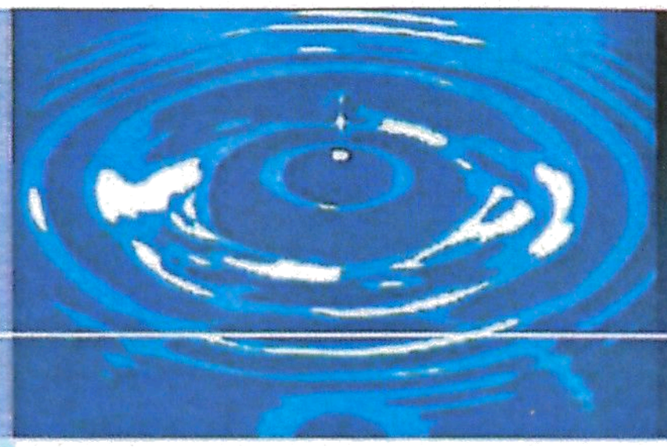

SECTION 8

Conveyor & High Temp Machines

This Section Contains:

- Start up & adjust
- Conveyor Minimum Basic Requirements
- Preventive Maintenance Schedule
- Conveyor Design
- Table Limit Switch
- Loss of Temperature
- Venting of Dish Machines
- Essential Installation Instructions

Section 8
Conveyor and High Temp Machines

START AND ADJUST

HT-25. ADC44. ADC66

CHECK OFF SHEETS

AMERICAN DISH SERVICE

Start and Adjust
Check-off Sheet

Model HT-25 (III-phase) Hot Water

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Make sure doors open and close smoothly, no binding or interference with tables.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 40 amp circuit breaker in the building, using 8 gauge wire.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Remove spray arms from the machine before 1st run (clean out for bearing protection).
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

When the switch is turned on, it is normal for the machine to start up while filling. After it runs the first cycle and finishes filling, dump the water out and refill. This is done to remove installation grit and cuttings and keep them from lodging in the spray arm bearings. Now install the spray arms and run a cycle, lifting the door to see that the arms are turning (approx. 60 RPM). Check both wash and rinse arms.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Turn on booster heater. Observe final rinse for 180° F min. during rinse cycle 10 seconds.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model HT-25 (III-phase) Hot Water w/Booster

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. Booster is attached to leg and plumbed to machine's inlet, electrical is attached to machine's control box for single point connection of both dishmachine and booster

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Make sure doors open and close smoothly, no binding or interference with tables.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 50 amp circuit breaker in the building, using 8 gauge wire.
- ☐ Check connection of Neutral for control circuit, 10 gauge wire.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Remove spray arms from the machine before 1st run (clean out for bearing protection).
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

When the switch is turned on, it is normal for the machine to start up while filling. After it runs the first cycle and finishes filling, dump the water out and refill. This is done to remove installation grit and cuttings and keep them from lodging in the spray arm bearings. Now install the spray arms and run a cycle, lifting the door to see that the arms are turning (approx. 60 RPM). Check both wash and rinse arms.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Turn on booster heater. Observe final rinse for 180° F min. during rinse cycle 10 seconds.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

Booster

- ☐ Make sure booster is completely filled before turning on power to booster.

American Dish Service
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Start and Adjust
Check-off Sheet

Model HT-25 (III-phase) Chlorine Sanitizing

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Make sure doors open and close smoothly, no binding or interference with tables.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 40 amp circuit breaker in the building, using 8 gauge wire.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Chlorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Remove spray arms from the machine before 1st run (clean out for bearing protection).
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

When the switch is turned on, it is normal for the machine to start up while filling. After it runs the first cycle and finishes filling, dump the water out and refill. This is done to remove installation grit and cuttings and keep them from lodging in the spray arm bearings. Now install the spray arms and run a cycle, lifting the door to see that the arms are turning (approx. 60 RPM). Check both wash and rinse arms.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 120° F.
- ☐ Observe final rinse for 120° F. min. during rinse cycle 10 seconds (140° F optimum).
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model HT-25 (I-phase) Hot Water

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Make sure doors open and close smoothly, no binding or interference with tables.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the 1st connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ Review the 2nd connection to a 30 amp circuit breaker in the building, using 10 gauge wires.
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wire.
- ☐ Mark circuit breakers as dual voltage circuits to machine.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Chlorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Remove spray arms from the machine before 1st run (clean out for bearing protection).
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

When the switch is turned on, it is normal for the machine to start up while filling. After it runs the first cycle and finishes filling, dump the water out and refill. This is done to remove installation grit and cuttings and keep them from lodging in the spray arm bearings. Now install the spray arms and run a cycle, lifting the door to see that the arms are turning (approx. 60 RPM). Check both wash and rinse arms.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Observe final rinse for 180° F. min. during rinse cycle 10 seconds.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model HT-25 (I-phase) Chlorine Sanitizing

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Make sure doors open and close smoothly, no binding or interference with tables.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the 1st connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ Review the 2nd connection to a 30 amp circuit breaker in the building, using 10 gauge wires.
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wire.
- ☐ Mark circuit breakers as dual voltage circuits to machine.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Chlorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Remove spray arms from the machine before 1st run (clean out for bearing protection).
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

When the switch is turned on, it is normal for the machine to start up while filling. After it runs the first cycle and finishes filling, dump the water out and refill. This is done to remove installation grit and cuttings and keep them from lodging in the spray arm bearings. Now install the spray arms and run a cycle, lifting the door to see that the arms are turning (approx. 60 RPM). Check both wash and rinse arms.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 120° F.
- ☐ Observe final rinse for 120° F. min. during rinse cycle 10 seconds (140° F optimum).
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-44 (III-phase) Hot Water

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ If the power is a Delta (240v) or High Leg, put the high voltage leg on terminal L3.
- ☐ Label circuit breaker.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. The pumped rinse (water curtain) is a good indicator that the entire machine is turning the right direction. In III-phase equipment there is a 50/50 chance of correct rotation. If the pumped rinse only has a small spray from the top and none at the bottom, this indicates the pumps are running backward (the bottom spray should correctly rise approx. 6"). Switch incoming L1 and L2 to change rotation of entire machine.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Turn on booster heater. Observe final rinse for 180° F. min. during final rinse.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-44 (III-phase) Chlorine Sanitizing

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ If the power is a Delta (240v) or High Leg, put the high voltage leg on terminal L3.
- ☐ Label circuit breaker.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Chorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. The pumped rinse (water curtain) is a good indicator that the entire machine is turning the right direction. In III-phase equipment there is a 50/50 chance of correct rotation. If the pumped rinse only has a small spray from the top and none at the bottom, this indicates the pumps are running backward (the bottom spray should correctly rise approx. 6"). Switch incoming L1 and L2 to change rotation of entire machine.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 120° F.
- ☐ Observe final rinse for 120° F. min. during final rinse (140° F optimum).
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-44 (I-phase) Hot Water

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the 1st connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ Review the 2nd connection to a 60 amp circuit breaker in the building, using 6 gauge wires
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wires.
- ☐ Mark circuit breakers as dual voltage circuits to machine.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. The pumped rinse only has a small spray from the bottom (the bottom spray should correctly rise approx. 6") this is normal.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Turn on booster heater. Observe final rinse for 180° F. min. during final rinse.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-44 (I-phase) Chlorine Sanitizing

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the 1st connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ Review the 2nd connection to a 60 amp circuit breaker in the building, using 6 gauge wires.
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wires.
- ☐ Mark circuit breaker as dual voltage circuits to machine.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Chorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. Tthe pumped rinse only has a small spray from the bottom (the bottom spray should correctly rise approx. 6") this is normal.

- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 120° F.
- ☐ Observe final rinse for 120° F. min. during final rinse (140° F optimum).
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-66 (III-phase) Hot Water

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 90 amp circuit breaker in the building, using 3 gauge wires.
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wires.
- ☐ If the power is a Delta (240v) or High Leg, put the high voltage leg on terminal L3.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. The pumped rinse (water curtain) is a good indicator that the entire machine is turning the right direction. In III-phase equipment there is a 50/50 chance of correct rotation. If the pumped rinse only has a small spray from the top and none at the bottom, this indicates the pumps are running backward (the bottom spray should correctly rise approx. 6"). Switch incoming L1 and L2 to change rotation of entire machine.

- ☐ Adjust the fill-diverter plate so the Scrap tank fills before Rinse tank fill finishes.
- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 160° F.
- ☐ Turn on booster heater. Observe final rinse for 180° F. min. during final rinse.
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Start and Adjust
Check-off Sheet

Model ADC-66 (III-phase) Chlorine Sanitizing

Connect electrical and plumbing according to installation instructions. Attach tables and seal corners to machine. **IMPORTANT**, water loss due to table sinks and drains will stop the performance of the machine.

- ☐ Drain plumbing is connected to 2" MPT, running downhill, avoid horseshoe elbows.
- ☐ Check soil table – there shall be no sink or drain within 20" min. of entrance.
- ☐ Check clean table – there shall be no sink or drain.
- ☐ Check both tables, slant into machine for water return.
- ☐ Turn OFF heater circuit breaker in the machine's control box.
- ☐ Review the connection to a 90 amp circuit breaker in the building, using 3 gauge wires.
- ☐ Review the connection of a Neutral wire for control circuit, using 10 gauge wires.
- ☐ If the power is a Delta (240v) or High Leg, put the high voltage leg on terminal L3.
- ☐ Remove all packing materials from inside machine.
- ☐ Attach dispenser (feeder) wires to the marked dispenser hookup terminals.
- ☐ Chorine line connected to mixing port on final rinse inlet, set at 50 ppm.
- ☐ Do not mount dispenser to top of control box.
- ☐ Attach dispenser probe and chemical inlet to tank.
- ☐ Open ball valve (turn on water flow), check for leaks.
- ☐ Install pump filter and all strainer screens.
- ☐ Turn the master switch ON.

First Cycle

Push a rack into the machine. It should begin the wash pump and conveyor motor. When the rack exits the final rinse, all motors should turn off. The pumped rinse (water curtain) is a good indicator that the entire machine is turning the right direction. In III-phase equipment there is a 50/50 chance of correct rotation. If the pumped rinse only has a small spray from the top and none at the bottom, this indicates the pumps are running backward (the bottom spray should correctly rise approx. 6"). Switch incoming L1 and L2 to change rotation of entire machine.

- ☐ Adjust the fill-diverter plate so the Scrap tank fills before Rinse tank fill finishes.
- ☐ Turn ON heater circuit breaker in the control box, observe until tank heat reaches 120° F.
- ☐ Observe final rinse for 120° F. min. during final rinse (140° F optimum).
- ☐ Adjust final rinse pressure to 20 PSI, on pressure regulator (turn right, CW increases).
- ☐ Adjust chemicals according to supplier's recommendations.
- ☐ Run rack of dishes, test for detergent carry-over, test sheeting action for glasses.
- ☐ Install wall chart, demonstrate cleaning and operation to staff.

American Dish Service
Edwardsville, KS 66111-3820

Conveyor Machines and High Temps

ADC-44

Conveyor Minimum Basic Requirements

1. Less than two racks "out" is not recommended.
2. A 90° curved table on the exit side is not recommended unless it is over five racks distance (100") from the machine.
3. The minimum distance a sink or drain device can be to the entrance side (soil) of the conveyor is 20". And no such device should be on the clean side.
4. Less than five racks out should have a limit switch installed on the exit table.
5. Incoming water shall be rated 140° F at 120 GPH. or 180° F at 120 GPH.
6. Electrical wire supply shall be 6 gauge, 3 ph, 208v at 60 amp clean circuit. Single phase 208v, one 60 amp/6AWG service and one 50 amp/8AWG service with a four wire system.
7. Tables to be bolted to the machine on clean and soil sides as noted in installation sheet and manual.
8. Do not install chemical dispenser on top of control box or run chemical tubing over critical areas of the machine top: plumbing, electrical boxes.
9. Do not install with 180° turn in the drain pipe. Make short runs and eliminate 90° turns when possible.
10. Adjust the tables to meet the machine. Do not adjust the tray track to meet an ill-formed table, fix the table. Tables must be slanted toward the machine, 1" drop over 70" of travel as a minimum.

ADC-44 Conveyor Dishmachine

HI TEMP DESIGN IN CONVEYORS

The term "Hi Temp" refers to the sanitation process of the dishmachine. Or, in other words, the type of process used to achieve an acceptable kill rate in bacteria. There are typically two methods, chemical or thermal sanitizing. In high temperature (thermal kill) sanitizing, the surface of the dishware must reach a temperature of 165° F for a minimum of ten seconds. This is accomplished by spraying 180° F water over the dishware during final rinse. This elevated temperature has proven worthy in the Heat Unit Equivalent (H.U.E.) tests required for NSF certification.

The ADC conveyor supports both methods of sanitizing, and NSF lists the dishmachine as a dual sanitizer. This means the machine design can serve in both roles. The final rinse manifold will accomplish the task of applying chemical sprays or high temperature sprays with the same water consumptions rates and systems. The difference is in the chemical dispenser application (min. 50 ppm chlorine) or the boosted incoming hot water (min. 180° F) for final rinse.

Reference: ANSI/NSF Standard 3, 1996

Annex A

Heat Unit Equivalent (H.U.E.) values corresponding to temperature in degrees Fahrenheit.

