

1931

HUDSON - ESSEX
SERVICE BULLETINS

I N D E X

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- D.S.2021 - 1931 Hudson Vibration Dampner (Jan. 27, 1931)
- D.S.2022 - Service on McCord Radiators (Jan. 29, 1931)
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HUDSON MOTOR CAR COMPANY SERVICE POLICY

JANUARY 1, 1931

WARRANTY

The Factory obligation with respect to replacement of alleged defective parts is fully covered by Warranty as follows:

"We warrant each new motor vehicle manufactured by us, whether passenger car or commercial vehicle, to be free from defects in material or workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory any parts or part thereof which shall within ninety (90) days after delivery of such vehicle to the original purchaser be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties, expressed or implied, and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale of our vehicles.

This warranty will not apply to any vehicle which shall have been repaired or altered outside of our factory in any way so as, in our judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident nor to any commercial vehicle made by us which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

We make no warranty whatsoever in regard to tires, rims, ignition apparatus, horns or other signaling devices, starting devices, generators, batteries, speedometers or other trade accessories, inasmuch as they are usually warranted separately by their respective manufacturers."

LABOR ALLOWANCE

The Hudson Motor Car Company is not obligated to participate in any labor costs incident to the replacement of material under the terms of the Warranty.

ACCESSORY EQUIPMENT

As the manufacturers of accessory equipment issue individual warranties and guarantee their products separately and distinctly from our New Car Warranty, replacements of alleged defective parts or units are to be handled direct with the respective manufacturer or his agent. This applies to --

Air Cleaners
Batteries
Carburetor Riser
and Damper Control
Generators
Horns
Hyatt Bearings
Ignition Apparatus
Lamps (Essex)

Radiators
Shock Absorbers
Spark Plugs
Speedometers
Starting Moors
Timken Bearings
Tires
Vacuum Tanks
Windshield Cleaners

DISTRIBUTOR INSPECTION

We will rely upon the Distributor's examination and inspection of all alleged defective material submitted for credit in his territory with the exception of such parts as are listed under 'Factory Inspection', which material must be returned to the Factory for inspection, accompanied by replacement certificate before claim will be considered,

FACTORY INSPECTION

The following material must be shipped to the Claim Department of the Hudson Motor Car Company at Detroit by the Distributor before the claim can be considered: --

Bumper and Bumper Parts
Camshaft
Connecting Rods
Crankshaft
Cylinder Block
Cylinder Block and pistons
Cylinder Head
Differential Carrier Assembly
Differential Carrier and
Gear Assembly
Door Handle Lock and Key
Electrolocks

Front Axle Center
Front Universal Joint
Propeller Shaft
Radiator Shell
Springs
Steering Gear Case
Steering Gear Shaft
(Worm Wheel)
Temperature Indicator
Timing Chain
Top Material
Wheels

BODY FINISH DEFECTS

All defects in body finish must be called to the attention of the Hudson Motor Car Company before making any adjustment with the owner. Any defects in body finish will evidence themselves within three months after delivery of the car to the original owner and must be called to our attention within that period.

NEW PARTS AND MATERIALS

All new materials received on parts invoices from the Factory and claimed unsatisfactory or unsuited for stocks must be returned within thirty days,

accompanied by packing slip and certificate covering. should give invoice reference.

CLAIMS ON BILLING

Any claim for error in billing replacement parts that is errors in pricing, extensions or totalling -- must be called to our attention within thirty days in order to be eligible for adjustment and subsequent credit.

HANDLING OF CLAIMS

The Distributor will handle all claims from his Dealers. The Dealer will be required to send the original replacement certificate, properly executed, to the Distributor, accompanied by the material in Question so that the Distributor may inspect such material before making any adjustment on Dealer claims. Dealer claims are to be carefully scrutinized by the Distributor to see that they conform with the provisions outlined in the foregoing and must bear the Distributor's approval and endorsement before they are sent to the Factory for attention. The Distributor will scrap on his premises such materials as are forwarded by the Dealers for inspection with the exception of those materials outlined under "Factory Inspection", which must be returned to the Factory.

CLAIMS INVOLVING PERSONAL INJURY OR PROPERTY DAMAGE

In cases where the alleged failure of a part has resulted in an accident involving either personal injury or property damage or where such an accident is attributed by the owner to negligence on our part, the Distributor will immediately notify the Factory giving owners name and address, serial number and model of car, nature of claim and will make no allowance nor permit his Dealers to make allowances policy or otherwise -- to the owner or his agent until such action has the approval of the Hudson Motor Car Company.

EXTRAORDINARY OR UNUSUAL CLAIMS

The Distributor agrees to bring to the Factory's attention, in advance of making any adjustment, conditions of an extraordinary or unusual nature.

INTERPRETATION OF SERVICE POLICY

It is expected that Distributors will interpret this Service Policy as applying to any or all Hudson or Essex automobiles or Essex commercial vehicles whether or not originally sold in the territory under their jurisdiction provided the owner can show credentials entitling him to service under the Warranty. It is further expected that the Distributor will render all possible assistance to the Factory in the handling of complaints registered by Hudson or Essex owners, irrespective of whether or not the cars were originally sold in his territory.

NEW CAR INSPECTION

It is expected that the distributor will give each new car a thorough inspection in accordance with the recommendations made by the Factory Service Department prior to delivery to the owner and that he will enforce the use of these inspection provisions among his Dealers on all new cars delivered retail by his Dealers.

It is recommended that the Distributor and his Dealers render a gratuitous mechanical inspection (sale price of oil or lubricant used excepted) to each new car owner at the expiration of 500 miles of driving (approximately). It has been proven by experience that the first few miles of driving of a new vehicle develops the need for minor adjustments. These should be taken care of at the time before they develop into more serious troubles. The Factory Service Department will provide the Distributor and Dealers with the plan for rendering this service.

FLAT RATE

It is recommended that the Distributor and his Dealers use the Factory Flat Rate Schedules in making quotations on labor operations to owners. The Factory Service Department will supply Schedules which will be sufficiently flexible to meet local requirements with respect to the compensation received by the mechanics, et cetera.

OWNER SATISFACTION

Owner satisfaction can best be maintained by frequent contact with all owners, Inasmuch as this can be accomplished with resultant increase in service business by uniform periodic inspection and lubrication service, it is expected that the Distributor and his Dealers will adopt a plan applicable to cars already in service as well as new cars. The Factory Service Department will assist in the promotion of this service by supplying a plan covering such periodic mechanical inspections and lubrication service.

NEW CAR PRE-DELIVERY INSPECTION

It is suggested that LUBRICATION of all units be checked -

Motor	Transmission
Ignition Distributor	Universals
Generator (2 cups)	Front
Steering Gear	Rear
Fan	On universals equipped with vents
Clutch	opposite greasing plug, force in fibre
Housing	grease until it is ejected from vent
Throwout Bearing	indicating that joint is full.
Bearings	Differential
Front	All Chassis Fittings (23)
Rear	

Check WHEEL TRAM and TOE-IN - - 0" to 1/8" maximum.

TIRE PRESSURES - Hudson Front k. 40 lbs, Essex Front - 35 lbs,
Hudson Rear - 40 lbs. Essex Rear - 35 lbs.

BATTERY - should be fully charged. Add distilled water if necessary. See that battery connections are tight.

TOOL KIT -see that it is complete for type and wheel option, Fill oil can and in holder.

RADIATOR-fill, In cold weather, anti-freeze

ROAD TEST -

See that the motor idles properly and hits on all cylinders when pulling or under load, and that the brakes and steering gear function properly.

WASH AND POLISH -

AUTOMOBILES RECEIVED VIA FREIGHT -

Cars are shipped with cooling system and engine drained. As soon as the car is unloaded and before it is driven, cooling system should be filled and oil should be placed in the crankcase.

Add transmission oil on staged cars as there will be some loss on staged cars due to the extreme angular position in transit,

If front wheels were removed and are replaced by your unloading crew, make sure that the front wheel bearings are lubricated and readjusted in the shop.

AUTOMOBILES RECEIVED VIA DRIVE-OUT

If any of the ears are towed and steering drag link disconnected, have double check made to be sure that adjustment is correct and cotter pin is in place.

SUGGESTED
5 0 0 MILE GRATUITOUS NEW CAR INSPECTION

(charge only for oil and grease)

LUBRICATION

OPERATIONS -

MOTOR (change oil)
Oil hood luting.
Hood locks
Door locks
Door dovetails
All chassis fittings (23)

MECHANICAL INSPECTION

OPERATIONS

Tighten cylinder head Fan belt tension
Carburetor adjustment Tighten motor support bolts Clutch pedal adjustment Rear
wheels tight on taper
Adjust door hinges, locks and strikers
Battery
Generator charging rate Lamp inspection
Clean distributor head Adjust distributor points
Generator and starter connections
Generator holding band Generator relay
Aims and Wheels
Inflate tires
Radiator

D.L.8000

HUDSON - ESSEX SERVICE BULLETIN

January 27, 1931

RE: - VIBRATION DAMPENER

There have been a few isolated cases of a light metallic knock in 1931 Hudson engines called to our attention. This knock is usually noticeable at about 25 m.p.h. on a light pull although in some cases it is also noticeable at 18 m.p.h. and 38 m.p.h.

