



**Star  
Manufacturing  
International Inc.**

10 Sunnen Drive  
St. Louis, MO 63143

Phone: (314) 781-2777  
FAX: (314) 781-3636

**INSTALLATION &  
OPERATING  
INSTRUCTIONS**

2M-7555 Rev. A 5/15/96

---

**DESIGNER SERIES  
COUNTER GAS FRYERS  
MODELS 115D SERIES  
AND 116C SERIES**



## GENERAL INSTALLATION DATA



### CAUTION

This equipment is designed and sold for commercial use only by personnel trained and experienced in its operation and is not sold for consumer use in and around the home nor for use directly by the general public in food service locations. For equipment to be used by the general public, please contact the factory.

**WARNING:** Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing the equipment.

This fryer is equipped for the voltage and wattage indicated on the nameplate mounted on the lower right corner of the element housing. It is designed for use on alternating current (AC) only. It is intended for use by properly trained personnel only.



### CAUTION

### DO NOT CONNECT TO DIRECT CURRENT (DC)

The installation of the appliance should conform to the:

NATIONAL ELECTRIC CODE AND ALL  
LOCAL ELECTRIC CODES AND ORDINANCES  
AND THE LOCAL ELECTRIC COMPANY  
RULES AND REGULATIONS

For your protection we recommend that a qualified electrician install this appliance. He should be familiar with electrical installations, and all electrical codes. Proper connections and power supply are essential for efficient performance. The external wiring should be in conduit or an approved type of flexible cable suitable for operation at 90° C (194° F) and of a proper size to carry the load. The supply circuit should be properly fused and equipped with a means of disconnection, as required by local electrical code. **THE BODY OF THE APPLIANCE SHOULD BE GROUNDED, DO NOT GROUND TO A GAS SUPPLY LINE.** Four adjustable leg extensions are provided and should be installed for ease of cleaning. Level unit by adjusting the (4) feet which have an adjustment of 1" (25.4 mm) for accurate leveling and perfect line-up with other units.

### LOCKING STRIPS

Grease tight locking strips are available to join this appliance to any other Designer Series units to form a solid bank. Specify which models are to be banked and their order in the line-up when ordering strips.

### POWER SUPPLY

Models 115D and 115DL are wired at the factory for operation on a single phase power supply. The models 116C and 116CL are wired for operation on a three phase power supply. For specific wiring, check the wiring diagram.

### CONNECTIONS OF FRYERS TO VENTILATOR FIRE DETECTION OR EXTINGUISHING SYSTEM

Star has manufactured this fryer to be not only one of the most efficient fryers made, but the safest. The unit is equipped with a terminal block (see enclosed wiring diagram) for tying into a fire detection system. This terminal is located at the rear of the unit in the area of the power connection point.

## CONNECTIONS OF FRYERS (Cont'd)

Models 116C and 116CL

To connect to the terminal block, remove the jumper and connect leads from the terminal block to a normally closed switch which is tied into the fire detection system of the ventilator hood. The switch in the detector system should be capable of handling 240 Volts and a minimum of 5 Amperes. **DO NOT** connect these leads into a voltage source. The voltage is supplied by the fryer.

Models 115D and 115DL

Connect leads to terminal block from a normally open switch which is tied into the fire detection system of the ventilator hood. The switch in the detector system should be capable of handling 240 Volts at 1 Ampere. **DO NOT** connect these leads into a voltage source. The voltage is supplied by the fryer.

## OPERATING INSTRUCTIONS

### CLEAN KETTLE BEFORE USING

Take out baskets, push and hold element catch, lift upon element lift handle until elements lock in a vertical position, and remove kettle. The kettle can be cleaned in a sink like any other pot or container.

### ADDING FAT

Replace kettle and swing the element down, making fryer ready for use. Add fat - 12" fryers have a 15 lb. fat capacity, 24" fryers have a 30 lb. fat capacity. A fat level line on the rear of the kettle will guide you in determining the minimum cold fat level. A higher fat level can be used when frying bulky foods, such as chicken or fish cakes. The fat level should be chosen carefully so that the foaming action of the fat does not spill out of the kettle. If solid shortening is used, pack carefully around the elements.

## CONTROLS

### A. ON/OFF TWO-POLE SWITCH

Located on the front panel is a two-pole switch which turns power on or off. An indicator light (Power On) is located on the control housing.

### B. THERMOSTAT CONTROL

Located on the Control Housing, this control allows you to select the desired frying temperature. A signal light "Heating" indicates when the element is on. When the light goes off, the desired temperature has been reached.

### C. HI-LIMIT THERMOSTAT - Should fat temperatures reach 450° F (230° C), this control will shut off the power. Both lights on the control panel will go out. The fat temperature must cool to 400° F (202.4° C) and the circuit breaker switch located on the front panel must be reset. Should the hi-limit control activate twice in succession, the primary thermostat should be checked for malfunction by a qualified service technician.

## FRYING

After fat has been added, turn the switch on and set the thermostat at 200° F (92.4° C). After the fat has melted, turn the thermostat to the desired setting. Included in this instruction booklet is a frying chart and some helpful hints on fat use. After the selected fat temperature has been reached, slowly lower half filled baskets into the fat. Do not overload baskets as this causes foods to be improperly fried.

Fryers with Bell Timers - After baskets have been lowered, set timers to desired time. If frying time is less than 2 minutes, turn timer beyond 5 minutes then back to desired time.

