



**Assembly
&
Installation Instructions**

**FOR
SUBFRAME COMPONENTS PACKAGE 99100303
AND
SUBFRAME NOSE PIECE PACKAGE 96103002**

TO FIT

1992 - 1995 FORD 4X2 F250 & F350 & F350 CHASSIS CAB (LOBO ONLY)

**1992 - 1995 FORD 4X4 F250HD & F350 & F350 CHASSIS CAB &
F-SUPER DUTY (LOBO ONLY)**

1992 - 1997 FORD 4X4 F250 PICKUP (LOBO ONLY)

1996 - 1997 FORD 4X2 F250HD & F350 & F350 CHASSIS CAB & F-SUPER DUTY



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

Manufacturers minimum recommended equipment.

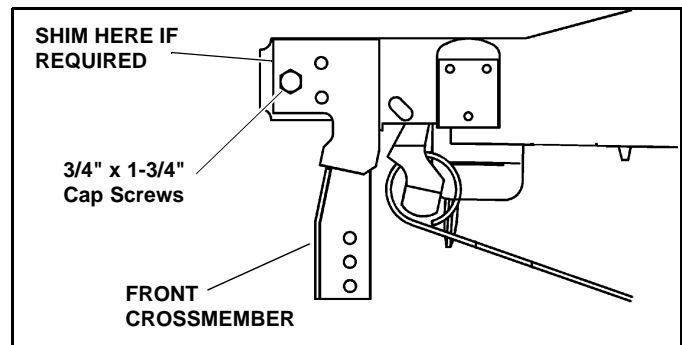
NOTE: On some vehicles it may be necessary to use a form of load booster to decrease the vehicle's front suspension sag with the snow plow in place. This can be accomplished with the use of supplementary air bags, booster springs, or similar load boosting devices. Since there are different load boosting 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	
Center Punch and Hammer	
Clamping Device ("C", Bar, type device...)	
Rat Tail Pry Bar	
Hacksaw	

INSTALLATION NOTES

1. Unless otherwise specified, mount all Sub-Frame 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: (2) 5/8"-11 x 1-1/2" Cap Screws (#12)
5. It maybe necessary to relocate license plate holder. Check state and local laws for placement, if needed.



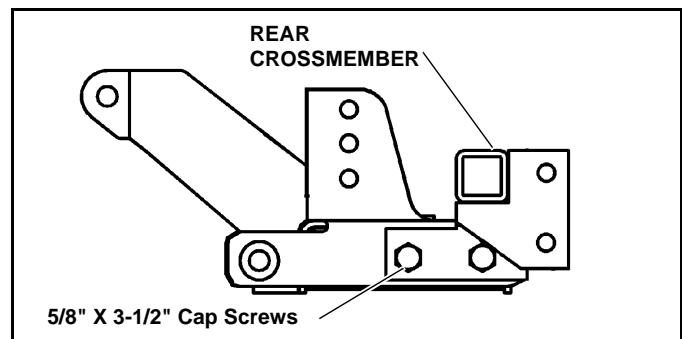
3. Install (1) Rear Crossmember (#3) on (1) Sub-Frame Nose Piece (#1) attach at front mounting holes using (2) 5/8 x 3-1/2" Cap Screws (#13), (2) 5/8" Lock Washers (#21) and (2) 5/8" Nylock Nuts (#23). (See Install Notes #1 & #2.)

MOUNTING INSTRUCTIONS

1. Remove vehicle front bumper. Retain, with hardware, for replacement at end of installation.

NOTE: If mounting to slots, push Front Crossmember forward to front of slots. It may be necessary to use (2) Shim (#10) between vehicle frame and Front Crossmember.

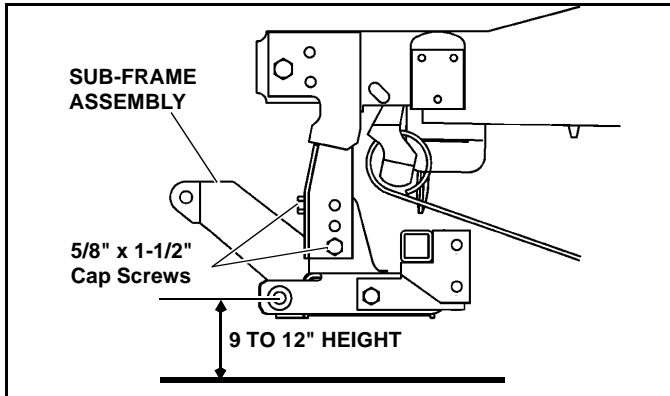
2. From under vehicle frame, Raise (1) Front Crossmember(#2) to align with existing holes (or slots) in vehicle frame. Secure using (2) 3/4 x 1-3/4" Cap Screws (#16), (2) 3/4" Flat washers (#19), and (2) 3/4" Nylock Nuts (#24). Remaining holes will be dealt with later in steps. (See Install Notes #1 & #2.)



