

# ASSEMBLY AND INSTALLATION INSTRUCTIONS

## Models 234 / 236

(Model 236, Curbside clamping only • Model 234, [Streetside and Curbside clamping](#))

### IMPORTANT BEFORE YOU BEGIN

Read these instructions and warnings completely before assembly and installation.

### 234 / 236 PARTS LIST

- 2- Crossmembers
- 4- Ladder Guides (234)
- 2- Ladder Guides (236)
- 4- Top Adj. Clamp (234)
- 2- Top Adj. Clamp (236)
- 2- Bottom Adj. Angle (234)
- 1- Bottom Adj. Angle (236)
- 1- P.S. Rear Ass'y.
- 1- D.S. Rear Ass'y. (236)
- 1- D.S. Rear Ass'y. (234)
- 1- P.S. Front Ass'y.
- 1- D.S. Front Ass'y.
- 1- Airfoil
- 4- 8" Mtg. Clamps
- 2- 4" Mtg. Clamps
- 1- Bulk Cushion Strip
- 2- Center Support
- 2- Center Rails

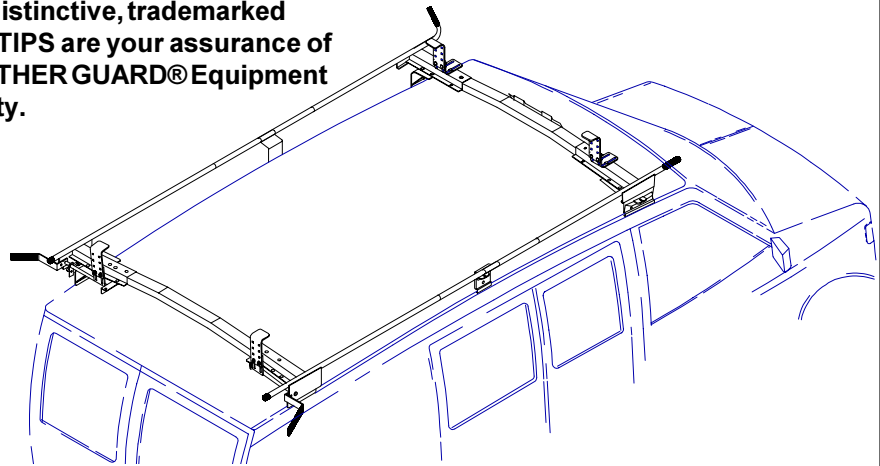
### BOLT KIT

Bolt Kit #32-0159 with Model 236 and Bolt Kit #32-0157 with Model 234. Check these bolt kits to be sure the following parts are included:

32-0159	32-0157	Description
4	4	1/4-20 x 1/2" Taptite Screw
3	3	1/4-20 x 3/4" Hex Hd. Bolt
33	42	5/16" Flat Washer
4	6	5/16-18 x 1-1/4" Carriage Bolt
25	32	5/16-18 x 7/8" Carriage Bolt
33	42	5/16-18 x Nylon Lock Nut
3	3	1/4-20 Nylon Lock Nut
6	6	5/16-18 x 2" Carriage Bolt

Approximate Assembly and Installation time:  
 234: 1 hour 20 min. per unit (1.3 hrs.)  
 236: 1 hour 12 min. per unit (1.2 hrs.)  
 Depending on van equipment installation experience

The distinctive, trademarked **RED TIPS** are your assurance of **WEATHER GUARD®** Equipment quality.



### TOOLS REQUIRED

- Ruler
- 3/8" Socket
- Ratchet Wrench
- 3" Socket Extension
- Loctite® thread locker
- Electric Drill w/ 5/16" & 3/8" drill bits
- 7/16" Open or Box End Wrench (2)
- 1/2" Socket (deep well preferred)

### ⚠ WARNING

These Ladder Racks were not designed to fit Chrysler mini vans. If installed on these vehicles, the handle can cause serious head injuries or property damage.

### ⚠ WARNING

This product is only intended for, and only safe for, transporting ladders, lumber, pipe and other similar materials. It is the responsibility of the user to secure these materials to the rack before transporting. Any modifications made to this product, or use of this product for any other purpose than its intended use, could create a hazardous condition that can cause serious personal injury or property damage.

