



406 N. COLUMBIA  
P.O. BOX 78  
BLOOMFIELD, IA 52537  
PH: 888-766-6267  
FAX: 641-664-3438

# Installation Instructions

**Models: 65 LDA, 75 LDA, 85 LDA**

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**READ BEFORE INSTALLATION!**

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Instructions in this manual supersede all editions published at an earlier date.  
Snowman Snowplow, Inc. reserves the right, under its continuing product improvement program, to change construction or design details, specifications and prices without notice or without incurring any obligation.

FILE: INSTALL INSTR LDA-HARNES  
JULY 2002

# IMPORTANT!

This manual contains step-by-step instructions for proper installation of the SNOWMAN model 65 LDA, 75 LDA and 85 LDA snowplows.

Please read manual carefully before assembling plow, and follow recommendations given.

IF FURTHER ASSISTANCE IS  
NEEDED, CALL 888-766-6267



This is a safety alert symbol. It alerts an operator to information concerning personal safety.

Always observe and heed these symbols and instructions to prevent serious injury to yourself or others.



## GENERAL INFORMATION:

**CAUTION:** Always disconnect battery prior to installation.

Check contents of shipment against the parts list to determine all are correct and included.

When ordering parts, furnish model number of plow, part number, name and description.



**SAFETY PRECAUTIONS** should be used when power unit is **IN OPERATION** and plow is in **ANY POSITION**. **LOWER** plow to ground when vehicle is **PARKED**.



Remove plow when not in use. Always **SWITCH THE REMOTE CONTROL TO OFF** before unhooking from plow, and when the plow is not in use.

## TOOLS NEEDED FOR SNOWMAN MODEL 65-75-85 LDA SNOWPLOW INSTALLATION

### WRENCHES:

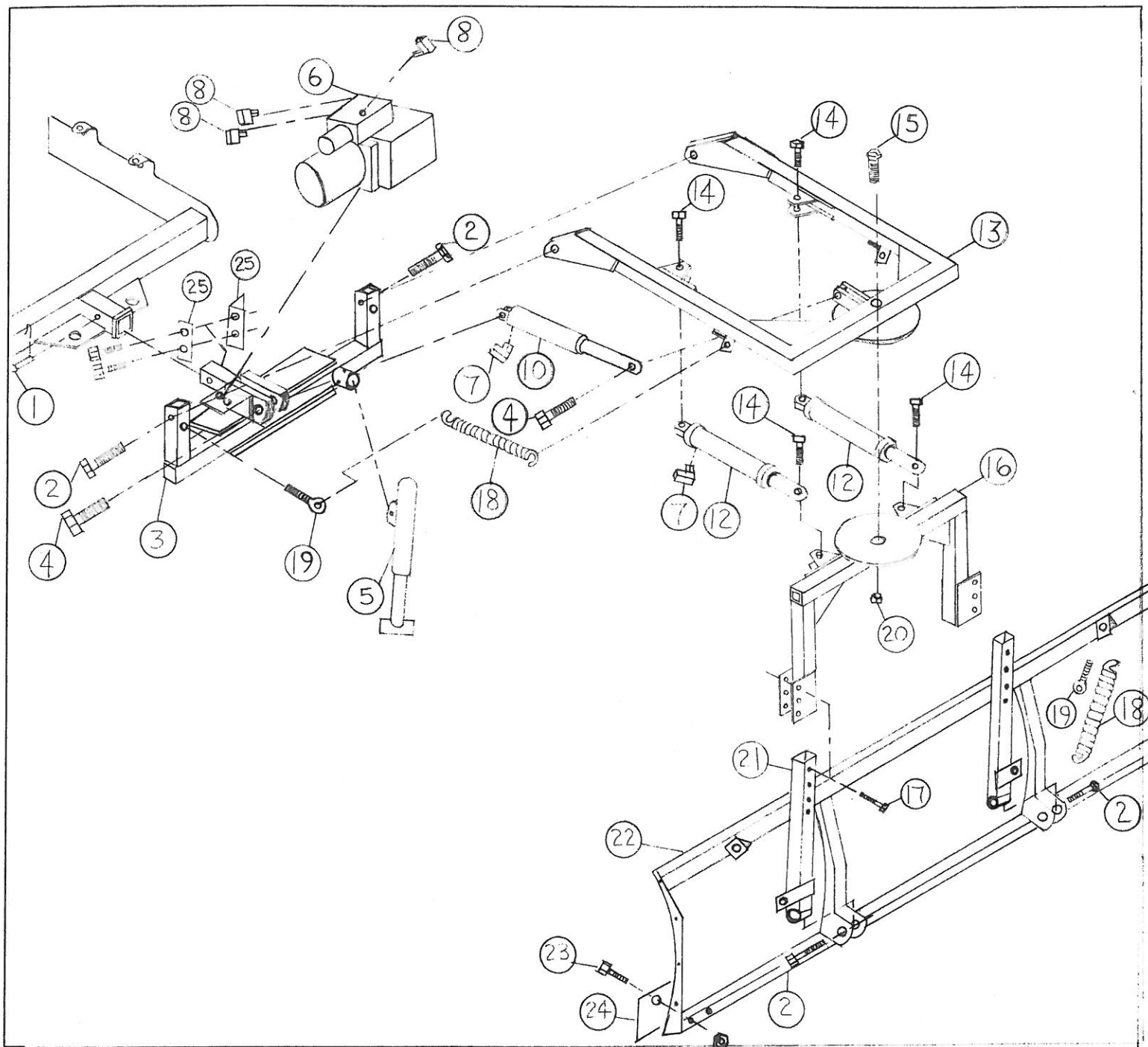
7/16"  
1/2"  
9/16"  
5/8"  
11/16"  
3/4"  
15/16"  
1-1/8"  
(2) 1-1/2"