While in practically all instances the diagnosis has been loose bearings, loose piston pins or pistons, the knock has actually been traced to the vibration dampener.

Should such a knock be noticed, arrange with your distributor for the replacement of the dampener assembly, Number BM-35191.

D.S.2021

HUDSON - ESSEX SERVICE BULLETIN

January 29, 1931

RE: SERVICE ON McCORD RADIATORS

We are using both McCord and Harrison radiators on current production Hudson and Essex cars.

All matters pertaining to service or claims on McCord radiators should be handled directly with the Hudson Motor Car Company. Dealers, however, will direct all inquiries regarding claims or service on McCord radiators to their distributor.

The make of radiator can be identified by the name pressed in the rear wall of the upper tank. In corresponding relative to radiators, the serial number of the radiator, which is located near the identifying name, should be given us, together with the serial number of the car itself.

D.S.2022

HUDSON - ESSEX SERVICE BULLETIN

February 23, 1931

RE: - UNIVERSAL JOINTS

The universal joints now being used on the Hudson and Essex cars include a vent hole located directly opposite the filler plug hole. Grease applied at the filler plug hole must travel into the joint and cannot reach the vent hole until the housing is completely filled.

This vent hole, therefore, serves a double purpose, preventing the packing in the outer housing from being forced out of place by the application of excess lubricant and also as a means of determining when sufficient lubricant has been applied.

When lubricating the universal joints, make sure that the vent hole is open, otherwise the oil seal in the housing may be damaged from high pressure lubrication. Supply grease until it begins to flow out of the vent hole.

D.S.2024

HUDSON - ESSEX SERVICE BULLETIN

March 18, 1931

RE: OIL PAN OIL RETURN PIPE ASSEMBLY

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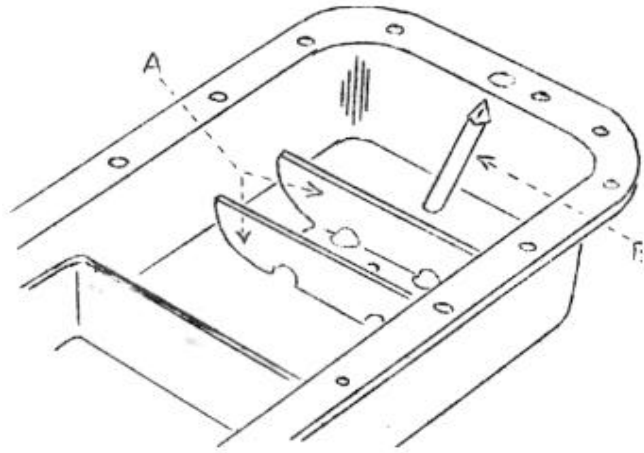
A new oil pan oil return pipe assembly incorporating a one way valve is available to prevent the surging of oil in the oil pan from forcing oil up through the pipe and causing a loss of oil at the rear main bearing oil collector ring.

In case of a loss of oil at the rear of the motor we suggest that this redesigned assembly be installed according to the attached instructions.

These assemblies can be obtained from your distributor. For Essex order 36405 oil pan oil return pipe assembly and for Hudson 36406 oil pan oil return pipe assembly.

D.S.2027

INSTRUCTIONS FOR INSTALLING OIL PAN FLAPPER VALVE
IN 1931 HUDSON AND ESSEX OIL PANS



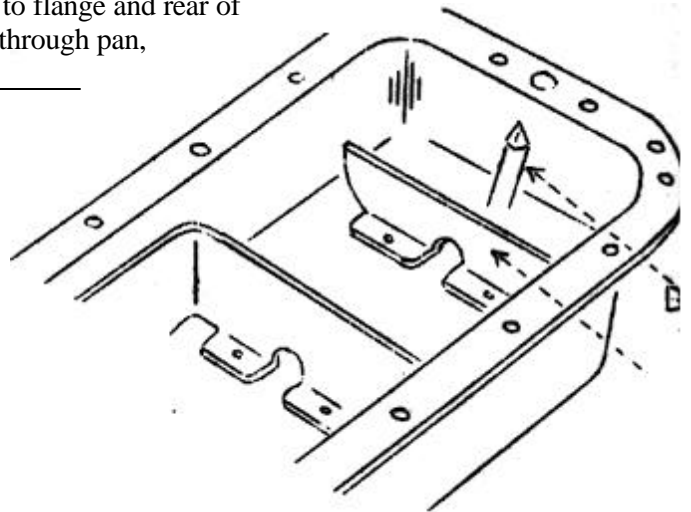
HUDSON

1. REMOVE AND DISCARD BAFFLE PLATES "A". This may be accomplished by grasping rear plate with two pliers and bending forward and back until the three spot welds are broken loose from bottom of pan. In some cases the welds will pull out, leaving small holes in pan. Plug these holes by inserting a screw or rivet from the top, soldering securely, and trimming off flush with outside of pan.
2. REMOVE AND DISCARD OIL RETURN PIPE "B" Use a blow torch to melt solder. Pull pipe out through the top. While solder on pan is still hot, wipe with a clean cloth to tin the pan.

3. INSTALL NEW OIL PIPE EQUIPPED WITH FLAPPER VALVE. Insert this pipe from bottom until top of pipe is flush with top of oil pan flange. Solder pipe securely to flange and rear of pan, being sure that there is no leak where pipe passes through pan, LONGER PIPE IS FOR HUDSON.
-

ESSEX

1. Installation of flapper valve on Essex is similar to that on Hudson, Remove baffle plate "A" by grasping with pliers and bending forward and back until two spot welds break loose from pan. Discard baffle plate "A".
 2. Remove oil return pipe in same manner as described for Hudson.
 3. Install new pipe equipped with flapper valve in the same manner as described for Hudson, soldering pipe securely to pan, and being sure that top of pipe is flush with top of oil pan flange, SHORTER PIPE IS FOR ESSEX.
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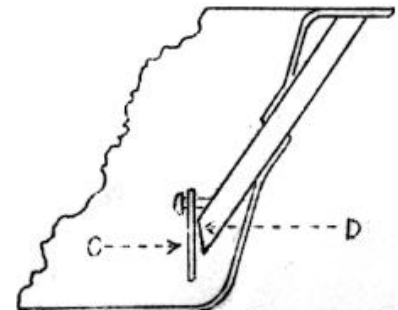


LOWER SKETCH IS ELEVATION OF REAR END OF PAN SHOWING
FLAPPER VALVE INSTALLED,

When pan is in a level position, the plate "C" should hang free from pipe "D" so that valve is slightly open,

File off solder at point "E" so it is flush with flange,

Be sure no leaks exist at points where pipe passes through pan



D.S.2027 LONGER PIPE IS FOR HUDSON
SHORTER PIPE IS FOR ESSEX,

HUDSON - ESSEX SERVICE BULLETIN

April 21, 1931.

RE: EXHAUST PIPE AND MUFFLER

A special exhaust bracket, Number 36577, is available for 1931 Essex cars which have a tendency to develop an exhaust rumble at approximately 22 miles per hour.

This bracket clamps over the exhaust pipe and is attached to the frame cross member which also acts as the running board front support. There are two holes in the cross member in the correct position for attaching this bracket so that no drilling is necessary.

The motor support bolts should be tightened securely before installing this bracket.

These brackets can be obtained upon request from your distributor.

D.S.2029

HUDSON - ESSEX SERVICE BULLETIN

June 18, 1931.

RE: - VAPOR LOCK

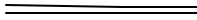
Vapor lock is a condition which occasionally manifests during the hotter summer months, caused by an excess amount of very volatile element in the gasoline used. This volatile element lowers the boiling point of the fuel, which frequently boils in the carburetor bowl causing fuel starvation. The condition may be diagnosed as follows: --

1. Inability to operate at sustained high speeds. (The effect is similar to that obtained by momentarily turning off the ignition switch).
2. Stalling or uneven running when idling in slow moving traffic.
3. Uneven running during acceleration immediately after idling, with a warm engine
4. Stalling or uneven running when the engine is reduced to idling speed.

It is very important that the condition be recognized and proper - methods applied to remedy. The condition would be more noticeable and aggravating on cars fitted with "free wheeling" because of the frequency with which the engines are reduced to idling speed.