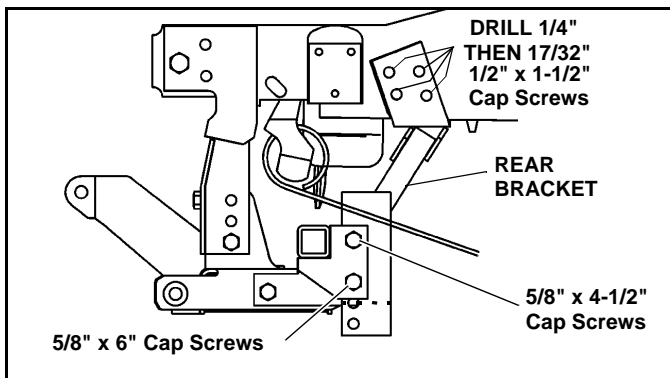
IMPORTANT: The Cap Screws securing the Sub-Frame to the Front Crossmember must be staggered with the front bolts being positioned in a lower set of holes than the side bolts. (Unless the holes are in the lowest possible position)

4. Raise the Sub-Frame assembly up and align with mounting holes in Front Crossmember. Secure using (4) 5/8 x 1-1/2" Cap Screws (#12), (4) 5/8" Flat Washers (#18) and (4) 5/8" Nylock Nuts (#23). (See Install Notes #1 & #2.)

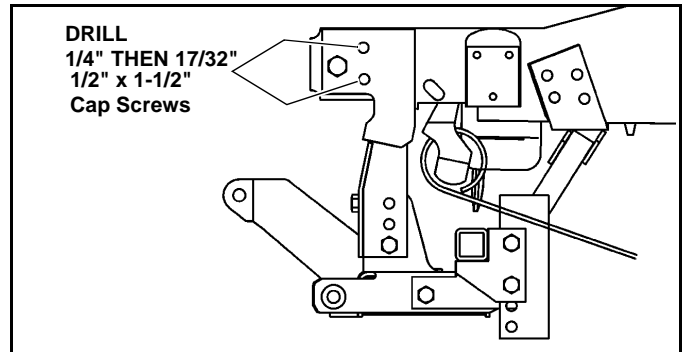
IMPORTANT: Height from the center of the lower Plow Mounting holes on the Sub-Frame to the ground should be between 9" and 12" to insure proper operation.



5. Align holes in (1) Rear Mounting Brackets (#4)LH, & (#5)RH with holes in Rear Crossmember, adjusting to keep upper part of Rear Brackets tight to bottom of vehicle frame. Use Shim Plates (#8) & (#9) between the Rear Crossmember (#3) and the Rear Mounting Brackets. Secure using (2) 5/8 x 4-1/2" Cap Screws (#14), (2) 5/8" Lock Washers (#21) at top holes, and (2) 5/8 x 6" (#15), (2) 5/8" Lock Washers (#21) at lower holes (going thru to Sub-Frame Nose Piece), and (4) 5/8" Nylock Nuts (#23). (See Install Notes #1 & #2.)



- Using (8) 1/2 x 1-1/2" Cap Screws (#11), (8) 1/2" Lock Washers (#20) and (4) Nut Plate Assemblies (#6 LH, & #7 RH), secure Rear Brackets to vehicle frame with wire handles facing the front of the vehicle. (See Install Notes #1 & #2.)
- Using the remaining holes in the Front Crossmember as a template, center punch and drill (4) 1/4" and then 17/32" holes through the vehicle frame rail. Secure Front Crossmember using (4) 1/2 x 1-1/2" Cap Screws (#11) and on the engine side (4) 1/2" Flat Washers and (4) 1/2" Nylock Nuts. (See Install Notes #1 & #2.)



