

GROUP 12

SHEET METAL AND BUMPERS

CONTENTS OF GROUP 12

Paragraph	Subject	Page	Paragraph	Subject	Page
12-1	Description of Front End Sheet Metal	12	12-5	Hood Hinge	12-3
12-2	Hood Assembly	12-1	12-6	Fender, Bumper and Hood Alignment Inspection	12-3
12-3	Hood Adjustment	12-1	12-7	Fender and Bumper Adjustment and Replacement	12-4
12-4	Removal and Installation of Hood Springs	12-3			

12-1 DESCRIPTION OF FRONT END SHEET METAL

The sheet metal design provides rigidity with a minimum of vibration. The front end sheet metal parts are attached directly to body front wheel house and side rails. The radiator assembly is suspended by three rubber-faced "U" shaped supports. The two lower supports are attached to the body rail and the upper support is part of fan shield which is attached to the upper tie bar panel.

12-2 HOOD ASSEMBLY REMOVAL AND REPLACEMENT

a. Removal

1. Prop the hood in the open position and place the protective covering at top of cowl and on fenders.
2. Scribe a reference line along edge of each hinge flange so hood can be replaced in same position.
3. Remove four hood hinge bolts as shown in (Figure 12-2.)
4. Lift hood from car.

b. Installation

1. Protect top of hood and fenders with a covering.
2. Place hood in position over hinges and loosely install attaching four bolts and washers.
3. Prop hood in open position, and place hinge to hood attaching plate within

scribe marks and tighten bolts to a torque of 15-22 foot pounds.

4. Remove prop and protective covering. Adjust if necessary.

12-3 HOOD ADJUSTMENT

1. Rear Height. Rear hood height is determined by special washers between hinge and hood. Removing or adding washers will shift rear of hood up or down with respect to hinge. (See Figure 12-2.)

2. Rear Tension. Too little tension is indicated if the rear hood area flutters. To increase tension, add special washers between the hood and the hinges at the front bolts. (See Figure 12-2.)

Too much tension is indicated if the rear area of the hood bends as it is closed. To decrease tension, add special washers between the hood and the hood hinges at the rear bolts. (See Figure 12-2.)

3. Front Height. This is determined by two adjustable bumpers. (See Figure 12-12.) However, the front of the hood may not contact these bumpers unless the hood latch is correctly adjusted as described in step "4".

4. Latch Tension.

- a. Raise hood of car.
- b. Loosen four bolts attaching latch to panel assembly. (See Figure 12-12.)
- c. Close hood; hood will align itself in hood lock catch.

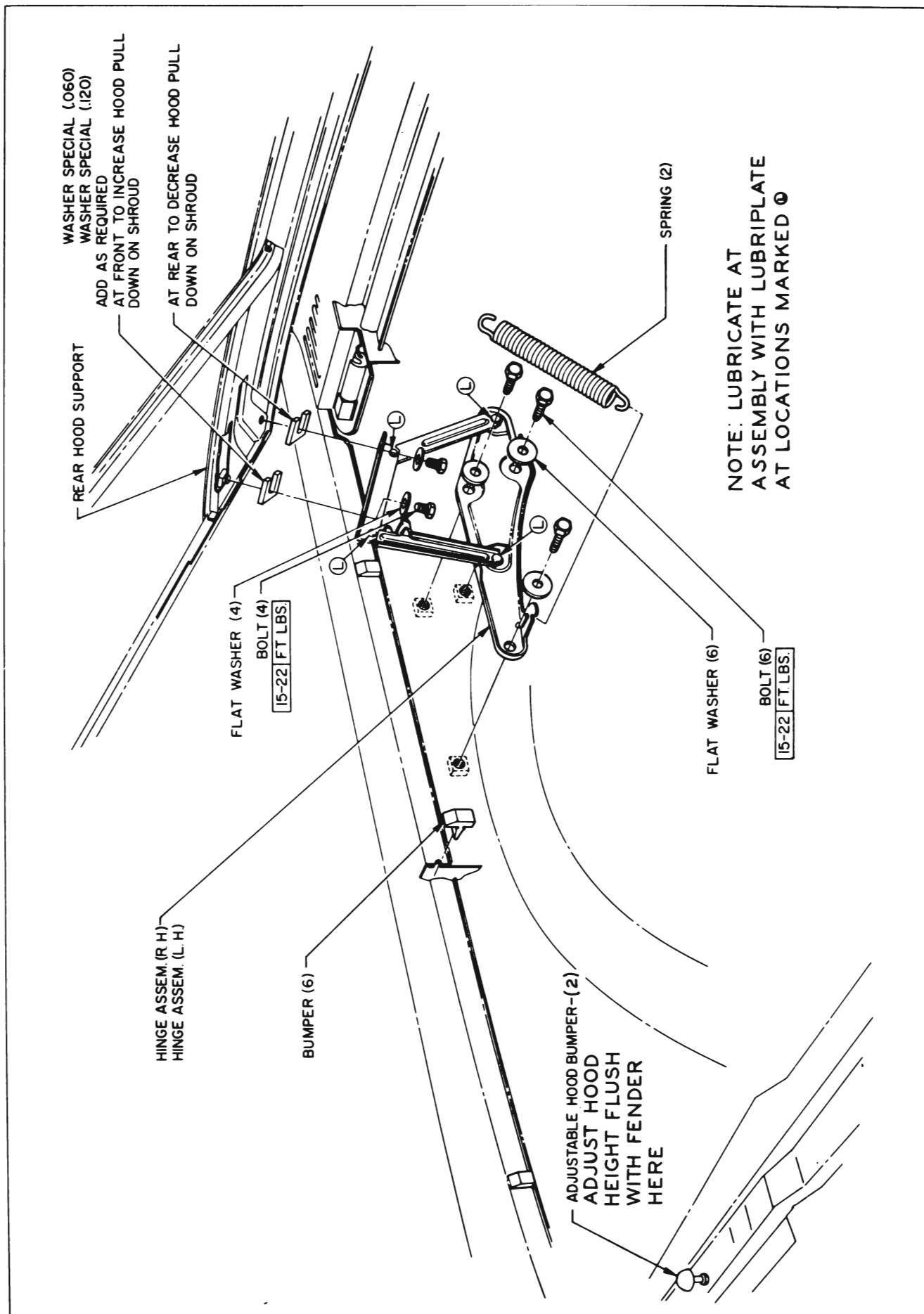


Figure 12-2—Hood Hinge Installation

- d. Raise hood carefully and tighten all four bolts on the panel assembly to a torque of 10-15 foot pounds. Close hood to see if alignment is still okay.

