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GENERAL INFORMATION

This section provides instructions for removal and installation of various instruments, accessories and controls. Information regarding the operation, test and repair and handling under warranty instruments and accessories, is detailed in Section 15, "Electrical" or in printed instructions packed with the accessories.

a. KAISER INSTRUMENTS (Fig. 442). These are grouped in a hooded cluster under a single plastic lens and are mounted above the steering column in

the instrument panel. Included are the speedometer with mileage dial, the ammeter and the fuel, oil pressure and engine temperature gauges. On the speedometer dial, near the 40 and 80 miles per hour figures, are the arrow shaped openings for the green flashes of the directional turn signal pilot or indicator lights, and directly above the speedometer dial is the round opening for the headlight beam indicator light.

b. FRAZER INSTRUMENTS (Fig. 443). The arrangement provides one lens for the fuel and oil gauges, individual lenses for the speedometer, with

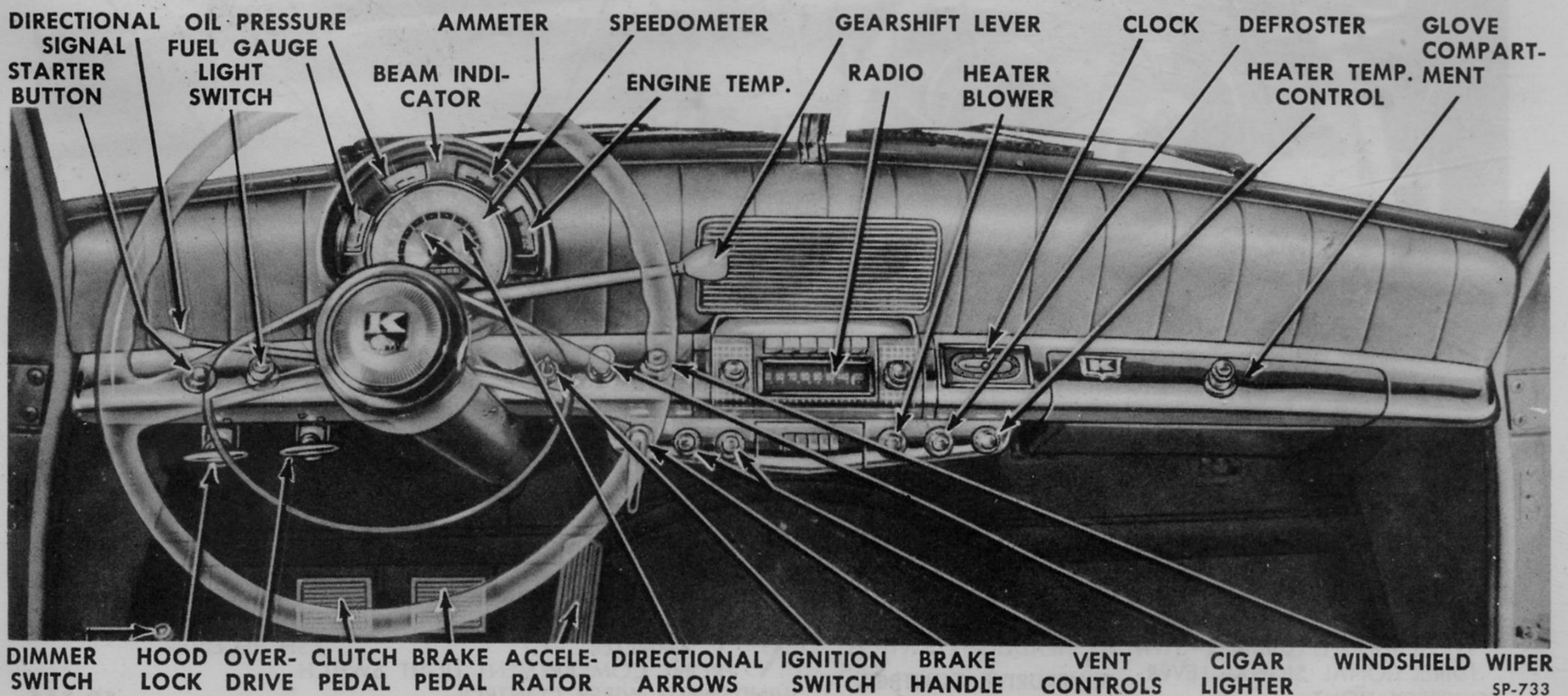


Fig. 442—Kaiser Instruments and Controls

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mileage dial, and the clock and one lens for the engine temperature gauge and ammeter. Through the speedometer dial between the 30 and 40 and between the 80 and 90 miles per hour figures are the round openings for the green flashes of the directional turn signal pilot or indicator lights, and near the bottom of the dial is the opening for the headlight beam indicator light.

c. CONTROLS. The various Kaiser and Frazer controls, together with the instruments, are illustrated in Figs. 442 and 443 and are described and illustrated in detail in the Owner's Manual applicable to the vehicle. Some of the accessories and controls shown are special equipment, or are dealer-installed.

The panel openings for radio and radio speaker installation are covered by easily removable plates or grilles.

INSTRUMENT REPLACEMENT

a. KAISER CLUSTER AND INSTRUMENTS (Fig. 443). Access to the back of the instrument cluster for instrument replacement or test requires removal of the cluster assembly from the instrument panel.

