INSTRUCTIONS

MODEL AM14F, AM14T, & AM14TC DISHWASHERS

MODELS

AM14F	*ML-110975*
AM14T	*ML-110973*
AM14TC	*ML-110974*

HOBART
CORPORATION

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FORM 34555 (Dec. 2000)

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNIT(S) AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

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Installation, Operation, and Care of
MODEL AM14F, AM14T, AM14TC DISHWASHERS

SAVE THESE INSTRUCTIONS

GENERAL

The AM14T, AM14TC, and AM14F dishwashers are semi-automatic rack-type machines. On model AM14T (Fig. 1) the doors open on opposite sides of the machine allowing the rack to move straight through. Model AM14TC can be located in a corner; adjacent doors open so the rack moves in and out at a 90° angle. Model AM14F (Fig. 1) uses its pull-down front door for loading or unloading a rack of dishes or utensils.

The AM14T, AM14TC, and AM14F dishwashers are designed to operate in one of two modes: Hot water sanitizing mode (designated by the letter "H" at the end of the machine serial number), or a chemical sanitizing mode (designated by the letter "L" at the end of the machine serial number). The serial number can be found on the machine data plate.

Model AM14T



Model AM14TC
with Booster Heater shown



Model AM14F



Fig. 1

DO NOT attempt to operate this dishwasher in the chemical sanitizing mode without a properly installed, NSF-listed, chemical sanitizer feeder (not supplied with machine). Contact an authorized detergent representative for information about a chemical sanitizer feeder.

The pump motor is rated 2HP and has thermal overload protection.

The fill line incorporates an atmospheric vacuum breaker to prevent any reverse flow of water from the dishwasher into the potable water supply.

A float, located in the wash tank, will shut off the heat supply if the water level becomes too low. When the water returns to a proper level, the heating circuit is again operational.

A frame-mounted 13KW electric booster water heater is available as an option on machines equipped with electric tank heat. The booster water heater is designed to maintain a minimum final rinse temperature of 180°F provided the incoming water to the booster heater is at least 110°F.

Also available as an optional accessory is the model IB57 Infrared Booster Gas Water Heater.

INSTALLATION

UNPACKING

Immediately after unpacking the dishwasher, check for possible shipping damage. If this machine is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Prior to installation, test the electrical service to make sure it agrees with the specifications on the machine data plate which includes the optional electric booster, if equipped. Data plate for AM14T and AM14TC is located on the side of the control box. For AM14F, the data plate is located on the control box mounting bracket.

INSTALLATION CODES

Installation must be in accordance with state and local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 (latest edition) if applicable, and the National Electrical Code, ANSI/NFPA 70 (latest edition). In Canada, the installation standards are: CAN/CGA B149.1, CAN/CGA B149.2, and CSA C22.2 No.1 (latest editions).

LOCATION

Place the dishwasher in its operating location. Before finalizing the location, make sure that consideration has been given for the electrical conduit, water supply, drain connection, gas supply (if applicable), tabling (if needed), chemical feeder replenishment (if applicable), and adequate clearance for opening the doors.

On models AM14T and AM14TC, the control box (Fig. 1) is mounted 4 5/8" below the dish table when shipped from the factory. It can be changed to 11 1/8" or 5/8" below the dish table by removing the two mounting bolts and reinstalling them in the holes provided.

The dishwasher must be level before any connections are made. Turn the threaded feet (Fig. 1) as required to level the machine and adjust to the desired height.

On models AM14T and AM14TC, dish tables should be turned down and fitted into the dishwasher (Fig. 2). Use an NSF approved sealer between table and tank lip to prevent leakage. Fasten the tables to the tank lip with truss head screws. Dish tables are not required with model AM14F.

High-temperature or gas heat dishwashers will probably require a hood or vent over the dishwasher in order to meet local codes. Low-temperature chemical sanitizing machines or low usage electric heat dishwashers may not require individual venting of the machine if the room is amply exhausted. Refer to pages 9 and 10 for venting and hood requirements.

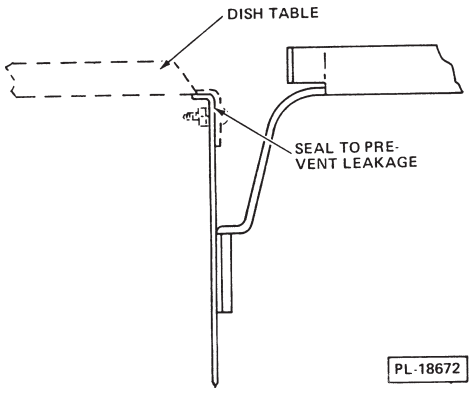


Fig. 2

WATER REQUIREMENTS

Proper water quality can improve ware washing performance by reducing spotting, lowering chemical supply costs, enhancing effectiveness of labor, and extending equipment life. Local water conditions vary from one location to another. The recommended proper water treatment for effective and efficient use of this equipment will also vary depending on the local water conditions. Ask your municipal water supplier for details about local water specifics prior to installation.

Recommended water hardness is 4 – 6 grains of hardness per gallon. Chlorides must not exceed 50 parts per million. Water hardness above 6 grains per gallon should be treated by a water conditioner (water softener or in-line treatment). Water hardness below 4 grains per gallon also requires water treatment to reduce potential corrosion. Water treatment has been shown to reduce costs associated with machine cleaning, reduce deliming of the dishwasher, reduce detergent usage, and reduce corrosion of metallic surfaces in the booster water heater and dishwasher.

Sediment, silica, chlorides, or other dissolved solids may lead to a recommendation for particulate filtration or reverse osmosis treatment.

If an inspection of the dishwasher or booster heater reveals lime build-up after the equipment has been in service, in-line water treatment should be considered, and, if recommended, should be installed and used as directed. Contact your Hobart Service office for specific recommendations.

PLUMBING CONNECTIONS

WARNING: PLUMBING CONNECTIONS MUST COMPLY WITH APPLICABLE SANITARY, SAFETY, AND PLUMBING CODES.

DRAIN CONNECTION

The drain connection is made using 2" pipe.

If a right hand drain is desired on a machine with electric heat, it can be changed from the standard left-hand by removing the pipe plug from the drain valve and reinstalling it in the opposite end of the drain valve. Machines with gas heat must have the drain connected on the right side.