4. Raise hood and tighten all mounting bolts to 15-22 foot pounds.
5. Remove all protective coverings.

12-4 REMOVAL AND INSTALLATION OF HOOD SPRINGS

1. Remove hood as described in par. 12-2, steps 1-4.
2. To remove hood spring, insert Remover and Installer J-9214 through loop in forward end of spring with bend of tool approximately one inch from loop. Using inside corner formed by hinge as a pivot, unseat spring from notch.
3. Then push tool forward, causing hood spring to slide clear of hinge.
4. To replace hood spring, insert Remover and Installer J-9214 through loop in forward end of spring. Using hinge as a pivot, seat spring into notch.

12-5 HOOD HINGE

a. Removal

1. Prop the hood in the extreme open position and place protective covering over the cowl panel and fenders.
2. Scribe position of the hood hinge on the hood and remove two bolts. Remove hood as described in par. 12-2, steps 1-4.
3. Scribe position of the hinge attachment on wheelhouse. Remove the three bolts attaching the front of the hinge to the wheelhouse (fig. 12-2) and remove the hinge.

b. Installation

1. Align hood hinge with scribe marks on wheelhouse and install three bolts washers attaching the hinge to the wheelhouse. Do not tighten.
2. Replace the hood as described in par. 12-2, steps 1-4.
3. Close hood and align flush with cowl and fenders.

12-6 FENDER AND BUMPER ALIGNMENT INSPECTION

The hood, front fenders and bumper must be aligned with each other on every car to take care of slight variations in form and dimensions of the individual parts. Sheet metal parts stamped in a given set of dies will vary somewhat in form and dimensions due to variations in the hardness of different batches of sheet metal, which cause the stampings to spring in varying amounts when released from the form dies.

The hood and front fenders are properly aligned during the installation at the factory; however, some readjustment may be required after a car has been shipped or has been in service for some time. In judging the need for readjustment it must be understood that exactly uniform fit and spacing cannot be obtained on all cars of a given model.

a. Hood Noises or Panel Flutter

Squeaks or grunting noises in the hood when driving over rough roads do not necessarily indicate misalignment of hood and fenders. These noises may be caused by metal contact at some point where clearance should exist or by worn or dry hood bumpers.

If the hood squeaks, check with 1/16" thick feeler all around the hood for clearance at fenders and cowl. If an edge of metal is making contact at any point where clearance should exist, a bright metal spot will usually be found. Such spots may be depressed by spring hammering to provide clearance.

A grunting noise in the hood is usually caused by dry rubber bumpers or cowl ledge lacing. Lubricate all rubber bumpers on fender rails and cowl with silicone rubber lubricant. To correct a persistent case of squeaking or grunting where hood top panel contacts ledge lacing, even when lubricated, cement a 1/16" thick strip of felt to panel where the lacing makes contact.

To prevent hood panel flutter, the rear end of the hood panel must have firm contact with

the rubber bumpers and lacing attached to cowl ledge. The hood may be raised or lowered by adjustment at hinges. See Figure 12-2.

b. Preliminary Tightening

Before deciding upon any adjustment to correct hood or fender misalignment, it is advisable to check tightness of all attaching screws and bolts, since a true picture of correction requirements cannot be obtained when the sheet metal is loose and free to shift.

After all parts are properly tightened, inspect fender and hood alignment (subpar. c) and hood alignment (subpar. d). Make all inspections before performing any adjustments because an adjustment at one point will usually alter alignment at other points. The preliminary inspection should determine the adjustments that will produce the best overall alignment of hood and fenders at all points.

c. Fender and Hood Alignment at Front Doors

With front doors closed there should be no metal-to-metal contact between doors and rear ends of front fenders. Check for clearance at frequent points, using a strip of fibre or other soft material 1/32" thick. The spacing between rear end of front fenders and the shoulder on front edge of doors should be approximately 1/8", and fairly uniform from top to bottom.

Before making any adjustment of sheet metal to provide necessary clearance at points mentioned, first make sure that front doors are properly aligned in the body openings. If fender and door panel surfaces are not reasonably flush, correction may be made by adding or

removing shims between the fender and the cowl. See Figure 12-11. Where spacing between rear edge of front fender and door is objectionably uneven from top to bottom, it may be necessary to loosen fender attaching bolts and pry between fender and rocker panel or draw fender into position and retighten bolts.

d. Hood Alignment Inspection

When closed and latched, the hood should bear firmly against the rubber bumpers on upper tie bar panel and on edge of fenders. Height of hood and width of space between hood and fenders should be reasonably even from front to rear.

12-7 FENDER AND BUMPER ADJUSTMENT AND REPLACEMENT

a. Front Fender and Bumper Adjustment

Slight adjustment of fender to door spacing can be made by loosening the fender attaching bolts and inserting a screwdriver between the rocker panel and fender to pry opening wider at lower edge, or have a helper lean on front fender to lessen gap at bottom.

In and out adjustment of the lower rear edge of the front fender is accomplished by shimming at the two fender to body attaching points shown in Figure 12-11. The fender line should be flush with the rocker panel.

The front bumper attaching bolt holes in anchor bars and inner and outer bars are slotted to permit movement of the bumper to permit proper alignment with adjacent parts. See Figure 12-10.

