

ARCTIC

SNOWPLOWS ❁ CHASSE-NEIGE

Plow Partner Owner's Manual

ARCTIC

SNOWPLOWS ❁ CHASSE-NEIGE

KEY-POINTS

- Arctic Snowplows is the Top Canadian Manufacturer of light truck mounted plows.
- Arctic has been manufacturing the toughest, most reliable snowplows since 1969.
- Arctic is the only plow manufacturer using Heavy Armor Galvanizing for their entire product line.
- Arctic plows are built to outlast the vehicles they are put on— over 78% of Arctic plows ever sold are still in service today!
- Using high quality components, Arctic has the lowest cost of ownership over the longest period of time- with higher resale value.
- Arctic has the easiest on / off attachment system.
- All Arctic blades are power up and angle, gravity down.
- Poly plows have zero friction. With UV inhibiting materials, poly requires less maintenance than painted steel blades.
- All Arctic Commercial grade plows come standard with skid shoes, curved deflector and blade guides.
- Some manufacturers trip edge blade base angles double as a “cutting edge”- ALL Arctic trip edge blades include a hardened steel cutting edge bolted to the base angle.

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Safety and warnings

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 Arctic Equipment Manufacturing or your local dealer.

Remember it is the owner's responsibility for communicating information on the safe use and proper maintenance of this equipment. 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.

-Servicing the plow partner (hydraulic power system, hoses, hydraulic cylinder, controllers, wiring harnesses, blade and vehicle undercarriage) without special tools and knowledge could result in personal injury. See an authorized Arctic dealer for service.

-Do not allow hands, hair or clothing to get near any moving parts such as fan blades, belts and pulleys.

-Do not wear neckties or loose clothing when working on the vehicle. These things can catch on moving parts or cause an electrical short circuit that could result in personal injury. Do not wear wrist watches, rings or other jewellery when working on the vehicle or individual equipment

-Do not allow unauthorized person to operate this unit.

-Do not exceed 70 km/h (45 mph) when snow plow is attached to vehicle. Braking distances may be reduced and handling characteristics may be impaired at speeds above 70 kmh.

-Do not exceed 15 km/h (10 mph) when plowing. Excessive speed may cause serious injury and damage of equipment and property if an unseen obstacle is encountered while plowing.

-Do not place fingers in mount lug holes to check alignment when attaching a blade. Sudden motion of the blade could severely injure a finger.

-Do not stand between the vehicle and the blade or directly in front of blade when it is being raised or lowered. Clearance between vehicle and blade decreases as blade is operated and injury or death can result from the blade striking a body or dropping on hands or feet.

-Do not work on a vehicle without having a fully serviced fire extinguisher available. (Dry chemical unit specified for gasoline, chemical or electrical fires).

-Do not smoke while working on the vehicle. Gasoline and battery acid vapours are extremely flammable and explosive.

- Do not alter the snow plow, or any part without written approval of Arctic Equipment Manufacturing Corporation.
- Do not use your hands to search for hydraulic fluid leaks; escaping fluid under pressure can be invisible and can penetrate the skin and cause injury.
- Inspect bolts and pins whenever attaching or detaching the snowplow, and before travelling. Also inspect the snow plow periodically for defects. Worn or damaged components could result in the plow dropping to the pavement while driving, causing an accident. Parts that are loose, broken, missing or plainly worn must be tightened or replaced immediately.
- Keep hands and feet clear of blade and frame when attaching or detaching plow partner.
- Check the job site for terrain hazards, obstructions and people. Check surrounding area for hazardous obstacles before operating this unit.
- Wear safety goggles when working on the vehicle to protect your eyes from battery acid, gasoline, and dust or dirt from flying off of moving engine parts.
- Be aware of and avoid contact with hot surfaces such as engine, radiator, and hoses.
- Wear safety glasses with side shields when striking metal against metal. Failure to heed could result in injury to the eye(s) or other parts of the body.
- Shut off the vehicle engine, place the transmission in neutral or park, turn the ignition switch to the "off" position, firmly apply the parking brake of the vehicle before attaching or detaching the blade from the vehicle or when making adjustments to the blade.
- Be sure that the plow is properly attached before moving the vehicle.
- Do NOT use float switch when driving on the road. Do NOT leave a float switch in float position when a vehicle is turned off.

Snow Plow Warranty

Starting September 1st 2020, ARCTIC Snowplows are guaranteed to be free from defects in material or workmanship under normal use and service for 2 (two) years after the date of purchase of a complete snow plow package (complete snowplow package includes: hydraulic power system, hoses, hydraulic cylinders, controllers, wiring harnesses, lights, blade frame, blade moldboard, A-frame, quadrant, lift frame and vehicle undercarriage).

Arctic Equipment Manufacturing Corporation (Arctic Equipment) will replace or repair, at its election, without charge, any part which becomes defective within the period of time described.

The maintenance records and a bill of sale/sales receipt will be requested in the event of a claim.

Warranty does not cover:

- Problems caused by failure to follow instructions and failure to maintain the product as described in the owner's manual.
- Damage to the product that has been subject to misuse, neglect, accident, or improper installation, maintenance, care or storage.
- Damage caused by parts not used in accordance with their intended purpose.
- Paint or surface coating deterioration, expendable parts such as, but not limited to, pins, springs, cutting edges, controller keypad, bushings, shoes, blade guides, seal beams, light bulbs, nuts and bolts or tightening nuts and bolts which are considered normal maintenance.
- Damage resulting from rust, corrosion, freezing or overheating; failure to maintain proper fluid/lubrication levels, failure to retighten fasteners, or operation of the plow without shoes.
- Damage due to abrasion of wiring harnesses or hydraulic hoses.
- Travel time incurred to and from dealers or suppliers, accommodations, meals, cost of tax, freight to/from dealers, storage charges, environmental charges, solvents, sealants, lubricants, or any other normal shop supplies.
- Problems caused by accessories and parts that are not supplied by Arctic Equipment.
- Liability for damage to the property, or injury to, or death of any person arising out of the operation, maintenance or use of the covered product.
- Damages on the plow or the truck caused by excessive stacking of snow (All Arctic snowplows have a stop built in, to prevent the blade from contacting the bottom of the bumper. If the blade is pushed too high on the snowbank, the stop will bind and cause the truck's weight to be supported by the plow. This can cause damage to the A-frame, cylinders, lift frame and mounting kit, as well as the trucks bumper and frame. Don't stockpile. Leave that for the loaders. Excessive stacking of snow causes undue stress to the snowplow components and the vehicle, which can result in the failure of the plow components and damage to the vehicle.)
- Arctic Equipment makes no warranty, either express or implied, with regard to the deployment of any safety airbag.

Arctic Product's Liability is expressly limited to repair or replacement of defective parts. Arctic Equipment shall not be liable for any consequential, incidental, or contingent damages whatsoever, whether for breach of contract, breach of warranty, negligence, or other tort, or on any strict liability theory.

The customer must register their snowplow with Arctic using the available registration system found under Arctic's website www.arcticsnowplows.com **within 60 days from the day of purchase**. In order for the customer to be eligible for warranty every year, the snowplow, inclusive of all components, must be returned to an authorized Arctic dealer every spring for preventative maintenance (it is done at the customer's expense). Failure to do so will nullify any future warranty claims. Replacement parts installed by Arctic dealer will be covered 90 days under the warranty or balance of original purchase warranty, if greater than 90 days. Also individual parts, components, or accessories are covered 90 days under the warranty (no labour).

All installations, warranty and preventive maintenance work must be completed by an authorized dealer and/or installer approved by Arctic Equipment as otherwise warranty will be deemed null and void.

This warranty is made only to the original purchaser. There is no other warranty expressed, implied, or statutory.

Arctic Equipment reserves the right to change specification without prior notice.

Customer Responsibility

The loaded vehicle, including all after market accessories, the snowplow, passengers and cargo, **MUST NOT** exceed the gross vehicle weight ratings (GAWR), front gross axle weight rating (FGAWR) or rear gross axle weight rating (RGAWR) specified on the Safety Compliance Certification Label located in the driver's side door opening. It is the operator's responsibility to verify that these rating are not exceeded. To determine the Gross Axle Weights for your vehicle, including all after market accessories, the snowplow, passengers and cargo, take your loaded vehicle and the snowplow to a scale. With the snowplow attached, place the front wheels of the vehicle on the scale to get the front gross axle weight (FGAW). To get the rear gross axle weight (RGAW), place the back wheels of the vehicle on the scale.

