

# START-UP DOCUMENTS

1. Follow All Procedures for Start-Up. Make notes of all discrepancies. Call Factory with any questions or problems.
2. Fill out both pages of form, sign, and date.
3. Make and provide copies to owner/job superintendent, dealer and your files.
4. To **Retain Warranty** and to Assist in Problem Diagnosis in the Future, Send signed and dated original ASAP to:

Vanguard Technology, Inc.

29495 Airport Road

Eugene, OR 97402

Fax: 541-461-6023 or Email: info@vanguardtechnologyinc.com

Failure to send complete signed and dated start-up form may void warranty.

**If the dishwasher has “hot water coil” tank heat,** the D/W wash tank must be set *no higher* than 150°-160°F MAX and the D/W power rinse tank (if a 2-tank dishmachine) must be set *no higher* than 165°F MAX. **The PowerMax Booster must be set no higher than 195°F on the operating (white) sensor and 192°F for hi-lo flame setting.** Setting these temperatures is a part of the Start-Up. Any settings higher than these may cause the booster to run continually and the relief valve to discharge. This is not a defect and resetting temps and/or replacing relief valves will not be covered under warranty. **CALL VANGUARD (800-624-4809) IF YOU HAVE ANY QUESTIONS**



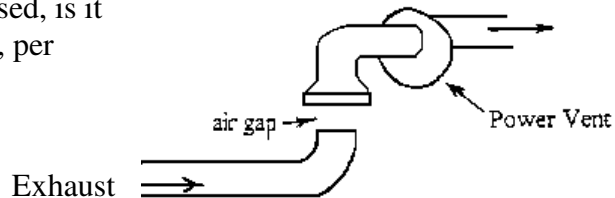
## Factory Authorized PowerMax™ Start-Up Verification Worksheet

**Job Name:** \_\_\_\_\_

**Job Address:** \_\_\_\_\_

**Dealer Name:** \_\_\_\_\_ **Serial #** \_\_\_\_\_ (R01/16)

- ❑ **\*\*THIS UNIT OPERATES ON STANDARD N.G. OR L.P. GAS PRESSURES (1/2 psi). VERIFY GAS SUPPLY; N.G. OR L.P. (circle one), PIPE SIZE \_\_\_\_\_" DIA. AND SUPPLY WATER COLUMN \_\_\_\_\_" W.C., CHECK GAS PRESSURE BEFORE MAXITROL TRIMMING REGULATOR; IT SHOULD BE 7"-10" W.C.-NG; 10"-14" W.C.-LP. MAXIMUM GAS SUPPLY PRESSURE IS 10" W.C.-NG; 14" W.C.-LP. (1/2 psig) GAS PIPING MUST PROVIDE SUFFICIENT VOLUME TO MAINTAIN CONSISTENT PRESSURE.**
- ❑ MAXITROL gas pressure "trimming" regulator (Maxitrol 48L 5"-12" w.c. or equivalent) MUST BE installed in gas supply piping before connection to PowerMax™ & set to 7"-7.5" w.c.-NG or 10"-11" w.c.-LP operating gas pressure. **YES / NO (Circle One)**
- ❑ **Verify that electrical connection to unit is correct and to NEC code. (120 vac, 1 ph, 15A)**
- ❑ **THE INLET WATER SUPPLIED TO THE BOOSTER HEATER SHOULD BE A MINIMUM OF 110° F; 35 PSI EXCEPT IN THE CASE OF SINGLE RACK, DOOR TYPE DISHWASHERS AND SOME "WATER-SAVER" CONVEYOR MACHINES, IN WHICH CASE INCOMING WATER CAN BE AS LOW AS 45° F. DO NOT CONNECT THE POWERMAX™ BOOSTER HEATER TO A COLD WATER SUPPLY PIPE IF IT IS TO BE USED WITH A FULL FLOW CONVEYOR DISHWASHER. ❑ VERIFY Dishwasher mfr. & Model # \_\_\_\_\_**
- ❑ Verify dia. of exhaust vent piping. \_\_\_\_\_" dia.
- ❑ Is there any horizontal vent piping? **YES / NO (Circle one)** How much? \_\_\_\_\_ ft.
- ❑ Confirm that PowerMax is **NOT** common-vented with any other fueled appliance. **YES / NO (Circle one)** if Yes, Explain with notes: \_\_\_\_\_
- ❑ Is vent pipe correct pipe for application? 'Z'-vent Mfg. By Z-Flex U.S., Saf-T-Vent Mfg. by Heat Fab., Inc., FasNSeal by ProTech Systems, Metalbestos DCV by Selkirk, National Chimney, etc. **All must be constructed of AL29-4CTM or 316Ti Stainless Steel. Polypropylene may be used with written factory approval of installation details.**
- ❑ If an auxiliary power vent is being used, is it installed with an indirect connection, per drawing and operating correctly?  
**YES / NO (Circle One)**



