

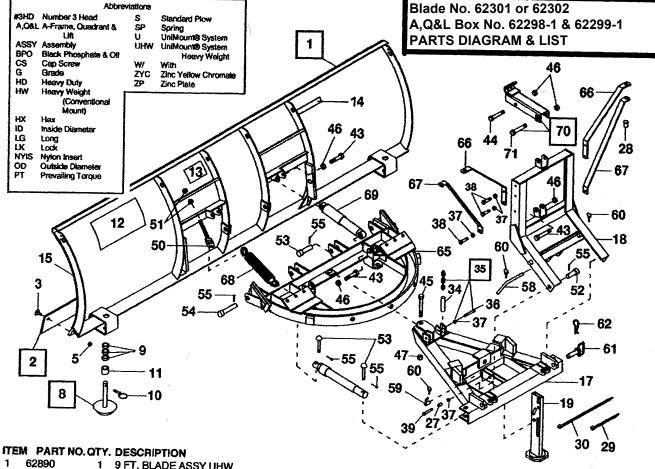
WESTERN PRODUCTS P.O. BOX 245038 MILWAUKEE, WISCONSIN 53224-9538

Plow Assembly w/ HEAVYWEIGHT Blade Blade No. 62301 or 62302 A,Q&L Box No. 62298-1 & 62299-1 Hydraulics Box No. 64400 Headlamp Kit No. 61540

IL 33 A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

Blade No. 62301 or 62302 **PARTS DIAGRAM & LIST**

June 1, 2009



			· Produit IIOI4
1	62890	1	9 FT. BLADE ASSY UHW
	62891	1	10 FT, BLADE ASSY UHW
2	. 58817	1	
	. 58818	1	
3	90396	•	5/8-11X2 #3HD PLOW BOLT G5 BPO
5	5573	•	5/8-11 HX NUT PT NYIS ZYC
8	. 49071	2	
9	91109	52	WASHER - SPECIAL ZYC
10	93010K	2	
11	60045	2	SPACER
12	. 61740	1	LABEL - INFORMATION (Link Arm Style)
13	. 59900	1	LABEL - INFORMATION (WARNING)
14	. 28404	1	LABEL - IDENTITY, ULTRAFINISH™
15	. 64575	1	LABEL - IDENTITY, CONTRACTOR GRADE
ns	. 28547	1	BLADE LABEL KIT UniMount®
	. 62298-1	1	A, Q & L ASSY UHW (BOX 1 OF 2)
17	62170	1	A-FRAME UHW
18		1	LIFT FRAME UHW
19	62199	1	STAND UHW
27	61487	1	SPACER .56 OD X .39 ID X.965 LG
28	61482	2	VINYL CAP 1/2 X 1/2
29	59223	5	CABLE TIE
30	61538	3	CABLE TIE - LONG
34	65508	2	PLASTIC TUBE
35		1	REPLACEMENT CHAIN ASSY UHW HW
36	90063	2	3/8-16X3 HX CS G8 ZP
37	91333	2	
	91333	7	3/8-16 PT HX LK NUT NYIS ZYC

3/8-16X1-1/4 HX CS G5 ZYC

3/4-10X3-1/2 HX CS G5 ZYC

3/8-16X2 HX CS G5 ZYC

3/4-10X4 HX CS G5 ZYC

			$f_{ij} = f_{ij} + f_{ij}$			
ITEM		TY.	DESCRIPTION			
45	90176	1	1 000 00 02 21			
46	91338	7	3/4-10 PT HX LK NUT NYIS ZYC			
47	91340	1	1-8 PT HX LK NUT NYIS ZP			
50	90493K	6				
51	91416	2	5/8-11 HX NUT ZYC			
52	93072	2	RIVET 1" X 2-3/16" G5 ZYC			
53	93077K	6				
54	93080	2	1X5 RIVET G5 ZP			
55	91911	10	5/32 X 1-1/2 COTTER PIN ZYC			
58	93033K	1				
59	93034K	1	STAND LOCK PIN 5/8" X 2"			
60	93042K	4				
61	93028K	2	HITCH PIN 1" X 3-1/2"			
62	91965K	2	HAIRPIN COTTER 5/32"			
	. 62299-1	1	A, Q & L ASSY UHW (BOX 2 0F 2)			
65	62190	1	QUADRANT UHW			
66	63532	2	LIGHT BRACKET TOP U			
67	63533		LIGHT BRACKET BOTTOM U			
68	23039		TRIP SPRING			
69	60338	2	SHOCK ABSORBER ASSEMBLY			
70	62154		LIFT CHANNEL KIT UHW			
71	90160		3/4-10X4-1/2 HX CS G5 ZP			
Parts listed above may be found in the following:						

