

SNO-WAY®

SNOW & ICE CONTROL EQUIPMENT

ASSEMBLY & INSTALLATION INSTRUCTIONS

**VEHICLE MOUNT KIT 99101087
AND
VEHICLE CENTER MEMBER
For 26 Series: 99100890**

TO FIT

**2009 & Later - Ford F150 4x4 (without EcoBoost V6)
2011 & Later - Ford 4x4 (with EcoBoost V6)**



Sno-Way® and EIS® are registered trademarks and Down Pressure™ is a trademark of Sno-Way International, Inc.

©2011 Sno-Way® International

97101721A



1. **THINK SAFETY, ALWAYS WEAR SAFETY GLASSES WHEN PERFORMING THE OPERATIONS PRESCRIBED IN THESE INSTRUCTIONS**
2. **READ ALL INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING INSTALLATION**
3. **BEFORE BEGINNING WORK MAKE SURE TO SET PARKING BRAKE AND CHOCK WHEELS**



MINIMUM VEHICLE RECOMMENDATIONS

Heavy Duty Alternator
 Heavy Duty Battery
 Manufacturers Snow Plow Package

NOTE: On some vehicles it may be necessary to use a form of load booster to decrease the vehicle's front suspension sag with the snow plow in place. This can be accomplished with the use of supplementary air bags, booster springs, or similar load boosting devices. Since there are different load boosting devices available, it will up to the customer/end user to decide and purchase the product to suit the application, and not the responsibility of Sno-Way International, Inc.

ASSEMBLY TOOLS NEEDED

Drill Bits	1/4" - 17/32"
Impact Sockets	7/16" – 1-3/8"
Wrenches	7/16" – 1-3/8"
Torque Wrench	
Rat Tail Pry Bar	
Center Punch and Hammer	
C-Clamp	
Hacksaw	
Screwdrivers	

INSTALLATION NOTES

1. **Unless otherwise specified, mount all Vehicle Mount Kit components to vehicle before tightening any hardware.**
2. **It is recommended that LOCTITE®, or similar thread locking product, be used on ALL mounting hardware (i.e. Nuts, Cap Screws, Bolts, etc.).**
3. Vehicle should be parked on a level surface with a normal vehicle load on the FRONT suspension.
4. Items in parentheses () refer to quantity required for this step. Items in parentheses with a pound sign (#) indicate the part number as found in the parts list on the last page of this document.
 Example: (10) Washer, Lock, 1/2" (#8).
5. It maybe necessary to relocate license plate holder. Check state and local laws for placement, if needed.
6. If the subframe is being installed on a 2009 or later F-150 **without** a EcoBoost V6 engine, proceed to the next section.

If the subframe is being installed on a 2011 or later F-150 **with** a EcoBoost V6 engine, "Shim Plate Kit 96114192 is required. Proceed to "MOUNTING INSTRUCTIONS (With EcoBoost V6 Engine)" on page 3.

MOUNTING INSTRUCTIONS

(Without EcoBoost V6 Engine)

1. Detach the rubber splash shield (if equipped) at the bottom edge of the bumper by removing the plastic fasteners. From the top of the bumper, remove the cap screws. Next remove the two hooks from the vehicle frame and retain the hardware for the Vehicle Mount Kit installation. Store the tow hooks separately for reuse if the Vehicle Mount Kit is removed.
2. If equipped, remove the skid plate and save with hardware for re-installation if the Vehicle Mount Kit is removed. Also, if equipped with fog lights, disconnect the vehicle harness from the back of the fog lights.
3. Remove the four nuts (two per side) from the back of the bumper brackets. Remove the bumper now that all of the hardware is disconnected.
4. Install (1) Side Weldment, LH (#2): Align the tow hook bolts in the vehicle frame with the two front slots in the horizontal lip of the Side Weldment. Use the existing tow hook hardware to secure the Side Weldment loosely to the bottom of the vehicle frame. Verify that the Side Weldment is tight against the vehicle frame by using a C-clamp to hold the front of the Side Weldment to the frame. The three slots on the horizontal lip of the Side Weldment align with the holes in the bottom of the vehicle frame rail. The hole in the center vertical tab in the Side Weldment and the top hole in the rear-most vertical tab align with holes in the side of the vehicle frame rail. The rear-most vertical tab on the Side Weldment that has two holes in the top hole should align with an existing hole in the side of the frame rail, but if not use the hole in the Side Weldment and the lower hole as a template and drill a 17/32" hole(s) through the outer wall of the frame rail.

