# *Advanced Cleaning Systems*


*Installation, Operation and Maintenance Manual*

# *Natural Gas or LP Fired Hot Water Car Wash Stand*

Do not use or operate machine until this manual has been read and fully understood.

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# IMPORTANT

If this machine is used by anyone who is not the owner or is loaned or rented, make certain that the operator (s) prior to operating:

- Is instructed in safe and proper use
- Reviews and understands the manual(s) pertaining to the machine
- Understand that this unit is for professional use only

# NOTICE

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

Save these instructions

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# Introduction

## To the Owner:

## CONGRATULATIONS

You have just purchased the finest piece of cleaning equipment available, and it is made in America! With proper care and maintenance, it will provide long and dependable service.


This manual contains safety suggestions and important instruction regarding this equipment. The basic model's machine and fuel systems are explained for the information applicable to your particular machine. **Read this manual thoroughly and retain for future reference**.

### Generic Symbols

The following group of symbols are used in this manual to help communicated the intent of the instructions. When one of the symbols appears, it conveys the meaning defined below:

**Safety Alert-**Serious injury or damage can result if instructions are not followed

Inspection Required

Hourly Service Interval


Acceptable (OK)


Unacceptable (NOT OK) Condition

**IMPORTANT NOTICE**

If replacement parts are required use only genuine original equipment parts**. DO NOT** use unauthorized parts or substitute materials.



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THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH

**IMPORTANT**

United States Government safety standards have been adopted under the Occupational Safety and Health Act. These standards-particularly the Standard, Part 1910, and the Construction Standards, Part 1926 – should be consulted in connection with your use of airless spray equipment.

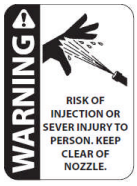
# IMPORTANT! Safety Instructions

Safety Rules 

Read all instructions before using this product.

We cannot anticipate every possible circumstance that might involve potential hazard. The warnings, cautions and safety suggestions in this manual are therefore not all inclusive. If an operating procedure, installation, maintenance or work method not specially recommended is used, you must satisfy yourself that it is safe for you and other persons. You must also ensure that the product will not be damaged or be made unsafe by the procedure that you choose.

## WARNING:




Fluids under high pressure spray can be nearly invisible and can penetrate the skin and cause extremely serious injury!

If any fluid appears to have penetrated the skin, get emergency medical care at once! Do not treat as a simple cut. Tell the doctor exactly what fluid was injected. For treatment Instructions, have your doctor call the:

**National Poison Control Network**
**(412) 881-6869**

- **Never** point the spray gun at other persons or any part of the body.
- **Never** put hands or fingers over the spray tip while in operation.
- **Never** use your hands to stop or detect leaks.
- **Always** shut off the unit and trigger the pressure gun to check for system pressure before removing the spray tip or before performing any machine service.
- **Never** use any trigger guns that are not sold specifically as a dump gun or weep gun.
- **Never** let the unit run for more than five (5) minutes with the gun in the closed position.
- **Never** alter or modify this equipment! Your personal safety as well as the safety of other persons is at stake.
- **Never** exceed the factory pressure or temperature rating of the system. Be sure all accessory equipment and system components used will withstand the pressure developed.
- **Never** let the pump or burner run without water supply flowing through the unit.
- **Never** attempt to immediately run or relight the burner if ignition doesn't take place the first time. Unburned gas may have accumulated causing a potential explosion or fire hazard.
- **Never** attempt to clean or wash down the machine using its own spray gun. The machine is water protected, but not waterproof. Cleaning the machine in this manner will increase the hazard of electrical shock and/or damage to the machine.



Save these instructions

# IMPORTANT! Safety Instructions

- **Never** leave an operating machine unattended with belt guard or enclosure off.
- **Neve**r spray liquids or toxic chemicals such as insecticides or week killer.
- **Do not** operated the machine where combustible fumes or dust may be present.
- **Do no use** detergents which are not compatible with the discharge hose. Read and follow the instructions given by the detergent's manufacturer. Also, follow direction on the container regarding contact with the eyes, nose and skin.
- **Always** provide approved vent stacks if the machine is to be used in an enclosed area. Comply with all National, State and Local codes for locating, venting and using the machine in enclosed areas. Exhaust fumes contain odorless, invisible gases which can kill without warning.
- **Always** connect the machine to the correct electrical supply outlet. Comply with all local and National codes and ordinances regarding electrical requirements.
- **Do not** allow electrical extension cord connections to be used. Hard wire unit and applicable conduit and wire rated for use with this machine.
- **Always** respect and be alert to the potential hazards of electrical equipment, hot burners moving parts, and high-pressure spray.
- **Always** be certain that the machine safety decals are kept clean and legible, replace any decal's that become damaged, lost or painted over.
- **Always** shut off breaker or disconnect to unit before performing any repairs or service on the machine. **Do not** attempt repairs or modification you do not understand. Contact your servicing dealer or contractor.
- **Always** keep guards or shields in place. Replace any that must be removed for service or that may be damaged.
- **Always** keep electrical enclosures on this equipment shut and fastened securely to ensure safety from shock.
- **Always** use a gas regulator of the specified type on LP tanks for Butane or Propane fired machines.
- **Always** have electrical repairs on equipment performed by trained professionals.
- **Do not** exceed 150˚ F temperature setting for hot water, high pressure cleaning. Be sure the correct high-pressure nozzle is used.
- **Always** level the unit by setting the four adjustable feet.

# Chemical Warning!


Chemicals used for cleaning are dangerous! Keep all chemicals out of reach of children and untrained adults. Proper safety precautions must be taken before handling any chemicals. Read and follow all directions and instructions on the product label before using chemicals. Wear eye protection and rubber gloves when handling or using chemicals. Always have a clean supply of water available to wash off any contact with the skin or eyes. Should any chemical product contact the eyes, immediately flood the eyes with plenty of water for 15 minutes. If irritation persists, seek medical attention. If chemicals are swallowed, follow the product label directions and get immediate medical attention.

Read the material safety data sheets on all chemicals before using them.



# Save these instructions

# IMPORTANT! Safety Instructions

## Discharge Hose Warning

The discharge hose supplied with the machine is designed for use in high pressure cleaning. Special care, handling and maintenance are required to provide proper and safe operation. The following guidelines must be followed to ensure safe operation and provide the maximum hose service life.

- **Never** exceed rated machine pressure or temperature.
- **Do not** route hose in a manner that will cause sharp bending, kinking, cutting, abrasion or either exterior damage.
- **Do not** pull on the hose to untangle knots or use any excessive pulling stress.
- **Do not** use the hose if cuts, leaks, abrasions, bulges, or coupling damage is evident.
- **Do not** use the hose if any reinforcement is exposed.
- **Do not** attempt field repairs through an unauthorized hydraulic hose repair shop. Special couplings and crimping specifications are required for high pressure washer discharge hose. Contact a qualified pressure washer service representative for repair of damaged hose.
- **Always** examine hose couplings and quick disconnect (if provided) before operation. If leaking is evident do not use. Contact qualified pressure washer service representative.
- **Never** leave the discharge hose lying on the floor or ground to be driven over by vehicles or damaged by falling objects. Always return gun/wand to wand holder in wash bay immediately after use.

  **If there is any doubt about hose condition, replace the hose immediately.**

- **Always** know how to stop the equipment quickly. Be thoroughly familiar with the controls.
- **Always** stay alert – whatever you are doing.
- **Do not** operate this equipment when fatigued or under the influence of alcohol or drugs.
- **Always** keep operating area clear of all persons.
- **Do not** overreach or stand on unstable support. Keep good footing and balance at all times.
- **Follow the maintenance instruction specified in the manual.**



Save these instructions

# OSHA Lockout / Tagout Rule

To prevent unexpected energizing, start-up or release of energy that could cause injury to the employees working on the equipment the following steps must be followed:

1. Turn off equipment
2. Dissipate or release all residual energy in the machine.
3. Shut off main power by turning off breaker or shutting off electrical disconnect switch.
4. Lock and tag the switch.
5. Check all previous steps, and then try to operate the machine to assure that it won't work.

These procedures ensure that all power to the machine will be under control.

# IMPORTANT! Safety Instructions

- **Caution:** Do not touch hot Surfaces.
- **Caution:** Close manual gas shut off when machine is not in use or unattended.
- **Danger**: Serious injury of death from electrocution could result if machine is not properly ground.

Connected only to a grounded polarized receptacle or source.

- **Danger:** System could contain pressurized hot water. Do not remove hose or wash gun without relieving system pressure.

## WARNING!

- This equipment incorporates parts, such as snap switches, receptacles, or the like, that tend to produce arcs or sparks and, therefore, when located in a garage, it should be in a room or enclosure provided for the purpose, or should be 18” or more above the floor.
- Gun kicks back, hold with both hands.
- Hot surfaces, use only gripping areas of gun and wand, maximum temperature 210˚F.
- For indoor use only.
- Connect to individual branch circuit only.
- Use only alkyd (sic) based cleaning solutions


WARNING: Grip the cleaning wand securely with both hands before starting. Failure to do this could result in injury from a whipping wand.



Save these instructions

# ADVANCED CLEANING SYSTEMS PUMP STAND

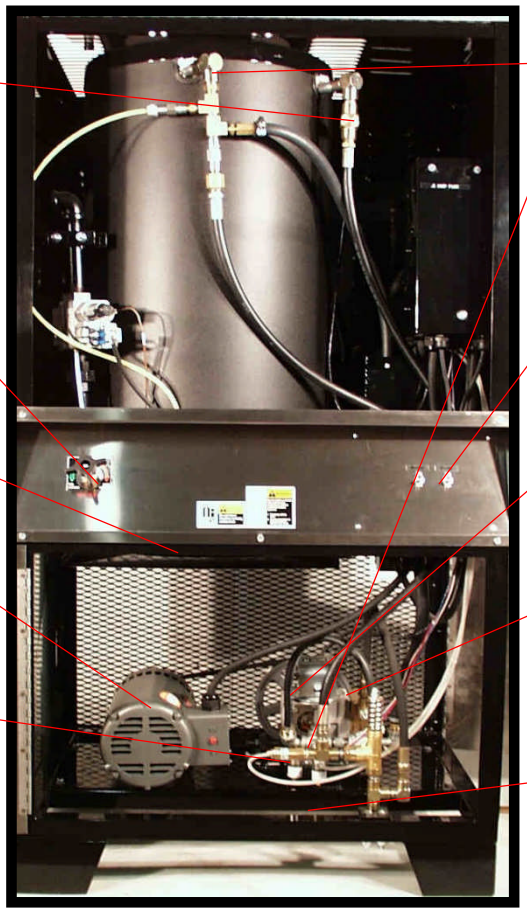
**High Limit Switch**
Prevents overheating

**Weep Control Valve**
Prevents lines from freezing

**Removable Tray**
Provides easy access to pilot light

**Motor and Motor Protection**
Continuous duty motor with overload Protection

**Chemical Solenoids**
Provide high pressure chemical injection for soap, wax, and other chemicals compatible with pump materials



**Pressure Relief Valves**
Prevent excessive pressure buildup from overheat and frozen or plugged lines

**Pump Switch**
Turns pump on for washing down bay

**Vacuum Safety Switch**
Turns off burner during no flow

**Tri-Plunger Pump**
Oil bath crankcase with forged brass manifold

**Pump Base**
Shock mounted to minimize vibration

| PUMP STAND SPECIFICATIONS | | | | | | |
|---|---|---|---|---|---|---|
| MODEL | | 32315 | 32416 | 32320 | 32423 | 32430 |
| DISCHARGE PRESSURE | PSI | 1500 | 1600 | 2000 | 2300 | 3000 |
| FLOW | GPM | 3 | 4 | 3 | 4 | 4 |
| OPERATING TEMPERATURE | Based on 50°F Inlet Temp | 140°F | 130°F | 140°F | 130°F | 130°F |
| INPUT B.T.U. PER HOUR | | 180000 6" Vent | | | | |
| BURNER | | Natural Gas or LP | | | | |
| COIL | | Sched 80 | | | | |
| PUMP | | Triplex Ceramic Plunger | | | | |
| PUMP MOTOR | HP | 4 | 4 | 4 | 6 | 8 |
| VOLTS / PHASE | | 230V / 1 or 3 Phase | | | | |
| TOTAL AMPERAGE | 1Ph / 3 Ph | 26 /17 | 26 / 17 | 26 / 17 | 36 / 20 | 41 / 25 |
| DEPTH / WIDTH / HEIGHT | | 28" / 32" / 60" | | | | |
| NET WEIGHT | Lbs. | 580 | 580 | 580 | 600 | 620 |



Save these instructions

# For Your Safety and the Safety of Others, Study This Manual before Operating or Servicing the Machine.


# Set-Up and Operating Information

### Machine Delivery Inspection

Examine the shipping crate and machine carefully for any hidden damage during shipping. Claims for damage or shortage should be filed with the contract carrier. Remove all loose parts and strapping attached to the machine for shipping purposes.

### Machine Identification

The machine model number, serial number and specifications are stamped on a plate permanently attached to the right rear side of the machine main frame.

