

SNO-WAY[®]

SNOW & ICE CONTROL EQUIPMENT

Assembly & Installation Instructions

**FOR
SUBFRAME COMPONENTS PACKAGE 99100385
AND
SUBFRAME NOSE PIECE PACKAGE 96103002**

**TO FIT
1995 1/2 – LATER ISUZU NPR 4x2
1995 1/2 – LATER GMC W3500/W4500 TILT CAB 4x2**



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

ASSEMBLY TOOLS NEEDED

Impact Sockets 7/16" – 1-3/8"
 Metric Sockets 10 mm – 19 mm
 Wrenches 7/16" – 1-3/8"
 Metric Wrenches 10 mm – 19 mm
 Drill Bits 1/4", 13/32" & 17/32"
 Torque Wrench
 Center Punch
 Hammer
 Rat Tail Pry Bar

INSTALLATION NOTES

1. **Unless otherwise specified, mount all Subframe 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" x 1-1/2" Cap Screws (#9).
5. It may be necessary to relocate license plate holder. Check state and local laws for placement, if needed.

Insert Backing Plate (#8) on inside of side rail and align hole in Backing Plate with large hole in frame. Loosely attach Rear Mounting Assemblies (#3 & #5) to side rail using (2) 3/4" x 1-3/4" Cap Screws (#17) and (2) Nylock Nuts (#18)

3. Locate holes in Rear Mounting Assemblies that are sitting flush with the tabs on the truck frame. Using these holes as a template, mark the location of the holes on the tabs on both sides of the vehicle. Remove the Rear Mounting Assemblies and first drill a 1/4", then a 13/32" hole through the tabs. Re-attach the Rear Mounting Assemblies using the (2) 3/4" x 1-3/4" Cap Screws (#17) and (2) Nylock Nuts (#18), previously removed, and by using (2) 1/2" x 1-1/2" Cap Screws (#13), Flat Washers (#15) and Nylock Nuts (#14) to secure Mounting Assemblies to the tow hooks.

MOUNTING INSTRUCTIONS

1. Remove the vehicle front bumper and retain for re-installation with the Front Crossmember (#2) in step 3. Remove the two horizontal bolts located in the tabs below the double box frame.

4. Position the Front Crossmember (#2) firmly against frame and align the holes in the Front Crossmember with the bumper bolt holes and with the holes that were drilled in the tabs on the truck frame. Temporarily attach the Front Crossmember to the frame using (4) M10 x 1-1/4" Cap Screws (#19). Using the holes in the top of the Front Crossmember as a template, mark the location of the holes to be drilled in the bottom of the frame. Remove the Front Crossmember and drill 1/4", then 21/32" holes in the marked locations.

5. Using the holes that were just drilled in the frame, attach the Front Crossmember using (2) 5/8" x 1-1/2" Cap Screws (#9), Lock Washers (#16) and Nut Plates (#7). Insert the necessary number of Shim Plates (#23) or (#24) to remove the gap between the Front Crossmember and the Rear Mounting Assemblies. Secure Front Crossmember and Shim Plates to the truck frame with (2) 3/8" x 1-3/4" Cap Screws (#22), Flat Washers (#20), and Nylock Nuts (#21). Reinstall front bumper and secure Front Crossmember and bumper with metric bolts from Step #4.

