

Dynablast[®]

OPERATOR'S MANUAL

HOT WATER PRESSURE WASHERS



MAN-SQN/P-E-0507

Dynablast Inc.
2625 Meadowpine Blvd.
Mississauga, Ontario L5N 7K5, Canada
1.888.881.6667 www.dynablast.com

SQN/P SERIES

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1. Read all safety and operating instructions before using the unit.
2. Read warnings on additive containers.
3. Ventilate work area when using toxic or pungent additives to eliminate your exposure to toxic fumes.
4. Use protective wear, especially for the eyes and skin.
5. Be careful of slippery floors. Some additives make a normally safe area extremely slippery and dangerous.
6. Keep children and animals away from the machine and wash area.
7. **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. Refer to parts list for correct nozzle size.
8. **DO NOT** point the nozzle toward an electrical outlet as you risk severe shock and personal injury
9. Never run the unit in an enclosed area. Exhaust fumes are poisonous.
10. Whenever you stop spraying, always engage the safety latch on the trigger gun.
11. **CAUTION - When changing nozzles, always turn the motor or 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 yourself or at any other persons or animals.**
12. **DO NOT** smoke when handling fuel.
13. **DO NOT ABUSE** the high pressure hose by driving over it. The hose may rupture and injure an unsuspecting passer-by.
14. **WARNING- If you smell gas, shut off the gas supply to the appliance, extinguish any open flame, and test all joints with a soap solution. If the odor persists, call your gas supplier immediately.**

WARNING- Risk of severe personal injury keep clear of nozzle. Do not direct discharge stream at yourself or at any other persons or animals. The water discharge from this unit is under extreme pressure and heat (heat, when hot water washing). This equipment is to be used only by trained operators.

If you find any damage due to shipping when unpacking the machine, contact your dealer

MILLIVOLT SYSTEM

Models MHGSQ30N, MHGSQ30P are intended to be a non-portable water heater for use with high pressure washing equipment. There is no electrical connection to the pressure washer. The power for the gas control is supplied entirely by the 750 millivolt power generator or thermopile. Power is generated when the pilot burner is lit and will stop if the flame goes out.

FUEL SUPPLY

For stationary installations, have the gas piping installed by a licensed gas fitter. This must be done in accordance with the gas codes B149.1 for natural gas and B149.2 for propane gas.

FOR MHGSQ30P – PROPANE

For machines with portable LPG tanks with vapour withdrawal, connect the supply hose and regulator into the POL fitting in the valve on the supply tank. Remember that this fitting has a left hand thread. Open the tank valve and check for leaks in the propane connections with a soap solution. Depress the pilot valve for approximately a minute to purge the lines of air. Wait 5 minutes to allow any escaped propane to dissipate before lighting the pilot.

WARNING - Do not use forklift tanks for this application.

CAUTION - Propane gas is heavier than air and can collect in low hollow areas in an explosive mixture. Ensure that the areas where you operate this machine are open to breezes, etc.

PROTECT FROM FREEZING

When transporting or storing your module at temperatures below freezing, make sure that the unit has been properly winterized. (See Winterizing Your Pressure Washer). Even an overnight frost can split a coil or crack a pump.

THESE MACHINES ARE NOT TO BE B-VENTED.

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WARNING - Do not use forklift tanks for this application - LPG ONLY

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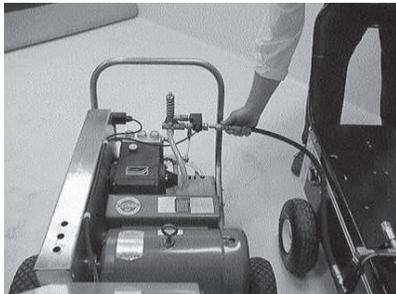
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NOTE: - Models MHGSQ35N, MHGSQ35P, MHGSQ35NEI, MHGSQ35PEI are suitable for connection to "A" venting when fitted with a draft hood.

Models MHGE500SQ, MHG500PSQ are suitable for connection to "B" venting when fitted with a draft hood.

1. Make sure all switches are in the "OFF" position.
2. Join the heater module to the high pressure outlet of the cold water pressure washer by the 30" connector hose (a longer hose is available if needed, contact your dealer).



