timing gear case cover. Remove camshaft sprocket lock wire and cap screws. Remove camshaft sprocket. Remove timing chain. Remove flywheel. Remove oil reservoir. Remove cotter pins and nuts from connecting rod bolts. Remove connecting rod bearing caps and shims. Remove connecting rod and piston assemblies. Remove wick packing from front and rear main bearing caps. Remove cotter pins and nuts from main bearing studs. Remove main bearing caps. Remove crankshaft. **REPLACE** main bearing caps and shims, Tighten bearing stud nuts. Line ream main bearings. Replace crankshaft. Adjust main bearings. Replace main bearing stud nuts and cotter pins. Replace front and rear bearing cap packing. Replace piston and connecting rod assemblies. Replace rod bearing caps. Replace oil reservoir. Replace flywheel. Replace sprockets and chain. Replace gear case cover. Replace vibration dampener. Replace crank jaw. Replace engine in car.

Remarks:

INSTALL CRANKSHAFT (INCLUDES LINE REAMING)

HUDSON
GREAT EIGHT

INSTALL CRANKSHAFT (INCLUDES LINE REAMING)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Main bearing clearance: .001"-.0015"
Crankshaft end play: .006"-.012"

Chain: Lower span (between crankshaft and accessory drive—shaft sprockets) should have 7/16" to 3/4" up and down movement, or slack.

Piston clearance: .001" to .0015" at bottom of skirt.

Note: When installing chain, be sure that punch marks on chain coincide with those on crank and camshaft sprockets. See factory reference Sheet No. 15, May, 1930.

SPECIAL TOOLS

HE-285 Starting crank jaw wrench
HE- 54 Main bearing cap puller
HE-188 Connecting rod nut wrench
HE-189 Main bearing nut wrench
HE-200 Line reaming fixture
HE-213 Engine lifting fixture
HE-300 Connecting rod aligning fixture
HE-327 Vibration dampener puller
HE-441 Universal engine stand
HE- 40 Telescoping gauge

Suggestions: Check connecting rod alignment. Inspect pistons and cylinder. Check crankshaft end play. For detailed instructions for ignition timing and synchronizing, see factory Reference Sheet No. 38.

PROCEDURE OF OPERATION

Remove engine from car and place in engine stand (See "INSTALL ENGINE ASSEMBLY"). Remove starting crank jaw. Remove vibration dampener. Remove timing gear case cover. Remove camshaft sprocket lock wire and cap screws. Remove cam—shaft sprocket and chain. Remove flywheel. Remove oil pan. Remove cotters and nuts from connecting rod bolts. Remove rod bearing caps and shims. Remove connecting rod and piston assemblies. Remove packing from front and rear main bearing caps. Remove main bearing stud nuts. Remove bearing caps. Remove crankshaft. Remove machine screws which hold main bearing upper and lower shells in place, and remove bearings. Using special filing blocks, file new bearings flush with caps and crankcase. **REPLACE** bearings in caps and crankcase. Replace bearing caps, using standard shim packs. Line ream main bearings to size. Face off aides of center main bearing to obtain correct amount of end play. Replace crankshaft. Adjust main bearings. Replace bearing stud nuts and cotters. Replace front and rear bearing packing. Replace connecting rod and piston assemblies. Adjust rod bearings and replace nuts and cotters. Replace oil pan. Replace, flywheel. Replace camshaft sprocket and chain. Replace timing case cover. Replace vibration dampener and crank jaw. Replace engine in car.

Remarks:

INSTALL CRANKSHAFT BEARINGS

HUDSON GREAT EIGHT

INSTALL CRANKSHAFT BEARINGS

HUDSON GREAT EIGHT

ADJUSTMENTS

Main bearing clearance-.001"-.0015"
Crankshaft end play-.006"-.012"
Rod bearing clearance-.001"-.0015"
Rod bearing end' play-.006"-.010"
Chain—Lower span (between crankshaft and eccentric sprockets) should have 7/16" to 3/4" total up and down movement, or slack.
Fan belt—Tension is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-285 Starting crank jaw wrench
HE- 54 Main bearing cap puller
HE-188 Connecting rod nut wrench
HE-189 Main bearing nut wrench
HE-200 Line reaming fixture
HE-213 Engine lifting fixture
HE-327 Vibration dampener puller
HE-441 Engine stand
HE- 40 Telescoping gauge
h—288 Crankshaft bearing filing blocks

Chain timing: Turn crankshaft until UDC 1 & 8 mark on flywheel is exactly opposite timing pointer. Turn camshaft until exhaust valve No. 1 cylinder has just closed and intake valve is just about to open. Turn eccentric shaft until distributor rotor arm points back toward the rear of car. Install chain so that punch marks on chain coincide with marked teeth on crankshaft and camshaft sprockets. This, may require a slight turning of camshaft to allow cap screws to be inserted. Camshaft sprocket can be installed on flange in only one position, due to one bolt hole being offset.

PROCEDURE OF OPERATION

Remove hood. Remove engine from car and place on engine stand (see "INSTALL ENGINE ASSEMBLY"). Remove transmission and clutch. Remove starter and generator. Remove cylinder head. Remove valves. Remove valve tappet assemblies. Remove timing gear cover. Remove chain and sprockets. Remove accessory drive—shaft and housing assembly. Remove camshaft. Remove connecting rod bearing caps. Remove main bearing caps. Remove crankshaft. Remove connecting rod and piston assemblies. Strip old cylinder block and install parts an new block. Remove piston pin locks. Remove piston pins. Remove pistons from rods. Remove connecting rod bushings. Renew connecting rod bushings. Fit new pistons to cylinder. Fit new rings. Fit new piston pins to connecting rods. Align rods. **REPLACE** pistons on rods. Replace piston pins. Replace locks. Install connecting rod and piston assemblies in cylinder. Replace crankshaft. Adjust crankshaft bearings. Adjust rod bearings. Replace camshaft. Replace sprockets and chain. Replace timing gear cover. Replace valve tappet assemblies. Replace valves. Grind valves. Replace cylinder head. Replace starter and generator. Replace clutch and transmission. Replace engine in car. Tune engine.

Remarks:

INSTALL CYLINDER ASSEMBLY (INCLUDES FIT PISTONS)

HUDSON
GREAT EIGHT

INSTALL CYLINDER ASSEMBLY (INCLUDES FIT PISTONS)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Piston clearance: .001" to ..0015" at bottom of skirt.
Piston ring gap: .007" to .009"
Main bearing clearance: .001" to .0015"
Crankshaft end play: .006"-.012"
Connecting rod bearing clearance: .001" to .0015"
Connecting rod bearing end play: .006" to .010"
Chain: Lower span (between crank— shaft and eccentric sprockets) should have 7/16" to 3/4" total up and down movement; or slack.

Note: Before removing or replacing piston pin, heat piston to approximately 200 degrees F.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
h—317 Cylinder head nut wrench
HE-285 Starting crank jaw wrench
HE-286 Cylinder head lifting handles
HE-156 Piston ring compressor
HE-171 Valve grinding brace
HE-302 Tappet adjusting screw wrench
HE-165 Valve lifter
HE-189 Main bearing nut wrench
HE- 49 Crankshaft gear puller
HE-188 Connecting rod nut wrench
HE-300 Connecting rod aligning fixture
HE- 86 Piston pin reamer
HE-327 Vibration dampener puller

Suggestions: Check crankshaft bearing journals for out of round. Re-balance and polish shaft; and line ream main bearings if necessary. Consult factory piston reference sheet No. 18, chain reference sheet No. 15, and timing reference sheet No. 38.

PROCEDURE OF OPERATION

Remove hood., Drain cooling system. Disconnect spark plug wires. Remove spark plug in head to be removed. Loosen radiator upper hose clamps. Remove upper hose. Remove eight bolts holding water outlet manifold to cylinder heads. Remove water manifold. Remove two nuts holding cable tube to cylinder heads. Remove horn and bracket. Remove cylinder head stud nuts. Remove cylinder head. **REPLACE** cylinder head. Replace cylinder head stud nuts. Replace horn and bracket. Replace water outlet manifold. Replace water manifold bolts. Replace cable tube. Replace radiator upper hose and tighten clamps. Replace spark plugs and connect plug wires.

Remarks:

INSTALL CYLINDER HEAD (ONE)

HUDSON
GREAT EIGHT

INSTALL CYLINDER HEAD (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spark plug gap: .022"
Cylinder head nuts: Tighten nuts carefully, each a little at a time. After engine has been warmed up the nuts should be tightened a second time.

SPECIAL TOOLS

h—284 Cylinder head nut wrench
h—317 Cylinder head nut wrench
HE-169 Spark plug wrench
HE-286 Cylinder head lifting handle (2 required)

Suggestions: Do not lift off cylinder head by means of the water outlet manifold. Use two cylinder head lifting handles, HE-286. Test spark plugs and adjust gap. It is advisable to replace cylinder head gasket.

PROCEDURE OF OPERATION

Remove air cleaner from carburetor. Remove distributor cap and wire assembly. Remove cap screw securing distributor to housing and lift out distributor assembly. Remove generator coupling front bolt and clamp. Remove generator strap clamp screw and remove generator and extension drive shaft assembly. Disconnect all oil lines at oil pump. Disconnect and remove oil feed pipe from front motor support. Bend back locks on bolts holding oil pump drive housing to engine support. Remove bolts. Slide housing back, remove housing and take to bench. Remove distributor drive shaft plug. Remove nut from end of distributor drive shaft. Remove shaft through top of housing. **REPLACE** shaft and shaft nut. Replace plug. Reassemble on engine support. Replace bolts and adjust timing chain. Tighten bolts and bend over locks. Connect all oil lines. Replace generator and connect generator coupling. Replace distributor: Check ignition timing. Replace distributor lock cap screw. Replace distributor cap and wires. Replace carburetor air cleaner.

Remarks:

INSTALL DISTRIBUTOR DRIVE SHAFT

HUDSON
GREAT EIGHT

INSTALL DISTRIBUTOR DRIVE SHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Ignition timing, ordinary fuel; points to break when UDC mark on flywheel is opposite timing pointer.

Ignition timing, Ethylized fuels; points to break when UDC mark on flywheel is 7/8" above lower edge of inspection hole.

SPECIAL TOOLS

HE-193 Ignition wrench kit
HE-322 Oil pump lower cap nut wrench
HE-324 Oil pump upper cap nut socket wrench
HE-330 Chain adjustment feeler wrench

Note: In replacing distributor support assembly, mesh the gears so that the driving slot in distributor drive shaft is crosswise of engine (at right angles with crankshaft) when No. 1 piston is on firing dead center. In this position, the distributor rotor should point ahead and slightly to the right of electrolock cable terminal.

Suggestions: Use tool HE-330 to adjust chain. Chain adjustment is correct when top of adjusting tool has total movement of 3/32" to 7/32".

PROCEDURE OF OPERATION

Remove carburetor air cleaner. Remove distributor cap and wire assembly. Remove cap screw securing distributor to housing and lift out distributor. Disconnect generator extension drive shaft at front coupling. Remove generator clamp screw and remove generator and extension shaft. Disconnect all oil lines from oil pump and remove front oil feed line from engine support. Bend back locks on bolts holding distributor drive housing to engine support, and remove bolts. Pull housing back off generator drive shaft and take to bench. Remove distributor shaft plug and nut. Remove, shaft through top of housing. Remove oil pump drive gear. Remove drive shaft bushing. **REPLACE** drive shaft bushing and ream to fit shaft. Replace oil pump drive gear and distributor shaft. Replace nut on shaft and plug in housing. Reassemble housing to engine support and replace bolts. Adjust timing chain, tighten housing bolts and lock. Replace generator assembly and connect flexible coupling. Replace and connect all Oil lines. Replace distributor. Set ignition timing and replace distributor cap. Replace air cleaner.

Remarks:

INSTALL DISTRIBUTOR DRIVE SHAFT BUSHING

HUDSON
GREAT EIGHT

INSTALL DISTRIBUTOR DRIVE SHAFT BUSHING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should have 7/16" to 3/4" slack (total up and down movement) at middle point of lower span between crankshaft and eccentric sprockets.

Note: Chain adjustment is correct when top of feeler wrench has a total movement of 3/32" to 7/32".

SPECIAL TOOLS

HE-146 Eccentric adjusting wrench
HE-330 Chain adjustment feeler wrench
HE- 85 Distributor shaft bushing line reamer

Line ream after pressing in place

Upper bushing, inside diameter: .620"}
Lower bushing, inside diameter: .500"}

Line ream after pressing in place

Suggestions: In replacing distributor support assembly, mesh gears so that the driving slot in distributor drive shaft is crosswise of engine (at right angles with crankshaft) when No. 1 piston is on firing dead center. In this position, the distributor rotor should point ahead and slightly to the right of electrolock cable terminal.

PROCEDURE OF OPERATION

Remove hood. Remove headlamps and tie rod assembly. Drain oil and water. Loosen hose clamps. Disconnect shutter control. Remove radiator tie rods. Remove radiator; Remove fan and arm. Disconnect carburetor pipes and controls. Remove carburetor and intake manifold. Remove front and rear crankcase breather tubes. Remove horn. Remove bolts holding engine guards to crankcase. Remove front compartment toe and floor boards. Disconnect clutch pedal link and brake pull rod. Remove pedal control assembly from transmission. Remove transmission control housing. Remove flywheel guard. Disconnect speedometer cable. Disconnect exhaust pipe from manifold. Remove engine. support bolts. Using an engine lifting fixture, lift engine and transmission assembly out. of car and mount on engine stand. Remove transmission and clutch. Remove generator, starter, distributor and other parts not supplied with engine and install on new engine. Replace clutch and transmission**. REPLACE** engine and transmission in car. Replace engine support bolts, being sure that the rubber mounting shims are in place. Replace transmission control housing. Replace pedal control. Replace flywheel guard. Connect speedometer cable. Replace floor boards. Connect exhaust pipe. Replace radiator. Replace headlamps. Replace carburetor. Connect up pipes, wires and controls. Replenish oil and water. Warm up engine. Adjust tappets. Tune engine. Replace hood.

Remarks:

INSTALL ENGINE ASSEMBLY

HUDSON GREAT EIGHT

INSTALL ENGINE ASSEMBLY

HUDSON GREAT EIGHT

ADJUSTMENTS

Spark plug gap: .022"
Breaker point gap: .020"
Both gaps must be the same.
Intake valve tappet clearance, .003"-.005"
Exhaust valve tappet clearance .005"-.007"
Engine anchor bolts; draw up nuts so that rubber shims are compressed 1/16". Assemble rear anchor bolts first, then from anchor bolts. This gives best functioning of shims.

SPECIAL TOOLS

HE-302 Tappet adjusting screw wrench
HE-193 Ignition wrench kit
HE-213 Engine lifting fixture
HE-441 Universal engine stand
h—202 Universal socket wrench
h—328 Clutch drain plug wrench

Suggestions: When removing engine be careful that exhaust manifold does not hit and damage vacuum tank. Before starting engine, pour three pints of oil into tappet compartment, and eight quarts into reservoir. Check oil gauge to see that it functions properly.

PROCEDURE OF OPERATION

Remove front seats. Remove front compartment mat. Remove floor and toe boards. Remove battery cable clips from transmission. Disconnect brake pull rod. Disconnect clutch throw-out yoke. Disconnect speedometer cable at transmission. Remove front universal joint flange bolts and drop propeller shaft. Remove bolt holding flywheel guard to transmission. Remove bolts and stud nuts holding transmission to engine. Remove transmission and lower to floor. Remove clutch throw-out assembly. Remove clutch cover cap screws. Remove clutch and clutch plate. Remove four nuts holding flywheel to crank. shaft. Remove flywheel. Remove pilot ball bearing from flywheel and replace in new flywheel. **REPLACE** flywheel. Replace flywheel nuts and tighten securely. Replace clutch plate. Replace clutch assembly. Replace clutch cover cap screws. Use clutch plate aligning tool No. HE-279 to hold clutch plate in alignment while tightening clutch cover cap screws; Replace clutch throw-out assembly. Replace transmission and bolt to engine. Connect universal joint, being sure nuts are tight and locks in place. Connect speedometer cable. Connect clutch throw-out link and brake pull rod. Replace battery cable clips. Replace toe and floor boards. Replace mat. Replace seats. Replenish oil in clutch.

Remarks:

INSTALL FLYWHEEL

HUDSON
GREAT EIGHT

INSTALL FLYWHEEL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Flywheel run out: Not to exceed .010" total after being assembled on crankshaft.

Clutch Pedal: 3" clearance between pedal and toe board with pedal in normal position.

Clutch Lubrication: 1/8 pint engine oil, and 1/8 pint kerosene.

SPECIAL TOOLS

HE-279 Clutch plate aligning tool

HE-328 Clutch drain plug wrench

h—202 Universal socket wrench. (Fits transmission to engine bolts)

Suggestions: Flywheel can be installed on crankshaft in only one position, due to uneven spacing of bolts. Before replacing flywheel, clean all chips and dirt from flywheel and flange. To loosen tight flywheel, pry behind wheel and kick crankshaft over with starter. Shellac new gasket to clutch cover. Tighten flywheel bolts evenly; also tighten clutch cover cap screws evenly, each a little at a time.

PROCEDURE OF OPERATION

Drain radiator. Remove engine hood. Loosen upper and lower hose clamps. Remove nuts from bolts holding radiator to frame cross member. Disconnect head lamp wires from lamps and terminal block. Unscrew radiator tie rods. Disconnect shutter control. Lift off radiator assembly. Remove small splash guard at front of engine. Remove fan and fan belt. Remove starting crank jaw and pull vibration dampener from crankshaft. Remove cap screws holding timing gear case cover and remove cover. Remove cover gasket. **REPLACE** gasket and shellac to cover. Replace gear case cover and cap screws holding cover to engine. Replace vibration dampener and starting crank jaw. Replace. fan and fan belt. Replace small splash guard at front of engine. Replace radiator. Screw radiator tie rods into radiator shell. Connect shutter control wire. Connect head lamp wires. Replace engine hood. Align radiator shell with engine hood. Tighten hose clamps and fill radiator.

Remarks:

INSTALL GASKET (TIMING GEAR CASE)

HUDSON
GREAT EIGHT

INSTALL GASKET (TIMING GEAR CASE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt: Adjustment is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge. laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller.

Suggestions: Shellac new gasket to timing case cover before replacing cover. Check chain and sprockets. Tighten cover cap screws carefully, each a little at a time. Check flange of cover on surface plate.

PROCEDURE OF OPERATION

Disconnect exhaust damper valve rod at carburetor bell crank. Remove 2 nuts on damper valve studs. Remove damper valve assembly. Remove gasket. Remove 3 long cap screws holding intake manifold to exhaust manifold. Remove three flange bolts holding exhaust pipe to manifold. Remove exhaust manifold stud nuts. Remove exhaust manifold. Remove exhaust manifold gaskets. **REPLACE** exhaust manifold gaskets. Replace exhaust manifold. Replace manifold stud nuts and tighten securely. Replace exhaust pipe flange bolts and nuts. Replace exhaust manifold to intake manifold cap screws. Replace damper valve gasket. Replace damper valve and bolt to manifold. Connect damper valve rod.

Remarks:

INSTALL GASKETS (Exhaust Manifold)

HUDSON
GREAT EIGHT

INSTALL GASKETS (Exhaust Manifold)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Heat control—Set in WARM position when atmospheric temperature is less than 90° F. For 90° to 100° set control in MEDIUM position. Above 100° set control on COOL.

SPECIAL TOOLS

Suggestions: Check for burnt or broken exhaust manifold and damper valve gaskets. It is advisable to install new gaskets. Check for leaking damper valve gasket, also, exhaust manifold to intake manifold gasket.

PROCEDURE OF OPERATION

Raise left side of hood. Drain water. Loosen fan supporting arm clamp bolt. Remove fan and supporting arm assembly. Unscrew fan stud from cylinder block. (NOTE: Thread on fan stud is left hand.) Remove fan stud gasket: **REPLACE** fan stud gasket. Replace fan stud. Replace fan and belt. Tighten fan supporting arm clamp bolt. Replenish water. Lower hood

.

Remarks:

INSTALL GASKET (FAN STUD)

HUDSON
GREAT EIGHT

INSTALL GASKET (FAN STUD)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan Belt: Adjustment is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and water pump pulleys.

SPECIAL TOOLS

Suggestions: Fan stud is provided with a left hand thread. Tighten stud securely in cylinder to prevent water leakage. Align fan so that blades run midway between radiator and fan belt.

PROCEDURE OF OPERATION

Disconnect exhaust damper valve rod at carburetor bell crank. Remove 2 nuts on damper valve studs. Remove damper valve. Disconnect vacuum pipe at carburetor riser. Remove 3 long cap screws holding exhaust manifold to intake manifold. Loosen exhaust manifold stud nuts. Remove 6 intake manifold stud nuts. Remove intake manifold. Remove intake manifold gaskets. **REPLACE** intake manifold gaskets. Replace intake manifold. Replace intake manifold stud nuts and tighten securely. Tighten exhaust manifold stud nuts. Replace intake manifold to exhaust manifold cap screws. Replace exhaust manifold damper valve, and bolt to manifold. Connect damper valve rod. Connect vacuum pipe.

Remarks:

INSTALL GASKETS (Intake Manifold)

HUDSON
GREAT EIGHT

INSTALL GASKETS (Intake Manifold)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Heat control—Set in WARM position when atmospheric temperature is less than 90° F. For 90° to 100° set control in MEDIUM position. Above 100° set control on COOL.

SPECIAL TOOLS

Suggestions: Be sure that intake manifold. gaskets do not leak. Check for burnt or broken exhaust manifold and damper valve. gaskets

PROCEDURE OF OPERATION

Disconnect exhaust damper valve rod at carburetor bell crank. Remove 2 nuts on damper valve studs. Remove damper valve assembly. Remove gasket Remove 3 long cap screws holding intake, manifold to exhaust manifold. Remove 3 flange bolts, holding exhaust pipe to manifold. Remove exhaust manifold stud nuts. Remove exhaust manifold. **REPLACE** exhaust . manifold. Replace manifold stud nuts and tighten securely. Replace exhaust. pipe flange bolts and nuts. Replace exhaust manifold to intake manifold cap screws. Replace damper valve gasket. Replace damper valve and bolt to manifold. Connect damper valve rod.

Remarks:

INSTALL MANIFOLD (Exhaust)

HUDSON
GREAT EIGHT

HUDSON
GREAT EIGHT

INSTALL MANIFOLD (Exhaust)

ADJUSTMENTS

Heat control—Set in WARM position when atmospheric temperature is less than 90° F. For 90° to 100° set control in MEDIUM position. Above 100° set control on COOL.

SPECIAL TOOLS

Suggestions: Check for burnt or broken exhaust manifold and damper valve gaskets. It is advisable to install new gaskets.