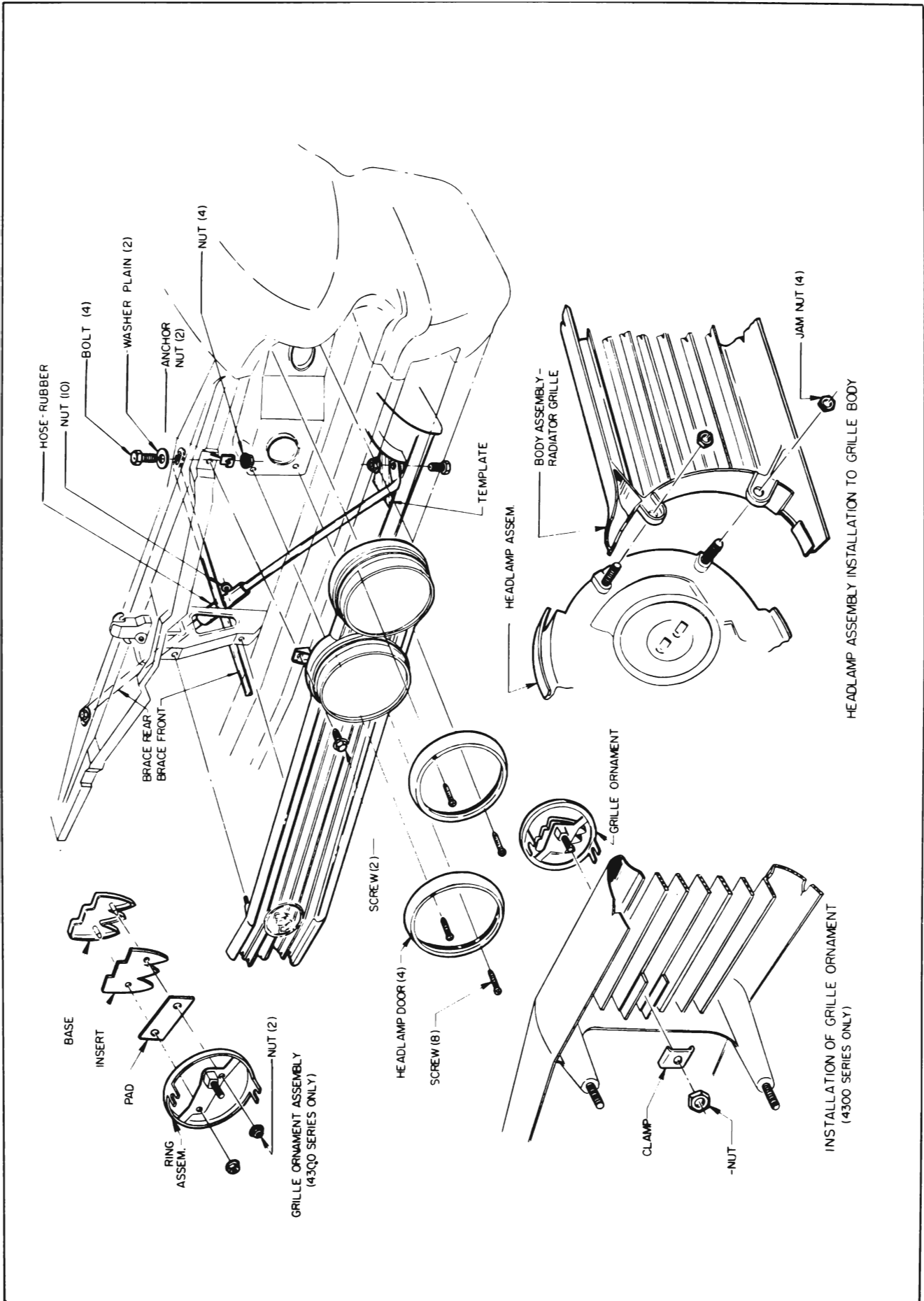


Figure 12-3—Radiator Grille, Headlamp and Front End Installation

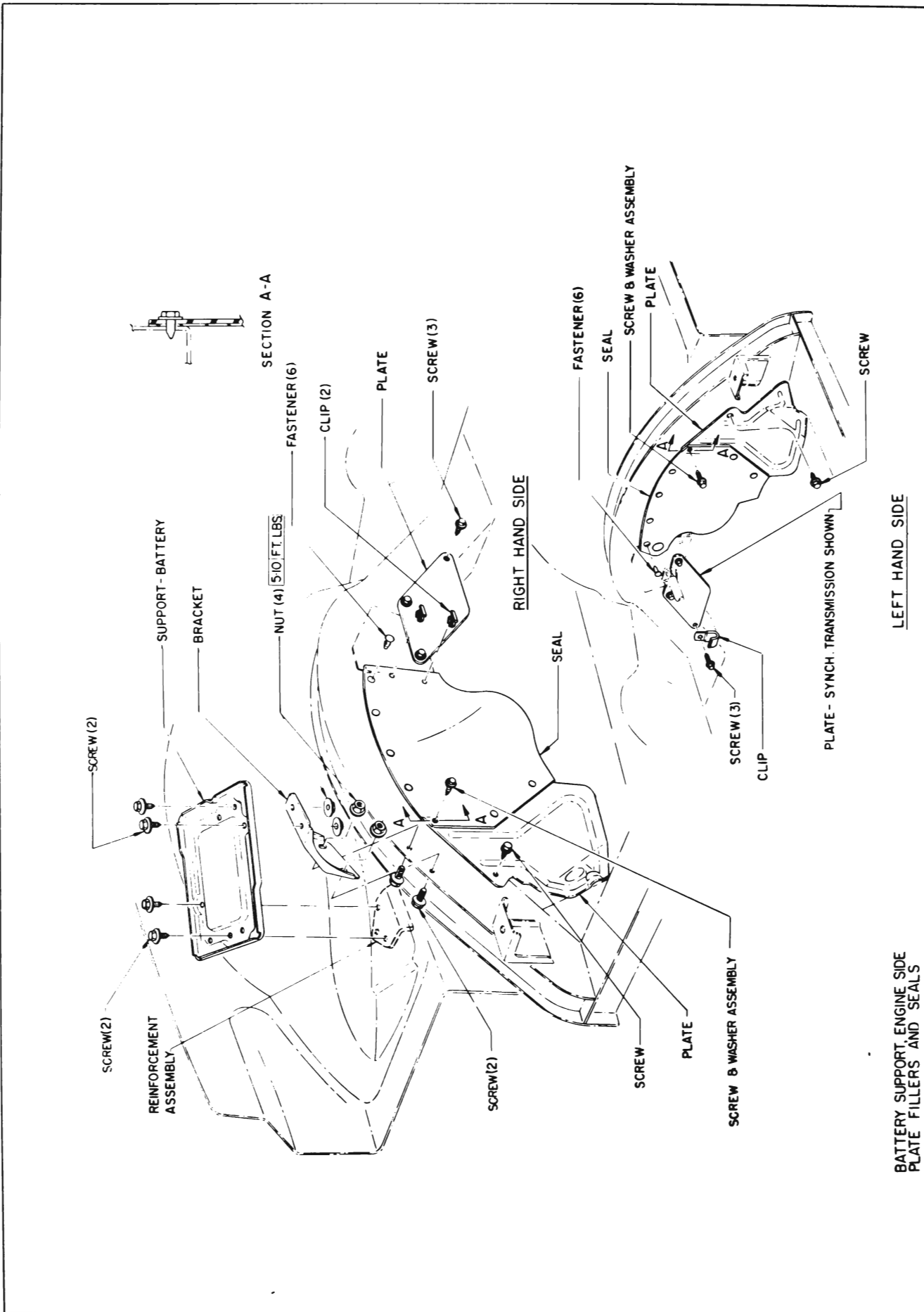


