



Assembly & Installation Instructions

**FOR
SUBFRAME COMPONENTS PACKAGE 99100361
AND
SUBFRAME NOSE PIECE PACKAGE 96103002**

**TO FIT
1993 - 1998 TOYOTA T-100 PICKUP**

©2001, Sno-Way® International

97100606B



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", 13/32"
Impact Sockets	7/16" – 1-3/8"
Metric Sockets	10 – 19 mm
Wrenches	7/16" – 1-3/8"
Metric Wrenches	10 – 19 mm
Torque Wrench	
Center Punch and Hammer	
Clamping Device ("C", Bar, type device...)	
Rat Tail Pry Bar	
Hacksaw	

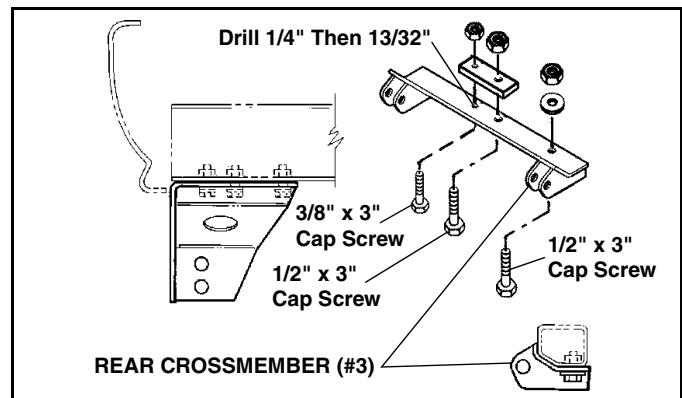
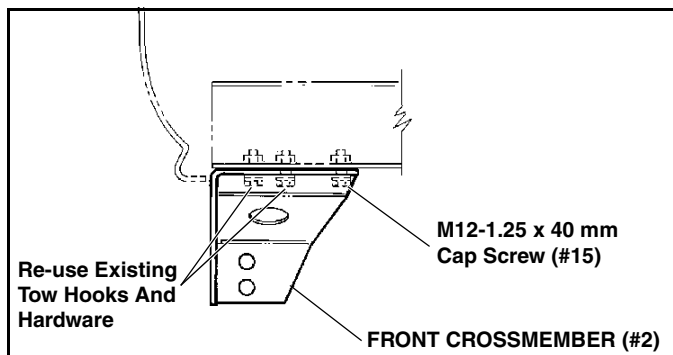
INSTALLATION NOTES

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" x 1-1/2" Cap Screws (#12).
5. It maybe necessary to relocate license plate holder. Relocate under the driver's side headlight by drilling new holes in the bumper. Check state and local laws for placement, if needed.

4. Slide Front Crossmember (#2) between vehicle frame and splash guard, and align holes in Front Crossmember with holes in bottom of vehicle frame. Replace tow hook and existing hardware in front four holes in Front Crossmember. Secure at rear holes using (2) M12 - 1.25 x 40 Metric Cap Screw (#15), (2) Flat Washers (#6) and (2) Lock Washers (#16) provided.

MOUNTING INSTRUCTIONS

1. Remove existing bolts from vehicle tie down / tow hook brackets, retain for use in step 4.
2. Remove front two bolts from vehicle splash guard. (Leave splash guard attached to vehicle.)
3. Push radiator drain hose up through hole in splash guard.



5. Align holes in Rear Crossmember (#3) with existing holes in vehicle crossmember, directly behind the splash guard. Insert (1) Washer Plate (#9) into the frame for the two holes in the rear crossmember (the center hole and the outside passenger hole, which needs to be drilled in the next step). Secure Rear Crossmember by using (2) 1/2" x 3" Cap Screws (#8) and (2) Nylock nuts (#7) on the center and driver's side hole.

