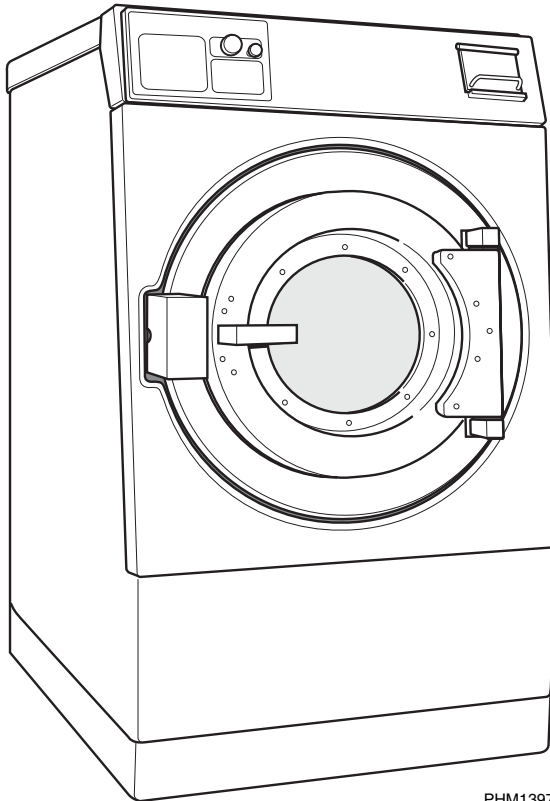


Washer-Extractors

Pocket Hardmount Variable-Speed
PS40 Control

Refer to Page 8 for Model Identification



PHM1397C

Operation/Maintenance

Para bajar una copia de estas instrucciones en español, visite www.comlaundry.com.

Keep These Instructions for Future Reference.

(If this machine changes ownership, this manual must accompany machine.)


Alliance
Laundry Systems

www.comlaundry.com

Part No. F8112201R1
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Safety Information

Explanation of Safety Messages

Precautionary statements (“DANGER,” “WARNING,” and “CAUTION”), followed by specific instructions, are found in this manual and on machine decals. These precautions are intended for the personal safety of the operator, user, servicer, and those maintaining the machine.

	DANGER
DANGER indicates the presence of a hazard that will cause severe personal injury, death, or substantial property damage if the danger is ignored.	

	WARNING
WARNING indicates the presence of a hazard that can cause severe personal injury, death, or substantial property damage if the warning is ignored.	


	CAUTION
CAUTION indicates the presence of a hazard that will or can cause minor personal injury or property damage if the caution is ignored.	

Additional precautionary statements (“IMPORTANT” and “NOTE”) are followed by specific instructions.

IMPORTANT: The word “IMPORTANT” is used to inform the reader of specific procedures where minor machine damage will occur if the procedure is not followed.

NOTE: The word “NOTE” is used to communicate installation, operation, maintenance or servicing information that is important but not hazard related.

Important Safety Instructions


	WARNING
To reduce the risk of fire, electric shock, serious injury or death to persons when using your washer, follow these basic precautions:	
W023	

1. Read all instructions before using the washer.
2. Refer to the GROUNDING INSTRUCTIONS in the INSTALLATION manual for the proper grounding of the washer.
3. Do not wash textiles that have been previously cleaned in, washed in, soaked in, or spotted with gasoline, kerosene, waxes, cooking oils, dry-cleaning solvents, or other flammable or explosive substances as they give off vapors that could ignite or explode.
4. Do not add gasoline, dry-cleaning solvents, or other flammable or explosive substances to the wash water. These substances give off vapors that could ignite or explode.
5. Under certain conditions, hydrogen gas may be produced in a hot water system that has not been used for two weeks or more. HYDROGEN GAS IS EXPLOSIVE. If the hot water system has not been used for such a period, before using a washing machine or combination washer-dryer, turn on all hot water faucets and let the water flow from each for several minutes. This will release any accumulated hydrogen gas. The gas is flammable, do not smoke or use an open flame during this time.
6. Do not allow children to play on or in the washer. Close supervision of children is necessary when the washer is used near children. This is a safety rule for all appliances.
7. Before the washer is removed from service or discarded, remove the door to the washing compartment.
8. Do not reach into the washer if the wash drum is moving.


9. Do not install or store the washer where it will be exposed to water and/or weather.
10. Do not tamper with the controls.
11. Do not repair or replace any part of the washer, or attempt any servicing unless specifically recommended in the user-maintenance instructions or in published user-repair instructions that the user understands and has the skills to carry out.
12. To reduce the risk of an electric shock or fire, DO NOT use an extension cord or an adapter to connect the washer to the electrical power source.
13. Use washer only for its intended purpose, washing textiles.
14. Never wash machine parts or automotive parts in the machine. This could result in serious damage to the basket.
15. ALWAYS disconnect the washer from electrical supply before attempting any service. Disconnect the power cord by grasping the plug, not the cord.
16. Install the washer according to the INSTALLATION INSTRUCTIONS. All connections for water, drain, electrical power and grounding must comply with local codes and be made by licensed personnel when required.
17. To reduce the risk of fire, textiles which have traces of any flammable substances such as vegetable oil, cooking oil, machine oil, flammable chemicals, thinner, etc., or anything containing wax or chemicals such as in mops and cleaning cloths, must not be put into the washer. These flammable substances may cause the fabric to catch on fire by itself.
18. Do not use fabric softeners or products to eliminate static unless recommended by the manufacturer of the fabric softener or product.
19. Keep washer in good condition. Bumping or dropping the washer can damage safety features. If this occurs, have washer checked by a qualified service person.
20. Be sure water connections have a shut-off valve and that fill hose connections are tight. CLOSE the shut-off valves at the end of each wash day.
21. Loading door MUST BE CLOSED any time the washer is to fill, tumble or spin. DO NOT bypass the loading door switch by permitting the washer to operate with the loading door open.
22. Always read and follow manufacturer's instructions on packages of laundry and cleaning aids. Heed all warnings or precautions. To reduce the risk of poisoning or chemical burns, keep them out of the reach of children at all times (preferably in a locked cabinet).
23. Always follow the fabric care instructions supplied by the textile manufacturer.
24. Never operate the washer with any guards and/or panels removed.
25. DO NOT operate the washer with missing or broken parts.
26. DO NOT bypass any safety devices.
27. Failure to install, maintain, and/or operate this washer according to the manufacturer's instructions may result in conditions which can produce bodily injury and/or property damage.