5. Secure the Side Weldment, LH (#2) as follows:
 - a. In the upper hole of the rear-most vertical tab, install (1) Handle Bolt Weldment, ½"-13 x 1½" x 15" (#4) with (1) Backing Plate (#7) inserted into the frame rail and secure using (1) ½" Nylock Nut (#12).
 - b. In the lower drilled hole on the same tab, install (1) Handle Bolt Weldment, ½"-13 x 1½" x 15" (#4) with (1) ½" Flat Washer (#10) inserted into the frame rail and secure using (1) ½" Nylock Nut (#12).
 - c. In the middle tab with the one hole, install (1) Handle Bolt Weldment, ½"-13 x 1¼" x 13" (#5) with (1) Backing Plate (#7) inserted into the frame rail and secure using (1) ½" Nylock Nut (#12).
 - d. In the front-most tab with the one hole, install (1) Handle Bolt Weldment, ½"-13 x 1¼" x 6" (#6) with (1) ½" Flat Washer (#10) inserted into the frame rail and secure using (1) ½" Nylock Nut (#12).
 - e. In the rear-most slot in the horizontal lip, install (1) Handle Bolt Weldment, ½"-13 x 1½" x 15" (#4) with (1) ½" Flat Washer (#10) inserted into the frame rail and secure using (1) ½" Flat Washer (#10) and (1) ½" Nylock Nut (#12).
6. Repeat Step #5 to install (1) Side Weldment, RH (#3).
7. Attach the Vehicle Center Member (#1) to the Side Weldments, LH (#2) and RH (#3). Insert (4) Spacers (#8), 2 per side, as shown on the Part List on page 5. Secure using (8) ½"-13 x 2" Cap Screws (#9), (2) ½" Lock Washers (#11) in the threaded holes and (6) ½" Nylock Nuts (#12).
8. With all the components now in place, tighten all hardware. Using the Torque Specification Chart provided, torque all Cap Screws.
9. Reinstall the bumper. Reconnect the fog lamp harness connectors if so equipped.

IMPORTANT: The bumper will have to be cut (notched) to achieve the desired Vehicle Mount Kit height requirement.

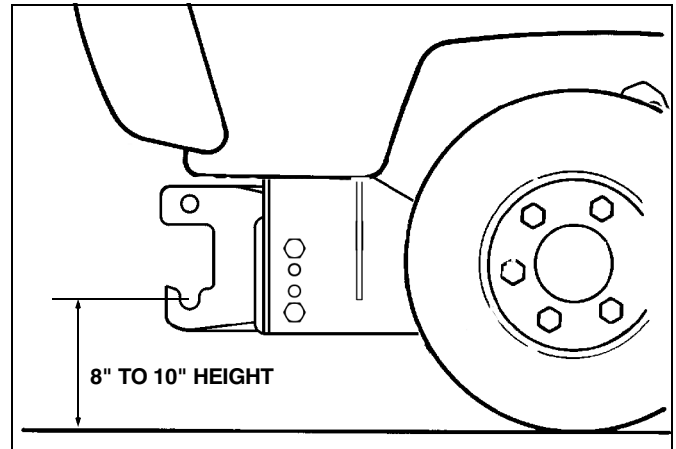


Figure 1

IMPORTANT: Height from the center of the lower plow mounting holes on the Vehicle Mount Kit to the ground should be between 8" and 10" to insure proper operation.

