



WESTERN PRODUCTS
 7777 NORTH 73RD STREET
 P.O. BOX 23045
 MILWAUKEE, WISCONSIN 53223

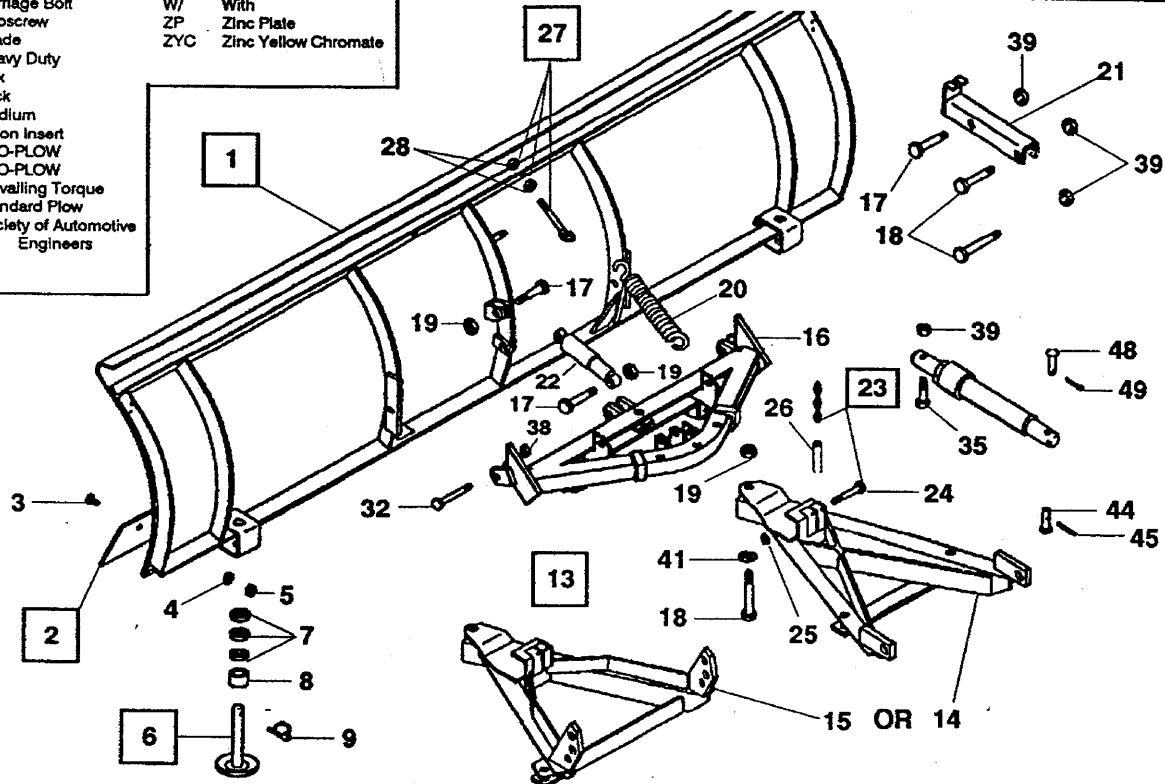
DD A DIVISION OF DOUGLAS DYNAMICS, INC.

Plow Assembly w/ PRO-PLOW Blade
 Blade No. 60381 or 60390 or 60308 or 60655
 A & Q Box No. 60310
 A & Q Box No. 60315