Record the information from this plate for any future reference.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | | | | | | | |
| Output | _____ | GPM | _____ | PSI | _____ | | |
| Fuel | | | | | | | |
| Elec. | _____ | PH | _____ | Volts | _____ | Amps | _____ |
| Serial No | | | | | | | |



Save these instructions

# Set-Up and Operating Information


WARNING:
Always protect the machine from freezing.

**IMPORTANT:** *In the event that the machine must be located out of sight of the operator, special equipment and/or controls may be required to provide proper operation and assure operator safety. Contact your dealer or qualified service representative before installing or using the machine from a remote location.*

Avoid locating the machine on slippery surface areas or where water may accumulate.

**This equipment must be located on non-combustible flooring, or *located not less than 6 inches from* any combustible surface – or as deemed by local code.**

**DO NOT** locate the burner where fumes, dust or other flammable materials may be present. **Never leave oil, oil soaked rags, floor dri, flammable liquids or items next to or below burner area.**

## Machine Location

The machine is designed as a stationary unit, and should be located in a position that gives easy access to power supply, water, gas remote cable, and all service panels.


**DO NOT** locate the machine in small confined areas without proper ventilation. Without adequate oxygen, incomplete combustion and/or carbon monoxide will result.

## Machine Set-Up

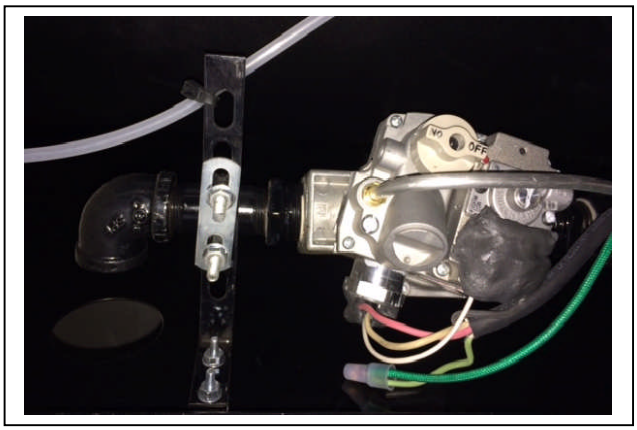
Exact machine set-up may vary somewhat between machine models, however, the following information will be a general guideline. Contact your dealer or authorized service representative if additional information or help should be required for special installation or set-up requirements.



Save these instructions

# Set-Up and Operating Information

1. **Natural Gas Fired:**
   Natural gas fired machines operate on 3-1/2 inches of water column (.02 oz.) pressure at the valve (with the burner operating) and must have from 5 inches to 7 inches water column (3 to 4 oz.) pressure supplied to the unit at the inlet. Water column pressure should be checked at the valve (burner operating) with a manometer by your gas supplier or a qualified service technician.



2. The minimum iron pipe size required for gas supply from the regulator side of the meter (based on a pressure drop of 0.03 inch water column and 0.60 specific gravity) to the burner valve (measured in feet) is as follows:

| Pipe Length | 10 ft. | 10-30ft | 30-125ft | 125-200ft |
|---|---|---|---|---|
| Pipe Diameter | 3/4 in. | 1 in. | 1.1/4 in, | 1.1/2 in. |

   **NOTE:** *See your gas supplier or a qualified technician if your gas supply system has many fittings or unknown loads.*

3. A gas shut-off valve should be installed on the gas line with a union between the valve and the machine. Check and comply with all state and local requirements regarding natural gas plumbing before connecting the machine to your natural gas supply. Check all connections for leakage with a soapy water solution.

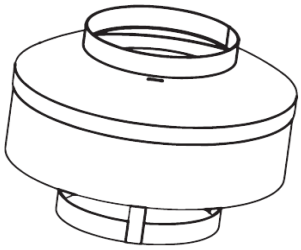
4. **Liquid Petroleum Gas (LP)**
   Butane or Propane gas fired machines operate on 11 inches (6.36 oz.) water column pressure. These machines are not equipped with a gas regulator. A gas regulator of sufficient size to allow for pressure drop from the tank to the machine must be installed on LP tank. Check the 11 inch water column at the valve.

**The maximum inlet gas pressure is ½ PSI (14 inches water column or 8.09 oz. per square inch) for LP gas machines.**



Save these instructions

# Set-Up and Operating Information



Example of draft diverter.

## Typical Gas Fired Draft Diverter

**NOTE:** When the installation of a draft fan is necessary in the venting system to which an Advanced Cleaning System On Demand Water Heater is to be connected, the installation should be engineered by competent personnel following good engineering practices.

The draft fan supplier should be consulted for correct size. The installation should be in accordance with any local codes have jurisdiction.

When a draft fan is installed, a suitable draft switch must be used and wired into the gas valve control circuit at terminal designated "Burner Interlock," to prevent firing of the water heater unless a positive draft has been established.

Cold Water Supply

**Burner Venting Requirements**

5. Supply the machine with proper stacking for exhaust of the flue gasses if used in an enclosed arear. Comply with all state and/or local codes regarding ventilation.

**IMPORTANT:** *If the machine is to be used inside, and you are putting a chimney on it, be sure the chimney is at least the same size as the stack on the machine. Poor draft will cause the unit to soot and not operate efficiently. When installing the chimney, the machine should be positioned in such a manner to use the straightest possible stack. Stacking should be made by a licensed technician and conform to all Local and State codes.*

**Points to Remember**

·**Never** reduce the diameter of the stack
·Prevent cold down drafts from freezing the coil when not in use.
·Exhaust gases should not be vented into a wall, a ceiling, or a concealed space of a building.

**WATER SUPPLY**

6. Connect the machine to a cold water supply tap at least 1.5 times the gallons per minute (gpm) output of the machine.

**NOTE:** *Use at least a 5/8 inch ID supply hose if operated within 50 feet of water supply. Use ¾ inch ID hose if over 50 feet.*

**IMPORTANT:** Install a water softener in the supply line to extend coil life and maintain efficiency.



Save these instructions

# Set-Up and Operating Information

## Electrical Requirements

7. Depending on your machine model, some machines operate on single or three phase electrical supply. Refer to the machine data plate to determine the exact electrical supply requirements for your machine.

8. Be sure all machine control switches are turned off before connecting the electrical supply.

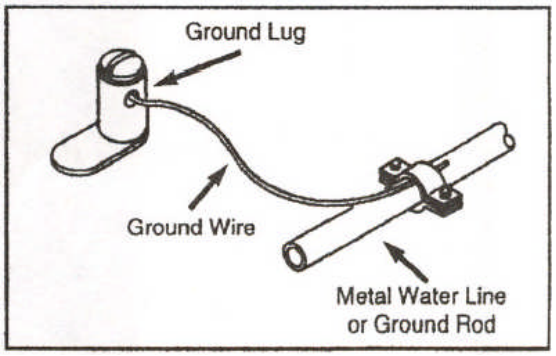
9. **Single Phase & Three Phase Machines** Electrical supply for all machine models must be connected directly to electrical service supply box on the machine. Electrical connection and supply for these machines must be made by a licensed electrician and must conform to all National, State and Local codes and ordinances regarding phase electrical requirements.

**It is recommended that all machine be connected to a GFCI circuit. It is the owner's responsibility to provide one.**

**Grounding Instructions**

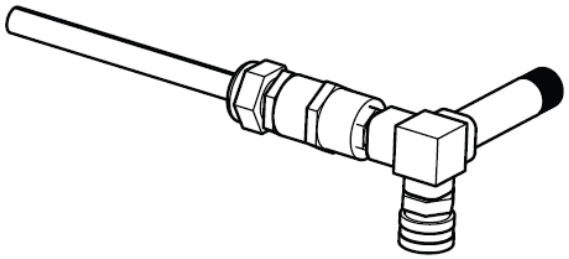
10. To further ensure machine grounding, a separate external grounding lug has been provided on the machine.

11. It is important that a separate ground wire be attached to this lug and to an available ground source such as a metal water line or ground rod as shown.




**IMPORTANT:** *Do not attempt to operate this machine on less than 90% of rated system voltage (over-heating, poor performance, or component damage could occur). Contact a qualified electrical technician or your power company to check for proper system voltage.*

12. Connect new high pressure discharge hose to the heating coil outlet.



**NOTE:** *Do not attach the wash gun to the hose at this time*

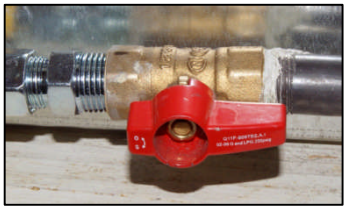


Save these instructions

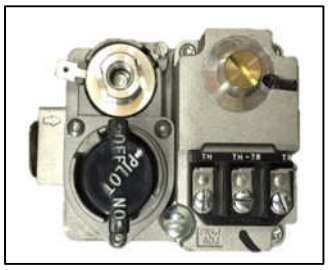
**KNOW THE MACHINE CONTROLS AND INSTRUMENTS BEFORE STARTING OR OPERATING THE MACHINE TRO ASSURE SAFE *OPERATION.***

# WARNING!

- If you do not follow instructions exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.
- In the event of pilot outage, wait 5 minutes to clear out any gas before relighting.
- Use only your hand to push in or turn the gas control knob. Never use a tool. If the knob will not push in or turn by hand, don't try to repair it. Call a qualified Service Technician.



Gas Shut-off Valve




Gas Valve "On: Position

## Initial Machine Start-up

1. After the machine has been properly set-up, fueled and prepared for use, perform the following initial start-up procedures before using the machine for cleaning.

**NOTE:** *Some machines may have permanent anti-freeze in the system to protect them from freezing during the shipping and storage process. It will be important to flush out this solution before using the machine.*

2. Turn on the water supply valve and allow the float tank to fill

3. Turn on the gas supply line valve cock.

**NOTE:** *Lighting the pilot after a new connection may take longer because of air trapped in the supply line.* ***Always*** *ensure that the contractor who installed the gas line has bled the air out of the line all the way up to the gas valve.*

4. **Electronic Ignition**
   Machines equipped with electronic ignition do not require lighting the pilot. Turn the burner valve to the "on" position. When the burner control switch (Toggle Switch on Stainless Steel Front Panel) is turned on, the pilot will automatically light.

   Once the pilot light is lit, the burner will ignite when the trigger gun in pulled and the rotary switch on the Self-Serve Faceplate is on the Soap Cycle, or if the remote Box only the burner switch is turned on.



Save these instructions

# Set-Up and Operating Information

### Operated Automatic Valve

This pump stand is equipped with an Intermittent Pilot Ignition System. This system is designed to eliminate the need for a constantly burning pilot. Lighting of the pilot is accomplished through electronic spark ignition each time the burner switch is turned on. The pilot light will remain on and the main gas valve is turned off when the spray gun is closed.

## WARNING

**<u>Do Not</u>** attempt to light this pump stand manually, as a burn injury or electrical shock may result.

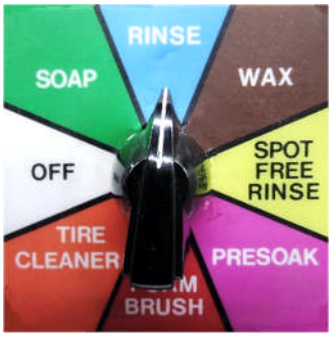


Save these instructions

# Set-Up and Operating Information


5. Be sure remote rotary switch is in the “off” position. Connect the machine to the proper electrical power supply.

6. Turn the rotary switch to the rinse position (do not start the burner), direct the water flow into a container or floor drain. Allow water to pump through the machine for 3 to 5 minutes to flush out any contamination that may be in the system from the supply line or the manufacturing and shipping process. Check for any leaks and general machine operation during this time.




**ALWAYS: Start the pump before Igniting the burner. Never operate the machine without water flowing through it.**

**IMPORTANT:** *After initial installation, coil descaling or after a long period of non-use, the unit should be run with the gun or nozzle removed to flush out any dirt, rust or loose scale which could plug the nozzle.*

7. Shut off “pump” rotary switch, disconnect the electrical power supply.

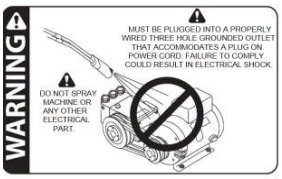
8. Apply thread sealant to the first few threads of the high pressure discharge hose. Connect the wash gun or wand securely to the discharge hose.

**The machine is now ready to be put to work. (See Starting the Cleaner)**

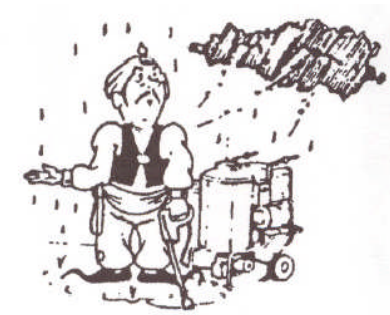


Save these instructions

# Set-Up and Operating Information




**Never attempt to clean or wash down the machine using its own spray gun. The machine is water protected, but not waterproof. Washing down the machine will increase the hazard of electrical shock and/or damage the machine.**



**Do not operate the machine outside in The rain or during thunder storms**

## MACHINE OPERATION

## GENERAL INFORMATION

All models are equipped with temperature high-limit control, wand, gun control.


