Nash

TECHNICAL SERVICE MANUAL

SUPPLEMENT

Nash-Healey

Inside of front cover - no image

Supplement to the Nash 1950 Technical Service Manual

FOREWORD

This manual supplement is designed to provide complete Nash-Healey service information when used in conjunction with the Nash 1950 Technical Service Manual.

The section desired may be quickly located through the use of the group index on the following page. An operational index is listed at the forepart of the body section for detailed reference.

This manual supplement should be kept in a convenient location, together with the Nash 1950 Technical Service Manual, so that complete information for Nash automobiles will be at the mechanic's disposal for best service to Nash owners.

NASH MOTORS
DIVISION OF NASH-KELVINATOR CORPORATION
DETROIT 32, MICHIGAN

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TECHNICAL SERVICE MANUAL

for the

1951 NASH-HEALEY SPORTS CAR

Division of
Nash-Kelvinator
Corporation
Detroit, Michigan
U. S. A.

NAS-51-737—3M—8-51 LITHOGRAPHED IN U.S.A.

GROUP INDEX

ENGINE SECTION

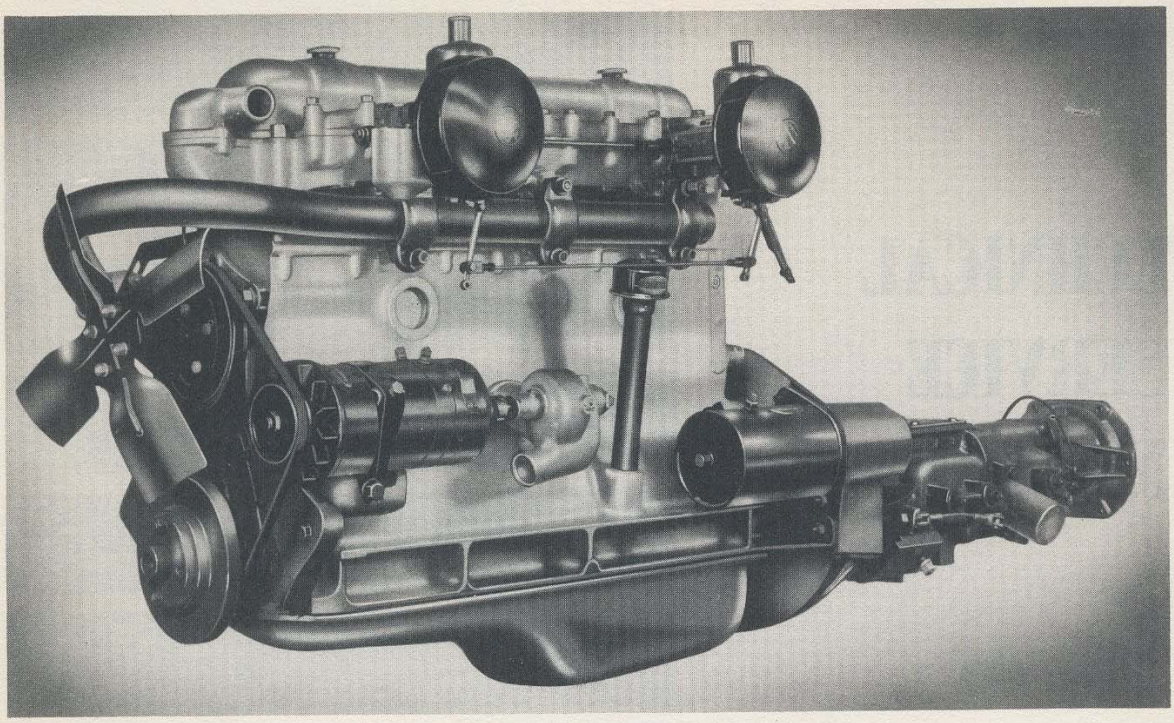


FIGURE 1—*Engine Assembly.*

The basic difference between the Nash-Healey and "Ambassador" engines exists in the cylinder head construction and carburetion. With the added exceptions of the push rod length, rocker arm support blocks, and valve guide retaining lock rings the engines are identical.

CYLINDER HEAD

The cylinder head is of cast aluminum with steel valve seat inserts.

To remove valve seat inserts, deburr the peaning and drill two holes 180° apart not quite through the insert; use a drill slightly smaller than the seat insert width. Cut the insert through the rest of the material with a sharp chisel removing the insert in two pieces.

To install valve seat inserts, the cylinder head should be uniformly heated to approximately 350° and the seat insert cooled in a dry ice pack approximately 15 minutes. The insert will then readily drop into its bore. Be sure insert sits squarely in its bore, and pean in place with blunt-end, ball-shaped punch; then, grind seat concentric to guide.

Valve guide installation is the same as the "Ambassador" series, with the use of Tool #J-4687, with guides driven to a depth which permits $^{25}/_{32}$" protrusion. This is controlled by the driving tool.

CAUTION: *When removing valve guides, drive upward from the combustion chamber to release the valve guide lock ring seated in a counterbore in the cylinder head.*

CYLINDER HEAD TORQUE

Tighten cylinder head stud nuts to 55-60 foot-pounds torque with cylinder head at room temperature.

ENGINE REMOVAL

The engine assembly is removed through the hood opening after removing the hood, radiator core, fan assembly, and exhaust pipe.

Separate the engine at the clutch housing.

Remove the front engine supports from the frame and engine to obtain additional movement of the engine for alignment of the clutch shaft during removal and replacement of the engine.

ENGINE SECTION—NASH-HEALEY SPORTS CAR

ENGINE SPECIFICATIONS

Type	Valve-in-Head
No. of Cylinders	6
Bore Size	3 3/8"
Stroke	4 3/8"
Piston Displacement	234.8 cu. in.
Compression Ratio	8.1:1
Compression Pressure at Cranking Speed	130# +
H.P. SAE Brake	125 @ 4000 R.P.M.
Engine Lubrication	Pressure

OIL SYSTEM

Oil Pump Type	**Gear**
Normal Oil Pressure	30# @ 20 M.P.H. 12# min. @ 600 R.P.M.
Oil Pressure Release	50-58#
Engine Oil Refill Capacity	6 qts.

CRANKSHAFT AND BEARINGS

Bearing Type	**Replaceable**
No. of Main Bearings	7
Main Bearing Oil Clearance	.002"
Diameter of Journal	2.479"
Shaft End Play	.006"-.008"
End Thrust Taken by	Center Main
Bearing Cap Adjustment	66-70 ft. lbs. (dry)

VALVE SPECIFICATIONS

Stem Diameter	.3725″
Stem to Guide Clearance	.002″-.004″
Head Diameter Intake	$1\frac{25}{32}$″
Head Diameter Exhaust	$1\frac{15}{32}$″
Seat Angle	
Intake	30°
Exhaust	45°
Valve Face Angle	
Intake	29°
Exhaust	44°
Valve Seat Width	
Intake	$\frac{3}{32}$″
Exhaust	$\frac{7}{64}$″
Valve Spring Free Height	$2\frac{1}{16}$″
Valve Spring Pressure	
Valve Open	144-154# @ $1\frac{7}{16}$″
Valve Closed	53-58# @ $1\frac{13}{16}$″
Spring Retainer Lock	Split—2 Piece
Tappet Clearance	
Running Hot	012″ int. .016″ ex.

PISTON RINGS

No. of Rings per Piston	4
End Gap. Min. (except "U-Flex" ring)	.010″-.015″
Compression Ring Width	$\frac{3}{32}$″
Oil Ring Width	$\frac{5}{32}$″
Compression Ring Side Groove	
Clearance in Ring Groove	.002″-.004″
Oil Ring Side Clearance in Groove	.002″-.004″

CONNECTING ROD AND BEARINGS

Bearing Type	Replaceable
Bearing Clearance	.001″-.0025″
Crank Pin Diameter	2.000″
Bearing End Play	.006″-.014″
Bearing Cap Adjustment	50-55 ft. lbs. (dry)
Piston Pin Diameter	$\frac{.8748}{.8745}$
Cylinder Head Torque	55-60 ft. lbs. cold (dry)
Rocker Arm Shaft Screw Torque	20-25 ft. lbs. (dry)

ENGINE SECTION—NASH-HEALEY SPORTS CAR

TUNE-UP DATA

Engine Idle	R.P.M. 600-650
Ignition Timing	T.D.C. Marking on Vibration Dampener
Breaker Point	.018″-.024″
Cam or Dwell	Angle 31°-37°
Valve Lash	.012″ Intake .016″ Exhaust Engine at Operating Temperature
Spark Plugs	Auto-Lite AL-5 Set Gap at .030″
Spark Plug Torque	25 ft. lbs. (dry)
Compression Pressure at Cranking Speed	130 lbs. + Engine at Operating Temperature
Float Level	Adjust to Obtain a Fuel Level ⅛″ to ¼″ Below the Bridge in Each Carburetor

ELECTRICAL SECTION

DISTRIBUTOR—DELCO REMY MODEL #1110225

Complete specifications and spark advance curves are contained in the 1950 Technical Service Manual.

The Model #1110225 breaker plate rests on three bakelized supports which also serve as bearings on which the plate rotates. The breaker plate is secured to the support plate by means of retainer springs and washers.

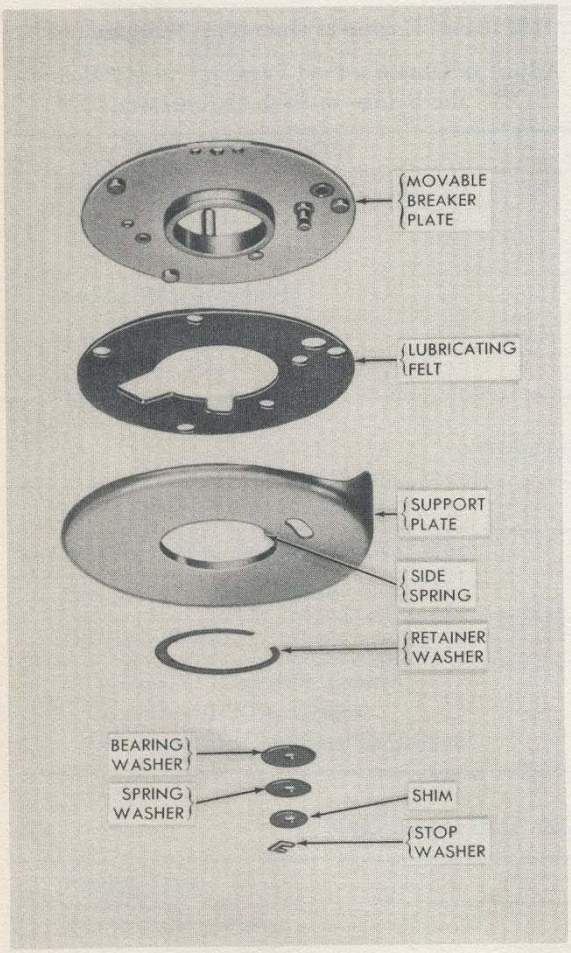


FIGURE 1—*Breaker Plate Assembly Components.*

SERVICING BREAKER PLATE ASSEMBLY

If the breaker plate assembly should develop sufficient looseness to permit tipping and rattling in operation, it will be necessary to increase the spring tension by adding one or more shims to the post carrying the spring washer (Fig. 1). Care must be exercised in making this adjustment, since the pull required to move the breaker plate must be not less than 8 ounces, or more than 20 ounces (Fig. 2).

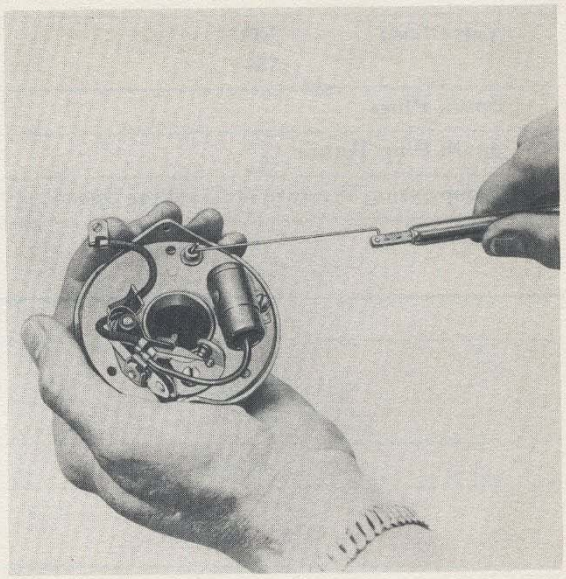


FIGURE 2—*Checking Breaker Plate Looseness.*

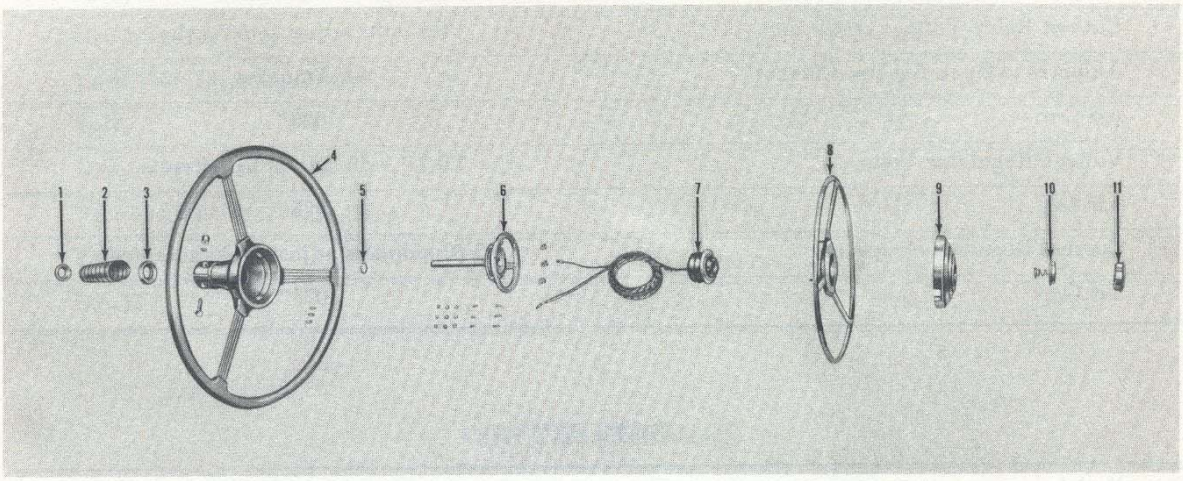
The vacuum control linkage must be fitted to the connector bearing on the breaker plate in such a manner that there is no upward or downward thrust on the plate when the vacuum control operates.

When the breaker plate assembly is completely disassembled, it will be necessary to take care that the side spring is not dislodged from its recess in the edge of the center hole in the support plate. This small spring helps to prevent sideplay in the breaker plate assembly and also contributes to the overall tension of the assembly.

Individual breaker and support plates are not serviced separately. It is necessary to replace the breaker plate assembly if either part becomes damaged or worn.

Saturate lubricating felt with light engine oil (#10W) at time of overhaul. At 5,000 mile intervals, add one drop of light engine oil to lubricate felt. Avoid excessive lubrication.

DISASSEMBLY OF HORN BLOWING AND OVERDRIVE KICKDOWN SWITCH ASSEMBLY



1. Lower Telescopic Adapter Cap
2. Telescopic Adapter
3. Upper Telescopic Adapter Cap
4. Steering Wheel
5. Snap Ring, Steering Wheel Retaining
6. Horn Ring Retainer
7. Overdrive Kickdown Switch and Horn Contact Assembly
8. Horn Ring
9. Steering Wheel Cap
10. Kickdown Button Assembly
11. Kickdown Button Retainer

FIGURE 3—*Horn Blowing and Overdrive Kickdown Control.*

The horn blowing and overdrive kickdown switch assembly can be removed and disassembled without the removal of the steering wheel.

Detach horn blowing and overdrive kickdown lead wires from connector in engine compartment.

Remove the three set screws that retain the horn ring retainer to steering wheel hub (Fig. 3), and remove the retainer, horn ring, and kickdown switch from the steering wheel as an assembly.

With a strong knife, blade, or thin screw driver tip, pry the overdrive kickdown button retainer from the steering wheel cap (be careful of paint surface) and remove button assembly.

Remove three attaching screws from back of horn ring retainer, which thread into steering wheel cap, and remove cap.

Remove the nuts, washers, and springs which hold the horn ring to horn ring retainer, and remove the horn ring.

Remove the three screws from the horn ring retainer, which thread into the kickdown button and horn contact assembly, and remove the horn contact and overdrive kickdown contact assembly.

Reverse the above procedure for assembly.

NOTE: *The horn blowing circuit is completed to ground through the steering wheel hub. The overdrive kickdown circuit is completed to ground through the electrical wire conduit tube.*

SPECIFICATIONS

GENERATOR

Model	Delco-Remy #1102730
Type	Shunt
Rotation	RH Drive End
Brush Spring Tension	Approx. 25 Ounces
Max. Controlled Charging Rate (Controlled by Current Setting)	32-40 Amps

VOLTAGE REGULATOR

Model	Delco-Remy #1118302
Cut-out Relay Voltage at Closing	5.9 volts adjust to 6.2 volts
Amperes to Open Reverse Current	4-6 Amperes
Air Gap	.020″
Voltage Regulator Volts	7.0-7.7 volts adjust to 7.4 volts
Air Gap	.075″
Current Regulator Amperes	32-40 amperes adjust to 36 amperes
Air Gap	.075″

BATTERY

Model	Auto-Lite
Ampere Hours: 20 Hour Rating	105
Amperes: 20 Minute Rating	133
No. of Plates	15

DISTRIBUTOR

Model	Delco-Remy #1110225
Max. Automatic Advance (District. Degrees R.P.M.)	14° at 1350 R.P.M.
Max. Vacuum Advances Degrees (Dist. Vacuum Inches)	6°
Vacuum in Inches + or — 1″	15 inches
Dwell Angle	35°
Rotation	RH
Breaker Gap	.018″-.024″
Breaker Arm Tension	17-21 ounces
Timing, Breaker Points Open	T.D.C.
Timing Mark Location	Vibration Dampener
Firing Order	153624
Spark Plug Make	Auto-Lite
Model	AL-5
Thread	14 mm
Spark Plug Gap	.030″
Condenser Capacity	.18-.23 Mfd.

STARTING MOTOR

Model	Delco-Remy #1107950
Brush Spring Tension	24-28 Ounces
Lock Test Amperage Draw	600
Volts	3.0
Torque in Foot-Pounds	16
No Load Test Amperage Draw	60
Volts	5.0
R.P.M.	6000

CIRCUIT BREAKER

For Main Wiring Circuit	30 Amperes (Located on Light Switch)
For Stop Lights and Overdrive Relay	20 Amperes (Located on Left Rear Side of Hood Opening)

FUEL-CARBURETION SECTION

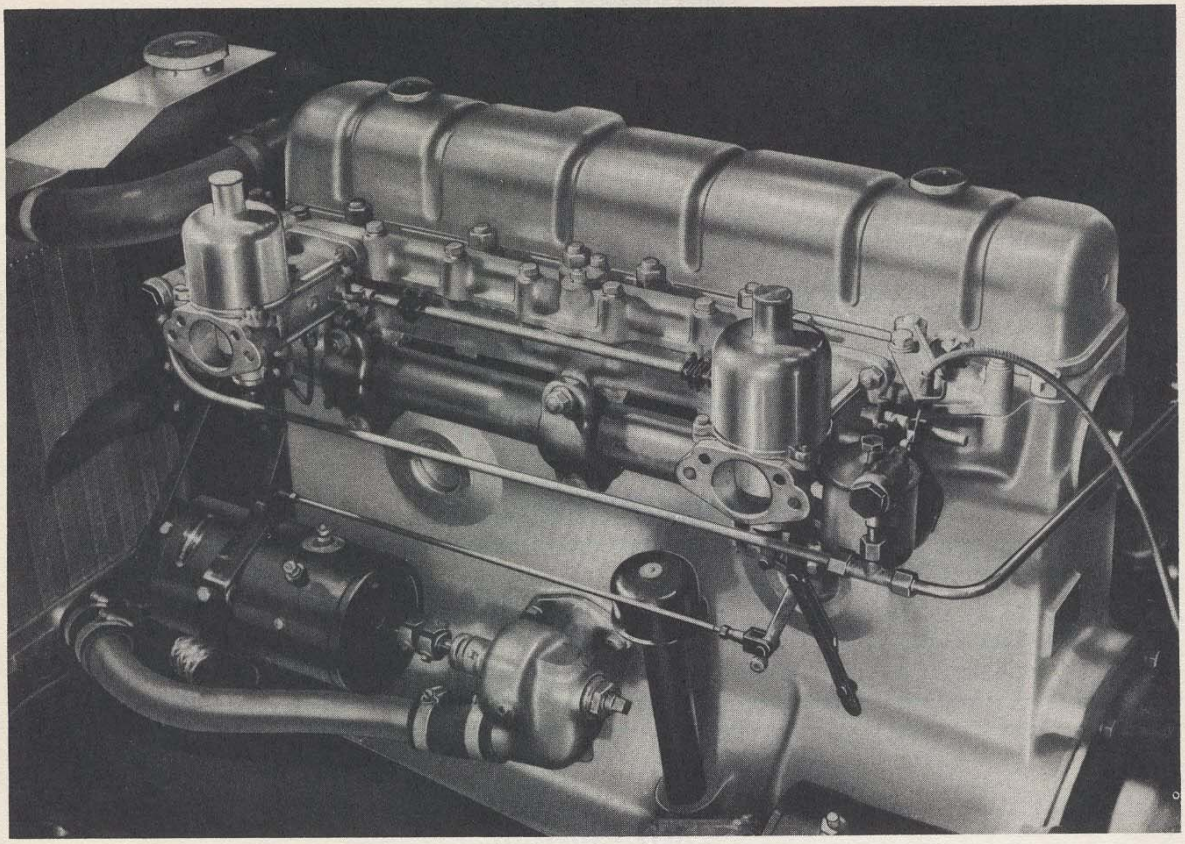


FIGURE 1—*Horizontal Type S.U. Carburetors.*

THE S.U. CARBURETOR— GENERAL DESCRIPTION

The S.U. carburetor is of the automatic expanding choke type in which the cross-sectional area of the main air passage adjacent to the fuel jet, and the effective orifice of the jet is variable. This variation takes place in accordance with the demand of the engine as determined by the degree of throttle opening, the engine speed, and load.

An approximate constant air velocity and an approximate constant degree of low pressure is maintained at all times in the region of the fuel jet. This velocity is such that the air flow demanded by the engine, in order to develop its maximum power, is not appreciably impeded although good atomization of the fuel is assured under all conditions of speed and load.

The maintenance of a constant high air velocity across the jet, even under idling conditions, eliminates the necessity for a separate idling jet. A single jet only is used in the S.U. carburetor.

CONSTRUCTION

The main constructional features of the carburetor in its simplest form (Fig. 2), illustrates a typical horizontal-type carburetor. This diagram illustrates the main body, butterfly throttle, automatically expanding choke, and variable fuel-jet arrangement. It also illustrates the means whereby the jet is lowered through the use of a manual control to effect enrichment of the mixture for starting and warming up. A float-chamber of the type normally employed is also illustrated.

Figure 2 illustrates a butterfly throttle mounted on a spindle located close to the engine attachment flange at one end of the main air passage, and an adjustable idling stop screw arranged to prevent complete closure of the throttle, thus regulating the flow of mixture from the carburetor under idling conditions. A piston is mounted toward the other end of the main passage. This piston is enlarged at its upper end and slides within the bore of the suction chamber, while its lower part constitutes a shutter, restricting the cross-sectional area of the main air passage in the vicinity of the fuel jet as the piston falls. Mounted at the bottom of the piston is a tapered needle which is retained by means of a set-screw.

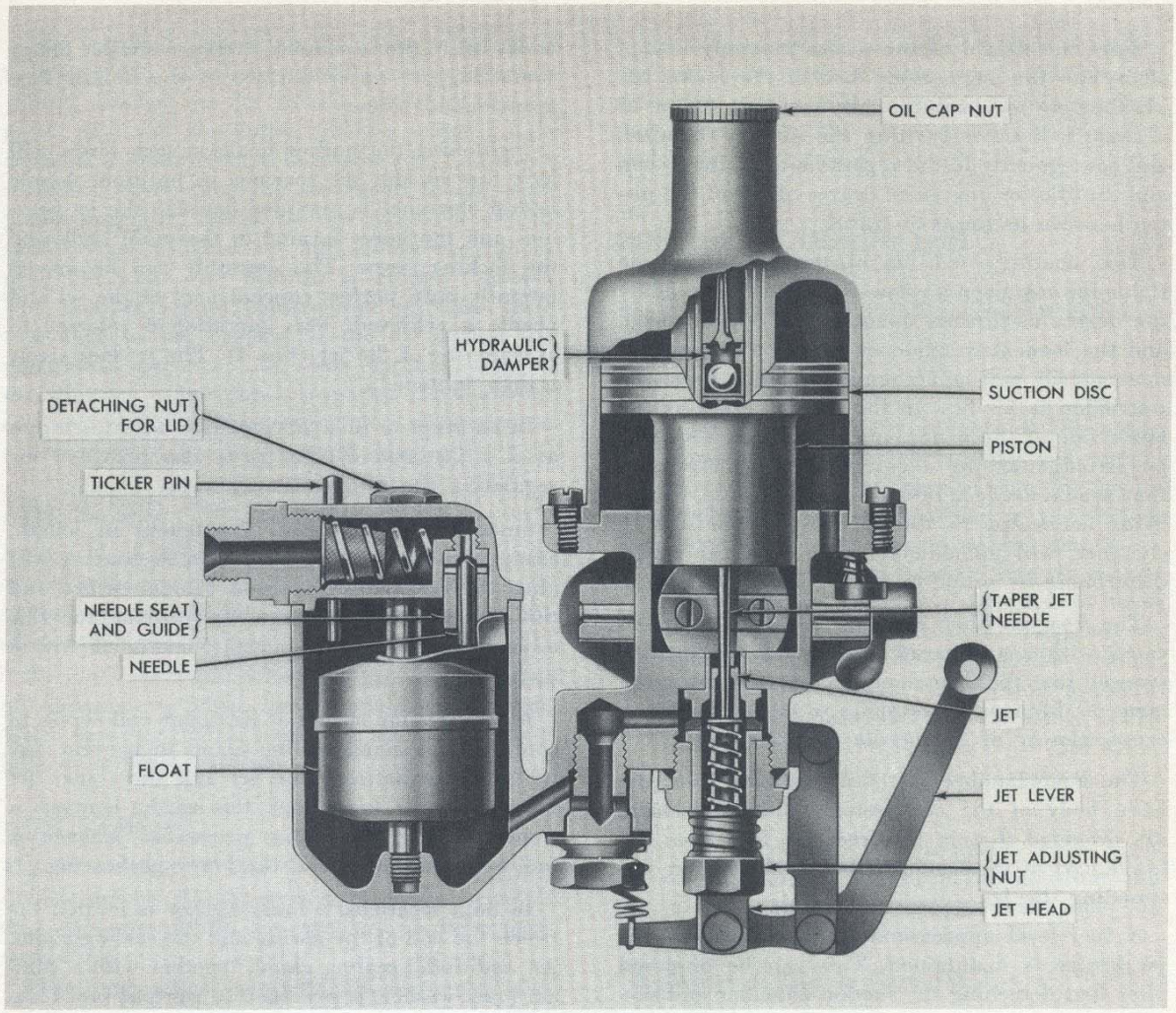


FIGURE 2—*Cross Sectional View—S.U. Carburetor.*

The piston is carried upon a central spindle, which is mounted within a bushing fitted in the central boss, forming the upper part of the suction chamber casting.

An extremely accurate fit is provided between the spindle and the bushing in the suction chamber, so that the enlarged portion of the piston is held out of contact with the bore of the suction chamber within which it operates with an extremely fine clearance. Similarly, the needle is restrained from contacting the bore of the jet which it penetrates, moving in correspondence with the rise and fall of the piston. As the piston rises, the air passage in the neighborhood of the jet becomes enlarged and passes an additional quantity of air. Provided the needle is of proper tapered form, its simultaneous withdrawal from the jet insures delivery of the required proportion of fuel corresponding to any given position of the piston, and hence to a given air flow.

In the absence of any positive vacuum force, the piston, by its own weight in certain cases assisted by the light compression spring, will occupy its lowest position, two slight protuberances on its lower face contacting the bottom surface of the main air passage adjacent to the jet. The surface in this region is raised somewhat above the general level of the main bore of the carburetor and is referred to as the "bridge."

Raising of the piston is achieved by means of the induction vacuum which takes effect within the suction chamber, and thus upon the upper surface of the enlarged portion of the piston. Passages in the lower part of the piston connect this region and that lying between the piston and the throttle. The annular space beneath the enlarged portion of the piston is completely vented to atmosphere by ducts not indicated in the diagram.

Since the weight of the piston assembly is constant, and the augmenting load of the spring approximately so, a substantially constant degree of vacuum will prevail within the suction chamber, and consequently in the region between the piston and throttle for any given degree of lift of the piston between its limits of travel.

This floating condition of the piston will be stable for any given air-flow demand as imposed by the degree of throttle opening, the engine speed, and the load. Any tendency of the piston to fall momentarily will be accompanied by an increased restriction to air flow in the space limited by the lower side of the piston and the bridge. This will be accompanied by a corresponding increase in the vacuum between the piston and throttle, which, being connected to the interior of the suction chamber, will immediately counteract the initial disturbance by proportionately raising the piston.

The float-chamber contains a needle valve located within a separate seat which in turn is screwed into the float-chamber lid. Upward movement of the float, in response to rising fuel level, causes closure of the needle upon its seat.

The float-chamber is a unit separate from the main body of the carburetor. Suitable passages are provided therein to direct the fuel from the lower part of the float-chamber to the region surrounding the jet.