28547 1 BLADE LABEL KIT, UniMount Cutting Edge Assembly Fasteners: For 9' – 11 each, For 10' – 12 each. Indented parts are included in the assembly under which they are listed. Quantities shown are included with the assembly.

1 PARTS BAG ASSY (62300)

UniMount® RETAINER PIN KIT (Includes

4 each of item 62 and 2 each of item 60.)

. . 62282

Service Parts Kit

61941K

90040

90043

90159

90161

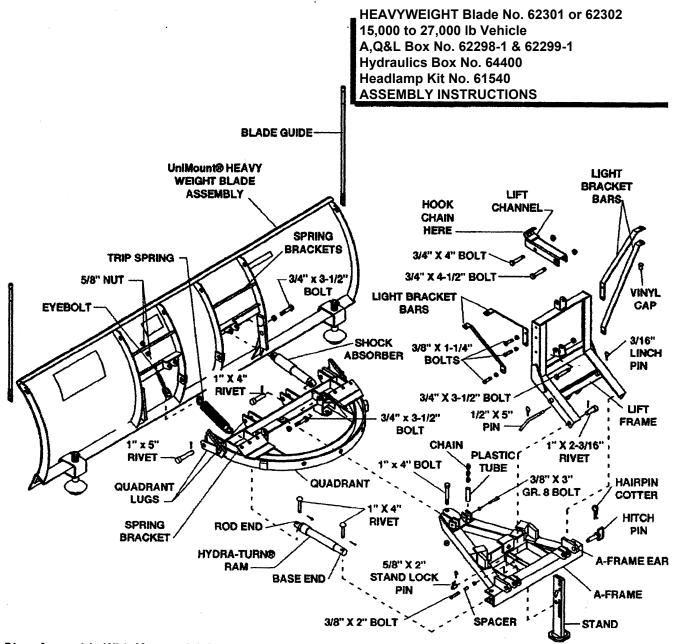
6

1

38

39

43



Plow Assembly With Heavy Weight 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

- Lay blade face down on cardboard on the floor. Assemble the quadrant to the blade with the four pairs of quadrant lugs straddling the blade rib. Secure each of the center two pairs of lugs with a 1" x 4" rivet and cotter pin.
 Secure each of the outer pairs of lugs with a 1" x 5" rivet and cotter pin.
- 2. Thread one 5/8" nut halfway down on each of six eyebolts. Hook a spring to each of the quadrant spring brackets indicated in the above diagram. Hook an eyebolt to the other end of each trip spring.
 - Push the threaded ends of the eyebolts through the holes in the flat bar spring brackets on the blade. 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 flat bar spring brackets to lock in place.
- 3. Position the large shielded end of each shock absorber between the lugs on each side of the blade. Secure each shock absorber with a 3/4" x 3-1/2" bolt, installed from the outside, and locknut. Place the other end of each shock absorber into the U-bracket on the quadrant and secure each one with a 3/4" x 3-1/2" bolt, installed from the outside, and locknut. Tighten all bolts.

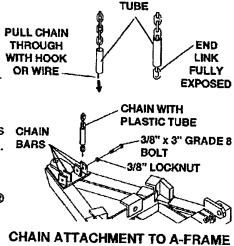
Assembling A-Frame to Quadrant

 Straddle the quadrant straight angle between the A-frame nose plate and the A-frame angle, and at the same time, hook the A-frame retainer bars over the curved angle of the quadrant.
 Install a 1" x 4" pivot bolt from the top through the holes in the A-frame nose plate, quadrant straight angle, and A-frame angle. Secure with a 1" locknut.

