

31350-1

Pivot Mount

For 2-Stage Tailgate Spreaders

Ford F-250/350/450

2017-__

Installation Instructions

⚠ CAUTION

Read this document before installing or
operating the spreader.

SAFETY

SAFETY DEFINITIONS

⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

⚠ CAUTION

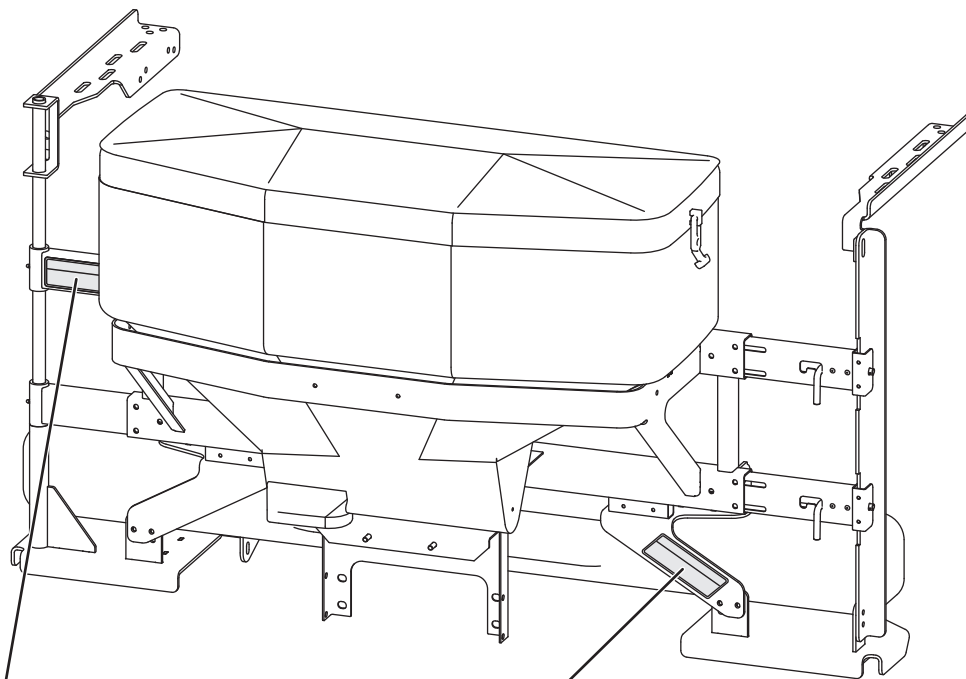
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTE: Indicates a situation or action that can lead to damage to your spreader and vehicle or other property. Other useful information can also be described.

WARNING/CAUTION LABELS

Become familiar with and inform users about the warning and caution labels on the spreader and pivot mount.

NOTE: If labels are missing or cannot be read, see your sales outlet.



SAFETY

SAFETY PRECAUTIONS

⚠ WARNING

- Driver to keep bystanders minimum of 25 feet away from operating spreader.
- Before working with the spreader, secure all loose-fitting clothing and unrestrained hair.
- Before operating the spreader, verify that all safety guards are in place.
- Before servicing the spreader, wait for conveyor, auger, and spinner to stop.
- Do not climb into or ride on spreader.

⚠ WARNING



Overloading could result in an accident or damage. Do not exceed GVWR or GAWR ratings as found on the driver-side vehicle door cornerpost. See Loading section to determine maximum volumes of spreading material.

⚠ WARNING

Do not install the control for this product in the deployment path of an air bag. Refer to vehicle manufacturer's manual for air bag deployment area(s).

⚠ CAUTION

If rear directional, CHMSL light, or brake stoplights are obstructed by the spreader, the lights shall be relocated, or auxiliary directional or brake stoplights shall be installed.

⚠ CAUTION

During the hopper installation we recommend the addition of an OSHA compliant Backup Alarm. This alarm is required for OSHA governed employers.

⚠ CAUTION

- Do not operate a spreader in need of maintenance.
- Before operating the spreader, reassemble any parts or hardware removed for cleaning or adjusting.
- Before operating the spreader, remove materials such as cleaning rags, brushes, and hand tools from the spreader.
- Before operating the spreader, read the engine owner's manual, if so equipped.
- While operating the spreader, use auxiliary warning lights, except when prohibited by law.
- Tighten all fasteners according to the Torque Chart. Refer to Torque Chart for the recommended torque values.

⚠ CAUTION

Disconnect electric and/or hydraulic power and tag out if required before servicing or performing maintenance.

⚠ CAUTION



DO NOT leave unused material in hopper. Material can freeze or solidify, causing unit to not work properly. Empty and clean after each use.

NOTE: Lubricate grease fittings after each use. Use a good quality multipurpose grease.

PERSONAL SAFETY

- Remove ignition key and put the vehicle in PARK or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or spreader.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from battery acid, gasoline, dirt, and dust.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher rated BC handy, for flammable liquids and electrical fires.