SUGGESTIONS: -

1. While the various refineries are cognizant of the condition and endeavour in their refining processes to hold the volatility to a minimum consistent with good performance during the summer months, gasoline products vary and in the event one particular product aggravates the trouble, it is suggested that a change be tried. All owners should be warned to positively not use high test fuels during the hot summer months.
2. The heat control valve on the exhaust system may be moved to a cooler position.
3. The idling screw adjustment on the carburetor should be set to idle the motor at a slightly higher speed. This is very necessary on cars equipped with "free wheeling". .



HUDSON - ESSEX SERVICE BULLETIN

SERVICE POLICY FOR DEALERS

July 1, 1931.

WARRANTY

Effective with cars sold and delivered on and after July 1, 1931.

Each car will be sold subject to the following Owner's Service Policy:

- (a) For ninety days after delivery or for 4,000 miles of driving, Which., ever shall come first, any parts (tires excepted) which shall have, proved defective in either material or workmanship will be repaired or replaced without any charge to the Owner for the parts or labor covering their installation, (See section four under "Parts and Labor Claims".)
- (b) The Owner will receive from the Dealer selling the car a lubrication and mechanical inspection at the expiration of 500 miles of driving and again at the expiration of 1,500 miles of driving at no charge other than for oil, grease or supplies used.
- c. In consideration of this Policy, the Owner will in turn agree to have all repairs or adjustments performed by authorized Distributors and Dealers during the period the Policy is in effect.

PARTS AND LABOR CLAIMS

1. Each Dealer will be provided with claims certificate forms, the certificates consisting of five copies - white, pink, buff, blue and green. When it is found necessary to replace parts on a car within the Warranty period because of defect in material or workmanship, the parts removed should be shipped or delivered to his Distributor with the first four copies of the claims certificate. The Dealer will retain the fifth copy for his records.
2. Each certificate must contain all of the information called for and an adequate explanation as to the diagnosis or cause of the failure of the part is required, Simply using the words "defective". "loose", "Worn", et cetera, will not suffice, Each claims certificate should be certified as to correctness by the Dealer's signature in the space provided. The Dealer can assign a claim number in the left top corner of the certificate to assist in future identification,
3. The Distributor will -- upon receipt of the parts and the certificate -forward the claim to the Factory for consideration. The Distributor will be notified by the Factory as to the disposition of the claim and the Distributor will in turn notify, the Dealer.

4. The Factory will participate in the labor expense in replacement of defective parts within the Warranty period. This participation will be to the extent of the Dealer's cost for such labor of replacement without increase for overhead expense or profit, but in no event will this participation be in excess of the number of hours shown in the current Factory Flat Rate Schedule for such operation figured at the rate of \$.80 per hour. The Flat Rate hours for more than one operation should be figured as though operations were performed concurrently,

NEW CAR INSPECTION

1. The Dealer will agree to inspect each new car before delivery to the Owner in accordance with the plan recommended and supplied by the Factory. The Dealer will also agree to give each new car sold by him a free inspection at the expiration of 500 miles of driving and again at 1,500 miles, charging the Owner only for oil or supplies used. The Factory will supply the Dealer with forms and instructions for rendering the 500 mile and the 1,500 mile inspections.
1. While the Dealer will render these inspections at his own cost, he should not only bear in mind but impress the Owner with the fact that the continuation of these periodic inspections, when properly performed, will materially add to the Owners satisfaction and maintain frequent contacts to their mutual benefit. The Factory Service Department assists in the promotion of this service by supplying a plan covering such periodic lubrication and mechanical inspection services.

WARRANTY SERVICE ON CARS SOLD BY OTHER DEALERS

1. Inasmuch as a defect in the Owner's car may manifest itself when the Owner is away from the location in which the car was purchased, it is expected that any Dealer will replace the defective parts (if within the Warranty period as shown by the Owner's credentials) and the Dealer will then enter claim for parts or labor through his own Distributor, exactly as he would have done had he originally sold the car.

ACCIDENTS INVOLVING PERSONAL INJURY OR PROPERTY DAMAGE

1. The Dealer should immediately notify his Distributor or the Factory upon obtaining information to the effect that an accident has occurred involving personal injury or property damage and in which it is or may be alleged that such accident was caused by defects in material or workmanship. In reporting such a case, give the Owner's name and address, serial number and model of car, nature of accident, location of accident and date and hour. The Dealer will refrain from making any parts or labor allowances Policy or otherwise -- to the Owner or his Agent until he has been given authority to do so (in writing) by his Distributor,

FLAT RATE

1. It is recommended that the Dealer use the Factory Flat Rate Schedule when making quotations on labor operations to Owners, The Schedule is sufficiently flexible to meet any local requirement with respect to prevailing labor charges to Owners.

OWNER SATISFACTION

1. The Dealer having the proper interest in the increasing success of his business will not underestimate the value of Owner satisfaction in his territory. The satisfied Owner can best be obtained through the proper personnel and careful operation in the Dealer's Service Station.
2. The Dealer should understand that it is the duty of the Distributor under whom he operates, to assist and co-operate with the Dealer to the end that the Dealer's service facilities be maintained at a level which will assure Owner satisfaction in his territory.

HUDSON MOTOR CAR COMPANY

Detroit, Michigan,

NEW CAR INSPECTION BEFORE
DELIVERY TO OWNER

LUBRICATION of following units should be checked --

Engine	Universals
Ignition Distributor	Front
Generator (2 cups)	Rear
Steering Gear	Force in fibre grease until it is ejected from vent indicating that
Fan	joint is full,
Transmission	All Chassis Fittings (23)
Differential	

Check WHEEL TRAM or TOE-IN - 0" to 1/8" maximum.

TIRE PRESSURES - Average driving speeds front 32 - rear 32
High speed driving - front 40 - rear 40

BATTERY - should be fully charged. Add distilled water if necessary. See that battery connections are tight.

TOOL KIT - See that it is complete for type and wheel option. RADIATOR - fill. In cold weather, anti-freeze.

ROAD TEST - See that the motor idles properly and hits on all cylinders when pulling or under load, and that the brakes and steering gear function properly.

WASH AND POLISH

AUTOMOBILES RECEIVED VIA FREIGHT -

As soon as the car is unloaded and before it is driven, cooling system should be checked and oil should be placed in the crankcase.

Add transmission oil on staged cars as there will be some loss due to the extreme angular position in transit.

If front wheels were removed and are replaced by your unloading crew, make sure that the front wheel bearings are lubricated and readjusted in the shop.

AUTOMOBILES RECEIVED VIA DRIVE-OUT

If any of the cars are towed and steering drag link disconnected, have double check made to be sure that adjustment is correct and cotter pin is in place.

HUDSON - ESSEX SERVICE BULLETIN

HUDSON-ESSEX MECHANICAL INSPECTION

Subject: - Instruction Details for Performing
"500 and 1500 Mile Inspections".

OPERATIONS

1. Spark Plugs

Remove and clean spark plugs and adjust gap to .022",

2. Tappet Clearances

Check tappets and adjust if necessary. Recommended clearances intake .004", exhaust .006" when engine is hot. Be sure that the tappet guide clamp screws are tight.

3. Oil Pump and Line Connections

See that oil pump mounting is tight, also oil check valve, and oil pipe connections to prevent leaks.

4. Tighten Cylinder Heads

Draw down cylinder head stud nuts evenly to prevent leaks at the gasket or the possibility of it blowing out. Start with the inner stud nuts and work to outside and ends uniformly. Also, tighten water manifolds and cylinder inspection plates.

5. Timing Chain Adjustment

Use special feeler wrench to determine slack in chain. Adjust chain if necessary.

6. Generator Coupling

Inspect flexible drive coupling and tighten coupling clamp bolts. If coupling is broken or twisted, owner should be advised to have it renewed.

7. Vacuum Tank

Remove and clean screen and sediment bowl. See that gasoline and suction pipe connections are tight, and that vacuum booster is not clogged.

8. Adjust Carburetor

Remove and clean carburetor screen. See that choke control operates freely and that heat control is set in proper position. Make final adjustment of carburetor when engine is warm.

9. Tighten Engine Support Bolts

Remove cotter keys in front and rear engine support bolts. Tighten nuts until rubber pads are compressed, then replace cotteners,

10. Generator and Starter Brushes

Inspect brushes on both generator and starter to see that they are not excessively worn and that they make good contact with commutator.

11. Generator Charging Rate

See that generator charging rate as indicated on ammeter is sufficient to keep the battery charged, under both summer and winter operating conditions. During the summer months, a maximum charging rate (with the engine warm and the lights out or any electrical accessories not turned on) of ten amperes will be satisfactory. Under same conditions, a charging rate of twelve amperes during the winter months should be ample. Under extreme conditions, it is permissible to increase the charging rate to fifteen amperes no more. The charging rate can be altered by moving the regulating brush in the direction of armature rotation to increase the charging rate and in the opposite direction to decrease.