QUADRANT STRAIGHT ANGLE 1" x 4" BOLT (Pivot Boh) A-FRAME NOSE PLATE 1" LOCKNUT A-FRAME RETAINER BARS

A-frame to Quadrant Plyot Bolt Adjustment

- A-FRAME TO QUADRANT ASSEMBLY
- A. Tighten pivot bolt to compress quadrant tab against nose plate until the A-frame will NOT move.
- B. Loosen pivot bolt until A-frame moves freely.
- Use a hook or piece of wire to pull each end of the chain through a plastic tube. End links of the chain should be fully exposed.
- Place each end link of the chain between a pair of chain bars on the Aframe nose plate. Secure each end of chain with a 3/8" x 3" grade 8 bolt and locknut.
- 4. 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. Attach the rod end of each ram to the quadrant with a 1" x 4" rivet installed from the top down and secured with a cotter pin.
- 5. 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 up. Insert a 1" x 4" rivet from the top down and secure with a cotter pin. Remove the pipe plug from the threaded port.
- 6. Swing the A-frame to the other side and repeat step 4 to connect the other ram to the A-frame.



PLASTIC

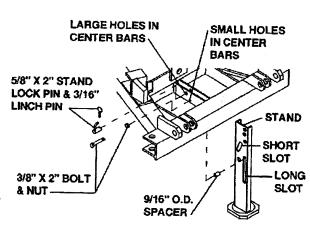
Assembling Stand to A-frame

If stand is already installed, proceed to step 5 of this section.

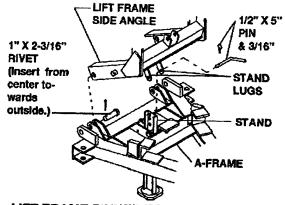
- Position the stand next to the center bars of the A-frame with the long slot towards the wide end of A-frame.
- 2. Insert the 9/16" O.D. spacer into the top end of the long slot in the stand.
- Holding spacer in place with a finger, insert the stand between the A-frame center bars and align spacer with small hole in center bars.
- Secure spacer with a 3/8" x 2" bolt, inserted from the driver side, and locknut.
- Hold stand perpendicular to A-frame. Align short slot in stand with large hole in center bars, and Insert the 5/8" x 2" stand lock pin. Secure stand lock pin with a 3/16" linch pin.
- 6. Rotate the plow assembly into plowing position.

Assembling Lift Frame to A-frame

- Lay lift frame on floor with curve up and ends of side angles
 positioned next to wide end of A-frame. Raise end of lift
 frame and align holes in side angles between inner pairs of
 lugs on wide end of A-frame.
- 2. Secure lift frame to A-frame lugs with two 1" x 2-3/16" rivets inserted from the inside. Secure with cotter pins.
- Rotate lift frame to align holes in stand lugs to bottom hole of three hole pattern in top of stand. Secure with a 1/2" x 5" pin and 3/16" linch pin.



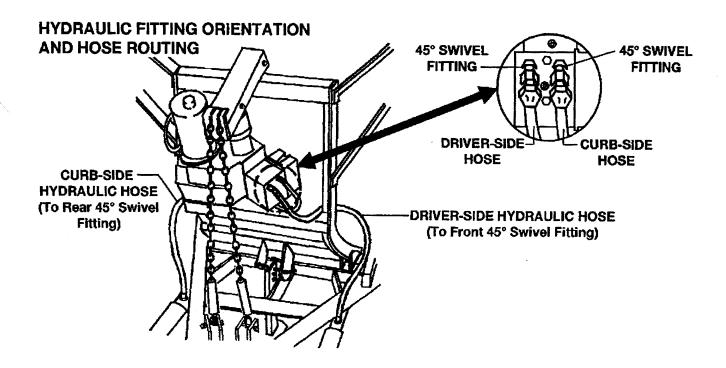
ASSEMBLING STAND TO A-FRAME



LIFT FRAME PINNED TO A-FRAME & STAND

Assembling Lift Channel and Hydraulic Unit to Lift Frame.

