

# **1994 AND LATER DODGE UNDER-FRAME MOUNT INSTALLATION INSTRUCTIONS FOR SINGLE-STAGE AND TWO-STAGE TAILGATE SPREADERS**

The under-frame mount is recommended for use on the following vehicles:  
All 1994 and later long box 1500/2500/2500 HD/3500.  
All 1999 and later short box Dodge Ram 1500/2500 HD

## **⚠ CAUTION**

- **Read Owner's Manual before operating or servicing spreader.**
- **Empty and clean spreader after every use.**



# TABLE OF CONTENTS

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<b>SAFETY</b> .....	<b>1</b>
Safety Definitions .....	1
Safety Procedures .....	1
Battery Safety .....	1
<b>WEIGHT RESTRICTIONS</b> .....	<b>2</b>
<b>TORQUE CHART</b> .....	<b>2</b>
<b>UNDER-FRAME MOUNT INSTALLATION</b> .....	<b>3</b>
Bumper Removal .....	3
Rear Brackets Installation .....	3
Subframe Assembly .....	4
Subframe Assembly Installation .....	5
Secondary Frame Assembly .....	6
Mounting the Secondary Frame .....	6
Hopper Installation .....	7
<b>UNDER-FRAME MOUNT ASSEMBLY DIAGRAM</b> ..	<b>8</b>

# SAFETY

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## SAFETY DEFINITIONS

Read this manual and all spreader labels before installing or operating the spreader.

### WARNING

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

### CAUTION

Indicates a situation that, if not avoided, could result in minor personal injury and/or damage to product or property.

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**NOTE:** Identifies tips, helpful hints, and maintenance information the reader should know.

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## SAFETY PROCEDURES

Observe the following safety procedures before and during the use of the spreader. By following these rules and applying common sense, possible personal injury and potential damage to the machine may be avoided.

### WARNING

Before starting the spreader, the driver shall verify all bystanders are a minimum of 25 feet away from operating spreader.

### 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.
- Empty and clean spreader after every use. Material can freeze or solidify causing unit to not work properly.

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**NOTE:** If the spreader obstructs the view of the license plate, check for any local regulations that may apply.

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### 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.

## 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 battery. When charging or working near a battery, always cover your face and protect your eyes, also provide ventilation.

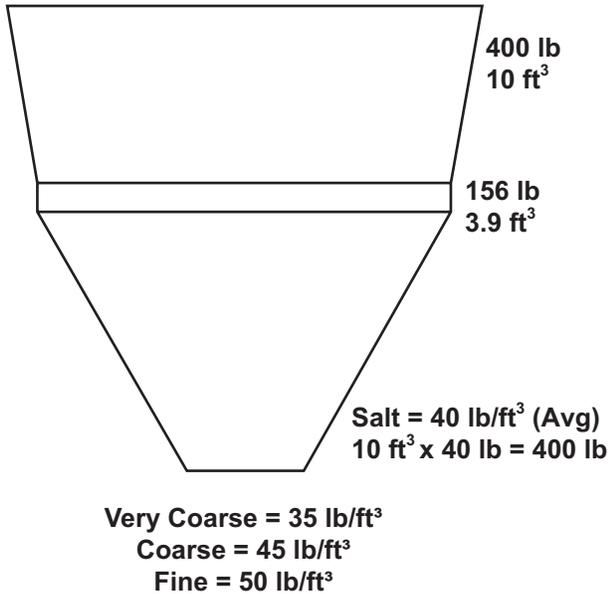
- Batteries contain sulfuric acid that burns skin, eyes and clothing.
- Disconnect the battery before removing or replacing any electrical components.

# WEIGHT RESTRICTIONS

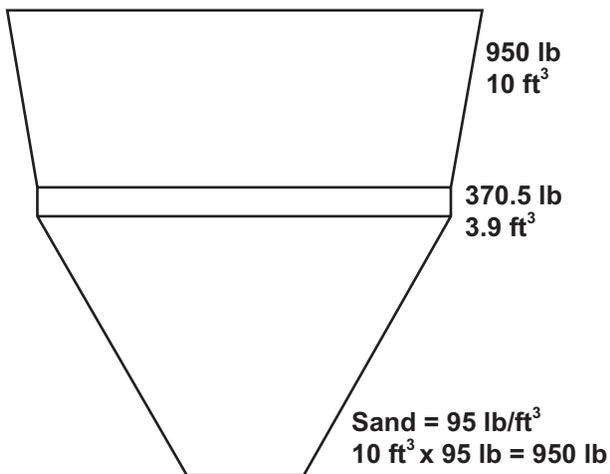
## ⚠ WARNING

Use of under-frame or in-bed mounts on half-ton trucks is restricted to spreading salt or calcium chloride. Do not exceed GVWR or GAWR ratings.

