

# **UNDER-FRAME MOUNT**

## **For Single- and Two-Stage Tailgate Spreaders**

**Ford F-150/F-250LD**

**1997 - 03**

**Ford Heritage F-150**

**2004**

### **Installation Instructions**

The under-frame mount is recommended for use on the following vehicles with an 8 foot box:  
1997 - 03, Heritage 2004 Ford F-150, and 1997 - 03, Heritage 2004 F-250LD.

This mount is NOT applicable to trucks equipped with a short (6-1/2 foot) box.

**⚠ CAUTION**

**Read Owner's Manual before operating or servicing 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.

## SAFETY PRECAUTIONS

Park the vehicle on a level surface, place shift lever in PARK or NEUTRAL and set the parking brake. Turn OFF the engine and remove keys.

### **⚠ 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 all safety guards are in place.
- Before servicing the spreader, wait for conveyor or spinner to stop, then lock out power.
- 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.

### **⚠ 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.
- 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.

# SAFETY

## 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.

## 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 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 that can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.**

- **Batteries contain sulfuric acid that 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.

## TORQUE CHART

### **⚠ CAUTION**

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

Recommended Fastener Torque Chart (ft-lb)			
Size	 SAE Grade 2	 SAE Grade 5	 SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	150	378	591
1-8	220	583	893
Metric Grade 8.8 (ft-lb)			
Size	Torque	Size	Torque
M 6	7	M 12	60
M 8	17	M 14	95
M 10	35	M 16	155
These torque values apply to fasteners except those noted in the instruction.			

## WEIGHT/LOADING RESTRICTIONS

These instructions cover vehicles recommended for carrying the spreader. Please see your sales outlet for proper vehicle applications.

### ⚠ WARNING

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

### 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.

### CLASS IV RECEIVER HITCH

The following table contains information regarding the Class IV receiver hitch.

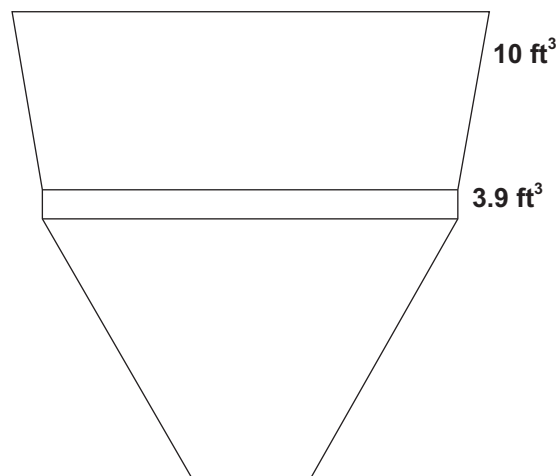
Hitch Type	Max. Gross Trailer Wt. (lb)	Max. Tongue Wt. (lb)
Weight Distributing	10,000	1,000
Weight Carrying Ball Mount	10,000	1,000

### APPROXIMATE MATERIAL WEIGHTS

#### ⚠ CAUTION

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

Material	Density (lb per cubic ft)
Very Coarse Salt	35
Coarse Salt	45
Fine Salt	50
Sand	95



Salt = 40 lb/ft<sup>3</sup> (Average)  
 10 ft<sup>3</sup> x 40 lb/ft<sup>3</sup> = 400 lb