**For 32423 and 32430 Models (Intended to be used for attended Truck Wash Bays and not for consumer use in Self-Serve Bays).**
**Always wear full eye protection (preferably a face shield), protective clothing, rubber gloves and boots when operating the machine to protect yourself from burns caused by high pressure spray and detergents, fluid injection or debris dislodged by the high-pressure spray.**

### Starting the Cleaner

1. Be sure all breakers, disconnects, and switches are in the “off” position connecting the machine to an electrical supply.


2. Turn on the water and fuel supply valves

**IMPORTANT:** *Never let the pump run without water supply or serious damage will result.*



Save these instructions

# Set-Up and Operating Information

3. Insert the detergent suction tube into a remote detergent solution container.

Detergent suction tube with foot valve

**Read and follow the directions Supplied by the chemical manufacturer regarding detergent usage and safety precautions**

**NEVER exceed 150˚ maximum setting for high pressure hot water cleaning. Exceeding the 150˚ maximum setting could cause a potentially hazardous situation.**

**NOTE:** *The burner will cycle, on and off as required to maintain operating temperature for high pressure, hot water cleaning.*

High Pressure Spray Tip

**The machine should always be shut down and system pressure relieved before changing tips or performing any other service.**

Weep Gun



Save these instructions

# Set-Up and Operating Information




4. Turn the machine control switch to the “rinse” position. Allow the pump to develop constant operating pressure. The gun and lance should be held firmly with both hands before triggering the gun. After soap and wax lines have been run and the tanks have been filled, repeat this process to prime the chemical lines in both the soap and wax positions.

5. **For Wash Bay Remote Control Boxes with Toggle Switches**. If hot high pressure is desired in the soap position, turn the burner switch on. The burner will ignite at the appropriate time.

6. **For Self-Serve Faceplates**. When the rotary Switch Selection is on soap there will be hot water at high pressure.

   NOTE: The pump switch, when turned on will start the pump regardless of the position of the remote-control switch.

**DO NOT allow burner to operate without igniting! If the burner fails to ignite, shut the machine down immediately and check for accumulation of gas proceeding. See the Troubleshooting before section of this manual or contact your dealer or service technician.**

7. To start the “soap” mode, (detergent solution spray), open the soap control valve and regulate the valve to the desired setting. Repeat this procedure with the wax control valve. **NOTE – DO NOT** allow container to become empty. Air will be drawn into machine causing cavitation and/or damage the pump.

**IMPORTANT:** *Do not allow the machine to go into a “dry” steam condition. This can be recognized by the absence of any liquid at the nozzle and a “blue” colored vapor. Shut down the burner immediately and allow the machine to cool down as described in the “Shutting Down After Use” section. Serious damage could result to the hose and heating section of the machine if not corrected. Inspect for any damage and consult the Troubleshooting section or contact your dealer or service technician if the problem should occur.*



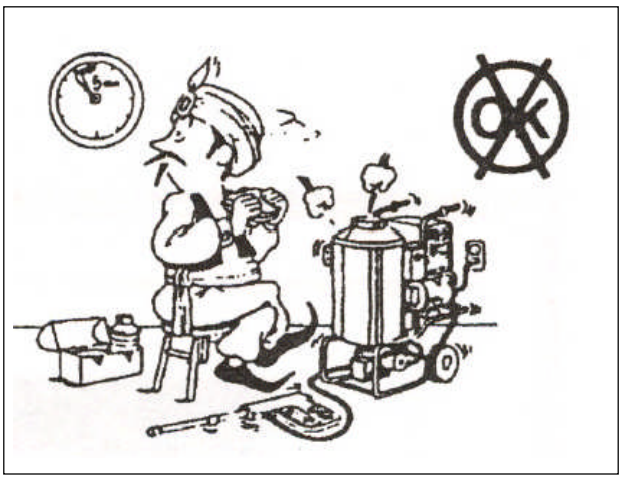
Save these instructions

# Set-Up and Operating Information

### Pressure Cleaning Tips

Fifteen degree (15) nozzles are generally used for severe general purpose type cleaning operations and are most effective when held 6 to 12 inches from the cleaning surface on medium to heavy gauge materials.

Twenty Five degree (25) nozzles and Forty degree (40) nozzles are generally used when minimum impact is desired for light materials, painted surfaces and large surface areas where warpage may be a problem due to the higher impact of smaller nozzle sizes. This nozzle is also ideal for applying hot wax.



**On gun control models, to minimize the possibility of machine overloading, overheating or relief valve actuation, DO NOT let the unit run for more than 5 minutes with the gun in the closed position.**



Save these instructions

# Set-Up and Operating Information

## Cleaning Tips

The wash gun nozzle supplied with the machine will provide optimum hot water cleaning for most universal type cleaning requirements if used properly.

Most cleaning agents are more effective if the surface is rinsed first to loosen the dirt. With many cleaning needs, the use of hot water, instead of cold water, greatly increases the cleaning effect of most detergents.

Detergents should be applied from the bottom to the top to avoid streaks, allowed to set for a moment or two to react with the dirt, then rinsed from the top down to avoid streaks or skips. Never use more detergent than is necessary to clean the surface. Always follow the directions supplied by the manufacturer on the container regarding detergent use, particularly regarding painted and/or aluminum surfaces.

For the best results, the gun should always be used with long slow deliberate strokes, 6-12 inches away from the surface, in much the same manner as using paint sprayer. This will provide the most effective cleaning impact and avoid streaks or skips in the cleaning process. “Waving” the gun aimlessly across the surface wastes expensive detergent and prolongs the cleaning process.

If the machine is used to apply hot wax after the cleaning and rinsing process, the gun should be held farther from the surface to get a “misting” effect when applying the wax. For best results, follow the directions supplied by the manufacturer for applying hot wax.



Save these instructions

# A Properly Maintained Machine is A Safe Machine

It is the operator's responsibility to make daily inspections of the machine
For anything that could cause a potential service, fire or safety problem.

# Routine Maintenance

### Service and Maintenance Schedule

Preventative maintenance is the easiest and least expensive type of maintenance. The life of any machine depends on the care that it is given. Regular inspections of the machine's systems and critical components is the key to preventative maintenance. To prevent machine down time and prolong the life of your unit, follow these simple routines.

### Daily

- Check cold water supply
- Check detergent and wax supply.
- Check wash nozzle for clogging or damage.
- Check pump oil level.
- Check for leaks.

### Weekly

- Check pressure hose for wear or damage.

### Monthly

- Check machine electrical ground wire condition.
- Check belt pulley set screws for tightness with power turned off to the unit only.
- Check pump drive belt condition and tension with power turned off to the unit only.

### Yearly

- Replace worn wash gun nozzle.
  Change pump oil 3 to 6 months as needed (See Pump Lubrication)
- Check detergent pick-up hose for damage or plugging.
- Run a Back pressure test to determine the amount of scale formation in the heating coil, if you are not using soft water or your softener was broken down for an extended period of time. (See an authorized Service representative.)

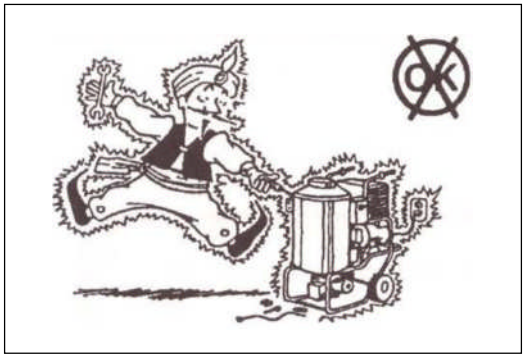
## WARNING

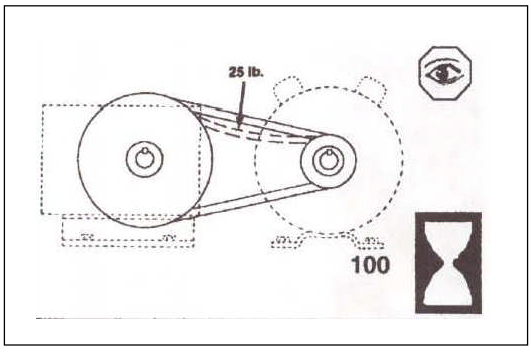
To prevent personal injury from electrical shock or accidental machine startup, disconnect electrical power supply before disassembling any part of the unit or before servicing.

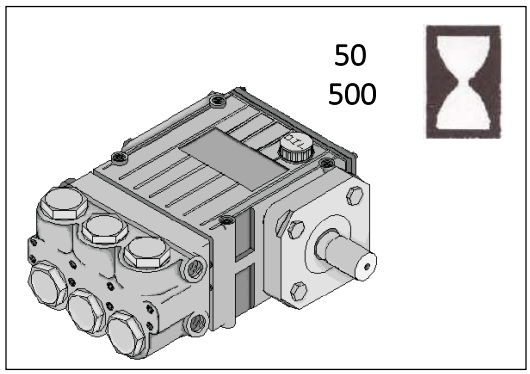


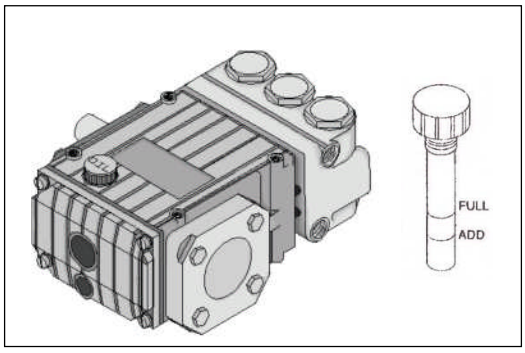
Save these instructions

# Routine Maintenance






# WARNING

To prevent personal injury from electrical shock or accidental **machine start-up, disconnect** electrical power supply before disassembling any part of the unit or before servicing.

## Pump Belt Tension

If your pump is belt driven, check the belt for excessive wear, fraying and cracking at least once a month or every 100 hours or operation, whichever comes first.

Measure belt deflection at the longest span of the belt, midway between the pulleys. Belt deflection should be no more than 3/8" to ½" with 25 lb. force applied.

To adjust belt tension, loosen the 4 pump main frame attaching bolt nuts ½ to 1 turn. Turn the tension bolt nut clockwise to tighten the belt or counter clockwise to loosen. After proper tensioning, tighten the mount bolt nuts securely.

## Pump Lubrication Requirements

The pump is pre-lubed from the factory, after the first 50 hours of operation, change the crankcase oil. Change oil every three months or 500 hours (whichever occurs first) thereafter. Use only approved pump oil.

## Checking Pump Oil Level

Loosen and remove the check/fill plug to check oil level. The dipstick is notched on the stem, the top of the notch is the "full" mark and the bottom is the "add". Replace the dipstick securely after checking the oil level.

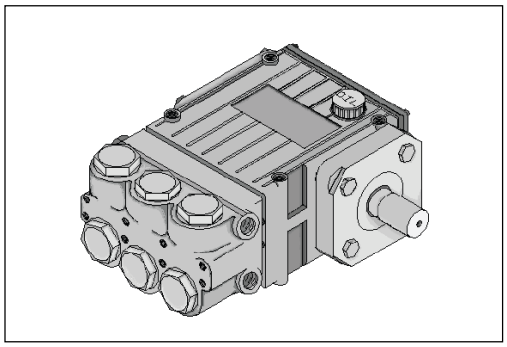


Save these instructions

# Routine Maintenance

## Changing Pump Oil

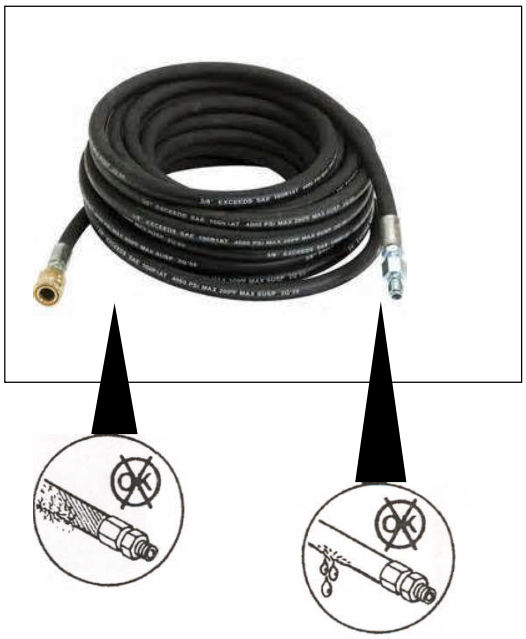
The Oil may be drained by removing the plug located at the rear of the pump crankcase. The crankcase may also be drained by removing the fill plug and using a suction gun with flexible tube to suction the oil out. After draining, fill the crankcase with the specified oil to the full level. **Do not overfill.**



## Pressure Hose

Inspect the hose for damage and/or wear. Replace the hose if it is damaged in any way.

- Avoid extending the hose across high traffic areas and never leave the hose where it can be run over by vehicles of any type.
- Never pull on the hose or place undue stress on the hose.
- Never pull the hose around a sharp corner or force it into a small loop. The wire braid has a minimum radius of 5 inches.



