BODY, DOORS, AND WINDOWS

GROUP 17

PART 17-1 GENERAL BODY SERVICE

1 DIAGNOSIS AND TESTING

LEAKS

The forward motion of the car creates a slight vacuum within the body, particularly if a window or ventilator is partially open. Any unsealed crevice or small opening in the lower section of the body will permit air to be drawn into the body. If dust is present in the air, it will follow any path taken by the air from the point of entry into the passenger and luggage compartments. Opening the fresh air outlets will equalize these pressures. Dust may work its way into the hollow, box-type, rocker panel which extends along the edge of the floor below the doors. Dust accumulates in the rocker panel, and may eventually work its way to the rear body pillar or kick-up, and follow the contour of the wheelhouse into the luggage compartment.

To eliminate dust leakage, determine the exact point at which the dust enters. As explained previously, the point of entry is often deceptive in that the dust may enter at one point and then follow the passages formed by interior trim.

Under certain conditions, water can enter the body at any point where dirt or dust can enter. Any consideration of water leakage must take into account all points covered under dust leaks.

Dust and/or water leaks may result from missing or improperly installed plugs and grommets. These are used in the underbody and the dash panel.

LOCATING DUST LEAKS

To determine the exact location of a dust leak, remove the following trim from the car:

1. Cowl trim panel.
2. Quarter trim panel.
3. Rear seat back and seat cushion.
4. Luggage compartment floor mats, side trim panel, and spare wheel.
5. Scuff plates.

After removing the trim, the location of most leaks will be readily evident. Seal these leaks, and road test the car on a dusty road to make sure that all leaks are sealed. The entrance of dust is usually indicated by a pointed shaft of dust or silt at the point of entrance.

After the road test, check for indications of a dust pattern around the door openings, cowl panel, lower part of the quarter panel, and in the luggage compartment.

The locations of sealed body joints which can be involved are shown in Fig. 1 thru 4. Roof side rail weatherstrips are shown in Fig. 5 for hardtop models and in Group 18, Part 3 for convertible models.

TYPES OF SEALERS AND APPLICATION

Since many sealers are used in manufacturing assembly, the all purpose sealers described below have been selected for service use. The method and points of application are given under each sealer type.

CAULKING CORD – AB-19560-A

This sealer has a plastic base with an asbestos filler, is heavy bodied, and is commonly known as permagnum. It is used on spotweld holes, around moulding clips, or between two surfaces not properly sealed by a gasket. Apply the sealer with a putty knife.

TRIM CEMENT – C2AZ-19C525-A

This cement is specially recommended for instrument panel safety pad and body panel plastic water shield installation. It is also useful for repair or replacement of other vinyl and rubber trim.

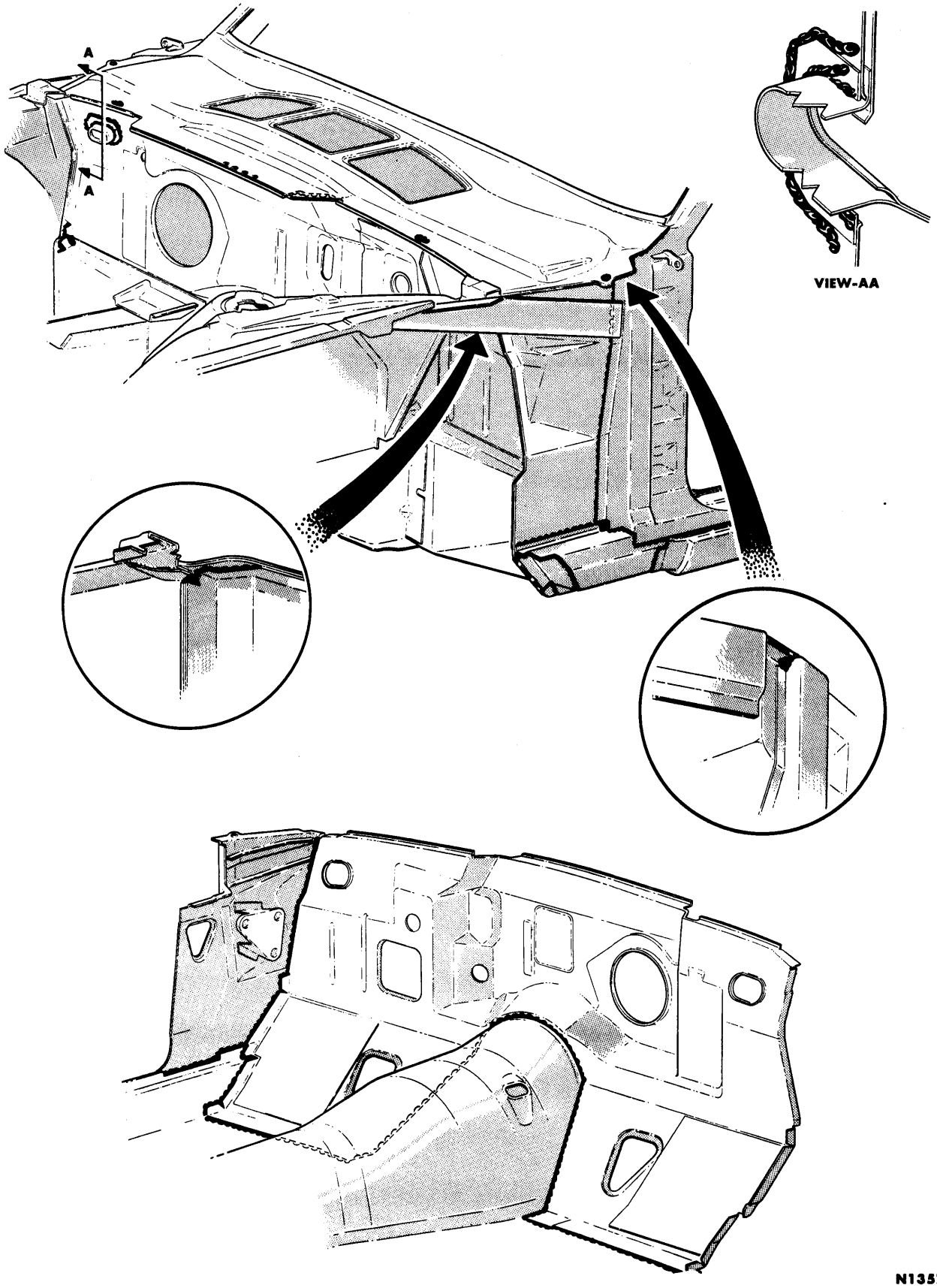

FIG. 1 – Sealer Application – Cowl

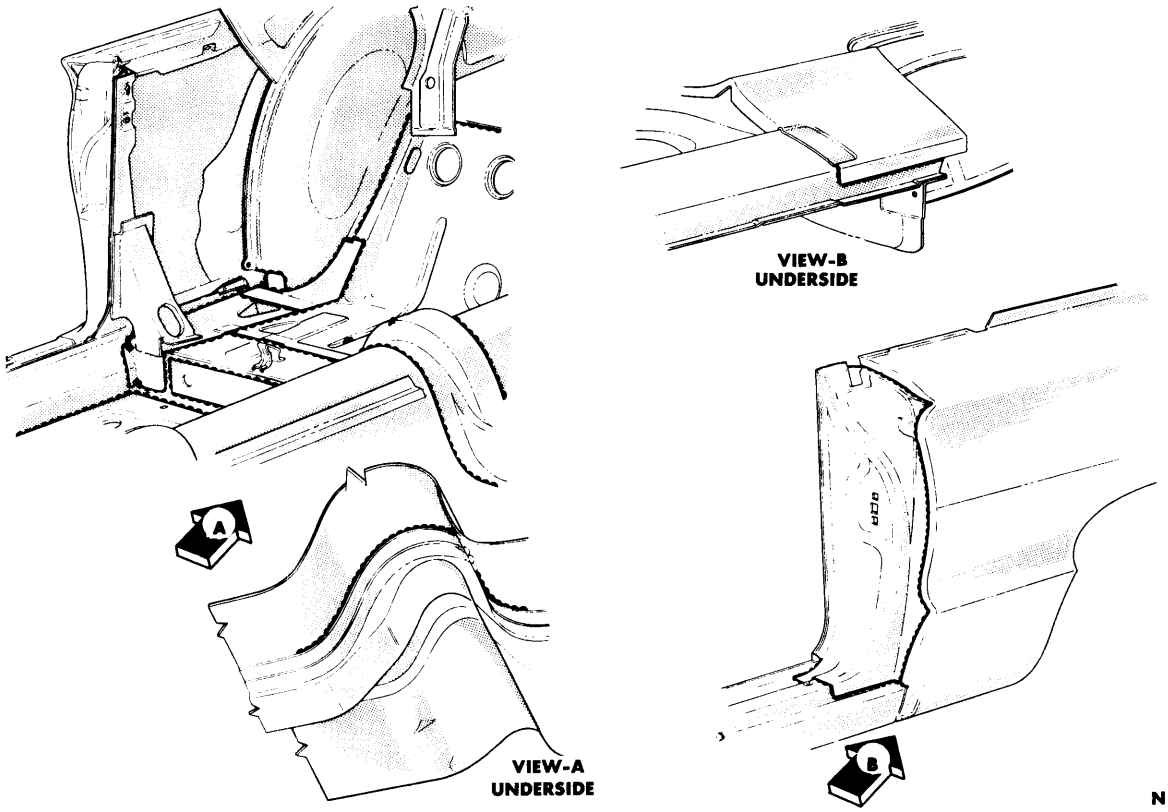

FIG. 2–Sealer Application–Rear Floor

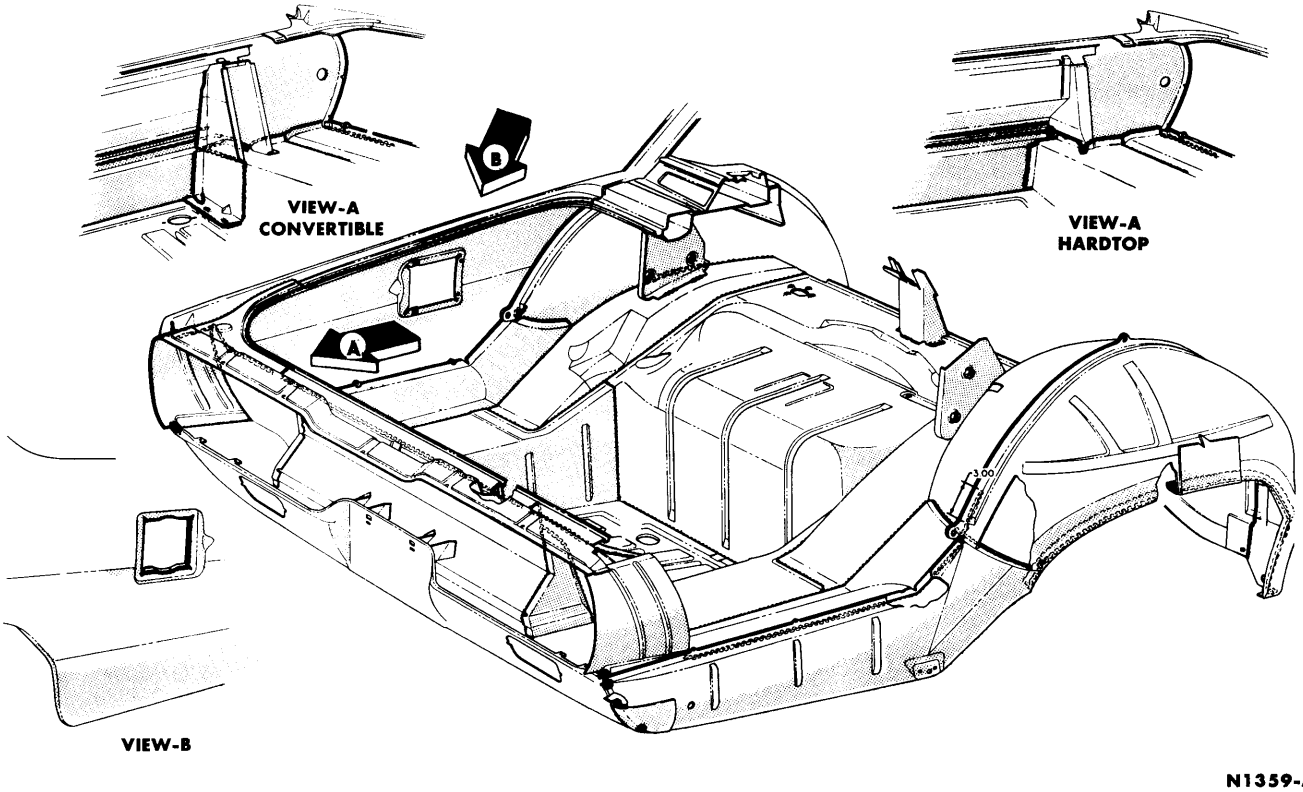

FIG. 3–Sealer Application–Body Rear

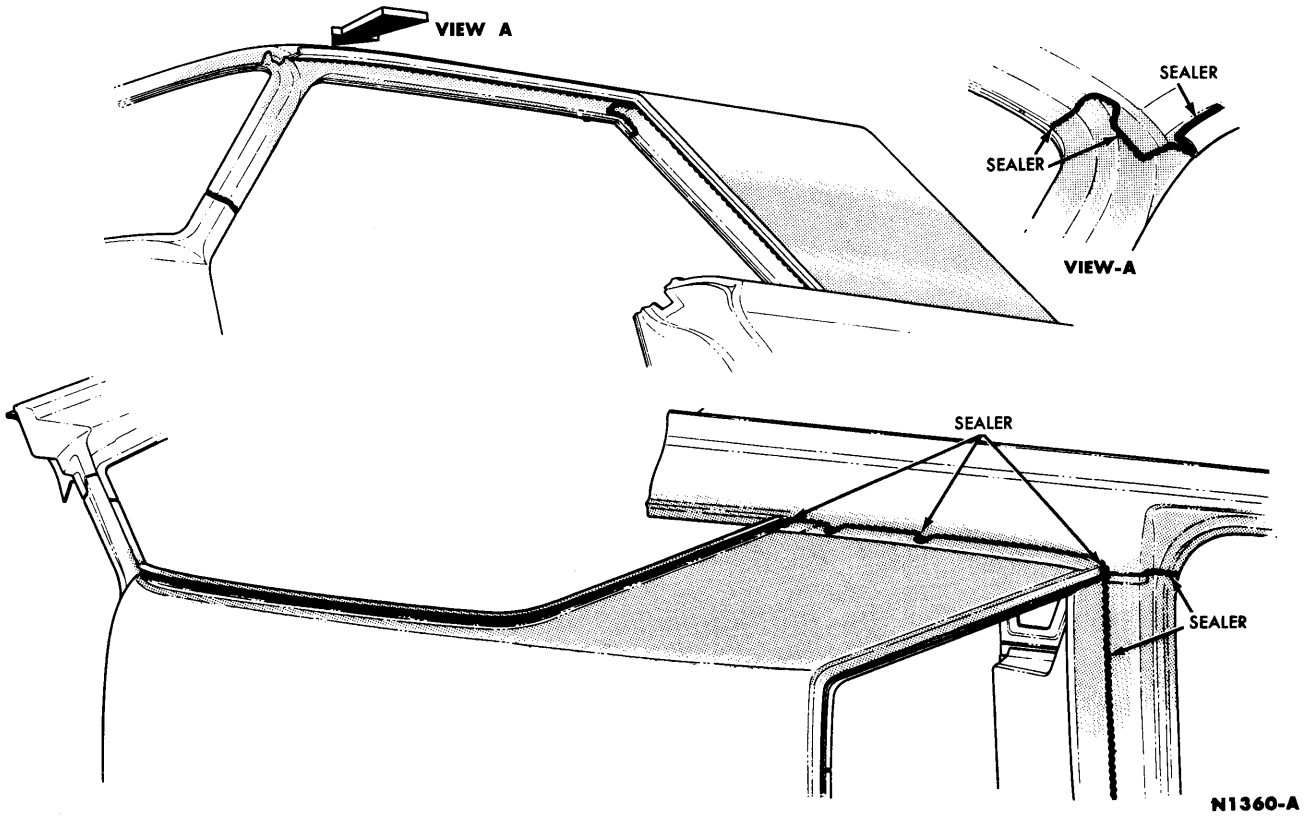

FIG. 4—Sealer Application—Roof

RUBBER CEMENT—8A-19552-B

This quick-drying, strong, adhesive cement is designed to hold weatherstripping on doors, bodies, deck lids, cowl ventilators, and the surrounding metal. Windows and windshields that are set in rubber can be effectively sealed against leakage by flowing cement into affected areas.

Clean all grease, dirt and old sealer from the surfaces to be cemented. Wash the surfaces thoroughly with a rag moistened with clean gasoline or cleaners naphtha. For best results, apply a medium coat of cement to both surfaces, allow it to dry until tacky, and then press both surfaces firmly together.

CLEANING SOLVENT B7A-19520-A OR B7A-19521-A

Prevent either of these cleaners from contacting either vinyl or leather.

This general clean-up solvent cleans off cement smears, wax, tars, oils, grease, caulk and sealer. It can also be used to thin caulk and sealer. It is harmless to cured paint, and is useful in new car pre-delivery.

SILICONE LUBRICANT—COAZ-19533-A (JELLY) OR COAZ-19533-B (SPRAY)

This lubricant can be used on the door upper weatherstrips of convertible and hardtop models. Its use makes the doors easier to close, avoids weatherstrip squeaks, retards

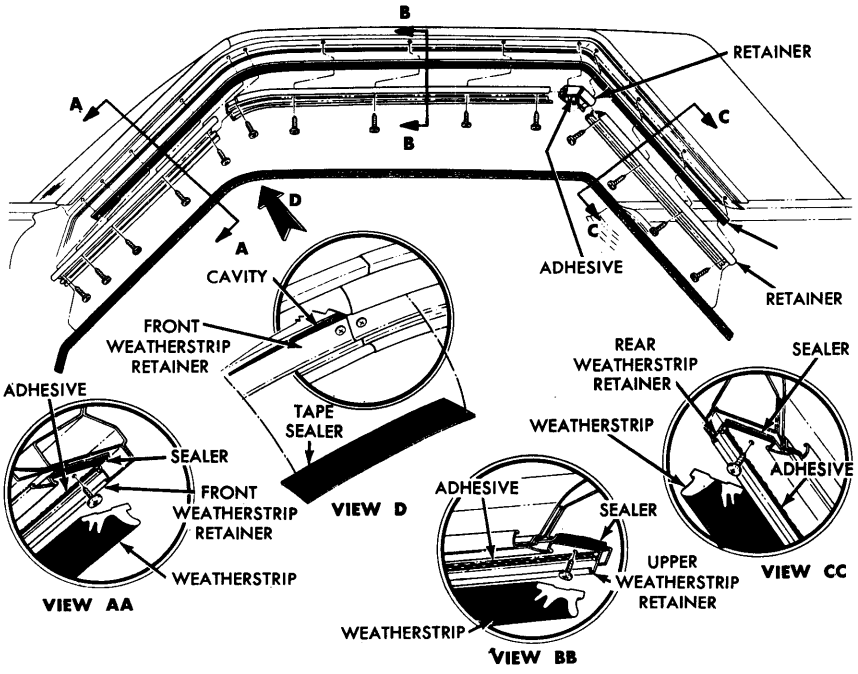

FIG. 5—Roof Side Rail Weatherstrips (Hardtop)

excess weatherstrip wear chafing between the door glass upper frame and the weatherstrip, and helps to retain door window alignment by reducing friction between the glass frame and rubber weathershrip.