3. Connect the high pressure hose to the outlet of the heater module. It must be rated for at least 250 degree fahrenheit and 3000 PSI.
4. Light the pilot on the burner as follows:
 - a. Make sure all switches are off.
 - b. Turn the control knob on the gas valve to "pilot".
 - c. Depress for 10 seconds to purge line.
 - d. While continuing to hold knob push the piezo ignitor button several times until the pilot flame is lit.
 - e. Continue holding knob for several seconds until the pilot light stays lit.
 - f. Turn knob to "on" position.
 - g. If pilot flame extinguishes repeat instructions.
5. Turn on the water supply to the pressure washer. Stay clear of the exhaust stack at all times.
6. Start the cold water pressure washer.
7. Turn on burner and set the thermostat to desired setting.
8. Hold firmly and squeeze the trigger gun.
9. When finished operating, turn off the burner. Continue to spray water until the water is cold.
10. Turn off pressure washer and relieve pressure from hose by squeezing the trigger gun.

FLOW SWITCH

The flow switch prevents the burner from being turned on if there is insufficient water. Proper water flow causes the magnetic core to be pushed up, closing the reed contact. This contact is interlocked with the fuel solenoid valve in the oil pump.

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.

THERMOSTAT

The built-in thermostat stops the unit from overheating. Maximum temperature of the unit is 212°F.

HIGH LIMIT SWITCH

The High Temperature Limit Switch is a thermostat which is set to 230°F. This switch is not adjustable and will only operate when other controls fail to keep the water temperature within the normal operating range. This switch cuts the power to the fuel solenoid

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. Use ONLY the type and grade of oil specified for this pump (see "Set Up" Instruction).
3. CHANGE OIL as recommended.
4. After you use chemical additives, thoroughly FLUSH the system with clean water.
5. Inspect the POWER CORD regularly. Also check the POWER OUTLET SOCKET. For safety, replace worn or damaged parts immediately.
6. Never run the washer without water. TURN WATER ON FIRST.
7. PROTECT FROM FREEZING! When transporting your washer in temperatures below 32°F (0°C). WINTERIZE the pump, hoses and gun.

WINTERIZING YOUR HEATER MODULE

(This is a 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. Remove cover from Float Box.
3. Run the pressure cleaner until the level of the water in the Float Box is just above the outlet screen. Turn off the cleaner.
4. Fill the Float Box to about $\frac{1}{2}$ with windshield washer or plumbing antifreeze.
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 26 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.

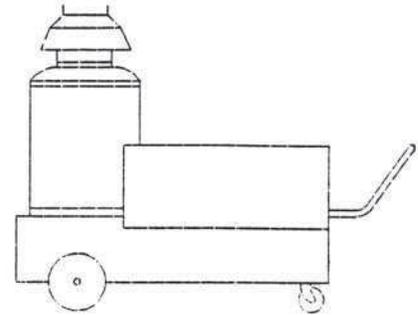
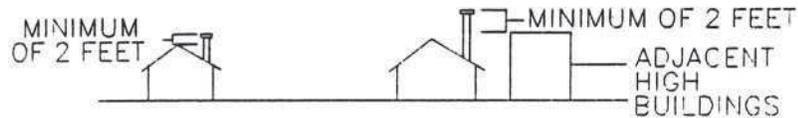
WITHOUT A FLOAT BOX

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.

NOTE : Machines to be used indoors MUST be in accordance with local regulations and CSA Standards B139

1. Make sure chimney is of suitable size. (9" minimum)
2. Make sure that there is enough air for combustion. (60 sq. in)
3. Be sure to protect against a down draft in below freezing weather.

A DOWN DRAFT CAN CAUSE THE COIL TO FREEZE, RESULTING IN EXPENSIVE DAMAGE!



CHIMNEY SIZE

1. A draft hood is supplied for stationary installation.
2. All venting should be the same size as the draft hood
3. Never use ventpipe smaller than the draft hood.
4. If total run is more than 25', use larger size chimney.
5. A 90 degree elbow is equivalent to a run of 20 feet.
6. If a horizontal run is used, make sure the flow rises at least 1/4" per foot.

COMBUSTION AIR SUPPLY

1. These hot water pressure cleaners burn Natural Gas or Propane. This means that air is required for combustion, for draft diverter dilution and for ventilation.
2. The appliance installer will know how and where to place a supply air duct. Take care that this opening will not promote drafts which could blow out the pilot light.
3. Keep the area around the machine clear so this air can get to the burner. If the wheels are removed, the machine should be bolted to a stand 18" off the floor.

APPLIANCE IN CONFINED SPACE

The confined space should have two permanent openings: one near the top of the enclosure and one near the bottom of the enclosure. Each opening shall have a free area of not less than one (1) square inch per 1000 BTU's per hour of the total input rating of all appliances within the enclosure. The openings shall have free access to the room interior which should have adequate infiltration from the outside.