12. Generator and Starter Connections

Tighten electrical cable connections on generator and starter. Examine cables for faulty insulation which might cause ground or short circuit.

13. Generator Holding Band

Tighten generator holding band clamp screw so that generator is held secure on its bracket.

14. Generator Relay

See that relay operates properly. Points should close at a car speed of approximately fifteen miles per hour.

15. Distributor Breaker Points

Examine breaker points for corrosion and pitting and, if necessary, dress them down with a stone until they are clean and present a flat surface to each other. The breaker point gap should be .020". Remove rotor and put one or two drops of light oil on center of distributor cam. Put a small piece of hard grease on the fibre block which contacts with the cam. Put one drop of oil on the breaker arm pivot and see that it works freely. The ignition distributors on Hudson cars are fitted with dual breaker arms. Both points should be set exactly .020" clearance and they should be synchronized according to the flywheel markings (see Instruction Book) or by the use of a synchronizing fixture,

16. Distributor Head

Clean distributor cap both inside and out. Brighten contact points with fine sandpaper. Be sure that high tension wire terminals are firmly pressed into position on coil and distributor cap.

17. Water Hose Connections - Water Pump Gland on Hudson

Water hose connections should be in good condition and free from leaks. On Hudson cars tighten water pump gland nut with the fingers only enough to stop leak at this point. It is not necessary or desirable to use a wrench.

18. Fan Belt

Check fan belt for adjustment and wear. See that belt has correct tension and that pulleys are properly aligned, If the belt is worn or frayed, owner should be advised to purchase a new one.

19. Switch Box

Remove cover of lighting switch and junction box and tighten all binding screws. See that fuse clips are clean and grip fuse firmly.

20. Throttle Controls

Inspect throttle control rods and levers to see that they are adjusted correctly and operate without sticking,

21. Radiator - Summer

Carefully check radiator and hose connections for leaks and be sure that water and air circulation is unimpeded. Drain cooling system, flush, and refill with clear water.

22. Radiator - Winter

Check cooling system for leaks. Test the strength of anti-freeze solution with a hydrometer.

23. Battery

Thoroughly clean and tighten battery terminals and coat with vaseline to prevent corrosion. See that battery is tight in tray. Add distilled water to cells if necessary.

24. Lamp Inspection

Inspect all lights. Clean and tighten connections to insure good contact. See that headlamps are properly focused and tilted to conform with legal requirements.

25. Instruments

Check all dash instruments and controls to be sure they operate properly and indicate correctly.

26. Inflate Tires

Inflate all tires to 32 pounds pressure for medium or 40 pounds pressure for high speed driving. Instruct owner to maintain these pressures.

27. Oil Reservoir Gasket

Tighten oil pan cap screw to prevent leaks at the gasket. Also tighten electric oil gauge wire connection on reservoir.

28. Clutch Pedal Adjustment

A clearance of 3/4" should exist between the clutch pedal shank and toe board. If necessary, adjust clearance by means of the adjustable link. Lubricate clutch pedal shaft to prevent sticking.

29. Tighten Pitman Arm

If the pitman arm is loose on the cross shaft, tighten by drawing up on the holding nut.

30. Drag Link Adjustment

Inspect steering connections at front and rear ends of drag link to see that the adjusting plugs are in the proper position and that the springs are not broken.

31. Universal Joint Flanges

Examine universal joint flange bolts. Be sure they are properly tightened and locked.

32. Body Bolts Tighten body hold-down bolts securely.

33. Spring Clips

Draw up spring clip (U bolt) nuts with a large wrench to prevent spring breakage and driving instability.

34. Shackle Bolt Adjustment

Adjust shackle bolts carefully-- being sure that the adjustment is neither so loose as to cause rattle, nor so tight as to prevent free shackle action,,

35. Shock Absorbers

Be sure that shock absorbers are tight on the frame end that there is no play in the linkage. Replenish the oil, using special shock absorber fluid.

36. Front Wheel Bearings

Check bearing adjustment. Adjust if necessary.

37. Rear Wheel Bearings

Check end play in axle shafts. Axle shafts should have a minimum of .005" and a maximum of .010" end play., Adjust, if necessary, by removing or inserting shims behind the rear wheel bearing caps.

38. Tighten Rear Wheels

Tighten rear wheels on taper by drawing up axle shaft nut with a large socket wrench.

39. Rims and Wheels

See that wood wheel rim lugs are tight and that rims run true. Wire wheel holding bolts must be securely and uniformly tightened.

40. Brake Adjustment

Brake inspections include checking for pedal throw; checking for dragging shoes and worn lining; and the necessary adjustment to compensate for wear.

41. Steering Gear Thrust Adjustment

Make the necessary adjustments to eliminate end play in steering column and cross shaft.

42. Steering Gear Worm Adjustment

Carefully check the lash or play between worm and sector at the "high point", and see that this point coincides with the straight ahead position of front wheels. If adjustment is found necessary, screw movable end of drag link in or out until proper position is obtained, Be sure drag link springs are in good condition' and assembly properly tightened before car is put back in service.

43. Front Wheel Alignment

Use a good wheel aligning fixture to check toe in, and if necessary, adjust tie rod to obtain from 0" to 1/8" toe-in,

44. Door Hinges, Locks and Strikers

Inspect for loose or squeaking hinges. See that Locks operate satisfactorily. Adjust striker plates so that doors when closed are tight enough to prevent rattle without being difficult to open. Oil hinges, locks and strikers.

HUDSON - ESSEX SERVICE BULLETIN

RE: OWNER'S SERVICE POLICY

Arrangements are being made to supply you with --

1. Individual. Owner's Service Policy Certificates.
2. Owner's Identification Cards.
3. Printed forms for rendering "500 Mile and 1500 Mile New Car Inspections."

Owner's Service Policy Certificates and Identification Cards will be available through Distributors on or about July 25th. The Factory will make a direct mailing to each Dealer of New Car Inspection forms and claims certificates and, thereafter, supplies as needed may be procured from Distributors.

All cars sold and delivered on and after July 1st are subject to the new Owner's Service Policy. As soon, therefore, as Policy Certificates and Ownership Cards are available, arrange for their delivery to these new Owners. Space is provided for Owner's name and address, Dealer's name, car description and date of delivery. The Ownership Cards serve as Owner's credentials when soliciting service or inspection under the terms of Owner's Service Policy. They should be neatly typewritten and all information should be accurately listed.

To assist in the rendering of the "500 Mile and 1500 Mile Inspections", the inspection forms carry complete information on work necessary and are in duplicate. Upon completion of the inspection, copy may be handed to the Owner as an invoice and the original or work order retained for the Dealer's reference.

An earnest endeavor should be made to interest and sell the Owner on the continuance of these Lubrication and Mechanical Inspections to the mutual benefit of Owner and Dealer. Information on extending the Inspection Plan is contained in Service Bulletin Form Number 6627.

D.S.2040

HUDSON - ESSEX SERVICE BULLETIN

August 25, 1931.

RE: CARBURETOR LEAKS


The attached Marvel Service Bulletin covers the proper method of correcting leaks at the float valve and the welch plugs in the carburetor body.

A quantity of matched valves and seats together with welch plugs will be forwarded to all Marvel distributors from Flint, Michigan, Friday, August 28, 1931, so that most distributors will have these parts in stock Monday, August 31, 1931. Marvel service stations (other than distributors) will have the material available soon thereafter.

Where necessary, the Marvel service station will replace the valves and seats as well as welch plugs on any carburetor removed from a 1931 Hudson or Essex delivered to them. In case location makes it not practical to deliver the carburetor, the Marvel service station will supply the Hudson-Essex distributor or dealer with matched valves and valve seats in exchange for the original parts and will supply the welch plugs gratis.

The Marvel Carburetor Company are mailing sample valves, seats and welch plugs direct to acquaint you with the improvements in the parts.

D.S.2043


SERVICE BULLETIN
MARVEL CARBURETER CO.
FLINT, MICH., U. S. A.

Bulletin No.
365 Page 2

WELCH PLUGS:

We have also had complaints of the Brass Welch plugs loosening up and coming out, causing a leaking condition. These plugs are used to close various channels in the carbureter after drilling.

Investigation showed this to be due to repeated expansion and contraction of the brass plug under extreme heat conditions. Thorough tests show that steel Welch Plugs will not loosen up under such conditions. We have therefore changed to steel Welch Plugs in all Models instead of brass.

In cases where the brass plugs have loosened up, **do not replace with brass plugs, be sure and use steel plugs.**

Removal of a loose brass plug can easily be done by using a small diameter tapered center punch, driving straight through brass plug, then prying out. Installation of new steel plug should be made by placing plug in channel, being sure that it rests squarely on its seat, then drive into position using a drift of approximately the same diameter as the channel opening.

