

ALTO SHAAM®

OPERATION and CARE MANUAL



TY-30
(countertop model)



TYSYS-30/RM
(revolving
merchandiser
on base)

HEATED DISPLAY CASE

MODELS: **TY-30**
TYSYS-30
TYSYS-30/RM

HALO  **HEAT. COOK/HOLD/SERVE SYSTEMS**



W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 U.S.A.

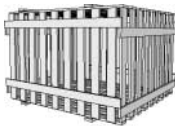
PHONE: 262.251.3800
800.558.8744 U.S.A./CANADA

FAX: 262.251.7067, 800.329.8744 U.S.A. ONLY
262.251.1907 INTERNATIONAL

WEBSITE:
www.alto-shaam.com

ALTO-SHAAM® HEATED DISPLAY CASES

UNPACKING and SET-UP



The Alto-Shaam hot display case has been thoroughly tested, checked for calibration, and inspected to insure only the highest quality cabinet is provided. When you receive your display case, check for any possible shipping damage and report it at once to the delivering carrier. See *Transportation Damage and Claims* section located in this manual.

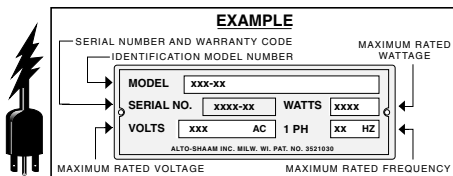
In order to maintain established National Sanitation Foundation standards, all stationary models must be sealed to the floor or counter with a R.T.V. or silastic meeting N.S.F. requirements or have 6" unobstructed clearance beneath the unit. Counter and table units must be mounted on legs of a sufficient 4" height to provide minimum unobstructed space beneath the unit. Legs are supplied with the unit. Warranty will become null and void if these directions are not followed.

Save all the information and instructions packed inside the display case. Complete and return the warranty card to the factory as soon as possible to assure prompt service in the event of a warranty parts and labor claim.

NOTE: Any and all claims for warranty must include the full model and serial number of the display case.

ELECTRICAL INSTALLATION

The unit must be installed by an authorized service agent in accordance with national codes.



1. An identification tag is permanently mounted on case.
2. Plug the case into a properly grounded receptacle **ONLY**. Arcing will occur when connecting or disconnecting the display case unless all controls are in the OFF position. Remember to position the unit so that the electric cord is easily accessible in case of an emergency.
3. **REGARDING INTERNATIONAL STANDARD UNITS:** If the unit is not equipped with flexible cord with plug, an all-pole country approved disconnection device which has a contact separation of at least 3mm in all poles must be incorporated in the fixed wiring for disconnection. When using a cord without a plug, the green/yellow conductor shall be connected to the terminal which is marked with the ground symbol. If a plug is used, the socket outlet must be easily accessible. If power cord needs replacement, use a similar one obtained from the distributor.

**ENSURE POWER SOURCE
MATCHES VOLTAGE STAMPED
ON NAMEPLATE OF UNIT**



START-UP PROCEDURES

1. Before operating the display case, clean both the interior and exterior of the unit with a damp cloth and mild soap

solution. Rinse carefully. Clean all window areas with a standard glass cleaner. Clean all detachable items.

2. Insert the stainless steel drip pan on the bottom interior surface of the rotating merchandiser.
3. This unit should **NOT** be installed in any area where it may be affected by steam, grease, dripping water, high temperatures or any other severely adverse conditions. Do not install directly adjacent to heat producing equipment.

OPERATIONAL PROCEDURES

1. **DO NOT ADD WATER TO THE UNIT.**
Halo Heat merchandisers maintain a constant but gentle temperature and eliminate much of the moisture loss associated with conventional merchandisers. Because of this gentle heat, it is not necessary to add water to the unit. As a matter of fact, **adding water is not recommended** since water will accelerate the deterioration of the product, and may damage the case.
2. **POSITION DIVIDERS and SERVING PANS in UNIT or PLACE BASKETS on ROTATING SPINDLE ARMS for ROTATING MERCHANDISER**
It is VERY important to note, no matter what type of pan configuration you choose, pan separator bars or divider bars must be used to close all gaps between pans, and all gaps between the pans and the edges of the display case. If these gaps are not closed, the heat will be pulled out of the bottom of the case, into the display area. As a consequence, heat distribution will be uneven and uniform temperature will be difficult to hold. If needed, additional pan divider bars are available.
3. **TURN DISPLAY LIGHTS "ON" AND SET THE THERMOSTAT AT NUMBER "10" TO PREHEAT**
An indicator light will illuminate when the thermostat is turned "ON." The indicator will remain lit as long as the unit is preheating or calling for heat. The unit should be preheated, at the number **10** setting, for a minimum of twenty minutes before loading the merchandiser with food. When preheating is completed, or whenever the unit reaches any temperature set by the operator between **1** and **10**, the indicator light will go "OUT".
4. **LOAD HOT FOODS INTO THE MERCHANDISER**
Be certain only hot food is transferred into the merchandiser. Before loading the food, use a pocket-type meat thermometer to make certain all products have reached an internal temperature of 150° to 160° F (66° to 71°C). If any food product is not at proper serving temperature, use a Halo Heat cooking and holding oven, or a Combitherm combination oven/steamer to bring the product within the correct temperature range.
5. **RESET THERMOSTAT AS NEEDED**
After all products are loaded into the merchandiser and the doors are closed, reset the thermostat to the number "8" setting. *THIS WILL NOT NECESSARILY BE THE FINAL SETTING.* Since proper temperature range depends on the type of products and the quantities being

held, it is necessary to periodically use a pocket thermometer to check each item to make certain the correct temperatures are being maintained. Proper temperature range is between 150° and 160°F (66° and 71°C). Normally, this will require a thermostat setting of between number “6” and “8,” although a higher or lower setting may sometimes be required. The full service unit always requires a higher setting.

6. SERVE FRESH HOT FOOD

Keep foods looking fresh. Occasionally stir or rotate foods as needed. Serve products in the proper heat tested package or container. Keep merchandiser doors closed after serving. Wipe spills immediately to assure maximum eye appeal, and to ease end of the day cleanup.

CARE and CLEANING

The cleanliness and appearance of this unit will contribute considerably to operating efficiency and savory, appetizing food. Good equipment that is kept clean works better and lasts longer.



THOROUGHLY CLEAN THE MERCHANDISER DAILY

1. Turn lights and adjustable thermostat to the “OFF” position. Disconnect unit from the power source.
2. Remove, cover or wrap, and store unused products under refrigeration.
3. Remove all detachable items such as pan separator bars, pans, baskets, etc. Clean these items separately.
4. Clean the interior metal surfaces with a damp cloth and any good alkaline or alkaline chlorinated based commercial detergent or grease solvent at the recommended strength. Use a plastic scouring pad or an approved oven cleaner for difficult areas. Avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. Rinse carefully to remove all residue and wipe dry. Clean glass with a window cleaner.



NOTE: Never use hydrochloric acid (muriatic acid) on stainless steel.

5. To help maintain the protective film coating on polished stainless steel, clean the exterior of the unit with a cleaner recommended for stainless steel surfaces. Spray the cleaning agent on a clean cloth and wipe with the grain of the stainless steel.

Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for equipment.

At no time should the inside or outside of the unit be washed down, flooded with water or liquid solution. Do not use water jet to clean. NEVER STEAM CLEAN. Severe damage or electrical hazard could result, voiding the warranty.



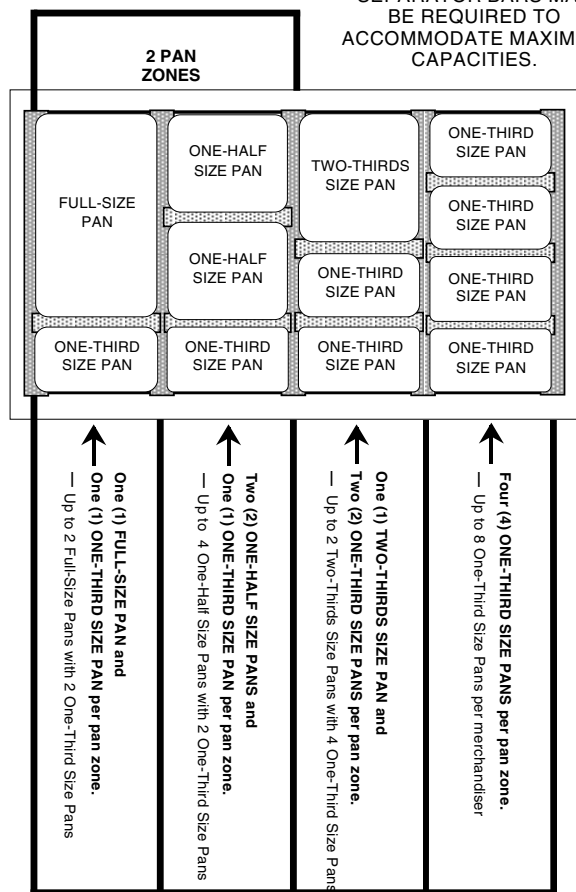
Always disconnect unit from power source before cleaning or servicing.



Hood glass extended to the full upright position is stabilized through the use of gas struts designed for the full load bearing weight. These struts could weaken or fail due to wear, environmental conditions or aging. Operators should be aware of any decrease in effort to lift the hood and initiate an immediate gas strut safety check. **DO NOT LIFT THE HOOD IN THIS CONDITION.**

PAN CONFIGURATIONS

NOTE: ADDITIONAL PAN SEPARATOR BARS MAY BE REQUIRED TO ACCOMMODATE MAXIMUM CAPACITIES.



