



SNOWFLOW

M.J. ELECTRIC, INC.

P.O. BOX 788 • IRON MOUNTAIN, MICHIGAN 49801

# 1992 & NEWER FORD (DIESEL) PART NO. LTA 3302 UNDERCARRIAGE MOUNTING INSTRUCTIONS

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WARNING: THIS VEHICLE IS NOT RECOMMENDED FOR USE WITH SNOWPLOWING EQUIPMENT BY FORD WHEN EQUIPPED WITH A 7.3 LITER V-8 DIESEL ENGINE. THE VEHICLE'S OWNER MUST CONTACT THE FORD DEALERSHIP WHERE HE PURCHASED THE VEHICLE TO CHECK FOR ANY WARRANTY MODIFICATIONS AND / OR NULLIFICATIONS. THE VEHICLE SHOULD BE EQUIPPED WITH THE SAME MINIMUM RECOMMENDATIONS AS A GASOLINE POWERED VEHICLE. OWNERS OF VEHICLES THAT DO NOT HAVE THE MINIMUM RECOMMENDED EQUIPMENT SHOULD CONSULT THEIR LOCAL TRUCK DEALER FOR ANY REQUIRED CHANGES OR MODIFICATIONS.

***PUTS SNOW IN ITS PLACE***

# 1992 & NEWER FORD DIESEL

## PART NO. LTA 3302

### UNDERCARRIAGE MOUNTING INSTRUCTIONS

The mounting procedure outlined below covers FORD 3/4 (F250) and 1 TON (F350) trucks with diesel engines. You will need to refer to the illustrations and familiarize yourself with each of the undercarriage components and their relative position to each other. Then proceed as follows:

1. Remove the truck bumper and bumper brackets.
2. Hold the Left and Right Frame Gussets (Ref. No. 98L and 98R, Fig. 3) in place, then butt the Left and Right Angle Bracket Assembly Frame Mounts (Ref. No. 75L and 75R, Fig. 4) against the back of the Frame Gussets so that you can mark and drill the mounting holes for the Angle Bracket Assembly Frame Mounts. Attach 75L and 75R as shown using the hex head bolts and nut plate (Ref. No. 99, Fig 4). Set the Frame Gusset Bolt Bars (Ref. No. 100, Fig. 3) in place then install the left and right Frame Gussets (Ref. No. 98L and 98R, Fig. 3) using the hex head bolts, flat washers, and lock nuts provided.

**NOTE:** The vehicle may have to be raised to facilitate the Frame Gusset installation.

**NOTE:** It may be necessary to remove the vehicles sway bar to install the gussets. If removed the sway bar should be reinstalled onto the frame gussets.

3. Install the LIFT TOWER ADAPTER (Ref. No. 74A, Fig. 3) using the 1/4" thick BOLT PLATE (Ref. No. 74B, Fig. 3) on the inside of the frame and the hex head bolts, flat washers, and lock nuts provided, fasteners should only be finger tight.

**NOTE:** It may be necessary to install a Spacer (Ref. No. 74C, Fig. 3) in between the frame and the Lift Tower Adapter (Ref. No. 74A, Fig. 3).

**NOTE:** Make sure the Lift Tower Adapter is straight up prior to drilling the (4) 9/16" diameter holes in the front frame horn.

4. Place the LIFT TOWER ASSEMBLY (Ref. No. 74, Fig. 3) up to the LIFT TOWER ADAPTER on the truck. Bolt them together using the hex head bolts and self locking nuts provided, fasteners should only be finger tight.

5. Assemble the PUSH BEAM ASSEMBLY (Ref. No. G, Fig. 1) as shown.

6. Attach the PUSH BEAM ASSEMBLY to the LIFT TOWER ASSEMBLY as shown in Figure 3 using hex head bolts and self locking nuts, fasteners should only be finger tight. To determine the mounting height of the PUSH BEAM see plow type below:

A). V-Plow Measure from the center of the HORIZONTAL MOUNTING PIN (See Fig. 2) on the T-Frame to the ground when the plow is in the vee position. Position the PUSH BEAM ASSEMBLY to the appropriate height so the MOUNTING JAWS (See Figure 2) will accept the HORIZONTAL PIN on the T-FRAME.

**NOTE:** Should the PUSH BEAM ASSEMBLY be mounted higher than the HORIZONTAL MOUNTING PINS, the nose of the plow will tend to dig in while plowing. If the PUSH BEAM ASSEMBLY is mounted too low, the wings of the plow will not lay flat against the ground. This will be most apparent when plowing in the carry position.

B). Straight Blade Plow The distance from the ground to the top of the lower mounting jaw should be approximately 11-1/2" (See Fig. 2).

7. Install the ANGLE BRACKET ASSEMBLY (Ref. 75, Fig. 4) from the mounting points on the LIFT TOWER ASSEMBLY to their respective positions on the frame mounts (See Fig. 4) using hex head bolts with self locking nuts. Fasteners should only be finger tight.