NOTE: The WARNINGS and IMPORTANT SAFETY INSTRUCTIONS appearing in this manual are not meant to cover all possible conditions and situations that may occur. Common sense, caution and care must be exercised when installing, maintaining, or operating the washer.


Any problems or conditions not understood should be reported to the dealer, distributor, service agent or the manufacturer.

	WARNING
<p>This machine must be installed, adjusted, and serviced by qualified electrical maintenance personnel familiar with the construction and operation of this type of machinery. They must also be familiar with the potential hazards involved. Failure to observe this warning may result in personal injury and/or equipment damage, and may void the warranty.</p>	
<small>SW004</small>	

IMPORTANT: Ensure that the recommended clearances for inspection and maintenance are provided. Never allow the inspection and maintenance space to be blocked.

	CAUTION
<p>Install the machine on a level floor of sufficient strength. Failure to do so may result in conditions which can produce serious injury, death and/or property damage.</p>	
<small>W703</small>	

	CAUTION
<p>Be careful around the open door, particularly when loading from a level below the door. Impact with door edges can cause personal injury.</p>	
<small>SW025</small>	

	WARNING
<p>Never touch internal or external steam pipes, connections, or components. These surfaces can be extremely hot and will cause severe burns. The steam must be turned off and the pipe, connections, and components allowed to cool before the pipe can be touched.</p>	
<small>SW014</small>	

Safety Decals

Safety decals appear at crucial locations on the machine. Failure to maintain legible safety decals could result in injury to the operator or service technician.

To provide personal safety and keep the machine in proper working order, follow all maintenance and safety procedures presented in this manual. If questions regarding safety arise, contact the manufacturer immediately.

Use manufacturer-authorized spare parts to avoid safety hazards.

Operator Safety

	WARNING
<p>NEVER insert hands or objects into basket until it has completely stopped. Doing so could result in serious injury.</p>	
SW012	


To ensure the safety of machine operators, the following maintenance checks must be performed daily:

1. Prior to operating machine, verify that all warning signs are present and legible. Missing or illegible signs must be replaced immediately. Make certain that spares are available.
2. Check door interlock before starting operation of machine:
 - a. Attempt to start machine with door open. Machine should not start with door open.
 - b. Close door without locking it and attempt to start machine. Machine should not start with door unlocked.
 - c. Close and lock door and start a cycle. Attempt to open door while cycle is in progress. Door should not open.

If door lock and interlock are not functioning properly, call a service technician.

3. Do not attempt to operate machine if any of the following conditions are present:
 - a. Door does not remain securely locked during entire cycle.
 - b. Excessively high water level is evident.
 - c. Machine is not connected to a properly grounded circuit.

Do not bypass any safety devices in machine.


	WARNING
<p>Never operate the machine with a bypassed or disconnected balance system. Operating the machine with severe out-of-balance loads could result in personal injury and serious equipment damage.</p>	
SW039	

Safe Operating Environment

Safe operation requires an appropriate operating environment for both the operator and the machine. If questions regarding safety arise, contact the manufacturer immediately.

Environmental Conditions

- *Ambient Temperature.* Water in machine will freeze at temperatures of 32°F (0°C) or below. Temperatures above 120°F (50°C) will result in more frequent motor overheating and, in some cases, malfunction or premature damage to solid state devices that are used in some models. Special cooling devices may be necessary. Water pressure switches are affected by increases and decreases in temperature. Every 25°F (10°C) change in temperature will have a 1% effect on the water level.
- *Humidity.* Relative humidity above 90% may cause machine's electronics or motors to malfunction or may trip ground fault interrupter. Corrosion problems may occur on some metal components in machine. If relative humidity is below 30%, belts and rubber hoses may eventually develop dry rot. This condition can result in hose leaks, which may cause safety hazards external to machine in conjunction with adjacent electrical equipment.
- *Ventilation.* The need for make-up air openings for such laundry room accessories as dryers, ironers, water heaters, etc., must be evaluated periodically. Louvers, screens or other separating devices may reduce available air opening significantly.
- *Radio Frequency Emissions.* A filter is available for machines in installations where floor space is shared with equipment sensitive to radio frequency emissions.
- *Elevation.* If machine is to be operated at elevations of over 3280 feet (1000 m) above sea level, pay special attention to water levels and electronic settings (particularly temperature) or desired results may not be achieved.
- *Chemicals.* Keep stainless steel surfaces free of chemical residues.