Rev.A 4/04 Part No. 24-0181

**weather guard**  
DIVISION OF KNAACK MFG. CO.

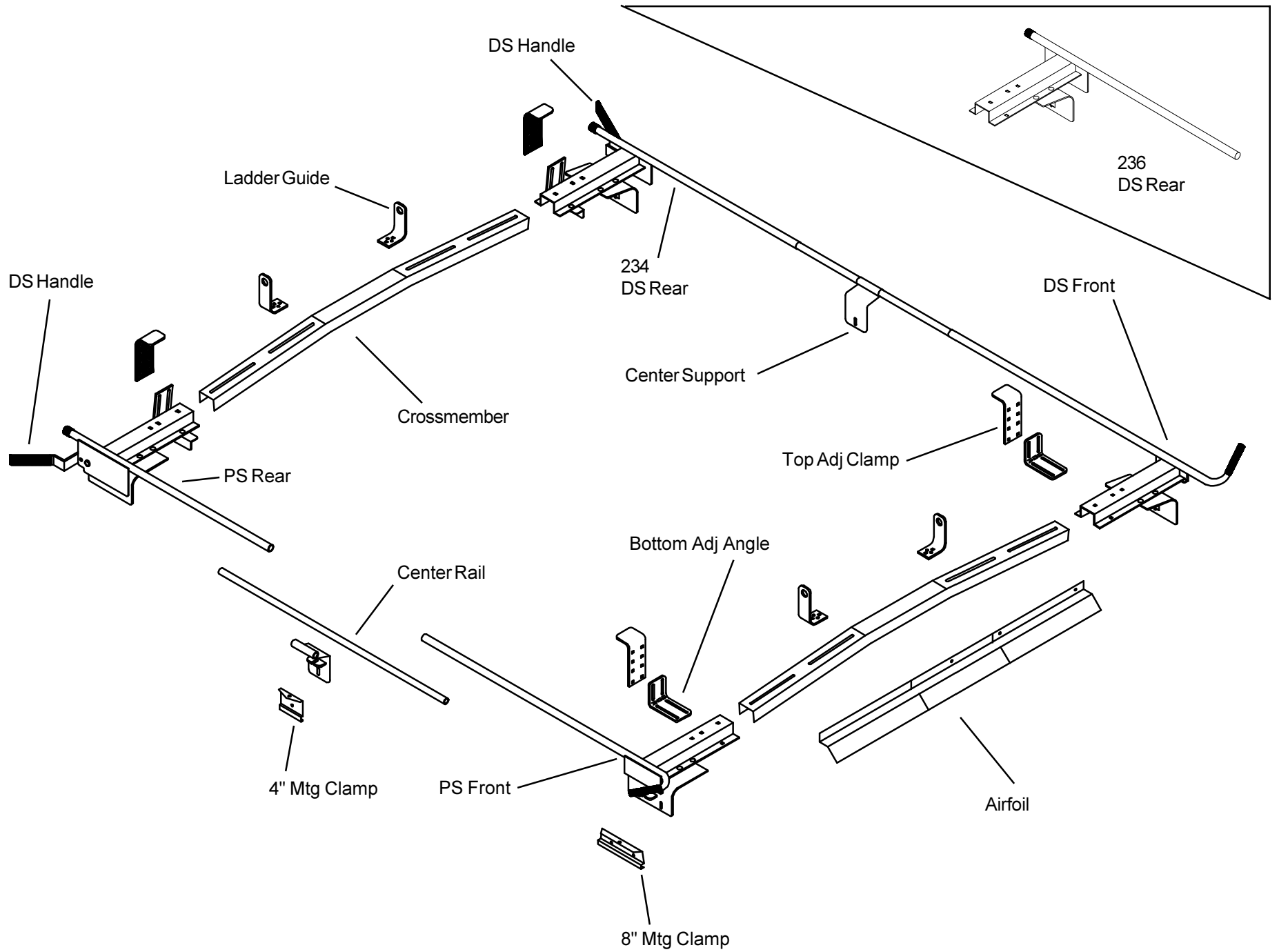


Figure 1. Parts Identification

# 1. Airfoil to Front Crossmember Assembly

**CAUTION**  
To keep debris out of your eyes when drilling, always wear protective eyewear.

If mounting a Conduit Carrier remove appropriate knockouts for "U" Clamp mounting clearance.