If a grease trap is required by code, it should have a minimum flow capacity of 42 gallons per minute.

WATER CONNECTION

A suitable water hammer arrestor should be installed in the water line just ahead of the dishwasher.

Without Electric or Gas Booster Water Heater

The water supply line is connected to the line strainer (Fig. 1) with 3/4" pipe. A manual shut off valve and pipe union are required. The required incoming water supply temperature follows:

Sanitizing Mode	Fill and Final Rinse — Water Supply	
	Minimum Temperature	Recommended Temperature
Hot Water Sanitizing	180°F (82°C)	180°F (82°C)
Chemical Sanitizing (Normal Duty)	120°F (49°C)	140°F (60°C)
Chemical Sanitizing (Light Duty)	120°F (49°C)	140°F (60°C)

Proper dishwasher operation requires a flowing pressure of 20 ± 5 psig at the dishwasher. If the flowing pressure exceeds 25 psig, a pressure reducing valve (not supplied) must be installed in the water supply line. **CAUTION: The water pressure regulator must have a relief by-pass. Failure to use the proper type of pressure regulator may result in damage to the unit.**

A pressure gauge (Fig. 1) is provided for verification of proper water pressure. The water pressure is monitored when the solenoid valve is open and water is flowing.

With Electric Booster Water Heater

The water supply line is connected to the flow control ahead of the line strainer below the booster with 3/4" pipe. A manual shut off valve and pipe union are required.

The water supply should have a minimum temperature of 110°F and a flowing pressure of 15 – 25 psig at the pressure gauge on top of the machine. If the flowing pressure exceeds 25 psig, a pressure reducing valve (not supplied) must be installed in the water supply line. **CAUTION: The water pressure regulator must have a relief by-pass. Failure to use the proper type of pressure regulator may result in damage to the unit.**

Incoming water temperature below 110°F may require the wash cycle time to be extended from 40 to 60 seconds. To have the cycle time adjusted, contact your local authorized Hobart Service Office.

When the fill / final rinse valve is on, water from the booster tank enters the dishwasher through the final rinse arms. During the rinse cycle, this water is 180°F. Water will likely dribble out of the lower rinse arm into the tank between cycles due to the natural expansion of water as it is being heated.

GAS TANK HEAT (When Specified)

Check the gas data plate attached to the dishwasher or the tag attached to the incoming gas piping for the type of gas to be used. Connect the gas supply to the 1/2" NPT gas inlet at the manual gas valve. The burner is not adjustable. The maximum flowing inlet gas pressure must not exceed the Maximum value in the table. If line pressure exceeds the Maximum value in the table, an additional regulator valve (not supplied) must be installed in the supply line.

GAS PRESSURE SPECIFICATION
[*FLOWING* GAS PRESSURE — NOT STATIC]

Model	Type of Gas	BTU/HR	Inches W.C. (Water Column)		
			Incoming Line Pressure		Manifold Pressure
			Minimum	Maximum	
AM14F AM14T AM14TC	Natural	20,000	4.5	10.5	3.2
	Propane	20,000	9.0	13.0	9.0

Static inlet gas pressure should not exceed 14" W.C. for either natural or propane gas. The minimum value is for purpose of input adjustment.

The gas valve (Fig. 3) is provided with a pressure tap to measure the gas pressure downstream, which is also the manifold pressure. Gas supply piping must have a sediment trap (supplied by others) installed ahead of the dishwasher's gas control (Fig. 3).

NOTE: **DO NOT** use Teflon tape on gas line pipe threads. For gas line pipe connections, use LOCTITE 565, Hobart part 546292 or a flexible sealant suitable for use with Natural and Propane Gases.

The appliance and its gas connections must be leak tested before placing the appliance in operation. Use soapy water for leak test. **DO NOT** use open flame. The installation must conform with local codes, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z223.1 (latest edition). Copies may be obtained from American Gas Association, Inc., 1515 Wilson Boulevard, Arlington, VA 22209.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 psig (3.45kPa).

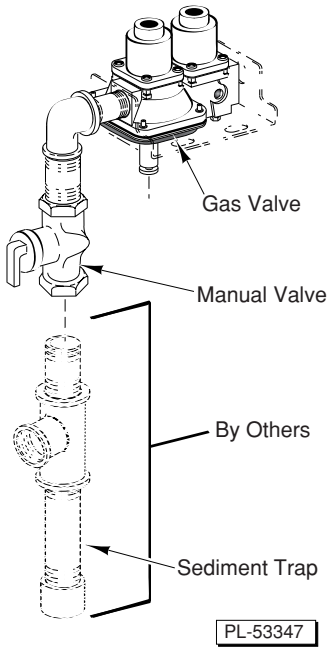


Fig. 3

The appliance must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 psig (3.45kPa).

Dissipate test pressure from the gas supply line before re-connecting the appliance and its manual shutoff valve to the gas supply line. **Caution: Failure to follow this procedure may damage the gas valve.**

The dishwasher must be installed so that the flow of combustion and ventilation air will not be obstructed. Adequate clearances for air openings into the combustion chamber must be provided. Make sure there is an adequate supply of make-up air in the room to allow for combustion of the gas at the burner(s).

Keep the appliance area free and clear from all combustible substances. Do not obstruct the flow of combustion and ventilation air. The dishwasher must have a minimum clearance from combustible construction of 1 inch from the flue at the rear and 0 inches at the sides. A clearance of 40 inches must be provided at the front of the dishwasher for servicing and proper operation.

The burner is ignited automatically by solid state electronic circuitry; there is no pilot light. Gas flow is regulated by the temperature control circuit.

VENTING REQUIREMENTS — WITH GAS TANK HEAT

The Hobart AM14F / AM14T / AM14TC dishwasher equipped for gas tank heat is not provided with a flue collar and is not intended to have the flue directly connected to a ventilation system. However, the products of combustion must be vented to the outside air. The most common method of venting is a vent hood over the entire dishwasher (Fig. 4). Refer to Rate of Exhaust Flow Calculations on the next page for calculations of the proper vent rate for your hood. Another method is a small vent hood (Fig. 5) positioned about five inches above the flue exit at the rear of the dishwasher and connected to existing ductwork. In either case, an electrical interlock must be provided to allow the flow of gas to the dishwasher burner ONLY when the exhaust system is energized. For additional information, refer to the National Fuel Gas Code, ANSI Z223.1, NFPA 54.