TORQUE SPECIFICATIONS FOR STANDARD MACHINE HARDWARE					
Bolt Size	GR.2 Dry	GR.5 Dry	GR.8 Dry	Metric Size	GR.8.8 Dry
1/4"	66*	9	12	M8	17
5/16"	11	17	25	M10	35
3/8"	20	30	45	M12	60
7/16"	32	50	70	M14	95
1/2"	50	75	110	M16	155
9/16"	70	110	150		
5/8"	100	150	220		
3/4"	175	260	380		
7/8"	170	430	600		
1"	250	640	900		

Note: These torque values are to be used for all hardware. Unless otherwise specified, all torque values must meet this specification.
 Note: All torque values are in Ft.-Lbs unless otherwise stated
 Note: *In-Lbs

REMEMBER After 5 to 10 hours of snowplow usage, re-torque all Cap Screws!

MOUNTING INSTRUCTIONS (With EcoBoost V6 Engine)

1. Detach the rubber splash shield (if equipped) at the bottom edge of the bumper by removing the plastic fasteners. From the top of the bumper, remove the cap screws. Next remove the two hooks from the vehicle frame and retain the hardware for the Vehicle Mount Kit installation. Store the tow hooks separately for reuse if the Vehicle Mount Kit is removed.
2. If equipped, remove the skid plate and save with hardware for re-installation if the Vehicle Mount Kit is removed. Also, if equipped with fog lights, disconnect the vehicle harness from the back of the fog lights.
3. Temporarily remove the top intercooler bracket by removing two fasteners (one per side). Doing this will make step 4 much easier. (See Figure 2)

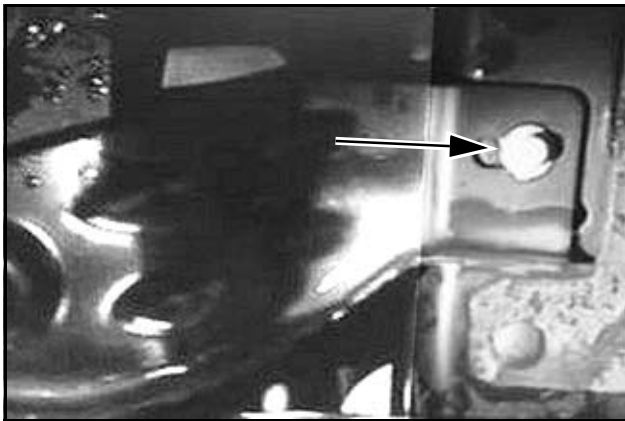


Figure 2

4. Remove the four nuts (two per side) from the back of the bumper brackets. Remove the bumper now that all of the hardware is disconnected.
5. Temporarily remove the bottom intercooler bracket, by removing two fasteners (one per side). Its recommended to have the intercooler securely held in place while the bottom bracket is removed. Then remove all the hardware used in the two holes seen below. (See Figure 3)

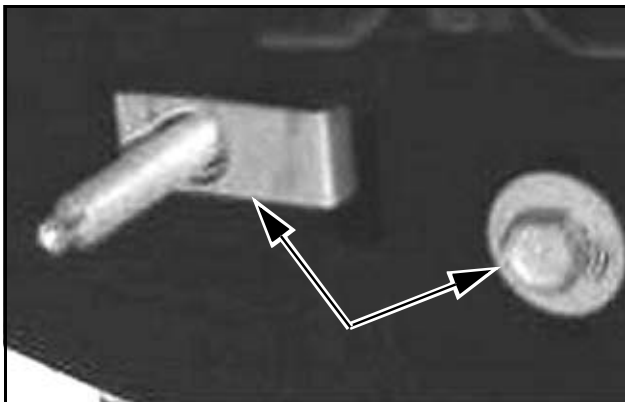


Figure 3

6. Draw a line roughly 5/8" in from the back side of the intercooler bracket. Then, cut away everything within the white outlined squares seen in the images below. This is done so the side weldments can sit flat against the bracket. Do this on both sides. (See Figure 4)