February 3, 1995

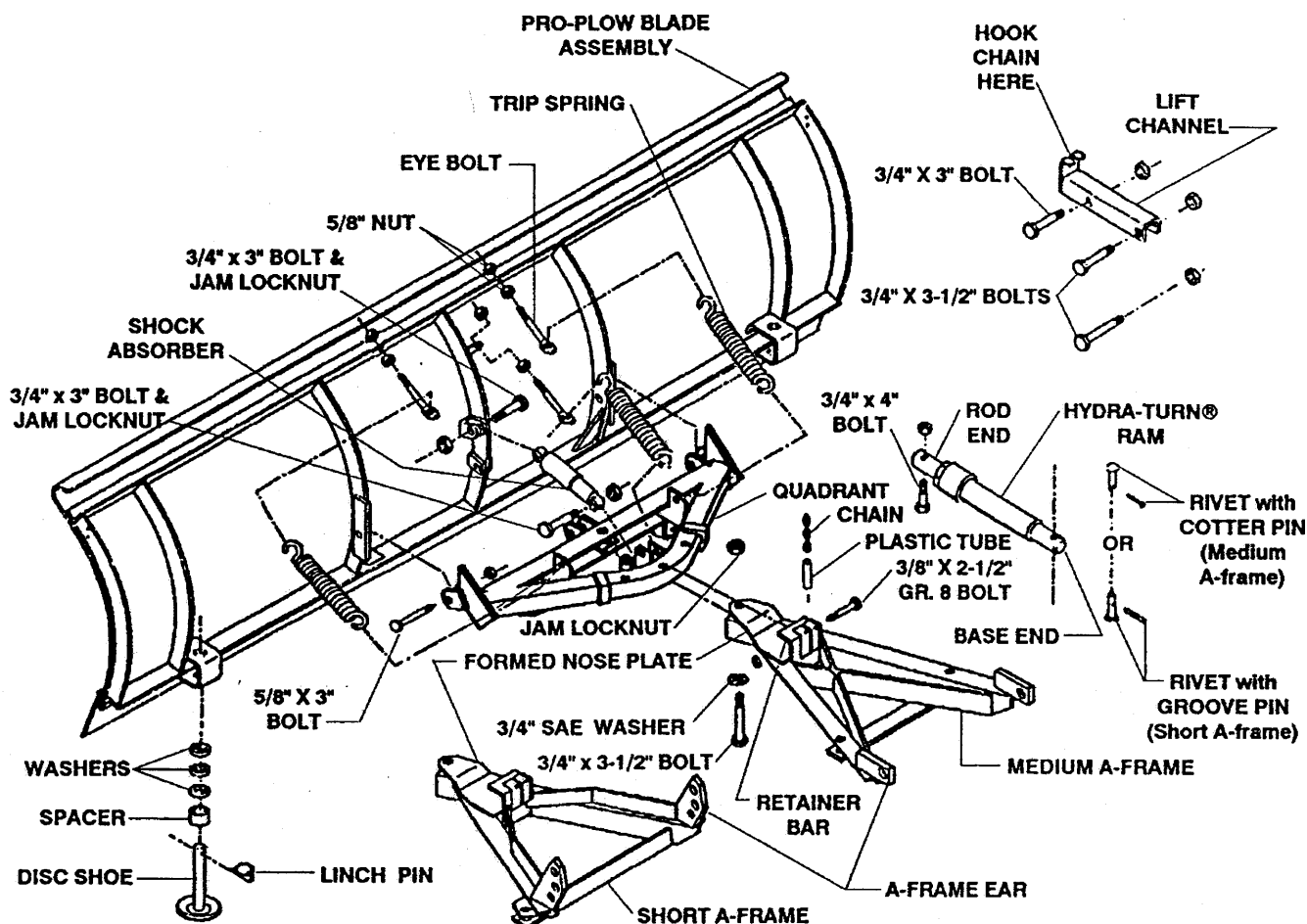
Blade No. 60381 or 60390 or 60308 or 60655
 A & Q Box No. 60310 or 60315
PARTS DIAGRAM & LIST

Abbreviations			
A & Q	A-Frame & Quadrant	SP	Spring
ASSY	Assembly	TP	TRI-PLOW
BPO	Black Phosphate & Oil	TY	Type
CB	Carriage Bolt	W/	With
CS	Capscrew	ZP	Zinc Plate
G	Grade	ZYC	Zinc Yellow Chromate
HD	Heavy Duty		
HX	Hex		
LK	Lock		
MED	Medium		
NYIS	Nylon Insert		
P	PRO-PLOW		
PRO	PRO-PLOW		
PT	Prevailing Torque		
S	Standard Plow		
SAE	Society of Automotive Engineers		