Sand = 95 lb/ft<sup>3</sup>  
 10 ft<sup>3</sup> x 95 lb/ft<sup>3</sup> = 950 lb

# UNDER-FRAME MOUNT INSTALLATION

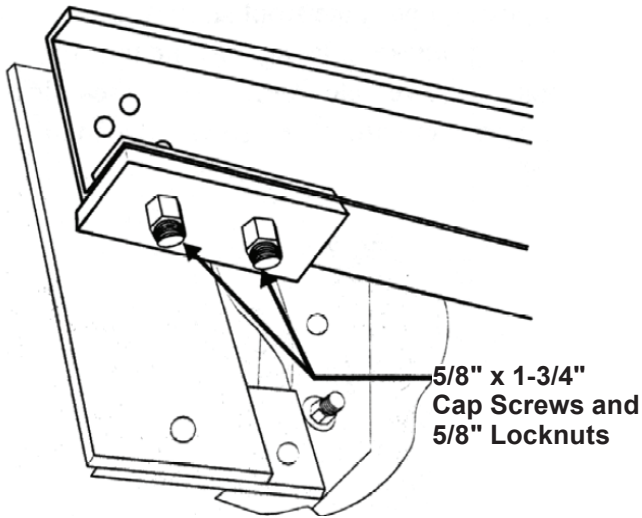
## REAR BRACKETS INSTALLATION

**NOTE:** Remove any existing after-market equipment that may interfere with the installation of this product according to these instructions.

**NOTE:** Install all fasteners finger tight until assembly is complete. Then tighten according to the Torque Chart.

All views are shown from the driver's side of the vehicle.

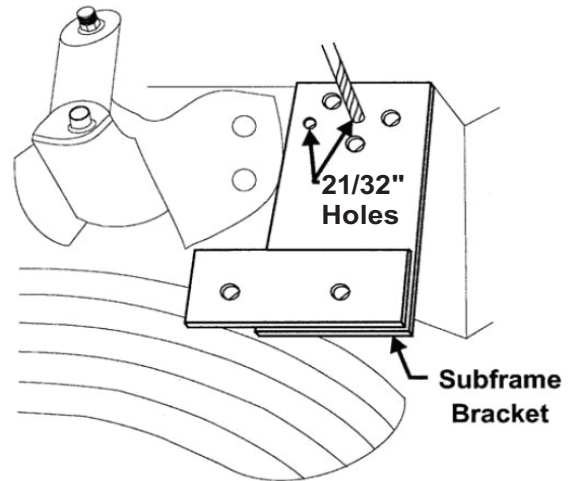
1. Position the rear subframe brackets to the frame rails and align the holes in the lower frame flange. Temporarily install 5/8" x 1-3/4" cap screws through the backing plates, vehicle frame and the rear mount brackets. Secure with 5/8" locknuts.



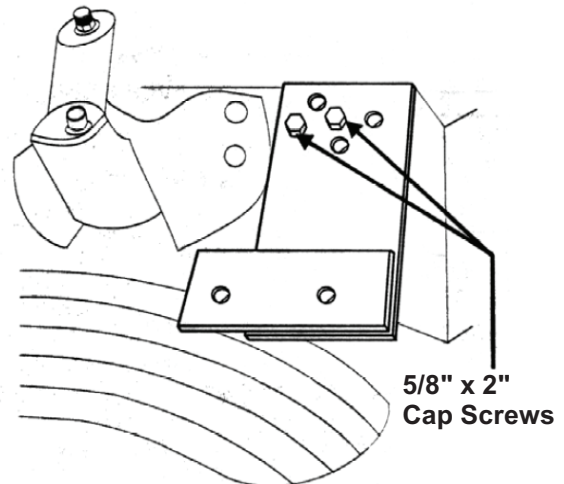
### **⚠ CAUTION**

Use caution not to pinch, cut or drill through any wires or hoses running along the frame rails.

2. Using rear subframe brackets as templates, drill two 21/32" holes through the side of the vehicle frame on each side.



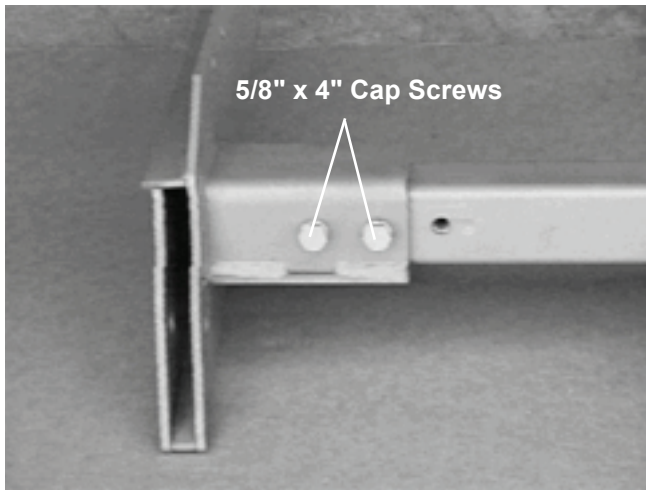
3. Install two 5/8" x 2" cap screws through mount bracket and vehicle frame from the outside on each side. Retain with 5/8" locknuts.