Pan Separator Bars

- Full-size (long).....11317
3 needed (center & both sides)
- Half-size/Third-size.....11318

SANITATION GUIDELINE

Food flavor and aroma are usually so closely related that it is difficult, if not impossible, to separate them. There is also an important, inseparable relationship between cleanliness and food flavor. Cleanliness, top operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods. Good equipment that is kept clean, works better and lasts longer.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption, there is no distinction between *GOOD* and *BAD* odors. The majority of objectionable flavors and odors troubling food service operations are caused by bacteria growth. Sourness, rancidity, mustiness, stale or other *OFF* flavors are usually the result of germ activity.

The easiest way to insure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A thorough approach to sanitation will provide essential cleanliness. It will assure an attractive appearance of equipment, along with maximum efficiency and utility. More importantly, good sanitation programs provide a key element in the prevention of food-borne illnesses.

A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

The most accurate method of measuring safe temperatures of both hot and cold food is by internal product temperature. A quality thermometer is an effective tool for this purpose, and should be

routinely used on all products that require holding at a specific temperature.

A comprehensive sanitation program should focus on the training of staff in basic sanitation procedures. This includes personal hygiene, proper handling of raw foods, cooking to a safe internal product temperature, and the routine monitoring of internal temperatures from receiving through service.

Most food-borne illnesses can be prevented through proper temperature control and a comprehensive program of sanitation. Both these factors are important to build quality service as the foundation of customer satisfaction. Safe food handling practices to prevent food-borne illness is of critical importance to the health and safety of your customers. HACCP, an acronym for Hazard Analysis (at) Critical Control Points, is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices are both cost effective and relatively simple. While HACCP guidelines go far beyond the scope of this manual, additional information is available by contacting the USDA/FDA Food-borne Illness Education Information Center at (301)504-6803.

INTERNAL FOOD PRODUCT TEMPERATURES		
HOT FOODS		
DANGER ZONE	40° TO 140°F	(4° TO 60°C)
CRITICAL ZONE	70° TO 120°F	(21° TO 49°C)
SAFE ZONE	140° TO 165°F	(60° TO 74°C)
COLD FOODS		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36°F TO 40°F	(2°C TO 4°C)
FROZEN FOODS		
DANGER ZONE	ABOVE 32°F	(ABOVE 0°C)
CRITICAL ZONE	0° TO 32°F	(-18° TO 0°C)
SAFE ZONE	0°F OR BELOW	(-18°C OR BELOW)

GENERAL HOLDING GUIDELINE

Chefs, cooks and other specialized food service personnel employ varied methods of cooking. Proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Halo Heat maintains the maximum amount of product moisture content without the addition of water, water vapor, or steam. Maintaining maximum natural product moisture preserves the natural flavor of the product and provides a more genuine taste. In addition to product moisture retention, the gentle properties of Halo Heat maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation or dehydration.

In an enclosed holding environment, too much moisture content is a condition which can be relieved. A product achieving extremely high temperatures in preparation must be allowed to decrease in temperature before being placed in a controlled holding atmosphere. If the product is not allowed to decrease in temperature, excessive condensation will form increasing the moisture content on the outside of the product.

Most Halo Heat Holding Equipment is provided with a thermostat control between 60° and 200°F (16° to 93°C). If the unit is equipped with vents, close the vents for moist holding and open the vents for crisp holding.

If the unit is equipped with a thermostat indicating a range of between 1 and 10, use a metal-stemmed indicating thermometer to measure the internal temperature of the product(s) being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

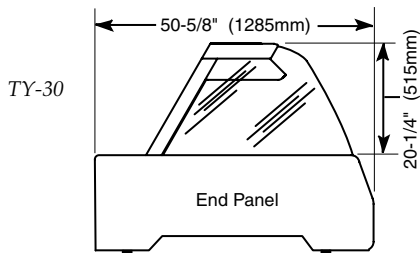
HOLDING TEMPERATURE RANGE		
	FAHRENHEIT	CELSIUS
MEAT		
BEEF ROAST — Rare	140°F	60°C
BEEF ROAST — Med/Well Done	160°F	71°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	140°F	60°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
VEAL	160° — 175°F	71° — 79°C
HAM	160° — 175°F	71° — 79°C
PORK	160° — 175°F	71° — 79°C
LAMB	160° — 175°F	71° — 79°C
POULTRY		
CHICKEN — Fried/Baked	160° — 175°F	71° — 79°C
DUCK	160° — 175°F	71° — 79°C
TURKEY	160° — 175°F	71° — 79°C
GENERAL	160° — 175°F	71° — 79°C
FISH/SEAFOOD		
FISH — Baked/Fried	160° — 175°F	71° — 79°C
LOBSTER	160° — 175°F	71° — 79°C
SHRIMP — Fried	160° — 175°F	71° — 79°C
BAKED GOODS		
BREADS/ROLLS	120° — 140°F	49° — 60°C
MISCELLANEOUS		
CASSEROLES	160° — 175°F	71° — 79°C
DOUGH — Proofing	80° — 100°F	27° — 38°C
EGGS — Fried	150° — 160°F	66° — 71°C
FROZEN ENTREES	160° — 175°F	71° — 79°C
HORS D'OEUVRES	160° — 180°F	71° — 82°C
PASTA	160° — 180°F	71° — 82°C
PIZZA	160° — 180°F	71° — 82°C
POTATOES	180°F	82°C
PLATED MEALS	180°F	82°C
SAUCES	140° — 200°F	60° — 93°C
SOUP	140° — 200°F	60° — 93°C
VEGETABLES	160° — 175°F	71° — 79°C

The holding temperatures listed are suggested guidelines only.

Options & Accessories


- Cordset, independent circuit (NOT CSA APPROVED) .14221
- Custom Panel ColorsFACTORY QUOTE
- Interior Ambient Temperature Gauge[GU-33384](#)
- Pocket Thermometer °FTH-3300
- Pocket Thermometer °C[TH-3412](#)
- Tempered Glass End Spacer[GL-22719](#)
- Reflective Tempered Glass Case End Panes
- RIGHT-HAND[GL-22539](#)
- LEFT-HAND[GL-22538](#)
- Scale Platform[.14102](#)
- Stainless Steel End Patch Assembly Kit14600

- INCLUDES:
- Right Hand S/S End Patch[.12559](#)
 - Left Hand S/S End Patch[.12560](#)
 - C-Rubber Frame Gasket, 2' (610mm)[.FR-22496](#)
- Pan Separator Bars
- Full-size (LONG)[.11317](#)
 - Half-size/Third size (SHORT)[.11318](#)




SAFETY ALERT


This units performance has been optimized using the factory provided bulbs. These bulbs should be replaced with an exact replacement or with a factory recommended replacement. These bulbs have been treated to resist breakage and must be replaced with similarly treated bulbs in order to maintain compliance with NSF standards.



CAUTION



CAUTION



CAUTION

Hood glass extended to the full upright position is stabilized through the use of gas struts designed for the full load bearing weight. These struts could weaken or fail due to wear, environmental conditions or aging.

Operators should be aware of any decrease in effort to lift the hood and initiate an immediate gas strut safety check.

DO NOT LIFT THE HOOD IN THIS CONDITION.

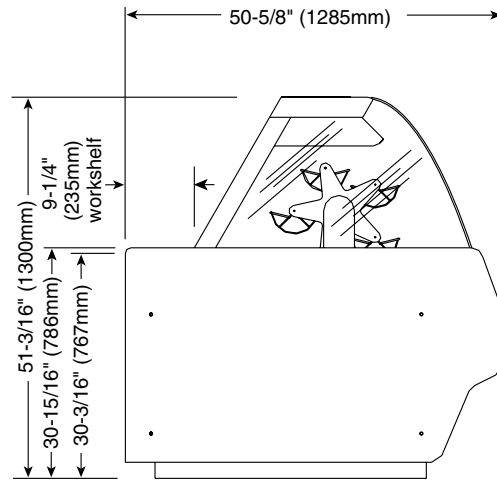
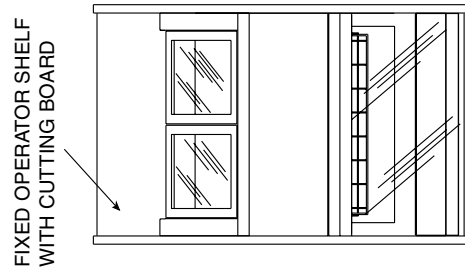
Heat Cable Replacement Service Kit	4878
for TY-30	
includes:	
CB-3045 Cable Heating Element	72 feet
CR-3226 Ring Connector	4
IN-3488 Insulation Corner	1 foot
BU-3105 Shoulder Bushing	4
BU-3106 Cup Bushing	4
SL-3063 Insulating Sleeve	4
TA-3540 Electrical Tape	1 roll
NU-2215 Hex Nut	8
ST-2439 Stud	4

TYSYS-30/RM
(revolving merchandiser on base)

