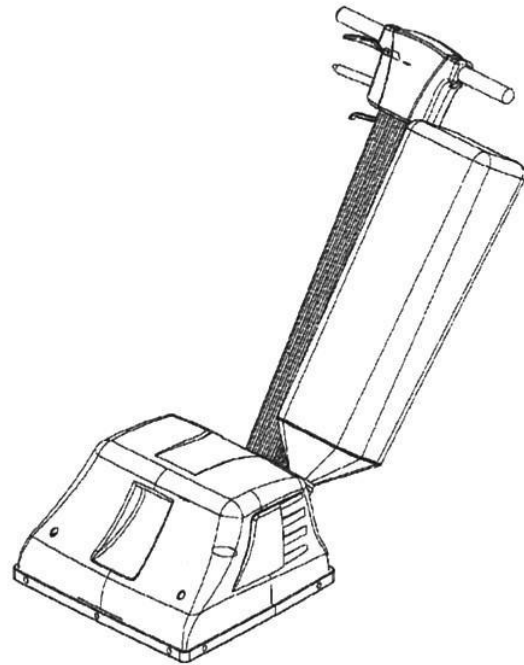


HF **HYDRO-FORCE**TM

PILE LIFTER

Model No.: MA29

Operator and Parts Manual



Hydro Force
4282 South 590 West
Salt Lake City, UT 84123
801-268-3856
800-637-3789

Rev. 00 (03-06)

This manual is furnished with each new model. It provides necessary operation and maintenance instructions and an illustrated parts list.

Read this manual completely and understand the machine before operating or servicing it.

Use the illustrated Parts Lists to order parts. Before ordering parts or supplies, be sure to have your machine model number and serial number handy. Parts and supplies may be ordered by phone or mail from any authorized parts and service center, distributor or directly from Hydro Force.

This machine will provide excellent service, however, the best results will be obtained at minimum costs if:

- The machine is operated with reasonable care.
- The machine is maintained regularly – per the maintenance instructions provided.
- The machine is maintained with manufacturer supplied or equivalent parts.

MACHINE DATA

Please fill out at time of installation for future reference.	
Model No.-	_____
Purchase Date -	_____
Serial No.-	_____

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OPERATION

SAFETY PRECAUTIONS

This machine is intended for commercial use. It is designed to lift carpet pile with its powerful brush and vacuum carpet prior to cleaning. This lifting action will enable the carpet to be cleaned much easier and more thoroughly than it would have without its use. It is also designed to remove dry encapsulation cleaning residue as part of the encapsulation cleaning process. It is to be used in an indoor environment and is not constructed for any other use.

All operators must read, understand and practice the following safety precautions.

The following safety alert symbols are used throughout this manual as indicated in their description:


 **WARNING:** To warn of hazards or unsafe practices which could result in severe personal injury or death.


FOR SAFETY: To identify actions which must be followed for safe operation of equipment.


The following information signals potentially dangerous conditions to the operator or equipment.


FOR SAFETY:

1. Do not operate pile lifter:
 - Unless trained and authorized.
 - Unless operator manual is read and understood.
 - On wet carpet. Water can harm the natural fiber of the brush and it will ruin the paper vacuum bag.
 - In flammable or explosive areas.
 - With damaged cord or plug.
 - If not in proper operating condition.
 - Unless cord is properly grounded.
 - In standing water.
 - With the use of an ungrounded extension cord.
2. Before operating pile lifter:
 - Make sure all safety devices are in place and operate properly.
 - Make sure vacuum bag is attached to vacuum outlet on cover.
3. When using pile lifter:
 - Do not run over cord.
4. Do not pull pile lifter by plug or cord.
5. Do not pull cord around sharp edges or corners.
6. Do not unplug by pulling on cord.
7. Do not stretch cord.
8. Do not handle plugs with wet hands.
9. Keep cord away from heated surfaces.
10. Report pile lifter damage or faulty operation immediately.
11. Be sure any chemicals which may have been applied to carpet are safe and non-toxic and non flammable.
12. Before leaving or servicing pile lifter:
 - Unplug cord from wall outlet.
13. When servicing pile lifter:
 - Unplug cord from wall outlet.
 - Use manufacturer supplied or approved replacement parts.

 **WARNING:** Hazardous Voltage. Shock or electrocution can result. Always unplug machine before servicing.

 **WARNING:** Flammable materials can cause an explosion or fire. Do not brush or vacuum floor surface that has flammable chemical on it.