### DRILL BITS:

3/8"  
11/16"

### SIDE CUTTERS

DRILL  
3/8" NUT DRIVER  
STRAIGHT SLOT SCREWDRIVER



### PLOW ASSEMBLY FOR MODELS 65 LDA and 75 LDA

- |   |  |   |
|---|--|---|
| 1) (X11031) 5/8"x3 1/2" Hitch pin (1)       | 10) (H4300) Lift cylinder, 1 3/4"x12" stroke     | 20) (X11043) 1" Lock nut (3)                                |
| 2) (X11007) 5/8"x4" Bolt (4)                | 12) (H4210) Angle cylinder, 1 1/2"x6" stroke (2) | 21) (L7004) LDA lower left arm                              |
| 3) (TM101LDA-L; TM101LDA-H) LDA T-mount     | 13) (U6001LDA) LDA upper pivot arm               | 22) (M65LDA/M75LDA) Moldboard (6.5'-65 LDA and 7.5'-75 LDA) |
| 4) (X11042) 1"x4" Bolt (2)                  | 14) (X11040) 3/4"x3 3/4" Bolt (4)                | 23) (X11004) 1/2"x3 1/2" Carriage bolt (9-model 65 LDA)     |
| 5) (JA001S) 10" Jack                        | 15) (X11044) 1"x6" Bolt (1)                      | 24) (C4065-C4075) Carbon steel cutting edge                 |
| 6) (SM80SPC) LDA Power unit-SPX             | 16) (U6002LDA) LDA lower pivot arm               | 25) (U6005 L/R) Left & right hitch stop (2)                 |
| 7) (H2009) 1/4" Standard swivel fitting (6) | 17) (X11005) 1/2"x3 1/2" Bolt (4)                |   |
| 8) (E3001PF) Pump flow control (1)          | 18) (T9001) Springs (4)                          |   |
| 9) (E3001PFN) Pump flow nipple (1)          | 19) (X11021) 5/8"x6 3/4" Eye Bolt (4)            |   |

