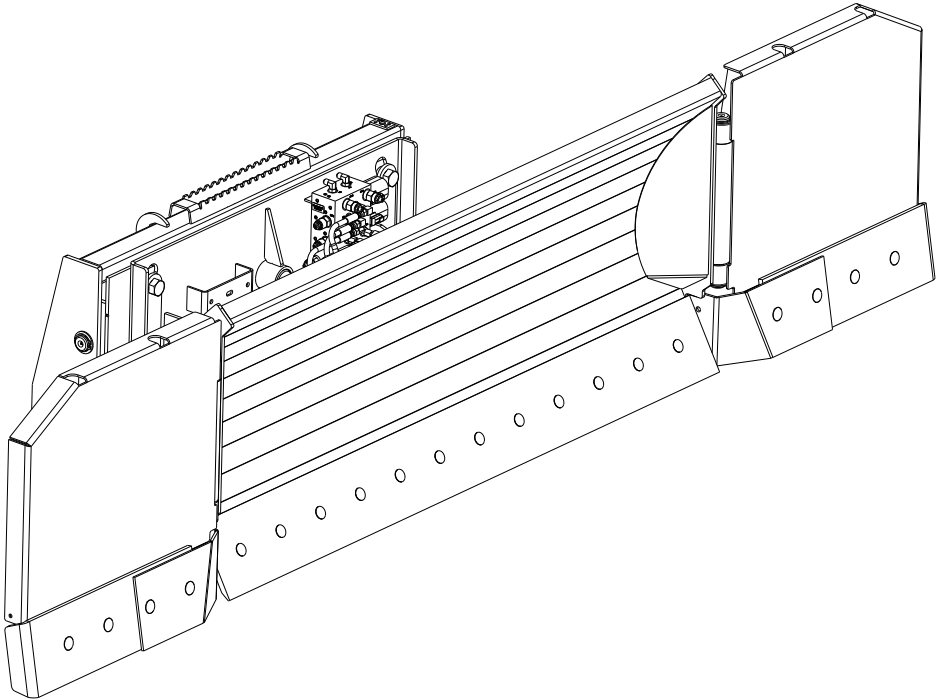


Hydraulic Snow Blade/Pusher Combo



Model Number HSBP.

Serial Number _____.

Serial Numbers 114975 – 128237
Manufacture Date 06/20/16 – 11/16/17

Phone: 320-818-4040

06/04/15
Revised 06/20/16

HSBP

Features of Virnig Mfg. Inc. Hydraulic Snow Blade/Pusher Combo include:

- 2" bore, 8 3/8" stroke cylinders with 1 1/4" rods and 1 1/4" cylinder pins.
- 1 9/16" diameter pivot pins, 2 1/4" diameter oscillation pin.
- Heavy duty frame with float link, oscillation and adjustable skid shoes.
- Trip edge design featuring 4 main edge compression springs with 2 additional compression springs on each wing.
- 5/8" x 8" double bevel, reversible main wear edge. 1/2" reversible wing wear edges. Replaceable steel wing angled edge sections at wing pivot pins.
- Hydraulic manifold with electronic solenoids controls 30° blade angle for left or right discharge as well as 60° forward angle of each wing using either the machine's electrical controls or a Switch Control Box to be located inside the cab of the machine. Blade and wings move independently.
- Variable blade angle as well as variable positioning of each wing.
- The main angle of the blade (left or right discharge) is controlled only by the auxiliary hydraulics of the skid loader.
- Simultaneous actuation of the auxiliary hydraulics and an electric hydraulic valve is used to control the angle of each wing using either the skid loaders auxiliary electrical pin connector outlet (if equipped) or an optional Control Box Assembly.
- Double dual cross over relief smoothes operation and protects plow from impacts in all blade/wing configurations.
- Recommended for skid loaders with a lift capacity greater than 1800 lb.

