

AQUABLAZE
OPERATOR'S MANUAL
FOR "AB" SERIES HOT WATER PRESSURE WASHERS

This manual is for models ranging from 1 to 10 GPM and 500 to 5000 PSI hot water pressure washers, 120 volt and 12 volt versions, gas or diesel driven, oil-fired.

aQuablaze Nomenclature:

AB(10-100)(5-50)(D,GB)(G,D)F(12V,120V)

AB: AB Series

(10-100): GPM multiplied by 10

(5-50): PSI divided by 100

D: Direct-Drive

GB: Gear-Boxed

G: Gasoline-driven

D: Diesel-driven

F: Fuel Oil Heated

12V: 12 Volts

120V: 120 Volts

1. READ OWNER'S MANUAL THOROUGHLY. FAILURE TO FOLLOW INSTRUCTIONS COULD CAUSE MALFUNCTION OF THE MACHINE AND RESULT IN DEATH, SERIOUS BODILY INJURY AND/OR PROPERTY DAMAGE.
2. Know how to stop machine and bleed pressures quickly. Be thoroughly familiar with all controls.
3. Read warnings on additive containers. When applying detergents follow the safety rules on the detergent label.
4. Ventilate work area when using toxic or pungent additives to reduce your exposure to toxic fumes.
5. Use protective wear, especially for the eyes, feet and skin.
6. Be careful of slippery floors. Some additives make a normally safe area extremely slippery and dangerous.
7. Keep children away from the machine and wash area.
8. Do not change nozzle size. Each machine is designed to operate with a specific size nozzle. An incorrect nozzle could cause excessive pressure resulting in pump damage and possible personal injury.
9. High pressure stream that this equipment can produce can pierce skin and its underlying tissues, leading to death, serious injury or possible amputation. Do not point the nozzle where damage or injury could result. Eg. eyes, skin, people, animals.
WARNING: Risk of injection or severe injury. Keep clear of Nozzle. Do not direct discharge stream at persons. This equipment is to be used only by trained operators.
ADVERTISSEMENT: Risque d'injection et de blessures graves. Se tenir a l'ecart du jet. Ne pas diriger le jet de sortie vers d'autres personnes. Confier l'utilisation de ce materiel a un operateur qualifie
10. Do not point the nozzle toward an electrical outlet as you risk severe shock and personal injury.

11. Use only recommended No. 2 fuel oil in this unit. Do not use gasoline, crankcase drainings, or oil containing gasoline or solvents. Ne pas utiliser d'essence, de produits de vidange ni d'huile contenant de l'essence ou des solvants.
12. Risk of asphyxiation. Never run the unit in an enclosed area. Exhaust fumes are poisonous. Ensure all areas are properly vented in accordance with local regulating and/or CSA standard B139. This Machine is not to be connected to a vent. Ne pas raccorder cet appareil a un tuyau d'evacuation.
13. Risk of fire. Do not add fuel while the machine is operating.
14. Risk of Explosion. Do not spray flammable liquids or operate in an explosive location. Operate only where open flame or torch is permitted.
15. Whenever you stop spraying, always engage the safety latch on the trigger gun.
16. Do not remove hose, guns, nozzles or any components while machine is still hot or while it is running. Whenever changing nozzles, always turn the engine off and always relieve the pressure by triggering the gun. Always engage the safety latch on the trigger gun. Always change the nozzle with the gun and wand pointed away from you, and never pointed at any person or animal.
17. Stay alert, know what you are doing. Do not operate this machine while under the influence of alcohol, drugs or while fatigued.
18. Do not tie back or block trigger gun in OPEN position.
19. Do not overreach or stand on an unstable support while operating this machine. Maintain good balance and footing at all times.
20. Do not permit machine to run unattended.
21. Do not alter original factory settings prior to operating this machine. Risk of injury to yourself and/or to other persons may occur.
22. All installations must comply with local codes. Contact your electrician, plumber, utility company, or the selling distributor for specific details.
23. Grip cleaning wand securely with both hands before starting the machine. Failure to do this could result in injury from a whipping wand.
24. Pop-off valves or burst discs that are leaking must be replaced.
25. Burst discs that have been discharged MUST be replaced. Burst discs are for one-time use.