# PARTS LIST: 65 LDA

# PARTS LIST: 75 LDA

REF NO	PART NUMBER	DESCRIPTION	QTY	QTY B/O	REF NO	PART NUMBER	DESCRIPTION	QTY	QTY B/O
22	M65LDA-R/Y	6-1/2 Ft. 12 Ga. Moldboard	1		22	M75LDA-R/Y	7-1/2 Ft. 12 Ga. Moldboard	1	
24	C4065	6-1/2 Ft. carbon steel cutting edge	1		24	C4075	7-1/2 Ft. carbon steel cutting edge	1	
23	X11051	1/2"x2" Carriage bolt	9		23	X11051	1/2"x2" Carriage bolt	10	
	X11018	1/2" Lock nut	9			X11018	1/2" Lock nut	10	
21	L7004	LDA lower left arm	1		21	L7004	LDA lower left arm	1	
	R8004	LDA lower right arm	1			R8004	LDA lower right arm	1	
2	X11007	5/8"x4" Bolt	2		2	X11007	5/8"x4" Bolt	2	
	X11035	5/8" Lock nut	2			X11035	5/8" Lock nut	2	
18	T9001	Springs (trip)	2		18	T9001	Springs (trip)	2	
19	X11021	5/8"x6-3/4" Eye bolt (2 nut)	2		19	X11021	5/8"x6-3/4" Eye bolt (2 nut)	2	
	X11039	5/8" Structural washer	4			X11039	5/8" Structural washer	4	
3	TM101LDA-H	LDA T-mount (hitch height 16"-24") (std)	1		3	TM101LDA-H	LDA T-mount (hitch height 16"-24") (std)	1	
	TM101LDA-L	LDA T-mount (hitch height 10"-16") (opt)				TM101LDA-L	LDA T-mount (hitch height 10"-16") (opt)		
13	U6001LDA	LDA upper pivot arm	1		13	U6001LDA	LDA upper pivot arm	1	
16	U6002LDA	LDA lower pivot arm	1		16	U6002LDA	LDA lower pivot arm	1	
18	T9001	Springs (down pressure)	2		18	T9001	Springs (down pressure)	2	
19	X11021	• 5/8"x6-3/4" Eye bolt (2 nut)	2		19	X11021	• 5/8"x6-3/4" Eye bolt (2 nut)	2	
2	X11007	• 5/8"x4" Bolt	2		2	X11007	• 5/8"x4" Bolt	2	
	X11039	• 5/8" Structural washer	4			X11039	• 5/8" Structural washer	4	
	X11035	• 5/8" Lock nut	2			X11035	• 5/8" Lock nut	2	
17	X11005	• 1/2"x3-1/2" Bolt	4		17	X11005	• 1/2"x3-1/2" Bolt	4	
	X11038	• 1/2" Structural washer	4			X11038	• 1/2" Structural washer	4	
	X11018	• 1/2" Lock nut	4			X11018	• 1/2" Lock nut	4	
1	X11031	• 5/8"x3-1/2" Hitch pin	1		1	X11031	• 5/8"x3-1/2" Hitch pin	1	
20	X11043	• 1" Lock nut	1		20	X11043	• 1" Lock nut	1	
15	X11044	• 1"x6" Bolt	1		15	X11044	• 1"x6" Bolt	1	
	X11036	• 5/16" Lock nut	2			X11036	• 5/16" Lock nut	2	
	X11047	• 5/16"x2-3/4" Bolt	2			X11047	• 5/16"x2-3/4" Bolt	2	
25	U6005L	• Left hitch stop	1		25	U6005L	• Left hitch stop	1	
25	U6005R	• Right hitch stop	1		25	U6005R	• Right hitch stop	1	
	SC1001	• Safety Chain	1			SC1001	• Safety Chain	1	
	A5006	• Flag/Pr. (includes 2 S-hooks)	1			A5006	• Flag/Pr. (includes 2 S-hooks)	1	
	• All of the above indented items included in bag # 1 LDA					• All of the above indented items included in bag # 1 LDA			
6	SM-DB1439	2.0 Hydraulic power unit (LDA)	1		6	SM-DB1439	2.0 Hydraulic power unit (LDA)	1	
	E3002FA	4-way joystick controller w/3' lead	1			E3002FA	4-way joystick controller w/3' lead	1	
	H2003	Hydraulic hoses (36")	3			H2003	Hydraulic hoses (36")	3	
	PC001	Vinyl power unit cover	1			PC001	Vinyl power unit cover	1	
	X11002	• 3/8"x1" Bolt	2			X11002	• 3/8"x1" Bolt	2	
	X11022	• 3/8" Lock washer	2			X11022	• 3/8" Lock washer	2	
7	H2009	• 1/4" Standard swivel fitting	3		7	H2009	• 1/4" Standard swivel fitting	3	
8	H2004	• 9/16" Boss swivel fitting	3		8	H2004	• 9/16" Boss swivel fitting	3	
12	H4210	Angle cylinder (1-1/2"x6" stroke)	2		12	H4210	Angle cylinder (1-1/2"x6" stroke)	2	
10	H4300	Lift cylinder (1-3/4"x12" stroke)	1		10	H4300	Lift cylinder (1-3/4"x12" stroke)	1	
4	X11042	• 1"x4" Bolt	2		4	X11042	• 1"x4" Bolt	2	
	X11043	• 1" Lock nut	2			X11043	• 1" Lock nut	2	
14	X11040	• 3/4"x3-3/4" Bolt	4		14	X11040	• 3/4"x3-3/4" Bolt	4	
	X11041	• 3/4" Lock nut	4			X11041	• 3/4" Lock nut	4	
	Z1001	• 3/16" Grease zerk	3			Z1001	• 3/16" Grease zerk	3	
	• All of the above indented items included in bag # 2 LDA					• All of the above indented items included in bag # 2 LDA			
	EH4002	25 Ft. vehicle harness	1			EH4002	25 Ft. vehicle harness	1	
	EH4001	3 Ft. pump harness	1			EH4001	3 Ft. pump harness	1	
	E3005	2 Ft. battery cable	1			E3005	2 Ft. battery cable	1	
	E3003WR	• Solenoid	1			E3003WR	• Solenoid	1	
	E3006A	• 1/4"x3/4" Bolt	2			E3006A	• 1/4"x3/4" Bolt	2	
	E3006D	• 1/4" Lock nut	2			E3006D	• 1/4" Lock nut	2	
	E3009	• Dielectric grease	1			E3009	• Dielectric grease	1	
	H2007	• Cable ties	12			H2007	• Cable ties	12	
	• All of the above indented items included in bag # 3					• All of the above indented items included in bag # 3			
5	JA001L	15" Jack (standard)	1		5	JA001L	15" Jack (standard)	1	
	JA001S	10" Jack (optional)				JA001S	10" Jack (optional)		
PARTS LIST LDA		Ref. No. refers to drawing, pg 2, installation instructions.							
5/31/2004		Qty. represents no. of parts required for each plow.							