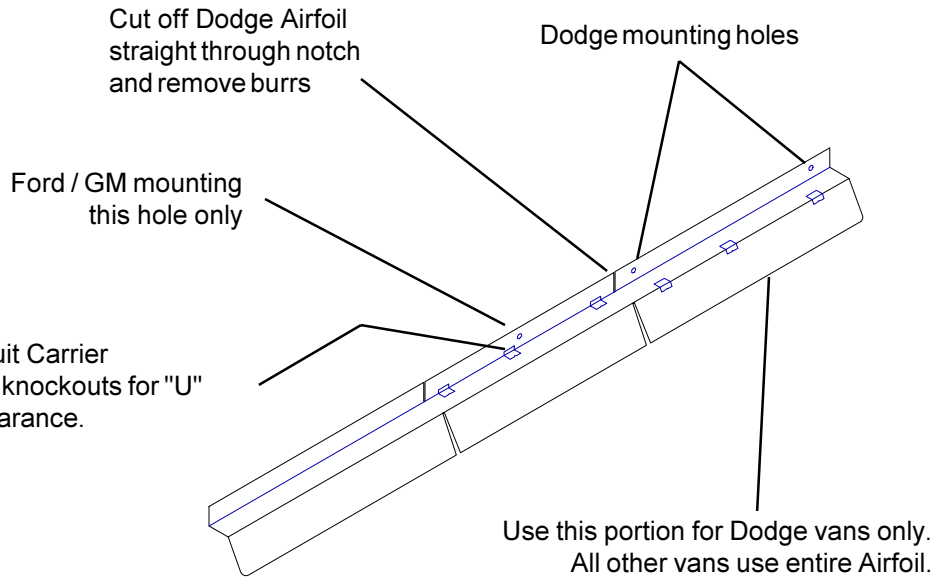


Figure 2. Airfoil

Center the Airfoil side to side on the Crossmember. Mark the center mounting hole and drill a 5/16" hole.

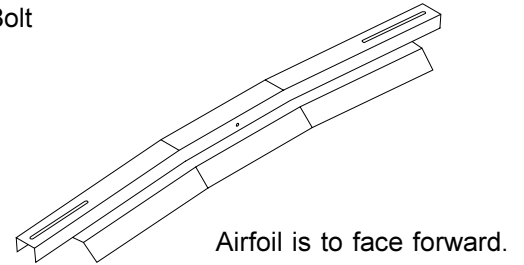
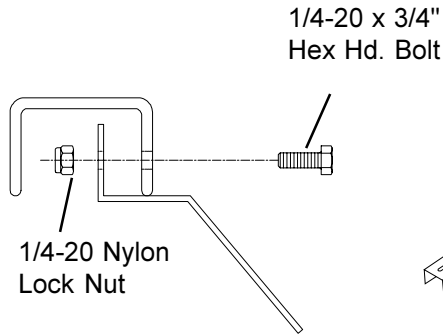
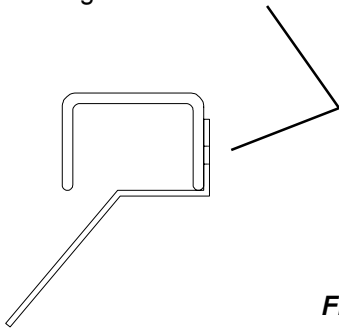


Figure 3. Ford / GM Front Crossmember to Airfoil marking/fastening

Center the Airfoil side to side on the Crossmember. Mark the mounting holes on the top and drill the 5/16" holes.