PROCEDURE OF OPERATION

Disconnect exhaust damper valve rod at carburetor bell crank. Remove 2 nuts on damper valve studs. Remove damper valve. Disconnect vacuum pipe at carburetor riser. Remove 3 long cap screws holding exhaust manifold to intake manifold. Loosen exhaust manifold stud nuts. Remove 6 in, take manifold stud nuts. Remove intake manifold. **REPLACE** intake manifold. Replace intake manifold stud nuts and tighten securely. Tighten exhaust manifold stud nuts. Replace intake manifold to exhaust manifold cap screws. Replace exhaust manifold damper valve, and bolt to manifold. Connect damper valve rod. Connect vacuum pipe.

Remarks:

INSTALL MANIFOLD (Intake)

HUDSON
GREAT EIGHT

INSTALL MANIFOLD (Intake)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Heat control—Set in WARM position when atmospheric temperature is less than 90° F. For 90° to 100° set control in MEDIUM position. Above 100° set control on COOL.

SPECIAL TOOLS

Suggestions: Be sure that intake manifold gaskets do not leak. Check for burnt or broken exhaust manifold and damper valve gaskets.

PROCEDURE OF OPERATION

Raise right side of hood. Disconnect generator wire; Remove generator coupling bolt. Remove generator strap clamp screw. Remove generator. Disconnect two oil pipes at check valve. Remove nut from engine support bolt nearest to the check valve. Drive bolt back so check valve will ,turn. Unscrew and remove check valve. **REPLACE** check valve. Replace engine bolt and nut. Connect oil pipes to check valve. Replace generator. Connect generator coupling. Connect generator wire. Lower hood.

Remarks:

INSTALL OIL CHECK VALVE

HUDSON
GREAT EIGHT

INSTALL OIL CHECK VALVE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Normal oil gauge pressure: 3 to 4 lbs.

SPECIAL TOOLS

HE-307 Oil check valve socket wrench

Suggestions: Be sure oil pipe connections are tight. After installation test to see that oil gauge pressure and generator charging rate are correct.

PROCEDURE OF OPERATION

Remove carburetor air cleaner. Remove distributor cap and wires. Remove cap screw securing distributor to housing and lift out distributor. Disconnect generator front coupling next to distributor housing. Remove generator clamp screw and remove generator and extension shaft. Disconnect all oil lines from oil pump and remove front oil feed line from engine support. Bend back locks on bolts securing housing to engine support and remove bolts. Pull housing back off generator drive shaft and remove to bench. Remove oil pump, distributor shaft and fittings from housing. Reassemble oil pump, distributor shaft and fittings on new housing. **REPLACE** housing assembly on engine support and replace bolts. Adjust timing chain; tighten bolts and lock. Connect all oil lines. Replace generator and connect flexible coupling. Replace generator clamp screw and tighten. Replace air cleaner. Replace distributor and set ignition timing. Replace distributor cap and wires.

Remarks:

INSTALL DISTRIBUTOR SUPPORT HOUSING

HUDSON
GREAT EIGHT

INSTALL DISTRIBUTOR SUPPORT HOUSING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should have 7/16" to 3/4" slack (total up and down movement) at middle point of lower span between crankshaft' and eccentric sprockets.

Note: Chain adjustment is correct when top of feeler wrench has a total movement of 3/32" to 7/32".

Ignition timing (ordinary fuel): Points to break when UDC mark on flywheel is opposite timing pointer.

Ignition timing (Ethylized fuels): Points to break when UDC mark on flywheel is 1/4" above lower edge of inspection hole.

SPECIAL TOOLS

HE-330 Chain adjustment feeler wrench
HE-146 Eccentric adjusting wrench
HE-193 Ignition wrench kit
HE-322 Oil pump lower Cap nut wrench
HE-324 Oil pump upper cap nut socket wrench

Suggestions: In replacing distributor support assembly, mesh gears so that the driving slot in distributor drive shaft is crosswise of engine (at right angles with crank—shaft) when No. 1 piston is on firing dead center. In this position, the distributor rotor should point ahead and slightly to the right of electrolock cable terminal.

PROCEDURE OF OPERATION

Remove air cleaner from carburetor. Remove distributor cap and wire assembly. Remove cap screw securing distributor to housing and lift out distributor. Disconnect generator front coupling. Remove generator clamp screw and remove generator and extension shaft. Disconnect all oil lines from oil pump. Remove front oil feed line from engine support. Bend back locks on bolts securing distributor drive housing to engine support and remove bolts. Pull housing back of generator drive shaft and take to bench. Remove distributor shaft plug and nut. Remove shaft through top of housing.
Remove oil pump drive worm. **REPLACE** oil pump drive worm and distributor shaft. Replace shaft nut and plug. Reassemble housing to engine support and replace bolts. Adjust timing chain and tighten bolts and locks. Connect all oil lines. Replace generator and connect flexible coupling. Replace generator clamp screw. Replace distributor and set ignition timing. Replace distributor cap and wires. Replace air cleaner.

Remarks:

INSTALL OIL PUMP DRIVE WORM

HUDSON
GREAT EIGHT

INSTALL OIL PUMP DRIVE WORM

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should have 7/16" to 3/4" slack (total up and down movement) at middle point of lower span between crankshaft' and eccentric sprockets.

Note: Chain adjustment is correct when top of feeler wrench has a total movement of 3/32" to 7/32".

Ignition timing (ordinary fuel): Points to break when UDC mark on flywheel is opposite timing pointer.

Ignition timing (Ethylized fuels): Points to break when UDC mark on flywheel is 1/4" above lower edge of inspection hole.

SPECIAL TOOLS

HE-330 Chain adjustment feeler wrench
HE-146 Eccentric adjusting wrench
HE-193 Ignition wrench kit
HE-322 Oil pump lower Cap nut wrench
HE-324 Oil pump upper cap nut socket wrench

Suggestions: In replacing distributor support assembly, mesh gears so that the driving slot in distributor drive shaft is crosswise of engine (at right angles with crank-shaft) when No. 1 piston is on firing dead center. In this position, the distributor rotor should point ahead and slightly to the right of electrolock cable terminal.

PROCEDURE OF OPERATION

Raise right side of hood. Remove carburetor air cleaner. Disconnect three oil pipes from oil pump. Remove two bolts holding oil pump body to distributor support housing. Remove oil pump assembly. Remove oil pump shaft retaining screw. Remove oil pump shaft. **REPLACE** oil pump shaft, inserting driving button on end of shaft into hole in plunger. Replace shaft retaining screw. Replace oil pump assembly. Replace oil pump body bolts. Connect oil pipes. Replace carburetor air cleaner. Lower hood.

Remarks:

INSTALL OIL PUMP SHAFT AND GEAR

HUDSON
GREAT EIGHT

INSTALL OIL PUMP SHAFT AND GEAR

HUDSON
GREAT EIGHT

ADJUSTMENTS

Normal oil gauge pressure: 3 to 4 lbs.

SPECIAL TOOLS

HE-324 Oil pump upper cap nut socket wrench
HE-322 Oil pump lower cap nut wrench

Suggestions: Check all oil pipe connections for leaks. Check oil pump body gasket and replace if damaged.

PROCEDURE OF OPERATION

Raise front end of car. Remove oil pan drain plug and drain oil. Disconnect oil gauge wire. Remove oil pan cap bolts and lower oil pan. Lift out oil pan tray: Remove oil gauge unit fastening screws and remove unit: **REPLACE** oil gauge unit and gasket. Replace gauge unit screws. Replace oil pan tray, being sure that gasket is in place. Replace upper gasket. Put three pints of oil in oil pan troughs. Replace oil pan assembly. Replace oil pan bolts and tighten evenly. Connect oil gauge. wire. Replace drain plug. Lower car. Put eight quarts of oil in reservoir.

INSTALL OIL RESERVOIR

HUDSON
GREAT EIGHT

INSTALL OIL RESERVOIR

HUDSON
GREAT EIGHT

ADJUSTMENTS

Oil pan capacity: Reservoir only, 8 quarts.

Oil pan capacity: Reservoir and troughs, 9-1/2 quarts.

SPECIAL TOOLS

Suggestions: Be sure that rear main bearing return pipe is not obstructed. Test oil gauge to see that it functions properly. Tighten oil. pan bolts evenly, to avoid oil leak at gasket.

PROCEDURE OF OPERATION

Raise front end of car. Drain oil. Disconnect oil gauge wire. Remove oil pan cap screws and lower oil pan. Remove connecting rod bearing cotter pins and nuts. Remove bearing cap and shims. Remove connecting rod and piston assembly from bottom of cylinder. Remove piston pin lock ring. Heat piston and remove piston pin. Remove piston from rod. Press piston pin bushing from connecting rod. **REPLACE** new bushing in rod. Ream to fit new piston pin. Heat piston and fit pin. Assemble piston and pin to connecting rod. Replace piston pin locks. Fit new piston rings to cylinder. Line up connecting rod and piston on aligning fixture. Install rings on piston. Replace connecting rod and piston assembly in engine. Adjust connecting rod bearing and replace cotter pins. Replace oil pan. Replace oil pan cap screws. Connect oil gauge wire. Lower car. Replenish oil in engine.

Remarks:

INSTALL PISTON AND RINGS (ONE)

HUDSON
GREAT EIGHT

INSTALL PISTON AND RINGS (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Piston ring gap; .007"-.009"
Piston ring clearance in groove; .001"
Piston clearance; .001"-.0015" at bottom of skirt
Piston pin should fit bushing so that when pin is held stationary, connecting rod will just fall of its own weight.

SPECIAL TOOLS

HE-188 Connecting rod nut wrench
HE-157 Piston vise
HE-300 Connecting rod aligning fixture
HE-86 Piston pin reamer

Note: Slot in piston pin skirt must be on left side of engine, (side opposite camshaft.)

Suggestions: BEFORE removing or replacing piston pin, heat piston to 200° F. Any piston can be readily removed from bottom of cylinder, bringing rod down to the left of crankshaft and turning crankshaft to allow piston to come out. If rings are to be fitted to more than one cylinder, it is advisable to remove cylinder head and fit rings from the top. Before replacing oil pan, fill troughs with oil.

PROCEDURE OF OPERATION

Raise front end of car. Drain oil. Disconnect oil gauge wire. Remove oil pan cap screws and lower oil pan assembly. Remove connecting rod bearing cotter keys and nuts. Remove bearing cap and shims. Remove connecting rod and piston assembly from bottom of cylinder. Remove piston, pin locks. Heat piston and remove piston pin. Press piston pin bushing out of connecting rod and press new bushing in place. Ream bushing to fit new piston pin. Ream piston to fit new piston pin. Heat piston and assemble with connecting rod. **REPLACE** piston pin locks. Line up connecting rod and piston in aligning fixture. Replace connecting rod and piston assembly in cylinder. Replace connecting rod bearing shims and cap. Replace and tighten bearing cap nuts. Replace cotter keys. Replace oil pan assembly and cap' screws. Connect oil gauge wire. Lower front end of car and replenish engine oil.

Remarks:

INSTALL PISTON PIN AND BUSHING (ONE)

HUDSON
GREAT EIGHT

INSTALL PISTON PIN AND BUSHING (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Piston pin should fit bushing so that when pin is held stationary connecting rod will just fall of its own weight.

Note: Piston should be heated to a temperature of 200° F before removing or replacing piston pin

SPECIAL TOOLS

HE-188 Connecting rod nut wrench
HE-157 Piston vise
HE-300 Aligning fixture
HE-86 Piston pin reamer

Suggestions: Piston pins are furnished in standard as well as .002"-.005"-.010"-.015" and .020" oversize. In reaming connecting rod bushing it is advisable to hold connecting rod in a vise and use a reamer wrench to turn reamer. Care should be taken in reaming both piston and bushing to maintain correct alignment. Piston reaming must be very carefully done so that piston pin has a tight sliding fit in piston when piston is heated to 200° F.

PROCEDURE OF OPERATION

Drain water from radiator. Remove engine hood. Disconnect spark plug wires. Loosen upper hose clamps and remove hose. Remove water outlet manifold. Remove ignition cable tube and coil. Remove cylinder head nuts. Remove cylinder heads. Raise front end of car. Drain oil. Disconnect oil gauge wire. Remove oil pan cap screws and lower oil pan. Remove cotter pins and nuts from number one connecting rod bearing. Remove bearing cap and shims. Remove connecting rod and piston assembly from bottom of engine. In the same manner remove all rod and piston assemblies. Fit new piston rings to each cylinder from top of engine, keeping each set separate. Remove old rings from pistons and clean ring grooves. Assemble new rings on their respective pistons. Oil piston rings with cylinder oil. **REPLACE** number one connecting rod and piston assembly in engine. Replace connecting rod bearing shims and bearing cap. Replace bearing cap nuts and adjust bearing. In the same manner replace all rod and piston assemblies. Tighten all connecting rod bearing nuts and replace cotter pins. Replace oil pan and oil pan cap screws. Connect oil gauge wire. Lower front end of car. Replace cylinder heads, coil, cable tube, and water manifold. Replace upper radiator hose. Replace engine hood. Tighten upper hose clamps. Fill radiator with water. Replenish oil in engine.

Remarks:

INSTALL PISTON RINGS (ALL)

HUDSON
GREAT EIGHT

INSTALL PISTON RINGS (ALL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Piston ring gap, .007"-009"
Piston ring clearance in groove, .001"

Note: Use compression ring in upper two grooves and oil regulating ring in lower two grooves. Rings are furnished in standard; also .005"," .010" .020", and .030" oversize.

SPECIAL TOOLS

HE-188 Connecting rod nut wrench
HE-157 Piston vise
HE-300 Aligning fixture
HE-286 Cylinder head lifting tool (2 required)
HE-317 Cylinder head nut wrench

Suggestions: Pistons can easily be removed from bottom of engine, by bringing rod down on left side of crankshaft and turning crankshaft until piston comes out. Care should be taken in removing and replacing pistons to prevent damage to piston and rings. Before replacing oil pan, fill troughs with oil. Avoid lifting cylinder heads by means of water manifold—use lifting tool HE-286.

PROCEDURE OF OPERATION

Raise front end of car. Drain oil, Disconnect oil gauge wire. Remove cap screws holding oil pan' and remove oil pan. Remove cotter pins and nuts' from connecting rod bearing. Remove bearing cap and shims. Remove connecting rod and piston assembly from bottom of cylinder. Fit new rings to cylinder. Remove old rings from piston and clean ring grooves. Fit new rings to piston. Oil piston and rings with cylinder oil, and replace piston and connecting rod assembly in cylinder. **REPLACE** connecting rod bearing shims and cap. Replace bearing nuts and cotter keys. Replace oil pan and oil pan cap screws. Connect oil gauge wire. Lower front end of car. Replenish oil in engine.

Remarks:

INSTALL PISTON RINGS (ONE SET)

HUDSON
GREAT EIGHT

INSTALL PISTON RINGS (ONE SET)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Piston ring gap, .00 7"-.009"
Piston ring clearance in' groove, .001"

Note: Use compression rings in upper two grooves, and oil control rings in lower two grooves.

Rings are furnished in Standard, also .005", .010", .020" and .030" oversize.

SPECIAL TOOLS

HE-188 Connecting rod nut wrench
HE-157 Piston vise
HE-300 Aligning fixture

Suggestions: Piston and connecting rod assembly may be removed from bottom of cylinder by bringing rod down to the left of crankshaft, and turning crankshaft to allow piston to come out. Use great care not to damage piston or rings. Before replacing oil pan, fill troughs with oil.

PROCEDURE OF OPERATION

Drain radiator. Remove engine hood. Loosen upper and lower hose clamps. Remove nuts from bolts holding radiator to frame' cross member. Disconnect head lamp wires from lamps and terminal block. Unscrew radiator tie rods from radiator shell. , Disconnect shutter control wire. Lift off radiator. assembly. Remove small splash guard at front of. engine. Remove fan and fan belt. Remove starting crank jaw, Pull vibration dampener. from crankshaft. Remove cap screws holding timing gear cover and remove cover. Remove camshaft sprocket and timing chain. Drive out pin from stationary coupling on eccentric shaft. Remove stationary coupling. Remove floating coupling and sprocket from accessory shaft. **REPLACE** sprocket, floating and stationary couplings on accessory shaft. Replace timing chain and camshaft sprocket. Replace timing gear cover and cap screws. Replace vibration dampener, starting crank jaw, fan and fan belt. Replace radiator assembly, and connect radiator tie rods. Connect shutter control wire and head lamp wires. Replace engine hood. Line up radiator shell to engine hood and replace nuts on bolts holding radiator assembly to frame cross member. Tighten upper and lower hose clamps. Fill radiator.

Remarks:

INSTALL SPROCKET (ACCESSORY SHAFT)

HUDSON
GREAT EIGHT

INSTALL SPROCKET (ACCESSORY SHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain: Lower span, between crankshaft and eccentric sprockets, should have 7/16" to 3/4" total up and down movement, or slack.

Fan belt: Tension is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller.

Note: When installing chain, be sure that punch marks on chain coincide with those on camshaft and crankshaft sprockets. See "INSTALL CHAIN."

Suggestions: Before removing chain, turn crankshaft until punch marks on chain coincide with marked teeth on camshaft and crankshaft sprockets. Do not alter position of shafts while chain is off.

PROCEDURE OF OPERATION

Drain radiator and remove engine hood. Disconnect upper and lower radiator hose clamps. Disconnect head lamp wires at lamps and terminal block. Remove nuts from bolts holding radiator assembly to frame cross member. Unscrew radiator tie rods from radiator shell and disconnect shutter control wire. Lift off radiator assembly. Remove fan and fan belt. Remove small splash guard from front of engine. Remove starting crank jaw and pull vibration dampener from crankshaft. Remove cap screws holding timing chain cover to engine. Remove cover. Remove three cap screws, in camshaft sprocket. Remove camshaft sprocket. **REPLACE** camshaft sprocket. Adjust chain. Replace timing chain cover. Replace cap screws holding cover to engine. Replace vibration dampener and starting crank jaw. Replace small splash guard at front of engine. Replace fan and fan belt. Replace radiator assembly. Screw radiator tie rods into radiator shell. Connect shutter control wire and head lamp wires. Replace engine hood. Fit radiator shell to engine hood and replace nuts on bolts holding radiator assembly to frame cross member. Tighten radiator hose clamps and refill radiator.

Remarks:

INSTALL SPROCKET (CAMSHAFT)

HUDSON
GREAT EIGHT

INSTALL SPROCKET (CAMSHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should have 7/16" to 3/4" slack (total up and down movement) at middle point of lower span between crankshaft and eccentric sprockets.

Fan belt has correct tension when middle point of upper span can be deflected by finger pressure, 5/8" below straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller
HE-285 Starting crank jaw wrench

Note: Before replacing chain case cover, be sure that punch marks on chain coincide with those on crankshaft and camshaft sprockets.

Suggestions: Before removing camshaft sprocket cap screws, turn crankshaft until, punch marks on chain line up with marked teeth on crankshaft and camshaft sprockets. Camshaft sprocket can be installed on flange in only one position, due to one bolt hole being offset.

PROCEDURE OF OPERATION

Drain radiator and remove engine hood. Loosen upper and lower radiator hose clamps. Disconnect head lamp wires at lamps and terminal block. Remove nuts from bolts holding radiator assembly to frame cross member, Unscrew radiator tie rods and disconnect shutter control wire. Lift off radiator assembly. Remove 'an and fan belt. Remove small splash guard from front of engine. Remove starting crank jaw and pull vibration dampener off crankshaft. Remove cap screws holding timing chain cover to engine and remove cover. Remove camshaft sprocket and timing chain. Pull sprocket from crankshaft. **REPLACE** sprocket on crankshaft. Replace timing chain and camshaft sprocket. Adjust timing chain. Replace timing chain cover and cap screws. Replace vibration dampener and starting crank jaw. Replace fan and fan belt. Replace small splash guard at front of engine. Replace radiator assembly. Screw radiator tie rods into radiator shell. Connect shutter control wire and head lamp wires. Replace engine hood. Fit radiator shell to engine hood and replace nuts on bolts holding radiator to frame cross member. Tighten radiator hose clamps. Refill radiator.

Remarks:

INSTALL SPROCKET (CRANKSHAFT)

HUDSON
GREAT EIGHT

INSTALL SPROCKET (CRANKSHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Chain should have 7/16" to 3/4" slack (total up and down movement) at middle point of lower span between crankshaft and eccentric sprockets.

Fan belt adjustment is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below straight edge laid across fan and pump pulleys.

SPECIAL TOOLS

HE-327 Vibration dampener puller
HE-49 Crankshaft sprocket puller
HE-285 Starting crank jaw wrench

Suggestions: Before removing camshaft sprocket cap screws, turn crankshaft until one pinch' mark on chain coincides with marked teeth on crankshaft sprocket, and the other punch mark on chain coincides with marked teeth on camshaft sprocket. Do not alter position of shafts while chain is off.

PROCEDURE OF OPERATION

Drain water from radiator. Remove engine hood. Disconnect spark plug wires. Loosen upper hose clamps and remove hose. Remove water outlet manifold. Remove ignition coil and cable tube. Remove cylinder head nuts. Remove cylinder heads and gaskets. Remove valve cover plates. Compress valve springs and remove retainers. Remove valves. Use reseating tool on valve seats when necessary. Grind new valves in valve seats, being sure that valve stem does not ride tappet during process of grinding. Compress valve springs and replace retainers. Adjust valve tappets. **REPLACE** cylinder head gaskets and cylinder heads. Replace cylinder head nuts and tighten. Replace ignition coil and cable tube. Replace water outlet manifold and upper radiator hose. Connect spark plug wires. Replace engine hood. Tighten upper hose clamps and fill radiator. Start engine and warm up to operating temperature. Adjust valve tappets. Replace valve cover plates.

Remarks :

INSTALL VALVES (ALL)

HUDSON
GREAT EIGHT

INSTALL VALVES (ALL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Exhaust valve tappet clearance .005"-.007"
Inlet valve tappet clearance :003"-.005"
Firing order: 1-6-2-5-8-3-7-4

Note: Cylinder head nuts should be tightened again after engine has warmed up. Tighten nuts carefully, each a little at a time.

Valve stem clearance in guides; .004"

SPECIAL TOOLS

HE-286 Cylinder head lifting tool (2 required)
HE-317 Cylinder head nut wrench
HE-120 Valve reseater
HE-171 Valve grinding brace
HE-165 Valve lifter
HE-302 Tappet wrench
HE-158 Tappet wrench
HE-150 Feeler gauge

Inlet valve, head diameter; 1-1/2"
Exhaust valve, head diameter; 1-3/8"

Suggestions: If tappets are adjusted with engine not running, bring each piston to firing dead center before adjusting the corresponding tappets. This will insure tappets being at their lowest point.

