



**Installation
&
Parts Manual**

AUXILIARY LIGHT

AND

MOUNTING PACKAGE

99100001

BEFORE S/N ALC101855

FOR PLOW SERIAL NUMBERS AFTER

15G100000

24D100000

24G100000

25D100000

25G100000

TABLE OF CONTENTS

INTRODUCTION	2
WARNINGS	2
SAFETY	3
INSTALLATION.....	4
ASSEMBLY TOOLS NEEDED	4
INSTALLATION NOTES.....	4
MOUNTING INSTRUCTIONS	4
PARTS LIST	8
WARRANTY	10

INTRODUCTION

This manual was written for the assembly, installation and maintenance of the optional light assembly. Most importantly, this manual provides an operating plan for safe use. Refer to the Table of Contents for an outline of this manual.

Please keep this manual with your machine at all times as reference material and so it can be passed on to the next owner if the machine is sold.

We require that you read and understand the contents of this manual COMPLETELY, especially the chapter on SAFETY, before attempting any procedure contained in this manual.



The Society of Automotive Engineers has adopted this SAFETY ALERT SYMBOL to pinpoint characteristics that, if NOT carefully followed, can create a safety hazard. When you see this symbol in this manual or on the machine itself, BE ALERT!, your personal safety and the safety of others, is involved.

• Defined in the next column, are the SAFETY ALERT messages and how they will appear in this manual.



WARNING

Information, that if not carefully followed, can cause serious personal injury or death!



CAUTION

Information, that if not carefully followed, can cause minor injury or damage to equipment!

NOTE: Additional information concerning the equipment or the procedure that may or may not be contained elsewhere in this manual.

BE AWARE! It is illegal to remove, deface or otherwise alter the safety decals mounted on this equip-

ment.

Record the Serial Number and the Model number in the space provided below as a handy record for quick reference. The Serial number Plate is located on the Lower Light Bar Assembly. This plate contains information that your Dealer needs to answer questions or to order replacement parts, if needed, for your unit.

We reserve the right to make changes or improve the design or construction of any part(s) without incurring the

NAME PLATE DATA	
SERIAL NUMBER _____ (Located on the Lower Light Bar Assembly)	
DATE OF PURCHASE _____	(FILL IN)

DEALER	
NAME _____	
ADDRESS _____	
CITY _____ STATE _____ ZIP _____	
PHONE () - _____	(FILL IN)

ORIGINAL PURCHASER	
NAME _____	
ADDRESS _____	
CITY _____ STATE _____ ZIP _____	
PHONE () - _____	(FILL IN)

obligation to install such parts or make any changes on any unit previously delivered.



SAFETY



BEFORE ATTEMPTING ANY PROCEDURE IN THIS BOOK, READ AND UNDERSTAND ALL THE SAFETY INFORMATION CONTAINED IN THIS SECTION. IN ADDITION, ENSURE ALL INDIVIDUALS WORKING WITH YOU ARE ALSO FAMILIAR WITH THESE SAFETY PRECAUTIONS.

For your safety Warning and Information Decals have been placed on this product to remind the operator to take safety precautions. It is important that these decals are in place and are legible before operation begins. New decals can be obtained from Sno-Way or your local dealer.

The West Crane Power System is not designed for a man lift situation! However, the system may be used under such circumstances ancillary to primary hand operated retrieval system. The primary hand operated retrieval system must be attached to the unit and ready for immediate use, this is mandatory in the event of power failure for any reason. See Manlift Section of this manual.

REMEMBER The careful operator is the best operator. Most accidents are caused by human error. Certain precautions must be observed to prevent the possibility of injury to operator or bystanders and/or damage to equipment.

ALWAYS inspect lift system bolts and pins whenever attaching or detaching the Crane, and before traveling. Worn or damaged components could result in the Crane dropping to the pavement while driving, causing an accident.

NEVER work on the vehicle without having a fully serviced fire extinguisher available. A 5 lb. or larger CO² or dry chemical unit specified for gasoline, chemical or electrical fires, is recommended.

NEVER smoke while working on the vehicle. Gasoline and battery acid vapors are extremely flammable and explosive.

NEVER operate Crane when under the influence of alcohol, drugs or other medications that could hamper your judgement and reactions. An accident may result in serious injury or death to other persons or yourself.

ALWAYS operate vehicle in a well-ventilated area. The carbon monoxide in exhaust gas is highly toxic and can cause serious injury or death.