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	MODELS	MHGSQ30N	MHGSQ30P
SPECIFICATIONS	Maximum Pressure Supply BTU'S Fuel Burner Voltage	3500 345 000 Nat. Gas Millivolt	3500 345 000 Propane (LPG) Millivolt
COIL	Coil - Pipe Schedule	80	
SAFTEY COMPONENTS	Thermostat Flowswitch Relief Valve High Temp Limit Protector High Pressure Blow Valve	Standard Standard Standard Standard Standard	Standard Standard Standard Standard Standard
FEATURES	Finish – Polyester Powder Dimensions (LxWxH) in. Weight (Pounds)	Included 23x22x44 290	Included 23x22x44 290
SPECIFICATIONS	Input Pressure Manifold Pressure Orifice Size	7 Inches 2.6 Inches #53	14 Inches 10 Inches #65



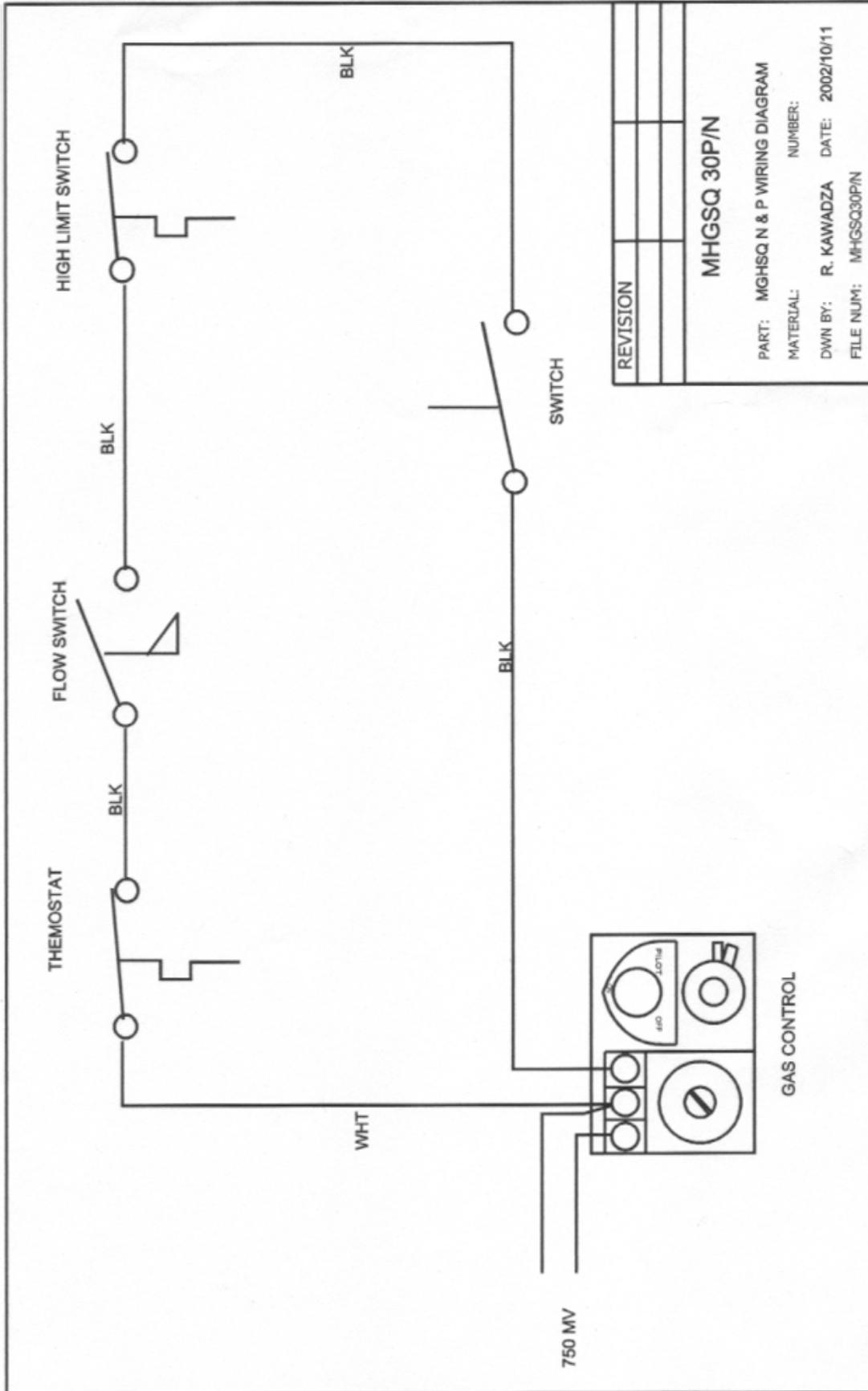
SPECIFICATIONS AND FEATURES

SQN/P SERIES

MODELS	MHGSQ35N	MHGSQ35NEI	MHGSQ35P	MHGSQ35PEI	MHGE500NSQ	MHGE500PSQ
SPECIFICATIONS						
Maximum Pressure Supply	3500	3500	3500	3500	3500	3500
BTU's	345,000	345,000	345,000	345,000	350,000	350,000
Fuel	Natural Gas	Natural Gas	Propane (LPG)	Propane (LPG)	Natural Gas	Propane (LPG)
Burner Voltage	Millivolt	24 Volt (Electric)	Millivolt	24 Volt (Electric)	24 Volt (Electric)	24 Volt (Electric)
Input Pressure	7 inches	7 inches	14 inches	14 inches	7 inches	14 inches
Manifold Pressure	2.6 inches	2.6 inches	10 inches	10 inches	5.3 inches	11 inches
Orifice Size	#53	#53	#65	#65	#55	#65
Draft Hood	9"	9"	9"	9"	8"	8"
Vent Type	A	A	A	A	B	B
COIL						
Coil - Pipe Schedule	80	80	80	80	80	80
SAFETY COMPONENTS						
Thermostat	Standard	Standard	Standard	Standard	Standard	Standard
Flow Switch	Standard	Standard	Standard	Standard	Standard	Standard
Relief Valve	Standard	Standard	Standard	Standard	Standard	Standard
High Temp Limit Protector	Standard	Standard	Standard	Standard	Standard	Standard
High Pressure Blow Valve	Standard	Standard	Standard	Standard	Standard	Standard