PROCEDURE OF OPERATION

Drain radiator. Remove engine hood. Loosen upper hose clamps and remove hose. Disconnect spark plug wires. Remove water outlet manifold. Remove ignition coil and cable tube. Remove cylinder head nuts. Remove cylinder heads, and gaskets. Remove valve cover plates. Compress valve springs and remove retainers. Remove valves. Remove valve springs and spring seats, Install new valve springs, using old spring seats unless they are damaged. Compress. valve springs and insert retainers. **REPLACE** cylinder. head gaskets and cylinder heads. Replace cylinder head nuts and tighten. Replace ignition coil and cable tube. Replace water outlet manifold and upper radiator hose. Replace engine hood. Tighten upper hose clamps. Fill radiator. Start engine and warm up. Check valve tappet adjustment. Replace valve cover plates.

Remarks:

INSTALL VALVE SPRINGS (ALL)

HUDSON
GREAT EIGHT

INSTALL VALVE SPRINGS (ALL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Tappet adjustment: exhaust valve, .005"-.007".
Inlet valve, .003"-.005'
Note: Cylinder head nuts should be tightened again after engine has been warmed up.
Specifications : Springs should compress to 1-5/16 inches under 50 lb. load before closing coils.

SPECIAL TOOLS

HE-286 Cylinder head lifting tool. (2 required)
HE-317 Cylinder head nut wrench
HE-156 Valve lifter
HE-302 Tappet wrench
HE-158 Tappet wrench
HE-150 Feeler gauge

Suggestions: Check tappet adjustment. A weak or broken valve spring causes a clicking noise similar to a noisy tappet. Check for burned or warped valves.

PROCEDURE OF OPERATION

Remove valve cover plate. Loosen valve tappet adjusting screw rock nut and turn tappet adjusting screw down as far as it will go. Compress valve spring and remove retainer. Remove spark plug and hold valve up with bent wire or other hooked tool inserted through spark' plug hole. Remove valve spring seat and spring. **REPLACE** valve spring and seat. Lower valve and hold down through spark plug hole. Compress valve spring and replace retainer. Adjust valve tappet. Replace valve cover plate.

Remarks:

INSTALL VALVE SPRING (ONE)

HUDSON
GREAT EIGHT

INSTALL VALVE SPRING (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Inlet valve tappet clearance: .003"- .005"
Exhaust valve tappet clearance: .005-.007"
Specifications: Springs should compress to 1-5/16 inches under 50 lb. load before closing coils.

SPECIAL TOOLS

HE-156 Valve lifter
HE-302 Tappet wrench
HE-158 Tappet wrench
HE-150 Feeler gauge

Suggestions: Check tappet adjustments. A weak or broken valve spring causes a clicking noise similar to a noisy tappet.

PROCEDURE OF OPERATION

Drain radiator. Loosen upper hose clamps and remove engine hood. Disconnect spark plug wires. Remove water outlet manifold. Remove ignition coil and cable tube. Remove cylinder head nuts. and remove cylinder heads and gaskets. Remove valve cover plates. Compress valve springs and remove retainers. Remove valves, valve spring seats and springs. Remove cap screws holding tappet guide clamps. Remove valve tappet assemblies. **REPLACE** valve tappet assemblies, clamps and cap screws. Replace valve springs and spring seats. Replace valves. Compress valve springs and replace retainers. Replace cylinder head gaskets and cylinder heads. Replace cylinder head nuts and tighten. Replace water outlet manifold and upper radiator hose. Replace ignition coil and cable tube. Connect spark plug wires. Replace engine hood. Tighten upper hose clamps. Fill radiator. Start engine and warm up to normal operating temperature. Adjust valve tappets. Replace valve cover plates.

Remarks:

INSTALL VALVE TAPPETS AND GUIDES (ALL)

HUDSON
GREAT EIGHT

INSTALL VALVE TAPPETS AND GUIDES (ALL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Tappet adjustments:
Exhaust valve, .005"-.007"
Inlet valve, .003"-.005"

Note: Cylinder head nuts should be tightened again after engine has been warmed up.

SPECIAL TOOLS

HE-156 Valve lifter
HE-302 Tappet wrench
HE-158 Tappet wrench
HE-150 Feeler gauge
h—317 Cylinder head nut wrench
HE-286 Cylinder head lifting tool

Suggestions: Check for burned or warped valves. A weak or broken valve spring causes a clicking noise similar to a noisy tappet. When removing tappet assemblies it is advisable to leave the adjusting screws, lock nuts and plates screwed into tappets, so that there will be no danger of tappets dropping into the interior of the engine. Avoid lifting cylinder heads by means of water manifold—use lifting tool HE-286.

PROCEDURE OF OPERATION

Raise right side of hood. Remove tappet compartment plate. Loosen lock nut on tappet to be removed, and lower adjusting screw as far as possible. Compress valve spring with a valve lifter and remove retainer and, spring seat. Hold valve up by means of screw driver or hooked wire inserted through spring. Remove valve spring. Remove tappet guide clamp nut. Remove clamp. Remove tappet and guide assembly. **REPLACE** tappet and guide assembly. Replace clamp. Replace clamp nut and tighten securely. Replace valve spring and seat. Compress spring and replace retainer. Adjust tappet, and tighten lock nut. Replace tappet compartment plate. Lower hood.

Remarks:

INSTALL VALVE TAPPET AND GUIDE (ONE)

HUDSON
GREAT EIGHT

INSTALL VALVE TAPPET AND GUIDE (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Intake valve tappet clearance — .003"-.005", hot
Exhaust valve tappet clearance-.005"-.007", hot

SPECIAL TOOLS

HE-319 Valve spring compressor
HE-158 Tappet adjusting wrench
HE-302 Tappet adjusting wrench
HE-150 Feeler gauge

Suggestion: When removing tappet assembly, leave adjusting screw, lock nut and plate on tappet, to prevent possibility of tappet dropping into crankcase.

PROCEDURE OF OPERATION

Remove front engine guard. Loosen fan arm clamp bolt. Remove fan and arm assembly. Remove crankshaft, starting crank jaw. Use special puller HE-32 7 and remove vibration dampener. **REPLACE** vibration dampener. Replace starting crank jaw and tighten securely. Replace fan belt. Replace fan and arm. Adjust belt. Tighten fan arm clamp bolt. Replace engine guard.

Remarks:

INSTALL VIBRATION DAMPENER

HUDSON
GREAT EIGHT

INSTALL VIBRATION DAMPENER

HUDSON
GREAT EIGHT

ADJUSTMENTS

Fan belt: Adjustment: is correct when middle point of upper span can be deflected, by finger pressure, 5/8" below a straight edge laid across fan and water pump pulleys.

Note: Vibration dampener should be disassembled and packed with fiber grease before installing.

SPECIAL TOOLS

HE-285 Starting crank jaw wrench
HE-327 Vibration dampener puller.
May be used with radiator in place.

Suggestions: Be sure that starting crank jaw is securely tightened. Align fan so that blades run midway between radiator and fan belt. See that fan arm supporting stud is tight in cylinder block.

PROCEDURE OF OPERATION

Raise right side of hood. Remove glass gasoline bowl at bottom of vacuum tank. Remove gasoline. pipe, vacuum tank to carburetor. Remove strainer plug on bottom of carburetor. Clean strainer and replace. Clean gasoline pipe and replace. Clean glass bowl and replace on vacuum tank. Remove spark plugs, clean, adjust and replace. Remove distributor cap' and rotor. Clean breaker points with a point. file. Adjust gap of each set of points, being sure that points are separated to their maximum Opening. Both gaps must be .020". Crank engine until the UDC 1 and 8 mark on flywheel is directly opposite timing pointer. Loosen distributor clamp screw and turn distributor until stationary points are just starting to separate. Tighten distributor clamp screw. Crank engine one-quarter turn until the UDC 3 and 6 mark on flywheel is opposite timing pointer. Loosen two screws which secure plate on which adjustable points are mounted. Move plate until points are just starting to separate. Tighten plate in this position. Replace rotor and cap. Run engine to warm up. Remove tappet cover plates. Check tappet adjustment with engine idling. Replace tappet cover plates. Adjust throttle screw to give desired idling speed. With engine warm and idling, back off on carburetor air adjusting screw until engine falters—then screw in three or four notches at a time until engine idles smoothly. Lower hood. Test car and make final adjustment on road.

TUNE ENGINE HUDSON GREAT EIGHT

ADJUSTMENTS

Ignition timing; ordinary fuel; distributor points to break when UDC mark on flywheel is opposite timing pointer.

Ignition timing; Ethylized fuel; distributor points to break when UDC mark on flywheel is exactly 7/8" above lower edge of inspection hole.

Spark plug gap: .022"

Breaker point gap; .020" Both gaps must be the same.

Carburetor heat control: Set in WARM position when atmospheric temperature is. less than 90° F.

SPECIAL TOOLS

HE-158 Tappet adjusting screw wrench
HE-302 Tappet adjusting screw wrench
HE-169 Spark plug wrench
HE-193 Ignition wrench kit
HE-150 Feeler gauge

Suggestions: If after tuning, engine does not idle smoothly, test compression. Dress points smooth and parallel before adjusting. The operation of synchronizing requires great accuracy, and the use of a timing light is recommended. Consult factory reference sheet No. 38. See that throttle and accelerator work freely, and that carburetor choker valve opens and closes completely.

FRAME, FENDERS, RUNNING BOARD. HOOD

FRAME AND BRACKETS

FENDERS, RUNNING BOARD, HOOD

PROCEDURE OF OPERATION

Remove front seats. Remove floor board. Disconnect battery cables. Remove battery. Cut rivets holding battery tray to frame. Remove battery tray. **REPLACE** battery tray. Rivet or bolt tray securely to frame. Replace battery. Tighten clamp bolt. Connect battery cables. Replace floor board. Replace seats.

Remarks:

INSTALL BATTERY TRAY **HUDSON GREAT EIGHT**

INSTALL BATTERY TRAY **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Be sure battery tray is securely riveted or bolted to frame. Clean battery terminals and tighten carefully. Coat terminals with vaseline or grease to prevent corrosion. Add distilled water to cells to cover plates.

PROCEDURE OF OPERATION

Remove front bumper. Remove front spring bolt nuts. Remove screws holding splash guard to frame. Remove splash guard. Remove, bolts holding shock absorber to frame. Remove shock absorber. Disconnect headlamp tie rod from fender. Remove bolts holding fender iron to frame. Raise front end of car by means of a hoist to relieve the weight on spring bolts. Remove front spring front end bolt. Remove rivets holding front spring front bracket to frame. Remove bracket. **REPLACE** bracket. Rivet bracket to frame. Replace spring bolt and sleeve. Lower car. Bolt fender to frame. Bolt headlamp tie rod to fender. Bolt shock absorber to frame. Replace splash guard. Replace splash guard screws. Replace spring front bolt nuts. Tighten nuts snugly—then loosen 1/6 turn. Replace cotter pins.

Remarks:

INSTALL BRACKET (Front Spring Front)

HUDSON GREAT EIGHT

INSTALL BRACKET (Front Spring Front)

HUDSON GREAT EIGHT

ADJUSTMENTS	SPECIAL TOOLS
Spring bolts: Pull up tight, then back off 1/6 turn.	HE-316 Shackle bolt wrench

Suggestions: Be sure bracket is securely riveted to frame: Lubricate spring bolt before replacing. Spring bolt adjustment is important—too tight an adjustment is often responsible for spring breakage. See that spring clips (U bolts) are tight. Touch up nuts and bolt heads, with air dry enamel.

PROCEDURE OF OPERATION

Raise front end of car with a chain hoist to relieve weight on spring bolts. Raise left side of hood. Remove upper shackle bolt lock nut. Remove upper shackle bolt. Swing shackle clear of bracket. Remove alemite fitting from bracket. Remove rivets holding bracket to frame. Remove bracket and bushing assembly. **REPLACE** bracket and bushing assembly. Rivet bracket securely to frame. Replace shackle. Replace upper shackle bolt. Tighten shackle bolt snugly—then back off 1/6 turn. Holding bolt in this position, tighten lock nut securely. Replace alemite fitting. Lower hood. Lower car.

Remarks:

INSTALL BRACKET (Front Spring Rear)

HUDSON GREAT EIGHT

INSTALL BRACKET (Front Spring Rear)

HUDSON GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly— then back off 1/6 turn.

Bracket bushing inside diameter:
Burnish to .6255".

SPECIAL TOOLS

HE-316 Shackle bolt nut wrench.

Suggestions: Be sure that bracket is riveted very securely to the frame. See that oil hole in bushing lines up with hole in bracket. It is advisable to use new shackle bolt. Lubricate spring bolts.

PROCEDURE OF OPERATION

Raise right side of hood. Remove carburetor. Remove generator and coupling. Raise front end of car with a -chain hoist to relieve weight on spring bolts. Remove upper shackle bolt lock nut. Remove upper shackle bolt. Swing shackle clear of bracket. Remove alemite fitting from bracket Remove rivets holding bracket to frame. Remove bracket and bushing assembly. **REPLACE** bracket and bushing assembly. Rivet bracket securely to frame. Replace Shackle. Replace upper shackle bolt. Tighten shackle bolt snugly—then, back off 1/6 turn. Holding bolt in this position, tighten, lock nut securely. Replace alemite fitting. Lower car. Replace generator and coupling. Replace carburetor. Lower hood.

Remarks:

INSTALL BRACKET (Front Spring Rear) RIGHT

HUDSON
GREAT EIGHT

INSTALL BRACKET (Front Spring Rear) RIGHT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly— then back of 1/6 turn.

Bracket bushing inside diameter: Burnish to .6255".

SPECIAL TOOLS

HE-316 Shackle bolt nut wrench

Suggestions: Be sure that bracket is riveted very securely to the frame. See that oil hole in bushing lines up with hole in bracket. It is advisable to use new shackle bolt. Lubricate spring bolts.

PROCEDURE OF OPERATION

Raise rear end of car by means of a chain hoist, supporting car by the. frame and raising just high enough to relieve weight on spring bolt. Remove cotter pin in left rear spring front bolt nut. Remove nut. Remove bolt and sleeve. Remove rivets holding bracket to frame. Remove nut. **REPLACE** bracket; Rivet bracket securely to frame. Replace front bolt and sleeve. Replace spring bolt nut. Tighten nut snugly—then back off 1/6 turn. Replace cotter pin. Lower car.

Remarks:

INSTALL BRACKET (Rear Spring Front) LEFT

HUDSON
GREAT EIGHT

INSTALL BRACKET (Rear Spring Front) LEFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly—then back off 1/6 turn.

SPECIAL TOOLS

HE-316 Shackle bolt nut wrench

Suggestions: Be sure that bracket is securely riveted to frame: Spring bolt adjustment is important. Too tight adjustment of spring bolts causes hard riding and is often responsible for spring breakage. Lubricate spring bolt before replacing.

PROCEDURE OF OPERATION

Raise rear end of car by means of a chain hoist. Remove tail pipe clamp. Remove bracket holding tail pipe to frame cross member. Loosen muffler clamps. Remove muffler. Remove cotter pin in right rear spring front bolt nut. Remove nut. Remove bolt and sleeve. Remove rivets holding bracket to frame. Remove bracket. **REPLACE** bracket. Rivet bracket securely to frame. Replace spring bolt and sleeve. Replace spring bolt nut. Tighten nut snugly—then back off 1 /6 turn. Replace cotter pin. Replace muffler and tail pipe. Tighten muffler clamps. Replace tail pipe brackets and clamp.
Lower car.

Remarks:

INSTALL BRACKET (Rear Spring Front) RIGHT

HUDSON
GREAT EIGHT

INSTALL BRACKET (Rear Spring Front) RIGHT

HUDSON
GREAT EIGHT

ADJUSTMENTS	SPECIAL TOOLS
Spring bolts: Pull up tight—then back off 1 /6 turn.	HE-316 Shackle bolt wrench

Suggestions: Be sure that bracket is securely riveted to frame. Spring bolt adjustment is important. Too tight adjustment of spring bolts causes hard riding and is often responsible for spring breakage. Lubricate spring bolt before replacing.

PROCEDURE OF OPERATION

Disconnect tail lamp wires. Remove bolts holding trunk rack to frame. Remove bolts holding trunk rack and bumper support to frame. Remove bumper, trunk rack and support assembly. Remove screws and bolts holding dust shield to fenders and frame. Remove two rear body bolts. Remove dust shield. Raise rear end of car with hoist to relieve weight on spring. Remove rear spring upper shackle bolt lock nut and bolt. Remove rivets holding spring hanger bracket to frame. Remove bracket. **REPLACE** bracket and bushing assembly. Rivet bracket securely to frame. Replace shackle and shackle bolt. Tighten shackle bolt snugly—then back off 1/6 turn. Holding bolt in this position, tighten lock nut securely. Lower car. Replace rear dust shield and bolt to frame and fenders. Replace body bolts. Replace bumper, trunk rack and support assembly and bolt securely to frame. Replace tail lamp wires.

Remarks:

INSTALL BRACKET (Rear Spring Rear) **HUDSON GREAT EIGHT**

INSTALL BRACKET (Rear Spring Rear) **HUDSON GREAT EIGHT**

ADJUSTMENTS

Spring bolts: Pull up tight—then back off 1/6 turn.
Bracket bushing inside diameter: Burnish .6255".

SPECIAL TOOLS

HE-316 Shackle bolt wrench

Suggestions: Be sure that bracket is riveted securely to the frame. Lubricate spring bolts before replacing. Spring bolt adjustment is important. Tight adjustment causes hard riding and is often responsible for spring breakage. See that spring clips (U bolts) are tight.

PROCEDURE OF OPERATION

Remove terminal plug from tail lamp socket. Remove tail light wires. Remove two bolts holding' front of trunk rack to frame (Roadster, Coupe, and 7-Passenger Sedan excepted). Remove four bolts which hold Tear bumper and trunk rack support member to frame. Remove bumper, trunk rack and support member assembly. Remove two bolts holding dust shield to frame. Remove machine screws and nuts holding dust shield to rear fenders. Remove two rear body bolts. Remove dust shield. **REPLACE** dust shield. Replace body bolts, Bolt dust shield to frame. Replace fender to dust shield screws and nuts. Replace bumper, trunk rack and support member assembly and bolt to frame. Bolt trunk rack to frame. Replace tail light wires. Replace tail lamp terminal plug.

Remarks:

INSTALL DUST SHIELD (REAR)

HUDSON
GREAT EIGHT

INSTALL DUST SHIELD (REAR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Use two shims—part number 87759—between rear dust shield and body brackets to prevent squeaks at this point.

PROCEDURE OF OPERATION

Remove front bumper. Remove tire from fender well. Remove four bolts holding headlamp bracket to fender. Remove front spring front end bolt nuts. Remove two screws holding radiator splash guard to frame. Re move splash guard. Remove two bolts which secure shock absorber to frame. Remove fender to frame screws. Remove fender to splash guard screws. Remove three bolts holding fender to running board. Remove three bolts holding fender iron to frame. Remove front fender. **REPLACE** front fender. Replace bolts which hold fender iron to frame. Replace bolts holding fender to running board. Replace bolts, shock absorber to frame. Replace fender to frame and fender to splash guard screws. Replace headlamp bracket bolts. Replace radiator splash guard. Replace radiator splash guard screws. Replace spring front end bolts. Replace spare tire.

Remarks:

INSTALL FENDER (FRONT)

HUDSON
GREAT EIGHT

INSTALL FENDER (FRONT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Line up edge of fender with running board. Touch up spots marred in installing. Be sure that fender bolts are securely tightened.

PROCEDURE OF OPERATION

Remove two screws holding rear fender to rear splash guard. Remove two screws holding fender to side. splash guard. Remove bolts holding lender to running board. Remove bolt holding rear of fender to body. Loosen clamps holding fender to body. Remove rear fender. **REPLACE** rear fender. Bolt fender to running board. Tighten fender to body clamps. Replace bolt holding rear of fender to body. Replace screws holding fender to side and rear splash guards.

Remarks:

INSTALL FENDER (REAR)

HUDSON
GREAT EIGHT

INSTALL FENDER (REAR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Leave bolt at rear of fender loose until running board bolts and fender clamps are tightened. Touch up spots marred in installing. Line up edge of fender with running board.

PROCEDURE OF OPERATION

Unlatch hood locks. Raise one side of hood. Remove bolt holding rear. hood support to dash. Raise rear end of hood and slide back. Remove hood. Remove rear hood support from hinge rod and replace on new hood. **REPLACE** hood, inserting front end of hinge rod in radiator shell. Replace rear hood support bolt. Close hood and latch hood locks.

Remarks:

INSTALL HOOD ASSEMBLY **HUDSON GREAT EIGHT**

INSTALL HOOD ASSEMBLY **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Carefully align hood with cowl and radiator to insure correct fit. A small amount of grease on the hood lacing will prevent squeak at this point. Lubricate hood ventilator door locks.

PROCEDURE OF OPERATION

Remove three bolts holding running board to front fender. Remove three bolts holding running board to rear fender. Remove seven machine screws and nuts which hold splash guard to running board. Remove nuts from bolts which secure running board to support brackets. Lift off running board. Remove running board bracket bolts and replace on new running board. **REPLACE** running board. Line up board with fenders. Bolt running board to front and rear fenders. Replace running board bracket bolt nuts. Replace splash guard to running board screws and nuts.

Remarks:

INSTALL RUNNING BOARD

HUDSON
GREAT EIGHT

INSTALL RUNNING BOARD

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Use care in lining up running board with front and rear fenders. If splash guard screws are rusted, cut off with cold chisel and use new screws in assembling. Touch up nuts and bolt heads with air dry enamel.

PROCEDURE OF OPERATION

Remove front bumper. Remove front spring front bolt nuts. Remove screws holding splash guard to frame. Remove splash guard. **REPLACE** splash guard. Replace splash guard screws. Replace spring bolt nuts.

Remarks:

INSTALL SPLASH GUARD (RADIATOR)

HUDSON
GREAT EIGHT

INSTALL SPLASH GUARD (RADIATOR)

HUDSON
GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Tighten screws holding splash guard very securely. Care should be taken that the splash guard does not rub in any place causing a disagreeable sound when driving. Touch up nuts and bolt heads with air dry enamel.

PROCEDURE OF OPERATION

Remove screws holding rear fender to rear and side splash guards. Remove fender to running board bolts. Loosen rear fender clamps. Remove rear fender. Remove screws holding running board to side splash guard. Remove running board to front fender bolts. Remove running board bolt nuts. Remove running board. Remove screws which hold splash guard to frame and front fender. Remove rear hood lock. Remove body bolts on one side. Raise this side of body clear of splash guard. Slide splash guard back and out. Remove splash guard. **REPLACE** splash guard. Lower body. Replace running board and bolt to fender. Replace rear fender. Tighten fender clamps. Replace screws which secure splash guard to running board, fenders and frame. Replace hood lock. Replace body bolts and tighten securely. Touch up bolt and screw heads.