- **IMPORTANT**: Make sure the installation meets the local code for your area.

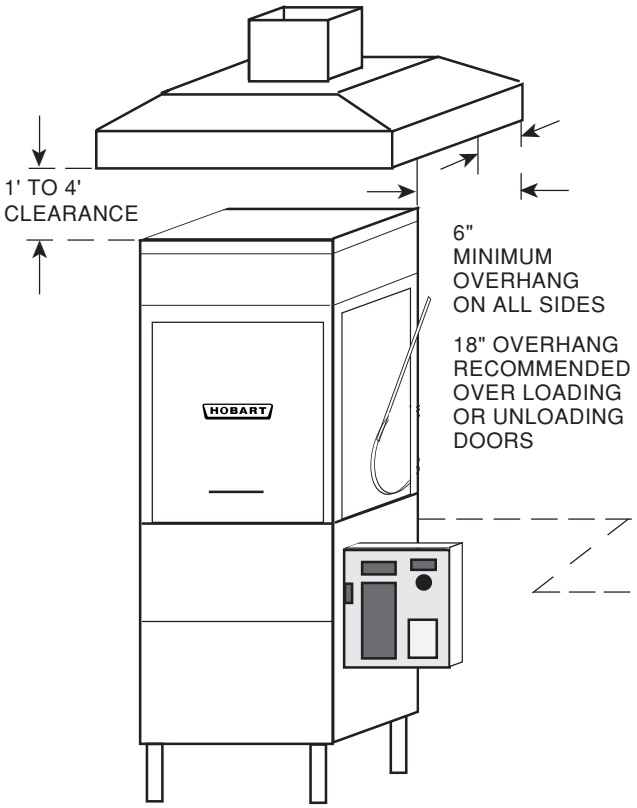


Fig. 4

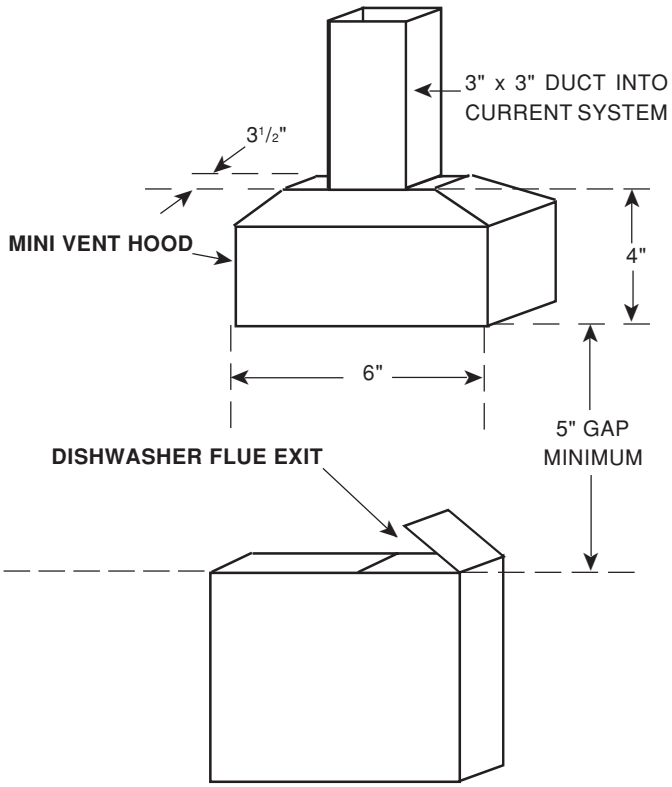


Fig. 5

NOTE: Any listed and labeled factory-built commercial exhaust hood tested in accordance with UL Standard 710 by a nationally recognized testing laboratory, should be installed according to the terms of its listing and the manufacturer's installation instructions.

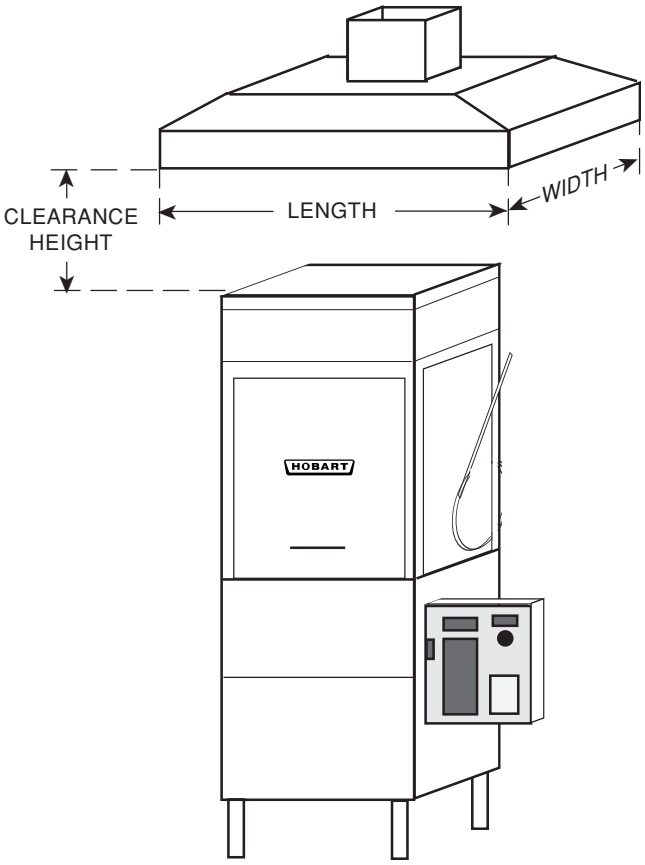


Fig. 6

RATE OF EXHAUST FLOW CALCULATIONS

Based on the 1996 International Mechanical Code.

The **Rate** of air flow required for a vent hood is calculated using the following definitions (Fig. 6):

Q = Rate of Air Flow in Cubic Feet Per Minute or [CFM] Required for the Hood.

A = Area of Hood Opening = (L x W) in Feet^2

D = Clearance Height = Distance in Feet from lower lip of hood to top of dishwasher chamber.