8. With all undercarriage parts in place, securely fasten all mounting hardware. IT IS IMPORTANT THAT FASTENERS BE PROPERLY TORQUED (See Fig. 4) TO ASSURE A SAFE OPERATING PLOW.

9. Reinstall the front bumper directly to Bumper Mount (Ref. No. 78, Fig. 3) on the Lift Tower Assembly using the vehicles existing fasteners as shown in Figure 3.

With the above items completed, the hydraulic system can be installed. Refer to the Hydraulic Section for step by step instructions on how to install the HYDRAULIC PUMP, VALVE ASSEMBLY, HOSES, and CONTROL SWITCHES.

### PUSH BEAM ASSEMBLY PARTS LIST (FIGURE 1)

REF. NO.	DESCRIPTION	PART NO.	QTY.
A	Rapid-Tach Release Cable	MSC1512	1
B	Cable Stop	HDW1702	1
C	Rapid-Tach Pin	HDW1710	2
D	Rapid-Tach Spring	HDW1711	2
E	Cotter Pin	HDW1712	2
F	5/8" Flat Washer	HDW1726	4
G	Push Beam Assembly	PBA2200	1
H	Push Beam Release Strap	PBX0010	1

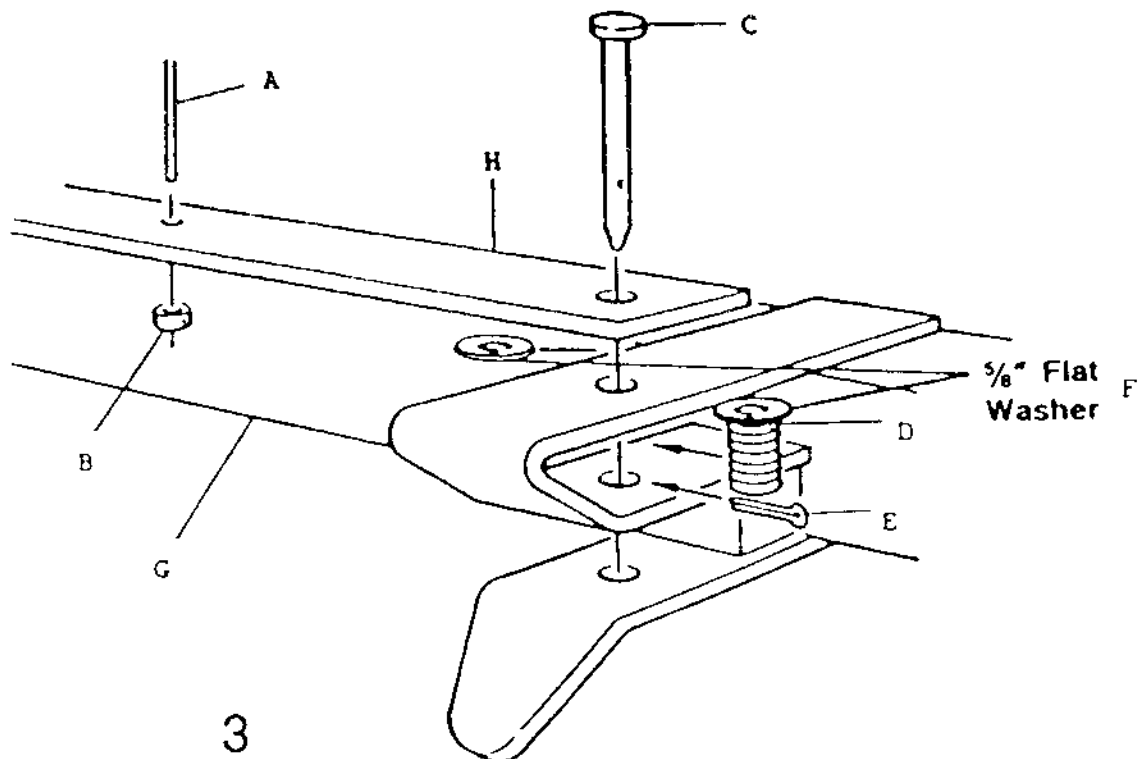


Figure 1

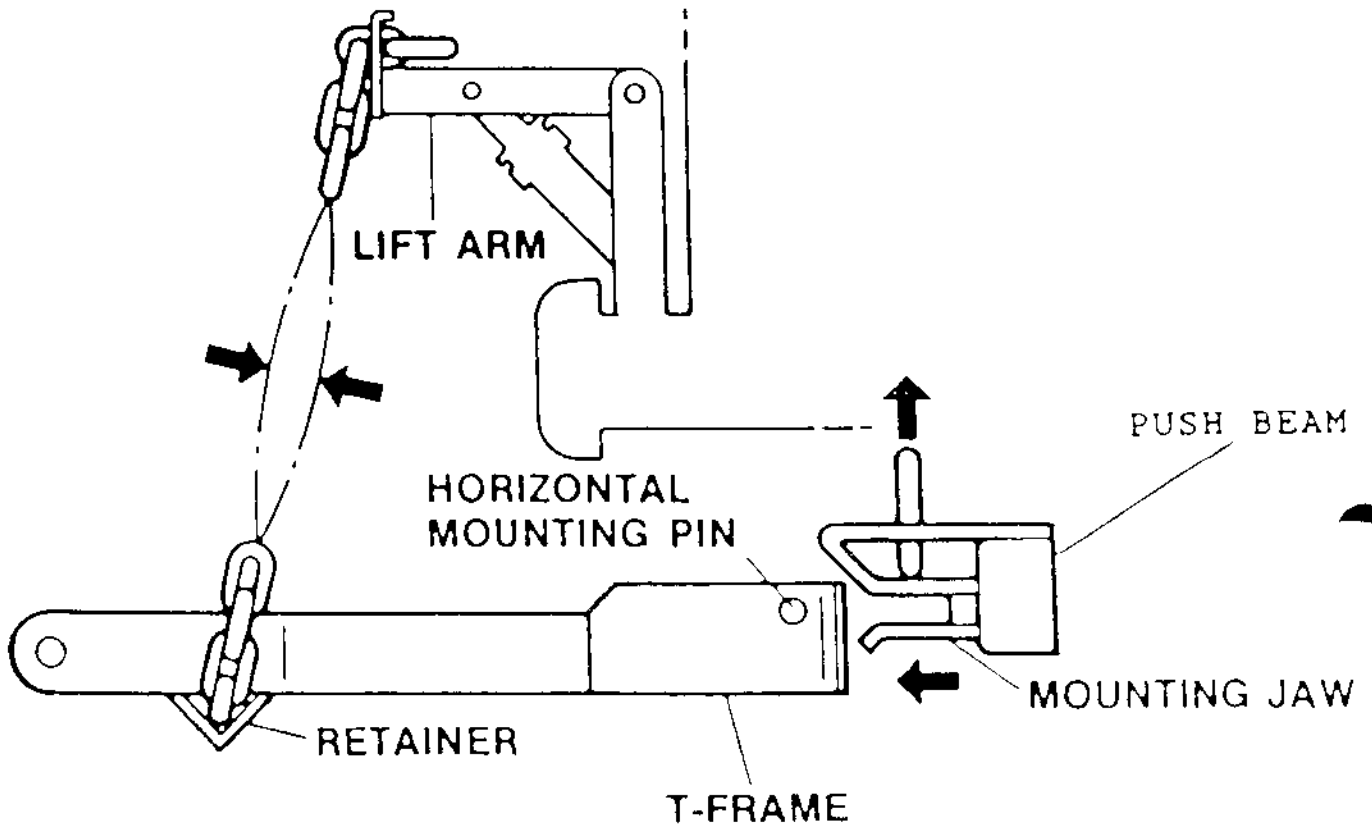


Figure 2

1992 FORD DIESEL UNDERCARRIAGE  
PART NO. LTA3302  