A fuel level approximately 1/8 inch below the jet bridge is maintained. This can be observed after first detaching the suction chamber and suction piston, and then lowering the jet to its full rich position. The level can vary a further 1/4 inch downwards without any ill effects.

Under idling condition, the piston is completely dropped, being then supported by the two small protuberances provided on its lower surface, which are in contact with the bridge; the small gap thus formed between piston and bridge permits the flow of sufficient air to meet the idling demand of the engine without creating enough vacuum in the regions required to raise the piston.

The fuel discharge required from the jet is very small under these conditions; therefore, the diameter of that portion of the needle now obstructing the opening of the jet is nearly equal to the jet bore. Perfect concentricity of the needle and the jet bore in manufacturing is impracticable. An individual adjustment for this is provided. The jet is not mounted directly in the main body, but is housed in the jet bearings.

The upper jet bearing is provided with a flange which forms a face seal against a recess in the body, while the lower one carries a similar flange contacting the upper surface of the hollow hexagon locking screw.

Tightening the hollow hexagon lock screw will lock the jet and jet bearings in position. Ample lateral clearance is provided between the jet bearings and the bores formed in the main body and the locking screw. The assembly can be moved laterally until perfect concentricity of the jet and needle is achieved. This operation is referred to as centering of the jet (Fig. 3). The jet lock screw is then tightened.

In addition to this concentricity adjustment, an axial adjustment of the jet is also provided for regulating the idling mixture ratio.

Since the needle tapers throughout its length, raising or lowering the jet within its bearing will alter the effective opening of the jet orifice and the rate of fuel discharge. To provide for this adjustment, the jet is movably mounted within its bearings.

A compression spring at its upper end serves to compress the small sealing gland to prevent any fuel leakage between the jet and the upper jet bearing. At its lower end, this spring contacts a similar sealing gland, thus preventing leakage of fuel between the jet and the lower jet bearing.

In both locations, a brass washer is located between the end of the spring and the sealing gland. An additional sealing gland, together with a conical brass washer, is provided to prevent fuel leakage between the jet screw and the main body.

The upward limit of movement of the jet is determined by he position of the jet-adjusting nut. The enlarged jet head finally contacts this nut as the jet is moved upwards towards the "lean" position.

The adjustment of the nut determines the idling mixture ratio setting of the carburetor after the jet has been fully raised and returned to its normal running position by means of the manual starting and cold-running control.

The manual mixture control for starting and cold-running is connected to the main body by a link member and attached by means of a clevis pin to the jet head. A tension spring is provided to assist in returning the jet-moving mechanism to its normal running position.

Passages in the float-chamber bolt, the main body, the jet, and slots in the upper jet bearing serve to conduct fuel from the float-chamber to the jet orifice.

The spindle upon which the piston is mounted is hollow and contains a small stationary damper piston attached to the suction chamber cap by means of a rod. The hollow interior of the spindle contains a quantity of thin engine oil. The slight retarding effect upon the movement of the main piston assembly, caused by the resistance of this small piston, provides the momentary enrichment desirable when the throttle is quickly opened. The damper piston construction provides little resistance to the passage of the oil during the downward movement of the main piston. A throttle-edge connection is provided (on the front carburetor) for use in conjunction with vacuum operated ignition advance mechanism.

AIR BLEED TO JET CHAMBER

An air bleed for the jet protrudes from the side of the carburetor body. Its purpose is to provide better mixture stability under certain conditions of throttle opening.

Normal care requires keeping the air bleed free of obstructions which may impair carburetion. When cleaning the air bleed, the size of the bleed hole *must not* be altered.

ADJUSTMENT

The adjustment of the S.U. carburetor is very simple. Before adjustment is attempted, determine that all parts, needle, jet, etc., are of the proper standard size.

The only adjustment then is centering the needle in the jet and adjusting the jet properly for correct idling.

If the engine then runs poorly after running properly before, do not change the needle because generally this would not be the cause.

For idle, the jet location must be adjusted by means of the jet adjusting nut until best running idle is obtained. After this adjustment, the whole range of operation is set. This adjustment determines whether or not economy and good performance are obtained.

In the event a needle change is desired, a larger needle will give a leaner mixture while the smaller needle will give the richer mixture. The effect of a needle change is reflected through the carburetor's entire operating range. The needles are stamped on their upper shank for identification.

THE HYDRAULIC SUCTION PISTON DAMPENER

The Hydraulic suction piston dampener (Fig. 2) is located in the hollow piston rod and attached to the oil cap nut. It consists of a plunger with a one way valve. Its operation is to restrain quick movement of the rising piston to enable acceleration enrichment. The oil reservoir must be serviced with thin oil once a month.

POSSIBLE CARBURETOR DIFFICULTIES

The four points of possible carburetor difficulty are outlined below:

1. Piston Sticking

   The piston assembly consists of the piston forming the choke, the needle, and suction disc. A piston rod inserted into the piston slides in a bearing provided in the suction chamber. The only parts making contact are the piston rod in its bearing. The other parts have sufficient clearance provided so tendency to stick is eliminated. Therefore, to correct a sticking piston condition, remove the suction chamber and piston assembly and clean thoroughly. On reassembly, *lubricate* the piston rod bearing *only* with a few drops of thin oil. Refill the oil reservoir after assembly.

   To check for a sticking piston, insert finger through the air intake and lift the piston and allow it to fall, returning to its seat. The piston should move freely.

2. Water or Dirt in Carburetor

   When dirt or water is suspected, first wash out with gasoline. This can be done by raising the piston and, by means of the tickler pin, flowing gasoline through the carburetor and out of the jet. If this cannot be done, dirt or an obstruction is in the passages or jet. Start engine and with fairly high RPM, hold the piston up, and with the hand, shut off the air intake. This can be done several times. The high vacuum applied on the jet will, in most cases, free the jet and passages of dirt. If this procedure does not correct the condition, the jet must be disassembled and cleaned. When reassembly is made, the jet *must be centered.*

3. Jet Not Centered

   This is the most important assembly operation on this type of carburetor. When centering the jet, remove the pin at base of the jet which connects jet head to the jet operating lever. Remove jet, jet adjusting nut, and adjusting nut spring (Fig. 3).

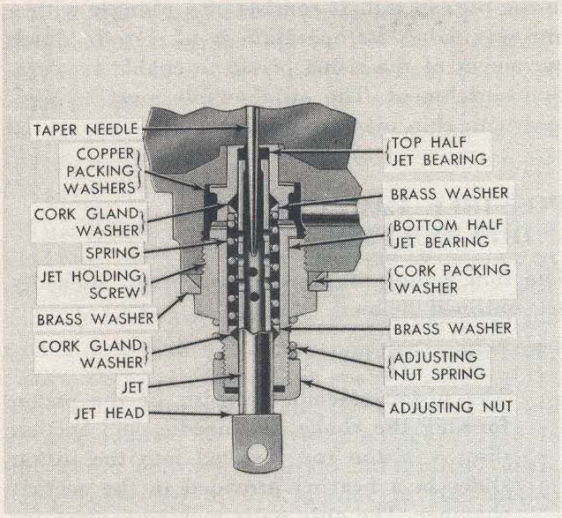


FIGURE 3—*Jet Assembly.*

Replace the adjusting nut without its spring and screw it up to its highest position. At this point, the piston must be perfectly free. If it is not, loosen the jet screw and move the lower part of the assembly including the projecting part of the bottom half jet bearing, adjusting nut, and jet head. Be sure that at this time this assembly is slightly loose. The piston should now rise and fall freely because the needle can now move the jet into the required central location. Tighten the jet screw and recheck the piston for free operation. Repeat the operation of centering if the piston is still not perfectly free.

After perfect centering of the jet is obtained, remove the jet adjusting nut, install the spring, and screw the adjusting nut back to its proper location.

4. Carburetor Float Chamber Flooding

This is caused either by dirt below the float needle valve on its seat, or a leaky float. Dirt can usually be flushed from the needle valve seat by actuating the tickler pin. When this condition exists, the first indication is fuel leakage and dripping at the air inlet.

STARTING THE ENGINE

A mixture control is provided to allow enrichment of the fuel-air mixture upon a cold start by lowering the jet. Place this control in the rich position and open the throttle slightly more than normal. Turn on the ignition and start the engine. Leave the mixture control in the rich position only as long as necessary.

For a warm start, use of the mixture control is not required.

SYNCHRONIZING THE TWIN S. U. CARBURETORS

Before attempting to tune the carburetors, make sure all other engine adjustments are correct.

Check carburetors for fuel level in jets and centering of jet assemblies. Check pistons for freeness of operation.

Now loosen the clamping mechanism linking the two carburetor throttles together.

Disconnect the mixture control linkage by removing one of the fork swivel pins (Fig. 4). Remove the suction chambers. Check to see that the needles are in the same position in both pistons and that the jets are the same distance below the bridge in both carburetors when they are pushed up against their adjusting nuts. Replace the suction chambers.

Back-off or unscrew the throttle adjustment speed screws until the screws will just hold a thin piece of paper between their tips and the stop lugs; then screw them in one complete turn.

Start the engine and run it until normal operating temperature is reached. Adjust the engine speed by moving each throttle adjusting screw an equal amount until desired RPM is obtained. To synchronize the throttle opening, adjust the throttle stop screws by listening to air noise at air inlets. If the hiss is louder on one than on the other, unscrew its throttle adjusting screw until the sound level is equal. When throttle synchronization adjustment has been obtained, set the idle speed again to the desired RPM. Then adjust the idle mixture on both carburetors until smoothest RPM and best exhaust is heard. Resetting of the throttle speed screws may be required due to improved idle mixture adjustment giving higher RPM.

To check the idle mixture, raise the piston of one carburetor. The engine should run roughly. If lifting the piston of one carburetor stops the engine and lifting the other piston does not, the mixture on the first carburetor is too lean and should be enriched.

Before reconnecting the mixture control linkage, be sure the jets are firmly up against the jet adjusting nuts. Check the linkage in this condition so that the linkage clevis pins will slide freely in their operating holes. Lengthen or shorten, if necessary, to obtain the proper mixture linkage adjustment while the jets are in the proper idle position.

Tighten the throttle connector clamping bolt.

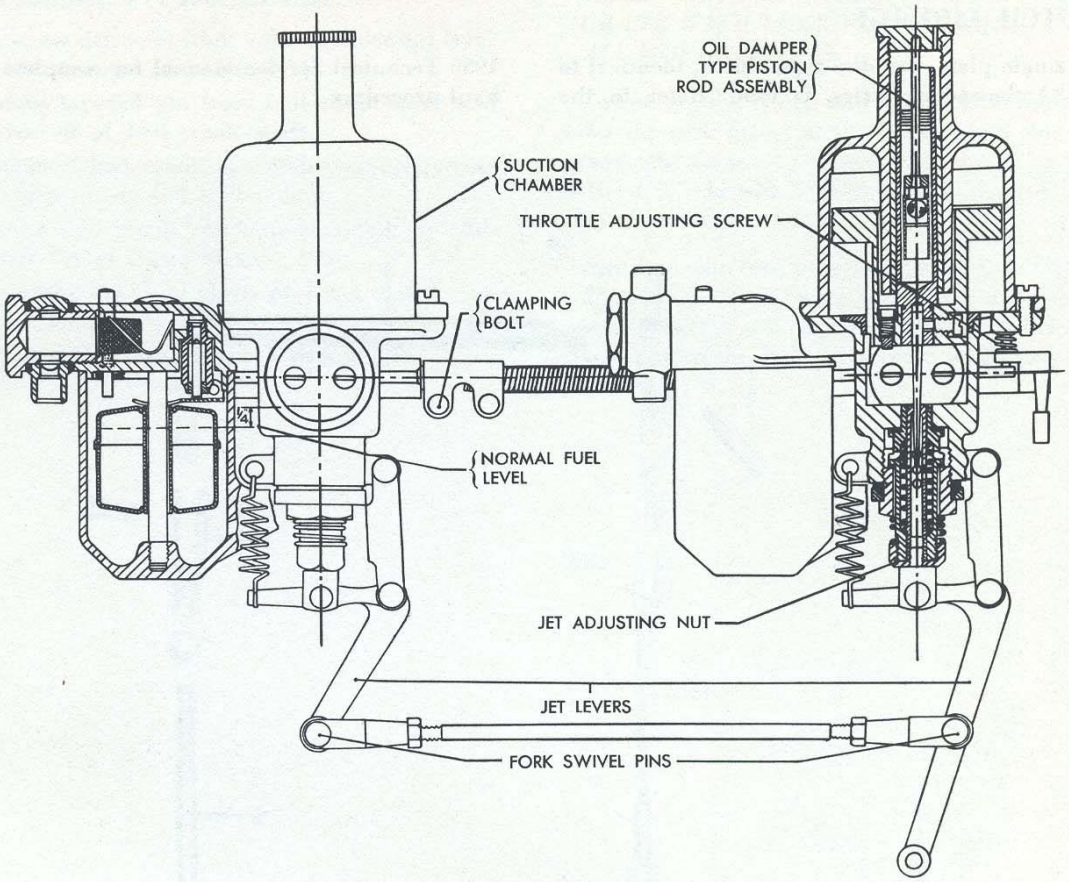
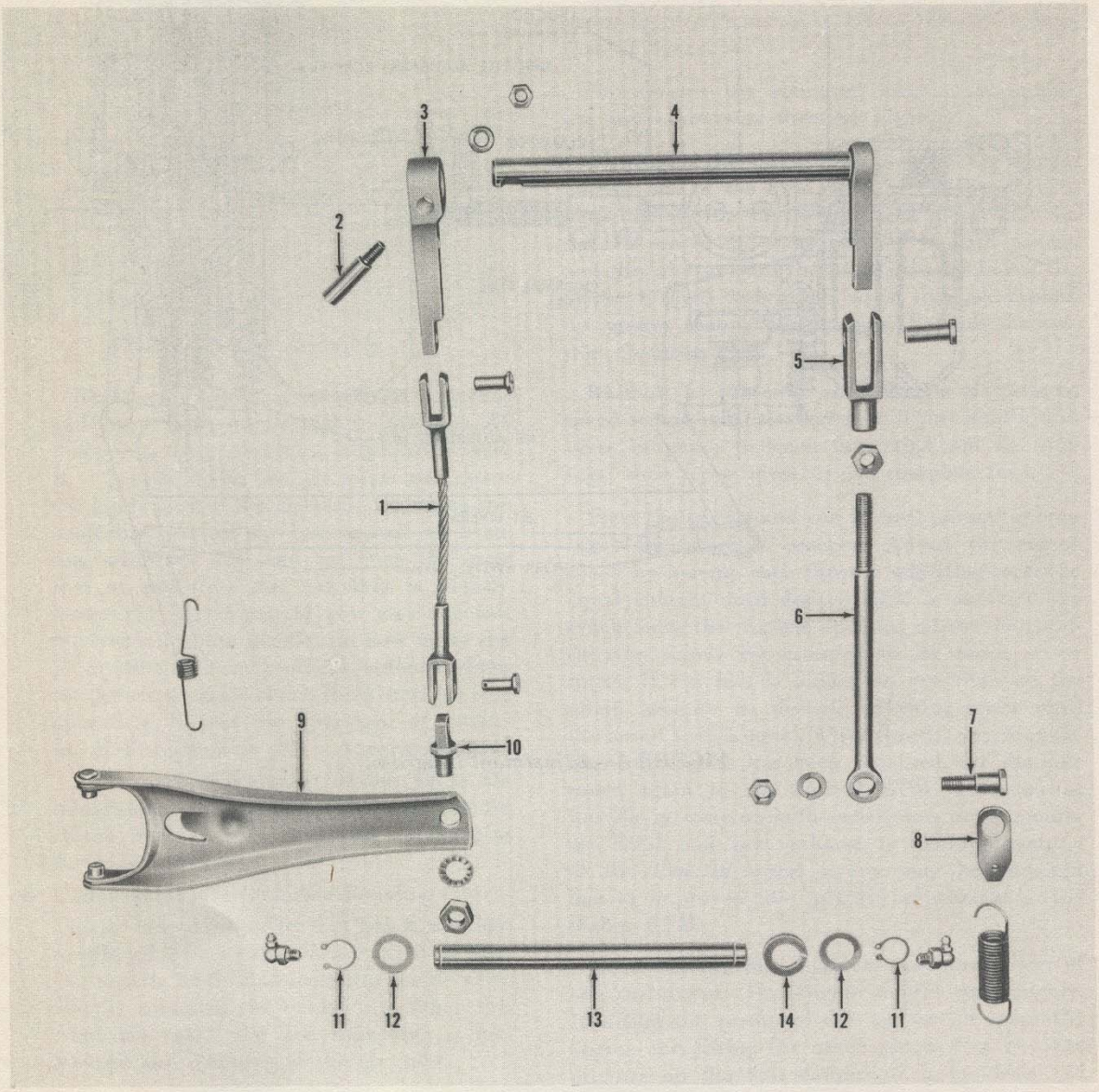


FIGURE 4—*Adjustment Diagram.*

CLUTCH SECTION

CLUTCH LINKAGE

A single plate, dry disc type clutch, identical to the "Ambassador" series, is used. Refer to the 1950 Technical Service Manual for complete overhaul procedure.



1. Clutch Throwout Lever Cable
2. Clutch Throwout Bell Crank Lever Tapered Pin
3. Clutch Throwout Bell Crank Lever
4. Clutch Throwout Bell Crank
5. Clutch Pedal to Bell Crank Adjustink Yoke
6. Clutch Pedal to Bell Crank Adjusting Link
7. Clutch Adjusting Lever to Pedal Shoulder Bolt
8. Clutch Pedal Return Spring Anchor
9. Clutch Throwout Lever
10. Clutch Throwout Lever Cable Anchor
11. Clutch and Brake Pedal Shaft Retaining Snap Rings
12. Clutch and Brake Pedal Shaft Spacers
13. Clutch and Brake Pedal Shaft
14. Clutch and Brake Pedal Shaft Tension Spring

FIGURE 1—*Clutch Linkage.*

CLUTCH SECTION—NASH-HEALEY SPORTS CAR

DISASSEMBLY PROCEDURE

Insert screw driver in front yoke of throwout lever cable and remove anchor nut.

Remove tapered pin from bell crank lever and tap lever off of bell crank shaft.

Disconnect bell crank to clutch pedal adjusting link return spring and anchor bolt.

Remove bell crank and adjusting link by sliding shaft out of frame bushing tube.

The cotter keys and clevis pins can then be removed from their parts.

To assemble, reverse above procedure.

NOTE: *REPACK BUSHINGS AND BELL CRANK WITH LUBRIPLATE. LUBRICATE ALL MOVING PARTS.*

To remove the clutch and brake pedal shaft, remove the zerk fitting at the brake pedal side and remove the snap ring. Remove the metal bracket at the left side which keeps the shaft from turning and remove the shaft.

Clutch pedal free play should be from ½″ to ¾″. To obtain this adjustment, lengthen the clutch pedal to bell crank adjusting link to reduce the play. Shorten the link to increase pedal play.

TRANSMISSION AND OVERDRIVE SECTION

OPERATION OF OVERDRIVE CONTROL SYSTEM WITH STEERING WHEEL KICKDOWN OPERATING BUTTON

Through the use of a specially designed relay, the overtake or kickdown operation of overdrive permits the driver instant kickdown control by means of a small push-button incorporated in the steering wheel.

For overdrive operation, the dash control is moved to the forward or overdrive position, which closes the overdrive lockout switch and mechanically places the transmission in overdrive operating position.

Electrical operation is as follows:

The overdrive relay contains two coil assemblies "A" (overdrive solenoid coil operating section) and "B" (indicator-light section).

With engine running, battery voltage is supplied through the resistor to the relay coil "A". When a speed above 28 miles per hour is reached, the overdrive governor contacts close, permitting completion of governor circuit to ground energizing relay "A". With relay "A" energized, contact points 1-1 will close, supplying battery voltage through fuse assembly to overdrive solenoid terminal, #3, energizing overdrive solenoid, permitting overdrive engagement with momentary release of

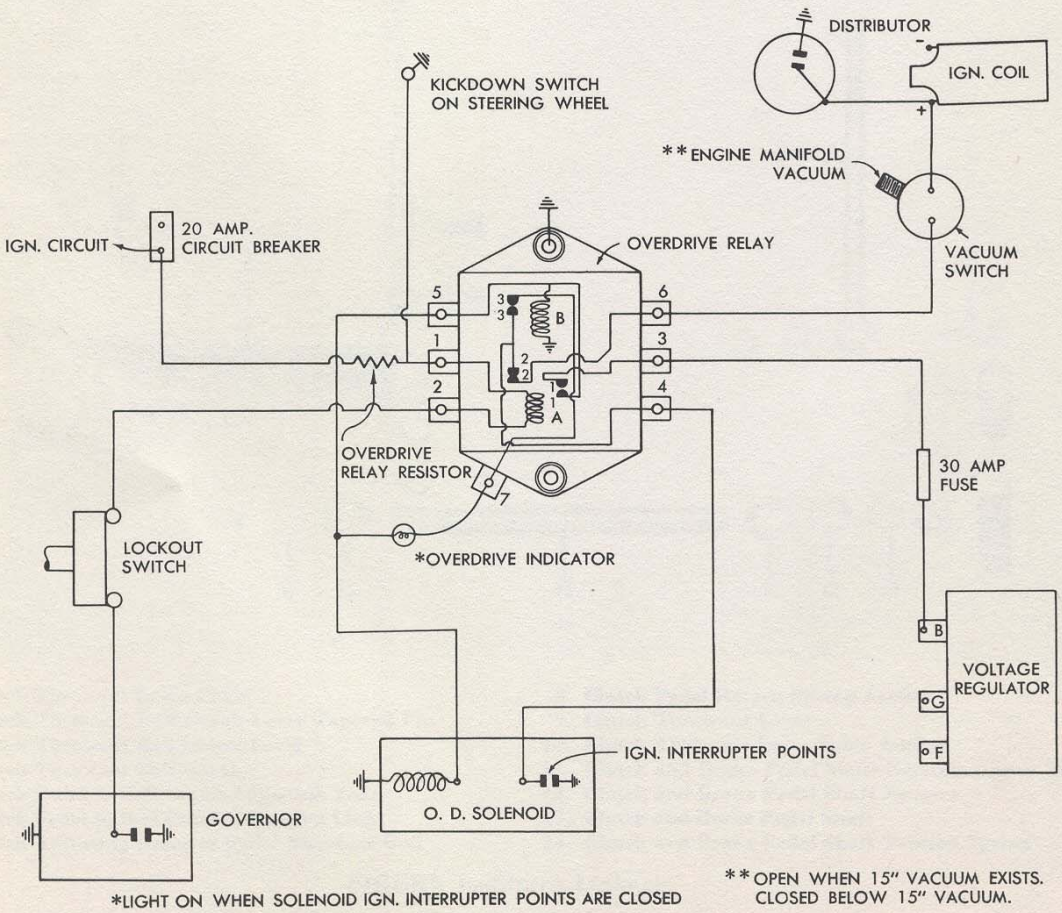
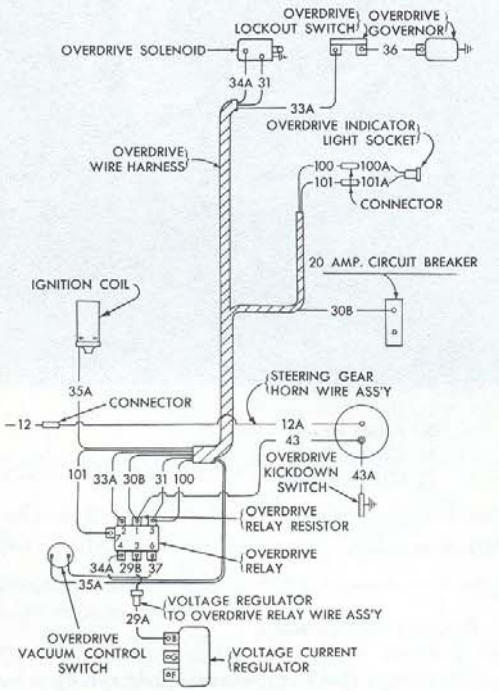


FIGURE 1—*Overdrive Electrical Controls.*

throttle. Energizing relay "A" at this time also opens points 2-2, which opens the ignition interrupter circuit between the ignition coil and interrupter points of overdrive solenoid which close to ground, upon overdrive engagement. Energizing relay "A" and closing points 1-1 also energizes relay "B" which closes points 3-3. Closing points 3-3 completes the circuit between the grounded solenoid interrupter points and indicator terminal post #7. Since the indicator-light assembly is connected across the relay terminal post #5 (which supplies battery voltage) and terminal post #7, the circuit is completed to ground through solenoid ignition interrupter points, and the indicator bulb will light.



12	Horn Relay to Horn Button Connector
12A	Horn Button to Connector
29A	Voltage Regulator to Fuse
29B	Fuse to Overdrive Relay
30B	Circuit Breaker to Overdrive Relay
31	Overdrive Relay to Overdrive Solenoid
33A	Overdrive Relay to Overdrive Lockout Switch
34A	Overdrive Relay to Overdrive Solenoid
35A	Overdrive Vacuum Switch to Ignition Coil
36	Overdrive Governor to Overdrive Lockout Switch
37	Overdrive Vacuum Switch to Overdrive Relay
43	Overdrive Relay to Steering Wheel Terminal
43A	Steering Wheel Terminal to Kickdown Button
100	Overdrive Relay to Overdrive Light Connector
100A	Overdrive Harness Connector to Indicator Light
101	Overdrive Relay to Overdrive Light Connector
101A	Indicator Light to Overdrive Harness Connector

FIGURE 2—*Wiring Diagram—Overdrive Electrical Controls.*

OVERTAKE OPERATION

For kickdown operation, pressing the steering wheel button by-passes to ground relay terminal post #1 (battery voltage supplied through relay resistor) thereby de-energizing coil "A". De-energizing coil "A" opens points 1-1 which de-energizes overdrive solenoid, closes points 2-2, which completes the ignition interrupter circuit, and opens points 3-3, thereby opening the indicator light circuit. Car is now in conventional or 3rd speed.

The vacuum switch is wired in series with the ignition interrupter circuit as a precautionary means of preventing an ignition interruption at times of high intake vacuum due to reverse torque in a vehicle coasting condition. Under reverse torque while coasting, an ignition interruption would not release the overdrive. This would cause loading of the exhaust system with unburned fuel mixture that could possibly ignite resulting in damage to the muffler.

REMOVAL PROCEDURE

Remove complete seat and seat tracks.

Remove screws from center floor panel and remove panel.

Drain lubricant from transmission and overdrive. Disconnect wires from solenoid and shift switch.

Remove speedometer cable and speedometer driven gear from overdrive case.

Disconnect overdrive cable and remove from bracket at transmission.

Remove complete shift assembly and connecting links.

Disconnect hand brake cable and remove metal strap from torque tube.

Disconnect rear main line brake tube at left rear of frame.

Remove lower saddles from rear axle tube housing.

Disconnect sway bar at left rear and remove from pivot bolt.

Disconnect torque tube from overdrive adapter.

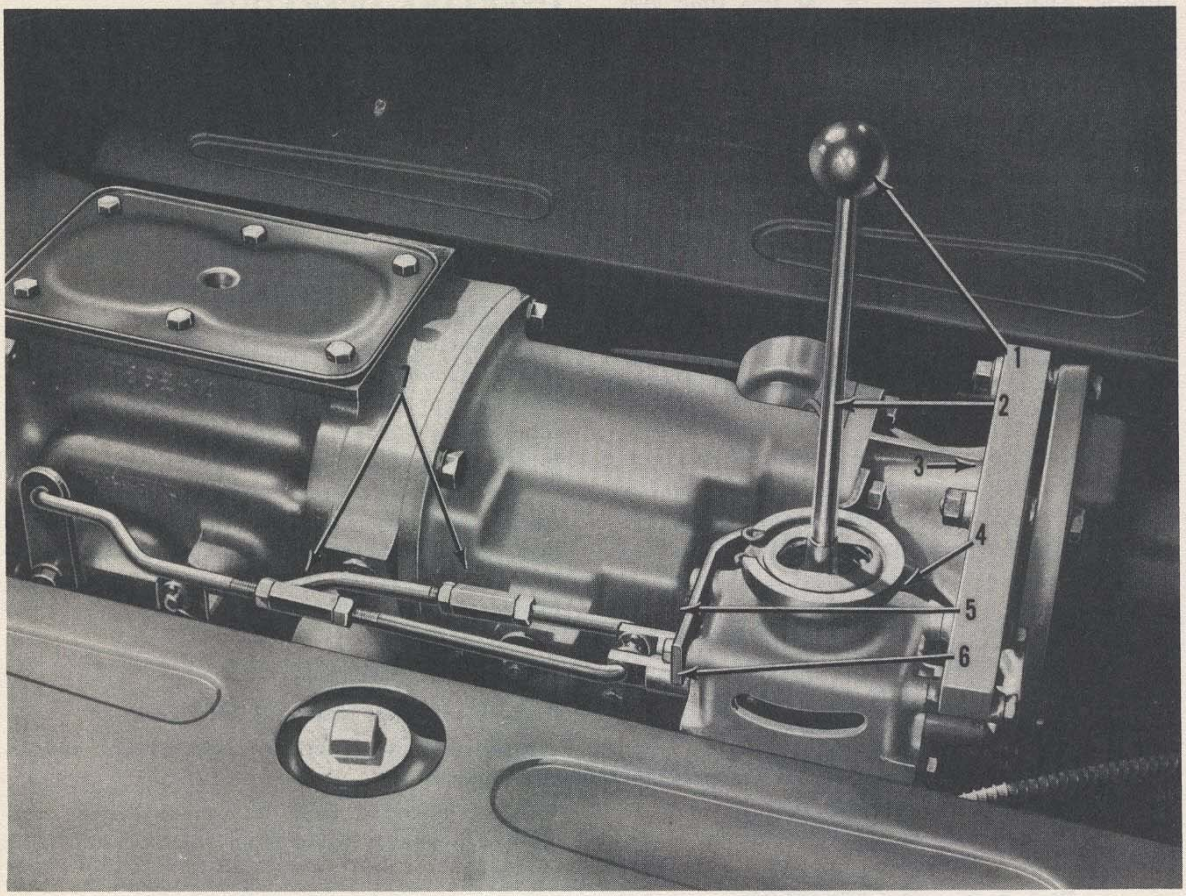
Remove four nuts and lock washers from transmission to flywheel housing studs.