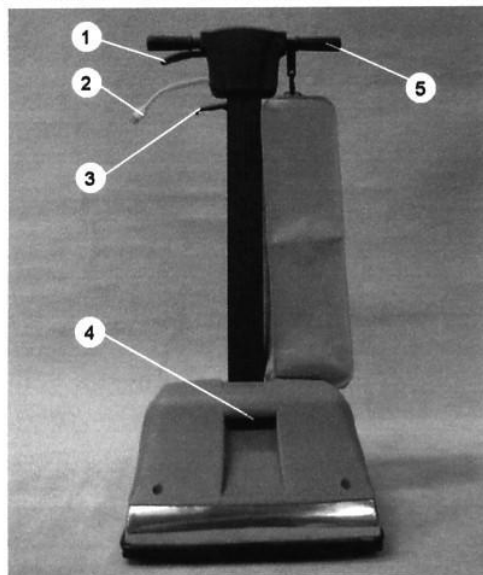
 **WARNING:** Do not operate without vacuum bag attached to vacuum outlet. Particles leave connection point at high velocity and could cause injury or property damage.

 **WARNING:** This appliance is not intended for use by young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.

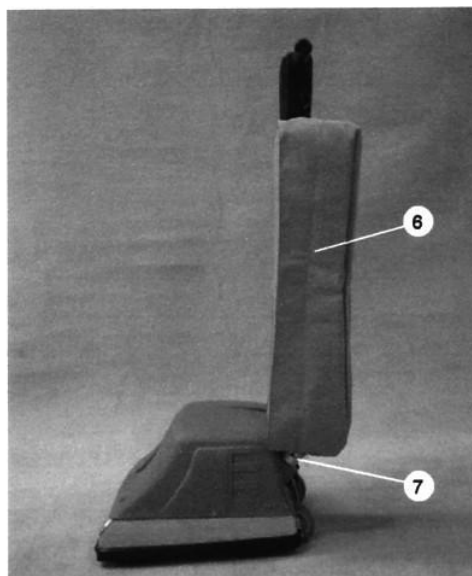
GROUNDING INSTRUCTIONS

Machine must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electrical current to reduce the risk of electrical shock. This machine is equipped with a cord having an equipment-grounding connector and grounding plug. The plug must be plugged into an appropriate outlet that is properly installed in accordance with all local codes and ordinances. Do not remove ground pin; if missing, replace plug before use. International models will have different cord ends.

MACHINE COMPONENTS



1. Power "On / Off" Lever
2. Power Cord
3. Handle Height Adjustment Lever
4. Lifting Hand Hold



5. Handle Grip
6. Vacuum Bag
7. Vacuum Bag Attachment Coupler

PILE LIFTER SETUP

1. Carefully check carton for signs of damage. Report damages at once to carrier. The pile lifter is shipped fully assembled and is ready for use.
2. Unzip cloth vacuum bag and attach a new HEPA paper vacuum bag to the end of the black plastic elbow inside the cloth bag (Figure 1).



Fig. 1

3. Hang the hook at the top of the plastic elbow on the loop at the top of the cloth bag (Figure 2).

⚠ WARNING: Vacuuming flammable materials can cause an explosion or fire. Do not vacuum over surface that has flammable chemicals on it.



Fig. 2

FOR SAFETY: Do not operate pile lifter unless cord is properly grounded.

4. Zip cloth vacuum bag shut and attach bag to vacuum outlet at the base of the pile lifter (Figure 3).



Fig. 3

5. Plug pile lifter's power cord into grounded wall outlet.
6. Adjust the height of the handle to about 1" or 2" below belt. This is done by lifting up on height adjustment lever, positioning handle to desired height and then releasing adjustment lever (Figure 4).



Fig. 4

PILE LIFTER OPERATION

FOR SAFETY: Do not operate pile lifter unless operator manual is read and understood.

FOR SAFETY: Always hold the handle of the pile lifter firmly when turning the power ON.

FOR SAFETY: Do not operate the pile lifter with wheels raised off carpet and full weight of machine in brush. This will exert too much of a load on the brush motor.