1. Disconnect one of the battery cables to assure against "hot" wires.

2. Disconnect speedometer cable from speedometer head at the back of the instrument cluster.

3. Remove the four chrome plated screws that mount the cluster assembly in the instrument panel.

4. Carefully pull the cluster with hood attached from its base (the die-cast housing that is bolted to the upper instrument panel). At the same time push the slack in the attached wiring out through the instrument panel. This will permit pulling the cluster out far enough to permit easy detachment of cables. If several cables are detached mark or tag them for simplified identification to assure proper reconnection. Refer to Section 15, "Electrical," for wiring diagram if necessary.

5. To remove any individual instrument, detach connected cables, remove the two retaining screws and lift out.

6. Whenever instrument cluster is removed or new head installed, apply 3 or 4 drops of light engine oil to the wick above the speedometer head main drive shaft and wipe away surplus oil. For

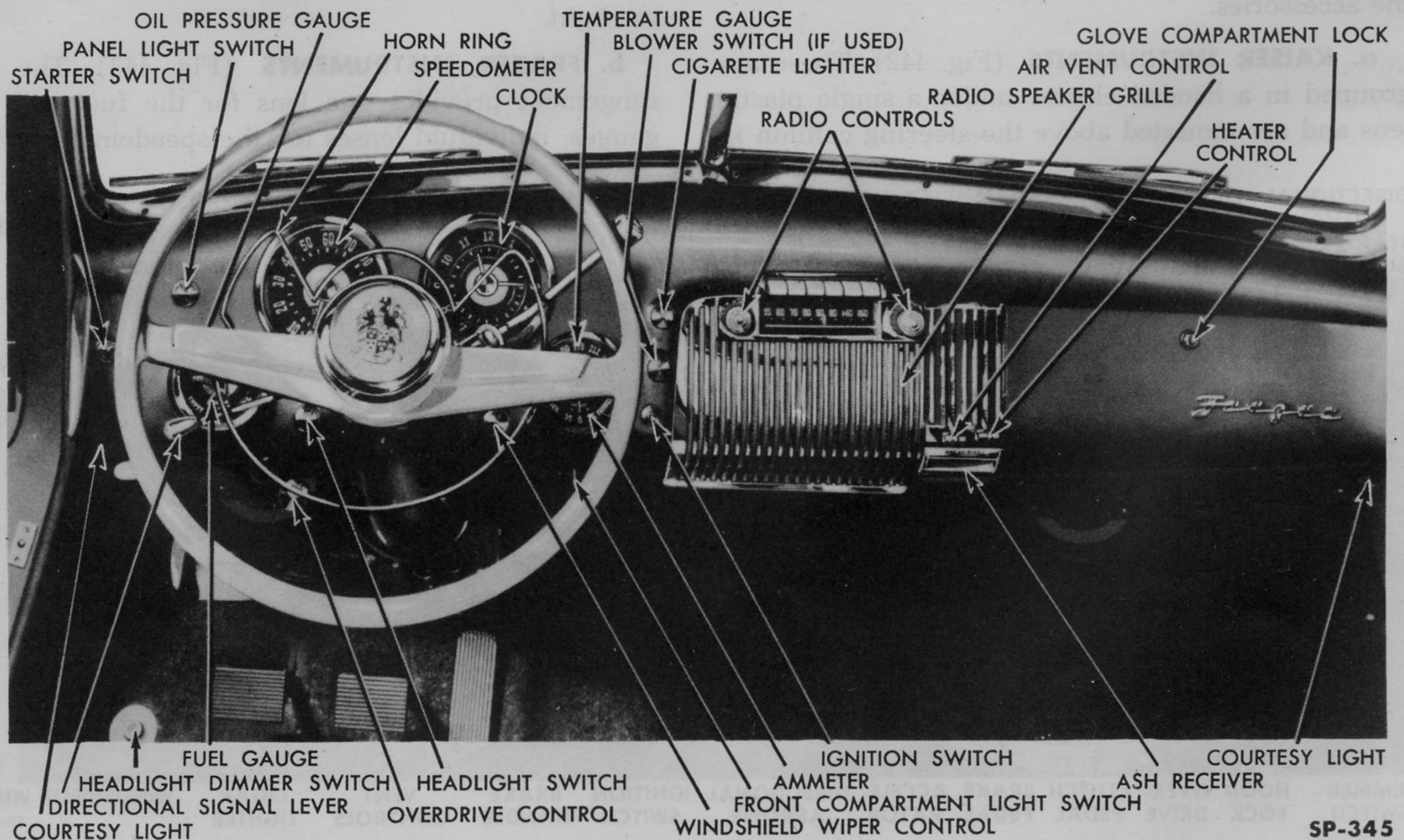
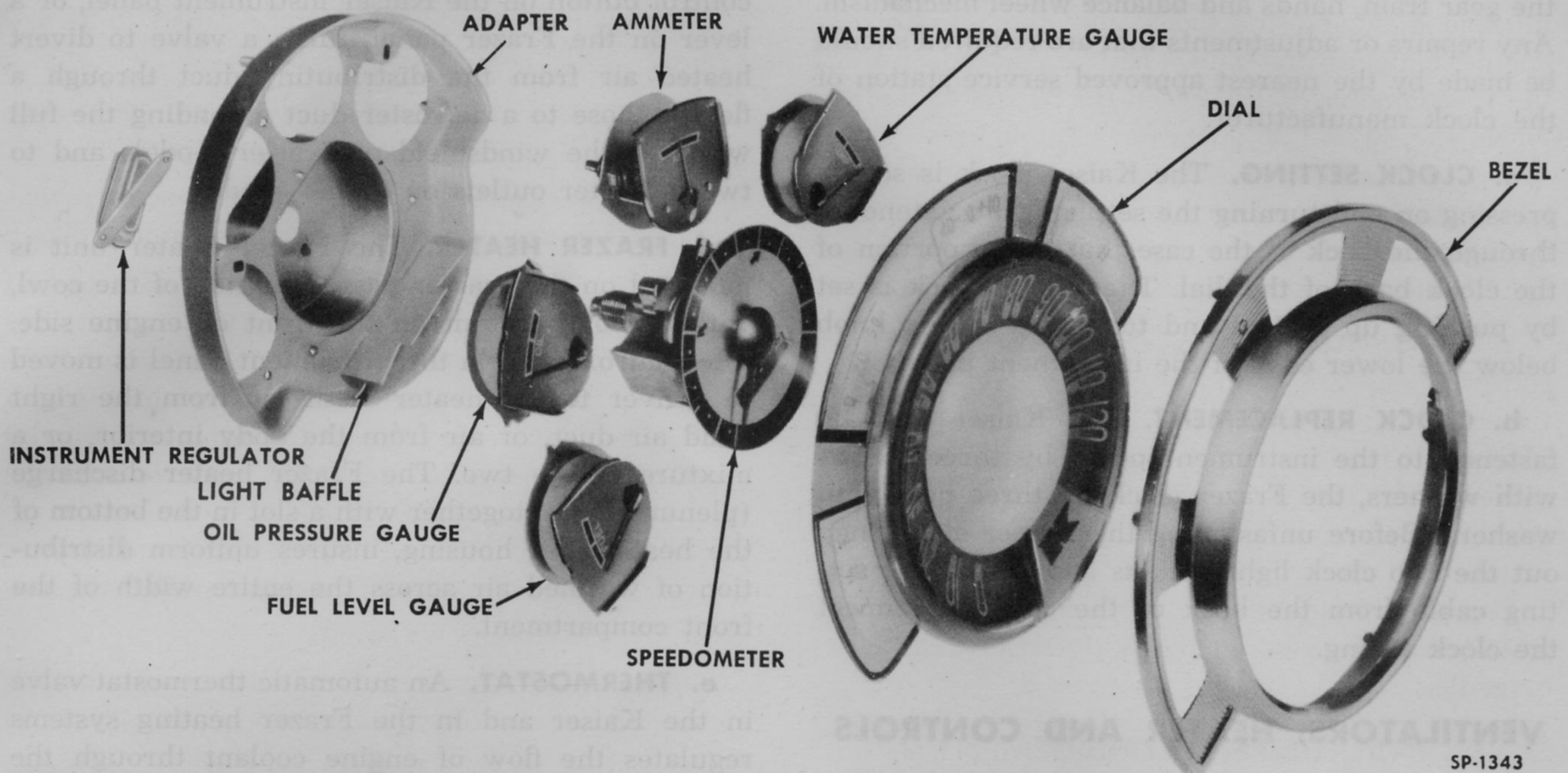