NEVER allow hands, hair or clothing to get near any moving parts such as fan blades, belts and pulleys. Never wear neckties or loose clothing when working on the vehicle.

NEVER wear wrist watches, rings or other jewelry when working on the vehicle or individual equipment. These things can catch on moving parts or cause an electrical short circuit that could result in serious personal injury.

ALWAYS wear safety goggles when working the vehicle to protect your eyes from battery acid, gasoline, and dust or dirt from flying off of moving engine parts.

ALWAYS be aware of and avoid contact with hot surfaces such as engine, radiator, and hoses.

ALWAYS wear safety glasses with side shields when striking metal against metal! In addition, it is recommended that a softer (non-chipable) metal material be used to cushion the blow. Failure to heed could result in serious injury to the eye(s) or other parts of the body.

NEVER use the crane unless vehicle is on level footing, wheels are safety blocked and parking brake is applied.

NEVER allow persons under a suspended load or between load and truck at any time.

NEVER use this system for lifting or towing vehicles.

NEVER allow children or unauthorized person to operate this unit.

NEVER overate this unit under water.

ALWAYS check surrounding area for hazardous obstacles before operating this unit.

NEVER exceed the lifting or winching limits at any time.

NEVER replace the cable with rope of any kind or with cable other than the type and size specified in the Service Parts Manual.

ALWAYS lay a heavy blanket or jacket over the cable about 15 feet from the hook end when winching in severe conditions. This will prevent the cable from whipping if breakage occurs.

INSTALLATION

ASSEMBLY TOOLS NEEDED

Sockets	7/16" — 1-3/8"
Wrenches	7/16" — 1-3/8"
Torque Wrench	
Screw Driver	
Hammer	
Drift	3/16"
Test Light Or VOM	
Pliers	
Pinch Bar	

INSTALLATION NOTES

1. Read all instructions carefully before attempting installation.
2. Unless otherwise specified, mount all Components to vehicle before tightening any hardware.
3. Items in parentheses () refer to quantity required for this step. Items in parentheses with a pound sign (#) indicate the part number as found in the parts list.
Example: (2) 3/8" x 1-1/4" Cap Screws (#21).

MOUNTING INSTRUCTIONS

Lower Bar Installation:

1. Park vehicle, with plow mounted, in a suitable location.



WARNING

- Plow must be in full down position before work is to be started.
- Put vehicle in park, set and/or lock parking brake and turn off ignition. Failure to do this could cause serious personal injury or death!

2. Locate the following items:
 - A. Lower Bar Assembly (#11)
 - B. Pivot Bar Assembly (#15) (2 required).
 - C. Pivot Plate (#17) RH.
 - D. Pivot Plate (#18) LH.
 - E. Pivot Sleeve (#26).
 - F. Special Washer (#29).

NOTE: Depending on model and type of frame on your Sno-Way Plow the pivot plates may already be welded in place. If this is the case skip steps #3 and #4.

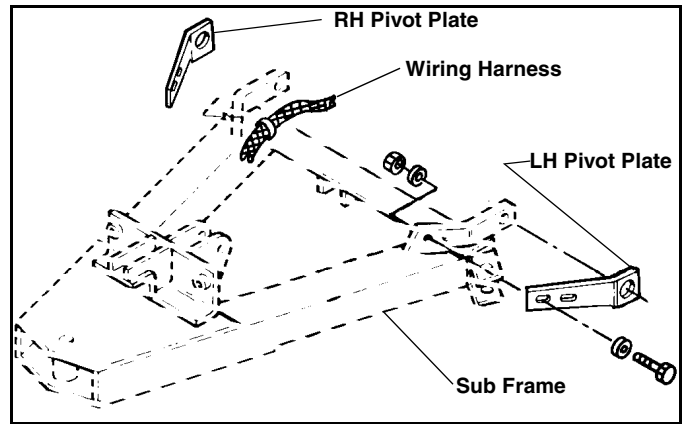


Figure 1

3. Bolt Pivot Plate (#17) RH to right side Mounting Lug on Main Frame. Use (2) 3/8" x 1-3/4" Cap Screw (#22), with (2) 3/8" Washers (#25) on each Cap Screw and Nylock Nuts (#24) provided. (See Figure 1)
4. Bolt Pivot Plate (#18) LH to left side Mounting Lug on Main Frame. Use (2) 3/8" x 1-3/4" Cap Screw (#22), with (2) 3/8" Washers (#25) on each Cap Screw and Nylock Nuts (#24) provided. (See Figure 1)