	DANGER
<p>Do not place volatile or flammable fluids in any machine. Do not clean the machine with volatile or flammable fluids such as acetone, lacquer thinners, enamel reducers, carbon tetrachloride, gasoline, benzene, naphtha, etc. Doing so could result in serious personal injury and/or damage to the machine.</p>	
SW002	

- *Water Damage.* Do not spray machine with water. Short circuiting and serious damage may result. Repair immediately all seepage due to worn or damaged gaskets, etc.

Machine Location

- *Foundation.* The concrete floor must be of sufficient strength and thickness to handle floor loads generated by high extract speeds of machine.
- *Service/Maintenance Space.* Provide sufficient space to allow comfortable performance of service procedures and routine preventive maintenance.

Consult installation instructions for specific details.


	CAUTION
<p>Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.</p>	
SW019	

Input and Output Services

- *Water Pressure.* Best performance will be realized if water is provided at a pressure of 30 – 85 psi (2 – 5.7 bar). Although machine will function properly at lower pressure, increased fill times will occur. Water pressure higher than 100 psi (6.7 bar) may result in damage to machine plumbing. Component failure(s) and personal injury could result.
- *Steam Heat (Optional) Pressure.* Best performance will be realized if steam is provided at a pressure of 30 – 80 psi (2 – 5.4 bar). Steam pressure higher than 125 psi (8.5 bar) may result in damage to steam components and may cause personal injury.

For machines equipped with optional steam heat, install piping in accordance with approved commercial steam practices. Failure to install supplied steam filter may void warranty.

- *Drainage System.* Provide drain lines or troughs large enough to accommodate total number of gallons that could be released if all machines on site drained at same time from highest attainable level. If troughs are used, they should be covered to support light foot traffic.
- *Power.* For personal safety and for proper operation, machine must be grounded in accordance with state and local codes. Ground connection must be to a proven earth ground, not to conduit or water pipes. Do not use fuses in place of circuit breaker. An easy-access cutoff switch should also be provided.

	WARNING
<p>Ensure that a ground wire from a proven earth ground is connected to the ground lug near the input power block on this machine. Without proper grounding, personal injury from electric shock could occur and machine malfunctions may be evident.</p>	
SW008	

Always disconnect power and water supplies before a service technician performs any service procedure. Where applicable, steam and/or compressed air supplies should also be disconnected before service is performed.

DirectDrive

Machines equipped with DirectDrive require special attention with regard to operating environment.

- An especially dusty or linty environment will require more frequent cleaning of AC inverter drive cooling fan filter and of AC inverter drive itself.
 - Power line fluctuations from sources such as uninterruptible power supplies (UPS) can adversely affect machines equipped with AC inverter drive. Proper suppression devices should be utilized on incoming power to machine to avoid problems.
- A clean power supply free from voltage spikes and surges is absolutely essential for machines equipped with AC inverter drive. Inconsistencies (peaks and valleys) in power supply can cause AC inverter drive to generate nuisance errors.

If voltage is above 230 Volt for 200 Volt installation or 460 Volt for 400 Volt installation, ask power company to correct. As an alternative, a step-down transformer kit is available from distributor. If voltage is above 240 Volt for 200 Volt installation or 480 Volt for 400 Volt installations, a buckboost transformer is required.
 - Sufficient space to perform service procedures and routine preventive maintenance is especially important for machines equipped with AC inverter drive.

Safety Information

Model Identification

Information in this manual is applicable to these models:

	Medium Speed		High Speed	
40 Pound	CP040PMN1 CP040PMQ1 CP040PMX1 CPC40M IP040PMN1	IP040PMQ1 IP040PMX1 IPH40M IPH180	CP040PHN1 CP040PHQ1 CP040PHX1 CPC40H IP040PHN1	IP040PHQ1 IP040PHX1 IPH40H JP040PHN1 JP040PHQ1
60 Pound	CP060PMN1 CP060PMQ1 CP060PMX1 CPC60M IP060PMN1	IP060PMQ1 IP060PMX1 IPH60M IPH270 JP060PMQ1	CP060PHN1 CP060PHQ1 CP060PHX1 CPC60H IP060PHN1	IP060PHQ1 IP060PHX1 IPH60H JP060PHN1 JP060PHQ1
80 Pound	CP080PMN1 CP080PMQ1 CPC80M IP080PMN1	IP080PMQ1 IPH80M IPH370	CP080PHN1 CP080PHQ1 CPC80H IP080PHN1	IP080PHQ1 IPH80H JP080PHN1 JP080PHQ1
100 Pound	CP100PMN1 CP100PMQ1 CPC100M IP100PMN1	IP100PMQ1 IPH100M IPH460 JP100PMQ1	CP100PHN1 CP100PHQ1 CPC100H IP100PHN1	IP100PHQ1 IPH100H JP100PHN1 JP100PHQ1
125 Pound	Not Applicable		CP125PHN1 CP125PHQ1 CPC125H IP125PHN1	IP125PHQ1 IPH125H IPH570 JP125PHN1
140 Pound	CP140PMN1 CP140PMQ1 CPC140M IP140PMN1	IP140PMQ1 IPH140M IPH640 JP140PMQ1	CP140PHN1 CP140PHQ1 CPC140H IP140PHN1	IP140PHQ1 IPH140H JP140PHN1 JP140PHQ1
175 Pound	Not Applicable		CP175PHN1 CPC175H IP175PHN1	IPH175H IPH790

Model Number Familiarization Guide	
Sample Model Number: IP060PMQ1	
I	Model Number Prefix Brand
P	Product Family; P=IPH
060	Washer-Extractor Capacity (pounds dry weight of laundry)
P	Type of Control; P=PS40
M	Spin Speed; M=Medium
Q	Electrical Voltage; Q=200-208/220-240 Volt/50 or 60 Hertz/3 Phase

Introduction

This manual is designed as a guide for the installation of a washer-extractor equipped with DirectDrive.