2 COMMON ADJUSTMENTS AND REPAIRS

HOISTING

DRIVE-ON TYPE HOIST

To prevent possible damage to the underbody, do not drive the car onto the drive-on type hoist without first checking for possible interference between the upright flanges of the hoist rails and the underbody. Should there be interference, the hoist flanges should be modified as necessary and/or the approach ramps built up to provide the needed clearance.

RAIL TYPE (FREE WHEELING) HOIST

Front. The front adapters or hoist plates must be carefully positioned in contact with the lower suspension arms to assure safe, secure lifting.

Do not allow the hoist adapter to contact the steering stop.

Rear. The hoist adapters must be positioned carefully under the rear axle to prevent damage to the shock absorbers and brake lines when the car is raised. The hoist rails should be raised slowly and the position of the adapters checked.

FORK LIFT (TWIN POST) HOIST

Front. To assure safe hoisting, the front post adapters must be positioned carefully to contact the lower suspension arms.

Rear. To prevent damage to the shock absorbers, the rear forks must contact the axle at points not farther outboard than one inch from the circumference welds near the differential housing. Carefully raise the rear post and check the position of the fork.

FRAME CONTACT HOIST

Frame contact hoist adapters are necessary to lift the car. The hoist adapter pads should each cover at least 24 square inches of underbody area. Figure 7 shows recommended contact points.

JACKING

When a stationary floor jack or a roll jack is to be used, there are several specific recommended points of contact. Either side of the car may be raised at the front by jack contact at either lower control arm. **Raise the car by contacting a lower arm**

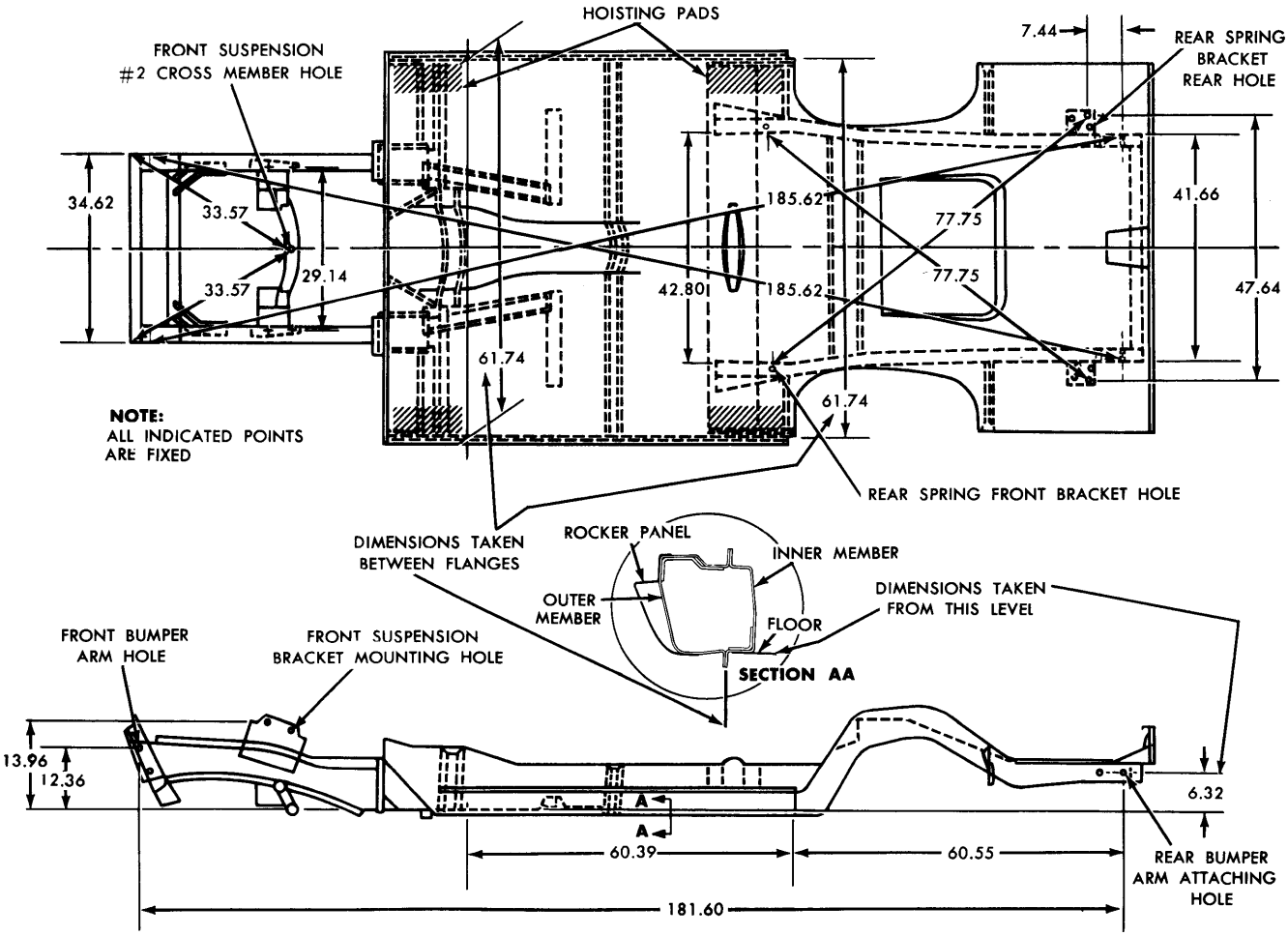

FIG. 6—Underbody Dimensions N1000-C

only when the jack saddle is large enough to accommodate the control arm securely. Either side of the front end of the car may also be raised by jack pressure on the front cross member, or on the cross member to which the stabilizer is connected.

Either side of the rear end of the car may be raised by jack pressure on the rear cross member. Do not put pressure on the fuel tank.

To raise the car with a bumper jack, position the jack hook on the bumper so that the lip of the hook engages the notch in the lower edge of the bumper.

The convertible deck lid must be closed to properly position the jack on the rear bumper.

BODY REPAIRS

BODY ALIGNMENT

Servicing the unitized body should not present any unusual difficulties or necessitate additional equipment other than that required for the conventional frame and body repair. The application of heat and the use of heavy-duty jacks must be carefully controlled because of the difference in the gauge of the metal in the subframe of a unitized body and the stress points developed in a single welded unit construction. It is possible to pull damaged areas back into alignment with the use of light-weight jacks and hydraulic equipment without heating the metal.

Rough out badly damaged areas before taking measurements for squaring up a body. If necessary, remove the glass from the damaged area to prevent damage. In severe cases, reinforcement brackets and other inner construction may have to be removed or cut to permit restoration of the outer shell and pillars without excessive strain on the parts. Straighten, install, and secure all such parts in place before attempting to align the body.

In cases of severe or sharp bends, it may be necessary to use heat. Any attempt to cold-straighten a severely bent bracket may cause ruptures of the welds and may also cause cracks in the bent part. Never heat the area more than a dull red.

Checking Body for Misalignment. To align or square up a body, take two opposite diagonal measurements between pillars. Use a measuring tram for these measurements. Take the measurements between reference points such as crease lines or weld joints which are diagonally opposite each other on the two pillars being measured. Since all measurements should be made from the bare metal, remove all interior trim from the checking points.

Do not attempt to correct any serious misalignment with one jacking operation. This is particularly true if other sections of the body also require aligning. Align each section proportionately until the proper dimensions are obtained.

Door openings are checked in the same manner as the body. Horizontal, vertical, and diagonal checking points are established on all four sides of the door opening that is being measured.

The dimensions of the sub-frame must be restored in the repair of major body damage, to provide correct front and rear wheel geometry. Fig. 6 shows the dimensions for aligning the underbody assembly. All the dimensions are detailed to the center line of existing holes in the underbody assembly. Once the frame and suspension members are properly aligned, the balance of the repair can be performed.

PANEL REPAIR

With proper equipment, an experienced body repair man can repair a damaged area in a body panel by one of three methods:

1. External or surface damage that can be bumped out or refinished.
2. External damage that can be repaired by removing a complete panel and installing a service panel.
3. Extensive damage necessitating the removal of the outer panels and the realignment or replacement of sections of the sub-frame. **When performing repairs of this type, measure sufficient overlap to assure an adequate area for a strong welded surface.**

In cases where only a portion of a panel requires replacement, a section of a service panel can be used. Complete service panels are available if the area is extensively damaged. Refer to the Master Parts Catalog for panel identification.

If a complete panel requires replacement, refer to Figs. 1 thru 4 which show some of the hidden weld joints and sealer locations.

Repairing Undercoated Sheet Metal. When repairing undercoated sheet metal, rough out the damaged portion, and apply moderate heat to the outside of the panel. This will soften the undercoating so that it can be scraped off with a putty knife. Remove any remaining material with a solvent.

Apply undercoating to the repaired metal with a putty knife or paint brush. Do not apply heat on freshly applied undercoating.

Panel Repair Procedure. The following procedure is one of several methods that can be used for cutting out and replacing a portion of the quarter panel. Although this procedure is used here for quarter panel repairs, it can be applied to other sections of the body as well.

Rough out and shape as much of the damaged area as possible. Measure the piece of metal to be cut out. This measurement should be taken from a definite point, such as a moulding or bead.

Make the corresponding measurements on the service panel. Be sure that measurements are taken from the same points. Scribe a line around the area to be cut from the service panel (preferably straight-line cuts).

Drill a ¼-inch hole at any one corner of the scribed lines as a starting point for cutting. Use a suitable cutting tool and cut the new piece out along the scribed line.

Straighten the edge of the piece that was cut out, and position it over the damaged area as a template. Secure the cut-out section of the service panel over the damaged area of the body, and scribe a line around the panel. Cut out the damaged area.

If the piece to be replaced is at the pillar post or at any point where the panel is spotwelded to other parts of the body, such as the body side reinforcement lower edge or wheelhousing assembly, the damaged piece should be split at the weld if possible. To split a spotweld, drive a sharp chisel between the two pieces of metal at the weld. In difficult cases, a spotweld may be split by drilling a ¼-inch hole into the center of the weld.

Straighten the cut edge of the panel. Fit the service panel portion into the cut-out area in the body panel. Be sure that the two panels do not overlap. Tack-weld at intervals, let the metal cool, and make a continuous weld around the two pieces. Wet asbestos putty may be used to prevent the heat from traveling. Weld about six inches at a time. Stagger the welds to prevent excessive distortion.

Hammer the weld below the contours of the surface not more than 1/16-inch with a grooving dolly.

Metal-finish the repair area and file it smooth, taking care to produce the correct contour.

Grind the welded area clean, and tin.

Fill in with solder, taking care that sufficient solder is applied so that the final metal finish will not have indentations.

Metal-finish the panel to prepare it for painting.

FRONT END BODY STRUCTURE

The front end structure is welded on and the following procedure should be used to repair the necessary body area.

Lower Side Member

1. Position the front side member assembly against the torque box in the lower dash panel area (Fig. 7). Locate the front side member assembly by inserting a 5/8-inch pin through the 5/8-inch locating holes in the front side member assembly and dash panel (Fig. 7).

2. Apply arc or gas weld along both sides of the front side member as shown in (Fig. 7).

3. Position the dash panel lower reinforcement to the front side member gusset over the front side lower member to obtain flush contact with the dash panel and the lower member (Fig. 7).

4. Clamp the gusset to the lower member and tack-weld the gusset in place. Remove the clamp and weld the gusset as shown in Fig. 7.

Upper Side Member

1. Position the front fender apron to cowl side member assembly in place at the wheel housing area in alignment with the cowl side panel. Clamp the member assembly into weld position.

2. To prevent warpage and heat fracture of the thin gauge metal, apply wet asbestos packs against the inboard surface of the cowl panel.

3. Tack-weld the member assembly in place, remove the clamp and complete the weld pattern as shown in Fig. 7—View B.

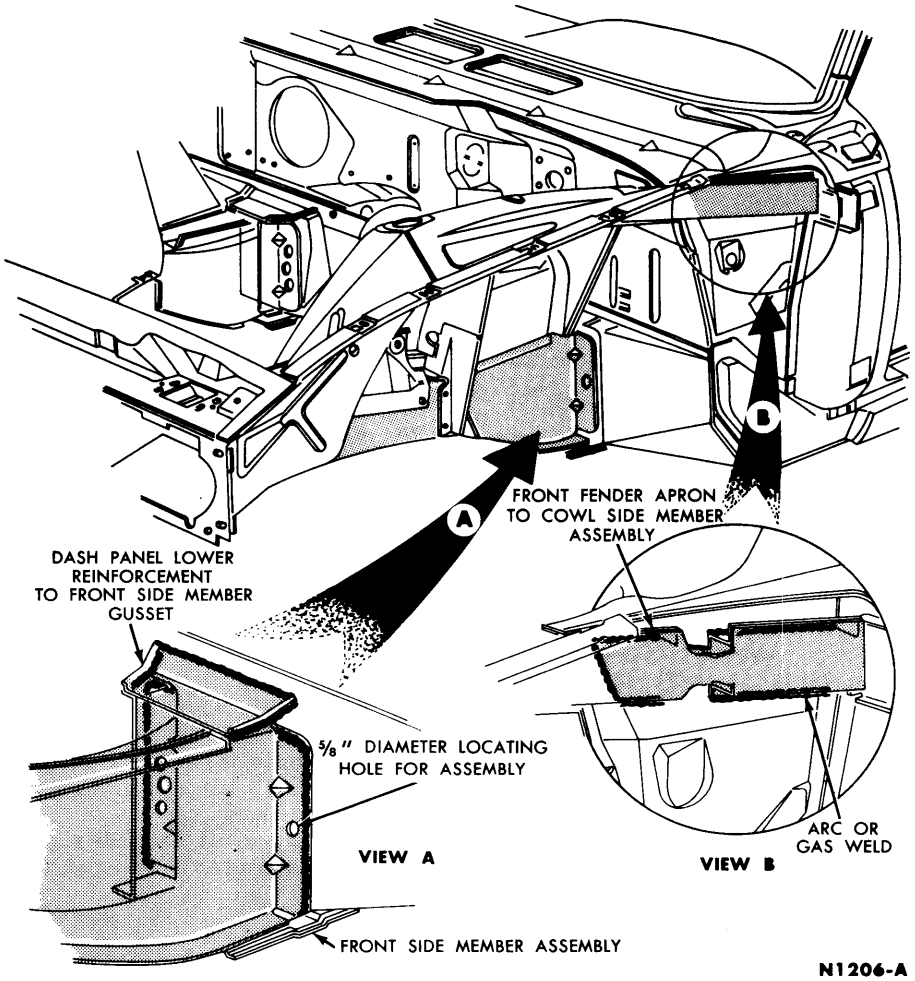

FIG. 7—Welded Front End Structure

PAINT REFINISHING

PAINT DAMAGES AND PROCEDURES FOR REPAIR

Paint Repairs on Galvanized Metals. If for any reason it becomes necessary to perform paint repairs on galvanized rocker panels or any other galvanized steel surfaces, care must be exercised in preparing the bare galvanized surface to properly accept paint, and the best possible paint products must be employed to insure satisfactory adhesion to the metal and to give a good color match with acceptable durability. Most of the approved paint suppliers for refinishing materials agree on the procedure for metal preparation but use different primer recommendations. The methods involving the use of DuPont Preparakote and Ditzler Zinc Dust Primer are indicated here and it is important that either one be employed exactly as directed. No short cuts nor any inter-mixing should be attempted.

METAL PREPARATION FOR GALVANIZED STEEL.

1. Strip, sand-off or otherwise remove all paint from the affected galvanized steel panel.

2. Wire-brush or steel-wool the entire metal surface and remove all grease or oil by wiping with a clean solvent.

3. Wipe the panel using a clean cloth or sponge with Lithoform No. 2 (Distributed by the Neilson Chemical Division of Amchem Products, Inc.) or Bonderite No. 34 (distributed by Parker Rustproof). The work should be kept completely wet for at least three minutes and the metal should be thoroughly etched. If any bright metal remains, the treatment should be repeated.

4. Rinse the area with clean water and blow off with compressed air.

5. The dried surface must be primed immediately. Then succeeding coats and color as required must be applied according to the vendor's directions. Examples such as the DuPont and Ditzler systems are given as follows:

SYSTEM FOR USING DuPONT PREPARAKOTE

1. Spray Preparakote over properly prepared metal. Force-dry with radiant heat or air-dry overnight. This primer must be dried hard enough to sand wet or dry.
2. Sand the Preparakote very carefully, preferably with 400 paper so as to avoid cutting through to bare metal. Blow off and tack clean.
3. Spray two coats of No. 22 clear sealer and allow it to air-dry for thirty minutes.
4. Spray on matching Acrylic Lacquer as directed. Then air-dry or force-dry until the lacquer is hard enough to be polished.
5. Polish the lacquer as recommended by the supplier.

SYSTEM FOR USING DITZLER ZINC DUST PRIMER.

1. Prime the galvanized area with DPE659 Zinc Dust Primer. This is a two-component product and the zinc must be carefully mixed with the vehicle as directed. A recommended film thickness of one mil may be recoated with a lacquer base primer surfacer such as DZL3200 in about twenty minutes. Do not sand DPE659.
2. Spray primer surfacer DZL3200 reduced as directed to a film thickness of about two mils.
3. After drying the primer surfacer about thirty minutes, carefully sand with No. 360 or No. 400 silicon carbide paper, wet or dry, so as not to cut through the zinc dust primer coat. Blow off and tack clean.
4. Spray matching Duracryl lacquers as directed and after drying rub and polish as required.

All material coatings may be force-dried. Careful manipulation is recommended.

Acrylic Enamels. Acrylic enamels exhibit better hardness, mar resistance and gloss retention in metallic colors than the ordinary enamels. Acrylic enamels also possess the property of good polishability.

Following are recommended repair procedures for acrylic enamels:

REPAIR BY POLISHING. Repair of minor dirt or fallout, sags, mars, scratches, dry spray, overspray, and orange peel can be accomplished by machine or hand polishing or by both sanding and polishing without the necessity of repainting. Repairs of this type should apply to an entire panel while spot repairs should be attempted only in isolated areas.