Figure 12-4—Battery Support Engine Plate Fillers and Seats Installation

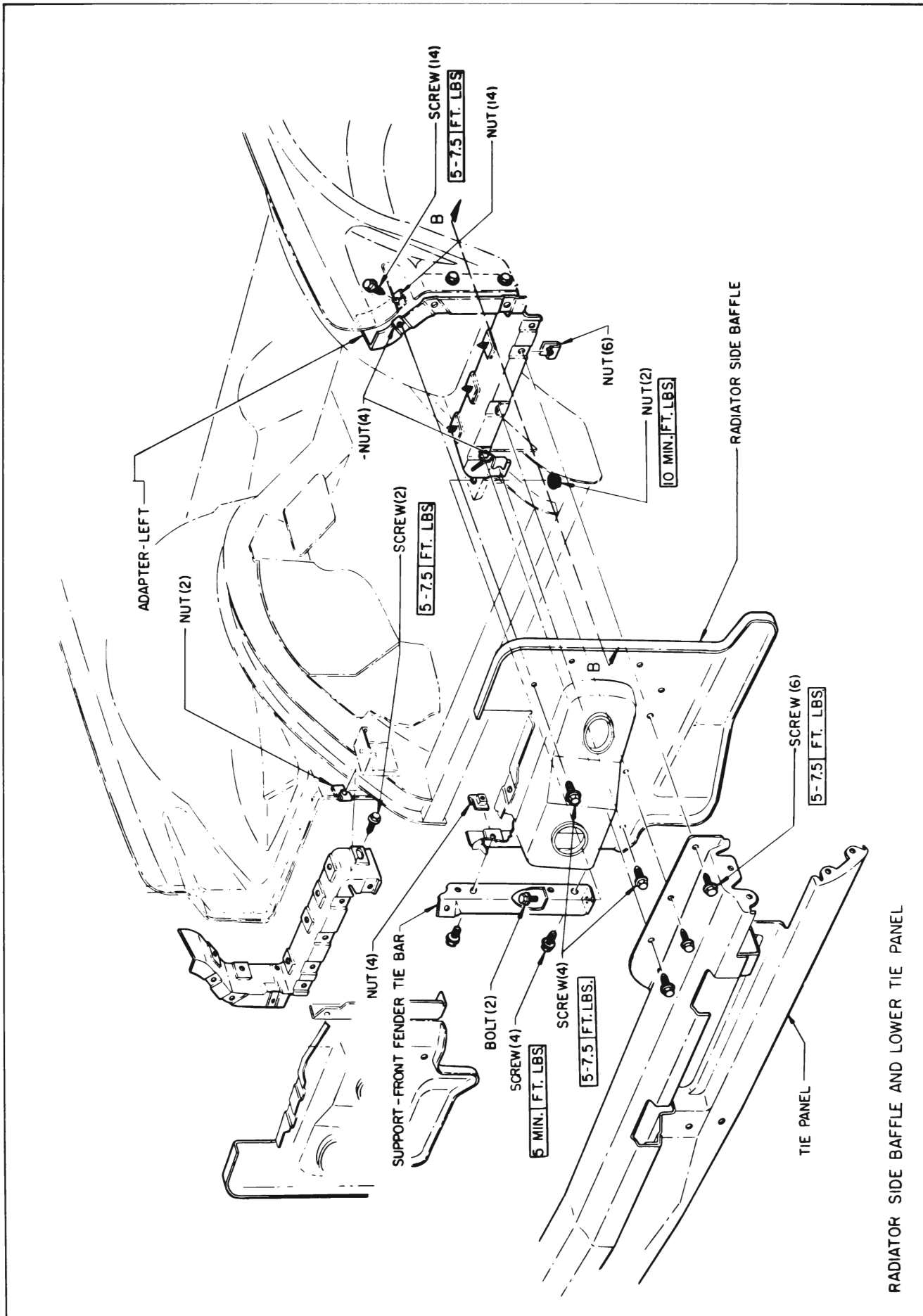


Figure 12-5—Radiator Side Baffle and Lower Tie Panel Installation