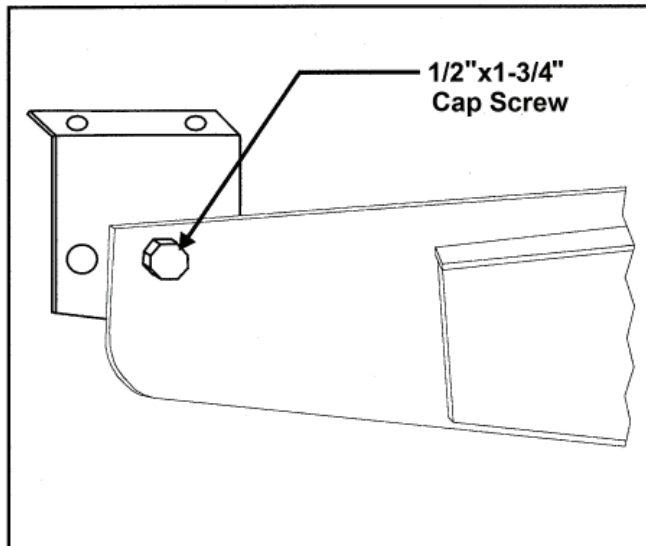
# UNDER-FRAME MOUNT INSTALLATION

## SUBFRAME ASSEMBLY

1. Insert receiver hitch into subframe mounts to first position (widest) and align bolt holes (four per side).
2. Install two 5/8" x 4" caps screws per side (four total) with two washers per fastener (one washer under the cap screw and one washer under the nut).

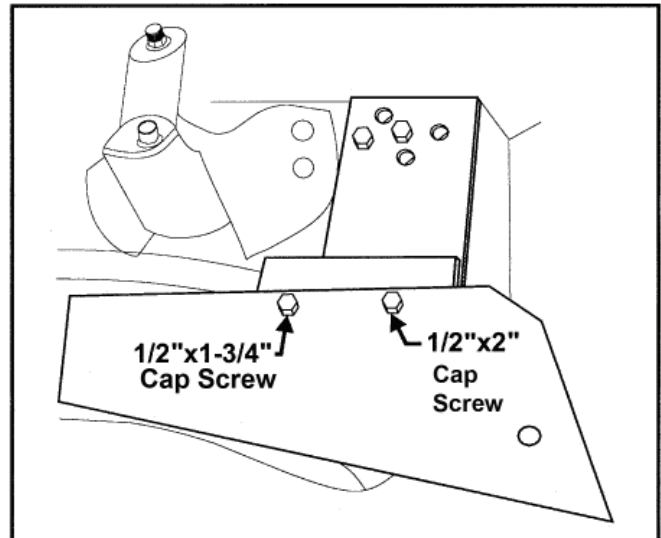


3. Install the front mount brackets to the inside of the subframe assembly. Retain with one 1/2" x 1-3/4" cap screw and 1/2" locknut.



## SUBFRAME ASSEMBLY INSTALLATION

1. Position the assembled subframe under the truck outside of the two rear subframe brackets.
2. Install two 1/2" x 1-3/4" cap screws in the front hole of the rear brackets, and two 1/2" x 2" cap screws in the rear holes of the rear brackets. Secure with 1/2" locknuts.