Fig. 443—Frazer Instruments and Controls

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SP-1343

Fig. 444—Kaiser Instrument Cluster—Exploded View

speedometer cable lubrication see Section 17, "Lubrication."

7. The cluster bezel and adapter must be separated to replace the speedometer head. With the cluster out of the instrument panel, bend the tangs of the bezel (Fig. 444) away from the adapter flange and remove the bezel and dial. The speedometer is then removed by removing the three attaching screws and lifting it out of the cluster adapter.

CAUTION: When connecting wires or cables to instrument terminals be extremely careful to tighten securely and to see that the wire or cable terminals are positioned so as not to short circuit against the instrument panel when cluster is installed.

b. KAISER INSTRUMENT LIGHT BULBS. To reach these light bulbs, remove the hood and cluster assembly as directed above for instrument replacement. Each of the five sockets snaps out of the hole in which it is mounted for easy light bulb change. The directional turn signal pilot light sockets, however, can be reached and snapped out and back in without cluster removal.

c. FRAZER INSTRUMENTS. These instruments are removable individually, or as a cluster of two instruments with dial, lens and bezel. Suggestions above for Kaiser speedometer lubrication apply to

the Frazer speedometer lubrication apply to the Frazer speedometer, except that the Frazer speedometer has a large oil wick with oil reservoir to lubricate the shaft, and 6 to 8 drops of light engine oil should be applied.

To remove an individual instrument, disconnect the wiring and remove the two screws holding the instrument to the cluster back plate. For the non-electrical oil pressure gauge disconnect the oil line from the back of the gauge. For the non-electrical water temperature gauge, the tube cannot be disconnected from the gauge. The temperature bulb unit must be removed from the cylinder head, the grommet at the cowl loosened, and the gauge tube and bulb unit, as an assembly must be removed by pulling the tube and bulb unit out through the cowl from inside the body.

d. FRAZER INSTRUMENT LIGHT BULBS. The light bulbs illuminating Frazer instrument dials are all in sockets that can be snapped out and in from behind the instrument panel without need of disturbing any mounted instruments.

