



Manual # AA07-0027

EBLING BACK BLADE

sidekick

OWNERS MANUAL





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1 INTRODUCTION

You have just purchased one of the best back blades available in the snowplow industry today. Your new Ebling Back Blade has been designed and built to provide many years of durable service. Used properly, it will increase your productivity and allow you to plow more snow more efficiently than ever before.

This manual provides safety, operation, and maintenance information for your new Ebling Back Blade. Please read this manual before operating the unit, and follow the instructions and recommendations to keep your back blade in top operating condition all winter long. Failure to do so may affect your warranty coverage.

Ebling Snowplows and your local dealer will be your sources for replacement parts and service as they become necessary over the life of your back blade. Feel free to contact us for maintenance, service, replacement parts, or any other assistance we can provide. We are here for you!

2 SAFETY PRECAUTIONS

Improper installation or operation of your back blade could cause injury, equipment damage, and/or property damage. Please read and understand the information in this manual before installing, operating, or making adjustments to this equipment.

Throughout this manual, safety-related information and precautions are noted by one of the two safety symbols below, based on the severity of potential injury as defined.



WARNING: Indicates a hazard that, if not avoided, could result in death or serious injury.



CAUTION: Indicates a hazard that, if not avoided, may result in minor or moderate injury, or lead to equipment damage and/or property damage.



4 BACK BLADE FEATURES

4.1 Back Blade Mounts Directly To Factory Hitch

The Ebling Sidekick Back Blade is attached to the plow vehicle using the factory installed hitch. It is also attached to the plow vehicle using 2 ratchet style straps to keep the Sidekick backblade from any unnecessary movement while plowing or transporting.



Figure 1

Back Blade Mounts Directly To Factory Hitch



CAUTION: Do not cut, drill, weld, or otherwise modify the hitch receiver on the vehicle. Doing so may affect the safety integrity of the hitch receiver and will void the warranty.

4.2 Hook Up To Frame

2 ratchet style straps are included with the Sidekick Backblade. The ratchet side of this is bolted to the insert crossbar. The strap half of the ratchet with a hook gets hooked to a hole on both sides of the frame where it will not interfere with factory components. If the plow needs to be removed from the vehicle frequently, this is much easier to use than a chain style found on some other plow brands.



Figure 2

Ratchet Strap Hook Up

4.3 Moldboard & Wings

The Ebling Back Blade moldboard is designed and constructed to be one of the most rugged in the industry. The Sidekick moldboard, which includes many of the same design features as the Ebling hydraulic and fixed wing moldboards, is adjustable to 84", 90" & 96" widths to provide the capability for multiple plowing applications. The fixed wings are bolted securely to the sides of the moldboard. The fixed wing length is 18" as measured from the rear of the moldboard.

4.4 Cutting Edges

Unless you ordered custom cutting edges for your back blade, the standard moldboard cutting edge is made from durable carbon steel, and the wing cutting edges are tough, durable polyurethane material as standard.

Maintaining proper alignment of your back blade is important to be able to get maximum life out of the cutting edges. When maintained properly, the wing cutting edges will wear evenly along with the moldboard cutting edge. The upper linkage arms are set for the proper initial alignment at the time of installation, but over the life of the cutting edges, depending on the wear you observe due to the plowing application, site conditions, and operator plowing methods, the upper arms may need to be adjusted to allow more even wear of the cutting edges. Refer to the *Back Blade Maintenance* section of this manual for additional details on making alignment adjustments to the back blade.



5 ELECTRICAL SYSTEM & CONTROLS

The Ebling Back Blade is powered by the plow vehicle's electrical system. Refer to the following sections of this manual for specific information regarding the back blade electrical system:

1. *Back Blade Maintenance* section: Fuse replacement, recommended maintenance items.
2. *Operating The Back Blade* section: Controller functions and detailed operating procedures.
3. *Specifications* section: Electrical system technical specifications.
4. *Schematics* section: Electrical connection diagrams.

5.1 Controllers

The Ebling Back Blade comes with an available in-cab controller. The controllers for the Sidekick model are shown in Figure 3. The controller comes "loose", ready for you to mount in your preferred position in the cab of your vehicle.



Handheld
Rocker Controller



Toggle Controller

Figure 3

The Sidekick controllers includes a control power ON/OFF switch and either a toggle lever or rocker paddle to control the RAISE & LOWER function. The power circuit runs through and is controlled by the vehicle ignition switch, and is also



protected by a circuit breaker. Regardless of the main power switch position, power to the back blade controller is off whenever the vehicle ignition switch is off. When the vehicle ignition switch is on, the main power switch allows you to turn power off to the back blade hydraulic unit, so that back blade movement is prevented when the plow is not in use. The RAISE/LOWER switch controls raising and lowering the back blade. This is a momentary-contact type switch, such that the function is powered only when the control lever is held in the position desired, so the raising or lowering motion stops as soon as the control switch is released or when the maximum movement is reached. Refer to the *Back Blade Operation* section of this manual for additional information on operating your back blade.



WARNING: Always switch the ON/OFF switch to the OFF position whenever the back blade is not in use to prevent inadvertent movement of the back blade.



CAUTION: Release the RAISE/LOWER switch once the maximum back blade travel is reached. Continuing to hold the switch in the RAISE or LOWER direction after maximum blade travel is reached will cause excessive current draw on the pump motor and may overheat system components.



WARNING: If the back blade hits you or drops on you it could cause serious injury. Be aware of the operating envelope of the blade, and stay clear of the back blade when operating the remote controls.

5 HYDRAULIC SYSTEM

The back blade standard hydraulic system is powered by an electric motor. The hydraulic pump delivers a controlled flow of oil for fast, smooth raising and lowering of the plow. A typical power unit is shown in Figure 4.

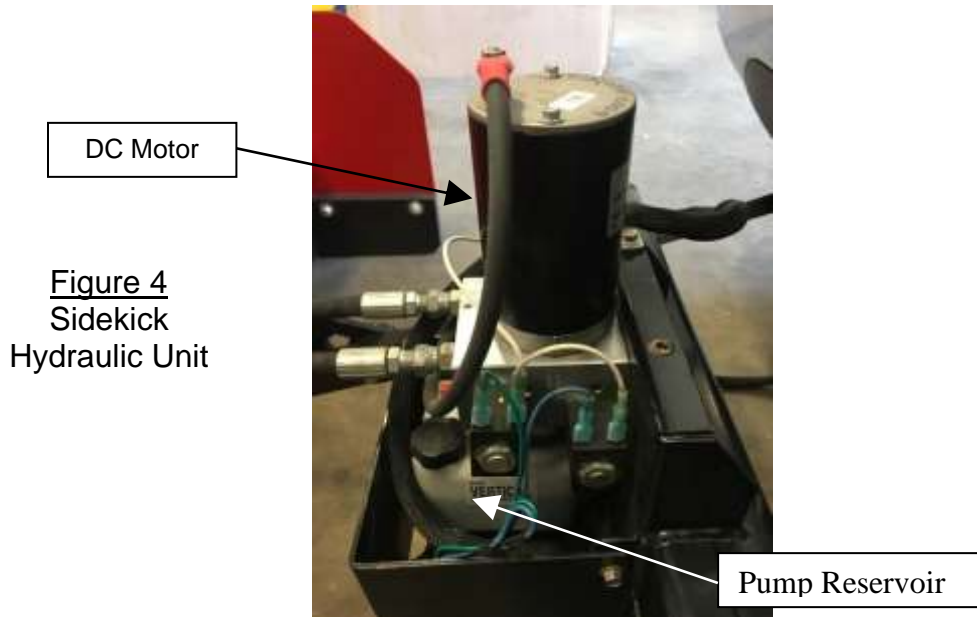


Figure 4
Sidekick
Hydraulic Unit

Refer to the following sections of this manual for specific information regarding the back blade hydraulic system:

1. *Back Blade Maintenance* section: Recommended hydraulic fluid type, filling instructions, and maintenance procedures.
2. *Specifications* section: Hydraulic system technical specifications.
3. *Schematics* section: Hydraulic plumbing connection diagrams.

6 MOUNTING BACK BLADE TO VEHICLE



WARNING: Always inspect all back blade components and fasteners for wear and/or damage before mounting back blade onto vehicle. Worn or damaged parts may fail unexpectedly, which could cause serious injury.



CAUTION: Due to limited visibility of rear of vehicle from the driver's seat, it is recommended that steps 1-3 be completed with an observer at the rear of the vehicle to provide assistance, not by yourself. Make sure observer stands at a safe position to avoid pinch/drop points. If you must do this by yourself, use extreme care.



1. Back plow vehicle into position close to the back blade so that the hitch insert is 3” to 4” from factory hitch. (see Figure 5).



Figure 5
Hitch insert lined
up with factory hitch

2. Route the back blade wiring harness according to your plowing preference, and then connect the plugs to the mating receptacles on the vehicle.
3. Verify that the height of the crosstube insert matches the factory hitch height. If the height matches (refer back to Figure 5), then skip step 4.

NOTE: Adjustment is not normally necessary unless the vehicle height is substantially different than when the back blade was last removed from the vehicle.

4. If minor height adjustment is necessary, complete steps 10 & 11 at this point, and then use the in cab RAISE/LOWER switch to raise or lower the crosstube insert to the correct height for engagement into the factory hitch.

NOTE: If a major height adjustment is necessary, it is recommended to perform the adjustment manually, with help from an assistant, before attempting to engage the crosstube insert in the factory hitch (the arm angle will be too extreme for proper engagement using hydraulics only).

5. Back vehicle up slowly to engage the crosstube insert in the factory hitch until the hitch pin hole lines up
6. Insert the hitch pin and secure with hitch pin clip
7. Remove the safety snap pin from the plow stand.



8. Loosen the T-bolt and remove the plow stand by removing stand foot.



Figure 6
Plow Stand Stored On
Crossbar Stand Mount

9. Store the stand and the foot in the stand receptacle on the crossbar tube.
10. Turn the vehicle ignition key to the ON or ACCESSORY position.
11. Actuate the ON/OFF switch on the in-cab controller to the ON position.
12. Actuate and hold the remote RAISE/LOWER switch to raise the back blade, and release the switch when the back blade reaches the fully-raised position.



CAUTION: Release the RAISE/LOWER switch once the maximum back blade travel is reached. Continuing to hold the switch in the RAISE or LOWER direction after maximum blade travel is reached will cause excessive current draw on the pump motor and may overheat system components.

Verify that the back blade does not block the view of the vehicle's tail lights from the rear of the vehicle.



CAUTION: The back blade plow mount is designed to accommodate nearly all OEM equipment, but some after-market lighting may not fully comply with this requirement. If the view of the vehicle's tail lights is blocked, you will need to modify the lighting or contact Ebling & Son, Inc. to obtain a lift cylinder modification to resolve this situation.

13. Check the alignment of the back blade to the plow vehicle before operating the back blade to plow snow. Refer to the *Maintenance* section in this manual for instructions on checking alignment and making adjustments, if required.

7 OPERATING THE BACK BLADE



WARNING: Always switch the ON/OFF switch to the OFF position whenever the back blade is not in use to prevent inadvertent movement when the back blade is not in use.

1. Actuate the vehicle ignition switch to the ON or ACCESSORY position.
2. Actuate the main power ON/OFF switch to the ON position to turn power on to the back blade hydraulic unit.
3. To raise or lower the blade, actuate and hold the RAISE/LOWER control lever in the desired direction. Movement occurs only when the control lever is actuated, and movement will stop as soon as the control lever is released.



CAUTION: The back blade RAISE/LOWER function does not have a "float" position like many front plows do. The RAISE/LOWER function is designed to utilize hydraulic down pressure for better scraping and clean-up, and as such the position of the blade will be maintained when the control lever is released, it will not "float" to follow the terrain being plowed. (float available - see 9.5)



CAUTION: The hydraulic system operating pressure is sufficient in many cases to raise the rear wheels of the plow vehicle off the ground. As such, be aware that using a lowered blade position that raises the vehicle even partially will reduce traction on the vehicle's rear wheels.



CAUTION: Release the RAISE/LOWER control lever once the maximum blade travel is reached. Continuing to hold the control lever in the RAISE or LOWER direction after maximum blade travel is reached will cause excessive current draw on the pump motor and may overheat system components.