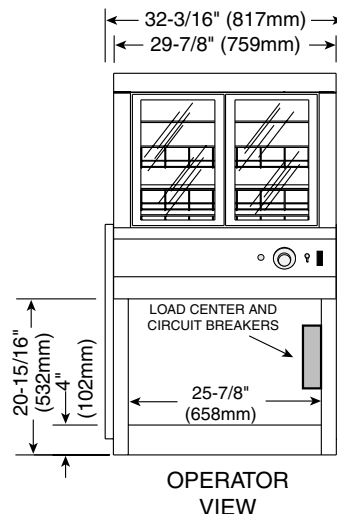


control side

TOP VIEW



SIDE VIEW



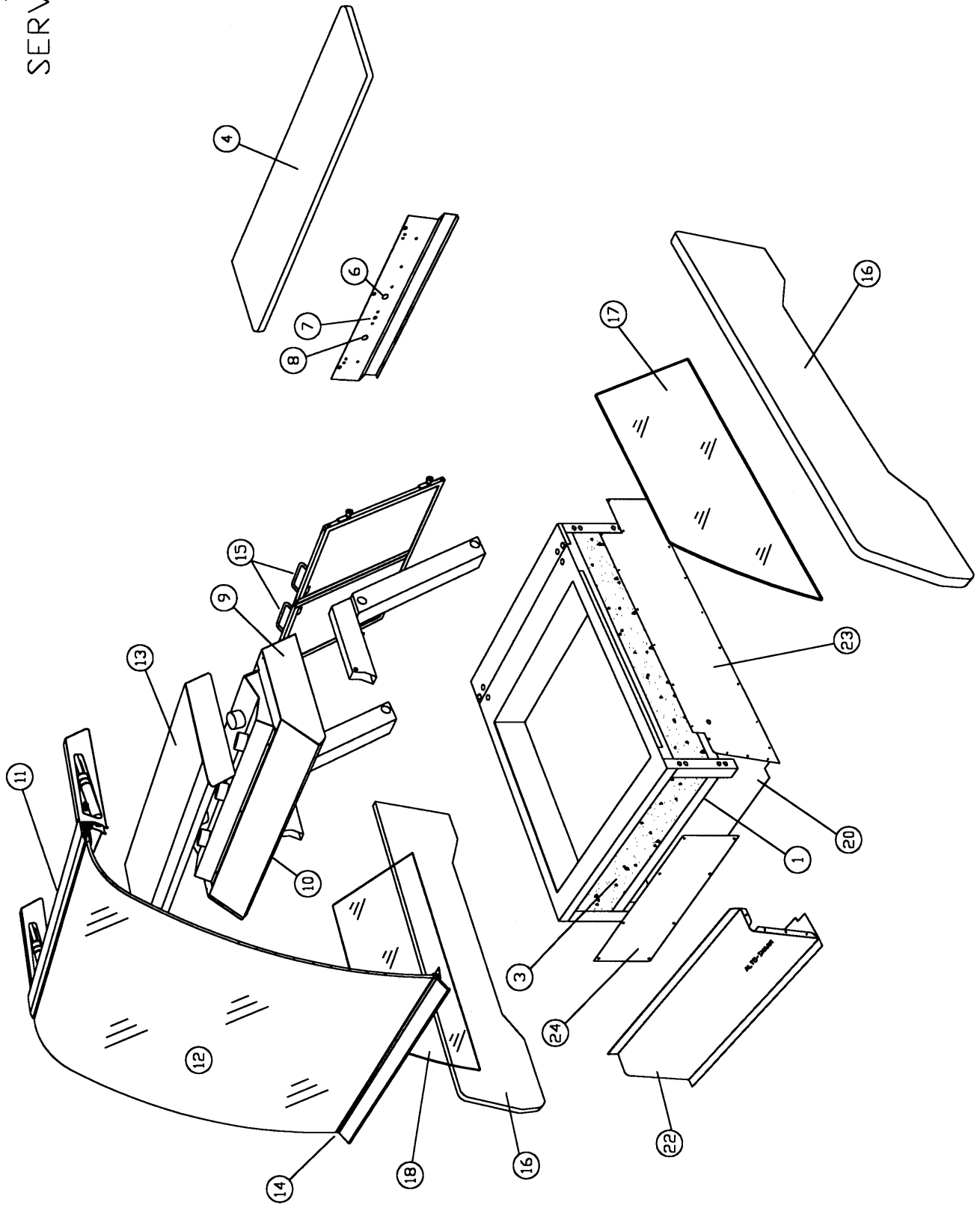
TY-30 - Service Parts • see Page 6

12/22/00	PART DESCRIPTION	QTY	A/S PT. NO.
1.	HEATING CABLE, 66' (20117mm)	1	CB-3045
2.	TERMINAL BLOCK, 4x10-32 SCREW (NOT SHOWN) 120V	1	BK-3023
	T-BLOCK MOUNTING SCREWS	2	SC-2077
	T-BLOCK MOUNTING NUTS	2	NU-2296
	TERMINAL BLOCK, 4 COMPRESS (NOT SHOWN) 230V	1	BK-3597
	T-BLOCK MOUNTING SCREWS	2	SC-2365
3.	INSULATION, 1.5"x25.5"x60" (38mmX648mmX1524mm)	1	IN-22364
4.	CUTTING BOARD ASSEMBLY -INCLUDES:	1	14759
	CUTTING BOARD	1	BA-23973
	CUTTING BOARD MTG. SCREWS	4	SC-24520
	CUTTING BOARD PINS	2	PI-22508
5.	CORD, SJEOW-A,12/4(120V)8'(2438mm)(NOT SHOWN)	1	CD-3291
	CORD, H07RN-F3G4,HARMON, 12/3(230V)8'(2438mm)	1	CD-33490
	CORD CONNECTOR, 120V	1	CR-3293
	CORD STRAIN RELIEF BUSHING, 230V	1	BU-33505
	PLUG, 30A, 120V USE ONLY	1	PG-3267
6.	INDICATOR LIGHT, 120V	1	LI-3025
	INDICATOR LIGHT, 230V	1	LI-3951
	INDICATOR LIGHT MOUNTING NUT	1	NU-3335
7.	THERMOSTAT	1	TT-3498
	THERMOSTAT BEZEL	1	TT-3713
	THERMOSTAT KNOB	1	KN-3473
	THERMOSTAT MTG. SCREWS	2	SC-2254
	THERMOSTAT MTG. WASHER	1	WS-22025
8.	LIGHT SWITCH	1	SW-3616
	RUBBER BOOT, 230V	1	SL-2633
9.	INNER TOP ASSEMBLY - 120V, 230V	1	15839
	-INCLUDES:	1	
	HINGE ASSEMBLIES	2	HG-22486
	HINGE ASSEMBLY MTG SCREWS	8	SC-2425
	STRUT PAK BODIES	2	13149
	95 LB. STRUTS, RED	2	SU-24021
	PIVOT PINS	2	PI-23679
	HINGE ANCHOR PINS	4	PI-23678
	PIVOT HINGES	2	HG-23816
	END PLUGS	4	PG-2899
	NYLON BUSHINGS	4	BU-2827
10.	BULBS - 120V (NOT SHOWN)	6	LP-33592
	BULBS - 230V	6	LP-3384
	BULB RECEPTACLES, 120V	6	RP-3952
	BULB RECEPTACLES, 230V	6	RP-3955
11.	GLASS CLAMP ASSEMBLY	1	CM-23971
12.	GLASS, FULL SERVICE	1	GL-23965
13.	OUTER TOP SPOT ASSEMBLY	1	14498
	OUTER TOP MOUNTING SCREWS	3	SC-2459
14.	GLASS FRAME HANDLE	1	1236
	FRAME, GASKET, EXTRUSION	1	FR-22496
15.	RIGHT HAND GLASS DOOR ASSEMBLY	1	14496
	LEFT HAND GLASS DOOR ASSEMBLY	1	14495
	DOOR ASSEMBLY MTG. SCREWS	8	SC-2352
	DOOR BUMPERS	2	BM-22039
	DOOR REST	1	13497
	DOOR REST MTG. SCREWS	3	SC-2425
	FRAME, GASKET, EXTRUSION, 23-1/4" (591mm)	1	FR-22496
16.	END PANEL	2	PE-22585
	PANEL MTG. HINGE	8	HG-22672
	PANEL MTG. SCREW	8	SC-2073
17.	LEFT HAND END GLASS, CLEAR	1	GL-22479
18.	RIGHT HAND END GLASS, CLEAR	1	GL-22479
	END GLASS GASKET, 2-1/2"(762mm)(NOT SHOWN)	2	GS-22547
19.	LEGS, W/ADJUSTABLE FOOT (NOT SHOWN)	4	LG-22686
20.	BOTTOM	1	1212
21.	PAN DIVIDERS, LONG (NOT SHOWN)	1	11317
	PAN DIVIDERS, SHORT (NOT SHOWN)	4	11318
22.	CUSTOMER TOP DECOR ASSEMBLY	1	14757
23.	BASE SIDE	2	12155
24.	WELL FRONT PANEL	1	1234

