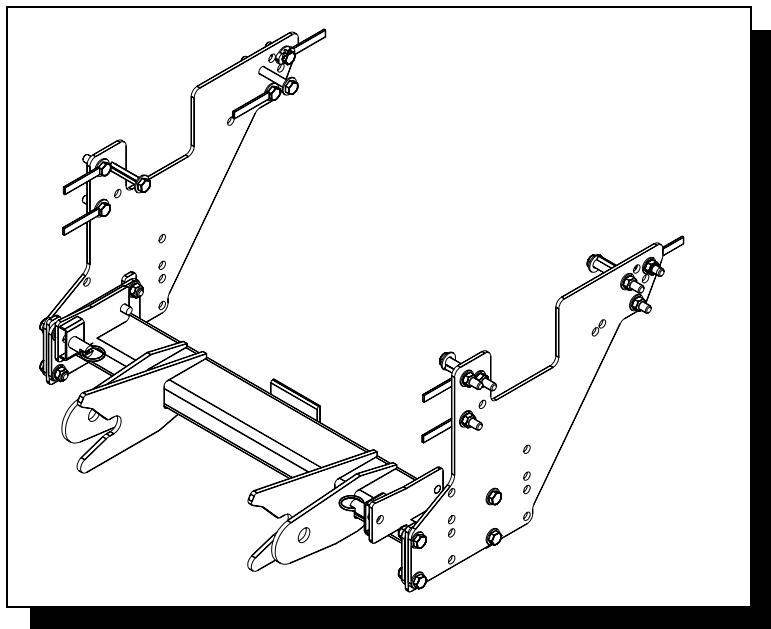




## UNDERCARRIAGE INSTALLATION INSTRUCTIONS



UNDERCARRIAGE **31142**

HARDWARE KIT **61393**

### FOR MODELS:

FORD BRONCO II (1983-1990)

FORD EXPLORER (1991-2001)

FORD EXPLORER SPORT TRAC (2001-2005)

FORD RANGER PICKUP (1983-2005)

MAZDA B3000/B4000 PICKUP (1994-2002)

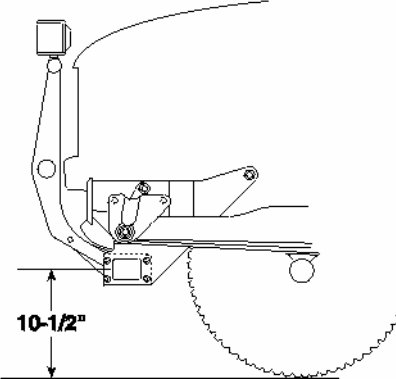
MERCURY MOUNTAINEER (1998-2001)

## INSTALLATION INSTRUCTIONS

**P/N 31142**  
**PUSH BEAM P/N 31143**

BLZ 104-23

A label identifying the undercarriage assembly part number and push beam part number is applied to the rear of the push beam.



The recommended push beam height for this undercarriage assembly is 10-1/2" from the center of the push beam to level ground. DO NOT exceed 12-1/2" in height for this undercarriage.



**WARNING:** Always perform vehicle undercarriage installations with the keys removed from the vehicle's ignition. Properly tag the ignition switch to alert others work is being performed on the vehicle.

Most newer trucks are equipped with driver and passenger's side air bags. DO NOT remove, disable, or reposition any sensory equipment related to the safe operation of the air bags.