- 1. Place the hole end of the lift channel over the lugs of the upper U-bracket on the lift frame. Insert a 3/4" x 4-1/2" bolt and secure with a locknut. DO NOT OVERTIGHTEN lift channel must pivot freely.
- Position the hydraulic unit (found in hydraulics box), nameplate towards blade, with the base lug between the lugs of the lower U-bracket on the lift frame. Attach with a 3/4" x 3-1/2" bolt and locknut. DO NOT OVER-TIGHTEN - hydraulic unit must pivot freely.
- 3. Align hole in hydraulic unit lift ram with hole near hook on lift channel and attach with a 3/4" x 4" bolt and locknut. DO NOT OVERTIGHTEN lift channel must pivot freely.
- 4. Place mid point of chain loop into hooks of lift channel. (Final chain adjustment will be made after plow is mounted on vehicle).



Assembling Hydraulic Fittings and Hoses

- (Hoses and fittings in Hydraulics Box) Remove top two 1/4" pipe plugs from front face of valve on hydraulic unit. Install two 45° swivel fittings into pipe plug holes. Tighten fittings so the hose connections will be straight down in line with valve body. (See inset on this page.)
- 2. Install a hose into the port on top of each Hydra-Turn™ ram base. Tighten each hose.
- 3. Route both hoses behind the lift frame.
- 4. Attach hoses to 45° swivel fitting on hydraulic unit as follows:

Curb-side hose to rear 45° swivel fitting.

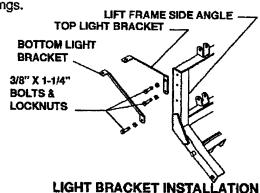
Driver-side hose to front 45° swivel fitting.

Remove twists from both hoses and tighten swivel connections.

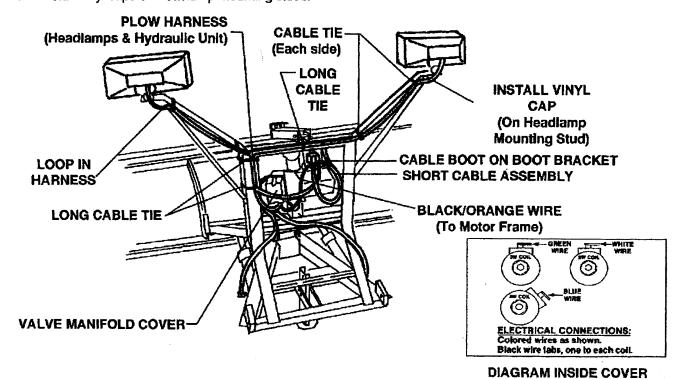
DO NOT use pipe tape/sealant when connecting hoses to swivel fittings.

Assembling Light Brackets and Headlamps

- Align two holes of two top light brackets with the top two holes in lift frame side angles. Loosely attach with two 3/8" x 1-1/4" bolts and locknuts on each side.
- Loosely attach the small hole end of each bottom light bracket to the lowest hole in each lift frame side angle with a 3/8" x 1-1/4" bolt and locknut on each side.



- Assemble headlamps (found in headlamp kit) to the light brackets, placing the headlamp swivel above the bracket. Loosely attach with lock washers and nuts below the brackets.
 - Aim headlamps when plow is attached to vehicle.
- 4. Tighten bolts holding light brackets to lift frame.
- 5. Install vinyl caps on headlamp mounting studs.



Assembling Hydraulic Unit Wiring.

- 1. Route wiring harness from headlamps along top light brackets and across back of lift frame to driver-side of lift frame. Use any excess harness to make a loop under each headlamp. Secure harness to each light bracket with two short cable ties, and to top angle of lift frame with a long cable tie.
- Remove cover from valve manifold on hydraulic unit. Route branch of harness with loose wires to manifold.
 Apply dielectric grease (P.N. 56099) (furnished in hydraulics box) into the opening of each wire terminal before connecting to coil terminals as shown on label inside of cover. NOTE: dielectric grease has been applied to coil terminals. DO NOT wipe off terminals.
- 3. With harness strain relief inside cover at slot and black/orange wire outside of cover, replace cover and secure with screws.
- 4. Allowing slack in harness to hydraulic unit, secure harness to inside of lift frame side rail with two long cable ties.

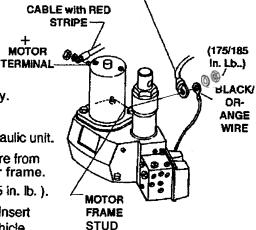
Assembling Battery Cable to Motor

Apply a light coating of dielectric grease to connectors before assembly. All parts installed in this section are found in the hydraulics box.