SAFETY

FIRE AND EXPLOSION

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away from sources of heat or flame.

CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate Mobile Communication Equipment such as cell phones, text messaging devices, pagers, or two-way radios.

VENTILATION

⚠ WARNING

Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.

BATTERY SAFETY

⚠ CAUTION

Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

- Batteries contain sulfuric acid, which burns skin, eyes, and clothing.
- Disconnect the battery before removing or replacing any electrical components.

NOISE

Airborne noise emission during use is below 70 dB(A) for the spreader operator.









VIBRATION

Operating spreader vibration does not exceed 2.5 m/s² to the hand-arm or 0.5 m/s² to the whole body.

TORQUE CHART

⚠ CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching spreader, including proper personal protective safety equipment.

Recommended Fastener Torque Chart					
Inch Fasteners Grade 5 and Grade 8					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995
Metric Fasteners Class 8.8 and 10.9					
Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701
These torque values apply to fasteners except those noted in the instructions.					

LOADING

These installation instructions cover vehicles that have been recommended for carrying the hopper spreader. Please see your local dealer for proper vehicle applications.

⚠ WARNING

Overloading could result in an accident or damage. Do not exceed GVWR or GAWR as found on the driver-side cornerpost of vehicle.

CERTIFICATION

⚠ WARNING

New untitled vehicle installation of a spreader requires National Highway Traffic Safety Administration altered vehicle certification labeling. Installer to verify that struck load of snow or ice control material does not exceed GVWR or GAWR rating label and complies with FMVSS.

⚠ CAUTION

Never use wet materials or materials with foreign debris with any of these spreaders. These units are designed to handle dry, clean, free flowing material.

⚠ CAUTION



Read and adhere to manufacturer's ice-control material package labeling, including Safety Data Sheet requirements.