Lift transmission and overdrive to clear center of frame cross member.

OVERHAUL PROCEDURE

The procedure outlined in the Transmission and Overdrive Section of the 1950 Technical Manual should be followed.

SHIFTING SYSTEM SECTION



1. Gear Shift Selector Knob
2. Gear Shift Selector Lever
3. Rear Brace
4. Gear Shift Housing
5. Front Brace
6. Shifter Rods
7. Linkage Rods

FIGURE 1—*Gear Shift Assembly.*

REMOVAL OF GEAR SHIFT ASSEMBLY

Remove gear shift select lever knob.

Disconnect linkage rods at shifter rods.

Remove cap screws at rear of gear shift housing.

Remove cap screws at front of gear shift housing.

Loosen capscrew at overdrive adapter and front support brace.

Loosen nuts at upper end of torque tube and rear support brace and remove gear shift assembly.

The gear shift assembly is removable from the under side of the car.

GEAR SHIFT DISASSEMBLY

Remove the two cap screws holding shifter rod retaining plate and remove plate.

Remove shifter rods.

Disconnect and remove anti-rattle spring at lower end of gear shift selector lever.

Remove snap ring, *using long-nose pliers,* and remove retaining plate, tension spring, and ball seat race.

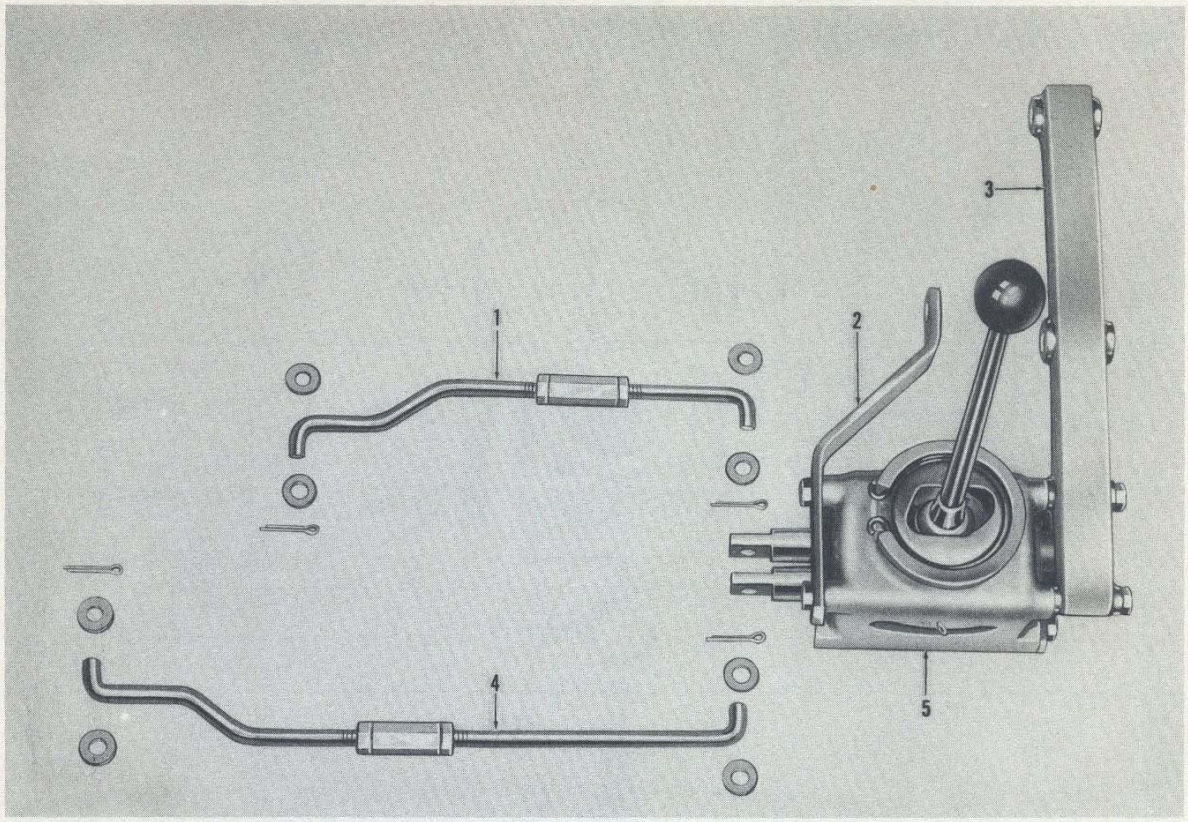
Lift out selector lever.

Remove set screw and lower ball seat race.

To assemble, reverse the disassembly procedure.

NOTE: *Lubriplate all moving parts when parts are being reassembled.*

Install assembly in car.



1. Shifter Rod—Low and Reverse
2. Gear Shift Brace—Front
3. Gear Shift Brace—Rear
4. Shifter Rod—Second and High
5. Housing Assembly

FIGURE 2—*Gear Shift Assembly Removed.*

ADJUSTMENT AFTER ASSEMBLY

To adjust the selector lever, set transmission levers in the neutral position.

Connect the low and reverse, second, and high linkage rods to shifter rods.

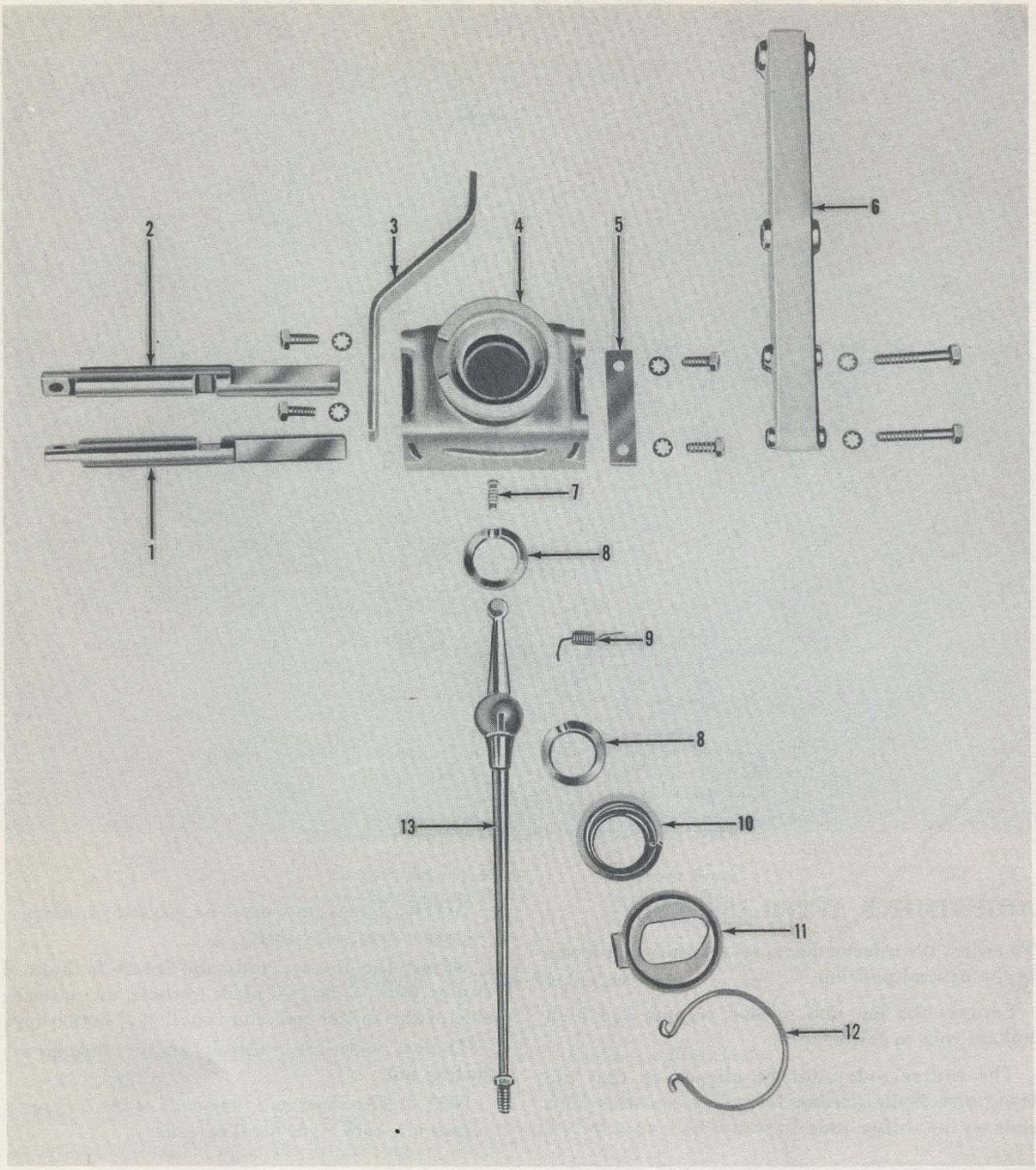
The shifter rods must be aligned so that the lower end of the selector lever lines up with both slots on the shifter rods.

NOTE: *These slots must be aligned to insure proper cross-over shift.*

Adjust the linkage rods and insert in hole of shifter rods, using two plain washers, one on each side of the shifter rod, and install $\frac{3}{32}$" cotter keys.

Tighten lock nuts securely on the linkage adjusting nut.

NOTE: *The short and long ends of the linkage rods are both right hand threads.*



1. Shifter Rod—2nd and High
2. Shifter Rod—Low and Reverse
3. Front Brace
4. Gear Shift Housing
5. Shifter Rod—Retaining Plate
6. Rear Brace
7. Ball Seat—Retaining Screw
8. Ball Seat—Race
9. Anti-Rattle Spring (Coil)
10. Tension Spring
11. Tension Spring Retaining Plate
12. Retaining Plate Snap Ring
13. Gear Shift Lever

FIGURE 3—*Gear Shift Disassembled.*

BRAKES AND WHEELS SECTION

For detailed information, refer to the Brake Section of the 1950 Technical Service Manual.

BRAKE SPECIFICATIONS

Type of Mechanism	Lockheed Hydraulic
Make	Bendix Servo
Total Foot Braking Area	176 square inches
Clearance Toe, inches	.015″
Clearance Heel, inches	.015″
Pedal Free Play	¼″ to ½″
Drum Diameter	10″

WHEEL CYLINDER BORE IN INCHES

Front Cylinder, Diameter	1 1/16″
Rear Cylinder, Diameter	⅞″
Master Cylinder Bore, inches	1⅛″
Piston Clearance, Wheel and Master Cylinder, inches	.001″ to .003″

WHEELS AND TIRES

Wheel Size	15″
Tire Size Standard	6.40 x 15″
Tire Pressure Front and Rear Wheels	24 lbs. *COLD*

REAR AXLE SECTION

REAR AXLE REMOVAL

The floor pan cover and exhaust tail pipe must be removed before the rear axle assembly can be removed for overhaul.

OVERHAUL PROCEDURE

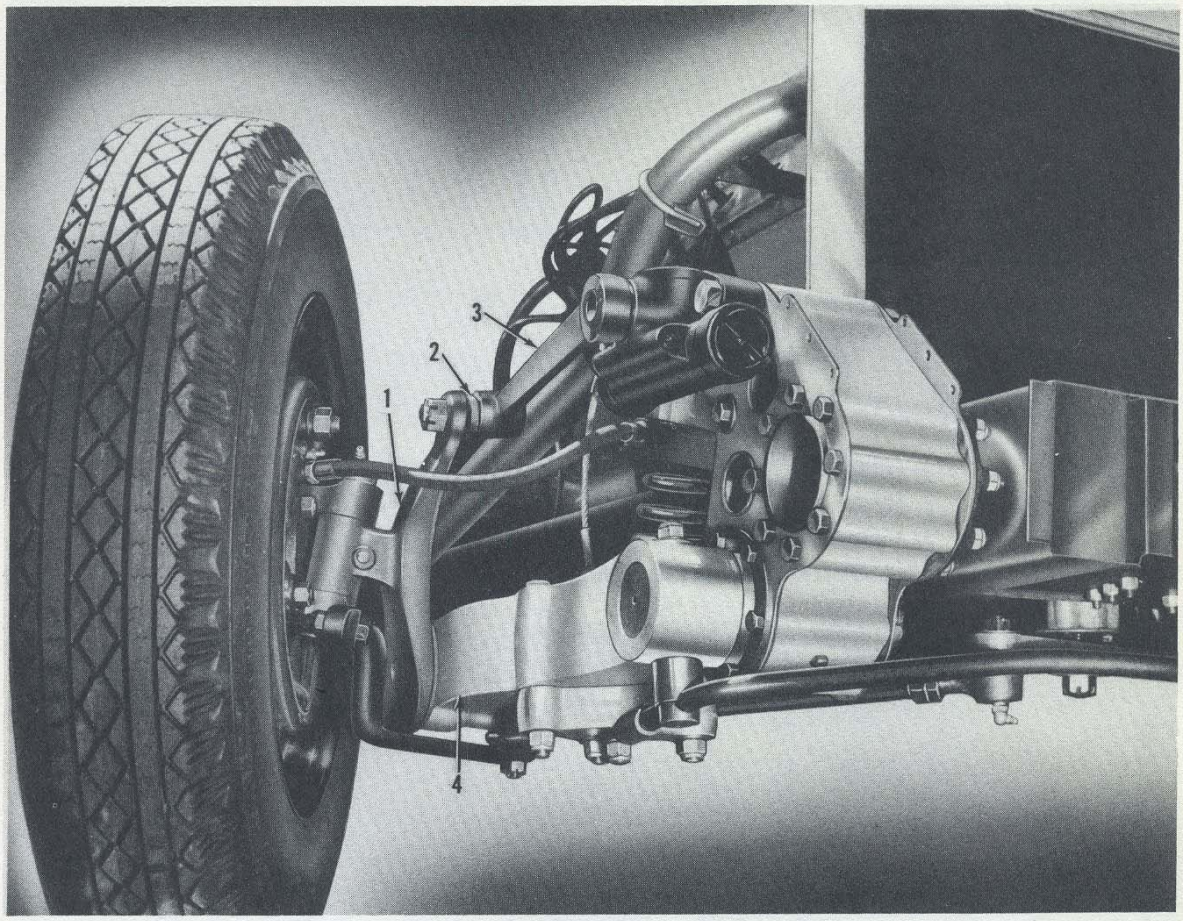
For detailed overhaul procedure refer to the Rear Axle and Propeller Shaft Section of the 1950 Technical Service Manual. However, design changes have eliminated the pinion bearing spacer. Bearing preload is now controlled by a selected thickness shim installed between the pinion front bearing and a shoulder on the pinion shaft. Adjusting shims of ten various thicknesses are available for service installation. This will provide for a range of adjustment from .106″ to .138″ in .001″ variations when used in a combination of two selective thicknesses.

Differential side bearing preload and blacklash is controlled by selected thickness shims installed between the side bearing cups and the axle housing.

SPECIFICATIONS

Type	Semi-Floating
Drive Gear Type	Hypoid
Ring Gear & Pinion Backlash	.004″ to .006″
Axle Shaft End Play	.002″ to .004″
Pinion Shaft Bearing Preload	15 to 18 in.-lbs. Torque
Pinion Bearing Adjustments	Shims
Differential Side Bearing Preload	.004″ to .006″
Differential Side Bearing Adjustment	Shims
Axle Shaft End Play Adjustment	Shims
Lubrication Capacity	4 pts.
Type of Lubrication	SAE 90 Hypoid
Rear Axle Ratio	(10—41) 4.1-1

FRONT SUSPENSION AND STEERING GEAR SECTION



1. Knuckle Spindle Bracket
2. Eccentric Pin
3. Shock Absorber Arm
4. Trailing Link

FIGURE 1—*Front Suspension Assembly (Rt. Side).*

FRONT SUSPENSION

The Nash-Healey front suspension is the trailing link type. The knuckle spindle bracket is attached to the lower arm which extends toward the rear. This arm is referred to as the trailing link.

The arms of the double-acting piston-type shock absorbers form the upper control arms.

The eccentric pin which attaches the arm to the knuckle spindle bracket provides a means of adjusting the caster angle (Fig. 1).

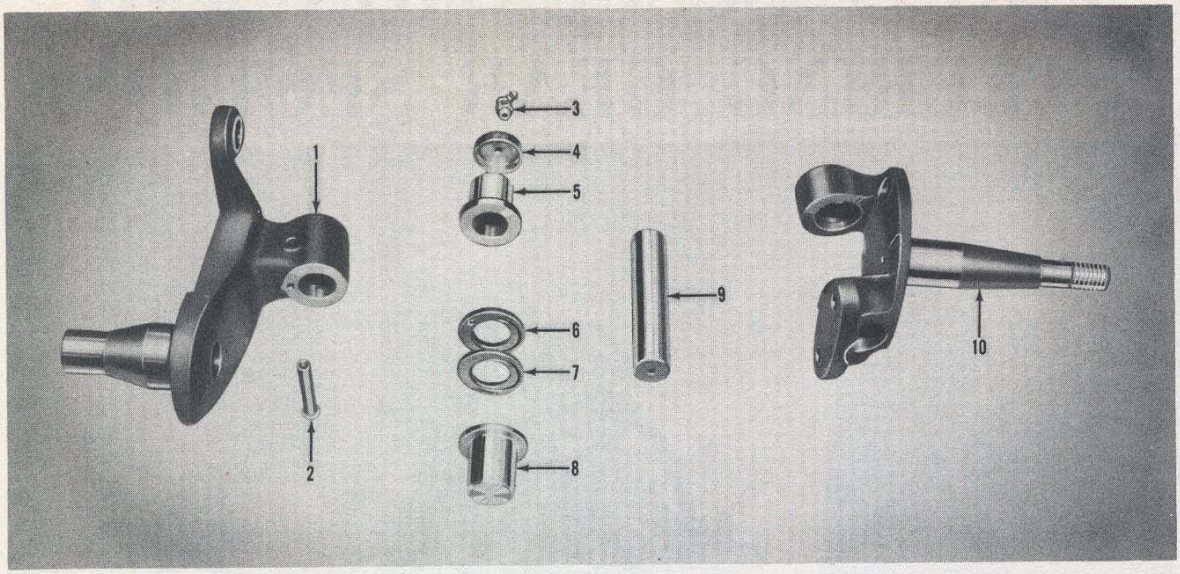
The assembly sequence of the knuckle spindle and its mounting bracket is illustrated in Fig. 2.

The mounting bracket assembly is removed from the trailing link by removing the bearing cap with a spanner wrench, and then removing the retaining screw (Fig. 3).

The trailing link and main shaft may be removed as an assembly by removing the retaining cap and the three retaining screws from the end of the main shaft.

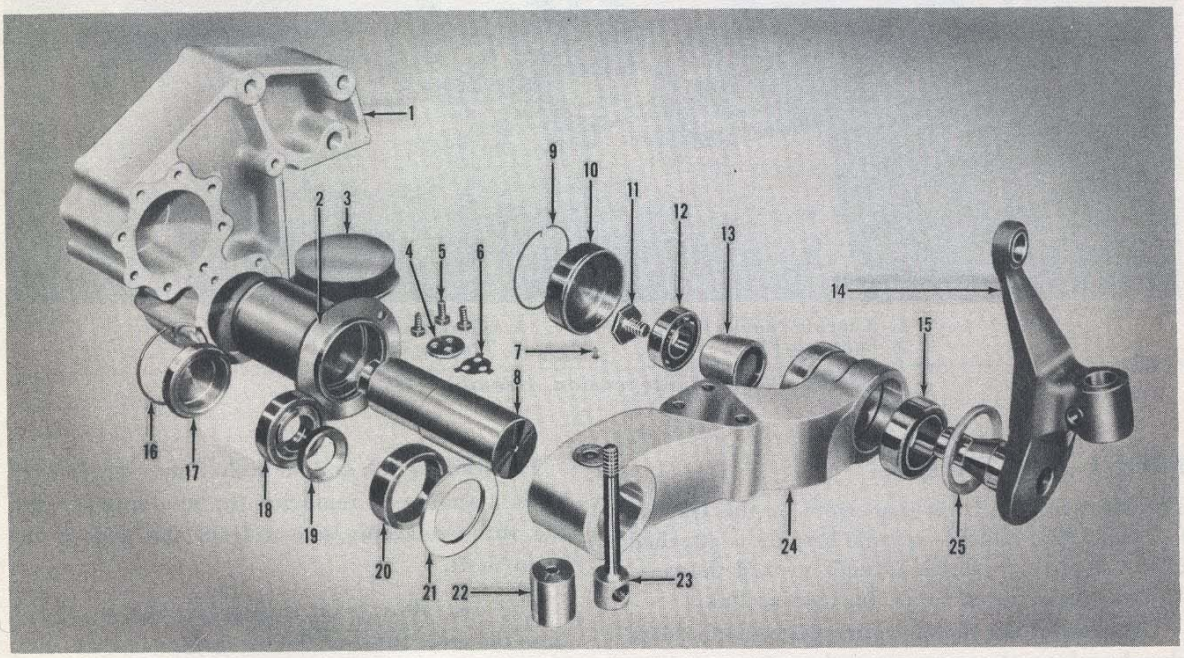
The cast alloy front suspension box is shrunk onto the cross tubes of the car frame, and also onto the main shaft bearing housing. The front suspension box is heated to 212° F. to provide the necessary clearance fit for installation on the cross tube and bearing housing.

Ball bearings and needle bearings are used in this type suspension and are lubricated at normal lubrication periods by means of pressure fittings located on the trailing link and front suspension box assembly.



1. Spindle Bracket
2. Retaining Pin
3. Oiler
4. Upper Bushing Cap
5. Upper Bushing
6. Thrust Washer
7. Selective Thrust Washer
8. Lower Bushing
9. Knuckle Pin
10. Knuckle Spindle

FIGURE 2—*Knuckle Spindle and Spindle Bracket.*



1. Front Suspension Box
2. Bearing Housing
3. Lower Spring Seat
4. Inner Bearing Retainer
5. Retainer Cap Screws
6. Retainer Lock
7. Lock Screw
8. Main Shaft
9. Lock Ring
10. Bearing Cap
11. Bearing Retaining Screw
12. Inner Bearing (Ball Bearing)
13. Bearing Spacer
14. Spindle Bracket
15. Outer Bearing (Needle Bearing)
16. Lock Ring
17. Bearing Cap
18. Main Shaft Inner Bearing (Ball Bearing)
19. Inner Bearing Spacer
20. Main Shaft Outer Bearing (Needle Bearing)
21. Outer Bearing Felt Washer
22. Sway Bar Anchor Sleeve
23. Sway Bar Anchor
24. Trailing Link
25. Outer Bearing Felt Washer

FIGURE 3—*Exploded View Front Suspension.*

STEERING GEAR

The Nash-Healey steering gear utilizes ball bearings to maintain worm gear end thrust.

Ball bearings are installed in the worm gear follower to provide a smooth means of transmitting the turning effort to the cross shaft.

STEERING GEAR REMOVAL PROCEDURE

Remove the three set screws in steering wheel hub under the horn ring.

Disconnect horn wire and overdrive kickdown switch wire under the hood.

The horn blowing mechanism can now be removed as an assembly.

Remove snap ring at top of the steering worm tube and remove the steering wheel.

Remove steering jacket tube support clamp.

Mark the pitman arm to insure reinstallation in the same location and then remove pitman arm with Puller #J-4490.

Remove cap from the steering gear mounting bracket and remove steering gear support bracket.

The steering gear may now be removed from the bottom of the car.

DISASSEMBLY PROCEDURE

Remove the steering gear housing cover plate.

The steering gear limit stop roller can now be removed.

Then remove cross shaft from the housing.

Remove steering tube wire conduit and its support bracket assembly.

The steering jacket tube and upper bearing retainer is removed as a unit.

CAUTION: *ALL THE BALL BEARINGS IN THE STEERING GEAR ARE LOOSE. DO NOT LOSE THEM.*

Slide jacket tube off of the steering worm tube.

Pull the worm tube out of the lower bearing and remove inner race of the lower bearing.

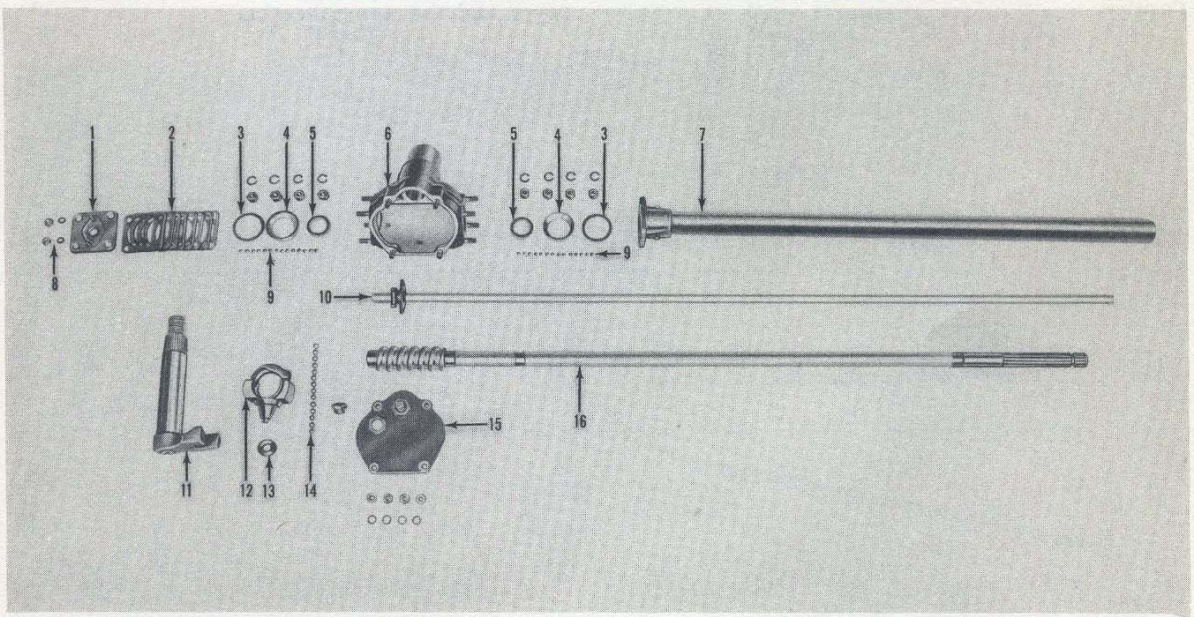
Screw the worm gear out of follower and remove the steering worm from housing.

Remove upper bearing inner and outer races from worm gear.

Remove lower bearing retainer and adjusting shims from the housing.

The lower bearing outer race is then removed.

The worm gear follower and the 14 large ball bearings can now be removed from housing.



1. Lower Retainer
2. Adjusting Shims
3. Bearing Spacer
4. Outer Bearing Race
5. Inner Bearing Race
6. Housing
7. Jacket Tube and Bearing Retainer
8. Wire Conduit Nuts
9. Ball Bearings
10. Wire Conduit
11. Cross Shaft
12. Worm Follower
13. Limit Stop Roller
14. Follower Ball Bearings
15. Housing Cover
16. Worm Tube

FIGURE 4—*Steering Gear Assembly.*

Clean all parts thoroughly and inspect for worn or broken parts.

Reverse the above procedure for assembly.

NOTE: *There are 14 ball bearings in each bearing assembly. Thick grease should be used to retain them in their correct positions.*

ADJUSTMENTS

The worm gear end play is controlled by shims located under the lower bearing retainer.

Cross shaft end play is controlled by an adjusting screw in the housing cover plate.

Adjusting procedures as outlined in the Steering Gear Section of the 1950 Technical Manual should be followed.

FRONT WHEEL ALIGNMENT

Caster

Caster adjustment is accomplished by loosening the eccentric pin, attaching the shock absorber arm to the knuckle spindle bracket, and turning the eccentric pin to the desired caster angle of 1° Positive.

Camber

½° to 1½° Positive. Camber is not adjustable.

Toe-in

Toe-in is adjusted by loosening the two jamb nuts on the steering tie-rod adjusting tubes and turning the tubes to attain a toe-in of 3/16" measured 15" from the road.