NOTE: All information, illustrations and specifications contained in this manual are based on the latest product information available at the time of printing. We reserve the right to make changes at any time without notice.

Nameplate Location

The nameplate is located inside the door and on the upper rear panel. Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance. Refer to *Figure 1*.

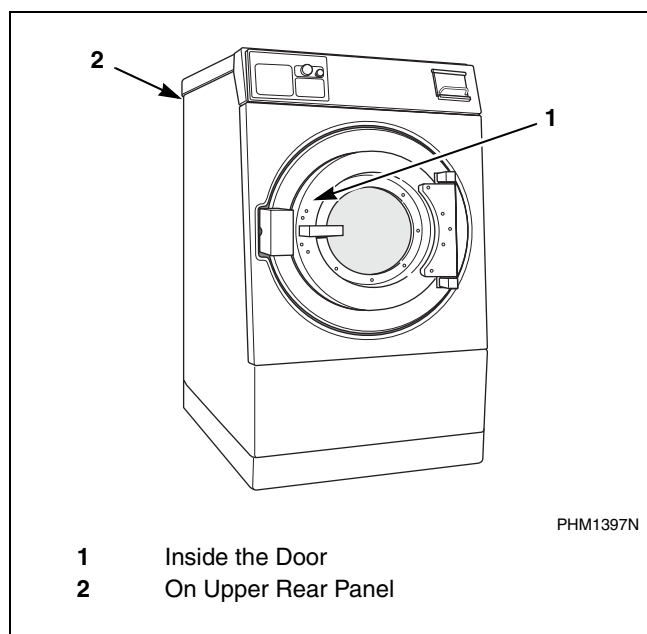


Figure 1

Replacement Parts

If literature or replacement parts are required, contact the source from which the washer-extractor was purchased or contact Alliance Laundry Systems LLC at (920) 748-3950 for the name of the nearest authorized parts distributor. A parts manual may be ordered by returning the reply card provided with each washer-extractor.

Customer Service

For technical assistance, contact your local distributor or call:

(920) 748-3121
Ripon, Wisconsin

A record of each washer-extractor is on file with the manufacturer. Always provide the machine's serial number and model number when ordering parts or when seeking technical assistance. Refer to *Figure 1*.

Operation

Machine Familiarization Guide

The machine familiarization guide in *Figure 2* and *Figure 3* identifies major operational features of the washer-extractor.