PRE-OPERATION

1. Inspect power cord for damage.
2. Be certain the vacuum bag has ample room in it. If not, replace with a new one.

OPERATION

1. First observe the natural lay of the carpet pile. If possible, align the pile lifter so the natural pile lays facing away from the pile lifter and operator. This way the pile will be raised in the backward stroke.
2. Start about two steps behind the forward corner of the room. Turn ON the pile lifter, take two steps straight forward and two steps straight backward. Generally a single pass forward and backward is sufficient to treat most carpets.
3. Turn the pile lifter and move to the side so it is aligned parallel with the first pass and overlaps first pass. Repeat two steps forward and two steps back (Figure 5).

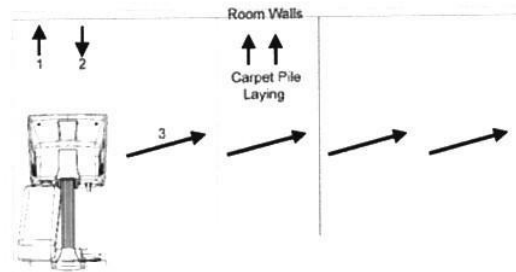


Fig. 5

FOR SAFETY: Do not dwell in a single location with the brush motor running as this could do permanent damage to the carpet pile.

4. Repeat this process until the entire width of the room has been covered.

5. Now move back two more steps and work back across the room.
6. Check inner vacuum bag frequently and replace after it is 1/2 full. This will keep the vacuum at peak performance. Replace as illustrated in Figure 1.
7. Clean sand trap frequently. Place pile lifter on its right side on top of a newspaper. Open sand trap and move contents to the newspaper (Figure 6).



Fig. 6

MAINTENANCE

FOR SAFETY: To service pile lifter, take to an authorized service agent.

FOR SAFETY: Always unplug pile lifter before opening sand trap door.

DAILY MAINTENANCE (Every 4 Hours of Operation)

1. Wipe off power cord and check for damage, replace if necessary. Coil cord neatly after use.
2. Clean sand out of sand trap.
3. Replace paper vacuum bag with genuine Hepa Kleenrite replacement bag #40054. They are available in packages of 3. Contact your distributor or Hydro Force at 800-637-3789

MONTHLY MAINTENANCE (Every 80 Hours of Operation)

1. Check drive belt. If loose, remove cover. Loosen four bolts that secure brush motor to base. Slide motor back and retighten four bolts. Keep the motor square to the base. If it is on an angle the belt will not track properly.