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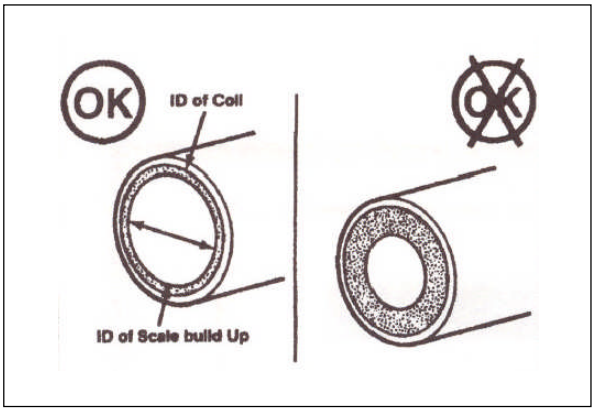
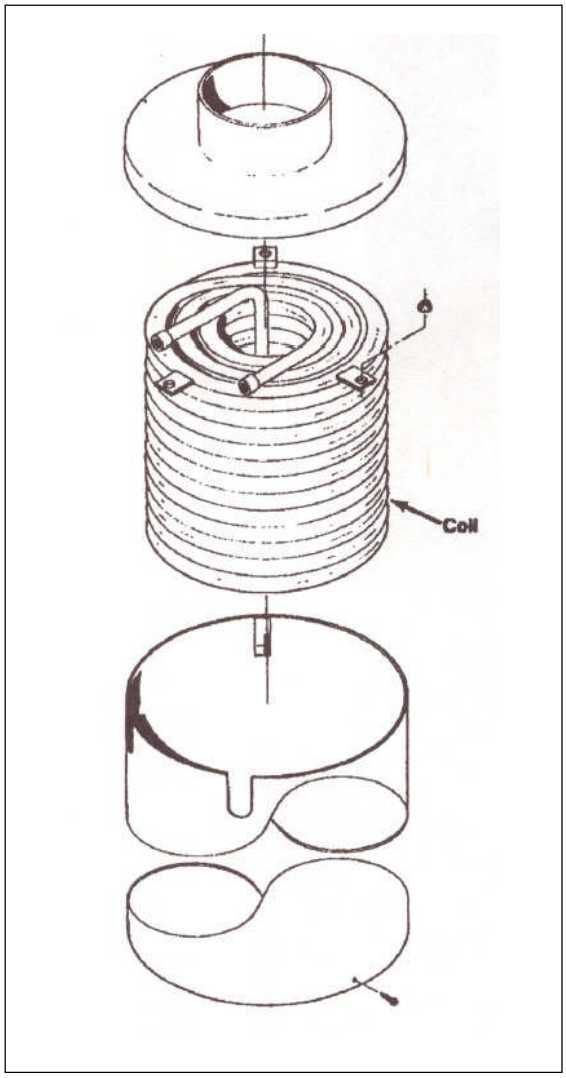
# Routine Maintenance




## Heating Coil Maintenance

With any heating coil, deposits from the water and chemicals can settle on the inner wall of the steel pipe. These “scale” deposits restrict flow through the coil and may eventually plug the coil completely.

In hard water areas, this condition can occur in less than a month’s time unless the user has installed a water softener.

The symptoms of a scaled coil are slow heating, inadequate heat rise, loss of nozzle pressure and a continuous overload of the motor.

In any of these symptoms are evident, a coil back pressure check should be performed to determine the extent of the plugging. Contact a dealer or authorized service representative for this service.

**NOTE**: Commercial chemicals may be available for use in cleaning coil. If used, follow the direction provided on the container or by your chemical supplier. If chemicals are used, be sure they are compatible with the pressure hose and pump.



Save these instructions

# Routine Maintenance

## Winterizing and Storage

To protect machine from severe damage resulting from water freezing inside the pump, heating coil and other components or from corrosion resulting from long periods of inactivity or storage, use the following procedure:

1. Disconnect the water supply line, drain the float tank of all water.

## USING ANTI-FREEZE

2. After draining the float tank, pre-mix a 50-50 solution of permanent anti-freeze and water in a 5-gallon container. Fill the float tank with this solution.

**IMPORTANT:** *Do not use anti-leak type Anti-freeze.*

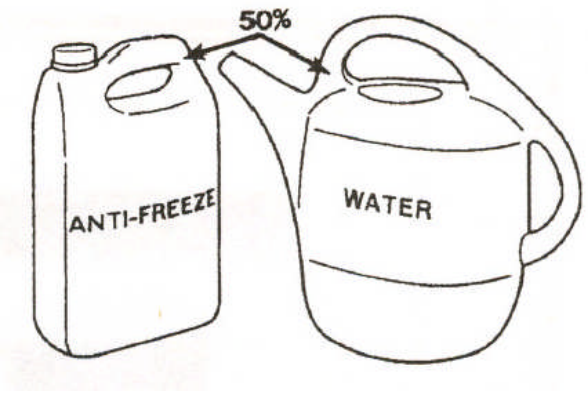
3. Place the detergent suction tube into the float tank. Open the metering valve at least one full turn.

4. Hold the wash gun trigger open. Turn on the pump, wait a few seconds and release the trigger. Open the trigger again after a few seconds and release, Cycle the wash gun trigger on and off four times, then hold the gun open until the anti-freeze appears at the nozzle tip. Turn off the pump. The machine is now winterized and prepared for storage.

**IMPORTANT:** *Be sure to keep the float tank filled with anti-freeze during this procedure.*

5. When preparing to operate the washer after winterizing for storage, remove the gun from the pressure hose, reconnect the water supply and have an anti-freeze container ready. Turn the pump on, direct the flow of the solution back into its container for reuse. Take care not to dilute with water through the washer. Reinstall the gun to the pressure hose.

**NOTE:** *If kept relatively undiluted, anti-freeze may be reused again and again.*



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# WARNING

## Before Attempting Any Repairs or Maintenance, Be sure Machine is Shut Off and Disconnected from Electrical Supply

## Troubleshooting

Troubleshooting is an organized study of the problem and a planned method or procedure for investigation and correction of the difficulty. The following troubleshooting guide includes some of the problems that you may encounter during the service life of the machine.

The troubleshooting guide does not give all the answers for correction of problems listed but are meant to stimulate a train of thought and indicate a work procedure directed toward the source of the trouble.

### THINK BEFORE ACTING

Study the problem thoroughly and ask yourself these questions:

1. What are the warning signs preceding the trouble?
2. What previous repair and maintenance work has been done?
3. Has a similar problem occurred before?
4. If the machine still runs, is it safe to continue operation to make further checks?

### SO EASIEST THINGS FIRST

Most problems are simple and easily corrected.
Example: *Burner will not light"* complaint caused by soap or wax being called for, chemical tank is empty, unit pulls air through pump causing loss of vacuum in the vacuum switch that activates the burner.
Always check the easiest and obvious things first. Follow this simple rule will save time and trouble.

**FIND AND CORRECT BASIC CAUSE OF TROUBLE**

**AFTER A MECHANICAL FAILURE HAS BEEN CORRECTED, BE SURE TO LOCATE AND CORRECT THE CAUSE OF THE PROBLEMS SO THAT THE SAME FAILURE WILL NOT BE REPEATED.**

The following pages list some of the problems, causes and probable fixes the operator can study to become aware of what might cause the problem should it arise.

If the hints in this manual do not correct a problem, contact a dealer or authorized service representative. **DO NOT** attempt repairs you do not understand.



Save these instructions

# Troubleshooting

## Gas Burner Malfunction

| PROBLEM | PROBABLE CAUSE | POSSIBLE REMEDY |
|---|---|---|
| 1. Pilot will not light | 1. Gas cock dial turned off | 1. Turn dial to pilot position. |
| | 2. Low gas pressure | 2. Check fittings with soapy solution; tighten any loose fittings. |
| | 3. Gas leak in pilot | 3. Check pressure with manometer; if LPG pressure low, cylinder may be empty or “cold”, if natural gas pressure low, supply pipe may be too small or supply inadequate. |
| | 4. Air in gas line (common with new LP bottle installation. | 4. Vent trough open hose, then reconnect to burner, (allow ample time for air to escape.) |
| | 5. Pilot adjustment screw needs readjustment | 5. Adjust to flame of reasonable size. |
| | 6. Electronic Ignition only | 6. |
| | a) Week or no spark | a) Check or replace ignition wire connection and electrode. Check voltage supply to electronic module, replace module. |
| | b) Pilot solenoid not opening | b) Check power supply or voltage. Replace solenoid. |
| | c) Electrode damage or out of adjustment. | c) Readjust or replace. |
| 2. Pilot will not stay lit | 1. Draft extremes | 1. Install draft diverter as indicated in INSTALLATION INSTRUCTIONS. Relocate machine to less drafty area or provide shields or walls to isolate burner. |
| | 2. Defective thermocouple | 2. Replace thermocouple. |
| | 3. Undersized gas supply pipe or hose resulting in wide swing in gas pressure in burner on/burner off | 3. Install larger gas supply pipe or hose. |
| | 4. Electronic Ignition only | 4. |
| | a) Defective ignition electrode wire connection electrode | a) Repair or replace. |
| | b) Module defective | b) Replace. |
| | c) Electrode out of adjustment | c) Adjust. |
| 3. Burner will no light | 1. No Fuel | 1. Natural: open supply line valve. LPG: open valve or install new bottle. |
| | 2. Pilot out | 2. Relight pilot. |
| | 3. Thermostat set too low | 3. Reset thermostat. |
| | 4. Faulty thermostat | 4. Check continuity with high voltage tester or test light, if faulty, replace. |
| | 5. Burner control circuit dead. | 5. Check for loose connection or broken wires. Re-establish power. |
| | 6. Flow or vacuum switch faulty | 6. Check switch for continuity. Replace if necessary. |



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# Troubleshooting

## Gas Burner Malfunction (Continued)

| PROBLEM | PROBABLE CAUSE | POSSIBLE REMEDY |
|---|---|---|
| 4. Pilot will light but goes out when gas cock dial is released- (standing pilot) | 1. Faulty thermocouple.<br>2. Thermocouple loose at gas control end. | 1. Replace thermocouple.<br>2. Tighten. |
| 5. Short thermocouple life - (standing pilot) | 1. Excessively high pilot flame | 1. Adjust pilot flame to lower level. |
| 6. Burner smoke | 1. Inadequate draft or combustion air<br>2. Dirty or clogged gas jet<br>3. High gas pressure | 1. Contact qualified heating person to check for chimney draft or combustion air.<br>2. Contact certified service technician.<br>3. Contact certified service technician. |
| 7. Burner fails to turn on and off with Operation of squeeze gun | 1. Flow or vacuum switch faulty | 1. **Do not continue to operate if Burner fails to shut off.** Contact certified service technician. |
| 8. Low temperature output | 1. Low gas supply pressure<br>2. Thermostat set too low<br>3. Limed up heating coil<br>4. Burner control circuit faulty keeping gas valve closed<br>5. Low temperature tap water | 1. Contact local gas service person.<br>2. Increase thermostat setting.<br>3. Contact dealer.<br>4. Check circuit for loose wiring, re-established power.<br>5. Increase water temperature |
| 9. Excessive temperature output | 1. Thermostat set to high<br>2. Faulty thermostat<br>3. Burner interlock fails to operate when squeeze gun is closed<br>4. High temperature tap water | 1. Decrease thermostat setting.<br>2. Replace if necessary.<br>3. Check pressure switch and adjust if necessary.<br>4. Lower water temperature. |



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# Troubleshooting

## Pump Malfunction and Pressure Delivery Problems (Crankcase Type Pump)

| PROBLEM | PROBABLE CAUSE | POSSIBLE REMEDY |
|---|---|---|
| 1. Low Pressure | 1. Worn or oversized spray nozzle<br>2. Clogged water and/or detergent inlet strainer<br>3. Out of detergent or wax pump sucking air through detergent line<br>4. Air leak in inlet plumbing<br>5. Belt slipping<br>6. Dirt or foreign particle in the valve assembly<br>7. Worn or damaged inlet or discharge valve. | 1. Replace worn nozzle<br>2. Clean or replace fouled strainers<br>3. Restore detergent supply or close detergent shut off valve<br>4. Locate air leak. Reseal connection or replace damaged part<br>5. Tighten or replace if damaged<br>6. Remove any dirt or particles<br>7. Replace worn valves |
| 2. Rough operation with loss of pressure | 1. Restricted inlet plumbing or air leak in inlet plumbing<br>2. Damaged pump parts | 1. Ensure adequate water supply and supply hose. Repair inlet fittings<br>2. Replace any damaged pump parts; clean out any foreign particles |
| 3. Water leakage – intake manifold or crankcase | 1. Worn manifold seals or condensation inside crankcase | 1. Replace seals. Change oil at regular intervals |
| 4. Loud knocking, noisy operation | 1. Inadequate water supply to pump creating “vacuum knock”<br>2. Loose pulley<br>3. Worn or broken bearing (s) | 1. Check for restricted inlet and adequate tap water supply<br>2. Check key and tighten set screw<br>3. Replace bearing (s) as needed |
| 5. Oil leaks | 1. Worn crankcase seals, crankcase cover seal or drain plug seal | 1. Replace seals |
| 6. Excessive pump shaft play | 1. Worn and loose bearing | 1. Replace bearings. Check bearing seals, spacers and retainers, replacing and worn parts. |
| 7. Irregular spray pattern | 1. Worn or partially clogged spray nozzle. | 1. Clean or replace nozzle |