*NOTE: Flat side of Pivot Plate must be up. Do not tighten nuts at this time. (See Figure 1)
Location of Wiring Harness Clip is on Rear Bolt. (See Figure 1)*

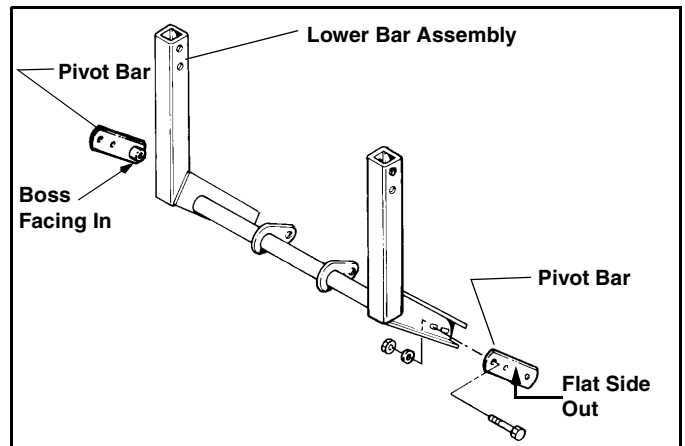


Figure 2

5. Loosely assemble Pivot Bar (#15) to Lower Bar Assembly (#11) outer arms. Use (2) 3/8" x 1-1/4" Cap Screw (#21), with (2) 3/8" Washers (#25) on each Cap Screw and Nylock Nuts (#24) provided per Pivot Bar. (See Figure 2)

NOTE: Raised Boss on Pivot Bar must face to INSIDE of assembly. (See Figure 2)

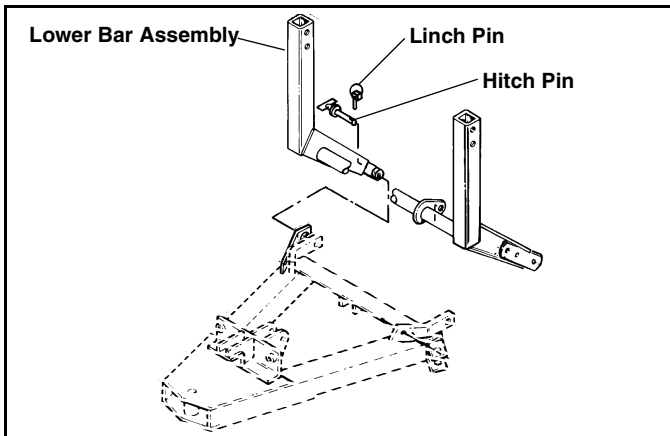


Figure 3

6. Mount Lower Bar Assembly to Main Plow Frame by sliding bosses on Pivot Bars into holes on Pivot Plates. Use long Hitch Pins (#30) to locate and secure. Reuse Linch Pins. (See Figure 3) & (See Figure 4).

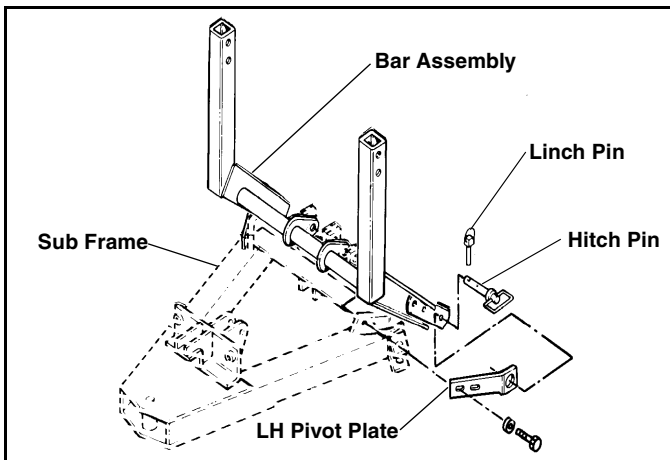


Figure 4

NOTE: It may be necessary to remove one of the Pivot bars in order to install Lower bar assembly.