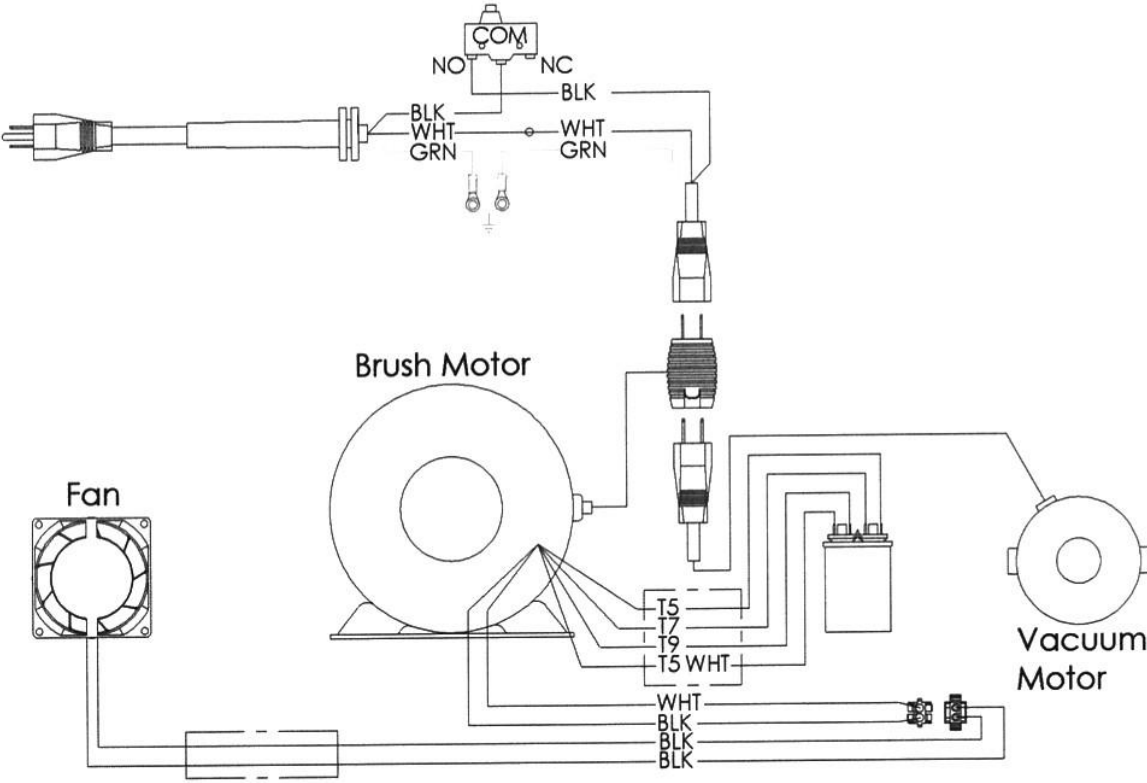
STORING PILE LIFTER

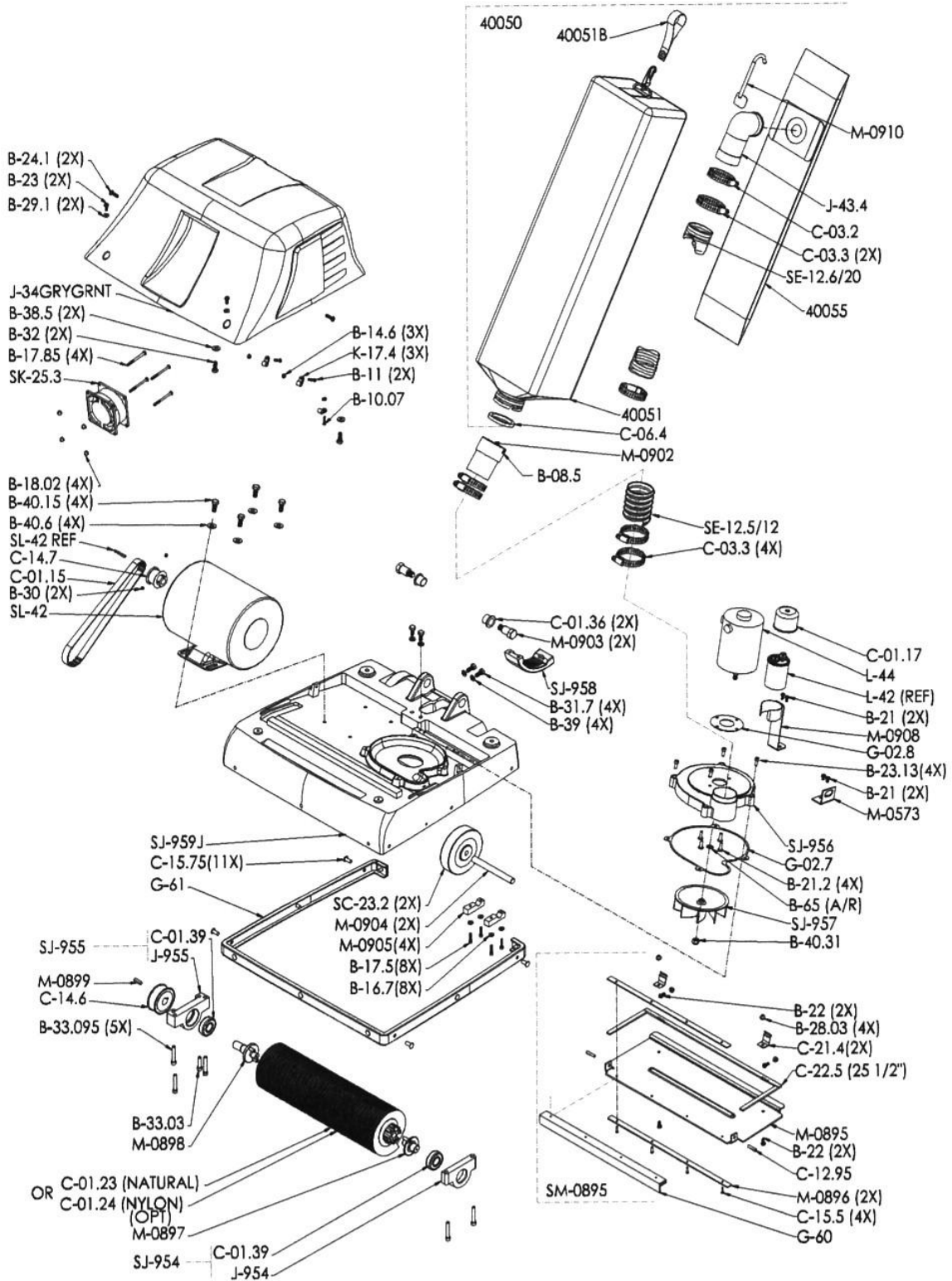
1. Store in a dry place with the weight of the pile lifter off the brush. A square rectangular tube positioned under the front lip of the pile lifter will accomplish this.