26. Protect machine from freezing.
27. Be certain all quick coupler fittings are secured before using pressure washer.
28. Do not allow acids, caustic or abrasive fluids to pass through the pump.
29. Inlet water must be from a cold, fresh city water supply.
30. The best insurance against an accident is precaution and knowledge of the machine.
31. aQuablaze will not be liable for any changes made to our standard machines, or any components not purchased from aQuablaze.
32. Follow maintenance instructions specified in manual.
33. Turn burner off and cool to 100 degrees Fahrenheit before turning machine off.
34. Use extreme caution when moving pressure washer over rough or uneven surfaces.
35. This machine has been provided with Warning and Instruction decals for the safety of the operator. If these decals are removed or become damaged they should be replaced. Contact your dealer for replacement decals.
36. When pressure washer is in use keep a minimum distance of 10ft from the side on which the burst disc is located.

WARNING - risk of injection or severe injury. Keep clear of nozzle. Do not direct discharge stream at persons. This equipment is to be used only by trained operators.

SETTING UP

When unpacking the unit, if you find damage due to shipping, contact your dealer. Unpack carefully. Wear safety glasses or goggles while unpacking, assembling or operating pressure washer.

- 1.) Cut strapping band from pressure washer and pallet.
- 2.) Remove pressure washer from pallet.

INCOMING WATER SUPPLY

Connect a garden hose to the water inlet of the unit. The water supply must be able to deliver 8 gallons per minute at a minimum pressure of 5 psi.

OUTGOING (HIGH PRESSURE) WATER

To the water outlet fitting, connect the high pressure hose, trigger gun, extension and nozzle.

PUMP - OIL

Before operating the pump, check to see that the oil is level with the dot on the sight gauge which is located at the rear of the pump. The oil level can also be checked using the dipstick which is attached to the oil filler cap. Ensure that the vent hole in the cap/dipstick is clear of dirt. When oil is required, use #30 non-detergent heavy duty oil.

BURNER – FUEL

Fill the burner fuel tank with no. 2 fuel oil

BATTERY (FOR 12 VOLT UNITS)

Battery must be installed before starting the engine. (the engine will start without the battery installed, but damage will occur.)

BURNER

Please refer to Beckett oil-fired burner manual

OPERATION
STARTING THE PRESSURE WASHER

1. Make sure that the burner main switch is "OFF", and that all other switches are in the "OFF" position.
2. Connect water supply to the Washer. (If using 120 volt version burner--plug in 15 amps/120 volts power cord)
3. Pick up spray gun and hold it firmly, and pull on the gun trigger to evacuate all air in the system.
4. Release gun trigger.

IMPORTANT: Before installing pressure nozzle on initial start-up or if machine has not been used in a very long time, turn on the water supply and allow water to run from the end of the wand until clear to prevent the pressure nozzle from clogging.

STARTING THE ENGINE

1. Hold securely and open the Trigger Gun to reduce the load on the engine.
2. Turn the Engine Switch on.
3. Start Engine.
4. Advance the throttle to bring the engine to full speed.

Caution - The force of the water leaving the nozzle causes a kick-back or recoil at the trigger gun.

BURNER START UP

Turn Burner Main Switch to "ON". Adjust thermostat to desired temperature.

WARNING - Do not use gasoline, crankcase oil, any oil-containing gasoline, or any other volatile substance.

CAUTION - Do not run the fuel pump dry. Always check the fuel level in the tank before running the washer.

CONTACT QUALIFIED SERVICE TECHNICIAN UNDER IGNITION OR FLAME FAILURE

OPERATION (Continued) CHANGING PRESSURE

The variable Unloader Valve is already set to full pressure. Do not adjust the Unloader past the maximum pressure, as this will not increase the performance, and the excessive shutoff pressure will damage the Washer.

CLEANING CHEMICALS

For chemical application, insert soap nozzle at the end of the lance or use adjustment handle on wand to open low pressure side of dual lance. To change concentration, adjust

metering valve toward open or close. Use only chemicals with a PH between 7.0 and 10.0.

STOPPING THE WASHER

1. Turn thermostat to “off” position, then shut off main Burner Switch.
2. Pump cold water through the Washer for two minutes.
3. Retard the throttle until the engine to idling.
4. Shut off Engine Switch and press Trigger Gun simultaneously to release pressure in the line.