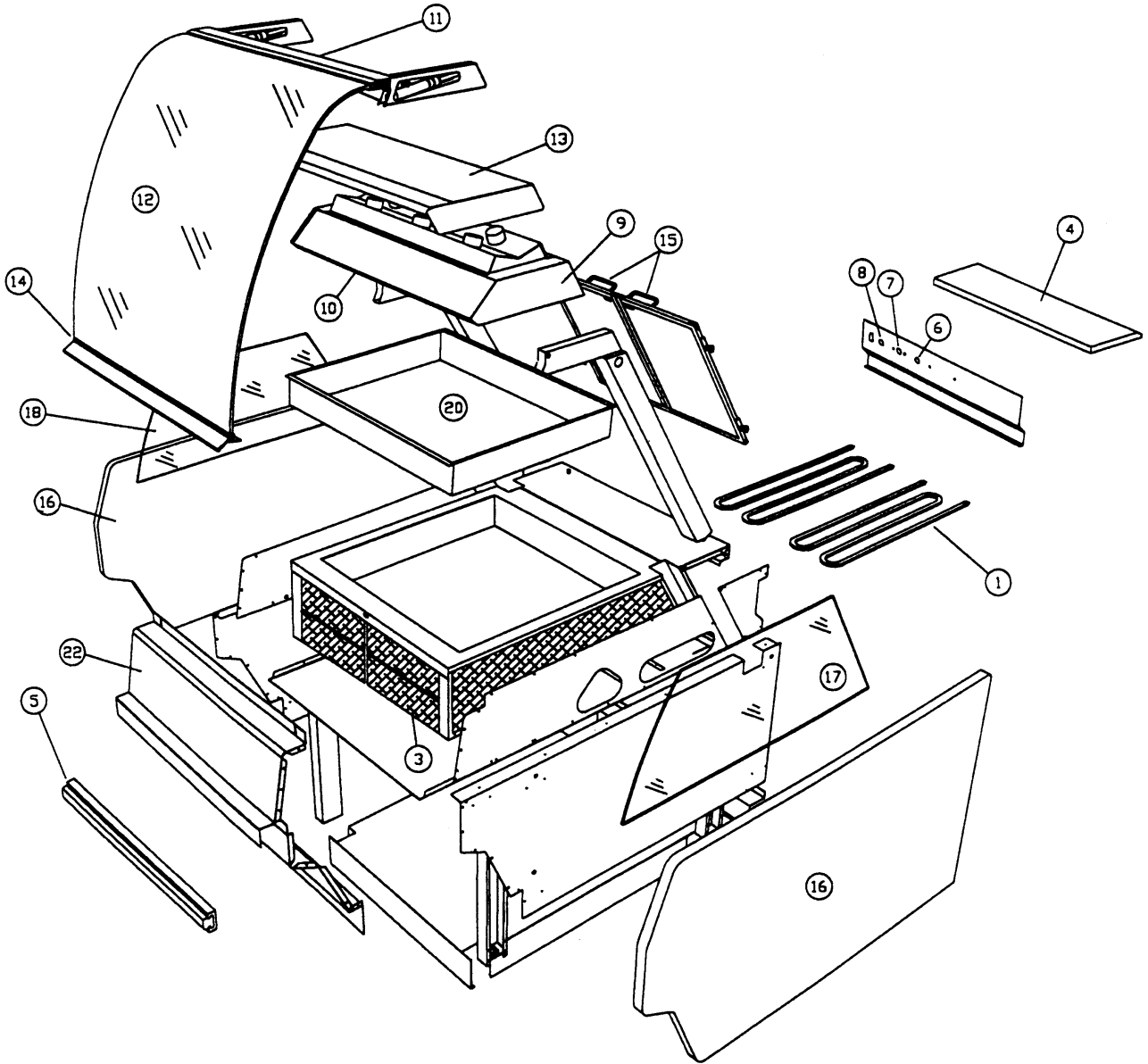
TYSYS-30 - Service Parts • see Page 7

12/22/00	PART DESCRIPTION	QTY	A/S PT. NO.
1.	HEATING ELEMENTS	2	EL-33247
2.	CIRCUIT LOAD CENTER (NOT SHOWN)	1	CI-3877
	10-32 X 1/2 SLOTTED MTG. SCREWS	4	SC-2070
	10-32 X 1/2 PHILLIP TRUSS MTG. SCREWS	4	SC-2661
	10-32 MTG. HEX NUTS	4	NU-2215
	#10 INTERNAL TOOTH MTG. LOCK WASHERS	4	WS-2467
	TANDEM CIRCUIT BREAKER	1	CI-3879
	CIRCUIT GROUND BAR KIT	1	CI-3878
	CONDUIT TUBING, 9" (229mm)	1	TU-3874
	CONDUIT MTG. CONNECTORS	2	CR-3293
3.	INSULATION - INNER WELL	3	IN-2003
	INSULATION - UNDER WELL	1	IN-22364
4.	CUTTING BOARD ASSEMBLY -INCLUDES:	1	14759
	CUTTING BOARD	1	BA-23973
	CUTTING BOARD MTG. SCREWS	4	SC-24520
	CUTTING BOARD PINS	2	PI-22508
5.	BUMPER RAIL	1	13518
	BUMPER RAIL MTG. SCREWS	5	SC-2077
	BUMPER INSERT, 30" (762mm)	1	BM-22721
6.	INDICATOR LIGHT, 120V	1	LI-3025
	INDICATOR LIGHT, 230V	1	LI-3951
	INDICATOR MOUNTING NUT	1	NU-3335
7.	THERMOSTAT	1	TT-3498
	THERMOSTAT BEZEL	1	TT-3713
	THERMOSTAT KNOB	1	KN-3473
	THERMOSTAT MTG. SCREWS	2	SC-2254
	THERMOSTAT MTG. WASHER	1	WS-22025
8.	LIGHT SWITCH	1	SW-3616
	RUBBER BOOT, 230V	1	SL-2633
9.	INNER TOP ASSEMBLY - 120V, 230V, INCLUDES:	1	15595
	HINGE ASSEMBLIES	2	HG-23969
	HINGE ASSEMBLY MTG SCREWS	8	SC-2425
	STRUT PAK BODIES	2	13149
	95 LB. STRUTS, RED	2	SU-24021
	PIVOT PINS	2	PI-23679
	HINGE ANCHOR PINS	4	PI-23678
	PIVOT HINGES	2	HG-23816
	END PLUGS	4	PG-2899
	NYLON BUSHINGS	4	BU-2827
10.	BULBS - 120V	6	LP-33592
	BULBS - 230V	6	LP-3384
	BULB RECEPTACLES, 230V	6	RP-3955
	BULB RECEPTACLES, 120V	6	RP-3952
11.	GLASS CLAMP ASSEMBLY	1	CM-23971
12.	GLASS, FULL SERVICE	1	GL-23965
13.	OUTER TOP SPOT ASSEMBLY	1	14498
	OUTER TOP MOUNTING SCREWS	3	SC-2459
14.	FRAME, HANDLE, GLASS	1	13517
	FRAME, GASKET, EXTRUSION, 54" (1143mm)	1	FR-22496
15.	RIGHT HAND GLASS DOOR ASSEMBLY	1	14496
	LEFT HAND GLASS DOOR ASSEMBLY	1	14495
	DOOR ASSEMBLY MTG. SCREWS	8	SC-2352
	DOOR BUMPERS	2	BM-22039
	DOOR REST	1	13497
	DOOR REST MTG. SCREWS	3	SC-2425
	DOOR EXTRUSION, 23-1/4" (591mm)	1	FR-22496
16.	PATCH END PANELS	2	PE-23966
	PANEL MTG. NUTS	8	NU-2866
	PANEL MTG. SCREWS	8	SC-23987
	PANEL MTG. FLAT WASHERS	8	WS-23725
	PANEL MTG. LOCK WASHERS	8	WS-2867
17.	LEFT HAND GLASS, CLEAR	1	GL-22479
18.	RIGHT HAND GLASS, CLEAR	1	GL-22479
19.	LEVELING SCREW/BOLT (NOT SHOWN)	4	SC-2242
20.	INSERT PAN, 4" (102mm)	1	13593
21.	PAN DIVIDERS, LONG (NOT SHOWN)	3	11317
	PAN DIVIDERS, SHORT (NOT SHOWN)	6	11318
22.	CUSTOMER SIDE TOP DECOR	1	13478
23.	END GLASS GASKET, 60" (1524mm)(NOT SHOWN)	1	GS-22547