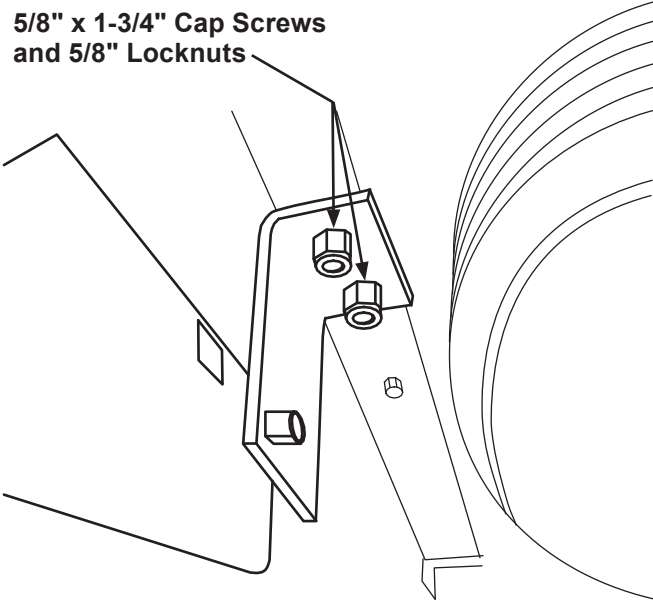
3. Swing the front of the subframe assembly up into position with the front subframe mounting brackets flat against the bottom flange of the vehicle frame. Align the holes in the bracket with the existing holes in the frame.



# UNDER-FRAME MOUNT INSTALLATION

4. Install four 5/8" x 1-3/4" cap screws from the top down through the backing plates, frame and the front bracket. Retain with 5/8" locknuts.

5/8" x 1-3/4" Cap Screws  
and 5/8" Locknuts



5. Tighten all fasteners according to the torque chart.

## SECONDARY FRAME ASSEMBLY

1. Position the center secondary frame section between curb- and driver-side frame sections. See Subframe Assembly illustration on page 8.

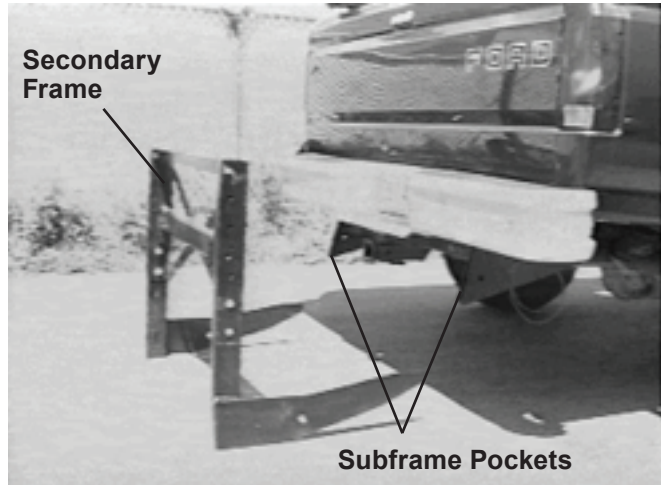
**NOTE: Secondary frame must be assembled with mount bars to the outside of vertical tubes. Top of center section should be approximately six inches above top of vertical tubes. The notch in the top cross member must face rearward.**

**NOTE: Center secondary frame may be assembled three or six inches lower for use with higher trucks.**

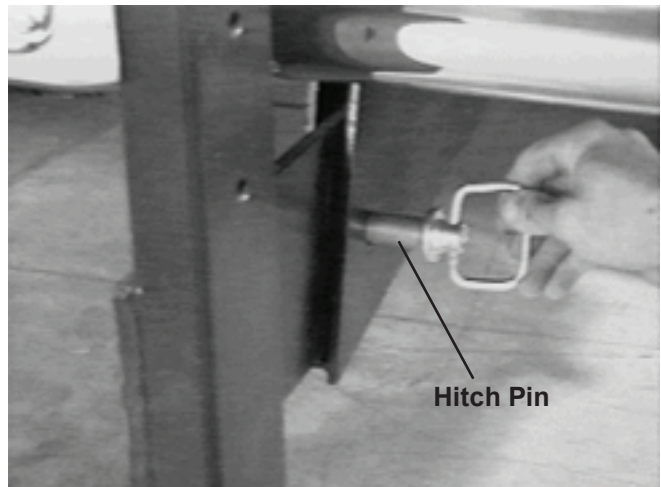
2. Align holes and install six 3/8" x 2-1/2" cap screws through vertical tubes and center section sideplates. Retain with flat washer and locknuts, three on each side.
3. Tighten all fasteners according to the torque chart.

