

Features of Virnig Mfg. Inc. Pick-Up Broom Gutter Brush include:

- Increases cleaning width by 12”.
- Easily adjustable hydraulic valve to control brush speed.
- Compatible with any Virnig Mfg. Pick-Up Broom.
- Maximum operating pressure of 3500 psi.
- Replacement brushes available.

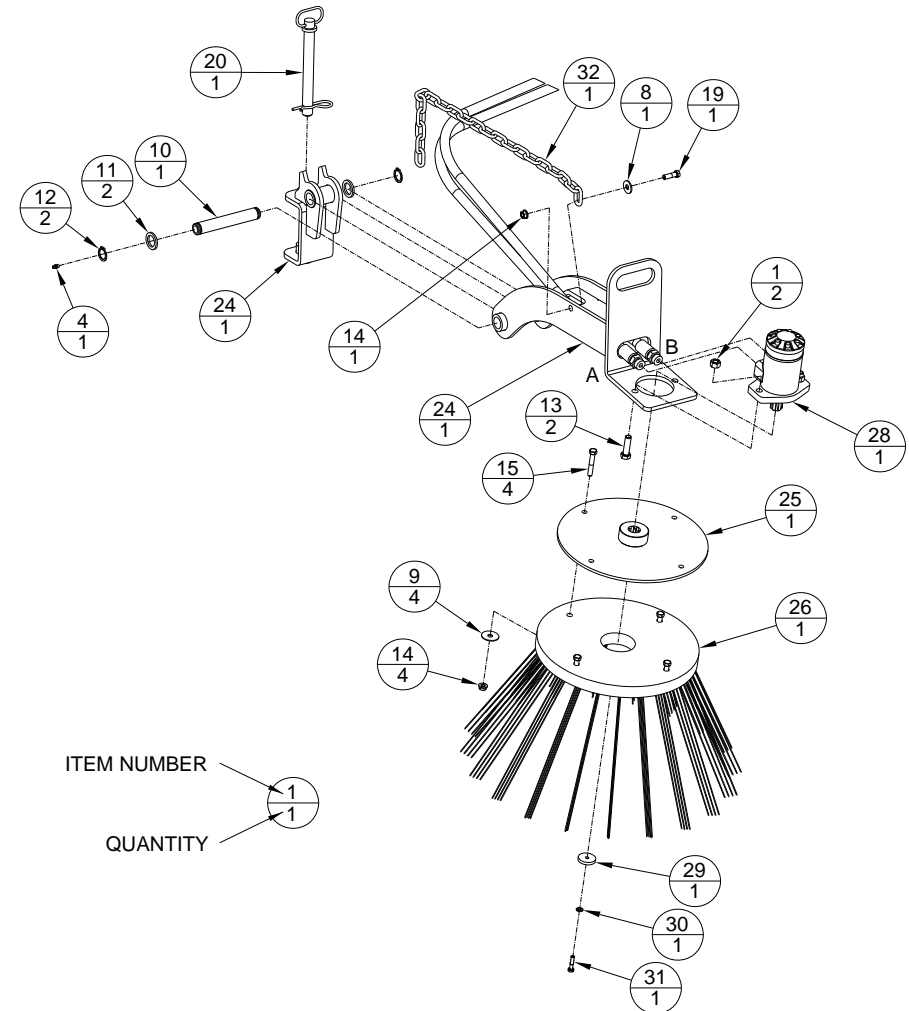
Initial Use

- Read and understand all warning information in this manual as well as the Pick-Up Broom manual before operating this attachment.
- Do not connect this attachment to high flow hydraulics.
- Never exceed the maximum attachment operating pressure of 3500 psi.

Operation

- The Gutter Brush is equipped with a variable speed valve. This allows the operator to adjust the speed of the gutter brush based on the material being swept as well as turn the Gutter Brush off if not in use. Slower speeds are recommended for heavier, denser materials, while faster speeds may be better for lighter materials.
- Use the adjustment chain provided to adjust the height of the Gutter Brush to contact the ground when the Pick-Up Broom is in the correct sweeping position.
- The Gutter Brush is to be used only when sweeping with the Pick-Up Broom moving in the forward direction. The Gutter Brush will not function if the broom is rotating in the counterclockwise (backward) direction when looking from the broom motor end of the Pick-Up Broom.
- The Gutter Brush provides an additional 12” of sweeping width and is useful when sweeping along curbs or buildings. Only the bristle tips of the gutter brush should touch the vertical surface of the curb or wall.
- If the Gutter Brush is not going to be used for a short period of time, shut the variable speed valve off and lift the brush 2-4” off of the ground using the adjustment chain.
- If the Gutter Brush is not going to be used for long periods of time, shut the variable speed valve off and secure the brush in its storage position using the adjustment chain. It is not recommended to remove the Gutter Brush from the Pick-Up Broom when not in use.