4. When finished operating the back blade, raise the back blade to the fully raised position for transporting, and then actuate the main power switch to the OFF position to prevent inadvertent movement when the back blade is not in use.

8 TRANSPORTING & DRIVING CONSIDERATIONS

1. Before transporting the back blade to and from plowing jobs, always put the back blade into the proper transport condition as follows:
 - Raise the back blade to the fully-raised position to prevent the bottom of the plow from striking the pavement when encountering potholes or other road obstacles.
 - Verify that the main power switch is in the OFF position to prevent inadvertent back blade motion during transporting.



WARNING: Always switch the ON/OFF switch to the OFF position whenever the back blade is not in use to prevent inadvertent movement when the back blade is not in use.

2. Always drive defensively and be aware of the additional size and weight of the equipment that you are transporting with regard to turning radius, passing clearance, braking distance, etc.



WARNING: Always lower the back blade when the vehicle is parked to prevent the blade from dropping unexpectedly due to hydraulic pressure changes or damaged system components. Keep clear of the blade's drop zone at all times. Failure to observe these safety precautions could result in serious personal injury.



9 PLOWING CONSIDERATIONS



WARNING: Plowing speed should not exceed 10 mph (16 km/h).
Transport speed should not exceed 45 mph (72km/h). Further reduce speed as weather conditions warrant.

1. Before plowing at a site, make sure you are aware of any obstructions that could be hidden beneath the snow, such as curbs, sidewalk edges, bumper stops, low shrubs, or other landscaping obstacles. Marking hard-to-see obstructions or other hazards before plowing season can help identify them when they are covered with snow.



WARNING: Always wear your seat belt when plowing snow. Striking a hidden obstruction could cause the vehicle to stop or swerve suddenly, which could result in serious personal injury if you are not wearing your seat belt.

2. Plow at a reasonable speed given the overall site layout and the weather conditions at time of plowing.



CAUTION: Your back blade is designed to pull snow, so using your back blade to push snow with the vehicle in reverse is not recommended.

3. When entering or exiting a driveway (or any other sloped surface with a valley) with the back blade raised, be aware of the difference in blade position with respect to the vehicle tires. If the valley is deep enough, the bottom of the back blade may scrape the pavement as the vehicle passes through the low spot.
4. When entering or exiting a driveway (or any other sloped surface with a valley) with the back blade lowered, consider raising the plow slightly to reduce the down pressure as the vehicle passes through the low spot, in order to maintain traction on the vehicle rear wheels. This will also help to minimize the wear on the leading corners of the wing cutting edges.
5. A “float” option is available for all Ebling backblades. Adding this option allows the blade to float over uneven surfaces without having to reposition the raise/lower switch. This feature is very useful for negotiating steep driveway approaches and speed bumps. The float can be easily turned on and off as situations arise. Sidekick part #BA16-FL02.



10 REMOVING BACK BLADE FROM VEHICLE

1. Move vehicle into position where back blade is to be removed. A flat area with sufficient maneuvering room is recommended for back blade removal and more importantly, for ease of re-attaching the back blade later.
2. Actuate the vehicle ignition switch to the ON or ACCESSORY position.
3. Actuate the ON/OFF switch on the in-cab controller to the ON position.
4. Actuate and hold the RAISE/LOWER switch to lower the back blade to the ground. Release the switch as soon as the back blade contacts the ground and the weight is off the vehicle.



CAUTION: Releasing the switch before the pump begins to raise the rear of the vehicle is important for ease of pulling the vehicle out once the crosstube insert is unpinned. If the rear of the vehicle is raised a significant amount, it may drop unexpectedly or bind the crosstube insert in the factory hitch.

5. Disconnect the back blade wiring harness and coil the harness around the power unit for storage.

NOTE: Re-apply dielectric grease to the harness and vehicle plug electrical terminals for anti-corrosion protection.

6. Install plug cover on vehicle power plug.
7. Remove the plow stand from its storage position on the cross tube.
8. Loosen the T-bolt and remove foot from stand and reassemble stand to usable position on crosstube, then re-tighten the T-bolt.
9. Remove the hitch pin from the factory hitch and disconnect both ratchets straps from frame.
10. Pull the vehicle ahead slowly to dis-engage the crosstube insert. The plow will stay in place on the plow stand with the insert at the proper height for re-attachment.



CAUTION: Due to limited visibility of rear of vehicle from the driver's seat, it is recommended that steps 1-3 be completed with an observer at the rear of the vehicle to provide assistance, not by yourself. Make sure observer stands at a safe position to avoid pinch/drop points. If you must do this by yourself, use extreme care.



NOTE: When completed correctly, the back blade removal process will make the re-attachment procedure much easier. Unless the vehicle height changes substantially, the crosstube insert should be at the correct height for re-engagement in the factory hitch by having already removed the back blade at that same vehicle height.

11. Store the hitch pin separately, or replace the hitch pin in the crosstube insert, and replace the pin clip for safekeeping.
12. Disconnect the controller wire harness in the cab, if desired, and store the controller in a safe location.

11 OFF-SEASON STORAGE

1. Choose your off-season storage location carefully. A flat, dry, out-of-the-way surface is recommended, and storing the blade inside out of the weather is preferable to outside storage when possible.
2. Remove back blade from vehicle per the procedures outlined in section 10, *Removing Back Blade From Vehicle*.
3. Complete the steps on the *Post-Season Checklist* in Section 12.3 of this manual.

12 BACK BLADE MAINTENANCE

12.1 Pre-Season Checklist

It is recommended that you complete the following list before the snow season to make sure your equipment is in top working condition prior to plowing:

1. Inspect entire blade assembly for worn or damaged parts, especially cutting edges and moving parts.
2. Replace any worn or damaged parts.
3. Check all mounting points on back blade and vehicle, and make sure all cotter pins are still in place.
4. Check all fasteners and re-tighten to proper torque as necessary.
5. Check all cutting edges for amount of wear, and replace cutting edges as necessary.
6. Touch up painted surfaces as necessary to protect the metal and maintain back blade finish and appearance. Touchup paint is available from Ebling & Son or your local dealer.
7. Check hydraulic system for leaks and cracked or damaged hoses, tighten fittings and replace hoses as necessary.



8. Drain hydraulic system and re-fill with the recommended hydraulic fluid. Refer to *Annual Hydraulic Fluid Change* later in this section for instructions and recommended fluid types.
9. Clean and tighten all electrical connections, and apply dielectric grease to prevent corrosion.
10. Inspect and test vehicle battery, and re-charge or replace as necessary.

12.2 In-Season Periodic Maintenance

The following items should be checked frequently during the plowing season:

1. Check all fasteners for wear; re-tighten to proper torque as necessary.
2. Check all hydraulic connections for leaks, re-tighten and repair as necessary.
3. Check hydraulic fluid reservoir and add fluid as necessary to keep full.
4. Check all electrical connections to make sure they are clean, tight, and corrosion-free. Re-apply dielectric grease as necessary for anti-corrosion protection.
5. Check condition of all cutting edges to make sure they are wearing evenly. Re-align back blade and/or replace cutting edges as necessary. Refer to section 12.8, *Back Blade Alignment* for alignment instructions.

12.3 Post-Season Checklist

It is recommended that you complete the following preventive maintenance items prior to storing your back blade for the off-season:

1. Wash the back blade with a good automotive-grade detergent to clean off road grime and salt build-up.



CAUTION: Before spraying the hydraulic unit reservoir, remove the breather cap and replace it with red threaded plug found on reservoir tank to prevent water from entering the reservoir and contaminating the hydraulic fluid. Tighten snugly, do not over-tighten. Re-install the breather cap when finished washing. Store red plug on reservoir for future use.

2. Touch up painted surfaces as necessary to protect the metal and maintain back blade finish and appearance. Touchup paint is available from Ebling Snowplows or your local dealer
3. Lubricate all mounting points (all clevis pins) with a general purpose lithium base grease.
4. Cover the back blade with a tarp to prevent dust and dirt accumulation, and to keep the back blade dry if stored outside.



12.4 Hydraulic System Adjustments

1. Hydraulic Connections – Refer to the hydraulic connection diagram at the back of this manual for identifying each of the hydraulic hose connections on the back blade and at the valve manifold on the hydraulic power unit. When fitting and/or hose replacement becomes necessary, make sure replacements are installed according to this connection diagram.
2. System Relief Pressure – the factory relief pressure setting is 500 psi. The relief pressure setting cannot be adjusted.

12.5 Hydraulic System Fluid Level

1. The hydraulic fluid level must be checked with the vehicle on a level surface and the back blade fully raised (so that lift cylinder is fully retracted).
2. Proper “full” fluid level in the fluid reservoir is about 1” down from the top of the reservoir (see Figure 7).



Figure 7
Hydraulic Fluid Level

Reservoir Full
Level 1” From Top

3. To fill the fluid reservoir, unscrew the breather cap and add fluid to 1” from top of reservoir. For fluid recommendations, see section 12.6, *Annual Hydraulic Fluid Change*.



CAUTION: Do not mix different types of hydraulic fluid. Some fluids are not compatible and, if mixed, may cause equipment damage and/or performance problems.

4. Re-install the breather cap and tighten snugly. Do not over-tighten.

12.6 Annual Hydraulic Fluid Change



CAUTION: The fluid change should be done at the beginning of each plowing season (reference the *Pre-Season Checklist* included in this manual) to prevent the use of fluid that contains condensation build-up from the off-season.

1. Raise the back blade to the fully raised position (so that lift cylinder is fully retracted).
2. Place safety blocks underneath the back blade to prevent it from inadvertently dropping to the ground while you are working on it.



WARNING: If the back blade hits you or drops on you it could cause serious injury. Be aware of the operating envelope of the blade, and stay clear of the back blade when operating the remote controls.

3. Remove the top and bottom of pump cover. Position a container to collect the used oil underneath the fluid reservoir.
4. Loosen the fluid reservoir hose clamp and carefully slide the reservoir downward to unseal it from the pump manifold and allow the fluid to drain out.
5. Remove the reservoir completely from the pump manifold block and wipe it out with a clean cloth to remove any contamination and clean it.



CAUTION: Remove the reservoir carefully to avoid damaging the suction tube and suction filter inside the reservoir cavity.

6. Remove the suction filter and clean it to remove any contamination.
7. After cleaning the suction filter and reservoir, if you suspect you might have a serious fluid contamination problem, contact Ebling & Son for additional instructions before completing the remaining fluid change steps.
8. Re-install the suction filter.
9. Re-install the fluid reservoir and tighten the hose clamp.



10. Fill the fluid reservoir with fresh hydraulic fluid to 1" below top of reservoir **WITH PLOW IN RAISED POSITION**. If level is set with plow in lowered position fluid will be forced out of vent when plow is raised.

NOTE: Use of the following fluid is recommended:

- S.A.M. (Snowplow Aftermarket Manufacturing) Blue Low-Temp Fluid



CAUTION: Do not mix different types of hydraulic fluid. Some fluids are not compatible and, if mixed, may cause equipment damage and/or performance problems.

11. Dispose of the used hydraulic fluid properly per local ordinance requirements.

12.7 Electrical System

1. The main power circuit is protected by a circuit breaker, typically mounted under hood. If you are installing your back blade, refer to the separate *Back Blade installation instructions* provided with your back blade.
2. The control circuit wiring harness (deutsch plug to the in-cab controller) is protected by an inline mini-blade type 15-amp fuse.



CAUTION: If an electrical problem occurs that requires fuse replacement, the replacement fuse must be the same type and amperage as the original fuse. Use of a fuse with a higher amperage rating could damage the system and may cause a fire.

3. Refer to the electrical diagrams at the back of this manual for the electrical system power, control harness, controller, and pump connection diagrams.

12.8 Back Blade Alignment

1. Check the crossbar height as shown in the final assembly instructions for the sidekick in step 4 and NOTE shown below.

- Step 4 Remove the hitch insert from its shipping position and bolt on with insert facing truck. Bolt on using the bottom hole on crossbar lined up with bottom hole on insert with long side up.
(this is a good position to start but may need to change during final adjustments)

Since all vehicles have different hitch receiver heights, you want the
NOTE crossbar to end up being approx 16" off the ground with the blade down.



