

# Plow Partner Mounting Kit

## 51191-M

 **Warning**

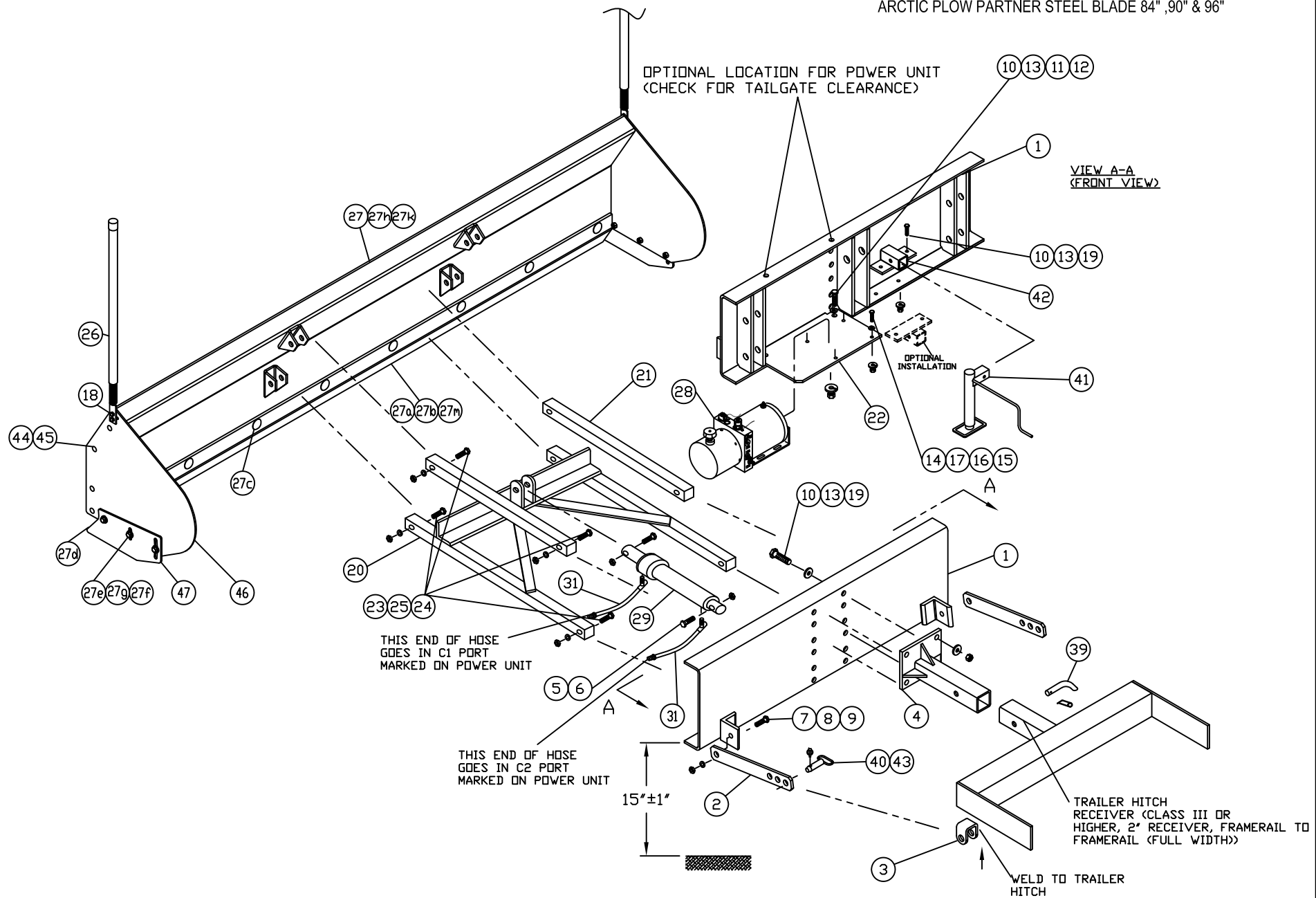
Do not exceed GVWR or GAWR, including blade and ballast. The rating label is found on the driver side vehicle door corners.

Lower the plow partner when the vehicle is parked. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this can result in serious personal injury.