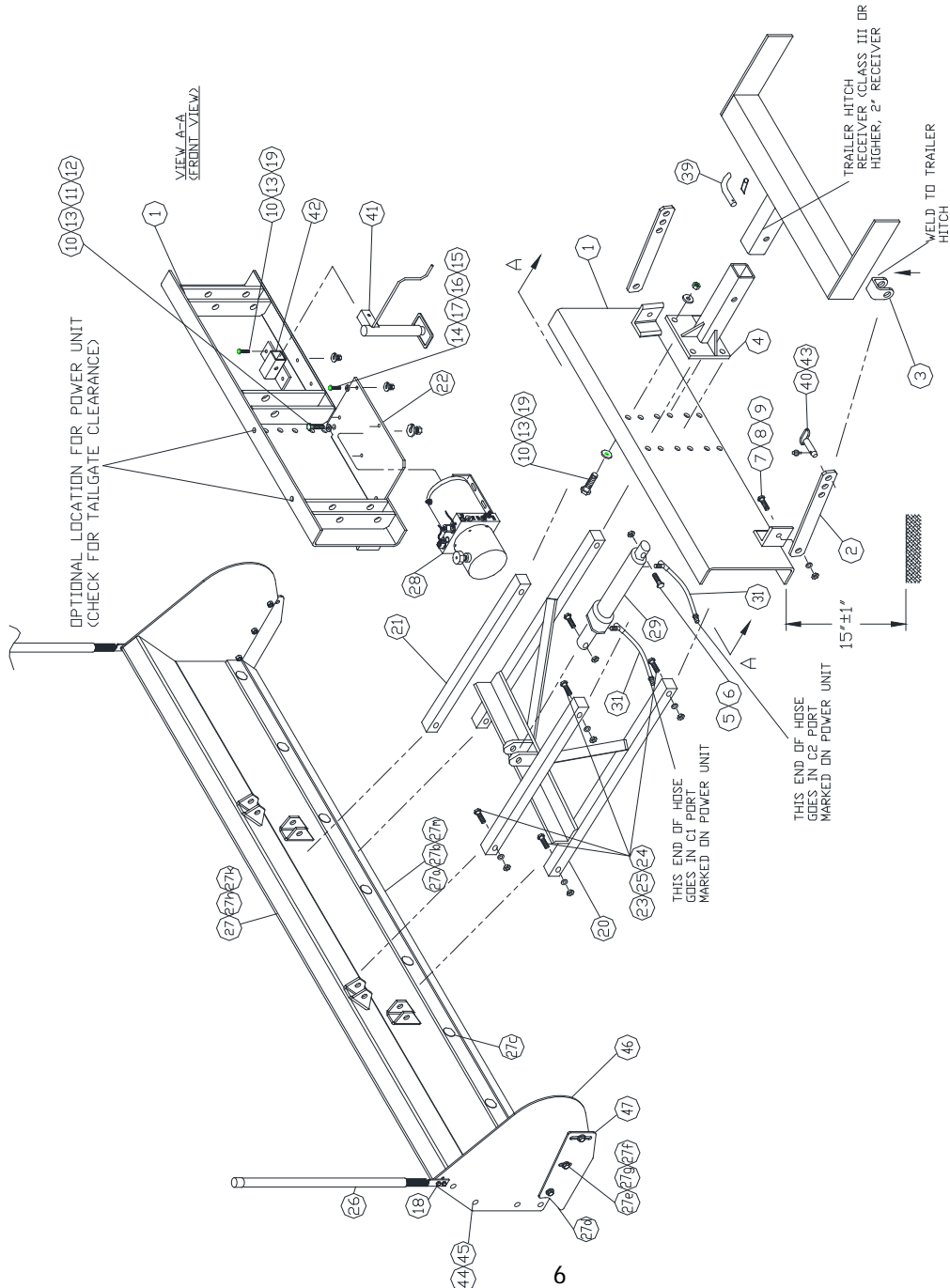
The addition of ballast weight placed rearward of the rear axle may be required to prevent exceeding the FGAWR and provide good vehicle breaking and handling. When ballast is required it must be secured behind the rear wheels in a manner, which prevents it from sliding during normal driving.

Disclaimer notice

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 this snowplow.

The Arctic snowplow you purchase must be used only on vehicles equipped with the manufacturer's snowplow preparation packages. 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 plowing 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 snowplow. The installation of such parts however is not a full substitute for the original equipment snowplow preparation package.

Plow partner steel blade 84" , 90" & 96"



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

Item	Part number	Description	Quantity
1	51051-C	Rear Frame	1
2	52401-A	Side Brace	2
3	50835-A	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	4
8	HH-00457-008	3/4" Lock washer	4
9	HH-00460-007	3/4" Hex nut	4
10	HH-00972-091	1/2" x 1 3/4" Cap screw	8
11	HH-00457-001	1/2" Lock washer	4
12	HH-00460-002	1/2" Hex nut	4
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" Locknut	4
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

PLOW PARTNER STEEL BLADE 84", 90" & 96"			
Item	Part number	Description	Quantity
26	50999-B	Guides	2
27	51041-84-D	Blade 84" (includes frame, cutting edge and all bolts)	1
27a	51044-84-B	Cutting Edge 84"	1
27b	51044-90-B	Cutting Edge 90"	1
27c	55013-N	½" x 1 1/2" Carriage Bolt Assy	8
27d	51045-A	Side Guard	2
27e	HH-00293-049	3/8" x 1" Cap Screw	6
27f	HH-00294-003	3/8" Hex Nut	6
27g	HH-00457-004	3/8" Lock washer	6
27h	51041-90-D	Blade 90" (includes frame, cutting edge and all bolts)	1
27k	51041-96-D	Blade 96" (includes frame, cutting edge and all bolts)	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	1
33	52427-N	Red Terminal Protector	1
35	52322-N	Cover for power unit	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" Pin Assembly	1
40	52756-N	¼" Lynch Pin	2
41	52373-01-M	Jack	1
42	53489-B	Receiver	1
43	53544-B	Pin	2

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

Item	Part number	Description	Quantity
44	HH-00971-136	½" X 1 ½" Carriage bolt	8
45	HH-00340-003	Lock Nut	8
46	51043-B	Side Plate	2
47	51045-A	Side Guard	2

General Information about Power Unit M3551

Warning

- Fluid under pressure can pierce the skin and enter the bloodstream resulting in serious injury or death.
- Eye protection and protective clothing must be worn when working on any portion of the snowplow.
- Remove any jewellery (rings, bracelets, watches, necklaces) that could conduct electricity while working with electrical system.
- Lifted blade should be securely propped or immobilized while working on it or any other suspended part so it cannot fall.
- Do not operate blade (up, down and float) when anyone is within a 10 foot radius of it.
- Do not use Teflon tape on hydraulic fittings as it can easily jam valves and plug the filters in the system.
- Use of any fluid other than J13 will void warranty

Warranty Identification

For purposes of warranty consideration, recording the serial number of the power unit is necessary. This serial number is displayed on a reservoir of the power unit.

Maintenance

- Under normal operating conditions, the M3551 should not require servicing during the plowing season, provided post season maintenance has been carried out.
- It is recommended that after the every season the hydraulic fluid be changed. The replacement fluid recommended is UNIVIS J13 (HVI 13) hydraulic fluid. Automatic transmission fluid is not recommended for this system and may lead to aeration of the oil in very cold weather conditions. Use of any fluid other than J13 will void warranty. The oil level in the reservoir is to be within ½" from the top surface (with lift cylinder collapsed).
- When draining the hydraulic fluid, the hoses at the cylinder should be disconnected and drained. With the hose disconnected, the cylinders should be collapsed to displace the oil out of the cylinder.
- Periodically, and during post season maintenance, make sure the electrical connections are tight and free of corrosion. The terminals may be covered with grease for additional protection from corrosion.

Electrical System

Frequently problems develop due to an undersized electrical charging and storage system. Generally, the heavier the usage, the heavier the system should be. For a moderately light duty, the battery should not be less than 70 ampere-hours and the alternator should charge at a rate of not less than 60 amperes. For heavy usage and in the case where a number of other devices are run off the battery simultaneously, heavier ratings are strongly recommended.