Initial Use

- See following pages for suggested hose routing.
- Check that the quick-tach of the Hydraulic Snow Blade/Pusher Combo fits onto skid loader properly. Pins must engage through 3/8" plates at bottom of quick-tach.
- With bottom of the blade touching ground/floor, slowly roll back attachment. Make sure there is no interference between attachment and loader.
- Connect the hydraulic hoses to the standard auxiliary hydraulic couplers.
- Do not connect this attachment to high flow couplers.
- Connect the wiring harness to either the machines auxiliary electrical pin connector outlet or install the Control Box Assembly.
- Make sure hoses and cable do not pinch during roll back.
- Slowly roll attachment forward. Check that hoses and cable are long enough so they do not stretch or bind.
- Cycle the blade angle left/right by engaging the machines auxiliary hydraulics.
- Cycle each wing by engaging the machines auxiliary hydraulics and one electrical control simultaneously.
- To avoid excessive amp draw of electrical components, only operate one wing at a time. DO NOT actuate two electrical control buttons at the same time.
- After operating either wing, there may be slight movement of the main blade due to residual hydraulic pressure in the circuit.
- Mount holes of the wing edges are slotted and can be adjusted to match the main plow edge.
- If hydraulic functions are opposite of preferred hydraulic control operation, the couplers can be switched.
- If electrical control functions are opposite of preferred operation, plugs of the wire harness can be swapped at the coils.
- If above control adjustments do not allow for preferred operation (hydraulic movement or electrical control buttons used), please contact factory for additional options.
- Never exceed the maximum attachment operating pressure of 3500 psi.
- Read and understand all warning information in this manual before operating this attachment.



Attachment shown Center Plumb works for Case, John Deere, New Holland, Mustang, Takeuchi, and Gehl skid loaders.

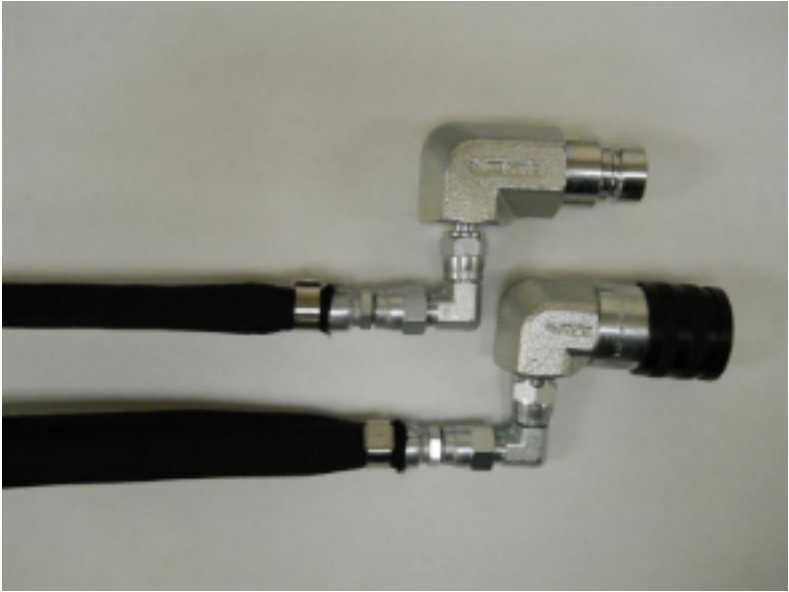
Hoses need to be secured so they do not get damaged during operation. Hoses can be routed as shown in the picture above. Hoses can also be tied or bungeed to the skid loader cross member (close to the lower pivot) to hold them from getting pinched or stretched.

Hydraulic Snow Blade/Pusher Combo can also be Left Side Plumbed. Hydraulic Snow Blade/Pusher Combo can be converted to Left Side Plumb by using clamp near quick-tach on Frame Weldment (Item 1). Allow enough slack in hose to allow for movement of the Knuckle Weldment (Item 2). Please see picture on the next page showing Left Side Plumb. Hoses should be run through the bracket on the skid loader arm, as shown, or the hoses can be tied or bungeed to the skid loader arm.



Attachment shown Left Side Plumb, works for Cat, Bobcat, Kubota, Terex and ASV.

If there is too much slack hose, the amount of slack can be adjusted using the clamp on the attachment near the mount plate.



If needed, additional small elbows (Part No. 1012PP) are zip tied to the attachment and can be installed between hoses and couplers, as shown above, to improve hose routing at hydraulic coupler interface on loader. The additional elbows will not be required for most brands of skid loaders.

