

GROUP 12

CHASSIS SHEET METAL

SECTIONS IN GROUP 12

Section	Subject	Page	Section	Subject	Page
12-A	Sheet Metal Specifications and Description	12-1	12-C	Replacement of Fenders, Extensions, and Rear Wheel Shields . . .	12-15
12-B	Hood and Front End Sheet Metal Alignment	12-5			

SECTION 12-A

SHEET METAL SPECIFICATION AND DESCRIPTION

CONTENTS OF SECTION 12-A

Paragraph	Subject	Page	Paragraph	Subject	Page
12-1	Sheet Metal Specifications	12-1	12-2	Description of Sheet Metal	12-2

SERVICE BULLETIN REFERENCE

Bulletin No.	Page No.	SUBJECT

12-1 SHEET METAL SPECIFICATIONS

a. Tightening Specifications

Use a reliable torque wrench to tighten the parts listed, to insure proper tightness without

straining or distorting parts. These specifications are for *clean and lightly lubricated threads only*; dry or dirty threads produce increased friction which prevents accurate measurement of tightness.

(1) 1948 Models

Part	Location	Thread Size	Torque Ft.-Lbs.
Bolt	Special Acme Thread (All Locations)	5/16-10	10-15
Nut	Radiator Mounting	5/8-11	45-50
Nut	Radiator Grille Through Grille Brace Center Slot	3/8-16	25-30
Bolt	Radiator Mounting Strap Side Brace to Chassis Frame Rail	5/16-18	10-15
Bolt	Radiator Mounting Strap Side Brace to Mounting Strap	5/16-18	10-15
Nut	Radiator Grille to Radiator Pan	5/16-18	8-12
Bolt	Radiator Grille Assembly to Front Fender	5/16-18	15-20
Bolt	Front Fender Front Skirt to Grille	1/4-20	4-7
Bolt	Front Fender Rail to Fender Front Skirt	5/16-18	15-20
Bolt	Front Fender Rear Anchor Plate to Rocker Panel Bracket	5/16-18	15-20
Bolt	Front Fender Assembly to Rear Support Bracket	5/16-18	15-20
Bolt	Front Fender to Rocker Panel Extension	5/16-18	15-20
Bolt	Front Fender & Rocker Panel Extension to Body Bracket to Body Pillar	5/16-18	15-20
Bolt	Front Fender Rail to Front Fender Upper Support	5/16-18	15-20
Bolt	Front Fender Upper Support to Body	5/16-18	15-20
Bolt	Front Fender Rocker Panel Bracket to Rocker Panel	5/16-18	15-20
Bolt	Front Fender Skirt Front Support to Radiator Mounting Strap	5/16-24	15-20
Bolt	Hood Hinge to Front Fender Rail	5/16-24	15-20
Bolt or Nut	Hood Reinforcement to Hinge Pilot Plate Brace or Pilot Plate (Ser. 40)	5/16-18	10-15
Bolt	Front & Rear Hood Reinforcements to Hood Side Rail Pilot Plates (Ser. 40)	5/16-18	10-15
Bolt	Rear Fender to Wheelhouse	5/16-18	15-20
Bolt	Gravel Deflector to Rear Fender Flanges	5/16-18	15-20
Screw	Rear Fender Gravel Shield to Rear Fender at Bottom (Ser. 40)	1/4-20	4-7