MARVEL CARBURETER COMPANY

RCD:C

HUDSON - ESSEX SERVICE BULLETIN

Subject: Lubrication and Inspection Service

THE quickest, easiest, surest way to make the Service Department yield profits is a Specialized Lubrication Service for owners of new and old Hudson and Essex cars, coupled with car washing, mechanical inspection, tuning and brake service.

Next to gasoline, oil is the most frequently purchased commodity; the demand for it is continuously increasing as owners become educated to the truth that thorough, systematic lubrication is certain to reduce maintenance costs.

Lubrication and Inspection Service, properly promoted, will prove its value in a number of ways:

- 1—It assists in securing owner satisfaction and in spreading the dealer's reputation.
- 2—It establishes and maintains contacts that are of great value in bringing repair work to the shop.
- 3—It promotes new-car business.
- 4—It makes the Service Department an independently profitable part of the dealer's business.

How to Sell Lubrication and Inspection Service may be sold to car owners in various forms. The simplest plan is that in which the owner is offered regular **Lubrication and Inspection Service** chassis lubrication, the work running from pressure lubrication of all Alemite fittings, rendered at so much per operation, to more elaborate schedules including complete lubrication of all motor, clutch and chassis units, and inspection of all mechanical units over an extended period of time, at predetermined prices. Some dealers report good success with a scheme of selling owners on the idea of buying the service regularly, at stated mileage intervals, with an additional gratis inspection as bonus given to owners who maintain the schedule throughout the agreed-upon period.

Four Plans to Choose From Long experience points to four plans, each of which may be operated by any dealer. To assist dealers in the promotion of whatever plan they may select as the one best suiting their own particular circumstances, the Factory has prepared two large wall lubrication charts, one for the Hudson, one for the Essex.

The Charts, in text and illustration, detail each lubrication operation and also state which one of six different lubricants is required at any given point.

In promoting his Lubrication Service with owners, the dealer should place all possible emphasis on the fact that six different lubricants are necessary to give best results, and that your establishment is the one that renders service with just that thoroughness.

Six Different Lubricants Used An excellent plan is to secure six pint Mason jars and to fill them with the six different lubricants, labeling the jars with the names of the lubricants and the points of the car at which they must be used. Thus prepared, the jars are displayed in the show window or other suitable place, where owners can see them.

This display of the lubricants, together with the dealer's other efforts, calls the owner's attention to the fact that he is offered specialized lubrication of the particular kind needed by Hudson and

Essex cars, whereas the average service station gives service calling for three different lubricants at the most.

The four Lubrication Service plans described in subsequent paragraphs have been considered with great care. They are sufficiently flexible to cover lubrication and inspection on Hudson and Essex cars of 1931 and previous models.

Obviously the best time to sell Lubrication and Inspection Service is when the new car is delivered. At the same time, owners and drivers of older models will avail themselves of the service if it is properly brought to their attention.

The Four Plans

Plan 1—*Lubrication Service Only, for 6000 Miles*, rendered every 500 miles, or 12 times in all. This plan meets the needs of the home driver whose traveling averages 500 miles a month. The dealer's task is to check the engine oil each time, bringing it to the proper level, and changing the crankcase oil at the required times. Whatever additional oil may be needed between inspections must of course be added by the owner himself.

Plan 2—*Lubrication Service Only, for 6000 Miles*, rendered every 1000 miles, or six times in all. This service is offered to owners who drive to a greater extent but find it impractical to contact with the dealer every 500 miles.

Plan 3—*Single Lubrication Service*, consisting of Complete Lubrication of every pressure joint in the chassis, including the putting of fibre grease in the fan hub.

This type of service is more frequently sold than any other and is a specialty sold by independent washing, greasing and filling stations. The price of this operation should be set to meet competition.

Plan 4—*Complete Lubrication and Mechanical Inspection Service, for 6000 Miles*, rendered at 1000-mile intervals, 6 times in all.

This plan is of special interest to new car owners, because it assures them of trouble-free operation and guards them against excessive maintenance costs, because mechanical adjustments made as soon as they become necessary prevent the conditions from becoming chronic or from leading to expensive major repairs.

The Matter of Prices Let us assume that the dealer adopts Plan Number 1—*Straight Lubrication at 500-Mile Intervals*. This plan embraces 12 operations in each of which the dealer performs the inspections marked "X" on the lubrication charts to which reference was made earlier.

By actual trial in the shop, the dealer determines the time spent on each operation, and prices it accordingly. He estimates the amount of lubricant used (engine oil excepted) and adds this to the time charge. The reason for not including the engine oil is that the dealer will not be able to determine in advance how much oil will have to be added between complete oil changes. But when the time comes for a complete oil change, the selling price of that oil is added to the time cost of the operation.

Naturally, the gross figure or total cost of the twelve separate operations should be reduced to an attractive amount in order to induce the owner to purchase the entire service.

When the owner refuses to purchase the entire series, the dealer sells the operations separately, but offers a bonus to the owner who completes the series by bringing his car at approximately the right intervals. The bonus may take the form of a thirteenth gratis inspection or of a substantial discount on the charge for the twelfth and final inspection.

Time Schedules to be Checked by Dealer While the Inspection Schedules given on later pages show the approximate time required to consummate the various operations, the operations should be checked by the dealer, in his own shop and with his own equipment and personnel, before fixed prices are set down for them.

The mechanical inspections may be priced separately and sold in conjunction with other operations. For instance, the dealer may sell lubrication service at 500-mile intervals, and mechanical inspection at 1000-mile intervals. Any number of combinations may be worked out, depending entirely on what constitutes the best appeal for the dealer's owner clientele and territory.

When the dealer has determined the best plan for him to use, he should have it printed on cards, in the form of a guide, listing the various operations, showing the points covered at each interval, the price of each operation, and the total cost. When desired, the dealer's distributor will assist in designing this form.

How to Promote Service Plan The first necessary item is an up-to-date mailing list of Hudson and Essex owners in the territory.

The prices must be figured so as to be in line with lubrication and inspection service sold locally by competing garages and service stations.

Facilities must be provided for car washing and for brake adjustment and repairs, as these services have the greatest demand and yield the most profit through maintaining a steady flow of work to the shop.

Letters should be written to all owners, outlining the facilities for complete lubrication, car washing and other services.

To bring immediate response and contact with owners to whom the dealer should personally endeavor to sell his services, the following letter or post-card should be mailed to owners:

Dear Hudson or Essex) Owner:

We want you to be fully familiar with the excellent service we, can render you on specialized lubrication, mechanical inspection, adjustments or repairs.

Our mechanics are Hudson-Essex experts, and with our complete stock of genuine Hudson-Essex parts, we stand ready at all times to furnish not only the most efficient but also the most economical service you could possibly obtain.

For the next 30 days we are offering a special motor tune-up job at only 90 cents! This covers complete inspection and tuning of the ignition system, carburetor, cooling system, and battery.

Very truly yours,

The Get-Acquainted Service offered in the foregoing letter includes the following:

- | | |
|---|---------------------------------------|
| 1—Adjustment of distributor gap. | 3—Cleaning and adjusting spark plugs. |
| 2—Cleaning distributor head and seeing that high-tension wire clips are tight at distributor head and coil. | 4—Tightening generator holding band. |
| | 5—Adjusting fan belt. |
| | 6—Tightening water hose clamps. |
| | 7—Putting distilled water in battery. |

This inspection, at the price at which it is offered, is not a great money maker in itself, but it can be made additionally profitable because it gives the dealer an opportunity to sell such items as spark plugs, fan belts, radiator hose, etc.

Moreover, the first service visit enables the dealer to sell the owner on the advisability of bringing his car in at regular intervals, for inspection and lubrication.