Operation

- Always follow safety information.
- Keep bystanders back 50 feet.
- Always follow all safety and operating instructions of skid loader.
- Always relieve pressure before disconnecting hydraulic hoses.
- Never hit or pound couplers.
- Never ram piles, damage to blade and/or skid loader may occur.
- Care should be taken to avoid hidden obstructions (curb, posts, etc.), damage to blade and/or skid loader may occur.
- Never use this attachment to push any material other than snow.
- Never hook a chain on this attachment.
- Check for debris in quick-tach area before each hook-up.

Maintenance

*Every 10 hours of operation

- Grease pivot pins (2 fittings each), oscillation pin, and cylinder pins (17 grease fittings total).
- Inspect springs and fasteners. Make sure they are in place and holding mating parts securely.
- Inspect cylinders, hydraulic fittings, and hoses for leaks and damage. Replace as needed. Make sure skid loader is shut off and hydraulic pressure is relieved before checking for leaks. Never use hands to check for high pressure hydraulic leaks.

*Every 50 hours of operation

- Check that cylinder, pivot and oscillation pins are secure.
- Check for loose, worn, or missing parts. Repair or replace as needed.
- Check cutting edge wear. Reverse or replace edge as needed.
- Contact your dealer for replacement parts.

Warning Labels on Hydraulic Snow Blade/Pusher Combo Attachment



5263PP – PINCH POINT WARNING LABEL

Always keep hands clear of snow blade when skid loader hydraulic system is operational.



5264PP – CRUSH HAZARD WARNING LABEL

Always stay clear of moldboard. Never inspect attachment with skid loader running or with the blade raised off of the ground/pavement.

Warning Labels on Hydraulic Snow Blade/Pusher Combo Attachment (cont.)



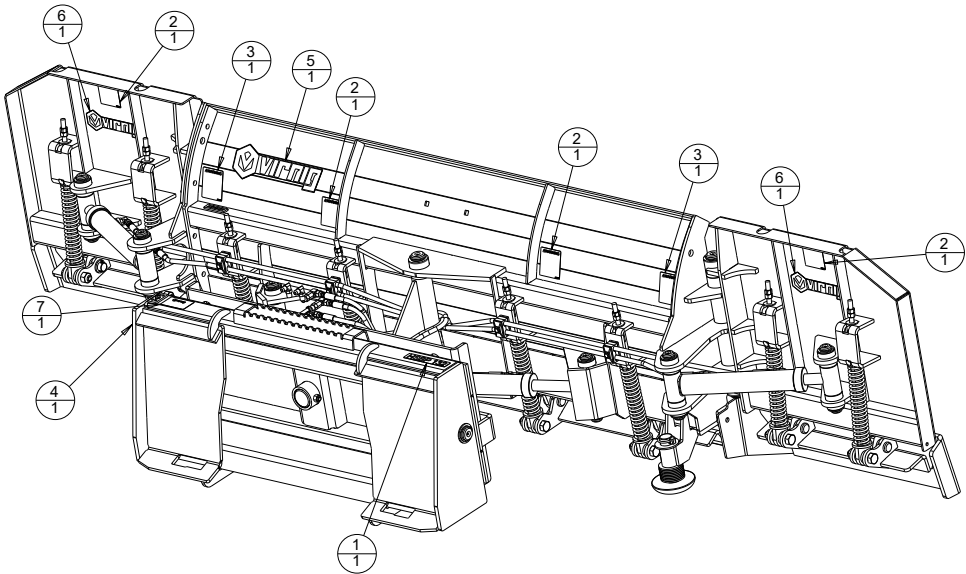
5265PP – HYDRAULIC WARNING LABEL

This label has several important instructions that must be followed for safe operation of this attachment.

Hydraulic Snow Blade/Pusher Combo (HSBP) Label Parts List

ITEM	PART NO.	QTY	DESCRIPTION
1	10599PP	1	120 WIDTH LABEL FOR HSBP
	10017PP		132 WIDTH LABEL FOR HSBP
	10018PP		144 WIDTH LABEL FOR HSBP
	10019PP		156 WIDTH LABEL FOR HSBP
2	5263PP	4	PINCH POINT WARNING LABEL
3	5264PP	2	CRUSH HAZARD WARNING LABEL
4	5265PP	1	HYDRAULIC WARNING LABEL
5	9526PP	1	VRNIG LOGO STACKED
6	9527PP	2	VRNIG LOGO LONG
7	SERIAL TAG	1	SERIAL NUMBER TAG