Electric Motor

-The 18442 electric motor is a two pole electromagnetic motor, consisting primarily of an armature/commutator, two field coils, four brushes in a brush holder set, and a tubular steel body with cast endcap. Although the motor is grounded through the body, an additional grounding stud is provided on the motor body. The motor must be grounded to the vehicle body with a grounding strap from this stud.

The power unit with this motor is equipped with the 03 pump offering the most optimum performance.

The motor should be serviced periodically to insure good performance. Service as follows:

- blow dirt and dust off motor housing and check for shorts, burnt wires or open circuits,
- check bearings (bad bearing can cause a motor to make growling noise),
- check for excessive "end play" of an armature and add thrust washers as required.

Hydraulic Pump

-The hydraulic pump converts mechanical energy transmitted by the prime mover (in this case a 12 volt DC electric motor) into hydraulic energy. The hydraulic energy is due to flow (kinetic energy) and pressure (potential energy). The rate of energy output is expressed in horsepower.

-At the inlet, as the gears unmesh, the volume in the cavity increases thereby causing fluid to enter. This fluid is then carried between the gears and the housing to the other side of the gears into the outlet cavity. At this point the gear teeth mesh. The outlet cavity volume decreases, causing fluid to flow into the system. Note that without a load, the pressure at the outlet port is nil.

-The pressure at the outlet of the pump is due to external loads placed on the system. These loads can be transmitted through cylinders and linear actuators as well as hydraulic motors and rotary actuators. In practice, system components by virtue of orifice and line sizes, offer some resistance to the flow of fluid. This translates into pressure at the outlet of the pump.

Valve Information

Pressure Relief Valve

The pressure relief valve consists of a ball, a retaining spring and a seat. The ball is exposed to the pressure in the outlet line from the pump. This pressure acting on the exposed area of the ball, causes a force on the retaining spring. When the pressure is such that the force on the ball exceeds the force in the spring (due to a preset amount of precompression) the ball lifts off the seat and the fluid from the outlet of the pump is allowed to flow back to the reservoir. The "standard setting" for the M3551 is 2000 psi.

Solenoid Valves

-The M3551 circuit contains 2 solenoid valves. These are identified as 2 way/2position (2W/2P) and 4 way/ 2 position (4W/2P). Solenoid valve 2W/2P position is normally closed poppet (check) type valves. The 4 W/ 2P valve is valve of a spool type construction.

-A basic solenoid valve consists of a valve cartridge and coil. The valve cartridge consists of an armature attached to a valve mechanism. This armature is controlled electrically by way of a coil. The cartridge screws into a modular valve manifold.

-The coil consists of a certain length of wire wrapped around a spool and often surrounded by a metal can. When current is put through the coil, magnetic forces are set up causing the armature to be pulled further into the coil. The armature pulls a poppet or spool into its energized position. A coil spring is compressed in this position, hence when the current ceases and the magnetic field has collapsed, this spring pushes the armature back to its de-energized (normal) position.

Solenoid Valve 2W/2P

-Valve 2W/2P is normally closed poppet valve. This valve allows oil to flow into the lifting cylinder but will not let oil out of the cylinder unless the coil is energized. See figure 1 and 2.

Solenoid Valve 4W/2P

-Valve 4W/2P is four way two position spool valve. With the coil de-energized (and 2W/2P valve energized) flow from the pump lowers the plow. With 4W/2P coil energized the plow is lifted. See figure 1 and 2.

Pressure Compensated Flow Control

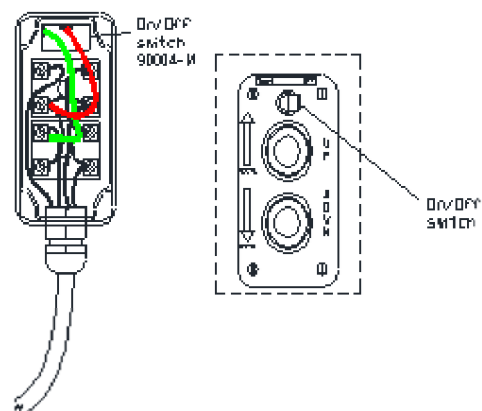
Pressure compensated flow control provide constant regulated flow in one direction (when plow is coming down) regardless of changes in load pressure. Flow in reverse direction (when plow comes up) is non-regulated free flow.

Control Switch

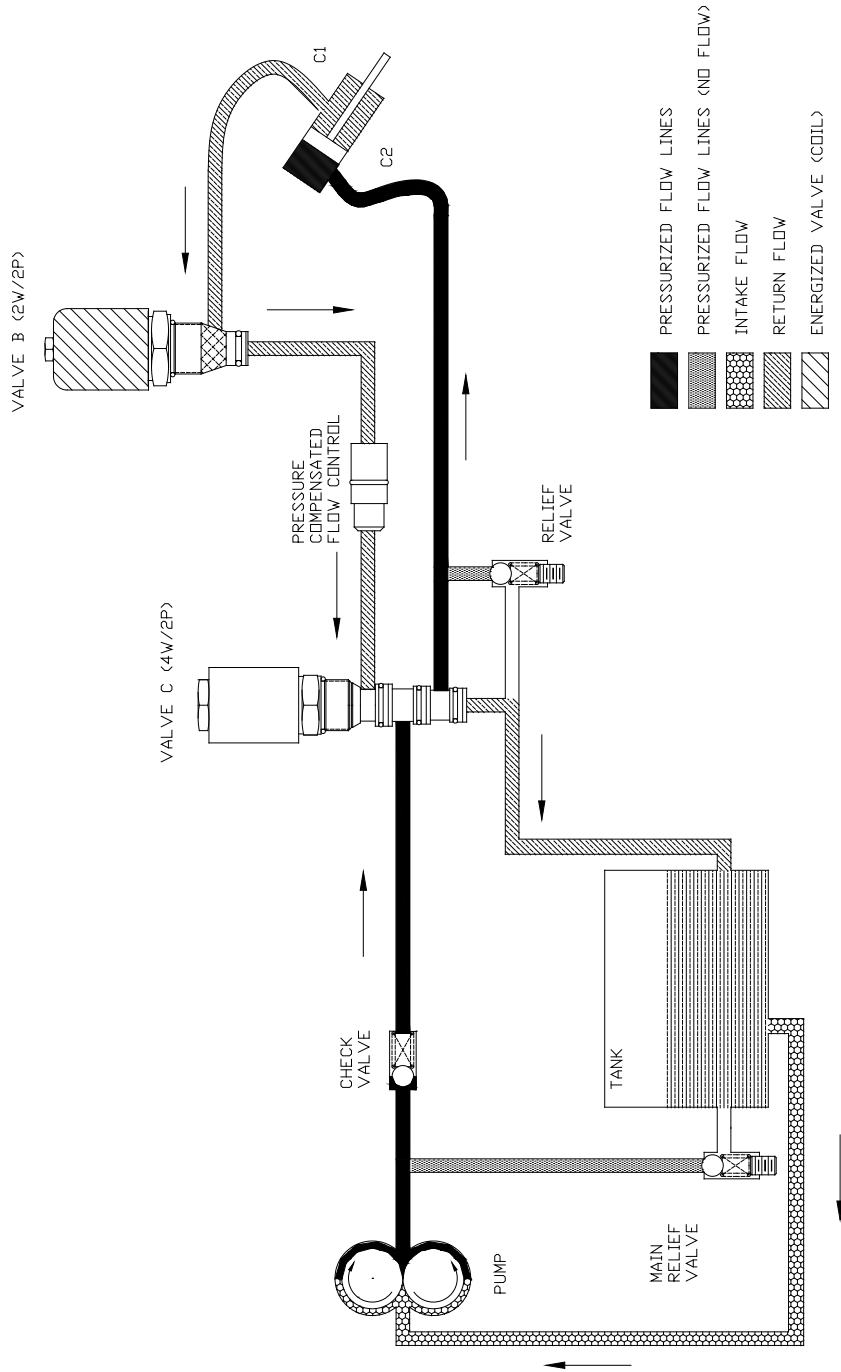
The M3551 control box has two push buttons and a float switch. One up button and one down button. The up button starts the motor and shifts the 4W/2P valve to lift the plow. The down button starts the motor and shifts the 2W/2P valve to lower plow. If the float switch in float position, it shifts the 2W/2P valve to lower plow partner.