# PARTS LIST: 85 LDA

REF NO	PART NUMBER	DESCRIPTION	QTY	QTY B/O	REF NO	PART NUMBER	DESCRIPTION	QTY	QTY B/O
22	M85LDA-R/Y	8-1/2 Ft. 12 Ga. Moldboard	1		6	SM-DB1439	2.0 Hydraulic power unit (LDA)	1	
24	C4085	8-1/2 Ft. carbon steel cutting edge	1			E3002FA	4-way joystick controller w/3' lead	1	
23	X11051	1/2"x2" Carriage bolt	10			H2003	Hydraulic hoses (36")	3	
	X11018	1/2" Lock nut	10			PC001	Vinyl power unit cover	1	
21	L7004	LDA lower left arm	1			X11002	• 3/8"x1" Bolt	2	
	R8004	LDA lower right arm	1			X11022	• 3/8" Lock washer	2	
2	X11007	5/8"x4" Bolt	2		7	H2009	• 1/4" Standard swivel fitting	3	
	X11035	5/8" Lock nut	2		8	H2004	• 9/16" Boss swivel fitting	3	
18	T9001	Springs (trip)	2		12	H4210	Angle cylinder (1-1/2"x6" stroke)	2	
19	X11021	5/8"x6-3/4" Eye bolt (2 nut)	2		10	H4300	Lift cylinder (1-3/4"x12" stroke)	1	
	X11039	5/8" Structural washer	4		4	X11042	• 1"x4" Bolt	2	
3	TM101LDA-H	LDA T-mount (hitch height 16"-24")(std)	1			X11043	• 1" Lock nut	2	
	TM101LDA-L	LDA T-mount (hitch height 10"-16") (opt)			14	X11040	• 3/4"X3-3/4" Bolt	4	
13	U6001LDA	LDA upper pivot arm	1			X11041	• 3/4" Lock nut	4	
16	U6002LDA	LDA lower pivot arm	1			Z1001	• 3/16" Grease zerk	3	
18	T9001	Springs (down pressure)	2		• All of the above indented items included in bag # 2 LDA				
19	X11021	• 5/8"x6-3/4" Eye bolt (2 nut)	2			EH4002	25 Ft. vehicle harness	1	
2	X11007	• 5/8"x4" Bolt	2			EH4001	3 Ft. pump harness	1	
	X11039	• 5/8" Structural washer	4			E3005	2 Ft. battery cable	1	
	X11035	• 5/8" Lock nut	2			E3003WR	• Solenoid	1	
17	X11005	• 1/2"x3-1/2" Bolt	4			E3006A	• 1/4"x3/4" Bolt	2	
	X11038	• 1/2" Structural washer	4			E3006D	• 1/4" Lock nut	2	
	X11018	• 1/2" Lock nut	4			E3009	• Dielectric grease	1	
1	X11031	• 5/8"x3-1/2" Hitch pin	1			H2007	• Cable ties	12	
20	X11043	• 1" Lock nut	1		• All of the above indented items included in bag # 3				
15	X11044	• 1"x6" Bolt	1		5	JA001L	15" Jack (standard)	1	
	X11036	• 5/16" Lock nut	2			JA001S	10" Jack (optional)		
	X11047	• 5/16"x2-3/4" Bolt	2						
25	U6005L	• Left hitch stop	1						
25	U6005R	• Right hitch stop	1						
	SC1001	• Safety Chain	1						
	A5006	• Flag/Pr. (includes 2 S-hooks)	1						
• All of the above indented items included in bag # 1 LDA									
Ref. No. refers to drawing, pg. 2, installation instructions. Qty. represents no. of parts required for each plow.									





**IMPORTANT:**  
This manual contains  
step-by-step instructions  
for proper installation of the  
**SNOWMAN model 65 LDA, 75 LDA and  
85 LDA snowplows.**

**Please read manual carefully before  
assembling plow, and follow  
recommendations given.**

**IF FURTHER ASSISTANCE IS  
NEEDED, CALL 888-766-6267.**

## **SNOWMAN MODELS 65 LDA, 75 LDA & 85 LDA INSTALLATION INSTRUCTIONS**

**Bolts should be finger tight until instructed  
to tighten. Use standard methods and  
practices when attaching snowplow.**

### **IMPORTANT: PRIOR TO INSTALLING THE SNOWMAN PLOW ON THE VEHICLE:**

- Inspect the existing hitch and frame for cracks and other defects that could weaken the hitch or frame. If cracks or defects are discovered in the hitch, it must be replaced before mounting the Snowman plow. If defects are found in the frame they must be repaired prior to mounting the Snowman plow.
- Check the bolts that were used in mounting the hitch. Snowman recommends using Loctite and lock nuts on grade 8 bolts to assure maximum strength.
- Check the existing hitch to verify that it is a **class 3 hitch, with a tongue weight rating of no less than 500# for the 65 or 75 LDA; or class 4 hitch with a tongue weight rating of no less than 750# for the 85 LDA model** as required by Snowman Snowplow .

### **Installing Power Unit/Pump Harness:**

1. Apply Neversieze or grease to the 2" square extension on the T-mount. This will assure easy on/off when hooking up to or unhooking from the vehicle.

2. Insert the T-mount into the center tube on the hitch and fasten with one 5/8" hitch pin.
3. Standing at the rear of the vehicle, set the power unit on the T-mount, running it lengthwise with the bumper, with the reservoir to the right (passenger side of vehicle), and the motor to the left (driver's side of vehicle).
4. Locate the black (-) cable on the 3 ft. pump harness. Place one 3/8" lock washer on one of the 3/8"x3/4" bolts provided. Insert the bolt through the eyelet at the end of the cable. Screw the bolt up through one of the mounting holes on the T-mount and into the corresponding hole on the bottom of the power unit.
5. Place the second 3/8" lock washer on the remaining 3/8"x3/4" bolt. Screw the bolt up through the second mounting hole in the T-mount and into the corresponding hole on the power unit.