UNDERCARRIAGE PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	QTY.
74	Lift Tower Assembly	LTA3303	1
74A	Lift Tower Adapter	LTA3304	1
74B	Lift Tower Adapter Bolt Plate	LTA3305	2
74C	Frame/Lift Tower Adapter Spacer	LTA3306	2
62	Push Beam Assembly	PBA2200	1
75	Angle Bracket Assembly	LTA3332	1
75L	Frame Mount (Left Hand)	LTA3330	1
75R	Frame Mount (Right Hand)	LTA3331	1
99	Nut Plate (Left Hand)	LTA3333	1
98L	Frame Gusset (Left Hand)	LTA3316	1
98R	Frame Gusset (Right Hand)	LTA3317	1
100	Frame Gusset Bolt Plate	LTA3334	2
77	Bumper Mount Spacer	LTA3312	2
78	Bumper Mount	LTA3313	2
B	1/2 x 1-1/2 Hex Head Bolt	HDW1728	12
C	1/2 x 2 Hex Head Bolt	HDW1755	8
D	5/8 x 1-1/2 Hex Head Bolt	HDW1727	8
E	5/8 x 2 Hex Head Bolt	HDW1731	12
F	3/4 x 2 Hex Head Bolt	HDW1756	2
G	3/8 Flat Washer	HDW1733	4
H	1/2 Flat Washer	HDW1729	8
I	5/8 Flat Washer	HDW1726	2
J	3/4 Flat Washer	HDW1757	4
K	3/8 Self-Locking Nut (Grade C)	HDW1758	4
L	1/2 Self-Locking Nut	HDW1748	20
M	5/8 Self-Locking Nut	HDW1709	12
N	3/4 Self-Locking Nut	STB3037	2