ITEM	PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION
1	60655	1	9 FT. BLADE ASSY PRO	22	60338	1	SHOCK ABSORBER ASSEMBLY
	60308	1	8-1/2 FT. BLADE ASSY PRO	23	49033	1	REPLACEMENT CHAIN ASSY
	60390	1	8 FT. BLADE ASSY PRO	24	90045	1	3/8-16X2-1/2 HX CS G8 ZYC
	60381	1	7-1/2 FT. BLADE ASSY PRO	25	91333	1	3/8-16 PT HX LK NUT NYIS ZYC
2	49251	1	CUTTING EDGE ASSY 9' P	26	65508	1	PLASTIC TUBE
	49086	1	CUTTING EDGE ASSY 8-1/2' P	27	90493K	3	EYEBOLT W/2-#91416 NUTS
	49089	1	CUTTING EDGE ASSY 8' P	28	91416	2	5/8-11 HX NUT ZYC
	49088	1	CUTTING EDGE ASSY 7-1/2' P	32	90132	3	5/8-11X3 HX CS G5 ZYC
3	90238	*	1/2-13X1-3/4 CB G8 BPO	17	90157	2	3/4-10X3 HX CS G5 ZYC
4	91205	*	1/2 SP LK WASHER ZYC	18	90159	2	3/4-10X3-1/2 HX CS G5 ZYC
5	91415	*	1/2-13 HX NUT ZYC	35	90161	2	3/4-10X4 HX CS G5 ZYC
6	49071	2	HD DISC SHOE ASSY P TP S	38	91337	3	5/8-11 PT HX LK NUT NYIS ZYC
7	91109	26	WASHER - SPECIAL ZYC	39	91338	5	3/4-10 PT HX LK NUT NYIS ZYC
8	60045	1	SPACER	19	91339	1	3/4-10 PT HX JAM LKNUT NYIS ZYC
9	93010K	1	LINCH PIN 7/16" X 1-3/4"	41	91147	1	3/4 PLAIN WASHER TY A SAE ZYC
13	60310	1	A&Q ASSY PRO-PLOW MED	Used only on 60315 Short A & Q assembly			
	60315	1	A&Q ASSY PRO-PLOW SHORT	44	93065	2	RIVET 3/4" X 3-1/2"
14	60324	1	A-FRAME MED P (60310)	45	92004	2	3/16X1-1/4 GROOVE PIN TY E ZP
15	60202	1	A-FRAME SHORT S (60315)	Used only on 60310 Medium A & Q assembly			
16	60328	1	QUADRANT P	48	93063K	2	RIVET 3/4" X 3-1/2"
17	90157	1	3/4-10X3 HX CS G5 ZYC	49	91911	2	5/32X1-1/2 COTTER PIN ZYC
18	90159	1	3/4-10X3-1/2 HX CS G5 ZYC	Above listed parts may be found in the following:			
19	91339	2	3/4-10 PT HX JAM LKNUT NYIS ZYC	60343	1	BOLT BAG ASSY (60310)	
20	23039	3	TRIP SPRING	60532	1	PARTS BAG ASSY (60315)	
21	58734	1	LIFT CHANNEL (60310)	* 8 EACH FOR 7-1/2', 8', AND 8-1/2'. 10 EACH FOR 9'.			
	60342	1	LIFT CHANNEL SHORT (60315)	Indented parts are included in the assembly under which they are listed. Quantities shown are included with the assembly.			

ASSEMBLY INSTRUCTIONS



Plow Assembly With PRO-PLOW Blade

IMPORTANT: Read instructions before assembling. Bolts should be finger tight until instructed to tighten. Use standard methods and practices when attaching snowplow.

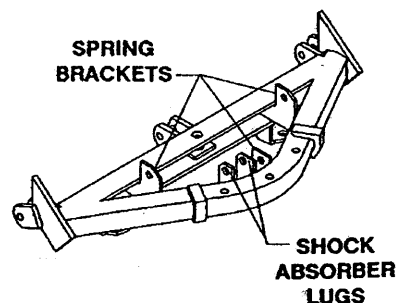
Assembling Quadrant to Blade

1. Lay blade face down on cardboard on the floor. Assemble the quadrant to the blade with the center pair of quadrant lugs straddling the blade center rib. Secure with three 5/8" x 3" bolts and locknuts. **DO NOT bend lugs by overtightening nuts.**
2. Thread one 5/8" nut halfway down on each of three eyebolts. Hook a spring to each of the quadrant brackets indicated in diagram below. Hook an eyebolt to the other end of each trip spring.