Label Location



Hydraulic Snow Blade/Pusher Combo (HSBP) Parts List

ITEM	PART NO.	QTY	DESCRIPTION	
	1	6802VW	1	SBV FRAME WELDMENT
	2	6805VW	1	SBV KNUCKLE WELDMENT
	3	9781VW	1	HSBP OSCILLATION WELDMENT
A	4	-----	1	HSBP MOLDBOARD WELDMENT
A	5	-----	1	SBS EDGE HOLDER WELDMENT
	6	9791VW	1	HSBP WING WELDMENT RH
	7	9802VW	1	HSBP WING WELDMENT LH
	8	9805VW	2	HSBP WING EDGE HOLDER WDT
	9	6664VW	8	SNOW BLADE SPRING GUIDE WDT
	10	9811VP	2	HSBP WING EDGE
C	11	9812VP	2	HSBP WING ANGLED EDGE LH
C	12	9813VP	2	HSBP WING ANGLED EDGE RH
	13	2137VP	8	CYLINDER PIN
	14	5194VP	2	CLAMP PIVOT PIN
	15	6673VP	3	SNOW BLADE PIVOT PIN STRAIGHT
	16	6674VP	1	SNOW BLADE OSCILLATION PIN
	17	6675VP	2	SNOW BLADE OSC RETENTION PLATE
A	18	-----	1	BOLT ON EDGE 5/8" X 8"
	19	6684PP	8	SPRING COMPRESSION SNOW BLADE
	20	6854PP	2	SNOW BLADE WEAR SHOE
	21	10137PP	4	CYL 2" BORE X 8 3/8" STROKE
	22	10057PP	1	PLOW MANIFOLD 3 FUNCT SELECTOR
F	23	1067PP	5	HOSE CLAMP FOR 1/4" HOSES
A	24	-----	2	INNER HYD HOSE 1/4", 6FJX TO 6FJX
A	25	-----	2	OUTER HYD HOSE 1/4", 6FJX TO 6FJX
	26	1139PP	2	HYD HOSE 1/4" X 53 1/2" LG, 6FJX TO 6 FJX
	27	1136PP	2	HYD HOSE 1/4" X 44 1/2" LG, 6FJX TO 6 FJX
	28	6997PP	14	ELBOW 90 6MJ TO 6MB
	29	1012PP	4	ELBOW 90 6FJX TO 6MJ
	30	7796PP	4	ADAPTER 6MJ TO 6MB
	31	1034PP	17	1/4"-28 STRAIGHT GREASE ZERK
	32	1094PP	16	1 1/4" X 10GA MACH BUSHING
	33	1095PP	16	1 1/4" EXTERNAL SNAP RING
	34	1097PP	10	1 9/16" X 10GA MACH BUSHING
	35	1098PP	10	1 9/16" EXTERNAL SNAP RING
	36	1112PP	12	1 9/16" DIA X 2" LG BUSHING

Hydraulic Snow Blade/Pusher Combo (HSBP) Parts List (cont.)

ITEM	PART NO.	QTY	DESCRIPTION	
	37	6862PP	26	1 3/8" SAE FLAT WASHER
	38	6863PP	2	7/16" X 1-3/4" LG LYNCH PIN
F	39	1117PP	5	5/16"-18 X 1 1/2" LG HHCS
	40	8468PP	2	3/8"-16 X 3 3/4" LG HHCS
	41	6140PP	2	3/8"-16 TOP LOCK FLANGE NUT
	42	1077PP	1	1/2"-13 X 3 1/2" LG HHCS
	43	1003PP	3	1/2"-13 REVERSE LOCK NUT
	44	5148PP	10	1/2" USS FLAT WASHER
	45	5237PP	16	1/2"-13 NUT
	46	7334PP	8	5/8"-11 X 2 1/4" LG CB
A	47	1036PP	--	5/8"-11 X 2" LG PLOW BOLT
A	48	1008PP	--	5/8"-11 TOP LOCK NUT
	49	6680PP	8	3/4"-10 X 3 1/4" LG HHCS
	50	1011PP	8	3/4"-10 TOP LOCK NUT
	51	6676PP	4	1"-8 X 3 1/2" LG HHCS
	52	7246PP	4	1"-8 TOP LOCK NUT
	53	10339PP	8	1" X 3" CLEVIS PIN
	54	10567PP	8	3/16" X 1 1/2" COTTER PIN
	55	5146PP	8	1" X 10GA MACHINERY BUSHING
	56	7964PP	2	1/2"-13 X 1 1/4" LG CB
B	57	1144PP	2	ELBOW 90 MALE 6MJ TO 8MB
B	58	9498PP	2	ADAPTER 12MB TO 8FB
B	59	8734PP	1	COUPLER FEMALE 12FB CUP
B	60	8735PP	1	COUPLER MALE 12FB CUP
B	61	1127PP	2	HYD HOSE 1/4" X 72" LG 6FJX TO 6FJX
		1126PP		HYD HOSE 1/4" X 80" LG 6FJX TO 6FJX
		1128PP		HYD HOSE 1/4" X 88" LG 6FJX TO 6FJX
B,E	62	9602VA	1	BROOM WIRE HARNESS
B,D	63	9600PP	1	DOZER COIL W/DEUTSCH PLUG