9. Using the Torque Specification Chart below, torque all bolts **starting at the rear** and working forward.

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



WARNING

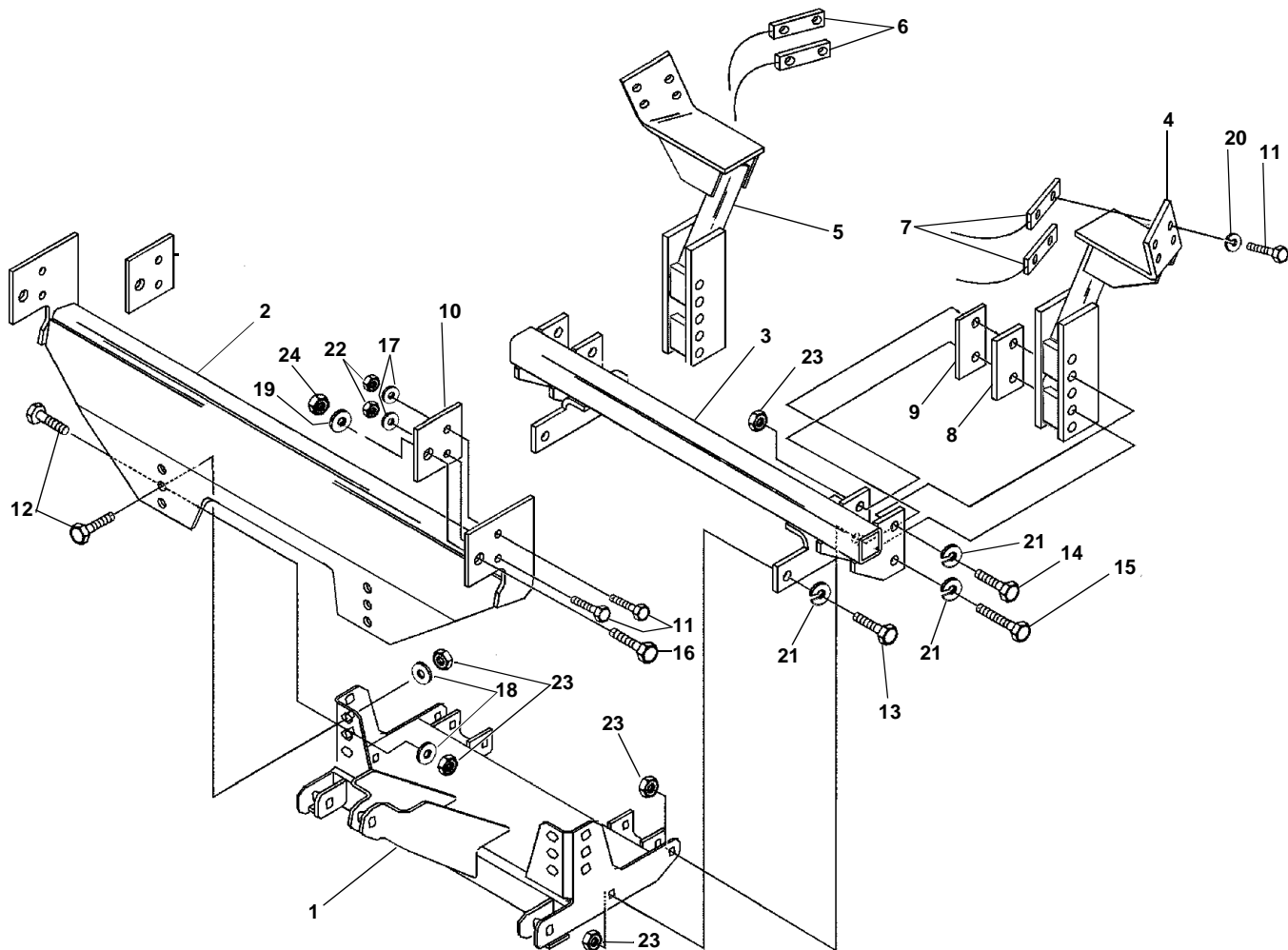
Beware of brake and fuel lines secured to inside wall of frame rails when drilling in vehicle frame!

FAILURE TO HEED CAN RESULT IN SERIOUS INJURY OR DEATH!

6. Clamp upper leg of Rear Brackets to vehicle frame. Adjust the position to avoid interference with steering components, and away from radiator (on diesel models). This may eliminate the ability to use the existing slot on some models. Using holes in Rear Brackets as a template, center punch, and drill 1/4", then 17/32" holes through outer wall of vehicle frame.

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

10. Replace vehicle front bumper.



ITEM	PART NO.	DESCRIPTION	QTY.
1	96103002	Sub-Frame, Nose Piece (96102896)	1
2	96102840	Crossmember, Front	1
3	96102847	Crossmember, Rear	1
4	96102848	Bracket, Rear, LH	1
5	96102849	Bracket, Rear, RH	1
6	96100938	Plate, Assembly, Nut, RH	2
7	96100939	Plate, Assembly, Nut, LH	2
8	96103077	Plate, Shim, 1/8"	4
9	96103078	Plate, Shim, 1/4"	2
10	96102912	Plate, Shim, 5/16"	2
11	98009010	Cap Screw, Hex Head, 1/2" -13NC x 1-1/2"	12
12	98009115	Cap Screw, Hex Head, 5/8" -11NC x 1-1/2"	4
13	98009042	Cap Screw, Hex Head, 5/8" -11NC x 3-1/2"	2
14	98009111	Cap Screw, Hex Head, 5/8" -11NC x 4-1/2"	2
15	98009197	Cap Screw, Hex Head, 5/8" -11NC x 6"	2
16	98009098	Cap Screw, Hex Head, 3/4" -10 NC x 1-3/4"	2
17	98009011	Washer, Flat, 1/2"	4
18	98009039	Washer, Flat, 5/8"	4
19	98009030	Washer, Flat, 3/4"	2
20	98009012	Washer, Lock, 1/2"	8
21	98009062	Washer, Lock, 5/8"	8
22	98009013	Nut, Hex, Nylock, 1/2" -13NC	4
23	98009038	Nut, Hex, Nylock, 5/8" -11NC	10
24	98009003	Nut, Hex, Nylock, 3/4" -10 NC	2

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