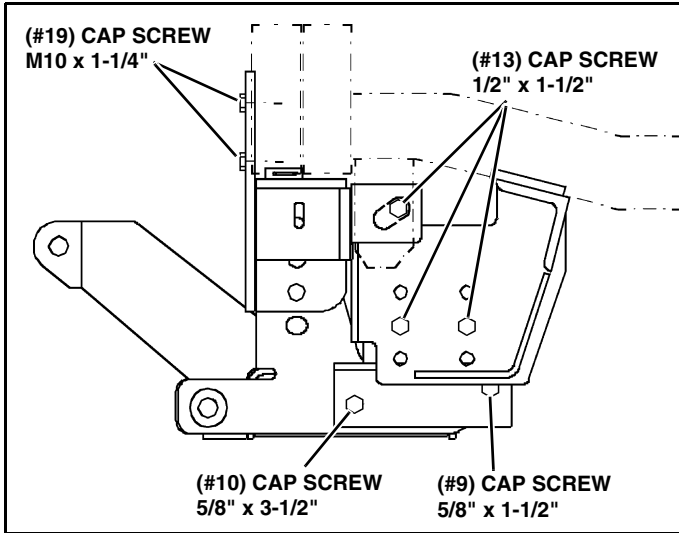


WARNING

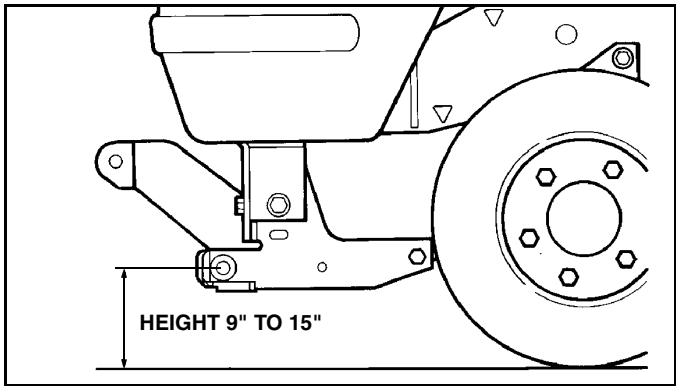
Beware of brake and fuel lines secured to inside wall of frame rails when drilling holes in vehicle frame!

FAILURE TO HEED CAN RESULT IN INJURY OR DEATH!

2. Position the Rear Mounting Assemblies (#3 RH & #5 LH) in the following position:
 - **in front of the tabs where the horizontal bolts were removed**
 - **inside of the tow hooks**
 - **under the vehicle side rails.**



6. Secure the Rear Bracket Assemblies (#4 RH & #6 LH) to the Nosepiece (#1) using (2) 5/8" x 3-1/2" Cap Screws (#10), (2) 5/8" x 1-1/2" Cap Screws (#9) and Nylock Nuts (#11). Raise Nosepiece (#1), Rear Bracket (#4 & #6) assembly and secure to Front Crossmember (#2) with (4) 5/8" x 1-1/2" Cap Screws (#9), Flat Washers (#12) and Nylock Nuts (#11). Align holes in Rear Bracket Assemblies (#4 & #6) with holes in Rear Mounting Assemblies (#3 & #5) and secure with (4) 1/2" x 1-1/2" Cap Screws (#13) and Nylock Nuts (#14).



IMPORTANT: height from the center of the lower Plow mounting holes on the Subframe to the ground should be between 9" and 15" to insure proper operation.