CLOCKS

Clocks used in both the Kaiser and Frazer models are electrically operated. Current from the generator or battery supplies the energy or power to drive

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the gear train, hands and balance wheel mechanism. Any repairs or adjustments that are required should be made by the nearest approved service station of the clock manufacturer.

a. CLOCK SETTING. The Kaiser clock is set by pressing on and turning the setting knob extending through the back of the case that is the portion of the clock back of the dial. The Frazer clock is set by pushing up against and turning a setting knob below the lower edge of the instrument panel.

b. CLOCK REPLACEMENT. The Kaiser clock is fastened to the instrument panel by three screws with washers, the Frazer clock by three nuts with washers. Before unfastening the Frazer clock snap out the two clock light sockets and detach the setting cable from the back of the case. Disconnect the clock wiring.

VENTILATORS, HEATER AND CONTROLS

a. VENTILATORS. Both the Kaiser and Frazer models are equipped with air ducts mounted along the right and left splash shields to conduct fresh air from immediately behind the radiator grille back to the front passenger compartment. Air flow through each duct is controlled by an individual valve. In the Kaiser models a separate vent control knob in the heater control panel (Fig. 442) is provided for each valve. In the Frazer models the upward or downward movement of a single lever controls both vent valves.

It is important that the control wires be adjusted so that the butterfly valve inside the air duct is fully closed when the vent control is pushed in or in the OFF position.

b. KAISER HEATER. The Kaiser heater and blower are mounted in the engine compartment to the right of the engine. Air from the right hand air duct is drawn into the blower through a bellows type rubber tube and is discharged into the heater through a rubber sleeve. From the heater two discharge ducts lead through the cowl. One, equipped with a foot operated butterfly valve, is for fresh air intake when the heater is not in use and leads directly into the front passenger compartment. The other duct leads into a distributing duct, or plenum chamber, which delivers hot air from the heater to the body interior.

c. DEFROSTERS. For defrosting the windshield a

control button on the Kaiser instrument panel, or a lever on the Frazer panel, turns a valve to divert heated air from the distributing duct through a flexible hose to a defroster duct extending the full width of the windshield on Kaiser models and to two defroster outlets on Frazer models.

d. FRAZER HEATER. The Frazer heater unit is mounted on the rear or passenger side of the cowl, with the blower unit on the front or engine side. The control lever on the instrument panel is moved to deliver to the heater fresh air from the right hand air duct, or air from the body interior, or a mixture of the two. The Frazer heater discharge (plenum) tube, together with a slot in the bottom of the heater unit housing, insures uniform distribution of warmed air across the entire width of the front compartment.

e. THERMOSTAT. An automatic thermostat valve in the Kaiser and in the Frazer heating systems regulates the flow of engine coolant through the heater core. Manual adjustment of this thermostat to assure the desired temperature is by a control button on the Kaiser and by a lever on the Frazer instrument panel (Figs. 442 and 443).

f. WIRING AND FUSE. Current for operating the blower motor is drawn from the coil terminal of the ignition switch to afford added assurance against the blower being left turned on unintentionally when the engine is not running. An in-line fuse protects the blower motor from drawing excessive current and the connecting wiring from short circuit or grounding.

WINDSHIELD WIPERS

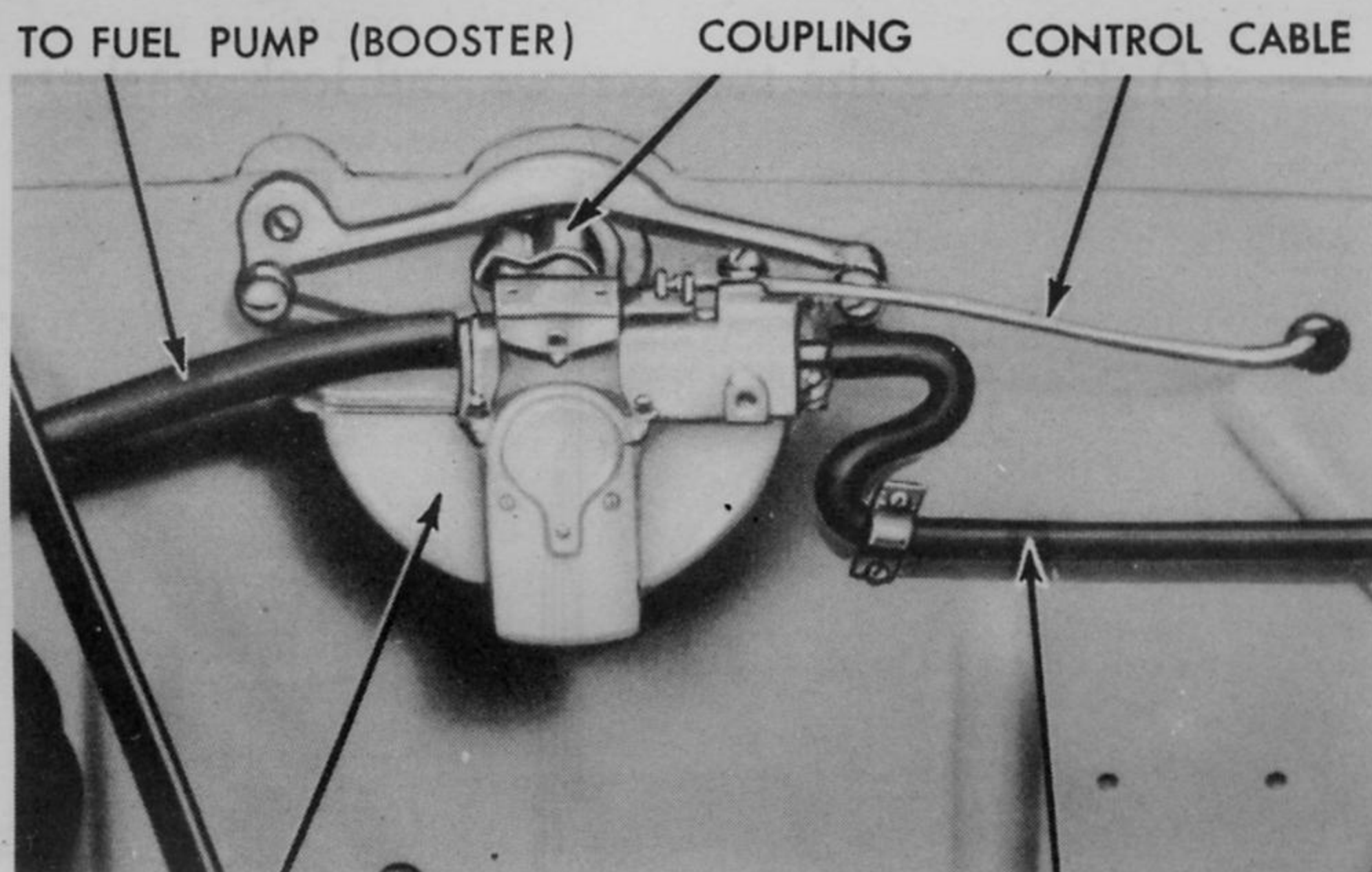
Some Kaiser Deluxe vehicles and all Frazer and Kaiser Special models have been factory equipped with vacuum operated windshield wipers with vacuum booster type fuel pumps. Fig. 445 illustrates the Frazer vacuum operated windshield wiper motor mounting on the front side of the cowl. Detail information on the vacuum booster which is part of the fuel pump is provided in Section 2, "Fuel."

