



**Assembly  
&  
Installation Instructions**  
**FOR**  
**SUBFRAME COMPONENTS PACKAGE 99100691**

**TO FIT**  
**2002 - LATER GM Envoy 4 x 4**  
**2002 - LATER Chevy Trailblazer 4 x 4**  
**(22 SERIES ONLY)**



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

*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", 25/32"
Impact Sockets	7/16" – 1-3/8"
Metric Sockets	10mm - 17mm
Wrenches	7/16" – 1-3/8"
Torque Wrench	
Center Punch and Hammer	
Hacksaw	
Clamping Devices ("C", Bar, type device ....)	

## 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) Washer, Lock, 1/2" (#6).
5. It maybe necessary to relocate license plate holder. Check state and local laws for placement, if needed.

## MOUNTING INSTRUCTIONS

1. Remove the retaining hardware and front bumper / tow hook assembly from vehicle. Remove the tow hooks from the front bumper and set aside, they will not be re-installed. Retain the hardware for re-installation. Note: The Envoy is not equipped with tow hooks, so just remove the bumper assembly
2. Install the Front Mounting Brackets, LH (#2) and RH (#3). Align a hole in each Front Mounting Bracket with an existing tow hook mounting hole in the vehicle frame. Use the tow hook mounting hardware to hold the brackets in place. Using the hole in top of each Front Mounting Bracket as a template, center punch and drill a 1/4" pilot hole through the frame on each side of the vehicle.
3. Remove the Front Mounting Brackets. Drill a 17/32" hole through each frame rail using the 1/4" pilot holes for a guide. Then, drill a 23/32" diameter hole **through the outside of the frame only** on each side.

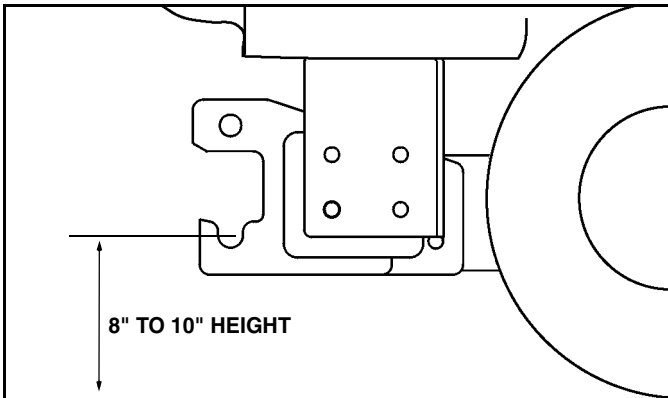
4. From the outside of the Frame Rail, insert (2) Frame Support Tubes (#10). From the outside of the Front Mounting Brackets, insert (2) 1/2" x 4" Cap Screws (#8). Secure using (2) 1/2" Flat Washers (#9) and (2) 1/2" Nylock Nuts (#7). Finish securing the Front Mounting Brackets by re-installing the bumper, using the existing bolt, (4) 1/2" Flat Washers (#9), and (2) M14-2.00 Nylock Nuts (#11).
5. Attach the Rear Crossmember Assembly (#4) by aligning the back holes in the Rear Crossmember Assembly with the existing holes in the vehicle crossmember. Clamp the upper portion of the Rear Crossmember to the vehicle crossmember. Using the holes in the upper portion as a template, center punch and drill a 1/4" pilot hole through the vehicle crossmember.
6. Remove the Rear Crossmember, drill the 1/4" pilot holes out to 17/32". Install the Rear Crossmember. Secure using existing hardware for the bottom. For the holes you just drilled, use (2) 1/2" x 1-1/2" Cap Screws (#5), (2) 1/2" Flat Washers (#9) and (2) 1/2" Nylock Nuts (#7). *Reminder: keep all hardware loose-don't tighten until last step.*
7. Install the Mounting Assembly (#1), align the holes on the outer plates of the Mounting Assembly with the holes in the Front Mounting Brackets (LH and RH). Secure using (8) 1/2" x 1-1/2" Cap Screws (#5), (6) 1/2" Nylock Nuts (#7) and in the threaded holes (2) 1/2" Lock Washers (#6).
8. Secure the Mounting Assembly to the Rear Crossmember using (4) 1/2" x 1-1/2" Cap Screws (#5) and (4) 1/2" Nylock Nuts (#7).
9. Using the Torque Specification Chart below, torque all Cap Screws.