Remarks:.

INSTALL SPLASH GUARD (Side)

HUDSON
GREAT EIGHT

INSTALL SPLASH GUARD (Side)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

h—259 Body bolt wrench

Suggestions: Use care in aligning running board with front and rear fenders. If splash guard and screws are rusted, cut off with cold chisel and replace with new screws. Touch up bolt and screw heads with air dry enamel.

FUEL UNITS

PROCEDURE OF OPERATION

Set carburetor heat control in the "warm" position and leave in this position while making adjustment. Set air screw so that end is flush with the end of ratchet spring bearing against it. Start engine and run until engine has warmed up. Turn air adjusting screw to the right for richer mixture and to the left for a leaner mixture. Best adjustment is obtained by turning air adjusting screw to the left until engine hesitates, indicating that mixture is too lean—then turn air screw back to the right three or four notches at a time until engine idles smoothly. This adjustment is correct for all speed ranges. Engine idling speed is adjusted by means of the throttle lever stop screw.

Remarks:

ADJUST CARBURETOR **HUDSON GREAT EIGHT**

ADJUST CARBURETOR **HUDSON GREAT EIGHT**

ADJUSTMENTS

Turn air adjusting screw to the left until engine falters; then turn screw to the right until engine idles smoothly.

See that choker valve opens and closes completely.

SPECIAL TOOLS

Set heat control adjustment in "warm" position when atmospheric temperature is less than 90° F. From 90° to 100° the "Med." position may be used. Atmospheric temperatures above 100° F require the use of the "cool" position.

Suggestions: Before attempting to make a carburetor adjustment, check gasoline lines, vacuum tank and strainers to be sure they are clean. Check ignition timing and spark plug setting. Check for even compression in all cylinders. It will not be possible to obtain a correct carburetor adjustment when above units are not in normal condition. If it is impossible to obtain smooth idling; check intake manifold and gaskets for air leak.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline, line from carburetor. Remove air cleaner. Disconnect choke wire from carburetor. Remove long cap screws attaching carburetor riser. to intake manifold. Remove carburetor and riser assembly. Remove carburetor strainer plug and screen. Remove four screws attaching. carburetor bowl assembly to carburetor body—this will expose carburetor jets. Remove carburetor float cover plate, Clean carburetor bowl, strainer screen and jets. Reassemble float cover plate, carburetor bowl assembly to carburetor body, and strainer screen and plug. **REPLACE** carburetor and riser assembly on intake manifold and replace long cap screws attaching riser to intake manifold. Connect choke wire. Connect gasoline line. line and replace sediment bulb on vacuum tank. Replace air cleaner. Start engine and warm up to operating temperature. Turn air valve screw to the left until engine falters, indicating a lean mixture. Gradually turn screw to the right three or four notches it a time until engine idles smoothly. Adjust throttle stop screw for correct idling speed.

CLEAN CARBURETOR (INCLUDES ADJUST)

HUDSON
GREAT EIGHT

CLEAN CARBURETOR (INCLUDES ADJUST)

HUDSON
GREAT EIGHT

ADJUSTMENTS

For leaner mixture; turn air valve screw to the left.

For richer mixture, turn air valve screw to the right.

SPECIAL TOOLS

Suggestions: Check ignition system and cylinder compression before attempting to make a fine carburetor adjustment. Care should be taken in cleaning carburetor jets to prevent damage to them. If it is impossible to obtain smooth idling, check intake manifold and gaskets for leak.

PROCEDURE OF OPERATION

Disconnect windshield wiper hose, gasoline line, and suction line from top of vacuum tank. Remove sediment bulb and disconnect gasoline line from bottom of vacuum tank. Remove bolts holding vacuum tank assembly to dash and remove vacuum tank assembly. Remove screws holding vacuum tank head to tank. Remove head and inner tank. Clean and flush out both inner arid outer tank with gasoline: Clean head and be sure all passages are clean. Reassemble inner and outer tanks and replace head. **REPLACE** screws in head. Replace vacuum tank assembly on dash and attach with bolts and nuts. Connect gasoline line, suction line, and windshield wiper hose to top of vacuum tank. Connect gasoline line and replace sediment bulb at bottom of vacuum tank.

Remarks:

CLEAN VACUUM TANK

HUDSON
GREAT EIGHT

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: Check vacuum tank for leaking float, loose bushing around valve in head of tank; and weak or broken spring. Any of above conditions may permit engine to draw gasoline through suction line causing engine to load up and "gallop." Check all connections and lines for air leaks which may cause vacuum tank to run dry.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank. Disconnect gasoline feed pipe at carburetor. Disconnect suction pipe at carburetor riser. Remove carburetor air cleaner. Disconnect throttle control rod. Disconnect choke valve wire. Remove long cap screws attaching carburetor riser to intake manifold. Remove carburetor and riser assembly. Remove cap screws holding carburetor to riser. Remove carburetor. **REPLACE** carburetor on riser and replace cap screws. Replace carburetor and riser assembly on inlet manifold. Replace long cap screws. Connect suction pipe, gasoline pipe, throttle control and choker control. Replace sediment bulb on vacuum tank. Replace carburetor air cleaner. Run engine to warm up. Adjust carburetor.

Remarks:

INSTALL CARBURETOR ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL CARBURETOR ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Carburetor: With engine warm and idling, turn air screw to the left until engine falters—then turn air screw to the right three or four notches at a time until engine idles smoothly.

Adjust throttle stop screw to obtain desired idling speed.

See that choker valve opens and closes completely

SPECIAL TOOLS

Suggestions: Check all gaskets and replace when necessary. Carburetor heat control should be set in the "warm" position except when atmospheric temperature exceeds 90° F; and should always be in warm position when carburetor adjustments are being made.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline line from carburetor. Remove air cleaner. Disconnect choke wire, throttle control rod and heat control rod. Remove long cap screws attaching carburetor riser to intake manifold. Remove carburetor and riser assembly. Remove screws holding carburetor bowl assembly to carburetor body. Remove carburetor bowl cover plate. Remove pin holding carburetor float assembly in bowl. Remove float assembly. Remove float valve from float. **REPLACE** float valve in new float and install assembly in carburetor bowl. Replace pin. Replace bowl cover plate and assemble to carburetor body with screws. Replace carburetor and riser assembly on manifold and attach with long cap screws. Connect gasoline line; choke wire, throttle, control rod and heat control rod. Replace sediment bulb. Replace air cleaner. Warm up engine and adjust carburetor.

Remarks:

INSTALL CARBURETOR FLOAT

HUDSON
GREAT EIGHT

INSTALL CARBURETOR FLOAT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Carburetor: With engine warm and idling, turn air valve screw to the left until engine falters; then turn screw to the right three or four notches at a time until engine idles smoothly.

SPECIAL TOOLS

Suggestions: Inspect all gaskets before reassembling and install new ones when necessary. Be sure needle valve and needle valve seat are clean as dirt will cause carburetor to leak. Carburetor float should work freely on float pin without binding at any point.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank. Disconnect gasoline line from carburetor. Remove air cleaner. Disconnect choke wire, throttle control rode and heat control rod. Remove long cap screws attaching carburetor riser to intake manifold. Remove carburetor and riser assembly. Remove screws attaching carburetor bowl assembly to carburetor body. Remove carburetor float cover plate, and unscrew needle valve from float arm. Remove gasoline screen plug and screen, and remove needle valve seat. Screw new needle valve seat in place. **REPLACE** gasoline screen and cover plug. Screw new needle valve into float arm and replace float cover plate. Reassemble carburetor bowl assembly to carburetor body. Install carburetor and rise assembly on intake manifold with long cap screws. Connect gasoline line. to carburetor. Replace sediment bulb in vacuum tank. Connect heat control rod, throttle control rod, and choke wire. Replace air cleaner. Warm up engine and adjust carburetor.

Remarks:

INSTALL FLOAT VALVE AND SEAT

HUDSON
GREAT EIGHT

INSTALL FLOAT VALVE AND SEAT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Carburetor: For lean mixture, turn air valve screw to the left.

For richer mixture, turn air valve screw to the right.

SPECIAL TOOLS

Suggestions: Inspect all gaskets before reassembling and install new ones if necessary. Keep needle valve and seat clean as dirt will cause carburetor to leak. Carburetor float should work freely in its pin without binding at any point.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline line from carburetor. Remove air cleaner. Disconnect choke wire, throttle control rod and heat control rod. Remove long cap screws attaching carburetor riser to intake manifold. Remove carburetor and riser assembly. Remove screws attaching carburetor bowl assembly to body. Remove carburetor bowl assembly. Remove jet. **REPLACE** jet. Reassemble carburetor bowl assembly to carburetor body. Replace carburetor and riser assembly on intake manifold and attach with long cap screws. Connect gasoline line to carburetor and replace sediment bulb on vacuum tank. Connect heat control rod, throttle control rod and choke wire. Replace air cleaner. Start engine and adjust carburetor.

Remarks: Alteration of jet sizes should not be made under any circumstances unless operating permanently above 4000 feet elevation.

INSTALL CARBURETOR JET

HUDSON
GREAT EIGHT

INSTALL CARBURETOR JET

HUDSON
GREAT EIGHT

ADJUSTMENTS

Turning air screw to the right richens the mixture.

Turning air screw to the left leans the mixture.

End of air screw should be approximately even with the end of ratchet spring bearing against it.

SPECIAL TOOLS

Suggestions: Inspect all gaskets and install new ones if necessary. Do not use pliers to remove or replace jets as jets may be damaged. Heat control should be set in "Warm" position when carburetor adjustment is being made.

PROCEDURE OF OPERATION

Remove terminal plug from tail lamp socket, and remove tail lamp wires. Remove two bolts holding front end of trunk rack to frame (Roadster, Coupe and 7-Passenger Sedan excepted). Remove four bolts holding rear bumper and trunk rack support to frame. Remove bumper, trunk rack, and support assembly. Remove two bolts holding dust shield to frame. Remove screws and nuts holding dust shield to rear fenders. Remove two rear body bolts. Remove dust shield. Disconnect gasoline line and gasoline gauge wire. Loosen gasoline strap hangers and slide gasoline tank down to the left and out of frame. Remove gasoline tank fittings and install on new tank. **REPLACE** gasoline tank in frame and tighten strap hanger bolts. Connect gasoline line and gauge wire. Replace dust shield. Replace body bolts and bolts holding dust shield to frame. Replace screws and nuts holding dust shield to rear fenders. Replace bumper and trunk rack support and bolt into position. Replace trunk rack. Replace tail lamp wires and connect to tail lamp.

INSTALL GASOLINE TANK

HUDSON
GREAT EIGHT

INSTALL GASOLINE TANK

HUDSON
GREAT EIGHT

ADJUSTMENTS

Gasoline tank capacity; 16 gallons.

SPECIAL TOOLS

Suggestions: Test gasoline gauge before and after filling tank. The reserve fuel at zero gauge reading is 21-1/8 gallons. Be sure gasoline pipe and gauge wire connections are tight.

PROCEDURE OF OPERATION

Disconnect two wires from back of gasoline gauge. Remove two screws holding gasoline gauge to back of instrument panel and remove gauge. **REPLACE** gasoline gauge and attach with screws to back of instrument panel. Connect two wires to back of gasoline gauge.

Remarks:

INSTALL GASOLINE GAUGE (ON DASH)

HUDSON
GREAT EIGHT

INSTALL GASOLINE GAUGE (ON DASH)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Gasoline tank capacity; 16 gallons. Reserve at zero gauge reading; 21/8 gallons

SPECIAL TOOLS

Suggestions: Always test to determine source of trouble before replacing any unit. If gauge shows neither gasoline nor oil reading when ignition switch is turned on; the trouble may be due to a broken wire or loose connection. Test circuits in accordance with factory serial letter DS-2006. Turn ignition switch off before disconnecting gauge wires.

PROCEDURE OF OPERATION

Remove terminal plug from tail lamp socket, and remove tail lamp wires. Remove two bolts holding front end of trunk rack to frame (Roadster, Coupe and 7-Passenger Sedan excepted). Remove four bolts holding rear bumper and trunk rack support to frame. Remove bumper, trunk rack and support assembly. Remove two bolts holding dust shield to frame, and screws holding dust shield to rear fenders. Remove two rear body bolts. Remove dust shield. Disconnect gasoline line and gasoline gauge wire. Loosen gasoline tank strap hangers and slide gasoline tank out of frame. Remove gasoline gauge unit from gasoline tank and install new unit. **REPLACE** gasoline tank in frame and connect strap hangers, gasoline line and gauge wire. Replace dust shield. Replace body bolts, screws holding dust shield to fenders, and bolts holding dust shield to frame. Replace bumper, trunk rack and support and bolt in position. Replace bolts holding front end of trunk. Replace tail lamp wires and connect terminal plug to tail lamp,

Remarks:

INSTALL GASOLINE GAUGE (TANK UNIT) HUDSON GREAT EIGHT

ADJUSTMENTS

Gasoline tank capacity; 16 gallons. Reserve at zero gauge reading; 2-1/8 gallons.

SPECIAL TOOLS

Suggestions: If gasoline tank contains fuel, but gauge shows no reading and trouble in the tank unit is suspected; turn on ignition switch, and ground gasoline tank unit terminal. If gauge now indicates "full," the trouble is in the tank unit—if gauge still shows "empty," the trouble is not in the tank unit, but is probably due to a broken wire or dash gauge. Always test to determine source of trouble before replacing any unit.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline line to carburetor. Disconnect gasoline line, suction line, and windshield wiper hose from vacuum tank head. Remove bolts and nuts attaching vacuum tank assembly to dash. Remove, vacuum tank assembly. **REPLACE** vacuum tank assembly and attach to dash with bolts and nuts. Connect gasoline line, suction line and windshield wiper hose to vacuum tank head. Connect gasoline line to carburetor, and replace sediment bulb at bottom of vacuum tank.

Remarks:

INSTALL VACUUM TANK ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL VACUUM TANK ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: As the action of the vacuum tank depends on suction and in a slight difference in pressure, all connections and pipes in the fuel system must be kept tight and free from bends or dents that might obstruct the flow of fuel; and all openings to the air must be kept free.

PROCEDURE OF OPERATION

Disconnect gasoline line, suction line, and windshield wiper hose from vacuum tank head. Remove fittings from vacuum tank head. Remove screws attaching vacuum tank head to tank and remove vacuum tank head. **REPLACE** vacuum tank head and screws. Replace fittings on head, and connect gasoline line, suction line and windshield wiper hose.

Remarks:

INSTALL VACUUM TANK COVER **HUDSON GREAT EIGHT**

INSTALL VACUUM TANK COVER **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Inspect vacuum tank head gaskets, and install new ones when necessary. Make all connections tight and free from air leaks.

PROCEDURE OF OPERATION

Disconnect gasoline line, suction line, and windshield wiper hose from vacuum tank head. Remove screws attaching vacuum tank head to tank. Remove vacuum tank head and gasket. Lift out inner tank and remove gasket. **REPLACE** gasket and inner tank. Replace gasket and vacuum tank head. Replace vacuum tank head screws. Connect gasoline line, suction line and windshield wiper hose to vacuum tank head.

Remarks:

INSTALL VACUUM TANK COVER GASKET

HUDSON
GREAT EIGHT

INSTALL VACUUM TANK COVER GASKET

HUDSON
GREAT EIGHT

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Examine float to see that it does not leak. Be sure that flapper valve functions, and that all pipe connections are tight.

PROCEDURE OF OPERATION

Disconnect gasoline line, suction line, and windshield wiper hose from vacuum tank head. Remove screws. attaching vacuum tank head to tank. Remove vacuum tank head and remove float. Assemble new float, on head and replace on vacuum tank. **REPLACE** screws in vacuum tank head. Connect gasoline line, suction line, and windshield wiper hose.

Remarks:

INSTALL VACUUM TANK FLOAT

HUDSON
GREAT EIGHT

INSTALL VACUUM TANK FLOAT

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

Suggestions: A leaky or loaded vacuum tank float allows gasoline to enter intake manifold through suction pipe, causing engine to "gallop" on account of rich mixture.

PROCEDURE OF OPERATION

Disconnect gasoline line, suction line, and windshield wiper hose from vacuum tank head. Remove screws attaching vacuum tank head to tank, and remove head assembly. Remove inner tank. Unscrew flapper valve assembly from tank**. INSTALL** new flapper valve on tank and replace in outer vacuum tank. **REPLACE** vacuum tank head and attach with screws. Connect gasoline line, suction line, and windshield wiper hose to vacuum tank head.

Remarks:

INSTALL VACUUM TANK FLAPPER VALVE **HUDSON GREAT EIGHT**

INSTALL VACUUM TANK FLAPPER VALVE **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Replace cover gasket if damaged. This gasket must be tight. A leaky flapper valve destroys the vacuum and prevents fuel being drawn from supply tank. Be sure vacuum tank float does not leak, and that all pipe connections are tight.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline line from carburetor. Disconnect throttle control rod, heat control rod, and choke wire from carburetor. Remove air cleaner. Remove cap screws attaching carburetor riser to intake manifold. Remove carburetor and riser assembly. Remove cap screws attaching carburetor to riser and remove carburetor. Inspect inner lining of carburetor riser for leaks. Disassemble carburetor completely. Clean all carburetor parts and replace all worn or damaged parts necessary to put carburetor in first class condition. Reassemble carburetor, using new gaskets. Assemble carburetor to riser with cap screws. Install carburetor and riser assembly on intake manifold with cap screws. Connect gasoline line, and replace sediment bulb on vacuum tank. Connect throttle control rod, heat control and choke wire. Replace air cleaner. Start engine and adjust carburetor.

Remarks:

OVERHAUL CARBURETOR HUDSON GREAT EIGHT

ADJUSTMENTS

Turning air screw to the right richens the mixture. Turning to the left leans the mixture.

Heat control should be in "Warm" position when carburetor adjustment is being made.

SPECIAL TOOLS

Suggestions: Check ignition system and cylinder compression before attempting to obtain a fine carburetor adjustment. Best adjustment is obtained by turning air adjusting screw to the left until engine hesitates or stops, indicating too lean a mixture; then turning to the right until engine idles smoothly. This adjustment is correct for all speed ranges.

PROCEDURE OF OPERATION

Remove sediment bulb from bottom of vacuum tank and disconnect gasoline line from bottom of tank. Disconnect gasoline line, suction line, and windshield wiper hose from top of vacuum tank. Remove nuts and bolts attaching vacuum tank to dash and remove vacuum tank assembly. Disassemble vacuum tank and clean all parts. Assemble vacuum tank replacing all worn or damaged parts and using new gaskets. Install vacuum tank assembly on dash with bolts and nuts. Connect gasoline line, suction line, and windshield wiper hose to top of vacuum tank. Connect gasoline line and replace sediment bulb on bottom of vacuum tank.

Remarks:

OVERHAUL VACUUM TANK **HUDSON GREAT EIGHT**

OVERHAUL VACUUM TANK **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Check all connections for leaks and lines for bends or dents that will obstruct the flow. A leaky vacuum tank float allows gasoline to pass into intake manifold through suction pipe, causing engine to "gallop" on account of rich mixture. A leaky flapper valve destroys the vacuum and prevents fuel being drawn from supply tank. Be sure all pipes and connections are free from leaks.

SPRINGS

SPRINGS

SHOCK ABSORBERS

PROCEDURE OF OPERATION

Remove front spring bolt nut cotter pin. With an ordinary end wrench, tighten spring bolt nut snugly—then back off 1/6 turn Replace cotterpin. Raise left side of hood. Loosen upper shackle bolt lock nut. Tighten shackle bolt snugly—then back off 1/6 turn. Holding bolt in this position, tighten lock nut securely. In the same manner; adjust lower shackle bolt. Raise right side of hood. Remove carburetor. Adjust upper and lower shackle bolts in the manner described above. Lower hood.

Remarks:

ADJUST SHACKLE AND SPRING BOLTS Front)

HUDSON
GREAT EIGHT

ADJUST SHACKLE AND SPRING BOLTS Front)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly with an ordinary wrench; then back off 1/6 turn.

Spring clips: Pull up as tight as possible.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackle bolts cause hard riding and are frequently responsible for breakage of the main leaf. Lubricate bolts. Do not lubricate spring leaves. Leaf breakage in the center between spring clips is an indication of loose clips. Spring bolts should be adjusted every 5000 miles.

PROCEDURE OF OPERATION

Loosen right rear spring upper shackle bolt lock nut. Tighten shackle bolt snugly with an ordinary wrench—then back off 1/6 turn. Holding bolt in this position, tighten lock nut securely. In the same manner adjust the lower shackle bolt. Repeat the operation on the left rear spring shackle bolt Remove the cotter pin in right rear spring front end bolt nut. This is inside of frame and may be reached from under car. Tighten nut snugly—then back off 1/6 turn. Replace cotter pin. In the same manner adjust the left rear spring front end bolt.

Remarks:

ADJUST SHACKLE AND SPRING BOLTS (Rear)

HUDSON
GREAT EIGHT

ADJUST SHACKLE AND SPRING BOLTS (Rear)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly with an ordinary wrench; then back off 1/6 turn.

Spring clips: Pull up as tight as possible.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackle bolts cause hard riding and are frequently responsible for breakage of the main leaf. Lubricate bolts. Do not lubricate: spring leaves. Leaf breakage in the center between spring clips is an indication of loose clips. Spring bolts should be adjusted every 5000 miles.

PROCEDURE OF OPERATION

Raise front end of car with chain hoist, supporting car by the frame and raising it just high enough to relieve the weight on spring bolt. Remove right front spring bolt nut cotter pin and nut. Remove spring bolt. REPLACE spring bolt, being sure that adjusting sleeve is in place. Replace spring bolt nut. Tighten nut snugly with an ordinary wrench—then back off 1/6 turn. Replace cotter pin. In. the same manner replace the left front spring bolt. Raise left side of hood. Remove upper shackle bolt lock nut. Unscrew upper. shackle bolt and remove. REPLACE shackle bolt; tighten snugly—then back off 1/6 turn. Holding bolt in this position, tighten lock nut securely. In the same manner replace the lower shackle bolt. Raise right side of hood. Remove carburetor. Replace and adjust shackle bolts in the manner described above.

Remarks:

INSTALL BOLTS (Front Spring) ALL

HUDSON
GREAT EIGHT

INSTALL BOLTS (Front Spring) ALL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly with an ordinary wrench; then back off 1/6 turn.