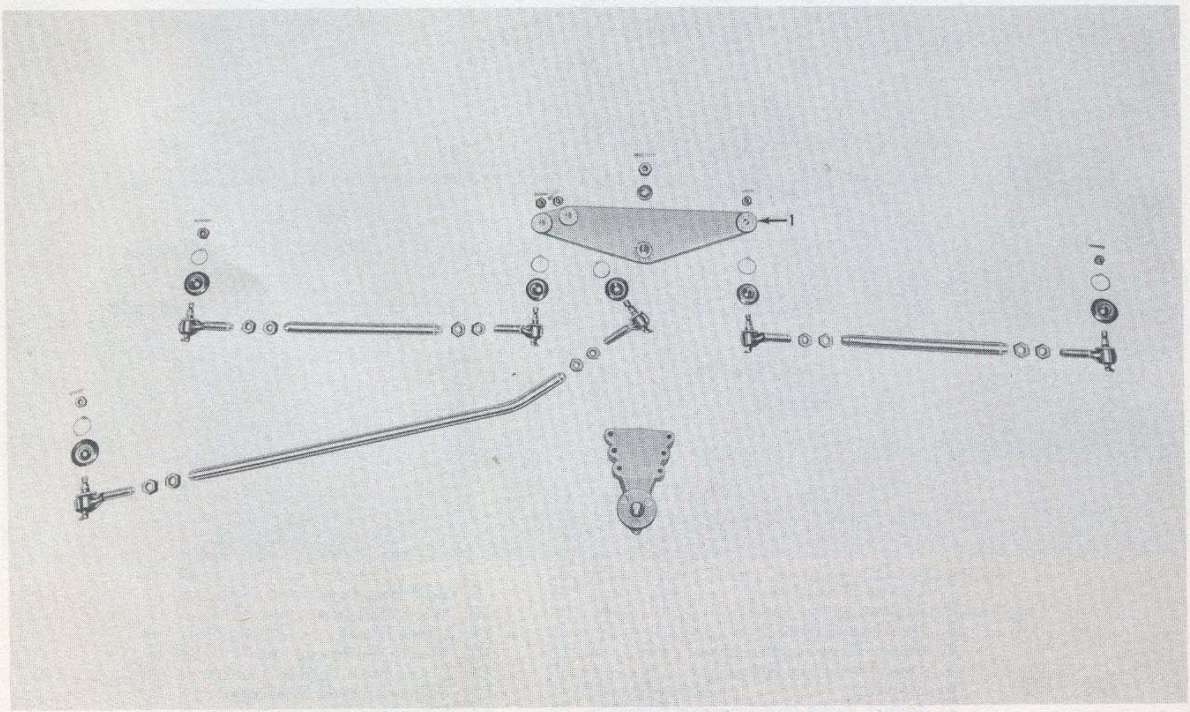
Turning Angle

The turning angle is fixed by stops located in the steering gear box.

Steering Linkage Pivot Box

The steering linkage cross beam (Fig. 5) is attached to the taper on the main shaft of the pivot box assembly. The pivot box assembly utilizes needle bearings and ball bearings to provide ease of steering. This assembly is lubricated with wheel bearing lubricant at time of assembly.

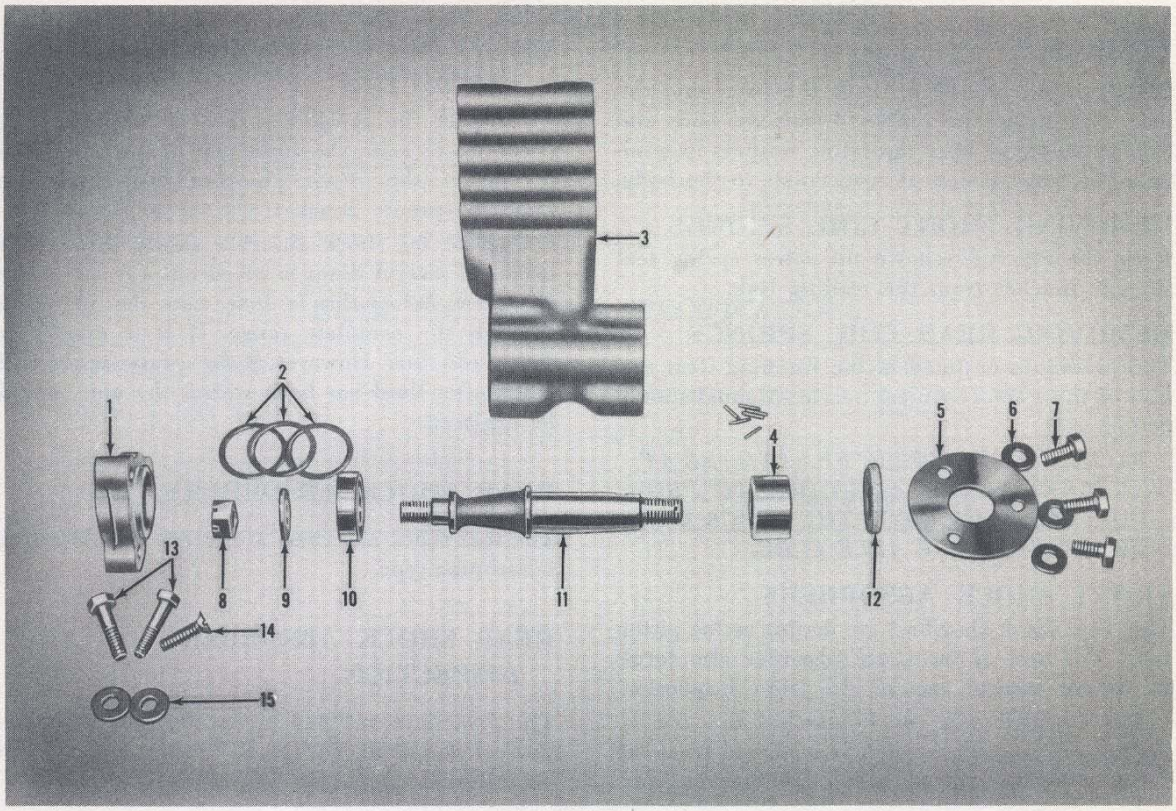
The end play (Zero desired) is adjusted by means of adjusting washers between the upper cover and the upper bearing.



1. Cross Beam

FIGURE 5—*Steering Linkage Assembly.*

FRONT SUSPENSION, STEERING SECTION—NASH-HEALEY SPORTS CAR



1. Upper Cover
2. Adjusting Washers
3. Pivot Box
4. Lower Bearing (Needle Bearing)
5. Lower Cover
6. Washers
7. Cover Cap Screws
8. Main Shaft Nut
9. Bearing Retainer
10. Upper Bearing
11. Main Shaft
12. Felt Washer
13. Cover Cap Screws
14. Cover Screw
15. Cap Screw Washers

FIGURE 6—*Steering Linkage Pivot Box Exploded View.*

SPECIFICATIONS

Caster Angle	1° Positive
Camber (Fixed)	½° Negative to 1½° Positive
Toe-In (15″ above road)	3/16″

RUNNING GEAR SECTION

SPRINGS

Coil springs are used on both the front and the rear. The springs are insulated from the body and axle by means of fiber insulating washers to minimize the transmission of road noises to the body.

REMOVING FRONT COIL SPRINGS

Raise the car and remove the lower spring seat support bracket from the trailing link.

REMOVING REAR COIL SPRINGS

The procedure outlined in the Running Gear section of the 1950 Technical Service Manual should be followed.

NOTE: *THE REAR SPRING SEAT BRACKETS HAVE A CUT-OUT TO PROVIDE CLEARANCE FOR THE TRACK BAR BRACKET ON THE AXLE TUBE.*

FRONT SHOCK ABSORBERS

The front shock absorbers are double acting piston type. The arm of the shock absorber also forms the upper control arm of the front suspension.

The eccentric pin which attaches the arm to the knuckle spindle bracket is insulated from the shock absorber arm by a tight rubber bushing.

FRONT SHOCK ABSORBER INSPECTION

To inspect the shock absorber on the car, it is necessary to raise the front end of the car. Then disconnect the shock absorber arm from the knuckle spindle bracket.

Operate the shock absorber slowly throughout its range several times to bleed out any air in the chambers. When this is done, note the operation through the complete range. If it is erratic or jerky, add fluid. However, if the erratic action still exists after fluid has been added, the unit should be replaced.

REAR SHOCK ABSORBERS

The rear shock absorbers are direct, double acting telescoping type.

REAR SHOCK ABSORBER INSPECTION

The procedure outlined in the Running Gear section of the 1950 Technical Service Manual can be followed.

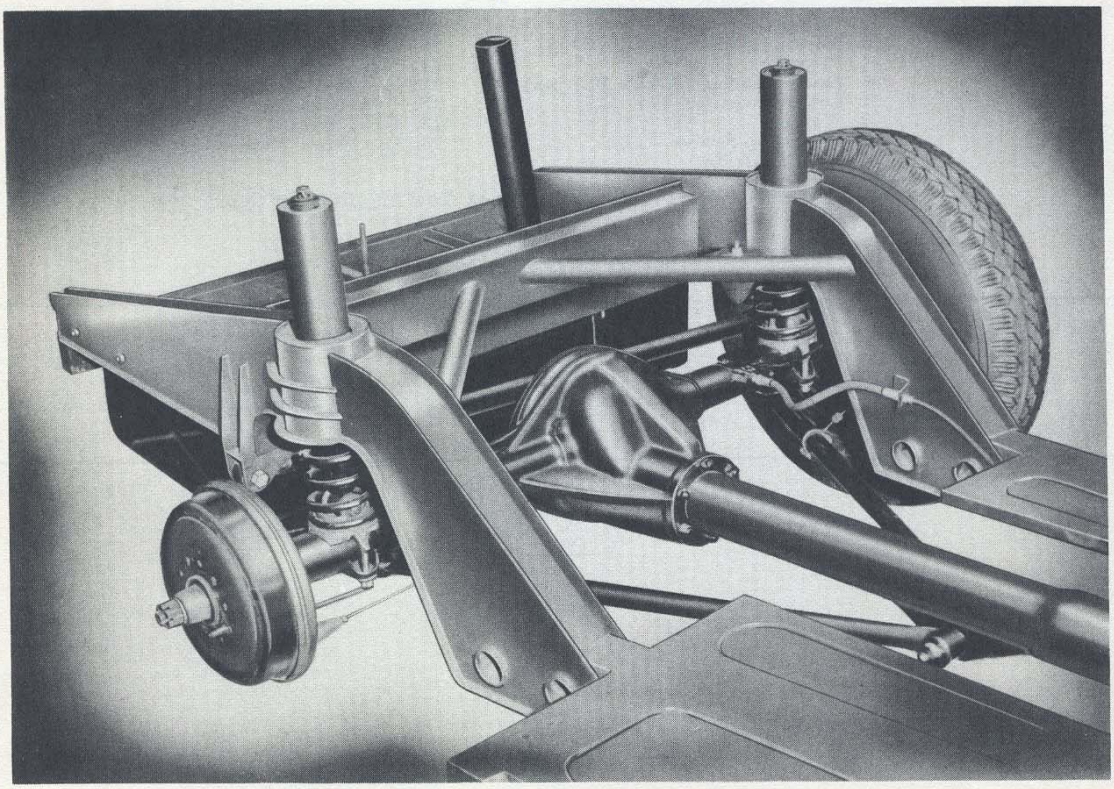


FIGURE 1—***Rear Coil Spring and Shock Absorber Mounting.***

RUNNING GEAR SECTION—NASH-HEALEY SPORTS CAR

FRONT COIL SPRINGS SPECIFICATIONS

Free height in inches	8.125″
Loaded height in inches	5.75″
Rate lbs. per inch after loaded weight	300 lbs.
Interchangeability	Interchangeable (L & R)

REAR COIL SPRING SPECIFICATIONS

Free height inches	1.75″
Loaded height inches	8.5″
Rate lbs. per inch after loaded weight	153 lbs.
Interchangeability	Interchangeable (L & R)

SPEEDOMETER-INSTRUMENTATION SECTION

SPEEDOMETER

The speedometer (similar in type to the Ambassador series) is of the rotating magnet type. The trip mileage scale is constructed so that it can be turned back to zero by a remote control shaft which projects below the dash panel.

INSTRUMENTATION

A positive type bourdon tube indicator is used for coolant temperature and oil pressure. A charge indicator light, similar to the Ambassador series, is used in the charging circuit. In addition to this light, a conventional ammeter is used. The fuel (Petrol) quantity indicator is of the magnetic type (as used in the Ambassador series) consisting of a balanced field coil arrangement with variable magnetic flux in the dash unit. The tank unit is a variable rheostat, varying the indicator magnetic flux in proportion to fuel level. The magnetic flux in the indicator positions an armature to which is attached the fuel quantity indicator needle. Field repair is impractical on these units. Replacement of the unit is recommended.

All instruments are removable from the front of the dash after disconnecting, and removing the "U" shaped brackets which retain them to the dash.

LUBRICATION SECTION

LUBRICATION SPECIFICATIONS

	Mile Intervals	Lubrication Recommendations
Air Cleaner	1,000	Dry Type—Clean.
Axle Shaft Bearings (Rear Wheels)	15,000	Wheel Bearing Lubricant—Repack.
Brake Controls	1,000	Light Engine Oil.
Carburetor	1,000 or once each month	Remove Suction Chamber Cap. Fill Reservoir with Light Machine Oil.
Linkage	1,000	Light Engine Oil.
Clutch and Brake Pedal Shaft	1,000	Chassis Lubricant—2 fittings.
Distributor	1,000	Wipe Breaker Plate Cam with Petrolatum Jelly 1,000 Miles.
	5,000	Drop of Light Engine Oil on Wick of Rotor Shaft.
Engine Oil	2,000 under normal conditions	6 Qts. SAE 20 or 20W above 32°F.; —10° to 32°F., 10W.
Front Suspension		
Trailing Link	1,000	Chassis Lubricant—6 fittings.
Steering Linkage	1,000	Chassis Lubricant—6 fittings.
Front Wheel Bearings	10,000	Bearing Lubricant—Repack.
Fuel Pump	5,000	Clean Screen to Eliminate Sediment.
Generator	5,000	Light Engine Oil—2 Oil Cups.
Master Cylinder	1,000 (Check)	Lockheed 21 Brake Fluid
Rear Axle Drive Gears	1,000 (Check) Change every 10,000 miles or yearly	Use Only SAE 90. Rear Axle Oil Suitable for Hypoid Gear Service.
Starting Motor	5,000	Light Engine Oil—2 Oil Cups.
Steering Gear	3,000 (Check)	SAE 90 Steering Gear Lubricant.
Transmission and Overdrive	1,000 (Check) 10,000 change and refill	3½ Pts. SAE 90 Mineral Oil in Warm Weather. SAE 80 in Cold Weather.
Water Pump	5,000	Water Pump Lubricant.

CONDENSED SPECIFICATIONS

ENGINE

Type	Valve-in Head
Cylinders	6
Bore	3 3/8"
Stroke	4 3/8"
Piston Displacement	234.8 cu. in.
Compression Ratio	8.1:1
Brake H.P. SAE	125 @ 4000 R.P.M.

CHASSIS

Front Suspension	Healey Trailing Link Individual Coil Springs Sway Bar
Rear Suspension	Coil Springs Track Bar
Drive	Torque Tube
Transmission	Nash 3-Speed Overdrive Equipped
Rear Axle	4.1:1 Ratio Nash Hypoid
Brakes	Bendix-Servo Type
Tires	6.40 x 15 White Sidewall
Gasoline Capacity	20 gal. (U.S.)
Cooling System Capacity	17 qts. (Includes Weather Eye)

BODY

Overall Length	172 inches (Includes Bumper Vertical Bars)
Width	66 inches
Height	52 3/4 inches (To Top of Windshield)
Wheel Base	102 inches
Thread Front	54 7/8 inches
Rear	53 inches
Turning Radius	17 1/2 feet
Curb Weight	2600 pounds
Road Clearance	6 inches

NASH-HEALEY

SPORTS CAR

TECHNICAL

SERVICE

MANUAL

BODY SECTION

BODY

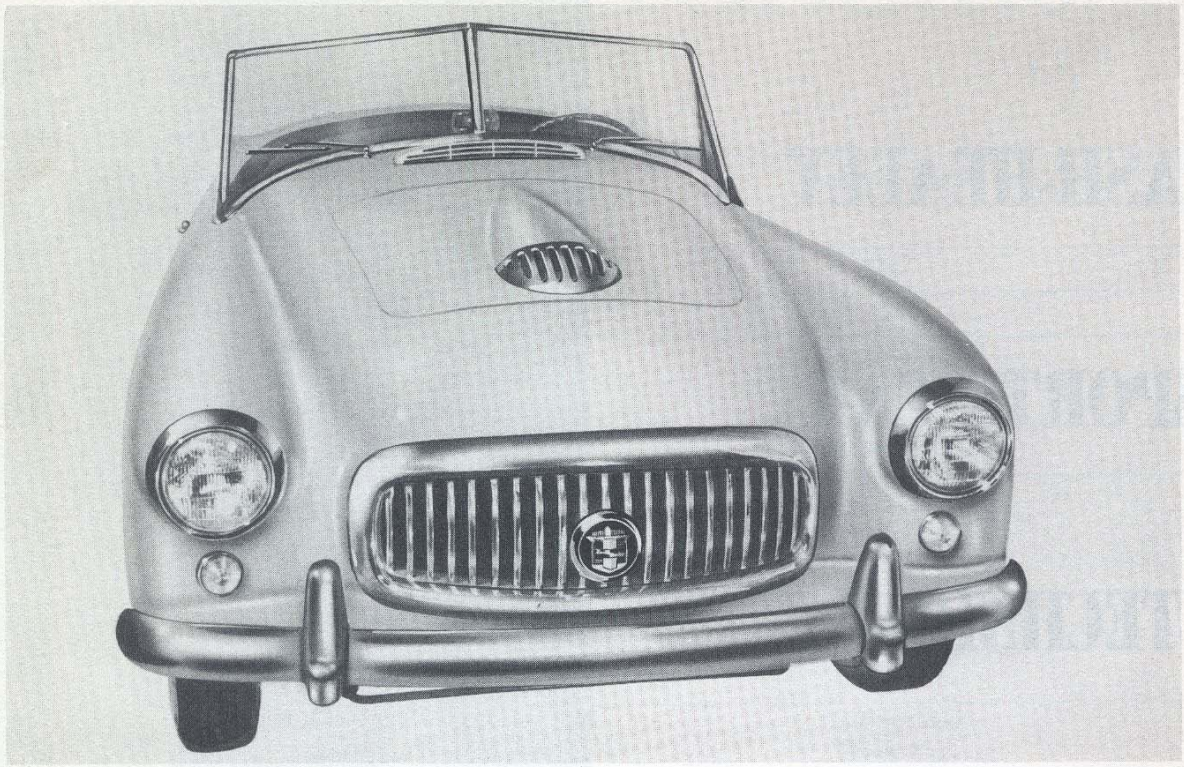


FIGURE 1—*Nash Healey Sports Car (Front View).*

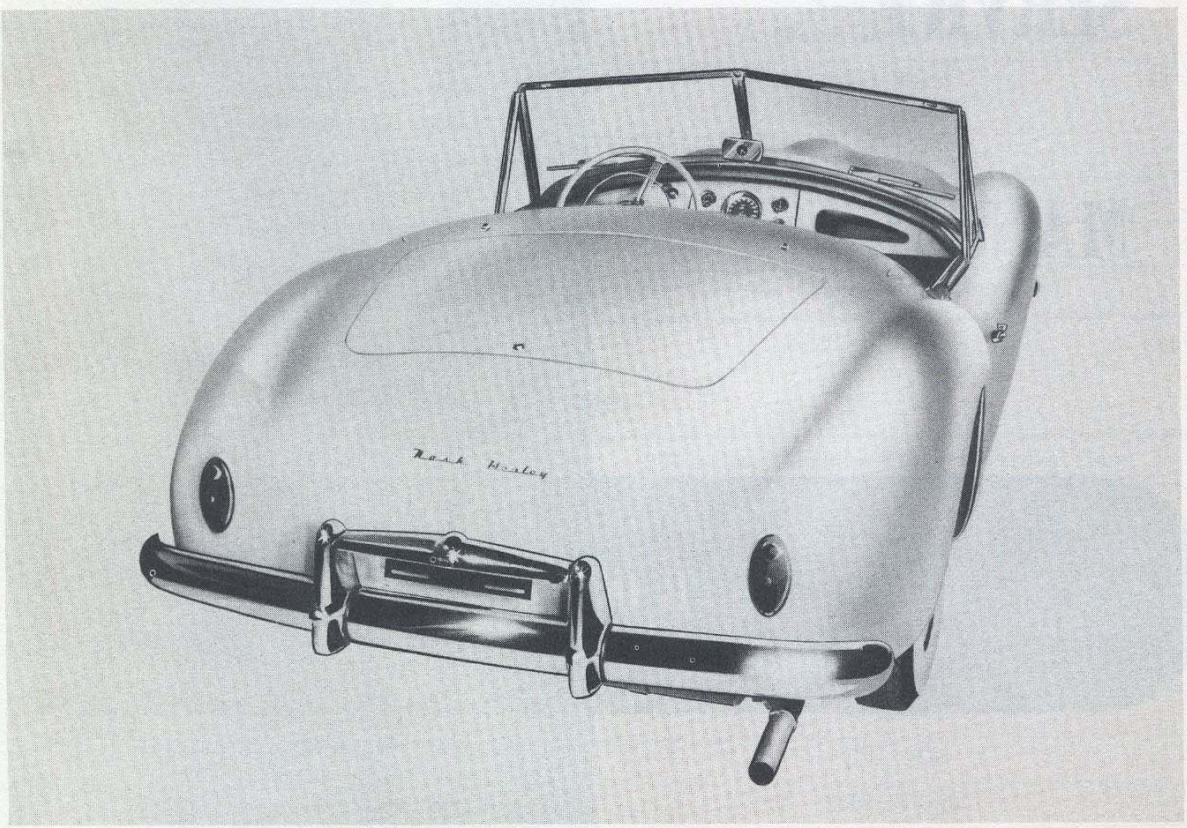


FIGURE 1-A—*Rear View.*

BODY SECTION

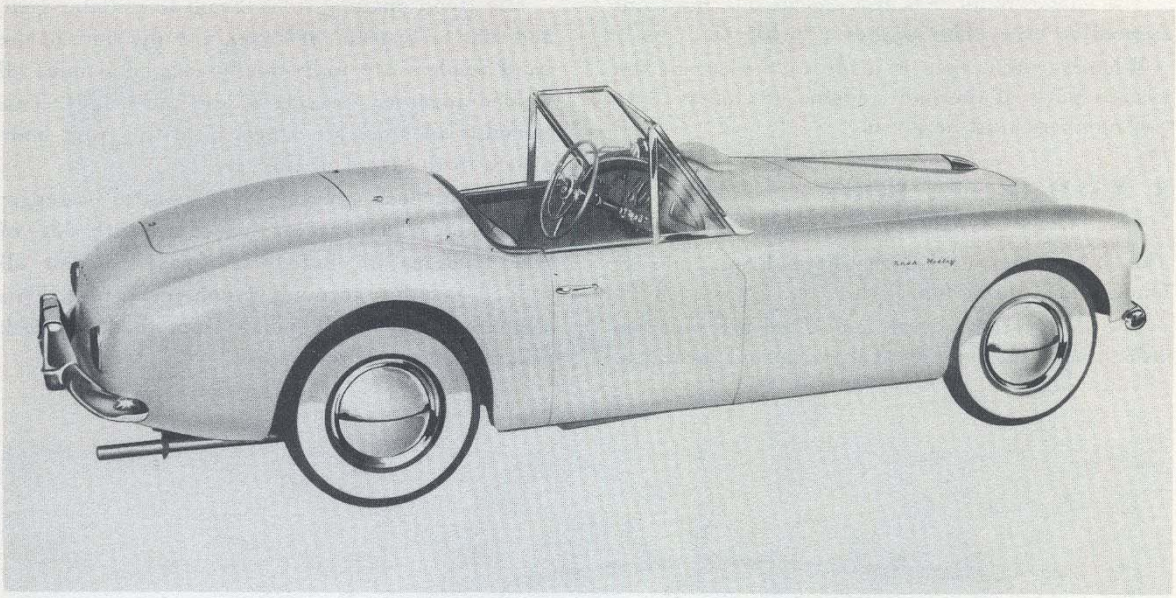


FIGURE 1-B—*Complete Right Side—Top Lowered.*

1. INTRODUCTION

The information and instructions in this section outline and illustrate procedures in maintenance operations and adjustments that can be generally applied to the Custom constructed Nash-Healey Sports Car.

Part names assigned to the various parts illustrated herein are American names used for similar parts of American made Nash Cars. They will differ considerably from names used by the exporter.

REFERENCE

The Part Name or assembly involved in any maintenance or adjustment operation is numbered in the table of contents and also in the descriptive matter and illustrations throughout the manual section covering it.

2. CAR IDENTIFICATION

The identification numbers of each Nash-Healey Sports Car are the Chassis number and the engine number.

These numbers are stamped into a plate which is fastened to the dash on the right side of the engine. This identification number plate is visible when the hood is raised.

The engine number is also die-cut into the engine block on the right side at the top front edge. This number is prefixed by the letters N.H.A.

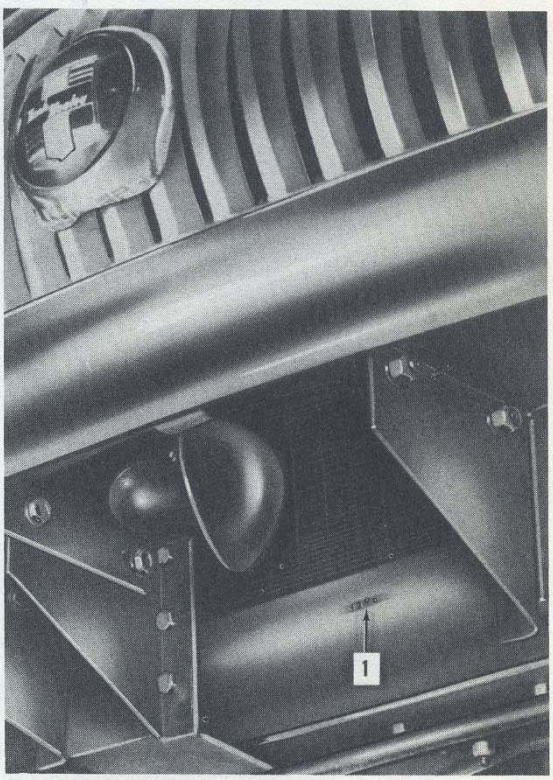


FIGURE 2.

1. Car identification number location. Serial or Chassis number is die-cut into front suspension cross tube.

The chassis number is also die-cut into the front suspension cross tube as shown in Fig. 2.

Whenever reference is made to the car or the various parts of the body, engine or chassis these two numbers must be given.

3. NASH-HEALEY BODY CONSTRUCTION

The body—doors—deck cover—hood, Front and rear fenders are aluminum.

The Doors—Deck cover and Hood are separate units hinged to the body at their various locations.

The Hood opening sides, Front to radiator grill, and rear to Instrument Panel, also the sides of the front fenders are individually formed panels, all welded together forming a one piece unit. This assembly includes all panels from the front body pillars to the front of the car.

The rear deck opening sides, front to passenger compartment and rear to rear of car with sides of rear fenders, are individual formed panels all welded together forming a one piece unit. This assembly includes all panels from the body lock pillars to the rear of the car.

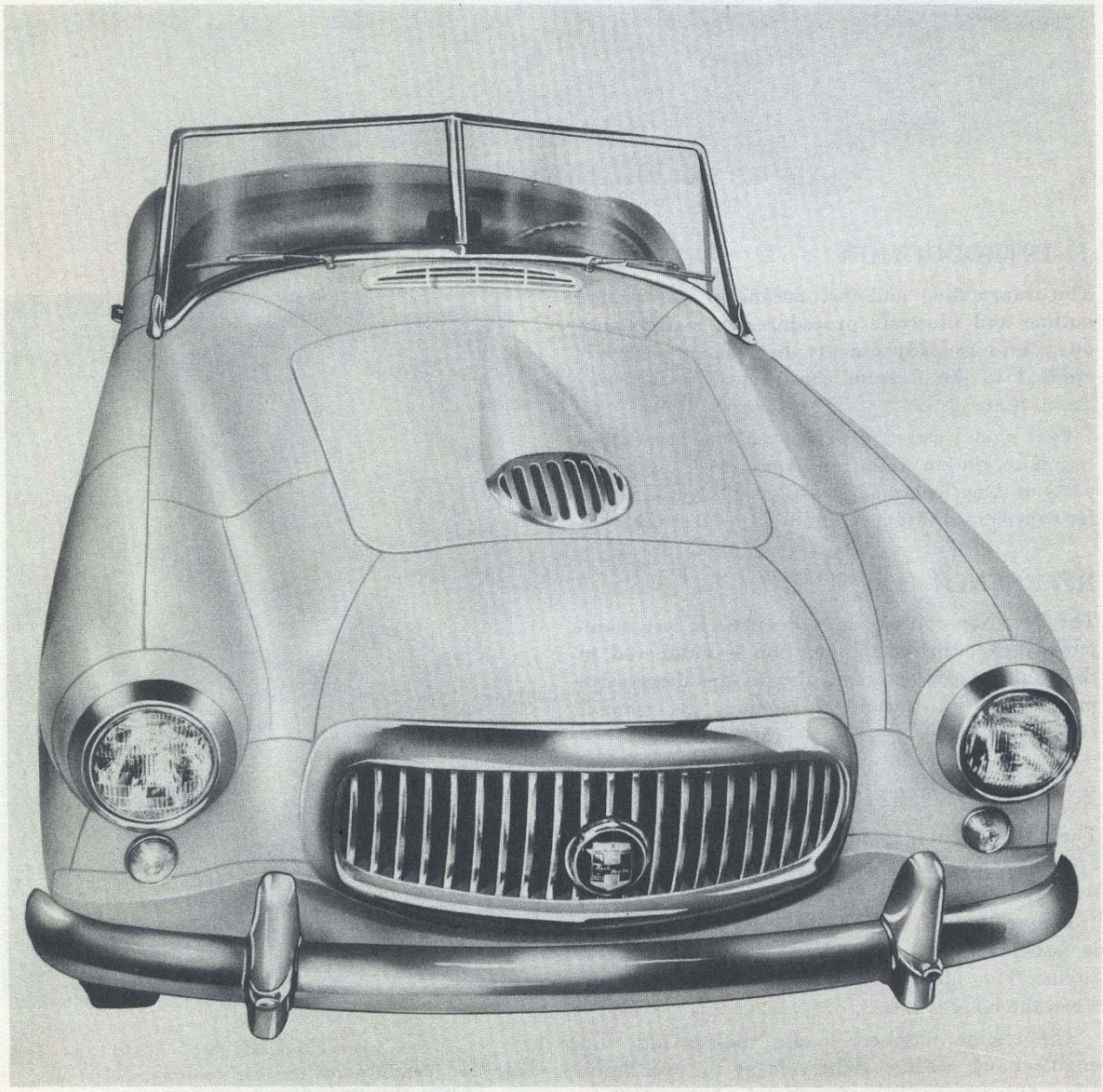


FIGURE 3—*Location of Weld Joints—Front—Rear and Sides of Hood Opening.*

FIGURE 3-A—*Location of Weld Joints—Front Fender and Hood Side.*

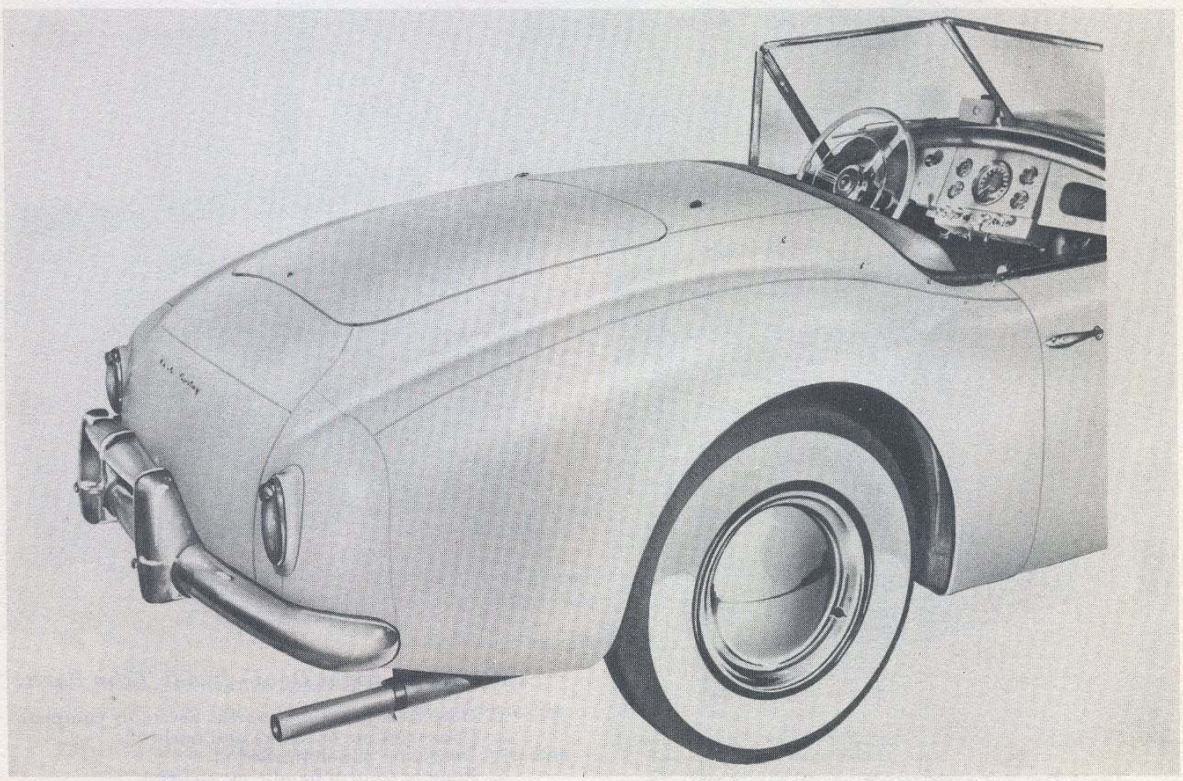


FIGURE 3-B—*Location of Weld Joints at Front, Rear and Sides of Rear Deck Opening.*

4. REPAIRS—STRAIGHTENING AND WELDING ALUMINUM

Repairs to the aluminum panels by straightening or welding must be performed by those familiar with the proper handling of this type of material.