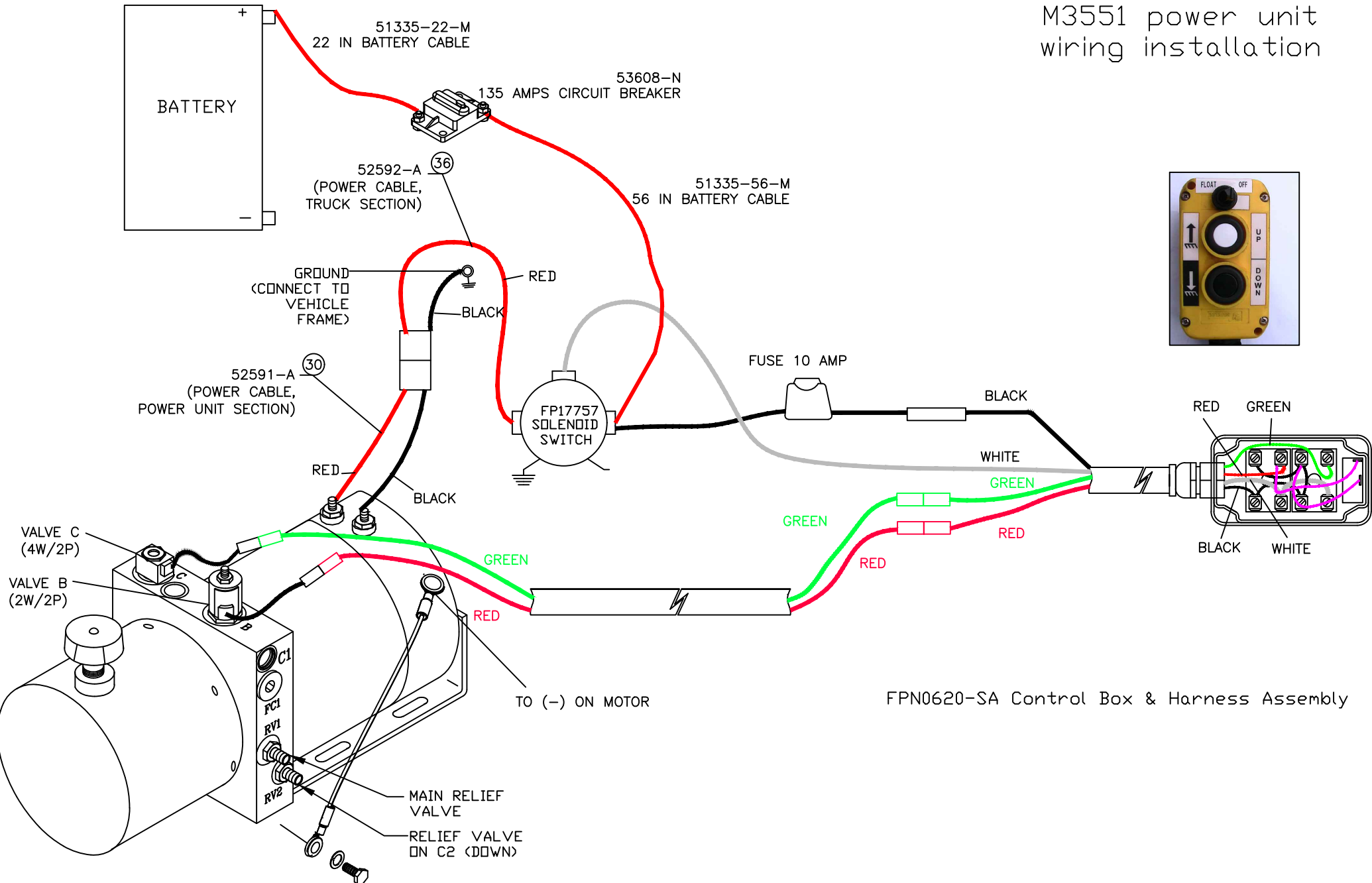
Inspect plow components and bolts for wear and damage when mounting or removing snowplow and before traveling.

Keep hands and feet clear of the blade, A-frame and cylinder when mounting or removing the plow partner. Moving or falling assemblies could cause personal injury. Never use a finger to check an alignment. Moving or falling assemblies could crush your finger.