P = Perimeter of Hood that is Open. This depends on the hood design, as follows:

Perimeter Calculation Formula

Hood Design	Corner	Wall	Island
Number of Open Sides	2 Sides Open	3 Sides Open	4 Sides Open
P =	L + W	L + W + W	L + L + W + W
Dimensions	Feet	Feet	Feet

If there are four open sides (Island Design), the calculation of the Rate is as follows:

Q = 75 x A

If there are three or fewer open sides, the calculation of the Rate is as follows:

Q = 50 x A

As an alternate method, the Rate can be calculated as follows:

Q = 50 x P x D

Example:

L = 3 W = 3 D = 2

Rate Calculations

Hood Design	Corner	Wall	Island
Number of Open Sides	2 Sides Open	3 Sides Open	4 Sides Open
Q = 75 x A			675 CFM
Q = 50 x A	450 CFM	450 CFM	
Q = 50 x P x D	600 CFM	900 CFM	1200 CFM

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

Refer to the wiring diagram attached inside the control box and to the machine data plate for service size requirements when connecting the dishwasher.

NOTE: On models AM14T and AM14TC, the 7/8" plugged holes in the side of the control box are for detergent and chloritizer / rinse feeder connections only. On model AM14F, the holes for the chloritizer / rinse feeder electrical connections are at the rear of the control box, located on top of the machine.

Dishwasher

There is no provision for automatically controlling any other external devices.

The dishwasher electrical service connection can be made through the 1 1/8" diameter hole for 3/4 inch trade size conduit located at the bottom of the right side of the control box. By removing a knockout, this hole can be enlarged to 1 3/4" diameter for 1 inch trade size conduit. On model AM14F, the electrical service connection can be made through the same size hole (with knockout for enlargement) located at the rear of the control box on top of the machine.

A fused disconnect switch or circuit breaker (not supplied) must be installed in the electrical service line supplying this dishwasher and should meet the requirements of your local electrical code.

All power supply connections are made at the terminal block 1TB in the control box. The machine must be grounded according to electrical code(s); a grounding lug is provided in the control box.

Check Rotation (Three-Phase Machines Only)

Three-phase motors must rotate in the direction of the arrow on the pump housing. In order to check rotation, observe the motor fan through the vent holes. Close the machine doors and press the power switch to ON. When the machine is completely filled, place the MANUAL/AUTO switch (located on the side of the control box) on MANUAL and place the WASH / RINSE switch (located under the MANUAL/AUTO switch) on WASH. The motor fan must rotate in the direction of the arrow on the pump housing.

If the rotation is incorrect, **DISCONNECT ELECTRICAL POWER SUPPLY** and interchange any two of the incoming power supply leads. Reconnect the power supply and verify correct rotation.

Electric Booster Water Heater

NOTE: Electric Booster electrical connection is separate from the dishwasher electrical connection.

Before making electrical connection, test the electrical service to assure that it agrees with the specifications on the Electric Booster portion of the data plate. Also, refer to the wiring diagram attached inside the cover of the control box.

A fused disconnect switch or circuit breaker must be installed in the electrical service line supplying this booster and should meet the requirements of your local electrical code.

The electric booster service connection is made through the 1 3/4" hole for 1 inch trade size conduit located at the bottom of the control box. On three phase machines, the electrical connection is made to the contactor 3CON in the control box. On single phase machines, the electrical connection is made to the terminal block 4TB in the control box. The machine must be grounded according to electrical code(s); a grounding lug is provided in the control box.

ELECTRICAL DATA

Model	Volts / Hz / Ph	Tank Heat	Minimum Circuit Ampacity Maximum Protective Device AMPS	
			Dishwasher ONLY	Optional 13 KW Electric Booster ONLY
AM14T AM14TC AM14F	208 - 240 / 60 / 1	Electric	60	
		Gas	20	
	208 / 60 / 1	Electric		80
	240 / 60 / 1	Electric		80
	208 - 240 / 60 / 3	Electric	30	
		Gas	15	
	208 / 60 / 3	Electric		50
	240 / 60 / 3	Electric		50
	480 / 60 / 3	Electric	15	25
		Gas	15	

Compiled in accordance with the National Electrical Code, ANSI / NFPA 70 (latest edition).

OPTIONAL EQUIPMENT CONNECTIONS — Vent Fan and Gas Booster

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

Vent Fan Control

The vent fan control feature is standard on machines with gas heat; it is a field installable accessory on machines with electric heat.

The maximum switching rating for a vent fan control relay connected to terminals VFC1 and FVC2 is 1.5 Amps. The vent fan control relay provides switch contacts only and does not provide the power supply for the vent fan motor. When the dishwasher is connected to the vent fan, the vent fan relay is switched on when the dishwasher is on, and off when the dishwasher is off.

Hobart Infrared Booster Gas Water Heater

The maximum rating for connecting a Hobart Model IB57 Dishwasher Activated infrared gas booster water heater to BSTR1 and BSTR2 is 0.5 Amp at 24 Volts. If a Stand Alone Booster Heater is used, no electrical connection to the dishwasher is allowed. Refer to the Infrared Booster Gas Water Heater Manual for additional installation details.

DETERGENT, RINSE AID, OR SANITIZER DISPENSERS — Tubing Installation

All detergent, rinse aid, and / or sanitizer dispensers must have all connections sealed against leakage.

The dishwasher uses 1.42 gallons per rack at a flow rate of 5.67 gallons per minute at 20 psig flowing pressure (equivalent to a maximum head pressure of 46 feet of water). This information is used when setting the detergent, rinse aid, or sanitizer pumps.

Detergent Dispenser

The left side of the dishwasher has two 7/8" diameter plugged holes, one upper hole and one lower hole (Fig. 7). An alternate 7/8" diameter plugged lower hole, is located on the front tank wall (Fig. 7). With the tank empty, remove one upper plug and one lower plug to install the detergent dispenser.

- The upper hole is for installation of the detergent feeder tube.
- One of the lower holes is used for installation of the detergent sensor.