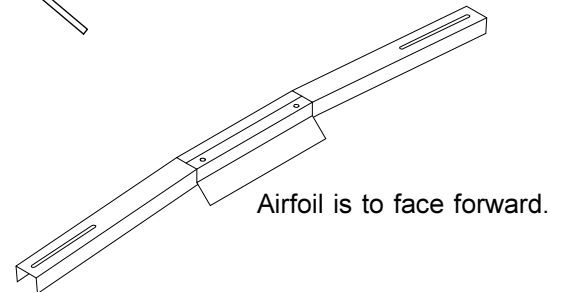
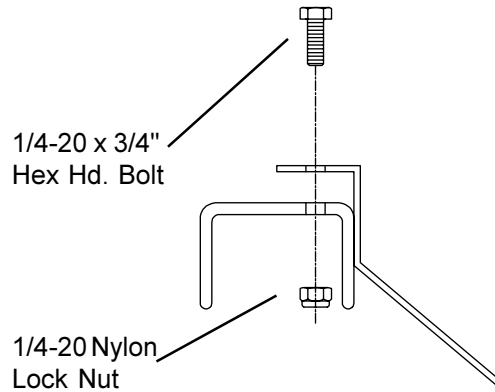
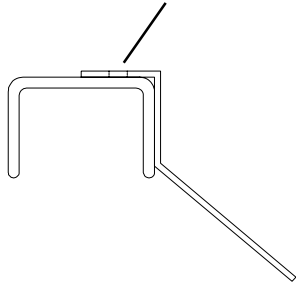
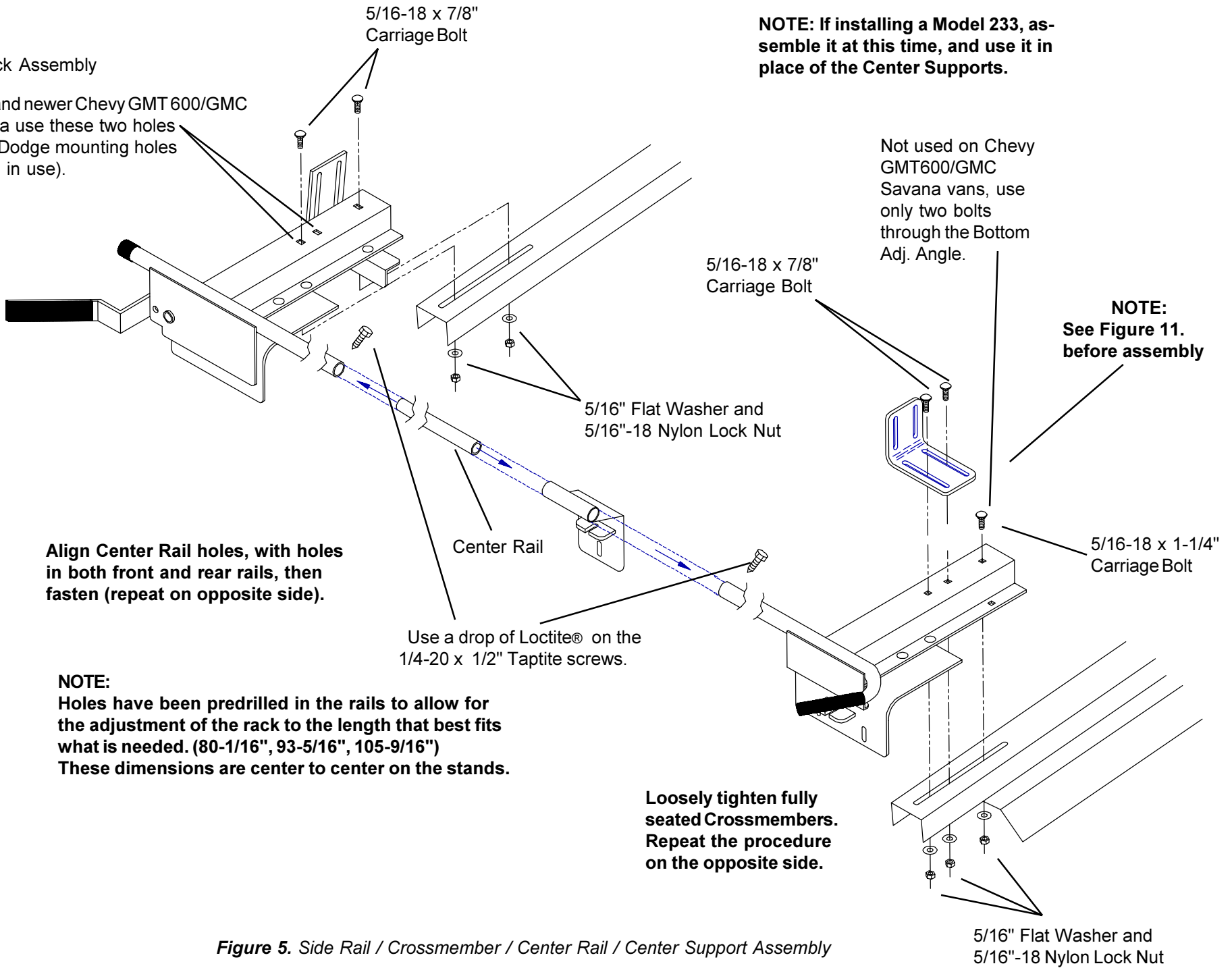


Figure 4. Dodge Ram Front Crossmember Airfoil marking/fastening

2. Rack Assembly

1996 and newer Chevy GMT 600/GMC Savana use these two holes (Ford/Dodge mounting holes shown in use).