See Figures 1 and 2.



*Figure 1*



*Figure 2*

## ⚠ 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.

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	1000
Weight Carrying Ball Mount	10,000	1000

When tightening fasteners, refer to Torque Chart for the recommended fastener values.

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.			

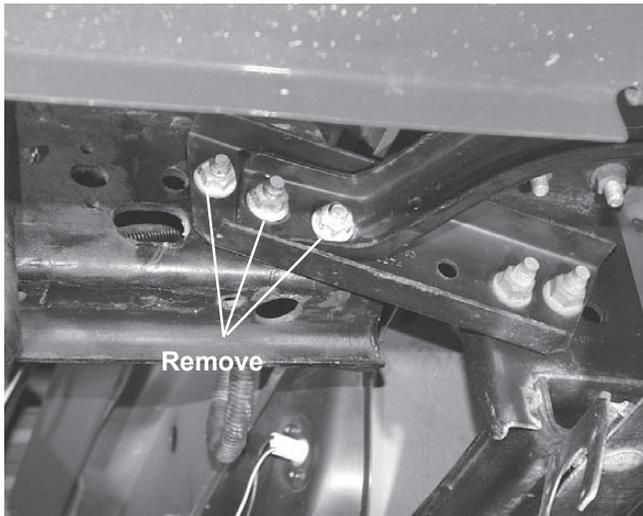
# UNDER-FRAME MOUNT INSTALLATION

## BUMPER REMOVAL

**NOTE:** Remove any existing trailer hitch and other 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.

1. Disconnect license plate light wiring harness at both connectors.
2. Remove six bolts securing bumper mounting brackets to frame (three bolts on each side). (See Figure 3.)

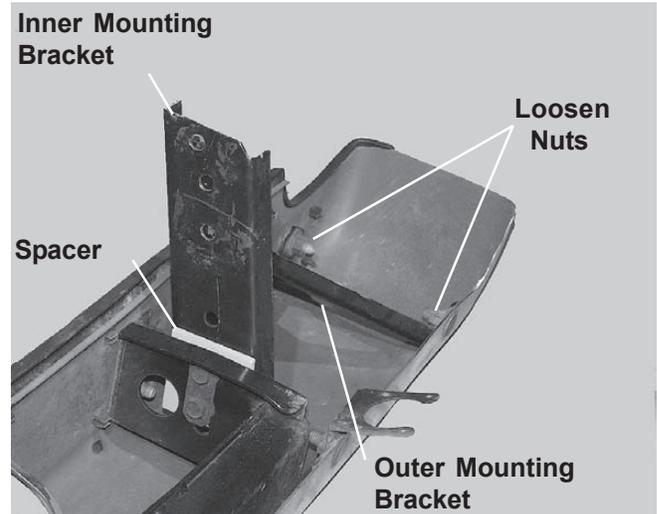


**Figure 3**  
**Driver's Side Shown**

3. Remove bumper and brackets by sliding back.

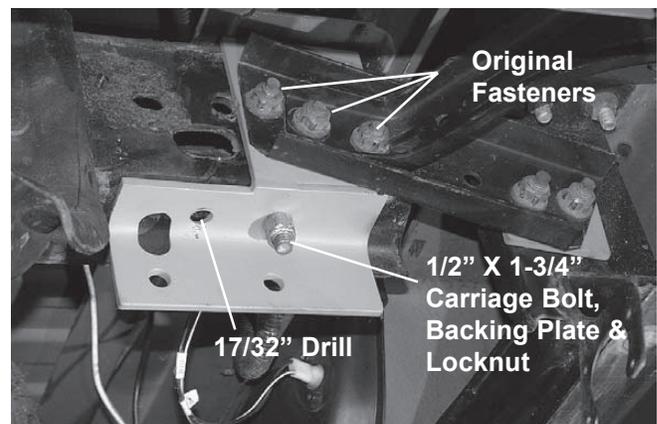
## REAR BRACKETS INSTALLATION

1. Loosen nuts holding the two outer bumper mounting brackets at bumper. (See Figure 4.)
2. Assemble one spacer per side between two inner bumper mounting brackets and bumper. (See Figure 4.)