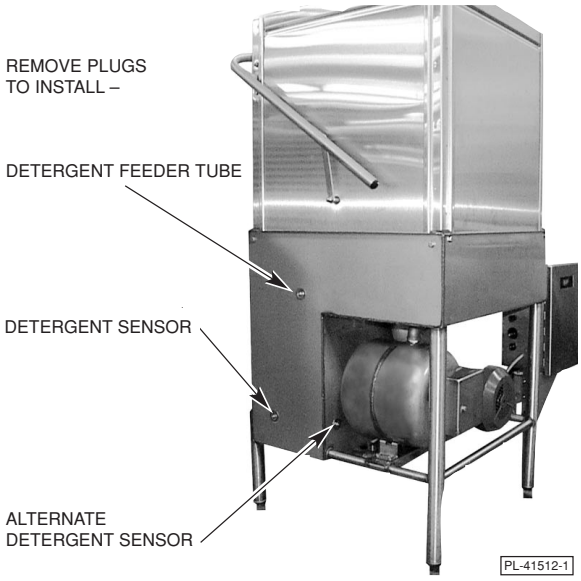


Fig. 7

Rinse Aid Dispenser

The rinse line flange connector on top of the dishwasher has two 1/8" NPT pipe plugs (Fig. 8).

- Remove either front or rear plug (Fig. 8) for installation of the rinse aid dispenser tube unless a chemical sanitizer is to be installed. If installing a chemical sanitizer, use the rear hole for the rinse aid dispenser.

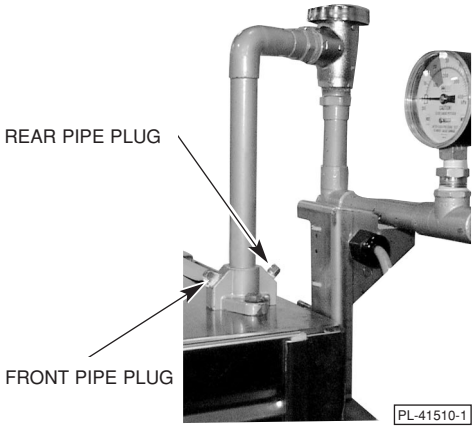


Fig. 8

Chemical Sanitizer Dispenser

When the dishwasher is to be operated in the chemical sanitizing mode, the machine must be converted to low-temperature sanitization by an authorized Hobart-trained service technician and a chemical sanitizer dispenser that has been tested and recognized by NSF international must be installed.

- Remove the front pipe plug (Fig. 8) for installation of the chemical sanitizer tube. To assure an unobstructed flow of sanitizer, locate the sanitizer tube in the denter of water flow by drilling the sanitizer tube fitting so that its inside diameter is equal to the outside diameter of the tube. Slide the tube into the flange until it touches the opposite (rear) side and then pull it back out 1/2 inch (Fig. 9).
- Rate for 5.25% Sodium hypochlorite (bleach) — 4.5 – 7 ml. with 9 seconds (maximum).
- Rate for 8.4% Sodium hypochlorite (bleach) — 3 – 4 ml. with 9 seconds (maximum).

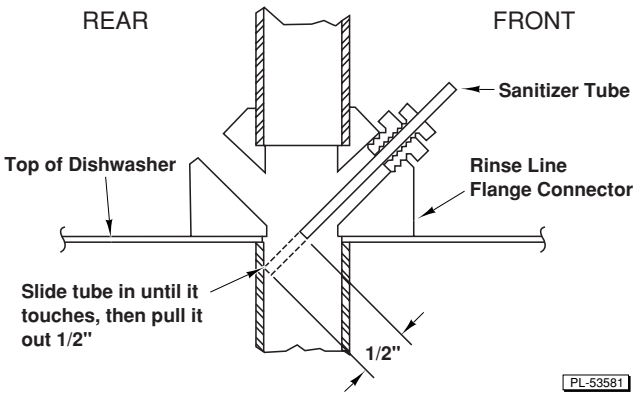


Fig. 9

OPTIONAL EQUIPMENT CONNECTIONS — Detergent, Rinse Aid, Sanitizer Dispensers

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

Detergent Dispenser (Fig. 10)

Terminals DPS1 and DPS2 are supplied with controlled machine line voltage. They are ON during the wash cycle and OFF between cycles or when the machine power supply is OFF. Maximum rating for detergent dispenser connected to DPS1 and DPS2 is 1.5 Amps at line voltage. Check the machine supply voltage and use corresponding feeder transformer voltage. Use UL listed 600 volt minimum insulated wire to make the necessary connections. Do not use bell wire, lamp cord, or similar type wire. Splice connections, if required, must be made in the feeder transformer junction box — not in the main control box. Remove $^{7}/_{8}$" diameter cap plug(s) for $^{1}/_{2}$" trade size conduit fittings from the side of the control box. Strain relief fittings must be provided for all wiring.

Rinse Aid and / or Sanitizer Dispenser (Fig. 10)

Terminals RPS1 and RPS2 are supplied with controlled machine line voltage and are ON during the rinse cycle only. and OFF between cycles or when machine power supply is OFF. Maximum rating for rinse aid dispenser connected to RPS1 and RPS2 is 1.5 Amps at line voltage. Check the machine supply voltage and use corresponding feeder transformer voltage. Use UL listed 600 volt minimum insulated wire to make the necessary connections. Do not use bell wire, lamp cord, or similar type wire. Splice connections, if required, must be made in the feeder transformer junction box — not in the main control box. Remove $^{7}/_{8}$" diameter cap plug(s) for $^{1}/_{2}$" trade size conduit fittings from the side of the control box. Strain relief fittings must be provided for all wiring.