## MOUNTING THE SECONDARY FRAME

1. Position the secondary frame behind the truck and insert the mount bars of the secondary frame into the subframe pockets.



2. Slide the secondary frame into the subframe until the 3/4" holes align.
3. Install two 3/4" hitch pins through the holes in the subframe and the secondary frame.



4. Install a 3/16" linchpin into the hole of each 3/4" hitch pin.

# UNDER-FRAME MOUNT INSTALLATION

## SPREADER INSTALLATION

1. Lift the hopper assembly and tip slightly forward.



2. Position tabs on the hopper assembly over the top of the installed secondary frame assembly and lower the hopper assembly.

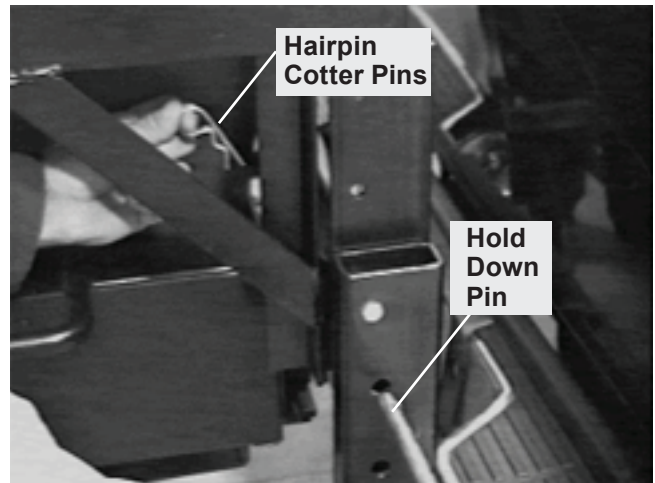


3. Allow hopper assembly to rotate until the bottom contacts secondary frame assembly.

### ⚠ CAUTION

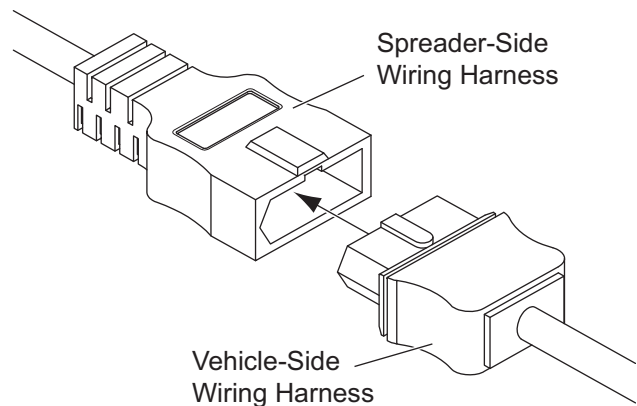
Both hold-down pins must be in place and secured with hairpin cotter pins. The hopper assembly may become unstable if the pins are not properly secured while the vehicle is in motion.