Save these instructions

# Troubleshooting Electrical Malfunction

| PROBLEM | PROBABLE CAUSE | POSSIBLE REMEDY |
|---|---|---|
| 1. Washer electrically dead | 1. No power to the machine | 1. Check circuit breaker. Check for defective electrical outlet. |
| | 2. Defective power cord | 2. Repair or replace bad cord. |
| | 3. Defective main on/off switch | 3. Test switch(es) and replace if defective |
| | 4. Faulty or loose wiring | 4. Check switch and motor wiring for solid connections. |
| | 5. (GFCI Tripped) | 5. DANGER-do no operate, fault exists. Contact electrician or Power Company. |
| 2. Power supply circuit breaker trips Often and will not stay “on” | 1. Short circuit in washer or elsewhere on the circuit. | 1. Check washer (and other loads on the same circuit) for faulty wiring, loose wire, etc. |
| | 2. Undersized circuit being used, or too much total load on the circuit | 2. Put the washer on a larger circuit or remove other loads from the existing circuit. |
| | 3. Supply voltage is low | 3. 120 V units require a minimum of 108V; 220V units require 208V. |
| | 4. Undersized wiring causing under-voltage to the washer | 4. Check line voltage and connect washer to adequate voltage supply. Contact electrician or supplier for proper size and length. |
| | 5. Faulty circuit breaker | 5. Replace breaker |
| 3. Thermal overload protector in main pump motor trips often | 1. Partially or totally clogged spray nozzle overburdens motors | 1. Remove and clean out nozzle. Make sure strainers on water inlet swivel and chemical suction tube are present and in good clean condition. |
| | 2. Undersized spray nozzle in use | 2. Make sure nozzle size is correct as given in “Parts” section. |
| 4. Thermal overload protector trips Often in either or both motors (pump and burner) | 1. Supply voltage is low | 1. Check line voltage and insure proper voltage. (see Power Company or electrician.) |
| 5. Electrical shock from cabinet or Spray wand<br>6. GFCI Tripping, **DANGER** an electrical fault exists, - **DO NOT** attempt to operate the unit without finding and correcting the fault. | 1. Electrical leakage exists and washer is not properly grounded. **NEVER** use 2 conductor wire. **NEVER** remove the grounding. Make sure any repairs done were done properly and that the proper connections made. | 1. **DANGER – Do not use!** Find the problem or contact a qualified Electrician. **Washer must be completely grounded at all times!** This means a solid ground connection Inside the cabinet and strict use of properly grounded receptacles. **(Call your dealer or electrician.)** |
| 7. Flame failure relay trips | 1. Lack of fuel | 1. Check fuel supply and systems for blockages. |
| | 2. Dirty CAD cell | 2. Clean and replace. |
| | 3. Low voltage | 3. Check line voltage. Insure proper voltage. |
| | 4. Loose wiring | 4. Check wiring. |



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# Troubleshooting

## Detergent System Malfunction

| PUMP STAND | PROBABLE CAUSE | POSSIBLE REMEDY |
|---|---|---|
| 1. Washer fails to draw detergent or wax | 1. Suction tube not below liquid surface.<br>2. Clogged or damaged suction strainer.<br>3. Clogged metering valve | 1. Completely submerge suction tube and strainer in detergent solution.<br>2. Clean or replace strainer<br>3. Clean or replace metering valve |
| 2. Detergent or wax solution too weak | 1. Clogged detergent strainer or metering valve<br>2. Air leak in detergent suction tube or inlet plumbing. | 1. Clean or replace<br>2. Find air leak and tighten or replace parts as necessary. |
| 3. Detergent or wax solution too concentrated | 1. Original detergent product too concentrated. | 1. Dilute product 2:1 and recalibrate the metering valve suction. |
| 4. Detergent or wax appearing in the rinse cycle | 1. Detergent control valve open<br>2. Leaking (defective) detergent control valve. | 1. Close valve completely.<br>2. Replace with new control valve. |
| 5. Solution of detergent concentrate during shut down | 1. Detergent at lower level than water supply plumbing and natural siphon drains water into detergent container. | 1. Shut off detergent control valve and/or water valve when shutting down. |
| 6. Detergent siphons out during shutdown | 1. Washer is shut down, detergent valve stuck open and gun is laid on ground (below the level of the detergent container) creating a natural siphon of deterrent supply<br>2. Valve defective | 1. Close detergent valve when shut down. Store hose properly instead of leaving on ground.<br>2. Replace valve |



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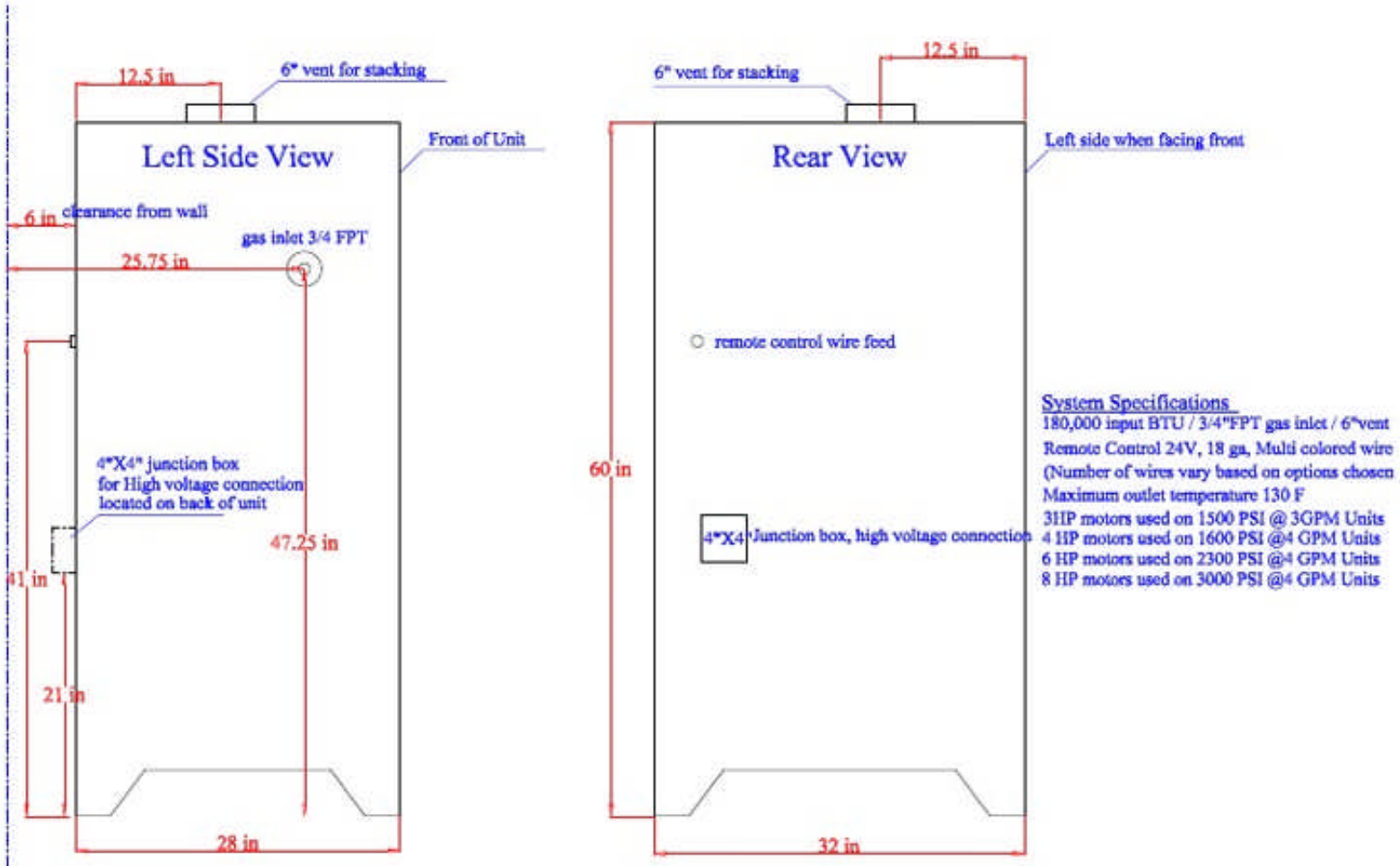
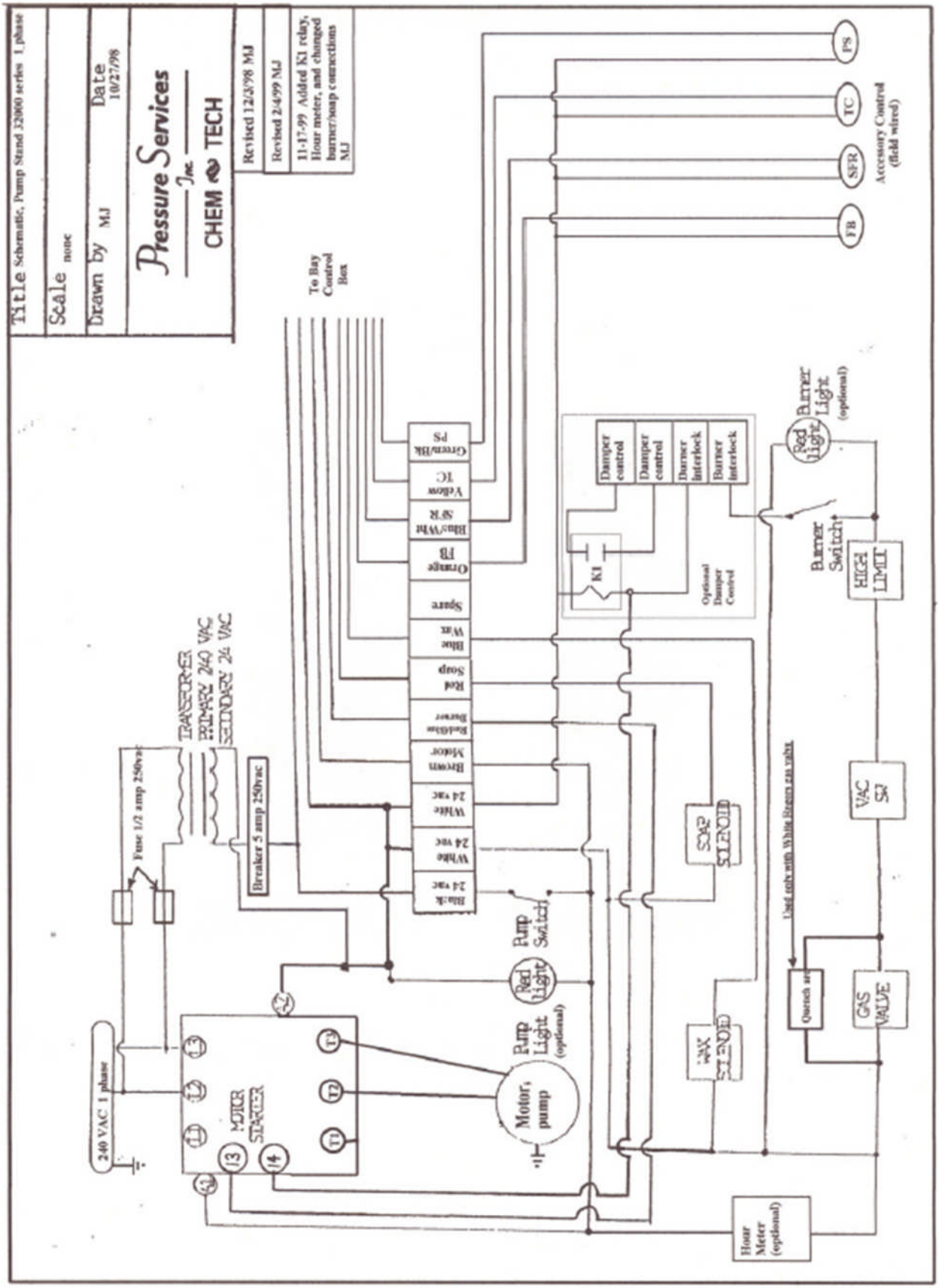
# Utility Layout for Advanced Cleaning Systems Carwash Stand