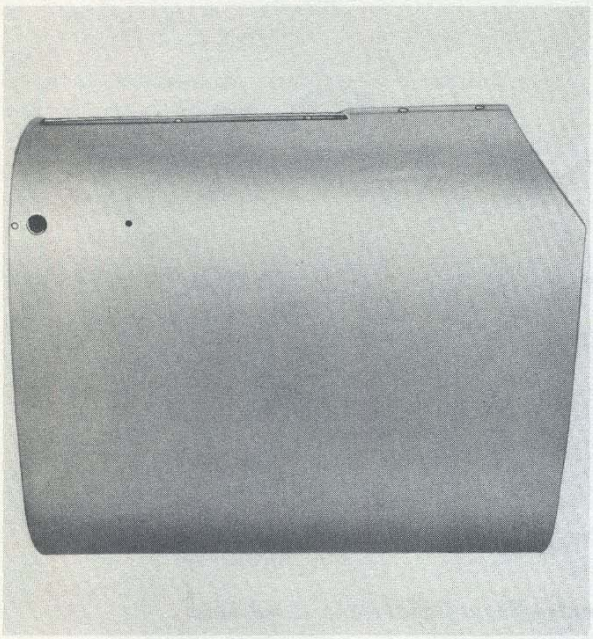


FIGURE 5—*Right Door: Stage "A" or Skeleton (Outside View).*

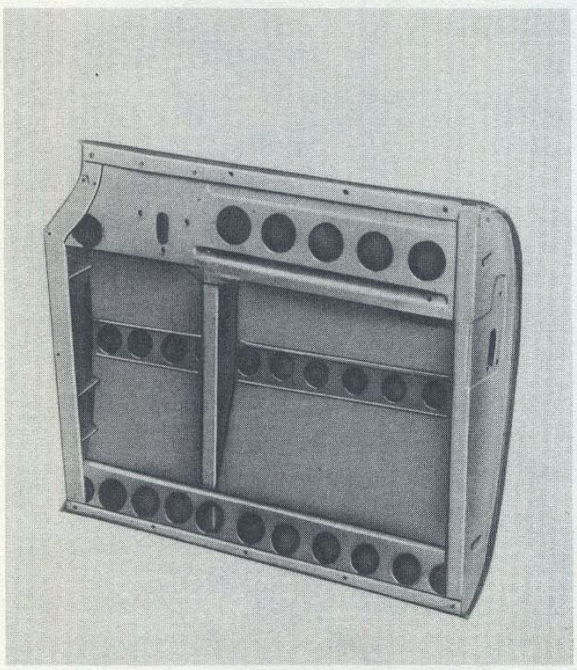


FIGURE 5-A—*Right Door Stage "A" or Skeleton (Inside View).*

Almost every city is provided with experienced workmen who specialize in straightening aluminum, forming and welding in new sections. They are equipped with special aluminum forming tools and special aluminum welding equipment, both electrical and torch type, which requires special welding rods, fluxes and cleaning chemicals.

It is therefore, suggested that any repairs to the aluminum sheet metal parts be handled by an experienced aluminum workman who can straighten or cut, form, fit and weld in sections as required.

5. DOORS

The construction of these units consists of all reinforcements welded to the inner and outer panels before they are flanged and spot welded together. These doors are of aluminum paneling.

6. DOOR INSIDE TRIM PARTS

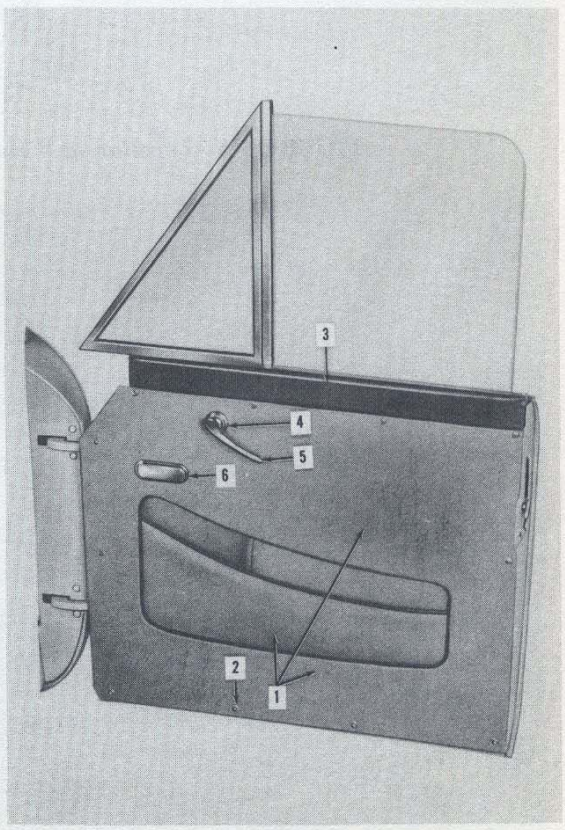


FIGURE 6—*Right Door—Inside Trim Parts.*

1. Door trim panel and pocket assembly complete
2. Door trim panel screws and bushings
3. Door trim panel overlay
4. Remote control handle escutcheon
5. Remote control handle
6. Ash receiver assembly

7. PARTS ASSEMBLED RIGHT DOOR

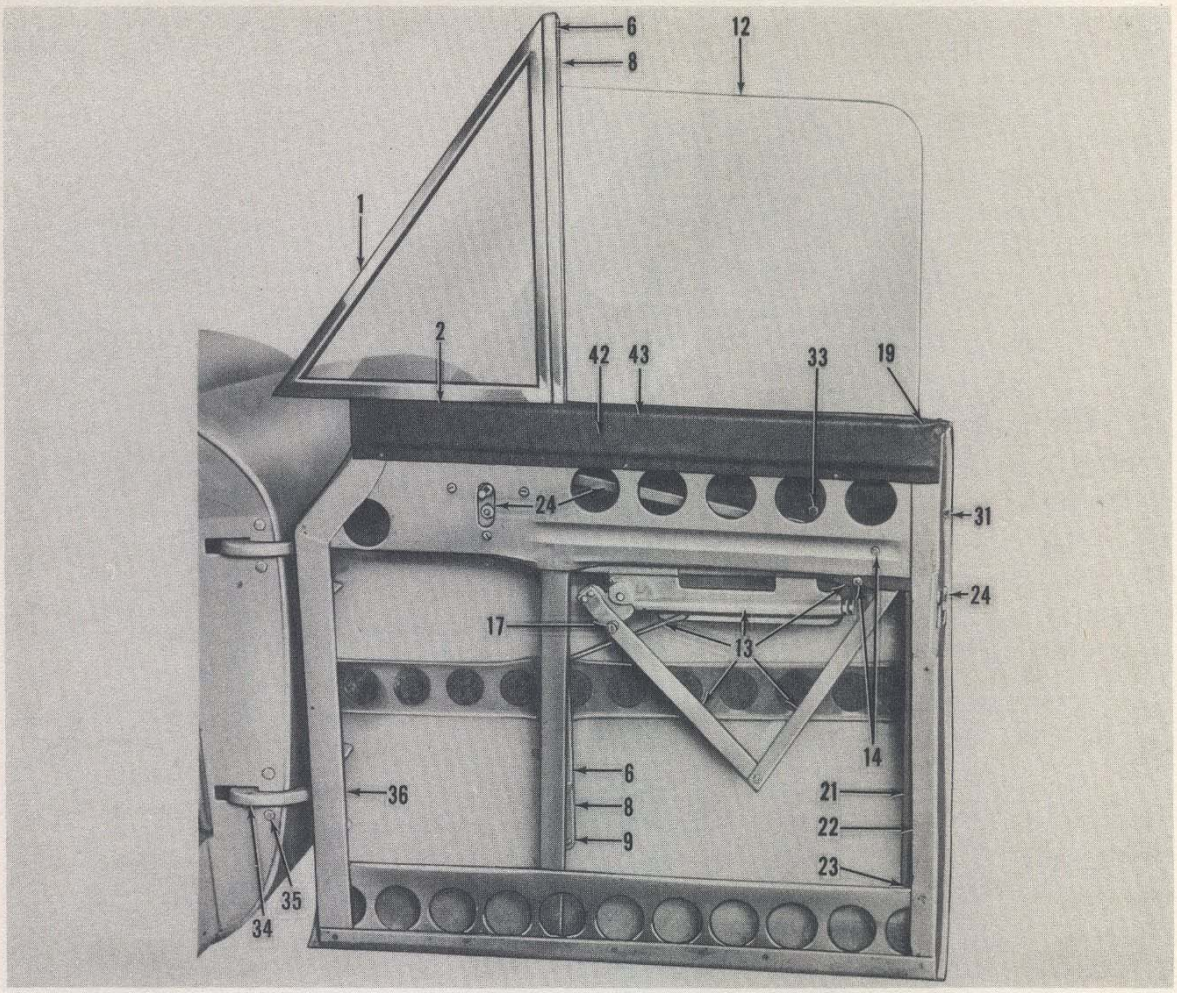


FIGURE 7—*Parts Assembled, Right Door.*

1. Door side shield—frame and glass assembly
2. Door side shield to door sealer (rubber)
3. Door side shield to door washer
4. Door side shield to door lock washer
5. Door side shield to door nut
6. Door glass front slide channel retainer
7. Door glass front slide channel retainer screws
8. Door glass front slide channel
9. Door glass front slide channel to door screw
10. Door glass front slide channel to door screw washer
11. Door glass front slide channel to door screw nut
12. Door glass
13. Door glass bottom channel and control arm assembly
14. Door glass bottom channel and control arm assembly to door screw
15. Door glass bottom channel and control arm assembly to door nuts
16. Door glass bottom channel lower guide
17. Door glass bottom channel and control arm stop screw
18. Door glass bottom channel and control arm stop screw nut
19. Weatherstrip door side
20. Weatherstrip door side screws
21. Door glass slide channel (lock side)
22. Door glass slide channel retainer (lock side)
23. Door glass slide channel and retainer screw
24. Door lock, link and remote control assembly
25. Door lock, link and remote control assembly to door screws
26. Remote control handle escutcheon
27. Remote control handle
28. Remote control handle pin
29. Door outside handle
30. Door outside handle washer (rubber)
31. Screw door flange to handle
32. Door handle end trim washer
33. Door panel to handle end screw
34. Door to body hinge
35. Hinge to door screw
36. Hinge to door screw nuts
37. Hinge to body screws
38. Hinge to body screw nuts
39. Hinge arm—Door part
40. Hinge bracket—body part
41. Hinge pin (bolt-nut-washers)
42. Door trim panel overlay
43. Door trim panel overlay weatherstrip

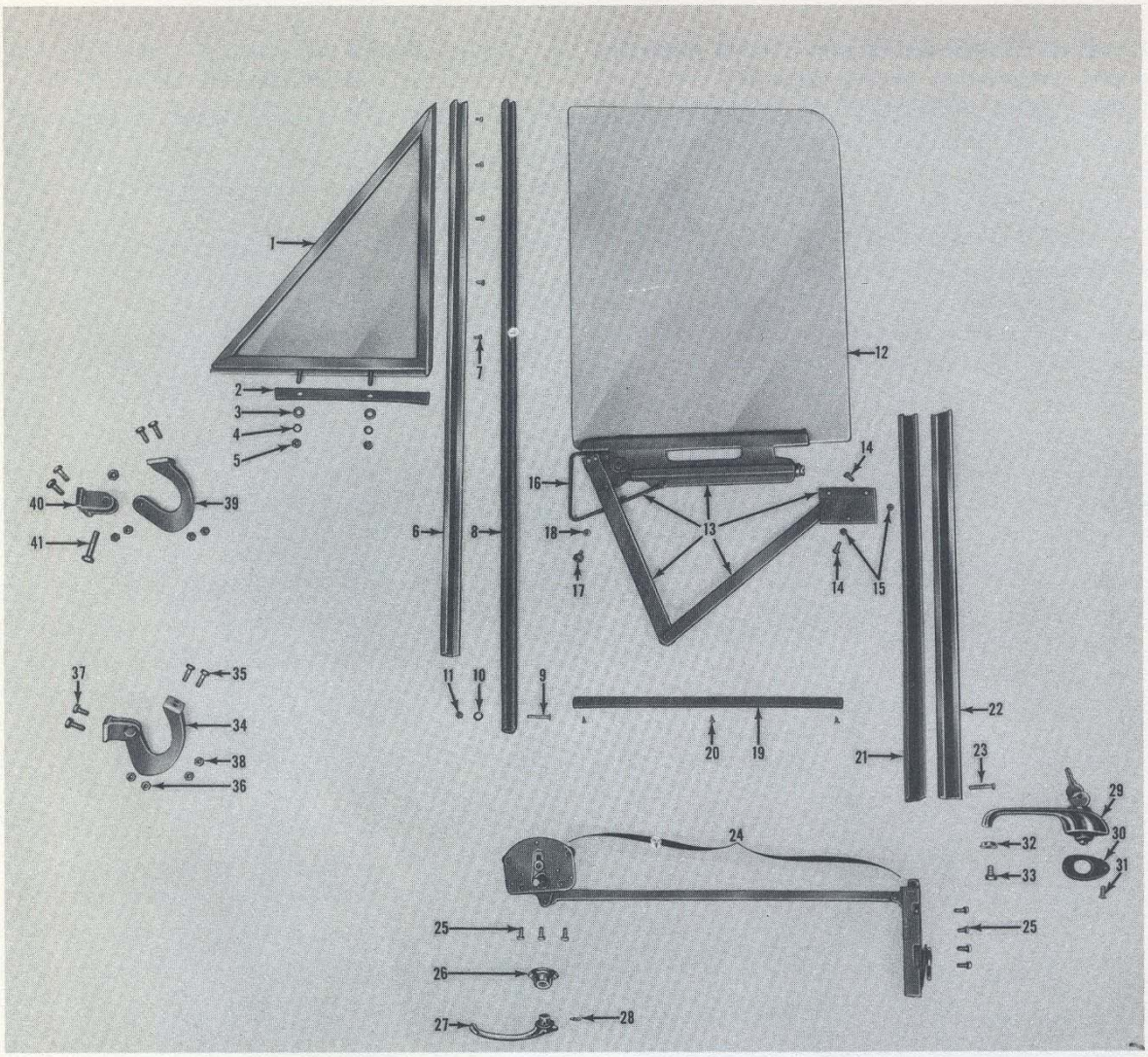


FIGURE 8—*Parts Removed Right Door.*

NOTE: *IDENTIFICATION OF PARTS ARE LISTED UNDER FIG. 7.*

8. PARTS REMOVED RIGHT DOOR

The names of the parts used in the door are listed for convenience and reference.

9. DECK COVER ASSEMBLY

The construction of the deck cover consists of all reinforcements welded to the inner and outer panels, before they are flanged and welded together, including hinges, stay hinge bracket and lock reinforcement which are welded to the cover.

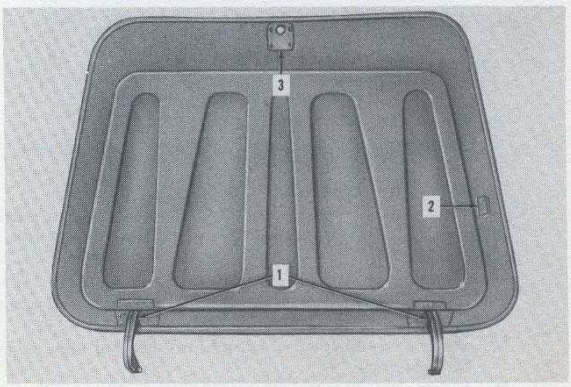


FIGURE 9—*Deck Cover Assembly.*

1. Hinges
2. Stay hinge bracket
3. Lock reinforcement

(All parts welded to cover as shown.)

10. DECK COVER ASSEMBLY AND ATTACHING PARTS

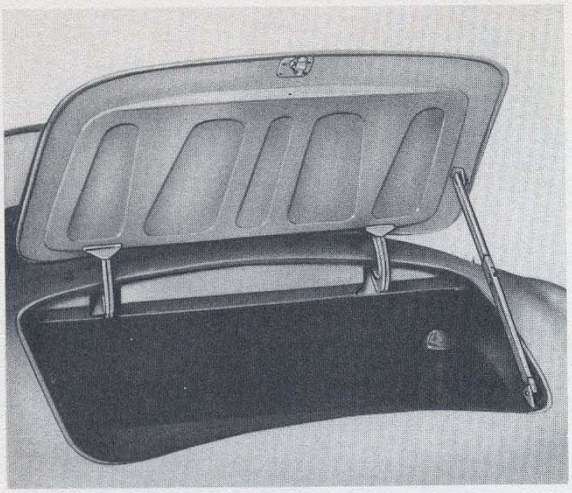


FIGURE 10—*Deck Cover Assembly and Attaching Parts.*

NOTE: *IDENTIFICATION OF PARTS ARE LISTED UNDER FIGURE 11 AND 9.*

11. ATTACHING PARTS REMOVED FROM DECK COVER

1. Rear deck cover stay hinge body bracket
2. Rear deck cover stay hinge body bracket bolt
3. Rear deck cover stay hinge body bracket bolt nut
4. Rear deck cover stay hinge
5. Rear deck cover stay hinge to body bracket bolt
6. Rear deck cover stay hinge to body bracket bolt spacer washer
7. Rear deck cover stay hinge to body bracket bolt lock washer
8. Rear deck cover stay hinge to body bracket bolt nut
9. Rear deck cover stay hinge to cover bolt
10. Rear deck cover stay hinge spacer washer
11. Rear deck cover stay hinge spacer nut
12. Rear deck cover stay hinge washer
13. Rear deck cover stay hinge lock washer
14. Rear deck cover stay hinge nut
15. Rear deck cover lock cylinder, housing and key assembly
16. Rear deck cover lock cylinder, housing to cover spacer washers
17. Rear deck cover lock cylinder, housing to cover nut
18. Rear deck cover lock cylinder, lock latch
19. Rear deck cover lock cylinder, lock latch spacer washer
20. Rear deck cover lock cylinder, lock latch lock washer
21. Rear deck cover lock cylinder, lock latch retaining screw
22. Rear deck cover lock striker (on body)
23. Rear deck cover lock striker screws
24. Rear deck cover lock striker screw nuts
25. Rear deck cover hinges to body bolts (¼x26x2″)

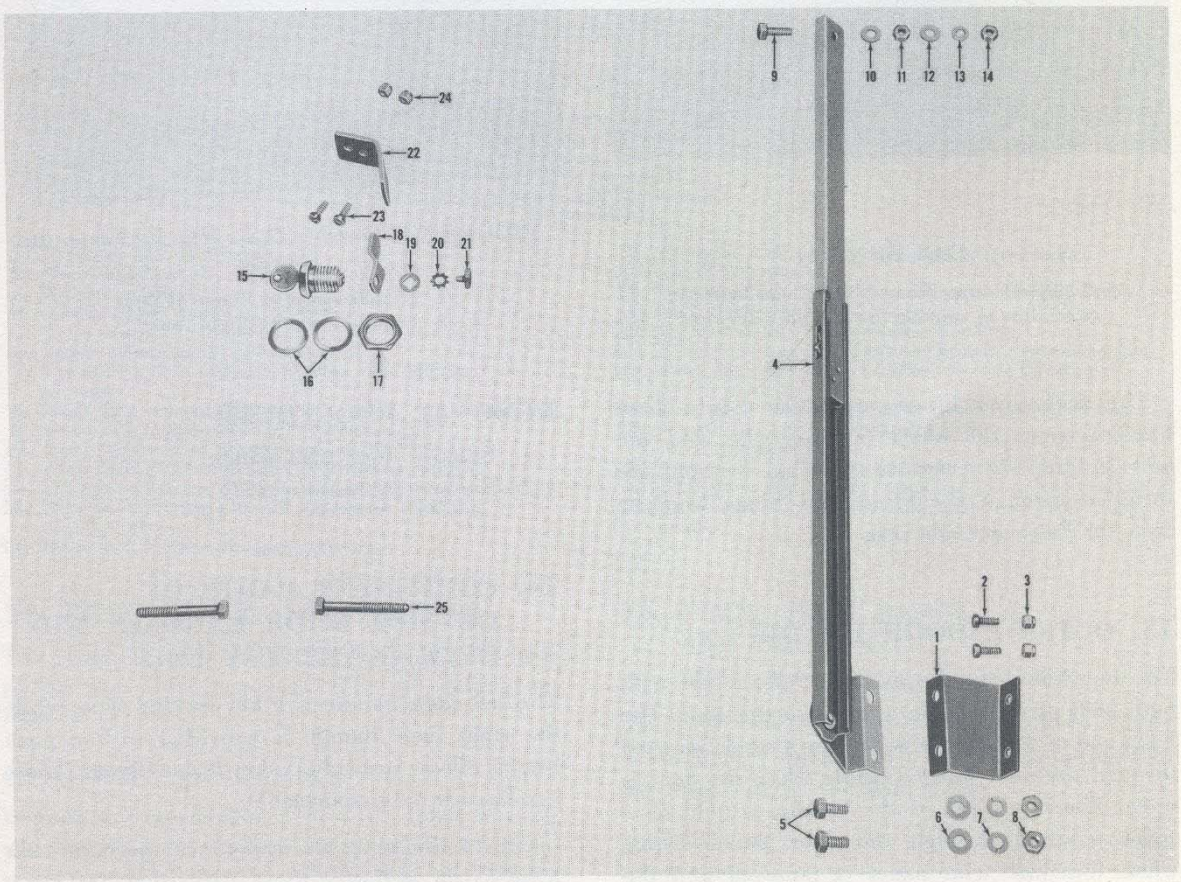


FIGURE 11—*Attaching Parts Removed from Deck Cover.*

12. DECK COVER REMOVAL FROM BODY

The deck cover hinge brackets are welded to the arched tubular support at the top of the division panel between the trunk compartment and the passenger compartment.

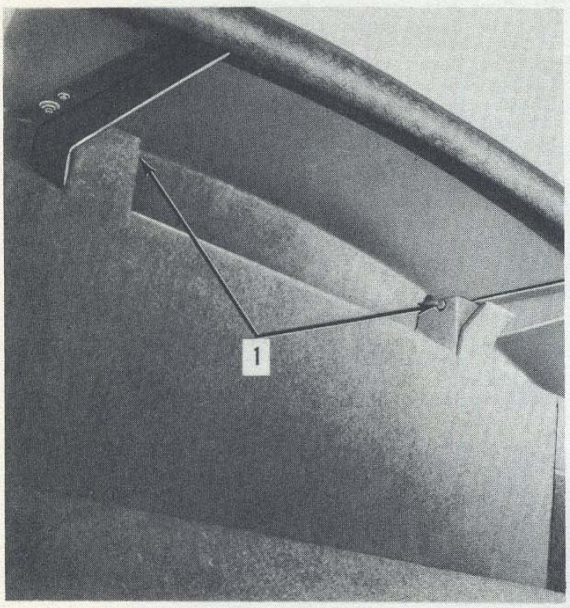


FIGURE 12.

1. Rear deck cover hinge bolts. These bolts are accessible by moving the seat back forward

The deck cover hinges are inserted into these brackets from the trunk opening side, and the bolts holding the hinges to the hinge brackets are installed through the hinge and hinge brackets from the Passenger side (Fig. 12).

13. OUTSIDE DOOR HANDLE

The door handle is a push-button release type with both ends of the handle screwed to the door. The large end of the handle is held by a screw inserted through the door flange—visible when the door is open. The small end of the handle, is held by a screw inserted through the door panel—visible when the door trim panel is removed and the door glass is raised.

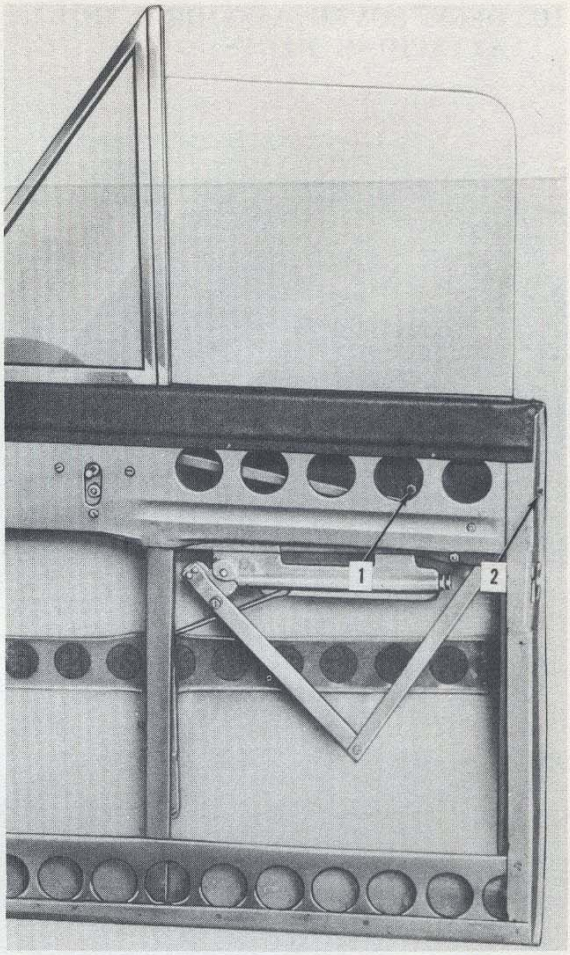


FIGURE 13—*Outside Door Handle Fastening Screws.*

1. Handle screw in flange of door
2. Handle screw inside of door

REMOVAL PROCEDURE

1. Remove door trim panel.
2. Remove screws (Fig. 13).

14. COMPONENT PARTS OF OUTSIDE DOOR HANDLES AND DECK COVER KEY LOCK

The left door handle is a key-locking type, while the right door handle is provided with a push button release instead of a key-lock cylinder. These handles are interchangeable.

Fig. 14 illustrates the component parts of each handle and indicates those parts that are interchangeable in each handle.