**ALWAYS** follow the vehicle manufacturer's recommendations for installing snowplowing equipment.

**FAILURE TO COMPLY WITH THE ABOVE WARNINGS MAY RESULT IN SERIOUS INJURY OR DEATH.**



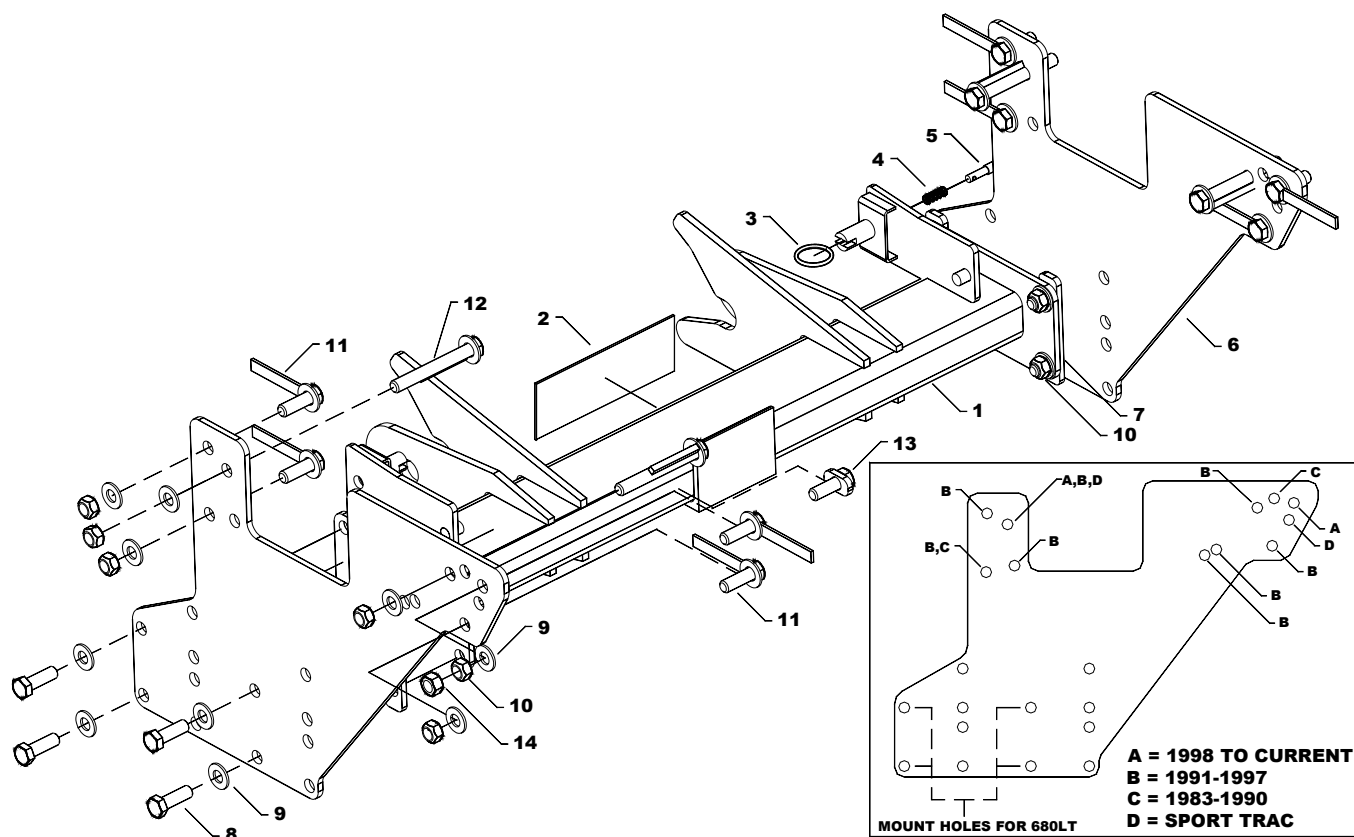
**CAUTION:** If your vehicle is equipped with oversize tires, they may come into contact with the undercarriage hanger plates when turning the vehicle. Adjust steering stops if possible.

1. If vehicle is equipped with fog lamps, disconnect each electrical harness. Remove the bumper fascia. *NOTE: The bumper fascia may need to be permanently notched to accommodate the undercarriage assembly.*
2. Align each hanger plate (**Ref 6**) with the holes on the outside of the truck frame rail. *NOTE: Use the holes specified for the correct vehicle year. The hardware kit includes all hardware needed for the different vehicle years identified.*
3. Using flexible wire, position t-bolt (**Ref 11**) through the rear access hole in the truck frame rail and out the rear hanger plate mount hole on the frame. Secure hanger plate with washer (**Ref 9**) and nut (**Ref 10**). Finger tighten the fasteners until all undercarriage parts are in place.

*NOTE: The '04 Ford Ranger requires t-bolt (**Ref 13**) in this location. Position the bolt into the oval hole (may need to grind slightly) in the frame. Mark the end of each bolt to indicate which direction the "T" will face when it is installed inside of the frame rail. Secure with washer (**Ref 9**) and nut (**Ref 14**).*

