Diamond SNOWPLOWS by Meyer

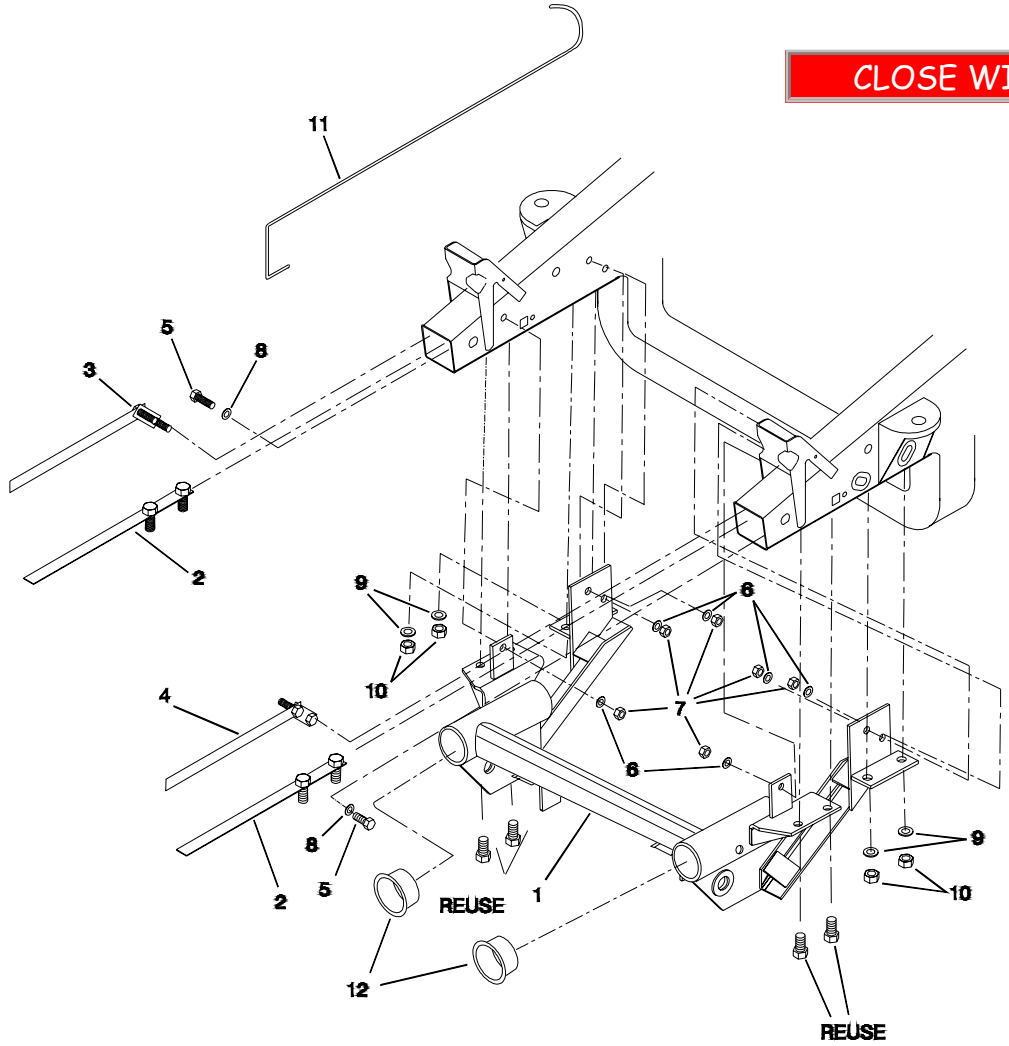
81014 R
May, 1999

FRAME ATTACHMENT KIT

1998- FORD F-150 L.D. 4x4
1997- FORD F-250 L.D. 4x4

138.8" W.B. REGULAR CAB ONLY

CLOSE WINDOW



ITEM #	STOCK #	DESCRIPTION	QTY.	ITEM #	STOCK #	DESCRIPTION	QTY.
1	80154	MOUNTING FRAME	1	7	* 8501001 009	1/2"-13 NUT	6
2	11607	Bolt Bar (5/8")	2	8	* 20355	1/2" FLATWASHER	2
3	80166	Bolt Bar (1/2") P.S.	1	9	* 20331	5/8" LOCKWASHER	4
4	80171	Bolt Bar (1/2") D.S.	1	10	* 20530	5/8"-11 NUT	4
5	* 20095	1/2"-13 X 1-1/2" CAPSCREW	2	11	819000 013	RELEASE HOOK	1
6	* 20329	1/2" LOCKWASHER	6	12	815000 146	REC. TUBE END CAP	2