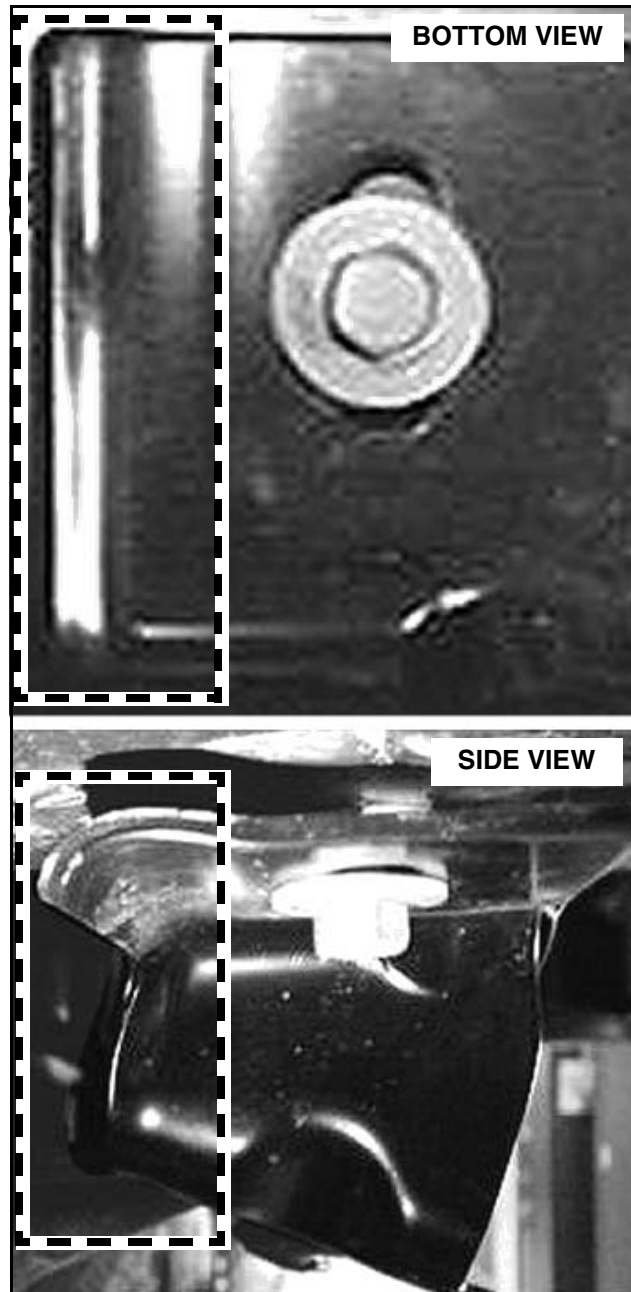


Figure 4

7. Hold the bottom intercooler bracket back to where it was before.
8. Install (1) Side Weldment, LH (#2) and (1) Shim Plate (#13): Align Shim Plate (#13) over the three slots on the horizontal lip of the Side Weldment. Align the tow hook bolts in the vehicle frame with the two front slots in the horizontal lip of the Side Weldment and Shim Plate. Use the existing tow hook hardware to secure the Side Weldment loosely to the bottom of the vehicle frame. Verify that the Side Weldment and

Shim Plate is tight against the vehicle frame and bottom intercooler bracket by using a C-clamp to hold the front of the Side Weldment to the frame. The four slots on the horizontal lip of the Side Weldment align with the holes in the bottom of the vehicle frame rail and bottom intercooler bracket. The hole in the center vertical tab in the Side Weldment and the top hole in the rear-most vertical tab align with holes in the side of the vehicle frame rail. The rearmost vertical tab on the Side Weldment that has two holes; the top hole should align with an existing hole in the side of the frame rail, but if not use the hole in the Side Weldment and the lower hole as a template and drill a 17/32" hole(s) through the outer wall of the frame rail.