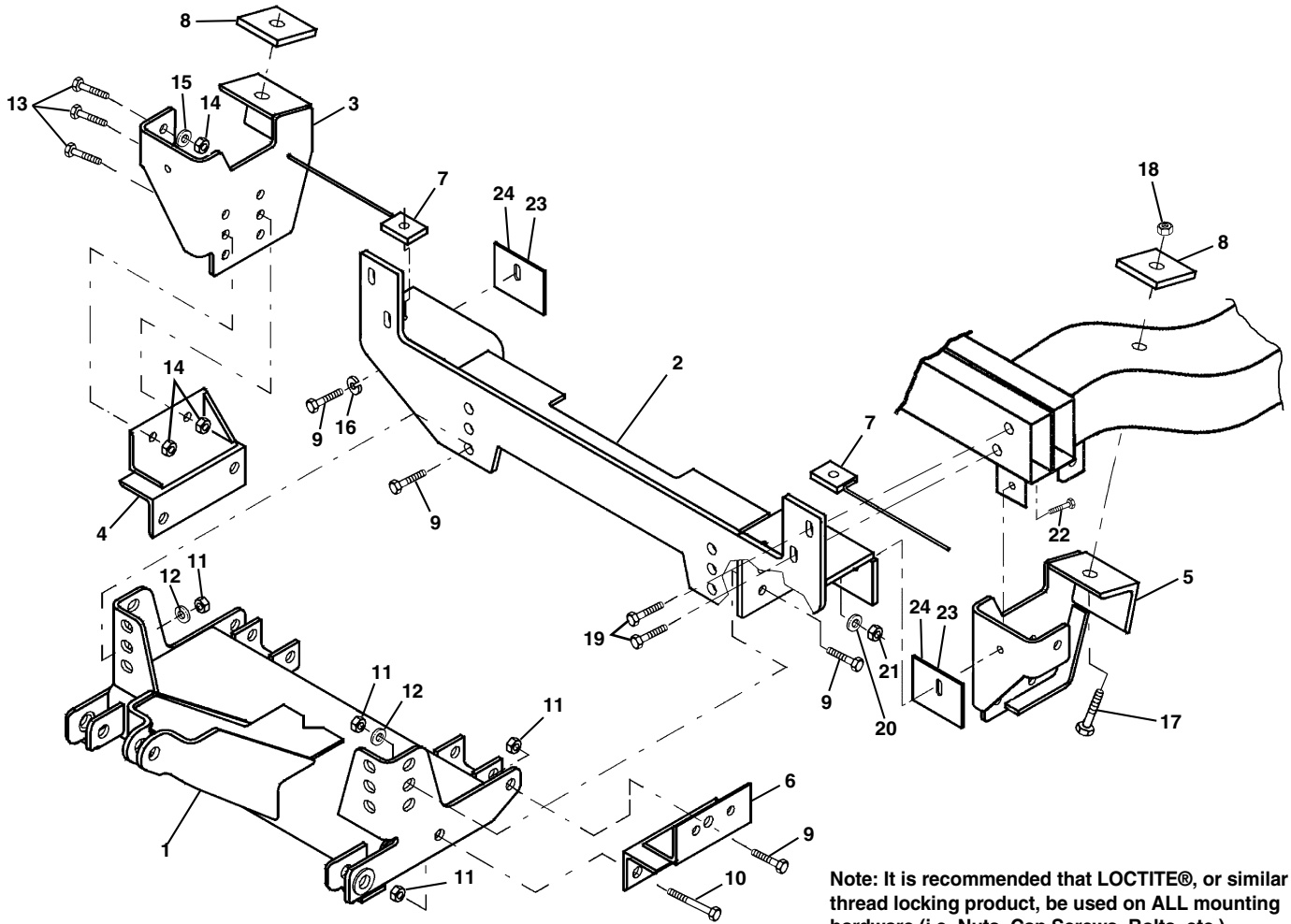
7. Using the Torque Specification Chart provided, first torque the Nose Piece (#1) to the Front Crossmember (#2). Start by torquing the two front Cap Screws (#9) and then the two side Cap Screws (#9). Then torque the remaining Cap Screws **starting at the rear** and working forward.

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

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



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	96103002	Sub-Frame, Nose Piece	1
2	96103345	Crossmember, Front	1
3	96104252	Mounting Assembly, RH Rear	1
4	96104237	Bracket Assembly, RH Rear	1
5	96104251	Mounting Assembly, LH Rear	1
6	96104236	Bracket Assembly, LH Rear	1
7	96103557	Assembly, Nut Plate, 5/8"-11	2
8	96104259	Backing Plate	2
9	98009115	Cap Screw, Hex Head, 5/8"-11 x 1-1/2"	8
10	98009042	Cap Screw, Hex Head, 5/8"-11 x 3-1/2"	2
11	98009038	Nut, Hex, Nylock, 5/8"-11	8
12	98009039	Washer, Flat, 5/8"	4
13	98009010	Cap Screw, Hex Head, 1/2"-13 x 1-1/2"	6
14	98009013	Nut, Hex, Nylock, 1/2"-13	6
15	98009011	Washer, Flat, 1/2"	2
16	98009062	Washer, Lock, 5/8"	2
17	98009098	Cap Screw, Hex Head, 3/4"-10 x 1-3/4"	2
18	98009003	Nut, Hex, Nylock, 3/4"-10	2
19	98100046	Cap Screw, Hex Head, M10 x 1-1/4" x 40m	4
20	98009032	Washer, Flat 3/8"	2
21	98009009	Nut, Hex, Nylock, 3/8"-16	2
22	98100242	Cap Screw, Hex Head, 3/8"-16 x 1-3/4"	2
23	96104516	Plate, Shim, 1/8" Material	2
24	96104517	Plate, Shim, 16 Gauge Material	2

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