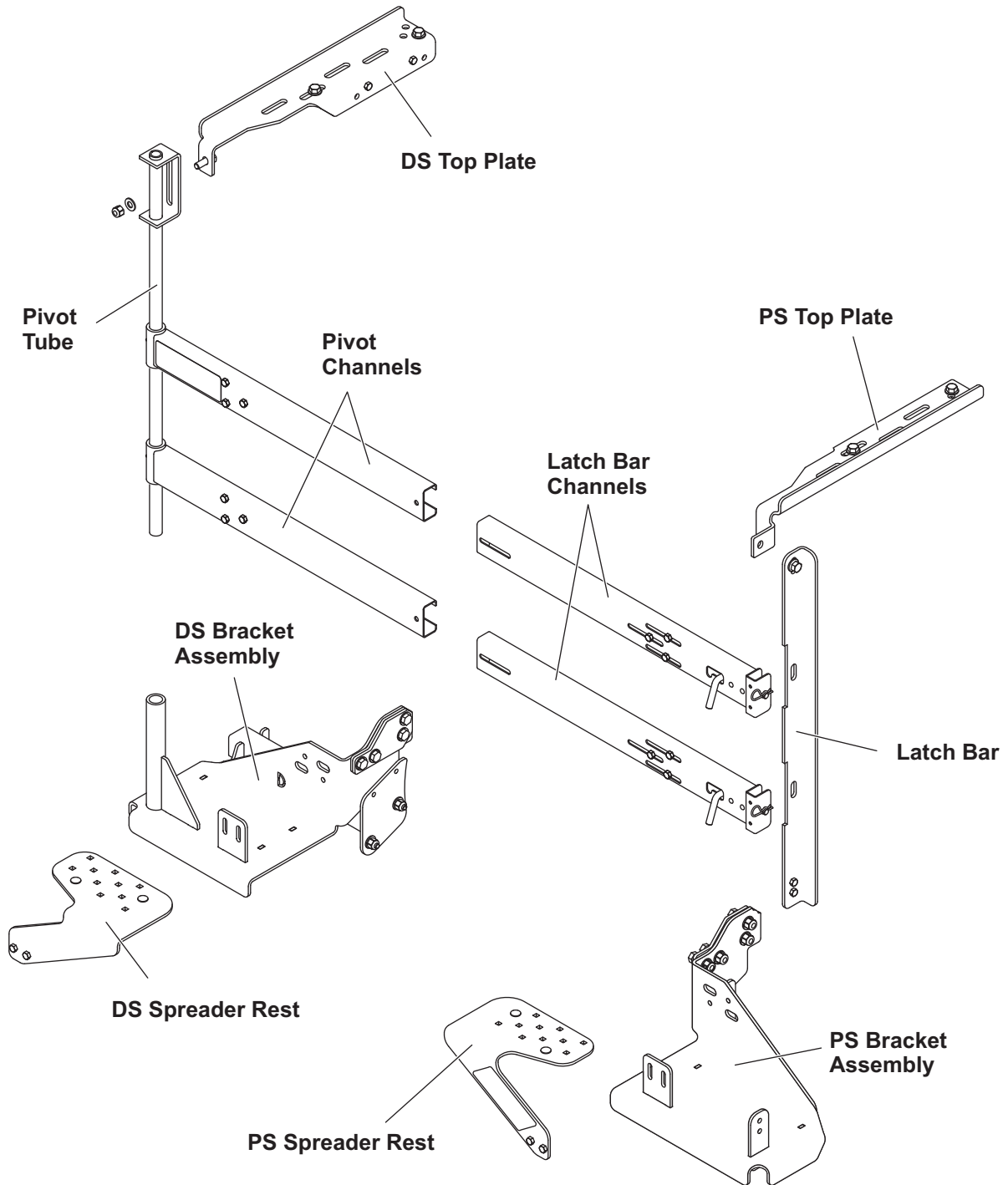
MATERIAL WEIGHTS

Material	Density		
	(lb/ft ³)	(lb/yd ³)	(kg/m ³)
Salt	80	2160	1282
Sand	100	2700	1602

Material densities are approximate and are based on dry, loose material. It is the responsibility of the operator to know the weight of the material to be spread and the vehicle carrying capacity.

PIVOT MOUNT INSTALLATION

31350-1 PIVOT MOUNT KIT COMPONENTS



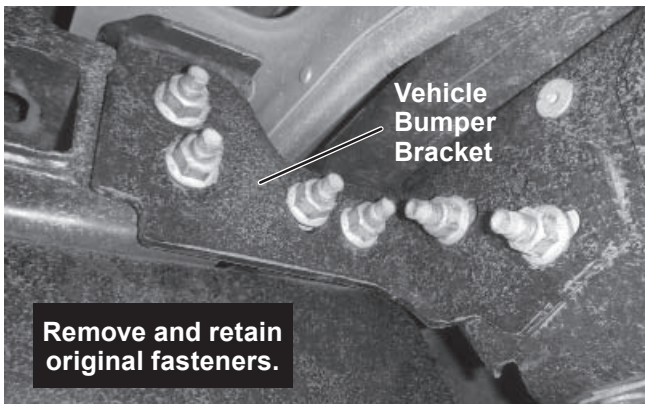
PIVOT MOUNT INSTALLATION

INSTALLATION INSTRUCTIONS

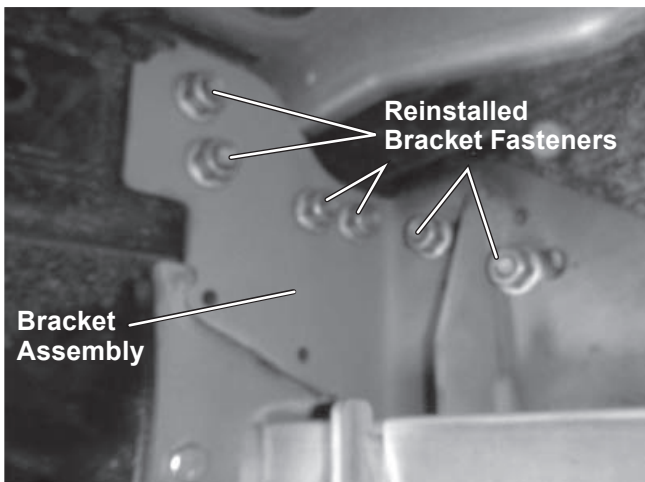
Park the vehicle on a level surface. Place the shift lever in PARK or NEUTRAL and set the parking brake. Turn the engine OFF and remove the key from the ignition.

Bracket Assembly Installation

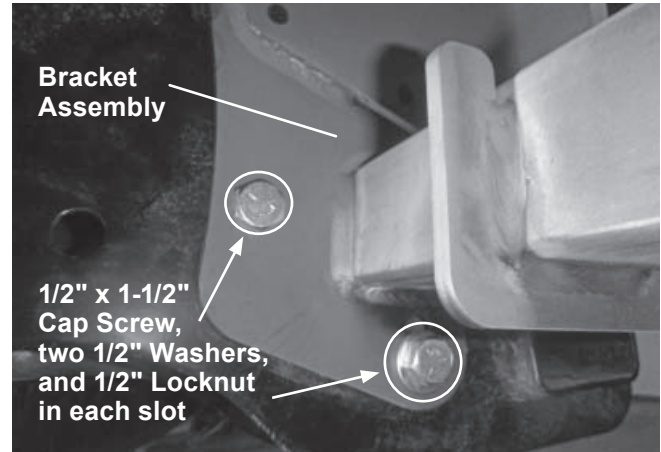
1. Starting on the driver's side of the vehicle, remove the rear bumper bracket. Retain the original fasteners for reinstallation.