**NOTE: If installing a Model 233, assemble it at this time, and use it in place of the Center Supports.**

Not used on Chevy GMT600/GMC Savana vans, use only two bolts through the Bottom Adj. Angle.

**NOTE: See Figure 11. before assembly**

**Align Center Rail holes, with holes in both front and rear rails, then fasten (repeat on opposite side).**

**NOTE:**  
**Holes have been predrilled in the rails to allow for the adjustment of the rack to the length that best fits what is needed. (80-1/16", 93-5/16", 105-9/16")**  
**These dimensions are center to center on the stands.**

Use a drop of Loctite® on the 1/4-20 x 1/2" Taptite screws.

**Loosely tighten fully seated Crossmembers. Repeat the procedure on the opposite side.**

5/16" Flat Washer and 5/16"-18 Nylon Lock Nut

*Figure 5. Side Rail / Crossmember / Center Rail / Center Support Assembly*

### 3. Mounting Cushion Installation

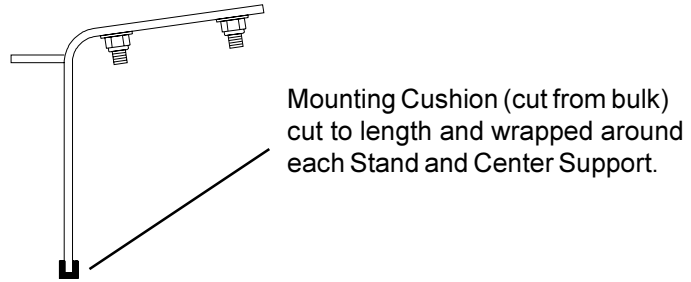
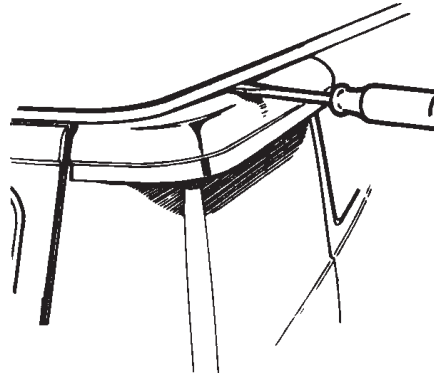


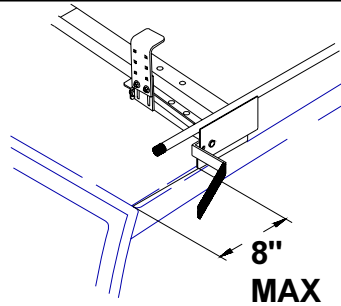
Figure 6. Mounting Cushion Installation

4. Adjust the stands to the approximate gutter width dimensions below. With the help of others, lift the rack and position it on the vehicle. For proper clamping on all vans except the 1996 and newer Chevy GMT600/ GMC Savana, locate the stands as close as possible to the roof. Make sure the Crossmembers are centered between the stands before tightening the Crossmember/Socket bolt.



**NOTE:** If van has a sliding door with a guard, it may be necessary to remove and notch the guard to accept the mounting clamp. If the guard is spot welded, simply place the blade of a common screwdriver at the weld and strike with a hammer. This will give the guard flexibility to insert the Clamp under the rain gutter.

Figure 7. Breaking spot weld



8" Max dimension is from the rear edge of the rear Stand to the rear of the gutter.

Figure 8. Rear Stand Location

### Approximate Gutter Widths

	Front	Center	Rear
<b>Ford</b>	64-1/4"	64-1/4"	62-3/4"
<b>Dodge</b>	65-1/4"	64-7/8"	64-1/2"
<b>GM*</b>	66-1/8"	66-3/4"	64-3/4"
<b>GM**</b>	58-3/4"	58-3/4"	57-3/8"