If float switch is switched in float position, a blade will drop to the floor. Float switch is used, to facilitate removal of a blade from a truck, or for plowing on uneven surfaces or dragging light snow. If using float switch does not clean a surface, turn off float switch and use down pressure button. Do **NOT** use float switch when driving on the road. Do **NOT** leave a float switch in float position when a vehicle is turned off. A blade will not lift if a float switch is in float position.

- Do **NOT** use float switch when driving on the road. Do **NOT** leave a float switch in float position when a vehicle is turned off.



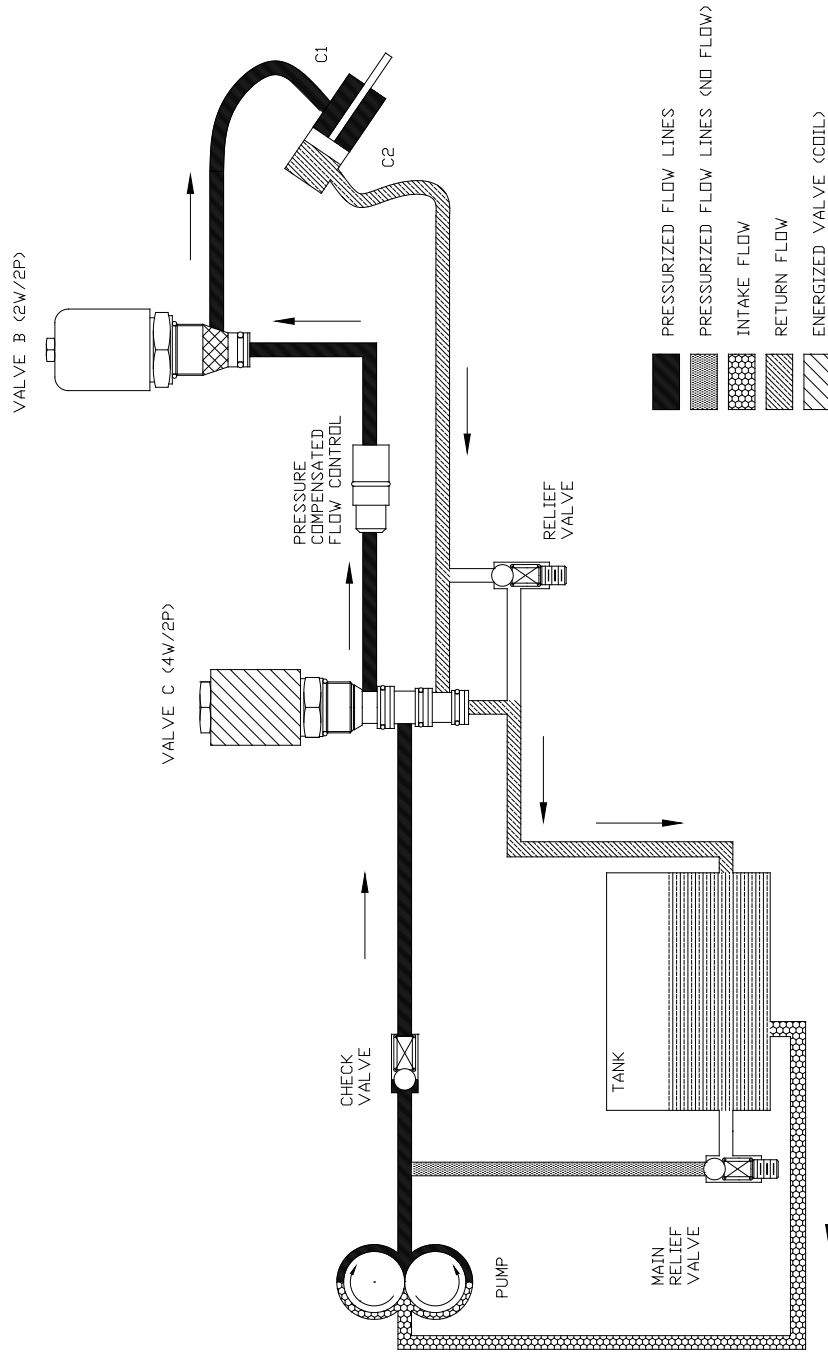
Hydraulic operation diagrams



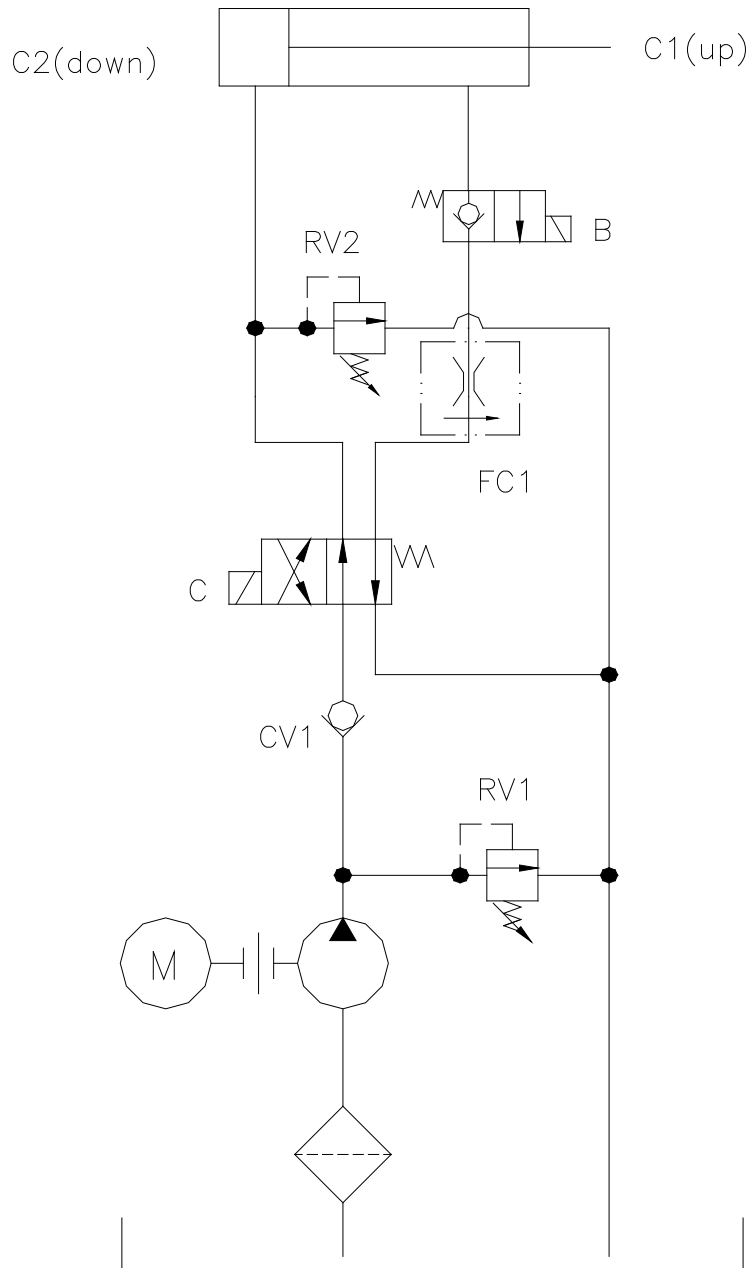
CYLINDER DOWN - M3551

- IF DOWN BUTTON IS PRESSED MOTOR IS RUNNING
- IF FLOAT SWITCH IS IN FLOAT POSITION MOTOR IS NOT RUNNING

FIGURE 1

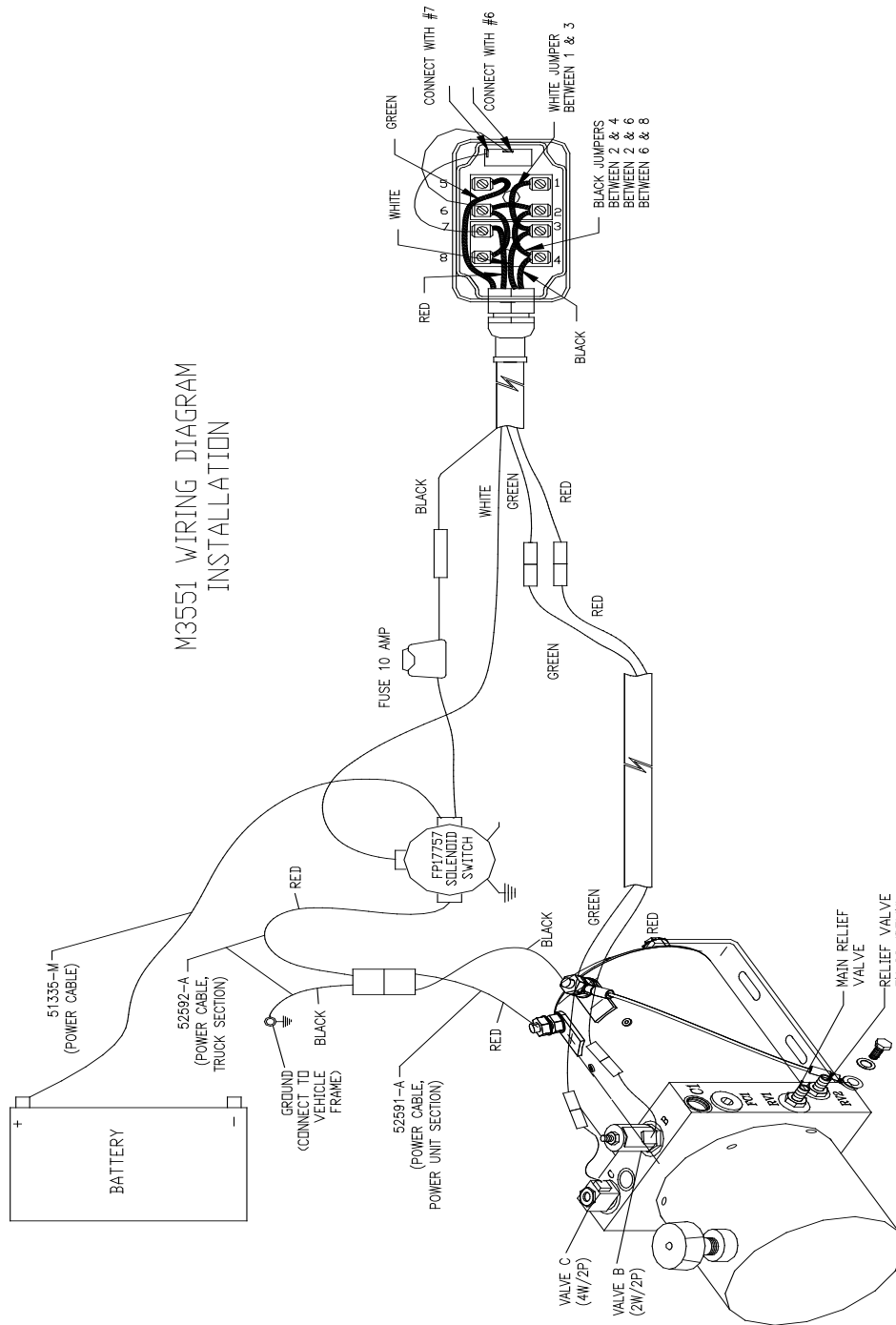


CYLINDER UP
M3551
FIGURE 2

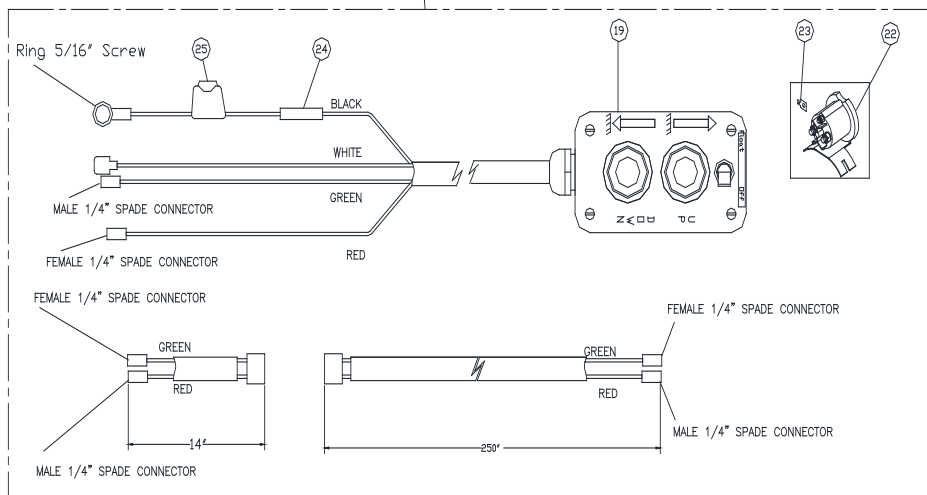
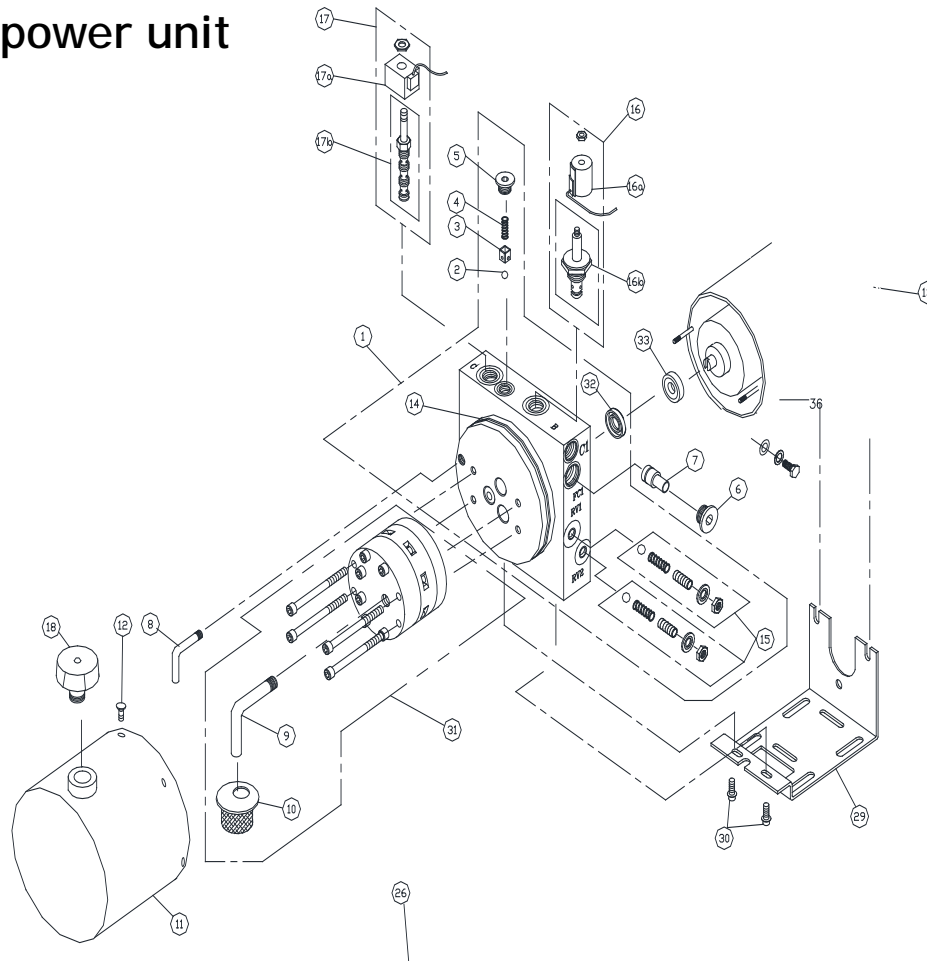