TEMP	H.U.E. VALUE	TEMP	H.U.E. VALUE
143.0	1.0	160.9 --	116.7
143.5 --	1.1	161.0 --	119.9
144.0 --	1.3	161.1 --	123.1
144.5 --	1.5	161.2 --	126.4
145.0 --	1.7	161.3 --	129.8
145.5	2.0	161.4 --	133.3
146.0 --	2.2	161.5 --	136.9
146.5 --	2.5	161.6 --	140.6
147.0 --	2.9	161.7 --	144.4
147.5 --	3.3	161.8 --	148.2
148.0 --	3.8	161.9 --	152.2
148.5 --	4.3	162.0 --	156.3
149.0 --	4.9	162.1 --	160.5
149.5 --	5.7	162.2 --	164.9
150.0 --	6.5	162.3 --	169.3
150.5 --	7.4	162.4 --	173.9
151.0 --	8.4	162.5 --	178.5
151.5 --	9.6	162.6 --	183.3
152.0 --	11.0	162.7 --	188.3
152.5 --	12.5	162.8 --	193.3
153.0 --	14.3	162.9 --	198.6
153.5 --	16.4	163.0 --	203.9
154.0 --	18.7	163.1 --	209.4
154.5 --	21.3	163.2 --	215.0
155.0 --	24.4	163.3 --	220.8
155.5 --	27.8	163.4 --	226.8
156.0 --	31.8	163.5 --	232.9
156.5 --	36.3	163.6 --	239.1
157.0 --	41.4	163.7 --	245.6
157.5 --	47.3	163.8 --	252.2
158.0 --	54.0	163.9 --	259.0
158.5 --	64.7	164.0 --	265.9
159.0 --	70.5	164.1 --	273.1
159.5 --	80.5	164.2 --	280.4
160.0 --	91.9	164.3 --	288.0
160.1 --	94.4	164.4 --	295.7
160.2 --	96.9	164.5 --	303.7
160.3 --	99.5	164.6 --	311.9
160.4 --	102.2	164.7 --	320.3
160.5 --	105.0	164.8 --	328.9
160.6 --	107.8	164.9 --	337.7
160.7 --	110.7	165.0*	346.8
160.8 --	113.7		

ADC-44 COMMERCIAL DISHMACHINE
QUESTIONS TO EVALUATE OPERATION OF MACHINE

1. Will the machine fill with water when it is turned on for the first time during a new work period? If it does not, is the "ON" light illuminated when the master switch is turned on? If not, the machine will need electrical service. **[Service Issue]**
2. When the machine fills with water, what is the incoming water temperature? It should be 120° F for Chemical Sanitizing and 158° F for Hot Water Sanitizing. This requirement is supplied by the building's primary water heating source. **[Building Maintenance Issue]**
3. After the machine has filled with water, a rack of dishes can be pushed into the machine on the "soil table" side. The wash pump and the conveyor should begin operation. If they do not, look at the inspection door, is it fully closed? Look at the table limit switch, does a rack or other item block it? These switches must be closed for the operation to begin. **[Operator Issue]**
4. Does the machine continually fill, causing the primary water-heating source to run out of hot water? This condition will be a result of water escaping from one or both of the tanks.

   The rinse tank is likely to pump out water via a bent deflector fin on the pumped rinse spray arm? This can be remedied by bending the fin back in line so that the sprays are falling straight down and pumping straight up (12:00 o'clock & 6:00 o'clock). This problem occurs as a result of striking the spray arm against a table or trash can.

   For the wash tank, the likely cause will be water cascading out of the soil-table side of the machine. This is remedied by correct installation of the tables. The scrap sink must be no closer to the entrance of the machine than 20"; and the tables must pitch into the machine so that water flow on the table surface will return to the machine. Quick drains or table scuppers are not used on "stage washers". **[Install and Service Issue]**
5. Is the final rinse water at the correct temperature? 120° F minimum for Chemical, and 180° F minimum for Hot Water. The machine will equalize temperatures approximately 10° below the incoming final rinse. The correct final rinse temperature is critical to operational temperature. **[Building Maintenance Issue]**
6. When the last rack exits the machine, will the conveyor and final rinse shut down? If not, open the inspection door and check the rack guide sequence switches (magnet bars, which hang down from the rack guide). Look for a glass or bowel that may be holding the bar from hanging straight down (at 6:00 o'clock). **[Operator Issue]**
7. If a surging sound is coming from the wash pump, check the pump filter and tank trays. They may be filled with debris. Clean the filters and trays, refill the machine. **[Operator Issue]**
8. When racks do not travel completely through the machine, examine the bottom of all the dishracks. If the "ladder" bars are missing or broken, the rack must not be used. The dishrack is part of the conveyor system and must be intact and complete. **[Operator Issue]**
9. Chemical supply is provided by the chemical company. **[Service Issue]**
10. The curtains must be in good repair and properly placed in the machine to retain temperature in the wash environment. If the curtains were left out, the air would circulate through the machine and rapidly cool the water sprays. **[Operator Issue]**
11. Dish and glass appearance is often referred to as "results". If the results are poor, there are several factors, which affect the outcome of the washing process.

    First is procedure. If the dishes are not placed so the sprays can reach the surface, the results will be poor. If large amounts of soil are left on the dishware, this may overwhelm the washing process.

    Second is temperature and water condition. If the water has lower temperature and scale produce elements, results will suffer. The machine cannot overcome these problems. They must be treated before being used in the dishmachine. This is a Building Issue.

    Third, installation problems are the #1 cause of operational disruptions and will affect performance. If the machine is improperly installed, no amount of tuning or adjustment can compensate for the lack of insufficient configuration. The installer must return and correct the omitted elements of the installation.

ADC-44

Preventive Maintenance Schedule

Three General Areas Must Be Inspected

1. Sequence switch mechanism in tray track
2. Water control mechanism
3. Conveyor system

SEQUENCE SWITCH MECHANISM

1. Free moving
2. 1/16" clearance on pivot bolts
3. Magnet adjustment is approximately 1/16" from tank floor
4. Pump motor will activate only after 1/8 – ¼" movement of sequence bar. This will indicate that the adjustment of the reed switch is correct.

WATER CONTROL MECHANISM

1. Check for free movement of suspended rod and weight
2. Suspended weight is free moving and clear
3. Lever is free moving and has 1/16" clearance from box or attaching locknut. Operate the lever 10 or 20 times with tanks full, it should not stick on "fill". If it does stick, the problem will be interference with the rod, weight, or the switch button spring may be too weak.

CONVEYOR SYSTEM

1. Cam bearing is well-lubricated (marine grade grease)
2. No worn or sloppy parts
3. All dogs are free moving
4. No chlorine chemical leaks on or near conveyor motor

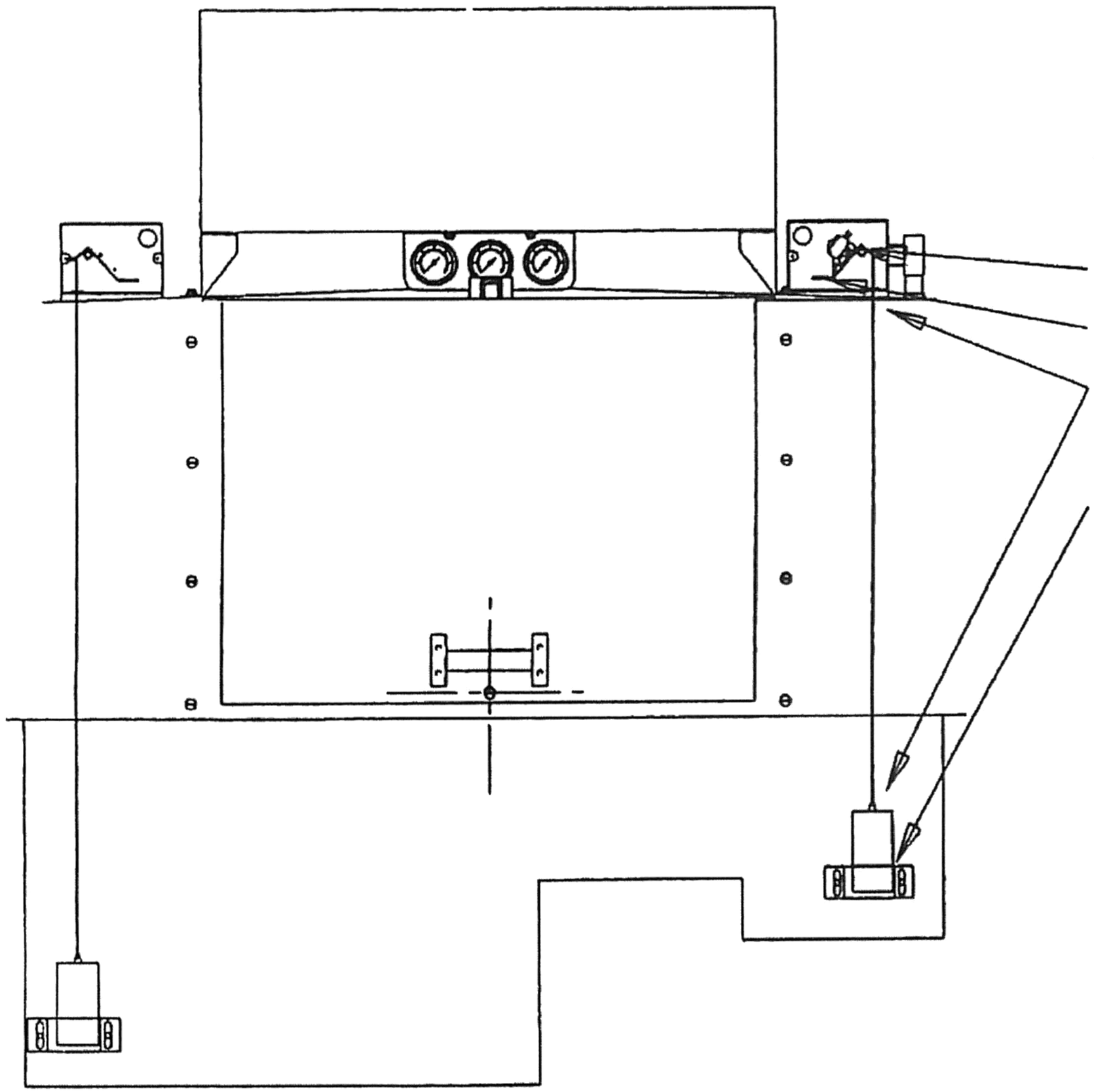
Bolt table to the machine to avoid these leaks

NORMAL CHECKS

1. Check for bent or damaged parts
2. Screens and trays are all in good order
3. Drains are clear
4. Dispenser is functional and adjusted with no leaks
5. Curtains are in place and clean
6. Correct leaks to avoid damage motors
7. Spray patterns are consistent and typical
8. Check racks (broken ladders or swaybacks cause high costs)
9. Lime build-up on **any conveyor** is a problem, delime

ELECTRICAL CHECKS

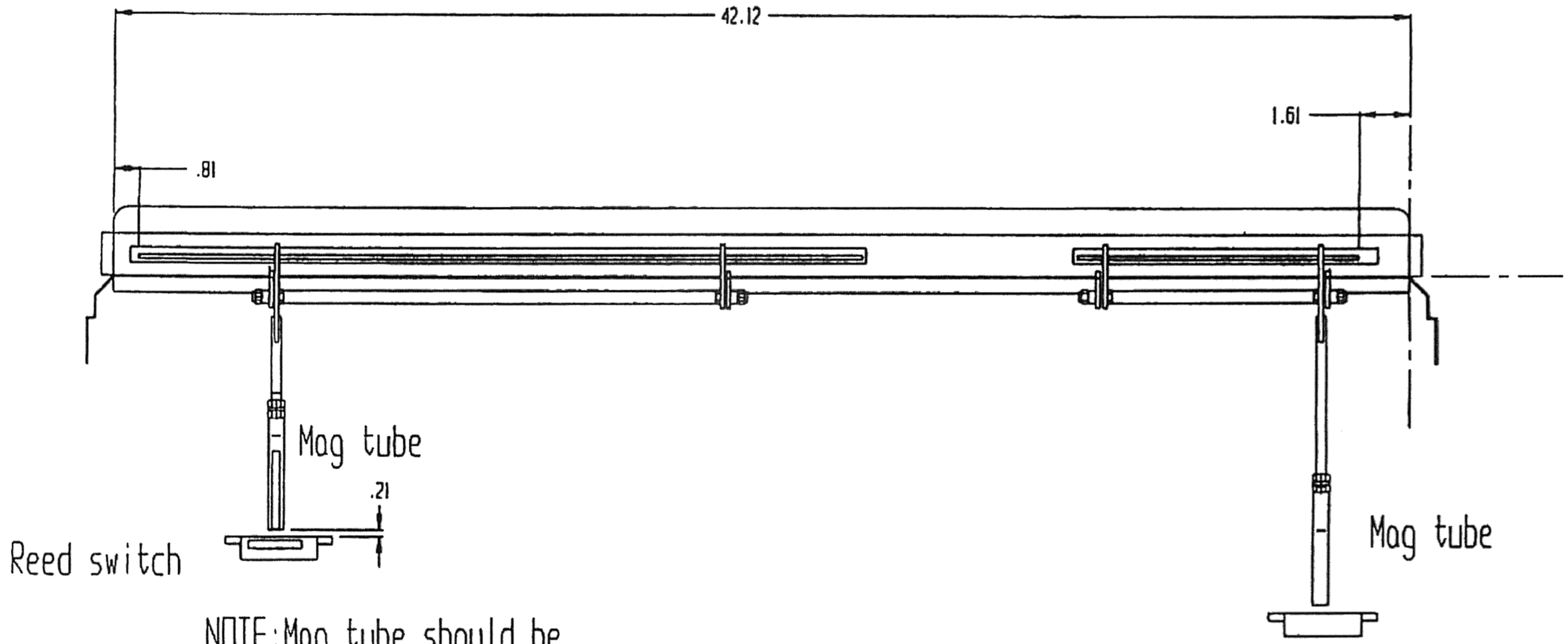
1. Machine's total amp draw: 52 amps at 30, with everything working
2. Wash heater: 30 – 34 amps
3. Wash motor: 8 – 9 amps
4. Rinse heater: 6 amps
5. Rinse motor or Conveyor motor: 0.5 – 1.0 amps
6. Control circuit: 0.65 amps



WATER CONTROL MECH.