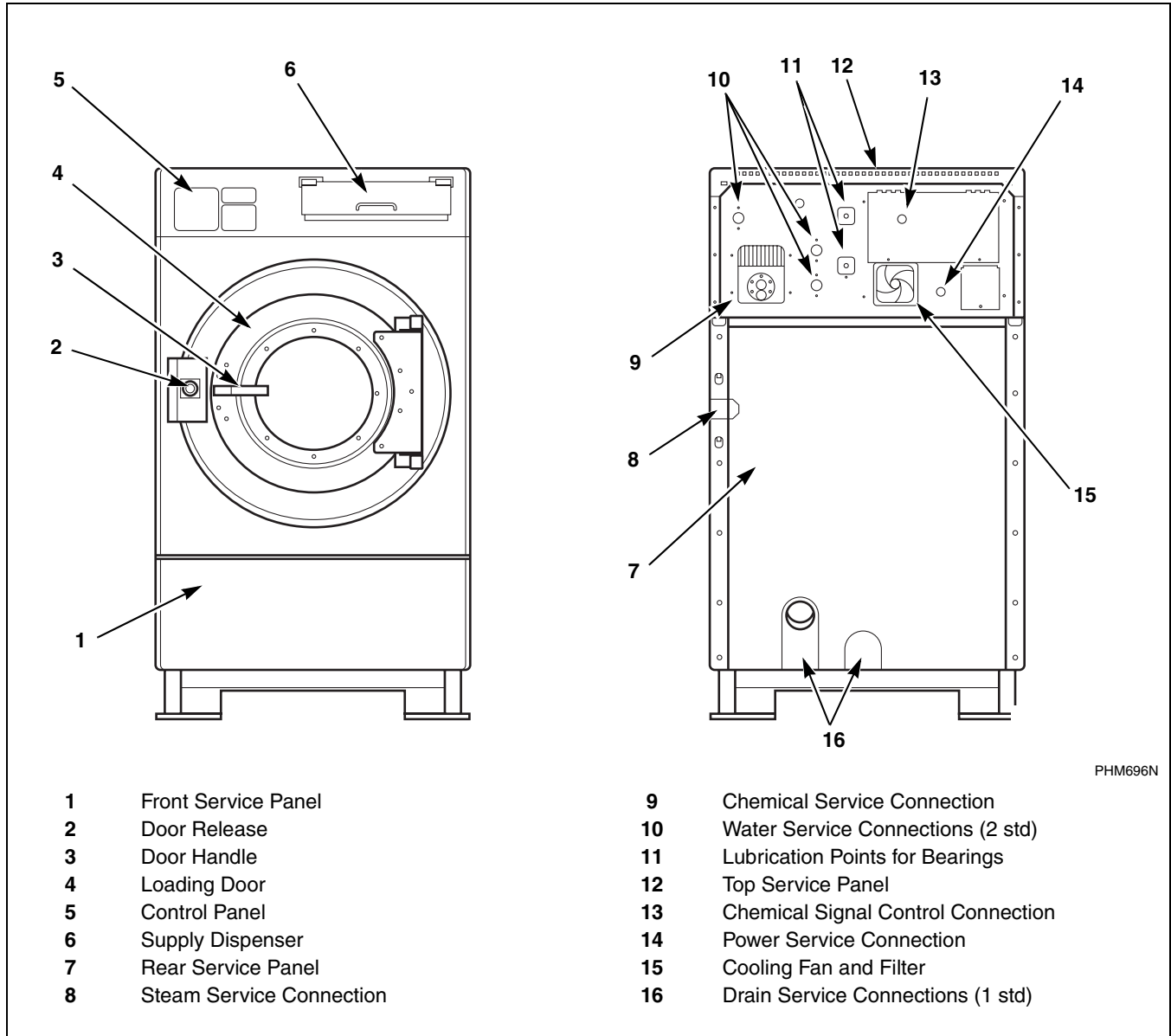
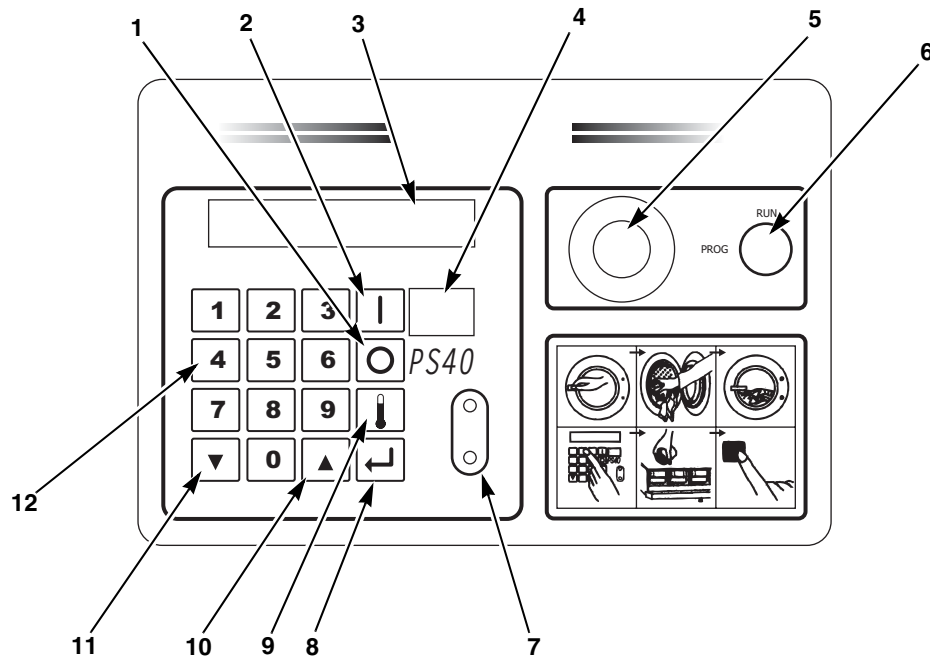


Figure 2



- | | | | |
|----------|------------------------------|-----------|----------------------------|
| 1 | Stop Button | 7 | Infra-Red Programming Port |
| 2 | Start Button | 8 | Enter Button |
| 3 | Main Display | 9 | Temperature/Toggle Button |
| 4 | Program Number/Alarm Display | 10 | Up Button |
| 5 | Emergency Stop Button | 11 | Down Button |
| 6 | Run/Program Mode Key Switch | 12 | Number Buttons |

PHM1398C

Figure 3

General Operation Instructions

1. Make sure machine has been installed properly and that water and electrical services are on.
2. Sort laundry according to care labels, type, etc.
3. Open door and make sure that machine is empty.
4. Load goods to be processed into drum.
5. Close and lock door securely by pushing in on door handle – it should click twice.
6. Open supply dispenser, slide out dispenser cups one at a time and fill with appropriate chemicals. Replace cups.
7. Close supply dispenser door.
8. Enter number of desired program. Refer to **Operating PS40 Control** section. Programs 0 – 9 have been preprogrammed at factory for typical conditions. Preprogrammed formulas may vary, so a **Programming Manual** will be provided to document preprogrammed formulas.
9. Press START button on control.
10. Machine door will automatically lock and selected formula will be executed.
11. When program is completed, display will show message “open door” and door will automatically be unlocked.
12. Open door by pushing door release panel and remove all goods.



Operating PS40 Control

Running a Program:

1. Make sure loading door is closed and locked.
2. Enter 2 digit program number corresponding to desired program.
3. Press START button.

Stopping a Program:

1. Press STOP button and wait for door to be unlocked.
2. Open loading door.
3. Close loading door.
4. Press STOP button – program will be aborted.
5. Open and close loading door again and program will be cleared and aborted. Display will return to “Start”.

Fast Advancing a Program:

1. Press and hold ENTER button and program time will advance.
2. When program time pauses, release ENTER button. To continue to end of program, continue holding ENTER button.

When PS40 Control fast advances it will pause whenever it comes to beginning of a drain or agitation routine.