**IMPORTANT:** *Care should be taken to avoid over tightening, which could break the aluminum pump housing.*

6. Locate the red (+) cable on the 3 ft. pump harness. Connect the eyelet at the end of the red cable to the 1/4" post located on the top left side of the power unit motor to supply power to the power unit.
7. Locate the 3 small wires (red, orange, green) at the end of the pump harness. Standing at back of truck, and facing the power unit, connect the green wire to the left angle coil lead on the pump; the orange to the center lift coil lead, and the red to the right angle coil lead.
8. Fill the reservoir 3/4 full (normal operating level) with "Lubriplate Special Pour Hydraulic" (approx. 3 qts). Another oil of equal weight may be substituted for Lubriplate, or whatever is recommended for your front plow will work.

**IMPORTANT:** *Snowman Snowplow, Inc. recommends "Lubriplate Special Pour Hydraulic" oil. To locate a Lubriplate dealer near you, call 419-691-2491. When ordering, ask for item no. 76757 (four, 1-gallon containers).*

## Installing Vehicle Harness:

1. Locate the cable ends on the 25 ft. vehicle harness that will connect to the battery and cab remote control. Tape the cables together with electrical tape for easier installation.
2. Beginning at the back of the vehicle, decide on where you want to start installing the harness (i.e. run it through a plug in the bumper, or between the bumper and the vehicle.)
3. Using the cable ends that you taped together as the lead end, run the harness along the vehicle's frame channel from the back of the vehicle to the front, ending up at the battery. Untape the cables.



**CAUTION:** *Keep cord away from heat and wear points.*

4. Run the harness remote cord through an outlet in the firewall of the cab. Look for an outlet underneath the cab and towards the front. If there is no existing outlet, a hole can be drilled through the firewall. **CAUTION: Make sure there are no wires or hidden objects in the area that you will be drilling through.** Connect the remote cord to the remote control in the cab.
5. Run the fused wire to a spare fuse spade in the fuse panel so that it is connected live when the vehicle ignition is on. When the vehicle ignition is turned off, the remote should be dead.

**IMPORTANT:** *Regular cleaning, re-greasing (using dielectric grease) and sealing of all connections is necessary to maintain correct grounding and amp flow for optimum operating performance of the unit.*

## Solenoid Installation:

1. Locate a metal area under the hood of the vehicle on the inside of the fender to mount the solenoid. The location must be within 2 feet of the positive post on the battery.

2. Drill two 5/16" holes at this location.
3. Using the two 1/4"x3/4" bolts and two 1/4" lock nuts, mount the solenoid in a vertical position with the solenoid cap pointing down.
4. Connect one end of the 2 ft. battery cable to the solenoid post located on the side of the solenoid that is towards the front of the vehicle. **DO NOT CONNECT THE CABLE TO THE BATTERY AT THIS TIME.**
5. Connect the black ground cable of the 25 ft. vehicle harness cables to the negative (-) post on the battery. Connect the red positive (or hot power cable) to the solenoid post located on the side of the solenoid that is towards the rear of the vehicle.
6. Locate the brown wire with a 3/8" eyelet on the end that splits out of the harness, and connect it to the small post on top of the solenoid.
7. Gather up excess vehicle harness cable length and secure it with cable ties at a location away from heat and wear points.
8. Plug the 3 ft. pump harness into the 25 ft. vehicle harness at the bumper.

## Assembling the Plow:

1. If not preassembled, bolt the carbon steel cutting edge to the moldboard using nine 1/2"x3-1/2" carriage bolts and nine 1/2" lock nuts for the 65 LDA, ten of each for the 75 LDA and 85 LDA.
2. If not preassembled, bolt the **left** lower arm and the **right** lower arm to the moldboard using two 5/8"x4" bolts, two 5/8" structural washers and two 5/8" lock nuts.
3. Attach the LDA lower pivot arm to the lower arms using four 1/2"x3-1/2" bolts, four 1/2" structural washers and four 1/2" lock nuts.
4. Attach the LDA upper pivot arm to the LDA lower pivot arm using one 1"x6" bolt and lock nut.



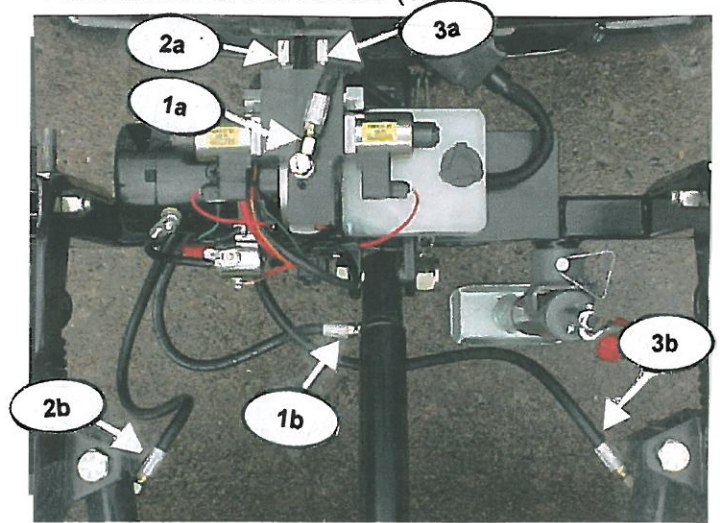
5. Mount the LDA upper pivot arm to the LDA T-mount with two 5/8"x4" bolts, two 5/8" structural washers and two 5/8" lock nuts that are provided. **Caution: Do not overtighten.**
6. If not preassembled, hook the two springs to the spring mounts located on the lower arms. Hook the other end of the springs to the two 5/8"x6-3/4" eyebolts provided. Thread one nut on each eyebolt. Insert the eyebolts into the two spring mounts located along the top lip of the moldboard. Place a 5/8" structural washer and the second nut on each eyebolt and tighten down.