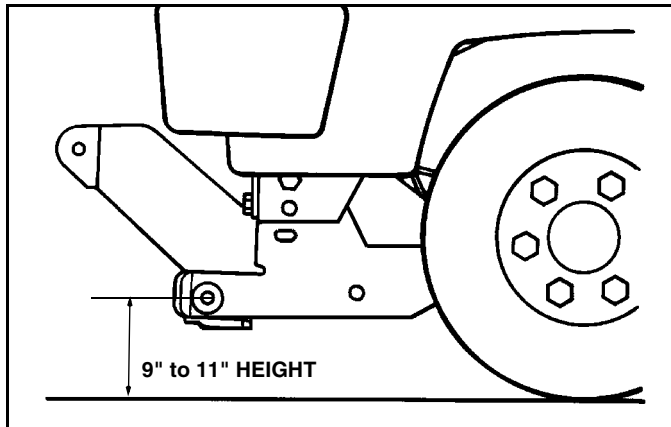


WARNING

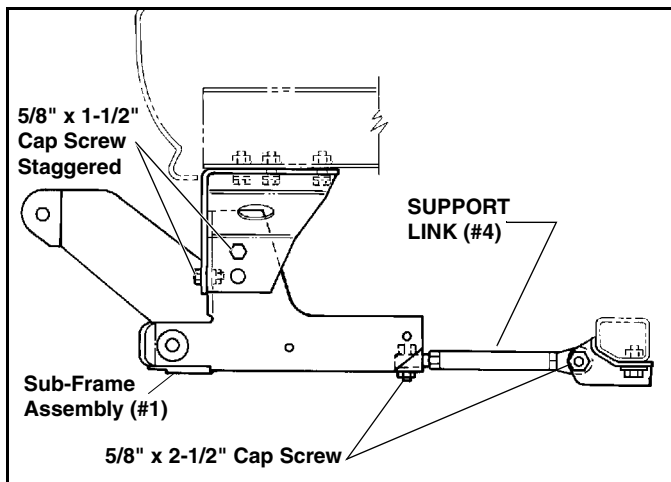
Beware of brake and fuel lines secured to inside wall of frame rails when drilling holes in vehicle frame!

FAILURE TO HEED CAN RESULT IN SERIOUS INJURY OR DEATH.

- Using the passenger side hole in the Rear Crossmember as a template, drill a 1/4", then a 13/32" hole through the top portion of the vehicle crossmember. Secure using (1) 3/8" x 3" Cap Screw (#13) and (1) Nylock Nut (#5).



IMPORTANT: Height from the center of the lower Plow Mounting holes on the Sub-Frame to the ground should be between 9" and 11" to insure proper operation.



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)

- Raise front of Sub-Frame Assembly (#1) and align mounting holes in Front Crossmember. Secure using (4) 5/8" x 1-1/2" Cap Screws (#12), (4) Flat Washers (#11) and (4) Nylock Nuts (#10) provided.
- Drop (2) Adjustable Support Links (#4) down between pin brackets at rear of Sub-Frame and between pin brackets in Rear Crossmember as shown. Secure using (4) 5/8" x 2-1/2" Cap Screws (#14) and (4) Nylock Nuts (#10) provided.
- Using the Torque Specification Chart below, torque all bolts **starting at the rear** and working forward.