The suggested polish repair procedure consists of:

1. Remove the defect by oil sanding with 600 grit paper, using water or mineral spirits as a lubricant.
2. Apply a white or light colored medium grit machine polishing compound (Sno-Flake No. 16 or equivalent) to the painted surface with a brush.
3. Polish the entire panel surface using an 1850 rpm wheel and a carpet pad approximately (⅝-inch nap) or lambswool pad.
4. Buff the surface with a clean lambswool pad.

Normally, acrylic enamels do not need polishing to improve their gloss; however, the foregoing procedure can be used to restore the original luster to the film after weathering, or to improve the surface smoothness of the finish on the entire car.

Repair By Repainting. Acrylic enamels can be repaired by repainting with either conventional air drying or low bake enamels, or with acrylic lacquers. When repainting metallic colors, it is recommended that acrylic lacquer be used since a better color match can be obtained; both the original finish and the repair can be polished to provide the same luster, and the air dry acrylic repair lacquer will provide better durability in service than air dry enamels. **Do not use Nitrocellulose lacquers for exterior repairs.**

When using any one of the three types of repair materials over acrylic enamel, remove all traces of wax, polish or grease with a good silicone remover such as DL-60-3721-A. It is extremely important that a thorough sanding of the original finish be accomplished using No. 400 grit paper. Care should be exercised to insure that all surfaces, including edges and areas adjacent to applied mouldings, are thoroughly sanded in order to provide adhesion of the repair top coat. Areas sanded to the base metal (cut through) should be treated with an acid cleaner such as Metalprep (distributed by Amchem Products Inc.). Follow the directions of the supplier as stated on the container.

After sanding, proceed with the application of a primer surfacer reduced according to the supplier's recommendations to any bare metal spots that have been exposed. After the recommended air dry time, sand the primer surfacer with No. 400 grit paper before application of the repair material. The lacquer or enamel used should be reduced as recommended by its supplier.

PAINT DEFECTS AND REPAIR PROCEDURES

Listed here are some of the abnormal paint conditions that may be encountered. It is very important to identify the paint condition correctly so that the proper repair procedure may be followed. For each of the following paint conditions described, the recommended repair procedure will be indicated.

BLISTERING

Blistering is the formation of bubbles or pin points on the surface of the finished work (Figs. 8 and 9). Unless inspected by a magnifying glass, this condition is very hard to identify. In some instances, this complaint may be confused with dirt in the paint. To verify blistering, prick the suspected areas, and note whether a hole exists under the bubble. This condition is caused by rust, moisture, or oil between the coats, metal not properly cleaned, or uneven temperatures between the metal and the paint being sprayed.

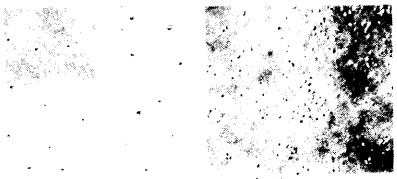

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FIG. 8 Random Blisters **FIG. 9 Pattern Blisters**

Acrylic Enamel. Repair by repainting (color coat). Priming procedure must first be followed if defect is due to poor metal preparation.

CHECKING

Line checking has the appearance of thin, straight lines criss-crossing each other (Fig. 10). These lines may be from one-half inch to four inches or longer, increasing in length as the finish ages.

Acrylic Enamels. Refinish panel. (Color coat—primer if damaged.)

CHIPPING AND STONE BRUISES

Chipping occurs when the surface of the finish coat of paint has been

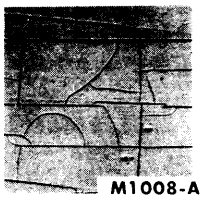


FIG. 10
Line Checking

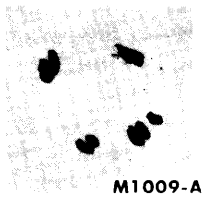


FIG. 11
Chipping

broken by a sharp blow, and small particles of paint have flaked off (Fig. 11). Frequently, stone bruises result in chipping (Fig. 12).

Acrylic Enamel. Refinish panel. Paint may be spotted if in **isolated** areas. (Prime it to bare metal.)

CRACKING

Cracking is evidenced by the paint curling. Frequently, cracking starts at the edge of the panel (Fig. 13). This is caused by poor mixing of paint or by temperature changes during the various painting stages.

Acrylic Enamel. Refinish panel. (Prime if both color and primer cracking.)

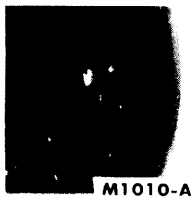


FIG. 12
Bruises

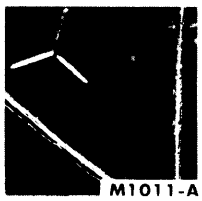


FIG. 13
Cracking

CROW FOOTING

Crow footing may be described as small lines branching off from a point in all directions and giving the appearance of a crow's foot (Fig. 14). Crow footing is usually caused by spraying a second coat before the first coat is dry, by spraying an excessively thick coat, or by thinners which evaporate too fast.

Acrylic Enamel. Refinish panel. (Color coat.)

DIRT IN PAINT

Patches where dirt appears (Fig. 15) are sometimes confused with blistering. To verify the condition, prick the suspected areas, and note whether there is foreign material under the surface.

Acrylic Enamel. Polish repair procedure will be effective in most cases. (Color coat.)

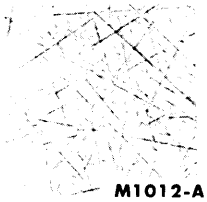


FIG. 14
Crow Footing

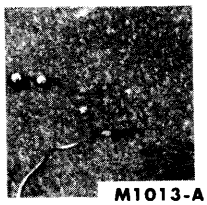


FIG. 15
Dirt in Paint

MILDEW

Mildew growth, which occurs along radial lines (Fig. 16) is most commonly found in a very dark gray or black color.

Acrylic Enamel. Repair by polishing.

OFF-COLOR

The term off-color is applied to adjacent areas on which the colors do not match (Fig. 17). It may also appear when making spot repairs.

Acrylic Enamel. Refinish panel if polishing does not correct condition. (Color coat.)

FIG. 16
Mildew

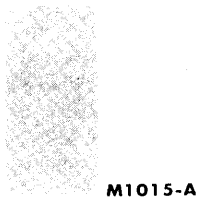


FIG. 17
Off Color

ORANGE PEEL

Orange peel is a term used to describe an uneven, mottled appearance on the paint surface (Fig. 18). This is usually caused by improper thinning of the paint.

Acrylic Enamel. Refinish panel if polishing does not correct condition. (Color coat.)

OVERSPRAY

Overspray is evidenced by a rough, dull finish in the area surrounding the paint repair (Fig. 19).

PEELING

Peeling ocurs when large areas of the finish or primer coat separate from the metal or prime coat (Fig. 20). This is usually caused by wax, grease, rust, or oil under the paint. Do not confuse with orange peel.

PITS AND POP-UPS

Pits and craters may be identified by the appearance of small round

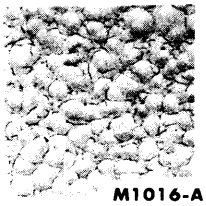


FIG. 18
Orange Peel

FIG. 19
Overspray

depressions in the paint (Figs. 21 and 22). These may be caused by not allowing the first coat to dry sufficiently before applying the second coat or from failure to remove silicone polishes before repainting.

Acrylic Enamel. First use polish repair procedure, refinish panel if necessary. (Color coat.)

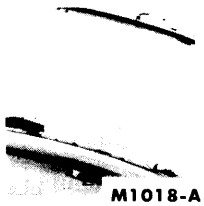


FIG. 20
Peeling

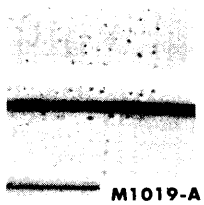


FIG. 21
Pits

THIN PAINT

The primer will show through the finish coat as a result of an excessively thin color coat, or application of the color coat before the surface is dry (Fig. 23).

Acrylic Enamel. Refinish panel. (Color coat.)

RUNS AND SAGS

The uneven collections of paint on the finish surface are referred to as runs or sags (Fig. 24). The collections may appear in the form of tear drops or sagging lines. Usually these lines are quite soft and sometimes they may be wrinkled (Fig. 25). This is usually caused by overapplication of paint or hesitation in the stroke of the gun.

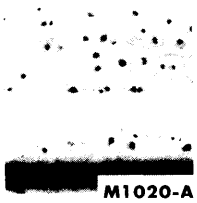


FIG. 22
Craters

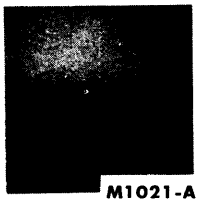


FIG. 23
Thin Paint


M1022-A


M1023-A

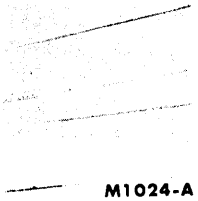
FIG. 24 Runs and Sags **FIG. 25 Wrinkles**

Acrylic Enamel. Use polish repair procedure.

SCRATCHES

Scratches are thin marks or tears that may partially or completely penetrate the surface of the finish coat of paint (Fig. 26).

Acrylic Enamel. Use polish repair procedure for shallow penetration. Refinish panels to correct conditions of deep penetration.


M1024-A

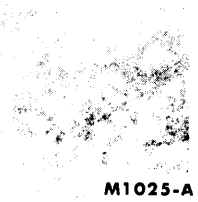

M1025-A

FIG. 26 Scratches **FIG. 27 Water Spotting**

SPOT DISCOLORATION

This is evidenced by brown spots or stains on the surface. Stains or spots can be caused by road tar, acid or alkali-bearing water from the streets.

Acrylic Enamel. Use polish repair procedure.

WATER SPOTTING

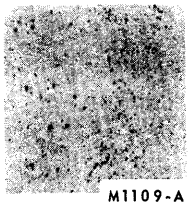
Water spotting is evidenced by a milky pattern where water drops have fallen (Fig. 27).

Acrylic Enamel. Use polish repair procedure.

INDUSTRIAL FALL-OUT

Industrial fall-out is the result of particles being exhausted into the air by the various processes of heavy industry, or in areas where there is a concentration of industry.

Industrial fall-out particles appear to the eye as tiny rust-colored dots on the paint film and the surface will feel rough to the touch (Fig. 28). Some of the particles have excellent adhesion and are difficult to remove. However, the following procedure has proven effective in the removal of this fall-out:


M1109-A

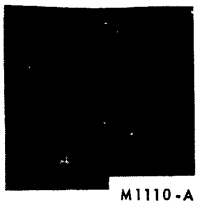

M1110-A

FIG. 28 Industrial Fall-Out **FIG. 29 Organic Fall-Out**

1. Wash the car with car wash compound (C0AA-19B521-A) to remove loose dirt. Rinse well and examine painted surfaces for iron base fall-out particles. If there is a significant quantity of fall-out not removed by ordinary washing, the oxalic treatment should then be used. All cracks, ledges, grooves, etc., where fall-out has accumulated, should be cleaned by wiping or by air blow-off.

2. Dissolve six to eight ounces of oxalic acid (dry) in one gallon of warm water and add one to two tablespoonsful of a non-alkaline detergent such as car wash compound (C0AA-19B521-A). This acid detergent solution must be prepared and kept in a clean non-metallic container.

Apply this solution liberally to all affected surfaces of the car with a large sponge. Use a broad wiping stroke and keep the work completely wet for about 15 minutes, or until the operator can no longer feel any surface roughness or even isolated gritty particles with bare or gloved finger tips. If this is not done thoroughly, rust staining may soon redevelop. Be sure that the entire acid cleaning procedure is performed in a sheltered area so that the work will be kept as cool as possible to prevent rapid evaporation of water and consequent surface drying. **Do not work in the sun.**

3. Rinse with clear water. This must be done very thoroughly to prevent possible corrosion.

No traces of acid should be left on any surface. Bright trim parts, particularly anodized aluminum and stainless steel, may be stained by prolonged contact with the cleaning solution. Painted areas also can be spotted by prolonged exposure. It is also important to keep the oxalic acid cleaner solution from leaking to the inside of the car because some fabrics might be bleached or discolored by the solution.

If the fall-out is not completely removed or is deeply imbedded in the paint film, cleaning with the acid detergent mixture must be repeated. This may be aided by using a fine scrub brush, possibly a nylon bristle type. Make sure that the light scrubbing required does not scratch the paint. It is sometimes helpful to briskly rub the work with a mixture of equal parts of oxalic acid cleaner and FoMoCo cleaner wax polish (8A-19519-A) using a piece of heavy toweling. Again, a thorough water rinsing is extremely important.

Sometimes small black spots remain after the oxalic cleaning has removed all iron based fall-out. Such deposits might be asphaltic or they might be over-spray. These usually can be removed by rubbing vigorously with a cloth saturated with a mixture of kerosene and Actusol (about five parts of kerosene to one part of Actusol). Any residue of this solvent mixture may be readily flushed off with water.

ORGANIC FALL-OUT

Organic fall-out may result from parking cars under trees or from the air under certain atmospheric conditions (Fig. 29).

Acrylic Enamel. Refinish damaged panels. (Color coat and primer.)

INTERIOR PAINT REPAIRS

The proper matching of colors can be obtained if the following procedures are carefully adhered to:

1. Clean the surface to be painted with wax and silicone remover.

2. Feather-edge the damaged area with 400 grit wet or dry sandpaper. (Prime all areas of bare metal with M-6J-12S Primer.)

3. Mix the paint per instructions on the can and spray several light coats.

Allow the paint to become tacky between coats.

4 Spray the entire area sparingly with B7A-645-S Lacquer Leveler which will blend the repaired area with existing painted surfaces.

3 CLEANING AND INSPECTION

BODY MAINTENANCE

Most rattles are caused by a loose bolt or screw. Foreign objects such as nuts, bolts, or small pieces of body deadener in the door wells, pillars, and quarter panels are often the source of rattles. Door wells can be checked by carefully striking the underside of the door with a rubber mallet. The impact made by the mallet will indicate if loose objects are in the door well.

All bolts and screws should be tightened periodically. In the event that tightening the bolts and screws, located on such assemblies as the doors, hood, and deck lid, does not eliminate the rattles, the trouble is probably caused by misalignment. If this is the case, follow the adjustment and alignment procedures for these assemblies.

Rattles and squeaks are sometimes caused by weatherstripping and anti-squeak material that has slipped out of position. Apply additional cement or other adhesive, and install the material in the proper location to eliminate this difficulty.

Drain holes, located on the underside of each rocker panel and quarter panel, should be cleared periodically.

Regular body maintenance preserves the car's appearance and reduces the cost of maintenance during the life of the car. The following steps are suggested as a guide for a regular body tune-up:

1. Vacuum the interior thoroughly and wash the car.
2. Check all openings for water leaks, and seal where necessary.
3. Cement all loose weatherstrips which are still usable. Apply silicone lubricant to the weatherstripping.
4. Replace all door and deck lid weatherstrips which are unfit for service.
5. Replace all cracked, fogged, or chipped glass.
6. Align hood, doors, and deck lid if necessary.
7. Inspect windshield wiper blades and replace if necessary.
8. Tighten sill plate and garnish moulding screws.
9. Clean the seats, door trim panels, and headlining. If the seats are worn or torn, install seat covers, or reupholster.
10. Touch-up or paint chipped or scratched areas.

EXTERIOR AND INTERIOR CLEANING

Exterior Cleaning. The outside finish should be frequently washed. Never wipe the painted surfaces with a dry cloth. Dusting the finish when it is dry tends to rub the dust and dirt into the baked enamel, and leaves a sandpaper effect on the surface. To keep finish bright and attractive, and eliminate the necessity of using polish, wash the car whenever it has accumulated a moderate amount of dirt and road salt.

The bright metal parts of the car require no special care. Periodic cleaning will preserve the beauty and life of these finishes. Wash with clear water or if the parts are very dirty use a mild soap. Using a clean soft cloth or a sponge and water, rinse and wipe the parts dry. FoMoCo Chrome Cleaner may be used sparingly to remove rust or salt corrosion from chrome plated parts. Do not scour chrome finished parts with steel wool or polish them with products containing abrasives. A FoMoCo Polish will provide excellent protection for all bright metal parts.

Interior Cleaning. Use a broom or a vacuum cleaner to remove dust and dirt from the upholstery or floor covering. Vinyl and woven plastic trim that is dusty can usually be cleaned with a damp cloth.

Dirty or stained upholstery can be cleaned with FoMoCo Interior Trim Cleaner. This cleaner may be used on leather, plastic, vinyl, imitation leather, fabric upholsteries, rubber mats, and carpeting. Be sure to follow the directions on the cleaner container.

PART 17-2 FRONT END SHEET METAL, BUMPERS AND EXTERIOR MOULDINGS

1 COMMON ADJUSTMENTS AND REPAIRS

HOOD AND HOOD LOCK

Adjustment points are provided at the hood hinges (for alignment of the rear and sides of the hood with the adjacent sheet metal). The rubber bumpers (for height of the front edge of the hood), the lock striker and dowel (for proper latching of the hood) and the safety latch (for proper retention of the hood in the unlocked position) (Figs. 1 through 4).

Any adjustment of the hood panel height to the cowl or fenders can be made at the hinge-to-body bolts (Fig. 2). Side-to-side and fore-and-aft movement of the hood to obtain equalization of the rear and side edge clearance can be made at the hinge-to-hood bolts (Fig. 2).

Adjustable rubber bumpers at the forward corners of the hood permit adjustment of the front edge for height (Fig. 1).

The hood lock striker assembly (Fig. 3) is adjustable fore-and-aft and side-to-side to provide correct alignment to the dowel on the hood. The lock dowel is adjustable up-and-down so that tension is maintained to keep the hood tightly seated on the front rubber bumpers and firmly closed (Fig. 4).

The safety latch can be adjusted fore-and-aft to obtain positive engagement with the lock striker.