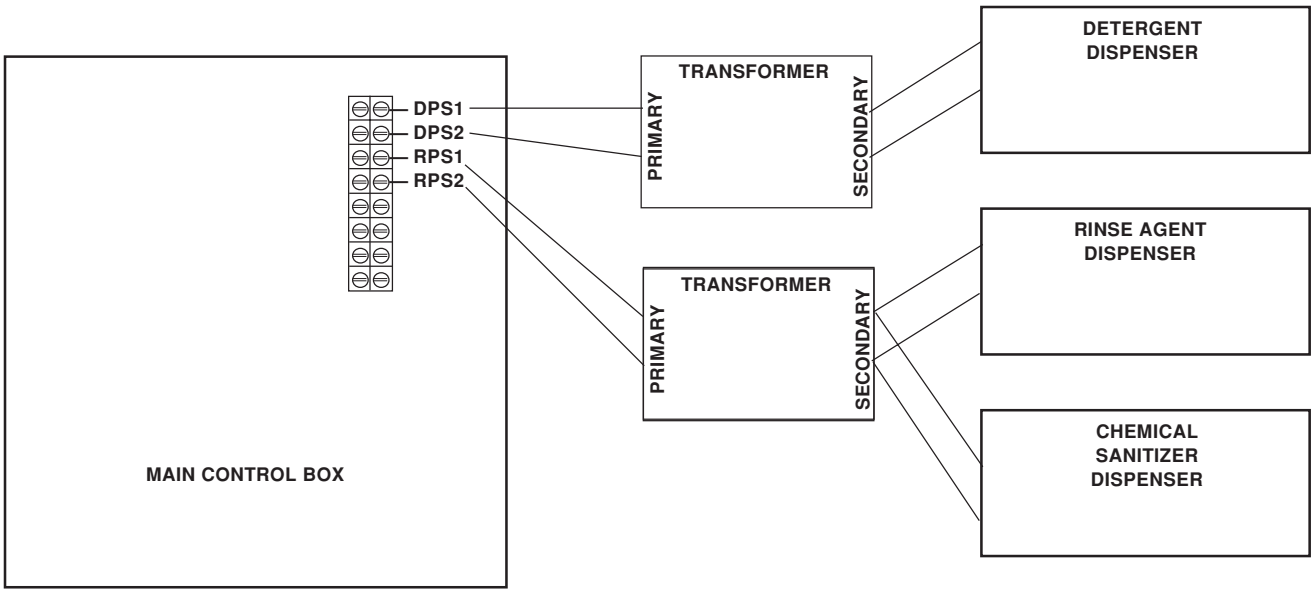


Fig. 10

OPERATION

PREPARATION

Place the pump strainer (when equipped), overflow tube, overflow cover, end cover, slanted strainer, and the strainer bucket in their respective positions (Fig. 11).

An automatic detergent dispenser is recommended. Closely follow supplier's instructions. If no automatic dispenser is used, scatter the initial charge of detergent on the slanted strainer. Replenish as needed.

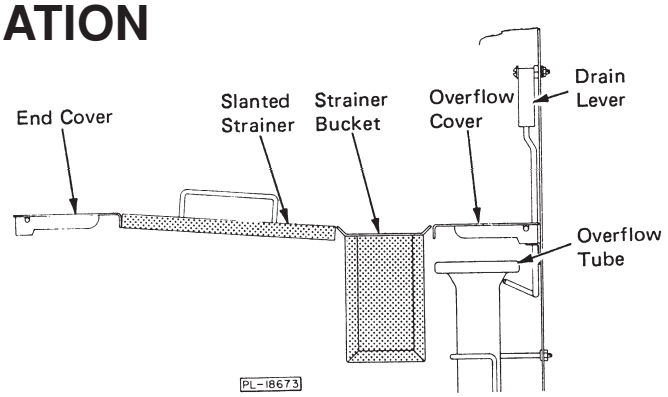


Fig. 11

Open the manual gas valve (if applicable). Close the door(s) which automatically closes the drain. On model AM14T, the front inspection door must be closed before the counterbalanced doors can be lowered.

FILLING THE WASH TANK — Models AM14T / AM14TC (Fig. 12)

Push the POWER switch ON. Set the MANUAL / AUTO switch to AUTOMATIC and make sure the WASH / RINSE switch is OFF. If all machine doors are closed, the fill cycle will begin automatically. During the fill cycle, the word *FILL* is displayed on the readout / display.

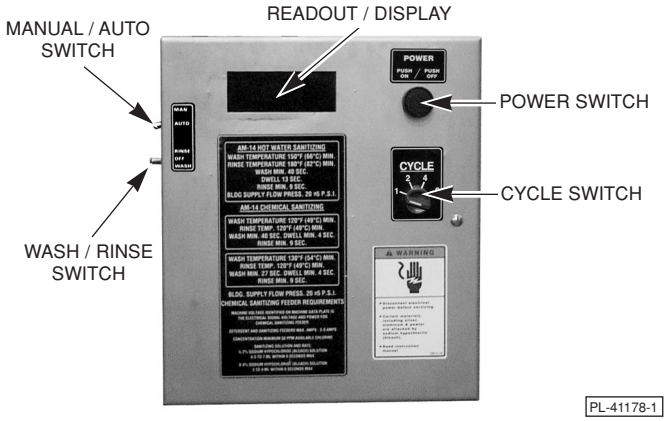


Fig. 12

FILLING THE WASH TANK — Model AM14F (Fig. 13)

Push the POWER switch ON and push the WASH / FILL switch to fill the machine initially. During the fill cycle, the word *FILL* is displayed on the readout / display. On model AM14F, the readout / display is located on the control box on top of the dishwasher.

When the fill cycle has completed, the wash temperature is displayed on the readout / display. During a wash cycle, the tank water temperature, along with the word *WASH* will be displayed on the readout / display. During a rinse cycle, the rinse water temperature, along with the word *RINSE* will be displayed. When the rinse cycle is completed, the readout / display will display the tank water temperature.

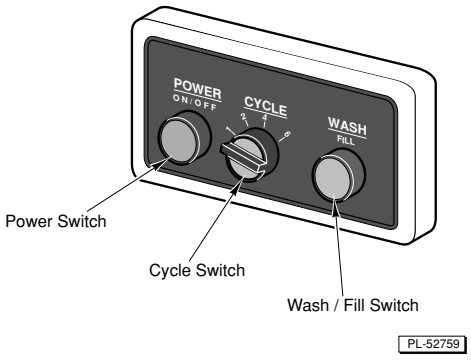


Fig. 13

DISHWASHING

Scrape the dishes to remove large particles of food and debris. Never use steel wool on ware to be loaded into the dishmachine.