SAFETY COMPONENTS UNLOADER VALVE

The Unloader Valve allows all of the water delivered by the pump to return to the pump suction side. If the trigger gun is closed or "OFF", the Unloader Valve goes into the "bypass mode" and the pump runs without pressure.

However, the pump may be severely damaged, due to excessive overheating, if left running in the "bypass mode" or "gun-off" position for more than 4 minutes.

SAFETY RELIEF VALVE

The Relief Valve prevents the machine from being subjected to abnormally high pressures. If this situation occurs, the valve will blow off relieving the pressure in the coil. This valve may also operate if the unloader is adjusted too high. Tampering with the relief valve will void manufacturer's warranty.

BURST DISC

The Burst Disc prevents the machine from being subjected to abnormally high pressures. If this situation occurs, the disc will blow, relieving the pressure in the coil. This valve may also blow if the unloader is adjusted too high. Burst disc is only good for one-time use. Once burst disc blows IT MUST BE REPLACED. Tampering with the burst disc will void manufacturer's warranty. The burst disc is located on the outlet side of the heating coil. Operator must keep 10 ft from the side of the washer that the burst disc is located at all times while machine is in hot water mode.

PRESSURE SWITCH

The Pressure Switch ensures that there is pressure, and therefore there is water flow at the head of the pump. This control does not operate at less than 435/650 psi. Therefore if the pump is on "bypass mode", the burner will not operate.

THERMOSTAT

The built-in thermostat allows temperature adjustment up to 250 °F

THINGS TO CHECK REGULARLY

1. Check for SYSTEM LEAKS. Leaks in the pressure side of the system can cause premature wear (or even failure) of the pump. The WARNING signal for this kind of leak is "frequent" cycling of the unloader. ("FREQUENT" means more than once every 2 minutes in the "Gun-Off" position.) Check the gun and swivel joints for leaks.
2. Check the OIL LEVEL at least once a week. Add ONLY the type and grade of oil specified for this pump.
3. CHANGE OIL as recommended.
4. After you use chemical additives, thoroughly FLUSH the system with clean water.
5. Never run the washer without water. TURN WATER ON FIRST.
5. PROTECT FROM FREEZING! When transporting your washer in temperatures below 32°F (0°C), WINTERIZE the pump, hoses and gun.

WINTERIZING YOUR PRESSURE WASHER

(This is also good practice if the cleaner is to remain unused for more than 3-4 weeks.)

WITH A FLOAT BOX

1. Shut off the water supply, and disconnect hose.
2. You need a short (2') length of hose with a male garden hose fitting on one end.
3. Connect the short hose to the inlet of the machine.
4. Put the other end of the water hose into a container of windshield washer or anti-freeze.
5. Turn on the Cleaner and open gun until liquid comes out of the nozzle "foamy" or "soapy".
6. Put gun in "OFF" position for 5 seconds to get antifreeze into bypass line. Shut off motor, unit is now winterized.

CAUTION - If your hose is longer than 35 feet, the float box may empty before the liquid from the nozzle gets foamy. If this happens, refill the float box with antifreeze and continue.

WITHOUT A FLOAT BOX

1. Shut off the water supply and disconnect hose.
2. You need a short (2 feet) length of hose with a male garden hose fitting on one end.
3. Connect the short hose to the inlet of the machine.
4. Put the other end of the hose into a container of windshield washer or antifreeze.
5. Turn on Cleaner and open gun until liquid comes out of nozzle "foamy" or "soapy".
6. Put gun in OFF position for 5 seconds to get antifreeze into bypass line. Shut off motor or engine.
7. Unit is now winterized.

Coil Maintenance - Liming of the coils is caused by mineral deposits from the water and occurs in hard water areas. The deliming procedure requires special caution and tools to perform. We recommend that you call your local service person if problems arise.

CHECKING FOR SCALE OR LIMING IN THE COIL

1. Remove outlet orifice and check for any liming. Clean the orifice if needed.
2. Remove outlet gun and hose.
3. Install a pressure gauge between the unloader and coil inlet.
4. Turn on the pump without the water outlet gun or outlet orifice. If the pressure reading is above 50 psi, have your machine descaled or else, reassemble the machine.

DESCALING

If pressure in the coil is over 50 psi - descaling is recommended. Descaling requires the use of highly corrosive chemicals. It also requires the use of goggles and special protective clothing.