### Installing Cylinder and Hoses:



**CAUTION:** To avoid possible damage to the cylinder, do not overtighten nuts.

1. With the welded end of the lift cylinder pointed toward the vehicle, fasten the front end of the lift cylinder to the center of the LDA T-mount using one 1"x4" bolt and lock nut making sure that fitting hole is underneath. Extend the lift cylinder and fasten it to the upper arm assembly using one 1"x4" bolt and lock nut.
2. With the welded end of one angle cylinder pointed toward the vehicle, and using a 15/16" wrench, fasten the welded end of the cylinder to one of the side mounts on the upper pivot arm, using one 3/4"x3-3/4" bolt and lock nut. Extend the angle cylinder out and fasten the extended end to one of the mounts located on the crossbar of the lower pivot arm using one 3/4"x3-3/4" bolt and lock nut. (Repeat for the second cylinder.)
3. Insert three 1/4" standard swivel fittings into the oil ports located on the 3 cylinders (one fitting per cylinder). Point the ends of the angle cylinder fittings towards the center lift cylinder. Point the end of the lift cylinder fitting toward the angle cylinder and opposite the jack mount.
4. REFERRING TO PICTURE: Locate the oil port on the top side of the power unit valve body (1a). Connect one 9/16" boss swivel fitting to the oil port. Point the female end of the fitting towards the vehicle. After attaching one end of one 36" hose to the fitting, bring the hose around and under the electrical portion of the power unit and then attach the other end of the hose to the 1/4" standard swivel fitting located on the front end of the lift cylinder, the end closest to the vehicle (1b).



5. REFERRING TO PICTURE: Connect two 9/16" boss swivel fittings to the oil ports located on the side of the valve body closest to the vehicle (2a, 3a). Point fittings (2a, 3a) towards the ground. Attach one end of the 2nd 36" hose to the right swivel fitting on the valve body (3a), and then run the hose down under the lift cylinder and over to the right angle cylinder (3b). Connect it to the swivel fitting on the right angle cylinder. Attach one end of the 3rd 36" hose to the left 1/4" standard swivel fitting (2a). Run the hose down under the power unit. Pull the hose under the power unit and back to the left angle cylinder (2b). Connect it to the 1/4" standard swivel fitting on the left angle cylinder.
6. The hoses will loop out slightly towards the driver's side of the vehicle when the plow is in the lowered position.
7. Place storage/mounting jack horizontally on LDA T-mount and fasten with the 9/16" pin provided. **(Remove the jack when you are plowing.)**



## **Installing Down Pressure Springs: (Plow must be in down position)**

1. Thread one nut onto one 5/8" eyebolt as far as it will go. Hook a spring on one end of the eyebolt. Insert the eyebolt into a mounting hole on one end of the T-mount and hook the other end of the spring into the angle iron on the corresponding side of the upper pivot arm. Thread a 5/8" structural washer and the second nut onto the eyebolt and tighten the nut down as far as it will go. **IMPORTANT: The eyebolt spade must be installed in a vertical position and the nut must be tight on the bolt (using all threads) to provide strength..**
2. Repeat step one for installing the spring on the opposite side.

## **System Check-out:**

1. Tighten all bolts, hoses and fittings using standard methods and practices.
2. Attach the loose end of the 2 ft. battery cable to the (+) positive post on the vehicle battery.
3. Check to see that all bystanders are a safe distance from the plow to avoid possible injury.
4. Raise the plow to its maximum height, then lower the plow until the lift cylinder is fully retracted.
5. Check oil level in reservoir. Oil may have to be added as air is removed. Reservoir level should be approximately 1/4 full with the plow raised to its maximum height, and 3/4 full when completely down.
6. Repeat step #4 until all air has been removed. Check oil level in reservoir each time step #4 is repeated.
7. Place the vinyl pump cover on the pump beginning at the reservoir end and working it across and down over the motor end.
8. Install one 3/16" drive grease zerk in the hole under the pivot plate on the lower pivot arm.

9. Install one 3/16" drive grease zerk in the hole above the pivot plate on the upper pivot arm.
10. Install one 3/16" drive grease zerk in the hole in the pivot plate on the upper pivot arm.
11. Grease the three zerks.

## **Installing Hitch Stops:**

**Hitch stops are provided to assist the operator in lining up the hitch pin holes in the T-mount and receiver hitch when hooking the plow up to the vehicle's receiver hitch.**

1. With the plow mounted to the vehicle's receiver hitch and the hitch pin in place, position the hitch stops in a vertical position on both sides of the T-mount.
2. The stops should rest against the receiver opening.
3. Fasten the two stops together with the two 5/16"x2-3/4" bolts and 5/16" lock nuts provided and tighten to secure their position.