Spring clips: Pull up as tight as possible.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackle bolts cause hard riding and are frequently responsible for breakage of the main leaf. Lubricate bolts. Do not lubricate spring leaves. Leaf breakage in the center between spring clips is an indication of loose clips. Spring bolts should be adjusted every 5000 miles, In installing lower shackle bolt, be sure that spacer No. 65140 is replaced between spring and inner shackle.

PROCEDURE OF OPERATION

Raise rear end of car with chain hoist, supporting car by the frame and raising it just high enough to relieve the weight on spring bolt. Remove right rear spring upper shackle bolt lock nut. Unscrew and remove shackle bolt. REPLACE shackle bolt. Tighten bolt snugly—then back off 1/6 turn. In the same manner replace lower shackle bolt on right rear spring; and upper and lower shackle bolts on left rear spring. Remove cotter pin in right rear spring front end bolt lock nut. Remove bolt. REPLACE bolt, being sure that adjusting sleeve is in place. Tighten lock nut securely—then back off 1/6 turn. Replace cotter pin. In the same manner replace the left rear spring front end bolt.

Remarks:

INSTALL BOLTS (Rear Spring) ALL

HUDSON
GREAT EIGHT

INSTALL BOLTS (Rear Spring) ALL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten snugly with an ordinary wrench; then back off 1/6 turn.

Spring clips: Pull up as tight as possible,

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackle bolts cause hard riding and are frequently responsible for breakage of the main leaf. Lubricate bolts. Do not, lubricate spring leaves. Leaf breakage in the center between spring clips is an indication of loose clips. Spring bolts should be adjusted every 5000 miles.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rod at axle anchor. Remove rubber rebound bumper. If center bolt is broken, use a "C" clamp to hold leaves together when clips are removed. Remove spring clip (U bolt) nuts. Remove spring clips. Raise front end of car, supporting car by the frame, until spring is clear of axle. With springs held together with a "C" clamp, remove center bolt nut and bolt. **REPLACE** center bolt. Replace center bolt nut. ,Rivet over end of bolt. Lower car, guiding head of center bolt into place on spring seat. Replace spring clips. Replace spring clip nuts and tighten securely. Replace rubber rebound bumper. Connect shock absorber tie rod,

Remarks:

INSTALL CENTER BOLT (Front Spring)

HUDSON
GREAT EIGHT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring clips:. Pull up as tight as possible with a socket wrench.

Center bolt: Tighten nut securely and rivet over end of bolt.

Spring bolts: Tighten as much as possible with an ordinary wrench— then back off 1/6 turn.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Check for broken spring leaves. Tight shackles may cause breakage of main leaf. Leaf breakage in the center between clips is an indication of loose clips.

PROCEDURE OF OPERATION

Raise rear end of car, preferably with a chain hoist, supporting car by the frame and raising just high enough to take the weight off spring. Remove spring clip (U bolt) nuts. Remove spring clips, clip straps, and spacer plate. Lower car so that spring is clear of axle. Use a "C" clamp to hold spring leaves together. Remove center bolt nut and bolt. **REPLACE** center bolt. Replace nut, and rivet over end of bolt. Raise car and guide head of center bolt into place on spring seat. Replace spring clips. Replace spring clip plate and straps. Replace spring clip nuts and tighten securely. Lower car.

Remarks:

INSTALL CENTER BOLT (Rear Spring)

HUDSON
GREAT EIGHT

INSTALL CENTER BOLT (Rear Spring)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring clips: Pull up as tight as possible with a socket wrench.

Center bolt: Tighten nut securely and rivet over end of bolt.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Check for broken leaves. Tight shackles may cause breakage of main leaf. Leaf breakage in the center between clips is an indication of loose clips. Loose clips also cause backlash when starting. If center bolt is broken, hold leaves together with "C" clamp before removing spring clips.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rod at axle anchor. Remove rubber bumper. Remove spring clip (U bolt) nuts. Remove spring clips. Raise front end of car, supporting car by frame; and raising just enough to relieve weight on spring bolts. Remove spring front end bolt. Remote spring shackle lower bolt. Remove spring assembly. Remove spring rebound clip. Remove spring center bolt nut and bolt. Remove leaf. **REPLACE** leaf. Replace center bolt and nut. Replace rebound clip. Replace spring assembly. Replace front end bolt. Replace nut and cotter pin. Replace shackle bolt and lock nut. Lower car, guiding head of center bolt into place on spring seat. Replace spring clips. Replace spring clip nuts and tighten securely. (Replace rubber bumper. Connect shock absorber tie rod.

INSTALL LEAF (Front Spring)

HUDSON
GREAT EIGHT

INSTALL LEAF (Front Spring)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench— then back off 1/6 turn.

Spring clips: Pull up as tight as possible.

Shock absorbers: Normal adjustment, 1/2 turn.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Spring leaves are numbered from the top—the main leaf is No. 1. Tight shackles may cause breakage of the main leaf. Leaf breakage in the center between the clips is an indication of loose clips. A weak spring often causes front end instability and "tramp." Lubricate spring bolts before replacing. Do not lubricate spring leaves. Be sure that spacer No. 65140 is in place on lower shackle bolt.

PROCEDURE OF OPERATION

Raise rear end of car, supporting car by the frame and raising just far enough to relieve the weight on spring bolts. Remove spring clip (U bolt) nuts. Remove spring clips, clip straps and spacer plate. Remove spring front end bolt and lower spring. Remove spring shackle lower bolt. Remove spring. Remove rebound clips. Remove spring center bolt nut and bolt. Remove leaf. **REPLACE** leaf. Replace center bolt and nut. Replace rebound clips. Replace spring assembly. Replace spring front end bolt, nut and cotter pin. Raise spring, guiding head of center bolt into place in spring seat. Replace lower shackle bolt and lock nut. Replace spring clips (U bolts). Replace spring clip spacer plate and straps. Replace spring clip nuts and tighten securely.

Remarks:

INSTALL LEAF (Rear Spring)

HUDSON
GREAT EIGHT

INSTALL LEAF (Rear Spring)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench—then back off 1 /6 turn.

Spring clips: Pull up as tight as possible with a socket wrench.

Shock Absorbers: Normal adjustment, 1/2 turn

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestion: Tight shackles may cause breakage of the main leaf. Leaf breakage in the center between the clips is an indication of loose clips. Loose clips also cause back lash when starting. **Clips must be tight.** Lubricate spring bolts before replacing. Do not lubricate spring leaves.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rod at axle anchor. Remove rubber rebound bumper. Remove spring clip (U bolt) nuts. Remove spring clips. Raise front end of car, supporting car by the frame. Remove spring front end bolt. Remove spring shackle lower bolt. Remove spring assembly. **REPLACE** spring. Replace spring front end bolt and nut. Replace shackle bolt and lock nut. Lower car, guiding spring center bolt into place. Replace spring clips. Replace spring clip nuts and tighten securely: Connect shock absorber tie rod. Replace rubber bumper.

Remarks:

INSTALL SPRING ASSEMBLY (Front)

HUDSON
GREAT EIGHT

INSTALL SPRING ASSEMBLY (Front)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench— then back off 1 /6 turn.

Spring clips: Pull up as tight as possible with a socket wrench.

Shock absorbers: Normal adjustment, 1/2 turn.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackles may cause breakage of the main leaf. Leaf breakage in the center between the clips is an indication of loose clips. Loose clips also contribute to front end instability and shimmy. Lubricate spring bolts before replacing. Do not lubricate spring leaves.

PROCEDURE OF OPERATION

Raise rear end of car, supporting car by the frame and raising just far enough to take the weight off spring. Remove spring clip (U bolt) nuts. Remove spring clips, clip straps, and spacer plate. Remove spring front end bolt and lower spring. Remove spring shackle lower bolt. Remove spring. **REPLACE** spring. Replace spring front end bolt, nut and cotter pin. Raise spring. Replace shackle bolt and lock nut. Guide center bolt into place on spring seat. Replace spring clips (U bolts). Replace spring clip spacer plate and straps. Replace spring clip nuts and tighten securely. Lower car.

Remarks:

INSTALL SPRING ASSEMBLY (Rear)

HUDSON
GREAT EIGHT

INSTALL SPRING ASSEMBLY (Rear)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench—then back off 1/6 turn.

Spring clips: Pull up as tight as possible with a socket wrench.

Shock absorbers: Normal adjustment, 1 turn.

SPECIAL TOOLS

HE-316 Spring clip and shackle bolt wrench

Suggestions: Tight shackles may cause breakage of the main leaf. Leaf breakage in the center between the clips is an indication of loose clips. Loose clips also cause backlash when starting. Clips must be tight. Lubricate spring bolts before replacing. Do not lubricate spring leaves.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rods at axle anchor. Remove rubber. re-bound bumpers. Remove spring clip (U bolt) nuts. Remove spring clips. Remove carburetor. Remove generator and coupling. Raise front end of car, supporting car by the frame, and raising just high enough to relieve weight on springs. Remove right front spring front end bolt. Remove spring shackle lower bolt. Remove spring assembly. Press bushing out of each end of spring. **REPLACE** bushings. Remove shackle bolt, upper. Remove shackle. Press out bushing from frame spring bracket. Replace bushing. In similar manner re-bush left front spring and bracket. Replace shackles. Replace springs. Replace and adjust spring bolts. Replace spring clips. Replace ,spring dip nuts and tighten securely. Lower car. Connect shock absorbers. Replace generator. Replace carburetor.

Remarks:

REBUSH FRONT SPRINGS AND BRACKETS

HUDSON
GREAT EIGHT

REBUSH FRONT SPRINGS AND BRACKETS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench then back off 1/6 turn.
Spring -clips: Pull up as tight, as possible with a socket wrench.
Shock. absorbers: Normal adjustment: 1/2 turn.
Bracket bushing. inside diameter; burnish to .6255"
Spring bushings, inside diameter; ream .625"

SPECIAL TOOLS

HE-316 Spring clip anal shackle bolt wrench
HE-1 1 5 Bushing Press, Use sleeve No. 16 and plug No.15 for removing and replacing bushings.

Suggestions: Oil holes in spring rear bushing and bracket bushing must coincide with holes in spring and bracket respectively. Spring bolt adjustment is important. Too
tight adjustment is often the cause of spring breakage. Spring shackles. must lie tight.

PROCEDURE OF OPERATION

Remove rear fender bolts, screws and clips. Remove rear fenders. Raise rear end of car, supporting car by the frame, and raising just high enough to :take the weight off springs. Loosen muffler and tail pipe clamps and remove muffler. Remove spring clip (U bolt). nuts. Remove spring clips, clip straps and spacer plate. Remove right rear spring front end bolt and lower spring. Remove spring shackle lower bolt. Remove spring. Press out bushing at each end' of spring. **REPLACE** bushings. Remove shackle upper. bolt. Remove shackles. Press bushing from spring frame bracket. **REPLACE** bushing. Replace shackle and upper shackle bolt. Replace spring. Replace and adjust spring bolts. Replace spring clips. Replace spring clip spacer plate and straps. Replace spring clip nuts and tighten securely. in similar manner remove, rebush and replace left rear spring. Replace muffler and tail pipe. Lower, car. Replace rear fenders.

Remarks:

REBUSH REAR SPRINGS AND BRACKETS

HUDSON
GREAT EIGHT

REBUSH REAR SPRINGS AND BRACKETS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Spring bolts: Tighten as much as possible with an ordinary wrench—then back off 1/6 turn.
Spring clips: Pull up as tight as possible with a socket wrench.
Shock absorbers: Normal adjustment, 1 turn.
Bracket bushing inside diameter; burnish to .6255"
Spring bushings, inside diameter; ream ,625"

SPECIAL TOOLS

HE-3I6 Spring clip and shackle bolt wrench
HE-115 Bushing Press. Use sleeve No. .16 and plug No. 15 for removing and replacing bushings

Suggestions: Oil holes in spring rear bushing and bracket bushing must coincide with holes in spring and bracket respectively. Spring bolt adjustment is important. Too tight adjustment is. often the cause of spring breakage. Spring shackles must be tight.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rod at axle anchor. Pull arm do as far as possible. Clean dirt from end of shock absorber. Remove end plug and gasket. Insert screw driver into end plug hole and engage in slot of adjustment valve sleeve. To make instrument stiffer turn adjustment sleeve in clockwise direction. To make instrument work "softer" turn in counter clockwise direction, (Do not give fronts more than 1/2 turn at one time, or rears more than 1/2 turn, before testing the riding of the car.) Clean and replace end plug and gasket, using new gasket if necessary to get a tight seal. Add oil to shock absorber to make up for the small amount lost when removing end plug. Use "Wahl Hydraulic Fluid." Connect tie rod, and adjust, rubbers as directed on rear of this ticket. Repeat operation on other side of car.

Remarks:

ADJUST SHOCK ABSORBERS (FRONT OR REAR) WAHL

HUDSON
GREAT EIGHT

ADJUST SHOCK ABSORBERS (FRONT OR REAR) WAHL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Compress upper tie rod rubbers so over-all distance of rubbers and ,washers is 2-1/8".

Compress lower tie rod rubbers to 1-11/16 over-all dimensions, of rubbers and washers.

The eye-bolt in front axle should square with tie rod, to insure proper seating of tie rod rubbers.

Normal Valve setting: Front, 1/2 turn.
Rear, 1 turn.

SPECIAL TOOLS

Suggestions: Be sure the bolts holding instrument to frame are tight. Before adjusting shock absorbers, check tire pressures; also check adjustment of tie rod rubbers. Never adjust, only one shock absorber, either both fronts or both rears should be adjusted when changes in value setting are made. Both front units should pull about the same and both rear units should pull about the same. In many cases re-adjustment of the front shock absorbers only necessary. Use Wahl Hydraulic Fluid only.

PROCEDURE OF OPERATION

Remove front bumper. Remove front spring front end bolt nuts. Remove two screws holding radiator splash guard to frame. Remove splash guard. Disconnect shock absorber tie rod at axle anchor. Remove bolt holding shock absorber to frame. Remove shock absorber. **REPLACE** shock absorber. Bolt shock absorber, to frame. Replace splash guard. Replace splash guard screws. Replace spring bolt nuts and cotter pins. Connect shock absorber axle anchor. Replace front bumper.

Remarks:

INSTALL SHOCK ABSORBER (Front) WAHL

HUDSON
GREAT EIGHT

INSTALL SHOCK ABSORBER (Front) WAHL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Compress upper tie rod rubbers to 21/8" over-all dimensions of rubbers and washers.

Compress lower tie rod rubbers to 1-11/16" over-all dimensions of rubbers and washers.

The eye-bolt in front axle should be square with tie rod, to insure proper seating of tie rod rubbers.

Normal valve setting: 1 turn.

SPECIAL TOOLS

Suggestions: Check tire pressure. Be sure that shock absorber is bolted securely to frame. To replenish oil; use Wahl Hydraulic Fluid only.

PROCEDURE OF OPERATION

Raise rear end of car. Disconnect shock absorber tie rod at axle anchor. Remove bolts holding shock absorber to frame. Remove shock absorber. **REPLACE** shock absorber. Bolt shock absorber to frame. Connect shock absorber tie rod to axle anchor. Adjust tie rod rubbers. Lower car.

Remarks:

INSTALL SHOCK ABSORBER (Rear) WAHL **HUDSON GREAT EIGHT**

INSTALL SHOCK ABSORBER (Rear) WAHL **HUDSON GREAT EIGHT**

ADJUSTMENTS

Compress upper tie rod rubbers to 2-1/8" over-all dimensions of rubbers and washers.

Compress lower tie rod rubbers to 1-11/16 over-all dimensions of rubbers and washers.

Normal valve setting: 1 turn.

SPECIAL TOOLS

Suggestions: Before installing shock absorber, remove filler plug and fill with "Wahl Hydraulic Fluid." Check tire pressures. Check shock absorber adjustment. Both rear units should pull about the same.

PROCEDURE OF OPERATION

Disconnect shock absorber tie rod at axle anchor. Remove filler hole plug and gasket, using care to prevent dirt entering hole. Add oil through filler hole, at the same time working arm, up and down. If arm has a. free center, continue, adding oil and working arm until this condition disappears. Add oil until instrument is full. Clean and replace filler hole plug and gasket, using a new gasket if necessary to get a tight seat. Connect tie rod. Check adjustment of rubbers. Repeat this operation on other shock absorbers.

Remarks:

REPLENISH OIL IN SHOCK ABSORBERS (WAHL)

HUDSON
GREAT EIGHT

REPLENISH OIL IN SHOCK ABSORBERS (WAHL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Compress upper tie rod rubbers so over-all distance of rubbers and' washers is 2-1/8".

Compress lower tie rod rubbers to 1-11/16" over-all dimensions of rubbers and washers.

The eye-bolt in front axle should be square with tie rod, to insure proper seating of tie rod rubbers.

Oil: Use Wahl Hydraulic Fluid only.

SPECIAL TOOLS

Suggestions: Be sure the bolts holding instrument to frame are tight. Check the following points for leakage: Rear cover plate, filler hole plugs body cylinder end caps, end plug, rocker shaft.

STEERING GEAR

PROCEDURE OF OPERATION

Raise left. side of hood. Loosen cross shaft adjusting screw locknut back of steering case. Adjust cross shaft end play by tightening adjusting screw as much as possible with an ordinary screw driver. Tighten adjusting screw lock nut. Lower hood.

Remarks:

ADJUST END PLAY (CROSS SHAFT)

HUDSON
GREAT EIGHT

ADJUST END PLAY (CROSS SHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

SPECIAL TOOLS

Suggestions: Use a good grade of fluid steering gear oil. Avoid use of graphite, white lead or any solidified oil. Keep tires inflated to recommended pressure.

PROCEDURE OF OPERATION

Remove leather boot at rear end of drag link. Disconnect drag link from pitman arm. Loosen clamp bolt nut at top of steering gear case. Loosen worm adjusting screw lock nut. Very carefully tighten worm shaft bearing adjusting screw as much as possible without stiffening action of gear when turned through its entire range. If the adjusting screw is tightened too much, back it off and turn steering wheel through its entire range. Re-adjust as above. Tighten adjusting screw lock nut. Tighten clamp bolt nut. Connect drag link to pitman arm. **REPLACE** boot.

Remarks:

ADJUST END PLAY (WORM)

HUDSON
GREAT EIGHT

ADJUST END PLAY (WORM)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Worm shaft should have no perceptible end play, but must turn free throughout its entire range.

SPECIAL TOOLS

Suggestions: The last motion of the worm adjusting screw must be clockwise (tightening) to insure contact of the screw with the adjusting sleeve. If screw is tightened too much, it should be backed off and steering wheel turned through its entire range—then screw should be re-adjusted.

PROCEDURE OF OPERATION

Disconnect rear end of drag link from pitman arm. Loosen cross shaft adjusting screw lock nut on back of steering case. Adjust cross shaft end play by tightening adjusting screw as much as possible with an ordinary screw driver. Tighten adjusting screw lock nut. Loosen clamp bolt nut at top of steering case. Loosen worm bearing adjusting screw lock nut. Very gradually tighten adjusting screw as much as possible without stiffening action of gear when turned throughout its entire movement. Tighten lock nut. Tighten clamp bolt nut. Connect drag link to pitman arm.

Remarks:

ADJUST END PLAY (CROSS SHAFT AND WORM)

HUDSON
GREAT EIGHT

ADJUST END PLAY (CROSS SHAFT AND WORM)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

Worm shaft should have no perceptible end play; but steering gear should turn free throughout its entire range.

Lubricate steering gear with a good grade of fluid gear oil.

SPECIAL TOOLS

Suggestions. The last motion of adjusting screw must be clockwise (tightening) to insure contact of screw with the adjusting sleeve. If the screw is tightened too much, back off and turn steering wheel through entire range; then re-adjust more carefully.

PROCEDURE OF OPERATION

Disconnect rear end of drag link from pitman arm ball. Turn the steering wheel until pitman arm is pointing straight down which corresponds to straight ahead driving position of wheel. Loosen housing cover nuts 1/4 turn only Loosen adjusting sleeve lock nut. Turn eccentric adjusting sleeve very gradually in a clockwise direction, checking at each movement the amount of lost motion still existing at pitman arm. Adjust only sufficiently tight to eliminate all lash of pitman arm. Tighten adjusting sleeve lock nut. Tighten housing cover nuts. Turn steering wheel from extreme right to extreme left to test adjustment. If too tight, re-adjust as above more carefully. Re-connect drag link to pitman arm ball.

Remarks:

ADJUST MESH (SECTOR AND WORM)

HUDSON
GREAT EIGHT

ADJUST MESH (SECTOR AND WORM)

HUDSON
GREAT EIGHT

ADJUSTMENTS

There should be no backlash between worm Sand sector when sector is on center (high point) of worm.

Note: High point must correspond to exact straight ahead position of front wheels.

SPECIAL TOOLS

Suggestions: Always make adjustment with gear in straight ahead position. Always turn adjusting sleeve in a clockwise direction. If necessary to turn counter clockwise, turn in a counter clockwise direction about 1/4 turn then gradually turn in a clockwise direction until proper adjustment is made. Lubrication: Use a good grade of fluid steering gear oil. Avoid use of graphite, white lead or solidified oil.

PROCEDURE OF OPERATION

Disconnect rear end of drag link from pitman arm. Loosen three frame bracket stud nuts. Loosen jacket tube bracket clamp bolt. . Turn steering wheel from extreme right to extreme left, then back 1/8 turn. Tighten frame bracket stud nuts. Tighten jacket tube bracket clamp. Loosen cross shaft adjusting screw lock nut on back of steering case. Adjust cross shaft end play by tightening adjusting screw as much as possible with ordinary screw driver. Tighten adjusting screw lock nut. Loosen clamp bolt at top of steering case. Loosen worm bearing adjusting screw lock nut. Very gradually tighten adjusting screw as much as possible without stiffening action, of gear when turned through its entire movement. Tighten lock nut. Tighten clamp bolt nut. Turn steering gear to exact straight ahead position. Loosen the three housing cover stud nuts one quarter turn only. Turn eccentric adjusting sleeve very gradually in a clockwise direction, until no backlash exists in pitman arm. Test freedom of gear throughout its complete range. Connect drag link to pitman arm.

Remarks:

ADJUST STEERING GEAR THROUGHOUT

HUDSON
GREAT EIGHT

ADJUST STEERING GEAR THROUGHOUT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

Worm shaft should have no perceptible end play; but steering wheel should turn free throughout its entire range.

There should be no backlash between worm and sector when sector is on center (high point) of worm **Note**: High point must correspond to exact straight ahead position of front wheels.

SPECIAL TOOLS

Suggestions: See factory reference sheet No. 41. Backlash must always be adjusted with gear in center (straight ahead) position. The final movement of adjusting sleeve must be in a clockwise direction. If necessary to back up on adjusting sleeve, turn back at least 1/4 turn, then turn very gradually in a clockwise direction until adjustment is correct. Keep tires inflated to recommended pressure.