**Figure 4**

3. Position rear subframe mounting brackets to vehicle frame and align holes. Install one 1/2" x 1-3/4" grade 8 carriage bolt and backing plate with narrow offset toward radius of frame rail from top down through rear-most hole. Retain with 1/2" locknut. (See Figure 5.)
4. Install bumper with bumper brackets outside of subframe mounting brackets. Retain with original bumper mounting fasteners. (See Figure 5.)



**Figure 5**  
**Driver's Side Shown**

(continued on next page)

# UNDER-FRAME MOUNT INSTALLATION

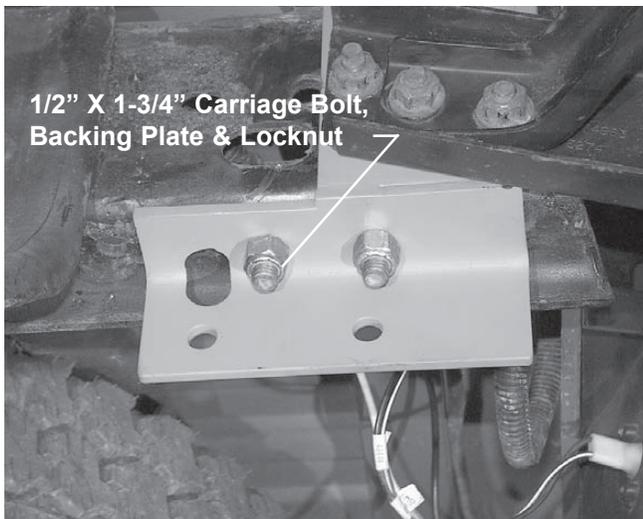
## REAR BRACKETS INSTALLATION - CONTINUED

### ⚠ CAUTION

Before drilling any holes, check both sides of the material for any wires, fuel lines, fuel tanks, etc. that may be damaged by drilling.

- Using existing hole in bottom of bracket as a template, drill one 17/32" hole per side. (See Figure 5.)
- Install one 1/2" x 1-3/4" carriage bolt from top down, backing plate and 1/2" locknut per side. (See Figure 6.)

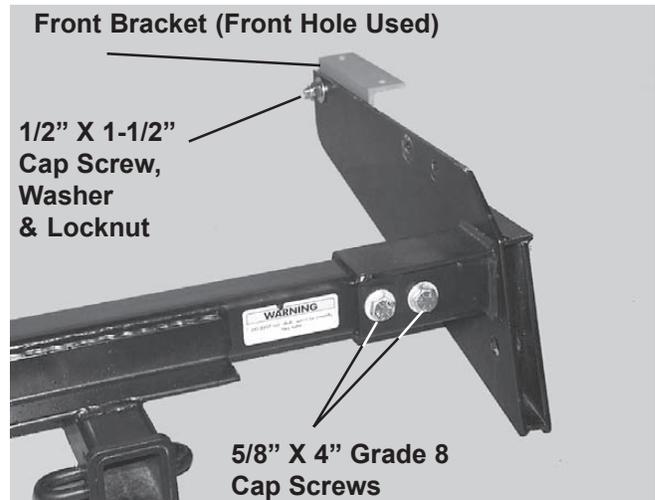
**NOTE:** Backing plate at this location will require modification to fit behind frame cross member on short box trucks.



**Figure 6**  
*Driver's Side Shown*

## SUBFRAME ASSEMBLY

- Insert receiver hitch into subframe mounts to furthest (narrow) position and align holes. (See Figure 7.)