## **Safety Chain:**

1. Drape the safety chain over the lift cylinder.
2. Bring the ends of the chain under the T-mount and hook them in the holes on the hitch (located on each side of the 2" receiver tube).
3. Gather the 2 sides of the chain together under the cylinder and fasten with a cable tie.

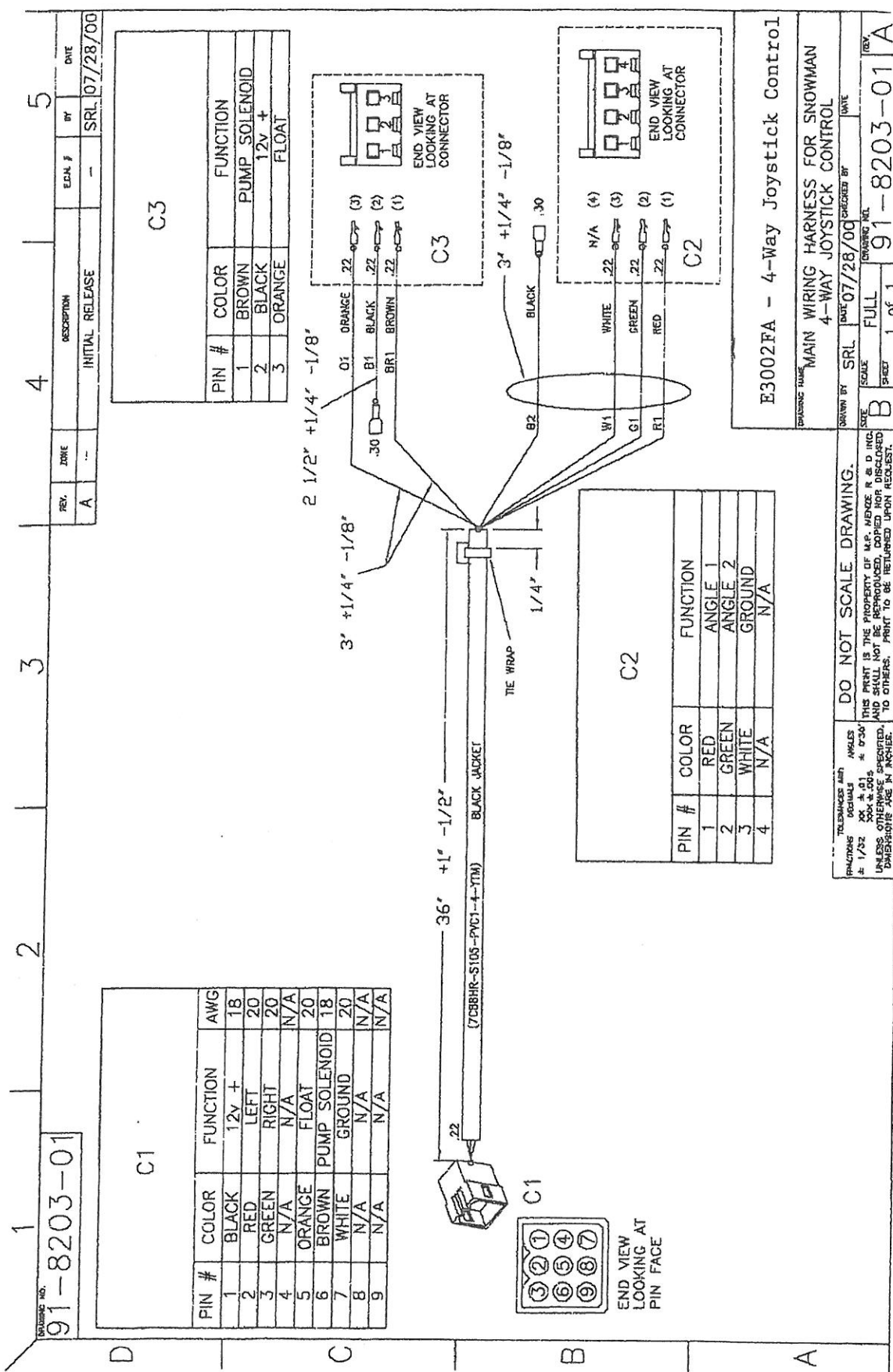
### **VERY IMPORTANT!!!**

### **SWITCH THE REMOTE CONTROL TO "OFF"**

- **When the plow is not in use**
- **When unhooking from the plow (after plow has been lowered to the ground)**
- **When plow is in storage**