(2) 1949 Models

Part	Location	Thread Size	Torque Ft.-Lbs.
Bolt	Front Fender Rail to Front Skirt	5/16-18	15-20
Bolt	Front Fender Rail Anchor Plate to Rocker Panel Bracket	5/16-18	15-20
Bolt	Front Fender Brackets to Body	5/16-18	15-20
Bolt	Front Fender Rear Skirt to Chassis Side Rail	5/16-18	15-20
Bolt	Front Fender to Front Fender Skirts	5/16-18	15-20
Bolt	Front Fender Skirt to Fender Skirts	5/16-18	15-20
Bolt	Front Fender and Front Fender Skirts to Gravel Deflector	5/16-18	15-20
Bolt	Front Fender Rear Side Brackets Body Section to Fender Section	5/16-18	15-20
Bolt	Fender to Shroud	5/16-18	15-20
Bolt	Front Fender to Radiator Grille Frame	5/16-18	15-20
Bolt	Hood reinf. to Hood side Rails All Locations	5/16-18	15-20
Bolt	Rear Fender Front Flange to Body	5/16-18	15-20
Bolt	Front Fender Extension Brackets, all Locations	5/16-18	15-20
Bolt	Front Fender Extension to Door	5/16-18	15-20
Bolt	Rear Fender to Wheel House	5/16-18	15-20
Nut	Front Fender Rail to Fender Support	5/16-18	15-20
Nut	Front Fender Supports to Body	5/16-18	15-20
Nut	Front Fender Top Molding to Fender thru Gravel Deflector	5/16-18	15-20
Nut	Front Fender thru Rear Skirt to Front Skirt	5/16-18	15-20
Nut	Front Fender Top Molding to Fender thru Rear Support	5/16-18	15-20
Nut	Front Fender Assembly to Brackets, all Locations	5/16-18	15-20
Nut	Front Fender to Radiator Pan	5/16-18	15-20
Nut	Radiator Pan to Fender Skirts	5/16-18	15-20
Nut	Gravel Deflector to Rear Fender	5/16-18	15-20
Nut	Hood Center Molding, thru Hood, to Rear Hood Reinf.	5/16-18	15-20
Nut	Hood Hinge Stop Bolts	5/16-18	15-20
Nut	Radiator Grille Body to Grille Frame	5/16-18	15-20
Bolt	Hood Hinge and Fastener Assemblies to Fender Rail	5/16-24	15-20
Bolt	Front Fender Skirt Front Support to Radiator Mounting Strap	5/16-24	15-20
Nut	Radiator Mounting Strap to Side Brace	5/16-18	15-20
Nut	Radiator Mounting Strap Side Brace to Frame Rail	5/16-18	15-20
Nut	Radiator to Hood Baffle to Core	5/16-18	15-20
Nut	Radiator to Hood Baffle to Mounting Core	5/16-18	15-20
Bolt	Radiator Core to Mounting Strap	5/16-24	15-20
Screw	Radiator Pan, thru Front Bumper Back Bar Shields to Radiator Grille	5/16-18	15-20
Screw	Radiator Grille Brace thru Front Bumper Back Bar Shield and Radiator Pan to Radiator Grille	5/16-18	15-20
Bolt	Radiator Mounting to Frame	3/8-16	25-30
		5/8-11	40-45

b. Measurements and Clearances

Spacing Between Nose of Hood & Radiator Grille, 1948	Approx. 5/16" under emblem tapering to 1/8" at corners
Spacing Between Nose of Hood & Radiator Grille, 1949	5/64" Approx. Uniform
Hood to Fender Clearance	3/32" Approx.
Hood to Cowl & Front Door Clearance	1/8" Approx.
Clearance Between Fender & Front Hood Hinges (Pin End), 1948	1/8" Approx.
Front Fender to Fender Extension Clearance, 1948	1/16" Approx.
Front & Rear Fender to Door Spacing, 1949	1/8" Approx.

12-2 DESCRIPTION OF CHASSIS SHEET METAL

a. Front End Sheet Metal Assembly

The front end sheet metal assembly consists of front fenders and skirts, radiator grille, radiator mounting strap and radiator core, radiator pan, outside air intake ducts which are built into the fender skirts, and attaching parts. The parts of the front end sheet metal assembly are joined together in such manner that the entire assembly may be removed and installed as a unit, or the separate parts may be replaced without difficulty.