FIGURE 3

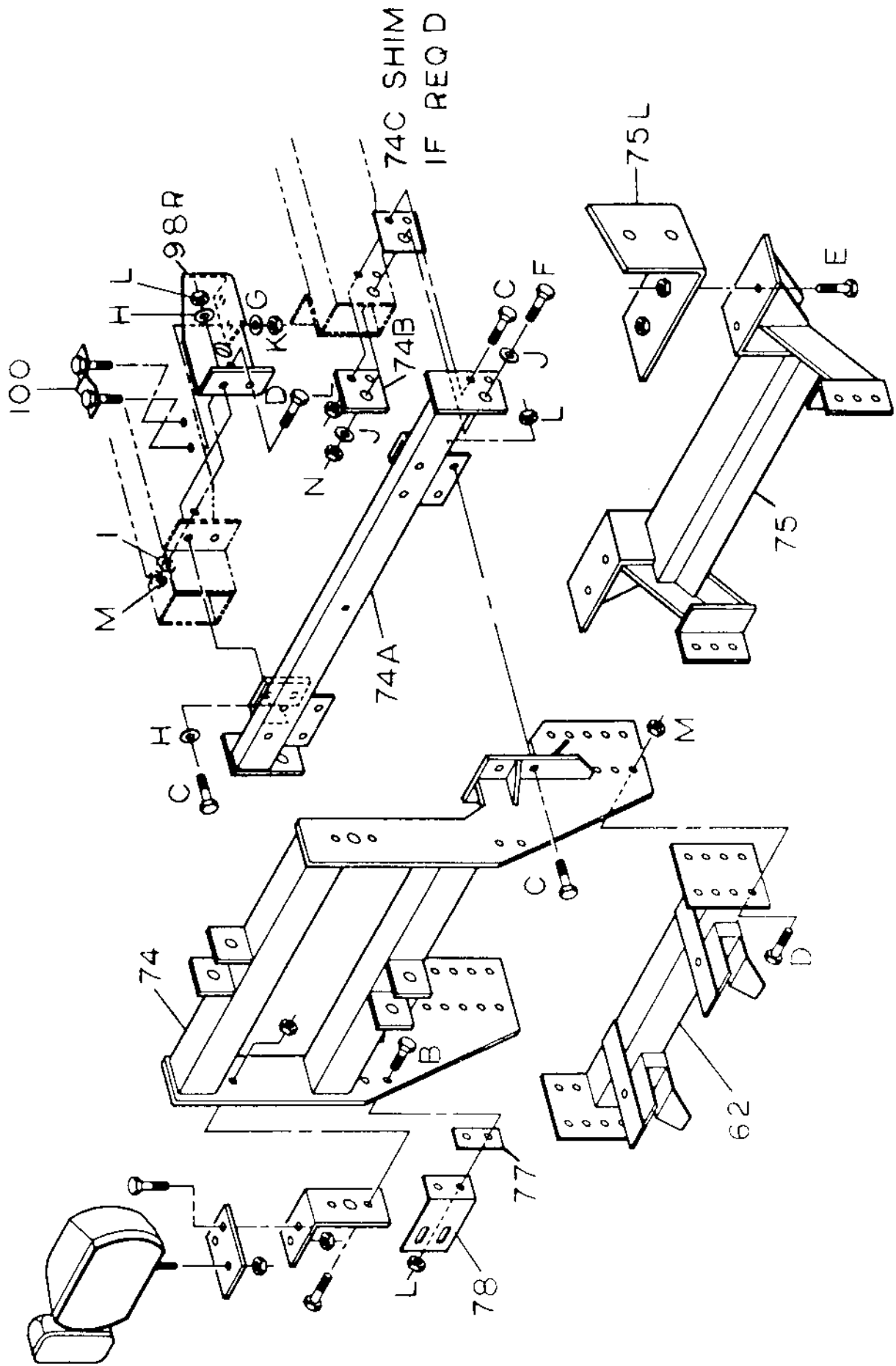
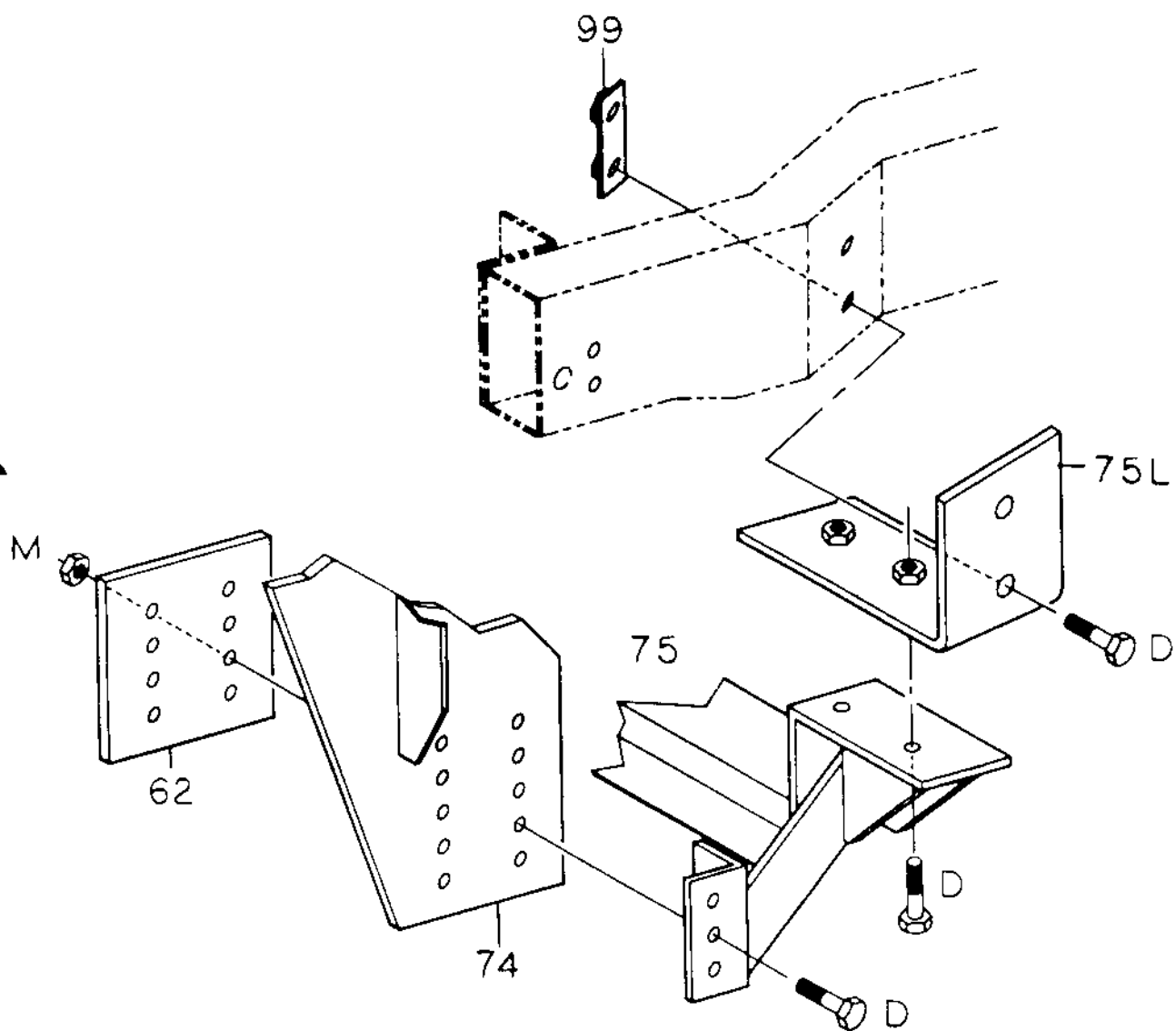
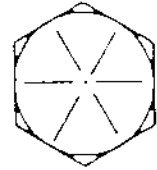
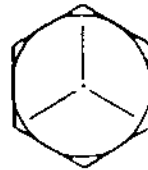