7. Remove Linch Pin, Roll Pin, and Hitch Pin located on Lift Bar. Remove Hitch Pin from Lift bar. (See Figure 5)
8. Align 3/4" hole in mounting tab, on Lower Bar Assembly Cross Tube, with matching hole in lift arm. Insert Hitch Pin in aligned holes and replace Roll Pin and Linch Pin. (See Figure 5)
9. Align 3/4" hole in mounting tab, on Lower Bar Assembly Cross Tube, with matching hole in Lift Bar and insert Sleeve (#26) secure with (1) 1/2" x 2" Cap Screw (#27), (2) Special Washers (#29), and Nylock Nut (#28) provided. Tighten to 75 Ft. Lbs. (See Figure 5)

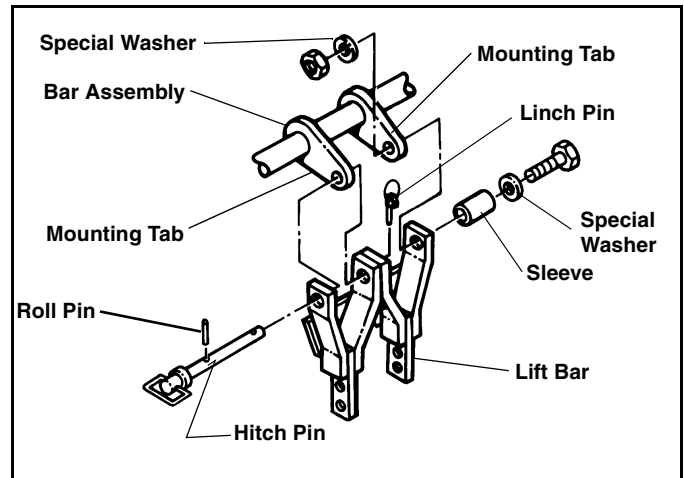


Figure 5

10. Before tightening the 3/8" Cap Screws between Pivot Bars and Lower Bar Assembly, attach Snow Plow to vehicle with Hitch Pins.

11. Tighten all 3/8" Cap Screws on Pivot Arms and Pivot Bars to 45 Ft. Lbs.

Upper Channel Assembly:

1. Locate the following items:
 - A. Mounting Channel (#19) (2 required).
 - B. Upper Channel (#12).
 - C. Light Bracket (#13) (2 required).
 - D. Light Bracket (#14) (2 required).
 - E. Spacer (#34) (2 required).

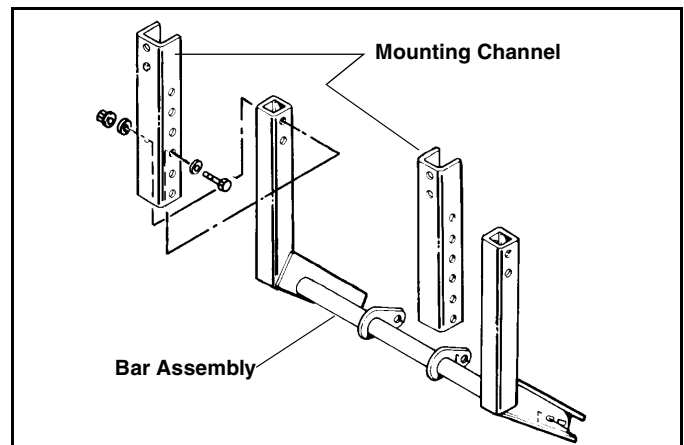


Figure 6

6. Attach Mounting Channels (#19) to Lower Bar Assembly using (4) 3/8" x 3" Cap Screws (#23), (8) Washers (#25) and Nylock Nuts (#24) provided. (See Figure 6)
7. Attach pair of Light Brackets (#13) and (#14) to each end of Upper Channel (#12) with (4) 3/8" x 1" Cap Screws (#20), and Nylock Nuts (#24) provided. (See Figure 7)



WARNING

Mounting Upper Channel too high may result in obstructed driver visibility and could cause accidents.