The Kaiser vacuum operated windshield wiper motor is mounted on the rear side of the cowl up in behind the instrument panel and connected by linkage to the wiper arms is illustrated in Fig. 446. The Frazer windshield wiper cable installation is shown in Fig. 447.

Some Kaiser Deluxe vehicles have carried fac-

tory installed electrically operated windshield wipers as special equipment. Linkage connecting the electric windshield motor with the wiper arm pivots (Fig. 448) is not interchangeable with the similar vacuum operated wiper linkage.

The electric windshield wiper motor is mounted under the cowl on a bracket similar to that used for the vacuum motor. Control is by a 2-speed switch, with built-in 8-ampere thermally operated,



WINDSHIELD WIPER MOTOR TO WINDSHIELD WASHER SP-478

Fig. 445—Frazer Vacuum Windshield Wiper Motor Mounting

automatic reset circuit breaker. Operating current is drawn from the battery or hot terminal of the ammeter.

a. VACUUM WINDSHIELD WIPER MAINTENANCE. Before removing the vacuum wiper motor check vacuum hose connection for leaks, due to looseness or cracking. Check the pivot arms and linkage or cables and pulleys for any binding. With engine idling a properly operating vacuum windshield wiper motor and linkage or cables should move the wiper blade 100 one-way strokes or “wipes” per minute.

1. Vacuum Wiper Motor Removal. Disconnect the control cable and vacuum hose from motor housing. Remove the two screws with lock washers that secure the wiper motor to the bracket. From the Kaiser vacuum motor arm (Fig. 446) disconnect the spring and two attached link locks (steel washers with keyhole shaped openings) and slip the links off the studs on the arm. Lift out the vacuum wiper motor.

Follow the same procedure to remove the Frazer vacuum wiper motor, except that there is no linkage to detach and it is not necessary to disturb the drive coupling or cables.

2. Vacuum Wiper Motor Repair. Repairs to the vacuum windshield wiper motor, and adjustment or replacement under warranty, should be referred to the nearest authorized Trico service station. Repairs should not be attempted by persons not authorized by the manufacturer.

3. Linkage and Cable Lubrication. Under normal operating conditions the Kaiser windshield wiper linkage and the Frazer windshield wiper cables and pulleys receive no lubrication. However, if any binding is found, or at time of overhaul, put a drop of engine oil on each of the pins at the motor arm and the wiper arm pivots of the Kaiser linkage—and a drop of light oil at each cable pulley hub and a light application of lubriplate on that part of each cable that contacts the pulley on Frazer models.

4. Frazer Vacuum Operated Cable Adjustment. Loosen cable tensioner lock nut (Fig. 447) enough to permit disengagement of lock washer between tensioner bracket and base. Do not remove nut. Spring loaded tensioner pulley automatically takes up cable slack. Tighten nut securely to hold tensioner pulley in new position. After tightening the cables it may be necessary to change the wiper arm position on the serrated pivot shaft. Replace any frayed cable or worn or defective wiper arm pivot body.

5. Wiper Blade Pressure and Arm Position. Proper wiper arm pressure on the blade allows the rubber wiping edge of the blade to incline first to one side, then to the other, during operation. Incorrect pressure interferes with or prevents this “flopping” action. Sometimes a drop of light oil on the head of the wiper arm helps it to maintain correct pressure.

Each arm should be so positioned and locked on the serrated outer end of the pivot shaft that its parking position, or the end of its downward stroke, brings the wiper blade close to or gently against the rubber at the lower edge of the windshield.

b. ELECTRIC WINDSHIELD WIPER MAINTENANCE. Pivot bodies, like those used with Kaiser vacuum operated windshield wiper equipment, have oil-impregnated bronze bushings. A reservoir between the bushings is packed during manufacture with suitable soft grease. A cored hole is provided for putting in Lubriplate if the part is removed from the cowl. Linkage lubrication, if necessary, or

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at time of overhaul is the same as for the corresponding linkage for vacuum operated equipment.