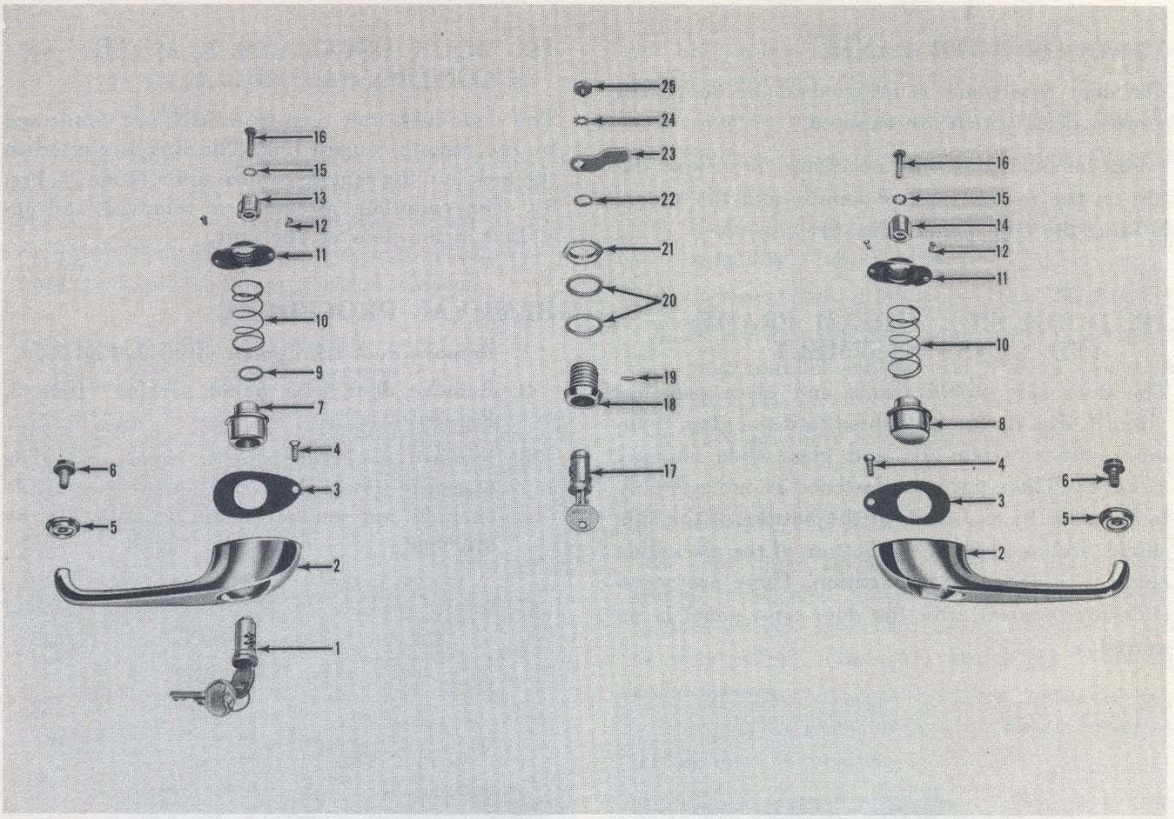


FIGURE 14—*Component Parts of Outside Door Handles and Deck Cover Key Lock.*

Outside door handle assembly (Locking type—left door)
Rear deck cover
Key lock assembly
Outside door handle assembly (right door)

1. Cylinder lock and keys
2. Door handle shell
3. Rubber washer
4. Screw—Door flange to handle
5. Trim washer—handle end
6. Screw—Door panel to handle end
7. Cylinder lock housing and door lock release plunger
8. Door lock release plunger
9. Door lock release plunger spacer washer
10. Door lock release plunger coil spring
11. Door lock release plunger coil spring retainer
12. Door lock release plunger coil spring retainer screws
13. Door lock release plunger extension (locking handle only)
14. Door lock release plunger extension
15. Cylinder lock and release plunger retaining screw lock washer
16. Cylinder lock and release plunger retaining screw
17. Rear deck key lock cylinder
18. Rear deck key lock cylinder housing
19. Rear deck key lock cylinder housing retaining pin
20. Rear deck key lock cylinder housing to cover spacer washers
21. Rear deck key lock cylinder housing to cover nut
22. Rear deck key lock cylinder lock latch spacer washer
23. Rear deck key lock cylinder lock latch
24. Rear deck key lock cylinder lock latch lock washer
25. Rear deck key lock cylinder lock latch retaining screw

15. REMOTE CONTROL HANDLE

The remote control handle, (Item 5, Fig. 6) is a pin-on type which is concealed by the escutcheon, Item 4.

REMOVAL PROCEDURE

Depress the escutcheon. This will expose the pin which is inserted through the handle and the remote control shaft. The pin may be driven out with a thin pointed drift.

16. DOOR TRIM PANEL ASH RECEIVER

1951 Nash-Healey Sports Car

The door trim panel ash receiver (Item 6, Fig. 6) is completely enclosed by a housing fastened to the back side of the trim panel.

The ash receiver cup will revolve by pushing on one end to open or to close. The cup can be removed for cleaning when in the open position.

17. DOOR TRIM PANEL

The door trim panel is fastened to the door with screws, all of which are exposed.

For removal it is only necessary to remove the pin on the remote control handle and the screws holding the trim panel (Fig. 6).

18. DOOR SIDE SHIELD FRAME AND GLASS ASSEMBLY

The door side shield frame and glass assembly (Item 1, Fig. 8) has assembled to it the glass channel retainer, (Item 6), and glass slide channel (Item 8). These parts are fastened as one assembly to the door by two studs at the bottom of the side shield, and one bolt at the bottom of the glass slide channel to door center partition. These are accessible for removal after the door trim panel is removed.

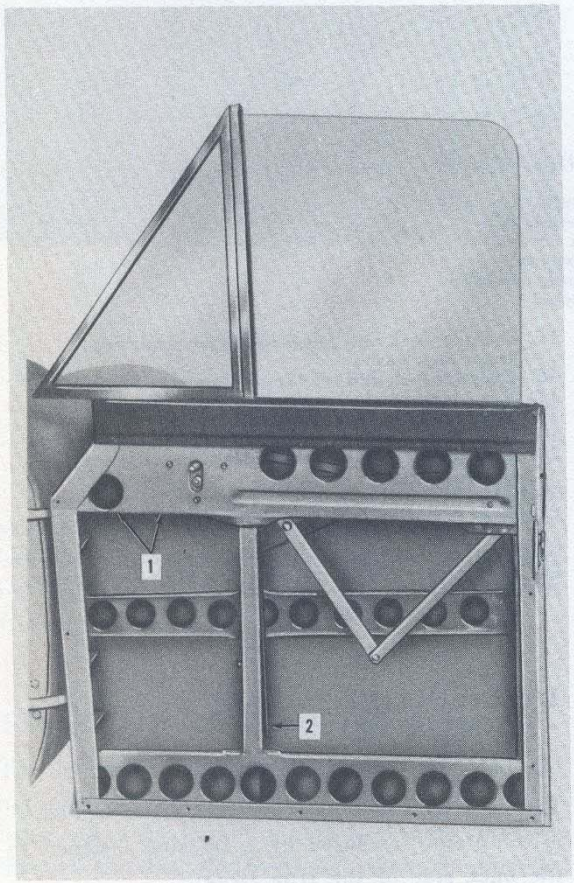


FIGURE 18—*Door Side Shield Frame and Glass Assembly.*

1. Studs bottom of side shield fastened to top of door
2. Bolt glass channels to door center partition

19. DOOR LOCK AND REMOTE CONTROL ASSEMBLY

The door lock and remote control are connected by the remote control link. The link is riveted to the lock and the remote control units (Item 24, Fig. 8). The complete assembly is removed and installed in the door as one unit.

REMOVAL PROCEDURE

1. Remove door trim panel (Item 1, Fig. 6).
2. Remove door trim panel overlay (Item 3, Fig. 6).
3. Remove door side shield, frame and glass assembly (Item 1, Fig. 8) with glass slide channel and retainer (Item 6 and 8, Fig. 8) attached.

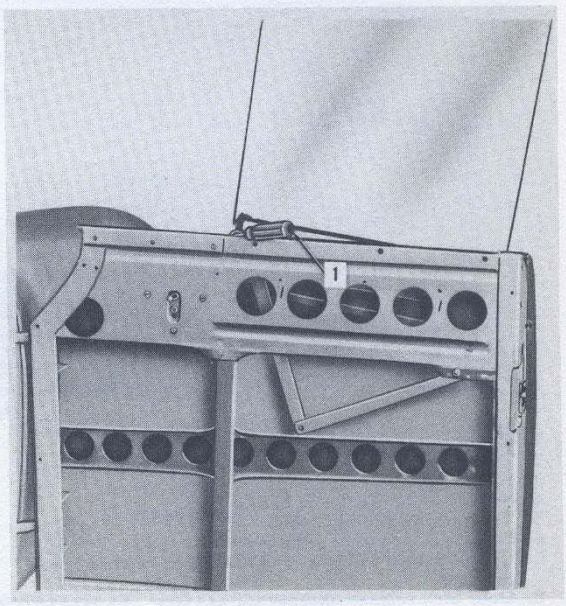


FIGURE 19—*Door Glass Wedged in Raised Position for Removal of Door Lock and Remote Control Assembly.*

4. Remove stop screw (Item 17, Fig. 7).
5. Lift door glass and wedge with screw driver to hold in raised position (Fig. 19).
6. Remove screws holding door lock and remote control to door.
7. Turn door lock toggle to vertical position and lower lock to inside of door.
8. Push remote control unit to inside of door inner panel then guide through opening in door center pillar.
9. Remove the complete assembly through large opening in door inner panel.

20. DOOR GLASS, BOTTOM CHANNEL AND CONTROL ARM ASSEMBLY

The door glass is manually operated by raising or lowering the glass. The combination glass bottom channel and control arm assembly (Item 13, Fig. 8) is provided with a counterbalance adjustment to hold the door glass at any position selected.

DOOR GLASS COUNTER BALANCE ADJUSTMENT

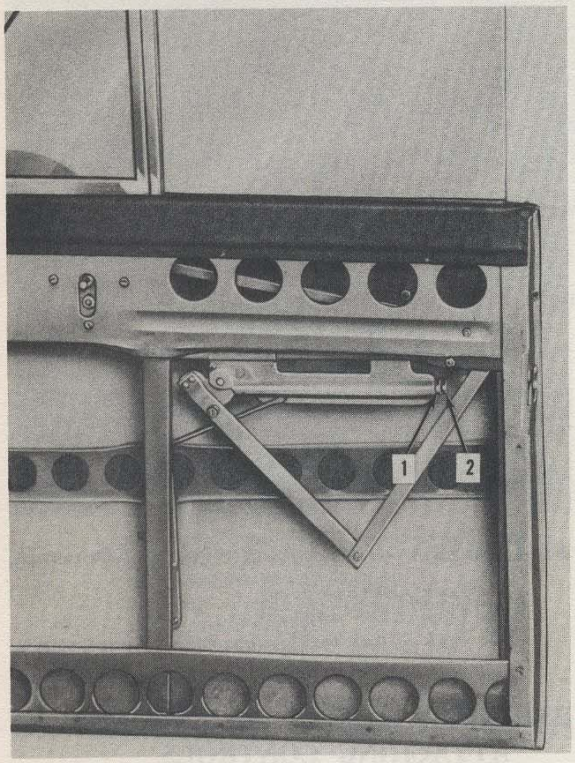


FIGURE 20—*Adjusting Door Glass Control Arm Assembly.*

1. Lock nut
2. Adjustment nut

The adjustment can be made by loosening the adjustment lock nut (Item 1, Fig. 20). Then tighten or release the adjustment nut (Item 2, Fig. 20). This adjustment should be made while the glass is being raised and lowered, so the proper counterbalance tension can be determined. After this adjustment is made tighten the lock nut.

DOOR GLASS OR BOTTOM CHANNEL AND CONTROL ARM ASSEMBLY REMOVAL PROCEDURE

The complete assembly of door glass, bottom channel and control arm assembly is removed and installed as one unit (Item 13, Fig. 8).

1. Remove door trim panel (Item 1, Fig. 6).
2. Remove door trim panel overlay (Item 3, Fig. 6).
3. Remove door side shield frame and glass assembly (Item 1, Fig. 8).
4. Remove door glass stop (Item 17, Fig. 7).
5. Remove screws door inner panel to glass bottom channel control arm bracket (Item 14, Fig. 7).
6. Lift complete assembly from door.

21. DOOR HINGES

The door hinge assembly (Item 34, Fig. 8) consists of three parts. (Item 39) Hinge arm (Bolted to door pillar). (Item 40) Hinge bracket (Bolted to body pillar). (Item 41) Hinge pin (bolt, nut and washer).

Doors can be removed from the hinges by removing the door trim panel.

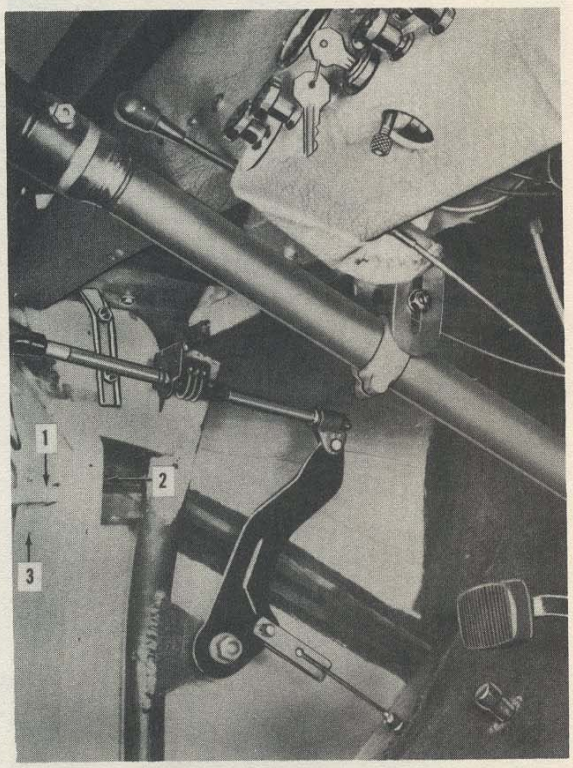


FIGURE 21—*Door Hinges to Body Pillar, Upper Hinge Shown.*

1. Hinge Arm—(Bolted to door)
2. Hinge pin (bolt-nut and washer)
3. Bolts body pillar to hinge bracket

To remove the door hinge from the body, the cowl squab must be removed and then the hinge pin (bolt, nut and washer) removed. This will permit the door hinge arm to be removed from the body. The hinge bracket can then be removed from the body pillar by removing two bolts holding the hinge bracket to the body pillar (Item 3, Fig. 21).

22. DOOR LOCK STRIKER AND DOVETAIL

The door lock striker serves a dual purpose. It keeps the door in the latched position, and prevents the door from moving up and down. The upper block on the striker moves in and out under spring tension when the door is closed and opened. It serves as a bearing surface for the top of the lock toggle as it is turned to the vertical position when the door is closed. The lock striker is adjustable in and out and up and down.

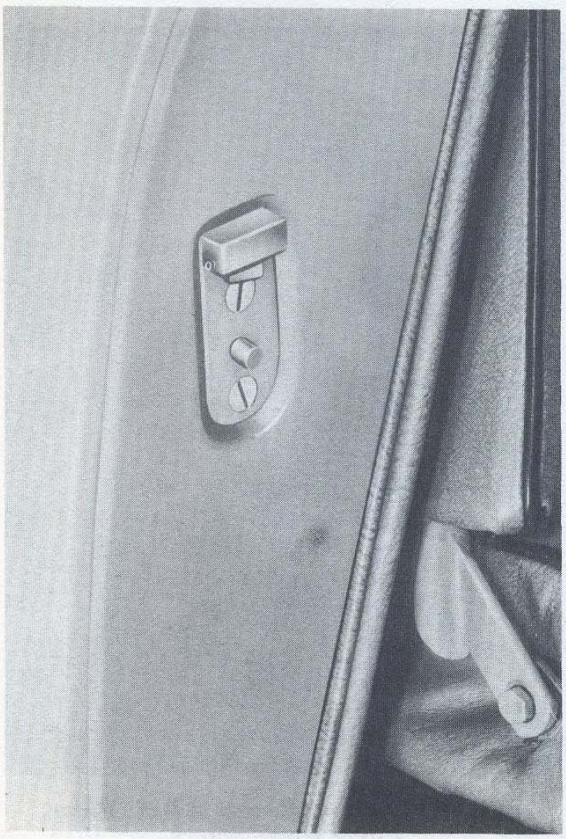


FIGURE 22—*Door Lock Striker and Dovetail Assembly Right Side Shown.*

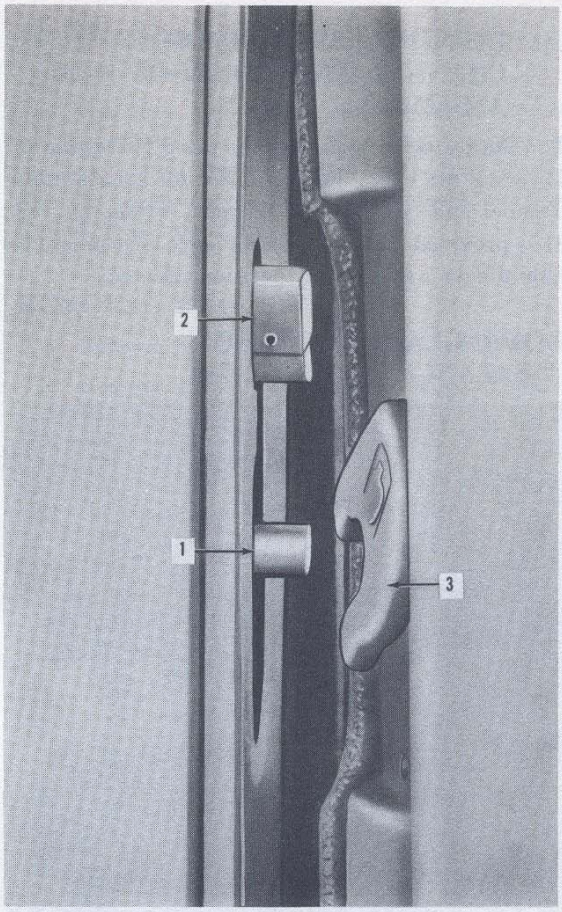


FIGURE 22-A—*Door Lock Striker and Dovetail.*

1. Lock striker pivot pin
2. Lock striker upper block
3. Fork of lock toggle engaging striker pivot pin

23. INSTRUMENT PANEL WITH ATTACHING CONTROLS AND INSTRUMENTS

The instrument panel is made up of three sections: The center section (Item 10, Fig. 23) or instrument cluster and control panel section; the left side (Item 1, Fig. 23); and the glove box, (Item 9), on the right side.

The center and left side sections are aluminum covered with leather. The glove box face panel is wood covered with leather.

The glove box and left side panels are fastened to the body pillar with one screw each. The left side panel is fastened to the center section with bolts, while the glove box is fastened to a bracket on the center section with wood screws.

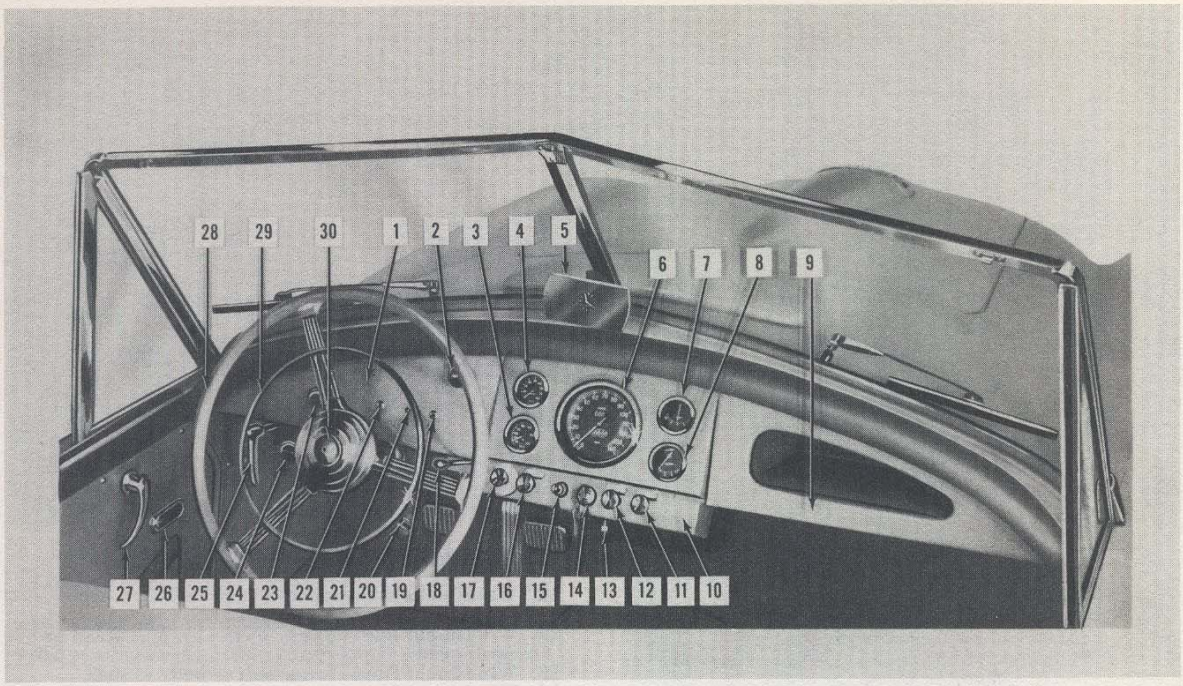


FIGURE 23—*Instrument Panel with Attaching Controls and Instruments.*

1. Instrument panel left side
2. Hood control
3. Temperature gauge
4. Oil pressure gauge
5. Rear view mirror
6. Speedometer
7. Ammeter
8. Fuel gauge
9. Glove box assembly
10. Instrument cluster and control panel
11. Headlight switch
12. Windshield wiper switch
13. Trip mileage set screw (speedometer)
14. Ignition switch
15. Starter switch
16. Heater control and fan switch
17. Starting mixture control (choke)
18. Directional signal control lever
19. Headlamp high beam indicator light (red)
20. Headlamp dimmer switch
21. Overdrive indicator light (green)
22. No charge indicator light (red)
23. Cowl ventilator control
24. Overdrive control
25. Hand brake lever
26. Door ash receiver
27. Door remote control handle
28. Steering wheel
29. Horn ring
30. Overdrive kickdown switch

24. WINDSHIELD ASSEMBLY AND ATTACHING PARTS

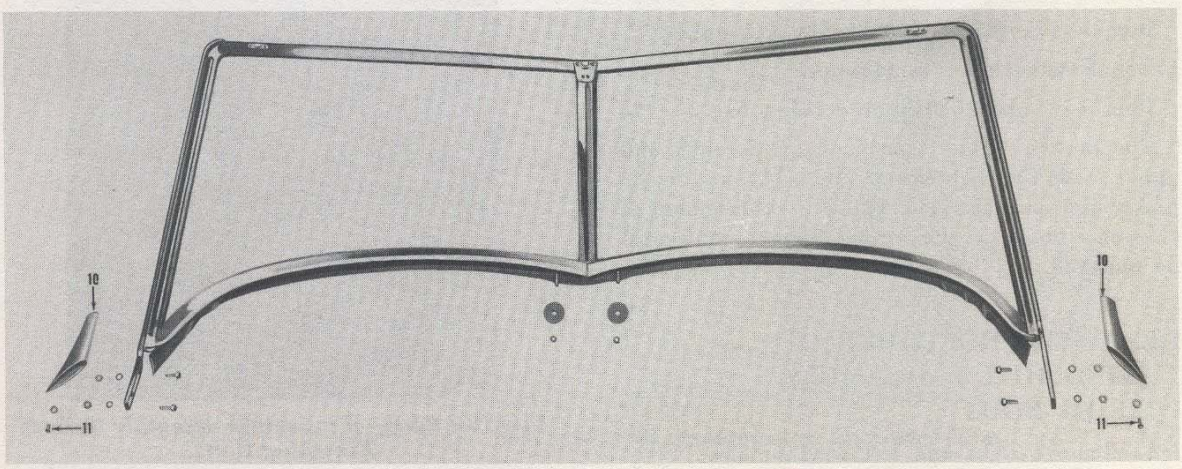


FIGURE 24—*Windshield Assembly and Attaching Parts as Removed from Body.*

10. Windshield side support to cowl bracket
11. Windshield side support to cowl bracket screw

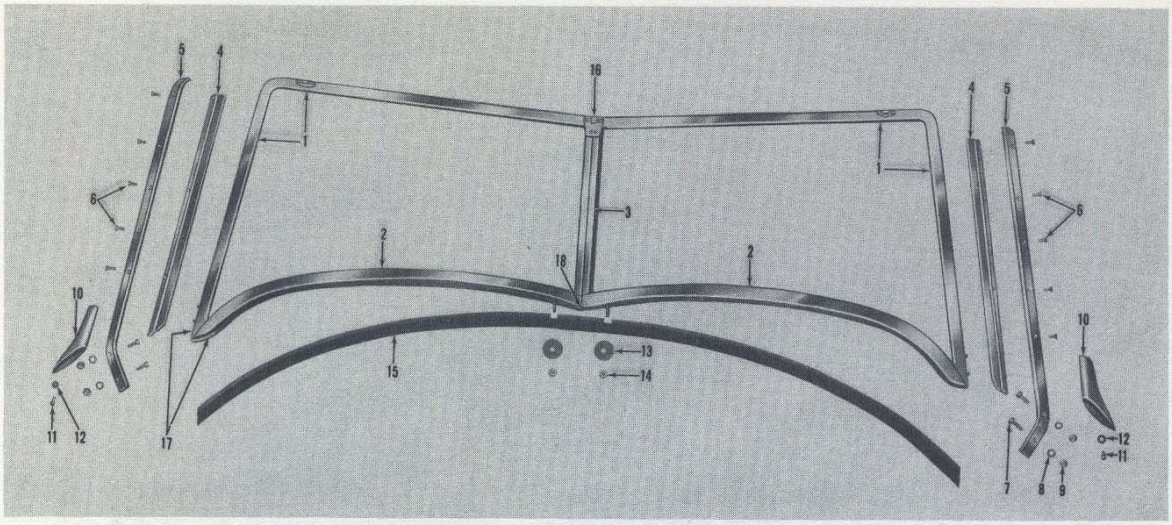


FIGURE 24-A—*Windshield Assembly with Attaching Parts Removed.*

1. Windshield frame—sides and upper
2. Windshield frame—lower, includes fastening bolts
3. Windshield frame center division bar
4. Windshield rubber weatherstrip and retainer for door side shield
5. Windshield to body side support—right and left
6. Windshield side support to windshield screws
7. Windshield side support to body screws
8. Windshield side support to body screw lock washer
9. Windshield side support to body screw nut
10. Windshield side support to cowl bracket—right and left
11. Windshield side support to cowl bracket screw to cowl
12. Windshield side support to cowl bracket screw to cowl washer
13. Windshield frame lower bolt to body washer
14. Windshield frame lower bolt to body nut
15. Windshield frame lower sealer rubber
16. Windshield center division bar to upper frame-fastening plate
17. Screws windshield frame sides and upper to lower section
18. Screws windshield lower section to center division bar

The windshield assembly is bolted to the cowl top by two studs in the center of the lower frame section and two bolts through the side supports to the body pillars on each side.

To replace the lower sealer rubber or glass, the complete assembly must be removed from the car (Fig. 24) then disassembled (Fig. 24-A).

The windshield frame is divided into three sections (Fig. 24-A).

Item 1—windshield frame sides and upper.

Item 2—windshield frame lower.

Item 3—windshield center division bar.

The bottom frame is fastened to the sides and upper section at each corner (Item 17), and to the center division bar (Item 18). For replacement of glass on either side, the bottom frame section must be removed.

REMOVAL PROCEDURE OF WINDSHIELD ASSEMBLY FROM BODY

1. Remove right and left cowl squabs.
2. Remove nuts from studs center of windshield frame to cowl top (Item 1, Fig. 24-B).

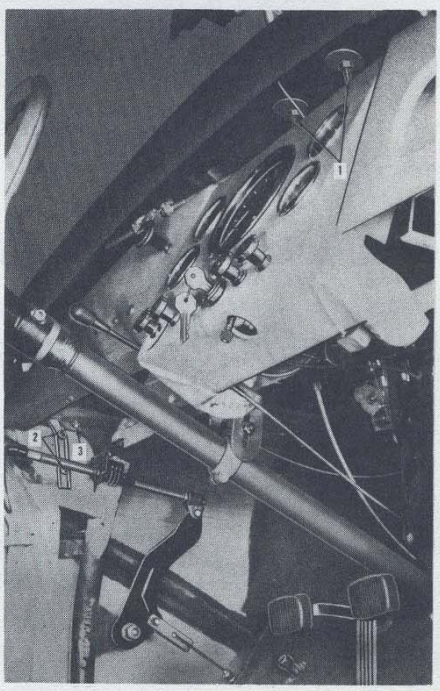


FIGURE 24-B—*Windshield Assembly to Body Fastening Bolts.*

1. Studs, center of windshield frame to cowl top
2. Bolts, windshield to body side support
3. Screw cowl to windshield side support bracket

3. Remove bolts windshield to body side support (both sides of body) (Item 2).

4. Remove screw cowl to windshield side support bracket (both sides of body).

5. Lift windshield assembly (Fig. 24) from body.

6. Disassemble as necessary (Fig. 24-A).

NOTE: *When reinstalling windshield assembly, and before tightening all fastening bolts and nuts, the doors must be closed and the windshield properly spaced at the door side shields.*

The windshield side support to cowl brackets, (Item 10, Fig. 24) should be provided with adequate seal to prevent water leaks through the cowl opening for windshield to body side supports.

25. WINDSHIELD WIPER ARMS AND BLADES

The windshield wiper arms are fastened to the driveshaft with friction nuts which set on the shaft and screw into the arm. This tightening operation decreases the diameter of the friction nut which securely fastens the arm to the shaft.

Fig. 25 illustrates the friction nut that it may not be confused with the shaft holding nut.