8. Attach Light Brackets/Upper Channel assembly to Mounting Channels with (2) 3/8" x 1" Cap Screws (#20), and (2) 3/8" x 3" Cap Screws (#23), Washers (#25), and Nylock Nuts (#24) provided. Use (2) Spacers (#34) between Light brackets and channel on long Cap Screws. (See Figure 7)

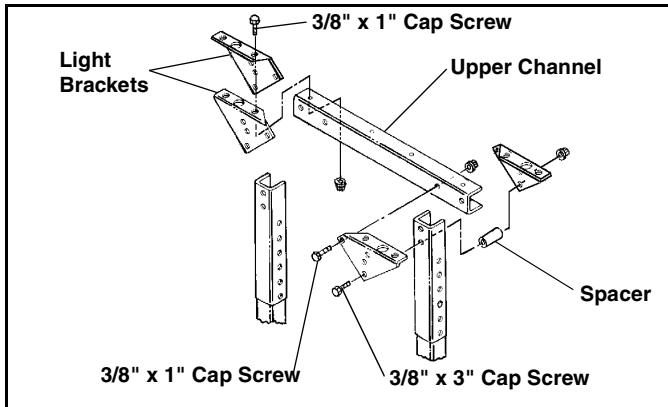


Figure 7

NOTE: Top of Upper Channel should be located above the top of the plow when plow is in raised position.



CAUTION

Do not overtighten the 3/8" x 3" Cap Screws used for assembling Mounting Channels on Lower Bar. Doing so will cause frame to deform and make future adjustment difficult.

9. Tighten all 3/8" x 1-1/4" Nuts to 45 Ft.Lbs Torque.
10. Tighten 3/8" x 3" Nuts to 18-20 Ft. Lbs Torque.

Lamp Installation:

1. Locate Lamps and assemble according to directions provided with Lighting Kit.

NOTE: It is recommended that the following modifications to the ground connection inside the light modules be made in order to ensure good ground for the flasher circuit. (Negative ground systems only.)

2. Remove Lamp Cover from each light module.
3. Cut white ground wire from Turn Lamp Holder at riveted connector on base of Lamp Housing. (See Figure 8)
4. Use Scotch-Loc® connector to attach white wire from turn lamp to white wire on Head Lamp. (See Figure 8)

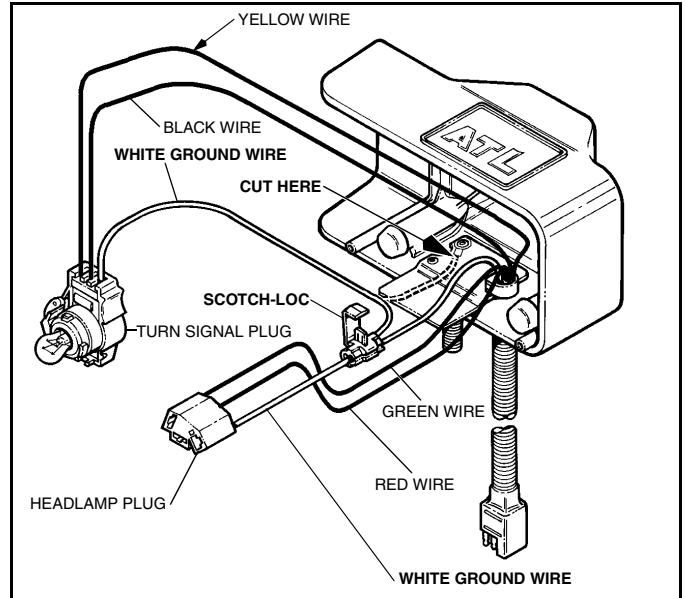


Figure 8

5. Reassemble Lamp Cover.

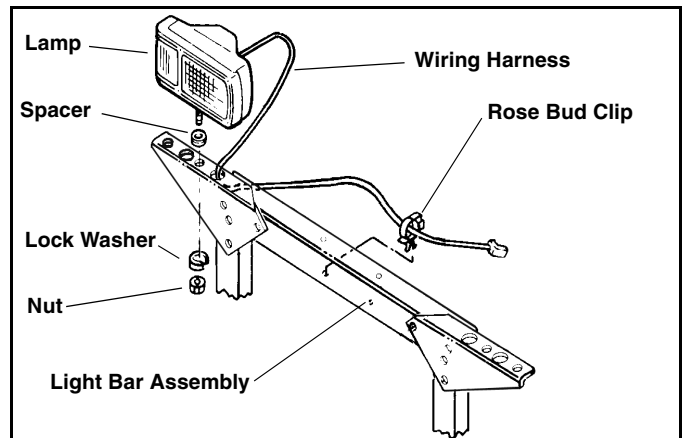


Figure 9

6. Mount Lamps on Upper Channel Assembly. (See Figure 9)
7. Pass Wire Harness attached to Lamps through holes in Upper Channel Assembly. (See Figure 9)
8. Locate Universal Wire Harness, Switch, Grommets, Connectors, and install according to directions provided with lighting kit.