Push the threaded ends of the outer eyebolts through the two holes in the top angle of the blade and the center eyebolt through the lug welded to the blade center rib. Install a second nut on each eyebolt.

Tighten the top nuts until the coils of the trip springs begin to separate (a piece of paper such as this instruction sheet should pass between the second and third coils). Tighten the bottom nut against the blade angle or lug to lock in place.

3. Position large shield end of the shock absorber into the U-bracket on the blade center rib. Secure with a 3/4" x 3" bolt installed from the rib side of the U-bracket and jam locknut. Place other end of shock absorber into lugs on curved angle of quadrant and secure with a 3/4" x 3" bolt and jam locknut. Tighten both bolts.

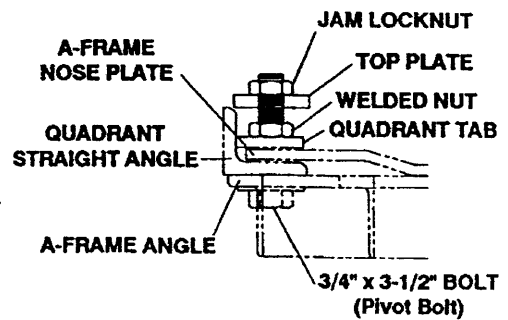


Assembling A-Frame to Quadrant

1. Insert the A-frame formed nose plate between the quadrant straight angle and quadrant tab, and at the same time, hook the A-frame retainer bar over the curved angle of the quadrant.

Place one 3/4" SAE flat washer onto a 3/4" x 3-1/2" bolt (pivot bolt) and install bolt from the bottom upward through the holes in the A-frame angle, quadrant angle, nose plate, and quadrant tab.

Thread the pivot bolt into the welded nut on quadrant tab.

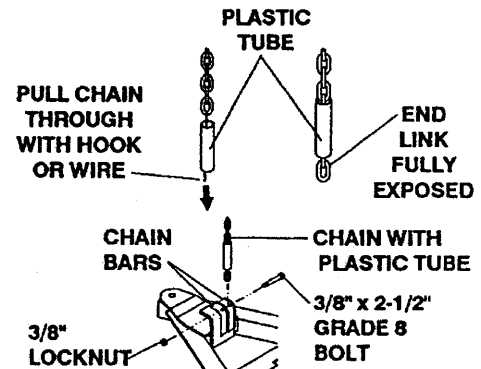


A-frame to Quadrant Pivot Bolt Adjustment

- A. Tighten pivot bolt into welded nut on quadrant tab until the A-frame will NOT move.
- B. Loosen pivot bolt until A-frame moves freely.

Install and snug down a jam locknut on end of the pivot bolt. DO NOT deform top plate of quadrant when tightening jam locknut.

2. Use a hook or piece of wire to pull end of chain through plastic tube. End link of chain should be fully exposed.
3. Place end link of chain between chain bars on retainer bar of A-frame and secure with a 3/8" x 2-1/2" grade 8 bolt and locknut.



CHAIN ATTACHMENT TO A-FRAME

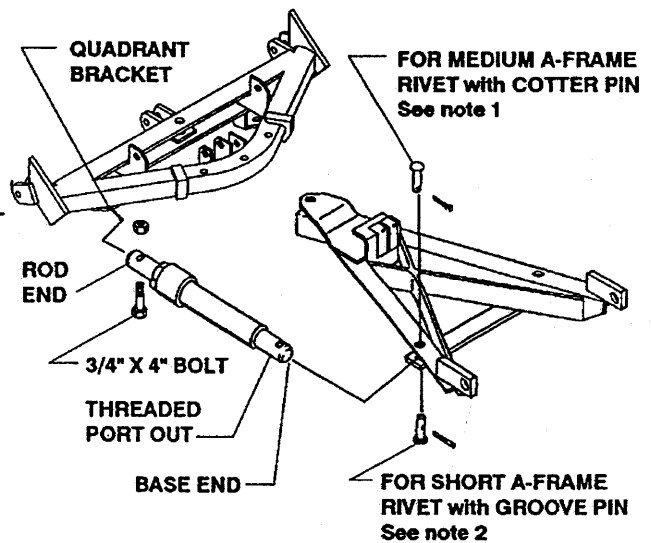
Assembling Hydra-Turn® Rams to A-frame

1. Position the rod ends of the two Hydra-Turn® rams (found in hydraulics box) to the brackets on the bottom of the straight angle of the quadrant. Secure the rod end of each ram to the quadrant with a 3/4" x 4" bolt installed from the bottom upward and a locknut.
2. Swing the A-frame to one side. Position the base end of a Hydra-Turn® ram into the bracket on the side of the A-frame. Make sure the threaded port is facing away from the A-frame.