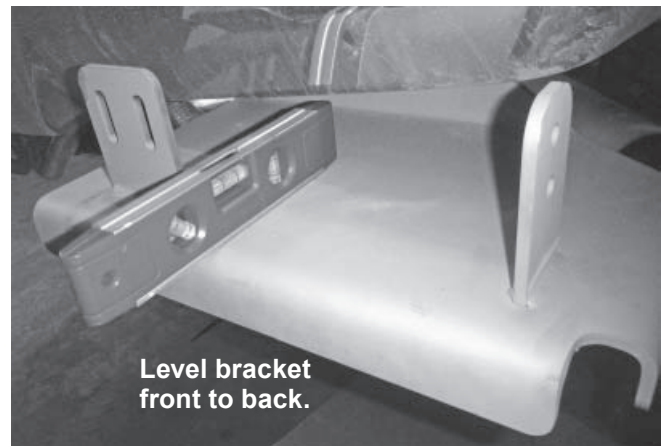
2. Position the pivot mount driver-side bracket assembly in place of the original bumper bracket. Use the fasteners retained in Step 1 to install the bracket assembly to the vehicle frame and bumper.



3. Install a 1/2" x 1-1/2" cap screw with 1/2" washer in each of the lower slots of the bracket assembly. Add a second washer and a 1/2" locknut on each cap screw, and hand tighten.



4. Repeat Steps 1 and 2 on the passenger's side.
5. Level the passenger-side bracket assembly front to back. Tighten the bracket fasteners until snug enough to hold the bracket in level position.



PIVOT MOUNT INSTALLATION

- Level the passenger-side bracket assembly side to side. Check that the bracket is still level front to back. Hand tighten the fasteners.

It may be necessary to use one of the spacer plates provided to achieve proper leveling of the bracket. If spacer plates are needed, see the Spacer Plate Installation section. If the bracket can be leveled without the use of spacer plates, continue to the next step.



- Repeat Steps 5 and 6 to level the driver-side bracket assembly.

It may be necessary to use one or more of the spacer plates provided to achieve proper leveling of the bracket. If spacer plates are needed, see the Spacer Plate Installation section. If the bracket can be leveled without the use of spacer plates, continue with the next step.

- Check that the two bracket assemblies are also level with each other. If a sufficiently long level is not available, use a long straight bar to span the distance between the brackets and set the level on the bar.

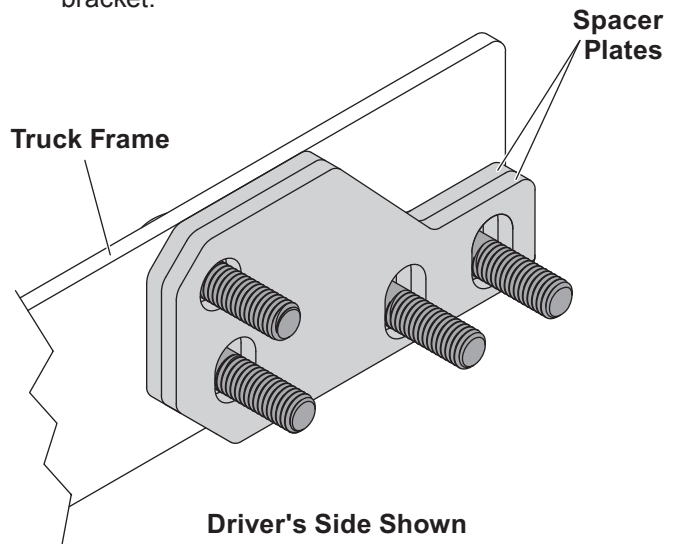
Adjust the height of one or both brackets as needed, making sure to keep the individual brackets level front to back and side to side.

- Tighten all the bracket fasteners according to the torque chart.