1. Electric Windshield Wiper Motor Removal.

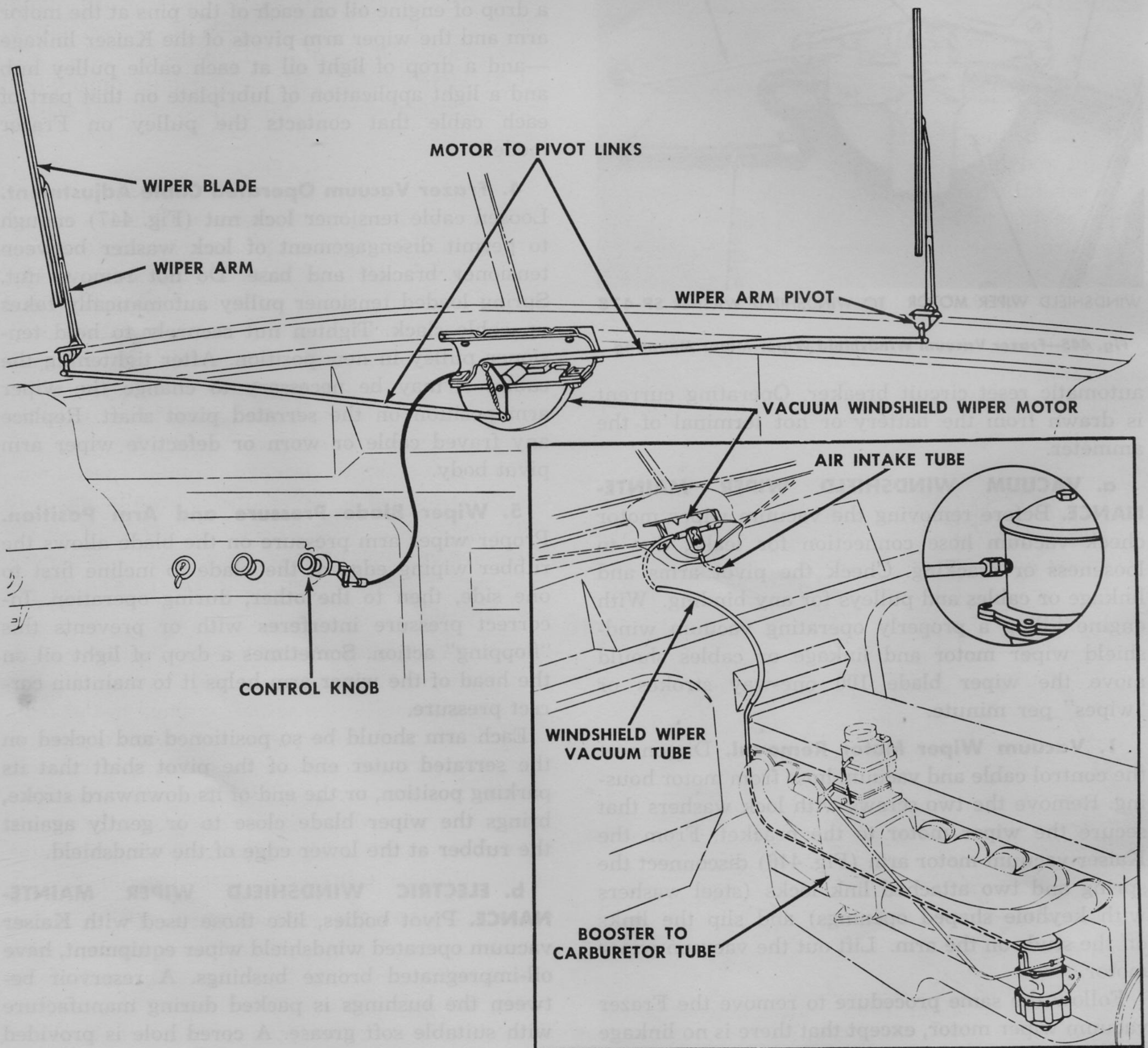
- (a) Disconnect one of the battery cables to assure against hot wires.
- (b) Detach wiper motor switch cable from ammeter.
- (c) Detach wiper motor switch from instrument panel. (To remove control knob pull back on

holding spring with pointed tool to break its grip on switch shaft.) Allow switch to hang on the wires.

- (d) Remove radio and speaker units, if car is radio equipped.

- (e) Disconnect windshield wiper links from windshield wiper motor cranks. Press link carefully with light pressure toward the crank for easier removal of retaining clip. Be careful not to bend links.