Gutter Brush Arm Assembly



Pick-Up Broom Gutter Brush Assembly

ITEM	PART NO.	QTY	DESCRIPTION
	1	2	1/2"-13 REVERSE LOCK NUT
	2	1	ELBOW 90 6MB TO 4MJ
	3	1	HYD HOSE 1/4" X 40" LG 4FJX TO 4FJX
	4	1	1/4"-28 STRAIGHT GREASE ZERK
A	5	2	HYD HOSE 3/4" X 35" LG 10MB TO 12FJX W/O WRAP
B	6	1	ELBOW 90 4MJ TO 4MB
C	7	1	ADAPTER 4MJ TO 4MB
	8	1	3/8" USS FLAT WASHER
	9	4	3/8" X 1 1/2" FENDER WASHER
	10	1	HINGE PIN
	11	2	1" X 10GA MACHINERY BUSHING
	12	2	1" EXTERNAL SNAP RING
	13	2	1/2"-13 X 1 3/4" LG HHCS
	14	5	3/8"-16 TOP LOCK FLANGE NUT
	15	4	3/8"-16 X 2 1/4" LG HHCS
	16	2	ADAPTER 8MJ TO 8MB
	17	3	7/16"-14 X 1" LG HHCS
	18	3	7/16" LOCK WASHER
	19	1	3/8"-16 X 1 1/4" LG HHCS
	20	1	7/8" X 8" LG HITCH PIN
	21	4	ADAPTER 12MJ TO 12MB
	22	2	ELBOW 90 12MJ TO 12FJX
	23	1	GUTTER BROOM PIVOT WELDMENT
	24	1	GUTTER BROOM ARM WELDMENT
	25	1	GUTTER BROOM BRUSH MOUNT WDT
	26	1	GUTTER BRUSH
	27	2	HYD HOSE 1/2" X 100" LG 10MB TO 8FJX
	28	1	MOTOR GUTTER BRUSH
	29	1	1/4" RETAINING WASHER
	30	1	1/4" LOCK WASHER
	31	1	1/4"-20 X 1 1/4" LG HHCS
	32	1	1/4" X 42" LG CHAIN
	33	1	MANIFOLD VARIABLE CONTROL
	34	3	7/16" SAE FLAT WASHER

A-Used with Configuration #2 and Configuration #3.

B-Used with Configuration #3.

C-Used with Configuration #1 and Configuration #2.

Maintenance

*Before each use and after every 10 hours of operation

- Grease hinge pin (1 fitting).
- Check for wear on brush head. If the wire length of the gutter brush is one half of the original length (original length is 12 inches), the gutter brush needs to be replaced.
- Check for loose, worn, or missing parts, repair or replace as needed.
- Remove any foreign debris such as string, wire, etc. that may have wrapped around the brush head.
- Inspect motor, manifold, hydraulic fittings, and hoses for leaks and damage. Replace as needed. Make sure machine is shut off and hydraulic pressure is relieved before checking for leaks. Never use hands to check for high pressure hydraulic leaks.
- Contact your dealer for any required replacement parts.

Field Installation of Gutter Brush

- The Gutter Brush can be installed on either the right or left hand side of the Pick Up Broom (Images in this manual are for right hand installation of Gutter Brush). Care needs to be taken when connecting the Gutter Brush hydraulic lines to the manifold.
- Make sure machine is shut off and hydraulic pressure has been relieved.
- Disconnect hydraulic lines from the machine if not already done.
- Remove nut and bolt holding the hose clamp on the left hand side (as seated in machine) of the Pick-Up Broom and remove hose clamp. These items will not be used for the Gutter Brush installation.
- Install manifold (Item #33, see "Gutter Brush Manifold Assembly") on manifold mounting bracket (same bracket the hose clamp was removed from in previous step) with hardware provided (Items #17, #18 and #34).
- Install Gutter Brush on desired side of Pick-Up Broom using the 7/8" hitch pin provided (Item #20, see "Gutter Brush Arm Assembly"). Secure Gutter Brush with adjustment chain provided.
- Configuration #1: For Pick-Up Brooms where the hydraulic motor has integrated relief valves and the ports are orientated rearward:
 - Remove the 90° elbows connecting the lead hoses to the motor hoses. Take note of which lead hose and coupler connects with which motor hose. These elbows will no longer be used. To minimize loss of hydraulic oil, lay coupler ends of hoses on the ground and hold elbows over drain pan when disconnecting.
 - Connect the lower motor hose to port "M1" on the manifold and the upper motor hose to port "M2". Connect the lead hose that was connected to the lower motor hose to port "P1" on the manifold and the lead hose that was connected to the upper motor hose to port "P2" on the manifold.