FEATURES						
Finish - Polyester Powder	Included	Included	Included	Included	Included	Included
Dimensions (LxWxH) inches	24x22x44	24x22x44	24x22x44	24x22x44	24x22x48	24x22x48
Weight (Pounds)	290	290	290	290	310	310

TROUBLE	POSSIBLE CAUSE	REMEDY
LOW PRESSURE	Leaks in water system	Tighten all fittings.
	Insufficient water supply	Fill tank or increase line size to machine.
	Outlet orifice worn or wrong size	Replace with correct orifice. CAUTION: Do not use smaller than recommended. Excessive pressure will damage pump.
	Gun control unloader valve bypass leak	Repair or replace unloader valve.
	Dirty or worn check valves in pump	Replace or clean. Refer to high pressure pump manual.
	Cylinder cups leaking and/or worn Cylinder sleeves	Replace. Refer to high pressure pump manual.
EXCESSIVE PRESSURE	Outlet orifice restricted	Remove orifice at tip of gun and clean. Flush coil with water before replacing.
	Scale or dirt in coils	Descale coils.
	Pump speed too high	Check water output GPM.
RELIEF VALVE OPERATES	Relief valve set at low pressure	Re-adjust relief valve.
	Relief valve dripping after adjustment	Replace valve.
	Unloader valve stuck	Repair unloader valve.
WEAK OR NO CHEMICAL AT NOZZLE	Clogged soap screens	Clean or replace.
	Air leak around soap siphon check valve And/or metering valve leaking	Tighten all fittings and tubing
PUMP MOTOR HEATING OR OVERLOADING	Motor wet	Allow to dry. Have motor checked by qualified repair station.
	Outlet orifice restricted	Remove orifice at tip of gun clean.
	Undersize outlet orifice	Replace with correct size.
	Coil scaling up	Descale coil
	Water pump out of oil	Fill to correct level. Check for leaks.
	Overload switch operated	Allow motor to cool. CAUTION: Switch may automatically reset.
	Faulty motor	Repair or replace