Display bath temperature and cylinder speed:

1. Press TEMPERATURE/TOGGLE button and current temperature is displayed.
2. Press TEMPERATURE/TOGGLE button again and target temperature is displayed.
3. Press TEMPERATURE/TOGGLE button again and current cylinder RPM is displayed.
4. Display will revert to program status display after a few seconds.

Clearing an Alarm:

1. Note alarm code flashing on program display in order to look it up and correct problem.
2. Press ENTER button and display will be cleared. PS40 control will continue running normally.


An alarm code indicates a potential machine problem or condition that should be examined.

Clearing a Fault:

1. Note fault code flashing on program display in order to look it up and explain problem to a qualified technician.
2. Wait until machine has stopped and door is unlocked.
3. Open door.
4. Press E-Stop button or disconnect main electrical service to machine.
5. Call a qualified service technician.
6. When power is restored fault will be cleared and PS40 control will attempt to run again.


Tips:


- Always try to load machine as fully as possible. Small loads are generally harder on any front loading washer and cannot be processed as efficiently. They use more water per pound and more electrical energy.
- Use appropriate low sudsing detergents and chemicals.
- If a power failure interrupts machine during a program, program can be resumed where it was interrupted when power is restored by pressing START button on control.
- To add goods after a program has been started, press STOP button. After machine has drained and is safe, it will unlock door. Open door and add additional goods to be processed. Close door and press START button to restart program where it left off.
- If wrong program number is accidentally entered, control will allow you to reenter it and change program being run for up to 3 minutes.

	WARNING
<p>The PS40's fault codes indicate potentially hazardous operating conditions. If a Fault occurs the machine should be shut off and locked out until a service technician can repair the machine. All fault codes are indicated by a flashing "Fn" display. Where F indicates a fault condition, and n indicates the particular fault number.</p>	
W687	

Maintenance

Routine maintenance maximizes operating efficiency and minimizes downtime. Maintenance procedures described below will prolong life of machine and help prevent accidents.

	WARNING
Be careful when handling sheet-metal parts. Sharp edges can cause personal injury. Wear safety glasses and gloves, use the proper tools, and provide adequate lighting.	
SW035	

	CAUTION
Replace all panels that are removed to perform service and maintenance procedures. Do not operate the machine with missing guards or with broken or missing parts. Do not bypass any safety devices.	
SW019	

Daily, weekly, monthly and quarterly checklists are provided at end of this section. Laminate checklists to preserve them for repeated copying. Operators and technicians are encouraged to add checks specific to their washer-extractor's particular application.

The following maintenance procedures must be performed regularly at required intervals.

Removing Panels for Maintenance

Removal of Lower Front Panel

This panel is held on with two screws located at bottom of panel. Remove screws and push panel to right about 1 inch (25 mm). Lift off panel. Once lower front panel is removed, there is access to steam diffuser (if equipped), electrical heating elements (if equipped), shell (tub) support brackets, temperature probe and inside bolt-down holes for close-mount installations.

Removal of Top Panel

This panel is held on with two screws located on top rear of machine. 125, 140, and 175 pound machines have two top panels. Remove screws and pull top panel about 1 inch (25 mm) toward rear of machine. Lift off panel. To remove front top panel, first remove rear top panel, then remove two screws that attach front top panel to side panels. Pull front top panel about 1 inch (25 mm) toward rear of machine. Lift off panel. Once top panel(s) is removed, there is access to PS40 control box, PS40 keypad, water valves and hoses.


Removal of Lower Rear Panel

This panel is held on with four screws located on corners of panel. Remove screws and pull panel upward about 1 inch (25 mm). Lift off panel. Once rear panel is removed, there is access to bearing housing, motor, belts, pulleys, drain hose and drain valve and inside bolt-down holes for close-mount installations.

Daily

Beginning of Day

1. Inspect water inlet valve hose connections on back of washer-extractor for leaks, cracking or other deterioration.
2. Inspect steam hose connections for leaks, cracking or other deterioration (where applicable).

	WARNING
<p>To reduce the risk of electrical shock, serious injury or death, disconnect the electrical power to washer-extractor before examining the wiring.</p>	
W636	

3. Check electrical service connections at back of machine. Make sure they are secure and that there is no deterioration or cracking of insulation. If there are any exposed bare conductors or damaged insulation, call a service technician.
4. Check door interlock before starting operation:
 - a. Attempt to start with door open. Machine should not start with door open.
 - b. Close door without locking it and attempt to start. Machine should not start with door unlocked.
 - c. Close and lock door and start a cycle. Attempt to open door while cycle is in progress. Door should not open.

If door interlock failed any of the above tests, do not operate machine. Call a service technician.

End of Day

1. Clean AC drive filter:
 - a. Snap off external plastic cover which contains filter.
 - b. Remove foam filter from cover.
 - c. Wash filter with warm water and allow to air dry. Filter can be vacuumed clean.
2. Clean door gasket of residual detergent and all foreign matter.
3. Clean automatic supply dispenser and lid inside and out with mild detergent. Rinse with clean water.
4. Clean powder dispenser and lid with mild detergent. Rinse with clean water.
5. Clean machine's top, front and side panels with mild detergent. Rinse with clean water.
6. Leave loading door open at end of each day to allow moisture to evaporate.

NOTE: Unload washer-extractor promptly after each completed cycle to prevent moisture buildup. Leave loading door open at end of each completed cycle to allow moisture to evaporate.