Spacer Plate Installation

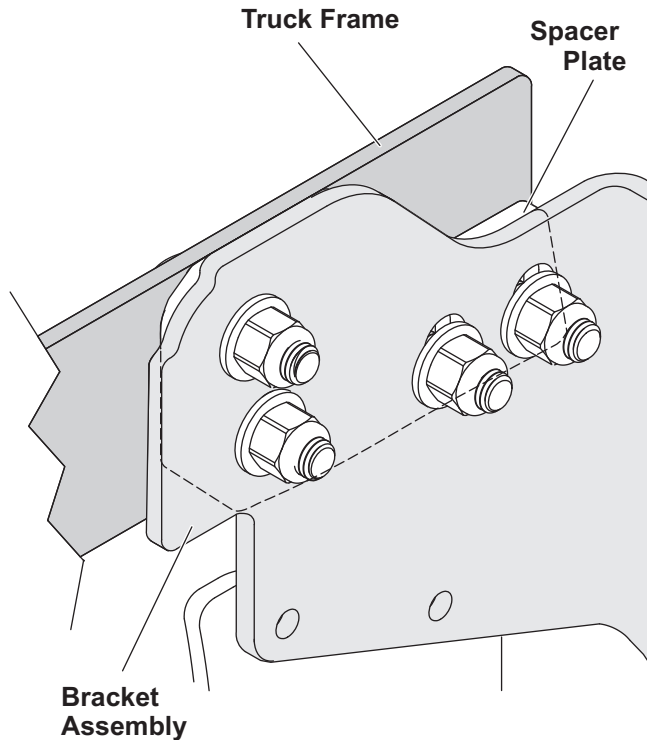
Driver's Side

- Remove the spare tire from under the vehicle to gain access to the frame. (See vehicle owner's manual for more information.)
- Remove the rear bed bolt for wrench clearance in the frame.
- Remove the OEM fasteners from the keepers on the frame. Retain the fasteners for reinstallation in case the pivot mount kit is removed.
- Place 1/2" washers on four 1/2" x 2" G8 cap screws. Install the fasteners through the frame from the inside out.
- Install a spacer plate over the fasteners installed in Step 4. Use one or two spacer plates as necessary to achieve proper leveling of the bracket.



PIVOT MOUNT INSTALLATION

- Position the pivot mount driver-side bracket assembly in place of the original bumper bracket. Install the bracket assembly to the vehicle frame by securing the fasteners installed in Step 4 with 1/2" washers and 1/2" locknuts.



Driver's Side Shown

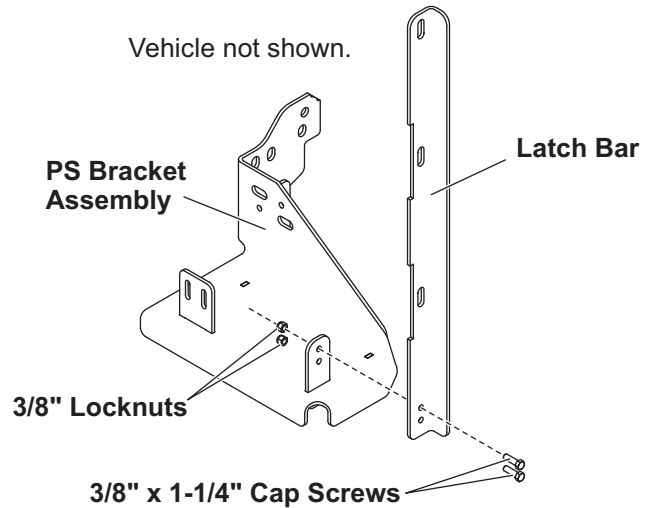
- Continue with Steps 3–9 of Bracket Assembly Installation.

Passenger's Side

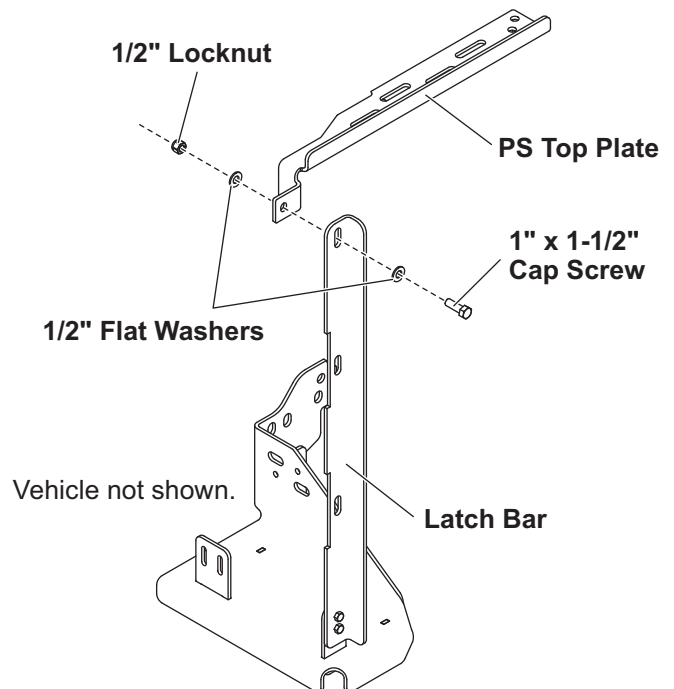
- Follow Steps 1–8 above to install a spacer plate on the passenger's side, using only one spacer plate in Step 5.
- After completing installation of both bracket assemblies, be sure to reinstall the bed bolts, and reinstall the spare tire under the vehicle.

Latch Bar, Top Plates, and Pivot Tube

- Install the latch bar to the vertical tab on the passenger-side bracket assembly using two 3/8" x 1-1/4" cap screws and 3/8" locknuts as shown. Tighten fasteners until snug.