PROCEDURE OF OPERATION

Disconnect rear end of drag link from pitman arm. Remove nut holding pitman arm to steering-gear cross shaft. Disconnect steering gear to lighting switch ball joint. Disconnect horn wire at horn. Loosen jacket tube cowl bracket. Using special tool HE-20, pull off pitman arm. Remove three nuts holding steering case to frame bracket. Move steering gear case in order to remove pitman arm. **REPLACE** pitman arm. Tighten nuts holding steering case to frame bracket. Tighten jacket tube cowl bracket. Connect lighting switch lever ball joint. Connect horn wire. Connect drag link to pitman arm. Replace cross shaft nut and tighten securely.

Remarks:

INSTALL ARM (PITMAN)

HUDSON
GREAT EIGHT

INSTALL ARM (PITMAN)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Before replacing pitman arm, turn steering wheel to exact midway position of its travel, and front wheels in straight ahead position. Pitman arm should point straight down

SPECIAL TOOLS

HE-20 Steering arm puller
HE-143 Screw driver
HE-23 Pitman arm nut wrench

Suggestions: Lack of lubrication and mis-alignment will cause the steering gear to bind. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure from 5 to 8 pounds. Loose front spring bolts may cause shimmy. Wheel bearings should be properly adjusted and wheels should run true. Examine front end bolts and connections for general tightness. Imperfect balance in wheels may cause tramp.

PROCEDURE OF OPERATION

Disconnect jacket tube bracket from cowl bracket. Remove dash kick panel. Remove two rivets holding cowl bracket to dash -Panel. Disconnect rear end of radiator tie rod from cowl bracket Remove two screws holding cowl bracket to instrument panel flange. Remove two bolts holding cowl bracket to body front end. Remove cowl bracket. **REPLACE** cowl bracket. Bolt bracket to body and to instrument panel. Rivet bracket to dash panel. Connect radiator tie rod. Replace kick panel. Connect jacket tube bracket.

Remarks:

INSTALL BRACKET (COWL) **HUDSON GREAT EIGHT**

INSTALL BRACKET (COWL) **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Be sure that steering column is properly aligned. Misalignment causes hard steering and puts excessive strain on bracket and jacket tube bushings.

PROCEDURE OF OPERATION

Disconnect horn wire. Disconnect accelerator pedal rod. Disconnect light switch operating rod. Disconnect drag link from pitman arm. Disconnect jacket tube bracket from. cowl bracket. Remove two bolts holding frame bracket to frame. Remove pitman arm. Remove three steering case cover frame bracket stud nuts. Remove frame bracket. **REPLACE** frame bracket. Replace steering case cover to frame bracket stud nuts. Replace pitman -arm. Bolt frame bracket to frame. Connect cowl bracket. Align steering column. Connect drag link. Connect light switch operating rod. Connect accelerator rod. Connect horn wire.

Remarks:

INSTALL BRACKET (FRAME)

HUDSON
GREAT EIGHT

INSTALL BRACKET (FRAME)

HUDSON
GREAT EIGHT

ADJUSTMENTS

SPECIAL TOOLS

HE-20 Steering arm puller
HE-23 Pitman arm nut wrench
HE-299 Steering case bracket nut wrench

Suggestions: Be sure that steering gear is properly aligned, and that column does not bind after case cover to frame bracket stud nuts are tightened.

PROCEDURE OF OPERATION

Disconnect horn wire. Disconnect light switch rod. Disconnect accelerator pedal rod. Remove lower switch arm. Remove throttle control friction plate. Remove lower throttle arm. Loosen three nuts holding steering case cover to frame bracket. Disconnect jacket tube bracket from cowl bracket. Remove control tubes through top of steering column. Remove steering wheel. Loosen jacket tube bracket clamp. Remove bracket. **REPLACE** jacket tube bracket. Replace steering wheel. Replace control tubes. Connect cowl bracket. Tighten frame bracket stud nuts. Replace lower throttle arm, friction, band, and light switch arm. Connect accelerator rod. Connect light switch control rod. Connect horn wire.

Remarks:

INSTALL BRACKET (JACKET TUBE)

HUDSON
GREAT EIGHT

INSTALL BRACKET (JACKET TUBE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Jacket tube bushings should be snug on column to prevent rattle.

SPECIAL TOOLS

HE-53 Steering Wheel Puller

Suggestions: Be sure column is properly aligned, and does not bind steering when frame bracket stud nuts are tightened. See that control tube silencers are in place, and that steering wheel hub does not strike top end of jacket tube.

PROCEDURE OF OPERATION

Disconnect starter cable terminal. Disconnect starter switch pull wire. Remove bolt and loosen clamp which holds rear breather tube. Remove breather tube. Remove three nuts on studs holding starter motor to engine plate. Remove starter. Disconnect horn wire. Disconnect lower throttle arm and light switch rod. Disconnect drag link from pitman arm. Remove three steering case to frame bracket stud nuts. Remove pitman arm. Remove three steering case cover stud nuts and one adjusting stud nut. Remove steering gear case cover. Remove worm wheel and shaft. Remove cross shaft bushings. **REPLACE** cross shaft bushings. Ream bushings. Replace worm wheel and shaft. Replace steering gear case cover. Replace steering case cover stud nuts and adjusting stud nut. Replace pitman arm. Replace three frame bracket stud nuts. Connect accelerator rod and light switch rod. Replace starter motor. Replace breather pipe. Connect starter cable. Connect switch pull wire. Connect horn wire. Adjust steering gear. Connect drag link.

Remarks:

INSTALL BUSHINGS (CROSS SHAFT)

HUDSON
GREAT EIGHT

INSTALL BUSHINGS (CROSS SHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft bushing inside diameter: 1.375" ream in place.

Cross shaft should have no end play.

There should be no backlash between sector and worm when sector is at center (high point) of worm. This should correspond to straight ahead position of front wheels.

SPECIAL TOOLS

h—211 Cross shaft bushing reamer
HE-20 Steering arm puller
HE-23 Pitman arm nut wrench

Suggestions: Immerse cross shaft in machine oil immediately before installing. Lubricate gear with a good fluid gear oil. Replace cross shaft thrust washer.

PROCEDURE OF OPERATION

Disconnect drag link from pitman arm. Disconnect horn wire. Disconnect light switch rod. Disconnect accelerator rod. Remove lower switch lever. Remove throttle control friction band. Remove lower throttle lever. Disconnect jacket tube bracket. Remove two bolts holding steering gear bracket to frame. Remove control tubes through top of column. Remove steering wheel. Remove jacket tube. Remove pitman arm. Remove steering gear assembly. Remove frame bracket. Disassemble case. Remove worm wheel and shaft. Remove worm adjusting nut and remove thrust bearing and worm. Remove case. **REPLACE** case. Install worm and thrust bearings. Install worm wheel and shaft. Replace case cover. Replace frame bracket. Replace steering gear assembly. Replace pitman arm. Replace jacket tube. Replace. steering wheel. Replace control tubes. Replace frame bracket to frame bolts. Connect cowl bracket. Replace lower throttle lever, friction band, and light switch lever. Connect accelerator rod. Connect light switch rod. Connect horn wire. Lubricate gear. Adjust gear. Connect drag link.

Remarks:

INSTALL CASE (STEERING GEAR)

HUDSON
GREAT EIGHT

INSTALL CASE (STEERING GEAR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

Worm shaft should have no perceptible end play, but steering wheel must turn free throughout its entire range.

There should be no backlash between worm and sector when sector is on center (high point) of worm. This should correspond to exact straight ahead position of front wheels.

SPECIAL TOOLS

HE-20 Steering arm puller
HE-23 Pitman arm nut wrench
HE-53 Steering wheel puller
HE-299 Steering gear case bracket nut wrench

Suggestions: Lubricate steering gear with a good grade of: fluid gear oil. For detailed adjustment instructions see factory reference sheet No. 41. Be sure jacket tube bushings are snug and control tube silencers are in place to prevent rattles.

PROCEDURE OF OPERATION

Disconnect drag link from pitman arm. Disconnect horn wire. Disconnect lighting switch operating rod. Disconnect accelerator pedal rod, Remove lower switch lever. Remove throttle control friction band. Remove lower throttle lever., Remove spacer. Disconnect jacket tube bracket from cowl bracket. Remove two bolts holding steering gear bracket to frame. Remove control tubes through top of steering column. Remove steering wheel nut. Remove steering wheel. Remove, jacket tube. Remove steering gear assembly. Remove throttle control bell crank from case. **REPLACE** bell crank. Replace steering gear assembly. Replace jacket tube. Replace steering wheel. Replace steering wheel nut and tighten securely. Replace control tubes. Replace frame bracket bolts. Connect cowl bracket. Replace lower throttle lever. Replace friction band. Replace light control lever. Connect accelerator rod. Connect light switch rod. Connect horn wire. Connect drag link. Lubricate steering gear.

Remarks:

INSTALL CASE AND GEAR ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL CASE AND GEAR ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

In the straight ahead position of front wheels, steering wheel keyway should point directly upward toward the roof of car. Pitman arm should be straight down.

SPECIAL TOOLS

HE-53 Steering wheel puller
HE-20 Steering arm puller
HE-299 Steering gear case bracket nut wrench
HE-23 Pitman arm nut wrench

Suggestions: After steering wheel and jacket tube are removed, steering gear assembly may be removed from the front. Lubricate gear with a good fluid gear oil.

PROCEDURE OF OPERATION

Disconnect horn wire. Disconnect light switch operating rod. Disconnect accelerator pedal rod. Remove lower switch lever. Remove throttle control friction band. Remove lower throttle lever. Loosen three nuts holding steering gear cover to frame bracket. Disconnect jacket tube bracket from cowl bracket. Remove control tubes from top of steering column. Remove steering wheel nut. Remove steering wheel. Remove jacket tube. Remove jacket tube bracket. **REPLACE** jacket tube. Replace jacket tube bracket. Replace steering wheel. Replace steering wheel nut, and tighten securely. Replace control tubes. Connect cowl bracket. Tighten steering gear cover to frame bracket stud nuts. Replace lower throttle lever. Replace throttle control friction band. Replace lower switch lever. Connect accelerator pedal rod. Connect light switch rod. Connect horn wire.

Remarks:

INSTALL JACKET TUBE

HUDSON
GREAT EIGHT

INSTALL JACKET TUBE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Push jacket tube down as far as possible and tighten clamp to prevent tube rubbing on steering wheel.

Jacket tube bushings should be a snug fit on main tube.

SPECIAL TOOLS

HE-53 Steering wheel puller

Suggestions: Adjust steering wheel to desired height and tighten cowl bracket clamp bolt before tightening the three frame bracket stud nuts. Be sure column is properly aligned to prevent binding. Use care in removing wheel to avoid marring of spokes or hub.

PROCEDURE OF OPERATION

Disconnect horn wire at horn. Disconnect steering case to lighting switch link. Disconnect steering gear to accelerator pedal rod. Remove lower switch lever. Remove throttle control friction band. Loosen lower throttle lever clamp nut and remove lever. Remove throttle control spacer. Disconnect jacket tube bracket from cowl bracket. Loosen three stud nuts holding steering case to frame bracket. Remove control tubes through top of steering column. Remove steering wheel nut. Remove steering wheel. **REPLACE** steering wheel, being sure that key is in place. Replace steering wheel nut and tighten securely. Replace throttle and light control tubes. Connect jacket tube bracket. Tighten steering case to frame bracket nuts. Replace throttle control spacer. Replace throttle lower lever. Replace throttle friction band. Replace lower switch lever. Connect accelerator pedal rod. Connect light switch link. Connect horn wire.

Remarks:

INSTALL STEERING WHEEL

HUDSON
GREAT EIGHT

INSTALL STEERING WHEEL

HUDSON
GREAT EIGHT

ADJUSTMENTS

In the straight ahead position of front wheels, steering wheel key-way should point directly upward toward the roof of car.

SPECIAL TOOLS

HE-53 Steering wheel puller

Suggestions: When removing steering wheel, use care not to damage hard rubber spokes or polished hub. Lubricate steering gear with a good grade of fluid gear oil,

PROCEDURE OF OPERATION

Disconnect drag link from pitman arm. Remove pitman arm. Disconnect horn wire at horn. Disconnect steering case to lighting switch link. Disconnect steering gear to accelerator pedal rod. Remove lower switch lever. Remove throttle control friction band. Loosen lower throttle lever clamp nut and remove lever. Remove throttle control spacer. Disconnect jacket tube bracket from cowl bracket. Remove two nuts from bolts holding steering gear bracket to frame. Remove control tubes through top of steering column. Remove steering wheel. Remove jacket tube. Remove steering gear assembly. Disassemble steering case. Loosen case clamp. Remove worm bearing adjusting nut. Remove column and worm through top of case. Remove worm. **REPLACE** worm. Replace column in case. Replace adjusting nut. Assemble case. Replace steering gear assembly. Replace jacket tube. Replace steering wheel. Replace control tubes. Replace frame bracket bolts. Connect cowl bracket. Replace throttle lever, friction band and light control, lever. Connect light switch link and accelerator rod. Connect horn wire. Adjust "steering gear. Connect drag link.

Remarks:

INSTALL WORM

HUDSON
GREAT EIGHT

INSTALL WORM

HUDSON
GREAT EIGHT

ADJUSTMENTS

Worm must be assembled with its lower end flush with end of column.

Worm should have no end play, but steering wheel must turn free throughout its entire range.

There should be no backlash between worm and sector when sector is at center (high point) of worm. This corresponds with exact straight ahead position of front wheels.

SPECIAL TOOLS

HE-53 Steering wheel puller
HE-20 Steering arm puller
HE-299 Steering gear case bracket nut wrench
HE-23 Pitman arm nut wrench

Suggestions: After steering wheel and jacket tube bracket are removed, steering gear assembly may be removed from the front. Lubricate gear with fluid gear oil,

PROCEDURE OF OPERATION

Disconnect horn wire. Disconnect lighting switch operating rod. Disconnect accelerator pedal rod. Disconnect drag link from pitman arm. Disconnect jacket tube bracket from cowl bracket. Remove two bolts holding steering gear bracket to frame. Remove pitman arm. Remove four steering housing cover stud nuts. Remove housing cover. Remove worm wheel (sector) and shaft assembly. **REPLACE** worm wheel and shaft. Replace housing cover. Replace housing cover stud nuts. Replace pitman arm. Bolt steering gear bracket to frame. Connect cowl bracket. Connect accelerator rod. Connect light switch rod. Connect horn wire. Adjust steering gear. Connect drag link.

INSTALL WORM WHEEL AND SHAFT

HUDSON
GREAT EIGHT

INSTALL WORM WHEEL AND SHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

Worm shaft should have no perceptible end play; but steering wheel must turn free throughout its entire range.

There should be no backlash between worm and sector when sector is on center (high point) of worm. This should correspond to exact straight ahead position of front wheels.

SPECIAL TOOLS

HE-20 Steering arm puller
HE-23 Pitman arm nut wrench
HE-299 Steering case bracket nut wrench

Suggestions: For detailed instructions for adjusting gear, see factory reference sheet No. 41. Lubricate gear with a good fluid gear oil.

PROCEDURE OF OPERATION

Disconnect drag link from pitman arm. Disconnect horn wire. Disconnect lighting switch operating rod. Disconnect accelerator pedal rod. Remove lower switch lever. Remove throttle control friction band. Remove lower throttle. lever. Remove spacer. Disconnect jacket tube bracket from cowl bracket. Remove two bolts holding steering gear bracket to frame. Remove control tube through top of steering column. Remove steering wheel nut. Remove steering wheel. Remove jacket tube. Remove steering gear assembly. Remove pitman arm. Remove four housing cover stud nuts. Remove housing cover. Remove worm shaft bearing adjusting nut. Remove worm and shaft. Remove thrust bearings. **REPLACE** thrust bearings. Replace adjusting nut. Adjust bearings. Replace sector and shaft. Replace housing cover. Replace housing cover stud nuts. Replace pitman arm. Replace steering gear assembly. Replace jacket tube. Replace steering wheel. Tighten steering wheel nut securely. Replace control tubes. Bolt steering gear to frame. Connect cowl bracket. Replace lower throttle lever, friction band and light switch lever. Connect accelerator rod. Connect light lever rod. Connect horn wire. Adjust steering gear. Connect drag link.

Remarks:

INSTALL WORM THRUST BEARINGS

HUDSON
GREAT EIGHT

INSTALL WORM THRUST BEARINGS

HUDSON
GREAT EIGHT

ADJUSTMENTS

Cross shaft should have no end play.

Worm shaft should, have no perceptible end play; but steering wheel must turn free throughout its entire range.

There should be no backlash between worm and sector when sector is on center (high point) of worm. This should correspond to exact straight ahead position of front wheels.

SPECIAL TOOLS

HE-53 Steering wheel puller
HE-20 Steering arm puller
HE-23 Pitman arm nut wrench
HE-299 Steering gear case bracket nut wrench

Suggestions: For detailed instructions for adjusting gear, see factory reference sheet No. 41. After wheel and jacket tube bracket are removed, and frame bracket removed from frame, steering gear may be removed from the front,. Lubricate gear with a good fluid gear oil.

TRANSMISSION AND UNIVERSAL JOINT

PROCEDURE OF OPERATION

Remove bolts from flange of front universal joint. Disconnect propeller shaft. Disconnect speedometer shaft, at transmission. Remove cotter pin from main shaft rear nut. Remove mainshaft rear nut and washer. Pull off front universal joint companion flange. Remove rear bearing cap screws. Remove rear bearing cap. Remove or add shims to correct mainshaft end play. **REPLACE** mainshaft rear bearing cap. Replace mainshaft rear bearing cap screws. Replace front universal joint flange on mainshaft. Replace mainshaft rear washer and nut. Replace main shaft nut cotter pin. Connect speedometer shaft. Connect propeller shaft. Replace bolts in flange of front universal joint, being sure that nuts are tightened and locked securely.

Remarks:

ADJUST MAINSHAFT END PLAY

HUDSON
GREAT EIGHT

ADJUST MAINSHAFT END PLAY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006"-.009"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Be sure that dowel pin which holds the bronze thrust washer from turning is in place. Transmission lubricant should be fluid gear oil. Bolt mainshaft rear bearing cap securely in place before testing end play.

PROCEDURE OF OPERATION

Remove front compartment mat. Remove toe and floor boards. Disconnect foot brake pull rod. Remove adjustable link clevis pin. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission control assembly. Remove flywheel guard. Remove transmission. Remove transmission mainshaft front bearing cap. Remove mainshaft bearing (front). **REPLACE** mainshaft bearing. Replace front bearing cap. Reassemble transmission to engine. Replace flywheel guard. Replace transmission control assembly. Connect propeller shaft. Connect speedometer shaft. Connect throw-out yoke. Connect foot brake pull rod. Replace toe and floor boards. Replace mat.

Remarks:

INSTALL BEARING (MAINSHAFT FRONT)

HUDSON
GREAT EIGHT

INSTALL BEARING (MAINSHAFT FRONT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

.Mainshaft end play-.006".-.009"
Clutch pedal—3/4" play between pedal and toe board.
Clutch lubricant—1/8 pint motor oil,
1/8 pint kerosene

SPECIAL TOOLS

Suggestions: Test mainshaft end play. Use care to prevent thrust ball between mainshaft and drive gear from dropping into case. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab."

PROCEDURE OF OPERATION

Remove floor and toe boards. Remove cap screws holding case cover to transmission. Remove hand control lever assembly. Disconnect speedometer shaft from transmission. Remove bolts from flange of front universal joint. Disconnect propeller shaft. Remove cotter pin, nut and washer from rear end of mainshaft. Pull universal joint flange from mainshaft. Remove speedometer driven gear sleeve. Remove speedometer driven gear and shims. Remove rear bearing cap bolts. Remove rear bearing cap. Remove shift shaft lock spring caps. Remove springs and lock balls. Remove shift fork lock screws. Slide shafts out of forks at rear end of transmission case. Remove interlock plungers. Remove mainshaft. Remove mainshaft rear bearing. **REPLACE** mainshaft rear bearing. Replace mainshaft. Replace interlock plungers. Slide shift shaft into forks. Replace shaft fork lock screws. Replace shift shaft lock balls and springs. Replace caps. Replace rear bearing cap. Replace cap bolts. Replace speedometer driven gear. Replace driven gear sleeve. Replace universal flange. Connect propeller shaft. Connect speedometer shaft. Replace hand control lever. Replace toe and floor boards. Replace mat.

Remarks:

INSTALL BEARING (MAINSHAFT REAR)

HUDSON
GREAT EIGHT

INSTALL BEARING (MAINSHAFT REAR)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006"-.009"

SPECIAL TOOLS

HE-48 Flange puller
HE-180 Bearing cup puller.

Suggestions: Use great care to prevent thrust ball between mainshaft and drive gear from dropping into transmission case. Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab."

PROCEDURE OF OPERATION

Remove front universal joint flange bolts. Disconnect propeller shaft. Remove nut from rear end of rnainshaft. Remove front universal joint companion flange. **REPLACE** companion flange. Replace mainshaft nut. Replace cotter pin. Connect propeller shaft. Replace universal joint flange bolts. Bend over ears of locks to secure flange bolts.

Remarks:

INSTALL FLANGE (COMPANION) FRONT

HUDSON
GREAT EIGHT

INSTALL FLANGE (COMPANION) FRONT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006"-.009"

Note: Tighten mainshaft nut securely to prevent click when starting.

SPECIAL TOOLS

h—48 Companion flange puller

Suggestions: Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Clutch lubricant—1/8 pint motor oil and 1/8 pint kerosene.

PROCEDURE OF OPERATION

Disconnect brake pull rod. Disconnect clutch throwout yoke. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission cover screws. Remove control lever assembly. Remove pedal control. Remove flywheel guard. Remove transmission. Remove mainshaft rear nut. Pull universal flange. Remove rear bearing cap. Remove speedometer gear. Remove shift shaft lock spring cap. Remove springs and ball. Remove shifter fork lock screw. Slide shifter shaft out of transmission. Remove mainshaft. Remove mainshaft front bearing cap. Remove drive gear. Remove counter shaft plugs. Remove counter shaft lock screws. Remove counter shaft gears. **REPLACE** counter shaft gears. Replace lock screw. Replace drive gear. Replace front bearing cap. Replace mainshaft. Slide shifter shafts in transmission: Replace fork lock screws. Replace shift lock springs and balls. Replace caps. Replace driven gear and shims. Replace speedometer gear. Replace universal flange. Replace rear nut. Replace transmission: Replace flywheel guard. Replace pedal control. Replace control lever. Connect propeller shaft. Connect speedometer shaft. Connect throwout yoke. Connect brake pull rod.