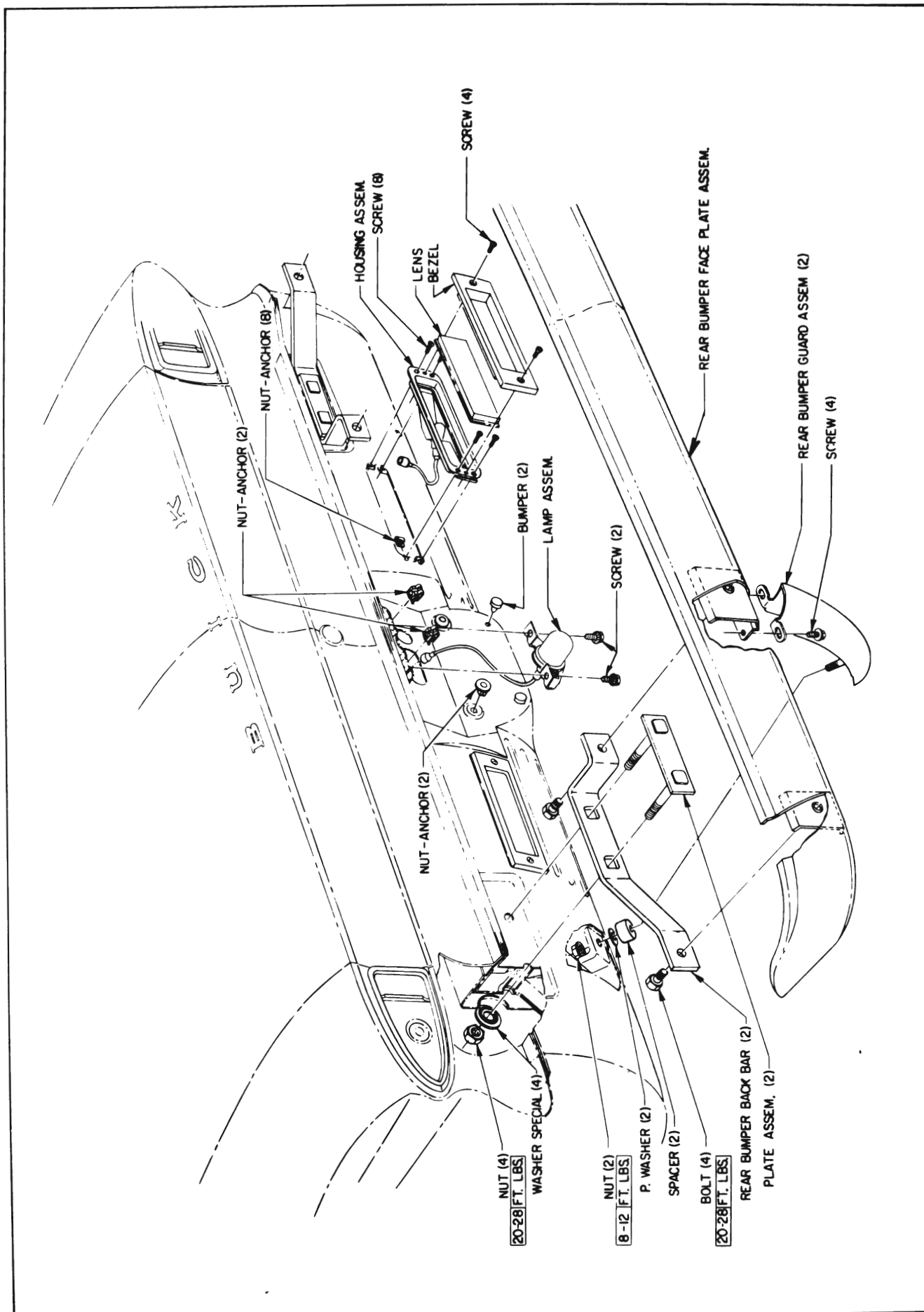


Figure 12-6—Rear Bumper License, Tail and Back Up—lamp Installation

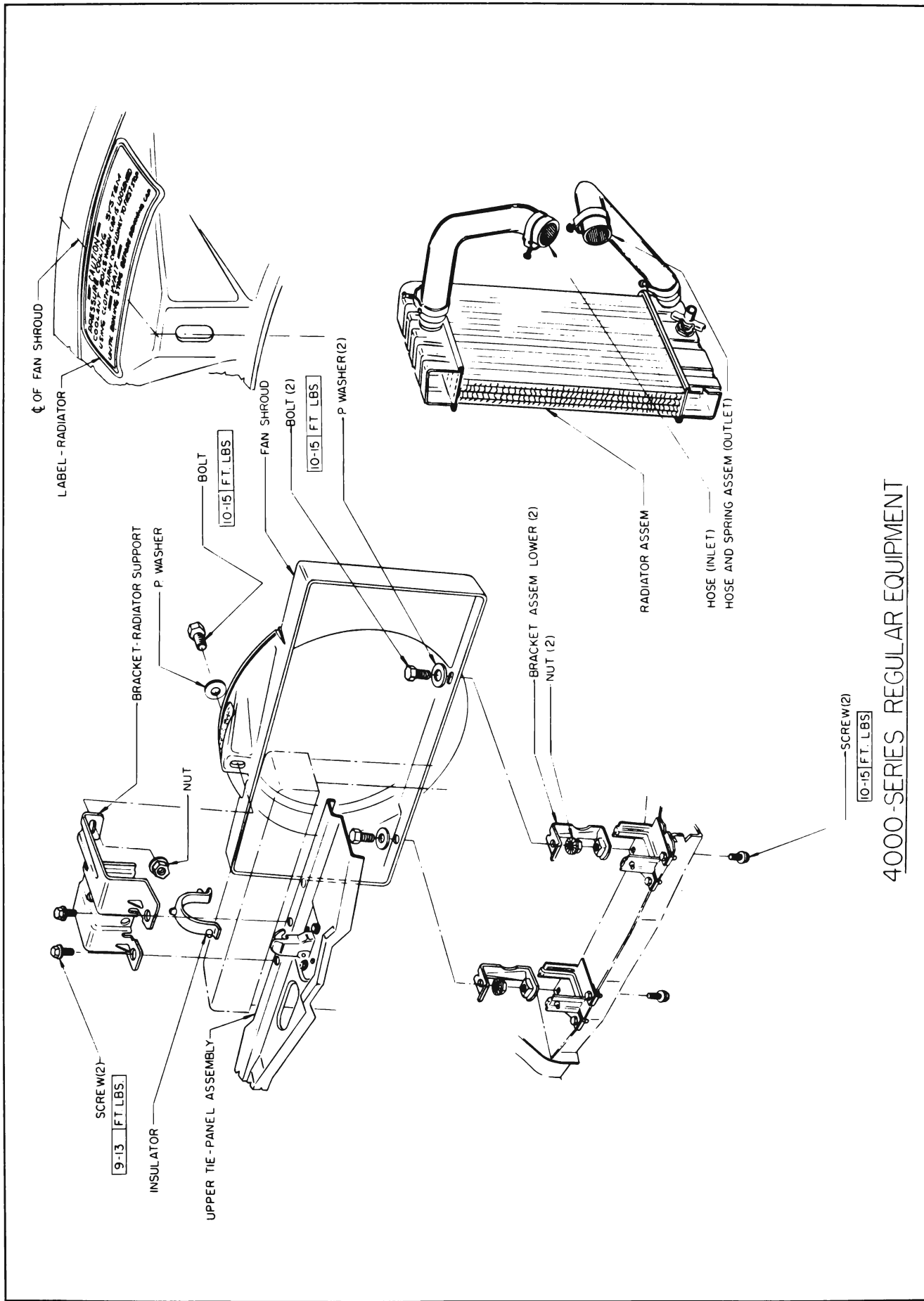