FIGURE 4



GUIDE TO RECOMMENDED ASSEMBLY TORQUE  
All Torque Values Are In Foot-Pounds (Ft.-Lb.)



DIA. / PITCH	GRADE 5	GRADE 8
1/4 - 20	6	9
5/16 - 18	14	19
3/8 - 16	23	33
7/16 - 14	38	53
1/2 - 13	56	80
9/16 - 12	82	116
5/8 - 11	113	159
3/4 - 10	201	283

\* The torque values listed above are based on dry, coated bolts. variables such as oil, or other lubrications may appreciably alter the values and must be taken into consideration.

NOTE: IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING PLOW.

Figure 5

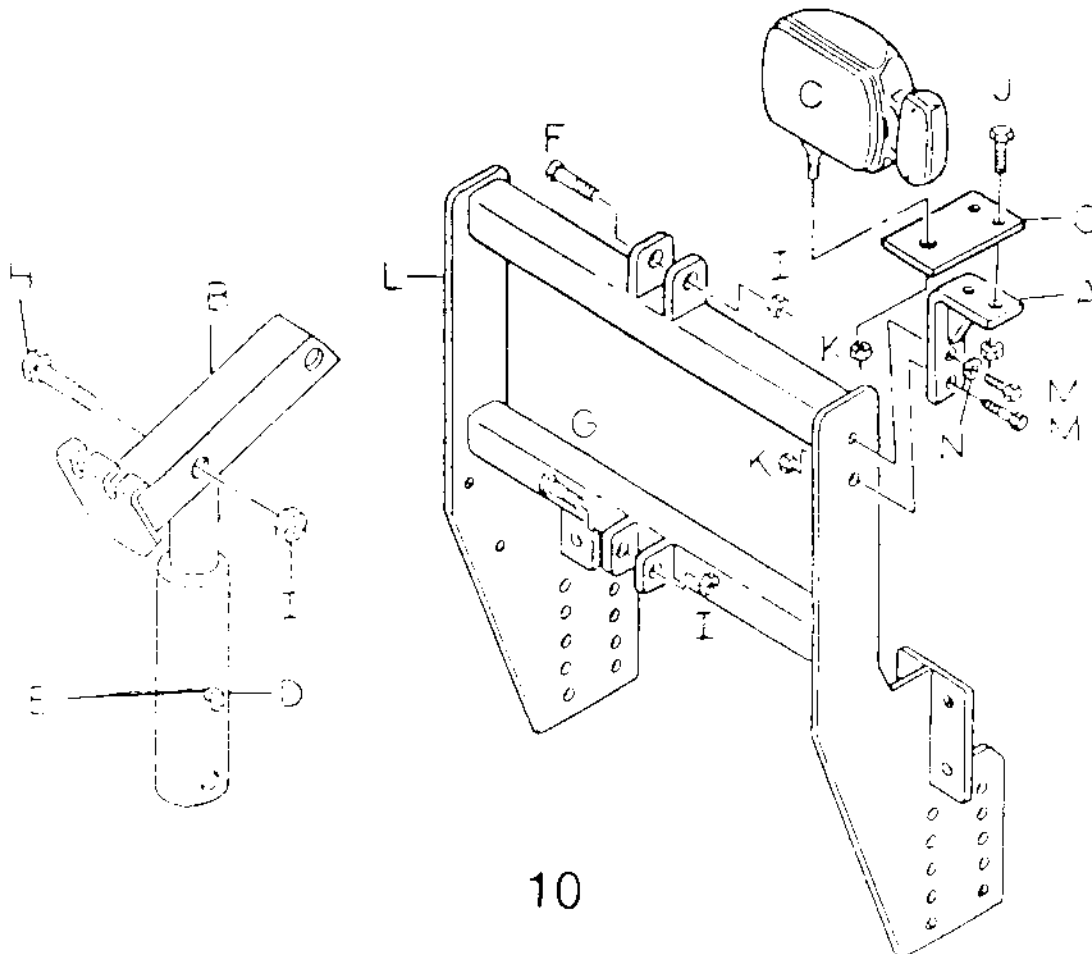
## LIFT SYSTEM AND HEADLIGHT INSTALLATION INSTRUCTIONS

1. Install the AUXILIARY LIGHT BRACKETS (Ref. No. A, Fig. 6) to the LIFT TOWER as shown in Figure 6 using the hex head bolts, nuts, and lock washers provided.
2. Bolt the Head Light Mounting Tabs (Ref. No. O, Fig. 6) to the Auxiliary Light Brackets (Ref. No. A, Fig. 6) using the hex head bolts and nuts provided.
3. Install LIFT ARM (Ref. No. B, Fig. 6) to the top of the LIFT TOWER ASSEMBLY using the 5/8" x 4-1/2" HEX HEAD BOLT (Ref. No. F, Fig. 6) and 5/8" SELF LOCKING NUT (Ref. No. I, Fig. 6) provided.
4. Position the LIFT CYLINDER (Ref. No. D, Fig. 6) in its respective position on the LIFT TOWER and fasten by using the 5/8" x 4" HEX HEAD BOLT (Ref. No. G, Fig. 6) and 5/8" SELF LOCKING NUT (Ref. No. I, Fig. 6) provided. Install the 90 DEGREE SWIVEL FITTING (Ref. No. E, Fig. 6). Fasten the rod end of the cylinder to the LIFT ARM using the 5/8" x 3-1/2" HEX HEAD BOLT (Ref. No. H, Fig. 6) and 5/8" SELF LOCKING NUT (Ref. No. I, Fig. 6) provided.
5. Mount the AUXILIARY HEADLIGHTS (Ref. No. C, Fig. 6) to the AUXILIARY LIGHT BRACKETS as shown in Figure 6. Do not tighten the AUXILIARY HEADLIGHT mounting nut as the positioning of the lights will have to be adjusted once the wiring has been completed.
6. A diagram has been provided in each Light Kit Box to illustrate the proper method of wiring the AUXILIARY HEADLIGHTS to the existing vehicle wiring harness.
7. Be sure to route all wires away from all sharp obstructions and securely position them away from hot or moving parts.
8. Your AUXILIARY HEADLIGHT KIT comes with all of the necessary wiring, connectors and switch.
9. When the wiring of the AUXILIARY HEADLIGHTS has been completed, follow the Head Lamp Aiming instructions also provided in the Auxiliary Light Kit Box.