1. This procedure requires a 20L pail of descaling chemical.
2. Plumb the pump suction into the pail of descaling compound with a screen on the end of the suction line.
3. Plumb a hose from the machine outlet back in the pail of descaling compound.
4. Turn the pump on and circulate the compound through the machine for about 20 minutes.
5. After that time the chemical being pumped out of the coil should be running thin and dirty rather than foaming heavily.
6. Remove the extra plumbing and reconnect machine together and run clean cold water through the machine for five minutes.

TROUBLE SHOOTING

AQUAblaze	TROUBLE SHOOTING	
TROUBLE	POSSIBLE CAUSE	REMEDY
Low Pressure	Leaks in water system Insufficient water supply Outlet orifice work or wrong size	Tighten all fittings Fill tank or increase line size to machine Replace with correct orifice. CAUTION: Do not use smaller than recommended. Excessive pressure will damage pump.

	<p>Gun control unloader valve bypass leak</p> <p>Dirty or worn check valves in pump</p> <p>Cylinder cups leaking and/or worn cylinder sleeves</p>	<p>Repair or replace unloader valve</p> <p>Replace or clean. Refer to high pressure pump manual.</p> <p>Replace. Refer to high pressure pump manual.</p>
Excessive Pressure	<p>Outlet orifice restricted</p> <p>Scale or dirt in coils</p> <p>Pump Speed too high</p>	<p>Remove orifice at tip of gun and clean. Flush coil with water before replacing.</p> <p>De-scale coils.</p> <p>Check water output GPM.</p>
Relief Valve Operates	<p>Relief valve set at low pressure</p> <p>Relief valve dripping after adjustment</p> <p>Unloader valve stuck</p>	<p>Re-adjust relief valve.</p> <p>Replace valve.</p> <p>Repair unloader valve.</p>
Weak or no chemical at nozzle	<p>Clogged soap screens</p> <p>Air leak around soap siphon check valve and/or metering valve leaking</p>	<p>Clean or replace.</p> <p>Tighten all fittings and tubing.</p>
TROUBLE	POSSIBLE CAUSE	REMEDY
Burner will not ignite	<p>No fuel</p> <p>Electrodes out of alignment</p> <p>Electrode insulator failure</p> <p>Water pressure switch not closing</p>	<p>Fill fuel tank and check fuel filter for water and other contaminants.</p> <p>Adjust.</p> <p>Check for breaks, cracks, or sparks trails- Replace.</p> <p>Adjust, repair or replace</p>

	Plugged oil nozzle Faulty burner oil pump	Replace (do not clean). Adjust or replace
Unit smokes	Improper fuel Air to burner insufficient Fuel nozzle interior loose	Use NO.2 Fuel oil. Air adjustment on burner – Remove soot from coils. Replace nozzle
Water temperature too low	Thermostat adjustment Coils liming up Improper combustion	Adjust the thermostat to desired temperature. Descale. Readjust burner.

MAINTENANCE

PUMP

WARNING: Unauthorized machine modification or use of non-approved replacement parts may cause personal injury and/or property damage and will void the manufacturer warranty.

Lubrication: To lubricate pump, use 30W non-detergent oil for pump crankcase. Crankcase must be filled to center of dot on oil gauge found on back-side of pump. During the break-in period, make sure the oil is changed after the first 50 hours of operation. After that, replace oil every 3 months or 500 hours of operation, whichever comes first.

Pump Care:

DO NOT pump acids
DO NOT allow pump to run dry
DO NOT run any detergents or chemicals through pump
Winterize if storing in freezing temperatures

Use a water softener on the water system if known to be high in mineral content
Clean filter screen in water inlet periodically

Gasoline/Diesel Engine:

Refer to the provided Engine Manual for recommended maintenance

Unloader:

WARNING: The unloader valve has been factory set and sealed and is a field non adjustable part. Tampering with the factory setting may cause personal injury and/or property damage, and will void the manufacturer warranty.

WARRANTY POLICY

This product is warranted to be free from defects in materials and workmanship under normal use and service, for a period of one year from the date of purchase, unless stated otherwise below, when operated and maintained in accordance with the Maintenance and Operation Instructions supplied with the unit. The warranty does not cover misuse or negligence.