The starting configuration in step 4 above is for a hitch with a receiver height of 18" to the center of the receiver tube. Adjust the insert as needed to compensate for your particular hitch height.

2. Front-To-Back Alignment – The upper linkage arm adjustment is set at the time of installation to provide the proper amount of upward angle on the wing cutting edges that will offset the friction force that will work to align the blade once the cutting edges contact the pavement and the blade moves forward. Depending on the plowing application, site conditions, and operator plowing methods, over the life of the cutting edges the upper arms may need to be adjusted periodically to provide more even wear of the wing cutting edges. If you observe the front surfaces of the wing cutting edges to be “rounding off” or wearing more rapidly than the rest of the cutting edge, then the upper arms need to be adjusted to compensate for the uneven wear. To adjust the upper arms:
- With the blade in the fully lowered position, observe the angle of the wing cutting edge bottom surfaces to determine the approximate amount and direction of correction needed.
 - Take any pressure off the lowered blade.

Figure 8
Upper Linkage Arm
With Toothed Washer





- For each arm, loosen the arm bolt and the toothed washer, then adjust the arm length as needed by repositioning the toothed washer with the corresponding position and the upper arm.

NOTE: If the wing cutting edge leading corners are too *low*, lengthen the arms. If the wing cutting edge leading corners are too *high*, shorten the arms.

- Reposition the toothed washer and snug up bolt to hold it in the desired place.
- Adjusting both arms at the same timeworks best.
- Raise and lower the back blade a few times, re-check the level, and re-adjust, if necessary, until the desired alignment is achieved.
- Tighten the arm bolt on both sides.

13 SPARE PARTS & EMERGENCY PREPARATION

1. In addition to a kit containing the most common emergency items (flashlight, first aid kit, fire extinguisher, hand tools, etc.), it is recommended that you carry the following spare parts in case of breakdown while plowing with your back blade:
 - 15-amp fuses, mini-blade type
 - Hydraulic fluid
 - Hydraulic hoses
2. The spare parts listed above are available from Ebling Snowplows or your local dealer.
3. Other spare/replacement parts may be deemed necessary based on your past experience or your particular plowing application. Make sure you are as prepared as possible before you get caught out in the middle of a snowstorm!



14 BACK BLADE SERVICE

1. If you have followed all of the guidelines and instructions in this manual and still cannot correct problems with the operation of your back blade, contact Ebling Snowplows or your local dealer for troubleshooting and repair information.
2. When you purchased your plow, you were issued a contact number for Ebling Snowplows 24-hour emergency service, which is available 24 hours a day during the snow plowing season.
3. If service becomes necessary, it is recommended that you have your back blade serviced at Ebling Snowplows or your local dealer. Failure to use an authorized service center could affect the warranty coverage on your back blade.



15 BACK BLADE SPECIFICATIONS

TECHNICAL SPECIFICATIONS - FIXED WING MODELS			
MODEL NUMBER	Sidekick	FW21X90	FW21X96
Vehicle Application Guideline	1/2, 3/4, 1-Ton & SUVs	3/4-Ton, 1-Ton Pickups	
Blade Height	21"	21"	21"
Blade Width	84", 90" or 96"	90"	96"
Wing Length (from rear of plow)	18"	24"	24"
Plow Weight	382 lbs.	590 lbs.*	610 lbs.*
Plow Finish	Powdercoat	Powdercoat	Powdercoat
Moldboard Cutting Edge (Std.)	1/2" x 6" Steel	1/2" x 6" Steel	1/2" x 6" Steel
Wing Cutting Edges (Std.)	1" x 6" Poly	1 1/2" x 6" Poly	1 1/2" x 6" Poly
Linkage Arm Clevis Pins	5/8 dia x 2 1/2"	3/4 dia x 2-3/4"	3/4 dia x 2-3/4"
Lift Cylinder Bore Diameter	2"	2.25"	2.25"
Lift Cylinder Stroke	6.5"	8.5"	8.5"
Lift Cylinder Clevis Pin	5/8 dia x 3-1/2"	3/4 dia x 3-1/2"	3/4 dia x 3-1/2"
Hydraulic Unit Motor	12 VDC	12 VDC	12 VDC
Hydraulic Pump Displacement	.054cu.in./rev	0.125 cu.in./rev	0.125 cu.in./rev
Hydraulic System Relief Pressure	500 psi	2,300 psi	2,300 psi
Pump Delivery (at 2,300 psi)	1.0 gpm	1.2 gpm	1.2 gpm
Hydraulic Reservoir Capacity	1 quart	1 quart	1 quart
Total System Fluid Capacity	1.5 quarts	1.5 quarts	1.5 quarts

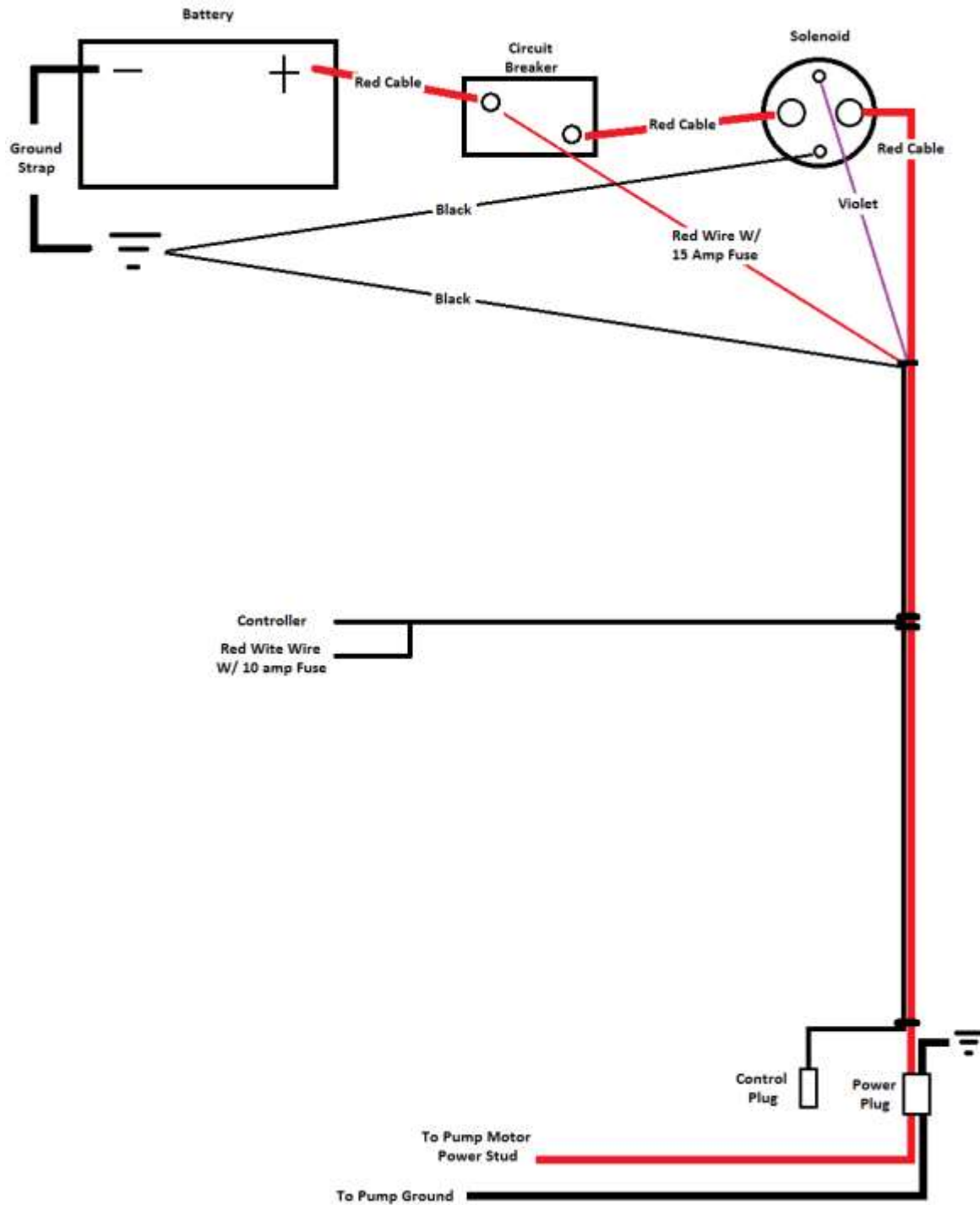
* Estimated weight, does not include truck mount

16 SCHEMATICS

For your reference, the following pages contain the hydraulic plumbing and electrical wiring connection diagrams for your back blade.