Hudson Lubrication Guide

Operation Number - Mileage - - - -	1 500	2 1000	3 1500	4 2000	5 2500	6 3000	7 3500	8 4000	9	10 5000	11 5500	12 6000
Engine	x	x	x	x	x	x	x	x	x	x	x	x
Water Pump Oiler	x	x	x	x	x	x	x	x	x	x	x	x
Throttle and Brake Rods	x	x	x	x	x	x	x	x	x	x	x	x
Door Locks	x	x	x	x	x	x	x	x	x	x	x	x
Door Dovetails	x	x	x	x	x	x	x	x	x	x	x	x
Distributor		x		x		x		x		x		x
Generator		x		x		x		x		x		x
Starter		x		x		x		x		x		x
Universal Joints		x		x		x		x		x		x
Brake Cross Shaft		x		x		x		x		x		x
Hood Lacing		x		x		x		x		x		x
Hood Locks		x		x		x		x		x		x
Clutch			x			x			x			x
Clutch Throwout Bearing			x			x			x			x
Transmission				x			x					x
Steering Gear				x			x					x
Rear Axle						x						x
Front Wheel Bearings						x						x
Rear Wheel Bearings						x						x
All Chassis Fittings (23)	x	x	x	x	x	x	x	x	x	x	x	x

Essex Lubrication Guide

Operation Number - Mileage - - - -	1 500	2 1000	3 1500	4 2000	5 2500	6 3000	7 3500	8 4000	9	10 5000	11 5500	12 6000
Engine	x	x	x	x	x	x	x	x	x	x	x	x
Throttle and Brake Rods	x	x	x	x	x	x	x	x	x	x	x	x
Hood Lacing	x	x	x	x	x	x	x	x	x	x	x	x
Hood Locks	x	x	x	x	x	x	x	x	x	x	x	x
Door Locks	x	x	x	x	x	x	x	x	x	x	x	x
Door Dovetails		x		x		x		x		x		x
Distributor		x		x		x		x		x		x
Generator		x		x		x		x		x		x
Starter		x		x		x		x		x		x
Universal Joint		x		x		x		x		x		x
Brake Cross Shaft		x		x		x		x		x		x
Clutch			x			x			x			x
Clutch Throwout Bearing			x			x			x			x
Transmission				x				x				x
Steering Gear				x				x				x
Horn				x				x				x
Rear Axle						x						x
Front Wheel Bearings						x						x
Rear Wheel Bearings						x						x
All Chassis Fittings (23)	x	x	x	x	x	x	x	x	x	x	x	x
Selling Price												

Hudson Lubrication Guide

Operation Number - Mileage - - - -	1 1000	2 2000	3 3000	4 4000	5 5000	6 6000
Engine	x	x	x	x	x	x
Water Pump Oiler	x	x	x	x	x	x
Distributor	x	x	x	x	x	x
Generator	x	x	x	x	x	x
Starter		x		x		x
Universal Joints	x	x	x	x	x	x
Throttle and Brake Rods	x	x	x	x	x	x
Brake Cross Shaft	x	x	x	x	x	x
Hood Lacing	x	x	x	x	x	x
Hood Locks	x	x	x	x	x	x
Door Locks	x	x	x	x	x	x
Door Dovetails	x	x	x	x	x	x
Clutch		x		x		x
Clutch Throwout Bearing		x		x		x
Transmission		x		x		x
Steering Gear		x		x		x
Rear Axle		x		x		x
Front Wheel Bearings			x			x
Rear Wheel Bearings			x			x
All Chassis Fittings (23)	x	x	x	x	x	x
Selling Price						

Essex Lubrication Guide

Operation Number - Mileage - - - -	1 1000	2 2000	3 3000	4 4000	5 5000	6 6000
Engine	x	x	x	x	x	x
Distributor	x	x	x	x	x	x
Generator	x	x	x	x	x	x
Starter	x	x	x	x	x	x
Universal Joints	x	x	x	x	x	x
Throttle and Brake Rods	x	x	x	x	x	x
Brake Cross Shaft	x	x	x	x	x	x
Hood Lacing	x	x	x	x	x	x
Hood Locks	x	x	x	x	x	x
Door Locks	x	x	x	x	x	x
Door Dovetails	x	x	x	x	x	x
Clutch		x		x		x
Clutch Throwout Bearing		x		x		x
Transmission		x		x		x
Steering Gear		x		x		x
Rear Axle		x		x		x
Horn		x		x		x
Front Wheel Bearings			x			x
Rear Wheel Bearings			x			x
All Chassis Fittings (23)	x	x	x	x	x	x
Selling Price						

(Plan Number 4)

Hudson 1000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	6	Throttle Rods—left side
6	Throttle Rods—right side	1	Engine—add Oil
11	Generator	8	Hood Lacing—left side
3	Distributor	14	Hood Locks—left side
8	Hood Lacing—right side	7	Brake Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Water Pump Shaft	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails

Time—25 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
5	Timing Chain Adjustment	25	Instruments Inflate Tires
14	Generator Relay	26	Clutch Pedal Adjustment
17 or 22	Water Pump Gland	28	Spring Clips
18	Fan Belt	33	Spring Shackles
19	Switch Box	34	Rims and Wheels
	Radiator	39	Brake Adjustment
23	Battery	40	Door Hinges, Locks and Strikers
24	Lamp Inspection	44	

Time—1 Hour, 10 Minutes

(To Be Performed in Order in Which They Appear)

Hudson 2000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	1	Engine—change Oil
9	Clutch	8	Hood Lacing—left side
6	Throttle Rods—right side	14	Hood Locks—left side
11	Generator	10	Clutch Throwout Bearing
3	Distributor	7	Brake Cross Shaft
8	Hood Lacing—right side	17	Transmission
14	Hood Locks—right side	13	Universal Joints
2	Water Pump Shaft	6	Brake Rods
20	Fan	5	Rear Axle
4	Starter	15	Door Locks
6	Throttle Rods—left side	16	Door Dovetails
18	Steering Gear		

Time—45 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
1	Spark Plugs	32	Body Bolts
2	Tappets	9	Engine Bolts—rear
9	Engine Bolts (Front only)	35	Shock Absorbers
17	Water Pump Gland	36	Front Wheel Bearings
18	Fan Belt	39	Rims and Wheels—front
	Radiator	37	Rear Wheel Bearings
21 or 22	Battery	38	Tighten Rear Wheels
25	Instruments	39	Rims and Wheels—rear
26	Inflate Tires	41	Steering Gear Thrust
29	Pitman Arm	42	Steering Gear Worm
30	Drag Link	44	Door Hinges, etc.

Time—2 Hours

(To Be Performed in Order in Which They Appear)

Hudson 3000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	6	Throttle Rods—left side
6	Throttle Rods—right side	1	Engine—add Oil
11	Generator	8	Hood Lacing—left side
3	Distributor	14	Hood Locks—left side
8	Hood Lacing—right side	7	Brake Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Water Pump Shaft	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails

Time—25 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
15	Adjust and Synchronize Breaker Points	25	Instruments
16	Clean Distributor Head	26	Inflate Tires
17	Water Pump Gland	28	Clutch Pedal Adjustment
18	Fan Belt	39	Rims and Wheels
21 or 22	Radiator	40	Brake Adjustment
23	Battery	43	Wheel Alignment
24	Lamp Inspection	44	Door Hinges, etc.

Time—1 Hour, 15 Minutes

(To Be Performed in Order in Which They Appear)

Hudson 4000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	18	Steering Gear
9	Clutch	1	Engine—change Oil
6	Throttle Rods—right side	8	Hood Lacing—left side
11	Generator	14	Hood Locks—left side
3	Distributor	10	Clutch Throwout Bearing Brake
8	Hood Lacing—right side	7	Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Water Pump Shaft	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails
6	Throttle Rods—left side		

Time—40 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
17	Water Pump Gland	39	Rims and Wheels
18	Fan Belt	26	Inflate Tires
23	Battery	21 or 22	Radiator
25	Instruments	44	Door Hinges, Locks and Strikers

Time—20 Minutes

(To Be Performed in Order in Which They Appear)

Hudson 5000-Mile Inspection

----- **LUBRICATION**

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	8	Hood Lacing—left side
9	Clutch	14	Hood Locks—left side
6	Throttle Rods—right side	10	Clutch Throwout Bearing
11	Generator	7	Brake Cross Shaft
3	Distributor	17	Transmission—Flush and Refill
8	Hood Lacing—right side	13	Universal Joints
14	Hood Locks—right side	6	Brake Rods
2	Water Pump Shaft	5	Rear Axle—Flush and Refill
20	Fan	12	Front Wheel Bearings
4	Starter	19	Rear Wheel Bearings
6	Throttle Rods—left side	15	Door Locks
18	Steering Gear	16	Door Dovetails
1	Engine—add Oil		

Time—1 Hour, 45 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
	Raise right side of Hood	21 or 22	Radiator
1	Spark Plugs	23	Battery
2	Tappets—leave Air Cleaner off	24	Lamps
3	Oil Pump and Connections	25	Instruments
4	Cylinder Head Nuts—right side	26	Tires
5	Timing Chain		Jack up car front and rear
6	Generator Couplings	27	Oil Reservoir and Gauge
	Replace Carburetor Air Cleaner	28	Clutch Pedal Adjustment
7	Vacuum Tank	29	Pitman Arm
8	Carburetor	30	Drag Link
9	Engine Bolts—right Front only	31	Universal Joint Flanges
10	Generator Brushes	32	Body Bolts
11	Generator Charge Rate	33	Spring Clips
12	Generator Connections	9	Engine Bolts (Rear Bolts, both sides)
13	Generator Holding Band	34	Spring Shackles
14	Generator Relay	35	Shock Absorbers
15	Distributor Points	36	Front Wheel Bearings
16	Distributor Head	39	Rims and Wheels—front
	Lower right side of Hood	37	Rear Wheel Bearings
	Raise left side of Hood	38	Tighten Rear Wheels
4	Cylinder Head—left side	39	Rims and Wheels—rear
9	Engine Bolts—left Front only	40	Brakes
17	Water Pump Gland	41	Steering Gear Thrust
18	Fan Belt	42	Steering Gear Worm Adjustment
10	Starter Brushes		Lower Car
12	Starter Connections		Lower Hood
19	Switch Box	43	Align Front Wheels
20	Throttle Controls	44	Door Hinges, etc.