NOTE 1: Installations using Medium A & Q Box 60310, attach base end of ram to A-frame with a 3/4" x 3-1/2" rivet inserted from the top down and secured with a cotter pin.

NOTE 2: Installations using Short A & Q Box 60315, attach base end of ram to A-frame with a 3/4" x 3-1/2" rivet inserted from bottom upward and secured with a groove pin.

Remove the pipe plug from the threaded port.



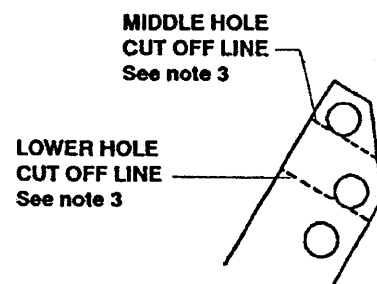
ASSEMBLING RAMS TO A-FRAME & QUADRANT

3. Swing the A-frame to the other side and repeat step 2 to connect the other ram to the A-frame.

Attaching A-Frame to Mount

Couple the A-frame ears to the vehicle mount coupling lugs using two 1" x 3-1/2" hitch pins and hairpin cotter pins. A-frame should be parallel to road. If not, adjust spreader frame height, or for short A-frames proceed to Note 3.

NOTE 3: (Short A-frames Only) Select hole in A-frame ears so bottom of A-frame is parallel to road. Cut off ears above selected hole (cut as indicated in diagram).



SHORT A-FRAME EAR

Assembling Lift Channel to Lift Frame.

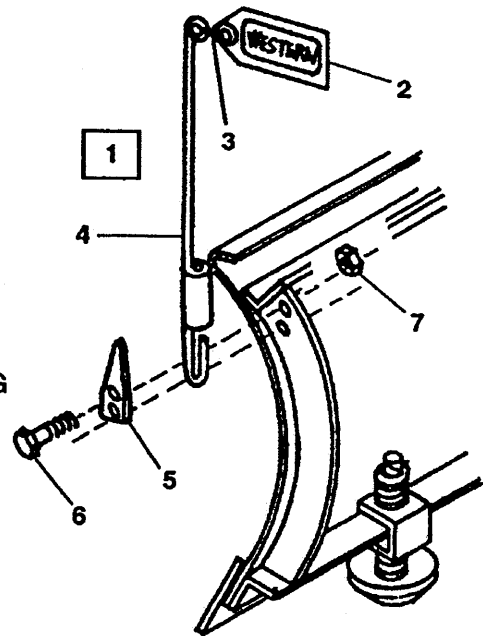
1. Place the hole end of the lift channel between the lugs of the upper U-bracket on the lift frame. Insert a 3/4" x 3-1/2" bolt and secure with a locknut. DO NOT OVERTIGHTEN - lift channel must pivot freely.
2. After completing hydraulic unit installation, collapse hydraulic ram to lowest position. Straighten chain and pull it tight. Hook chain into lift channel. After it is hooked, it will have the correct amount of slack for blade "float".

**INSTALLATION INSTRUCTIONS
FOR 59700 BLADE GUIDE ASSEMBLY**

Insert pointed end of clamp into coil of Blade Guide Rod. Attach a Blade Guide Rod to each outer rib using 5/16" x 1" capscrews and locknuts as shown in diagram.

**PARTS LIST
59700 — BLADE GUIDE ASSEMBLY**

Item	Part No.	Quan.	Description
1	59697	2	BLADE GUIDE ROD, S-HOOK & FLAG
2	59694K	1	BLADE GUIDE FLAG
3	59696	1	S-HOOK
4	59691	1	BLADE GUIDE ROD
5	59946	2	CLAMP
6	90020	4	5/16-18X1 HX CS G2 ZP
7	91332	4	5/16-18 PT HX LK NUT NYIS ZP



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