CAUTION

Take care to provide proper clearance from hot engine parts e.g. exhaust Manifolds.

NOTE: The installation instructions provided with the light parts package instruct the installer to cut the lo beam and high beam headlight wires in a location that will cut the wires to both headlights at the same location.

On some vehicles it is very difficult to find these wires in a accessible common location. Where this occurs splice the Auxiliary Harness Extension provided by attaching one end of the Black wire to the tap connector used to tap into the headlight end of the high beam wire on the drivers side and attaching the White wire to the tap connector used to tap into the headlight end of the lo beam wire on the drivers side.

On the passenger side, cut the high beam and lo beam wires, insulate and tape the cut ends opposite the headlight. Using the Butt Connectors and Heat Shrink Tubing provided, connect the ends of the two wires of the Auxiliary Harness to the high beam and lo beam wires of the passenger side headlight. Be sure to connect the Black wire to the high beam headlight wire and the White wire to the lo beam headlight wire. (See Figure 10)

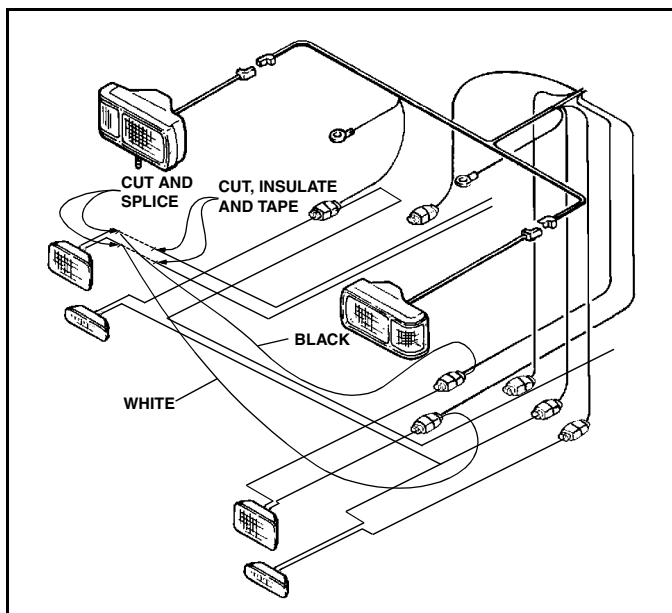


Figure 10

NOTE: Chevrolet and GMC C/K Pickup Trucks from 1988-on require a Special Factory wire harness. Refer to GM Service Bulletin 90-8A-20.

NOTE: Refer to SPECIAL INSTRUCTIONS section of directions provided with Lighting Kit when installing on Nissan, Datsun, Dodge D-50, Toyota, and Mitsubishi trucks.

NOTE: Some installations may require a extension of the standard wiring harness. A extension kit is provided with the Lighting package.

WARNING

Failure to follow Factory wiring recommendations could result in overloaded wiring and cause a electrical Fire!

Do Not Replace Stock Fuse with higher rated Fuse. This could result in overloaded wiring and cause a electrical Fire!

9. Attach Plow section of Wire Harness to Upper Channel Assembly with Rosebud Clips provided. (See Figure 9)
10. With Plow in *full up* position adjust Lamp light pattern by loosening Lamp Mounting Nut and swiveling Lamp on its base.

NOTE: In order to conform to Federal Motor Vehicle Safety Standards a SAE J602 Approved aiming device should be used when adjusting the Lamps.

CAUTION

Make sure that beam pattern is not impaired by upper edge of plow. If beam is impaired move Upper Light Bar Assembly to a higher position and readjust Lamps.

11. Double check to make sure all Cap Screws and Nuts are tight, Hitch Pins are installed, and Linch Pins are locked.
12. Operate Plow through full range of motions, up, down, right and left to make sure there is no binding or interference of the mechanical parts of the Plow and the wiring harness.

USING THIS PARTS LIST

Below is parts listing with four columns. The first column is the "ITEM", the second is the "PART NUMBER", The third is the "DESCRIPTION" and the fourth is the "QUANTITY".

The "ITEM" is the number used in the corresponding illustration.

The "PART NO." is the number used to order replacement parts. If a number does not appear in the column the part is only available by ordering the complete assembly.