Important: Installation must conform to all applicable codes



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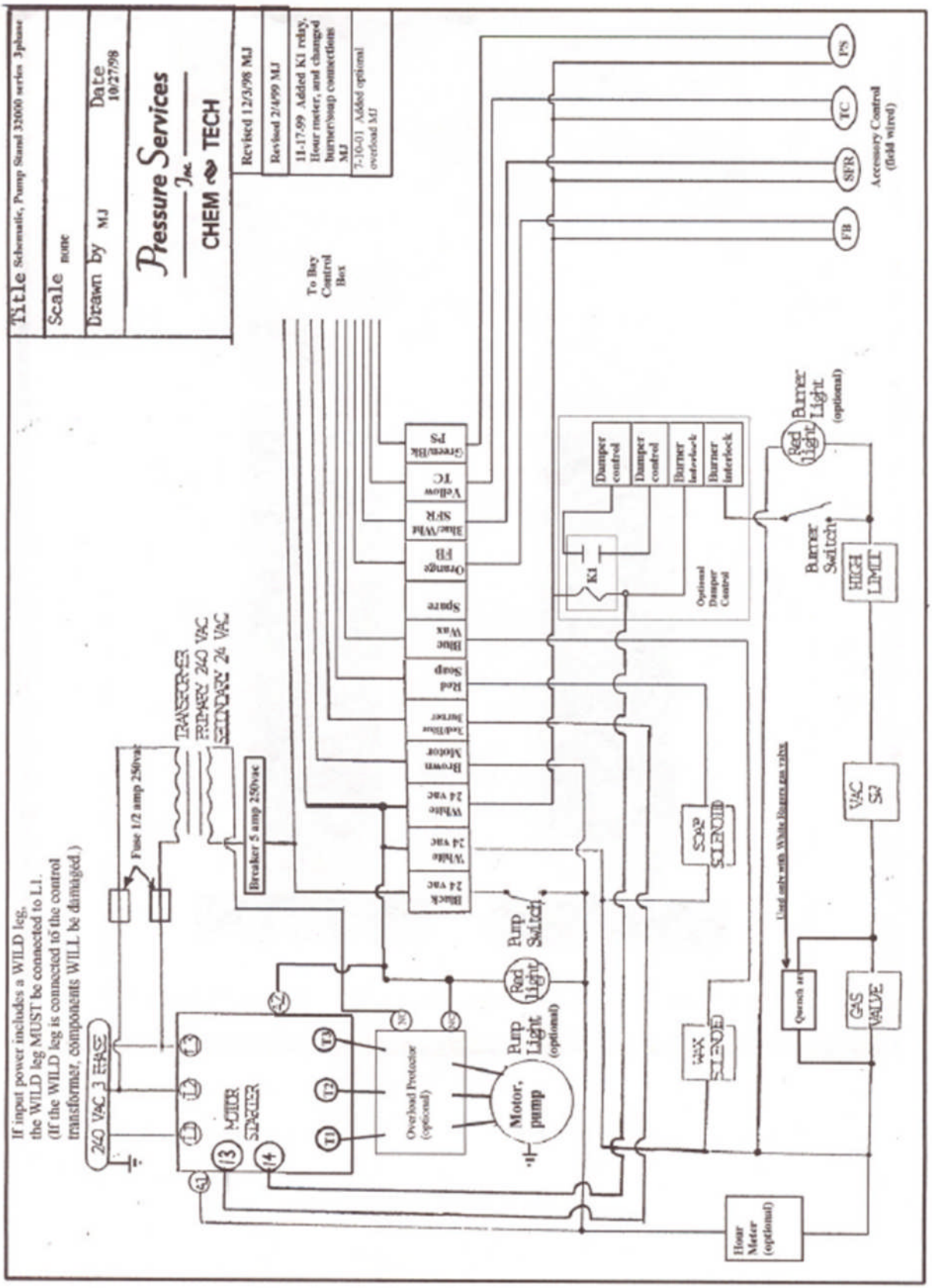




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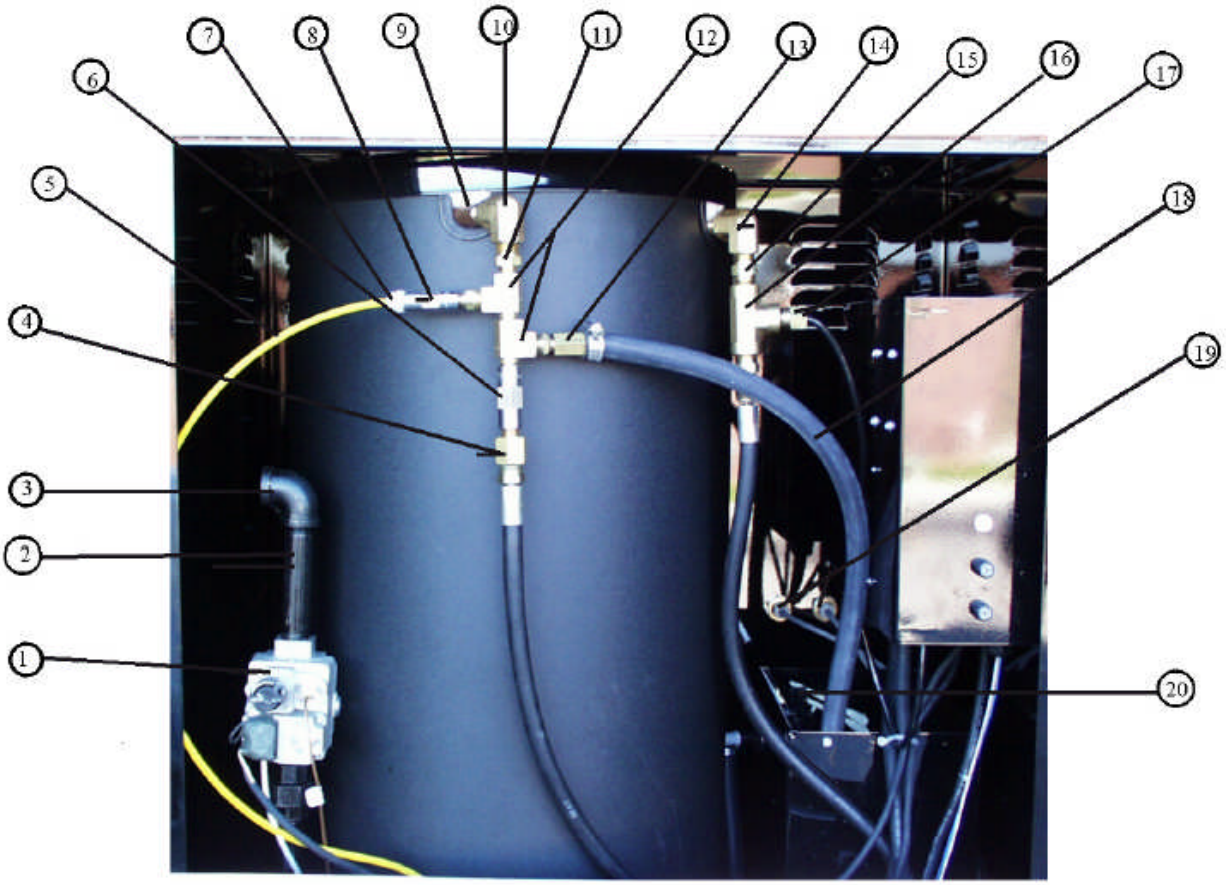




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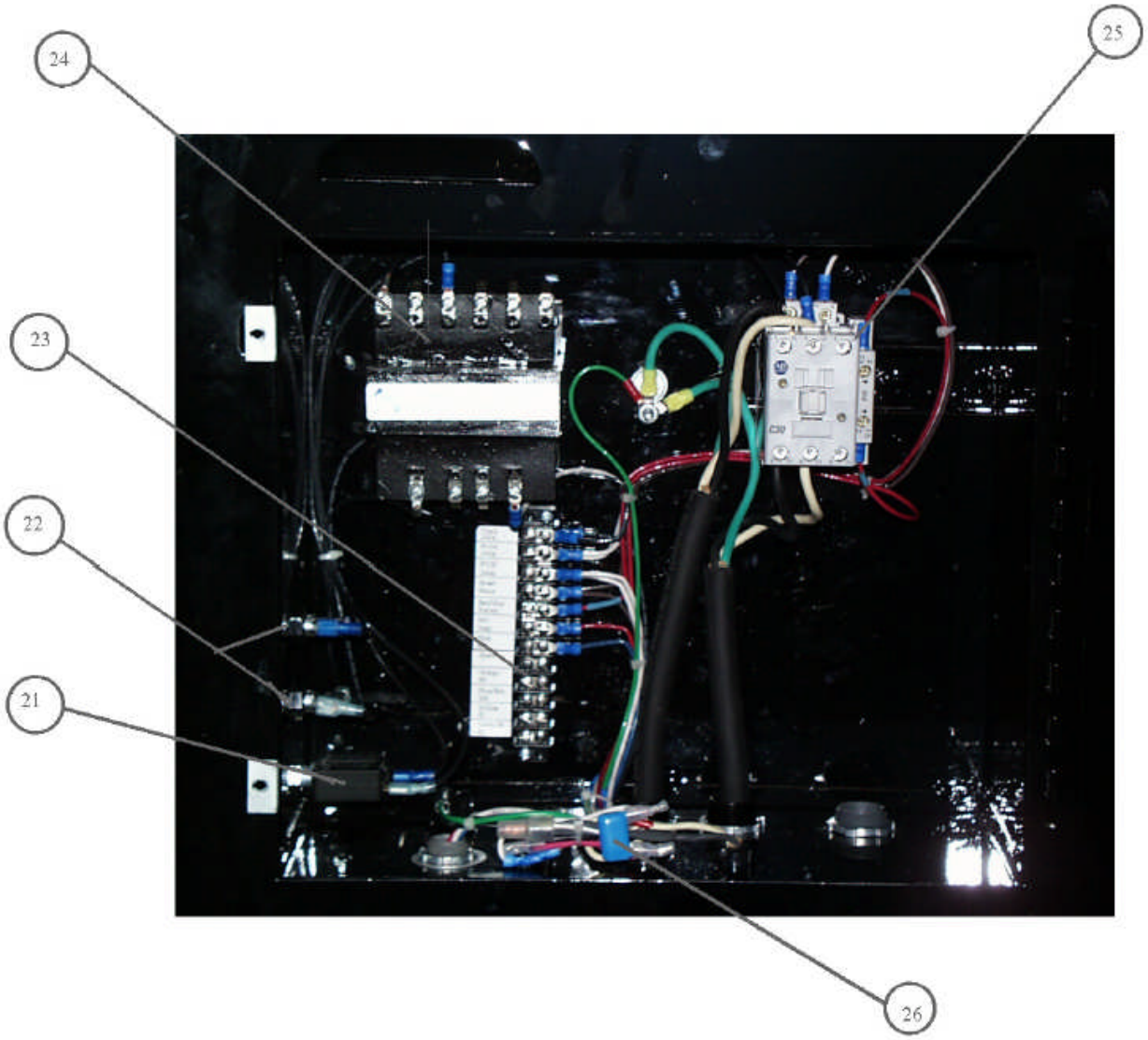




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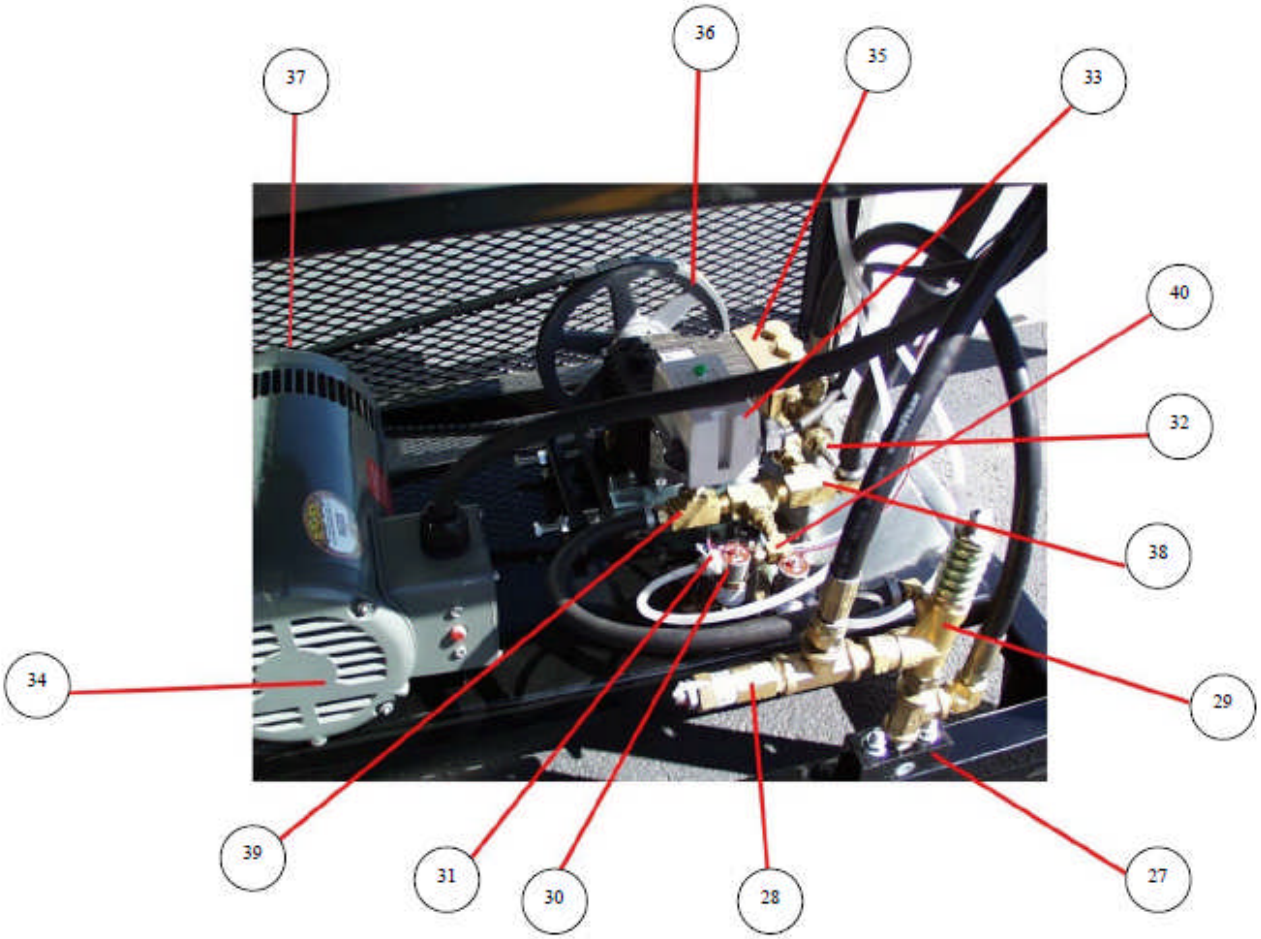