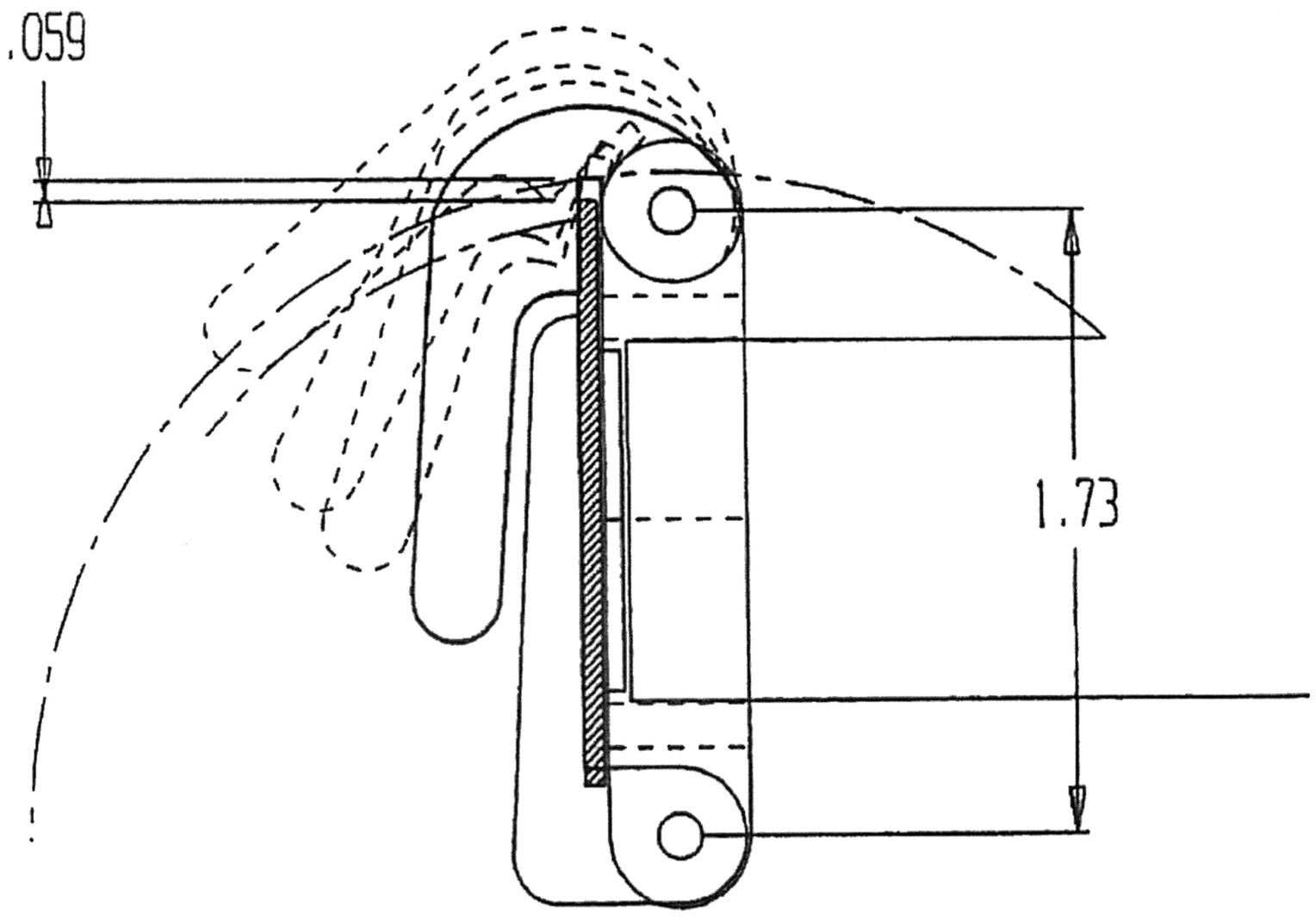
1. Free moving flipper and rod
2. 1/16" clearance on holddown nut (flipper)
3. Wires are clear of mech.
4. Rod has no interf. with tube or box
5. Armor tube in seated in the upper socket
6. Bracket has equal clearance on both sides
7. Bracket is secure in upper position
8. Weight is 238 grams
9. Switch is tested: 5oz-min 6oz-max
10. Wash rod is 35.187" long (o/a)
11. Rinse rod is 29.25" long (o/a)

SEQUENCE SWITCHES

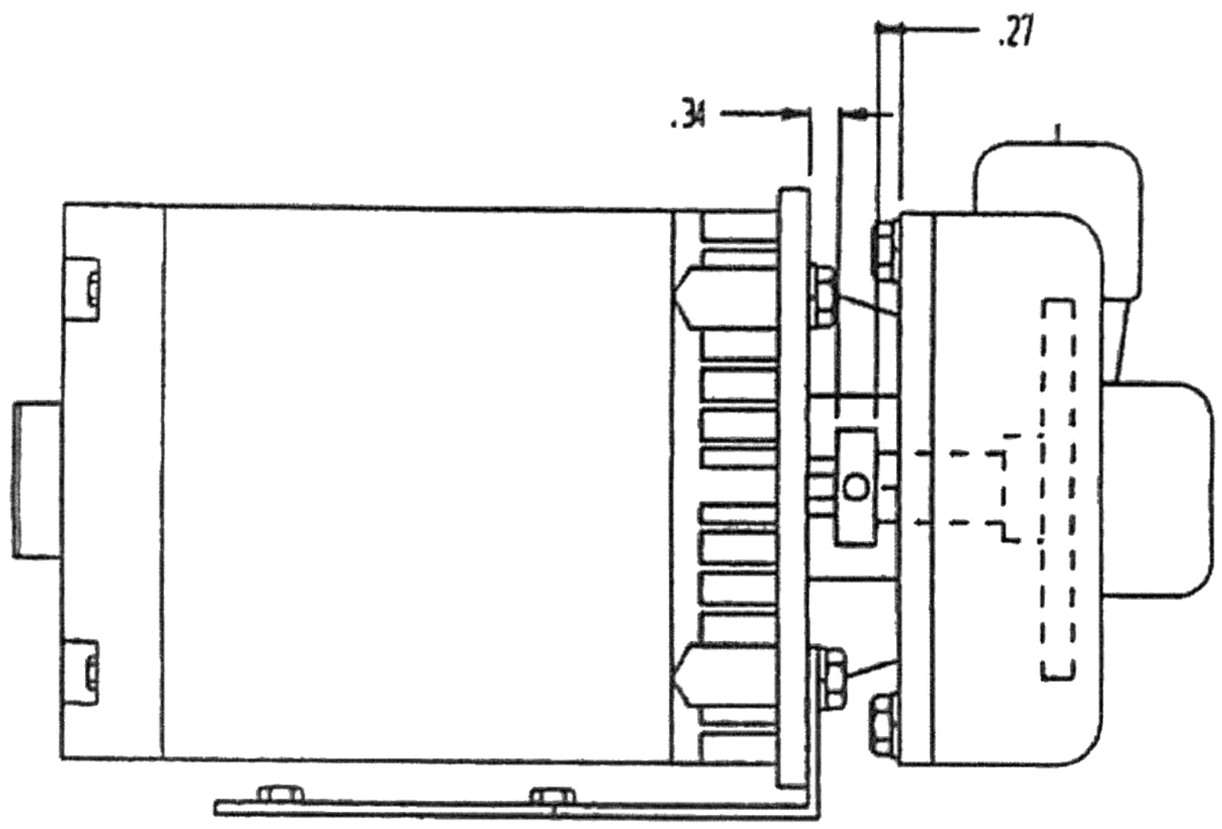


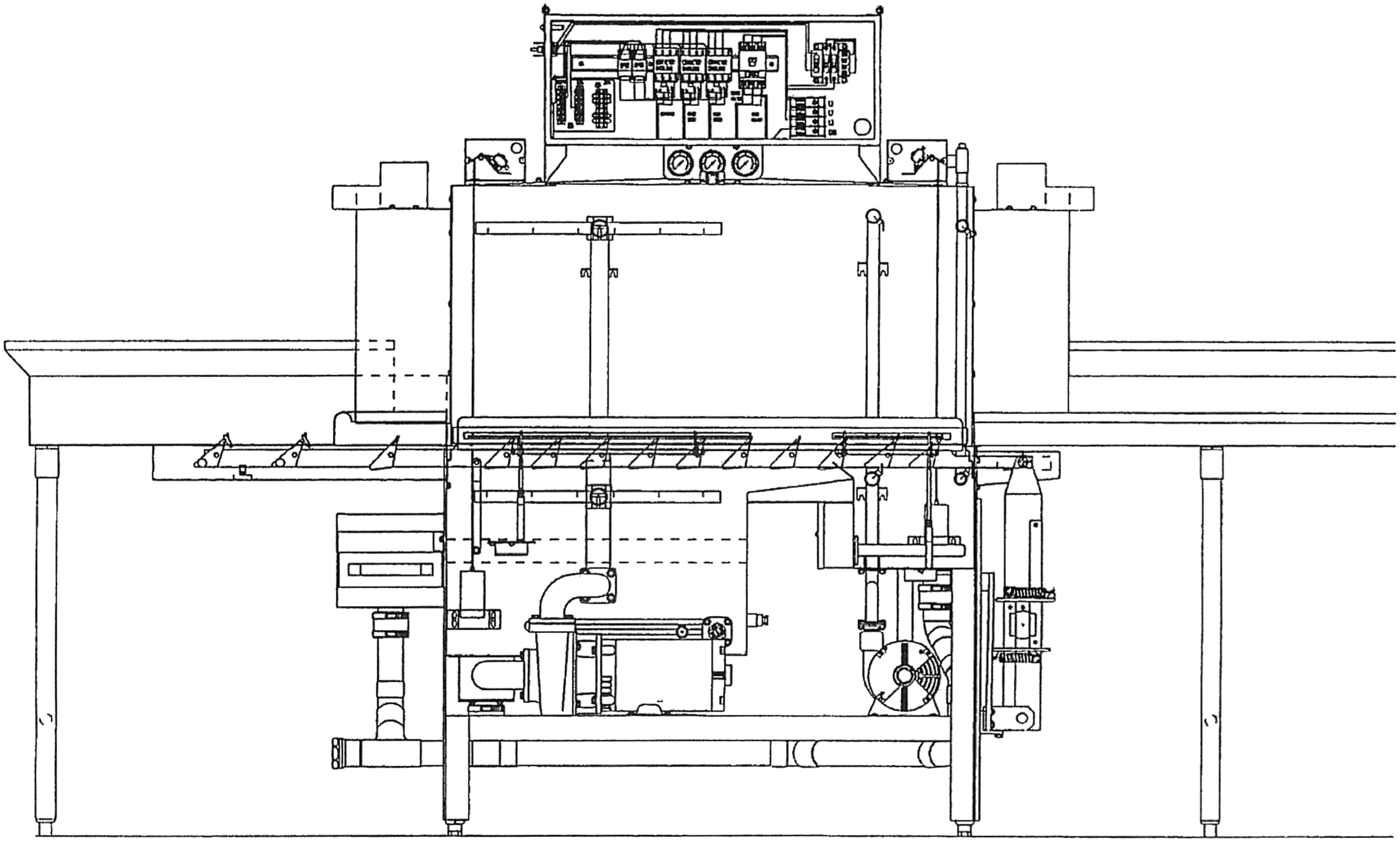
NOTE: Mag tube should be
adjusted approx. 1/8" off tank floor.