* ITEMS PACKED IN 80174BOLT BAG

Diamond Equipment assumes no responsibility for installations not made according to these instructions

Diamond

Old Route 1 RR2, Box 125 • Damariscotta, Maine

Phone 563-2226 (Area Code 207)

1997 - FORD F-250 L.D.4x4

138.8" W.B. REGULAR CAB ONLY

PARTICULAR ATTACHMENTS INSTRUCTIONS

PULL AWAY MOUNTINGS & 80052 OUT FRONT ELECTRIC HYDRAULICS ONLY.

FORD has deemed the 1997- F250 L.D. as "intended as acceptable for personal-use, non- commercial snow plowing".

CAUTION: This snow removal equipment should be mounted only on vehicles that are equipped with the vehicle manufacturer optional snow plow preparation package. Mounting snow removal equipment on a vehicle that the vehicle manufacturer does not recommend for snowplowing could damage the vehicle, impair operation and control of the vehicle, and / or may void the new vehicle warranty. Snow Plow Preparation Package information is available from vehicle manufacturers and new vehicle dealers. Any optional equipment or accessory that would add weight to the snowplow or mounting hardware is not to be used on the 1997- F-250 L.D.

GENERAL INSTRUCTIONS: Disconnect the vehicle battery or batteries before beginning installation **(reconnect after installation is complete).** Do not burn holes into or weld pieces onto the vehicle frame. Use extreme caution when drilling any holes in the vehicle to prevent damage to brake lines, fuel lines, wiring, or any other vehicle components. Assemble parts and fasteners "finger tight" until instructions indicate final tightening. After first usage and periodically thereafter, retighten all fasteners to correct torque.

NOTE: l/2"-13 GRADE 5 fasteners should be torqued to 75 ft. lbs.
5/8"-11 GRADE 5 fasteners should be torqued to 150 ft. lbs.

FORD BODY BUILDERS LAYOUT BOOK STATEMENTS

BALLAST WEIGHT

Ballast weight may be required to prevent Front GAWR overloading. If required, ballast must be securely attached at least 24 inches rear of the rear axle. Weighing of the complete vehicle with the snowplow, ballast, and second unit body (if applicable) installed is necessary to determine that the Front GAWR, Rear GAWR, and GAWR are not exceeded. Note: On the F-250 L.D. 4x4 regular cab (138.8" WB), do not exceed a maximum of 800 lb. ballast weight.

To Maintain Front end Alignment (F-250 L.D. 4x4 Regular Cab)

1. Measure and record the front bumper height before installing any hardware.

2. Mount all hardware including the snowplow per the manufacturers instructions.

3. Adjust the F-250 torsion bars per the Ford shop Manual's alignment procedure until the front bumper height measured in step 1 is achieved.

4. Reverse this procedure when the snowplow is removed.

Failure to follow these recommendations may cause premature tire wear and affect front end alignment.

Notes: (That apply to 97- F-250 L.D. 4x4 Regular Cab)

(2) Super Cab, Crew Cab and SWB Regular Cab Models are not recommended for snowplow applications.

(6) Must restrict Lariat Trim, Loading Leveling Suspension, and Skid Plates when using 5.4L powertrains.