4. Secure the front of each hanger plate to the frame using t-bolt (**Ref 12**), washer (**Ref 9**) and nut (**Ref 10**).
5. Mount the push beam (**Ref 1**) square with the bottom of each hanger plate using bolts (**Ref 8**), washers (**Ref 9**) and nuts (**Ref 10**). *NOTE: Due to different truck frame widths, spacers are provided to prevent the hanger plates from being bent when installing the pushbeam. Use these spacers (**Ref 7**) if the pushbeam does not mount flush to the hanger plates. Tighten pushbeam hardware according to torque specifications.*
6. Level the pushbeam with the floor and torque the hanger plate hardware. Use Loctite®242® or equivalent to secure all non-locking nuts. Verify t-bolts are positioned with "T" perpendicular to the slot in the truck frame.
7. Replace the bumper fascia and reconnect the fog lamp wiring if applicable.
8. Position the **Light Tower** into the mount pockets on the push beam. Each pocket has a lock pin that secures both light tower arms. Pull out and twist each ring handle to temporarily unlock the pins. Place the light tower into the pockets and relock the pins. Mount each **Plow Headlight** to the light tower with the hardware kit provided.
9. Plug the connectors from the snowplow headlights into the connectors on the vehicle wire harness. Adjust both lights with the plow in the raised position.

## UNDERCARRIAGE PARTS



| REF | PN    | QTY | DESCRIPTION                       | NOTES           |
|-----|-------|-----|-----------------------------------|-----------------|
| -   | 31142 | 1   | Asm, Undercarriage                | INCLUDES 1-14   |
| -   | 61393 | 1   | Kit, Hardware FORD UC             | INCLUDES 7-14   |
| 1   | 31143 | 1   | Weldment, Push Beam 2 X 4 X 30.75 |                 |
| 2   | 63162 | 1   | Decal, Push Beam 1-1/2" x 6-1/2"  |                 |
| 3   | 61309 | 2   | Ring, Standard Split, 1.48" O.D   |                 |
| 4   | 61000 | 2   | Spring, Draw Latch Lock Pin       |                 |
| 5   | 40079 | 2   | Pin, 3/8" DIA. x 1-3/4" SS        |                 |
| 6   | 31129 | 2   | Plate, Hanger                     |                 |
| 7   | 31133 | 4   | Spacer, 4-3/4" x 1" x 1/4"        |                 |
| 8   | 61055 | 8   | Screw, 1/2-13 x 1-1/2" HHCS GR8   |                 |
| 9   | 61026 | 28  | Washer, 1/2" USS Hardened         |                 |
| 10  | 61020 | 20  | Nut, 1/2-13 Top Lock Z            |                 |
| 11  | 31130 | 8   | T-Bolt, 1/2-13 x 1-1/2" GR8 YZ    |                 |
| 12  | 31127 | 4   | T-Bolt, 1/2-13 x 4" GR8 YZ        |                 |
| 13  | 32137 | 2   | T-Bolt, 1/2-13 x 1-1/2" GR8 YZ    | '04 Ranger ONLY |
| 14  | 61492 | 2   | Nut, 1/2-13 Hex Top Lock Z        | '04 Ranger ONLY |

Note: The reference numbers listed identify parts shown in the illustration above. These numbers are specific to this illustration only. Always review the part number given for proper component identification. Blizzard Corporation reserves the right, under its Continuous Improvement Policy, to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications.

## HEADLIGHT CONVERSION HARNESS GUIDE

| VEHICLE APPLICATION                                                                                | HEADLIGHT CONNECTOR | HEADLIGHT DESCRIPTION                       | HEADLIGHT NUMBERS | CONVERSION HARNESS |
|----------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------|-------------------|--------------------|
| 1983-1990 FORD BRONCO II<br>1991-2001 FORD EXPLORER<br>1983-2005 FORD RANGER                       | 2B/2D               | DUAL<br>RECTANGULAR<br>HEADLAMP             | H6054, HP6054     | 62220              |
|                                                                                                    | HB1                 | DUAL<br>RECTANGULAR<br>COMPOSITE<br>HALOGEN | 9004, H9004       | 62221              |
|                                                                                                    | HB5                 | DUAL<br>RECTANGULAR<br>COMPOSITE<br>HALOGEN | 9007, H9007       | 62222              |
| 2001-2005 FORD EXPLORER SPORT TRAC<br>1994-2002 MAZDA B3000/B4000<br>1998-2001 MERCURY MOUNTAINEER | HB5                 | DUAL<br>RECTANGULAR<br>COMPOSITE<br>HALOGEN | 9007, H9007       | 62222              |

Note: Headlight conversion harness kits are not included with undercarriages. All headlight conversion harness kits sold separately.