The front end of the entire sheet metal assembly is supported by the radiator mounting strap which is mounted at one point on a support bracket extending forward from the center

of the frame front cross member. Braces on each side extend from the lower corners of the radiator mounting strap to the frame side rail to prevent side sway. A radiator grille brace extends forward from the mounting point to the bottom center of the grille frame to reinforce the overhanging radiator grille. The rear end of the assembly is supported by the front fenders which are anchored to adjustable brackets mounted on the body cowl section. The lower edges of the fender skirts are attached to the frame side rails.

The 1948 Model radiator grille is a welded stamped steel assembly attached to a separate grille frame. The 1949 Series 50-70 radiator grille consists of aluminum castings bolted together to form an assembly. The grille as-

sembly is supported by the fenders and is also attached to the radiator pan.

The front fenders support the head lamps, front fender parking lamps, and the hood which is attached to the fenders by hinges.

b. Hood

The hood panel is of one-piece construction which is strengthened and held to shape by two transverse reinforcements on the under side. On *Series 40*, the reinforcements are of tubular construction and are bolted to the hood panel. The bolts at the reinforcement outer ends provide a limited amount of adjustment for altering the width of hood panel. On *Series 50-70*, reinforcements are channel-shaped stampings welded to the hood panel; no adjustment is provided for altering width of hood panel.

In addition to the rubber bumpers and lacing on the cowl, the hood is supported and locked in place by four goose neck hinges (two on each side) which are mounted on the front fender rails. On *1948 models*, a pilot pin on each hinge engages a pilot hole in a pilot plate on the hood to insure correct position of hood on hinge. On *1949 Series 50-70*, the pilot pins are on the hood

fastener rod. Pressing inward on forward end of handle unlocks the hood from hinges, and the projecting rear end of handle may be used to raise hood.

d. Hood Hinges and Fasteners—1949 Series 50-70

On *1949 Series 50-70*, the hood fastener mechanism is incorporated in the hinge assemblies. The fasteners are self-locking and the unlocking operation is cable controlled by release knobs located inside the body at lower edge of instrument panel.

A separate release knob is provided to unlock each side of the hood. When the knob is pulled rearward the hood is unlocked and raised high enough to permit further lifting of hood by hand. When knob is released it is pulled forward into its seat by spring action without affecting the position of the hood. To close and lock the hood it is simply necessary to lower hood until it rests on the unlocked fasteners, with the pilot pins entered in the mating holes in hinge pilot plate, then force downward on the side of hood. This causes the hood fastener latches to trip and lock the hood.