AMERICAN DISH SERVICE
Endcap Design



ADC-44 [RINSE PUMP]
SETUP OF IMPELLER END PLAY



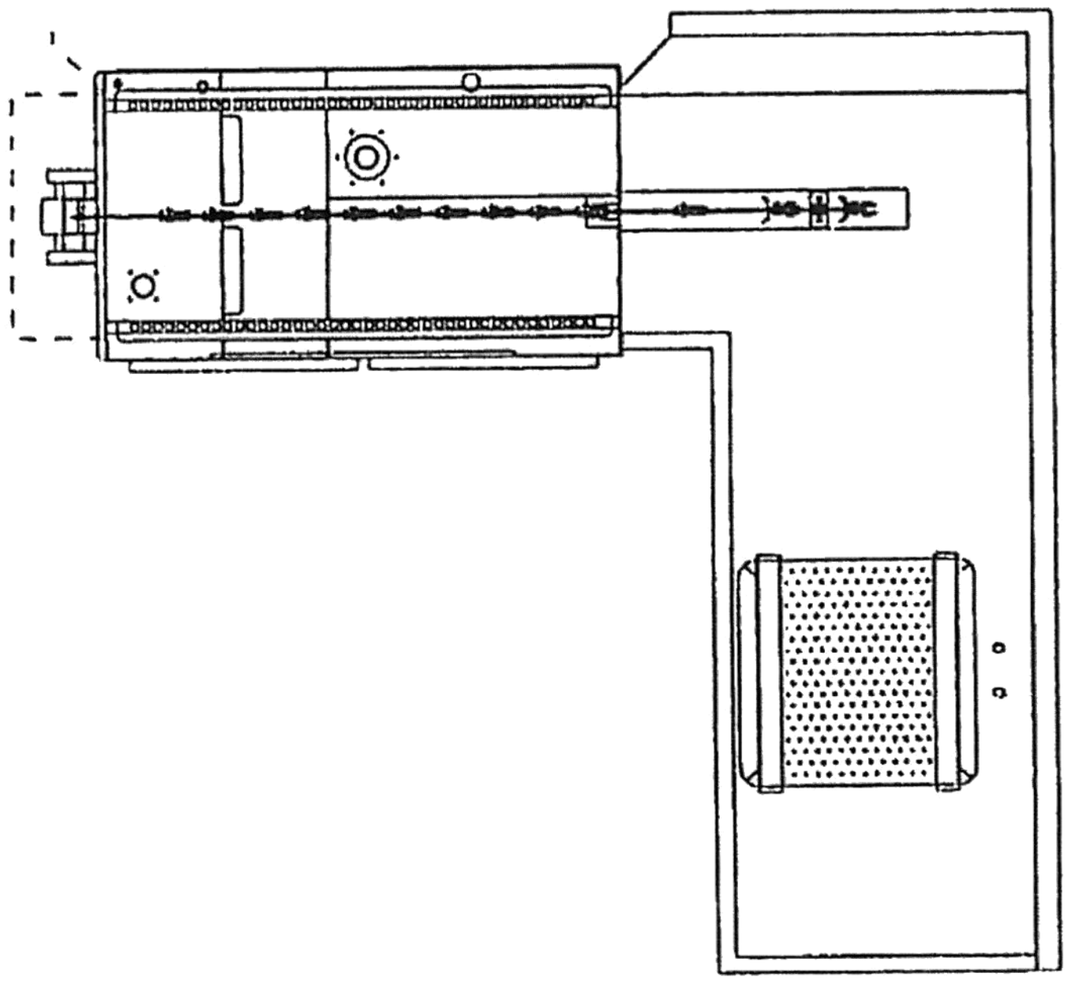


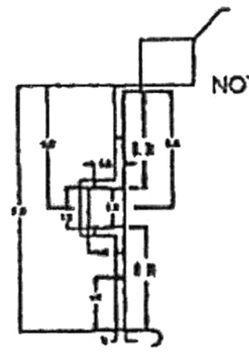
CUT-AWAY VIEW OF ADC-44
EXTENDED BAR LOADER

AMERICAN DISH SERVICE
MANUFACTURERS OF WARE WASHING EQUIPMENT

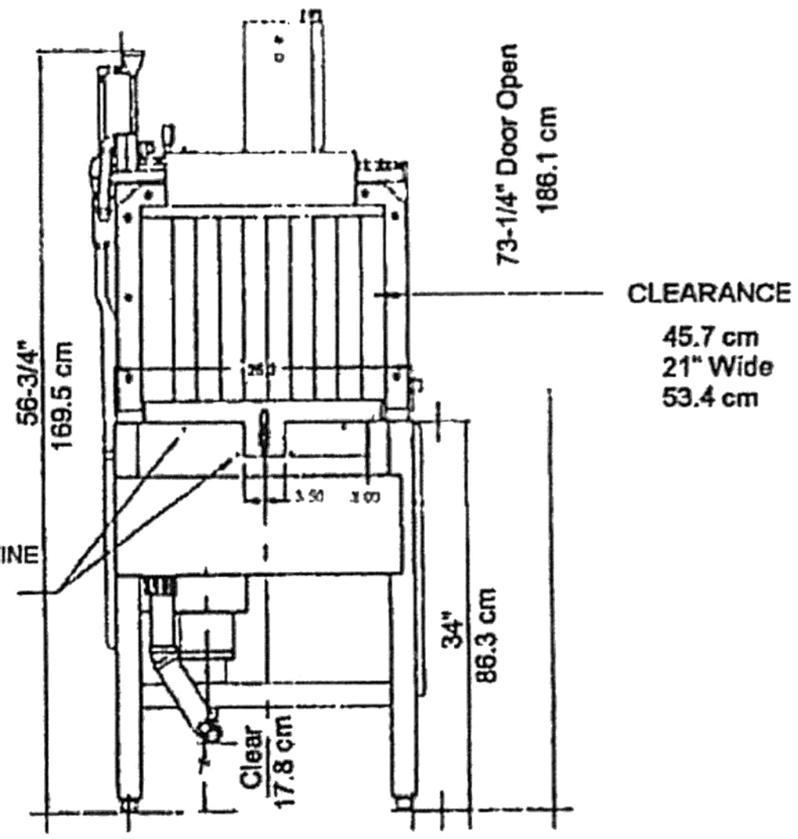
SUBJECT: SIDE-LOADER SPEC
DATE: 1/9/97
SCALE: FULL
DRAWING NUMBER: ADC\LOADER
DRAWN BY: R. PAYZANT
PHONE: 913-422-3700
FAX: 913-422-6630

NOTE: RIGHT HAND FEED SHOWN

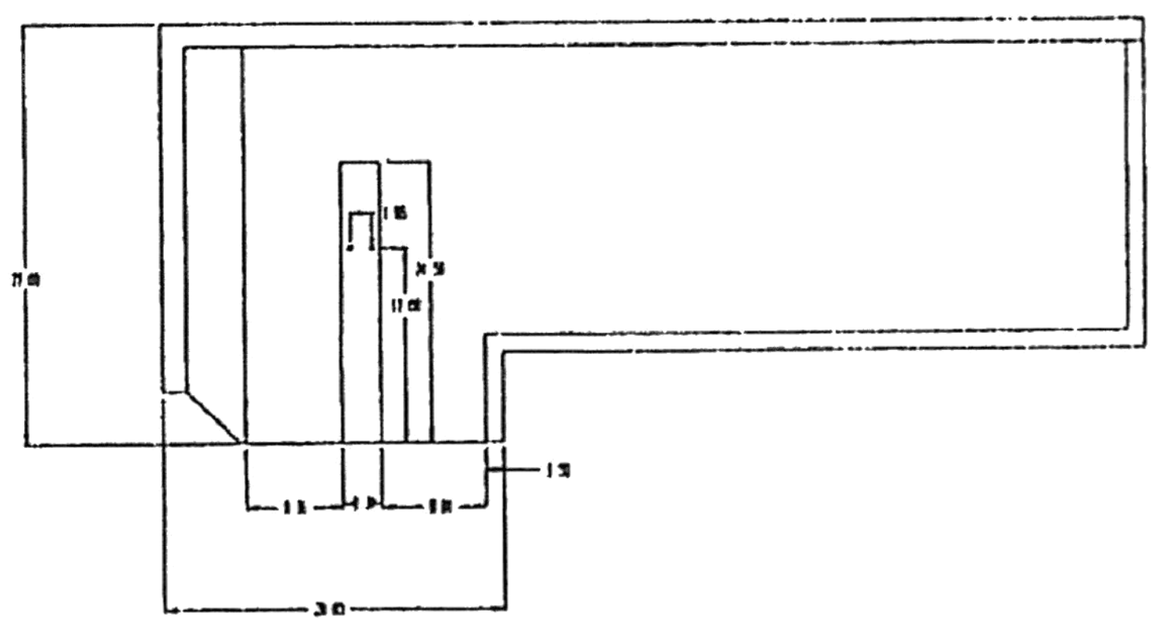




NOTE: BOLT TABLE TO MACHINE
AT (4) POINTS INDICATED
USE 1/4" HEX BOLTS, SS



SIDE VIEW



AMERICAN DISH SERVICE

DESIGN: MODEL ADC-44/66

Russell L. Payzant

The performance characteristic of the ADC design is a combination of several foundational segments (see strategy paper). These segments have been developed in harmony with the dynamic tasks of cycle changes in the machine. Foremost of these tasks is the rinsing assignment. Few commercial machines apply any "real estate" to this activity. There are only two elements in commercial warewashing, which exist without compulsion: water and gravity. We have used these two components to the advantage of the machine's procedure.

The machine tank is the only device that can control the water flow, which is acted upon by gravity. The ADC tank is a complex series of ramps, but fortunately, once fabricated there is little degrading of performance – the ramps don't unramp. No other commercial dishmachine has a tank that costs as much or is constructed like the ADC machines. From this point, we are able to apply pumping systems and filters that work within their assigned segments without canceling each other out. The ADC pump filter is such a device. While it acts primarily as a wash pump trap, it also serves as the machine drain for the wash tank. The advantage here is that no operation of the machine is possible if the filter is left out. This is a part of the mistake proofing concept of the machine, or what the Japanese call "poka-yoke".

Another of these devices is the captive endcap. If a conveyor machine operates without an endcap, the pressure drop will cause a loss of sufficient sprays. The ADC endcaps are a part of the entire arm and cannot be misplaced. The actual water sprays are important also; too much water going "up" can cause a problem. If all the soil is forced up into the machine, eventually, you must clean it out or have the soil redeposit on the clean wares. Our design maintains the same industry standard of 6 PSI for the lower spray arm, but we correct the problem of "spraying up" by having greater pressure sprayed "down" from the upper arm (10 PSI). This accomplishes the two tasks of sending the soil into the tank where it can be processed, and washing the ware without the redeposit problem. We are washing down, not up. Try the principle next time you wash your car. The ADC pioneered this principle, and that is one of the reasons we have gained the greatest performance rating in the NSF test protocols.

The final rinse is one of the most challenging aspects of warewashing. Our approach uses a water curtain, which separates the two sectors of wash and rinse. This water curtain is maintained at 3 PSI, and accomplishes a separation without deflecting its own sprays into the final rinse. Hence, final rinse can use less water and accomplish better results because it is not in competition with the wash environment.

There are a number of other patented designs used on this machine that eliminate machine malfunction in tasks of wash, conveyance, and rinse. The most significant is the water level device. Again, we operate on the principle of gravity, specific gravity to be exact. The design used in all other machines is called a float – a disaster for commercial dishmachines. We use a weight, which is always submerged. It is not affected by heat, chemical, water, soil, or time. This device protects the most expensive single part in the machine, the heater.

The entire machine is working to one end, the processing of dishware. One-task features are not enough in the high speed/low consumption machines.

TECHNICAL SUPPORT MATERIAL

Adding the Auto Start Option to the HT-25 High Temp Dishmachine

1. Turn off the electrical circuit breaker that powers the dishmachine. Turn off the master switch on the HT-25 located on the left-hand side of the control box.
2. Drill a ¼" hole in the bottom of the control box (approximately center) to mount the auto start relay. Attach the relay by bolting it down through the hole.
3. There is a white wire on the #3 terminal of the auto start relay, attach the other end of this white wire to the terminal strip located at the lower left-hand corner of the control box, the one with all white wires attached.
4. There is a yellow wire on the #1 terminal of the auto start relay, attach the other end of this yellow wire to the yellow wire on one of the manual start switches located on either side of the control box. Both of these switches are wired the same and do the same thing. It does not matter which one is used.
5. There is a double orange wire on the #2 terminal of the auto start relay, they should have Molex connector on the ends. These are for connection to the orange wires coming from the float switch, which comes into the control box from the rear of the machine, then going to the orange wire connecting to the thermostat wire. Separate this connection and splice in the two orange wires coming from the auto start relay. The power supply route of the orange wire will now be: from the float switch to the auto start relay, to thermostat, to the mercury relay for heater control.
6. Turn the electrical circuit breaker in the wall back on; turn on the master switch for the HT-25. After the machine fills, shut the door to begin the cycle.

B13 BOOSTER HEATER INSTRUCTIONS
Effective 9/16/02

IMPORTANT

Make sure the booster is full of water before connecting electrical power to the equipment. Failure to do so will result in damaged heater elements, there is no water level control inside the pressure tank.

If the Pressure Relief Valve (PRV) opens and vents off steam and water, the cause comes from excessive heating of water. This condition is a result of exceeding factory settings on the thermostat or a failed thermostat. Return the thermostat to the original setting (approx. 11:00 on the dial). Clockwise decreases temperature.

If the PRV continues to vent steam, replace the thermostat. Elements, which have continued to heat after the PRV opened, will need replacement. You can check their function by testing for amps. Each leg should draw approx. 25 amps

Failure mode of repeated venting of PRV: Incoming water to booster is below 140° F, output of combined primary water heater and booster's rise of 40° F fails to reach required 180° F at final rinse. Personnel attempt to remedy by turning up thermostat on booster, which boils the water and turns to steam. PRV vents away all the vessel's water causing the booster elements to burn up. Booster controls continue to call for heated final rinse but elements have failed. Control circuit remains locked to booster and does not allow HT-25 wash tank's control to operate. Tank temperature drops in the HT-25. Personnel try to remedy by increasing temperature in wash tank. When power is restored to wash tank control circuit, water boils in the wash tank. Cause: inadequate incoming temperature to booster, improper adjustment of equipment.