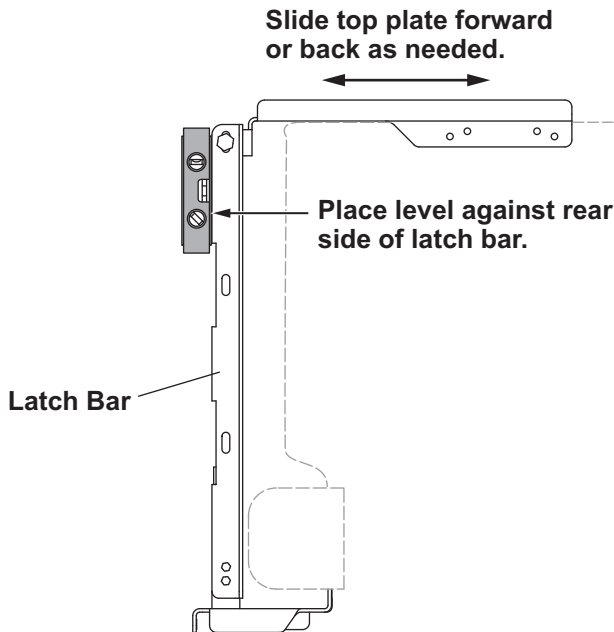


- Install the passenger-side top plate to the latch bar using a 1/2" x 1-1/2" cap screw, two 1/2" washers, and a 1/2" locknut as shown below. Make sure the top plate rests on top of the vehicle bed rail and against the inner lip of the bed rail. Hand tighten the fasteners.



PIVOT MOUNT INSTALLATION

- Use a level to confirm that the latch bar is vertical. If it is not, shift the top plate forward or backward along the bed rail until the latch bar is vertical. Clamp the top plate in position on the bed rail.



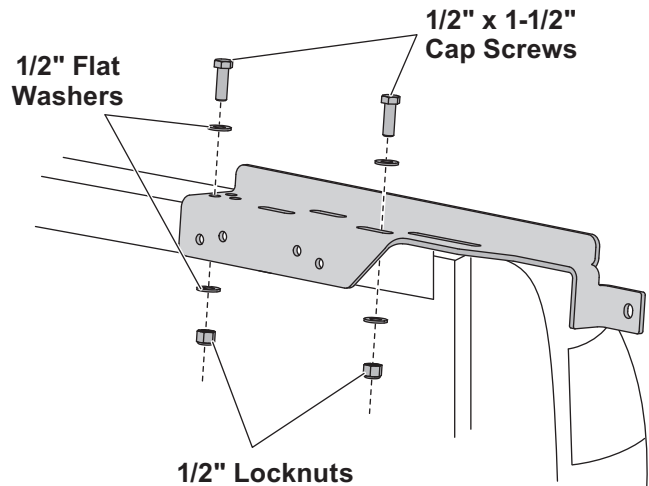
⚠ CAUTION

Before drilling holes, check to be sure that no vehicle wiring or other components could be damaged.

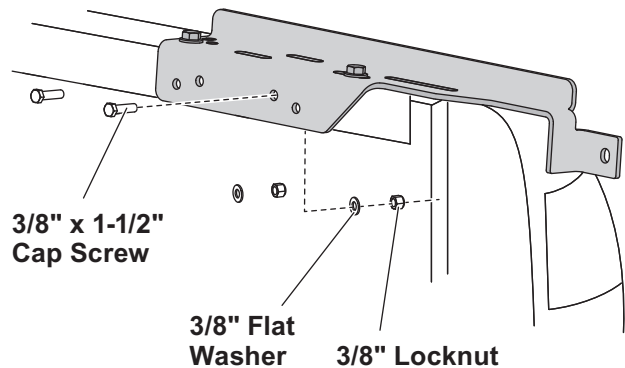
- Using one of the three existing 1/2" holes in the top plate as a guide, drill a 1/2" hole through the bed rail. Choose one of the large slotted holes as a guide for drilling a second 1/2" hole as far away as possible from the first drilled hole.

NOTE: Pay special attention when drilling or clamping dissimilar metals to aluminum bodies. Galvanic corrosion can occur if not handled properly. Contact vehicle manufacturer for recommended attachment practices.

- Install the top plate to the bed rail using 1/2" x 1-1/2" cap screws, 1/2" washers, and 1/2" locknuts as shown below. Hand tighten.

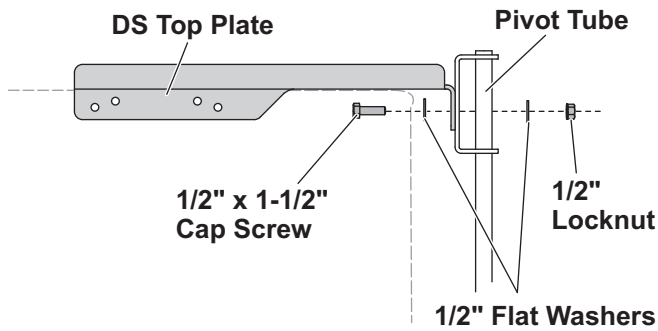


- Using two of the four existing 3/8" holes on the inner face of the top plate as a guide, drill two 3/8" holes through the inner lip of the bed rail.
- Install 3/8" x 1-1/2" cap screws through the holes drilled in Step 6. Add 3/8" washers and 3/8" locknuts, and hand tighten the fasteners.