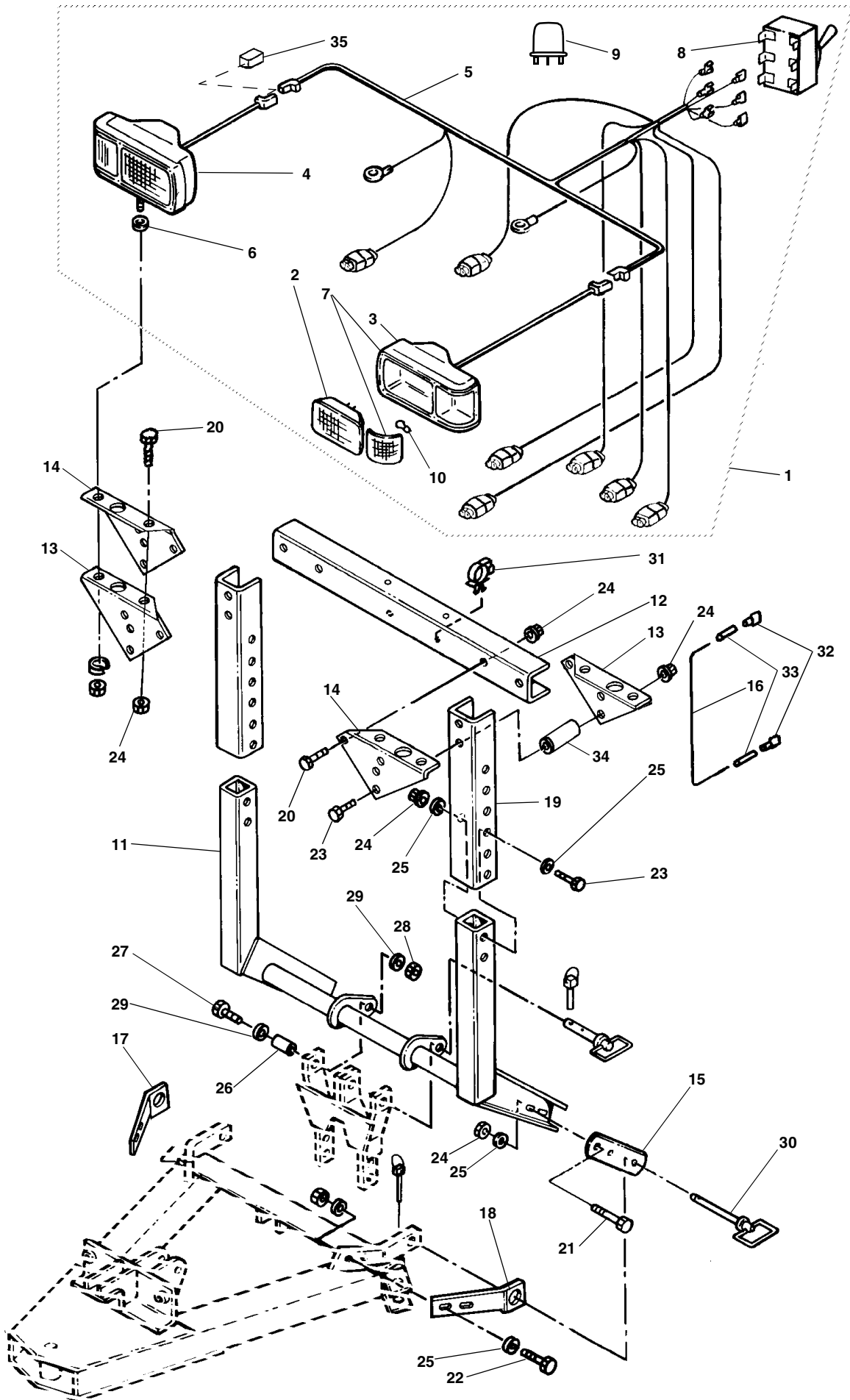
The "DESCRIPTION" is the name of the replacement part. At times the name may be indented, this means that the indented parts are part of the preceding assembly.

The "QTY." is the quantity needed to service the assembly illustrated, not the complete product.