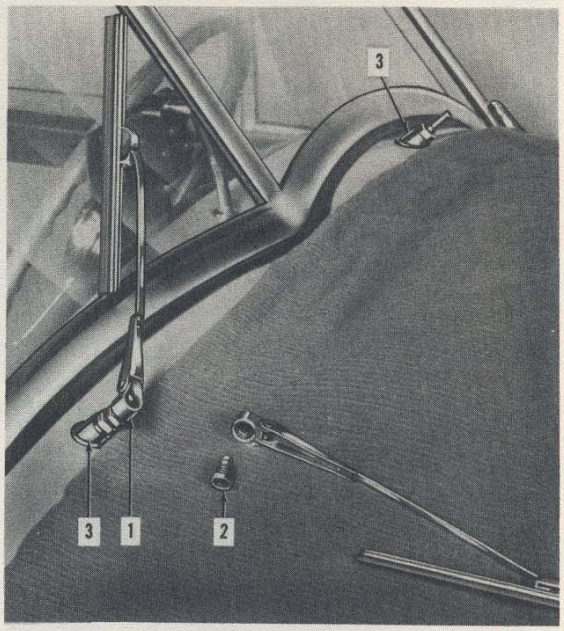


FIGURE 25—*Removing Windshield Wiper Arms.*

1. Wiper arm friction lock nut (on shaft)
2. Wiper arm friction lock nut removed
3. Wiper shaft holding nut

When installing wiper arms, a final adjustment must be made whereby both arms have the same limit of travel.

26. WINDSHIELD WIPER AND ATTACHING PARTS

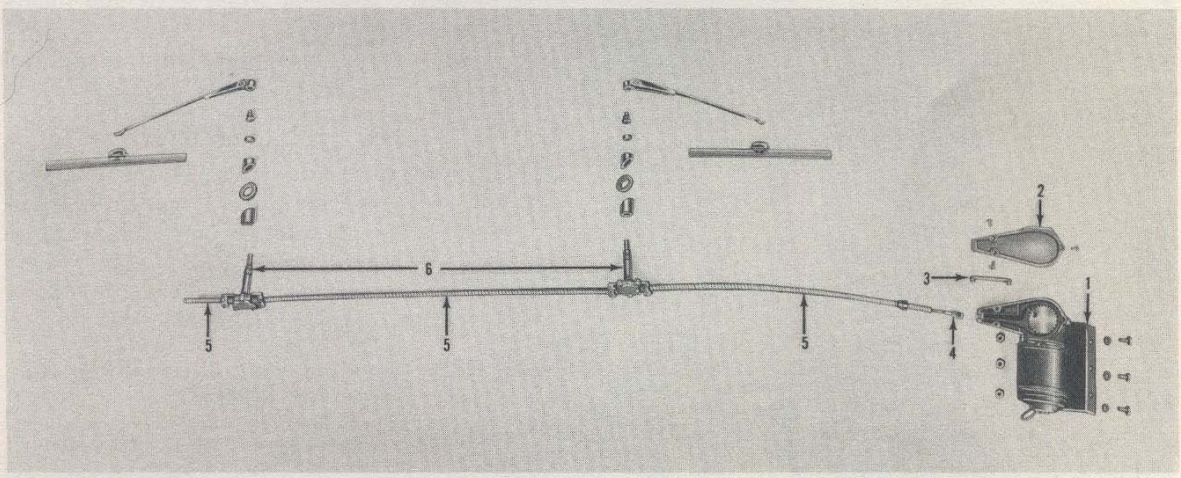


FIGURE 26—*Windshield Wiper and Attaching Assemblies as Removed from Car.*

1. Windshield wiper motor and transmission assembly
2. Transmission cover (removed)
3. Transmission to cable connection arm
4. Cable (end shown)
5. Left (short) center (long) and right cable armour
6. Windshield wiper arm drive shaft and housing assembly

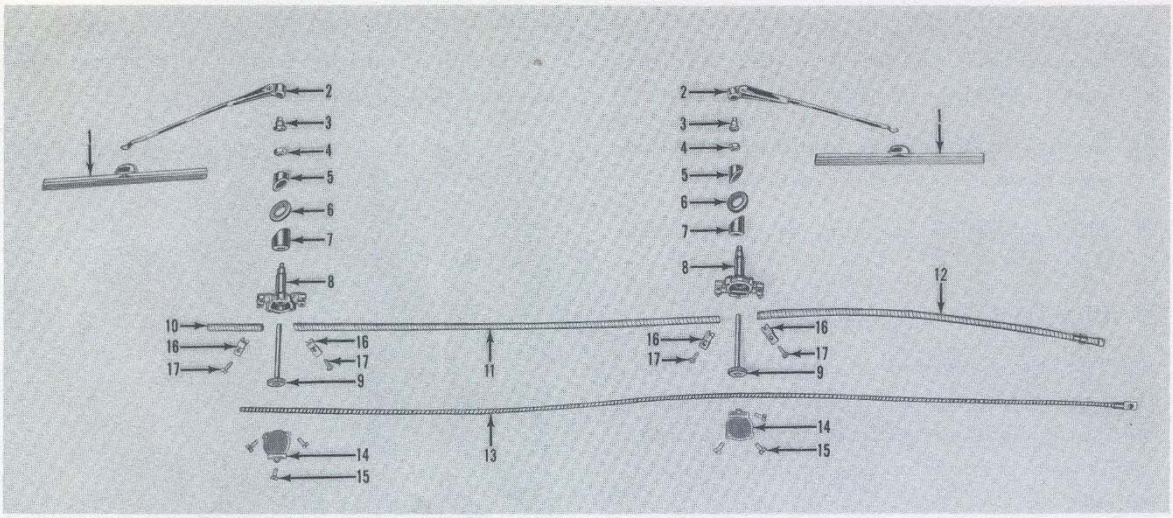


FIGURE 26-A—*Windshield Wiper Cable and Attaching Parts.*

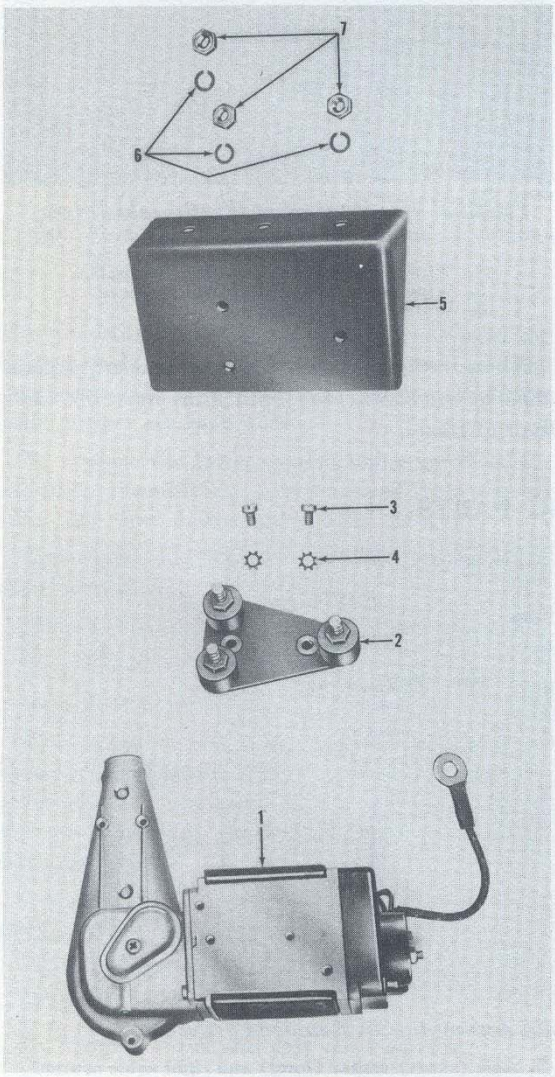


FIGURE 26-B—*Windshield Wiper Motor and Mounting Brackets.*

1. Windshield wiper blades
2. Windshield wiper arms
3. Windshield wiper arms friction lock nut
4. Windshield wiper drive shaft holding nut
5. Windshield wiper drive shaft spacer (chrome)
6. Windshield wiper drive shaft spacer washer (rubber)
7. Windshield wiper drive shaft to body spacer (brass)
8. Windshield wiper drive shaft to housing assembly
9. Windshield wiper drive shaft
10. Windshield wiper cable armour (left)
11. Windshield wiper cable armour (center)
12. Windshield wiper cable armour (right)
13. Windshield wiper cable assembly
14. Windshield wiper cable shaft housing cover plate
15. Windshield wiper cable shaft housing cover plate screws
16. Windshield wiper cable armour to shaft housing clamp
17. Windshield wiper cable armour to shaft housing clamp screw

REMOVAL PROCEDURE (OUTSIDE CAR)

1. Disconnect battery.
2. Remove windshield wiper arms and blades (Fig. 25).
3. Remove wiper shaft holding nut, spacer and washer (Fig. 25).

FROM INSIDE CAR (Fig. 26-C)

4. Remove glove box (Item 1), by removing one screw to body pillar (Item 2) and four wood screws bracket to back side of glove box (Item 3).
5. Remove instrument panel left side brace and overdrive control bracket (Item 4).

FIGURE 26-B—*Windshield Wiper Motor and Mounting Brackets.*

1. Windshield wiper motor and transmission assembly
2. Windshield wiper motor and transmission assembly insulated mounting bracket
3. Screws insulated mounting bracket to motor assembly
4. Lock washer insulated mounting bracket to motor assembly
5. Windshield wiper motor to body mounting bracket
6. Lock washer W/s wiper motor to body mounting bracket
7. Nuts W/s wiper motor to body mounting bracket

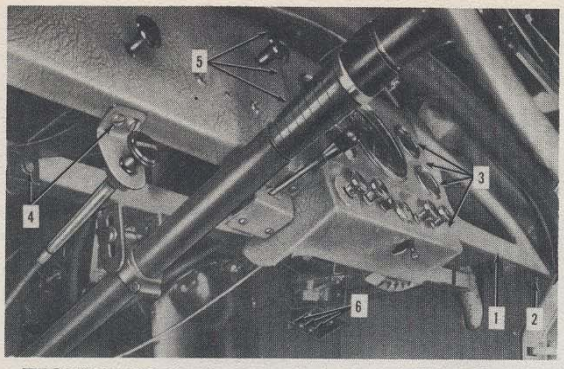


FIGURE 26-C—*Instrument Panel Parts to be Loosened or Removed for Removal of Windshield Wiper Assembly.*

1. Glove box assembly
2. One screw to body pillar
3. Four wood screws bracket to back side of glove box
4. Instrument panel left side brace and overdrive control bracket
5. Instrument panel left side—1 screw to body hinge pillar as shown at number 2 and 3 bolts to center instrument cluster
6. Three bolts at wiper motor body bracket

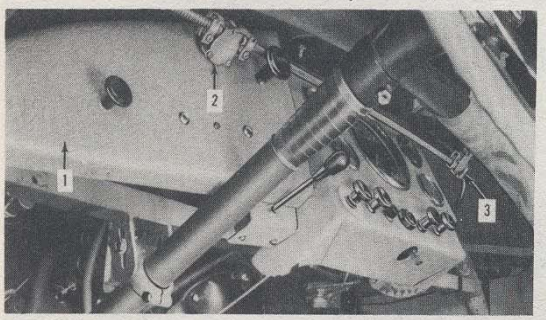


FIGURE 26-D—*Removing Windshield Wiper Cable Assembly from Top of Instrument Panel.*

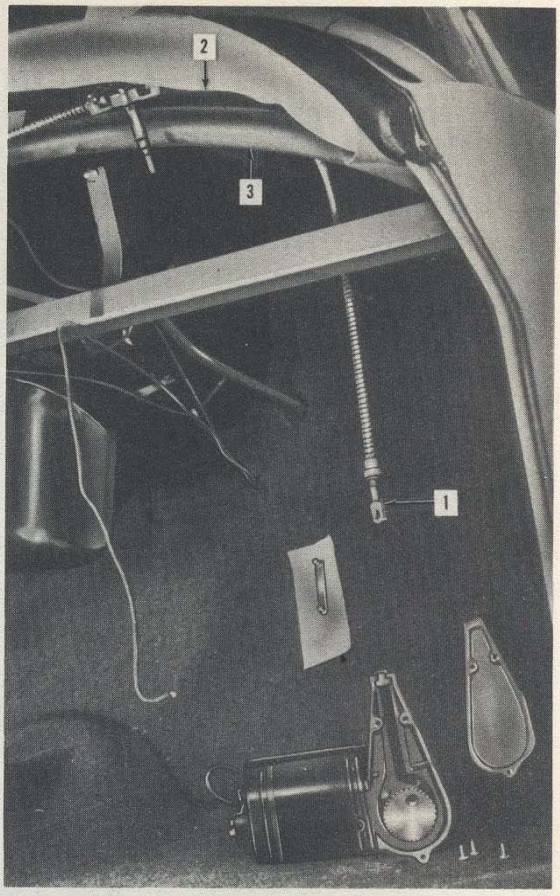


FIGURE 26-F—*Removing Cable End from Body*

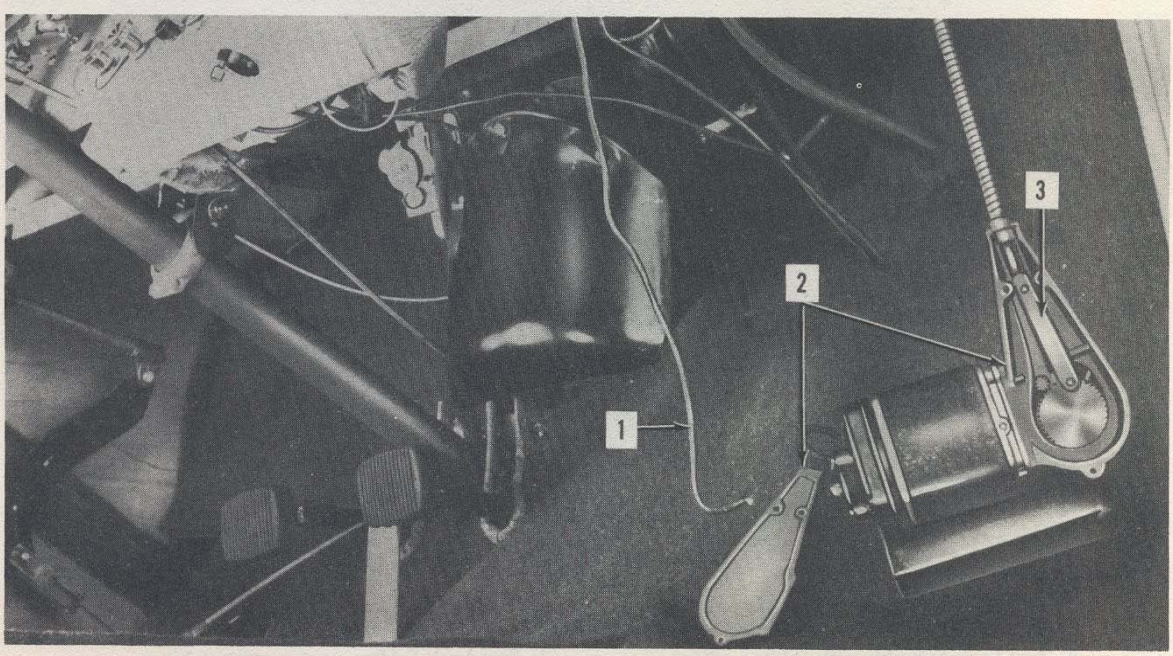


FIGURE 26-E—*Disconnection Wire and Cable from Motor and Transmission Assembly.*

6. Loosen instrument panel left side (Item 5) by removing one screw to body pillar and three bolts to center instrument cluster (Item 5, Fig. 26-C).
7. Remove three bolts holding wiper motor to dash panel (Item 6, Fig. 26-C).
8. Tilt instrument panel left end (Item 1, Fig. 26-D) back at top so wiper shaft and housing assembly (Item 2) will pass to front side.
9. Lower right side wiper shaft and housing assembly (Item 3, Fig. 26-D).
10. Disconnect wire from wiper motor (Item 1, Fig. 26-E).
11. Remove cover plate from transmission assembly (Item 2, Fig. 26-E).
12. Remove transmission to cable connecting arm (Item 3, Fig. 26-E).
13. With windshield wiper cable removed from motor and transmission assembly, the complete cable and drive shaft assembly can be removed from the body by pulling the cable end between the cowl panel (Item 2) and the cowl tubular arched brace (Item 3, Fig. 26-F).

27. SEAT CUSHION AND BACK ASSEMBLY

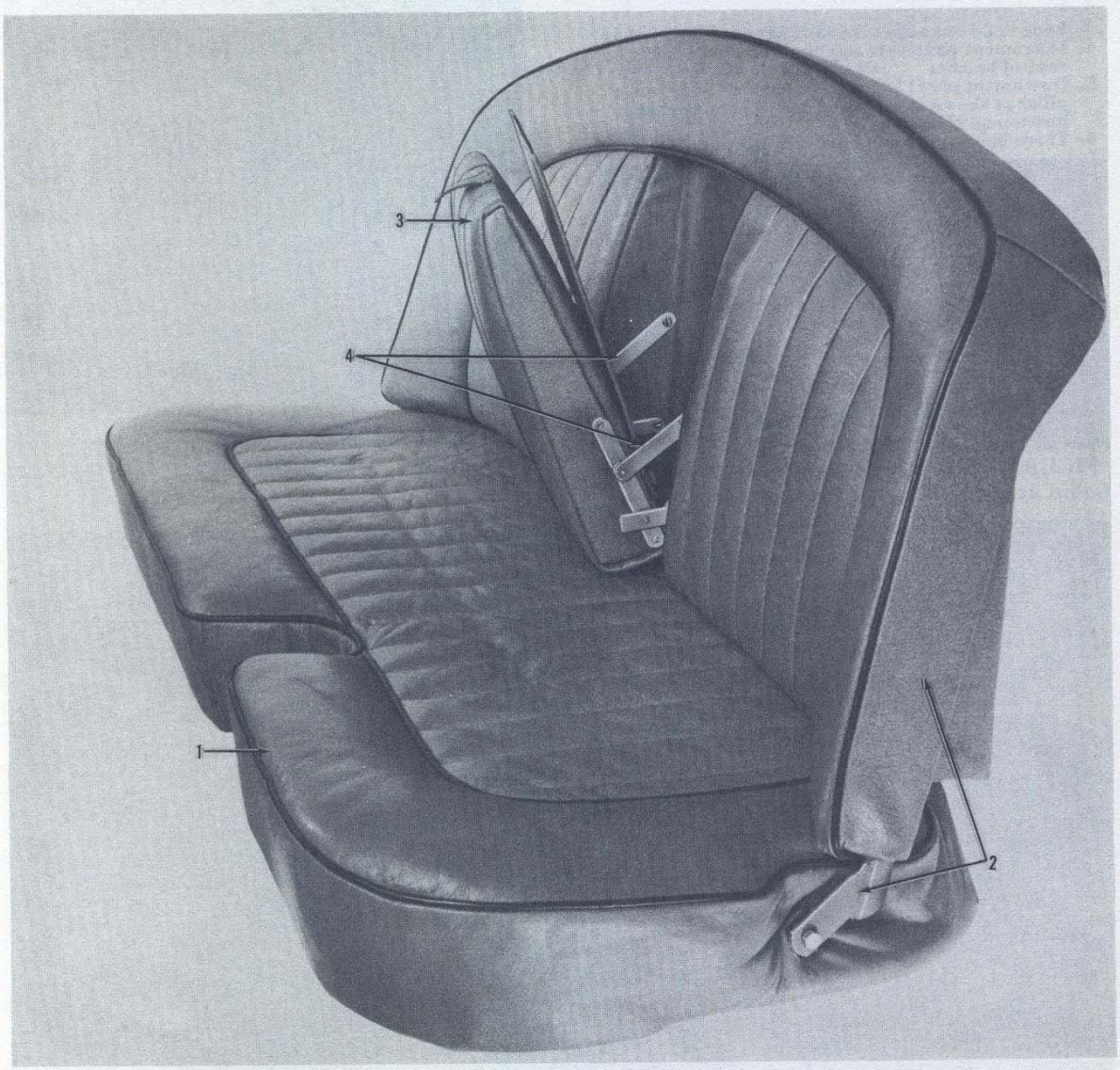


FIGURE 27—*Seat Cushion and Back Assembly with Folding Center Armrest.*

1. Seat cushion assembly
2. Seat back assembly with folding center armrest assembly
3. Seat back folding center armrest assembly
4. Seat back folding center armrest hinge assembly right and left

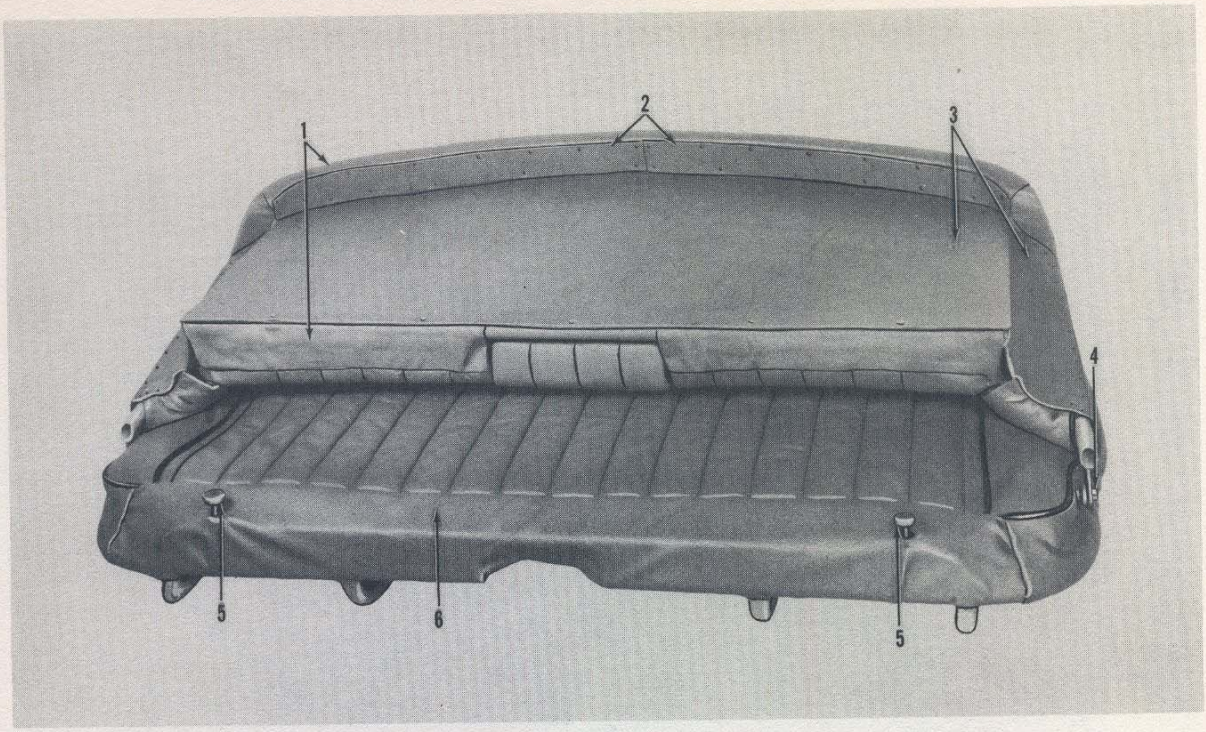


FIGURE 27-A—*Seat Cushion and Back Assembly—Rear View.*

1. Seat back upholstery (front of back)
2. Seat back top rail upholstery left and right
3. Seat back kick pad (upholstery back of back)
4. Bolt-nut and washer seat back to seat cushion
5. Seat back adjusting screws
6. Seat cushion upholstery

The seat back assembly is bolted to the seat base (Item 2).

The seat back folding center armrest and hinge assembly is screwed to the seat back armrest well (Item 4).

The seat back upholstery (front of back) is tacked to the seat back frame; then the kick pad and seat back top rail upholstery is tacked and screwed to the seat back frame to cover the edges of the seat back upholstery.

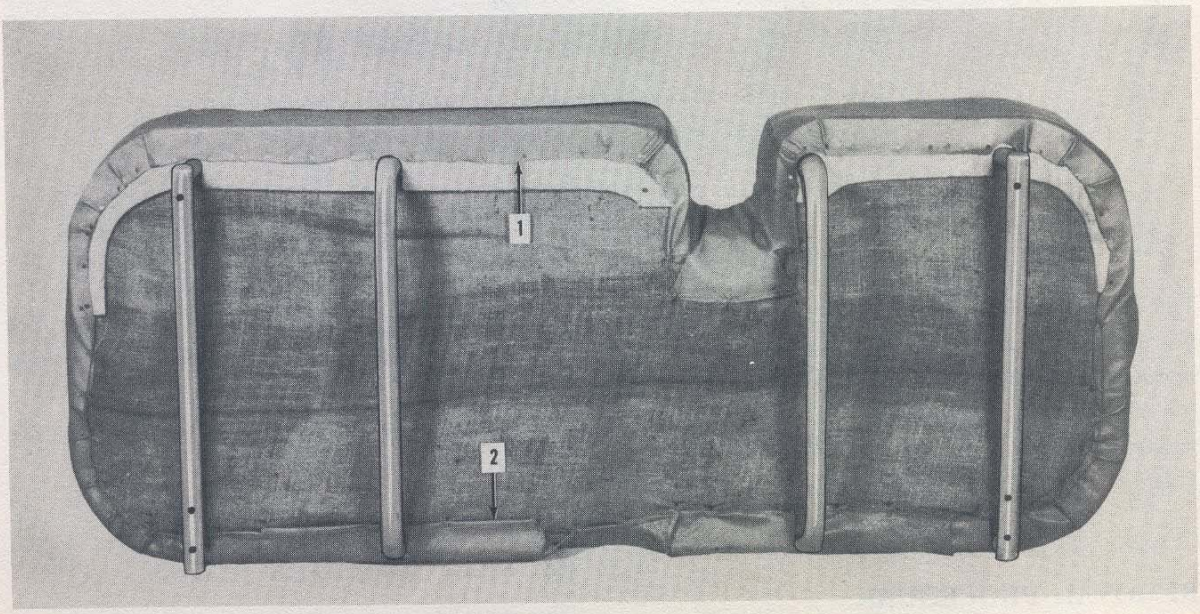


FIGURE 27-B—*Seat Cushion Bottom View.*

1. Seat cushion upholstery tacked to front edge
2. Seat cushion upholstery sewed to rear edge and sides

FIGURE 27-C—*Front Seat Assembly and Adjuster Tracks.*

1. Seat adjuster stop bracket (on left adjuster track)
2. Bolts-nuts and washers, seat adjuster tracks to body floor
3. Seat adjuster control handle

The seat assembly is fastened to the body floor by four bolts through the lower section of the adjuster lower slide section (Item 2, Fig. 27-C), then through the body floor panels. Large flat washers, lock washers and nuts are installed on these bolts on the outside of the body and under side of the floor.

REMOVAL PROCEDURE

1. Remove seat adjuster slide stop bracket (Item 1).
2. Remove nuts, lock washers and large flat washers from under the side of the body floor.
3. Lift complete seat cushion and back assembly from car.

28. SEAT ADJUSTER SLIDES

The complete seat cushion and back assembly is removed from the body with the seat adjuster slide bolted to the seat cushion base supports.