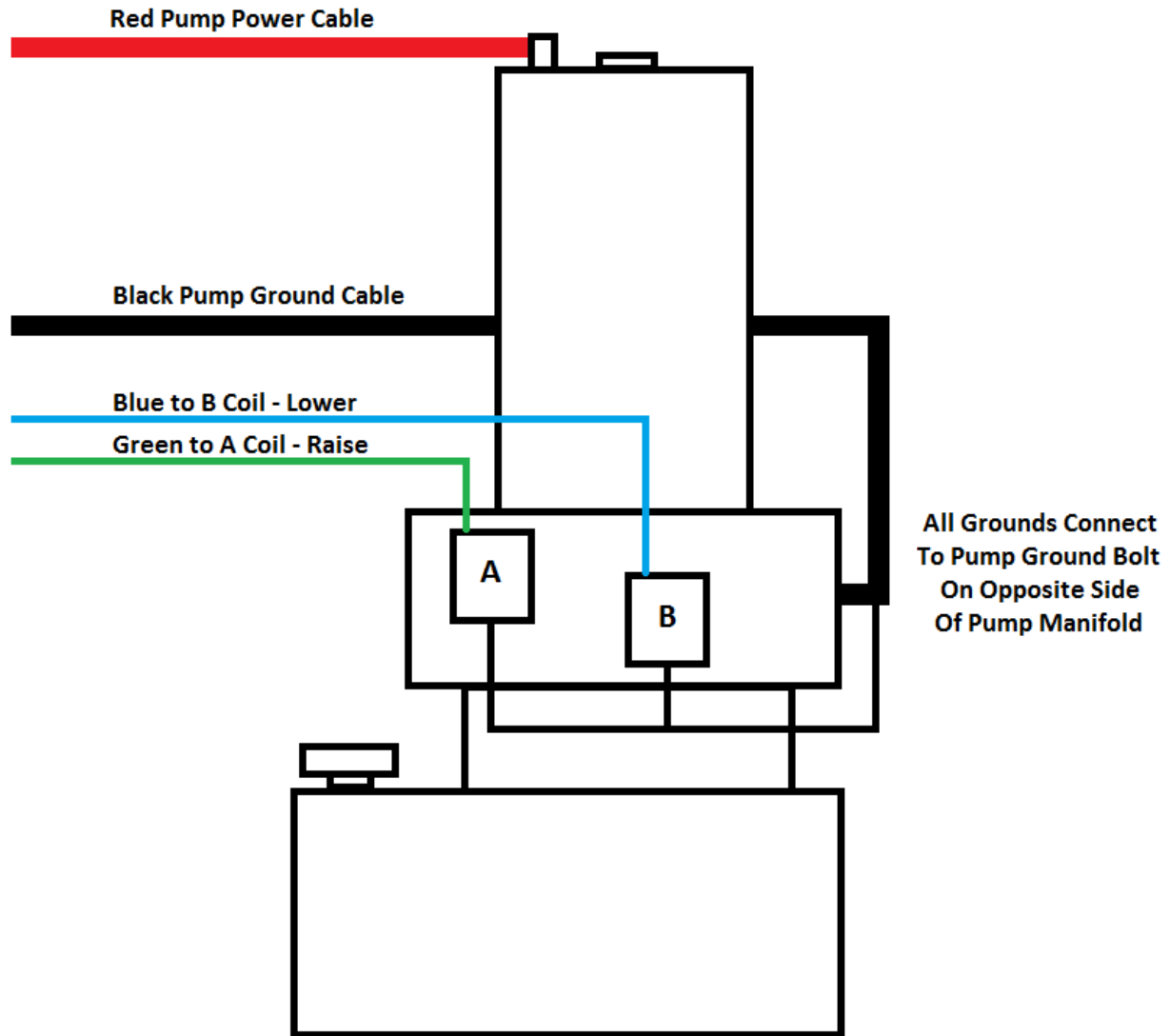


16.1 Electrical Power Connections - sidekick



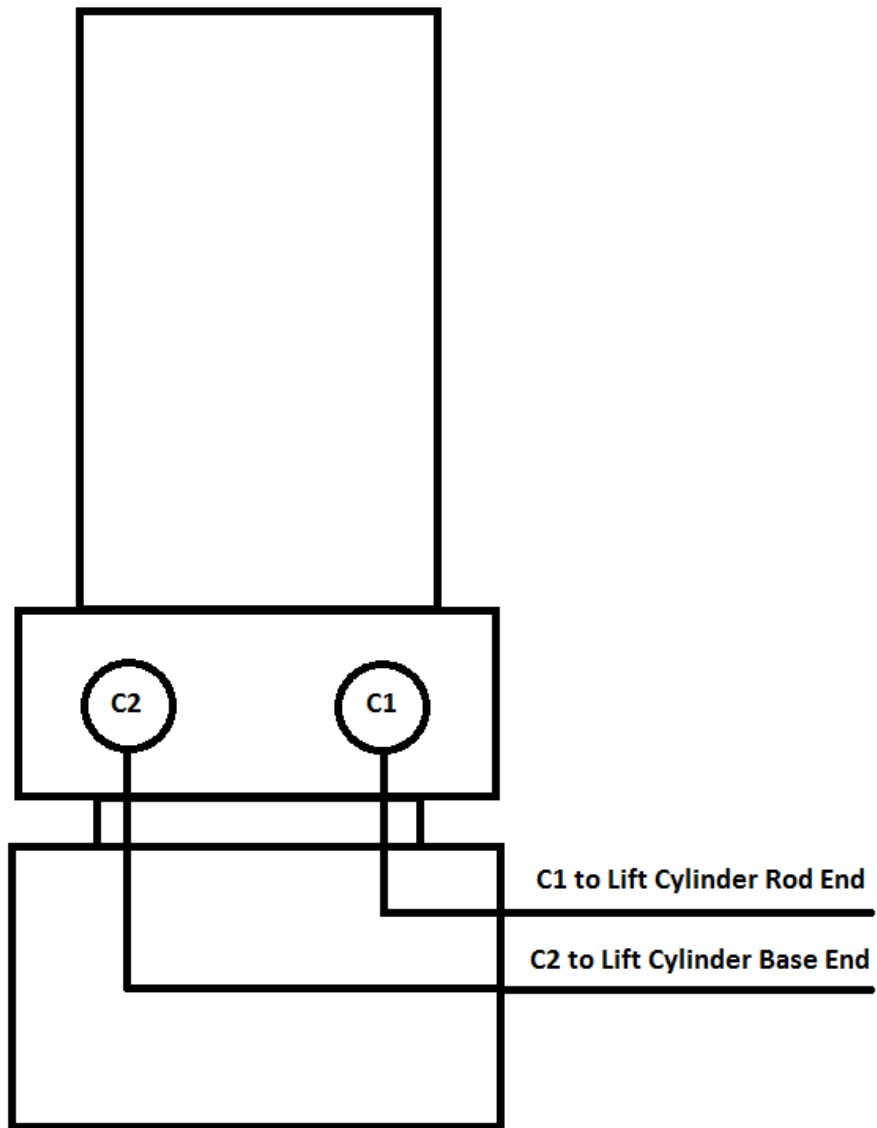


16.2 Electrical Pump Connections - sidekick





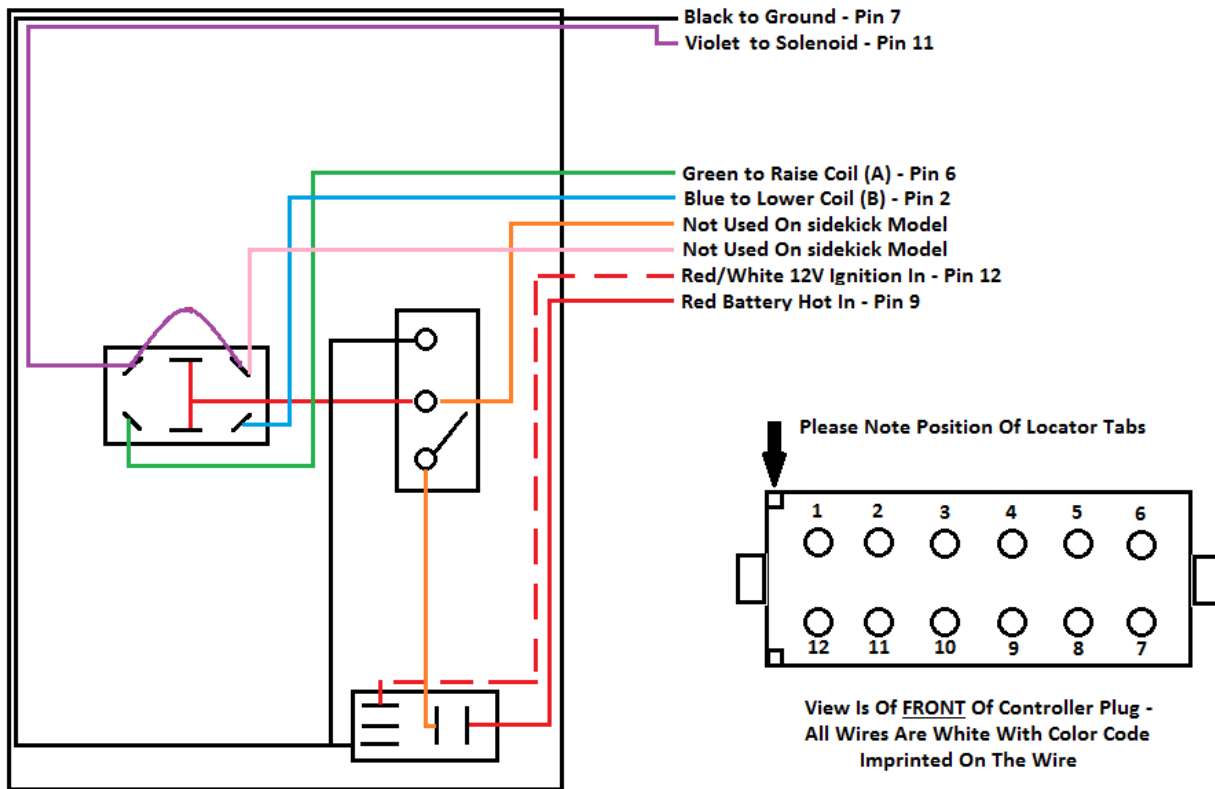
16.3 Plow Side Hydraulic Connections - sidekick





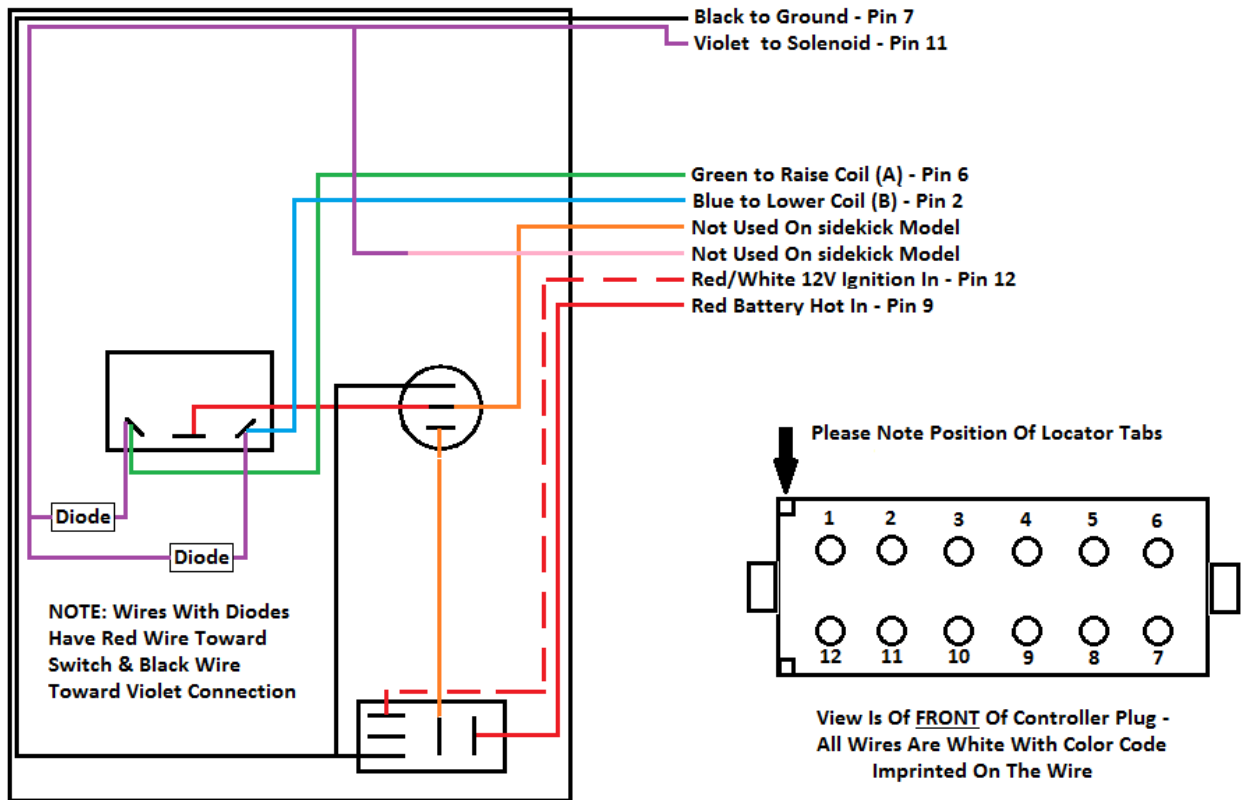
16.4 Controller Switch Wiring - sidekick