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# Parts Break Down for 32000 Pump Stand

| No # | Qty | Part Number | Description |
|---|---|---|---|
| 1 | 1 | 04/05-151101 | Gas Valve 24 Vac |
| 2 | 1 | 04/01-292001 | 3/4 Pipe Nipple |
| 3 | 2 | 04/01-131401 | 3/4" F x F Elbow |
| 4 | 1 | 98/222P-8-6 | 1/2 FPT x 3/8 MPT Adapter |
| 5 | AR | 17/PT24004YL | 1/4" OD Tube |
| 6 | 1 | 34/CV-600SP | 3/8 Check Valve |
| 7 | 5 | BB/0420416 | 1/4" Pushin x 1/4" MPT Connector |
| 8 | 1 | 34/CV-100SP | 1/4" Check Valve |
| 9 | 2 | 04/01-281604 | 1/2" Nipple |
| 10 | 1 | 04/01-111305 | 1/2" Elbow |
| 11 | 1 | 98/209P-8-6 | 1/2" x 3/8" Bushing |
| 12 | 2 | 98/2225P-6 | Street Tee 3/8" |
| 13 | 1 | 62/AR5000-1 | Relief Valve |
| 14 | 1 | 04/01-111305 | 1/2" Elbow |
| 15 | 1 | 98/216P-8 | 1/2" Nipple |
| 16 | 1 | 98/2203P-8 | 1/2" Tee |
| 17 | 1 | 01/04-101005 | High Limit |
| 18 | 3FT | 90/H153 | 5/8" hose |
| 19 | 3 | 08/140419 | Bulkhead 1/4" FPT |
| 20 | 1 | 04/K01-0199 | Float Valve |
| 21 | 1 | 04/03-311000 | Circuit Breaker 5A |
| 22 | 2 | 04/03-27411 | Fuse Holder |
| 23 | 1 | 65/12-140IRC | Terminal Strip 12 Pos |
| 24 | 1 | 04/03-261910 | Step Down Transformer |
| 25 | 1 | 04/03-252002 | **4 hp** Motor Contactor |
| 25 | 1 | 04/03-252005 | **6 hp** Motor Contactor |
| 26 | 1 | 04/F01-0500 | Surge Suppressor |
| 27 | 1 | 04/I04-0074-1 | Unloader Block |
| 28 | 1 | 04/05-111311 | Relief Valve |
| 28 | 1 | 04/05-111310 | Relief Valve **Over 2000 PSI** |
| 29 | 1 | 04/05-185400 | Unloader |
| 30 | 2 | 47/2X523 | Solenoid |
| 31 | 7 | BB/00420215 | Connector 1/4" JG x 1/8" MPT |
| 32 | 1 | 04/05-141000 | Tank Valve |
| 33 | 1 | 04/04-101400 | Vac Switch |
| 33 | 1 | or 04/K01-0205 | Vac Switch |
| 34 | 1 | 04/09-111811 | Motor **(4 hp)** |
| 34 | 1 | 04/09-111906 | Motor **(6 hp)** |
| 35 | 1 | 04/08-131900 | Pump |



Save these instructions

# Parts Break Down for 32000 Pump Stand

| No # | Qty | Part Number | Description |
|---|---|---|---|
| 36 | 1 | 04/07-201240 | Pulley, Pump **4 hp 3 GPM** |
| 36 | 1 | 04/07-201040 | Pulley, Pump **4 hp 4 GPM** |
| 36 | 1 | 04/09-112003 | Pulley, Pump **6 hp 3 GPM** |
| 36 | 1 | 04/07-231040 | Pulley, Pump **6 hp 4 GPM** |
| 37 | 1 | 04/07-253400 | Pulley, Motor **4 hp** |
| 37 | 1 | 04/07-233000 | Pulley, Motor **6 hp** |
| 38 | 3 | 98/2203P-6 | Tee, 3/8" |
| 39 | 2 | 98/2225P-6 | Street Tee 3/8" |



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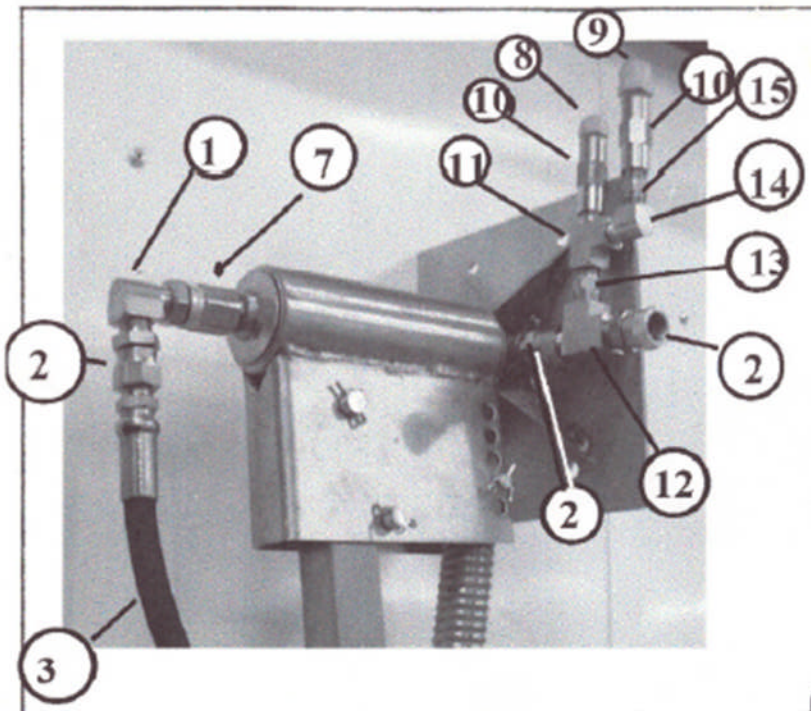
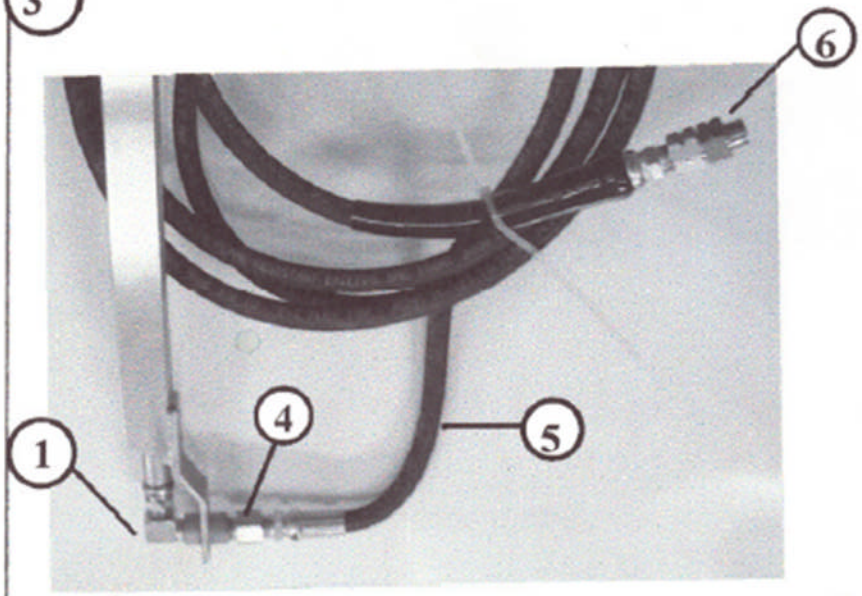



| Item | Part number | description |
|---|---|---|
| 1 | 98/2202P-6-6 | 3/8 street elbow |
| 2 | 17/1404-6-6 | 3/8 swivil connector |
| 3 | 17/6AX-6' | 3/8 high pressure hose |
| 4 | 98/222p-6-6 | 3/8 breakaway adapter |
| 5 | 17/6AX-15' | 3/8 high pressure hose |
| 6 | 70/200300025 | 3/8 swivel |
| 7 | 34/sw504A | 3/8 swivel |
| 8 | BB0-0420415 | 1/4JG X1/4MPT |
| 9 | BB0-0620415 | 3/8JG X 1/4MPT |
| 10 | 34/CV100SP | 1/4 check valve FXF |
| 11 | 98/2225P-4 | 1/4 street tee |
| 12 | 98/2225p-6 | 3/8 street tee |
| 13 | 98/216P-6-4 | 3/8 X 1/4 hex nipple |
| 14 | 98/2202P-4-4 | 1/4 street elbow |
| 15 | 98/216P-4 | 1/4 hex nipple |

Title 360 Boom Parts

Scale None

Drawn by MJ Date 7/29/99

Pressure Services Inc.

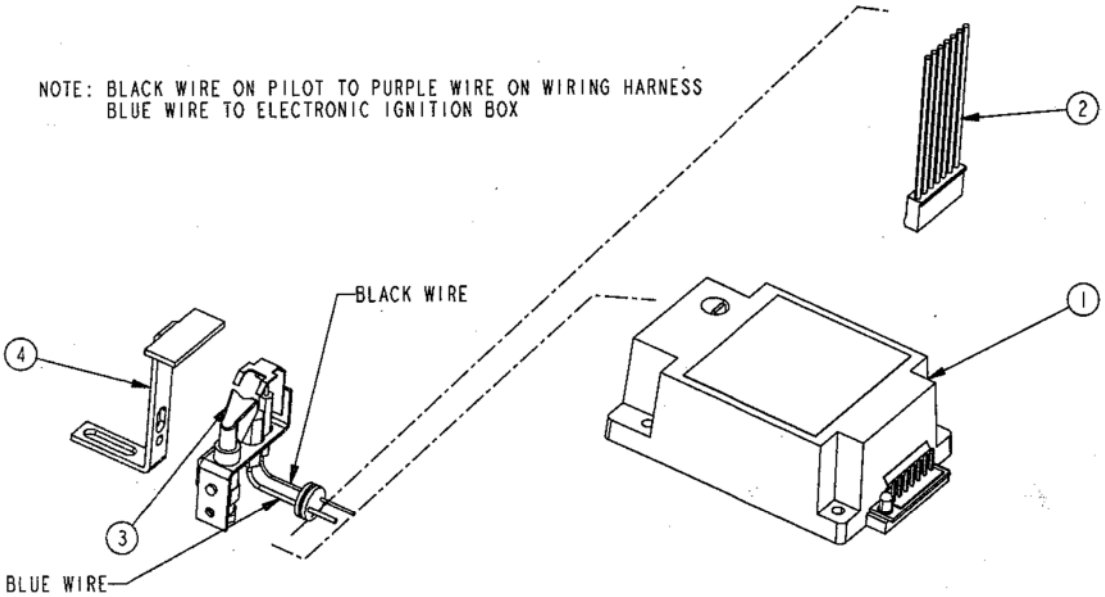
CHEM TE

**Implemented on Models Manufactured After January 2015**

BILL OF MATERIALS

| ITEM | QTY | PART DESCRIPTION | PART \ DRW# |
|---|---|---|---|
| 1 | 1 | ELEC. IGN/ 24V | 04-121108 |
| 2 | 1 | WIRING HARNESS-E.IGN | 04-121109 |
| 3 | 1 | ELECTRONIC PILOT | 05-131351 |
| 4 | 1 | PILOT MOUNTING ANGLE | B03-0027-1 |