- ❑ If PowerMax™ is vented through D/W canopy or cowl vent (i.e. with EZ-Vent kit) Vent connection to duct **must be indirect** with air gap. (See EZ Vent info) **YES / NO (Circle One)**
- ❑ If vented thru D/W canopy or cowl vent, electrical interlock (draft-proving switch) must be installed to prevent operation if draft fails. Confirm correct operation **YES / NO (Circle One)**
- ❑ **Verify pipe size, flow pressure and volume of water supply** to unit are according to mfr's specifications and connected to correct locations. Water supply pipe size. \_\_\_\_\_" dia.
- ❑ **VERIFY THAT 180° OUTLET ON TOP BACK OF BOOSTER IS CONNECTED TO D/W RINSE VALVE OR RECIRCULATION LOOP TO D/W**

- ❑ **BE CERTAIN** that Dishwasher PRV and pressure gauge are located **BETWEEN** Booster Heater Outlet & Dishwasher rinse valve. Flowing rinse pressure must be 18-20 p.s.i. There should **not be a PRV** or check valve in supply pipe to Booster Heater. **YES/NO (Circle one)**
- ❑ **IF A CHECK VALVE OR PRV IS ON BOOSTER INCOMING WATER SUPPLY, A Potable Water Expansion Tank MUST Be Installed In Piping. YES / NO or N/A (Circle One)**
- ❑ ***\*\*Verify that pipe length from booster accumulator outlet or circulating loop piping to rinse valve does not exceed 5 feet. (NSF maximum) and is correct diameter (both supply and return) Verify pipe is sized properly, Complete loop should be 3/4" I.D. minimum for 1 dishwasher and 1"-1-1/2" I.D. for 2 dishwashers or dishwashers with both rinse and fill valves filling through booster, and/or with washtank water coils for heat. Piping should be insulated to minimum R-4 throughout the loop.***
- ❑ Check all gas connections for leaks. Bleed air from gas piping.
- ❑ Check all water connections for leaks. Correct any leaks (gas or water) **at this time.**
- ❑ Bleed air from accumulator and heat exchanger through temperature/pressure relief valve.
- ❑ **Bleed air and water from pump center plug. Spin-start pump impeller with small screwdriver, if necessary.**
- ❑ **Turn power switch 'on'. FAN AND PUMP WILL COME ON. If not, check circuit breaker. IF POWER IS PRESENT TO SWITCH, SWITCH IS ON & FAN AND/OR PUMP DO NOT OPERATE, TURN OFF POWER AND CALL FACTORY 800-624-4809**
- ❑ Burner(s) will activate until accumulator temperature setting is reached. Output temperature sensor (Red sensor) should reduce burner to low flame shortly before burner shuts off.
- ❑ **Operating gas pressure should be approximately 2.50"-3.5" w.c. NG or 6.5"-8" w.c. LP; Check at outlet test port on Honeywell gas valve outlet at full burn. Confirm  \_\_\_\_\_" w.c.**
- ❑ When unit is at temperature, flush approx. 25 gal. of hot water through the unit before shutting off. (Activate D/W rinse valve or trip relief valve on unit.)
- ❑ ***\*\*While PowerMax<sup>TM</sup> is operating, check flame color and condition through view window. Flame on burner should be flat and mostly deep blue to purple with minor light orange highlights and/or sparkles. Burner MUST NOT be orange or red. Air shutter between fan and mounting panel should be slightly tipped down from horizontal toward front of unit. Flame should be calm and not turbulent. Air shutter and/or gas pressure may need to be adjusted for this. Call factory with any questions. BE CERTAIN THAT UNIT MAINTAINS BURN ON LOW FLAME AND DOES NOT DROP OUT AND RELIGHT CONTINUALLY.***

**FOR CIRCULATOR OPTION:** In addition to above.....

- ❑ Verify that external circulator pump is operating & pumping in right direction. Pump should be located in return side of circulator loop and pumping toward booster. Check valve should be installed after pump in return piping, not in booster supply line. See Manual for details.

**Comments and Recommendations:**

**Service Agency:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**\*\*Please make 3 copies and send to Facility Manager, Dealer & Vanguard Technology Inc.**

**FOR ANY ASSISTANCE, OR IF YOU ARE NOT FAMILIAR WITH THIS EQUIPMENT, PLEASE CALL FACTORY at: 800-624-4809 Pacific Time Zone**

\_\_\_\_\_  
Technician Signature

\_\_\_\_\_  
Technician Name (please print)

\_\_\_\_\_  
Date