Controller Switch Wiring sidekick - 2 pole – Toggle Switch



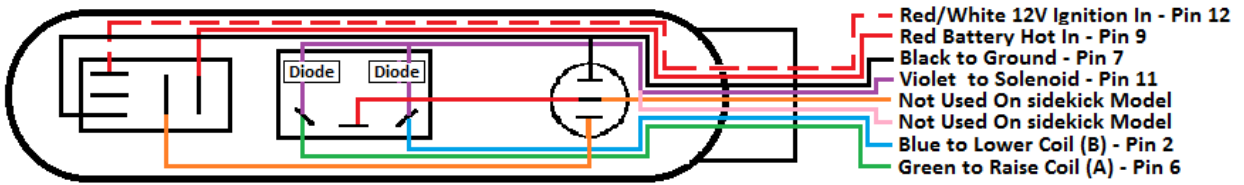


Controller Switch Wiring sidekick – 1 Pole – Toggle Switch

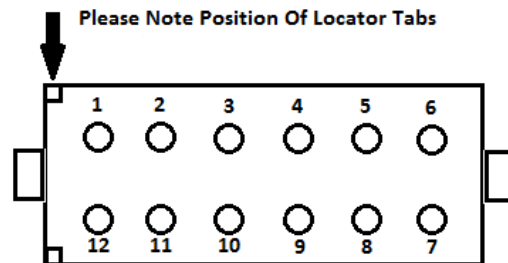




Controller Switch Wiring sidekick – 1 Pole – Rocker Switch



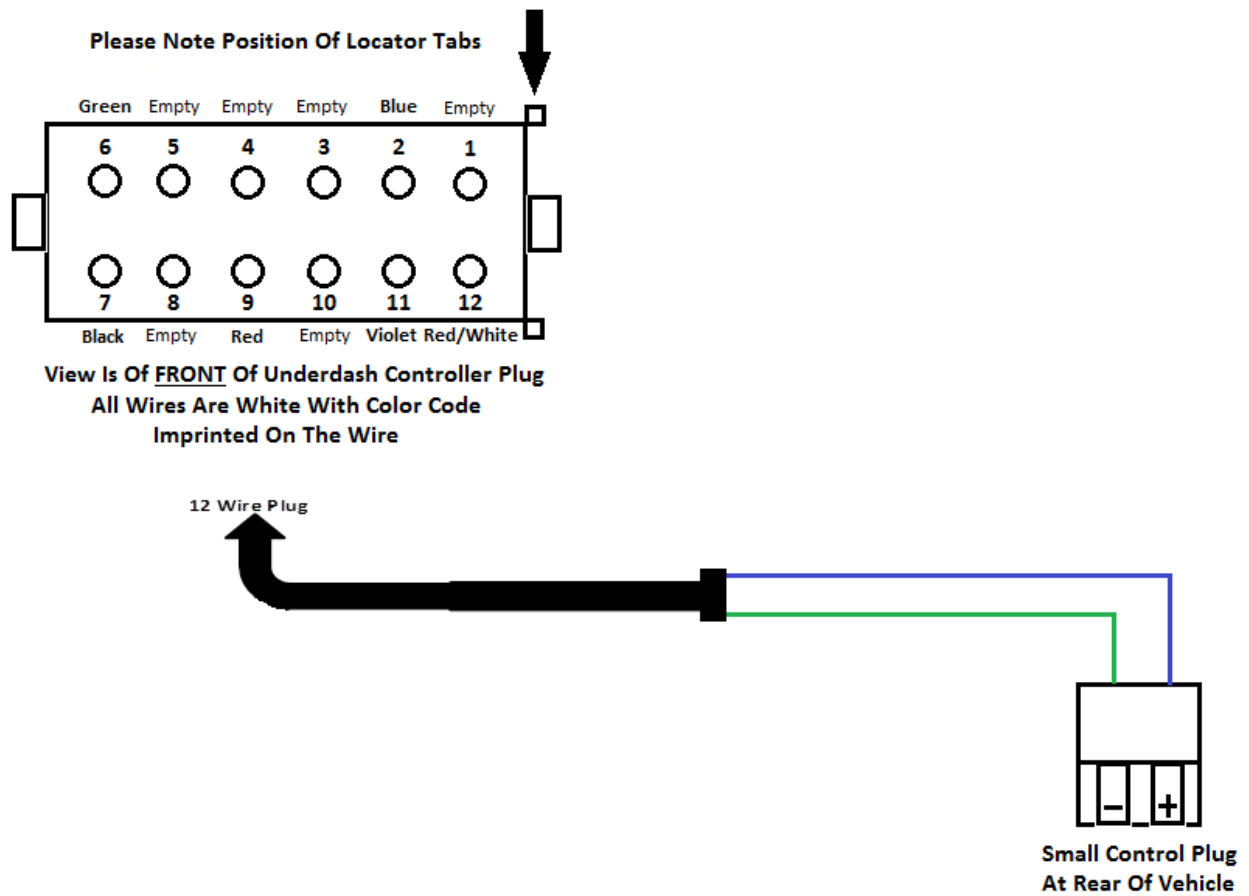
NOTE: Wires With Diodes
Have Red Wire Toward
Switch & Black Wire
Toward Violet Connection



View Is Of **FRONT** Of Controller Plug -
All Wires Are White With Color Code
Imprinted On The Wire

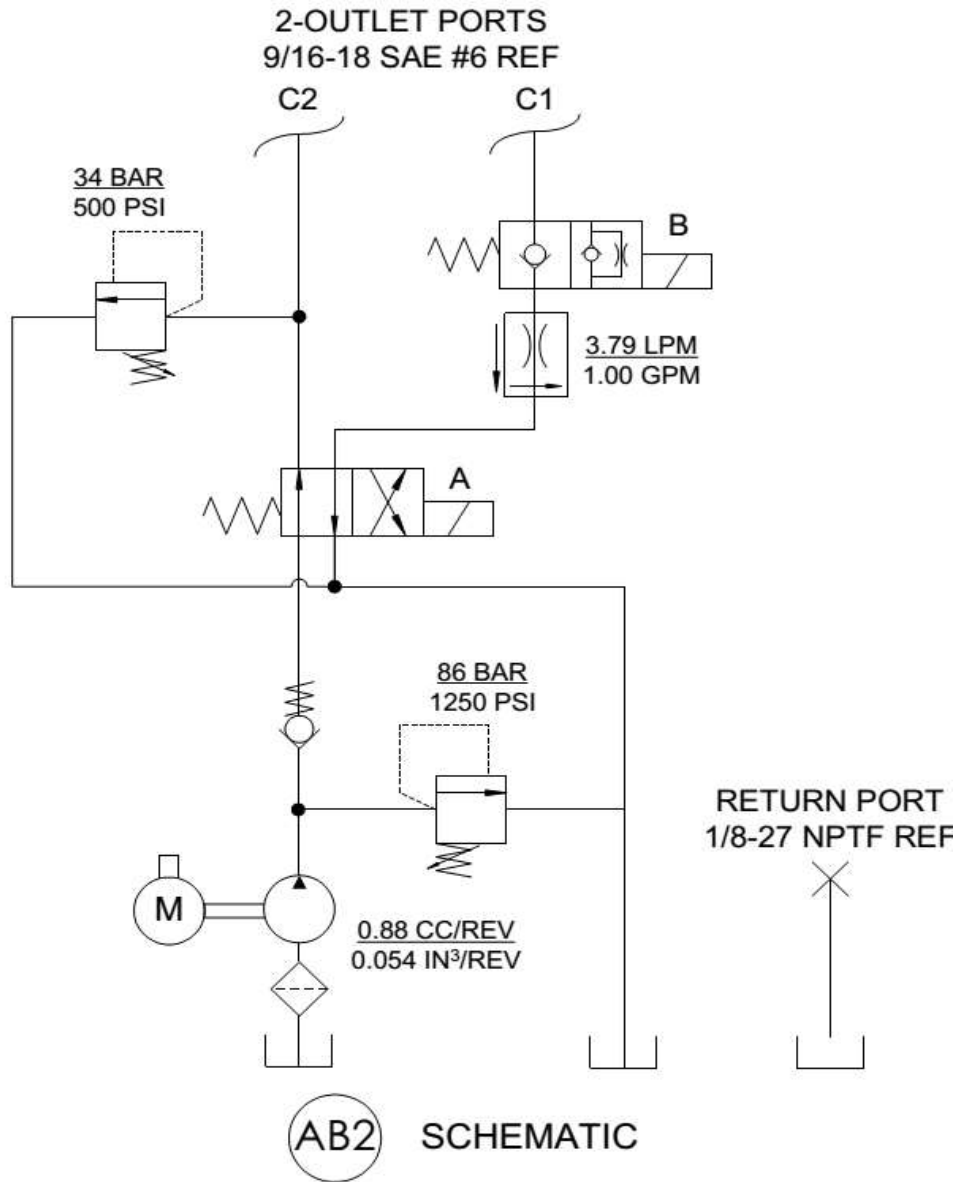


16.5 Truck Side Control Harness - sidekick





16.6 Hydraulic Schematic - sidekick



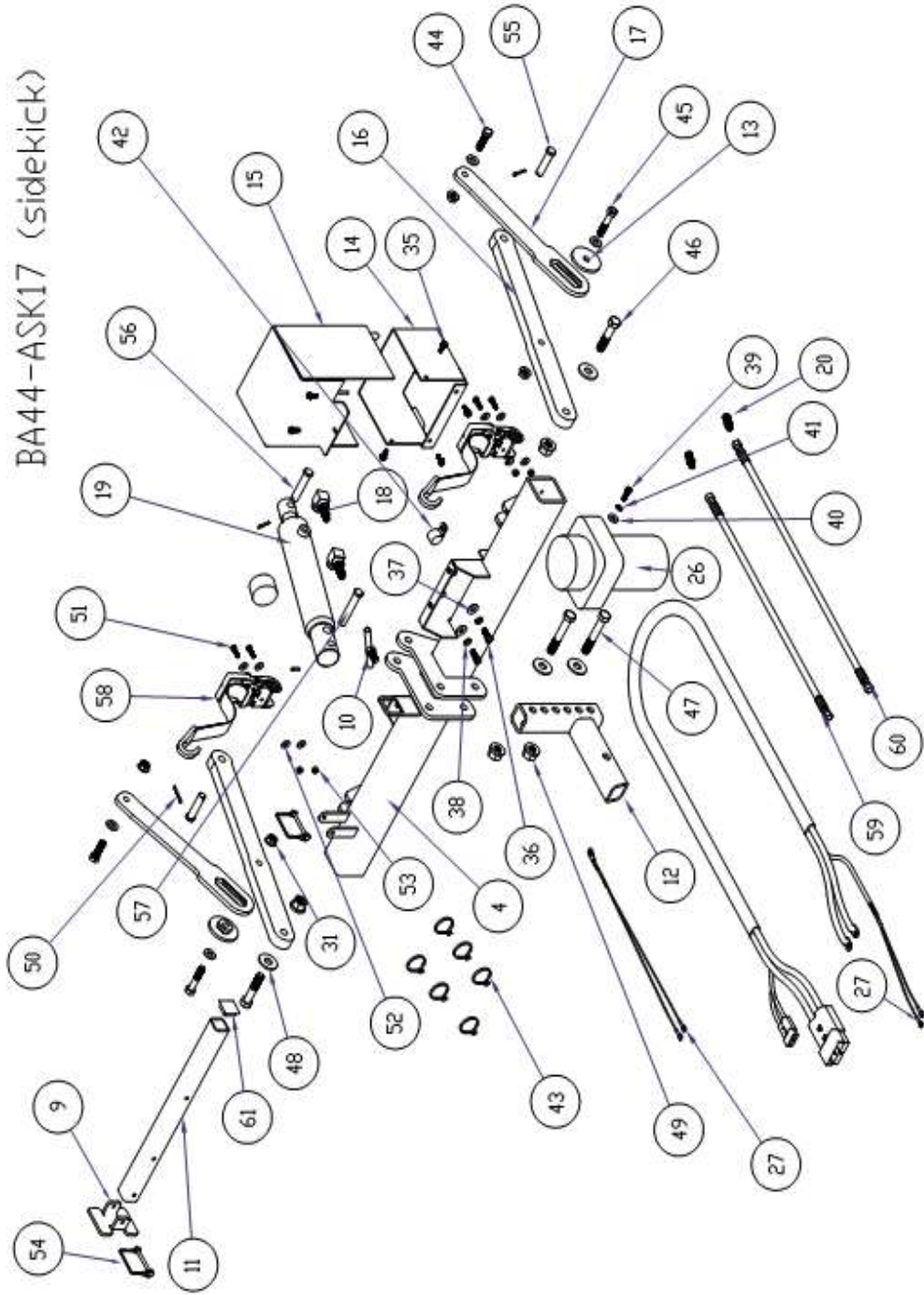


17 EXPLODED VIEWS

These exploded views are for parts ID only. Part numbers can change, Not all individual electrical parts are shown. Call for details



BA44-ASK17 (sidekick)