- 1. Attach short battery cable with red stripe to motor terminal on hydraulic unit.
- Attach short battery cable without a stripe and the black/orange wire from under valve manifold cover to ground stud on side of the motor frame. (torque to 175/185 in. lb.).
- Slide small pocket of cable boot onto vertical tab of boot bracket. Insert harness plugs into boot for storage when plow is removed from vehicle.

Blade Guides

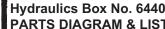
Install blade guides following instructions shown on last page of these instructions.

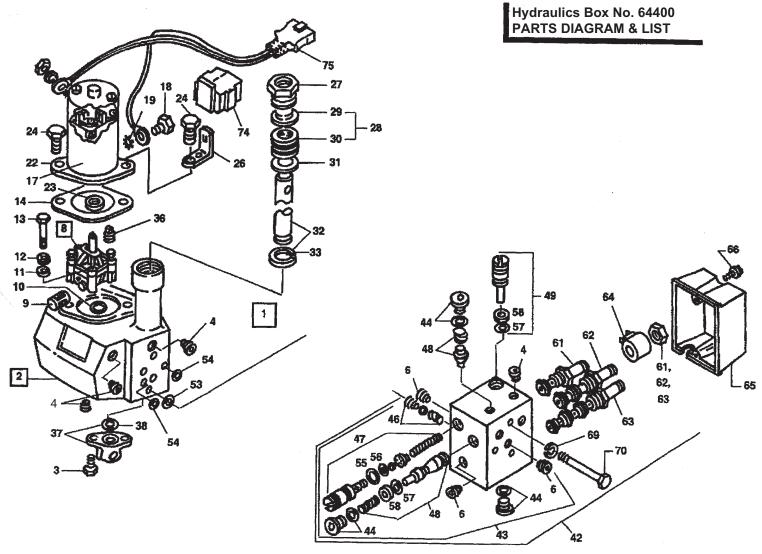


CABLE without

STRIPE

NOTE: Retain dielectric grease tube for use during vehicle mount installation. Pass tube on to end user.





ITEM	PART NO.C	TY.	DESCRIPTION	ITEM	PART NO. QT	Y. C	DESCRIPTION
1	49253*	1	HYDRAULIC UNIT 1-1/2" SOL 3500			1	PLUG 3/8 NPTF SQ
2	. 49252	1		37	. 25968K	1	BASE LUG W/#25618 O-RING
	93166		5/16-18X1-1/4 HXW TRTS TY TR-3	38	25618	1	O-RING - 216
	92095		PLUG 1/4NPTF HX SO THREAD SEAL	42	. 49265	i	VALVE MANIFOLD ASSY SOL 3500
		3	THE STATE OF THE STATE OF THE	43	49224	1	MANIFOLD ASSY SOL 3500 (W/O CAR-
				TRID	GES)		
8	. 49211*	1	PUMP KIT DIE CAST	44	92960	3	3/8-24 HX SO O-RING BOSS PLUG
	56185K	i .	SUCTION FILTER	6	92071	3	PLUG 1/8 NPTF HX SO
10	25620	1	O-RING - 115	4	92095	1	PLUG 1/4 NPTF HX SO THREAD SEAL
	91101	-	1/4 PLAIN WASHER TY A STD ZP		49225		INLET CHECK VALVE KIT
	91220	2	BELLEVILLE SPRING WASHER	47	,49138K-2	1	CUSHION VALVE REPAIR KIT-SET
	90025	2	5/16-18X2-1/4 HX CS G5 ZP	48	49226K	1	POPPET CHECK VALVE KIT
	. 25861K	1	GASKET	49	56330	1	QUILL ASSY
	. 56133	1	MOTOR ASSY 4-1/2"		56657-2	1	BACK-UP/ O-RING KIT - SOL
	90088	1	5/16-19X1/2 HX CS 18-8 STS		56274		O-RING - 013 NOT INCLUDED W/
		•	3/10 10X1/211X 00 10-0 018	54	25730 2	2	O-RING - 012 3 49265/49224
19	91263	1	5/16 EX TOOTH LK WASHER STS	55	25731 ;	2	O-RING - 010
		-	or to the contract who here or o	56	55371 2	2	O-RING - 008
				57	25622	2	O-RING - 006
				58	56315 2	2	BACK-UP RING - 006 PARBAK SPLIT
22	49084	1	MOTOR FLANGE BRG & SEAL	61	49227K-21	1	CARTRIDGE 20 W/JAM NUT
	49014	1	OIL SEAL		49258-21	ŧ	
	. 90066	2			49228K-11	ī	CARTRIDGE 30 W/JAM NUT
	. 56356	1	7/16-14X1-1/4 HX CS G5 ZP BOOT BRACKET	63	49229K-11	1	CARTRIDGE 40 W/JAM NUT
27	. 25944K	1	PACKING NUT 1-1/2"		49259-22	2	SEAL KIT - CARTRIDGE 30, 33 & 40
28	. 25205K	1	PACKING SET W/WIPER 1-1/2"	64	49230K-23		COIL W/SPADE TERMINALS
	55137	1	WIPER RING - 1-1/2"	65	56291		COVER ASSY
	55136	1	PACKING SET 1-1/2"	66	90650 2	2	#8-18X1/2 SL HXW TFTS TY B ZP
	338	1	WASHER - SPECIAL				and the second second
-	. 25202	1	PLUNGER KIT 1-1/2 X 6				
	40444	:		" Se	rvice units require sett	ting (pump pressure to 1,800 - 2,000 PS).