PARTS LIST

ITEM	PART NO.	DESCRIPTION	QTY.
1	96100012	LAMP KIT	1
2	96100514	Lamp, Sealed Beam	1
3	96100510	Housing, Assembly, LH.....	1
4	96100511	Housing, Assembly, RH	1
5	96100512	Harness, Wiring	1
6	96100509	Spacer	1
7	96100513	Retainer, With Lens	1
8	96003037	Switch, Toggle	1
9	96003010	Flasher.....	1
10	96003060	Lamp, Park & Turn	1
11	96100413	Bar Assembly, Lower Light.....	1
12	96100412	Channel, Upper.....	1
13	96101291	Bracket, Light - R & L.....	2
14	96101292	Bracket, Light - L & R.....	2
15	96100020	Bar Assembly, Pivot	2
16	96100023	Harness, Lights.....	1
17	96100025	Plate, Pivot-RH	1
18	96100026	Plate, Pivot-LH	1
19	96100028	Channel, Mounting.....	2
20	98009022	Cap Screw, Hex., 3/8"-16NC x 1"	8
21	98009034	Cap Screw, Hex., 3/8"-16NC x 1-1/4"	4
22	98100020	Cap Screw, Hex., 3/8"-16NC x 1-3/4"	4
23	98009258	Cap Screw, Hex., 3/8"-16NC x 3"	6
24	98009009	Nut, Hex., Nylock, 3/8"-16NC.....	22
25	98009032	Washer, Flat, 3/8"	16
26	96100014	Sleeve	1
27	98100010	Cap Screw, Hex., 1/2"-13 NC x 2"	1
28	98009013	Nut, Hex., Nylock, 1/2"-13NC.....	1
29	98100054	Washer, Special	2
30	96100015	Hitch pin.....	2
31	96100440	Clip, Rosebud	2
32	96002073	Connector, Butt	2
33	96003041	Tube, Shrink.....	2
34	96101287	Spacer	2
35	96101345	Cap, Plastic.....	4
36	96101449	Kit, Plug Repair	1
37		Connector, Male End	1
38		Connector, Female End.....	1
39		Connector, Butt.....	10
40		Tube, Shrink.....	10
41		Plastic Cap (same as Item 35)	4

PARTS LIST



SNO-WAY PLOWS

LIMITED ONE-YEAR WARRANTY

SNO-WAY Warrants to the original retail purchaser for a period of one (1) year from the date of delivery from an authorized SNO-WAY Dealer that your new SNO-WAY Plow is free from defects in materials and workmanship if properly set up and operated in accordance with the recommendations set forth in SNO-WAY's Set-up and Operator's Manuals.

SNO-WAY Plows used by a dealer as a demonstrator shall be warranted only for the period of one (1) year from the date of delivery to said dealer and the first subsequent purchaser shall be entitled to the remaining warranty protection.

This warranty shall not apply to any item of equipment which has been repaired or altered outside the SNO-WAY factory or authorized SNO-WAY dealership or which has been subject to misuse, negligence or accident: neither shall it apply to equipment which has not been operated in accordance with SNO-WAY printed instructions or has been operated beyond the SNO-WAY'S recommended snow plow operating class.

The Polycarbonate Moldboard is warranted to the original retail purchaser for a period of two (2) years from the date of delivery of the SNO-WAY Plow from an authorized SNO-WAY dealer and applies only to breakage of the Polycarbonate Moldboard. This warranty does not cover hazing, abrasion, yellowing, scratching or damage due to chemical attack. This warranty shall not apply to the polycarbonate moldboard which has been repaired or altered outside the SNO-WAY factory or authorized SNO-WAY dealership.

To validate this warranty, your dealer and you must complete the enclosed Warranty Registration Card at time of purchase of the plow and return the Factory copy to SNO-WAY International, Inc. within ten (10) days following delivery of your new Plow.

To obtain warranty service, promptly return your Plow or any defective part at your expense to any authorized SNO-WAY dealer during the warranty period. Replacement or repair of defective or inadequate parts shall be performed without charge for labor or materials by such dealer at his regular place of business during regular business hours after inspection and determination that the warranty applies.

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, SNO-WAY makes no representation of warranty of any kind expressed or implied, including merchantability or fitness for particular purpose in respect to the equipment.

SNO-WAY shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to loss of use, inconvenience, rental or replacement equipment, loss of profits or other commercial loss.

No agent, employee or representative of SNO-WAY has any authority to bind SNO-WAY to any affirmation, representation or warranty concerning its equipment except as specificity set forth herein.

Certain limitations expressed herein are excludable in accordance with provisions of local law. Such limitations shall be deemed struck if such local law is applicable. All other limitations and provisions shall continue to apply.

SNO-WAY INTERNATIONAL, INC.



SNO-WAY[®] INTERNATIONAL, INC.

©1999 Sno-Way[®]
International