TORQUE SPECIFICATIONS FOR STANDARD MACHINE HARDWARE

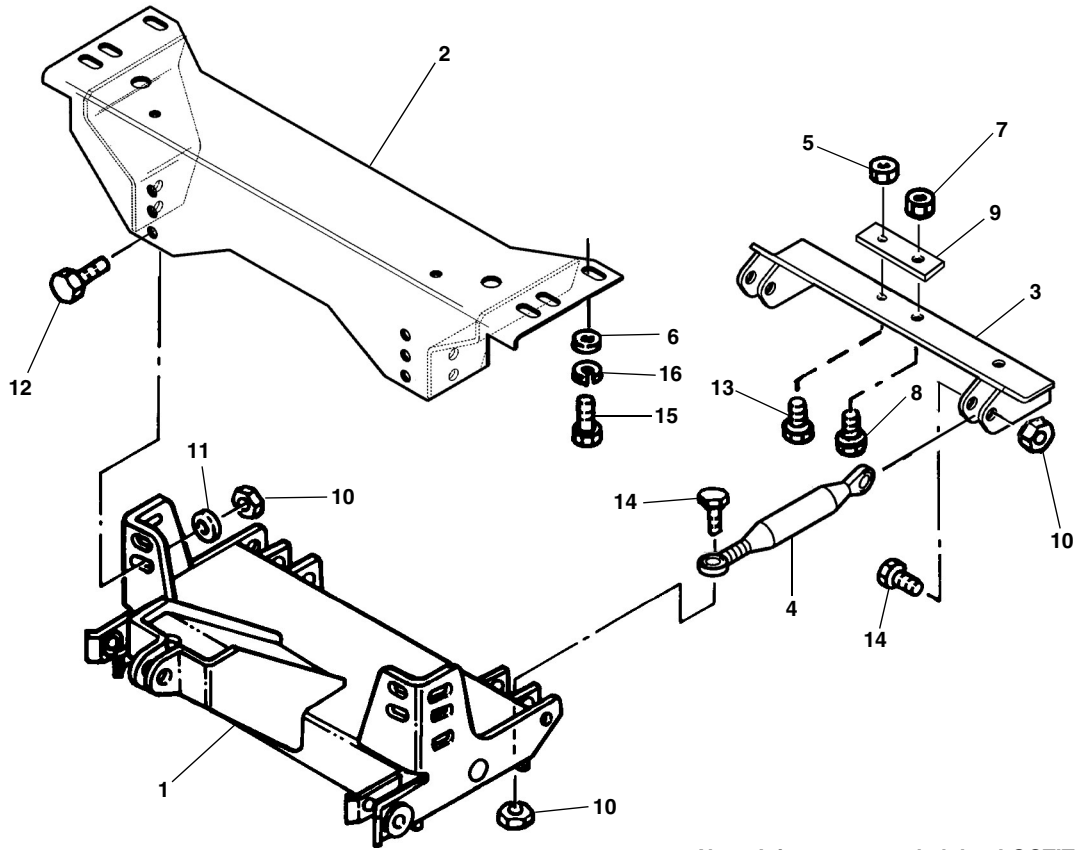
Bolt Size	GR.2 Dry	GR.5 Dry	GR.8 Dry	Metric Size	GR.8.8 Dry
1/4"	66*	9	12	M8	17
5/16"	11	17	25	M10	35
3/8"	20	30	45	M12	60
7/16"	32	50	70	M14	95
1/2"	50	75	110	M16	155
9/16"	70	110	150		
5/8"	100	150	220		
3/4"	175	260	380		
7/8"	170	430	600		
1"	250	640	900		

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

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



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 (96102896)	1
2	96001748	Crossmember, Front	1
3	96001749	Crossmember, Rear.....	1
4	96001763	Link, Adjustment	2
5	98009009	Nut, Hex, Nylock 3/8"-16 NC.....	1
6	98009011	Washer, Flat, 1/2"	3
7	98009013	Nut, Hex, Nylock 1/2"-13 NC	2
8	98009017	Cap Screw, Hex head, 1/2"-13 NC x 3"	2
9	96103718	Plate, Washer	1
10	98009038	Nut, Hex, Nylock, 5/8"-11 NC	8
11	98009039	Washer, Flat, 5/8"	4
12	98009115	Cap Screw, Hex Head, 5/8"-11 NC x 1-1/2"	4
13	98009258	Cap Screw, Hex Head, 3/8"-16 NC x 3"	1
14	98009259	Cap Screw, Hex Head, 5/8"-11 NC x 2-1/2"	4
15	98009054	Cap Screw, Hex Head, M12 - 1.25 x 40.....	2
16	98009012	Washer, Lock, 1/2"	2

SNO-WAY® INTERNATIONAL, INC.



Hartford, WI 53027 USA
 Website: www.snoway.com
 ©2001 Sno-Way® International