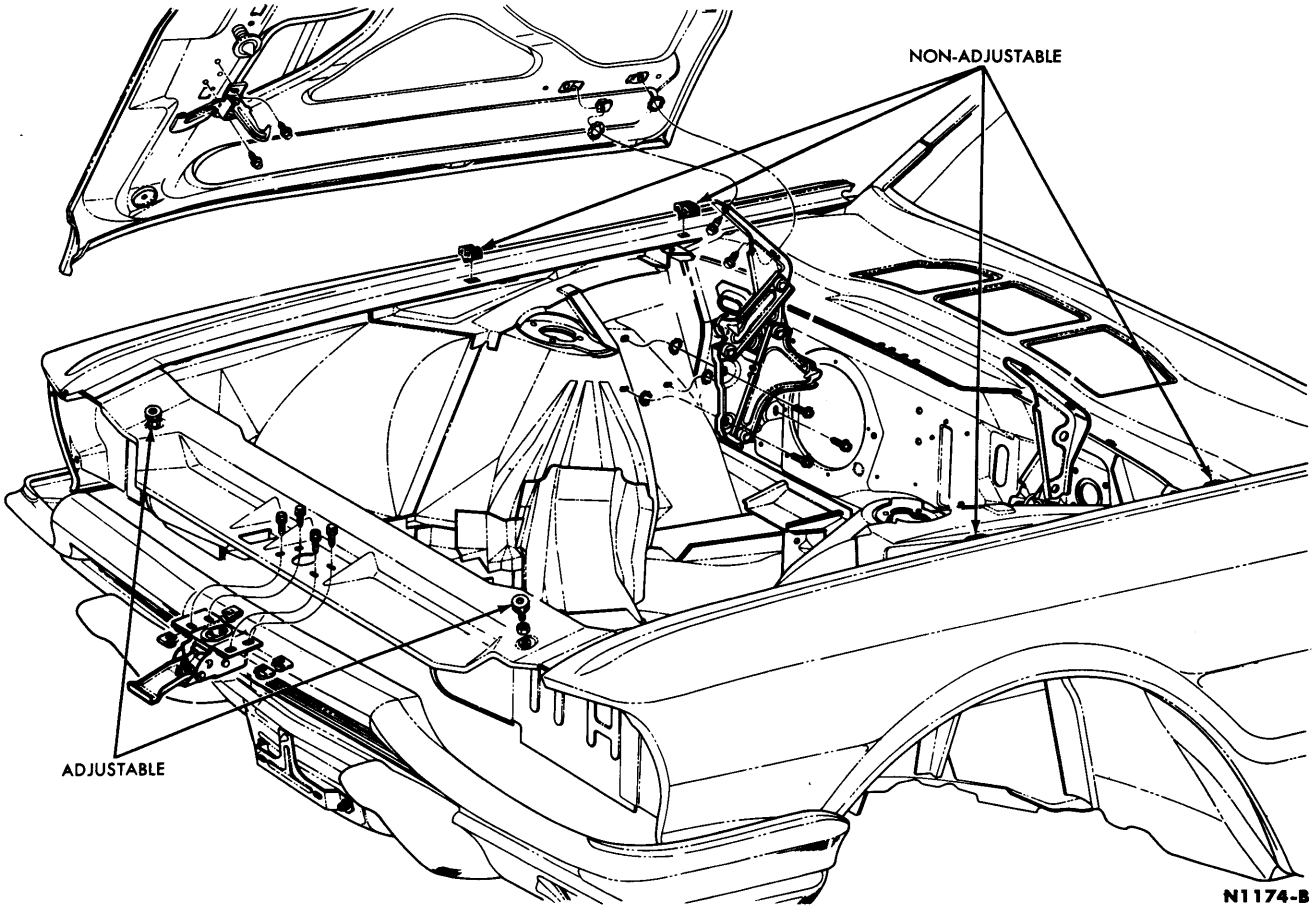


FIG. 1—Hood Adjustments

2 REMOVAL AND INSTALLATION

HOOD

1. Protect the body with covers to avoid scratches. Then obtain assistance to remove the hood. Remove the hood hinge-to-hood bolts (Fig. 2).

2. With the help of an assistant, position the hood on the hinges and install the hood hinge-to-hood bolts.

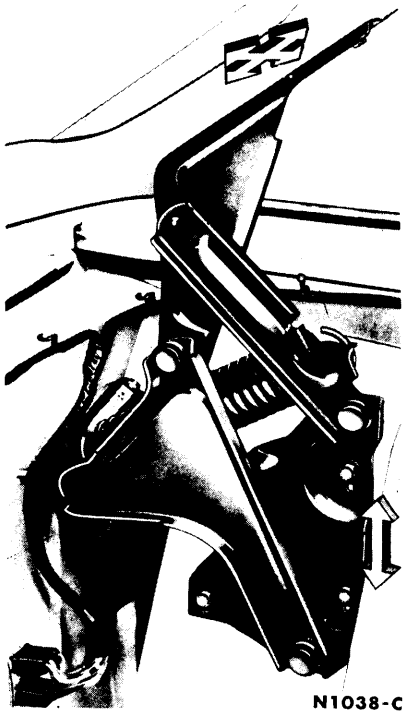


FIG. 2—Hood Alignment

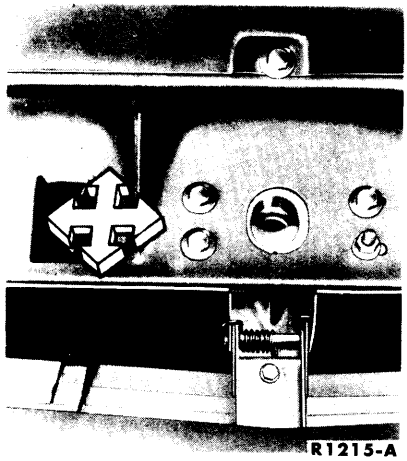


FIG. 3—Hood Lock Adjustment

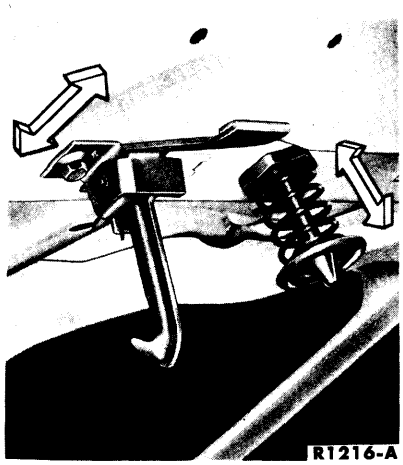


FIG. 4—Hood Lock Dowel and Safety Latch Adjustment

Check the hood alignment and correct as necessary. Check the hood height at the front and adjust the front rubber bumpers if necessary. Check the hood lock dowel for proper entry into the striker and for dowel height and adjust as necessary.

HOOD HINGE

1. Support the hood in the open position, and cover the fender and cowl panel.

2. Remove the hinge-to-hood re-

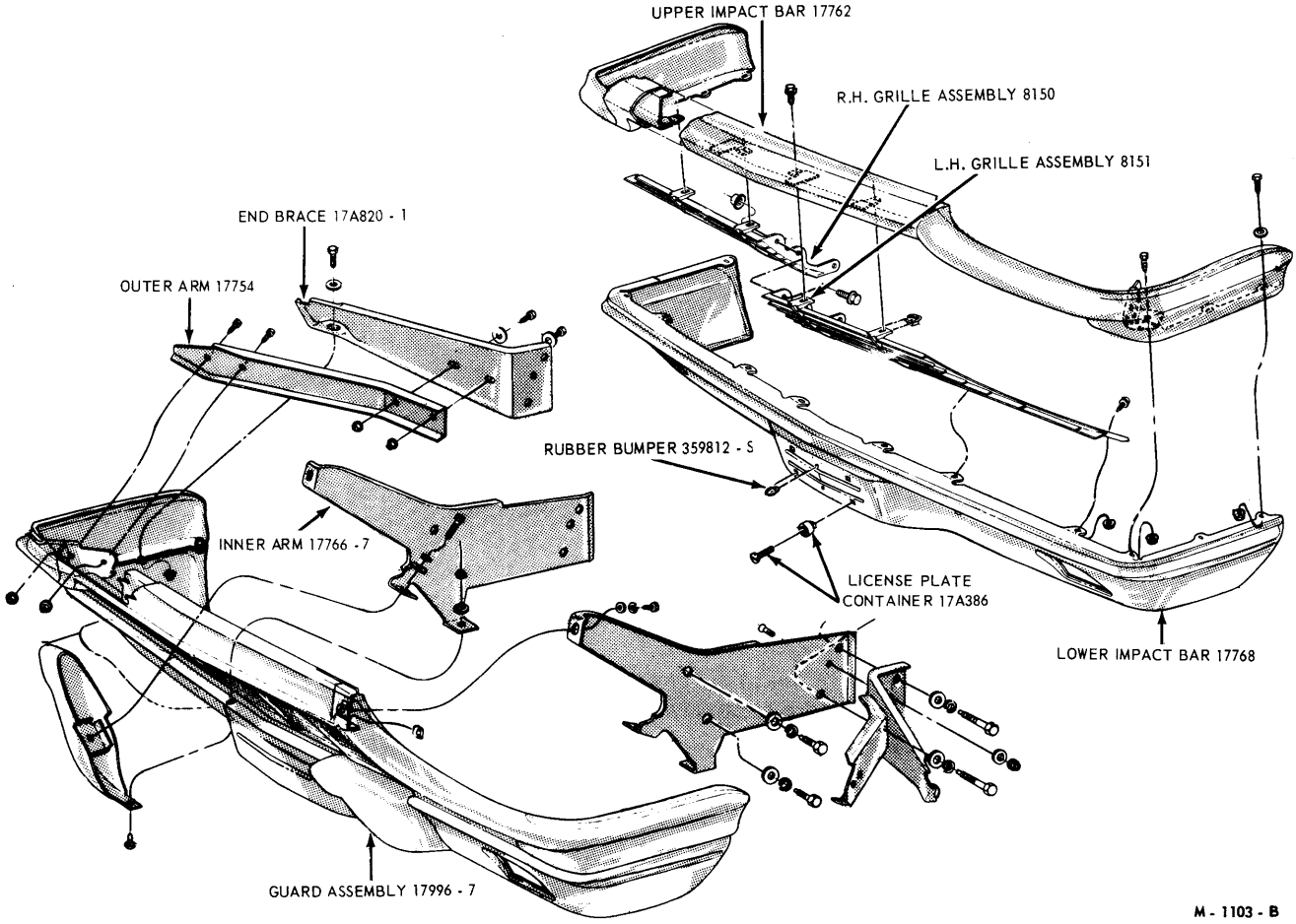


FIG. 5—Front Bumper

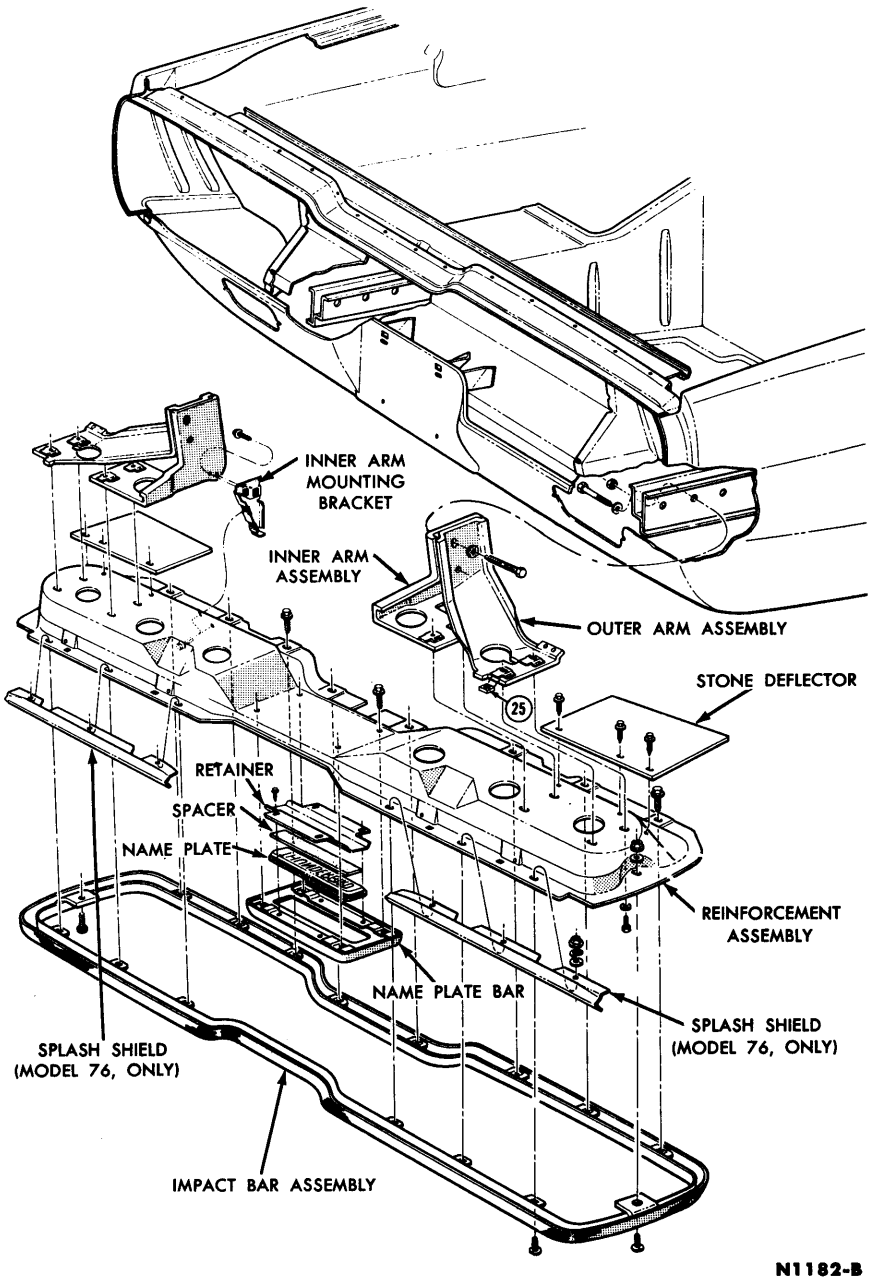


FIG. 6–Rear Bumper Installation

taining bolts, the hinge to body bolts (Fig. 2), and remove the hinge.

3. Position the hood hinge on the body and loosely install the hinge retaining bolts.

4. Align the hood and tighten the retaining bolts.

HOOD LOCK

1. Remove the hood lock retaining bolts (Fig. 3) and remove the lock assembly.

2. Position the lock and loosely install the retaining bolts.

3. Align the hood lock to the dowel (Fig. 3) and tighten all lock retaining bolts. Apply Lubriplate to the locks.

FRONT BUMPER

1. Disconnect the left and right hand parking light wires.

2. Remove the bolts and nuts retaining the bumper assembly to the underbody side rails (Fig. 5). With an assistant, remove the bumper and grille assembly with attaching brackets.

3. Remove the grille-to-bumper impact bar retaining bolts (Fig. 5) for the upper or lower bar being replaced.

4. Remove the upper impact bar-to-lower impact bar and bracket retaining nuts and bolts (Fig. 5) and remove the impact bar being replaced.

5. Remove the left and right hand parking light assemblies if replacing the lower bar.

6. Remove the license plate bracket retaining bolts and nuts and remove the license plate bracket if replacing the lower bar.

7. Position the license plate bracket on the lower impact bar and install the retaining bolts and nuts.

8. Apply sealer around the parking light housing assemblies, position the assemblies in the lower impact bar and install the retaining rings and nuts.

9. Position the upper impact bar on the lower impact bar and grille assembly. Position the bumper arms and braces on the bumper assembly and install the retaining nuts and bolts (Fig. 5).

10. Install the grille-to-upper impact bar retaining bolts.

11. With an assistant, position the bumper and grille assembly on the car. Install the bolts and nuts retaining the bumper assembly to the underbody side rails.

12. Connect the parking light wiring connectors.

GRILLE

1. Remove the bumper guard to lower impact bar retaining nuts and bolts and remove one bumper guard to allow room for grille removal.

2. Remove the grille-to-bumper assembly retaining bolts and nuts.

3. Remove the grille assembly.

4. Position the grille assembly in the bumper assembly and install the grille retaining bolts and nuts.

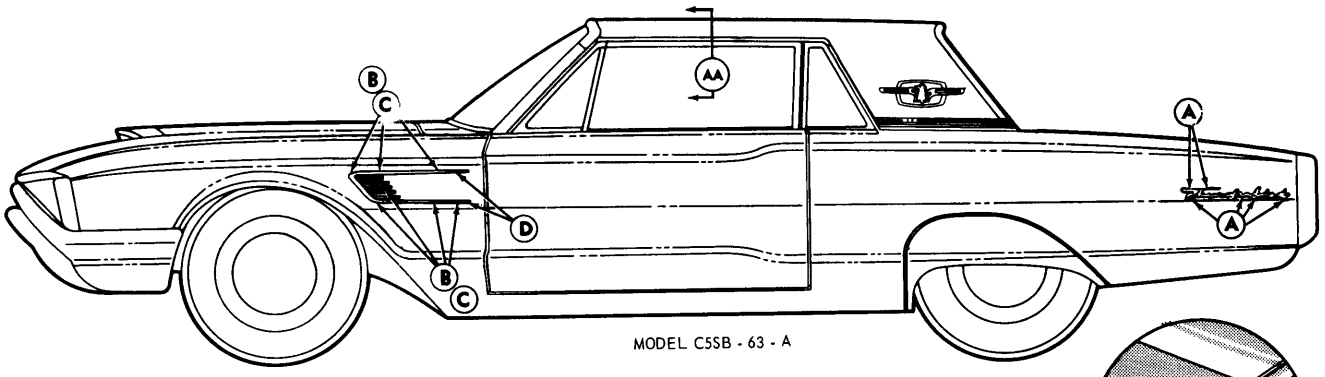
5. Position the bumper guard on the lower impact bar and install the retaining nuts and bolts.

REAR BUMPER

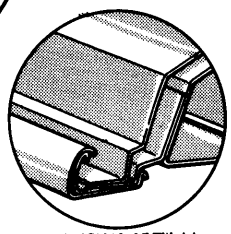
1. Disconnect the rear lamp wiring connectors.