SPECIFICATIONS

Model	MA29
LENGTH	476 mm (18.75in)
WIDTH	489 mm (19.25 in)
HEIGHT	1130 mm (44.5 in)
WEIGHT	33.1 Kg (73 lbs)
VACUUM MOTOR	120V, 3.0A, 360W
BRUSH MOTOR	120V, 7.8A, 936W
TOTAL POWER CONSUMPTION	120V, 10A, 1200W
POWER CORD	15.2m (50 ft) 3/12

120V WIRING HARNESS DIAGRAM





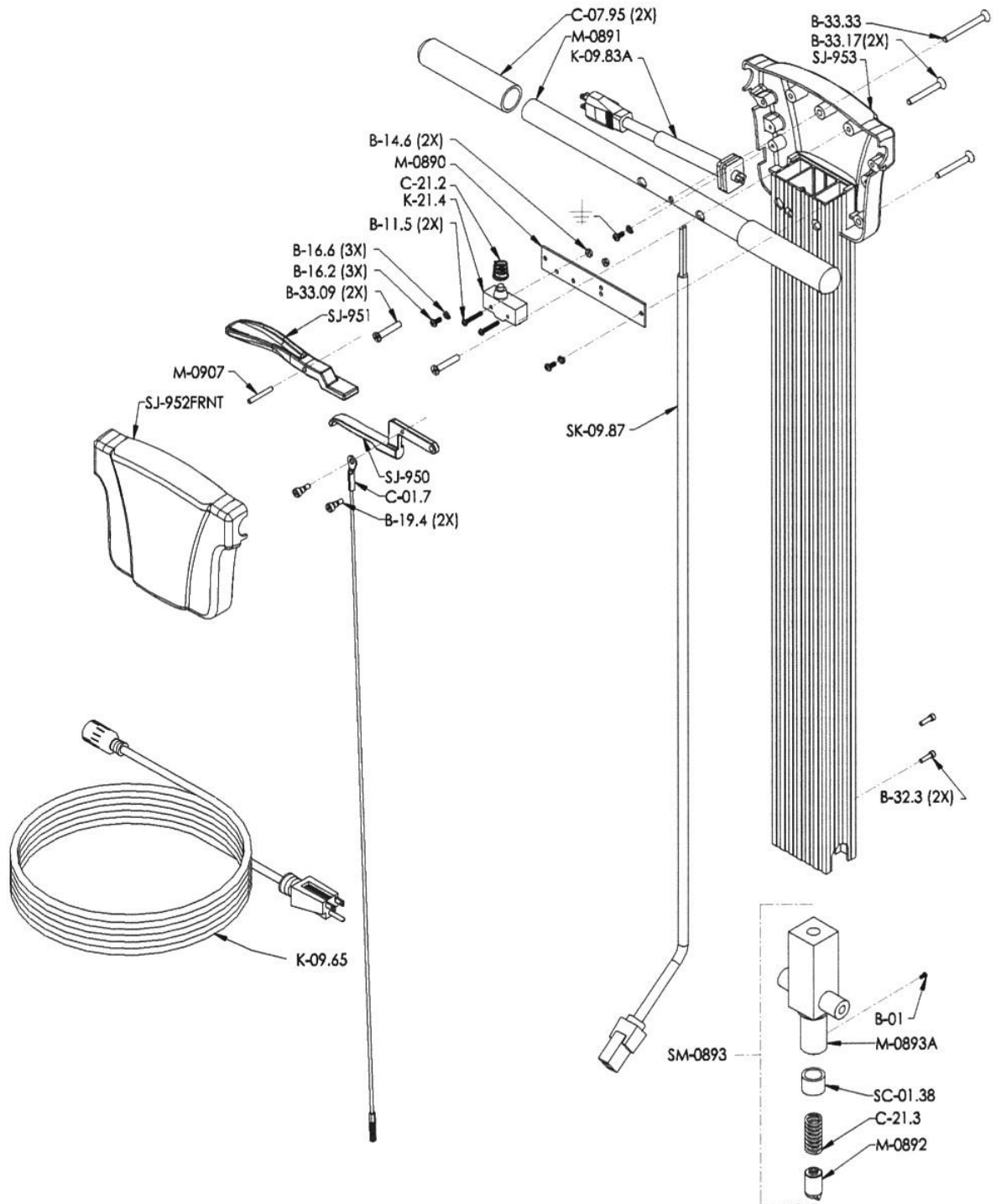
PARTS LIST

MA29

Part #	Description	Qty
40050	CLOTH VACUUM BAG COMP ASSM XVAC	1
40051	CLOTH VACUUM BAG XVAC	1
• 40054	PAPER VAC BAG XVAC – PACKAGE OF 3	0
40055	PAPER VAC BAG XVAC - QTY 1	1
40051B	LOOP,CLOTH VACUUM BAG ATTCH.XVAC	1
B-08.5	6-32 X 3/16 PHX PHILISTER ZINC	2
B-10.07	6-32 X 5/8 PHIL FLAT HD ZINC	3
B-14.6	NUT, 6-32 HEX ZINC NYLOK	3
B-16.7	WASHER, #8 FLAT ZINC	8
B-17.5	8-32 X 3/4 ALLEN HEAD CAP	8
B-17.85	8-32 X 2 PHXZINC	4
B-18.02	NUT 8-32 NYLOK, ZINC	4
B-21	10-32 X 5/16 PHXSS	4
B-21.2	10-32 X 5/16 TRUSS HD PHXZINC	4
B-22	10-32 X 7/16 PHXSS	4