Figure 12-7—Fan Shroud Installation

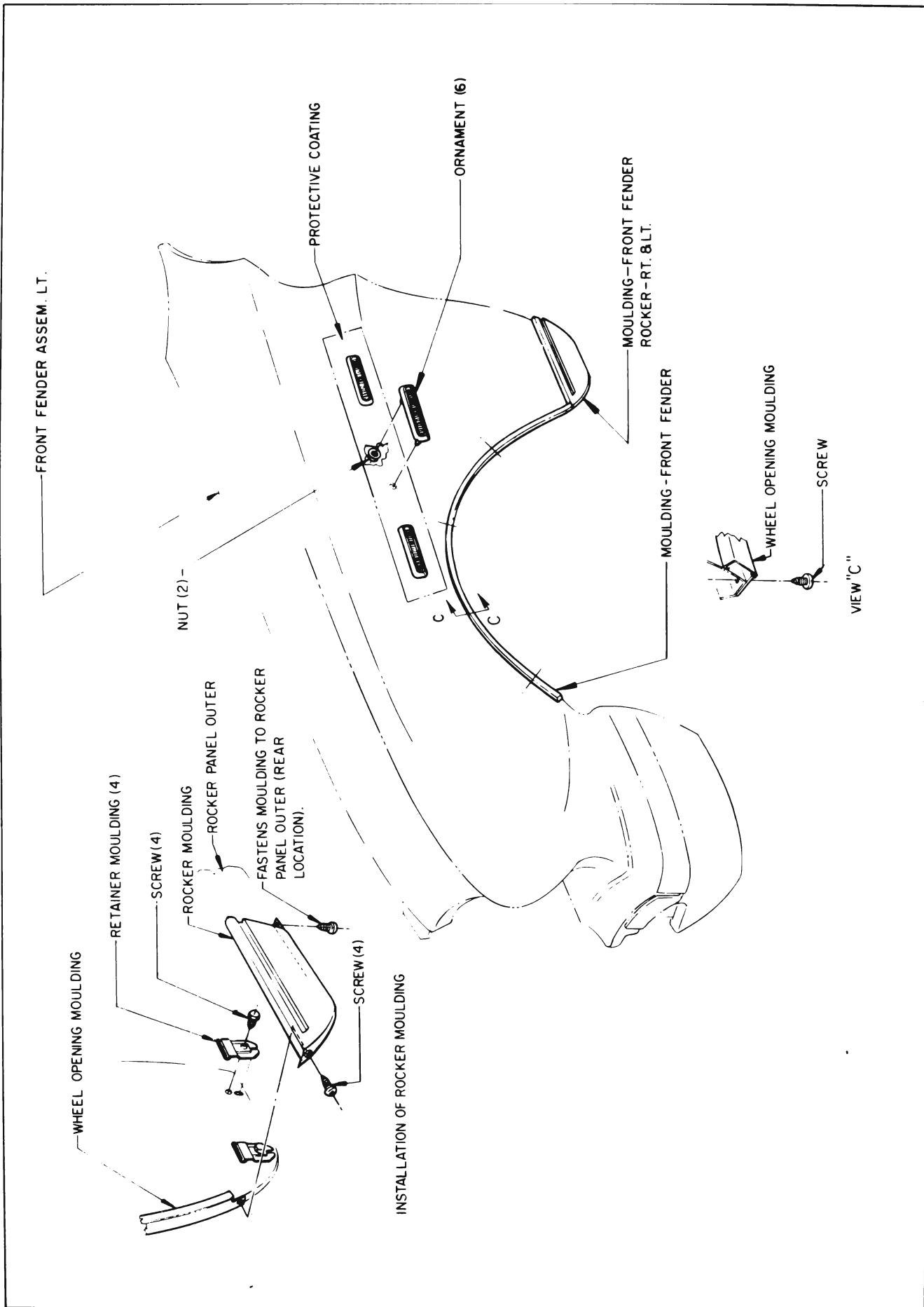


Figure 12-8—Exterior Moldings Front Fender 4300 Series

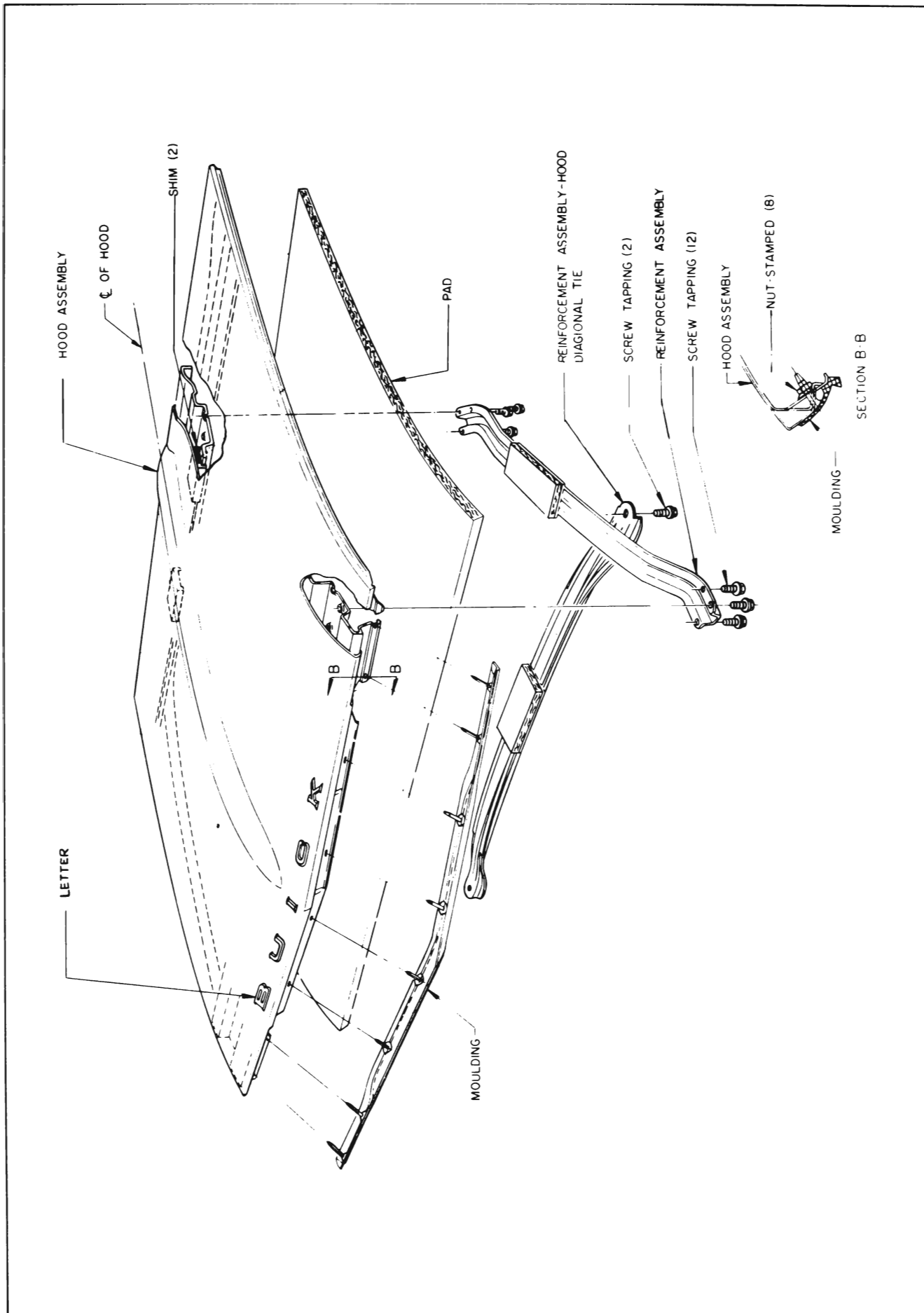