4. Insert hold-down pins on each side and secure with hairpin cotter pins.



**NOTE: Grease the electrical connections using dielectric grease.**

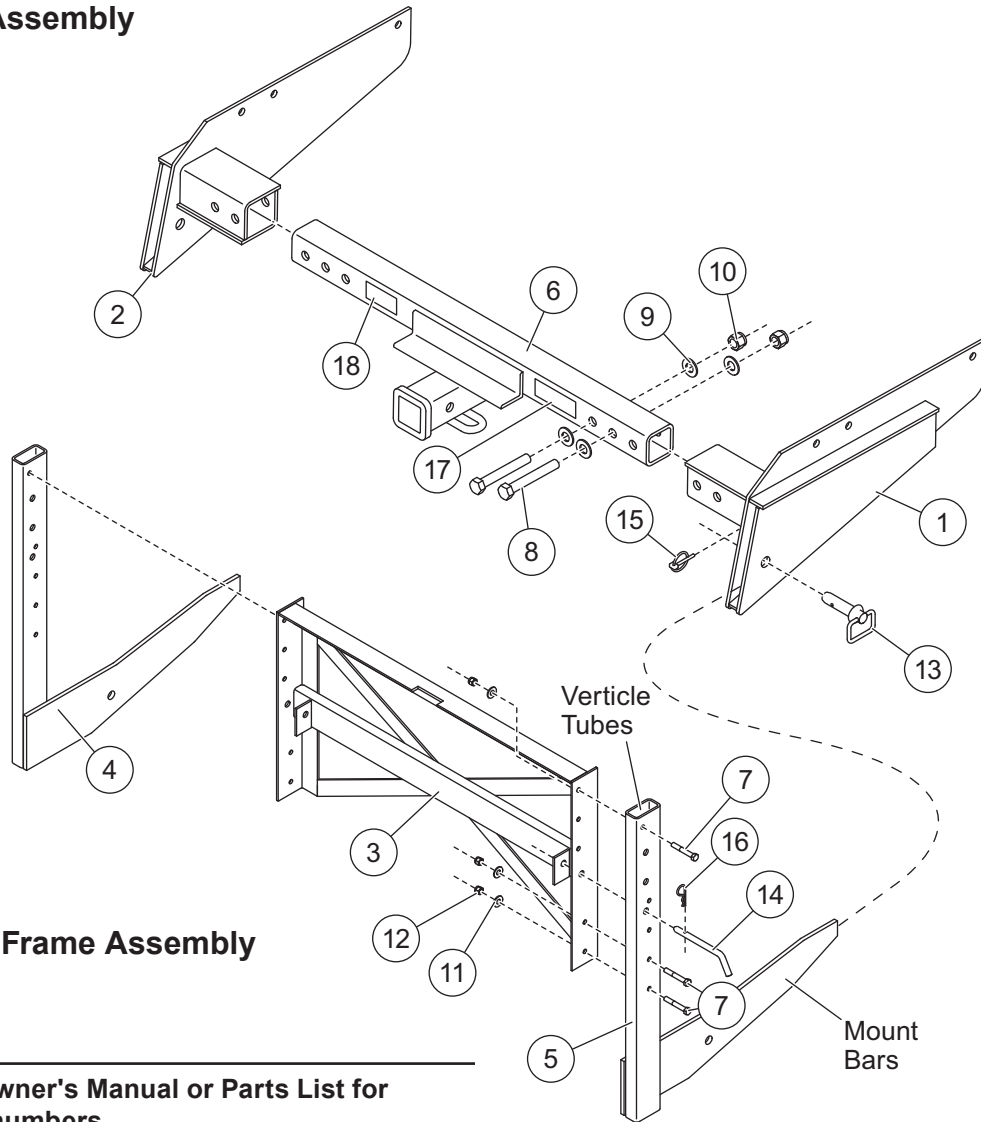
4. Connect spreader-side wiring harness to vehicle-side wiring harness.