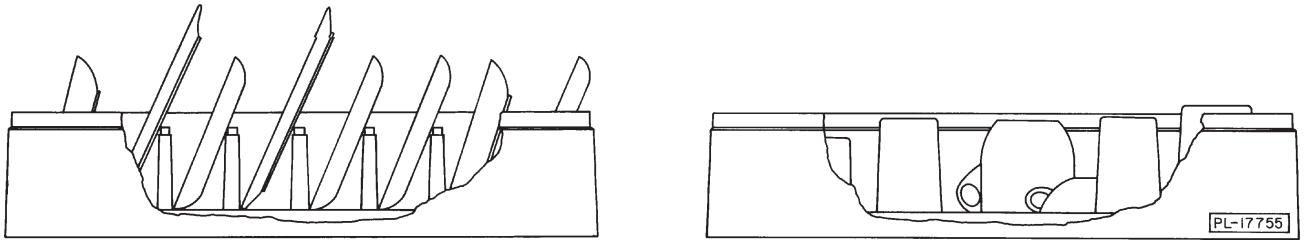


Fig. 14

Place the dishes in a rack so water has free access to all sides of every dish. Stand plates and dishes up edgewise in a peg-type rack (Fig. 14). Cups, glasses, and bowls should be inverted in an open-type or compartment type rack (Fig. 14). Silverware and other small pieces may be scattered loosely over the bottom of a flat-bottom rack.

On all models, select the wash cycle duration by turning the CYCLE switch to the desired setting.

WASH CYCLE TIME SETTINGS

Cycle Switch Setting	1	2	4	6
Wash Cycle Duration (Seconds)	40	120	240	360

Wash cycles are followed by a 15 second rinse.

Models AM14T / AM14TC

In Automatic mode, the MANUAL / AUTO switch (Fig. 12) is on AUTOMATIC and the WASH / RINSE switch is OFF. The wash and rinse cycles begin automatically. The wash cycle begins when the machine doors are closed. The rinse cycle begins when the wash cycle is completed.

In Manual mode, the MANUAL / AUTO switch (Fig. 12) is on MANUAL. The wash cycle begins when the WASH / RINSE switch is on WASH. After the desired wash time (minimum 40 seconds recommended), hold the WASH / RINSE switch in the RINSE position for the desired rinse time (minimum 18 seconds recommended).

Model AM14F

After the initial fill, you must press the WASH / FILL switch (Fig. 13) to begin the wash cycle which is automatically followed by the rinse cycle.

After filling a rack, open the appropriate door(s), slide the rack into the dishwasher, and close the door(s). Start the wash and rinse cycles according to your model and mode.

When the wash and rinse cycles are finished, open the door(s), remove the clean dishes, slide in another rack, and close the door(s). Repeat.

If you want to add a dish after the wash cycle has started, turn off the power switch and wait 10 seconds to allow wash arm coastdown and avoid water splashing before opening the door(s).

Operating temperatures for all models are as follows:

Sanitizing Mode	Wash Temperature		Rinse Temperature	
	Minimum Wash	Recommended Wash	Minimum Rinse	Recommended Rinse
Hot Water	150°F (66°C)	150°F (66°C)	180°F (82°C)	180°F (82°C)
Chemical (Normal Duty)	120°F (49°C)	140°F (60°C)	120°F (49°C)	140°F (60°C)
Chemical (Light Duty)	130°F (54°C)	140°F (60°C)	120°F (49°C)	140°F (60°C)

CLEANING

The machine must be thoroughly cleaned at the end of each working shift or at least daily. Never use steel wool to clean warewasher surfaces. Use only products formulated to be safe on stainless steel.

Turn off the power switch. Open the machine door(s).

Clean off the dish tables into the dishwasher. Drain the machine by pulling the drain lever (Fig. 11).

Remove and empty the slanted strainer and strainer bucket. Wash and rinse them thoroughly.

Raise the overflow cover and remove the overflow tube. Wash and rinse the overflow tube inside and out.

Remove the pump strainer (if equipped) and clean in a sink.

Thoroughly cleanse and flush the dishwasher interior. Remove remaining soil with a soft cloth or brush and mild cleanser. Rinse again. Do not allow food soil to accumulate on the tank bottom.

Replace all removed parts.

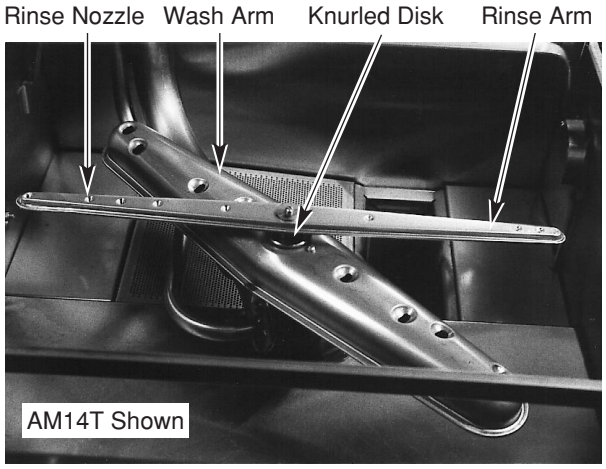


Fig. 15

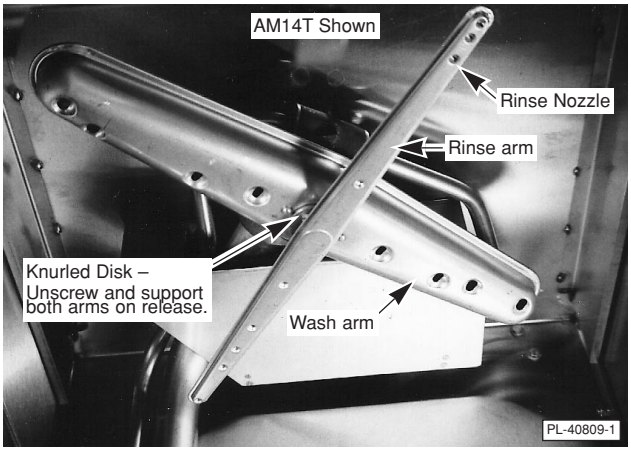


Fig. 16

Leave the machine doors open to allow the interior to dry and air out.

Make sure that the wash and rinse arms rotate freely and are free of any obstructions.

Check rinse nozzles (Figs. 15, 16) to make sure they are free of any lime and solids.

DOs AND DON'Ts FOR YOUR NEW HOBART WAREWASHER

DO assure proper water hardness (4 – 6 grains per gallon is recommended).

DO pre-scrap dishes thoroughly.

DO use only detergents recommended by your chemical professional.