A - See Table 1.

B - Item not shown.

C - One each installed on plow, second set to be used when steel edges are reversed.

D - Coil, replacement part only.

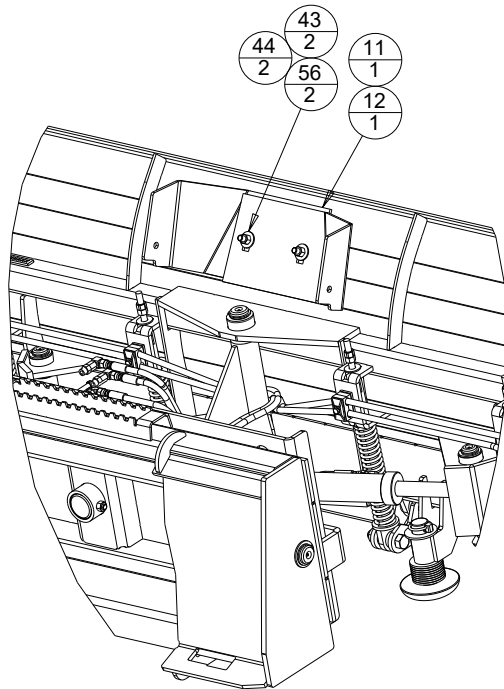
E - Wire Harness not used with 7 pin (ELC7) control.

F - Qty 3 used on HSBP120.