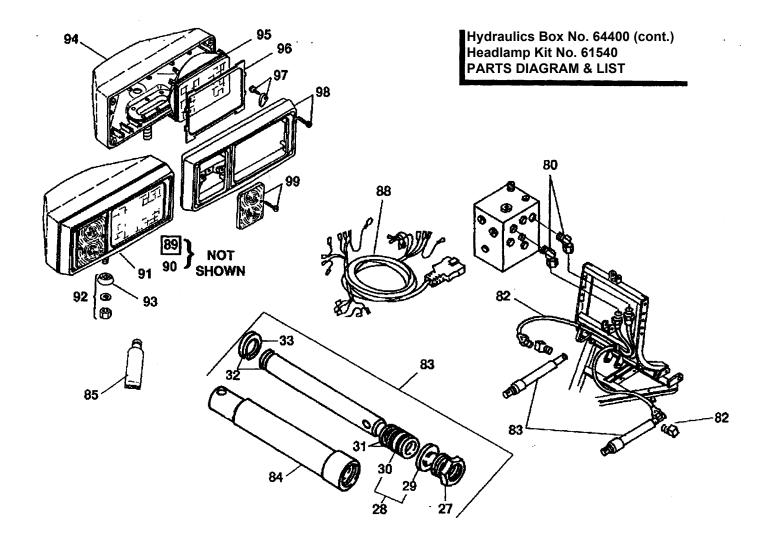
Lit. No. 13668, Rev. 13

1-1/2" Spiral Retaining Ring

33 . . 48414

Service units require setting pump pressure to 1,800 - 2,000 PS).

(Turn pressure relief screw in 1/4 turn.)