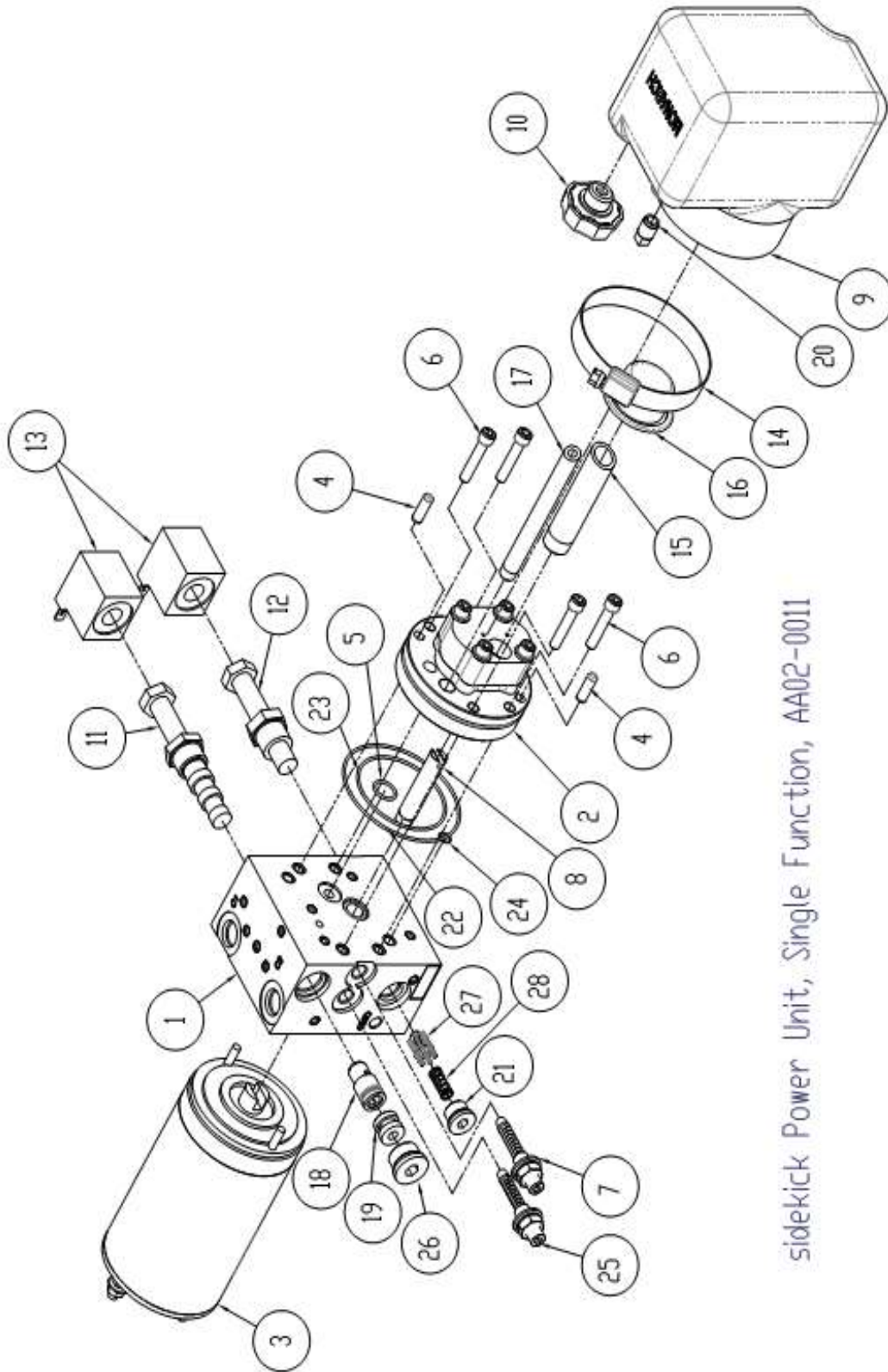


Parts Listing
BA44-ASK17 - Sidekick

Item #	Part #	Description	Qty
1	AA04-0040	Moldboard Weldment	1
2	AA04-0041	Wing Sleeve Left	1
3	AA04-0042	Wing Sleeve Right	1
4	AA04-0043	Crosstube Weldment	1
5	AA05-0056	Wing Edge Left, Poly	1
6	AA05-0057	Wing Edge Right, Poly	1
7	AA05-0059	MB Cutting Edge	1
8	AA05-0060	MB Sleeve Cutting Edge	2
9	AA16-0003	Stand Foot	1
10	AA16-0026	T-Bolt	1
11	AA16-0088	Stand Tube	1
12	AA16-0089	Adjustable Insert Tube	1
13	AA16-0090	Serrated Washer	2
14	AA16-0091	Pump Box Bottom	1
15	AA16-0092	Pump Box Top	1
16	AA16-0093	Drag Link Lower	2
17	AA16-0094	Drag Link Adjustable	2
18	AA16-0055	Hydraulic Adapter	2
19	AA02-0001	Lift Cylinder	1
20	AA16-0036	Hydraulic Adapter	2
21	AA07-0016	Sidekick Decal	1
22	AA07-0003	Serial Number	1
23	AA07-0004	Flag Decal	1
24	AA07-0011	Ebling Oval Decal	1
25	KJ07-0006	Conspicuity Tape 1x3	4
26	AA02-0011	Power Unit	1
27	AA01-0023	Pump Side Wiring Kit	1
28	AH09-0001	Marker Set	1
29	HK03-0028	1/2-13x1 1/2 HHC	5
30	HK03-0075	1/2 SAE Flat Washer	21
31	HK03-0108	1/2 Flange Nuts	21
32	HK03-0027	1/2-13x1 1/4 HHC	4
33	HK03-0031	1/2x2 1/2 HHC	4
34	HK03-0064	1/2 USS Flat Washer	4
35	HK03-0001	1/4-20x3/4 SS Flange Bolt	7
36	HK03-0017	3/8-16x1 HHC	2
37	HK03-0062	3/8 USS Flat Washer	2
38	HK03-0085	3/8 Lock Washer	2
39	HK03-0013	5/16-18x1 HHC	1
40	HK03-0061	5/16 USS Flat Washer	1
41	HK03-0084	5/16 Lock Washer	1
42	KK00-0009	Coated Clamp	1
43	HK07-0005	4" Zip Ties Black	6



			Qty
44	HK03-0029	1/2-13x1 3/4 HHC	2
45	HK03-0031	1/2-13x2 1/2 HHC	2
46	HK03-0048	5/8-14x3 HHC	2
47	HK03-0111	5/8-14x4 HHC	2
48	HK03-0076	5/8 SAE Flat Washer	4
49	HK03-0109	5/8 Flange Nuts	4
50	HK03-0004	5/32x1 1/4 Cotter Pins	4
51	HK03-0009	1/4-20x1 HHC	4
52	HK03-0060	1/4 USS Flat Washer	8
53	HK03-0100	1/4-20 Nylock	4
54	KJ03-0002	Keeper Pin	2
55	AA03-0032	5/8x2 1/2 Clevis Pin	2
56	AA03-0011	5/8x3 Clevis Pin	1
57	AA03-0012	5/8x3 1/2 Clevis Pin	1
58	KK03-0005	Ratchets	2
59	AA02-0056	Hose Assembly	1
60	AA02-0057	Hose Assembly	1
61	KJ03-0009	Plow Stand Cap	1
62	HK03-0031	1/2x2 HHC	4



sidekick Power Unit, Single Function, AA02-0011



Parts Listing

AA02-0011 - Hydraulic Power Unit - sidekick Fixed Wing

Item #	Part #	Description	Qty
1	N/A	Pump Base - Not Available	1
2	AA02-0109	Pump Assy	1
3	AA02-0110	Motor	1
4	AA02-0111	Dowel Pin	2
5	AA02-0083	O-Ring	1
6	AA02-0112	Screw 1/4-20x1 1/4	4
7	AA02-0085	Pressure Relief Valve	1
8	AA02-0113	Pump Shaft	1
9	AA02-0114	Reservoir	1
10	AA02-0021	Breather	1
11	AA02-0089	Cartridge Valve	1
12	AA02-0013	Cartridge Valve	1
13	AA01-0001	Coil	2
14	AA02-0115	Screw Clamp	1
15	AA02-0116	Suction Tube	1
16	AA02-0020	Filter Screen	1
17	AA02-0117	Return Tube	1
18	AA02-0118	Poppet Assy	1
19	AA02-0119	Bushing	1
20	AA02-0120	Plastic Plug	1
21	AA02-0121	O-Ring Plug	1
22	AA02-0122	O-Ring	1
23	AA02-0123	O-Ring	1
24	AA02-0124	O-Ring	6
25	AA02-0125	Pressure Relief Valve	1
26	AA02-0128	O-Ring Plug	1
27	AA02-0126	Poppet Check Valve	1
28	AA02-0127	Check Valve Spring	1



18. INSTALLATION INSTRUCTIONS

These installation instructions are for the current 2019 version. Can be subject to change, Not all possible scenarios are shown. Call for any situations not covered in these instructions.



18.1 Electrical Installation Instructions – sidekick

Ebling Sidekick Truck Side Electrical Installation

Step 1 –

Locate Suitable Mounting Location for Circuit Breaker & Solenoid Near the Battery (Primary Battery in Dual Battery Systems).

Step 2 –

Attach 43” Red Cable from Positive Terminal of Battery to Battery Side of Circuit Breaker (With Breaker Turned Off)

Step 3 –

Attach 32” Red Cable from Auxiliary Side of Circuit Breaker to Large Post of Solenoid (either post)

Step 4 –

Choose Location to Mount Control / Power Plugs. Usually Drivers Side of Rear Bumper For Easy Access.

Step 5 –

Connect Red & Black Cables to Power Plug (Be sure to connect red to + and black to -)

Step 6 –

Find Suitable Place on Frame to Attach Black Ground Cable, Making Sure Frame is Ground Bare and Clean for Good Ground Connection.

Step 7 –

Route Control Harness / Power Cable Bundle Along Frame to Firewall, Wire Tie and Shield Bundle to Avoid any Sharp Edges.

Step 8 –



Feed Controller Wire Bundle through Appropriate Opening in Firewall and into Cab.

Step 9 –

Connect Wire Labeled “Red/White” w/ In-Line Fuse to an Ignition Switched Power Source.

Step 10 –

Plug Controller Individual Wires into Controller Plug as Labeled (Wire Color Code to Numbered Position) as Shown in Illustration #1. Wire Tie Harness Under Dash Leaving Controller Plug Accessible & Plug in Control Box.

Step 11 –

Route Power Harness Under Hood to Solenoid Installed in Step 1, Making Sure to Route Away from Heat Sources & Sharp Edges. Wire Tie Securely.

Step 12 –

Attach Red Power Cord to Empty Large Post On Solenoid, Small “Violet” Wire to Small Post on Solenoid (either post), Small “Black” Wire to Battery Ground, Small “Red” Wire w/ In-line Fuse to Battery Positive (or Battery Side of Circuit Breaker). Install Individual Small “Black” Wire From Parts Bag Between Remaining Small Terminal On Solenoid to Suitable Ground.

Step 13 –

Install 3/2” (#4) Ground Cable from either Engine Block or Negative Battery Post to Frame. This Cable Insures a Solid Ground to Pump.

Step 14 –

Reset Circuit Breaker Installed in Step 1. Installation is Complete.