## TORQUE SPECIFICATIONS (For reference only)



Grade Identification Marking for J429-Grade 5 Bolt



Grade Identification Marking for J429-Grade 8 Bolt

| SAE J429 – Grade 5  |                   |                   |            | SAE J429 – Grade 8  |                   |                   |            |
|---------------------|-------------------|-------------------|------------|---------------------|-------------------|-------------------|------------|
| Nominal Thread Size | Clamp Loads (lbs) | Tightening Torque |            | Nominal Thread Size | Clamp Loads (lbs) | Tightening Torque |            |
|                     |                   | “Lubricated”      | “Dry”      |                     |                   | “Lubricated”      | “Dry”      |
| 1/4-20              | 2,000             | 6 ft-lbs          | 8 ft-lbs   | 1/4-20              | 2,850             | 9 ft-lbs          | 12 ft-lbs  |
| 5/16-18             | 3,350             | 13 ft-lbs         | 18 ft-lbs  | 5/16-18             | 4,700             | 18 ft-lbs         | 25 ft-lbs  |
| 3/8-16              | 4,950             | 23 ft-lbs         | 31 ft-lbs  | 3/8-16              | 6,950             | 32 ft-lbs         | 44 ft-lbs  |
| 7/16-14             | 6,800             | 37 ft-lbs         | 50 ft-lbs  | 7/16-14             | 9,600             | 53 ft-lbs         | 70 ft-lbs  |
| 1/2-13              | 9,050             | 57 ft-lbs         | 75 ft-lbs  | 1/2-13              | 12,800            | 80 ft-lbs         | 107 ft-lbs |
| 9/16-12             | 11,600            | 82 ft-lbs         | 109 ft-lbs | 9/16-12             | 16,400            | 115 ft-lbs        | 154 ft-lbs |
| 5/8-11              | 14,500            | 113 ft-lbs        | 151 ft-lbs | 5/8-11              | 20,300            | 159 ft-lbs        | 211 ft-lbs |
| 3/4-10              | 21,300            | 200 ft-lbs        | 266 ft-lbs | 3/4-10              | 30,100            | 282 ft-lbs        | 376 ft-lbs |
| 7/8-9               | 29,435            | 321 ft-lbs        | 430 ft-lbs | 7/8-9               | 41,550            | 454 ft-lbs        | 606 ft-lbs |
| 1-8                 | 38,600            | 482 ft-lbs        | 640 ft-lbs | 1-8                 | 54,540            | 680 ft-lbs        | 900 ft-lbs |



Grade Identification Marking for Metric-Grade 8.8 Bolt



Grade Identification Marking for Metric-Grade 10.9 Bolt

| Metric Class 8.8 |                      |                   |            | Metric Class 10.9 |                      |                   |            |
|------------------|----------------------|-------------------|------------|-------------------|----------------------|-------------------|------------|
| Diameter (mm)    | Clamp Loads (Pounds) | Tightening Torque |            | Diameter (mm)     | Clamp Loads (Pounds) | Tightening Torque |            |
|                  |                      | “Lubricated”      | “Dry”      |                   |                      | “Lubricated”      | “Dry”      |
| 5                | 1,389                | 3 ft-lbs          | 5 ft-lbs   | 5                 | 1,987                | 5 ft-lbs          | 7 ft-lbs   |
| 6                | 1,965                | 6 ft-lbs          | 8 ft-lbs   | 6                 | 2,812                | 8 ft-lbs          | 11 ft-lbs  |
| 7                | 2,826                | 10 ft-lbs         | 13 ft-lbs  | 7                 | 4,044                | 14 ft-lbs         | 19 ft-lbs  |
| 8                | 3,579                | 14 ft-lbs         | 19 ft-lbs  | 8                 | 5,121                | 20 ft-lbs         | 27 ft-lbs  |
| 10               | 5,672                | 28 ft-lbs         | 37 ft-lbs  | 10                | 8,116                | 40 ft-lbs         | 53 ft-lbs  |
| 12               | 8,243                | 49 ft-lbs         | 65 ft-lbs  | 12                | 11,796               | 70 ft-lbs         | 92 ft-lbs  |
| 14               | 11,246               | 77 ft-lbs         | 103 ft-lbs | 14                | 16,092               | 111 ft-lbs        | 148 ft-lbs |
| 16               | 15,882               | 125 ft-lbs        | 167 ft-lbs | 16                | 21,970               | 173 ft-lbs        | 231 ft-lbs |
| 18               | 19,423               | 172 ft-lbs        | 229 ft-lbs | 18                | 26,868               | 238 ft-lbs        | 317 ft-lbs |
| 20               | 24,784               | 244 ft-lbs        | 325 ft-lbs | 20                | 34,284               | 338 ft-lbs        | 450 ft-lbs |