2. Remove the right and left rear lamp lens retaining screws and remove the rear lens.

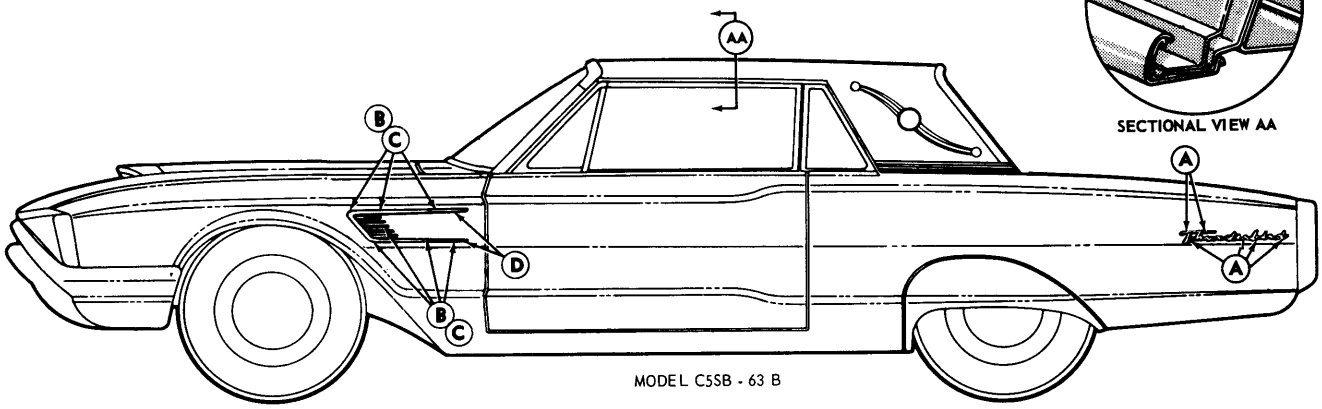
3. Remove the inner and outer



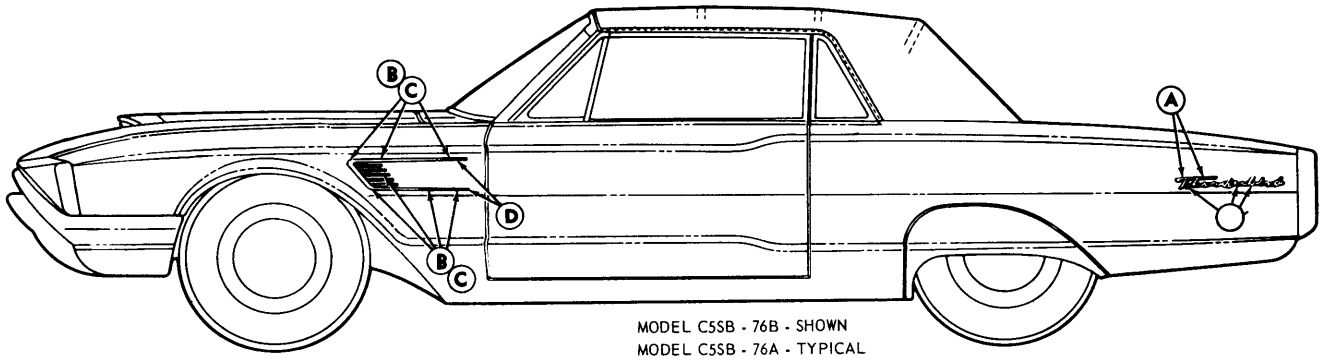
MODEL C5SB - 63 - A



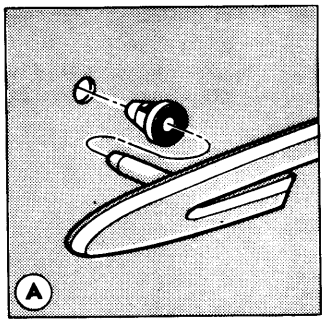
SECTIONAL VIEW AA

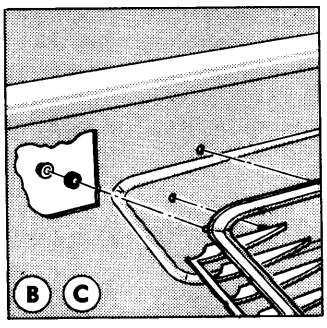


MODEL C5SB - 63 B



MODEL C5SB - 76B - SHOWN
MODEL C5SB - 76A - TYPICAL





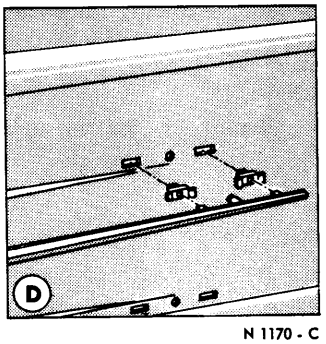


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FIG. 7 – Body Exterior Mouldings

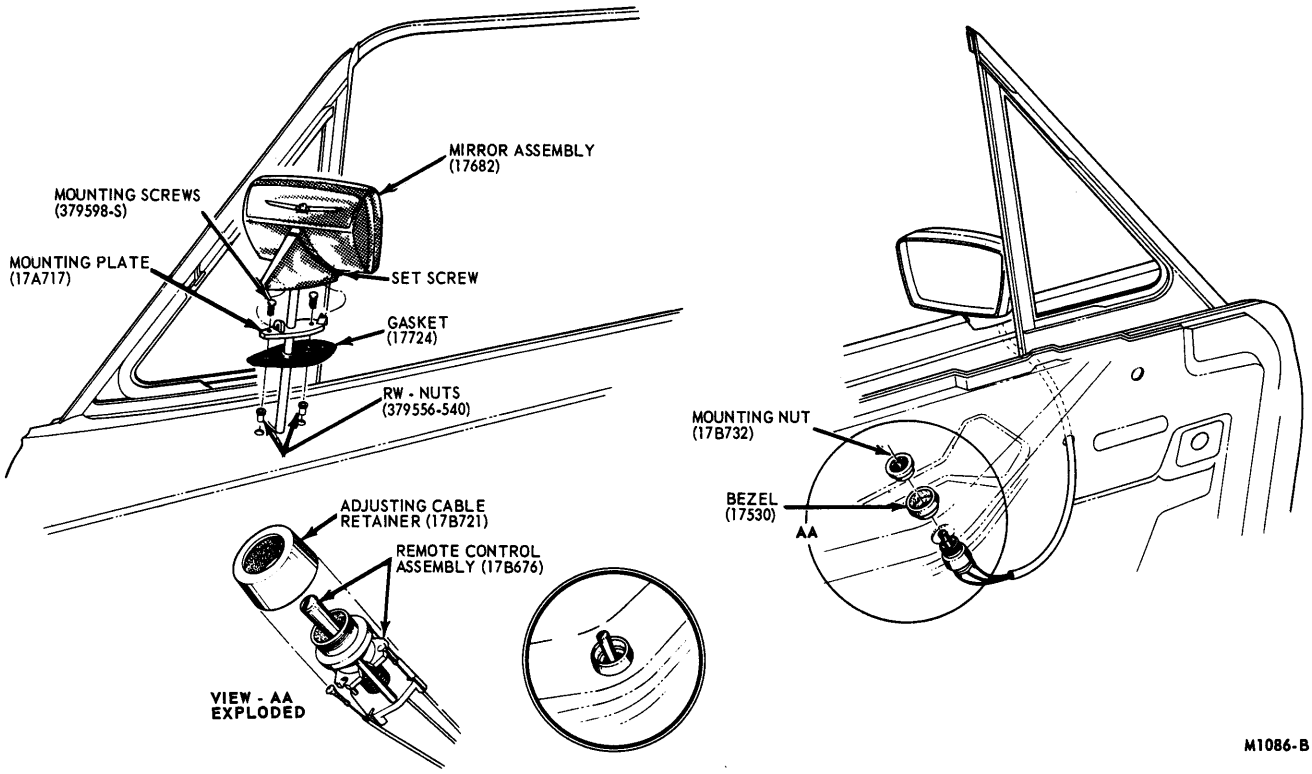

FIG. 8–Remote Control Rear View Mirror

arm-to-rear side rail retaining bolts and remove the bumper assembly (Fig. 6).

4. Remove the name plate-to-reinforcement bar retaining screws. Remove the name plate (Fig. 6) and name plate spacer.

REMOTE CONTROL REAR VIEW MIRROR

The remote control rear view mirror is controlled from inside the car. Adjustment is made with the control knob which is located on the left front door trim panel.

Movement of the control knob operates three cables which control the movement of the mirror. The cables are securely attached to the mirror and no attempt should be made to remove or replace the cables.

1. Remove the mirror control retaining nut and washer from the control (Fig. 8).

2. Remove the trim panel from the door.

3. Disconnect the three control cables from the control head.

4. Attach a piece of lead wire to the control cables.

5. Remove two mirror attaching screws and remove the mirror from the door, carefully pulling the control cables and attached lead wire thru the door.

6. Disconnect the lead wire from the control cables and attach the wires to the replacement mirror cables.

7. Install the mirror on the door, using the covered wire to route the control cables through the door.

8. Disconnect the lead wire from the cables and connect the cables to the control head. Be sure to install the retainer over the cables after they are installed.

9. Position the control head in the trim panel opening and install the bezel and retaining nut. **Be sure that the key on the control head is engaged into the keyway in the plastic bracket on the trim panel before installing the bezel and retaining nut.**

10. Install the door trim panel.

EXTERIOR MOULDINGS

The exterior mouldings and various methods of retaining the mouldings are shown in Fig. 7. To remove the mouldings secured with nuts, it will be necessary to remove the interior trim panels in the roof quarter area.

Removal of the windshield and back window mouldings is covered in Part 17-3.

PART 17-3 DOORS, WINDOWS AND DECK LID

1 DIAGNOSIS AND TESTING

POWER WINDOW TROUBLE CHECKS

Before making any of these checks, make sure that the battery is fully charged, the ignition switch is in the accessory position and that the master lock-out switch is in the unlocked position.

Refer to Wiring Diagram Manual Form 7795P-65 for schematics and locations of wiring harnesses.

ALL WINDOWS DO NOT OPERATE

1. Connect a voltmeter or test light from a ground to the power window circuit breaker red-blue stripe wire connected to the 20-ampere circuit breaker in the fuse panel. If no voltage is available, replace the 20-ampere circuit breaker (and/or replace the connecting black wire from the starter relay if the other common fed circuit breakers controlling the horns or seats also do not function).

2. Connect a voltmeter from a ground to the red wire terminal of the power window relay. If no voltage is available, repair or replace the ignition switch (if other ignition switch controlled accessories also do not function), the circuit breaker in the fuse panel which also controls the heater circuit (further test will isolate this breaker), the wire from the ignition switch to heater circuit breaker, or the wire from this breaker to the relay.

3. Connect a voltmeter from a ground to the remaining terminal (black wire) of the power window relay. If no voltage is available, replace the power window relay.

4. Check the black wire at the master lockout switch for voltage. If no voltage is available, repair or replace the black wire from the master control switch to the power window relay.

5. At this point the trouble causing all windows not to operate should have been found and corrected. The chances of having all of the control switches, ground circuit breakers, switch to motor wires, or motors defective at the same time are very remote.

ONE WINDOW DOES NOT OPERATE

1. Disconnect the connector at the motor. Check for voltage at either of the colored wires (other than grey ground wire) when the switch is operated. If voltage is available, check the motor by grounding the grey wire from the motor and applying a 12-volt source to the colored wires one at a time. Replace the motor if it does not function when so tested. Replace the grey ground wire if the motor functions normally.

2. In case there is no voltage at the color coded red or yellow wire terminals when the switch is operated, check for voltage at the switch black wire terminal. Replace the switch if there is voltage at the black wire terminal and none at the color coded red or yellow wire terminals. Repair or replace the black wire if no voltage is available at the switch.

WINDOW OPERATES IN ONE DIRECTION ONLY

1. Check the window operation with both switches. If the window operates properly with one switch and not the other, check the switch and the red and yellow wires for voltages. Replace the switch or the wires as necessary.

2. If both switches operate the window in only one direction, check the red and yellow wires at the motor for voltage. If voltage is available, a field coil is open and the motor must be replaced.

WINDOW OPERATES SLUGGISHLY

1. Check the regulator and window runs for binding. Adjust the runs, repair and lubricate the regulator. Lubricate the runs with silicone lubricant.

2. Check the frayed insulation where the wires may partially ground. Check for loose connections which will cause high resistance and make sure paint is not insulating the ground wires where they attach to the body.

3. Connect an ammeter between the black motor wire and a ground. Current draw for normal operation should not exceed 12 amperes maximum for door windows and 14 amperes maximum for quarter windows. Current draw when the mechanism is against a stop would be within 30-50 amperes, depending upon the motor temperature. If either check shows excessive amperage and the windows are properly adjusted, the motor should be replaced.

4. Disconnect the motor from the regulator. Connect an ammeter in series with the ground wire, and operate the switch. The motor no-load current draw should not exceed 14 amperes at 12 volts. If the current draw does not meet these specifications, the motor must be replaced.

2 2 IN-CAR ADJUSTMENTS AND REPAIRS

DOOR ALIGNMENT

The door hinges provide sufficient adjustment latitude to correct most misalignment conditions. The elongated holes where the hinges attach to the pillars provide fore-and-aft movement of the front door (Fig. 1).

The bolt holes where the doors attach to the hinges are enlarged.

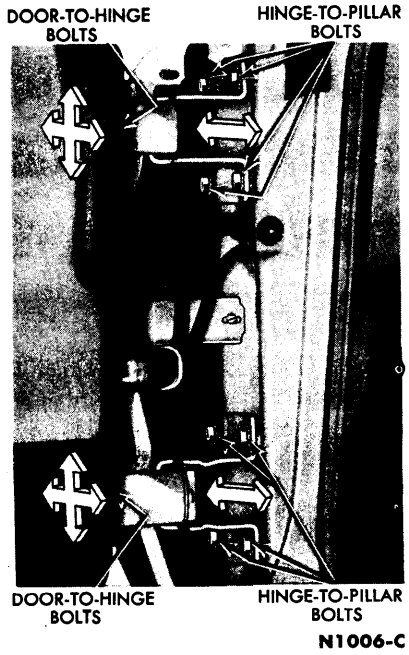

FIG. 1—Door Hinges

This permits a circular movement of the front door to obtain proper positioning of the door in its opening.

ALIGNMENT PROCEDURE

1. See Fig. 1 to determine which hinge bolts must be loosened to move the door in the desired direction.
2. Remove hinge-to-pillar access plates. Loosen the hinge bolts just enough to permit movement of the door with a padded pry bar.
3. Move the door the distance estimated to be necessary. Tighten the hinge bolts and check the door fit.
4. Repeat the operation until the desired fit is obtained, and check the striker plate alignment for proper door closing.

LOCK STRIKER ADJUSTMENT

The striker pin can be adjusted laterally and vertically (Fig. 2). **The striker should not be adjusted to correct door sag.** Move the striker laterally to provide a flush fit at the door and the quarter panel, and to tighten the fit of the weatherstrip to the body (being careful not to increase door closing effort).

The striker can be shimmed, if necessary, to obtain the clearance shown in Fig. 2 between the underside of the striker pin head and the lock jaws. To check this clearance, clean the lock jaws and the striker, then apply a thin layer of dark grease to the striker pin. As the door is closed and opened, a measurable pattern will result.

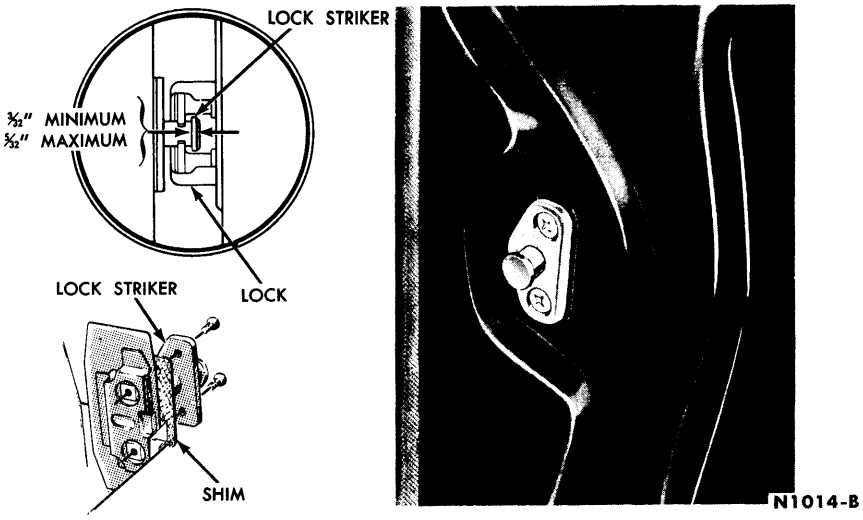

FIG. 2—Door Lock Striker Plate Adjustment

DOOR AJAR WARNING LIGHT SWITCH ADJUSTMENT

1. Remove the door trim panel. Peel back the watershield far enough to provide access to the door lock area.
2. Rotate the door lock striker teeth to the safety catch position. The warning light should be lit while the door lock is in the safety position.
3. Loosen the door lock warning light switch lock nut and screw the switch assembly into its mounting bracket until the warning light is on (Fig. 3).
4. Tighten the switch assembly locknut. Close and open the door several times to insure consistent lock assembly operation.
5. Install the door trim watershield and the door trim panel.

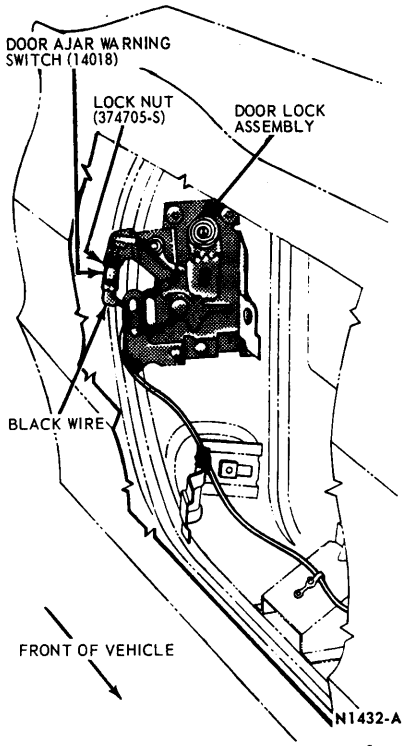

FIG. 3—Door Ajar Warning Light Switch Installed

DOOR WINDOW AND VENT ADJUSTMENT

Remove the door inside handles (Figs. 4 and 5), the door trim panel, and then carefully remove the door water shield to gain access to the vent and window adjustments.

VENT ADJUSTMENTS

To adjust the vent window assembly position in relation to the windshield pillar weatherstrip, the vent-to-outer panel screw (Fig. 6, View AA), the vent lower and front glass run lower adjusting screw lock nuts (Fig. 6, Items B and C) and the vent regulator shaft screws should be loosened. Movement of the vent assembly up-and-down can then be

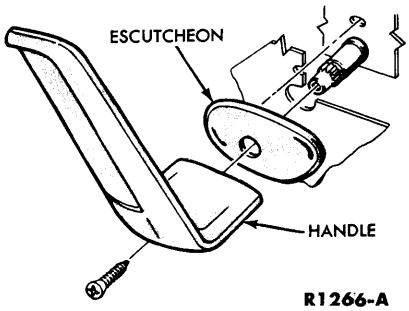

FIG. 4—Door Inside Lock Handle

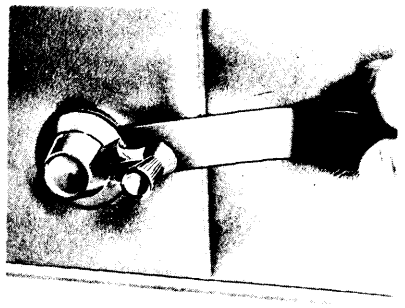

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FIG. 5—Vent Handle Removal—Typical

made by loosening the vent-to-inner panel screws (Fig. 6, Item A). After tightening these screws, the in-and-out position of the top of the vent can be set to obtain correct interference with the windshield weatherstrip, correct alignment against the windshield side moulding and the top edge of the vent through tilting of the vent by adjustment of the lower screw (Fig. 6, Item B). The glass run lower screw should be set to eliminate any bind in the run. The regular handle shaft, vent-to-outer panel screw and all lock nuts and bolts should then be tightened.