HYDRAULIC SCHEMATIC M3551

Electrical installation



M3551 power unit



M3551 POWER UNIT PARTS LIST

Item	Part number	Description	Quantity
1	FP12379	Pump base assembly	1
2	FP0126	Ball, 5/16	1
3	FP2680	Poppet	1
4	FP0130	Spring	1
5	FP3276	Plug, 9/16	1
6	FP3274	Plug, 3/4	1
7	FP1723-0.75	Flow control	1
8	FP13059	Return tube	1
9	FP13092	Suction tube, 90 deg elbow	1
10	FP13107	Filter screen	1
11	FP14045	Reservoir	1
12	FP7703	Screw, self tapping, 10mm x 3/8	6
13	FP18442	Motor, 12VDC	1
14	FP2352	O-ring	1
15	FP7527	Relief valve kit	2
16	FP0490-D	Valve ass'y, 2 way / 2 position #8	1
16a	FP10861-D	Coil	1
16b	FP10907-D	Cartridge	1
17	FP10833-D	Valve, 4W / 2P	1
17a	FP18835-D	Coil	1
17b	FP11111	Cartridge	1
18	FPN0571	Vent plug	1
19	FP3240	Control box	1
20	FP1694	Terminal, quick connect	1
21	FP1346	Terminal, ring, 5/16 screw	1
22	FP17757	Solenoid	1
23	FP3414	Terminal #10 stud	1
24	FPN0451	Butt connector	1
25	FPN0619	10 amp fuse	1
26	FPN0620-SA	Control box and harness assembly	1
27	FPN0622	Male connector	3
28	FPN0623	Female connector	3

M3551 POWER UNIT PARTS LIST

Item	Part number	Description	Quantity
29	FP2238	Pump mounting plate	1
30	FP7899	Self tapping screw, 5/16	2
31	FPK12171-250	Modular pump assembly	1
32	FP2159	Pump shaft seal	1
33	FP2318	Bearing, motor to pump base	1
34	52322-N	Cover for power unit	1

Troubleshooting flow chart for power unit M3551

Warning

- Fluid under pressure can pierce the skin and enter the bloodstream resulting in serious injury or death.
- Eye protection and protective clothing must be worn when working on any portion of the snowplow.
- Remove any jewellery (rings, bracelets, watches, necklaces) that could conduct electricity while working with electrical system.
- Lifted blade should be securely propped or immobilized while working on it or any other suspended part so it cannot fall.
- Do not operate blade when anyone is within a 10 foot radius of it.
- Do not use Teflon tape on hydraulic fittings as it can easily jam valves and plug the filters in the system.
- Use of any fluid other than J13 will void warranty

Specification:

- Max Amp Draw 210 AMP (AMP draw of motor should be measured at maximum raise or maximum angle when motor is running at pressure setting at 2000 psi).
- Note: Do not operate motor continuously for more than 30 sec.

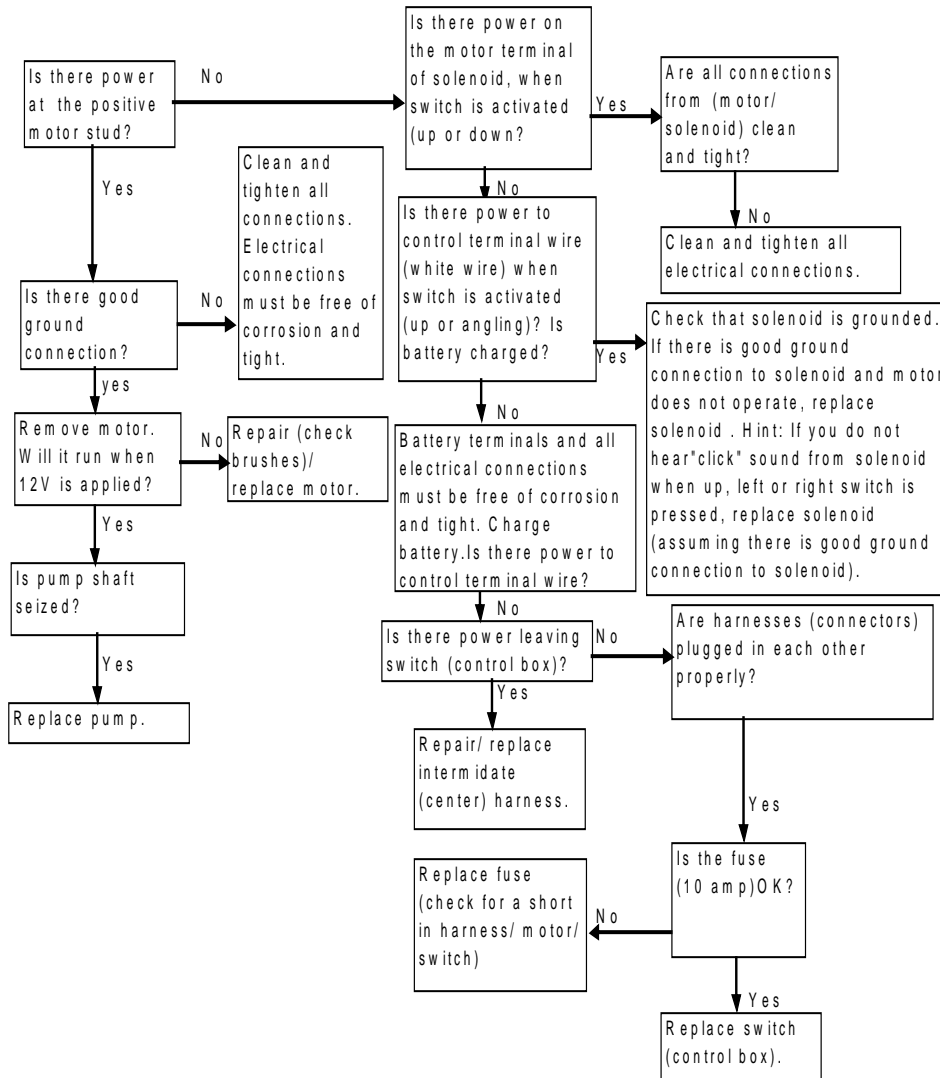
-Relief valve setting RV1 2000 psi (this is system relief valve and it is closer to the top), and RV2 2000 psi (this one is for down pressure and it is closer to bottom).

- Motor does not operate.
- Plow partner does not raise
- Plow partner does not go down
- Plow partner does not hold in down position.
- Plow partner leaks down in up position

Troubleshooting tips M3551:

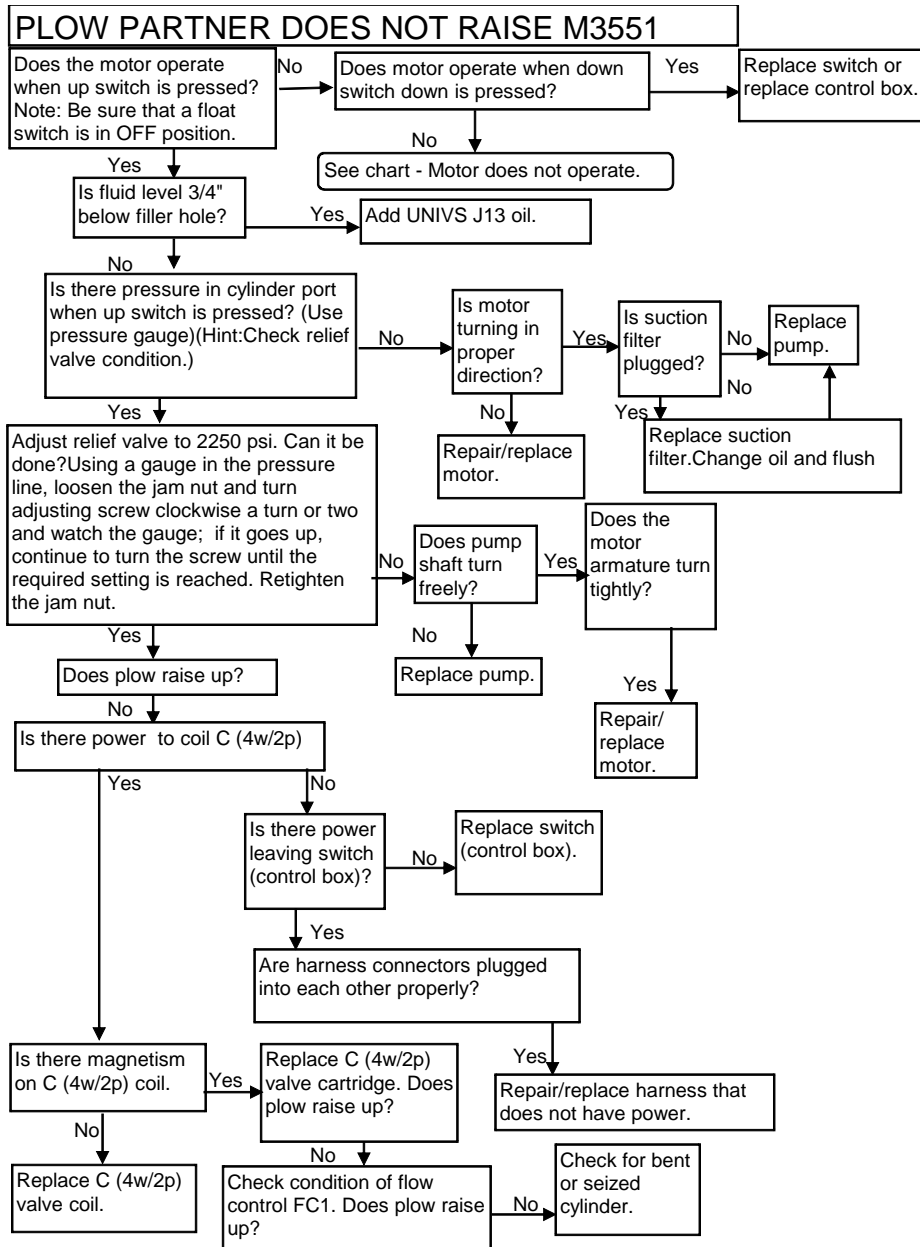
- Pump shaft can be turned freely (smoothly) using two fingers. If it can't be turned replace pump. Proper pump rotation is clockwise looking from the motor end.
 - Use a screwdriver to check magnetism of solenoid coils. Place screwdriver on the nut securing the coil and have the switch operated. Strong magnetic attraction should be felt.
 - When testing or making adjustments on the relief valve the system must be "dead headed" (cylinder at full stroke or in a position where cylinder movement is zero).
 - AMP draw of motor should be measured at maximum raise or maximum angle when motor is running at 2000 psi system pressure.
 - Use volt meter or test light to test for power in a harness or continuity in a switch. A test light is simply a light bulb which has one end connected by a wire to an alligator clip and the other end connected to a metal probe. It is used to check the electrical circuit when the battery is connected to the system. The alligator clip is grounded and the light glows when the probe comes in contact with a "live" electrical component.
 - Do not screw cartridge valves into cavity too fast; use a back and forth motion and have O-rings well lubricated.
 - Clean all parts thoroughly before assembly and lubricate with clean oil.
 - Do not use Teflon tape on hydraulic connections as it can easily jam the valves and plug the filters in the system, use pipe sealant. Never apply pipe sealant at the end of fitting, always 2- 3 threads back.
 - If valves are not stamped, C valve is at the back and B valve is at the front.
- To adjust relief valve:**
- Loosen jam nut counter-clockwise.
 - Turn screw clockwise to increase pressure or turn screw counter-clockwise to decrease pressure.
 - Tighten jam nut clockwise to 50in.lb torque.
 - Check system pressure after jam nut is tight. Readjust pressure if screw is moved during tightening of jam nut.

MOTOR DOES NOT OPERATE M3551

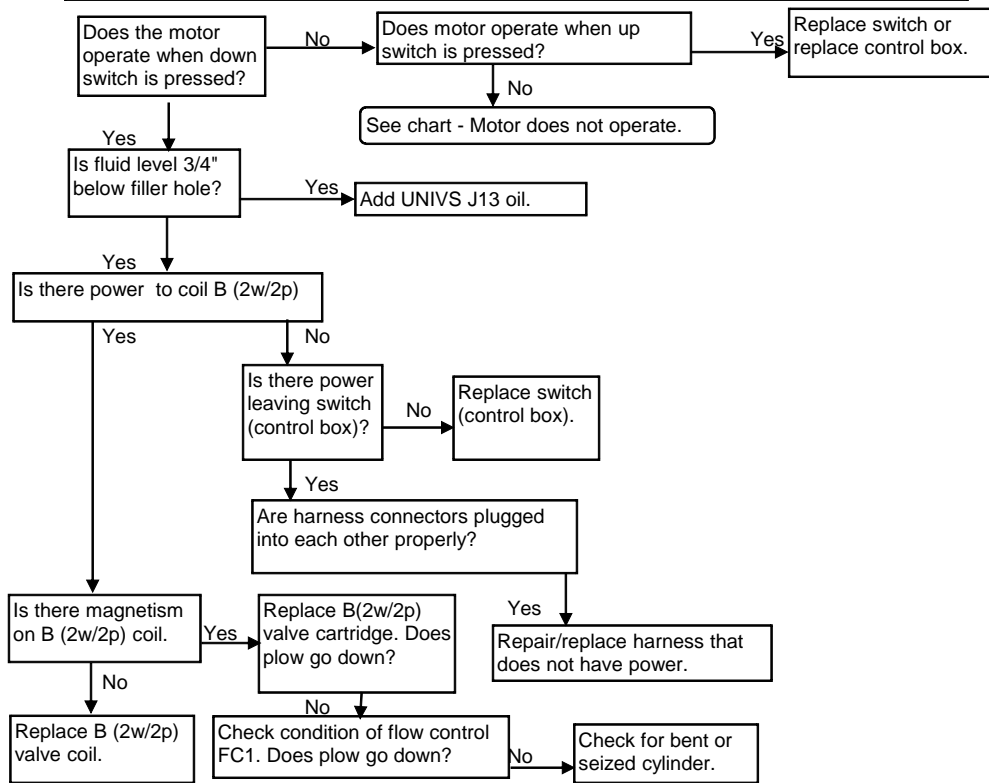


MOTOR OPERATES CONTINUOUSLY M3551

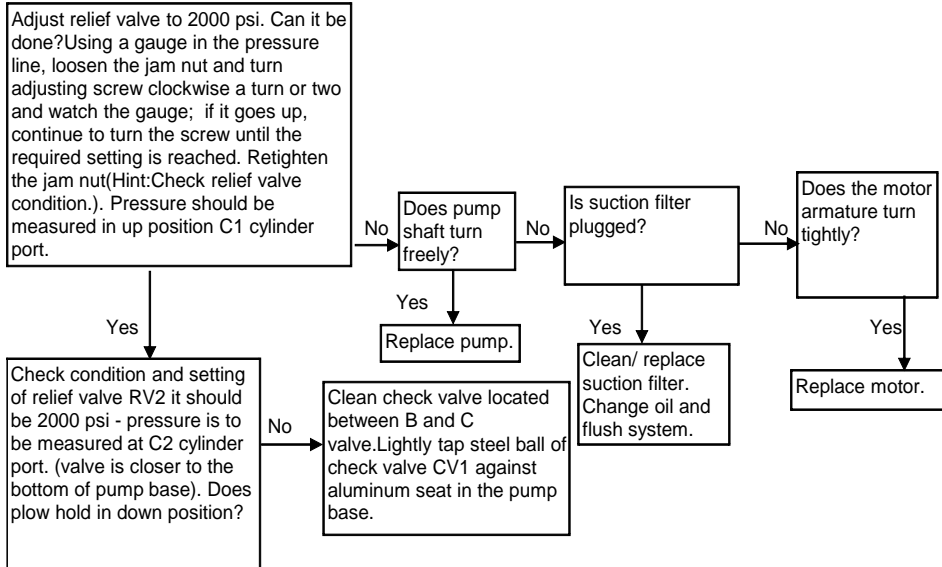
If motor operates continuously, change solenoid.