TY-30
SERVICE VIEW



TYSYS-30
SERVICE VIEW

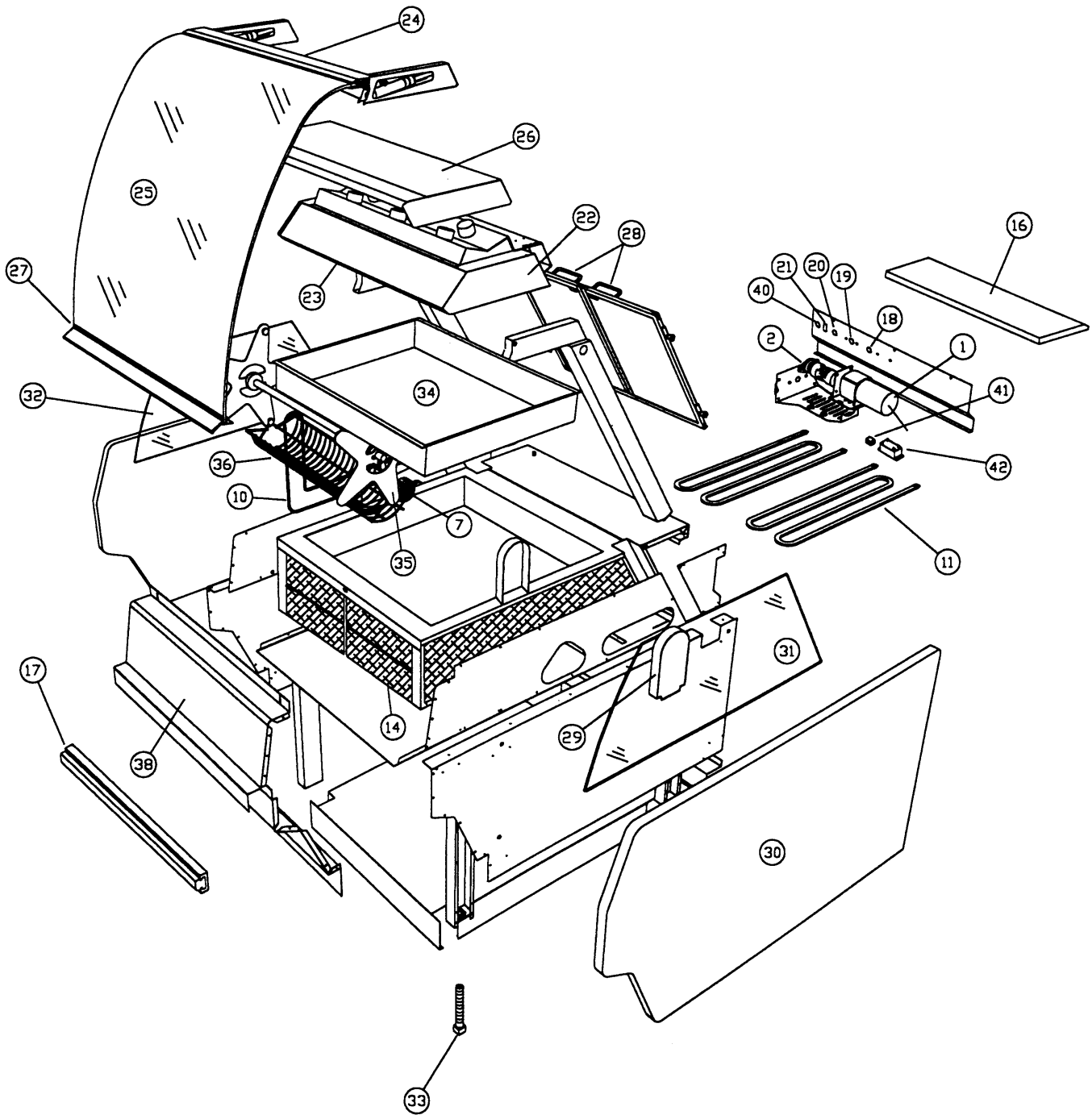


Q:\SM\TYSY30.DWG
3/31/98 RS
1-3/4" = 1"

TYSYS-30/RM - Service Parts • see next page

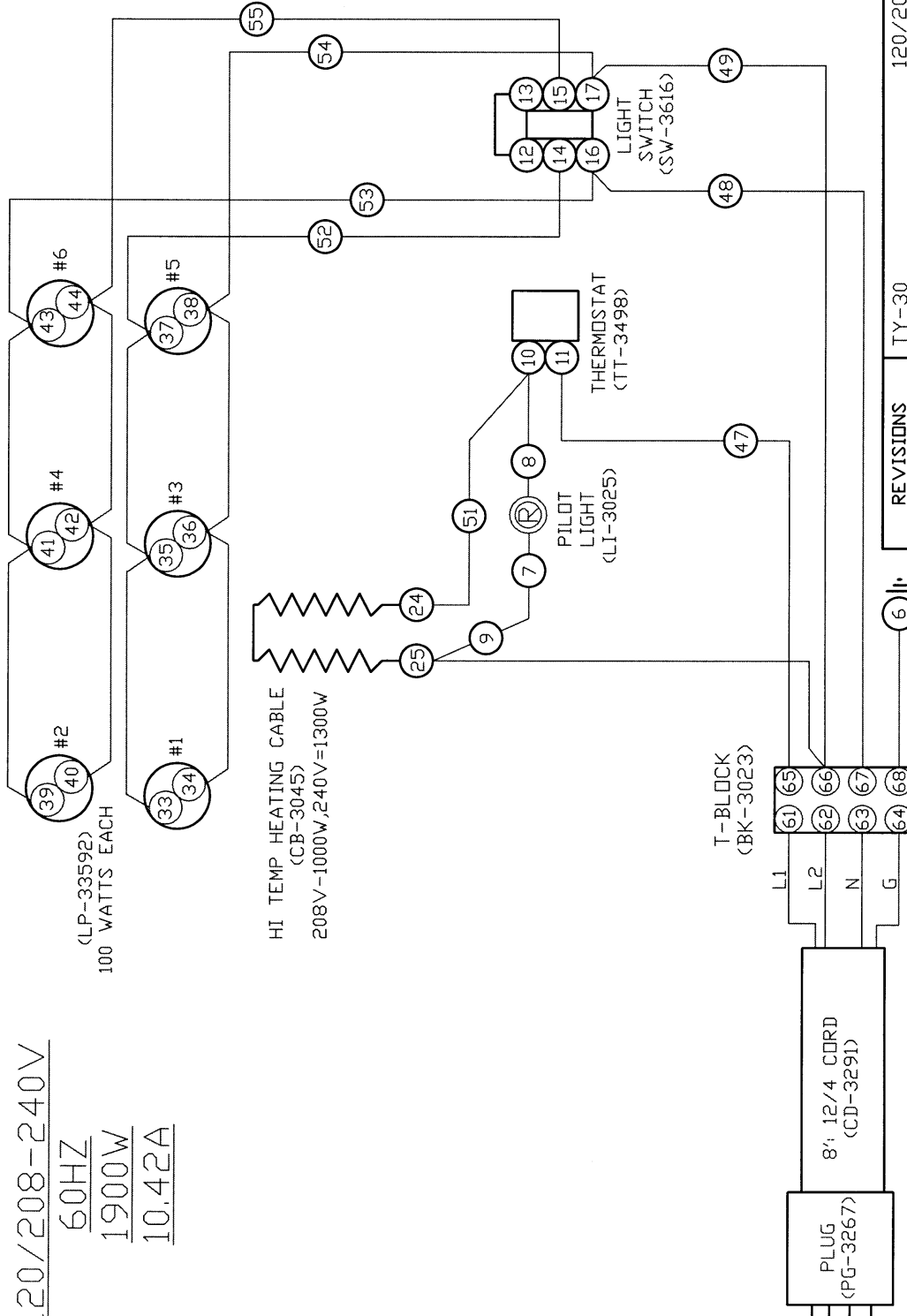
12/22/00						
	PART DESCRIPTION	QTY	A/S PT. NO.	PART DESCRIPTION	QTY	A/S PT. NO.
1.	MOTOR MOUNT SUB ASSEMBLY, (NOT SHOWN)	1	14501	17. BUMPER RAIL	1	13518
	MOTOR	1	MO-33383	BUMPER RAIL MTG. SCREWS	5	SC-2077
	MOTOR MOUNT MTG. FLAT WASHERS	8	WS-22094	BUMPER INSERT, 30" (762mm)	1	BM-22721
	MOTOR MOUNT MTG. LOCK WASHERS	4	WS-2294	18. INDICATOR LIGHT, 120V	1	LI-3025
	MOTOR MOUNT MTG. NUTS	4	NU-2437	INDICATOR LIGHT, 230V	1	LI-3951
2.	SLIDING MOTOR MOUNT ASSEMBLY	1	14502	INDICATOR MOUNTING NUT	1	NU-3335
	SLIDING MOUNT MTG. SCREWS	4	SC-22144	19. THERMOSTAT	1	TT-3498
	SLIDING MOUNT MTG. WASHERS	8	WS-23982	THERMOSTAT BEZEL	1	TT-3713
	SLIDING MOUNT MTG. NUTS	8	NU-23984	THERMOSTAT KNOB	1	KN-3473
	SLIDING MOUNT MTG. SLEEVE BEARINGS	4	BG-23975	THERMOSTAT MTG. SCREWS	2	SC-2254
3.	BEARING PLATE ASSEMBLY (NOT SHOWN)	1	14494	THERMOSTAT MTG. WASHER	1	WS-20205
	PLAIN SLEEVE PLATE BEARINGS	2	BG-23976	20. LIGHT SWITCH	1	SW-3616
	BEARING PLATE ASSB. MTG. SCREWS	4	SC-22729	RUBBER BOOT, 230V	1	SL-2633
	BEARING PLATE ASSB. MTG. FLAT WASHERS	4	WS-22094	21. ROTISSERIE POWER SWITCH	1	SW-3409
	BEARING PLATE ASSB. MTG. LOCK WASHERS	4	WS-2294	22. INNER TOP ASSEMBLY, 120V, 230V	1	15572
4.	DRIVE SPROCKET (NOT SHOWN)	2	SO-23569	INCLUDES:		
	SPROCKET BEARING	1	BG-23976	DOOR SWITCH	2	SW-33271
	SPROCKET SHAFT	1	SC-23977	HINGE ASSEMBLIES	2	HG-23969
	SPROCKET SPACER	1	WS-23982	HINGE ASSEMBLY MTG. SCREWS	8	SC-2425
5.	INNER DRIVE BEARING ASSEMBLY	1	14860	STRUT PAK BODIES	2	13149
	BEARING PLATE TO SPROCKET ASSEMBLY			95 LB. STRUTS, RED	2	SU-24021
	MOUNTING NYLON WASHER (NOT SHOWN)	1	WS-23982	PIVOT PINS	2	PI-23679
	BEARING PLATE TO SPROCKET			HINGE ANCHOR PINS	4	PI-23678
	ASSEMBLY MTG. FLAT WASHER	1	WS-23991	PIVOT HINGES	2	HG-23816
	BEARING PLATE TO SPROCKET ASSEMBLY			END PLUGS	4	PG-2899
	MTG. NUT	1	NU-23985	NYLON BUSHINGS	4	BU-2827
6.	MOTOR DRIVE BEARING (NOT SHOWN)	1	BG-23642	23. BULBS, 120V	6	LP-33592
	DRIVE BEARING MTG. NUTS	4	NU-2215	BULBS, 230V	6	LP-3384
	DRIVE BEARING MTG. WASHERS	4	WS-2467	BULB RECEPTACLES, 230V	6	RP-3955
	DRIVE BEARING MTG. SCREWS	4	SC-23670	BULB RECEPTACLES, 120V	6	RP-3952
7.	DRIVE LUG & SHAFT ASSEMBLY	1	SO-23646	24. GLASS CLAMP ASSEMBLY	1	CM-23971
	DRIVE LUG SPROCKET	1	SO-23569	25. GLASS. FULL SERVICE	1	GL-23965
	DRIVE LUG SPROCKET KEY	2	SO-23647	26. OUTER TOP SPOT ASSEMBLY	1	14498
8.	IDLER SPROCKET SCREW SHAFT (NOT SHOWN)	1	SC-2162	OUTER TOP MOUNTING SCREWS	3	SC-2459
	IDLER SPROCKET LOCK WASHERS	3	WS-2467	27. GLASS FRAME HANDLE	1	13517
	IDLER SPROCKET SPACERS	3	SP-23983	FRAME, GASKET, EXTRUSION, 54" (1372mm)	1	FR-22496
	IDLER SPROCKET	1	SO-23980	28. RIGHT HAND GLASS DOOR ASSEMBLY	1	14496
	IDLER SPROCKET SLEEVE BEARING	1	BG-23981	LEFT HAND GLASS DOOR ASSEMBLY	1	14495
9.	COMPRESSION SPRING (NOT SHOWN)	1	SD-23974	DOOR ASSEMBLY MOUNTING SCREWS	8	SC-2352
	COMPRESSION SPRING CLEVIS PIN	1	PI-23978	DOOR BUMPERS	2	BM-22039
	COMPRESSION SPRING CLEVIS CLIP	1	CL-23979	DOOR REST	1	13497
10.	DRIVE CHAIN	1	CH-23993	DOOR REST MOUNTING SCREWS	3	SC-2425
	DRIVE CHAIN LINK	1	CH-23640	DOOR EXTRUSION, 23-1/4" (591mm)	1	FR-22496
11.	HEATING ELEMENTS	2	EL-33247	DOOR SWITCH	2	SW-33271
12.	CIRCUIT LOAD CENTER (NOT SHOWN)	1	CI-3877	29. DRIVE TOWER COVER ASSEMBLIES	2	14497
	10-32 X 1/2 SLOTTED MTG. SCREWS	4	SC-2070	DRIVE TOWER COVER MTG. SCREWS	4	SC-2459
	10-32 X 1/2 PHILLIP TRUSS MTG. SCREWS	4	SC-2661	30. PATCH END PANELS	2	PE-23966
	10-32 MTG. HEX NUTS	4	NU-2215	PANEL MOUNTING NUTS	8	NU-2866
	#10 INTERNAL TOOTH MTG. LOCK WASHERS	4	WS-2467	PANEL MOUNTING SCREWS	8	SC-23987
	TANDEM CIRCUIT BREAKER	1	CI-3879	PANEL MOUNTING FLAT WASHERS	8	WS-23725
	CIRCUIT GROUND BAR KIT	1	CI-3878	PANEL MOUNTING LOCK WASHERS	8	WS-2867
	CONDUIT TUBING, 9" (229mm)	1	TU-3874	31. LEFT HAND END GLASS, CLEAR	1	GL-22479
	CONDUIT MTG. CONNECTORS	2	CR-3293	32. RIGHT HAND END GLASS, CLEAR	1	GL-22479
13.	FAN DEFLECTOR (NOT SHOWN)	1	13479	33. LEVELING SCREWS/BOLTS	4	SC-2242
	FAN, 120-230V	1	FA-3974	34. INSERT PAN	1	13508
	MOUNTING SCREWS	6	SC-2661	35. ROTISSERIE SPINDLE ASSEMBLY	1	15292
14.	INSULATION - INNER WELL	3	IN-2003	36. ROTISSERIE BASKETS	5	BS-23645
	INSULATION - UNDER WELL	1	IN-22364	37. PAN DIVIDERS, LONG (NOT SHOWN)	3	11317
16.	CUTTING BOARD ASSEMBLY -INCLUDES:	1	14759	PAN DIVIDERS, SHORT (NOT SHOWN)	6	11318
	CUTTING BOARD	1	BA-23973	38. CUSTOMER SIDE TOP DECOR	1	13478
	CUTTING BOARD MTG. SCREWS	4	SC-24520	39. END GLASS GASKET, 60" (1524mm) (NOT SHOWN)	2	GS-22547
	CUTTING BOARD PINS	2	PI-22508	40. ROTISSERIE BALANCE RESET SWITCH	1	SW-33495
				41. ROTISSERIE BALANCE BASIC SWITCH	1	SW-33494
				42. ROTISSERIE BALANCE RELAY	1	RL-33493