Weekly

1. Check washer-extractor for leaks.
 - a. Start an unloaded cycle to fill washer-extractor.
 - b. Verify that door and door gasket do not leak.
 - c. Verify that drain valve is operating and that drain system is free from obstruction. If water does not leak out during prewash segment, drain valve is closed and functioning properly.
2. Inspect floor around machine for water indicating an internal leak.

Maintenance

Monthly

NOTE: Disconnect power to washer-extractor at its source before performing monthly maintenance procedures.

Keep the following lubricants on hand for periodic maintenance of machine.

Main Bearings	Shell Alvania® 71125 Grease
Motor	Motor bearings are sealed and do not require service.
Door Latch	Silicon Spray Grease
Door Handle	Silicon Spray Grease

1. Each month or after 200 hours of operation, lubricate bearings using grease fittings located in upper rear panel. Pump grease gun slowly, using full strokes. Use the following schedule to determine number of strokes to use for machine.


Machine type	Number of strokes per month or 200 hours of operation	
	Front Bearing	Rear Bearing
40M, 60M	2	1
40H, 60H, 80M, 100M	2	2
80H, 100H, 125H, 140M	3	2
140H, 175H	4	2

The grease must have the following characteristics:

- NLGI Grade 2
(Recommended: Shell Alvania® #71125)
- Lithium-based
- Water-insoluble
- Anti-rusting
- Anti-oxidizing
- Mechanically stable

The grease must have adequate base oil viscosity with one of the following ratings:

- ISO VG 150 (135 – 165 cSt at 40°C or 709 – 871 SUS at 100°F)
- ISO VG 220 (198 – 242 cSt at 40°C or 1047 – 1283 SUS at 100°F)
- An SAE 40 rating is also acceptable as long as cSt or SUS values are within specified ranges.

	WARNING
<p>Never mix grease types (Ex. Silicon, Petroleum, Lithium, Poly-Urea)! Never use any grease other than that specified at the grease fittings on the machine. Doing so may cause premature bearing failure and void any applicable warranties.</p>	
W694	

If machine is fitted with SKF System 24® automatic lubricators, check that they are functioning by noting piston position each month. Set them to dispense their contents over 12 months for all machine models. Always mark new lubricators with installation date.

2. Remove rear service panel and inspect drive belts for uneven wear, frayed edges or cracking. Push on belts and make sure motor can move about its pivot point (this ensures belts are automatically being tensioned correctly).

3. Verify V-belts are properly aligned by checking pulley alignment. Place a straight edge across both pulley faces. The straight edge should make contact with pulleys in two places. Refer to *Figure 4*.

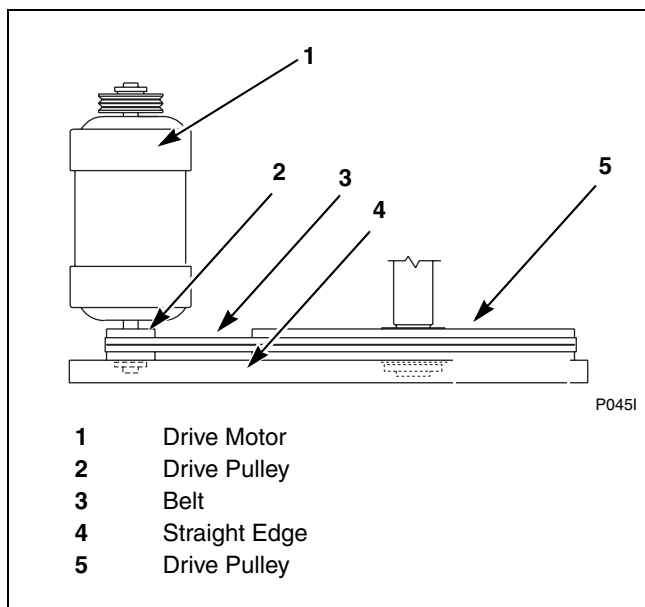


Figure 4

4. Remove back panel and check all hoses for leaks, cracking and deterioration.
5. Open machine top cover and check supply dispenser hoses and hose connections for leaks.
6. Remove front service panel. Check all hoses and temperature probe for leaks, cracking and deterioration.

7. Clean inlet hose filter screens:
 - a. Turn water off and allow valve to cool, if necessary.
 - b. Unscrew inlet hose and remove filter screen.
 - c. Clean with soapy water and reinstall. Replace if worn or damaged.
8. Make sure that all hose clamps are tight and all hoses are secure
9. Tighten motor mounting bolt locknuts and bearing bolt locknuts, if necessary.
10. Verify that motor plate mounting bolt is tight but plate is free to pivot.
11. Use compressed air to clean dust and lint from motor.
12. Clean interior of washer-extractor, both basket and shell, by wiping with a water-soaked sponge or cloth.
13. Open rear electrical enclosure and clean out any dust or lint build up in box with a vacuum cleaner and a soft brush. Lint build-up can result in a fire hazard.

	WARNING
Do not clean the cooling fans with compressed air! Doing this spins the fan too fast and will cause premature fan failures.	
W695	

14. Remove chemical supply components and check for residual chemicals. Clean as necessary and replace.

Maintenance

Quarterly

NOTE: Disconnect power to washer-extractor before performing quarterly maintenance procedures.