**Figure 7**

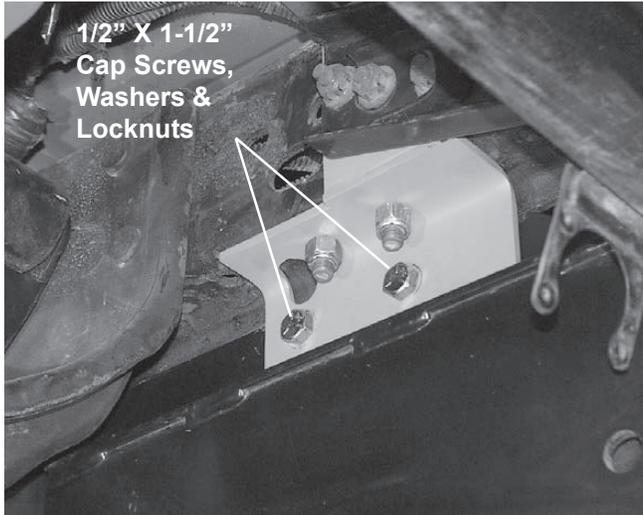
- Install two 5/8" x 4" grade 8 bolts per side (four total) with washers (one on each side of the crosstube).
- Position front mount brackets (one per side) outside of subframe and retain with one 1/2" x 1-1/2" grade 5 bolt, 1/2" flat washer and 1/2" locknut per side (two total).

**NOTE:** For 1999 and later long box 2500/2500 HD and 3500's, align rear hole of bracket with hole of subframe. For all other trucks, align front hole of bracket with hole of subframe. (See Figure 7.)

# UNDER-FRAME MOUNT INSTALLATION

## SUBFRAME ASSEMBLY INSTALLATION

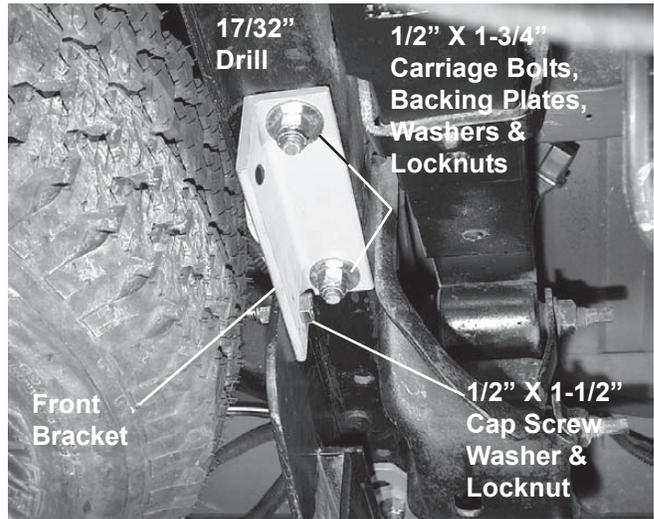
1. Position assembled subframe under truck between two rear mounting brackets. Install four 1/2" x 1-1/2" grade 5 bolts with a 1/2" flat washer and a 1/2" locknut. (See Figure 8.)



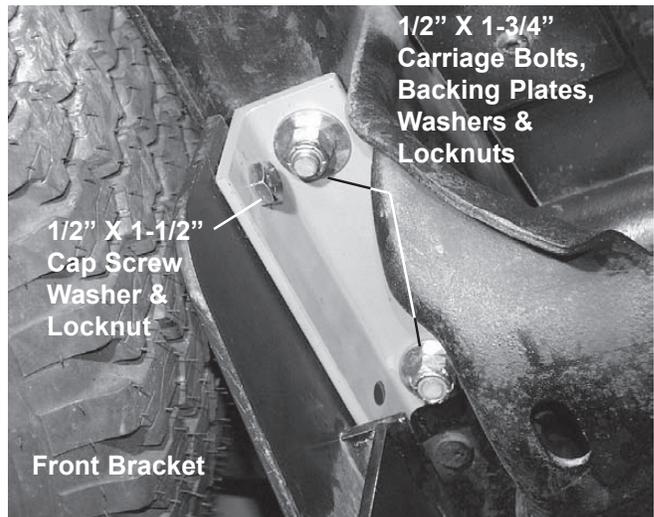
**Figure 8**  
*Driver's Side Shown*

2. Swing front of subframe assembly up into position with front subframe mounting brackets flat against bottom flange of vehicle frame.
3. **For 1999 and later long box 2500 HD and 3500's:** Use existing hole at front of bracket as a template and drill one 17/32" hole per side. (See Figure 9.)

**For all trucks:** Install four 1/2" x 1-3/4" grade 8 carriage bolts through backing plates with narrow offset towards radius of frame rail from top down. Retain with 1/2" flat washers and 1/2" locknuts. (See Figures 9 and 10.)