LIFT SYSTEM AND LIGHT BRACKET INSTALLATION  
PARTS LIST

REF. NO.	DESCRIPTION	PART NO.	QTY.
A	Auxiliary Light Bracket	LTA3314	2
B	Lift Arm	LFA1400	1
C	Auxiliary Headlights	MSC1513	2
D	Hydraulic Lift/Angle Cylinder	HYD1603	1
E	90 Degree Swivel (3/8" to 1/4")	HYD1619	1
F	5/8 x 4-1/2 Hex Head Bolt	HDW1705	1
G	5/8 x 4 Hex Head Bolt	HDW1706	1
H	5/8 x 3-1/2 Hex Head Bolt	HDW1707	1
I	5/8 Self Locking Nut	HDW1709	3
M	3/8 x 1-1/2 Hex Head Bolt	HDW1719	4
N	3/8 Lock Washer	HDW1718	2
J	3/8 x 1 Hex Head Bolt	HDW1717	4
K	3/8 Self Locking Nut	HDW1720	6
L	Lift Tower Assembly	LTA3303	1
O	Head Light Mounting Tab	LTA3315	2

FIGURE 6



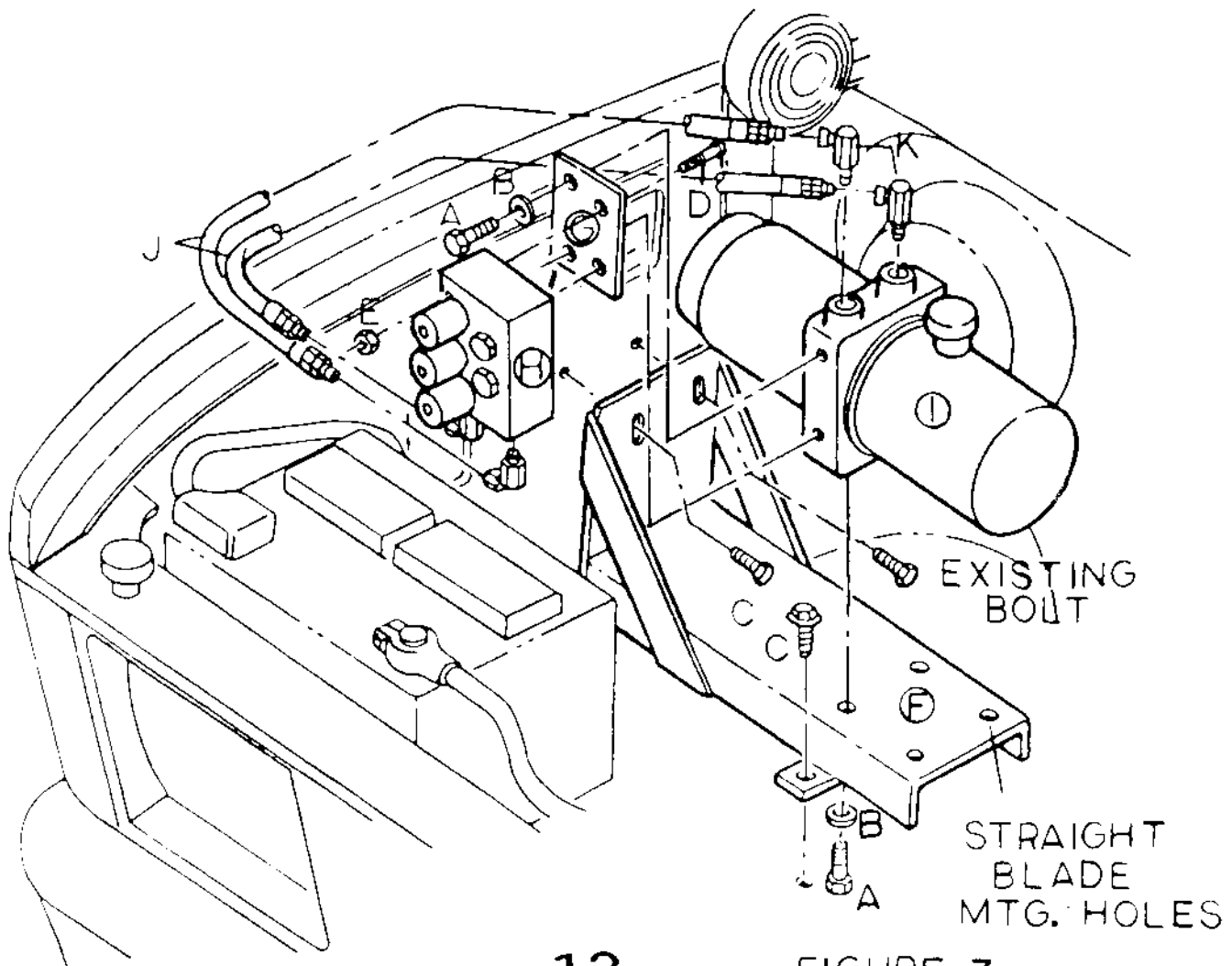
The pump mounting procedure below is for 1992 Ford trucks with a diesel engine. You will need to refer to Figure 7 (Page 12) to familiarize yourself with the pump mounting location and components.