B-23	10-32 X 1/2 PHXSS	2
B-23.13	10-32 X 1/2 SOCKETHD CAP SCREW	4
B-24.1	10-32 X 3/4 PHXZINC	2
B-28.03	NUT, 10-32 NYLOK ZINK	4
B-29.1	WASHER, #10 SS	2
B-30	SET SCR 10-32X3/16 CUP PT	2
B-31.7	1/4-20 X 5/8 HEX HD CP ZINC	4
B-32	1/4-20 X 3/4 HEX HD CP	2
B-33.03	1/4-20 X 1" SOCKETHD CAP SCREW	1
B-33.095	1/4-20 X 1 1/2" SOCKETHD CAP SCREW	5
B-38.5	WASHER, 1/4 FLAT CP	2
B-39	WASHER LOCK 1/4	4
B-40.15	5/16-18 X 3/4 HEX CP	4
B-40.31	NUT, 5/16 - 24 UNF-2A LEFT HND THRD	1
B-40.6	WASHER,5/16 FLAT ZINC	4
B-65	SHIM WASHER,.020X.315IDX.55OD	1
• C-01.15	BELT, PWRGRP GT XVAC	1
C-01.17	BOOT, CAPACITOR 1.75OD X 1.5	1
C-01.23	BRUSH, NATURAL FIBER X VAC	1
C-01.36	BUSHING, FLANGD BRNZE 5/8 ID X 1"OD	2
C-01.39	BEARING, PILLOW BLOCK XVAC	2
C-03.2	CLAMP, HOSE 2" #24	1
C-03.3	CLAMP, HOSE 2 1/4 #32	6
C-06.4	GASKET, VACUUM BAG 2.25"OD	1
C-12.95	PIN, ROLL 3/16 DIA X 1.0	2
C-14.6	PULLEY, 36 X 2.5" OD X 5/8"ID	1