Figure 12-9—Hood Assembly

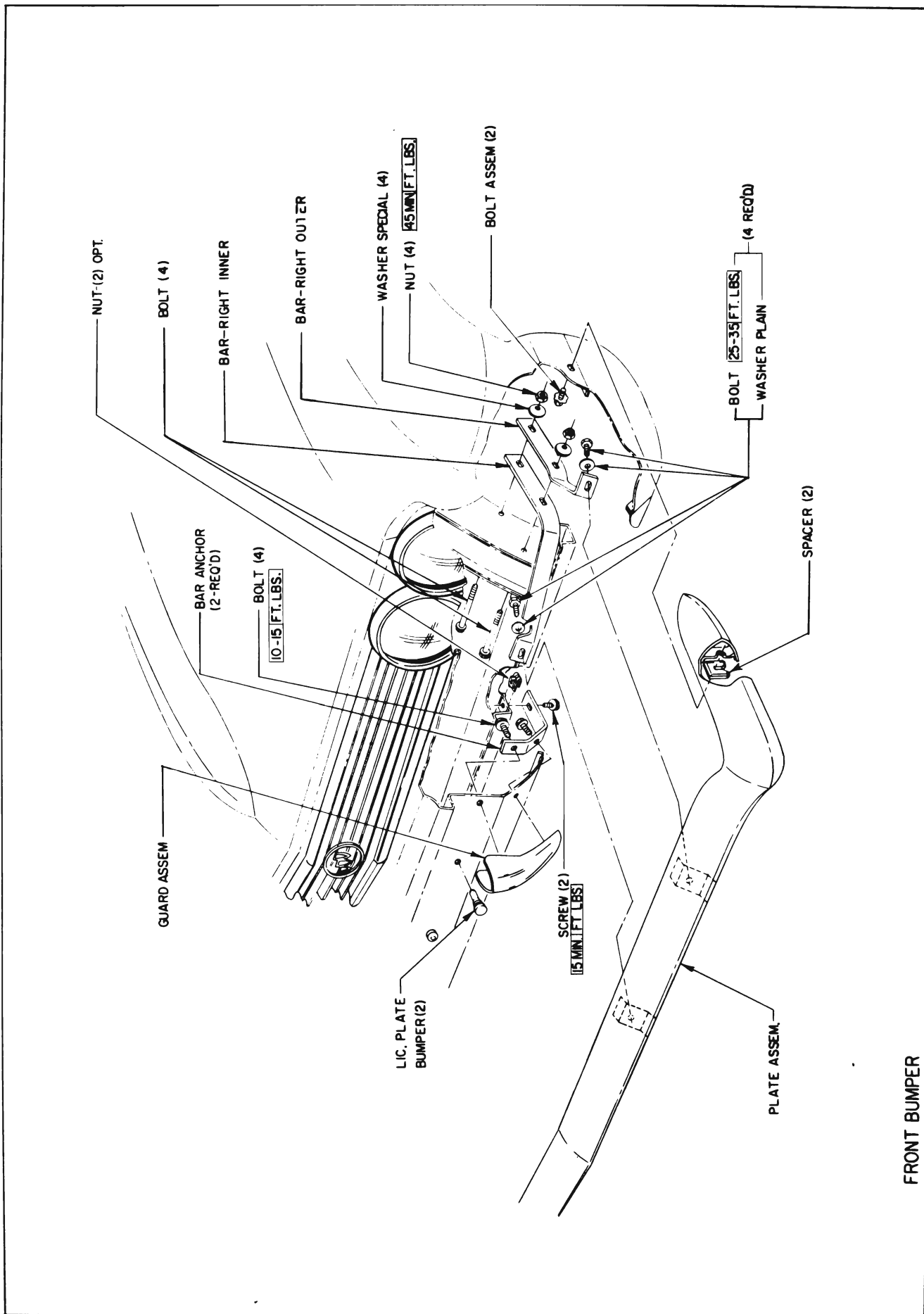


Figure 12-10—Bumper Installation

FRONT BUMPER

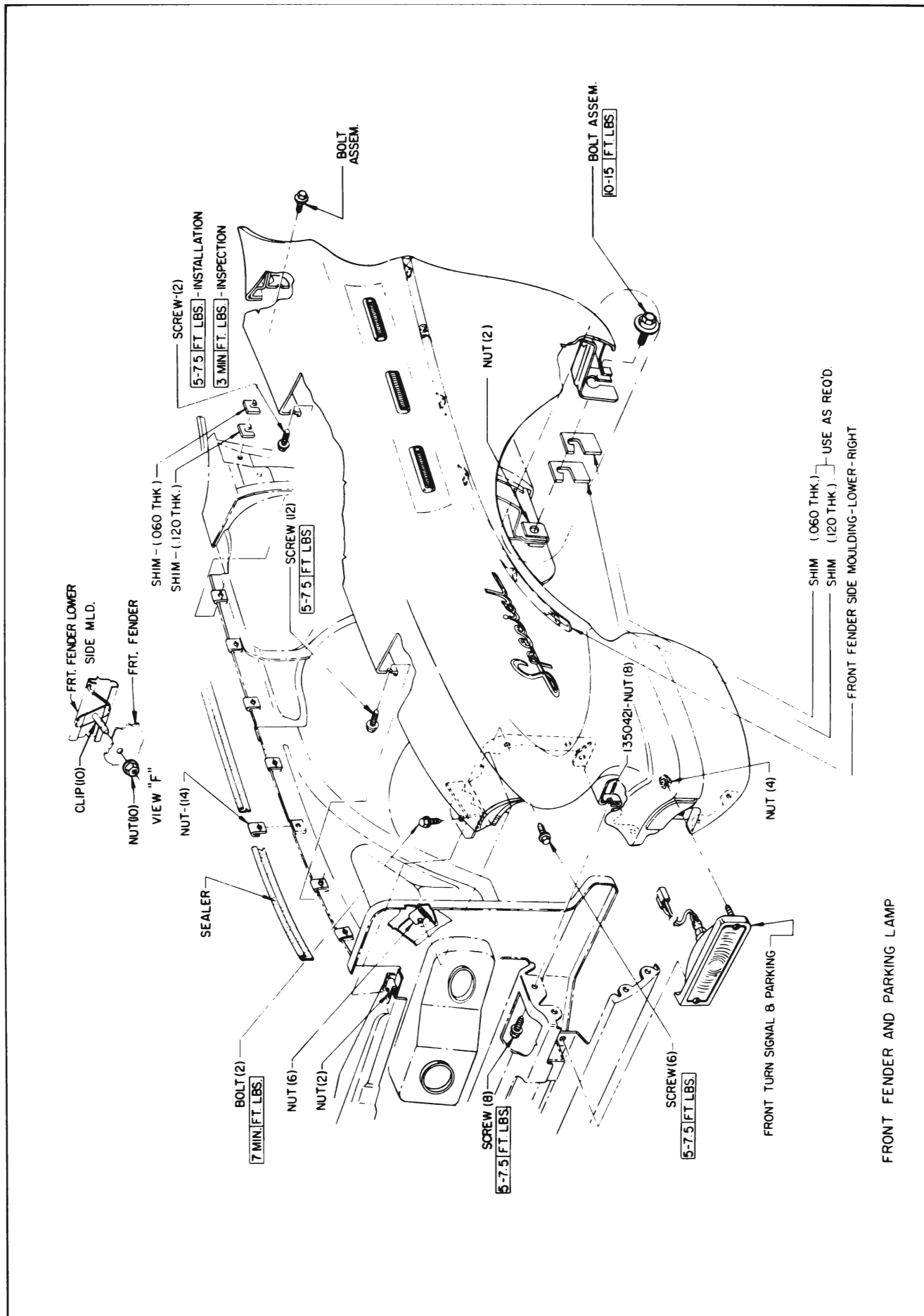