For Installation By Qualified Service Personnel Only

Do not attempt to adjust factory thermostat settings. The thermostat has been set at the factory to 185° F, to avoid risk of scalding do not alter the factory setting. The maximum pressure going to the booster is 80 psi.

Installation Notes

The ADS booster heater can be installed freestanding or attached to ADS machines.

1. The freestanding version has four legs that screw into socket bolts on the bottom. The bottom of the booster will then stand 8" off the floor.
2. On inline machines, the booster can be attached to the dishmachine legs with 5/16" bolts (a standoff is also available when needed for clearance).
3. A minimum clearance between the booster and surrounding surfaces is 3 inches.
4. There are no user instructions; there is no operation or maintenance of the booster system designed for used application. All service and maintenance of the booster should only be done be trained, authorized personnel.
5. The booster should only be installed on flooring of ceramic tile, cement, or similar waterproof environments.
6. No exhaust air or venting is necessary for the 13 kW booster. But the unit should not be installed in a confined or concealed space; it should be placed in an open room with free circulating air around the cabinet.
7. Make sure the booster has a proper ground connected to the ground lug in the cabinet.
8. The main power must be disconnected before servicing.

Pressure Vessel

The ADS booster is a pressure vessel, meaning you can attach incoming pressure water line to it, then plumb a line directly to your dishmachine. Water pressure is stored in the heater, when hot water is needed; the machine solenoid opens and fills the dishmachine with heated water.

Degree of Rise

Rise refers to the amount of water increased in temperature during a given period of time. A 40° rise rated for 86 gallons per hour (GPH) means the heater will booster 86 gallons of water 40° during 60 minutes. If incoming water is 110° F, then you can expect 86 gallons will reach 150° F.
Explanation: When incoming water temperature drops, but the heater is still set at 150° F, the result is wide swings between the set temperature and lower recovery points. This wide swing will seem like the heater control is no longer working correctly, but it is just too great a rise from the incoming temperature. When sizing a booster, have the primary temperature available; subtract that from the desired temperature (180° F), the difference will be the amount of rise the booster needs to produce. Include the amount of water the machine will use continuously in one hour. These two numbers will spec the booster needed.
Example: Desired high-temp sanitizer of 180°, minus incoming house temperature of 140° results in a requirement for a boosted supply of 40° rise @ 58 GPH for the HT-25 single tank high temp dishmachine. Remember to oversize, a margin is better than having to return and upgrade.

180 (min. required sanitizing temperature)
- 140 (house temperature)
40 @ 58 GPH (GPH is demand of dishmachine

Electrical hookup 13.5 kW

The power requirement is 208v, 3-phase, with a 40 amp breaker, 8 AWG wire, 60Hz. Total amp draw is 25 amps. The power is connected directly into the contactor. Power for the control circuit (which is 208v) is also attached to the incoming L1 and L2 screw terminals on the contactor.
IMPORTANT:
Make sure booster is full of water before applying any power to the equipment. Failure to do so will result in the elements burning out.

Factory Installed Booster on HT-25

If a HT-25 is ordered with booster attached, it can be wired into the machine so there is only one electrical service connection. The factory will build the HT-25 in a modified format that alternates between booster and sustainer; this provides a total operating amp draw of only 35 amps with booster and dishmachine combined. The wall circuit breaker or fuses will be rated for 50 amps with 8-gauge wire, and will supply the power for both units. There is branch protection within the dishmachine for the booster. The package comes pre-plumbed and wired; there is a single water connection of ¾" pipe at the rear of the booster. With a total amp load of 35, single plumbing connection, single electrical connection and breaker, and attached booster, this package makes a faster installation. A total water demand of 58 GPH, at 72 racks per hour makes the HT-25/Booster factory package the most energy competitive of high temps.
Note: this option is only available in 3 phase, there is no single-phase booster available.

Plumbing Inlet

By code, it is necessary to plumb in a water valve at the bottom of the incoming line for draining the vessel. Provide the inlet line with a shut-off valve and a new **pressure-reducing valve (PRV)**. It is likely that the existing pressure reducing valve, if one is being used for previously installed equipment, is in need of replacement. The ADS booster comes with a Pressure Relief Valve. Do not remove; do not use as a drain valve
CAUTION: To avoid water damage or personal scald injury, install a drain pipe to the PRV running to a safe position. Make the drain pipe as short as possible.

HT-25 with Built-On Side Booster

(13.5 kw), single point connection for both HT and Booster, combined amp draw 35 amps. Install with 50 amp breaker, 3 phase with neutral wire for control.
208-240v, 3 PH, 50 amp, 60 Hz

Operation

The correct operation should be: when the machine is turned on, water begins to fill through the booster (you will hear air escape through the solenoid). The wash pump will begin to run. This will not hurt the pump because water is already held in the pump and water is coming into the pump immediately.

This is no different than the batch-type dwell when the pump runs "empty". The advantage over former HT-25 auto start machines in now both fill and run are taking place at the same time, instead of waiting for the machine to fill then waiting for the first cycle to finish. To accommodate the desire for heater control operations while the door is open, this circuit operates in this manner.

Whenever the booster comes on, its L1 signal will turn off the tank sustainer heater. Whenever the booster is satisfied and turns off, the tank sustainer heater will be turned back on. They are operating in a mutually exclusive way. This provides a reduced amp draw, with an overall 35 amps inclusive of either booster or sustainer. This can be run on 8 AWG wire and a 50 amp breaker according to the code.

10/23/01. Payzant

140° F for AF, ET, L, 3D, 13.5 kW, 25 amp draw, 3-ph, 208-240v, 2.4 gal. tank; 40° rise, 86 GPH
180° F on HT-25, 13.5 kW, 25 amp draw, 3-ph, 208-240v, 2.4 gal. tank, 40° rise, 58 GPH

CAUTION: Hotter water increases the risk of scald injury. Before attempting to change temperature setting see instructions.

DANGER: To reduce the risk of electric shock, disconnect electrical power to booster before servicing.

WARNING: Use only 10 amp fuse in control circuit fuse block.

TECHNICAL SUPPORT MATERIAL

Heater Tanks (Vessels)

A heater tank is basically a storage tank or vessel designed to operate at pressures above 15 psig according to OSHA Guidelines (TED 1-0.5A, Sec. IV, Chapter 3). Safety concerns over rupture failures are addressed in the Guidelines. ASME International was founded in 1880 and is the recognized standard with their *ASME Boiler & Pressure Vessel Code*. Any vessels with less than five cubic feet are not required to meet this code but are recommended to follow. Under section 4, HLW, vessels less that 63K BTU, and less than 120 psi are not required to be listed. Underwriters Laboratories will test smaller vessels to UL Standard 1453, which they call "low-pressure water boosters".

Pressure Vessel: The usual vessel design is a cylinder with rounded ends or a sphere. Gas or liquids under pressure exert equal pressure in all directions. When gas or liquid is heated in the vessel, the pressure may increase to levels that exceed the tank's material integrity and deform flat sheet metal. So structural strength is built into the vessel using the inherent mechanical strength of a sphere. To accommodate manufacturing needs, cylinders are employed because they fit easier than the spheres, cylinders are still round, except for the ends. Consequently, domed or rounded ends are used to maintain the strength of the cylinder. Typical examples are found in air compressor tanks, water heater tanks (after removing the outer jacket), and oxygen bottles.

Pressurized fluids enter the tank, are stored under pressure until needed, and can be heated when elements are inserted into the tank. Protection devices are used, such as temperature release valves and pressure relief. Vessels that do not exceed 210° F and 150 psi are not required to have an ASME listing, and are considered "low pressure water heaters".

"Non-Pressure" Booster Heater: The non-pressure vessel is a recent development. For the warewashing industry, this design has a history that goes back to the early 1980s. When one company introduced a flat sided heater tank, with a short product life and many problems. Ruptured welds and leaking hot water created problems that shelved the project; then toward the latter part of the 1990s, it was re-introduced as a non-pressure vessel with elaborate installation plumbing to avoid the initial problem. Other manufacturers took the concept and produced their own versions – the reason is cost.

To elaborate on the cost issue, design in the warewashing industry has been more entrepreneurial than engineering. Would be designs are offered up to the industry, the good ones last and the bad ones are stacked up in the warehouse. When a good one comes along, there is a lot of "borrowing" among the other manufacturers. Sometimes it takes a few years before everyone agrees a particular design has proven too troublesome.

Finally, connections to the non-pressure type heater must come after the water solenoid and before the backflow preventer. These instructions must be followed, the trouble is, they are not typical of normal plumbing connections. When hot water is called for, line pressure forces the reservoir of heated water into the final rinse manifold and spray arms. It is considered non-pressure because it is open to the atmosphere – which allows the 180° F heated water to steam off. This 'open' tank causes greater buildup of deposits and higher frequency of cycling. If the delivery system were to clog up due to deposit buildup of the spray tips, there is no safety relief valve; pressure in a flat sheet metal tank can cause deformation and rupture of welds. While it is easier to manufacture, the particular design of non-pressure booster tanks may prove to have too many problems for the warewashing industry.

Conclusion: In the case of heaters, it can be said that while everything is okay, it is okay – but when there is trouble, it is real big trouble. Not following solid engineering principles when it comes to pressure and heat is where problems will likely occur.

ADS/payzant/1.02

TECHNICAL SUPPORT MATERIAL

Control Voltage Transformer Options
5/10/01

When problems arise in the ADS control circuit produced by the 100va transformer, the reasons are usually associated with a coil or solenoid failing, which causes the protection fuse on the transformer to open. Failure of these coils can be related to lower voltages supplied to the machine. Low voltage causes coils to fail more rapidly. With a capacity of only one amp, the fused transformer shuts down to protect the circuit at the first sign of a faulty coil.

The request is for options in the transformer produced control voltage in all higher voltage ADS models. This would include HT-25, ADC-44, and ADC-66, in 208 – 240v, 440 – 460v supply voltages.

Control Voltage Option (Domestic 110v)
If the transformer is not used and a Neutral is not available, then it is possible to bring a normal 110v domestic circuit into the machine and attach as the control circuit. This can be supplied by any convenient 110v outlet, attach the supply wires to the black and white machine wires located at the main distribution block – make sure to remove these wires from the block before connecting to the 110v supply wires coming from the outlet. Feeders can safely run on this circuit. Be sure to mark the machine as dual voltage and label the correct circuit breakers.

The ADC-44 standard 100va, 1 amp transformer can supply the 44, in 208 or 480 machines. Part number B100BTZ13RB. With 1 amp, 3.5 x 3.5 x 3", 4.2lbs.
NO FEEDER CAN RUN OFF THIS TRANSFORMER

For the HT, which has no signal for rinse other than the control circuit voltage, a transformer would be needed that has the capacity for running the machine as well as the dispenser motors. Based on a three-product feeder, which could draw up to 1.98 amps on 110v, and a water solenoid, which would draw .9 watts, we would require a 500va transformer to run these devices as well as the machine. This transformer part number is B500BTZ13JK with 4.35 amps, 5.25 x 4.5 x 4.5" size, 19.2 lbs. This would require an enclosure to attach to the control box and that could be accessed for service.