1. Tighten door hinges and fasteners, if necessary.
2. Tighten anchor bolts, if necessary.
3. Verify that drain motor shield is in place and secure.
4. Check all painted surfaces for bare metal.
(Matching gray paint is available from manufacturer.)
 - a. If bare metal is showing, paint with primer or solvent-based paint.
 - b. If rust appears, remove it with sandpaper or by chemical means. Then paint with primer or solvent-based paint.
5. Clean steam filter, where applicable.
 - a. Turn off steam supply and allow time for valve to cool.
 - b. Unscrew nut.
 - c. Remove element and clean.
 - d. Replace element and nut.

Care of Stainless Steel

- Remove dirt and grease with detergent and water. Thoroughly rinse and dry after washing.
 - Avoid contact with dissimilar metals to prevent galvanic corrosion when salty or acidic solutions are present.
 - Do not allow salty or acidic solutions to evaporate and dry on stainless steel. Wipe clean of any residues.
 - Rub in direction of polish lines or “grain” of stainless steel to avoid scratch marks when using abrasive cleaners. Use stainless steel wool or soft, non-metal bristle brushes. Do not use ordinary steel wool or steel brushes.
 - Remove discoloration or heat tint from overheating by scouring with a powder or by employing special chemical solutions.
- Do not leave sanitizers or sterilizing solutions on stainless steel equipment for prolonged periods of time.
 - When an external chemical supply is used, ensure no siphoning of chemicals occurs when washer-extractor is not in use. Highly concentrated chemicals can cause severe damage to stainless steel and other components with machine. Damage of this kind is not covered by manufacturer’s warranty. Locate pump below washer-extractor’s injection point to prevent siphoning of chemicals into machine.
 - If stainless steel appears to be rusting the source of the rust may actually be an iron or steel part not made of stainless steel, such as a nail or screw. Tip: Paint all carbon steel parts with a heavy protective coating. Stainless steel fasteners should be used whenever possible.

Daily Preventive Maintenance Checklist

Machine _____	Week of: _____						
Operator _____	Days						
Checks	1	2	3	4	5	6	7
Observe All Safety Warnings! Disconnect power to machine before performing daily maintenance procedures.							
Beginning of Day							
1. Inspect water inlet valve hose connections on back of washer-extractor for leaks.							
2. Inspect steam hose connections for leaks, where applicable.							
3. Check electrical service connections at back of machine.							
4. Inspect door lock and interlock before starting operation:							
a. Attempt to start machine with door open.							
b. Close door without locking it and attempt to start machine.							
c. Close and lock door, start a cycle and attempt to open door while cycle is in progress.							
End of Day							
1. Clean AC drive box filter(s).							
2. Clean door gasket of all foreign matter.							
3. Clean automatic supply dispenser and lid.							
4. Clean machine's top, front and side panels.							
5. Leave loading door open at end of each day to allow moisture to evaporate.							
NOTE: Unload machine promptly <i>after each completed cycle</i> to prevent moisture buildup. Leave loading door open after each completed cycle to allow moisture to evaporate.							

Weekly Preventive Maintenance Checklist

Machine _____	Month _____				
Operator _____	Week Ending:				
Checks	/	/	/	/	/
Observe All Safety Warnings! Disconnect power to machine before performing weekly maintenance procedures.					
1. Check washer-extractor for leaks:					
a. Start an unloaded cycle to fill machine.					
b. Verify that door and door gasket do not leak.					
c. Verify that drain valve is operating.					
2. Inspect floor around machine for water indicating an internal leak.					

Monthly Preventive Maintenance Checklist

Machine _____ Operator _____	Month			
Checks				
Observe All Safety Warnings! Disconnect power to machine before performing monthly maintenance procedures.				
1. Each month OR every 200 hours of operation, lubricate bearings.				
2. Clean AC drive fins.				
3. Determine if V-belts require replacement or adjustment:				
a. Check V-belts for uneven wear and frayed edges.				
b. Verify that V-belts are properly tensioned.				
c. Verify that V-belts are properly aligned.				
4. Remove back panel and check hoses for leaks.				
5. Unlock hinged lid and check supply dispenser hoses and connections.				
6. Clean inlet hose filter screens. Replace if worn or damaged.				
7. Tighten motor mounting bolt locknuts and bearing bolt locknuts, if necessary.				
8. Use compressed air to clean lint from motor.				
9. Clean interior of washer-extractor, both basket and shell, by wiping with a water-soaked sponge or cloth.				
10. Use compressed air to clean moisture and dust from all electrical components.				
11. Remove lower rear panel and inspect drive belts for uneven wear, frayed edges or cracking. Push on belts and make sure motor can move about its pivot point – this ensures belts are automatically being tensioned correctly.				
12. Remove lower front panel. Check all hoses and temperature probe for leaks, cracking and deterioration.				
13. Using a 5/16 in. hex driver, make sure all hose clamps are tight and all hoses are secure.				
14. Verify motor plate mounting bolt is tight, but that plate is free to pivot.				
15. Turn off, inspect and clean any external water and steam filters.				
16. Replace all panels.				
17. Restore all utility service (power, water and steam) connections.				

Quarterly Preventive Maintenance Checklist

Machine _____ Operator _____	Quarter			
Checks				
Observe All Safety Warnings! Disconnect power to machine before performing quarterly maintenance procedures.				
1. Tighten door hinges and fasteners, if necessary.				
2. Tighten anchor bolts, if necessary.				
3. Verify drain motor shield is in place and secure.				
4. Check all painted surfaces for bare metal. Repair, if necessary.				
5. Clean steam filter, if applicable.				

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