Figure 12-11—Front Fender and Parking Lamp Installation

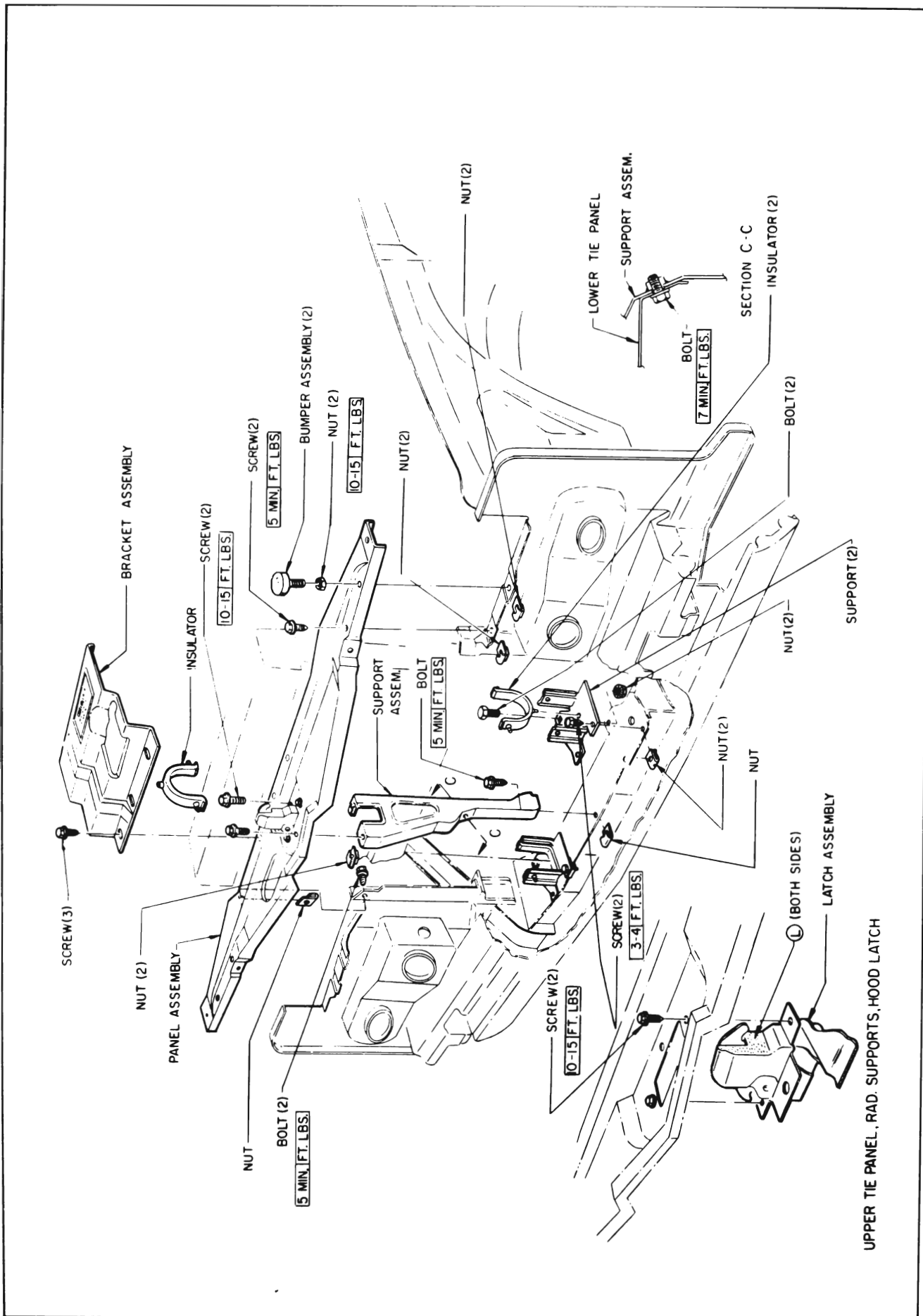


Figure 12-12—Upper Tie Bar, Radiator Supports and Hood Latch Installation