500va Transformer, 4.3 amps
This is B500BTZ13JK with 4.35 amps, 5.25 x 4.5 x 4.5" size, 19.2 lbs.
Primary volts: 220 – 240, 440 – 480v
Secondary volts: 110 – 120

For the ADC-66, the B200BTZ13JK, 1.74 amp, 8.5 lbs, 4 x 4.5 x 4" size transformer could be applied to the ADC-66 when control circuit is required from the existing phase power. This can be done in the existing box.
NO FEEDER CAN RUN OFF THIS TRANSFORMER

220va Transformer, 1.7 amps
This is part number B200BTZ13JK with 1.7 amps, 4 x 4.5 x 4" size, 8.5 lbs.
Primary volts: 220 – 240, 440 – 480v
Secondary volts: 110 - 120

ADS Conveyor Table Limit Switch
Kit #288-1044

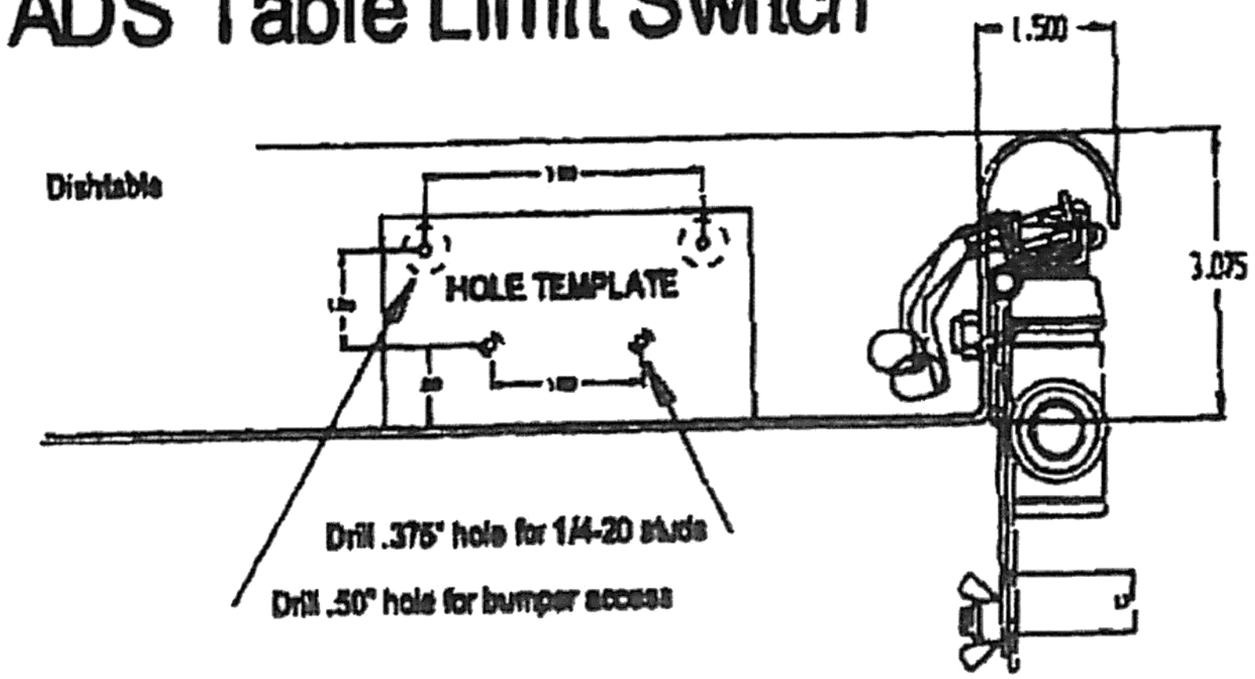
The purpose of the table limit switch is to keep a conveyor dishmachine from operating continuously when racks reach the end of the clean table and then back up into the machine. This condition will increase chemical and energy usage. When tables are too short or the staff is not able to remove racks rapidly, the installation of the table limit switch is recommended.

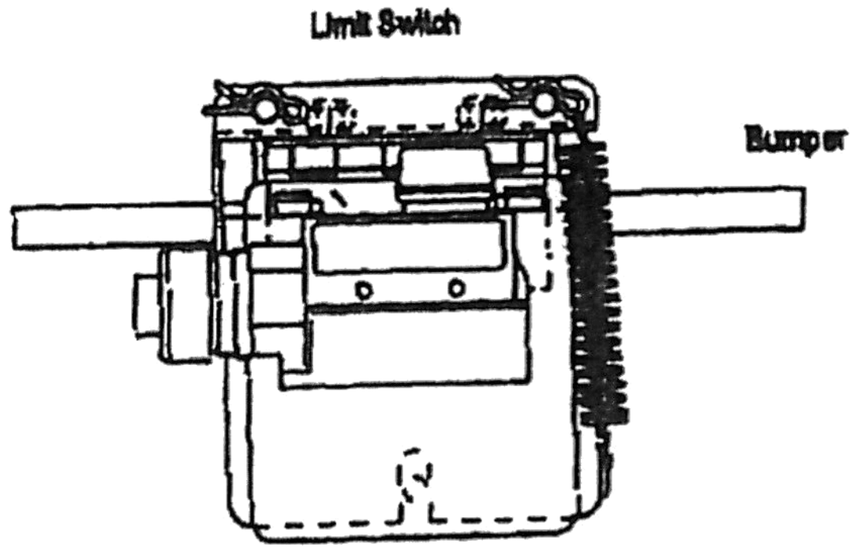
INSTALLATION OF THE TABLE LIMIT SWITCH

1. Determine the approximate centerline of the dishrack as it travels down the **clean** table.
2. Place the template (supplied in kit) with the lower (two smallest holes) edge resting on the table surface, against the end roll, and centered along the dishrack's line of travel. Mark the four hole positions using a center punch. Then drill a 1/8" hole through each position, the two lower holes are then drilled to 3/8" and the upper two holes are drilled out to ½".
3. Table preparation: the table role must be a minimum of 1 ½" dia. for clearance of the switch. If it is less, the roll will need to be relieved by grinding, cutting, or bending. The template will set the correct elevation as long as the lower edge is setting on the table surface. After the template is used to mark the hole positions, it can be discarded.
4. After the holes have been drilled, remove the switch **bumper** by taking the two clip **pins** out and sliding the bumper out of the hinged **activator** plate. Loosen the wing nut on the switch **mount** and slide the switch **shuttle** up and off the mount. From the outside, place the mount through the two (3/8") lower holes in the table and tighten the locking nuts on the two studs of the mount. Insert the bumper through the upper (1/2") holes and into the activator plate. Put on the clip pins to secure the bumper. If the bumper interferes with the holes on the table, loosen the locknuts on the studs and reposition the mount for clearance.
5. Take the switch shuttle and attach appropriate length of conduit between the control box and the table limit switch. Run two wires through the conduit and attach one to the COMMON terminal on the table limit switch, attach the other to the normally OPEN terminal. Then attach the other ends of the two wires to the 110v terminal (black wires) located in the lower left-hand corner of the control box. It is ***IMPORTANT*** to observe the positions of the attachment. The terminal block is divided into two separate parts, a north and south division. The terminal block is divided by the removal of a jumper tab located at the center. The door cut-off switch is attached by brown wires to one terminal on the north side and one terminal on the south side. Take the south brown wire off the terminal and connect to one of the wires coming from the table limit switch (does not matter which wire from the table limit switch you use because it is only a loop). Take the other wire from the table limit switch and connect it to the south terminal, from which you removed the brown door cut-off wire.
6. In order to avoid delay of final rinse when the machine starts up after the table limit switch is released (by removing a rack from the table), disable the final rinse time-delay relay. The final rinse relay is located on the left-hand side of the control box. The switch is disabled by joining the blue and purple wires together.

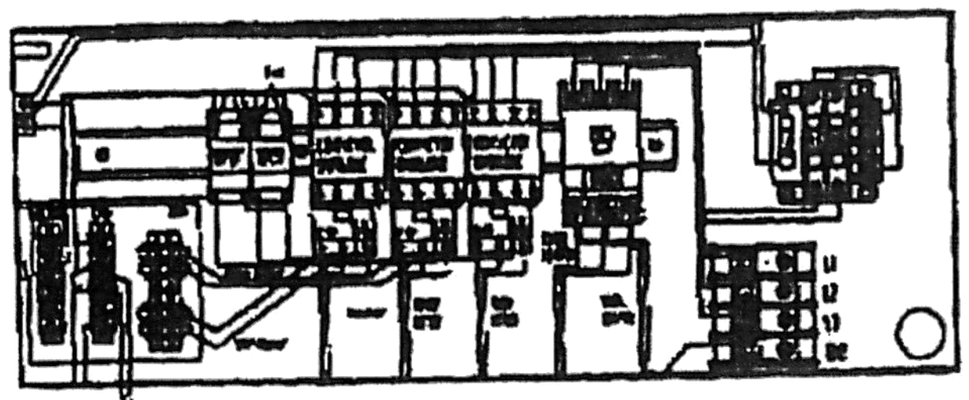
The use of the table limit switch can save useless waste of resources. It does have some concerns, which are mainly associated with installation. If the holes are binding on the bumper's return this can cause a service call. The bumper should be easy to depress and return to normal position. The table must have enough space for the switch and shuttle removal. The shuttle must be attached and secured in the mount. Insuring these items are done will reduce the needless service complaint.

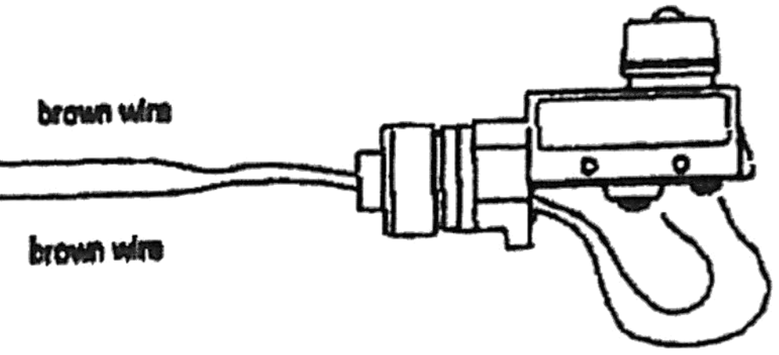
ADS Table Limit Switch



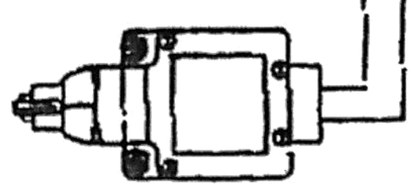


ADC Control Box





Connect to one of the
Door Cut-off wires as shown



Door Cut-off Switch
Normal-Open

ADS/payzant/12.6.00

TECHNICAL SUPPORT MATERIAL

Loss of Temperature

Many things can cause the *single* measurement of temperature loss in a conveyor dishmachine. Maintaining temperature is largely an issue of simple math. Volts, amp, air temp, incoming temp, volume of water loss, and transfer are all numbers; the single number at the end of the formula is your temperature gauge. Unfortunately, just one or several factors in the formula can drastically change temperature. Almost everything causes the loss of heat; the only thing that sustains or restores heat is the heater element. To solve the problem of determining the cause of loss, all of the following questions must be investigated before running a test on the element itself.

1. Final rinse water is fluctuating or below temperature spec (machine will run about 10° below incoming).
2. Machine is filling during operations (which causes the heater to turn off).
3. Water loss down tables or sinks (remember these machines have no doors).
4. Does the heater have heavy deposits of calcium build-up? A layer of calcium 1/16" can drop the efficiency by 20%.
5. Thermostat is faulty or set incorrectly (light on till 162, off till 155 – 8), do not set above 165° F.
6. Missing or damaged curtains (spraying water in air drops temp rapidly).
7. Vents are drawing heat off the machine or ventilating the machine.
8. **Faulty heater: Test #1 amp draw** (should draw 28 – 30 amps on 12 kW, 6 amps on 3.5 kW).

IMPORTANT: Only after the above 8 items are resolved can the following test answer the question of heat loss.

Test #2, Operational Test for wash heater: Place a rack upside down in wash tank so the pump will remain on and spraying. Observe how long it takes the heater to bring the temperature of the tank up to its limit (thermostat set point 160). It should take about 5 minutes to equalize the eleven gallons and then start to build heat. At this point the thermostat light should go out. Continue to observe the spraying, the temperature will gradually drop causing the thermostat light to come back on about 158 and remain on until about 162, when the light then shuts off again. This is the test to determine if the machine is heating normally. A steadily dropping temperature without recovery indicates a bad heater or some of the items mentioned in the above list. **Caution:** do not over compensate for missing factors by increasing thermostat above 170 or 180. This will cause poor results and high costs without real benefit.

NOTE: Some uncommon factors, which have caused temperature loss, are cold and breezy dishrooms, and chilled dishware waiting to be processed (a 60° room can drop tank temperature).

AMERICAN DISH SERVICE

March 23, 1999

NOTICE:
Commercial Kitchen, Venting of Dishmachines

The *new* venting language of the Uniform Mechanical Code was established in 1991, and states that "Hoods shall be installed at or above all commercial-type… dishwashing machines and similar equipment…" (1991 UMC, section 2003.1, p 153). The words "shall be" means that it is required, and in violation of code when the hood is absent.

The hood is defined as duct work, pantleg, capture point, or overhood (canopy). Calculations are provided to determine CFM, hood length, air compensating factors, and discharge (Example: 300 CFM for dishmachine pantleg, soil side).

The Uniform Mechanical Code was further enlarged in 1994, identifying the dishmachine hood as type II construction; and in 1996, departments of environmental health began to endorse this section of the Mechanical Code with its own Plan Check guide. The health department guide gives acceptable styles of layout for hoods and ventilation. Health departments require that these dishmachine hoods be listed with Underwriters Laboratories, Inc. The Plan Check calls for a UL listing card on all hoods.

American Dish Service installation recommendations will follow all code sections that apply to hoods and venting. Local code enforcement should be contacted before dishroom layout is signed off.

Reference: Uniform Mechanical Code 1994, Chapter 5, Part 2, Section 507 – 598.1, 508.2.1.
Hood Plan Check Guide, Department of Environmental Health, Alameda County, Ca., 1996.

Notice created by R. Payzant, American Dish Service, Technical Support Material

TECHNICAL SUPPORT MATERIAL

Plan Check Information for Overhoods used on ADC-44/66 Conveyors

When overhoods are used to remove vapors from the dishroom during the dishwashing process, the following recommendations are offered. This material follows the Hood Plan Check Guide developed at the Department of Environmental Health, Alameda Co., California, 1996.

CFM VALUES:
The building architect or engineer, because of heating and air-conditioning parameters, must recommend CFM values. Generally, 400 to 800 CFM are needed to draw up the steam rolling off the dishmachine into the hood area. Larger CFM values may have an adverse effect on air-conditioning balance; this is especially true of buildings with working fireplaces or fire grills. Have the CFM value signed off by site engineer before purchasing hood equipment.