Part #	Description	Qty
C-14.7	PULLEY, PRGP GTZ 20TH X 1/2BR, 1/8K	1
C-15.5	RIVIT,POP 1/8-5/16 SS	4
C-15.75	RIVIT, PUSH NYLON	11
C-21.4	SPRING, CLIP LATCH TRAPDOOR	2
C-22.5	TAPE, FOAM	2.33
G-02.7	GASKET, FAN ENCLOSURE	1
G-02.8	GASKET, MOTOR X VAC	1
G-60	SQUEEGEE EXTRUSION *F* PILE LIFTER	1
G-61	BUMPER EXTRUSION PILE LIFTER	1
J-34GRYGRNT	COVER, ROTO XVAC GRY GRANITE	1
J-43.4	ELBOW, VAC BAG INTAKE XVAC	1
J-954	PILLOW BLOCK FREE END	1
J-955	PILLOW BLOCK DRIVEN END	1
K-17.4	CLAMP,NYLON CABLE 1/4"	3
L-44	MOTOR, TRIEM 120V XVAC HIGH PER	1
M-0573	SUPPORT, CONN XVAC	1
M-0895	COVER, SAND TRAP	1
M-0896	STRAP, .50 X 13" LNG SQUEEGE HOLD	2
M-0897	HUB, BRUSH ASSM FREE END W/PINS	1
M-0898	HUB, BRUSH ASSM DRIVE END W/PINS	1
M-0899	KEY WAY, .185 X .75"	1
M-0901	TUBE,VAC INLET FAN XVAC	1
M-0902	VAC BAG LOCK MOUNT MALE	1
M-0903	BOLT, SHOULDER 7/16-14 X 1.57" SS	2
M-0904	AXLE, .50 OD X 3" XVAC	2
M-0905	BRACKET, AXLE XVAC	4
M-0908	BRACKET, CAPASITOR COMPLETE	1
M-0910	HOOK, ASM VAC BACK XVAC	1
SC-23.2	WHEEL, 4" MODIFIED	2
SE-12.5/12	HOSE, 2" FLEX EXH 12"	1
SE-12.6/20	HOSE, 2" CLR WIRE SUPP. 20"LONG	1
SJ-954	PILLOW, BLCK ASM FREE END W/BUSHING	1
SJ-955	PILLOW BLOCK ASM DRVR/END W/BUSHING	1
SJ-956	ASM ENCLOSURE, FAN NYLON X VAC	1
• SJ-957	FAN, BALANCED XVAC	1
SJ-958	RATCHET, HANDLE ADJUST COMP	1
SJ-959J	BASE, COMP POLISHED XVAC	1
SK-25.3	FAN, COOLNG AC AXIAL 3.156" TERM	1
SL-42	MTR,LESSON 110/100V 50/60HZ WIRED	1
SM-0895	COMP SAND TRAP ASM X VAC	1

• RECOMMENDED STOCK ITEMS



PARTS LIST

MA29

Part #	Description	Qty
B-01	4-40 X 1/4 PHXSS	1
B-11.5	6-32 X 1 PHXZINC	2
B-14.6	NUT, 6-32 HEX ZINC NYLOK	2
B-16.2	8-32 X 3/8 PHXSS	3
B-16.6	WASHER, LOCK #8 ZINC	3
B-19.4	10-24 X 3/8 - 1/4X1/4 SHLDR HEX SOC	2
B-32.3	1/4-20 X 3/4" SOCKET HD CAP SCREW	2
B-33.09	1/4-20 X 1 1/2 FLATHD SOCKET	2
B-33.17	1/4-20 X 2" FLT HD SOCKET HEAD	2
B-33.33	1/4-20 X 2.5" FLT HD SOCKET HEAD	1
C-01.7	CABLE, ASM 1/4-20 X EYE 33.75" XVAC	1
C-07.95	GRIP, HANDLE 1" X 4 1/2"	2
C-21.2	SPRING, TAPER SWITCH .59IDX.771	1
C-21.3	SPRING, PLUNGER PILE .75OD X 1.68"	1

Part #	Description	Qty
K-09.65	CORD 50' 14/3 SJT YELLOW	1
• K-21.4	SWITCH, OMRON MOMENTARY SPDT SWITCH	1
M-0890	SWITCH, MOUNT PLATE XVAC	1
M-0891	HANDLE, BAR W/ PAINT XVAC	1
M-0892	PLUNGER, RATCHET ADJ HARDENED XVAC	1
M-0893A	PLNGER,SPRT COMP PLATED ZINC BLK	1
M-0907	PIN, DOWEL XVAC HNDL	1
SC-01.38	BUSHING, SLVE .75IDX1.00D W/.125"HL	1
SJ-950	LEVER, HANDLE RELEASE XVAC COMP	1
SJ-951	SWITCH LEVER, HNDL XVAC COMP	1
SJ-952FRNT	HNDLE, ENCLOSURE FRONT XVAC COMP	1
SJ-953	HANDLE & BACK ENCL ASSM CMP PNTXVAC	1
• SK-09.83A	CORD PIGTAIL W/RELIEF TERM 14/3	1
SK-09.87	CORD PIGTAIL, ASSM PLG TO MTRS XVAC	1

• **RECOMMENDED STOCK ITEMS**

LABOR & PARTS POLICY

For the first 12 months from the date of original purchase, upon Hydro Force's determination, product manufacturing defects will be repaired or replaced at no charge for labor and/or parts provided that the machine or part(s) is delivered or shipped freight prepaid to Hydro Force or its designated repair center and provided that a Return Authorization is obtained from Hydro Force prior to machine or part(s) being shipped. (See "How to Obtain a Return Authorization".)