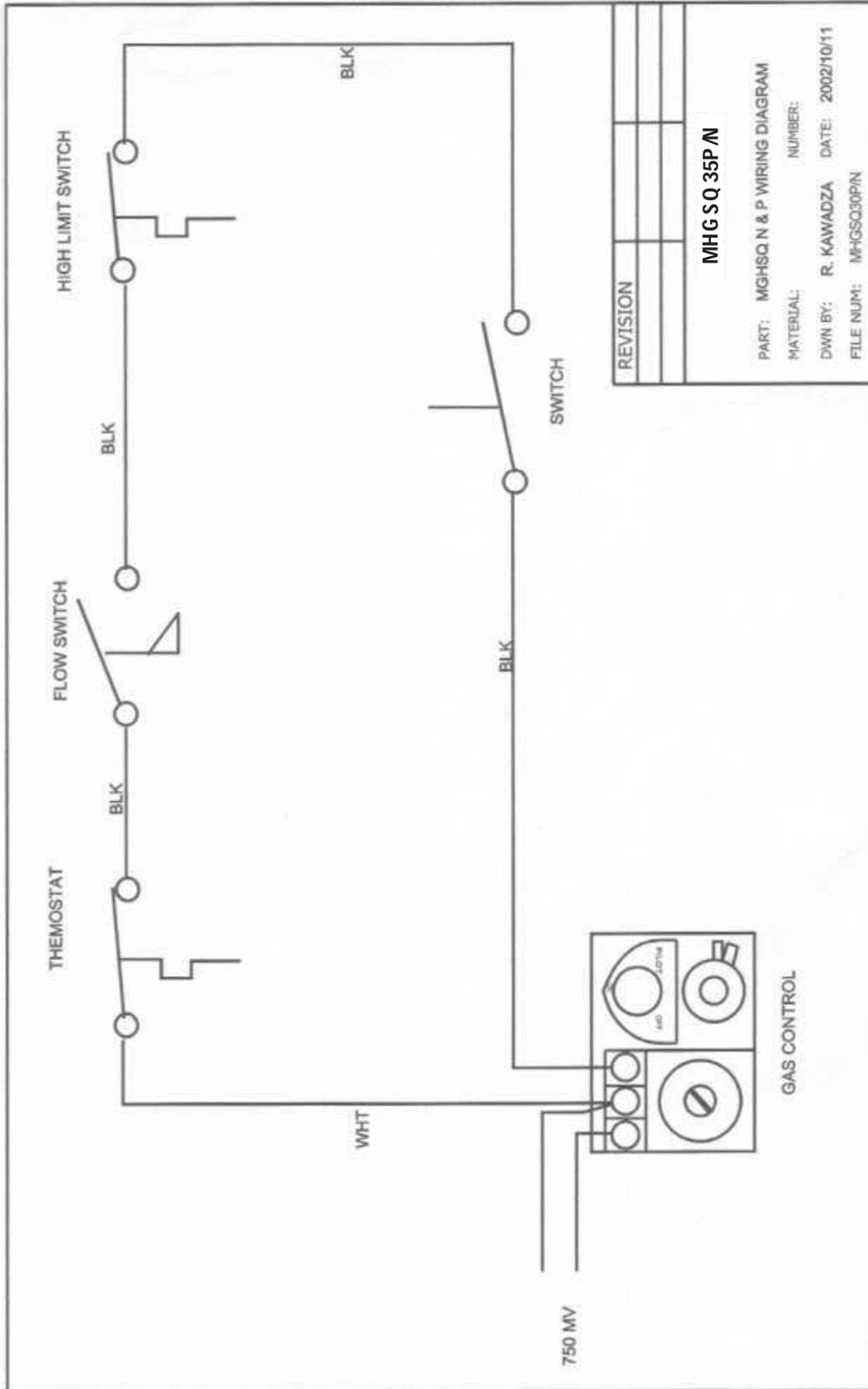
TROUBLE	POSSIBLE CAUSE	REMEDY
PILOT LIGHT WILL NOT LIGHT	Gas leak in pilot tube	A1. Check all fittings with a soap solution. Do not check for leaks with an open flame.
	Low or high gas supply pressure	A2. Ensure that gas supply pressure at pressure tap on gas valve (located next to the pilot tube outlet) is the specified pressure.
	Very high draft or down draft	A3. Correct draft extremes.
	Air in the gas line	Purge air.
	No spark: No main power, or faulty Transformer, limit switch or faulty ignition control or piezo ignitor.	Perform normal system checks of main power, main rotary switch, transformer, limit switch, ignition control Unit and replace faulty components. Check electrode gap or any possibility of electrode shorting to other metal parts. Be sure that all connections are tight. Also the ignition control and pilot burner must both be grounded. If there is still no spark, the pilot and Electrode assembly must be replaced.
PILOT IGNITES BUT WILL NOT CONTINUE BURNING AFTER HOLDING DOWN THE KNOB ON THE GAS VALVE FOR TWO MINUTES AFTER SPARK	Insufficient pilot flame	Increase pilot flame by adjusting throttling screw on gas valve (located just to the left of the terminal block on the valve).
	Thermopile or thermocouple connection loose at automatic gas valve, or sensor connection loose.	Tighten screw terminals or plug.
	Defective thermopile or thermocouple.	Check output voltage with a voltage meter with pilot burning. Output should be a minimum of 250 millivolts for millivolt system and 18 mV for 24 volt system. If lower, check remedy A1, A2 and A3 above - before installing new thermopile.
SHORT THERMOPILE LIFE	Excessive heat from pilot	Decrease pilot gas supply.
SPARKING BUT NO PILOT GAS	Manual cock on the gas valve is closed	Open manual cock.
	Pilot flame low or wrong pilot burner location	Following the valve instruction to adjust pilot flame, check gas pressure and pilot line for obstruction when needed. Or relocate the pilot close to main burners.
	Faulty main gas operator on the gas valve	Check the voltage of the main gas operator on the gas valve. If the voltage is the right voltage and the burner still won't turn on, replace main gas operator.
	Faulty wiring or ignition control unit	Check the "MV/PV" and "MV" terminals in the ignition control. If 24 Vac is present, repair or replace wiring. If not, replace ignition control.
	Check for loose electrical connections at Thermostat, gas valve, burner toggle switch and inside heater switch box.	Tighten connections
	Burner switch, flow switch, gas valve Controllers or thermostat high-limit Inoperative.	Refer to relative wiring diagram - Page 10 or 11 Perform normal system checks of main power, main Rotary switch, transformer, limit switch and control Components. Replace faulty components.