**Figure 9**  
*Driver's Side Shown*  
(1999 and Later Long Box 2500 HD and 3500's)



**Figure 10**  
*Driver's Side Shown*  
(All Other Trucks)

4. Tighten all fasteners according to Torque Chart .
5. Reconnect license plate light harness.

# UNDER-FRAME MOUNT INSTALLATION

## SECONDARY FRAME ASSEMBLY

1. Position center secondary frame section between passenger and driver side secondary frame sections. (See **Under-Frame Mount Assembly Diagram** on page 8.)

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

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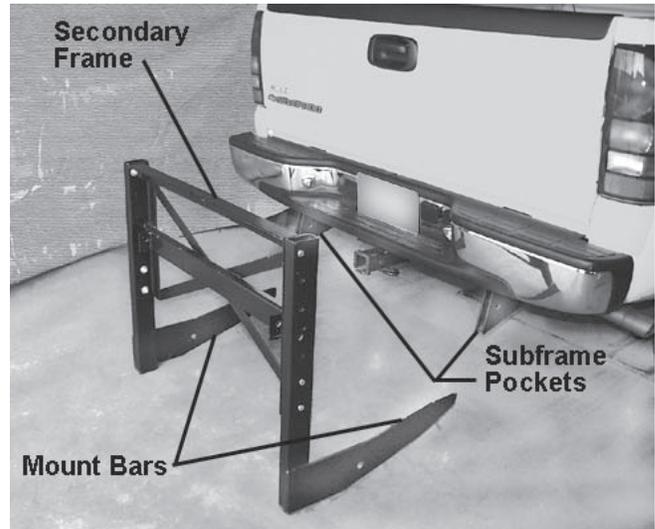
**NOTE:** Center secondary frame may be assembled three or six inches lower for use with higher trucks.

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2. Align holes and install six  $\frac{3}{8}$ " x 2- $\frac{1}{2}$ " grade 8 bolts through vertical tubes and center section sideplate. Retain with flat washer and locknuts, three on each side.
3. Tighten all fasteners according to the Torque Chart.

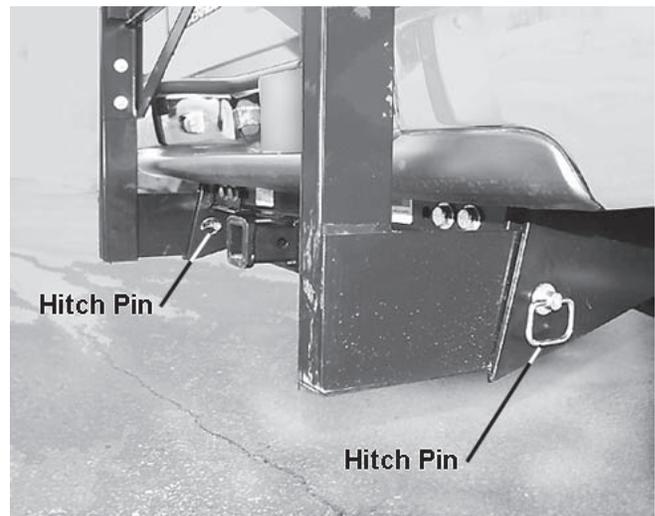
## MOUNTING THE SECONDARY FRAME

1. Position secondary frame behind truck and insert mount bars of secondary frame into subframe pockets. (See **Figure 11**.)



**Figure 11**

2. Slide secondary frame into subframe until  $\frac{3}{4}$ " holes align.
3. Install two  $\frac{3}{4}$ " hitch pins through subframe and secondary frame.
4. Retain  $\frac{3}{4}$ " hitch pins by installing  $\frac{3}{16}$ " linchpin into hole in  $\frac{3}{4}$ " hitch pins. (See **Figure 12**.)



**Figure 12**

# UNDER-FRAME MOUNT INSTALLATION

## HOPPER INSTALLATION

1. Lift hopper assembly and tip slightly forward. (See Figure 13.)
2. Position tabs on the hopper assembly over the top of the installed secondary mount assembly and lower the hopper assembly. (See Figure 13.)