\* - 1996 and older GM vans

\*\* - 1996 and newer Chevy GMT600/ GMC Savana vans

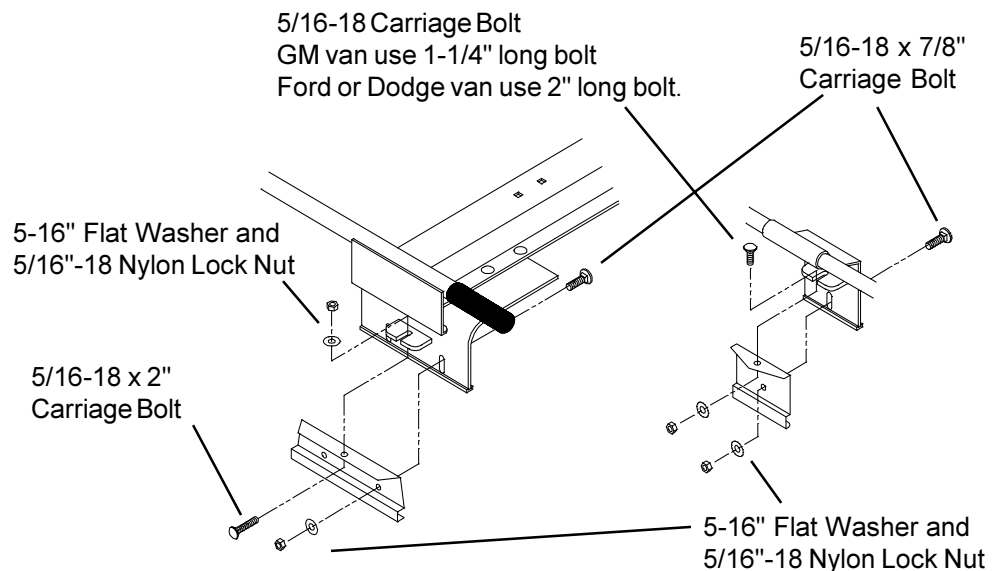
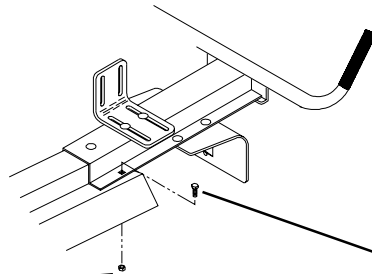


Figure 9. Clamp Installation

**5. Airfoil to Socket Drilling and Fastening**

Drill 5/16" holes in Airfoil using holes in socket flange as a guide.

1/4 -20 Nylon Lock Nut



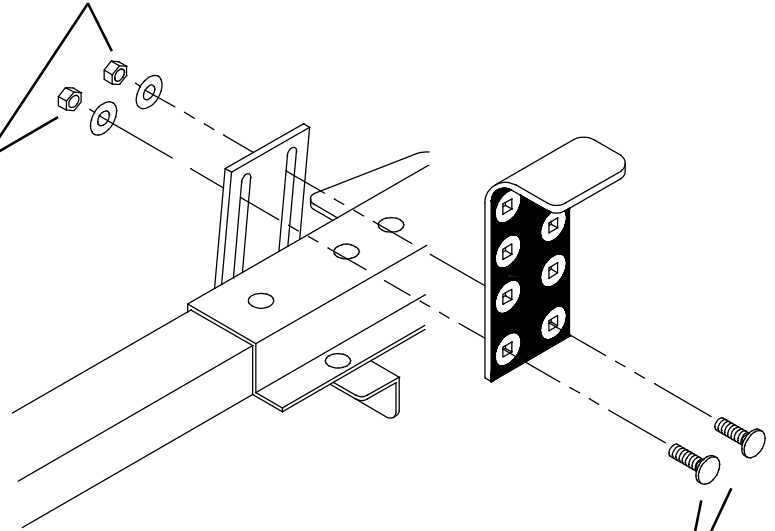
**NOTE: Be careful not to thrust the drill into the vehicle roof. A block of wood held under the Crossmember will help avoid this.**

1/4-20 x 3/4" Hex Hd. Bolt

**Figure 10. Airfoil/Socket**

**6. Loosely fasten the Top Adj. Clamp to the Front and Rear Assemblies. To adjust Clamps, place the ladder on the rack (Figure 13.), and adjust the clamps forward or back / up or down to capture the nearest ladder rung. Tighten the bolts.**