1. **PRELIMINARY:** Jack the vehicle up from under the center of the frame until the front tires just clear the ground. Place jack stands under the frame to prevent accidental lowering of the vehicle. If the vehicle has skid plates, remove and discard the front skid plate, fasteners, and the threaded clips in the bottom flange of each frame rail. Remove and discard the tow hooks from the frame rails. Save the tow hook fasteners and the threaded stampings inside the frame rails for reuse. Temporally remove the front bumper assembly from the vehicle. Save the bumper fasteners for reuse. **Note:** The air dam bolted to the bottom of the bumper assembly can either be removed completely or the center section between the tow hook openings should be trimmed out to clear the mounting frame (1) before the bumper assembly is reinstalled.

2. MOUNTING FRAME: Lift the mounting frame (1) up onto the bottom of the frame rails with the vertical ears of the mounting frame between the rails. Line up the holes in the front brackets of the mounting frame (1) with the holes in the frame rails that the four tow hook bolts were removed from. Fasten the mounting frame (1) to the frame rails using the vehicle tow hook bolts and threaded stampings inside the vehicle frame rails. Place a 5/8”-11 bolt bar (2) inside each frame rail with the bolts down through the square holes in the frame rail and through the holes in the rear bracket on each side of the mounting frame (1). Fasten using two 5/8” lockwashers (9) and 5/8”-11 nuts (10) on each side. Tighten all mounting frame fasteners installed up to this point.

3. **DRILLING & FASTENERS:** Using the holes in the front and rear vertical brackets of the mounting frame (1) as guides, drill three 1/2” dia. holes through the inner flange of each frame rail. Install a 1/2”-13 x 1-1/2” capscrew (5) and 1/2” flatwasher (8) out through the front 1/2” drilled hole and front bracket on each side. Fasten using 1/2” lockwasher (6) and 1/2”-13 nuts (7). Insert the passenger’s side and driver’s side 1/2” bolt bars (3) and (4) into their corresponding frame rail with the 1/2” bolts through the 1/2” drilled holes in the rails and through the holes in the rear brackets of the mounting frame (1). Fasten using 1/2” lockwashers (6) and 1/2”-13 nuts (7). Tighten all remaining mounting frame fasteners. Reinstall and adjust the vehicle bumper assembly using the original fasteners. Remove jack stands from under the frame and lower the vehicle to the ground.

4. **LIFT FRAME :** Clean paint and burrs from the outside tube ends of the lift frame and the inside surfaces of the receiver tubes of the front mounting frame. (1).

SPECIAL NOTE: Liberally coat the entire tube ends of the lift frame, the inside surface of the receiver tubes and threads of the slack adjusting bolts on the receiver tubes with chassis grease or anti-seize lubricant.

Back off the slack adjusting bolts on the receiver tubes until they no longer protrude inside the tubes. Slide the lift frame into the receiver tubes in the front mounting frame (1) until the fastening holes line up. Tighten the slack adjusting bolts on the receiver tubes until the lift frame will just slide in and out of the receiver tubes. Secure the lift frame to the front mounting frame using 5/8” hinge pin (26) and hair pin cotter (27).

5. **LIFT ARM:** Install the lift arm (24) and lift cylinder or electric hydraulic unit onto the lift frame using the 5/8"-11 X 5-1/2" capscrew (25) through the upper lift frame ears and the rear lift arm hole. Place a 5/8"-11 X 4-3/4" capscrew through the front lift arm hole and the ram end of the lift cylinder or electric hydraulic unit. Place a 5/8"-11 X 3-1/4" capscrew through the lower lift frame ears and stationary end of the lift cylinder or electric hydraulic unit. Fasten the three 5/8"-11 capscrews using three 5/8"-11 locknuts (32).

6. **LIFT CHAIN:** Attach each end of the lift chain (40) to the two holes in each of the diagonal braces of the push frame using 7/16" -14 “U” bolts (41), 7/16" lockwashers (43), and 7/16"-14 nuts (42).

7. **PUSH FRAME:** Install the push frame onto the plow blade with the upper and lower pivot holes lined up with the pivot holes in the back of the plow blade. Insert the shorter pivot pin (36) down through the upper pivot holes. Insert the longer pivot pin (39) down through the lower pivot holes. Secure the pivot pins (36),(39) using 1/4" X 2" cotter pins (23).