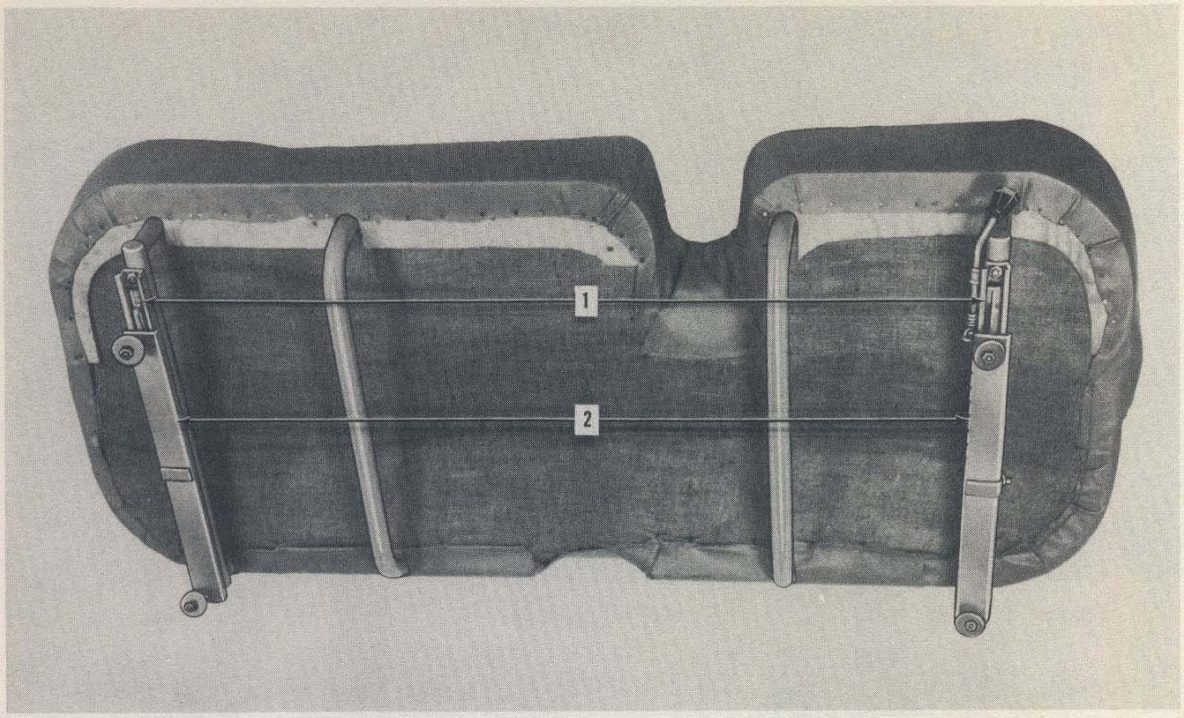


FIGURE 28—*Seat Cushion and Back Assembly with Seat Adjuster Slides Attached.*

1. Seat adjuster slide upper half bolted to cushion base support
2. Seat adjuster slide lower half in open position to be removed from upper half by sliding to rear

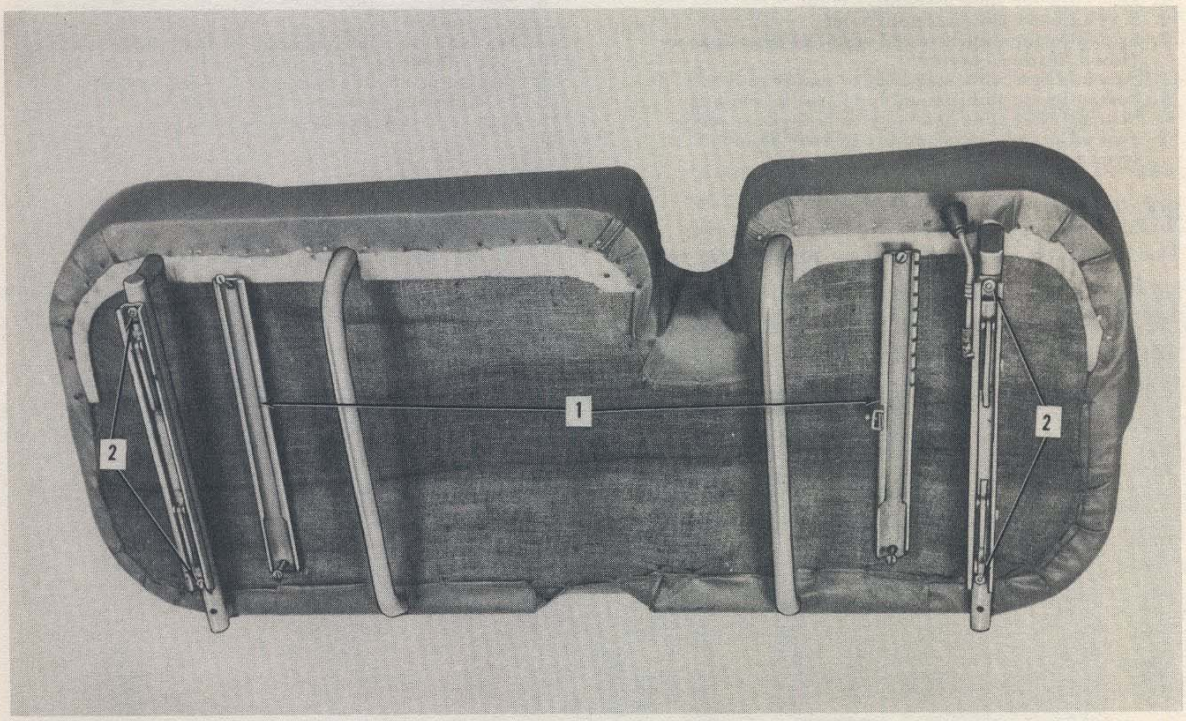


FIGURE 28-A—*Removing Seat Adjuster Slides from Seat Cushion Base.*

1. Seat adjuster slides lower half removed from upper half
2. Bolts, nuts and washers seat adjuster slide upper half to seat base support

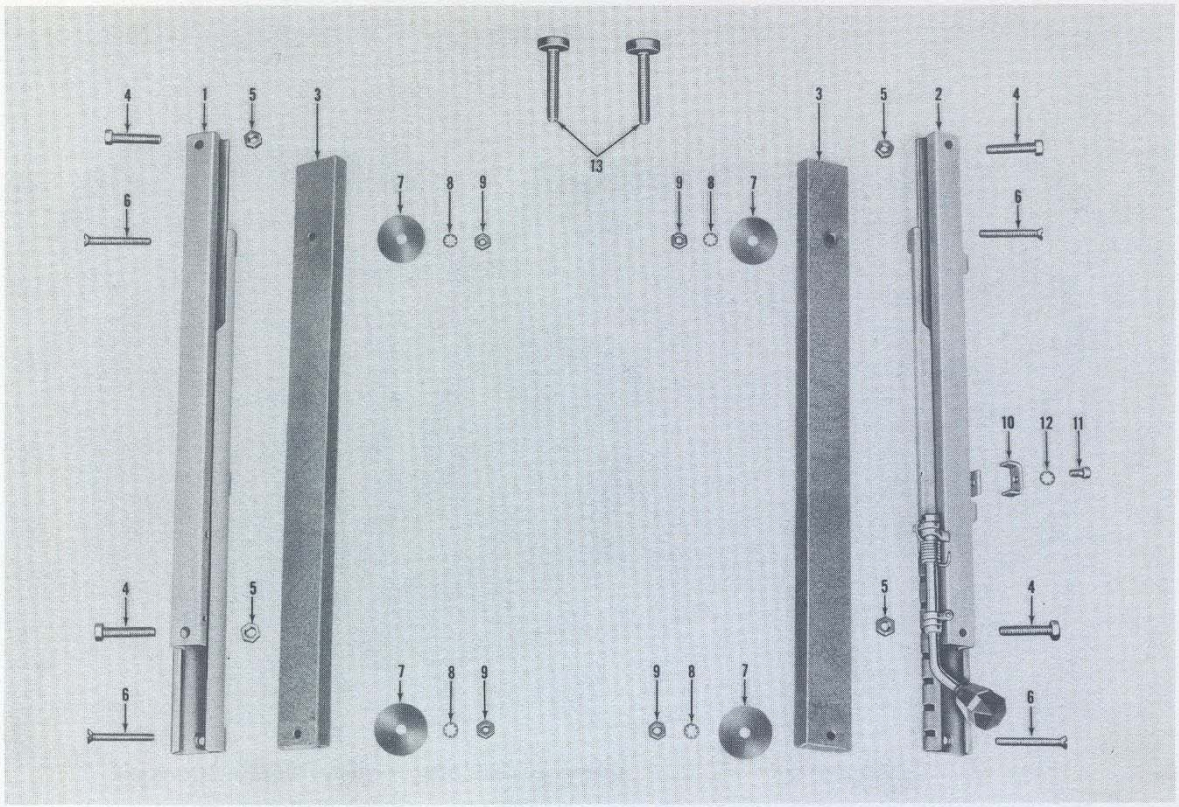


FIGURE 28-B—*Seat Adjuster Slides and Attaching Parts.*

1. Seat adjuster slide assembly—right
2. Seat adjuster slide assembly—left
3. Seat adjuster slide assembly to body floor spacers (wood, leather covered)
4. Seat adjuster slide assembly to seat frame bolt
5. Seat adjuster slide assembly to seat frame nut
6. Seat adjuster slide assembly to body floor screw
7. Seat adjuster slide assembly to body floor screw washer
8. Seat adjuster slide assembly to body floor screw lock washer
9. Seat adjuster slide assembly to body floor screw nut
10. Seat adjuster slide stop bracket
11. Seat adjuster slide stop bracket lock washer
12. Seat adjuster slide stop bracket screw
13. Seat back to seat base adjusting screws

29. FOLDING TOP

The manually operated folding top can be raised or lowered easily. It is so designed that after folding it is to be lowered into the body and concealed behind the seat back.

FOLDING TOP OPERATION TO LOWER THE TOP

1. Release toggle clamps on top front bow from catches on windshield upper frame (Fig. 29).
2. Open both doors.

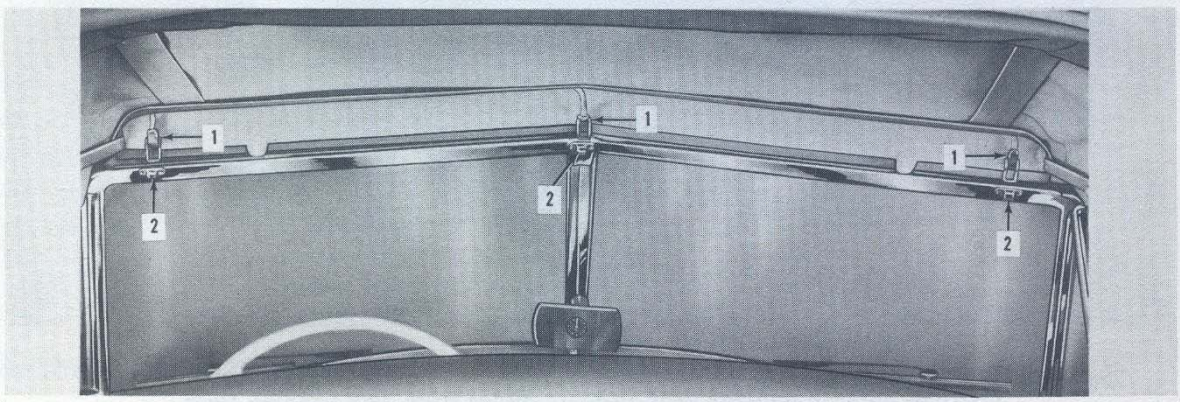


FIGURE 29—*Toggle Clamps, Item 1 on Top Front Bow Released from Catches, Item 2 on Windshield Upper Frame.*

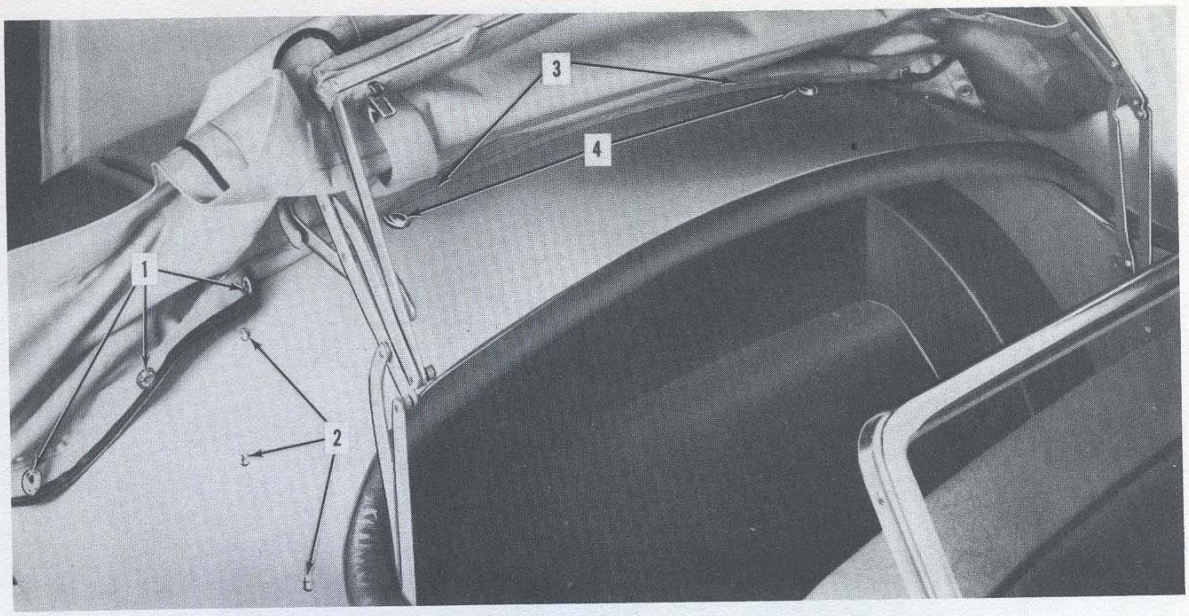


FIGURE 29-A.

1. Top fasteners (in top)
2. Top fastener studs (on body)
3. Top rear curtain (metal fastening plate)
4. Top rear curtain (metal fastening plate) hold down brackets

3. Move seat to forward position on seat adjuster.
4. Tilt seat back forward.
5. Carefully lift top fasteners from studs on each side of top side wings (Fig. 29-A).
6. Push back on rear curtain metal fastening plate (at bottom of rear curtain) to release from hold down brackets (Fig. 29-A).
7. Compress top bows, folding top covering neatly between the bows. Then fold top side wings over top of bows and lower into body (Fig. 29-B).

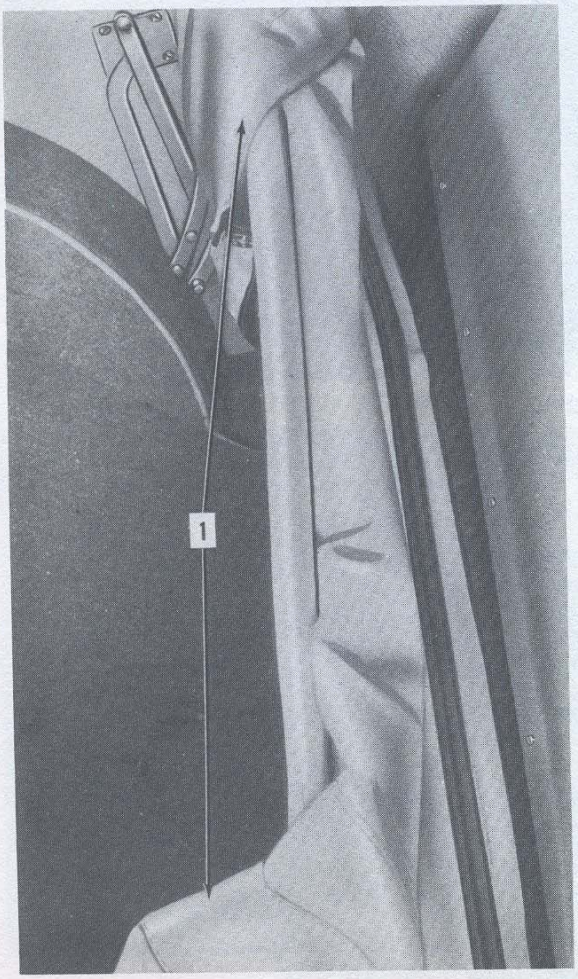


FIGURE 29-B—*Folding Top Side Wings over Top of Bows and Lowering Top Behind Seat Back.*

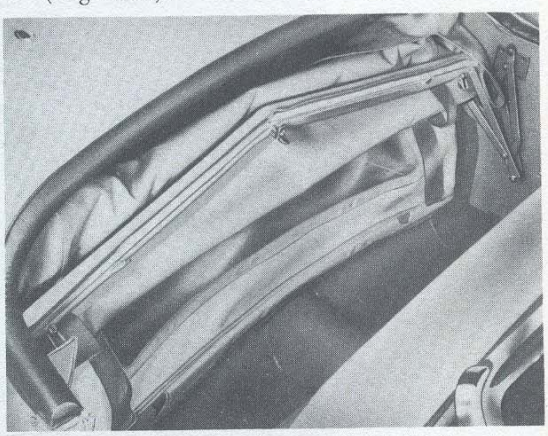


FIGURE 29-C—*Top Properly Folded and Lowered into Top Compartment Behind the Seat Back.*

8. Push top back into top well behind front seat.

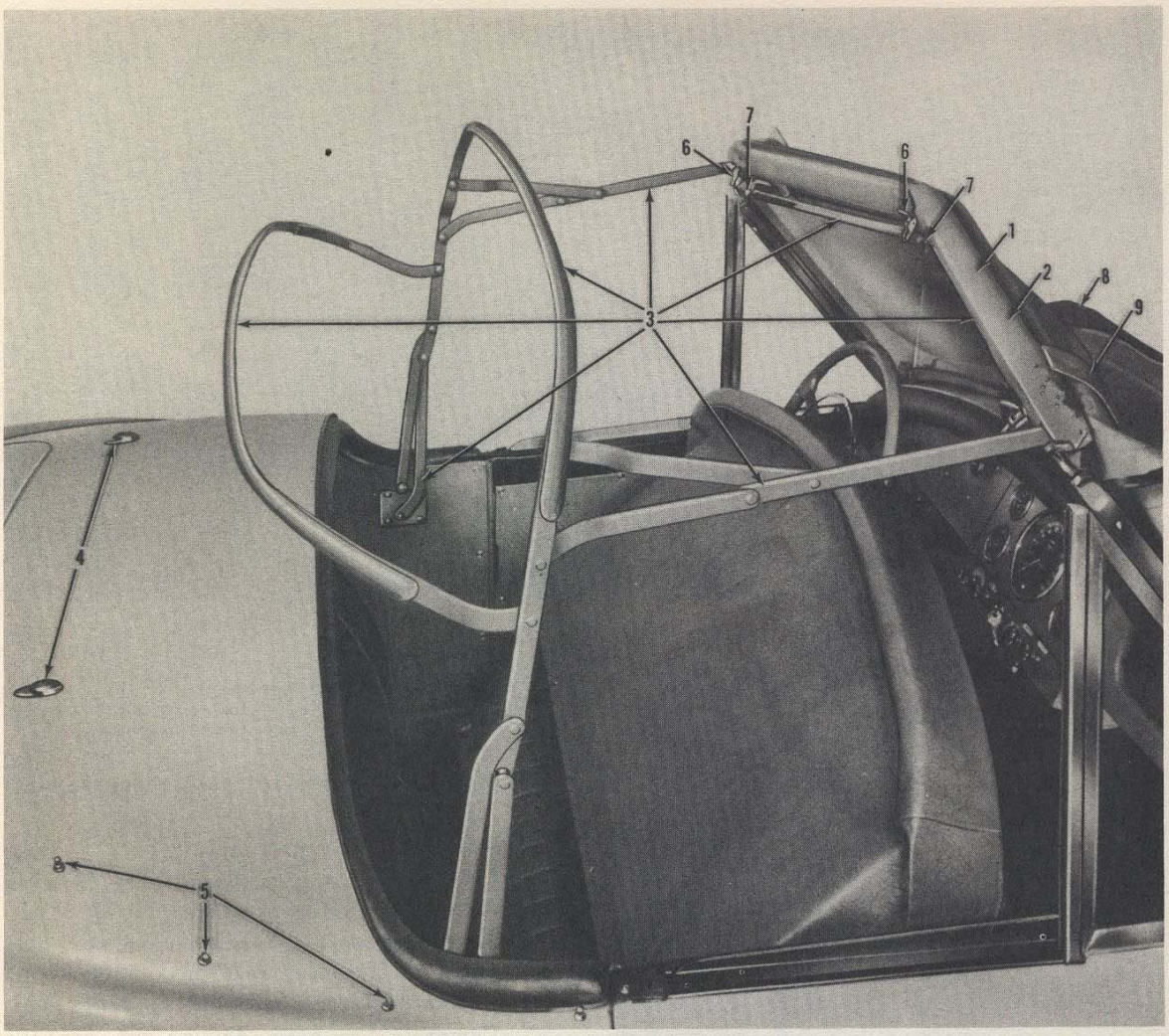


FIGURE 29-D.

1. Front top rail (wood)
2. Front top rail cover (right and left)
3. Top bow and slat iron assembly complete (less front top rail wood part)
4. Rear curtain hold down brackets
5. Top fastener studs
6. Toggle clamps (on front wood top bow)
7. Toggle clamps catches (on windshield upper frame)
8. Top covering
9. Bow webbing stay straps

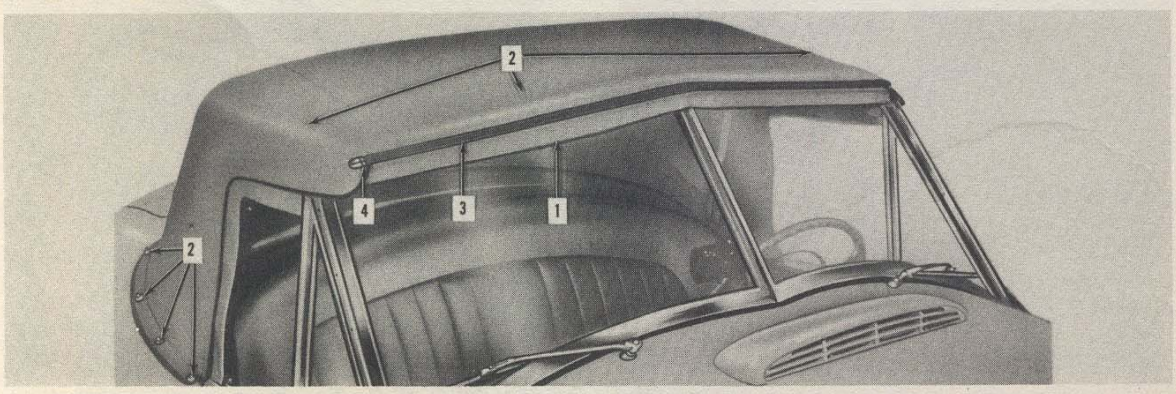


FIGURE 29-E—*Top Covering and Back Curtain Assembly including Side Quarter Fasteners (Front View).*

1. Front top rail valance
2. Roof top covering and back curtain complete includes side quarter fasteners and bow webbing stay straps less rear curtain metal fastening plate
3. Front top rail moulding (hidden) (color red)
4. Front top rail moulding metal ends (right side shown)

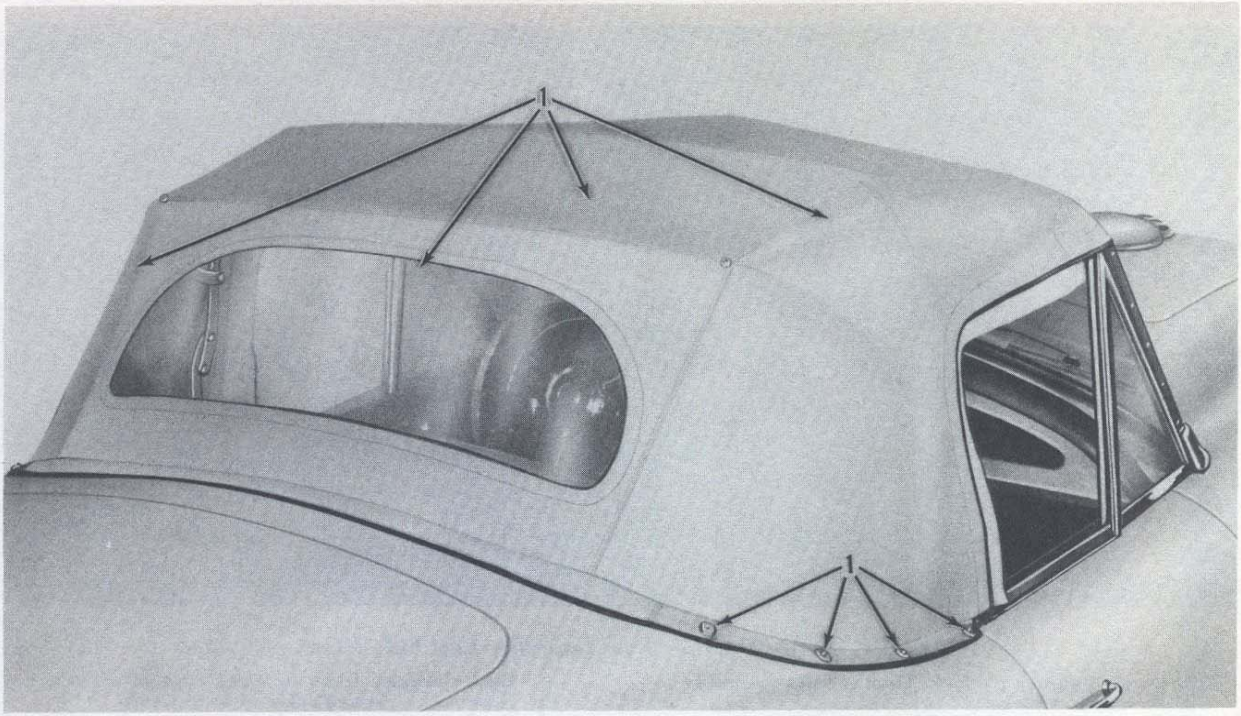


FIGURE 29-F—*Top Covering and Back Curtain Assembly including Side Quarter Fasteners (Rear View).*

TO RAISE TOP

1. Move seat forward on seat adjuster.
2. Open both doors.
3. Fold seat back forward.
4. Lift folded top from top well and unfold.
5. Hook back curtain fastening plate to hold down brackets on body.
6. Align top front bow to top of windshield header and fasten toggle clamps.
7. Fasten top side wing fasteners to studs on body.

FOLDING TOP CONSTRUCTION

The top bows are screwed and are welded to the slat iron assembly; except the wood front top rail, which is screwed to the front metal rail of the top bow and slat iron assembly. This front metal rail is not visible in Fig. 29-D.

30. WEATHER EYE

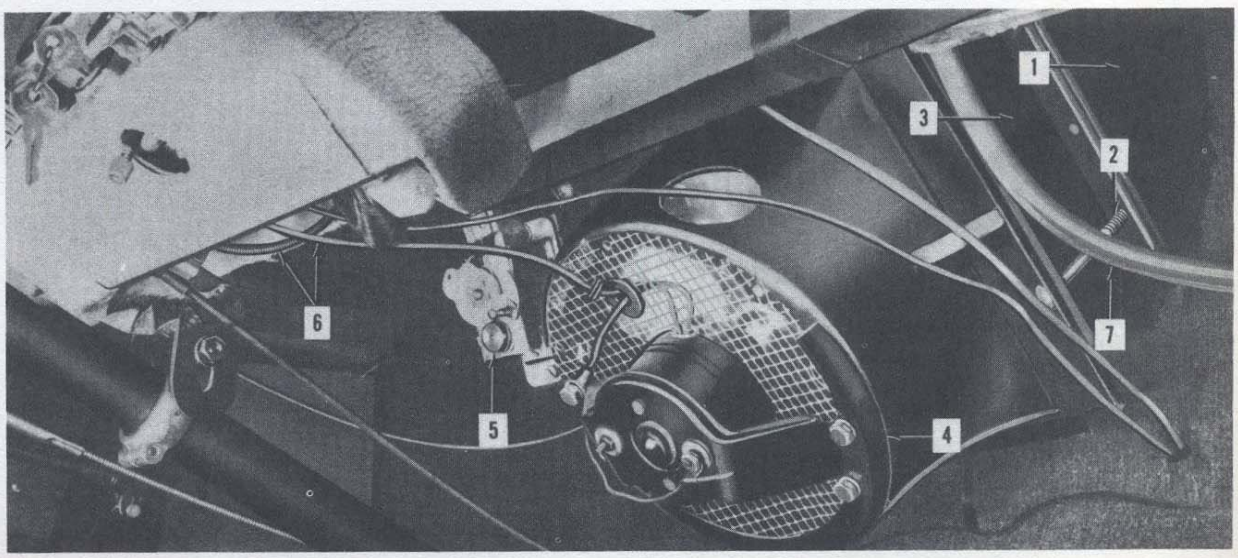


FIGURE 30—*Weather Eye Assembly Right Side View.*

1. Adapter panel Weather Eye to dash panel
2. Studs adapter panel to Weather Eye assembly
3. Heater Core
5. Water control valve
6. Water valve control cable and Fan wire
7. Cowl ventilator drain hose

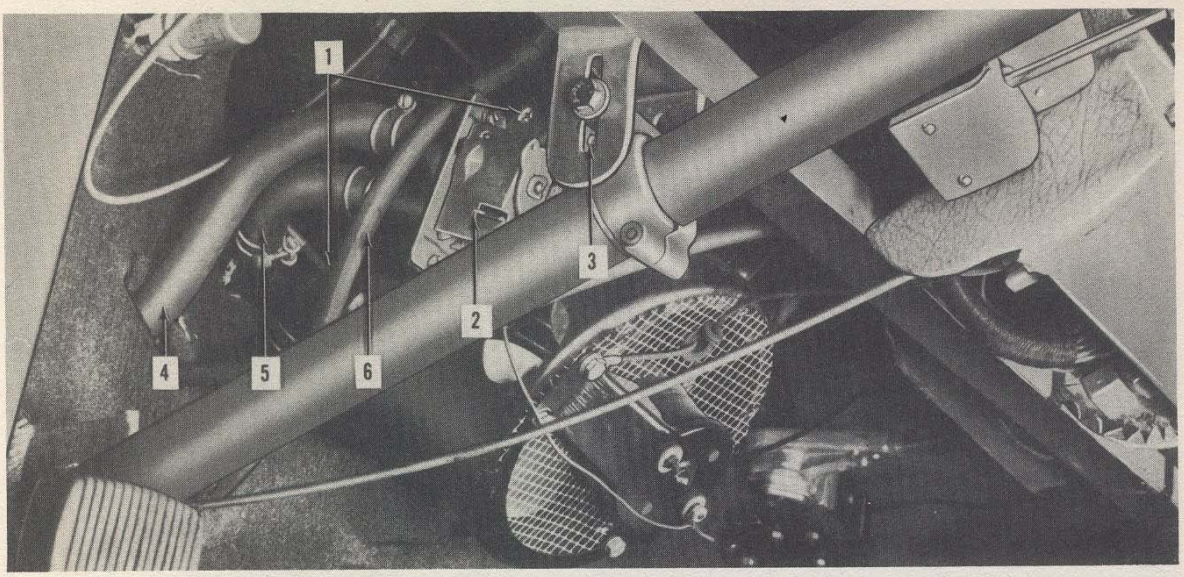


FIGURE 30-A—*Weather Eye Assembly Left Side View.*

1. Studs—adapter panel to Weather Eye assembly
2. Water control valve
3. Water valve control cable set screw
4. Hose Cylinder Head to water control valve
5. Hose water control valve to heater core
6. Cowl ventilator drain hose

The Nash-Healey Sports Car is equipped with the famous Nash Weather Eye system. This system is of the same design as used in the Nash Rambler Cars.

Adapter panels are bolted to the inside of the dash panel, and the complete assembly is fastened to these panels. All service and maintenance operations are, therefore, made from inside the car.

For detailed illustrations of Weather Eye Units, water control valve, and water valve control and heater fan switch, please refer to the Weather Eye section of the 1950 Technical Service Manual Supplement on "Rambler" Series.

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SERVICE
Nash
PARTS