DO at the end of the day, thoroughly cleanse the machine, rinse, and dry (leave doors open).

DO closely follow your chemical professional's prescribed deliming schedule.

DO use only products formulated to be safe on stainless steel.

DO NOT over soften water (recommended water hardness is no less than 4 grains per gallon).

DO NOT use detergents formulated for residential dishwashers.

DO NOT allow food soil to accumulate on the tank bottom.

DO NOT exceed chemical manufacturer's recommended concentrations for detergent, sanitizer, rinse aid, or lime scale remover.

DO NOT use steel wool to clean ware or warewasher surface.

DO NOT allow foreign objects to enter the unit, especially metallic contaminants.

NOTE: Failure to follow use, care, and maintenance instructions may void your Hobart warewasher warranty.

MAINTENANCE

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY (BOTH DISHWASHER AND BOOSTER IF APPLICABLE) AND PLACE A TAG(S) AT THE DISCONNECT SWITCH(ES) TO INDICATE THE CIRCUIT(S) ARE BEING WORKED ON BEFORE BEGINNING ANY MAINTENANCE PROCEDURE.

Wash Arms

Upper and lower wash and rinse arms (Figs. 15, 16) should turn freely and continue turning for a few seconds after being whirled by hand. To check, **DISCONNECT ELECTRICAL POWER SUPPLY (BOTH DISHWASHER AND BOOSTER IF APPLICABLE)**, rotate arms, and remove any obstructions causing improper operation.

If the slanted strainer or strainer bucket is not properly in place, obstructions (such as food particles or bones) may clog the wash arm nozzles. The wash arms are easily removed for cleaning.

Removing Wash / Rinse Arms — AM14T / AM14TC / AM14F

To remove the lower wash and rinse arms, unscrew the knurled disk between the rinse and wash arms (Fig. 15) and lift off both the rinse and wash arms. It is not necessary to remove the spacer located on the lower wash arm shaft.

The upper rinse arm and wash arm are removed by unscrewing the knurled disk (Fig. 16) and lowering both arms together. Be careful not to drop these arms.

Motor(s)

The wash pump motor and the blower motor used on gas heat machines are equipped with permanently lubricated bearings and require no lubrication maintenance.

Gas Flue

When cool, check the flue opening of this dishwasher every three months for obstructions.

TROUBLESHOOTING

Manual Reset Button on Pump Motor

The motor is equipped with a gray manual reset button near the end cover of the motor. If the pump motor becomes overheated, the thermal overload protector will cause the motor to not operate. If this occurs, press the power switch OFF and allow the motor to cool. Then press the gray manual reset button, press the power switch ON, and resume normal operation.

To avoid a service call, check symptoms and related possible causes. If machine still does not operate properly, contact Service.

SYMPTOM	POSSIBLE CAUSE
No machine operation.	1. Blown fuse or tripped circuit breaker at power supply. 2. MANUAL / AUTO Switch on AM14T or AM14TC may be on MANUAL; turn switch to AUTO (Fig. 12). 3. Check tank water level.
Dishes not clean.	1. Insufficient wash water due to drain obstruction preventing proper drain closing. 2. Worn or torn drain "O" Ring allowing wash water to drain. 3. Loss of water pressure due to pump obstruction. **DISCONNECT ELECTRICAL POWER SUPPLY (BOTH DISHWASHER AND BOOSTER IF APPLICABLE)** and drain tank. Check for any obstruction at the pump intake. 4. Incorrect water temperature. Check circuit breaker to electric heat supply. 5. Incorrect detergent dispensing. Contact your detergent representative. 6. Excessive mineral deposits throughout wash and rinse system. Deliming may be necessary.
Spotting silverware, glasses, and dishes.	1. Improperly loaded racks. 2. Incorrect rinse water temperature. 3. Loss of water pressure due to pump obstruction. **DISCONNECT ELECTRICAL POWER SUPPLY (BOTH DISHWASHER AND BOOSTER IF APPLICABLE)** and drain tank. Check for any obstruction at the pump intake. 4. Excessively hard water. 5. Incorrect detergent for water type. 6. Incorrect rinse additive for water type. 7. Incorrect concentration of detergent, rinse additive and/or sanitizer.

SYMPTOM	POSSIBLE CAUSE
Inadequate rinse or rinse water temperature is too low.	1. Dirty line strainer causing reduced water flow. Turn off water supply, remove strainer cap, withdraw and clean screen. Reassemble. 2. Low supply line pressure. 3. Excessive mineral deposits throughout wash and rinse system. Deliming may be necessary. 4. Incoming water temperature to booster (if applicable) below 110°F. Extend wash cycle from 40 to 60 seconds.
Leaking valve (except solenoid type).	1. Foreign material preventing proper valve operation. **NOTE**: A critical period is soon after installation when pipe compound or metal shavings may lodge at the valve seat. Shut off supply line. Unscrew and lift bonnet from valve body. Clean valve and reassemble. 2. If a solenoid valve is malfunctioning, (not opening or not closing) it is recommended that you contact Service.
No wash tank heat.	1. The machine is equipped with a low water safety device which shuts off heat if the water level drops. Check for proper water level. If the water level is too low, the overflow tube might be out of position. Or, something may be inhibiting free movement of low water float; remove any foreign object from around low water float magnet. 2. Circuit breaker to machine tripped. 3. Gas line closed. If a failure occurs due to the gas heat control board or gas pressure, the reset button, located on the side of the gas burner control box, will pop out. This completely shuts off the gas heat system. To reset the system, push the button in. If the system does not reset, contact Service.
No or slow fill.	1. Water supply may be off; make sure water supply valve is open. 2. Dirty line strainer causing reduced water flow. Turn off water supply, remove strainer cap, withdraw and clean screen. Reassemble.
Dribbling water from lower rinse arm.	1. If equipped with electric booster, normal dripping from the lower rinse arm will occur during water heating due to expansion of the water. This will occur once between machine cycles. 2. If water dribbles or leaks continuously from rinse arms on any machine, refer to Leaking Valve, above.

SERVICE

Contact your local Hobart-authorized service office for any repairs or adjustments needed on this equipment. If a gas orifice fitting is to be adjusted or replaced, have it serviced by qualified Hobart-authorized service personnel. Long-term service contracts are available on this and other Hobart products.