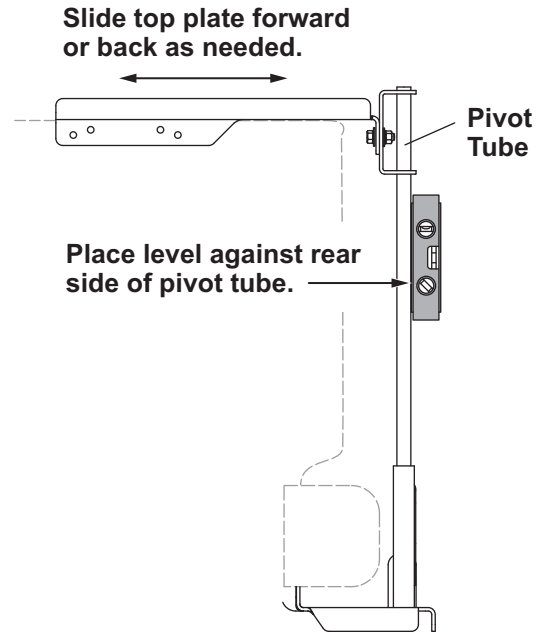


PIVOT MOUNT INSTALLATION

- Tighten all the hardware installed in Steps 1–7 according to the torque chart. Remove the clamp installed in Step 3.
- Insert the pivot tube into the boss on the driver-side bracket assembly. Install the driver-side top plate to the upper end of the pivot tube assembly using a 1/2" x 1-1/2" cap screw, two 1/2" washers, and a 1/2" locknut as shown below, making sure the top plate rests on top of the vehicle bed rail and against the inner lip of the rail. Hand tighten.



- Use a level to confirm that the pivot tube is vertical. If it is not, shift the top plate forward or backward along the bed rail until the pivot tube is vertical. Clamp the top plate in position on the bed rail.



⚠ CAUTION

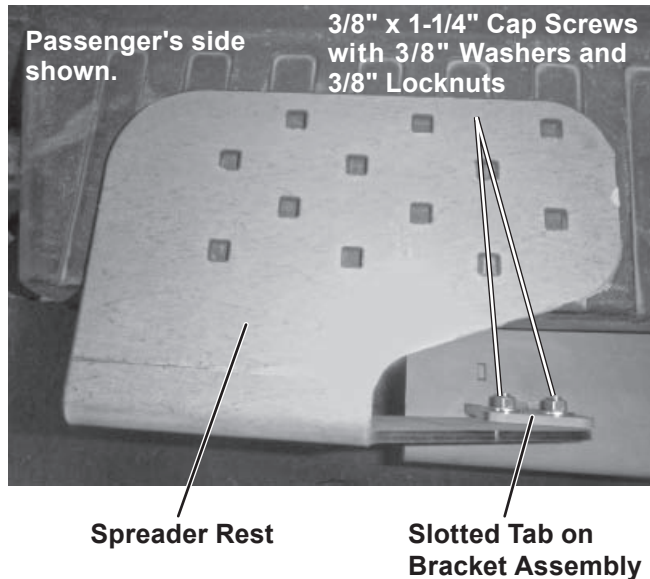
Before drilling holes, check to be sure that no vehicle wiring or other components could be damaged.

- Repeat Steps 4–8 to drill mounting holes and install the driver-side top plate to the bed rail.

PIVOT MOUNT INSTALLATION

Spreader Rests

1. Install the driver-side and passenger-side spreader rests to the slotted vertical tabs on their corresponding bracket assemblies using two 3/8" x 1-1/4" cap screws, 3/8" washers, and 3/8" locknuts per side. Do not tighten the fasteners yet.



2. Push the spreader rests down until they contact the vehicle bumper. Tighten the spreader rest fasteners according to the torque chart.

3. Choose two of the existing holes in the passenger-side spreader rest to use for additional fastener locations. The holes should be as far apart as possible. Check for any obstructions and make sure that there is socket/wrench clearance under the bumper in the selected hole locations.

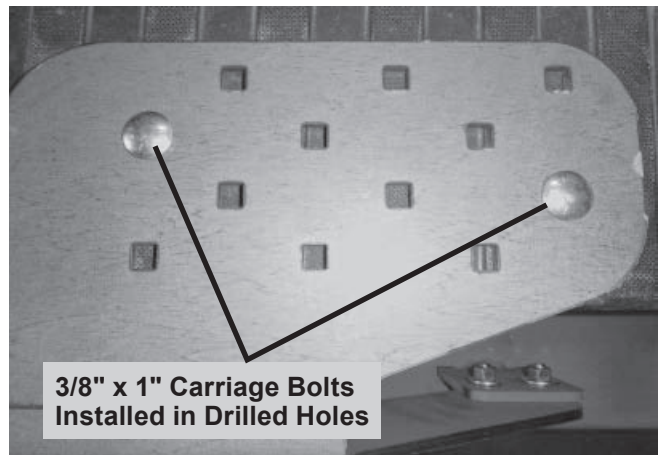
⚠ CAUTION

Before drilling holes, check to be sure that no vehicle wiring or other components could be damaged.