DOOR WINDOW ADJUSTMENTS

Smooth operation of the door glass is adjusted by moving the vent and glass run assembly fore-and-aft as described in the preceding paragraph. To obtain the proper fit of the glass to the outer belt and roof rail weatherstrips, the tilt of the glass can be changed by adjusting the rear run (Fig. 6, Items D and F).

To hold the glass firmly in the up position, the two dovetails on the inner panel (Fig. 6, Item G) can be adjusted in-and-out. The height of the glass can be adjusted to obtain a flush fit at the vent assembly at the front dovetail retainer (Fig. 6, Item H). The rear dovetail retainer is adjusted to contact the glass and channel assembly rear dovetail at the same time as the front dovetail after the glass is adjusted to be parallel to the roof weatherstrip by adjusting the equalizer arm bracket (Fig. 6, Item F).

Install and seal the door water shield as shown in Fig. 7, then install the trim panel and inside handles.

QUARTER WINDOW ADJUSTMENT

To remove the quarter trim panel

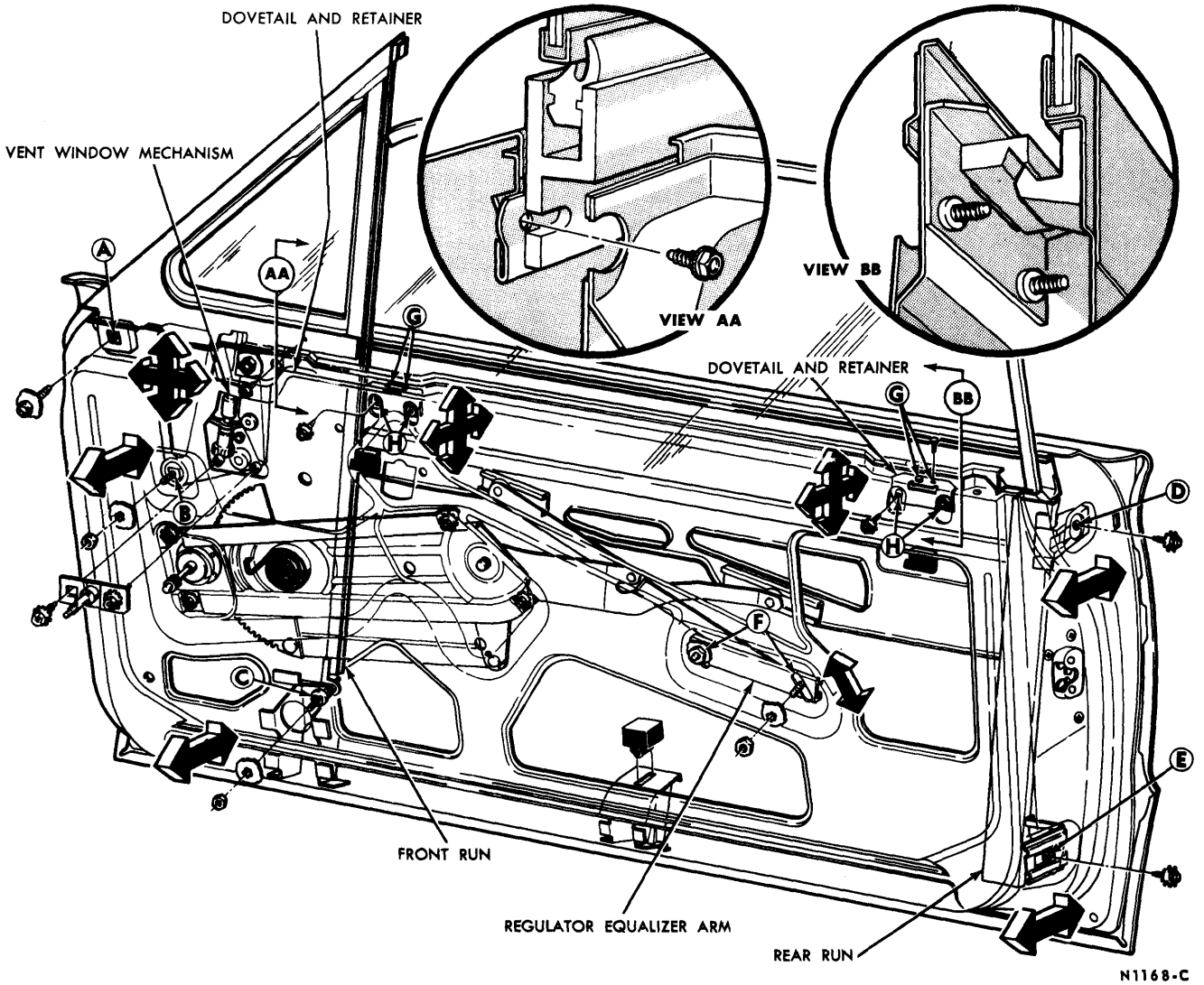

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FIG. 6—Vent and Door Window Adjustment

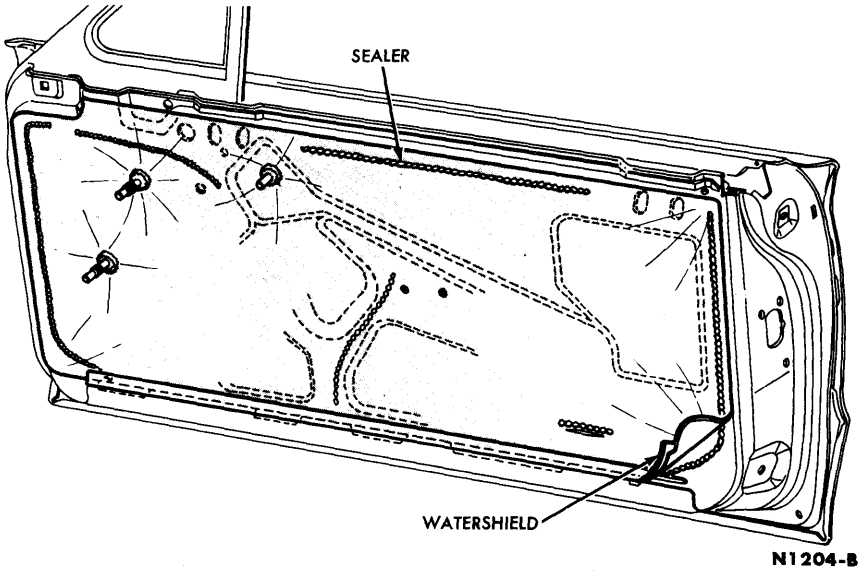

FIG. 7—Door Water Shield Installation

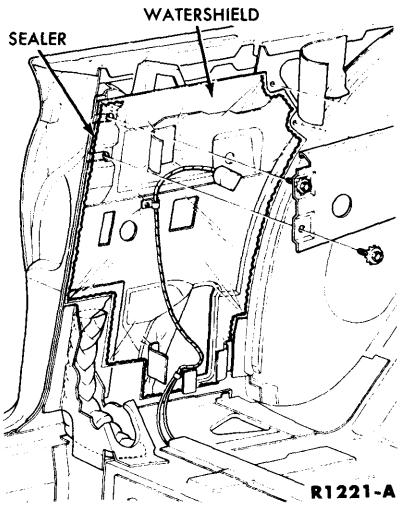

FIG. 9—Quarter Water Shield Installation

for access to the quarter window adjustments, the arm rest, rear seat cushion and rear seat back must be removed as follows:

1. Remove the arm rest screws and remove the arm rest.
2. Lift up on the front edge of the rear seat cushion and pull the cushion forward and out of the car.
3. Remove the rear seat back re-

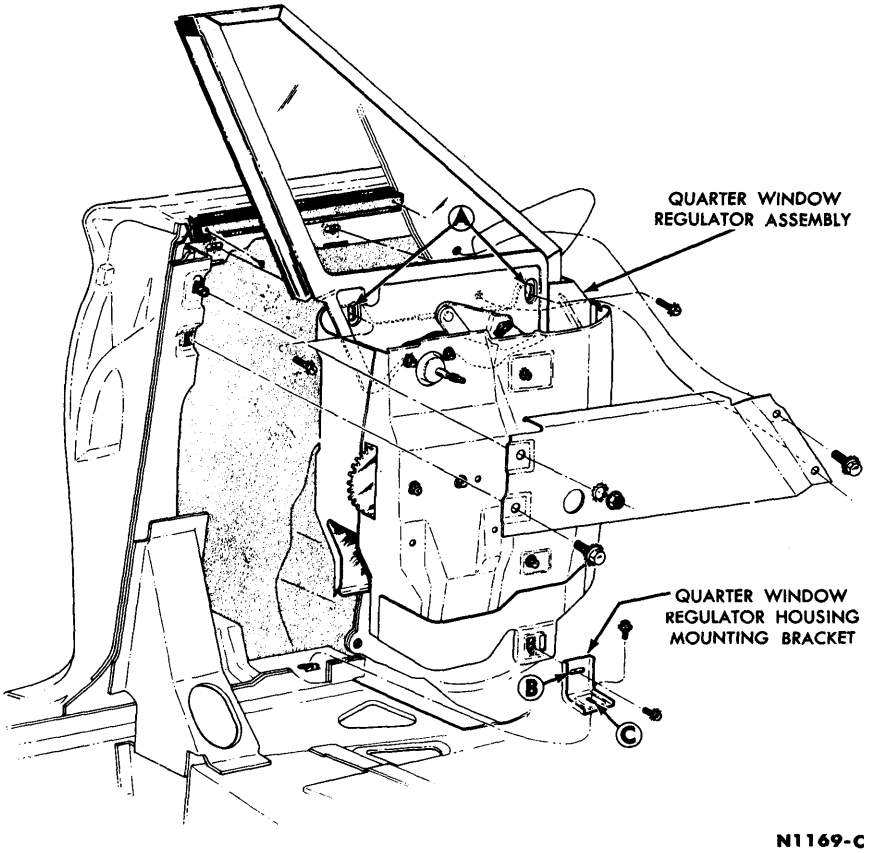

FIG. 8—Quarter Window Adjustment

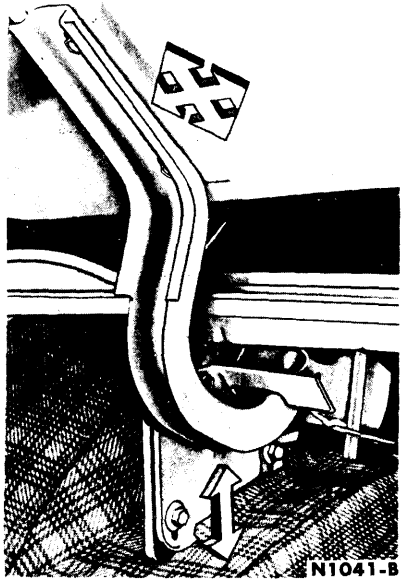

FIG. 10—Deck Lid Hinge and Adjustment

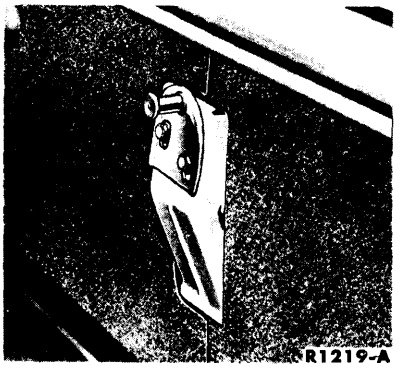

FIG. 11—Deck Lid Lock Adjustment

taining screws (Fig. 9), and lift the seat back upwards off the upper retainers.

4. Remove the quarter window handle (Fig. 5), the trim screws and the trim.

5. Remove the quarter inner side belt rail, then carefully pull back the water shield at the top and bottom.

The quarter window can be adjusted up-and-down and fore-and-aft to set its position to the door window and roof rail weatherstrip by loosening the upper bolts (Fig. 8, Item A) and the lower bracket-to-window assembly bolt (Fig. 8, Item B). The window assembly can then be tilted in-and-out at the top for alignment to the roof weatherstrips by loosening the lower bracket-to-body bolt (Fig. 8, Item C). Securely tighten all bolts after adjustment.

Install and seal the quarter window water shield as shown in Figure 9, then install the quarter inner belt rail, trim panel, handle, seats and arm rest.

DECK LID ALIGNMENT

The deck lid can be shifted fore-and aft, up-and-down, and from side-to-side as shown in Fig. 10. Care should be taken not to distort or mar the deck lid or body panel so that an unsightly appearance results.

DECK LID STRIKER PLATE ADJUSTMENT

The deck lid striker plate (Fig. 11) can be adjusted up-or-down by loosening the bolts and moving it to the desired position. If lateral movement of the striker plate is required, it can be tilted slightly to obtain free operation of the lock.

3 REMOVAL AND INSTALLATION

DOORS

Replacement doors are furnished as a sheet metal shell in prime paint. They have no hinges, trim, glass or hardware. When a door is replaced, transfer all usable parts from the old door to the new one, and replace any parts which are damaged beyond repair.

Repair any dings or dents in the new door which may have occurred in handling and storage. Sand, paint, and install the weatherstrip on the new door before assembly.

1. Remove all usable hardware, the trim panel and the plastic water shield. Remove the window and lock components.

2. Slide the door off the hinges. If a hinge is damaged, remove the hinge pillar bolts, and replace the hinge (Fig. 1).

3. Position the door on the hinges, tighten the bolts finger-tight, align the door, and tighten the bolts securely.

4. Install the window and lock mechanisms, glass and vent window assemblies. It may be necessary, at this time, to perform a final door alignment to obtain a satisfactory weather seal at the windshield pillar and/or the roof rail.

5. Install the plastic water shield, and the interior trim panel.

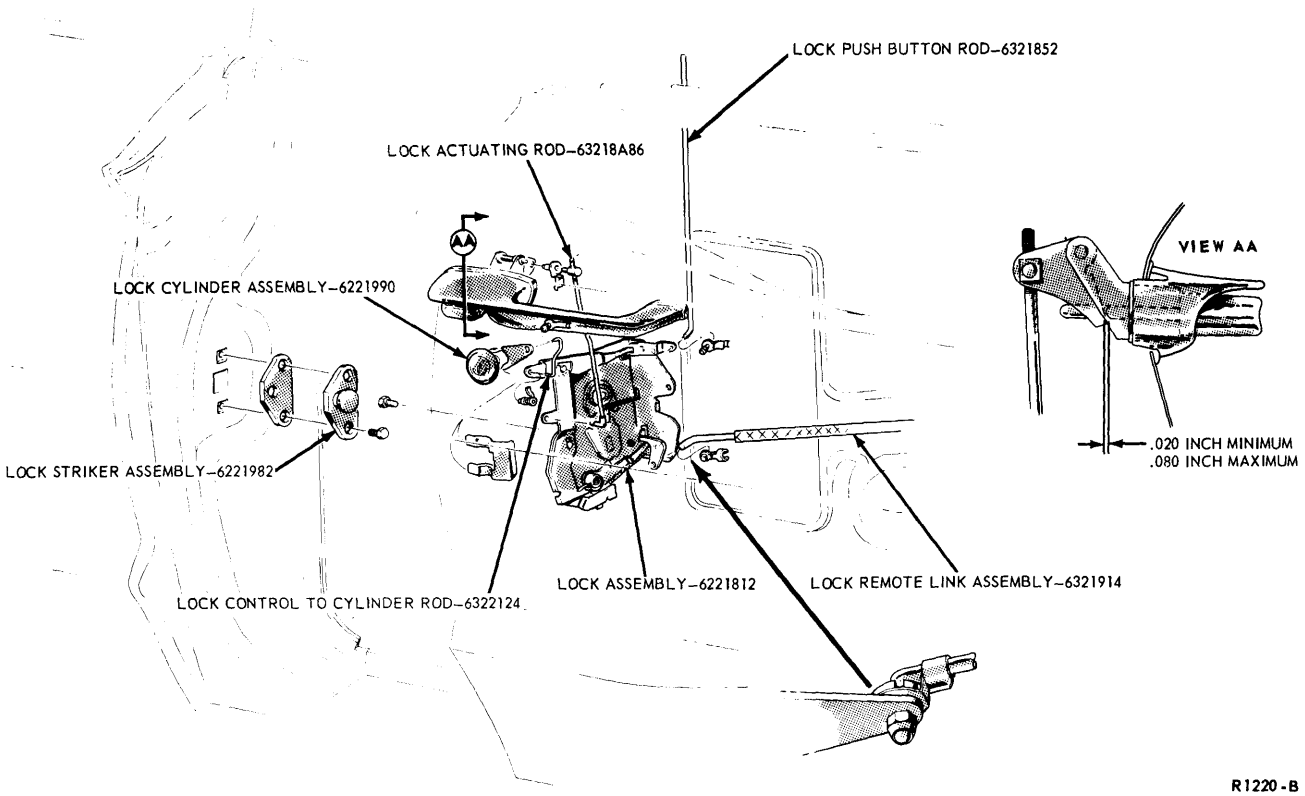

FIG. 12—Door Lock Mechanism

DOOR LOCK

Design of the door lock assembly permits keyless locking of the doors. To lock the door without the use of the key, depress the inside door lock control rod. Then, close the door while depressing the outside door handle push-button.

The door lock key has teeth cut into both sides of the blade to allow insertion into the lock cylinder either way as compared to previous design which permitted key entry with the teeth up only.

1. Raise the door glass, and remove the door trim panel. Loosen the water shield enough to reveal the door panel access holes.
2. Disconnect the remote control link at the lock (Fig. 12), the lock cylinder and at the lock and the outside handle push button at the push button.
3. Remove the screws retaining the lock to the door panel, remove the lock assembly, with the link attached, from the door.
4. Transfer the lock assembly link to the new lock assembly.
5. Install the lock assembly to the door panel. Connect the lock cylinder link to the lock assembly. Connect the remote control link to the upper bellcrank. Connect the outside handle push button to the handle.
6. Check the door lock mechanism for ease of operation and adjust the outside push button as required.
7. Install and seal the door water shield and trim panel.

LOCK CYLINDER

When a lock cylinder is replaced, both door lock cylinders and the ignition lock cylinder should be replaced in a set. This will avoid carrying an extra key which will fit only one lock.

The key code is stamped on the door and glove box lock cylinders.