**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		

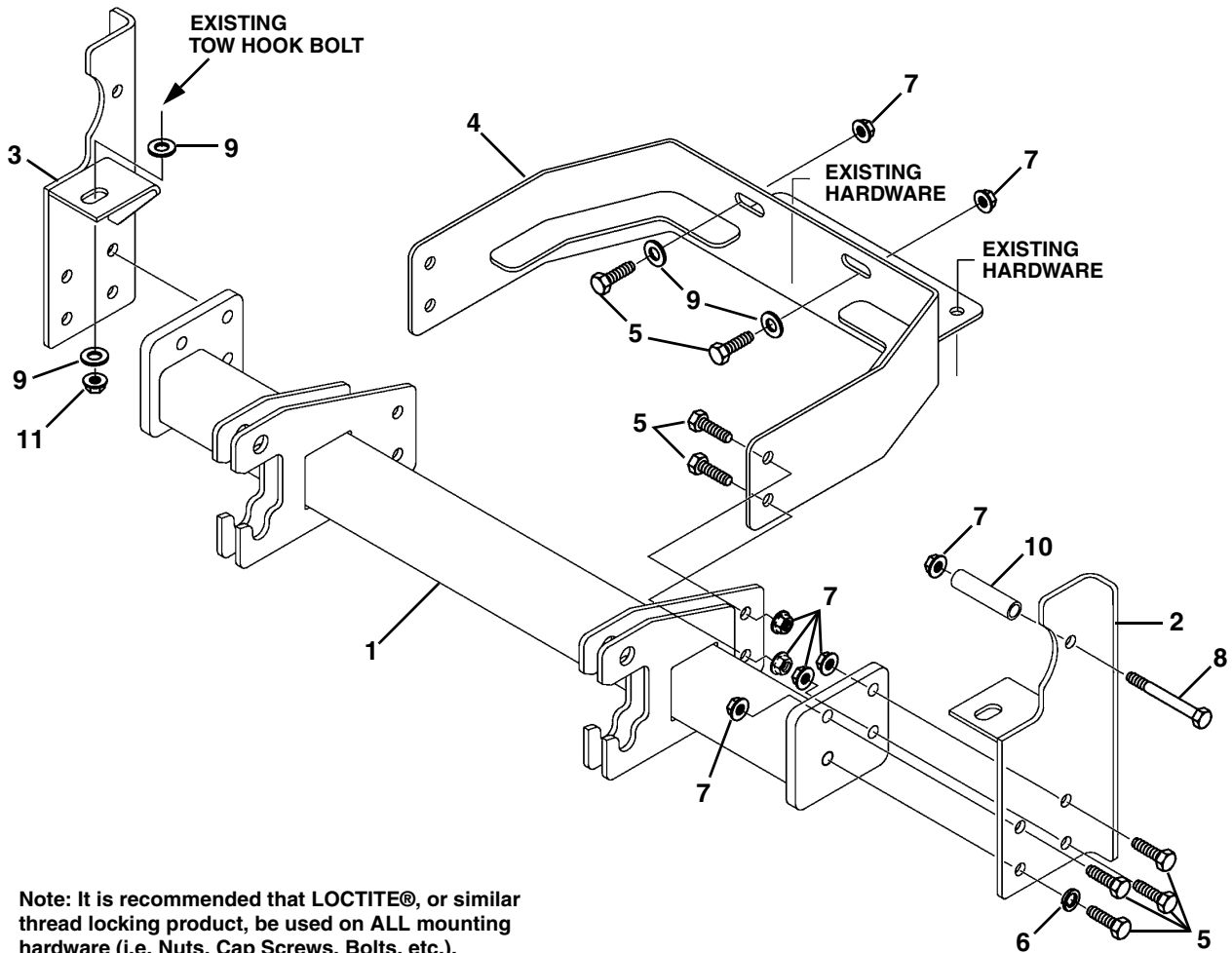
Note: These torque values are to be used for all hardware. Unless otherwise specified, all torque values must meet this specification.  
 Note: All torque values are in Ft.-Lbs unless otherwise stated  
**Note: \*In-Lbs**

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



**IMPORTANT:** Height from the center of the lower Plow mounting holes on the Subframe to the ground should be between 8" and 10" to ensure proper operation.

# 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	96107392	Assembly, Mounting .....	1
2	96105520	Bracket, Front Mounting, LH.....	1
3	96105521	Bracket, Front Mounting, RH .....	1
4	96108282	Assembly, Rear Crossmember .....	1
5	98009010	Cap Screw, Hex Head, 1/2"-13 x 1-1/2" .....	12
6	98009012	Washer, Lock, 1/2".....	2
7	98009013	Nut, Hex, Nylock 1/2"-13 .....	12
8	98009195	Cap Screw, Hex Head, 1/2"-13 x 4".....	2
9	98009011	Washer, Flat, 1/2" .....	8
10	96105944	Tube, Frame Support.....	2
11	98100293	Nut, Hex, Nylock M14-2.00 .....	2

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