Remarks:

INSTALL GEAR (COUNTERSHAFT)

HUDSON
GREAT EIGHT

INSTALL GEAR (COUNTERSHAFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006"-.009"
Countershaft end play-.005"-.020"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Drill 7/32" hole in center of rear countershaft Welch plug. Insert hook tool in opening and pull out plug. In rebuilding, renew Welch plug. However, in an emergency the old plug may be used, by tapping hole and plug with machine screw. Grease clutch throwout bearing with fiber grease. Transmission lubricant should be fluid gear oil. Carefully inspect all parts before rebuilding.

PROCEDURE OF OPERATION

Remove toe and floor boards. Disconnect foot brake pull rod. Disconnect speedometer shaft. Disconnect propeller shaft. Remove control lever assembly. Disconnect clutch throwout yoke. Remove pedal control assembly. Remove flywheel guard. Remove transmission assembly. Remove mainshaft front bearing cap. Remove mainshaft drive gear. **REPLACE** mainshaft drive gear. Replace bearing cap. Replace mainshaft rear nut. Replace transmission assembly. Connect pedal control. Connect clutch throwout yoke. Replace control lever assembly. Connect propeller shaft. Connect speedometer shaft. Connect foot brake pull rod. Replace toe and floor boards.

Remarks: The above procedure applies to the standard transmission. On the overdrive transmission it is necessary to remove the mainshaft, as the drive gear will not. go through opening in front of case.

INSTALL GEAR (MAINSHAFT DRIVE)

HUDSON
GREAT EIGHT

INSTALL GEAR (MAINSHAFT DRIVE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.
Clutch lubricant—1/8 pint motor oil
1/8 pint kerosene

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Use care to prevent thrust ball between mainshaft and drive gear from dropping into case. Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to grab. Relieve weight from mainshaft drive gear when removing transmission.

PROCEDURE OF OPERATION

Remove floor board. Remove clevis pin at bottom of hand brake lever. Disconnect foot brake pull rod. Remove transmission cover screws. Remove hand control lever assembly. Disconnect speedometer shaft from transmission. Disconnect propeller shaft. Remove mainshaft rear nut and washer. Pull front universal flange from mainshaft. Remove speedometer driven gear sleeve and gear. Remove mainshaft rear bearing cap. Remove shift shaft lock spring cap. Remove springs and balls. Remove shift shaft fork lock screws. Slide shift shafts out of transmission. Remove mainshaft. Remove reverse idler shaft lock screws. Remove expansion plug. Remove idler gear shaft. Remove reverse idler. **REPLACE** reverse idler gear. Replace idler gear shaft. Replace expansion plug. Replace idler gear shaft lock screw. Replace mainshaft. Slide shift shafts in transmission. Replace shift fork lock screws. Replace springs and ball (shift shaft lock). Replace rear bearing cap. Replace speedometer driven gears. Replace universal flange. Connect propeller shaft. Connect speedometer shaft. Replace hand control lever. Connect foot brake pull rod. Replace toe and floor boards. Replace floor mat.

Remarks

INSTALL GEAR (REVERSE IDLER)

HUDSON
GREAT EIGHT

INSTALL GEAR (REVERSE IDLER)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009" C
ountershaft end play-.005" to .020"
Transmission oil capacity—2 lbs.
Clutch lubricant—1/8 pint motor oil
1/8 pint kerosene

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Drill 7/32" hole in center of reverse idler shaft plug at rear of transmission case. Pry out plug with hooked tool. Grease clutch throwout bearing with fiber grease. Transmission lubricant should. be fluid gear oil. Carefully inspect all parts before replacing. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to grab.

PROCEDURE OF OPERATION

Remove floor boards. Remove transmission cover screws. Remove hand control lever assembly. Unscrew sleeve at rear end of speedometer shaft. Disconnect speedometer shaft from transmission. Disconnect propeller shaft. Remove mainshaft rear nut. Pull universal joint flange from mainshaft. Remove speedometer driven sleeve. Remove driven gears and shims. Remove mainshaft rear bearing cap. Remove shift shaft lock spring cap. Remove springs and ball. Remove shifter fork lock screws. Slide shifter shafts out of shifter forks and rear end of transmission case. Remove shift shaft interlock plunger. Remove mainshaft. Remove sliding gear. **REPLACE** sliding gear. Replace mainshaft. Replace shift shaft interlock. Slide shifter shafts into transmission. Replace shifter fork lock screws. Replace shifter shaft balls and springs. Replace caps. Replace mainshaft rear bearing caps. Replace speedometer driven gears. Replace sleeve. Replace universal flange. Replace mainshaft rear nut. Connect propeller shaft. Connect speedometer shaft. Replace hand control lever. Replace cover screws.

Remarks

INSTALL GEAR (SLIDING)

HUDSON
GREAT EIGHT

INSTALL GEAR (SLIDING)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Transmission gear lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to grab. Inspect all parts carefully before replacing. Use care to prevent mainshaft thrust ball from dropping into case when mainshaft is removed.

PROCEDURE OF OPERATION

Remove bolts from flange of front universal joint, and disconnect propeller shaft. Unscrew sleeve at rear end of speedometer shaft. Disconnect speedometer shaft. Remove cotter pin, nut and washer from rear end of transmission shaft. Pull off front universal joint flange. Remove rear bearing cap screws. Remove rear bearing cap. Remove speedometer drive gear; **REPLACE** speedometer drive gear. Add or remove shims to correct mainshaft end play. Replace mainshaft rear bearing cap. Replace mainshaft rear bearing cap screws. Replace front universal joint flange. Replace washer, nut and cotter pin and rear end of mainshaft. Connect speedometer shaft. Tighten sleeve at rear end of speedometer shaft. Connect propeller shaft. Replace bolts in flange of front universal joint, being sure that nuts are tightened and locked securely.

Remarks:

INSTALL GEAR (SPEEDOMETER DRIVE)

HUDSON
GREAT EIGHT

INSTALL GEAR (SPEEDOMETER DRIVE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

For 4-7/11 axle ratio, use speedometer gear BT 62445 and pinion BT 62446.
For 4-3/11 axle ratio, use speedometer gear BT 33033 and pinion BT 33034.
For 5-1/10 axle ratio, use speedometer gear BT 60350 and pinion BT 60351.

Suggestions: Be sure that speedometer gear and pinion are selected to correspond with rear axle ratio. Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much lubricating oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab." Inspect: all parts before replacing.

PROCEDURE OF OPERATION

Shift transmission gears into neutral position. Remove gear shift lever ball. Remove four screws holding gear shift fulcrum cover to control housing. Lift out gear shift lever. Remove fulcrum cover. **REPLACE** cover on new lever. Replace gear shift lever, being sure that lower end of lever enters notch in shifting fork. Hold lever down against action of spring and replace cover screws. Replace gear shift lever ball.

Remarks:

INSTALL LEVER (GEAR SHIFT) **HUDSON GREAT EIGHT**

INSTALL LEVER (GEAR SHIFT) **HUDSON GREAT EIGHT**

ADJUSTMENTS **SPECIAL TOOLS**

Suggestions: Before removing gear shift lever, transmission gears should be in neutral position. In replacing lever, be careful that lower end of lever enters notch in shifting fork.

PROCEDURE OF OPERATION

Remove floor boards. Disconnect hand brake pull rod. Remove hand control lever assembly. Disconnect speedometer shaft at transmission. Disconnect propeller shaft. Remove nut from rear end of mainshaft. Remove front universal joint flange. Remove speedometer driven gear sleeve. Remove speedometer driven gear. Remove mainshaft rear bearing cap. Remove mainshaft, sliding it out through its gears and the rear of transmission. **REPLACE** mainshaft in transmission. Replace rear bearing cap. Replace speedometer driven gear. Replace speedometer gear sleeve. Replace universal joint companion flange. Replace mainshaft nut. Replace cotter pin. Connect propeller shaft. Connect speedometer shaft. Replace hand control lever assembly. Connect hand brake pull rod. Replace floor board.

Remarks:

INSTALL TRANSMISSION MAINSHAFT

HUDSON
GREAT EIGHT

INSTALL TRANSMISSION MAINSHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play—. 006" to 009 "

Note: When removing mainshaft care must be taken to prevent the thrust ball between mainshaft and mainshaft drive gear from dropping into transmission case.

Note: Tighten the nut which holds the companion flange to the mainshaft securely to prevent click when starting.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Excessive looseness of high speed sliding gear on its splined mainshaft will cause a noticeable backlash when car is operated in high gear. This is aggravated by uneven engine operation. Check compression, points, plugs, and carburetor adjustment.

PROCEDURE OF OPERATION

Remove cotter pin and washer from clevis pin at bottom of clutch pedal. Remove gearshift lock strap by sliding it ahead out of guide. Remove cap which secures lock strap guide to transmission case. Remove lock strap guide. Remove lock plunger, spring, and ball. **REPLACE** ball, spring and plunger. Replace lock strap guide. Replace lock cap. Replace gear shift lock strap. Replace clevis pin washer and cotter pin.

Remarks:

INSTALL LOCK (GEAR SHIFT)

HUDSON
GREAT EIGHT

INSTALL LOCK (GEAR SHIFT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

'Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-326 Transmission lock bracket nut wrench

Suggestions:

PROCEDURE OF OPERATION

Remove floor boards. Remove cap screws holding transmission case cover to transmission. Remove hand control lever assembly. Unscrew sleeve at rear of speedometer shaft. Disconnect speedometer shaft from transmission. Remove bolts from flange of front universal joint. Disconnect propeller shaft. Remove cotter pin, nut and washer from rear end of mainshaft. Pull off universal joint flange. Remove speedometer driven gear and shim. Remove mainshaft rear bearing cap. Remove shifter shaft lock spring caps. Remove springs and balls. Remove shifter fork lock screws. Slide shifter shaft out of shifter fork. Remove shifter fork. **REPLACE** shifter fork. Replace shifter shaft in fork. Replace lock screws. Replace rear bearing cap. Replace speedometer driven gears. Replace universal flange. Connect speedometer shaft. Connect propeller shaft. Replace hand control assembly. Replace transmission cover screw. Replace floor board.

Remarks:

INSTALL SHIFTER FORK (CONTROL ASSEMBLY)

HUDSON
GREAT EIGHT

INSTALL SHIFTER FORK (CONTROL ASSEMBLY)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Transmission gear lubricant should be fluid gear oil. See that the shifter fork does not' strike gear which may cause a grinding noise when running. Inspect all parts before replacing. Repack clutch throwout bearing' with fiber grease.

PROCEDURE OF OPERATION

Remove floor board. Remove cap screws holding transmission case cover to transmission. Remove hand control lever assembly. Unscrew sleeve at rear of speedometer shaft. Disconnect speedometer shaft from transmission. Remove bolts from flange of front universal. joint. Disconnect propeller shaft. Remove cotter pin, nut and washer from rear end of mainshaft. Pull off front universal joint flange. Remove speedometer driven gear sleeve. Remove speedometer driven gear and shims. Remove mainshaft rear bearing cap screws. Remove mainshaft rear bearing cap. Remove shifter shaft lock spring caps. Remove springs and ball. Remove shifter fork lock screw. Slide shifter shaft out of shifter fork. **REPLACE** shifter shaft in fork. Replace lock screws. Replace rear bearing cap. Replace speedometer driven gears. Replace universal flange. Connect speedometer shaft. Connect propeller shaft. Replace hand control assembly. Replace transmission cover screws. Replace floor board.

Remarks:

INSTALL SHIFTER SHAFT (CONTROL ASSEMBLY)

HUDSON
GREAT EIGHT

INSTALL SHIFTER SHAFT (CONTROL ASSEMBLY)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller

Suggestions: Transmission gear lubricant should be fluid gear oil. See that the shifter fork does not strike gears which may cause a grinding noise when running. Inspect all parts before replacing.

PROCEDURE OF OPERATION

Remove toe and floor boards. Disconnect foot brake pull rod from pedal. Disconnect speedometer shaft. Disconnect propeller shaft. Remove control hand lever assembly. Disconnect clutch throwout yoke. Remove pedal control assembly. Remove flywheel guard. Remove transmission assembly. **REPLACE** transmission assembly. Replace flywheel guard. Replace pedal control assembly. Connect throwout yoke. Replace hand control lever assembly. Connect propeller shaft. Connect speedometer shaft Connect foot brake pull rod. Replace toe and floor boards. Lubricate transmission.

Remarks:

INSTALL TRANSMISSION ASSEMBLY

HUDSON
GREAT EIGHT

INSTALL TRANSMISSION ASSEMBLY

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Transmission oil capacity—2 lbs.
Clutch lubrica.nt—1/8 pint motor oil
1/8 pint kerosene

SPECIAL TOOLS

Suggestions: Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much oil may cause the clutch to slip. Too much kerosene may cause the clutch to "grab." Relieve weight from mainshaft drive year when removing transmission.

PROCEDURE OF OPERATION

Remove toe and floor board. Disconnect brake pull rod. Disconnect clutch throwout yoke. Disconnect speedometer shaft. Disconnect propeller shaft. Remove control lever assembly. Remove pedal control assembly. Remove flywheel guard. Remove transmission. Remove universal joint flange. Remove mainshaft rear bearing cap. Remove shift shaft lock spring cap, springs and ball. Remove shift fork lock screws. Slide shaft out of transmission. Remove mainshaft. Remove interlock plunger. Remove front' bearing cap. Remove mainshaft drive gear. Remove Welsh plug. Remove counter shaft lock screws. Remove counter shaft and gears. Remove idler shaft lock screws. Remove idler shaft and gears. **REPLACE** transmission case. Replace idler shaft and gears. Replace lock screws. Replace countershaft and gears. Replace lock screws. Replace Welsh plugs. Replace drive gear. Replace thrust bearing cap. Replace interlock plunger. Replace mainshaft. Replace shift shaft in transmission. Replace fork lock screws. Replace shift shaft lock ball, springs and ,cap. Replace rear bearing cap. Replace flange. Replace transmission. Replace flywheel guard. Connect exhaust pipe. Replace pedal control. Replace control lever assembly. Connect propeller shaft. Connect speedometer shaft. Connect throwout yoke, Connect brake pull rod. Replace toe and :floor boards. Lubricate transmission.

Remarks:

INSTALL TRANSMISSION CASE

HUDSON
GREAT EIGHT

INSTALL TRANSMISSION CASE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Countershaft end play-.005" to .020"
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Puller
HE-180 Cup remover and inserter

Suggestions: To remove Welsh plug, drill 7/32" hole in center of plug and insert hooked tool and pry out. Relieve weight from mainshaft drive gear when removing transmission. Transmission lubricant must be fluid gear oil. Repack clutch throwout bearing with fiber grease. Inspect all parts before replacing.

PROCEDURE OF OPERATION

Disconnect foot brake pull rod. Disconnect speedometer shaft. Disconnect propeller shaft. Remove control hand lever. Disconnect throwout yoke. Remove pedal control. Remove transmission assembly, Remove companion flange. Remove speedometer drive gear. Remove mainshaft bearing cap. Remove mainshaft and gears. Remove drive gear. Remove counter shaft and gears. Remove idler shaft lock screw. Remove idler shaft and gear. In rebuilding, replace worn parts with new parts. **REPLACE** idler shaft and gear. Replace lock screws. Replace countershaft and gears. Replace lock screws. Replace Welsh plugs. Replace drive gears. Replace front bearing cap. Replace interlock plunger. Replace mainshaft. Replace shift shaft in transmission. Replace fork lock screws. Replace shift shaft lock balls, springs and caps. Replace rear bearing cap. Replace flange. Replace transmission. Replace guard, Replace pedal control. Replace control lever. Connect propeller shaft. Connect speedometer shaft. Connect throwout yoke. Connect pull rod. Lubricate transmission.

Remarks:

OVERHAUL TRANSMISSION (COMPLETE)

OVERHAUL TRANSMISSION (COMPLETE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to ,009".
Countershaft end play-.005" to .020"
Drive gear bushing—Ream .750" after pressing in place.
Countershaft bushing—Ream .870" after pressing in gear.
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-48 Flange puller
HE-58 Bushing puller
HE-89 Reamer
HE-90 Reamer
HE-115 Bushing. press
HE-180 Cup remover and inserter
HE-279 Clutch plate alignment tool
HE-216 Countershaft bushing burnisher
HE-253 Drive gear bushing reaming fixture

Suggestions: Rebush mainshaft drive gear and countershaft gears. To remove Welsh plug, drill 7/32" hole in center of plug and insert hooked tool to pry out. Relieve weight from mainshaft drive gear, when removing transmission. Transmission lubricant must be fluid gear oil. Repack clutch throwout bearing with fiber grease. Inspect all parts before replacing.

PROCEDURE OF OPERATION

Remove toe and floor boards. Disconnect brake pull rod. Disconnect clutch throwout yoke. Disconnect speedometer shaft. Disconnect propeller shaft. Remove transmission cover screws. Remove control lever assembly. Remove pedal control. Remove flywheel guard. Remove transmission. Remove mainshaft rear nut. Pull universal flange. Remove speedometer driven gear sleeve. Remove driven gear and shims. Remove shift. shaft lock spring cap. Remove springs and ball. Remove shifter fork lock screw. Remove rear bearing cap. Slide shifter shaft out of transmission. Remove mainshaft. Remove mainshaft front bearing cap. Remove drive gear. Remove countershaft plug. Remove countershaft lock screws. Remove countershaft. Remove countershaft gears. Remove bushings. **REPLACE** bushings and ream to size. Replace countershaft gears. Replace lock screws. Replace plug. Replace drive gear. Replace front bearing cap. Replace mainshaft. Slide shifter shaft in transmission. Replace fork lock screws. Replace, shift lock springs and balls. Replace rear bearing cap. Replace driven gear and shim. Replace drive gear sleeve. Replace universal flange. Replace flange nut. Replace transmission. Replace flywheel. guard. Replace penal control. Replace control lever. Connect propeller shaft. Connect speedometer shaft. Connect throwout yoke. Connect brake pull rod. Replace toe and floor board. Replace mat.

Remarks:

REBUSH COUNTERSHAFT

HUDSON
GREAT EIGHT

REBUSH COUNTERSHAFT

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft-.006" to .009" end play
Countershaft—. 005" to. .020" end play
Countershaft bushing—Ream .870" after pressing in gear

SPECIAL TOOLS

HE- 48 Flange puller
HE-115 Bushing press
HE-216 Countershaft bushing burnisher

Suggestions: Drill 7/32" hole in center of countershaft Welsh plug. Insert hooked tool in opening and pull out plug. When rebuilding renew Welsh plugs. However, in an emergency, the old plug may be used by tapping hole and plug with machine screw. Grease clutch throwout bearing with fibre grease. Transmission lubricant should be fluid gear oil. Carefully inspect all parts before replacing.

PROCEDURE OF OPERATION

Remove toe and floor boards. Disconnect brake pull rod. Disconnect. speedometer shaft. Disconnect propeller shaft. Remove control lever assembly. Disconnect clutch throwout yoke. Remove pedal control assembly. Remove flywheel guard. Remove transmission. Remove mainshaft front bearing cap. Remove mainshaft drive gear. Remove mainshaft drive gear bushing. **REPLACE** bushing and ream to size. Replace mainshaft drive gear. Replace front bearing cap. Replace transmission. Replace flywheel guard. Replace pedal control assembly. Connect clutch throwout yoke. Connect propeller shaft. Replace control lever assembly. Connect speedometer shaft. Connect brake pull rod. Replace toe and floor board.

Remarks: In order to remove drive gear in the overdrive transmission it is necessary to remove the mainshaft, as drive gear will not go through hole in front of case.

REBUSH MAINSHAFT DRIVE GEAR (TRANSMISSION)

HUDSON
GREAT EIGHT

REBUSH MAINSHAFT DRIVE GEAR (TRANSMISSION)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"
Drive gear bushing—Ream .750"after pressing in place
Transmission oil capacity—2 lbs.

SPECIAL TOOLS

HE-253 Drive gear bushing reaming fixture
HE-58 Bushing remover

Suggestions: Use care to prevent thrust ball in mainshaft drive gear from dropping into case. Transmission lubricant should be fluid gear oil. Repack clutch throwout bearing with fiber grease. Too much lubricating oil in clutch will cause the clutch to slip. Too much kerosene may cause the clutch to "grab."

PROCEDURE OF OPERATION

Remove floor board. Disconnect brake pull rod. Disconnect speedometer drive shaft. Disconnect front end of propeller shaft. Remove control hand lever assembly. Remove front universal joint companion flange. Remove speedometer driven gear. Remove mainshaft rear bearing cap. Remove gear shifting fork lock screws. Slide shifting shaft out of shifting fork in rear end of transmission case. Remove mainshaft and gear; Remove reverse idler shaft lock screw. Remove reverse idler shaft through rear of transmission. Remove reverse idler gear. Remove idler gear bushing. **REPLACE** idler gear bushing, and ream to size. Replace idler gear and shaft. Replace shaft lock screw. Replace mainshaft and gear. Replace shifting shaft. Tighten shifting, fork lock screws. Replace rear bearing cap. Replace speedometer driven gear. Replace companion flange. Connect propeller shaft. Connect speedometer shaft. Replace control assembly. Connect brake pull rod. Replace floor board.

REBUSH REVERSE IDLER GEAR

HUDSON
GREAT EIGHT

REBUSH REVERSE IDLER GEAR

HUDSON
GREAT EIGHT

ADJUSTMENTS

Mainshaft end play-.006" to .009"

Note: When removing mainshaft, care must be taken to, prevent the thrust ball between the mainshaft and mainshaft drive gear from dropping into transmission case.

Reverse idler bushing—.870" Ream after pressing In place.

SPECIAL TOOLS

HE-115 Bushing press
HE- 48 Flange puller
HE- 89 Reamer

Suggestions: Drill 7/32" hole in the idler shaft expansion plug and pry out plug. Transmission lubricant should be fluid gear oil. Grease clutch throwout bearings with fiber grease. Inspect all parts before. replacing.

WHEELS AND LUBRICATION

WHEELS

LUBRICATION

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Tighten spindle nut until wheel turns hard, then loosen gradually until wheel turns freely but has no perceptible side play. **REPLACE** spindle nut cotter pin. Replace hub cap. Lower car.

Remarks:

ADJUST WHEEL BEARINGS (FRONT) ONE

HUDSON
GREAT EIGHT

ADJUST WHEEL BEARINGS (FRONT) ONE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheel should turn freely but have no perceptible side movement.

Note: If side movement is present, determine whether it is in bearing or spindle bushings.

Tire pressure—Normal, 32 lbs
High speed, 40 lbs.

SPECIAL TOOLS

HE-161 Axle stands
H-272 Hub cap wrench

Suggestions: Be sure that brake is free of drag before adjusting wheel bearing. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Set front wheels in straight ahead driving position. Check front wheel toe-in with a gauge. Toe-in should be zero or range between that and one-eighth inch, With wheels in straight ahead position. Loosen tie rod socket clamp bolts, both ends of tie rod. Turn tie rod to obtain proper adjustment. Tighten socket clamp bolts.