- (f) Remove the two screws and lock washers



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Fig. 446—Kaiser Vacuum Windshield Wiper Linkage

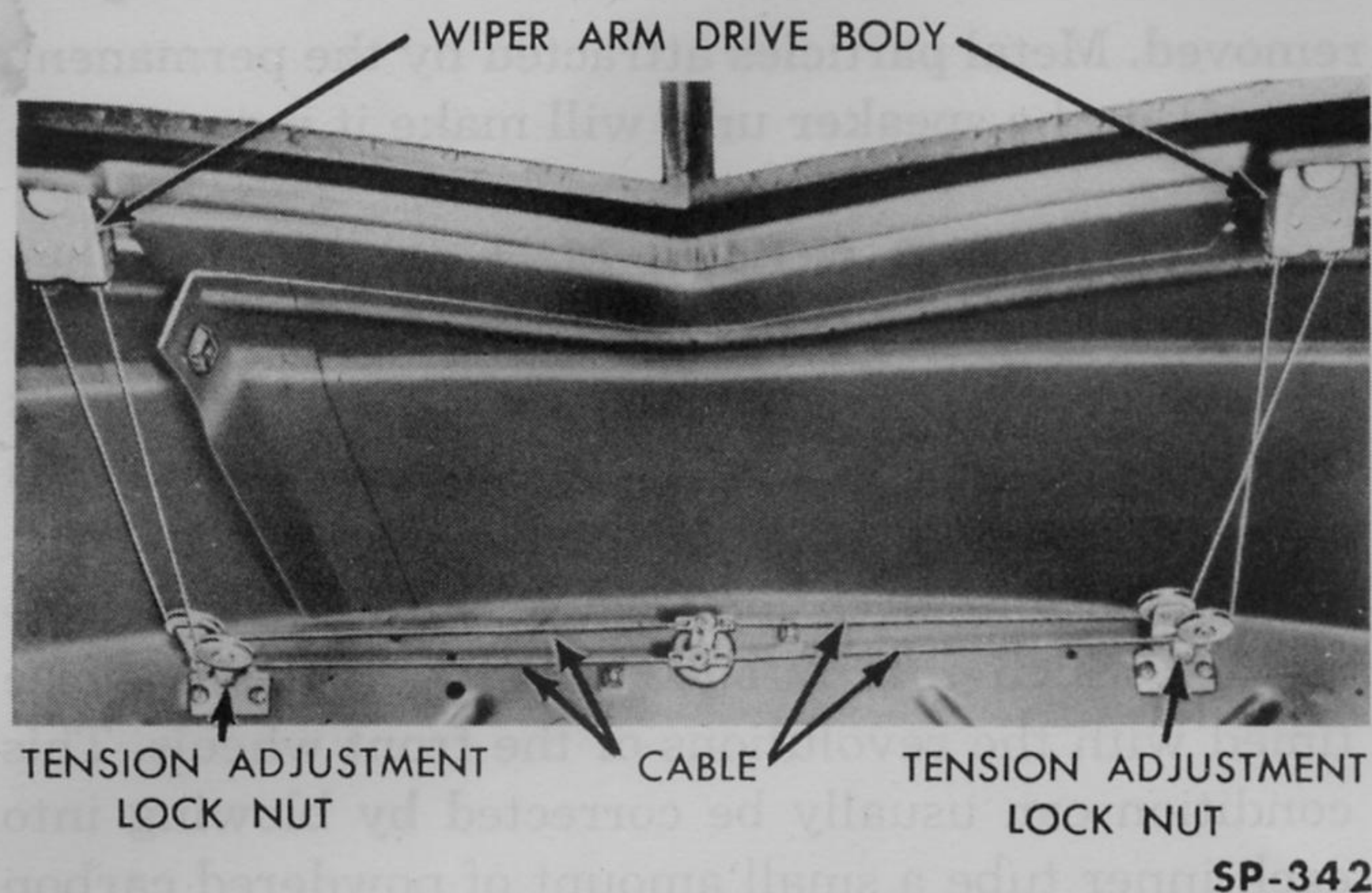


Fig. 447—Frazer Vacuum Windshield Wiper Cable Installation

that attach the electric motor to the mounting bracket and lift motor out, with switch attached.

Be careful when installing the electric windshield wiper motor to avoid bending links. Adjust the wiper arm position if necessary.

WINDSHIELD WASHER

Packed with this unit, which is installed as an accessory, are installation instructions. The glass jar of the washer is supported by a bracket installed