TYSYS-30/RM
SERVICE VIEW



Q:\SM\TYSY30RM.DWG
02/10/99 JMM

120/208-240V
 60HZ
 1900W
 10.42A



REVISIONS		TY-30		120/208-240V, 60HZ	
NO.	DATE	BY			
1	03/29/99	JMM			
2	01/15/01	Nw/W			
3					
4					
5					

WIRING DIAGRAM

ALTO-SHAAM INC.
 MENOMONEE FALLS, WISCONSIN

DRAWN BY RS SCALE NONE DWG. NO.
 APP'D DAR DATE 3/31/98 A-7481

NOTE 1 : ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
 NOTE 2: SEE DRAWING # A-8848 FOR WIRE ASSEMBLIES.

$\frac{230V}{50HZ}$
 $\frac{1700W}{9.78A}$

100 WATTS EACH
(LP-3384)

HI TEMP HEATING CABLE
(CB-3045)
230V-1100W

BARE END

8' 12/3 CORD (CD-33490)

T-BLOCK
(BK-3597)

G N L1

PILOT LIGHT
(LI-3951)

THERMOSTAT
(TT-3498)

LIGHT SWITCH
(SW-3616)

WIRING DIAGRAM

MODELS: TY-30 230V, 50HZ

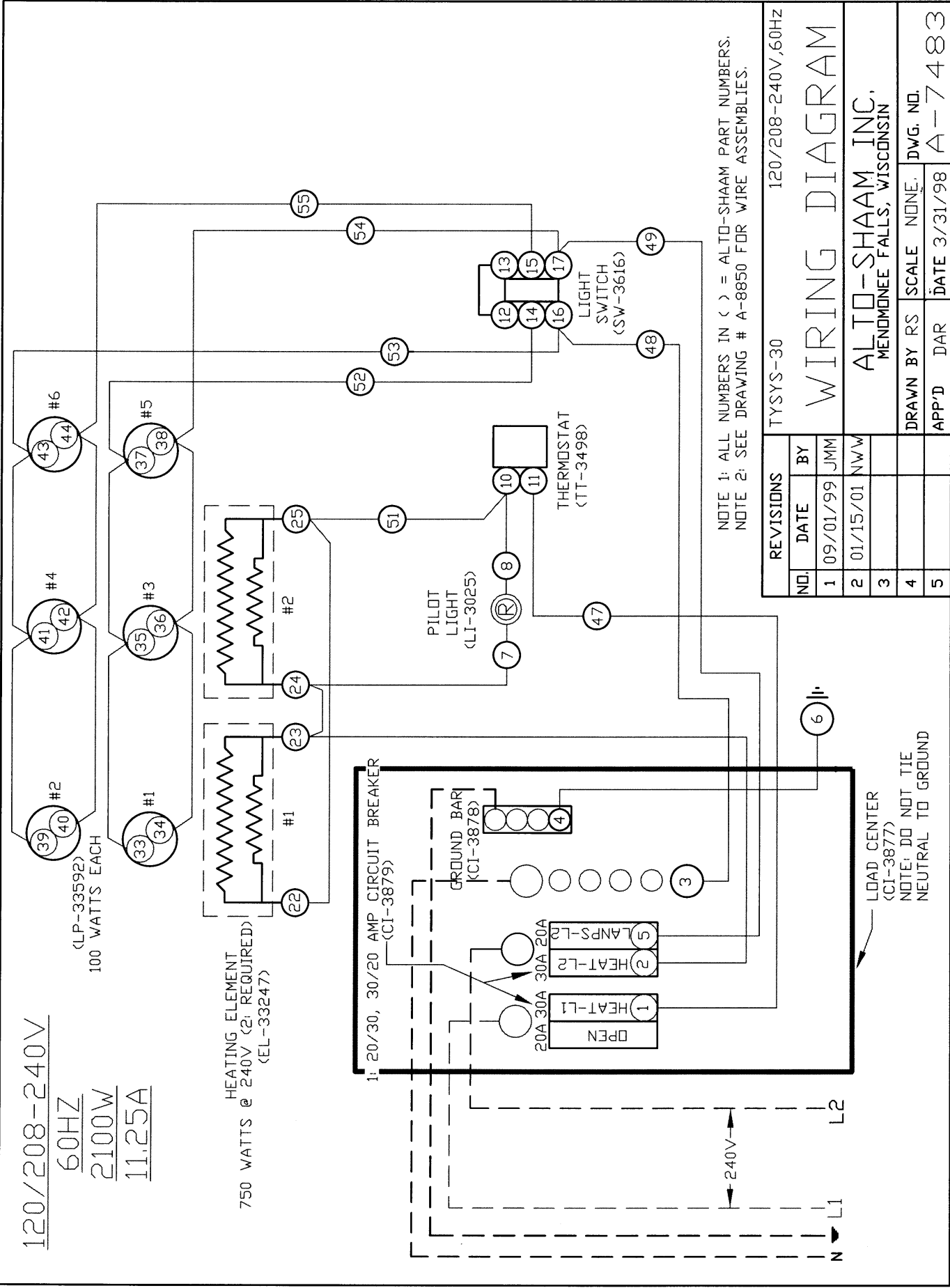
ALTO-SHAAM
MENOMONEE FALLS, WISC. 53052-450