Table 1

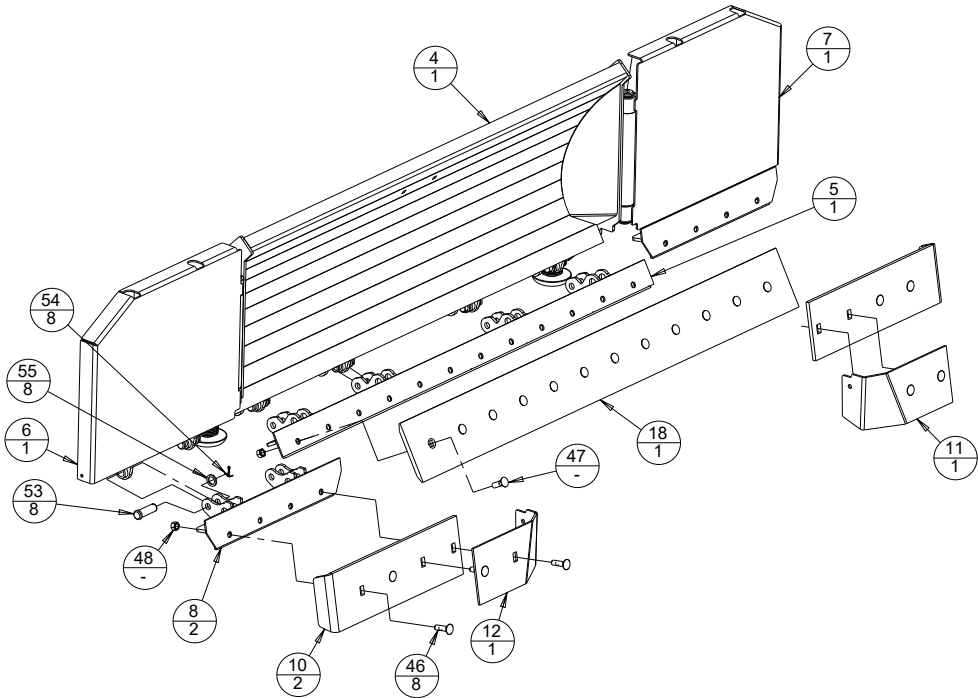
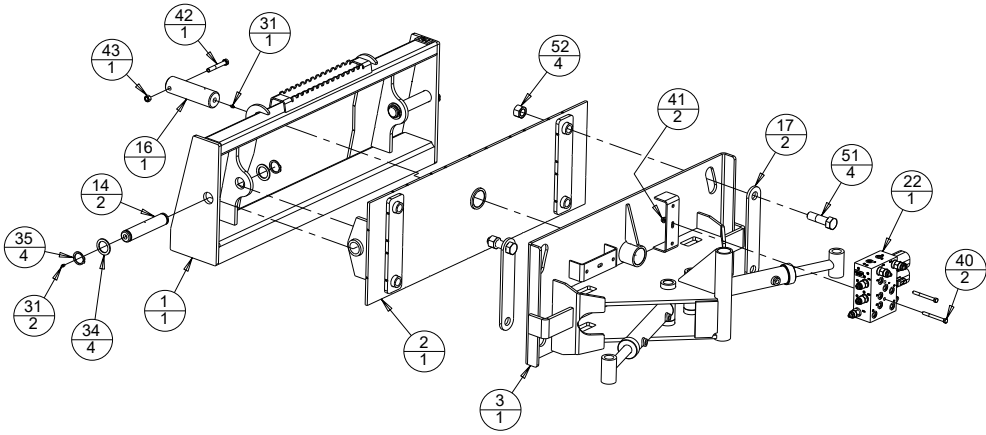
MODEL	HSBP120	HSBP132	HSBP144	HSBP156
HSBP MOLDBOARD WELDMENT	10605VW	9784VW	9834VW	9836VW
SBS EDGE HOLDER WELDMENT	10606VW	9664VW	9667VW	9670VW
INNER HYD HOSE PART # / LENGTH	9749PP / 59 1/2"	1125PP / 64"	1127PP / 72"	1126PP / 80"
OUTER HYD HOSE PART # / LENGTH	1125PP / 64"	1127PP / 72"	1126PP / 80"	1128PP / 88"
BOLT ON EDGE, 5/8" X 8"	1327VP	1329VP	1331VP	1332VP
NUMBER OF PLOW BOLTS	10	12	14	16
NUMBER OF 5/8" TOP LOCK NUTS	20	20	22	24
REPLACEMENT EDGE KIT	HSBPEK120	HSBPEK132	HSBPEK144	HSBPEK156
WEIGHT (LBS.)	1590	1650	1710	1770

Items 10, 11, 12, 18, 46, 47 and 48 are available as a Replacement Edge Kit. Replacement Edge Kit part numbers are listed in Table 1. Replacement Edge Kits include width specific steel cutting edge components and all required mounting hardware.