5/16" Flat Washer and 5/16"-18 Nylon Lock Nut



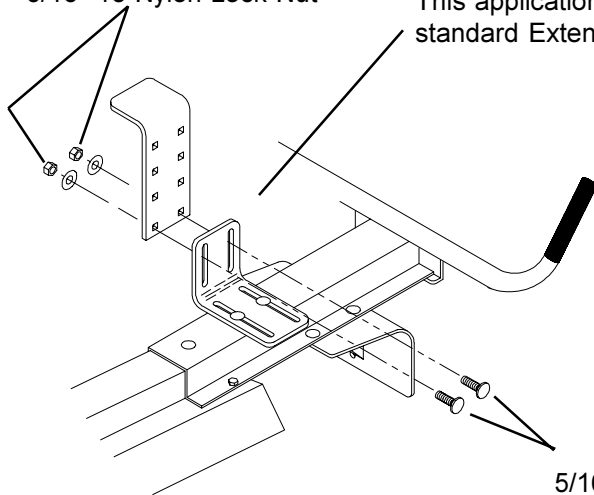
5/16-18 x 7/8" Carriage Bolt

**Figure 11. Rear DS Clamp**

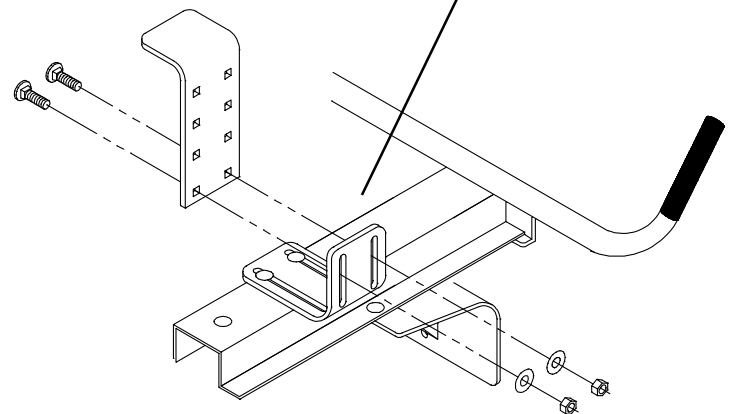
5/16" Flat Washer and 5/16"-18 Nylon Lock Nut

This application is used for standard Extension ladders.

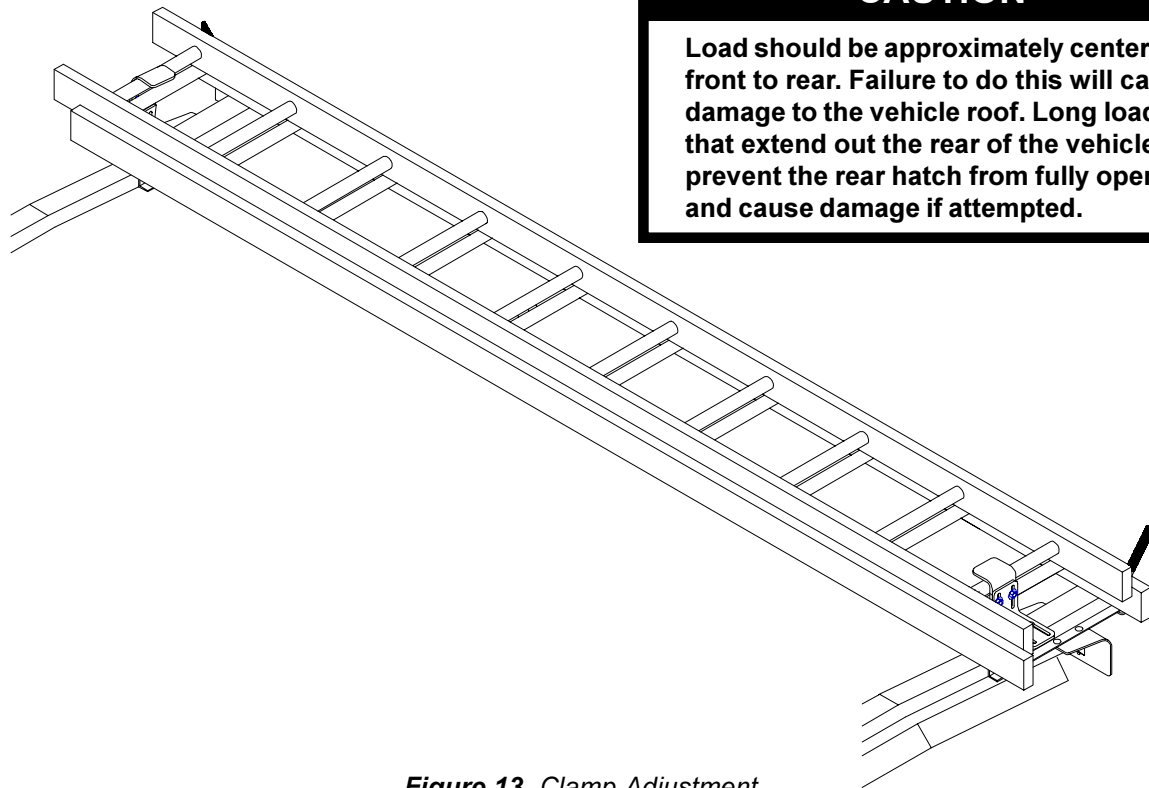
This application will be needed for Dead-head ladders and some Step ladders.