Field Installation of Gutter Brush (cont.)

- Remove the case drain plug on the Pick-Up Broom hydraulic motor (located on the opposite side of the motor from the hose ports.)
- Install the small straight adapter (Item #7, see “Gutter Brush Manifold Assembly”) and connect the case drain hose (Item #3) that is attached to the manifold.
- Secure case drain hose to motor hoses with zip ties (not shown).
- Configuration #2: For Pick-Up Brooms where the hydraulic motor has integrated relief valves and the ports are orientated upward:
 - Disconnect the lead hoses from the motor and set aside (note the motor port for each hose since these will be used later.)
 - The Pick-Up Broom hydraulic motor needs to be rotated clockwise 90°. To do this, remove the 1/2” nuts holding the motor can. Pull motor and can out just far enough to disengage the can from the bolts, rotate can and reinstall securing with the 1/2” nuts.
 - Remove the straight adapters in the motor (these will not be reused).
 - Install the hoses (Item #5) provided in the motor ports. Connect the hose in the upper (outer) motor port to gutter brush manifold port “M2” and the hose in the lower (inner) motor port to gutter brush manifold port “M1”.
 - Connect the lead hose that was connected to the upper (outer) motor port to port “P2” on the gutter brush manifold and the lead hose that was connected to the lower (inner) motor port to port “P1” on the gutter brush manifold.
 - Remove the case drain plug on the Pick-Up Broom hydraulic motor (located on the opposite side of the motor from the hose ports.)
 - Install the adapter (Item #7) and connect the case drain hose that is attached to the manifold.
 - Secure case drain hose to motor hoses with zip ties (not shown).
- Configuration #3: For Pick-Up Brooms where the hydraulic motor has an external relief valve manifold and ports are orientated upward:
 - Disconnect the lead hoses from the manifold and set aside (note the manifold port for each hose since these will be used later.)
 - The Pick-Up Broom hydraulic motor needs to be rotated clockwise 90°. To do this, remove the 1/2” nuts holding the motor can. Pull motor and can out just far enough to disengage the can from the bolts, rotate can and reinstall securing with the 1/2” nuts.
 - Remove the straight adapters in the motor manifold (these will not be reused). (One of the socket head cap screws may need to be removed to accomplish this.)

Field Installation of Gutter Brush (cont.)

- Install the hoses provided in the motor manifold ports. Connect the hose in motor manifold port “A” to gutter brush manifold port “M2” and the hose in motor manifold port “B” to gutter brush manifold port “M1”.
- Connect the lead hose that was connected to motor manifold port “A” to port “P2” on the gutter brush manifold and the lead hose that was connected to manifold motor port “B” to port “P1” on the gutter brush manifold.
- Remove the case drain plug on the Pick-Up Broom hydraulic motor (located on the opposite side of the motor from the hose ports.)
- Install the 90° elbow (Item #6), orientate so fitting points toward hole in motor can guard and connect the case drain hose that is attached to the valve block.
 - Secure case drain hose to motor hoses with zip ties (not shown).
- If the Gutter Brush is mounted on the right side of the Pick-Up Broom, route the hoses through the hose guides and connect Gutter Brush hose “A” (see Gutter Brush Arm Assembly) to port “M3” on gutter brush manifold and Gutter Brush hose “B” to port “M4”.
- If the Gutter Brush is mounted on the left side of the Pick-Up Broom, route the hoses through the center hose guide and connect Gutter Brush hose “A” (see “Gutter Brush Arm Assembly”) to port “M4” on the gutter brush manifold and Gutter Brush hose “B” to port “M3”.
- After all hose connections have been tightened, connect the broom hydraulics to the loader and test run. With the Pick-Up Broom spinning in the clockwise direction when looking from the motor end, the Gutter Brush should be spinning such that it would be throwing material in front of the Pick-Up Broom. You may have to turn the control knob on top of the gutter brush manifold out if the Gutter Brush is not spinning.
- If the Gutter Brush does not spin with the Pick-Up Broom spinning in the clockwise direction, then the gutter brush hoses probably need to be switched. To verify this, run the broom in the reverse direction, if the gutter brush spins, the gutter brush hoses need to be switched.
- Call Virnig Manufacturing at 1-800-648-2408 with any installation questions.