Hydro Force is not responsible to pay for parts supplied by or labor performed by any of its distributors or any general service companies.

PARTS ONLY – STANDARD REPLACEMENT POLICY

For the first 12 months from the date of original purchase, in the event that a part believed to be under warranty fails, simply call Hydro Force to obtain a Return Authorization, ship the part freight prepaid to Hydro Force and, Hydro Force will either repair or replace the part at no charge if it is determined that failure was a manufacturing defect. Hydro Force will then ship the repaired or replaced part back to you freight collect. Our service department can usually talk a person through any part replacement procedure in a matter of minutes. There is no charge for this nationwide toll-free service.

PARTS ONLY – EMERGENCY REPLACEMENT POLICY

For the first 12 months from the date of original purchase, in the event that a part believed by the registered owner to be under warranty fails and an immediate replacement part is requested before Hydro Force can inspect the part that is suspected to be faulty or have a chance to repair it, Hydro Force will ship the requested part on a COD basis (part plus freight) or if credit has been established prior to the request the part will be shipped on an Open Account basis (part plus freight). A Return Authorization must be requested at the time of order so that the suspected defective part can be returned freight prepaid to Hydro Force for warranty consideration. If after receiving the part, Hydro Force determines that the part has a manufacturing defect and can be repaired, the part will be repaired to normal working condition and returned (freight collect) to the original registered owner as a spare part and no refund will be made. Should Hydro Force determine that the part is covered by warranty and cannot be repaired, Hydro Force will credit an open account customer the same amount as was charged when the replacement part was sent less freight and will refund a COD customer the same way. However, should Hydro Force determine that the part received was not a manufacturing defect, you will be informed of such and credit will not be given nor will the damaged part be returned unless requested specifically to the registered owner.

HOW TO OBTAIN A RETURN AUTHORIZATION

Prior to shipping any part, assembly or machine to Hydro Force a Return Authorization Number must be requested and displayed prominently on the outside of all packages containing parts or machines for warranty consideration to be processed and in effect. A Return Authorization can be obtained by calling Hydro Force at 800-637-3789. The machine and/or part serial number must be communicated to Hydro Force Customer Service to receive a Return Authorization Number. Any machine, part or assembly must be returned with its original serial number as affixed by Hydro Force for warranty consideration to be in effect. All returns will be sent to Hydro Force 4282 South 590 West, Salt Lake City, UT 84123

WARRANTY

HYDRO FORCE Manufacturing warrants the MA29 Pile Lifter against defects in material and workmanship under normal use and service. Hydro Force, hereby, extends a limited three-year warranty on the polyethylene machine housing of the MA29 against cracking or leaking and a one-year warranty on the rest of the machine against manufacturing defect or workmanship subject to the terms and conditions that follow.

TERMS AND CONDITIONS

The warranty obligation extends only to the repair or replacement of parts, assemblies or machine housing found upon examination by Hydro Force to be defective in manufacturing or workmanship, and Hydro Force reserves the right to make that determination. Any adjustment or replacement of defective parts made under this warranty does not void the warranty; neither does it extend the original warranty beyond its term.

Repair or replacements of any pile lifter component(s) with any part(s) other than genuine Hydro Force parts will immediately void this and all warranties.

Filter bags, seals, gaskets and air fans are considered expendable in normal use and are not covered by this warranty.

Dry cleaning solvents cannot be used in the pile lifter.

This warranty shall not cover any MA29 housing, part or assembly if there is evidence of misuse, alteration, owner neglect, lack of proper maintenance, improper chemical use, improper voltage, abuse, accident, freezing, flood, fire, etc. and any and all circumstances beyond Hydro Force's control.

In no event shall Hydro Force be liable for loss of use, incidental or consequential damages or any damages to persons or property.

PLEASE RETURN REGISTRATION WITHIN 10 DAYS OF RECEIVING YOUR PILE LIFTER

KEEP THIS COPY FOR YOUR RECORDS

WARRANTY REGISTRATION	Date Received
	Registered Owner(s)
	Address
	Phone Number
	Fax Number
	Email Address
	MA29 Serial Number
	Purchased From (Distributor)

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	Fax Number
	Email Address
	MA29 Serial Number
	Purchased From (Distributor)