5/16-18 x 7/8" Carriage Bolt



**Figure 12. Front DS Clamp**



**CAUTION**  
 Load should be approximately centered front to rear. Failure to do this will cause damage to the vehicle roof. Long loads that extend out the rear of the vehicle will prevent the rear hatch from fully opening and cause damage if attempted.

Figure 13. Clamp Adjustment

9. Assemble the Ladder Guides through the slots of the Crossmembers and slide up to the ladder. Tighten the Fasteners.

**CAUTION**  
 To keep debris out of your eyes when drilling, always wear protective eyewear.

**WARNING**  
 Ladders must be secured per ANSI standard A142.2-1990 paragraph 8.4.4. Ladder damage will occur from road shock and vehicle vibration if the ladder is not properly secured to the ladder rack. Bouncing and side to side motion of an improperly secured ladder will cause wear and weaken the ladder. Using a damaged ladder could lead to a structural collapse and could result in a serious injury or death.

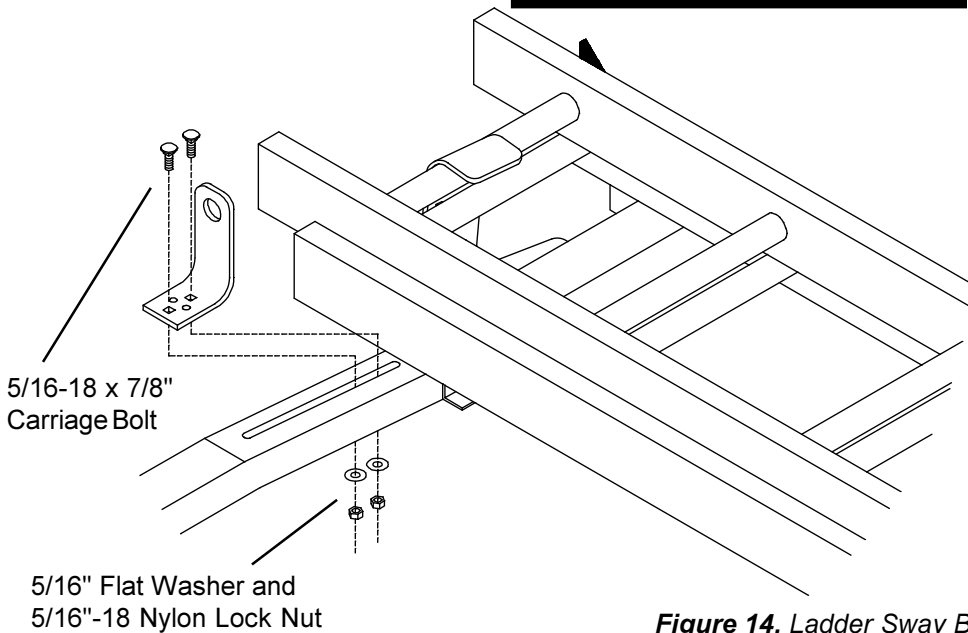


Figure 14. Ladder Sway Brace

## WEATHER GUARD® PRODUCT REFINISHING PROCEDURES

All WEATHER GUARD® products are finished with a polyester powder coating, and it is important to follow these procedures to get proper adhesion. As Knaack Manufacturing Co. cannot control the finishing of the products, the warranty for WEATHER GUARD® products on paint is not applicable on refinished products.

**1.** Sand the surface to be painted with 180-200 grit sand paper to rough up the surface. This should be followed by wet sanding with a 400 grit wet or dry paper.

**2.** Wipe down the sanded surface with ketone based thinner. This removes the dust and softens the powder coating for better paint adhesion.

**3.** Wipe sanded area with a tack rag to remove loose dust and particles before painting.

**NOTE: Do not use a lacquer over the powdered coating.**