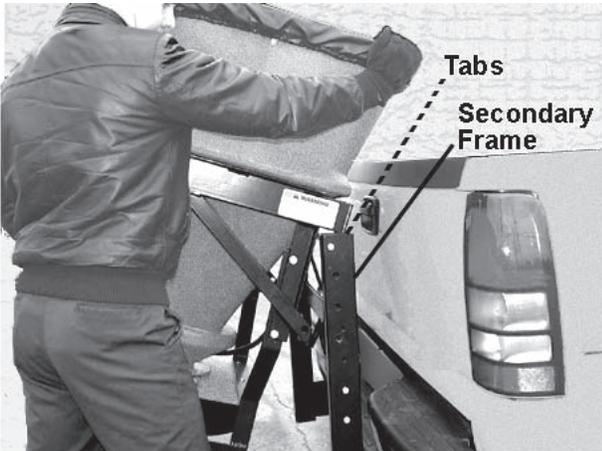


Figure 13

3. Allow hopper assembly to rotate until the bottom contacts secondary frame assembly.
4. Insert hold-down pins on each side and secure with hairpin cotters. (See Figure 14.)

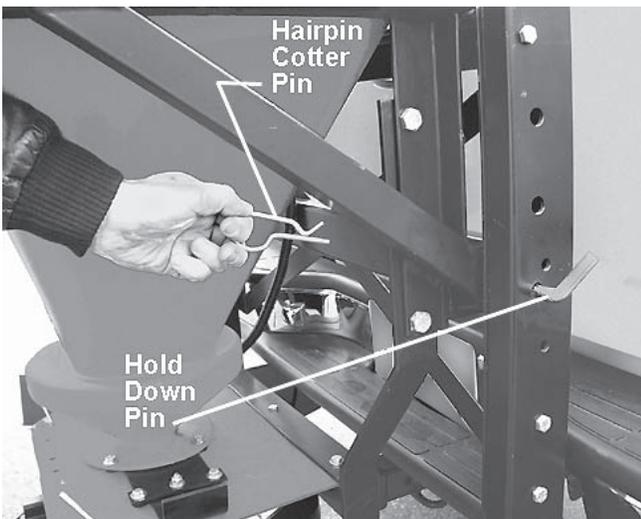


Figure 14

### ⚠ 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 secure while the vehicle is in motion.

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

5. Connect spreader-side wiring harness to vehicle-side wiring harness. (See Figure 15.)

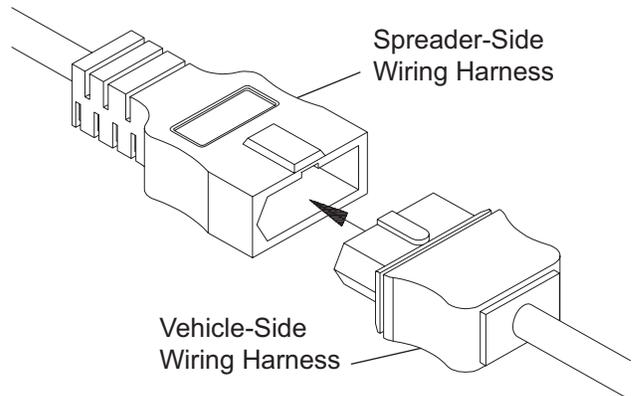
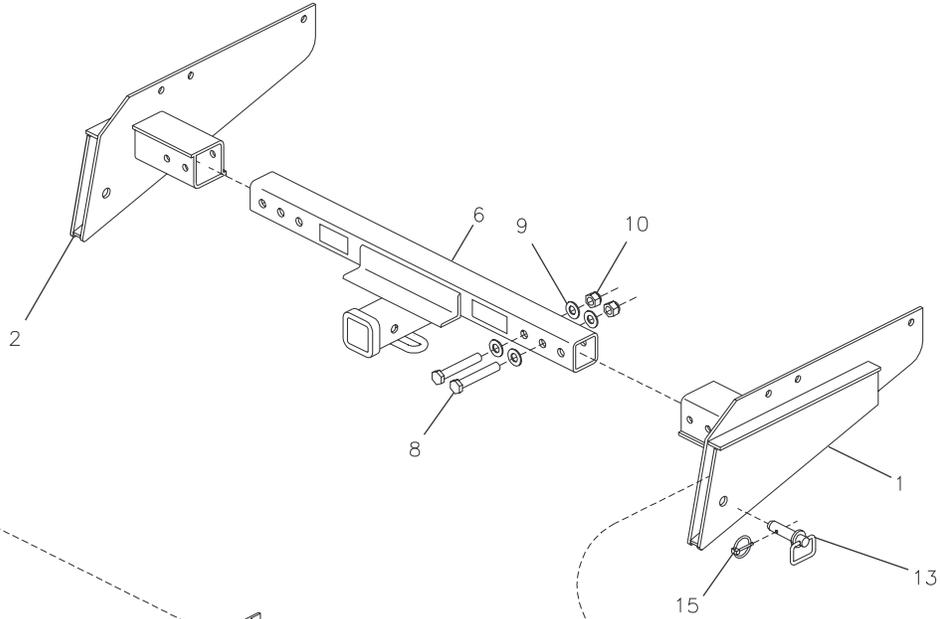