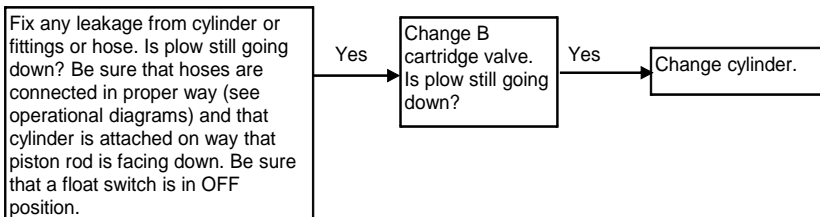
PLOW PARTNER DOES NOT GO DOWN M3551 WHEN DOWN BUTTON IS PRESSED



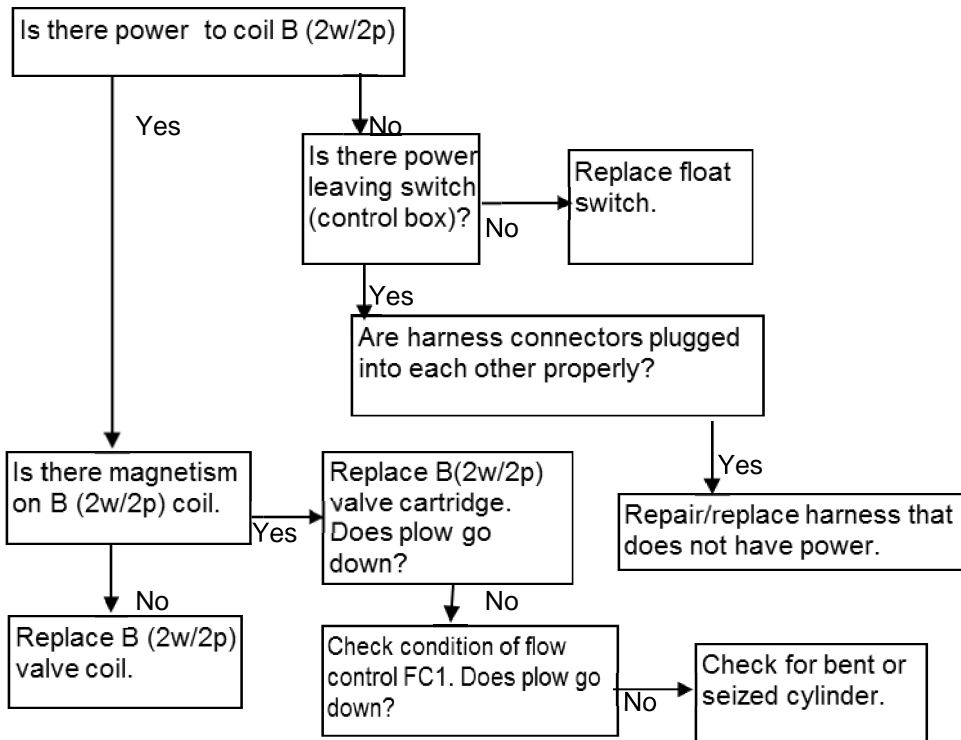
PLOW PARTNER DOES NOT HOLD IN DOWN POSITION WHEN DOWN BUTTON IS PRESSED



PLOW PARTNER LEAKS DOWN IN UP POSITION



**PLOW PARTNER DOES NOT GO DOWN WHEN
FLOAT SWITCH IS IN FLOAT POSITION**



Plow partner removal and attachment

Removing plow partner

- Check the area to ensure there are no obstructions in the descending path of the plow partner. On a flat level surface, activate the float switch. This will allow the blade to slowly drop to the ground.
- With the blade on the ground and the float switch still active, install the jack into the receiver on plow partner.
- Remove the safety clip and hitch pin from the truck hitch and insert into the jack receiver and reattach the safety clip.
- Unwind the jack until it is sitting on the ground and give an extra half of a turn so the jack is supporting the weight of the plow partner mounting bracket- jacking too high or not high enough will cause the receiver to bind in the hitch; some fine tuning of the jack height may be necessary.
- Disconnect the two plugs for the power and controls and attach the dummy plugs to keep them clean.
- Undo and remove the nuts and bolts that hold the side braces in position on the truck hitch brackets.
- Visually inspect to ensure all plugs are undone and pins and bolts are removed.
- Slowly drive the truck forward to separate it from the plow partner.
- If it binds, it may be necessary to wind or unwind the jack to allow free movement (always keep the receiver well lubricated with a multipurpose grease to eliminate binding)
- Don't forget to deactivate the float switch (turn it off) when you are done to prevent battery drain.

Reattaching plow partner

- Slowly back vehicle up and align truck hitch to the receiver on plow partner- if weight has been added or removed from truck, it may be necessary to adjust the height of the jack to align with truck hitch.
- Apply a liberal coat of multipurpose grease to the hitch and receiver to allow it to slide in with ease.
- When the receiver is parallel with the hitch, slowly back up until the holes in the receiver are in line with the holes in the hitch.
- If binding occurs due to a height difference, reconnect power and control plugs and put the unit into float mode.
- Take the weight off of the jack by unwinding it.
- Remove the safety clip from the hitch pin and reinsert the hitch pin and safety clip into the truck hitch to lock the plow partner onto the truck.
- Align the side braces with brackets on hitch. Insert nuts and bolts and retighten
- Remove dummy plugs and re connect power and control plugs together-make sure there is ample die electric grease to prevent corrosion
- Double check that sway bar bolts / nuts are tight and hitch pin is inserted with the safety clip attached.
- Test up and down function and inspect unit for wear, damage, leaks.

Snow plow maintenance

In order for the customer to be eligible for warranty every year, the snowplow, inclusive of all components, must be returned to an authorized Arctic dealer every spring for preventative maintenance. Failure to do so will nullify any future warranty claims.

Warning

Inspect the snowplow components and bolts for wear or damage before mounting or removing the snowplow and before travelling and be sure that the plow is properly attached before moving the vehicle.

-Servicing the snowplow (hydraulic power system, hoses, hydraulic cylinders, controllers, wiring harnesses, blade frame and vehicle undercarriage) without special tools and knowledge could result in personal injury. See an authorized Arctic dealer for service.

- Make sure you know all obstructions (bumper stops, curbs, fire hydrants etc.) before it snows, because it will be very hard to see these obstructions after it snows. If necessary mark them with flags to avoid possible damage to your plow or vehicle.

- Do not let snow accumulate, always plow with the storm.

- Always wear seatbelts when plowing snow.

- Always lower the blade when the vehicle is not in use.

-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.

- When adjusting the relief valve be sure to use a pressure gauge. Failure to accurately set the relief valve can cause failure resulting in damage to the equipment or cause bodily harm.

Inspect on regular basis

After every 18 hours of plowing perform the following inspection:

-Inspect all fasteners, mounting bolts, hydraulic and electrical connections for tightness.

-Inspect the plow assembly (the blade, A-frame and mounting kit) for any damage. (Replace part as necessary)

Post season maintenance

-Inspect the plow assembly (the blade, A-frame, lift frame, spreader bar and mounting kit, all fasteners, pins, retainers, nuts and bolts for tightness) for any damage (cracks, abnormal wear, etc.) and repair or replace part as necessary. Tighten all undercarriage bolts.

-Check all electrical connections, control harness and power/ground cable connectors for corrosion and repair or replace part as necessary. Disconnect all electrical plugs and coat each connection with dielectric grease. Install all dummy plugs provided.

-Check power unit and hydraulic system (check hydraulic hoses for cracks and leaks check for any leaks from the system (fittings)).

-Drain and flush hydraulic system and refill with UNIVIS HVI 13 hydraulic fluid. Fill up power unit with new oil. Lift cylinder rod must be all the way down (put control box switch in float position and push cylinder rod down by hands). Jog up and down switch for lift cylinder. Also jog left and right for angling cylinders.

-Refill power unit so that oil level is $\frac{3}{4}$ " from the top of the reservoir. Clean up any spilled oil and check all functions several times making sure there is not excessive foaming in the reservoir. Compress the lift cylinder and double check the oil level. Check for leaks at all fittings and reinstall filler plug.

-Collapse lift cylinder. Cover exposed rod of the lift cylinder and angle cylinders with water resistant grease.

-Clean and paint the blade assembly as needed.

Preseason check

Before the snow season check your equipment to make sure it is in working condition

-Check power unit, control switch, lights for proper operation.

-Check all fasteners, pins, retainers, nuts and bolts for tightness.

-Check all electrical connections, control harness and power/ground cable connectors for corrosion.

-Coat all electrical connections with dielectric grease (apply dielectric grease to all electrical connections at least once per month during the plow season).

-Inspect and test your battery.

-Check the ballast. The loaded vehicle MUST NOT exceed vehicle gross vehicle weight ratings (GAWR), front gross axle weight rating (FGAWR) or rear gross axle weight rating (RGAWR).

ARCTIC

SNOWPLOWS ❄️ CHASSE-NEIGE





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