Illustration #1

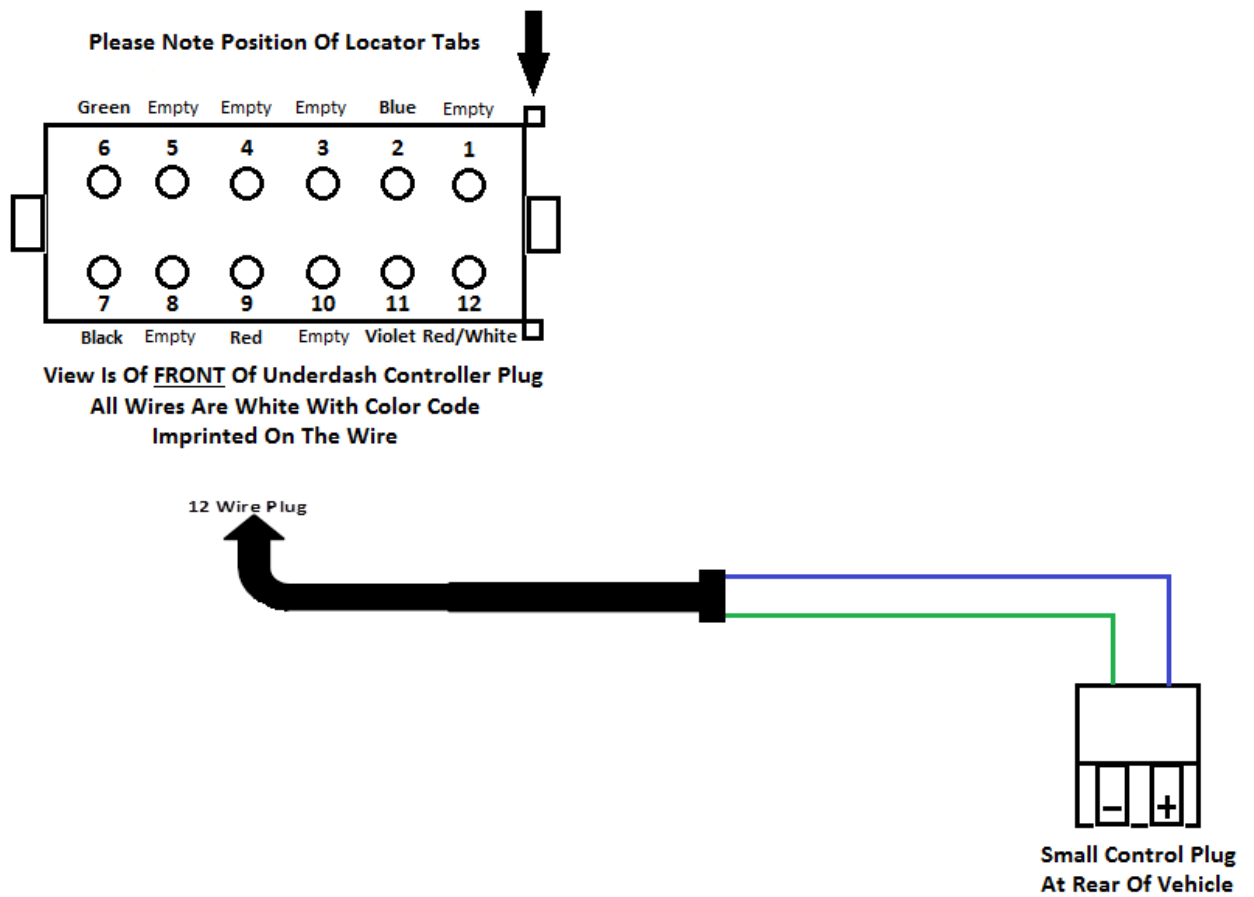
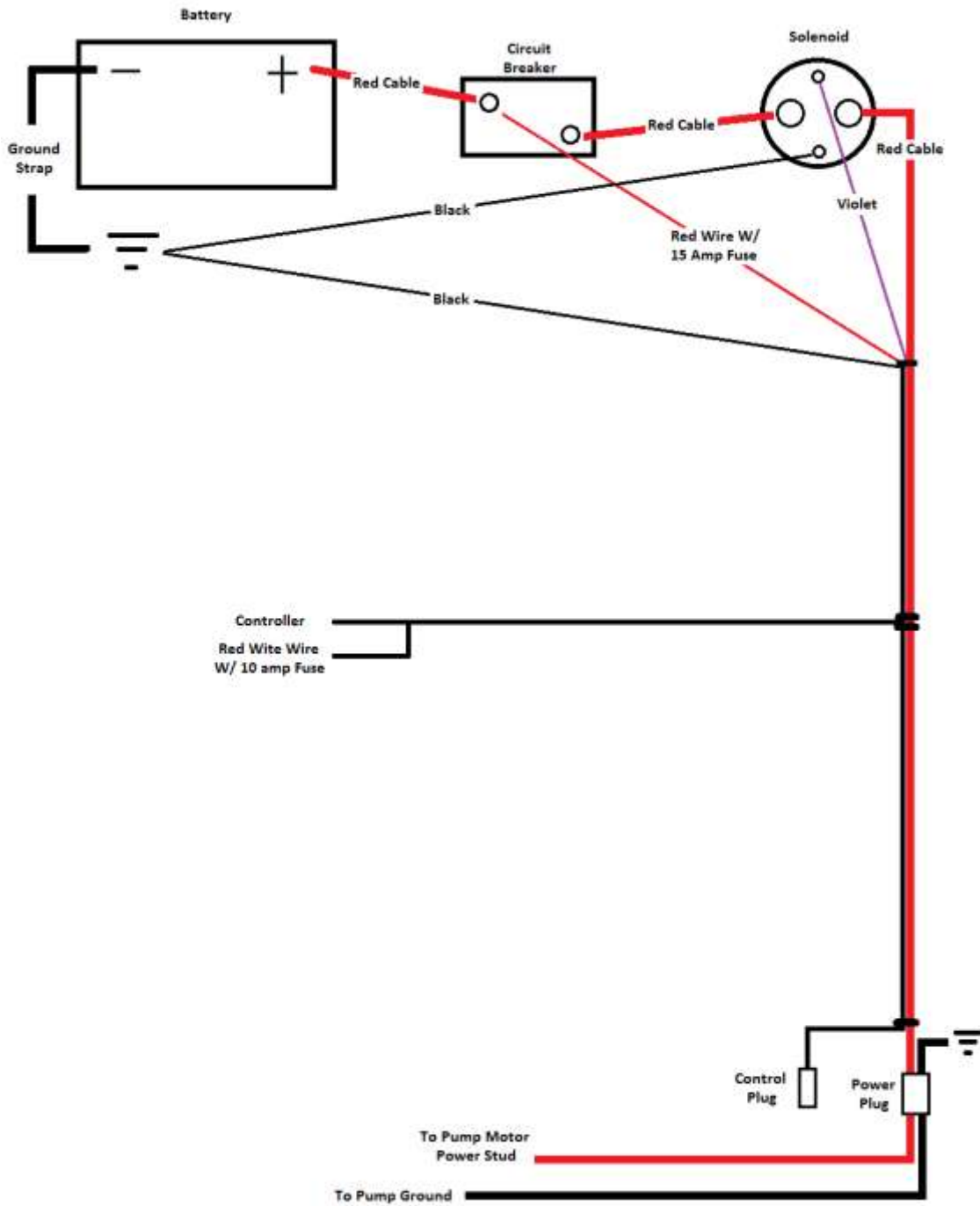




Illustration #2





18.2 Final Assembly Instructions – sidekick

Final Assembly Instructions - sidekick Back Blade

Step 1

You should receive the following for complete assembly

- 1 - Crate with assembled moldboard/accessories boxes.

Step 2

Disassemble top framing of crate, leaving moldboard on crate.

Do not unstrap from crate until your ready to hook it up to the truck.

Step 3

Install electrical harness and plugs on vehicle to be used as shown in electrical instructions.

Step 4

Remove the hitch insert from its shipping position and bolt on with insert facing truck. Bolt on using the bottom hole on crossbar lined up with bottom hole on insert with long side up. *(this is a good position to start but may need to change during final adjustments)*

NOTE Since all vehicles have different hitch receiver heights, you want the crossbar to end up being approx 16" off the ground with the blade down. The starting configuration in step 4 above is for a hitch with a receiver height of 18" to the center of the receiver tube. Adjust the insert as needed to compensate for your particular hitch height.

Step 5

Fill hydraulic pump with fluid provided as shown in owners manual

Position truck about 3 or 4 inches from plow insert. Plug in control and power connections to truck.



Step 6

Unstrap blade from crate. Use caution as the blade may want to tip. Run pump using controller switch. Ignition must be on. This step may be easier with an assistant. Move switch down to raise crossbar and up to lower crossbar until insert lines up with vehicle hitch. Back the truck up until insert is fully into vehicle hitch tube.

Step 7

Install hitch pin and secure with hitch pin clip. You may need to "bump" controller switch up or down to align hole for hitch pin.

Step 8

Once hitch pin is in place raise blade fully and remove shipping crate. Now run blade up and down fully a couple of times to remove any air from the hydraulic system.

Note: Proper fluid level is 1" down from top of reservoir WITH BLADE FULLY UP (a light will be useful in seeing fluid level), if level is adjusted with blade down, fluid will be forced out of the vent when blade is activated.

Step 9

Lower blade and look at frame on both sides of the vehicle. Locate a hole on both sides of the frame that the hook of the ratchet straps will reach easily. Make sure there are no electrical wires or other such vehicle components that will be in the way of the strap. Tighten ratchet straps to take the side to side "play" out of the blade when it is in the raised position. The straps should go from the ratchet underneath the cross bar to the vehicle.

Step 10

With the blade in the down position, with no down pressure, the tips of the wings should be approx 1/2" off the ground. Adjust arms by loosening arm connection bolt and toothed washer (loosen both arms at the same). Adjust until toothed washer will seat in matching teeth on upper arm and wing tip is 1/2" to 1" off floor. Tighten bolts on both arms.



Step 11

Set wings to desired width by unbolting and sliding the wing in or out to the desired width. 84"-90"-96" . Put bolts back in and tighten .

Step 12

Attach wing marker flags to both wings.

Step 13

Now check all functions with the in cab controller.

The sidekick is now installed and adjusted for plowing. Since this is a 2 arm system the blade raises and lowers on an "arc" not straight up and down like a 4 arm system, be sure to check edge wear occasionally and make any adjustments necessary to prolong the life of the edges.

There are a lot of height differences between vehicles. Adjust the insert height and the arm length to achieve a "happy medium" when blade is traveling between the up and down positions. Most important will be the down position with maximum pressure.



19. TROUBLE SHOOTING GUIDE

These trouble shooting steps are meant to be a guide for finding the source of a particular problem in an Ebling sidekick. Can be subject to change, Not all possible scenarios are listed. Call for any situations not covered in this guide.



19.1 sidekick

Troubleshooting Guide

<u>Problem</u>	<u>Steps to take</u>
Pump will not run, solenoid clicks	<ul style="list-style-type: none"> * Circuit breaker tripped? * Is power crossing solenoid posts when activated? * Check to see if power is at power plug when activated, making sure plug terminals are fully seated in housing. * Check ground at rear of truck frame. * Check if power is reaching pump motor. * Pump ground hooked up? * Hooked to primary battery? Charge level?
Pump will not run, solenoid does not click	<ul style="list-style-type: none"> * Is controller on? Plugged in? * Is controller fuse/power source good? * Is solenoid getting signal on violet wire? * Is solenoid grounded?
Pump runs, no movement on any function	<ul style="list-style-type: none"> * Control harness plugged in? * Control harness damaged? * Coil ground harness attached at pump ground?
Pump runs, no movement on certain function	<ul style="list-style-type: none"> * Is coil magnetizing? * Is signal reaching coil? * Is signal reaching that functions stud in control plug? * Control harness damaged? * Is valve stuck (not shifting). * Bad DPDT switch? * Bad SPDT switch diode?
Pump runs but functions not correct	<ul style="list-style-type: none"> * Are under dash controller plug connections in correct positions? * Are coil wires in correct positions? * Are rear truck side and plow side control plug wires in correct positions?
Pump won't shut off	<ul style="list-style-type: none"> * Bad solenoid? * Stuck controller switch?
Blades drifts down slowly.	<ul style="list-style-type: none"> * Hose Leaking? * Check lift/lower valves for wear, damage or contamination. * Lift cylinder packings worn?
Circuit breaker trips	<ul style="list-style-type: none"> * Is rear frame ground good? * Pump motor drawing too many amps? * Power harness chaffed (short) under truck? * Weak breaker?



When stored off truck the crosstube drifts down slowly	* Pump not designed to hold crosstube up. Must use stand when stored position.
Blade lowers very fast (drops)	* Lift cylinder hoses reversed.
Excessive fluid leak from pump when blade is raised	* Reservoir is overfilled - Check fluid level with blade fully up. Drain fluid as needed.
Pump runs but blade lifts slowly	* Motor weak or loose connections? * Bad/weak ground on frame? * Check lift/lower valves for wear, damage or contamination. * Contact Ebling for additional repair instructions.
Moldboard not level to truck	* Check for damage to moldboard/linkage arms. * Check ratchet straps. * Truck frame/hitch damaged?

Contact us for further instructions at:
616-532-8400 Parts Dept. or
parts@eblingsnowplows.com



20. WARRANTY DETAILS



Ebling Snowplows Warranty Guidelines

Non-Covered Wear Items

- * All Wing Edges (including corner edges)
- * All Moldboard Edges (including corner edges)
- * Moldboard Rubber Bumpers
- * Plow Markers
- * Hardware Including Shear Bolts
- * Hydraulic Hoses

Warranty Process

- * Product Must Be Registered
- * Must Call Ebling Prior To Any Warranty Repair
- * No Diagnoses Time Is Covered, Contact Ebling To Aid In Diagnoses
- * All Repair Labor Is Subject To The Preset Labor Chart
- * Warranty Parts Will Be Invoiced To Dealers Account, Or Paid For By End User At Time Of Shipment, Credit Will Be Issued Upon Receipt Of Parts, If Required, And As Approved By Ebling
- * Ebling Will Pay For Shipment Of Warranty Parts Returned To Dealer or End User, Standard Shipping Rates Only
- * No Warranty Will Be Given For A Product Used Outside The Operating Instructions Or Any Service Bulletins Issued By Ebling Snowplows. In Addition, Back Blades Not Mounted As Recommended Or Mounted On Any Vehicle Not Listed In Ebling Manuals Or Mounted With A Custom Or Modified Mount May Not Be Eligible For Warranty
 - Contact Ebling For Any Manuals Or Applicable Service Bulletins Needed

All Ebling Snowplow Products Are Warrantied For One Year From Date Of Purchase. Must Be Registered At Time Of Purchase. Products Not Registered May Not Be Eligible For Warranty



20.1 Commercial Warranty Details

EBLING BACK BLADE COMMERCIAL WARRANTY

THE FOLLOWING WARRANTIES ARE EXCLUSIVE IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES (EXCEPT OF TITLE), INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE.