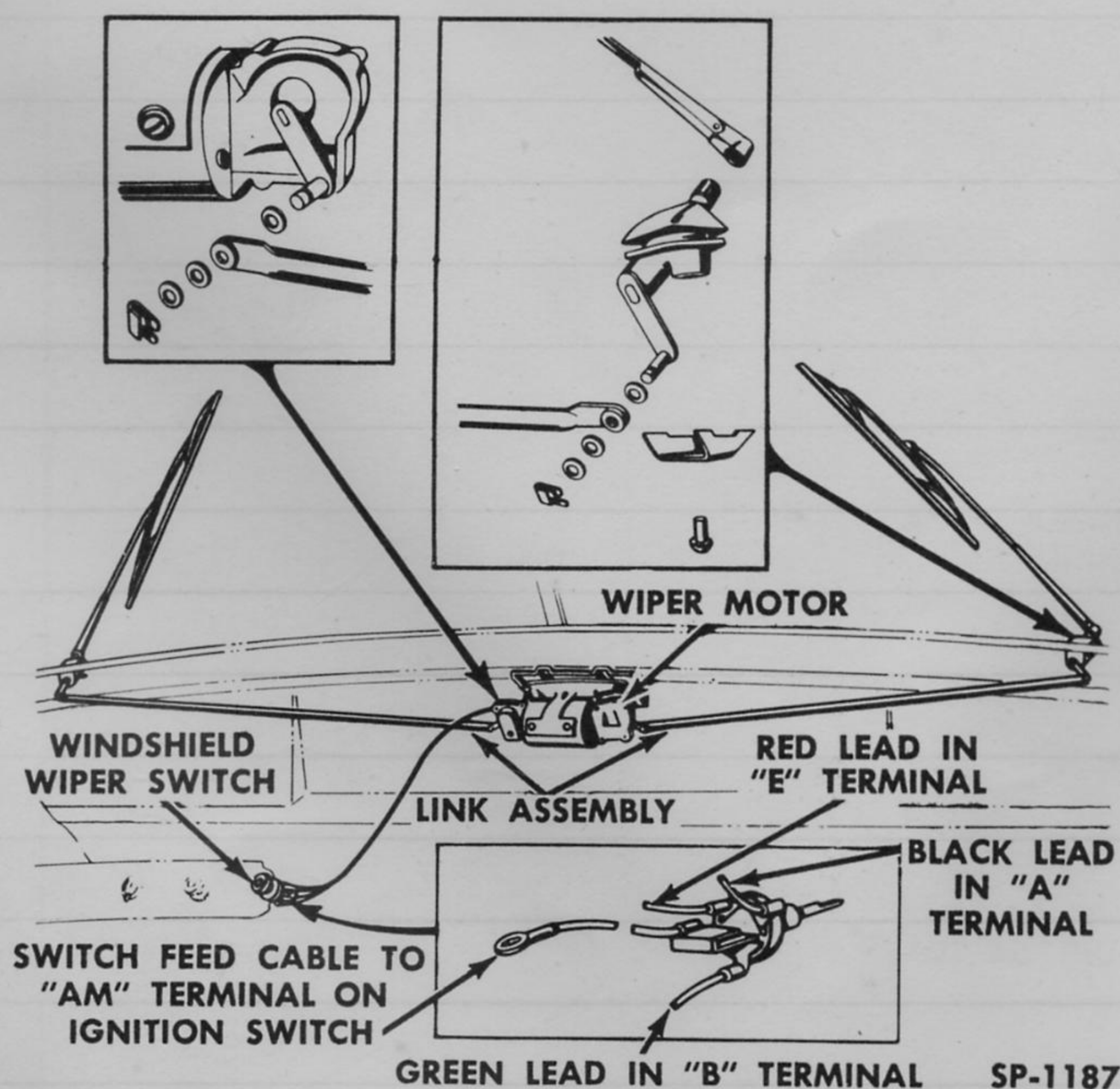


Fig. 448—Kaiser Electric Windshield Wiper Linkage

on the engine side of the cowl. A diaphragm in the cover is acted upon by vacuum from the engine to draw up from the jar a small charge of water. At the same time the diaphragm shortens a compression spring. When the vacuum is released the expansion of the compressed spring pushes the water out under pressure through hose to two small nozzles in the wiper arm pivot bodies, squirting it against the windshield.

The diaphragm vacuum hose is connected to a tee in the windshield wiper hose between the vacuum pump or intake manifold and the wiper motor. The tee is connected by a hose to a push button valve installed in the instrument panel.

CAUTION: Use special washer fluid during cold weather to prevent freezing and breaking of washer jar.

RADIO

The same basic 8-tube radio set (that is chassis with speaker unit) is supplied as an accessory for both Kaiser and Frazer models. Included in the kit are all necessary suppressors, filter capacitors and grounding devices and the radio manufacturer's "Owner's Manual" containing installation and operating instructions. This manual is to be given to the owner or placed in the glove compartment with the Kaiser or Frazer Owner's Manual.

The conversion kit package contains special control parts needed for 1951 model installation, with instructions to supplement and amend those in the radio owner's manual that accompanies the basic radio kit. Further instructions are packed in the antenna kit.

a. SERVICE AND WARRANTY. Confine repairs or adjustments to checking fuses, connections, etc., that are external to the set, as outlined in the radio Owner's Manual. Other tests and repairs, replacement of parts, etc., should be made only in radio service stations approved by the radio manufacturer. Any needed service under warranty should be handled with the manufacturer's service station as directed in the literature accompanying the set.

b. INSTALLATION PRECAUTIONS. The cable or conductor carrying current for the radio dial lights should be connected to the output terminal of the switch that turns on and dims the instrument lights. The cable that supplies power to the set should be connected to the AMMETER side of the ignition switch. If this lead is connected to the coil terminal

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of the ignition switch the radio will play only with the ignition turned on. If the engine is not running, or is idling too slowly for the generator to be charging the battery, the draw from the battery will be not only that required for the radio but also the draw of 4 or 5 amperes through the coil while the distributor points remain in contact. This merely runs the battery down more rapidly. A more serious difficulty is also possible. If the distributor breaker points are at the point of breaking, that is not held firmly together by the normal pressure exerted by the breaker arm spring, they may arc and burn so badly that no amount of cranking the engine or pushing or towing the car will start the engine, making point replacement necessary before the engine can be started.

Never file or drill with the speaker unit installed. If such operations are necessary, make absolutely certain that all steel filings or chips are entirely

removed. Metal particles attracted by the permanent magnet in the speaker unit will make it inoperative.

c. STATIC AND NOISES. Most noises and other annoying radio difficulties result from mistakes in installation, loose connections and simple causes that can easily be remedied by careful checking as directed in the instructions accompanying the set. Flexing of the tires may cause static radio interference. Such interference usually makes a noise timed with the revolutions of the front wheels. This condition can usually be corrected by blowing into each inner tube a small amount of powdered carbon of the type offered commercially for the purpose, following the directions that accompany the package. If the ball tip of the antenna is missing, leaving a sharp antenna upper end, a "corona" affect may disturb or prevent radio reception at and above ordinary city driving speeds.

SERVICE BULLETIN REFERENCE