SCHEMATIC K01-0202-0
REF DRAWING. 170-0004




| | |
|---|---|
| TITLE | E. IGN. 24V |
| DESCRIPTION | SYNETEK KIT |
| 25-Apr-06 | DWG# K01-0202-1 |



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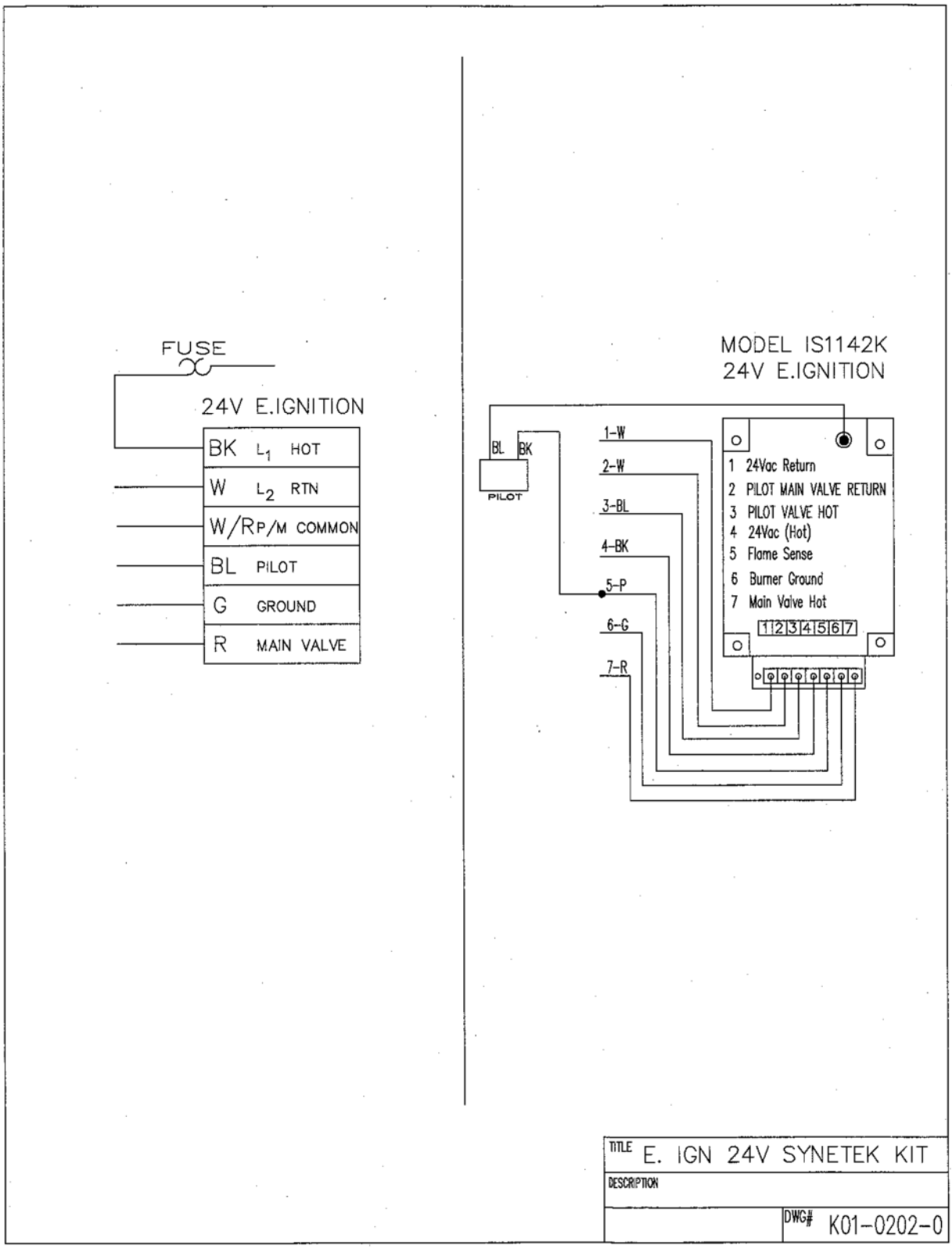




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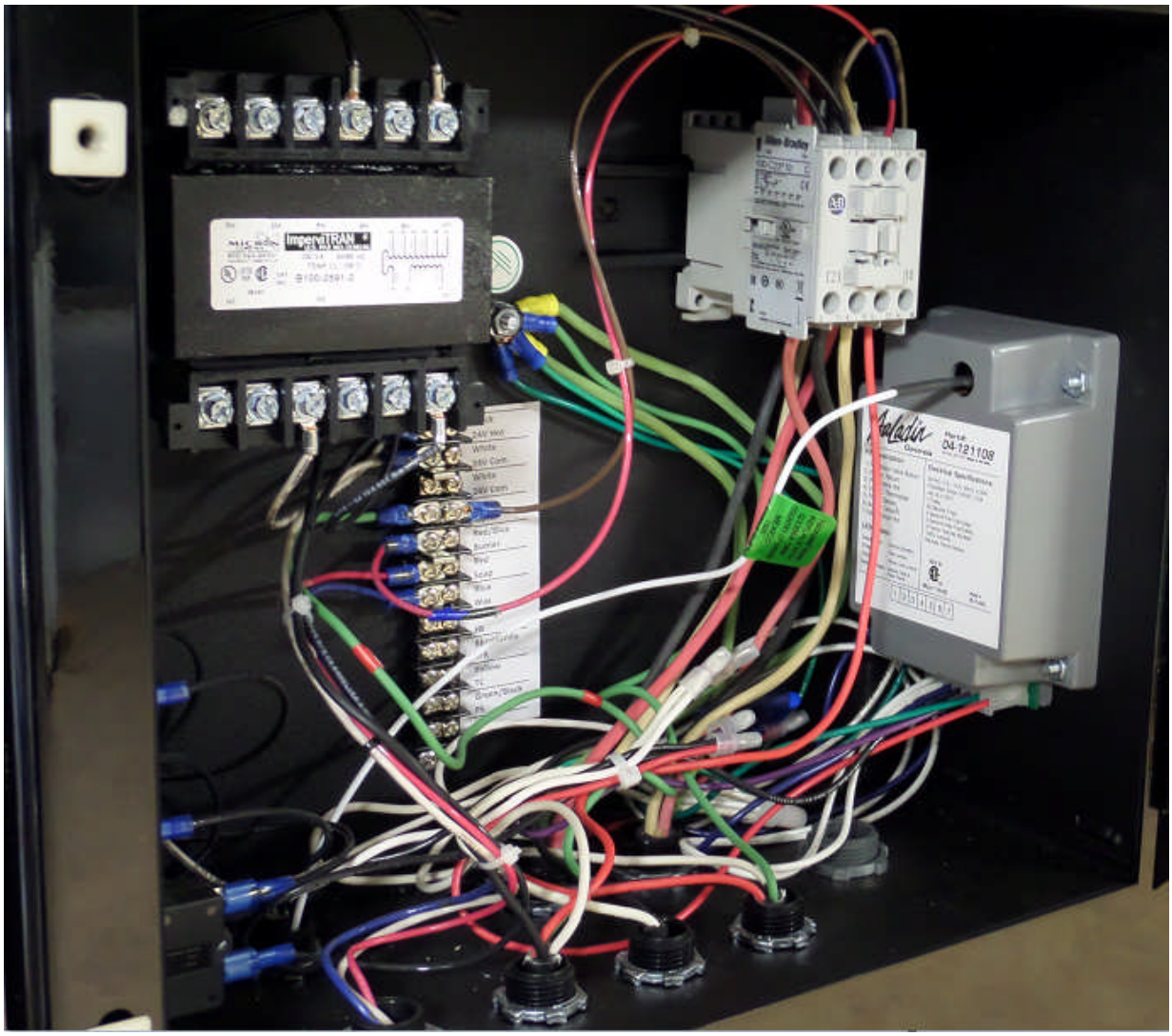
**Implemented on Models Manufactured After January 2015**



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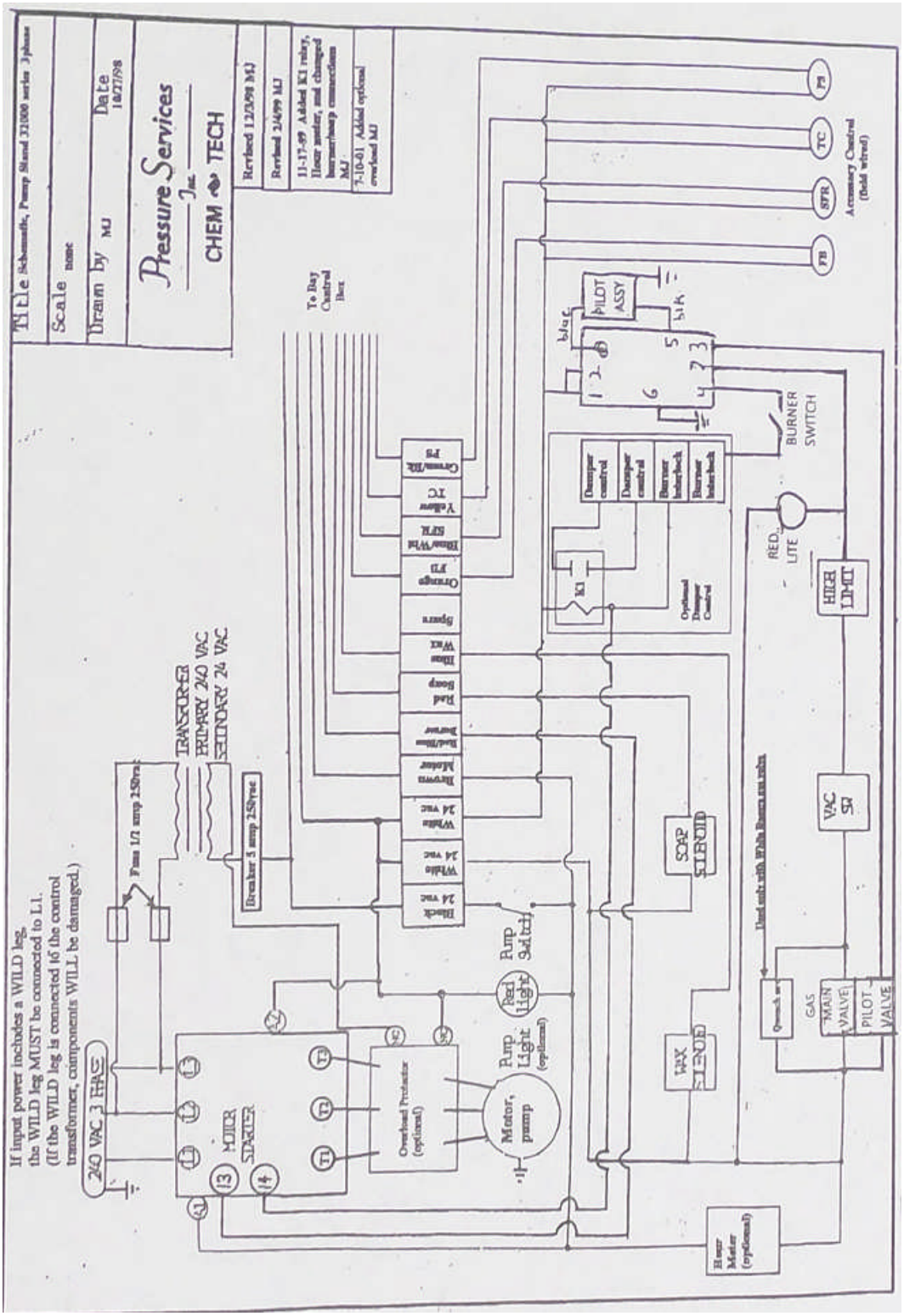
**Implemented on Models Manufactured After January 2015**



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# ADVANCED CLEANING SYSTEMS

**Exclusively by Pressure Services, Inc.**
2361 South Plaza Drive ▪ Rapid City, South Dakota 57702
(605) 341-5154 ▪ 800-666-3664 ▪ Fax (605) 341-4843
www pressureservices.com

## CAR WASH STAND LIMITED WARRANTY

Pressure Services, Inc. / Chem~Tech warrants to persons who purchase its equipment that each new machine sold by “us” to be free from manufacturing defects in normal use for a period of five (5) years (with the exception of those components listed below) commencing with delivery of the machine to the original owner.

| | |
|---|---|
| Unit Warranty of Fabricated Items | 5 Years |
| *(Frames, Coil Wrappers, Float Tanks, Belt Guards, Etc.)* | |
| Pump Manifold (General, Giant, AR) | Lifetime |
| General Pump Drive Assembly | 5 Years |
| Cat Pump Drive Assembly and Head | 5 Year |
| Giant Pump Drive Assembly | 5 Years |
| Electric Motors | 1 Year |
| Pulleys | 1 Year |
| Float Valves | 1 Year |
| Unloaders | 90 Days |
| Guns, Discharge Wands | 90 Days |
| Control and Safety Switches | 1 Year |
| Lights | 90 Days |
| Chemical Valves | 1 Year |
| Belts | 90 Days |
| All Poly Components | 2 Years |

THIS WARRANTY DOES OT APPLY TO WEARABLE PUMP PARTS, HARD WATER DAMAGE, CLOGGED COILS, HOSES, O-RINGS, CLOGGED FILTERS, NOZZLE WEAR, GAUGES, WET END OF PUMP, PAINT, IMPROPER CHEMICAL USE OR DEFECTS CAUSED BY DAMAGE OR UNREASONALBE USE (INCLUDING FAILURE TO PROVIDE REASONALBE AND NECESSARY MAINTENANCE) WHILE IN THE POSSESSION OF THE CONSUMER. WARRANTY **EXCLUDES** ANY DOWN TIME OCCURRED. WARRANTY NON-TRANSFERABLE. WARRANTY LABOR LIMITED TO ONE (1) YEAR.
Customer is responsible for freight charges on warranty parts as well as overnight express charges if requested by the equipment owner.
All warranty coverage pending individual components manufactures inspection, analysis and credit decisions. Our obligation under this warranty is expressly limited at our option to the replacement or repair at a service facility designated by us, of such part or parts, as inspection shall disclose to have been defective.



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