BY: JMM SCALE: NONE DWG: 7482
APP'D: B.G. DATE: 03/29/99 A-7482

NO.	REVISION	BY
1	03/02/99	JMM
2	03/29/99	JMM

NOTE 1: ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
NOTE 2: SEE DRAWING (A-8849) FOR WIRE ASSEMBLIES.

120/208-240V
 60HZ
 2100W
 11.25A



HEATING ELEMENT
 750 WATTS @ 240V (2 REQUIRED)
 (EL-33247)

100 WATTS EACH
 (LP-33592)

NOTE 1: ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
 NOTE 2: SEE DRAWING # A-8850 FOR WIRE ASSEMBLIES.

REVISIONS		TYSYS-30	
NO.	DATE	BY	
1	09/01/99	JMM	
2	01/15/01	NW	
3			
4			
5			

120/208-240V, 60HZ

WIRING DIAGRAM

ALTO-SHAAM INC.
 MENOMONEE FALLS, WISCONSIN

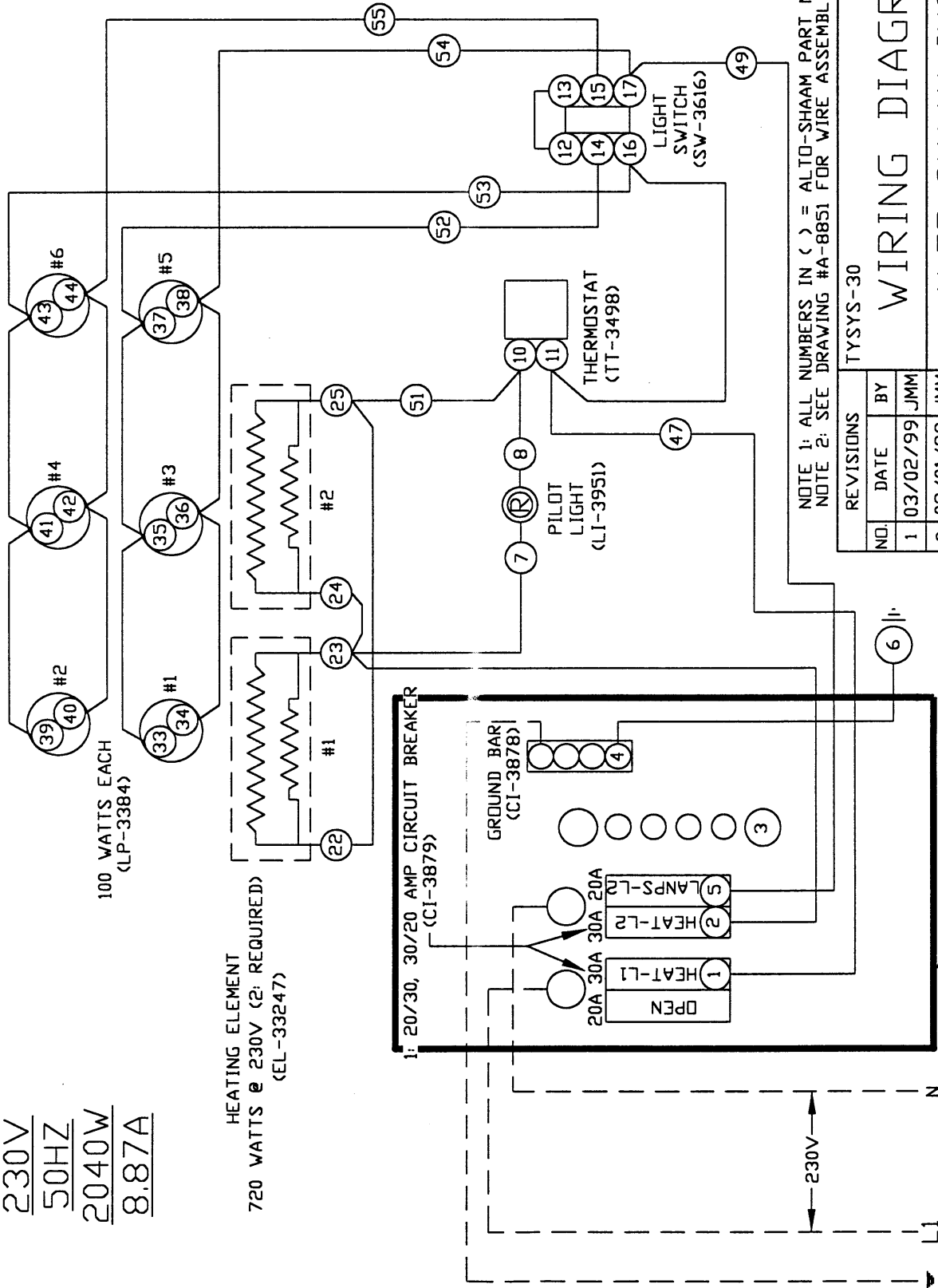
DRAWN BY	RS	SCALE	NONE.	DWG. NO.	A-7483
APP'D	DAR	DATE	3/31/98		

LOAD CENTER
 (CI-3877)
 NOTE: DO NOT TIE
 NEUTRAL TO GROUND

230V
50HZ
2040W
8.87A

HEATING ELEMENT
720 WATTS @ 230V (2: REQUIRED)
(EL-33247)

100 WATTS EACH
(LP-3384)



NOTE 1: ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
NOTE 2: SEE DRAWING #A-8851 FOR WIRE ASSEMBLIES.