ARCTIC PLOW PARTNER STEEL BLADE 84" ,90" & 96"



## M3551 power unit wiring installation



Plow Partner Mounting Kit 51191-M , Blade Kit 51041-D and 52492-M Power Unit Kit					
Item	Part Number	Description	51191-M	51041-D	52492-M
1	51051-C	Rear Frame	1		
2	52401-A	Side Brace	2		
3	50835-B	U-Lug	2		
4	52399-B	Pintle Mount	1		
5	HH-00972-151	3/4" x 3" Cap screw	2		
6	HH-00973-007	3/4" Lock nut	2		
7	HH-00972-146	3/4" x 1 3/4" Cap screw	2		
8	HH-00457-008	3/4" Lock washer	2		
9	HH-00460-007	3/4" Hex nut	2		
10	HH-00972-091	1/2" x 1 3/4" Cap screw	8		
11	HH-00457-001	1/2" Lock washer	2		
12	HH-00460-002	1/2" Hex nut	2		
13	HH-00341-006	1/2" Flat washer	10		
14	HH-00972-028	5/16" x 1" Cap screw	4		
15	HH-00460-005	5/16" Hex nut	4		
16	HH-00457-007	5/16" Lock washer	4		
17	HH-00341-003	5/16" Flat washer	4		
18	GB001	1/4"x 1" Bolt Kit (includes two kits)	2		
19	HH-00540-004	1/2" Lock nut	6		
20	51047-D	Lift Frame	1		
21	51056-A	Lift Arm	2		
22	52316-B	Power Unit Mounting Plate	1		
23	HH-00972-134	5/8" x 3" Cap screw	8		
24	HH-00460-001	5/8" Nut	8		
25	HH-00457-003	5/8" Lock washer	8		
26	50999-B	Guides	2		
27	51041-84-D	Blade (includes frame, cutting edges & all bolts)		1	
27a	51044-84-B	Cutting Edge 84"		1	
27b	51044-90-B	Cutting Edge 90"		1	
27c	55013-N	1/2" x 1 1/2" Carriage Bolt Assembly		8	
27d	51045-A	Side Guard		2	
27e	HH-00293-050	3/8" x 1.25 " Cap Screw		6	
27f	HH-00340-001	3/8" Nylon Hex Nut		6	
27g	HH-00341-004	3/8" Flat washer		6	

Plow Partner Mounting Kit 51191-M , Blade Kit 51041-D and 52492-M Power Unit Kit					
Item	Part Number	Description	51191-M	51041-D	52492-M
27h	51041-90-D	Blade 90" (includes frame, cutting edges & all bolts)		1	
27k	51041-96-D	Blade 96" (includes frame, cutting edges & all bolts)		1	
27m	51044-96-B	Cutting Edge 96"		1	
28	M3551-12V	Plow Partner Power Unit			1
29	CD150-05.00-NRS	Cylinder			1
30	52591-A	Power cable, Power Unit Section			1
31	51904-M	1/4" x 29" Hose			2
33	52427-N	Red Terminal Protector			1
*35	52322-N	Cover for M3551			1
36	52592-A	Power Cable, Truck Section			1
37	FP17757	Solenoid			1
38	51335-M	Power Cable 78"			1
39	51830-B	5/8" x 2" spreader pin / jack pin assembly	1		
40	52756-N	1/4" Lynch Pin	2		
41	52373-01-M	Jack	1		
42	53489-B	Receiver	1		
43	53544-B	Pin	2		
44	HH-00971-136	1/2" x 1 1/2" Carriage bolt	8		
45	HH-00340-003	Lock Nut	8		
46	51043-B	Side Plate	2		
47	51045-A	Side Guard	2		

## GENERAL

### Customer must be aware of following:

Arctic Equipment Manufacturing Corporation (Arctic) does not assume liability for damage to your motor vehicle resulting from the attachment or use of an Arctic snowplow. The purchaser assumes all vehicle risk associated with the attachment and operation of the unit (s).

The Arctic snowplow equipment you purchase must be used only on vehicles equipped with the manufacturer's snow plow preparation package. Snow plowing without the

original plow preparation package may damage your vehicle. The added weight may impair the operation and control of your vehicle. Snow removal operations with a vehicle not recommended for that purpose by the manufacturer may void your new vehicle warranty. If your vehicle is not equipped with an original snow plow preparation package, additional equipment may be necessary before snow plowing. Please consult your vehicle and snowplow dealers prior to the purchase and installation of the snow removal equipment. The installation of such parts however is not a full substitute for the original equipment snowplow preparation package.

**CAUTION:** Always disconnect battery before beginning installation.

Do not tighten bolts and nuts until all fasteners are in place and installation is complete, unless otherwise specified.