9. Secure the Side Weldment, LH (#2) as follows:

- a. In the upper hole of the rear-most vertical tab, install (1) Handle Bolt Weldment, 1/2"-13 x 1 1/2" x 15" (#4) with (1) Backing Plate (#7) inserted into the frame rail and secure using (1) 1/2" Nylock Nut (#12).
- b. In the lower drilled hole on the same tab, install (1) Handle Bolt Weldment, 1/2"-13 x 1 1/2" x 15" (#4) with (1) 1/2" Flat Washer (#10) inserted into the frame rail and secure using (1) 1/2" Nylock Nut (#12).
- c. In the middle tab with the one hole, install (1) Handle Bolt Weldment, 1/2"-13 x 1 1/4" x 13" (#5) with (1) Backing Plate (#7) inserted into the frame rail and secure using (1) 1/2" Nylock Nut (#12).
- d. In the front-most tab with the one hole, install (1) Handle Bolt Weldment, 1/2"-13 x 1 1/4" x 6" (#6) with (1) 1/2" Flat Washer (#10) inserted into the frame rail and secure using (1) 1/2" Nylock Nut (#12).
- e. In the rear-most slot in the horizontal lip, install (1) Handle Bolt Weldment, 1/2"-13 x 1 1/2" x 15" (#4) with (1) 1/2" Flat Washer (#10) inserted into the frame rail and bottom intercooler bracket, and then secure using (1) 1/2" Flat Washer (#10) and (1) 1/2" Nylock Nut (#12).

10. Repeat Steps 8 & 9 to install (1) Side Weldment, RH (#3).
11. Attach the Vehicle Center Member (#1) to the Side Weldments, LH (#2) and RH (#3). Insert (4) Spacers (#8), 2 per side, as shown on the Part List on page 5. Secure using (8) 1/2"-13 x 2" Cap Screws (#9), (2) 1/2" Lock Washers (#11) in the threaded holes and (6) 1/2" Nylock Nuts (#12).
12. With all the components now in place, tighten all hardware. Using the Torque Specification Chart provided, torque all Cap Screws.
13. Reinstall the bumper and the top intercooler bracket that was removed in step 3. Reconnect the fog lamp harness connectors if so equipped.

IMPORTANT: The bumper will have to be cut (notched) to achieve the desired Vehicle Mount Kit height requirement.