Ebling & Son Inc. (Ebling) warrants to each purchaser of an Ebling Back Blade (including accessories and components) for other than personal, family or household use that the Back Blade will, for a period of two (2) years, after the date of the original purchase, be free from defects in material and workmanship. If within such warranty period any part thereof is proved to Ebling's satisfaction as defective, such part shall be repaired by Ebling or their authorized distributor or, at Ebling's option, replaced at Ebling's place of business without charge, including labor costs at their standard rate incurred while repairing said Back Blade. Ebling's obligation hereunder shall be limited to such repair or replacement and shall be further conditioned upon Ebling receiving written notice of any alleged defect and proof of original purchase within ten (10) days after its discovery and at Ebling's option, the return of the allegedly defective part to Ebling's place of business or to their authorized dealer.

The foregoing warranty shall not apply to parts not manufactured by Ebling or any damage caused by such parts or to parts which have been repaired or altered by anyone other than Ebling or an authorized Ebling distributor so as, in Ebling's judgment, adversely to affect the same, or which have been subject to other than normal use or service for snow removal, negligence, accident or improper installation, maintenance, care or storage. With respect to parts furnished but not manufactured by Ebling, Ebling shall pass on to their commercial customers the warranty extended to Ebling by the supplier of such parts. Ebling will not be responsible for any expense related to parts or labor which is unrelated to defects in material or workmanship of an Ebling Back Blade.

WHAT IS NOT COVERED

This warranty does not cover any parts not manufactured by Ebling or any damage caused by such parts, nor does it cover any Back Blade subjected to misuse, neglect, accident, other than ordinary use or service for snow removal, improper installation, maintenance or storage, or repair or alteration by anyone except Ebling or an authorized Ebling distributor.

Further, attachment of an Ebling Back Blade to a vehicle, including any necessary modification of the Back Blade and/or the vehicle, is entirely at the purchasers risk and expense and compliance with applicable motor vehicle regulations is the responsibility of the purchaser. Ebling will not be responsible for any expense related to parts or labor, which is unrelated to defects in material or workmanship of an Ebling Back Blade. Ebling does not assume any



liability for any damage to a motor vehicle resulting from the attachment or from the use of Ebling's Back Blade, including inconvenience, motor violations, or fees. Ebling does not

assume any liability for the cost of modification of the Back Blade or the vehicle required to attach the Back Blade, if necessary.

In addition this Warranty does not cover:

- Problems caused by failure to follow the product instruction.
- Unit, Component, or Part failure due to improper maintenance or storage
- Paint / Powder Coat / Finishes of the Back Blade
- Products with missing or altered serial numbers
- Any Unit, Component, or Part which has been modified or altered in any way.

Continued from list on previous page:

- Problems caused by contamination, interference or restriction of moving parts, rust, corrosion, freezing or overheating.
- Expendable / Wear Items such as, but not limited to; pins, cutting edges, wing closure blocks & edges, and markers.
- Damage to any vehicle to which the products are mounted, or the suitability of any product for vehicles which are not fitted with the appropriate parts.
- Damage caused by usage that is not in accordance with the intended Back Blade use. (Use of the Back Blade for any purpose other than plowing snow is considered misuse and abuse)
- Any Unit, Component, or Part which has been modified or altered in any way.
- Problems caused by using accessories, parts, or components not supplied by Ebling and Son.
- Cost of Tax
- Cost of Freight (To or From Ebling or its Supplier) Including Transportation or Storage Charges such as but limited to; fuel or labor.
- Environmental charges, solvents, sealants, lubricants, or any other normal / standard shop supply or the cleanup, care, or storage of such items.
- Problems caused by collision, fire, theft, vandalism, riot, explosion, lightning, earthquake, windstorm, hail, water, flood, or any other Acts of God.
- Liability for damaged to property, or injury to, or death of any person arising out of the operation, maintenance or use of the Back Blade.
- Additional hardship or loss of income due to lack of, or inability of use of Back Blade due to Unit, Component, or Part failure, whether the failure is covered by Warranty or Denied.

REMEDY FOR DEFECTIVE BACK BLADE

Upon receipt by Ebling or an authorized Ebling distributor of any defective Back Blade Unit, Component, or Part, referred to below as "Part", covered by this warranty, Ebling will, at its option, repair or replace the defective "Part" at its expense including labor costs as its standard rate incurred while repairing said "Part", provided the purchaser of the "Part" has followed procedure for obtaining warranty performance set forth below. The "Part" so repaired or supplied as a replacement will be shipped to the purchaser of the defective "Part", with



transportation charges being the responsibility of the purchaser. Any damage in transit will be the responsibility of the carrier or at the risk of the purchaser. During the time of warranty evaluation of the "Part" presented to Ebling & Son or its Authorized Dealer, the customer may choose to receive a replacement "Part", and / or repair of "Part". The customer will be invoiced for the "Part" or repair including the part(s) and associated labor and freight and paid to Ebling & Son, Inc. with the customers standard payment terms. Upon completion of the warranty evaluation the customer will be notified of warranty evaluation results. If the warranty evaluation results in acceptance, a credit for the "Part", only, will be returned to the customer by check or credit to account. Note above policy in regards to labor and freight / shipping charges.

EBLING'S LIABILITY IS EXPRESSLY LIMITED TO THE REPAIR AND REPLACEMENT OF DEFECTIVE PARTS AS HEREIN PROVIDED, EBLING 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 ANY STRICT LIABILITY THEORY.

This warranty is not offered to purchasers of Back Blades for personal, family, or household purposes. A separate "limited" Consumers warranty is offered to such purchasers.



20.2 Consumer Warranty Details

EBLING BACK BLADE LIMITED WARRANTY TO CONSUMERS

THIS WARRANTY IS OFFERED IN LIEU OF ANY OTHER EXPRESS WARRANTY; AND EXCEPT TO THE EXTENT OF PROHIBITED BY APPLICABLE LAW, ALL IMPLIED WARRANTIES, INCLUDING (BUT NOT LIMITED TO) THE IMPLIED WARRANTIES OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

Some states do not allow limits on how long an implied warrant lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Ebling & Son Inc. (Ebling) warrants to each initial purchaser of an Ebling Back Blade for personal, family, or household use that the Back Blade will, for a period of two (2) years, after original purchase, be free from defects in material and workmanship. Ebling does not authorize any party, including its authorized distributors, to offer any other warranty on behalf of Ebling. Upon expiration of the warranty period, Ebling will have no further liability related to the Back Blade, except with respect to warranty claims arising during the warranty period. The term “Back Blade” includes accessories and components manufactured by Ebling.

WHAT IS NOT COVERED

This warranty does not cover any parts not manufactured by Ebling or any damage caused by such parts, nor does it cover any Back Blade subjected to misuse, neglect, accident, other than ordinary use or service for snow removal, improper installation, maintenance or storage, or repair or alteration by anyone except Ebling or an authorized Ebling distributor.

Further, if not performed by Ebling or an authorized Ebling distributor, attachment of a Back Blade to a vehicle, including any necessary modification of the Back Blade and/or the vehicle, is entirely at the purchasers risk and expense and compliance with applicable motor vehicle regulations is the responsibility of the operator. Ebling with not be responsible for any expense related to parts or labor, which is unrelated to defects in material or workmanship of an Ebling Back Blade.

In addition this Warranty does not cover:

- Problems caused by failure to follow the product instruction.



- Unit, Component, or Part failure due to improper maintenance or storage.
- Problems caused by contamination, interference or restriction of moving parts, rust, corrosion, freezing or overheating.
- Paint / Powder Coat / Finishes of the Back Blade
- Expendable / Wear Items such as, but not limited to; pins, cutting edges, wing closure blocks & edges, and markers.
- Damage to any vehicle to which the products are mounted, or the suitability of any product for vehicles which are not fitted with the appropriate parts.
- Damage caused by usage that is not in accordance with the intended Back Blade use. (Use of the Back Blade for any purpose other than plowing snow is considered misuse and abuse)
- Any Unit, Component, or Part which has been modified or altered in any way.
- Problems caused by using accessories, parts, or components not supplied by Ebling and Son.
- Cost of Tax

Continued from list on Previous Page:

- Cost of Freight (To or From Ebling or its Supplier) Including Transportation or Storage Charges such as but limited to; fuel or labor.
- Environmental charges, solvents, sealants, lubricants, or any other normal / standard shop supply or the cleanup, care, or storage of such items.
- Problems caused by collision, fire, theft, vandalism, riot, explosion, lightning, earthquake, windstorm, hail, water, flood, or any other Acts of God.
- Liability for damaged to property, or injury to, or death of any person arising out of the operation, maintenance or use of the Back Blade.
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REMEDY FOR DEFECTIVE BACK BLADE

Upon receipt by Ebling or an authorized Ebling distributor of any defective Back Blade Unit, Component, or Part, referred to below as “Part”, covered by this warranty, Ebling will, at its option, repair or replace the defective “Part” at its expense including labor costs as its standard rate incurred while repairing said “Part”, provided the purchaser of the “Part” has followed procedure for obtaining warranty performance set forth below. The “Part” so repaired or supplied as a replacement will be shipped to the purchaser of the defective “Part”, with transportation charges being the responsibility of the purchaser. Any damage in transit will be the responsibility of the carrier or at the risk of the purchaser.

PURCHASER’S REMEDIES FOR A DEFECTIVE BACK BLADE, EXCEPT TO THE EXTENT PROHIBITED BY THE APPLICABLE LAW, ARE LIMITED TO THE REMEDY PROVIDED BY THIS WARRANTY; AND, EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, EBLING WILL IN NO EVENT BE LIABLE FOR ANY



CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGE ARISING OUT OF THE USE OF, OR INABILITY TO USE, THE BACK BLADE, WHETHER BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE OR STRICT LIABILITY.

Some states do not allow the exclusion of limitation of consequential or incidental damages, so the above limitation or exclusion may not apply to you.

PROCEDURE FOR OBTAINING WARRANTY PERFORMANCE

Within ten (10) days after defect in a Back Blade arising during the warranty period becomes known, the purchaser of the Back Blade must notify Ebling or the authorized Ebling distributor, of the claimed defect, in writing, and provide proof of original purchase including documentation of the original serial number. If Ebling or authorized distributor requests, for proper inspection of damaged "Part" the purchaser must return the "Part" with all transportation charges prepaid to the authorized distributor. Any damage in transit will be the responsibility of the carrier or at the risk of purchaser.

During the time of warranty evaluation of the "Part" presented to Ebling & Son or its Authorized Dealer, the consumer may choose to receive a replacement "Part", and / or repair of "Part". The consumer will be invoiced for the "Part" or repair including the part(s) and associated labor and freight and paid to Ebling & Son, Inc. with the consumers standard payment terms. Upon completion of the warranty evaluation the consumer will be notified of warranty evaluation results. If the warranty evaluation results in acceptance, a credit for the "Part", only, will be returned to the consumer by check or credit to account. Note above policy in regards to labor and freight / shipping charges.



NOTES:





Manufactured in U.S.A. by:

Ebling Snowplows
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Kentwood, MI 49548
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Ebling Snowplows reserves the right to change the design and/or construction details of its products at any time and as such furnish equipment that may differ from the illustrations and specifications in this literature. Ebling Snowplows offers a limited warranty for all snowplows and accessories. See separate printed warranty document for warranty information. Ebling Snowplows or the vehicle manufacturer may require or recommend optional equipment on the vehicle for snow removal. Do not exceed gross vehicle weight ratings with a snowplow installed.