# UNDER-FRAME MOUNT INSTALLATION

## Subframe Assembly



## Secondary Frame Assembly

**NOTE: See Owner's Manual or Parts List for service part numbers.**

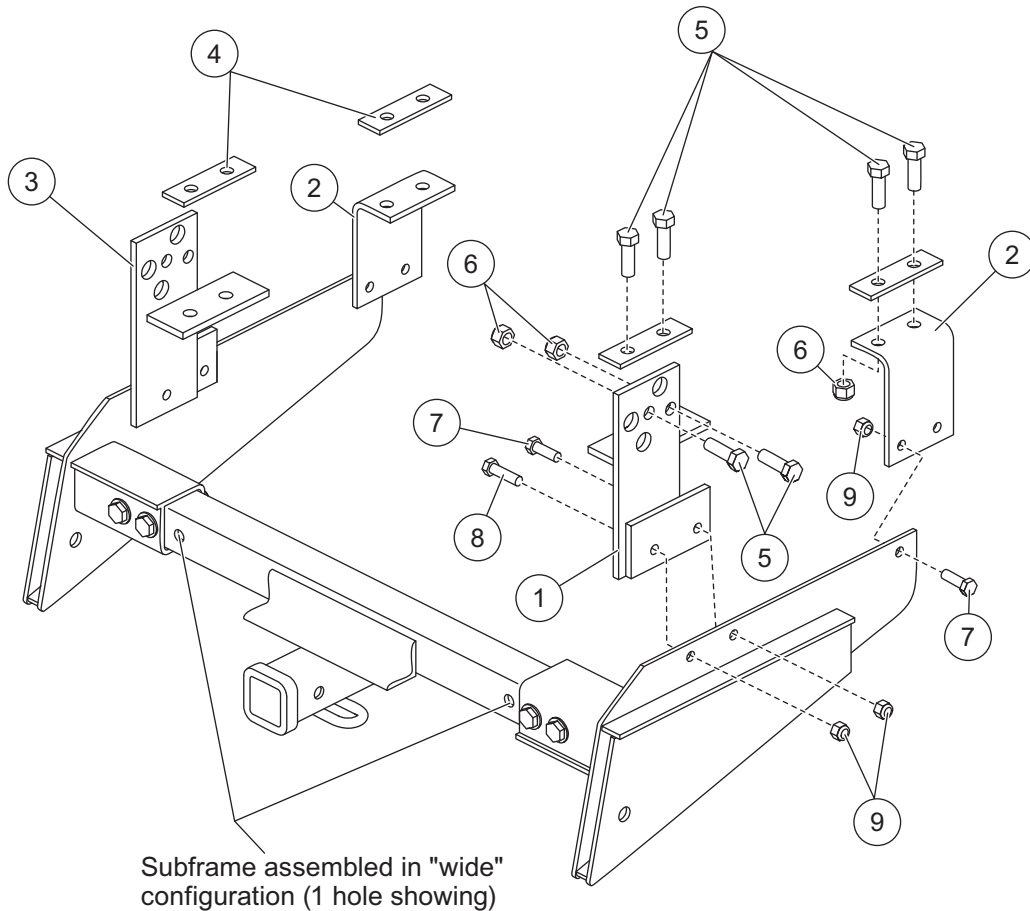
Under-Frame Mount					
Item	Qty	Description	Item	Qty	Description
1	1	Mount Subframe – PS	6	1	Receiver Hitch w/Labels (Incl. Items 17 and 18)
2	1	Mount Subframe – DS	17	1	Label – Information (Warning)
3	1	Secondary Frame – Center	18	1	Label – Information (Rating)
4	1	Secondary Frame	ns	1	Bolt Bag Assembly
5	1	Secondary Frame	<b>Bolt Bag Assembly</b>		
			7	6	3/8-16 x 2-1/2 Cap Screw, G8
			8	4	5/8-11 x 4 Cap Screw, G8
			9	8	5/8 Plain Washer
			10	4	5/8-11 Locknut
			11	6	3/8 Plain Washer
			12	6	3/8-16 Locknut
			13	2	3/4 x 2-3/4 Hitch Pin
			14	2	1/2 x 5-1/2 Pin
			15	2	3/16 Linchpin
			16	2	1/8 Hairpin Cotter

ns = not shown

G = Grade

# ASSEMBLY DIAGRAMS

## Ford Mounts



<b>67450 Ford Under-Frame Mount</b>							
Item	Part	Qty	Description	Item	Part	Qty	Description
1	67457	1	Bracket-Ford-Rear-Passenger-Side	3	67456	1	Bracket-Ford-Rear-Driver-Side
2	67451	2	Bracket-Ford-Front	ns	67458	1	Bolt Bag – 67450
<b>67458 Bolt Bag – 67450</b>							
4	67462	4	Backing Plate	7		4	1/2-13 x 1-3/4 Cap Screw G5
5		12	5/8-11 x 2" Cap Screw G5	8		2	1/2-13 x 2 Cap Screw G5
6		12	5/8-11 Locknut	9	91335	6	1/2-13 Locknut
ns = not shown				G = Grade			



---

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.

**Printed in U.S.A.**