### **Installation Instructions**

1. Insert the pintle mount (4) into the trailer hitch (not included in kit- it must be Class 3, 2" receiver hitch) and insert the pin (39) to lock it in place.
2. Move the rear frame (1) to a position that the trailer hitch receiver is centred, and the bottom of it is 15" ± 1" from the ground.
3. Secure the rear frame (1) to the pintle mount (4) using four 1/2" bolts (10), flatwashers (13), and locknut (19). Tighten all four bolts.
4. Bolt side plates (46) and side guards (47) as shown on the drawing. Take the side braces (2) and bolt them to the rear frame (1) using 3/4" x 1-3/4" bolts (7), 3/4" lockwashers (8), and 3/4" hex nuts (9). The bolts must be finger tight to take side to side motion out.
5. Using one of the provided holes on the other end of the side braces (2), attach frame mounting U lug (3) to the side brace (2) using a pin (43) and lynch pin (40).
6. Position the frame mounting U lug (3) to a position on the trailer hitch frame. The frame mounting U lug (3) position may vary for each type of trailer hitch package. There may be some moving around of the frame mounting U lug (3) on the side brace (2) so that the frame mounting U lug will get welded in a desired position on the trailer hitch.
7. Weld the frame mounting U lug (3) to the trailer hitch frame cross tube.
8. After the metal has cooled, tighten all bolts.
9. Install one side of lift frame (20) to rear frame (1) and second side to blade (27) as shown with 5/8" bolts (23), lock washer (25) and nut (24).

10. Repeat same step with lift arm (21). Tighten all bolts.
11. Install guides (26) to blade using 1/4" bolt kit (18).

### **Hydraulic and Electrical Installation of power unit M3551**

**Warning:**

- Top of battery needs to be protected. If positive side of battery is accidentally grounded person could be burnt or wiring system can be damaged, or battery gasses could explode causing injuries.
- Disconnect cable from negative battery terminal before replacing the motor or solenoid.
- Always wear eye protection and protective clothing when working around hydraulic systems.
- Remove jewellery and objects that might conduct electricity while working on power units.
- Fluid under pressure can pierce the skin and enter the bloodstream causing death or serious injury.



1. Attach the pump mounting bracket (22) to the rear frame (1) using two 1/2" x 1 3/4" bolts (10), 1/2" flat washer (13), 1/2" lock washers (11), and 1/2" hex nuts (12). Attach the power unit to the pump mounting bracket (22) using four 5/16" bolts (14), 5/16" flat washers (17), 5/16" hex nuts (15) and 5/16" lock washers (16). The power unit should be sitting so that the motor is pointing to the centre of the rear frame.
2. Remove the plugs from ports C1 and C2. Port C1 should be facing out, while port C2 should be facing in. Attach the 90° elbows to ports C1 and C2.
3. Attach the 29" hoses to the 90° elbow in the port C2 and the port C1.
4. Attach the non-extending end of the cylinder (29) to the middle lug of the rear frame (1) using a 3/4"x3" bolt (5) and 3/4" (6) lock hex nut.
5. Attach the other end of the 29" (C2) hose to the non-extending end port of the cylinder (29). Make sure to use some pipe sealant to seal the connection properly.
6. Attach the extending end of the cylinder (29) to the middle lug of the plow partner blade (20) using a 3/4"x3" bolt (5) and 3/4" (6) lock hex nut.
7. Attach the other end of the 29" (C1) hose to the extending end port of the cylinder. Make sure to use some pipe sealant to seal the connection properly.

Using the power unit wiring diagram:

8. Mount solenoid (37) in a convenient location.



9. Connect power cable (38) to battery and to live side of solenoid.
10. Red cable of power cable (truck section) (36) is to be attached to second pole on solenoid (37) (opposite of live solenoid side) and black cable to be attached to the vehicle frame (be sure that there is good ground connection).
11. Attach the power cable (power unit section) (30) to the power cable (36) (truck section) and run the red cable to the positive stud of the motor and the black cable to the negative stud.
12. Feed the control box cable through the firewall from the cab into the engine compartment.
13. Attach the black wire from the control box cable to the live side of the solenoid (37). Attach the white wire from the control box cable to the small terminal on the solenoid (37).
14. Run the two 22' cables from the engine compartment to the plow partner power unit. Attach the red and green wire from the 22' two wire cables in the engine compartment to the matching two wires from the control box cable.
15. Connect 22' two wire cable to the plow partner power unit harness.
16. Fill up power unit with UNIVS J13 oil approximately 1/2" from the top. Grease motor bolt and apply protective cover (33) over that bolt.
17. Apply cover (35) on power unit.

TORQUE CHART (FT. L.B.)		
SIZE	GRADE 5 BOLT 	GRADE 8 BOLT 
1/4 - 28	8	11
5/16 - 24	15	22
3/8 - 24	28	40
7/16 - 20	44	63
1/2 - 20	69	97
5/8 - 18	138	195
3/4 - 16	241	341
Note: Torque values are for plated bolts only		

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