REVISION	DATE	BY

MGHSQ 30P/N

PART: MGH SQ N & P WIRING DIAGRAM
 MATERIAL: NUMBER:
 DWN BY: R. KAWADZA DATE: 2002/10/11
 FILE NUM: MGH SQ30P/N



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. 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 DYNABLAST INC. 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 DYNABLAST 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).

DYNABLAST INC. 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 collateral charges. There are no expressed warranties other than those specified herein.

SPECIAL WARRANTIES	WARRANTY PERIOD
Honda Engine (warranted by Honda) please refer to your engine owners manual.	2 year parts and labour
Interpump / General Pump Limited Warranty (see attached for details)	5 year non-wear parts
Fabricated Components (frame, coil skin, coil cap, handle, belt guard)	1 year parts, 1 year labour
Burner, Transformer, Control Switch, Safety Switch Pressure and Flow Switch	1 year parts and labour
Schedule 80 Heating Coil Limited Warranty *(see below)	5 year parts, 1 year labour
Schedule 40 Heating Coil	2 year parts, 1 year labour

*** Limited Coil Warranty (Schedule 80 only)**

- 100% cost of coil replacement, for up to 3 years, including 1 year labour.
- 50% cost of coil replacement, for up to 4 years, not including labour.
- 25% cost of coil replacement, for up to 5 years, not including labour

We must receive the coil serial number section of the coil to substantiate the warranty claim.

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**



This is an example of a coil that has split due to freezing. The tell-tail sign is a split in a horizontal direction.

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 Dynablast Inc. Mississauga, Ontario, Canada at 1.888.881.6667

Coil Warranty Procedure

When it is determined that a heat exchanger coil has failed due to a defect in material or workmanship.

The following steps must be followed: 1) contact John Brooks Company Limited and obtain a *go ahead authorization #* to proceed with the repair. 2) locate the source of the water leak and take a picture (digital photo is preferred) of the area affected, as shown below. Forward the photo with the warranty claim, or via email. If sending by email please include the warranty claim number.

Fuel Oil Burner Components

The fuel oil burner is warranted against defects in materials and workmanship for the period of one year from date of purchase, under normal use. All defective parts that are replace under warranty must be returned to John Brooks Company Limited along with a completed warranty claim form.

On Site Service Policy

Machines requiring warranty repairs will be presented at the customers expense, to an authorized service center. Customers requesting on site service will incur a travel time charge to be agreed with by the servicing agent. Dynablast Inc. is not responsible for the travel time of the servicing dealer. Only stationary units will have a 60 day adjustment period where Dynablast Inc. will incur the traveling time as a part of a regular warranty claim up to a maximum of 2 hours. Stationary units are machines that are once installed, cannot be moved. (natural gas units, in plant systems).