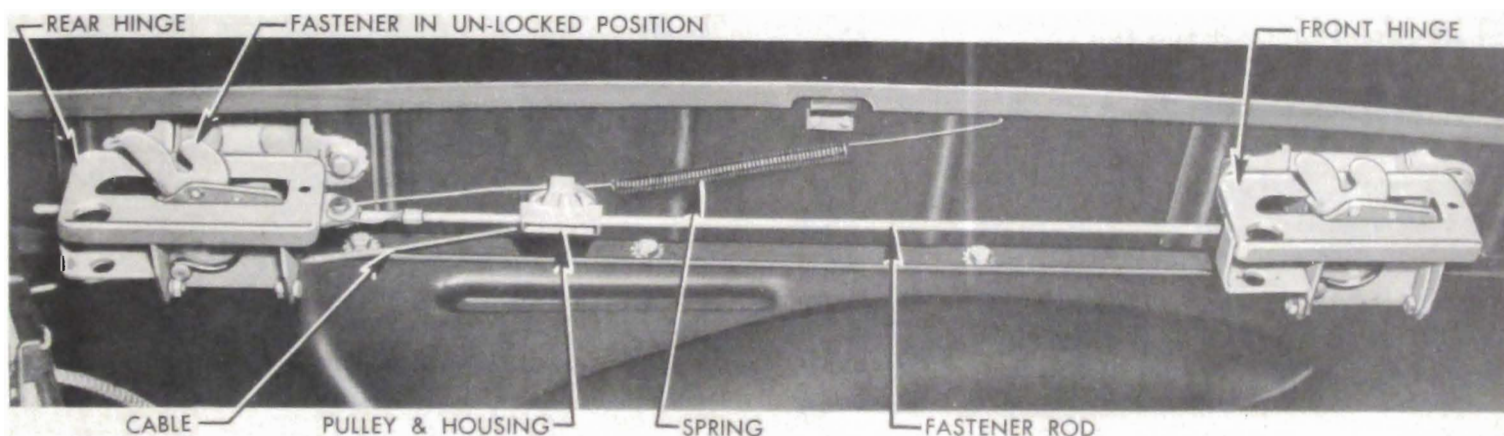


Figure 12-1—Hood Hinges and Hood Fastener Mechanism—
1949 Series 50-70

and the pilot plates are on the hinge assemblies.

The hood fastener mechanism on each side locks the hood to front and rear hinges simultaneously. With opposite side locked to hinges, either side may be raised, and may be supported in raised position by a support which is hinged to center of cowl. With both sides unlocked from hinges, the hood may be lifted off the car.

c. Hood Fasteners—1948 Models

On *1948 models*, each side of hood is locked to the hinges by a fastener mounted on the hood. The fastener includes a rod with two loops which engage hooks on the hinges and an outside recessed handle which actuates the

A hood fastener is mounted in each hinge. Front and rear fasteners on each side are unlocked simultaneously by a releasing rod which connects to both fasteners. The rod is controlled by a cable connected at one end to the release knob and anchored at other end to the rear hinge. The cable passes over a pulley mounted on a housing which slides on the fastener rod. When release knob is pulled rearward, the pulley housing contacts a shoulder on fastener releasing rod and pushes the rod rearward to move front and rear fasteners to unlocked position. A coil spring pulls the pulley housing and cable forward when knob is released. See figure 12-1.

e. Fender Extensions and Rear Wheel**Shields**

On *Series 40 cars*, the front fenders are "extended" rearward onto the front doors by means of an extension attached to each door. The extension is of two-piece welded construction with two moldings attached by T-head bolts.

On *1948 Series 50-70 cars*, the front fenders are "extended" rearward to the rear fenders by means of extension sections attached to each front door and each rear door or rear quarter panel. Each extension section is of one-piece construction with one molding attached by T-head bolts. On Models 51 and 71, the rear fenders are "extended" forward by extensions attached to the rear doors.

Series 40 rear wheel shields are attached to the fenders at front and rear lower corners by clips on the shield, and are locked to fender skirts by a locking lever mounted on the inner side of shield. See figure 12-24.

1948 Series 50-70 rear wheel shields are attached to rear fenders by a bolt at front end, a hook at the top edge and a support at the lower rear corner. See figure 12-25 and 12-26. The rear support is adjustable to give proper fit of shield against the fender.

1949 Series 50-70 rear wheel shields are set flush with the surfaces of fenders and doors,

and rubber seals are attached to the fender bodies. The upper edge of each shield is held by two tangs on shield which fit into slots in the fender body. The lower edge of shield is securely attached by a bolt at front and rear ends.

f. Outside Air Ventilator

When the car is moving forward, outside air may be circulated in the front compartment through ducts incorporated in the front end sheet metal assembly. The air is brought from behind the radiator grille through screened funnel shaped intakes and intake ducts built into the right and left fender skirts. Flexible hoses connect the intake ducts to outlets mounted in both sides of the dash panel. See figure 11-27 or 11-28.

The outlets direct outside air downward toward the feet of front seat occupants. Fly valves located in both outlets are manually operated by wires connected to a single knob marked "VENT" (1948) or "VENTILATION" (1949) on the instrument panel. The valves are closed and air is shut off when the knob is pushed in all the way; valves are open when knob is pulled all the way out. Any desired amount of air may be obtained by setting the knob to required position.

SEE WARNING ABOUT CARBON MONOXIDE ON PAGE 11-37