Time—4 Hours

(To Be Performed in Order in Which They Appear)

Hudson Mechanical Inspection

Instruction Details

OPERATIONS

1. Spark Plugs

Remove and clean spark plugs and adjust gap to correct clearance. If plugs are old or points badly corroded, suggest the purchase of new ones.

2. Tappet Clearances

Check tappets and adjust if necessary to recommended clearances. Be sure that the tappet guide clamp screws are tight.

3. Oil Pump and Line Connections

Tighten oil pump, oil check valve, and pipe connections to prevent leaks.

4. Tighten Cylinder Head

Draw down cylinder head stud nuts evenly to prevent leaks at the gaskets. Also tighten water manifold and cylinder inspection plate.

5. Timing Chain Adjustment

Use special feeler wrench to determine slack in chain. Adjust chain if necessary.

6. Generator Couplings

Inspect flexible drive couplings and tighten coupling clamp bolts. If couplings are broken or twisted, owner should be advised to have them renewed.

7. Vacuum Tank

Remove and clean screen and sediment bowl. See that gasoline and suction pipe connections are tight, and that vacuum booster is not clogged.

8. Clean and Adjust Carburetor

Remove and clean carburetor screen. See that choke operates freely and that heat control is set in proper position. Make final adjustment of carburetor when engine is warm.

9. Tighten Engine Support Bolts

Remove cotter keys in front and rear engine support bolts, tighten nuts one half turn and replace cotters.

10. Generator and Starter Brushes

Inspect brushes on both generator and starter to see that they are not excessively worn and that they make good contact with commutator.

11. Generator Charging Rate

See that generator charging rate as indicated on ammeter is sufficient to keep the battery charged, under both summer and winter operating conditions. Adjust charging rate, if necessary, by moving the regulating brush. Guard against overcharging.

12. Generator and Starter Connections

Tighten electrical cable connections on generator and starter. Examine cables for faulty insulation which might cause ground or short circuit.

13. Generator Holding Band

Tighten generator holding band clamp screw so that generator is held secure on its bracket.

14. Generator Relay

See that relay operates properly. Points must be clean and should close at a car speed of approximately fifteen miles an hour.

15. Distributor Breaker Points

Examine breaker points for corrosion and pitting, and be sure that breaker arms work freely on their pivots. Space points to the correct gap, and synchronize points according to flywheel markings or by the use of a good synchronizing fixture.

16. Clean Distributor Head

Clean distributor cap both inside and out. Brighten contact strips with fine sandpaper. Be sure that high tension wire terminals are firmly pressed into position on coil and distributor cap.

17. Water Pump Gland

Tighten water pump gland nut just enough to prevent leak at this point. Adjust gland with the fingers only; as the use of a wrench may bind the shaft and throw a heavy load on the belt.

18. Fan Belt

Check fan belt for adjustment and wear. See that belt has correct tension and that pulleys are properly aligned. If the belt is worn or frayed, owner should be advised to purchase a new one.

19. Switch Box

Remove cover of lighting switch and junction box and tighten all binding screws. See that fuse clips are clean and grip fuse firmly.

20. Throttle Controls

Inspect throttle control rods and levers to see that they are adjusted correctly and operate without sticking.

21. Radiator—Summer

Carefully check radiator and hose connections for leaks and be sure that water and air circulation is unimpeded. Drain cooling system, flush, and refill with clear water.

22. Radiator—Winter

Check cooling system for leaks. Test the strength of anti-freeze solution with a hydrometer.

23. Battery

Thoroughly clean and tighten battery terminals and coat with vaseline to prevent corrosion. See that battery is tight in tray. Add distilled water to cells if necessary.

24. Lamp Inspection

Inspect all lights. Clean and tighten connections to insure good contact. See that headlamps are properly focused and tilted to conform to legal requirements.

25. Instruments

Check all dash instruments and controls to be sure they operate properly and indicate correctly.

26. Inflate Tires

Inflate tires to proper pressures for medium or high speed driving. Instruct owner to maintain these pressures.

27. Oil Reservoir Gasket

Tighten oil pan cap screws to prevent leaks at the gasket. Also tighten electric oil gauge wire connection on reservoir.

28. Clutch Pedal Adjustment

A clearance of 3/4" should exist between the clutch pedal shank and toe board. If necessary, adjust clearance by means of the adjustable link. Lubricate clutch pedal shaft to prevent sticking.

29. Tighten Pitman Arm

If the pitman arm is loose on the cross shaft, tighten by drawing up on the holding nut.

30. Drag Link Adjustment

Inspect steering connections at front and rear ends of drag link to see that the adjusting plugs are in the proper position and that the springs are not broken.

31. Universal Joint Flanges

Examine universal joint flange bolts. Be sure they are properly tightened and locked.

32. Body Bolts

Tighten body hold-down bolts securely.

33. Spring Clips

Draw up spring clip (U bolt) nuts with a large wrench to prevent spring breakage and driving instability.

34. Shackle Bolt Adjustment

Adjust shackle bolts carefully—being sure that the adjustment is neither so loose as to cause rattle nor so tight as to prevent free shackle action.

35. Shock Absorbers

Be sure that shock absorbers are tight on the frame and that there is no play in the linkage. Replenish the oil, using special shock absorber fluid.

36. Front Wheel Bearings

Check bearing adjustment. Adjust if necessary.

37. Rear Wheel Bearings

Check end play in axle shafts. Adjust if necessary by removing or inserting shims behind rear wheel bearing caps.

38. Tighten Rear Wheels

Tighten rear wheels on taper by drawing up axle shaft nut with a large socket wrench.

39. Rims and Wheels

See that wood wheel rim lugs are tight and that rims run true. Wire wheel holding bolts must be securely and uniformly tightened.

40. Brake Adjustment

Brake inspections include checking for pedal throw, checking for dragging shoes and worn lining; and the necessary adjustment to compensate for wear.

41. Steering Gear Thrust Adjustment

Make the necessary adjustments to eliminate end play in steering column and cross shaft.

42. Steering Gear Worm Adjustment

Carefully check the lash between worm and sector at the "high point," and see that this point coincides with the straight ahead position of front wheels. If adjustment is necessary, it must be made with great care.

43. Front Wheel Alignment

Use a good wheel aligning fixture to check toe-in; and if necessary adjust tie rod to obtain correct alignment.

44. Door Hinges, Locks and Strikers

Inspect for loose or squeaking hinges. See that locks operate satisfactorily. Adjust striker plates so that doors when closed are tight enough to prevent rattle without being difficult to open. Oil hinges, locks and strikers.

Essex 1000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	6	Throttle Rods—left side
6	Throttle Rods—right side	1	Engine—add Oil
11	Generator	8	Hood Lacing—left side
3	Distributor	14	Hood Locks—left side
8	Hood Lacing—right side	7	Brake Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Horn	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails

Time—25 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
5	Timing Chain Adjustment	25	Instruments
14	Generator Relay	26	Inflate Tires
17	Hose Connections	28	Clutch Pedal Adjustment
18	Fan Belt	33	Spring Clips
19	Switch Box	34	Spring Shackles
21 or 22	Radiator	39	Rims and Wheels
23	Battery	40	Brake Adjustment
24	Lamp Inspection	44	Door Hinges, Locks and Strikers

Time—20 Minutes

(To Be Performed in Order in Which They Appear)

(Plan Number 4)

Essex 2000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	1	Engine—change Oil
9	Clutch	8	Hood Lacing—left side
6	Throttle Rods—right side	14	Hood Locks—left side
11	Generator	10	Clutch Throwout Bearing
3	Distributor	7	Brake Cross Shaft
8	Hood Lacing—right side	17	Transmission
14	Hood Locks—right side	13	Universal Joints
2	Horn	6	Brake Rods
20	Fan	5	Rear Axle
4	Starter	15	Door Locks
6	Throttle Rods—left side	16	Door Dovetails
18	Steering Gear		

Time—45 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
1	Spark Plugs	32	Body Bolts
2	Tappets	9	Engine Bolts—rear
9	Engine Bolts—Front only	35	Shock Absorbers
17	Hose Connections	36	Front Wheel Bearings
18	Fan Belt	39	Rims and Wheels—front
21 or 22	Radiator	37	Rear Wheel Bearings
23	Battery	38	Tighten Rear Wheels
25	Instruments	39	Rims and Wheels—rear
26	Inflate Tires	41	Steering Gear Thrust
29	Pitman Arm	42	Steering Gear Worm
30	Drag Link	44	Door Hinges, etc.