MINIMUM HOOD SIZES:
The hood length shall extend beyond the footprint of the dishmachine. On an ADC-44 the hood must be a minimum of 84" long x 40" wide; on the ADC-66 the hood is a minimum of 110" long x 40" wide. For the HT-25, door-type, high temp the length (table to table) is 25" and width front to wall is 29", so a minimum length is 49" and 40" wide on hood. Distance to the floor is a factor is drawing vapor off the dishwashing process. The minimum distance if the hood were 78" from the floor would be one foot on either side; for hoods installed higher than 78" we recommend two feet on each side of the machine's length.

PANT LEG VENTS:
When "pant leg" vents are attached to the ADS 4 x 16" vent stubs (which can be bolted to any ADC-44 or ADC-66 end shield), a negative air pressure (vacuum)must be present in the pant leg to take the steam vapor up into the vent. The steam will not enter the vent as it exits the machine; it must be drawn into the pant leg by at least 400 CFM.

Reference: Uniform Mechanical Code 1994, Chapter 5, Part 2, Section 507 – 508.1, 508.2.1
Hood Plan Check Guide, Department of Environmental Health, Alameda County, CA, 1996

payzant/ADS/8.31.01

New Account Plan Check

Date:_____

Account _____

Address _____

Phone _____ Fax _____

Contact _____

Inspector _____

Results from old dishmachine _____

Water heater recovery rate _____GPH

Pre-rinse condition _____

New booster requirements _____

Installation Information

Dishmachine Model _____Chem HI Temp

Date and time of install _____

Old Dishmachine: Leave Store Dispose

Old booster type: KW:

Electrical power Circuit Bkr size: Wire size:

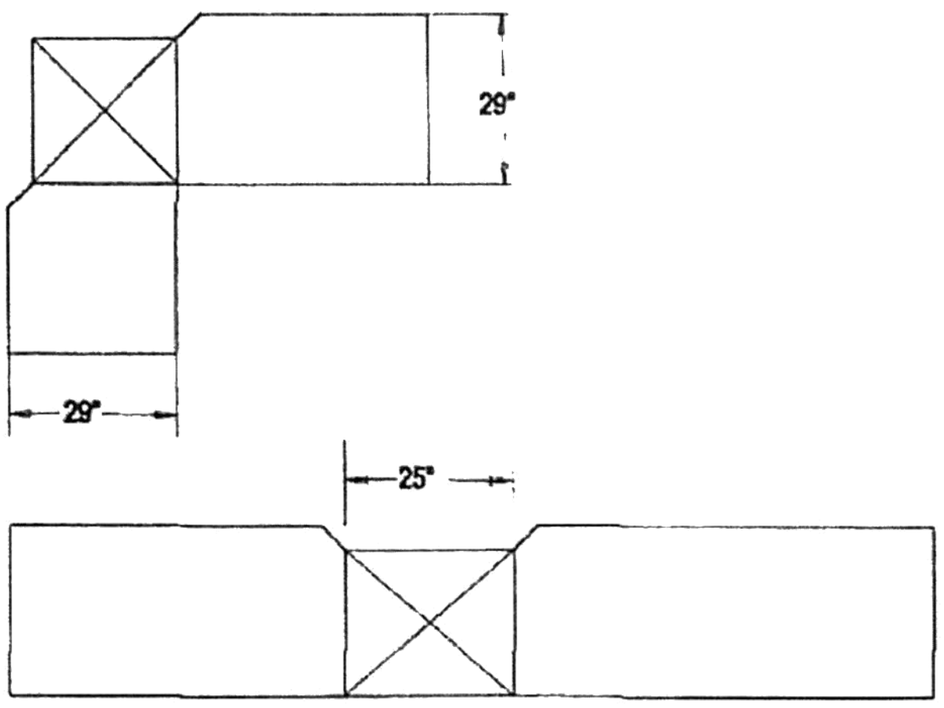
Plumbing size and height on drain _____

Racks per day: Persons per day:

Single Double Undercounter Corner

Table Layout

Movable tables:
Floor sink Location:
Scrap Trap Location:
Disposal Location:



Voltage: Amps: Phase: KW: Rise:

Water Softener: _____ Hardness: _____

Door width to bring dishmachine in: _____ Stairs:__

Table condition: Broken Leaking Cut No lip

Instructions: _____

_____

For Conveyor Machine:

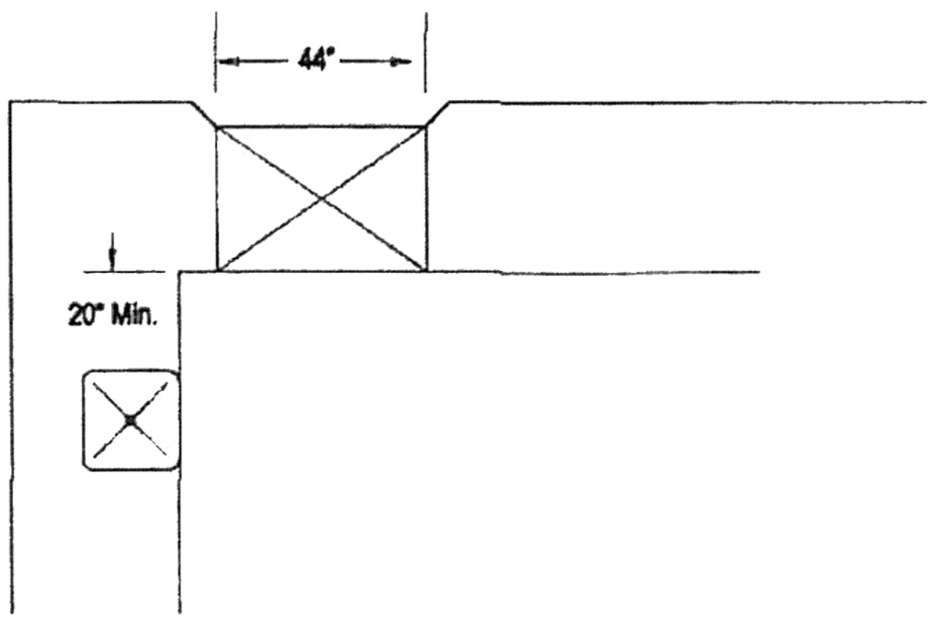
Circuit Bkr size: Wire size: Amps:

Actual volts:_____ Phase: I or III

Vents 4x16" pantlegs or Overhood (size x)

Location of table sinks from dishmachine

NOTE: HT25, ADC66, and some ADC44 machines require a neutral wire in addition to supply wires



Distance from waterheater to dishmachine:_____feet

ADS/preview/2000

ADC-44
Preventive Maintenance Schedule

Three General Areas Must Be Inspected

1. Sequence switch mechanism in tray track
2. Water control mechanism
3. Conveyor system

SEQUENCE SWITCH MECHANISM

1. Free moving
2. 1/16" clearance on pivot bolts
3. Magnet adjustment is approximately 1/16" from tank floor
4. Pump motor will activate only after 1/8 – ¼" movement of sequence bar. This will indicate that the adjustment of the reed switch is correct.

WATER CONTROL MECHANISM

1. Check for free movement of suspended rod and weight
2. Suspended weight is free moving and clear
3. Lever is free moving and has 1/16" clearance from box or attaching locknut. Operate the lever 10 or 20 times with tanks full, it should not stick on "fill". If it does stick, the problem will be interference with the rod, weight, or the switch button spring may be too weak.

CONVEYOR SYSTEM

1. Cam bearing is well-lubricated (marine grade grease)
2. No worn or sloppy parts
3. All dogs are free moving
4. No chlorine chemical leaks on or near conveyor motor
   Bolt table to the machine to avoid these leaks

NORMAL CHECKS

1. Check for bent or damaged parts
2. Screens and trays are all in good order
3. Drains are clear
4. Dispenser is functional and adjusted with no leaks
5. Curtains are in place and clean
6. Correct leaks to avoid damage motors
7. Spray patterns are consistent and typical
8. Check racks (broken ladders or swaybacks cause high costs)
9. Lime build-up on **any conveyor** is a problem, delime

ELECTRICAL CHECKS (by qualified electrical technician)

1. **44" Machine's** total amp draw: 52 amps at 30, with everything working
2. Wash heater: 30 – 34 amps
3. Wash motor: 8 – 9 amps
4. Rinse heater: 6 amps
5. Rinse motor or Conveyor motor: 0.5 – 1.0 amps
6. Control circuit: 0.65 amps

1. **66" Machine's** total amp draw: 70 amps at 30, requires 90 breaker
2. Wash 18 kw heater: 46 amps
3. Wash motor: 8 amps
4. Rinse heater: 6 amps
5. Rinse motor or Conveyor motor: 0.5 – 1.0 amps
6. Power scrapper motor: 8 amps
7. Control circuit: 1 amp

TECHNICAL SUPPORT MATERIAL

Wash Tank Will Not Maintain Temperature
Conveyor Machines

Tank Temperature:
The NSF specification for MINIMUM temperature of the wash tank is 160° F for high temperature sanitizing. The thermostats are set to points closed at 160° F and points open at 165° F (+/- 1°). Verify the tank thermometer is reading correctly with other source.

There are only three issues to determine a solution:

1. The only thing that will put heat back in the water after spraying is the kW of the heating element. The heater has to be working on three legs, free from calcium build up, and be rated for the available voltage.

2. The only thing that will give the heating element kW is the voltage service. Voltage levels vary widely among the 200v powers. 200 – 250v are seen in all areas of the grid (sometimes 190's during summer months or services that exceed capacity). Example of low voltage on kW rating: 200v on a 220v, 12 kW heater will only provide 9.9 kW. So, ADS offers a range of five wash elements, two of the higher kW's must be supplied with wire and circuit breaker larger than that found in the standard production conveyor.

3. Conditions at the account – they are all different. Conditions that range from calcium build up, missing curtains, draining tables, poorly maintained equipment, undersized booster or heater, type of dishware (nursing home dinner trays draw off heat rapidly), procedure, and thermostat adjustments.

The only measurement that is relevant – is the tank temperature while the pump is spraying water (after equalizing 3 – 5 minutes, temp should comp up to the thermostat set points and hold – if not see one of the above).

TECHNICAL SUPPORT MATERIAL

ADC-44/66 and HT-25/34 Temperature Indicators
(P/N 299-1004/299-1005)

The temperature indicators used on the ADS conveyors and high temp single tank machines are NSF approved and factory-calibrated before shipment to within +/- 1 scale division or 2°. The gauge is a clock-work design and mishandling or transportation forces can affect accuracy. It is recommended by the manufacturer that the accuracy be verified at the installation of the equipment.

Instructions:
Remove the lens to expose the pointer by unthreading counter-clockwise (threaded lens) or by carefully prying (press-in lens) the lens away from the case using the molded slots.

If the temperature reads high:
Stabilize the pointer by placing a finger next to the left side of the wide end. Insert a screwdriver into the slot in the pointer hub and carefully turn the hub clockwise until the desired setting is reached.

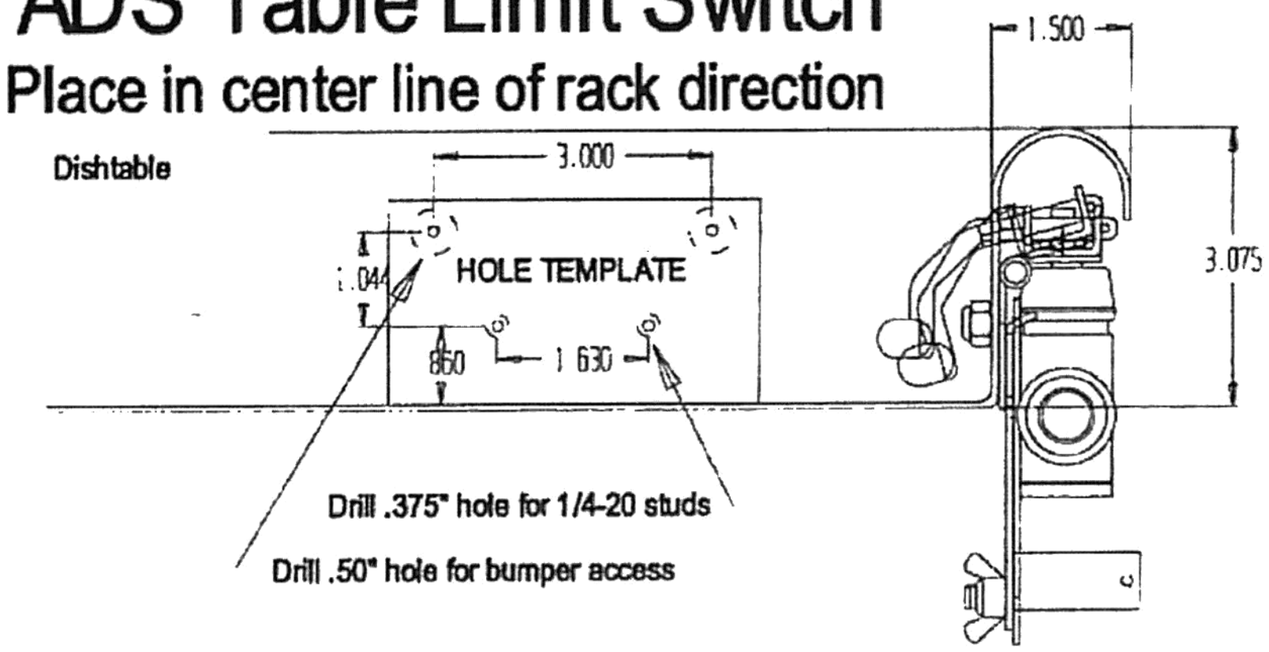
If the temperature reads low:
Stabilize the pointer by placing a finger next to the right side of the wide end. Insert a screwdriver into the slot in the pointer hub and carefully turn the hub clockwise until the desired setting is reached.