1. Remove the door trim panel and pull the water shield away from the door access holes.
2. Disconnect the lock link at the cylinder, and remove the cylinder retainer and lock cylinder (Fig. 12).
3. Insert the cylinder in the door, install the cylinder retainer, and connect the lock link to the cylinder.
4. Install the door water shield and trim panel.

DOOR LOCK REMOTE CONTROL

1. Raise the window to the closed position, remove the door trim panel, and loosen the plastic water shield enough to reveal the lower access hole and the remote control rod access hole (Fig. 12).
2. Reach through the remote control rod access hole and disconnect the remote control rod at the bellcrank (Fig. 12).
3. Remove the 3 screws retaining the remote control assembly. Disconnect the remote control rod from the retaining clip and remove the remote control.
4. Transfer the remote control rod to the new remote control. Position the lock remote control in the door and loosely install the 3 retaining screws.
5. Connect the remote control rod retaining clip, and then connect the rod to the bellcrank.
6. Tighten the lock remote control retaining screws. Install and seal the plastic water shield, the door trim panel, and the hardware.

DOOR OUTSIDE HANDLE

1. Raise the door glass and remove the door trim panel. Loosen the water shield enough to gain access to the lock.
2. Disconnect the outside push button-to-lock rod at the push button.
3. Remove the door handle screws (Fig. 13) and remove the handle.
4. Position the handle to the door with the two rubber pads and install the handle retaining screws.
5. Connect the push button-to-lock rod to the handle and adjust as required.
6. Install and seal the water shield, then install the door trim panel and hardware.

VENT WINDOW

1. Remove the door trim panel, and loosen the water shield enough to reveal the door panel access holes.

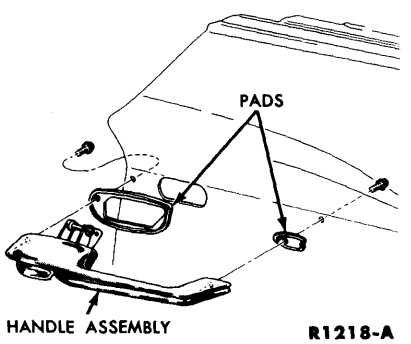

FIG. 13—Door Outside Handle

2. Remove the two bolts retaining the vent window assembly to the door inner panel (Fig. 6, Item A) and the screw retaining the vent to the outer panel (Fig. 6, View AA).
3. Remove the front run lower retaining nut and washer (Fig. 6, Item C).
4. Remove the vent window adjusting screw nut and washer (Fig. 6, Item B).
5. Turn the vent window adjusting screw and the front run adjusting screw in enough to clear the door inner panel.
6. Remove the vent window regulator shaft.
7. Remove the screw retaining the door weatherstrip to the leading edge of the vent window frame and pry the weatherstrip from the frame.
8. Remove the vent window and division bar as an assembly.
9. Transfer or replace the front run assembly to vent window and division bar assembly.
10. Remove the run and division bar assembly from the vent window.
11. Remove the vent window regulator and coupling. Then, remove the vent window upper hinge to vent glass retaining screws, and remove the vent glass and retainer.
12. To replace the vent window weatherstrip, remove the vent window frame weatherstrip retaining screws and remove the weatherstrip. Apply a rubber lubricant to the new weatherstrip. Then, position the weatherstrip to the vent window frame. Install the weatherstrip retaining screws.
13. Position the vent glass and retainer assembly with the stop washers to the vent frame. Install the vent window regulator coupling and regulator. Then, install the vent hinge retaining screws.
14. Position the vent window assembly into the door, being careful to align the front run with the leading edge of the door glass.
15. Install the vent window frame to door panel retaining bolts.
16. Install the vent frame adjusting screw washer and retaining nut, and snugly tighten the screw.
17. Loosely install the window run lower adjusting screw washer and retaining nut.
18. Install the door weatherstrip with cement and retaining screw.
19. Adjust the vent window assembly to the body opening (see Section 1), and tighten the retaining nuts and bolts.

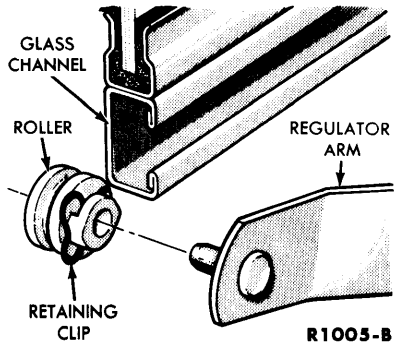

FIG. 14—Glass Channel Roller

20. Install the water shield and the trim panel.

DOOR GLASS

1. Remove the trim panel and loosen the water shield enough to reveal the access holes.
2. Remove the rear run retaining screws and position the run in the bottom of the door (Fig. 6).
3. Disconnect the regulator arms from the glass channel roller assembly by pulling the roller clip out to release the regulator arm pin (Fig. 14).
4. Remove the window upper stops (Fig. 6).
5. Remove the glass assembly, through the top opening of the door.
6. Remove the glass frame retaining screws, and then remove the glass channel, glass weatherstrip, frame, and glass tape (Fig. 15).
7. Install the glass frame on the glass (Fig. 15), using new glass tape. Install the glass channel and weatherstrip. Trim the excess glass tape.
8. Position the door glass assembly in the door. Install the regulator arm pins in the roller assemblies.
9. Install the rear glass run to the glass and install the retaining screws finger-tight.
10. Install the window upper stops and adjust the window assembly (See Section 1).
11. Install and seal the water shield, and install the trim panel and hardware.

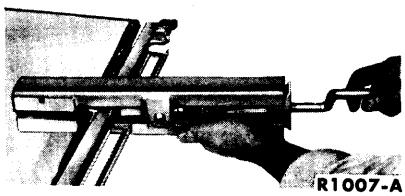

FIG. 15—Glass Channel Removal and Installation

DOOR WINDOW REGULATOR

1. Remove the trim panel and loosen the water shield enough to reveal the access holes.
2. Remove the regulator arms from the glass channel rollers by pulling the roller clip out to release the regulator arm pin (Fig. 14), then prop the window in the up position.
3. Remove the regulator assembly retaining screws and remove the regulator assembly.
4. Transfer the equalizer arm roller (and regulator motor on electric window vehicles) to the new regulator.
5. Position the window regulator assembly in the door panel and install the retaining screws.
6. Remove the window block and connect the regulator arms to the glass channel rollers.
7. Install and seal the water shield. Install the trim panel and hardware.

QUARTER WINDOW AND REGULATOR

1. Remove the arm rest, seat cushion and back, and then quarter trim panel and remove the water shield (See Section 1).

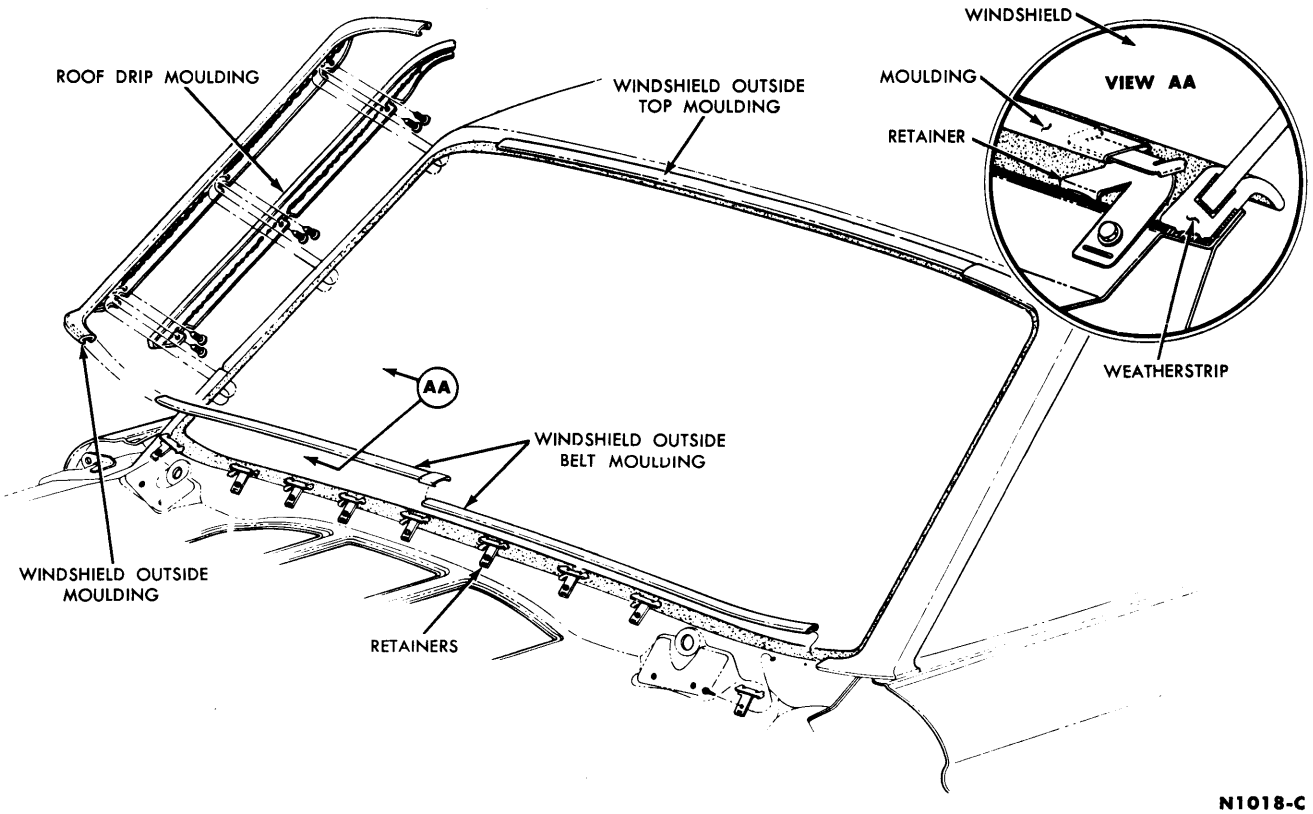

FIG. 16—Windshield Outside Moulding (Hardtop)

2. Remove the quarter window regulator housing bolts and remove the housing and window asesmbly.

3. Lower the quarter window until the equalizer roller comes out of the run and disconnect the regulator arm from the glass channel.

4. Remove the quarter window from the housing.

5. To remove the glass frame, pull down the weatherstrip from the forward edge of the glass assembly, remove the frame retaining screws, and remove the frame and glass tape. Remove the glass channel (Fig. 15).

6. Install the glass in the channel and install the glass frame, using new glass tape. Trim the excess tape. If the regulator doesn't require replacement omit steps 7 and 8.

7. Remove the window regulator retaining bolts, and remove the regulator from the housing.

8. Transfer the roller (and motor if electric windows) to the new regulator equalizer arm, position the regulator in the quarter window housing, and install the retaining bolts.

9. Install the glass assembly in the housing, and connect the regulator arm in the roller.

10. Install the quarter window and housing to the quarter panel.

11. Adjust the quarter window as required (See Section 1).

12. Install and seal the water shield. Install the quarter trim panel, seats and arm rest.

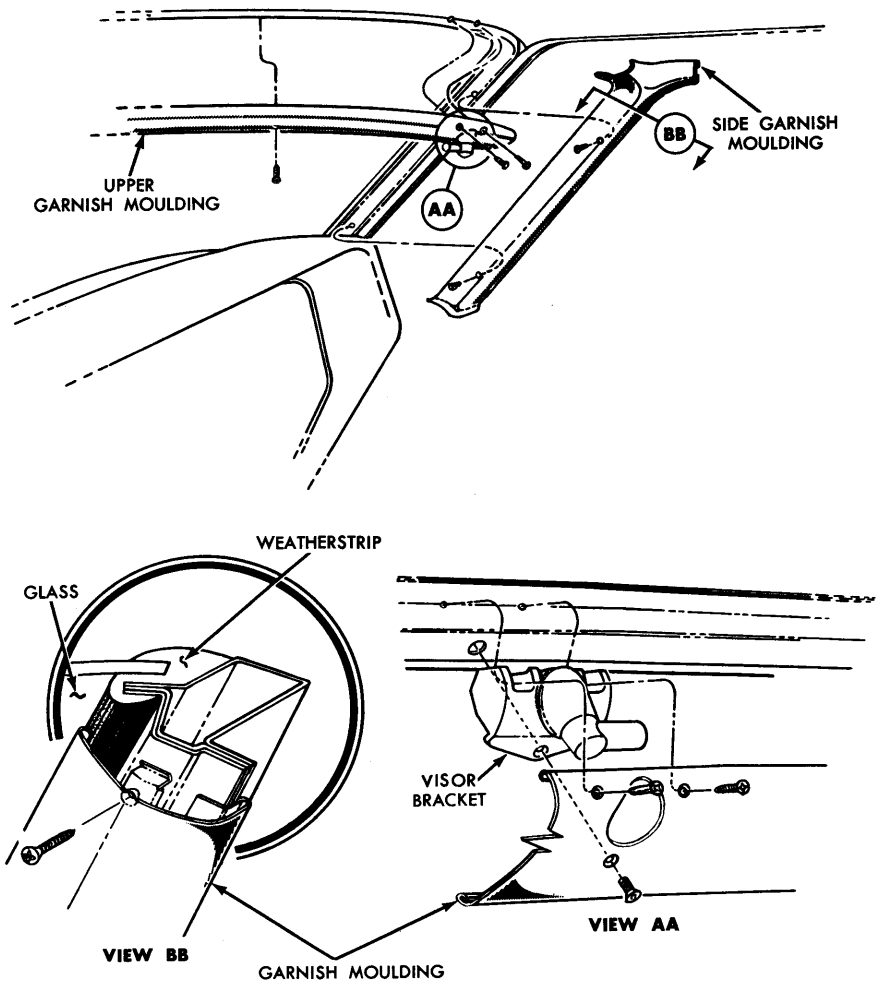

FIG. 17—Windshield Inside Mouldings

POWER REGULATOR

The power regulators are basically the same for all models, whether the regulator is installed in a door or quarter panel. In view of this, repair procedures are given for one regulator and will apply to all.

POWER REGULATOR AND/OR MOTOR

To remove and install the power regulator assembly, including the motor, follow the appropriate removal and installation procedures given for the manual regulator. Connecting the wires presents no problem because of the type of wire connectors used.

If the regulator arm tension spring requires replacement, it can be replaced after the regulator is removed. This operation should be performed with the arm at its point of maximum upward travel so that there is a minimum of spring tension to overcome.

WINDSHIELD

HARDTOP

1. Remove the windshield wiper arm and blade assemblies, the wiper pivot nuts and cowl top panel.

2. Pull the roof side rail weatherstrips from the front retainer on the windshield pillars and remove the retainers from the windshield pillars (See Fig. 5 in Part 17-1).

3. Remove the roof drip mouldings and outside side mouldings from the windshield pillars (Fig. 16).

4. Remove the windshield lower moulding by removing nine (9) retainers and the upper moulding by pulling it off the retainers (Fig. 16).

5. Loosen the sun visor set screws and remove the visors from the visor brackets, then remove the inside garnish mouldings (Fig. 17).

6. From inside the car, loosen the weatherstrip from the windshield opening flange, and push the windshield and weatherstrip assembly out of the opening.

7. Remove the weatherstrip from the glass.

8. After cleaning the old sealer from the windshield opening flange, glass, and weatherstrip, apply sealer to the weatherstrip in the groove for the glass, and install the weatherstrip on the windshield glass.

9. Apply a heavy bead of caulk and sealer all around the windshield opening flange.

10. After coating the weatherstrip mounting surfaces with RuGlyde, install a draw cord in the weatherstrip groove.

11. After positioning the windshield assembly in the opening (with a helper applying pressure from the outside), pull the weatherstrip over the flange with the draw cord.

12. With a sealer gun, apply a

bead of caulk and sealer (B6A-19563-B) between the weatherstrip and glass, and between the weatherstrip and roof across the top.

13. Install the inside garnish mouldings and sun visors.

14. Install the outside upper and lower mouldings, side mouldings, drip finish mouldings and weatherstrip retainers. Install the roof side rail weatherstrips into the retainers.

15. Apply a bead of sealer around all (3) outermost cowl panel screw holes on each side and install the cowl panel, wiper pivot nuts and wipers.

16. Test the windshield for water leaks and seal it as necessary.

CONVERTIBLE

1. Remove the windshield wiper arm and blade assemblies, the wiper pivot nuts and the cowl top panel.

2. Lower the top and remove the visor and bracket assemblies.

3. Remove the windshield side weatherstrips, weatherstrip retainers, drip rail mouldings, outside corner and side mouldings (Fig. 18).

4. Remove the top lock plates and visor brackets from the windshield top moulding and remove the top moulding.

5. Remove the inside side mouldings.

6. From inside the car, loosen the weatherstrip from the windshield opening flange, and push the windshield and weatherstrip assembly out of the opening.

7. Remove the weatherstrip from the glass.

8. After cleaning the old sealer from the windshield opening flange, glass, and weatherstrip, apply sealer to the weatherstrip in the groove for the glass, and install the weatherstrip on the windshield glass.