ITEM PART NO. QTY. DESCRIPTION

61168	1	PLOW CABLE ASSY	
92190K	2	SWIVEL HOSE FITTING 1/4" X 45°	
55020K	2		ľ
25878	2	RAM ASSY 2" X 16"	AS
. 25948	1	PACKING NUT 2"	BR CS
. 25215	1	PACKING SET WWIPER 2"	CU
55210	1	WIPER RING 2"	DΠ
55209	1	PACKING SET 2"	EA G
. 91174	2	WASHER - SPECIAL 2"	НX
. 25703	1	PLUNGER KIT 2" X 16"	HX
48413	1	RETAINER RING 2"	ŁK NP
. 25949	1	CYLINDER 2" X 16"	PR
56099	1	DIELECTRIC GREASE	SL
61438	1	PLOW HARNESS 9 PIN U	SO SO
61558	1	PLOW HARNESS 12 PIN U	SP
61543	1	HEADLAMP PAIR U (Without Plow Harness)	SQ
. 61541	1	HEADLAMP DR U	ST
. 61542	1	HEADLAMP CU U	TF
49151	1	SWIVEL AND HARDWARE ASSY	TR
49012	1		ΙΥ
49298	1		W/
49297	1	REPLACEMENT SEALED BEAM (2F1)	WK
49210	1		ZP
49201	1		
49203	1		
49202	1		
	92190K 55020K 25878 . 25948 . 25215 55210 55209 . 91174 . 25703 48413 . 25949 56099 61438 61558 61543 . 61541 . 61542 49151 49012 49298 49297 49297 49210 49201 49203	92190K 2 55020K 2 25878 2 . 25948 1 . 25215 1 55210 1 55209 1 . 91174 2 . 25703 1 48413 1 . 25949 1 56099 1 61438 1 61558 1 61543 1 . 61544 1 . 61542 1 49151 1 49201 1 . 49201 1 . 49201 1	92190K 2 SWIVEL HOSE FITTING 1/4" X 45° 55020K 2 PRESSURE HOSE 1/4" X 38" 25878 2 RAM ASSY 2" X 16" . 25948 1 PACKING NUT 2" . 25215 1 PACKING SET W/WIPER 2" . 55210 1 WIPER RING 2" . 55209 1 PACKING SET 2" . 91174 2 WASHER - SPECIAL 2" . 25703 1 PLUNGER KIT 2" X 16" . 48413 1 RETAINER RING 2" . 25949 1 CYLINDER 2" X 16" 56099 1 DIELECTRIC GREASE 61438 1 PLOW HARNESS 9 PIN U 61558 1 PLOW HARNESS 12 PIN U 61558 1 PLOW HARNESS 12 PIN U 61541 1 HEADLAMP PAIR U (Without Plow Harness) . 61541 1 HEADLAMP DR U . 49151 1 SWIVEL AND HARDWARE ASSY . 49012 1 HEADLAMP SWIVEL . 49298 1 HEADLAMP HOUSING ASSY (Fits DR OR CU side) . 49297 1 REPLACEMENT SEALED BEAM (2E1) . 49201 1 RETAINING FINGER & FASTENER (4 EA) . 49203 1 BEZEL W/FASTENERS (DR OR CU SIDE)

		7			
Abbreviations					
ASSY	Assembly	ı			
BRG	Bearing	ı			
CS	Cap Screw	l			
CU	Curb-Side	ı			
DR	Driver-Side	ı			
EΑ	Each	Ì			
G	Grade	۱			
нх	Hex	I			
	Hex Washer	۱			
ŁK	Łock	ı			
NPTF		I			
PR	Prestolite	l			
SL	Slotted	Į			
SO	Socket Head	i			
SOL	Solenoid	۱			
SP	Spring	l			
SQ	Square	ł			
STD		l			
STS		ı			
TFTS	Thread Forming Tapping Screw	ı			
TRTS	Thread Rolling Tapping Screw	ı			
TY	Type	۱			
U	UniMouni@ System	ı			
W/	With	I			
WAO	Without	۱			
ZΡ	Zinc Plate	ı			
	j	i			

NOT SHOWN

4 PARK/TURN SIGNAL BULB - (TRADE NUMBER 1157)

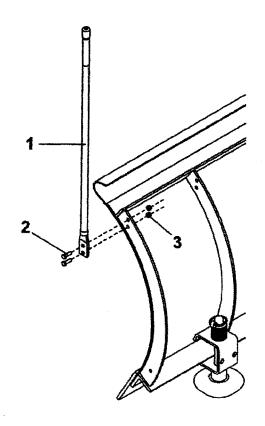
NOTE: Only those items listed with a PART NUMBER are available for service.

INSTALLATION INSTRUCTIONS FOR BLADE GUIDE ASSEMBLY

Attach a Blade Guide to each outer rib using 5/16" x 1" cap screws and locknuts as shown in diagram.

62590 BLADE GUIDE ASSEMBLY

ITEM	PART NO.	QTY.	DESCRIPTION
1	62581	2	BLADE GUIDE POLY 36" WITH DECAL
NS	63290	1	BOLT BAG ASSEMBLY
2	. 68494	4	5/16-18X1 HEX CAP SCREW G5
3	. 91332	4	5-16-18 HEX LOCKNUT GB



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