TYSYS-30

NO.	DATE	BY
1	03/02/99	JMM
2	09/01/99	JMM
3		
4		
5		

WIRING DIAGRAM

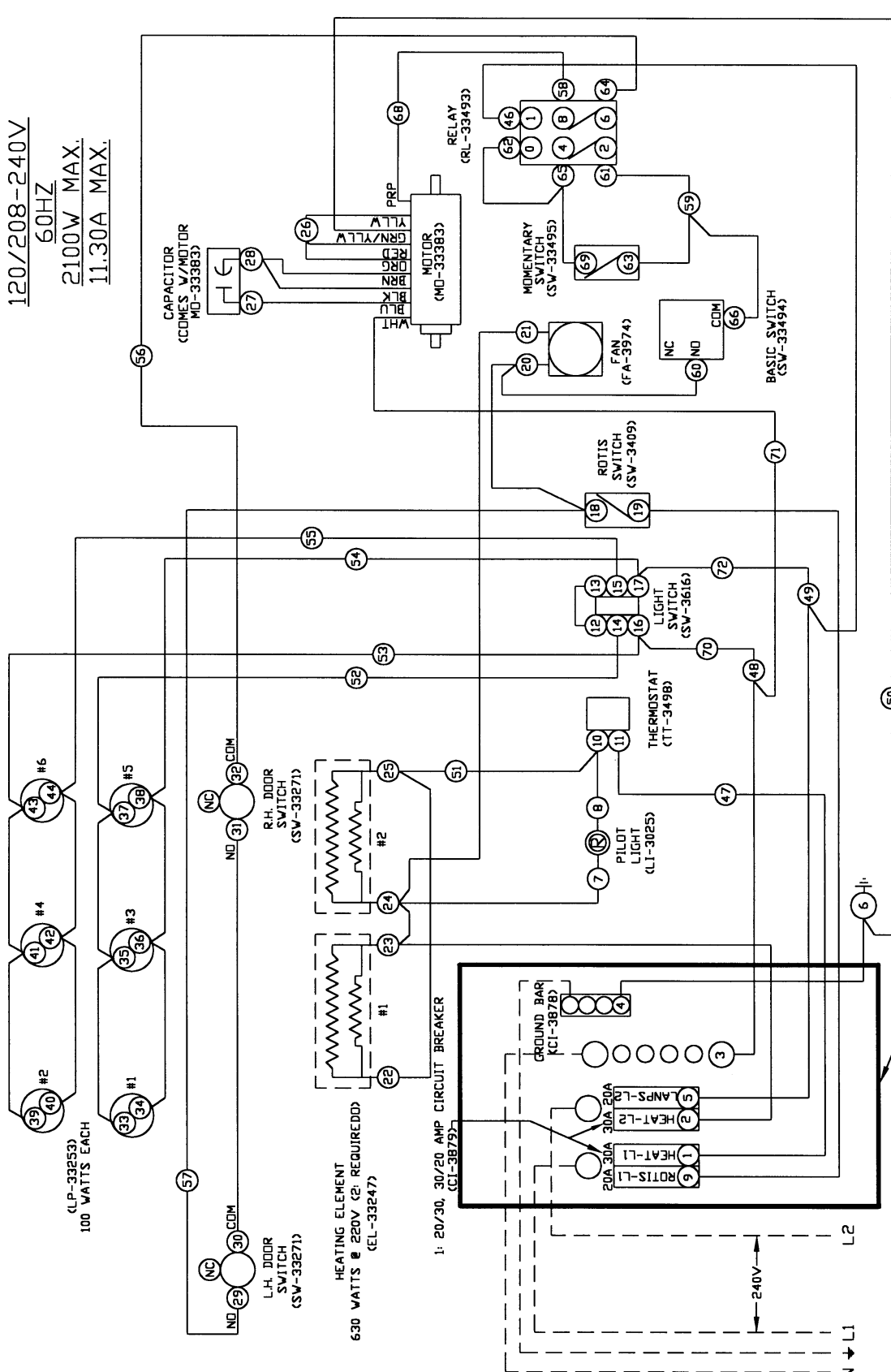
230V, 50HZ

ALTO-SHAAM INC.
MEMONEE FALLS, WISCONSIN

DRAWN BY RS SCALE NONE DWG. NO. A-7484
APP'D MSM DATE 3/31/98

LOAD CENTER (CI-3877)
NOTE: DO NOT TIE
NEUTRAL TO GROUND

120/208-240V
60HZ
2100W MAX.
11.30A MAX.

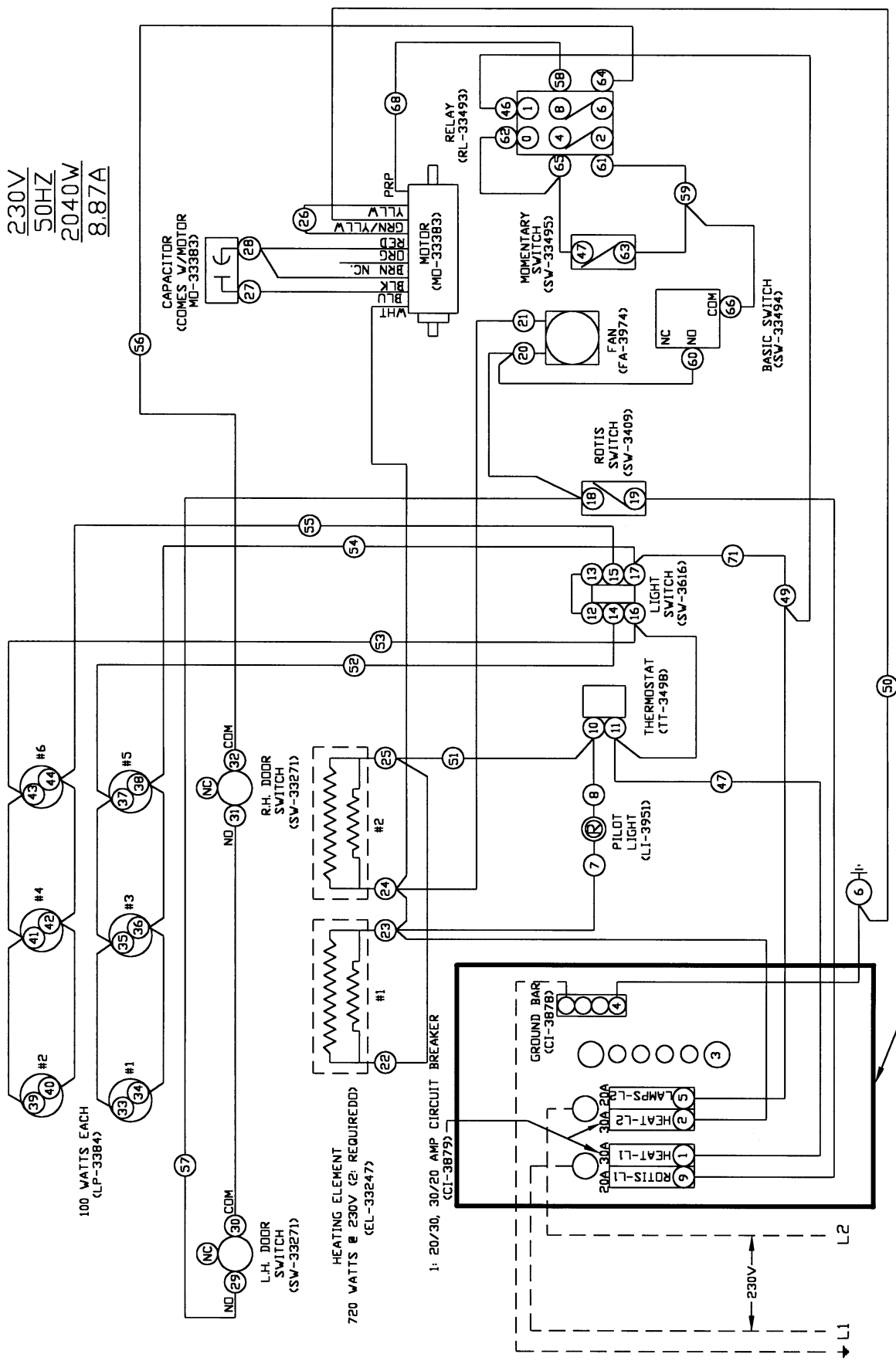


REVISIONS		TYSYS-30/RH		120/208-240V,60HZ	
NO	DATE	BY	RE	DATE	RE
1	03/20/98	JMH	RE		
2	02/05/99	JMH	RE		
3	09/20/99	JMH	RE		
4					
5					

WIRING DIAGRAM
ALTO-SHAAM INC.
KENNESAW, GA, U.S.A.
DRAWN BY: RE SCALE: 1"=1' PWC NO
APPD: MSK DATE: 02/28/98 A-7475

NOTE 1: ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
NOTE 2: SEE DRAWING #B-8840 FOR WIRE ASSEMBLIES.

230V
50HZ
2040W
8.87A



REVISIONS		TYSYS-30/RM		230V,50HZ	
NO.	DATE	BY	DATE	BY	SCALE
1	02/30/98	RS			
2	02/09/99	LRM			
3	02/02/99	LRM			
4	05/01/99	LRM			
3					

WIRING DIAGRAM
ALTO-SHAAM INC.
HEWLETT-PACKARD
FALLS VIEGAMIN

DRAWN BY: RS
SCALE: 1"=1'
PWC. NO. A-7476

LOAD CENTER (CI-3877)
NOTE: DO NOT TIE NEUTRAL TO GROUND.

NOTE 1: ALL NUMBERS IN () = ALTO-SHAAM PART NUMBERS.
NOTE 2: SEE DRAWING #B-8841 FOR WIRE ASSEMBLIES.

TRANSPORTATION DAMAGE and CLAIMS



All Alto-Shaam equipment is sold F.O.B. shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, it is a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise received.
3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs this receipt. If he refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt:
Driver refuses to allow inspection of containers for visible damage.
6. Telephone the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation of the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach *copies* of all supporting paperwork.

We will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. We cannot, however, file any damage claims for you, assume the responsibility of any claims, or accept deductions in payment for such claims.

ALTO-SHAAM® LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser that any original part that is found to be defective in material or workmanship will, at our option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The labor warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

The parts warranty remains in effect one (1) year from installation or fifteen (15) months from the shipping date, whichever occurs first.

Exceptions to the one year part warranty period are as listed:

- A. Halo Heat cook/hold ovens include a five (5) year parts warranty on the heating element. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.
- B. Alto-Shaam Quickchillers include a five (5) year parts warranty on the refrigeration compressor. Labor will be covered under the terms of the standard warranty period of one (1) year or fifteen (15) months.

This warranty does not apply to:

1. Calibration
2. Replacement of light bulbs and/or the replacement of display case glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions.
5. Any losses or damage resulting from malfunction, including loss of product or consequential or incidental damages of any kind.
6. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose. In no event shall the Company be liable for loss of use, loss of revenue, or loss of product or profit, or for indirect or consequential damages. This warranty is in lieu of all other warranties expressed or implied and Alto-Shaam, Inc. neither assumes or authorizes any persons to assume for it any other obligation or liability in connection with Alto-Shaam equipment.

ALTO-SHAAM, INC.

Warranty effective January 1, 2000

Record the model and serial numbers of the unit for easy reference.

Always refer to both model and serial numbers in your correspondence regarding the unit.

Model: _____

Serial Number: _____

Purchased From: _____

Date Installed: _____ Voltage: _____

HALO HEAT COOK/HOLD/SERVE SYSTEMS BY ALTO-SHAAM.

W164 N9221 Water Street • P.O. Box 450 • Menomonee Falls, Wisconsin 53052-0450 • U.S.A.

PHONE: 262.251.3800

FAX: 262.251.7067 • 800.329.8744 U.S.A./CANADA

WEBSITE:

800.558.8744 U.S.A./CANADA

262.251.1907 INTERNATIONAL

WWW.alto-shaam.com

PRINTED IN U.S.A.