Remarks:

ALIGN FRONT WHEELS HUDSON GREAT EIGHT

ADJUSTMENTS

Toe-in—0" to 1/8" SPECIAL TOOLS
Caster—1°
Camber—1°
Recommended tire pressure—
Normal—32 pounds
High speed—40 pounds

Note: Right end of tie rod has right hand thread. Left end of tie rod has left hand thread.

SPECIAL TOOLS

HE-255 Aligning fixture

Suggestions: Before aligning, check wheel bearing adjustment. Wheels should turn freely, run true, and have no perceptible side movement. Keep tires inflated to recommended pressure. In case of shimmy, increase, pressure 5 to 8 pounds. Imperfect wheel balance may cause tramp.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove front wheel outer Timken bearing. Remove front wheel. Remove front wheel inner Timken bearing. **REPLACE** front inner Timken bearing. Replace front wheel. Replace front wheel outer Timken bearing. Replace spindle nut. Tighten spindle nut until wheel turns hard, then. loosen gradually until wheel turns freely but has no perceptible end play. Replace spindle nut cotter pin. Replace front wheel hub cap. Lower front end of car.

Remarks:

INSTALL BEARING CONE (INNER) FRONT WHEEL

HUDSON
GREAT EIGHT

INSTALL BEARING CONE (INNER) FRONT WHEEL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.

Note: If side movement is present, determine whether it is in bearing or spindle bushings.

Front wheel lubrication—
3 oz. cup grease in hub
1 oz. cup grease in hub cap

Tire Pressure—Normal, 32 lbs.
High speed, 40 lbs.

SPECIAL TOOLS

HE-161 Axle stand
H-272 Hub cap wrench
HE-70 Bearing puller
HE-59 Clamp

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove front wheel outer Timken bearing. **REPLACE** front wheel outer Timken bearing. Replace spindle nut. Tighten spindle nut until wheel turns hard, then loosen gradually until wheel turns freely but has no perceptible side play. Replace front wheel cotter pin. Replace front wheel hub cap. Lower front end of car.

Remarks:

INSTALL BEARING CONE (OUTER) FRONT WHEEL

HUDSON
GREAT EIGHT

INSTALL BEARING CONE (OUTER) FRONT WHEEL

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.

Note: If side movement is present, determine whether it is in bearing or spindle bushings.

Front wheel lubrication—

3 oz. cup grease in hub

1 oz. cup grease in hub cap

SPECIAL TOOLS

HE-161 Axle stand

H-272 Hub cap wrench

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy increase pressure 5 to 8 pounds. Loose front spring bolts may cause shimmy. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove front wheel outer Timken bearing. Remove front wheel. Remove front wheel Timken bearing cup. **REPLACE** front wheel Timken bearing cup. Replace front wheel. Replace front wheel outer Timken bearing. Replace spindle nut. Adjust bearings so that wheel turns freely but has no perceptible side play. Replace spindle nut cotter pin. Replace front wheel hub cap. Lower front end of car.

Remarks:

INSTALL BEARING CUP (FRONT WHEEL) ONE

HUDSON
GREAT EIGHT

INSTALL BEARING CUP (FRONT WHEEL) ONE

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.
Tire pressure—Normal, 32 lbs.
High speed, 40 lbs.
Front wheel lubrication—
3 oz. cup grease in hub
1 oz. cup grease in hub cap

SPECIAL TOOLS

HE-161 Axle stand
H-272 Hub cap, wrench
HE-180 Remover and inserter

Suggestions: Keep tires inflated to recommended pressure. In case of , shimmy, increase pressure 5 to 8 pounds. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove front wheel outer Timken bearing. Remove front wheel. Remove front wheel inner Timken bearing. Remove front wheel felt retainer (outer). Remove front wheel felt. **REPLACE** front wheel felt. Replace front wheel felt retainer. Replace front wheel inner Timken bearing. Replace front wheel. Replace front wheel outer Timken bearing. Replace spindle nut. Adjust wheel bearings. Re place spindle nut cotter pin. Replace hub cap. Lower front end of car.

Remarks:

INSTALL FELT RETAINER (FRONT WHEEL)

HUDSON
GREAT EIGHT

INSTALL FELT RETAINER (FRONT WHEEL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.

Tire pressure—Normal, 32 lbs.
High speed, 40 lbs.

Front wheel lubrication—
3 oz. cup grease in hub
1 oz. cup grease in hubcap

SPECIAL TOOLS

HE- 161 Axle stand
H-272 Hub cap wrench
HE-70 Bearing puller
HE-59 Clamp

Suggestions: Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Loose front spring bolts may cause shimmy. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness,

PROCEDURE OF OPERATION

Raise rear end of car. Remove rear wheel hub cap. Remove rear wheel nut cotter pin. Remove rear wheel nut. Remove rear wheel. Remove rear wheel bearing cap bolts. Remove rear wheel bearing cap. Remove rear axle shaft. Remove rear axle housing felt retainer. Remove rear axle housing felt. **REPLACE** rear axle housing felt. Replace rear axle housing felt retainer. Remove felt from bearing adjusting cap. Replace felt in bearing adjusting cap. Replace rear axle, shaft. Replace rear wheel bearing cap. Replace rear wheel. Replace rear wheel nut. Replace rear wheel nut cotter pin. Replace rear wheel hub cap. Lower rear end of car.

Remarks:

INSTALL FELT RETAINER (REAR WHEEL)

HUDSON
GREAT EIGHT

INSTALL FELT RETAINER (REAR WHEEL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play-.005" to .010"

SPECIAL TOOLS

HE-163 Axle Stand
HE-113 Axle nut wrench
H-272 Hub cap wrench
h—311 Wheel puller
HE-277 Grease retainer puller

Suggestions: Tighten axle shaft nuts securely to prevent a click in starting. Dry axle button may cause squeak. A small amount of grease on the button will prevent this condition. Be sure that differential lubricant is at proper level.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove front wheel outer Timken bearing. Remove front wheel. Remove front wheel hub bolt nuts. Remove front wheel hub bolts. Remove front wheel hub. **REPLACE** front wheel hub. Replace front wheel hub bolts. Replace front wheel hub bolt nuts. Replace front wheel. Replace front wheel outer Timken bearing. Replace spindle nut. Adjust wheel bearings. Replace spindle nut cotter pin. Replace front wheel hub cap. Lower front end of car.

Remarks:

INSTALL HUB (FRONT WHEEL)

HUDSON
GREAT EIGHT

INSTALL HUB (FRONT WHEEL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.

Brake drum must not be more than .010" (total) eccentric.

SPECIAL TOOLS

HE-161 Axle stand
H-272 Hub cap wrench

Suggestions: Be sure brake is not dragging before attempting to adjust bearing. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Wheels should run true. Imperfect wheel balance may cause tramp. Loose front spring bolts may cause shimmy. Inspect front end bolts and connections for general tightness.

PROCEDURE OF OPERATION

Raise front end of car. Remove front wheel hub cap. Remove spindle nut cotter pin. Remove: spindle nut. Remove front wheel. Remove front wheel hub bolt nut. Remove front wheel hub bolt.
REPLACE front wheel hub bolt. Replace front wheel hub bolt nut. Replace front wheel. Replace spindle nut. Adjust wheel bearings. Replace spindle nut cotter pin. Replace front hub cap. Lower front end of car.

Remarks:

INSTALL HUB BOLT (FRONT WHEEL)

HUDSON
GREAT EIGHT

INSTALL HUB BOLT (FRONT WHEEL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheels should turn freely but have no perceptible side movement.

SPECIAL TOOLS

HE-161 Axle stand
H-272 Hub cap wrench

Suggestions: Loose front spring bolts may cause shimmy. Keep tires inflated to recommended pressure. In case of shimmy, increase pressure 5 to 8 pounds. Wheels should run true. Imperfect wheel balance may cause tramp. Inspect front end bolts and connections for general tightness,

PROCEDURE OF OPERATION

Raise rear end of car. Remove rear wheel hub cap. Remove rear wheel nut cotter pin. Remove rear wheel nut. Remove rear wheel. Remove rear wheel hub bolt nut. Remove rear wheel hub bolt. **REPLACE** rear wheel hub bolt. Replace rear wheel hub bolt nut. Replace rear wheel. Replace rear wheel nut. Replace rear wheel nut cotter pin. Replace rear wheel hub cap. Lower rear end of car.

Remarks:

INSTALL HUB BOLT (REAR WHEEL)

HUDSON
GREAT EIGHT

INSTALL HUB BOLT (REAR WHEEL)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play-.005" to .010"

SPECIAL TOOLS

HE-163 Axle stand
HE-113 Axle nut wrench
H-272 Hub cap wrench
h—311 Wheel puller

Suggestions: Tighten axle shaft nuts securely to prevent a click in starting. Dry axle shaft button may cause squeak. A small amount of grease on the button will prevent this condition.

PROCEDURE OF OPERATION

Raise front end of car. Remove rim lugs. Remove tire and rim. Remove rim bolts. Remove hub cap. Remove spindle nut. Remove when assembly. Remove Timken bearings from wheel. **REPLACE** Timken bearings in new wheel. Cease bearings. Replace wheel. Replace spindle nut Adjust bearings so that wheel turns freely but has no perceptible side play Replace spindle nut cotter pin. Replace hub cap. Replace rim bolts. Replace tire and rim. Replace rim lugs and nuts. Lower car.

Remarks:

INSTALL WHEEL (FRONT)

HUDSON
GREAT EIGHT

INSTALL WHEEL (FRONT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Wheel should turn freely, but have no perceptible side movement.

Note: If side movement is present, determine if it is in wheel bearings or spindle bushings.

Front Wheel Lubrication—3 oz. cup grease in hub. 1 oz. cup grease in hub cap.

SPECIAL TOOLS

HE-161 Axle stand
H-272 Hub cap wrench

Suggestions: Before installing tire, check wheel for wobble. Use care to tighten lug nuts evenly to prevent tire wobble. Keep tires inflated to recommended pressure of 32 lbs. for normal driving and 40 lbs. for high speed.

PROCEDURE OF OPERATION

Raise rear end of car. Remove rear wheel hub cap. Remove rear wheel nut cotter pin. Remove rear wheel nut. Remove rear wheel. Remove rear wheel rim lug nuts. Remove rear tire and rim. Remove rim lug bolts. REPLACE rear wheel. Replace rear wheel rim lug bolts. Replace rear tire and rim. Replace wheel rim lug bolt nuts. Replace rear wheel. Replace rear wheel nut. Replace rear wheel nut cotter pin. Replace rear wheel hub cap. Lower rear end of car.

Remarks:

INSTALL WHEEL (REAR) HUDSON GREAT EIGHT

ADJUSTMENTS

Axle shaft end play-.005"-.01 0"
Tire pressure—Normal, 32 lbs.;
high speed, 40 lbs.

SPECIAL TOOLS

HE-163 Axle stand
HE-113 Axle nut wrench
H-272 Hub cap wrench
h—311 Wheel puller

Suggestions: Tighten axle shaft nuts securely to prevent a click in starting. Dry axle shaft buttons may cause squeak. A small amount of grease will prevent this condition. Before installing rim, check wheel for wobble. Use care in tightening rim, lug nuts evenly to prevent tire wobble.

PROCEDURE OF OPERATION

Raise rear end of car. Remove rear wheel hub cap. Remove axle nut cotter pin. Remove axle nut. Remove wheel. Remove rear wheel key. Try new key for fit on both wheel and axle shaft. **REPLACE** rear wheel, and line keyway in wheel hub with keyway in axle shaft. Replace wheel key. Replace axle nut and tighten securely. Replace axle nut cotter pin. Replace hub cap. Lower car.

Remarks:

INSTALL REAR WHEEL KEY (ONE)

HUDSON
GREAT EIGHT

INSTALL REAR WHEEL KEY (ONE)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Axle shaft end play—. 005 "-.010"

SPECIAL TOOLS

HE-163 Axle stand
HE-113 Axle. nut wrench
H-272 Hub cap wrench
h—311Wheel puller
HE-309 Wheel puller wrench

Suggestions: Tighten axle shaft nuts securely to prevent a click when starting. Dry axle shaft buttons may cause squeak. A small amount of grease on the button will prevent this condition.

PROCEDURE OF OPERATION

Raise right side of hood. Crank engine until clutch drain plug in flywheel appears through the sight hole in rear engine plate. Using special wrench HE-328, remove clutch drain plug. Crank engine very slowly with hand crank one or more complete revolutions. This allows old oil to drain. Replenish clutch oil, using one quarter pint of a mixture consisting of 1/8 pint motor oil and 1/8 pint kerosene. Replace clutch drain plug. Lower hood.

Remarks:

DRAIN AND REFILL CLUTCH

HUDSON
GREAT EIGHT

DRAIN AND REFILL CLUTCH

HUDSON
GREAT EIGHT

ADJUSTMENTS

Clutch lubricant: 1/8 pint motor. oil, 1/8 pint kerosene.

There must be 3/4" clearance between clutch pedal and toe-board with pedal in normal position.

SPECIAL TOOLS

HE-328

Suggestions: A small, amount of graphite grease on threads of drain plug will prevent sticking when it is again removed. Too much oil in clutch may cause clutch to slip. Too much kerosene may cause clutch, to grab.

PROCEDURE OF OPERATION

Raise front end of car at least seven inches above rear end. Remove oil pan drain plug. Drain oil. **REPLACE** oil pan drain plug and tighten securely. Lower front end of car. Raise left side of hood. Replenish oil in crankcase, using eight quarts only of medium heavy body engine oil. Lower hood.

Remarks:

DRAIN AND REFILL OIL RESERVOIR

HUDSON
GREAT EIGHT

DRAIN AND REFILL OIL RESERVOIR

HUDSON
GREAT EIGHT

ADJUSTMENTS

Crankcase oil capacity: Total, 91/2 qts. Refill, 8 qts.

Note: After draining reservoir, refill with 8 quarts **only;** to prevent oil leak at rear of engine.

SPECIAL TOOLS

HE-162 Front axle stands.

Suggestions: Check electric oil gauge after draining oil; also after refilling. Oil reservoir should be drained and refilled every 500 miles. Use a good engine oil of medium heavy body. Front end of car must be raised in order to completely drain oil reservoir.

PROCEDURE OF OPERATION

Raise front end of car. Remove flywheel guard. Remove 1/4" plug in right side of clutch throw-out collar. Screw alemite fitting into plug hole. Use alemite grease gun to grease bearing. Remove alemite fitting. **REPLACE** plug. Replace flywheel guard. Lower car.

Remarks:

GREASE CLUTCH THROW-OUT BEARING

HUDSON
GREAT EIGHT

GREASE CLUTCH THROW-OUT BEARING

HUDSON
GREAT EIGHT

ADJUSTMENTS

Throw-out bearing lubrication:
Fill with fiber grease.

SPECIAL TOOLS

Suggestions: Clutch throw-out bearing should be packed with fiber grease every 5000 miles.

PROCEDURE OF OPERATION

Raise front end of car. Remove hub cap. Remove spindle nut cotter pin. Remove spindle nut. Remove wheel. Wash bearings and hubs with gasoline. Pack bearings and hub with grease. **REPLACE** wheel. Replace spindle nut. Adjust bearings. Replace spindle nut cotter pin. Replace hub Cap. Lower car.

Remarks:

GREASE WHEEL BEARINGS (FRONT)

HUDSON
GREAT EIGHT

GREASE WHEEL BEARINGS (FRONT)

HUDSON
GREAT EIGHT

ADJUSTMENTS

Front Wheel Bearing Adjustment:
Tighten spindle nut until wheel starts to turn hard; then loosen nut until wheel just turns freely.
Lubrication : 3 oz. cup grease in hub, 1 oz. cup grease in hub cap.

SPECIAL TOOLS

H-272 Hub Cap Wrench
HE-161 Front Axle Stands

Suggestions: See that felt washer is in good condition. Be sure there is no grease in brake drum or on brake shoe.

PROCEDURE OF OPERATION

Raise. rear end of car. Remove hub cap. Remove axle shaft cotter pin and nut, Remove wheel. Remove four cap screws holding bearing cap. Remove bearing cap. and axle shaft. Wash cap and bearing with gasoline. Insert ten ounces of grease in housing back of bearing. Pack bearing and cap with grease. Replace axle shaft and bearing: Replace bearing cap. Adjust axle shaft end play. Tighten bearing cap bolts. securely. Replace wheel. Replace axle shaft nut and cotter pin. Replace hub cap.

Remarks:

GREASE WHEEL BEARING (REAR)

HUDSON
GREAT EIGHT

GREASE WHEEL BEARING (REAR)

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ADJUSTMENTS

Axle shaft end play .005"-.010
Lubrication—rear wheel bearing: 10 ounces of cup grease in housing back of bearing. Pack bearing with cup grease

SPECIAL TOOLS

h—311 Wheel puller
H-272 Hub cap wrench
HE-309 Wheel puller wrench
HE-113 Axle nut wrench

Suggestions: Wash all grease from brake shoes and drum. Tighten axle shaft nut securely, to prevent wheel click when starting.

PROCEDURE OF OPERATION

Drain and refill oil reservoir—Use 8 quarts of high grade oil of medium heavy body.

Grease fan bearing—Pack with good fiber grease.

Lubricate alernite fittings—Use light cup grease in 22 fittings (exclusive of fan).

Remarks:

500 MILE LUBRICATION

HUDSON
GREAT EIGHT

500 MILE LUBRICATION

HUDSON
GREAT EIGHT

ADJUSTMENTS

Oil pan capacity—
Reservoir only, 8 quarts
Total, 9-1/2 quarts

SPECIAL TOOLS

Suggestions: To drain oil reservoir, raise front end of car at least seven inches above rear end. Be sure drain plug is securely tightened when replaced.

PROCEDURE OF OPERATION

Drain and refill oil reservoir—Use 8 quarts of high grade oil of medium heavy body.
Grease fan bearing—Pack with good fiber grease.
Lubricate alemite fittings—Use light cup grease in 22 fittings (exclusive of fan).
Oil water pump bushing—Use three or four drops of light motor oil in oil cup.
Oil generator—Use a few drops of light motor oil in oil cups.
Oil starting motor—Use a few drops of light motor oil in oil. cups.
Check oil in transmission—Fill to level of plug with transmission oil.
Check oil in rear axle—Fill to level of plug with high grade differential oil of heavy body.
Grease universal joints—Fill with good fiber grease.
Grease brake cross shaft rollers—Use light cup grease.
Oil bonnet locks, throttle connections and brake linkage.

Remarks:

1,000 MILE LUBRICATION

HUDSON
GREAT EIGHT

1,000 MILE LUBRICATION

HUDSON
GREAT EIGHT

ADJUSTMENTS

Oil pan capacity—
Reservoir only, 8 quarts
Total, 9-1/2 quarts
Transmission oil capacity 2 pounds
Rear axle oil capacity—4 pounds

SPECIAL TOOLS

Suggestions: In draining oil reservoir, raise front end of car at least seven inches above rear end. Use care to prevent oil getting on fan belt, Use oil, NOT GREASE, in transmission and rear axle.

PROCEDURE OF OPERATION

Drain, and refill oil reservoir—Use high grade oil of medium heavy body.
Grease fan bearing—Pack with good fiber grease.
Lubricate alemite fittings—Use light cup grease.
Oil water pump bushing—Few drops of light motor oil in cup.
Oil generator and starter—Few drops of light motor oil in cups.
Oil distributor—Fill distributor base to level of oil cup with engine oil. Coat, rotor shaft cam lightly with vaseline. Apply a drop of oil to breaker arm pivots.
Lubricate steering gear case—Fill to level of filler plug with heavy gear oil. Drain and refill clutch Use 1/8 pint motor oil and 1/8 pint kerosene.
Check oil in transmission—Fill to level of plug with transmission oil.
Check oil in rear axle—Fill to level of plug with differential oil.
Grease universal joints—Fill with good fiber grease.
Grease brake cross shaft rollers—Use light cup grease.
Oil bonnet locks, throttle connections, bonnet lacing and brake linkage.

Remarks:

2,000 MILE LUBRICATION

HUDSON
GREAT EIGHT

2,000 MILE LUBRICATION

HUDSON
GREAT EIGHT

ADJUSTMENTS

Oil pan capacity—
Reservoir only, 8 quarts
Total, 9-1/2 quarts
Transmission oil capacity—2 pounds
Rear axle oil capacity—4 pounds
Clutch lubricant—1/8 pint motor oil and 1/8 pint kerosene

SPECIAL TOOLS

HE-328 Clutch drain plug wrench

Suggestions: In draining oil reservoir, raise front end of car at least seven inches above read end. Use oil, NOT GREASE, in transmission and differential. Use great care to prevent oil or grease getting inside of brake drum.

PROCEDURE OF OPERATION

In addition to the regular 1000-mile lubrication, the following operations should be performed:

Drain and refill transmission—Remove drain plug and drain transmission lubricant. Replace plug and put one pint of kerosene in transrbissjon case. Run engine for one minute with transmission in neutral and clutch engaged. Drain kerosene and replace drain plug. Fill with transmission oil to level plug.

Drain and refill rear axle—Remove differential housing cover and flush housing with kerosene. Replace cover. Fill with differential oil to level of plug.

Grease front wheel bearing—Remve front wheels. Wash out bearings and hubs with. gasoline. Pack bearings and hubs with cup grease. Replace wheels and adjust bearings. See GREASE WHEEL BEARINGS (FRONT).

Grease rear wheel bearings—Remove rear wheels and bearing caps. Wash caps and bearings with gasoline. Insert ten ounces of cup grease in housing.back of bearings. Pack bearing and cap with cup grease. Replace bearings, bearing caps and wheels. See: GREASE WHEEL BEARINGS (REAR) .

Remarks:

5,000. MILE LUBRICATION

HUDSON
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5,000. MILE LUBRICATION

HUDSON
GREAT EIGHT

ADJUSTMENTS

Front wheel bearing—Tighten spindle nut until wheel starts to turn hard, then loosen nut until wheel Sint turns freely.

Rear axle shaft end play-.005"-,010"

SPECIAL TOOLS

Transmission oil capacity—2 pounds

Rear axle oil capacity—4 pounds

Front wheel bearing lubrication—3 oz. cup grease In hub; 1 oz. cup grease in hub cap.

Suggestions: Thoroughly clean all oil or grease from brake parts, in including shoe and drum. If the oil used in the transmission is too light n summer, it will permit the gears to spin when the clutch is disengaged, and require a slight hesitation in shifting. Drain and replace with a heavier lubricant. it transmission oil is too heavy, it will cause hard shifting. Add motor oil to thin the grease.