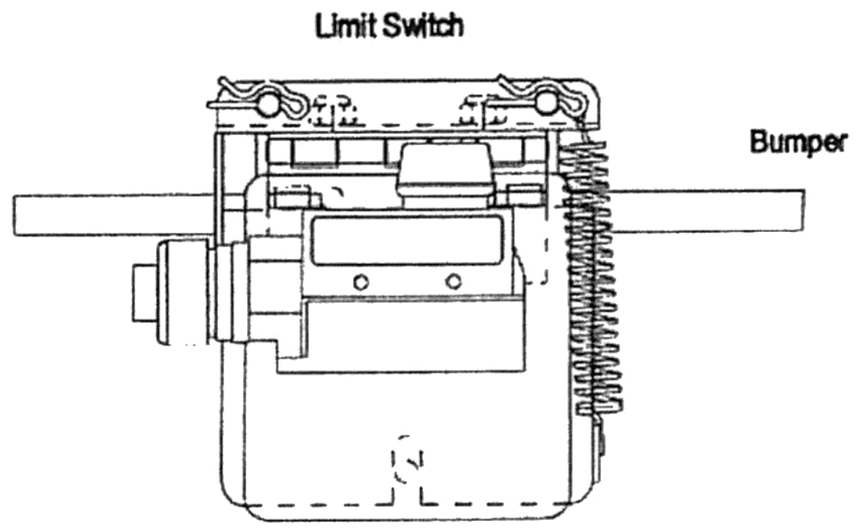
Bi-metal thermometers have no calibration available. These are used as a screw-in dial on low-temp sumps. (AF-3DS, 5AGS, 5CD, ET-AF)
Capillary thermometers sense water held in a tank – place testing probe in the tank's water to verify temperature. (L3DW, ET Pump/Heat, ADC-44/66, HT-25/34 wash tank)
Final Rinse, the method for verifying final rinse temperatures with a temperature sensing probe is to place the probe at the very opening of a final rinse jet (tie wrap the probe to the arm) and read the temperature of the water as it exits the final rinse jet. This method most accurately compares with the means of taking temperature measurements during certification testing. **Note:** Laying the probe in a dishrack and letting the final rinse sprays hit the sensor will no read accurately. (ADC-44/66, HT-25/34 final rinse arms)

ADS Table Limit Switch

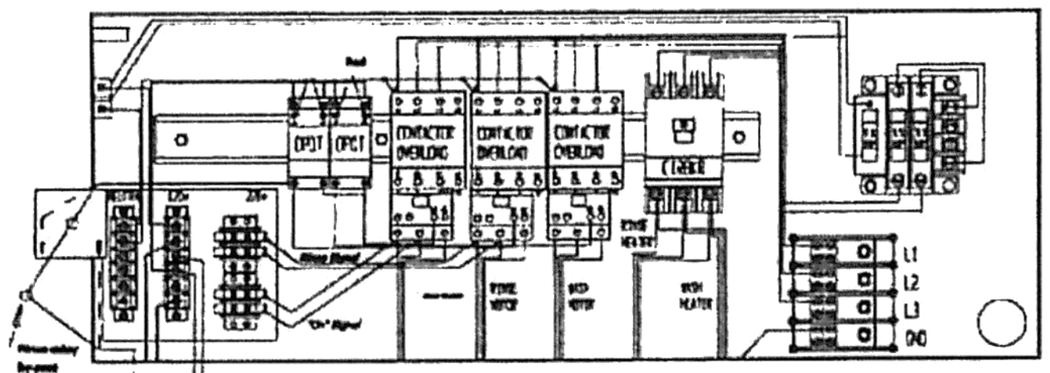
Place in center line of rack direction

Kit # 88-1044

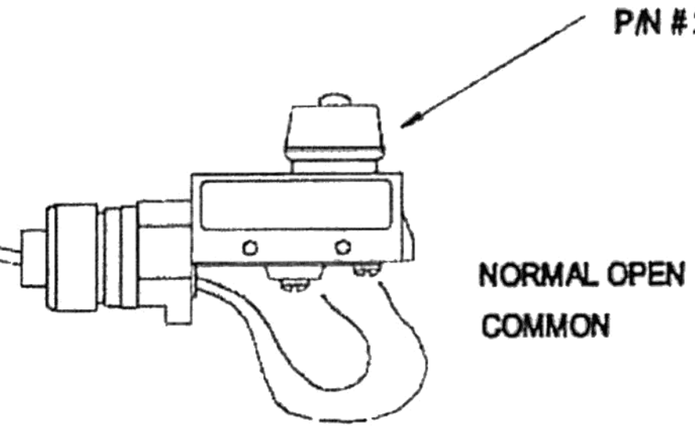




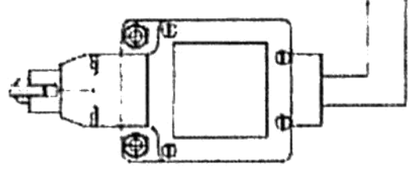
ADC Control Box



P/N # 291-3015



Connect to one of the
Door Cut-off wires as shown



Door Cut-off Switch
Normal-Open

ADS/payzant/12.6.00

ADS BULLETIN #19-44

Tank Temperature Problems on ADC-44/66 Conveyors

Situation: One or both tanks loose temperature after running racks through the machine but temperature returns after racks have exited and the machine sits idle.

Temperature loss is difficult to diagnose; many factors contribute to the loss of water temperature. A heater kilowatt large enough to remedy all possible inadequacies would exceed space and power realities. Expensive after-measures are better managed by following the directions in the ADS installation guide. The following tests are recommended for finding the causes related to tank temperature loss.

TESTS:

Tests: #1 While the machine is running and heaters are in operation, the amp draw should be 28 – 32 amps on each of the three (3) legs supplying power to the wash heater. The rinse heater should be drawing 5 – 6 amps on each of the three (3) legs supplying power. Note that the different ampere values are attributed to the different voltages, 208, 220, 240. The wash heater in the ADC-66 will draw 42 – 44 amps. If readings differ from these specifications, that would indicate a damaged or failed heater. But a heater may show correct amperage, and still not heat. To determine why, further tests are needed.

Test #2 The heater lights should be "on". They are located next to the wash and rinse heater mercury relays. The "power box" containing these relays will be found behind the lower front panels just in front of the rinse pump motor. If these lights go "off' it will be for one of two reasons: the temperature set by the thermostat has been reached or the machine is calling for water in the tank. The tank should not be calling for water during the machine's operation and this event may indicate the problem area. Water loss will drop temperature. If water loss is the reason for the level switch's activation then that loss must be corrected. Examples of this loss can be sprays deflecting into another tank or table drains too close to the machine entrance and exit (20" min.) and no drain on exit side. If a tank's level switch is "sticking" and the fill water is pouring in then that tank's heater will be turned off. The problem of a sticking switch can be remedied by clearing the tube that the rod hangs in, removing any physical obstruction or replacement of the switch. There is no adjustment to this control. It works by gravity. See the manual for procedure.

Test #3 Check the length of time it takes the tank to recover temperature and equalize after the initial fill. It should reach the set point of the thermostat in 8 to 10 minutes. This may take longer if the fill water is colder than tank temperature minimums (140° F chemical, 160° F high temp).

Assumption: If the above tests fall within the limits we have set, then the cause of the problem will lay in two areas. First, air flow is cooling the water and taking heat from the machine – missing curtains can cause this rapid cooling also. Second, the incoming final rinse water is below 180° F (high temp) or 120° F (chemical). The primary heating supply and secondary (booster) heater is fluctuating or below temperature. This condition usually comes from attempting too great a rise for the existing equipment (undersized). Look at "recovery rate" on water heater, it must be greater than the dishmachine's 120 GPH.

Typical Reasons: The fluctuation will cause a bulb type thermometer to read the high end "rise" but the "drop" in water temperature happens faster than the bulb's response time, so the average water temperature coming into the machine is between the high and low reading. However, the thermometer will indicate the higher temperature and this discrepancy will cause an inaccurate assessment. The problem will be inconsistent, incorrect, incoming water temperature. The machine will typically sustain temperatures in the tanks of 10° below incoming final rinse water.

TECHNICAL SUPPORT MATERIAL

ADC-44 - Rack Travel and Counting With a Timer

Engineering Data

Rack-style conveyors move dishracks across the sprays by the reciprocation of directional dogs. These dogs push in one direction and fold down in the return direction. They push against the "ladder" on the underside of the dishracks. The "speed" of NSF listed conveyor dishmachines is determined by the length of time required for a Metro G-88 glassrack to travel across from the soil table to the clean table. The starting and ending point is the table lip. The indicating point is the trailing edge of the rack. If it takes 36 seconds to cross this distance the rated speed will be 6 feet per minute.

The speed is determined by two items: the action of the conveyor dogs and the placement of bars on the rack ladder. If either of these are missing or damaged the speed will drop. If too many ladder bars are missing the rack will not travel through the machine. In actuality, the rack is responsible for 50% of the conveyor's speed mechanism. Racks other than the MetroG-88 glassrack will cause some variations in the speed. The ADC-44 uses ten dogs to reduce this variation and give more consistent output.

If a clock timer is installed to act as a rack counter it can only record the amount of time the machine is operational. Nominal devices cannot sense an actual rack or differentiate between two racks. A timer can, however, accurately record the amount of time the machine uses chemicals and energy. By estimating the number of potential racks the conveyor is capable of processing in a given period, you can arrive at a rack/per approximation. Fortunately, the ADC rack-switch design operates only when a rack is present and shuts down mechanically when the rack exits. This will give closer rack/per figures than other styles of conveyor control devices. If there is an inaccuracy in the overall count, it will be ***less actual racks washed*** than the multiplied figure. **Note:** while the actual rack count might be less than the calculation, the estimated amount of chemicals, water and energy (over timer) will be correct.

ADS BULLETIN #022-44

Conveyor Dishmachines
Effective date 9/24/99

Subject: 3HP Wash Motor (#291-1002) – auxiliary shaft (#200-5040)

Action: Changed motor shaft to 7/8" dia. from original 5/8" dia., eliminated the auxiliary shaft, and added 1.5" dia. collars (#284-6203) for the existing seal. Motor part number remains the same as before.

Explanation: This 7/8" motor and collar sleeve are superseding parts for the 5/8" motor and auxiliary shaft, which are no longer used or sold. All replacement orders for motors will be filled with the 7/8" dia. motor and will include the 1.5" collar with O-rings (#298-6618), installed on the shaft. (**IMPORTANT:** The original auxiliary shaft will not be offered for repair orders, only on condition that the customer assumes responsibility for motor failure).

Instructions: Installation of the impeller is identical to prior procedures. The advantage of the new design is simplicity, instead of having to align two separate rotating shafts, only one shaft exists. This simplifies assemble and decreases the likelihood of misalignment. The collar sleeve is held in place by the impeller. The locking secure bolt (#098-1613) must be replaced each time it is used, do not reuse the secure bolt. This bolt holds the impeller in place, but only the key and keyway take up the rotational force on the impeller. Rotational alignment of the sleeve is more accurate than the former auxiliary shaft, and is accomplished by clearance and tolerance. The O-rings act as a seal for the shaft.

NOTE: Formerly, it was considered that alignment for the 3HP pump was so critical, no field service of the motor and auxiliary shaft would be performed. Auxiliary shafts were not sold for that reason. The manufacturer considered the motor and auxiliary shaft one integral part. All pinning and installation of the shaft was a factory procedure for liability reasons.

RLP

TECHNICAL SUPPORT BULLETIN

ADC-66 Update (Scrap Basket #285-6197)
11/20/00

The drain plug on the scrap basket of the power-scrap tank has been found to lodge in the drain socket. When this happens, the plug will wedge tight on the ridge of the taper. It will not remove by pulling, the fit is beyond clearance. ADS will replace this basket with one that has an enlarged groove machined on the taper plug. This groove forces the O-ring out 1/64th and takes up the clearance problem. The old basket should be returned to ADS for credit against the shipment of the replacement basket.

Service Note: The old basket can be removed by heating the lower drain socket at the bottom of the scrap tank to about 140°. Caution should be used not to damage gaskets or seals. By briefly passing a soldering torch over the drain socket, the temperature is raised until the basket can be pulled from the machine.

This bulletin covers machines made between March and November 2000 for part number #285-6197.

One of the code changes that allowed us to improve our dishwashers was an abatement to the FDA code requiring FDA approved gasket materials. The only FDA approved material is vegetable fiber which was not stable for our environment.

We are now allowed to use cork. Cork is a safe product and holds up against caustic and chlorines. We started with our conveyor and currently all dishmachine gaskets have changed (with the exception of the conveyor drip chute gasket) and are now made of cork. This should alleviate gasket field problems.

If you have a customer complaining about gaskets, you need to verify the date. I think you will find it is the vegetable fiber and is now corrected. Please make sure they understand that we had no material options until recently. We were mandated by code.