## TROUBLE SHOOTING

PROBLEM	POSSIBLE CAUSE	REMEDY
Plow will not raise (will not lower) No sound at motor	1) Disconnected harness 2) Corroded contacts at harness plug ends 3) Corroded eyelets at pump 4) Corroded eyelets at battery 5) Solenoid has failed	1) Connect harness 2) Clean & apply dielectric grease 3) Clean & apply dielectric grease 4) Clean & apply dielectric grease 5) Check for bare or exposed wire & repair, replace fuse
Plow will not raise (will not lower) Solenoid clicks	1) Corroded contacts at harness plug ends 2) Corroded eyelets at pump 3) Corroded eyelets at battery	1) Take apart, clean & apply dielectric grease 2) Take apart, clean & apply dielectric grease 3) Take apart, clean & apply dielectric grease
Plows descends in jerking motion	1) Oil weight is too light 2) Air in system 3) Possible internal bypassing in cylinder	1) Replace with Lubriplate Special Pour Hydraulic oil (see pg. 4) 2) Remove air by raising the plow to its maximum height, then lower the 3) Replace cylinder
Plow descends too fast or slams down	1) Oil weight is too light 2) Air in system	1) Replace with Lubriplate Special Pour Hydraulic oil (see pg. 4) 2) Remove air by raising the plow to its maximum height, then lower the plow until the cylinder ram is fully retracted; repeat until all air is removed
Plow lowers and/or raises too slow	1) Incorrect fluid being used 2) Fitting is restricted	1) Flush & replace with Lubriplate Special Pour Hydraulic oil (see pg. 4) 2) Remove fitting, clean, replace & test; if necessary, repeat until system is flushed clean



REV.	DATE	DESCRIPTION	EDN. #	BY	DATE
A	--	INITIAL RELEASE	--	SRL	07/28/00

REV.	DATE	DESCRIPTION	EDN. #	BY	DATE
A	--	INITIAL RELEASE	--	SRL	07/28/00

REV.	DATE	DESCRIPTION	EDN. #	BY	DATE
A	--	INITIAL RELEASE	--	SRL	07/28/00

REV.	DATE	DESCRIPTION	EDN. #	BY	DATE
A	--	INITIAL RELEASE	--	SRL	07/28/00

PIN #	COLOR	FUNCTION	AWG
1	BLACK	12v +	18
2	RED	LEFT	20
3	GREEN	RIGHT	20
4	N/A	N/A	N/A
5	ORANGE	FLOAT	20
6	BROWN	PUMP SOLENOID	18
7	WHITE	GROUND	20
8	N/A	N/A	N/A
9	N/A	N/A	N/A

PIN #	COLOR	FUNCTION
1	BROWN	PUMP SOLENOID
2	BLACK	12v +
3	ORANGE	FLOAT

PIN #	COLOR	FUNCTION
1	RED	ANGLE 1
2	GREEN	ANGLE 2
3	WHITE	GROUND
4	N/A	N/A

PIN #	COLOR	FUNCTION
1	WHITE	N/A
2	GREEN	N/A
3	RED	N/A
4	N/A	N/A

E3002FA - 4-Way Joystick Control

MAIN WIRING HARNESS FOR SNOWMAN  
4-WAY JOYSTICK CONTROL

DO NOT SCALE DRAWING.		DATE 07/28/00	
SCALE	FULL	SHEET	1 of 1
REV. 1		REV. 1	
91-8203-01		91-8203-01	

- 1 PQ-4004-SA BLACK, PQ-0606-TR
- 2 PQ-4005-SA RED, PQ-0608-TR
- 6 PQ-1868-WR RED, PQ-0310-TR
- 8 PQ-1815-WR GREEN, PQ-0310-TR
- 11 PQ-1838-WR ORANGE, PQ-0310-TR

PQ-0016-TR  
R26060P-406 RING TERMINAL

PQ4001-WR  
4 GA 133/25 BC .370 OD PVC BLK

PQ4002-WR  
4 GA 133/25 BC .370 OD PVC RED

27.50'±1.00'

16.38'±1.00'

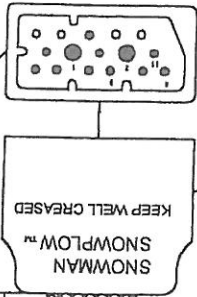
7.00'±1.00'

BRAID MATERIAL  
P-0020-NB

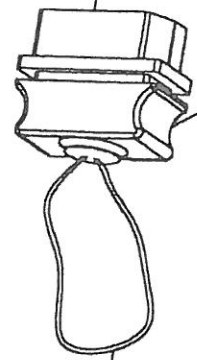
PQ-1868-WR RED

PQ-1815-WR GREEN

PQ-1838-WR ORANGE



MOLD OF P-0620-MD  
PQ00011-PL



WEATHER CAP  
MOLD OF P-0621-MD  
PQ00011-PL

10 PQ-1244-TR

PQ-1609-WR  
16GA, GPT, BLACK

P-1175-TR PACK 12089188  
P-0869-PC PACK 12015791  
P-0014-PC PACK 12015323

EH4001 - 3' Pump Harness									
REV		DATE	BY	CHKD	APPD	TITLE	FOR PARTS	DATE	FOR REV.
B	ADD WIRE COLOR	07/25/02	J			TELEPHONES ARE DOWN 11:30" DOWN 11:40:50"	SNOWMAN HARNESS (P-158B-02)		N/A
C	ADD PART NUMBER, AND TOLERANCE RELEASED FOR PHOTO. ALL PAGES UPDATED TO THE SAME REV. CHANGED "B" TO "27.30", "D" TO "F", CORRECTED RED TO BLACK AND BLACK TO RED	09/28/02	J				PQ-0006-FG (P-5102-FG)		N/A
D							PQ-0008-FG-DWG		A3
									EH4001





ET3002CS 2-way up/down toggle controller