Time—2 Hours

(To Be Performed in Order in Which They Appear)

(Plan Number 4)

Essex 3000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	6	Throttle Rods—left side
6	Throttle Rods—right side	1	Engine—add Oil
11	Generator	8	Hood Lacing—left side
3	Distributor	14	Hood Locks—left side
8	Hood Lacing—right side	7	Brake Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Horn	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails

Time—25 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
15	Adjust and Synchronize Breaker Points	25	Instruments
16	Clean Distributor Head	26	Inflate Tires
17	Hose Connections	28	Clutch Pedal Adjustment
18	Fan Belt	39	Rims and Wheels
21 or 22	Radiator	40	Brake Adjustment
23	Battery	43	Wheel Alignment
24	Lamp Inspection	44	Door Hinges, etc.

Time—1 Hour, 15 Minutes

(To Be Performed in Order in Which They Appear)

(Plan Number 4)

Essex 4000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	18	Steering Gear
9	Clutch	1	Engine—change Oil
6	Throttle Rods—right side	8	Hood Lacing—left side
11	Generator	14	Hood Locks—left side
3	Distributor	10	Clutch Throwout Bearing
8	Hood Lacing—right side	7	Brake Cross Shaft
14	Hood Locks—right side	13	Universal Joints
2	Horn	6	Brake Rods
20	Fan	15	Door Locks
4	Starter	16	Door Dovetails
6	Throttle Rods—left side		

Time—40 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
17	Hose Connections	39	Rims and Wheels
18	Fan Belt	26	Inflate Tires
23	Battery	21 or 22	Radiator
25	Instruments	44	Door Hinges, Locks and Strikers

Time—20 Minutes

(To Be Performed in Order in Which They Appear)

Essex 5000-Mile Inspection

LUBRICATION

Wall Chart Reference Number		Wall Chart Reference Number	
20	Chassis Fittings (except Fan)	8	Hood Lacing—left side
9	Clutch	14	Hood Locks—left side
6	Throttle Rods—right side	10	Clutch Throwout Bearing
11	Generator	7	Brake Cross Shaft
3	Distributor	17	Transmission—Flush and Refill
8	Hood Lacing—right side	13	Universal Joints
14	Hood Locks—right side	6	Brake Rods
2	Horn	5	Rear Axle—Flush and Refill
20	Fan	12	Front Wheel Bearings
4	Starter	19	Rear Wheel Bearings
6	Throttle Rods—left side	15	Door Locks
18	Steering Gear	16	Door Dovetails
1	Engine—add Oil		

Time—1 Hour, 15 Minutes

MECHANICAL INSPECTION

Instruction Detail Reference Number		Instruction Detail Reference Number	
	Raise right side of Hood	21 or 22	Radiator
1	Spark Plugs	23	Battery
2	Tappets—leave Air Cleaner off	24	Lamps
3	Oil Pump and Connections	25	Instruments
4	Cylinder Head Nuts—right side	26	Tires
5	Timing Chain		Jack up car front and rear
6	Generator Couplings	27	Oil Reservoir and Gauge
	Replace Carburetor Air Cleaner	28	Clutch Pedal Adjustment
7	Vacuum Tank	29	Pitman Arm
8	Carburetor	30	Drag Link
9	Engine Bolts—right Front only	31	Universal Joint Flanges
10	Generator Brushes	32	Body Bolts
11	Generator Charge Rate	33	Spring Clips
12	Generator Connections	9	Engine Bolts (Rear Bolts, both sides)
13	Generator Holding Band	34	Spring Shackles
14	Generator Relay	35	Shock Absorbers
15	Distributor Points	36	Front Wheel Bearings
16	Distributor Head	39	Rims and Wheels—front
	Lower right side of Hood	37	Rear Wheel Bearings
	Raise left side of Hood	38	Tighten Rear Wheels
4	Cylinder Head—left side	39	Rims and Wheels—rear
9	Engine Bolts—left Front only	40	Brakes
17	Hose Connections	41	Steering Gear Thrust
18	Fan Belt	42	Steering Gear Worm Adjustment
10	Starter Brushes		Lower Car
12	Starter Connections		Lower Hood
19	Switch Box	43	Align Front Wheels
20	Throttle Control	44	Door Hinges, etc.

Time—4 Hours

(To Be Performed in Order in Which They Appear)

Essex Mechanical Inspection

Instruction Details

OPERATIONS

1. Spark Plugs

Remove and clean spark plugs and adjust gap to correct clearance. If plugs are old or points badly corroded, suggest the purchase of new ones.

2. Tappet Clearances

Check tappets and adjust if necessary to recommended clearances. Be sure that the tappet guide clamp screws are tight.

3. Oil Pump and Line Connections

Tighten oil pump, oil check valve, and pipe connections to prevent leaks.

4. Tighten Cylinder Head

Draw down cylinder head stud nuts evenly to prevent leaks at the gasket. Also tighten water manifolds and cylinder inspection plates.

5. Timing Chain Adjustment

Use special feeler wrench to determine slack in chain. Adjust chain if necessary.

6. Generator Coupling

Inspect flexible drive coupling and tighten coupling clamp bolts. If coupling is broken or twisted, owner should be advised to have it renewed.

7. Vacuum Tank

Remove and clean screen and sediment bowl. See that gasoline and suction pipe connections are tight, and that vacuum booster is not clogged.

8. Adjust Carburetor

See that choke operates freely and that heat control is set in proper position. Make final adjustment of carburetor when engine is warm.

9. Tighten Engine Support Bolts

Remove cotter keys in front and rear engine support bolts, tighten nuts one half turn and replace cotters.

10. Generator and Starter Brushes

Inspect brushes on both generator and starter to see that they are not excessively worn and that they make good contact with commutator.

11. Generator Charging Rate

See that generator charging rate as indicated on ammeter is sufficient to keep the battery charged, under both summer and winter operating conditions. Adjust charging rate, if necessary, by moving the regulating brush. Guard against overcharging.

12. Generator and Starter Connections

Tighten electrical cable connections on generator and starter. Examine cables for faulty insulation which might cause ground or short circuit.

13. Generator Holding Band

Tighten generator holding band clamp screw so that generator is held secure on its bracket.

14. Generator Relay

See that relay operates properly. Points must be clean and should close at a car speed of approximately fifteen miles per hour.

15. Distributor Breaker Points

Examine breaker points for corrosion and pitting, and be sure that breaker arm works freely on its pivot. Clean points and adjust gap.

16. Clean Distributor Head

Clean distributor cap both inside and out. Brighten contact strips with fine sandpaper. Be sure that high tension wire terminals are firmly pressed into position on coil and distributor cap.

17. Water Hose Connections

Water hose connections should be in good condition and free from leaks. Tighten hose clamp screws. If hose is found to be damaged, owner should be advised to have it replaced.

18. Fan Belt

Check fan belt for adjustment and wear. See that belt has correct tension and that pulleys are properly aligned. If the belt is worn or frayed, owner should be advised to purchase a new one.

19. Switch Box

Remove cover of lighting switch and junction box and tighten all binding screws. See that fuse clips are clean and grip fuse firmly.

20. Throttle Controls

Inspect throttle control rods and levers to see that they are adjusted correctly and operate without sticking.

21. Radiator—Summer

Carefully check radiator and hose connections for leaks and be sure that water and air circulation is unimpeded. Drain cooling system, flush, and refill with clear water.

22. Radiator—Winter

Check cooling system for leaks. Test the strength of anti-freeze solution with a Hydrometer.

23. Battery

Thoroughly clean and tighten battery terminals and coat with vaseline to prevent corrosion. See that battery is tight in tray. Add distilled water to cells if necessary.

24. Lamp Inspection

Inspect all lights. Clean and tighten connections to insure good contact. See that headlamps are properly focused and tilted to conform to legal requirements.

25. Instruments

Check all dash instruments and controls to be sure they operate properly and indicate correctly.

26. Inflate Tires

Inflate tires to proper pressures for medium or high speed driving. Instruct owner to maintain these pressures.

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Tighten oil pan cap screws to prevent leaks at the gasket. Also tighten electric oil gauge wire connection on reservoir.

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Examine universal joint flange bolts. Be sure they are properly tightened and locked.

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Check bearing adjustment. Adjust if necessary.

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Check end play in axle shafts. Adjust if necessary by removing or inserting shims behind rear wheel bearing caps.

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