This warranty is extended only to the original purchaser when purchased directly from aQuablaze or an official aQuablaze dealer. Hoses, spray guns, wands and other accessories are warranted for 90 days. Warranty is void if repairs are attempted by anyone other than an Authorized Service Centre.

If a difficulty develops with the product, you should contact the nearest Authorized Repair Centre or AQUABLAZE office. Only these locations are authorized to make repairs to the product or replacement of defective parts, which will be done at no charge within a reasonable time after receipt of the product. Units or parts should be returned at the customer's expense to the nearest AQUABLAZE location or Authorized Service Centre. Pack unit in a strong carton and pad tightly to avoid damage. Damage in transit is not covered by warranty. Include original purchase receipt with any claim (but keep a copy for your files). AQUABLAZE liability under warranty is limited to repair of the product and/or replacement of parts and is given to the purchaser in lieu of all other remedies including incidental and consequential charges. There are no expressed warranties other than those specified herein.

SPECIAL WARRANTIES WARRANTY PERIOD

Honda/Briggs and Stratton Vanguard Series Engine/Robin Subaru (warranted by respective manufacturer) 2 year parts and labour
refer to your engine owners manual. For other makes of gas or diesel engines please refer to your engine owners manual.

AR North America Pump (Annovi Reverberi) Limited Warranty 5 years non-wear parts

Fabricated Components 1 year parts, 1 year labour (frame, base, roll-cage, handle)
Burner, Transformer, Control Switch, Safety Switch 1 year parts and labour
Schedule 80 Heating Coil Limited Warranty 3 year parts, 1 year labour *(see below)

We will not replace coils under warranty if the coils have been subjected to misuse such as:

1. Freezing 2. Lime Deposit 3. Other foreign material deposit 4. Shock or Vibration
Any replacement during the warranty period will have a warranty of one (1) year, or the balance of the original warranty, whichever is greater.

Contact your dealer for sales and service support. For your nearest dealer, contact

aQuablaze
6 Carson Court, Brampton,
ON, CANADA, L6T 4P8
1 866 323 0042

PUMP WARRANTY POLICY

Warranty for Pumps on aQuablaze AB Series Pressure Washers

Annovi Reverberi (A.R.) Cam Shaft Plunger Pumps are warranted for a period of five years and Axial Radial Pumps are warranted for a period of one year to the original purchaser. Accessories such as but not limited to hoses, guns, wands, nozzles are warranted for a period of 90 days.

Warranty covers manufacturing defects or workmanship; that may develop under normal use and service in a manner up to the directions and usage recommended by the manufacturer.

Warranty does not apply to misuse or when pump or accessory is altered or used in excess of recommended speeds, pressures, temperatures or handling fluids not suitable for pump or accessory material construction. Warranty does not apply to normal wear (such as but not limited to: seals/packings, valves, plungers and sealing o-rings), freight damage, freezing damage or damage caused by parts or accessories not supplied by aQuablaze.

Liability of manufacturer for warranty is limited to repair or replacement of parts only at the option of the manufacturer when such products are found to be of original defect or workmanship at the time it was shipped from factory. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability and of any and all other obligations or liabilities on the part of the manufacturers or equipment.

Any product returned to aQuablaze should be shipped freight prepaid to:

aQuablaze
6 Carson Court, Brampton
ON, CANADA, L6T 4P8
Tel. 1 866 323 0042

and must display a Return Goods Authorization number obtained from aQuablaze. In the course of marketing or servicing the customer or potential customer's needs, aQuablaze will use its best judgement in its recommendations. However, the ultimate responsibility for product application decisions shall rest with the customer. The sole and only warranty made by aQuablaze is the limited warranty described above. aQuablaze makes no other warranty of any kind, expressed or implied, including any implied warranty or merchantability or of fitness for a particular use or purpose. aQuablaze disclaims and denies any liability for any direct, indirect, special incidental or consequential damages which may be suffered as a result of sale, delivery, servicing, use, loss of any product, downtime, labour, freight or other charges not expressly included herein. The only liability and the total liability of aQuablaze. under this warranty or in any claim involving aQuablaze is expressly limited to the replacement or purchase price of the product.

The following items are not warranted due to matters beyond aQuablaze's control.

1. Normal wear and tear on parts that are considered standard wear parts;
2. Defects caused by the fault or negligence of the buyer or third buyer;
3. Use of unauthorized repair parts;
4. Modifications made by the customer;