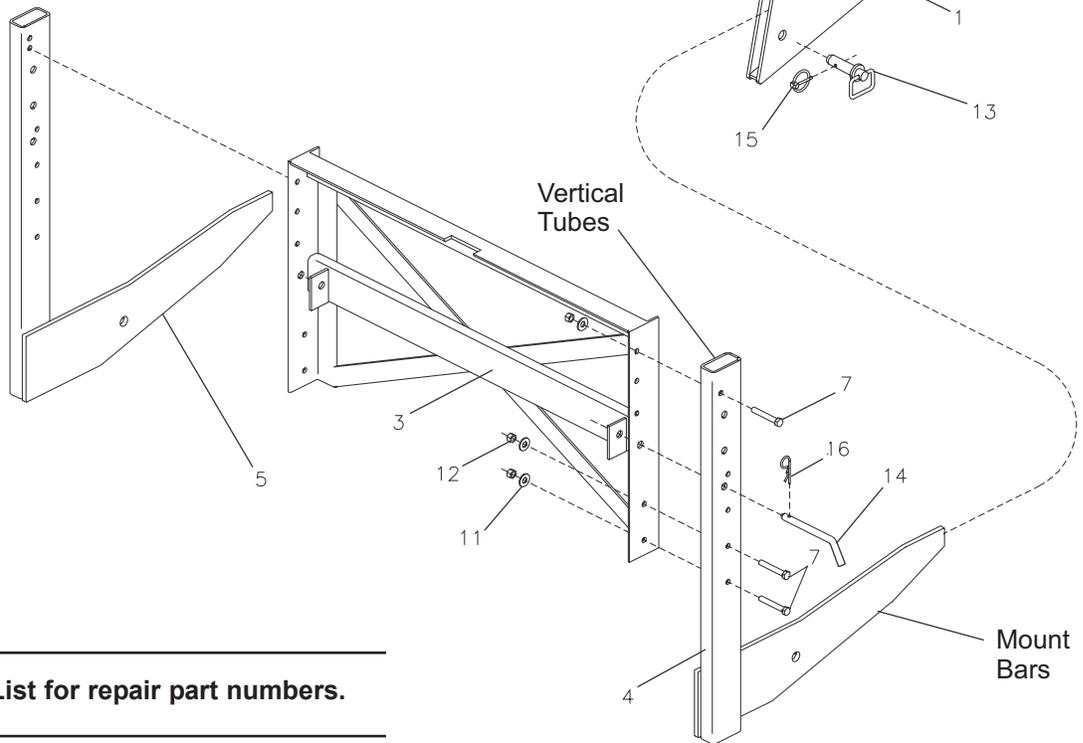
Figure 15

# UNDER-FRAME MOUNT ASSEMBLY DIAGRAM

## Subframe Assembly



## Secondary Frame Assembly



**NOTE: See Parts List for repair part numbers.**

ITEM	QTY.	DESCRIPTION	ITEM	QTY.	DESCRIPTION
1	1	MOUNT SUBFRAME - Passenger Side	11	6	3/8 PLAIN WASHER
2	1	MOUNT SUBFRAME - Driver Side	12	6	3/8-16 LOCK NUT
3	1	SECONDARY FRAME - Center	13	2	3/4X2-3/4 HITCH PIN
4	1	SECONDARY FRAME	14	2	PIN 1/2"X5.5"
5	1	SECONDARY FRAME	15	2	3/16" LINCHPIN
6	1	RECEIVER HITCH W/LABELS	16	2	HAIRPIN COTTER 1/8"
7	6	3/8-16X2-1/2 GRADE 8 CAP SCREW			
8	4	5/8-11X4 GRADE 8 CAP SCREW			
9	8	5/8 PLAIN WASHER			
10	4	5/8-11 LOCK NUT			

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