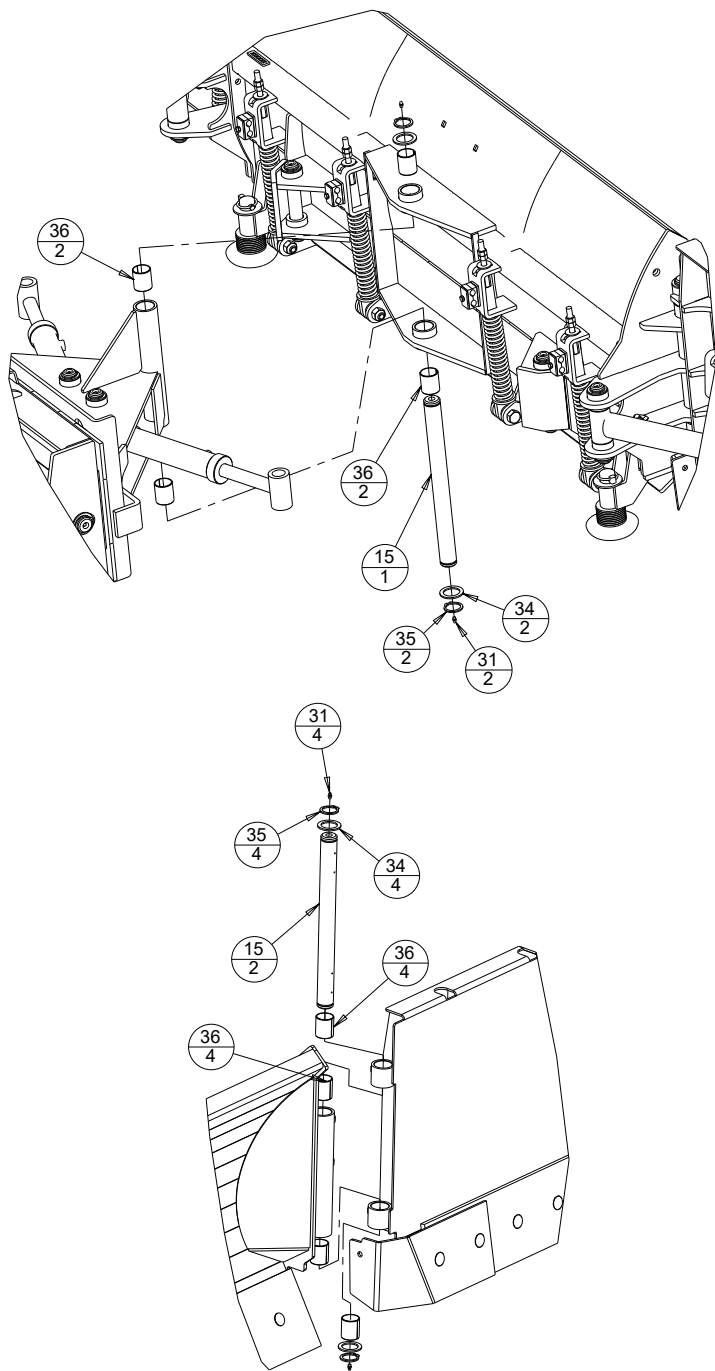


Extra pair of Wing Angled Edges (Items 11 & 12) are shipped on the Hydraulic Snow Blade/Pusher Combo as shown above. They will be used when the cutting edge is flipped to the unused edge. The Wing Angled Edges can be removed and stored until they are needed.