4. Use the selected spreader rest holes as guides for drilling 3/8" holes through the bumper.

NOTE: Pay special attention when drilling or clamping dissimilar metals to aluminum bodies. Galvanic corrosion can occur if not handled properly. Contact vehicle manufacturer for recommended attachment practices.

5. Insert two 3/8" x 1" carriage bolts through the holes drilled in Step 4. Secure with 3/8" washers and 3/8" locknuts, and tighten according to the torque chart.

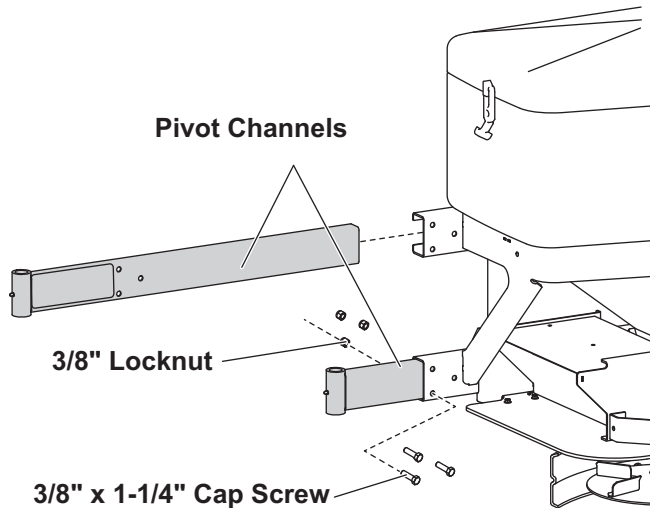


6. Repeat Steps 3–5 on the driver's side of vehicle.

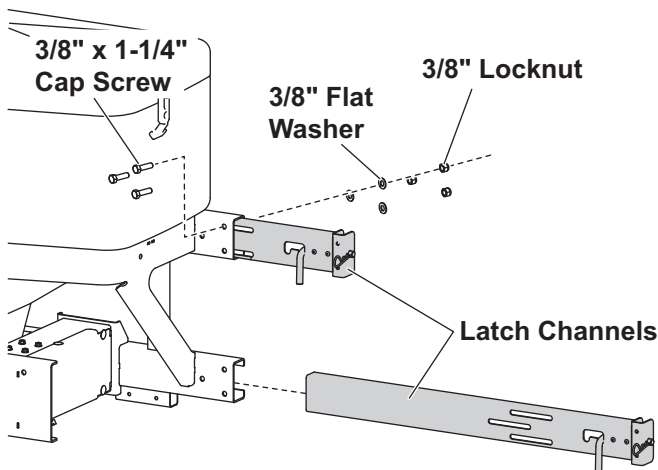
PIVOT MOUNT INSTALLATION

Pivot Channels and Latch Channels

1. Slide the pivot channels into the spreader frame on the driver's side as shown below. Install each pivot channel to the frame using three 3/8" x 1-1/4" cap screws and 3/8" locknuts. Hand tighten the fasteners.



2. Slide the latch channels into the spreader frame on the passenger's side. Install each latch channel to the frame using three 3/8" x 1-1/4" cap screws, 3/8" flat washers, and 3/8" locknuts. Leave the fasteners loose for now.



NOTE: The latch channels are slotted to allow for width adjustment of the pivot mount. To ensure a tight channel-to-frame connection, the supplied flat washers must be used with the fasteners installed in these mounting slots.

3. Remove and retain the fasteners holding the pivot tube to the driver-side top plate. Lift the pivot tube out of driver-side bracket boss and slide it through the sockets on the pivot channels.
4. Lift the spreader assembly into place on the vehicle and reinsert the pivot tube into the boss on the driver-side bracket assembly.
5. Reinstall the pivot tube to the top plate using the retained 1/2" fasteners and tighten according to the torque chart.
6. Pivot the spreader assembly toward closed position. Adjust total width of the mount assembly by sliding the latch channels in or out until the brackets on the ends of the channels align with the latch bar. Tighten the 3/8" fasteners according to the torque chart.
7. Lift and slide the latch lock pins into place.

Check that all fasteners are tightened according to the torque chart.

The company reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. This equipment manufacturer or the vehicle manufacturer may require or recommend optional equipment for spreaders. Do not exceed vehicle ratings with a spreader. The company offers a limited warranty for all spreaders and accessories. See separately printed page for this important information.

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