8. **ANGLE CYLINDERS:** Install the angle cylinders between the push frame and the ears on the back side of the plow blade with the rod end of the cylinders toward the plow blade. The elbows in the ports of the angle cylinders should be between the angle cylinders and the push frame.

NOTE: When installing the angle cylinders on 8' and 8-1/2' plow blades, place four 1-1/4" flatwashers (30) between each lower push frame ear and the stationary end of each angle cylinder.

Attach the stationary end of the angle cylinders to the push frame using the two shorter cylinder pins (22). Attach the rod ends of the angle cylinders to the back side of the plow blade using the two longer cylinder pins (44). Secure the cylinder pins using 1/4" X 2" cotter pins (23).

9. **PLOW MARKERS:** Attach each plow marker (33) to the two holes in the upper outer surface of each end rib of the plow blade using two 5/16"-18 X 1" capscrews (35), 5/16" lockwashers (37), and 5/16”- 18 nuts (38).

10. **HOOK UP PINS:** Compress each hook up pin spring (50) slightly and place them between the inner most ear and the center ear on each side of the push frame with the hole through the center of each spring lined up with the pin holes in the push frame ears. Insert each hook up pin (48) through the pin hole in each inner most ear of the push frame , through the center of the springs (50), and out through the center and outside ears on each side of the push frame. Compress the hook up pin springs (50) slightly and secure the hook up pins (48) using a 1" snap ring (49) in the snap ring groove of each hook up pin (48). (**The snap rings should be between the end of the spring and the inner surface of each of the center ears on the push frame.)**

11. PLOW TO VEHICLE ATTACHING: Pull back and lock the spring loaded hook up pins (48) on each side of the push frame . Attach the lift chain to the lift arm hooks and lift the back end of the push frame up level using the vehicle hydraulics. Line up the spring loaded hook up pins with the corresponding set of holes in the lower part of the mounting frame. Unlock the spring loaded hook up pins so that they go completely through the holes in the mounting frame and the push frame ears. Adjust the lift chain at the lift chain hooks on the lift arm so that the plow blade will lift fully and also be able to follow the ground contour while plowing.

NOTE: If the lift chain does not pull evenly, shorten the longer side by attaching at a different link or at half a link where the chain is attached to the push frame with the 7/16" -"U" bolts.

12. **PUSH FRAME STOP BOLTS:** Screw a 5/8"-11 jam nut (29) all the way onto each of the 5/8"-11 X 3" full thread capscrews (28). Place the capscrew / jam nut assemblies up through the ears on each side of the lower lift frame with the heads of the capscrews down. Fasten with a 5/8" lockwasher (31) and jam nut (29). Adjust the 5/8"-11 X 3" full thread capscrews (28) with the jam nuts (29) so that the heads of the capscrews (28) contact the push frame before the upper pivot section of the push frame contacts the lift arm or the lift cylinder / out front electric hydraulic unit while lifting plow or stacking snow.

NOTE: If the push frame is attached to a different set of connecting holes on the mounting frame, the push frame stop bolts should be checked and may need to be readjusted to prevent the push frame from contacting the lift arm, or the lift cylinder / out front electric hydraulic unit while lifting plow or stacking snow.

CAUTION: CHECK THE TRIPEDGE ADJUSTMENT AT THIS TIME.

A. THE SPRINGS ARE PROPERLY ADJUSTED WHEN A PIECE OF PAPER CAN BE PLACED BETWEEN THE COILS.

B. IF THE TRIPEDGE SPRINGS NEED ADJUSTMENT, LOOSEN THE BOTTOM LOCK NUT ON BOTH SPRING ASSEMBLIES. ROTATE THE TOP NUT UNTIL THE SPRINGS ARE PROPERLY ADJUSTED.

C. BE SURE TO TIGHTEN THE BOTTOM LOCK NUT SECURELY ON BOTH ASSEMBLIES TO THE TOP NUT TO PREVENT LOOSENING OF THE ASSEMBLIES.

NOTICE: Diamond Equipment or Meyer Products assume no responsibility for installations not made in accordance with these instructions.

Instructions are subject to change without notice.