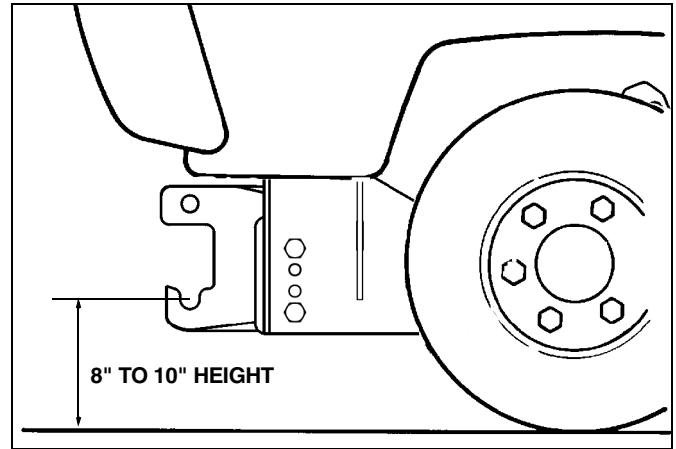


Figure 5

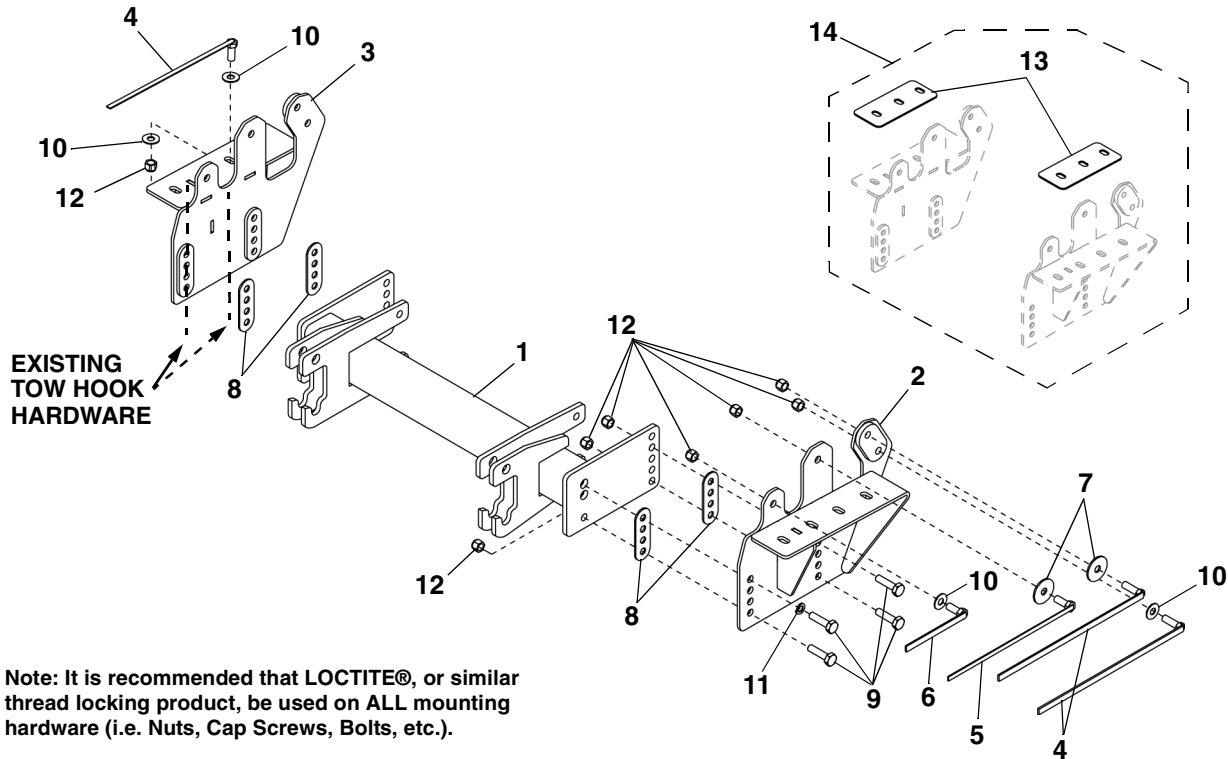
IMPORTANT: Height from the center of the lower plow mounting holes on the Vehicle Mount Kit to the ground should be between 8" and 10" to insure proper operation.

TORQUE SPECIFICATIONS FOR STANDARD MACHINE HARDWARE					
Bolt Size	GR.2 Dry	GR.5 Dry	GR.8 Dry	Metric Size	GR.8.8 Dry
1/4"	66*	9	12	M8	17
5/16"	11	17	25	M10	35
3/8"	20	30	45	M12	60
7/16"	32	50	70	M14	95
1/2"	50	75	110	M16	155
9/16"	70	110	150		
5/8"	100	150	220		
3/4"	175	260	380		
7/8"	170	430	600		
1"	250	640	900		

Note: These torque values are to be used for all hardware. Unless otherwise specified, all torque values must meet this specification.
 Note: All torque values are in Ft.-Lbs unless otherwise stated
 Note: *In-Lbs

REMEMBER After 5 to 10 hours of snowplow usage, re-torque all Cap Screws!

PARTS LIST



Note: It is recommended that LOCTITE®, or similar thread locking product, be used on ALL mounting hardware (i.e. Nuts, Cap Screws, Bolts, etc.).

ITEM	PART NO.	DESCRIPTION	QTY.
1	99100890*	Vehicle Center Mount, 26 Series	1
2	96111833*	Side Weldment, LH.....	1
3	96111834*	Side Weldment, RH	1
4	96112384	Handle Bolt Weldment, ½"-13 x 1½" x 15"	6
5	96108555	Handle Bolt Weldment, ½"-13 x 1¼" x 13"	2
6	96110511	Handle Bolt Weldment, ½"-13 x 1¼" x 6"	2
7	96112508*	Plate, Backing.....	4
8	96108691	Spacer, VCM, 1/8"	4
9	98100094	Hex Head Cap Screw, ½"-13 x 2"	8
10	98009011	Flat Washer, ½"	8
11	98009012	Lock Washer, ½" Heavy Split.....	2
12	98009013	Lock Nut, ½", Nylon Insert	16
13	96114183*	Plate, Shim (See Kit Below)	2
14	96114192*	Kit, Shim Plate	1

* Not Available As a Service Part

SNO-WAY® INTERNATIONAL, INC.

SNO-WAY
SNOW & ICE CONTROL EQUIPMENT

Hartford, WI 53027 USA
Website: www.snoway.com
©2011 Sno-Way® International