1. Remove the jack ,the lug wrench ,and mounting hardware from the vehicle's passenger side under the hood.
2. Using the vehicles existing bolt and nut clip locate the pump mount (Ref. F, Fig. 7) to it's installation position and drill the pilot holes for the sheet metal screws (Ref. C, Fig 7).
3. Bolt the Hydraulic Pump (Ref. I, Fig. 7) to the Pump Mount Bracket (Ref. F, Fig 7) using the indicated fasteners.
4. V-PLOW ONLY - Mount the Hydraulic Valve Assembly (Ref. H, Fig. 7) to the valve mounting plate (Ref. G, Fig. 7) using the bolts and self-locking nuts provided.
5. V-PLOW ONLY - Mount the valve mounting plate (Ref. No. G, Fig. 7) to the Hydraulic Pump (Ref. I, Fig. 7) using the hex head bolts and lock washers indicated.
6. Place the above assembly in the engine compartment and fasten it to the vehicle using the indicated fasteners.
7. Refer to the Hydraulic System Section for the remaining installation instructions.

Note : It may be necessary to relocate some mechanisms (electrical relay , vacuum switch, etc) to facilitate the pumps installation.

FORD (DIESEL)  
PUMP BRACKET INSTALLATION

REF. NO.	DESCRIPTION	PART NO.	QTY.
A	3/8 x 3/4 Hex Head Bolt	HDW1743	4
B	3/8 Lock Washer	HDW1718	4
C	5/16 x 1 Sheet Metal Screw	HDW1730	2
D	1/4 x 2 1/2 Hex Head Bolt (V-Plow)	HDW1724	2
E	1/4 Self Locking Nut (V-Plow)	HDW1725	2
F	Pump Bracket	LTA2517	1
G	Valve Mounting Plate	LTA2526	1
H	Hydraulic Valve Assembly (V-Plow)	HYD1602	1
I	Hydraulic Pump (V-Plow)	HYD1600	1
J	Hydraulic Hose 1/4" x 18" (V-Plow)	HYD1660	2
K	90 Degree Swivel ("O" Ring)	HYD1620	2



ALTERNATE METHOD OF ATTACHING  
THE RAPID-TACH RELEASE CABLE

REF. NO.	DESCRIPTION	PART NO.	QTY.
A	Rapid-Tach Release Cable	MSC1512	1
B	Cable Clamp	HDW1701	1
C	1/4" x 1" Hex Head Bolt	HDW1723	1
D	1/4" Self Locking Nut	HDW1725	1
E	Auxiliary Light Bracket	LTA3314	1
F	Lift Tower	LTA3303	1
G	Lift Tower Adapter	LTA3304	2

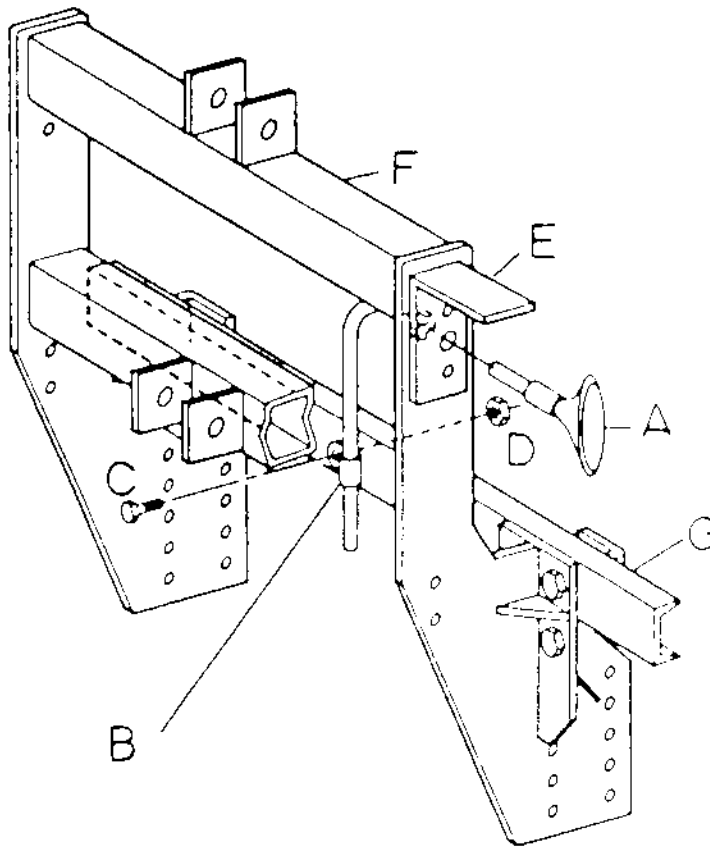


FIGURE 8