9. Apply a heavy bead of caulk and sealer all around the windshield opening flange.

10. After coating the weatherstrip mounting surfaces with RuGlyde, in-

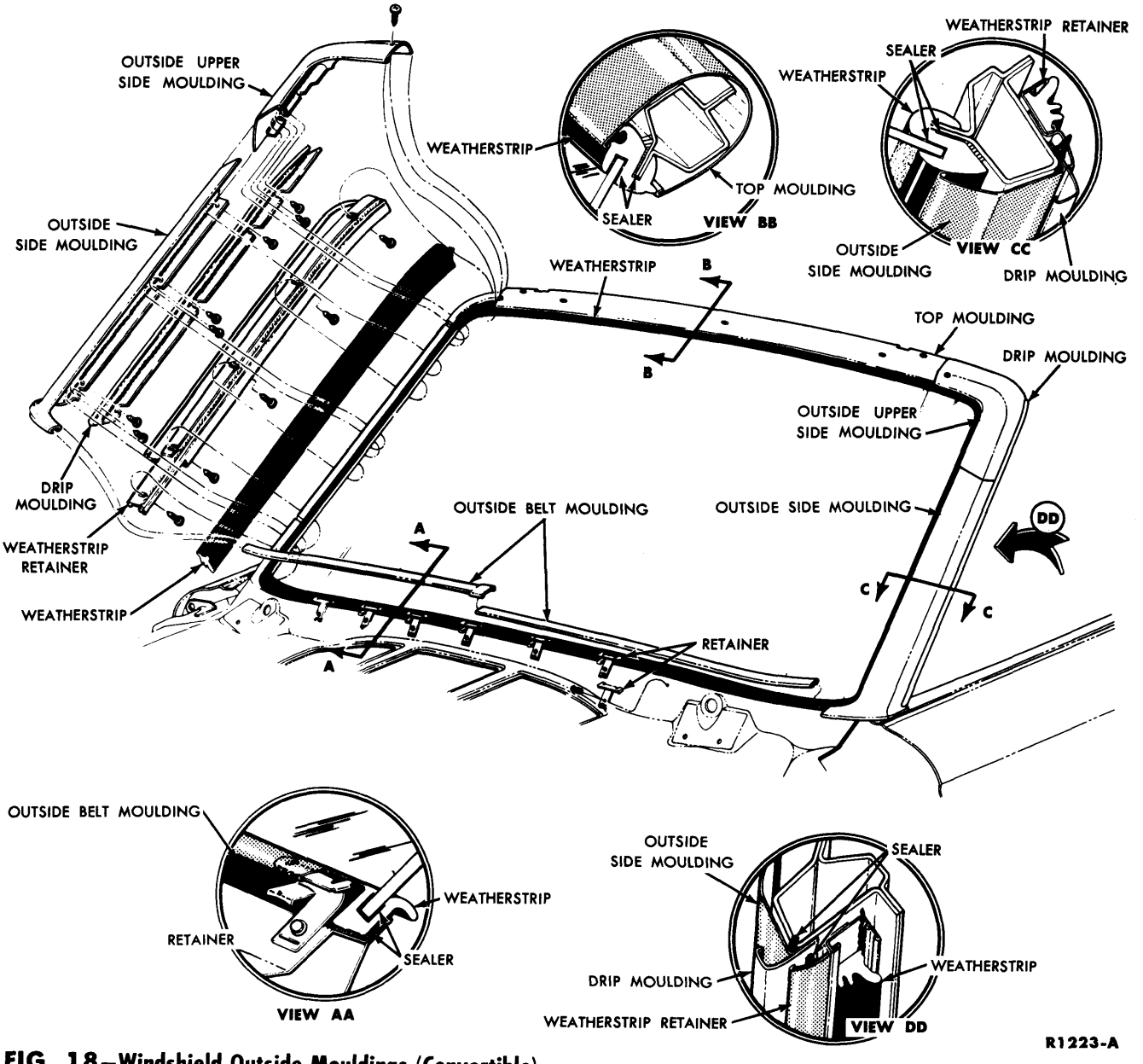

FIG. 18—Windshield Outside Mouldings (Convertible)

stall a draw cord in the weatherstrip groove.

11. After positioning the windshield assembly in the opening (with a helper applying pressure from the outside) pull the weatherstrip over the flange with the draw cord.

12. With a sealer gun, apply a bead of caulk and sealer (B6A-19563-B) between the weatherstrip and the glass.

13. Install the outside top moulding, visor brackets and lock plates to the header.

14. Install the inside side mouldings.

15. Install the outside side and upper corner mouldings, the drip rail mouldings, weatherstrip retainers and weatherstrips to the pillars.

16. Install the sun visors.

17. Apply a bead of sealer around all (3) outermost cowl panel screw holes on each side and install the cowl panel, wiper pivot nuts and wipers.

18. Test the windshield for water leaks and seal it as necessary.

INSIDE REAR VIEW MIRROR (BONDED TO WINDSHIELD)

The following procedures are used when replacing or repairing a bonded-to-windshield type rear view mirror.

REMOVAL

1. Clean both the inside and outside surfaces of the windshield in the area of the mirror mounting bracket. Inspect the windshield for stone chips and scratches.

2. Using welding putty or wet rags, insulate all chips or scratches within 12 inches of the mirror mounting bracket.

3. Apply heat to the bracket mounting area from outside the windshield with a standard 250 watt infrared bulb (heat lamp). Hold the lamp approximately 4 inches from the windshield, and rotate it in a small circle.

4. The mirror mounting bracket can be pulled off the windshield glass in approximately 8-10 minutes, using the mirror as a handle.

5. Slowly remove the heat lamp. **Do not remove the insulating materials until the windshield has cooled to room temperature.**

6. Remove the mirror and arm from the bracket.

INSTALLATION

1. Locate and mark; with a wax pencil, the bracket location on the outside surface of the windshield (Fig. 19).

2. Use a good grade of Ethyl Alcohol to thoroughly clean the inside glass surface bracket mounting area and mounting bracket face. It is important that the mounting surfaces are properly cleaned before the resin is applied.

3. To mix the resin, pour the en-

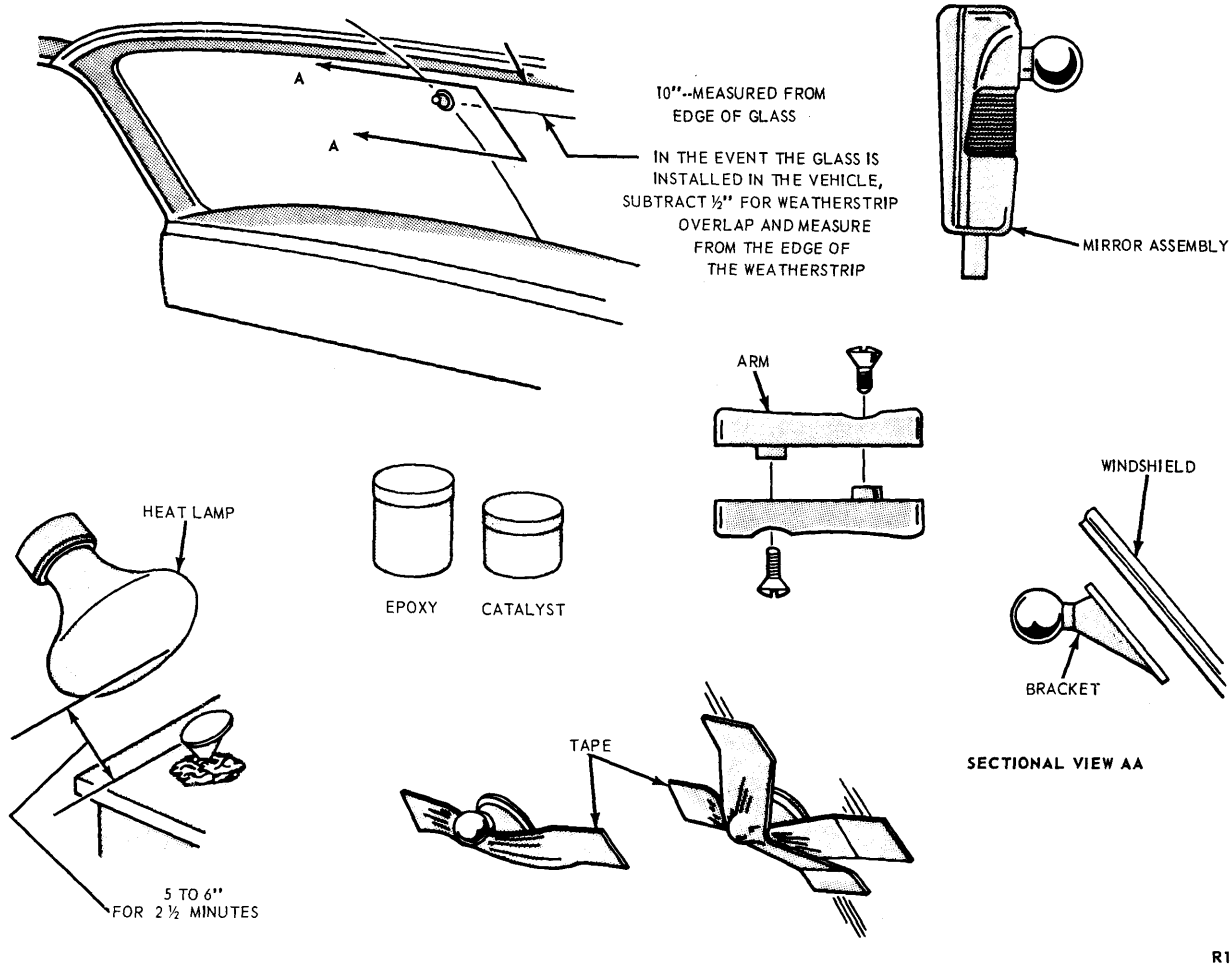

FIG. 19—Bonded Inside Rear View Mirror Replacement

tire contents of the small catalyst bottle into the large epoxy bottle (Fig. 19).

4. Stir the contents for three to five minutes. **To guarantee the correct mixing ratio and resulting bond strength, it is mandatory that the entire contents of both bottles are used and properly mixed. Under no circumstances should only portions of the epoxy or catalyst be used.**

5. Apply the mixed resin to the bracket mounting surface. Level off the resin film as smoothly as possible.

6. Place the mounting bracket surface upward in a vise or in a small mound of permagum or any suitable holding material that will support the mounting bracket (Fig. 19). Hold a standard 250 watt infrared lamp about five to six inches from the mounting surface of the bracket for two and one half minutes. (Fig. 19).

7. Allow the bracket to cool for one minute. With light hand pressure, apply the mounting surface of the bracket to the desired inside area of the windshield.

8. Secure the bracket to the windshield, using a piece of tape about five inches long located just under the knob of the bracket (Fig. 19). Apply another piece of tape in the vertical direction (Fig. 19) to firmly hold the mounting bracket in place on the windshield.

9. When the temperatures are above 67°F., the mirror and arm should not be mounted to the bracket for eight hours, to allow the resin to properly adhere the bracket to the glass. However, the car may be used with the bracket taped in place one hour after installation.

When the temperatures are below 67°F., the mirror and arm should not be mounted to the bracket for sixteen hours. However, the car can be used two hours after the bracket has been taped in place.

10. After the bracket has had time to adhere to the glass, remove the tape and install the mirror and arm to the bracket (Fig. 19).

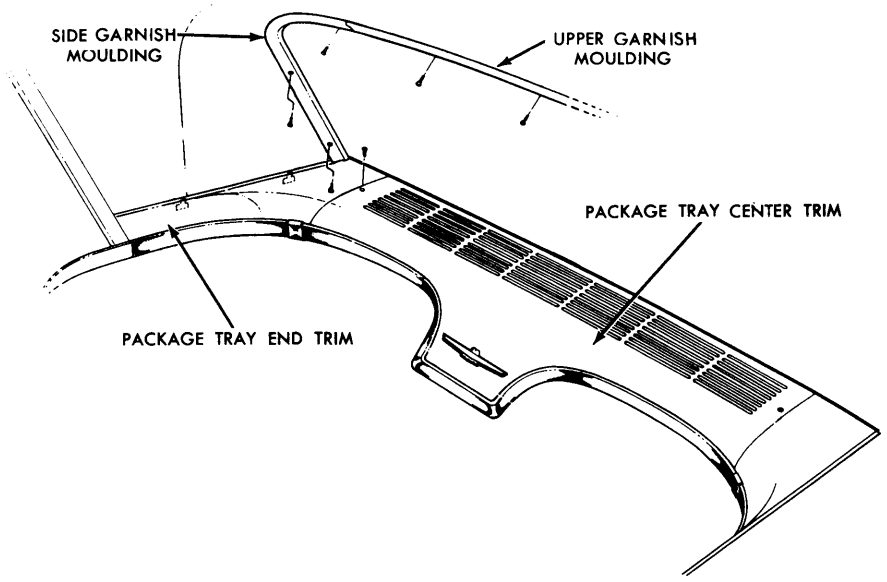

FIG. 21—Back Window Inside Mouldings

BACK WINDOW

1. Remove the back window outer side moulding retaining screws from each side moulding and remove the mouldings (Fig. 20).

2. Remove the upper outside moulding by carefully prying it off the retainers, then remove the moulding retainers.

3. Remove the back vent air grille screws and the grille.

4. Remove the back window inside side and upper garnish mouldings (Fig. 21).

5. From the inside, loosen the weatherstrip at the flange, and push the window and weatherstrip, assembly out of the opening.

6. Remove the weatherstrip from the glass. Clean the old sealer from the weatherstrip and the back window body flange.

7. Apply caulk and sealer to the back window opening flange and at the holes for the attaching clips.

8. Apply sealer to the weatherstrip in the groove for the glass, and position the weatherstrip on the glass.

9. Apply RuGlyde to the flange area of the weatherstrip, and install a draw cord in the weatherstrip flange crevice with about a 12-inch overlap at the top center.

10. Position the glass assembly in the opening, have a helper apply pressure on the outside, and pull the weatherstrip over the flange with the draw cord.

11. Install the outside upper moulding retainers and the back window upper moulding, and then install the side mouldings (Fig. 20).

12. Install the rear vent grille.

13. Install the back window center

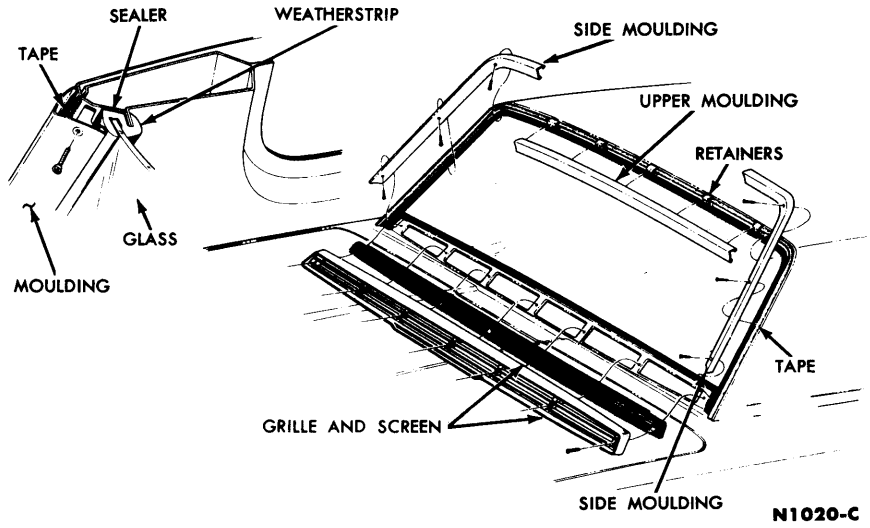

FIG. 20—Back Window Outside Mouldings

and side garnish mouldings and install the retaining screws.

14. Check the window for water leaks and seal as necessary.

DECK LID

New deck lids are furnished in prime paint without hardware. All usable hardware parts should be removed from the old deck lid so that they can be installed on the new lid.

Before the old deck lid is removed and disassembled, time will be saved if the new deck lid is prepared for installation first. Inspect the new deck lid for dings and other minor damage, repair as necessary, and sand and paint it. While it is drying, remove and disassemble the old lid. When the new lid is dry, install the hardware.

1. Remove all hardware from the deck lid.
2. Remove the hinge to deck lid bolts (Fig. 10), and remove the deck lid. Remove the deck lid lock from the deck lid. If it is necessary to remove the hinge, remove the hinge bracket bolts (Fig. 10).
3. If the hinges were removed, install the new hinges at the same approximate location as the old hinges. Position the deck lid and install the hinge to deck lid bolts finger-tight.
4. Close the deck lid gently to check the fit. Adjust the deck lid and hinges for proper fit. Adjust the striker plate.

DECK LID HINGE OR TORSION BAR

1. Prop the deck lid open.
2. Mark the hinge position on the lid and on the mounting bracket for reference when a new hinge is installed.
3. Remove each torsion bar using a long screwdriver and vise-grips, pry the anchor end of the torsion bar out of its adjustment notch (Fig. 10). **The bar must be securely held with the vise-grips.**
4. Remove the hinge attaching bolts from the deck lid and from the mounting bracket, and remove the hinge.
5. Position the hinge and partially tighten the mounting bolts.
6. Install each torsion bar, reversing the procedure in step 3.
7. Remove the prop and check the lid position. After any necessary adjustment, tighten the hinge attaching bolts. The farther rearward the anchor end is twisted, the greater the tension.

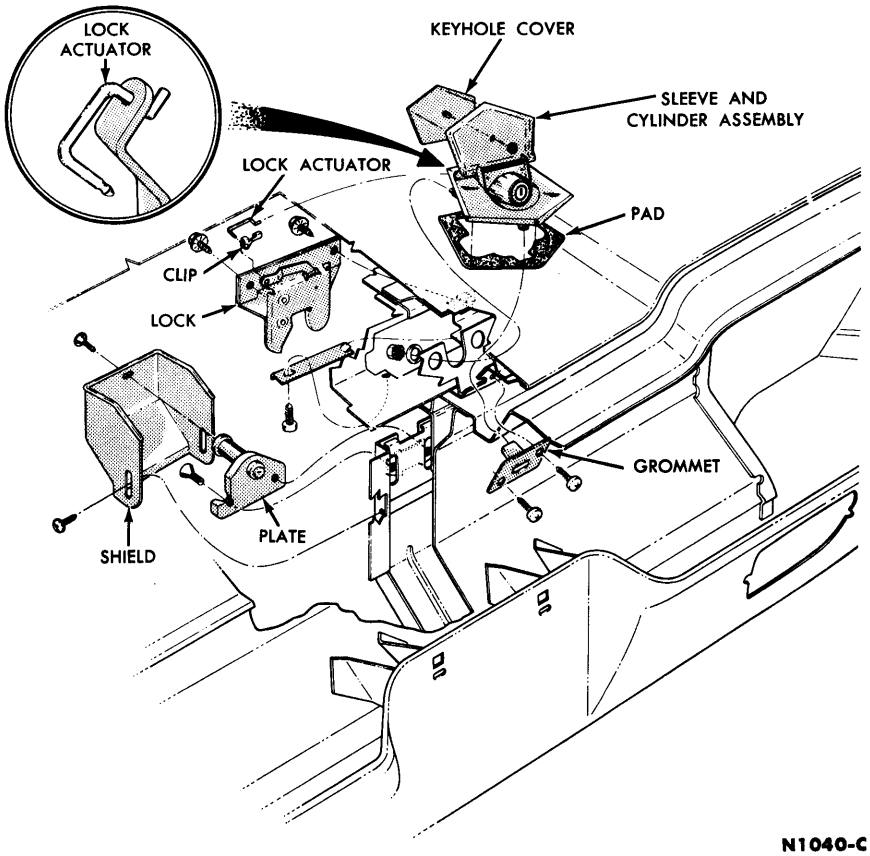

FIG. 22—Deck Lid Lock

DECK LID LOCK CYLINDER

To replace the deck lid lock cylinder and sleeve, disconnect the actuator link at the lock, remove the retaining nuts and remove the assembly (Fig. 22).

To remove the lock cylinder from the sleeve, turn the key ⅛ turn clockwise from the locked position, and push the release pin down with a small punch. Pull the key and cylinder out of the sleeve.

When installing the cylinder in the sleeve, turn the key in the cylinder ⅛ turn clockwise from the locked position and insert the cylinder in the sleeve.

DECK LID LOCK

Disconnect the actuator link at the lock, remove the lock retaining bolts and remove the lock (Fig. 22).

The lock is not adjustable in the deck lid. Positioning of the striker in relation to the lock is accomplished entirely at the striker plate.