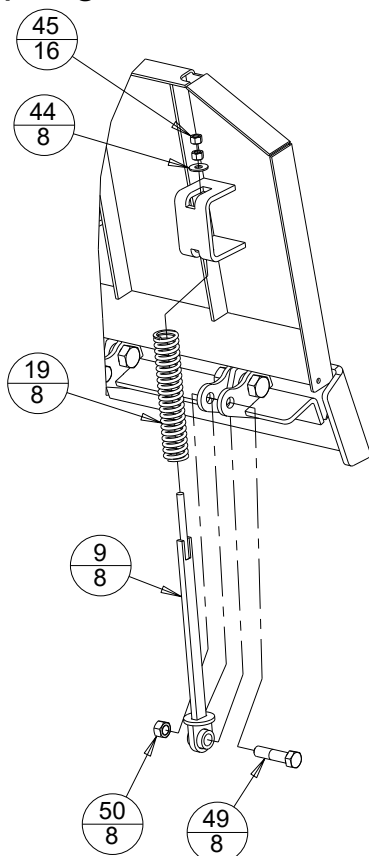
Main Component Assembly



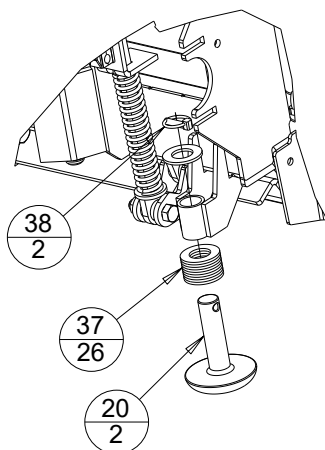
Pivot Pin Installation



Spring Installation

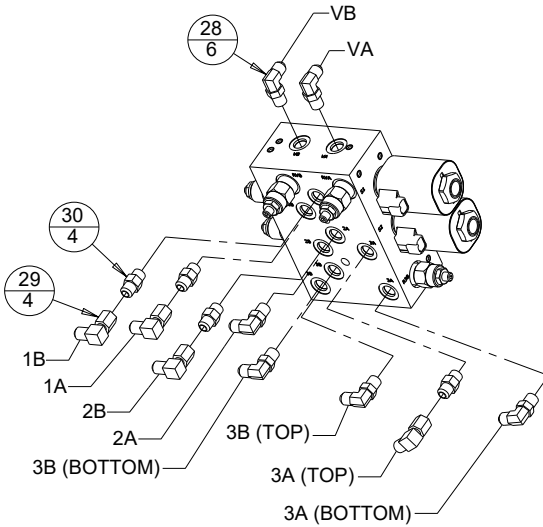
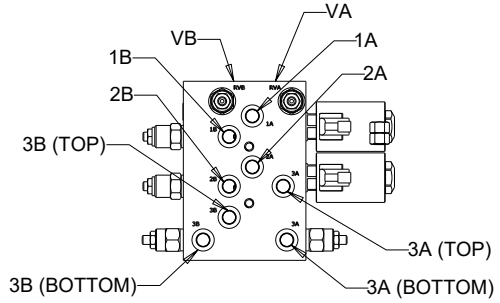


Wear Shoe Installation

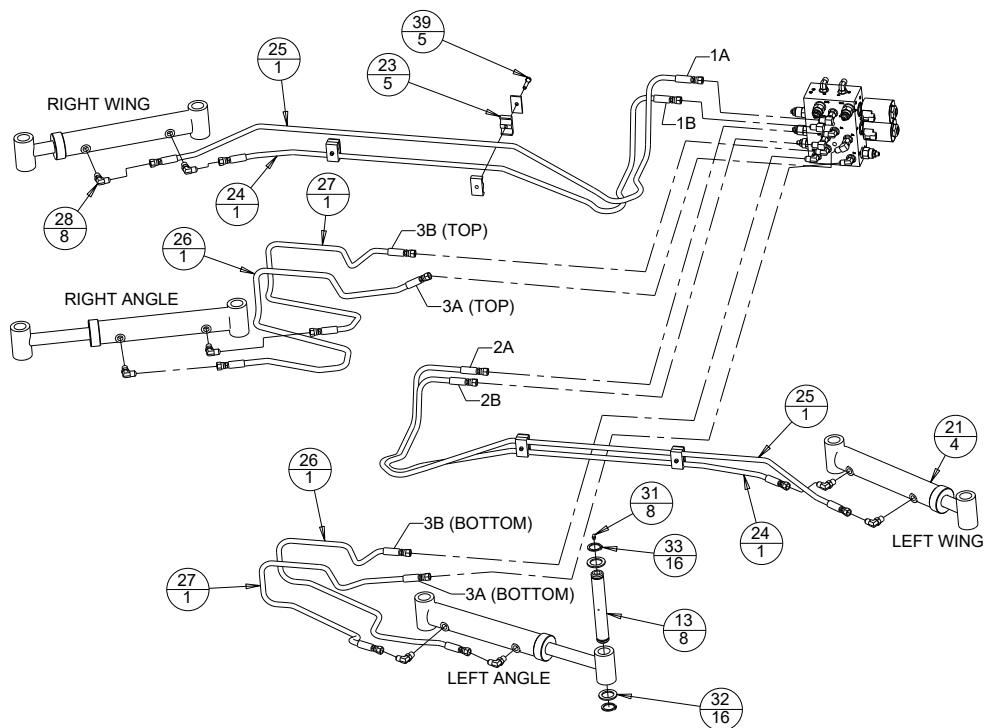


Hydraulic Installation

MANIFOLD PORT	HOSE LOCATION
1A	RIGHT WING ROD
1B	RIGHT WING BARREL
2A	LEFT WING ROD
2B	LEFT WING BARREL
3A (TOP)	RIGHT ANGLE ROD
3B (TOP)	RIGHT ANGLE BARREL
3A (BOTTOM)	LEFT ANGLE BARREL
3B (BOTTOM)	LEFT ANGLE ROD
VA	MALE COUPLER
VB	FEMALE COUPLER



Hydraulic Installation (cont.)



Electrical Harness Connections