Fryers with Automatic Basket Lifts - Turn timer dial to desired frying time. To lower baskets, push in on center bottom timer. After selected frying time has elapsed, baskets will raise automatically. The timer dial need not be reset unless a different frying cycle is desired.

**NOTE:** The baskets may be raised before the end of the frying cycle by turning the timer to "0".

NOTE: Baskets should be allowed to drain after frying cycle. The kettle handles serve as basket hangers.

### **IDLING**

During idle periods turn thermostat control to approximately 200° F (92.4° C). The fast recovery fryers can be brought up to frying temperature in a matter of minutes. Lowering the temperature during idle periods saves energy costs and prolongs fat life.

### **DRAINING KETTLE**

Turn switch to "OFF" and allow fat to cool. Raise element to the first stop and allow to drain. Raise the element to the vertical position and siphon the oil out of the kettle. **DO NOT ATTEMPT TO REMOVE THE KETTLE FILLED WITH HOT OIL.** If you do not have a siphon, order one from your dealer or dip the oil out and strain into a container. After oil has been removed, remove the kettle and clean.

### **CLEANING THE EXTERIOR**

The exterior surfaces can be cleaned by regularly wiping with a soft cloth. Any discoloration can be removed with a non-abrasive cleaner.

### **MAINTENANCE AND REPAIRS**

Contact the factory or one of its representatives or a local service company for service or maintenance if required.

### **ACCESS TO MOTOR FUSE (Units with Automatic Lift)**

1. Remove basket lifting hood.
2. Pivot up electrical element and lock in vertical position.
3. Remove kettle.
4. Remove drip panels located in the kettle opening.
5. The fuse holder is located on a fuse box at the front of the opening.

RETAIN THIS MANUAL FOR FUTURE REFERENCE  
Part No. 2M-7555                      Rev. A 5/15/96

# CAUTIONS FOR ALL DEEP FAT FRYERS

NEVER LEAVE AN OPERATING FRYER UNATTENDED

## REMEMBER HOT OIL IS DANGEROUS - RESPECT IT!

1. Hot oil is dangerous - Severe burns can result when hot oil contacts the skin.
2. Locate your fryer in a protected place so it cannot be knocked over or off its support.
3. Keep your floors clean and free of grease so no one slips accidentally and contacts the hot fryer.
4. Hot oil is flammable - Keep open flames away from it and its vapors.
5. Keep areas and filters clean above your fryer - Oil soaked lint or dust can ignite easily and flames will spread rapidly.
6. Install an automatic fire extinguisher over the fryer and in the exhaust duct.
7. Have your equipment checked regularly to insure its safe and proper functioning.
8. If your fryer starts to smoke or boil abnormally, cut off the energy supply immediately and determine the reason for the smoking or boiling before attempting to use it again.
9. Be sure your energy supply is installed properly and in accordance with the local and national codes. There should be a convenient switch or gas valve, readily available, close to the fryer for such a shut-off procedure.
10. See that all of your help understand the hazards of hot fat. Instruct them on the proper action to take if something does not seem to be acting properly.
11. Instruct your personnel on what to do if there is a fat fire. Do not use water on an oil fire! Use only fire extinguishers of the approved type and never direct such extinguishers so as to blow the oil out of the oil container.
12. Never allow water to get in hot fat.  
**It can explode!**

## CARE OF FAT

In three to six months you may spend as much for fat as you paid for your kettle. So fat is an item you want to know all about; how to select it; how to manage it. The more production you can get from each pound of fat, the more profitable your frying operation will be.

To get a high rate of production per pound of fat you have to avoid two things. One is early breakdown and spoilage of the compound so that you have to throw it away before it does enough work to “earn its keep”. The other is excessive sponging up of fat by the food being fried.

The main cause of fat breakdown is excessive heat. On the other hand abnormal absorption is caused by frying too long at too low temperatures. One answer to both problems is exact control of heat — so that fat neither smokes up nor soaks up.

Of course, no fat “keeps” forever. Not only heat, but air and moisture, salt particles and crumbs of food work to break it down. But you can slow up fat deterioration by maintaining proper temperatures and by draining your kettle, filtering or straining the fat once or twice a day and by keeping the kettle itself absolutely clean.

A number of commercial devices and materials are available to aid in eliminating fat impurities. There are several excellent models of pressure filters as well as strainer-type filters, which, if used regularly will prolong life of fat.

However, no purification device will renew broken down or rancid fat or put new life into it. Once you have allowed fat to break down it becomes unsuitable for frying — in fact browning is impossible.

In addition to filtration, you can prolong the usefulness of fat by sweetening it with fresh compound every day - replacing about 15% of the bulk you started with. If you do enough frying so that normal absorption of fat in food amounts to 15% to 20% of the capacity of your kettle every day - then you can call your turn-over food. It means you can add the recommended 15% of fresh fat without discarding any of the old.

### 10 POINT PROGRAM TO PRESERVE FAT AND PRODUCE THE FINEST FRIED FOODS

1. Choose a fat that does not break down quickly.  
Hydrogenated shortening, corn, and peanut oils are less likely to break down under high temperatures.
2. Do not fry foods at temperatures above those recommended. The higher the fat temperature, the more rapid the rate of fat deterioration. Above 400°F fats quickly deteriorate.
3. During short intervals between frying, turn the heat down. Do not keep heat on for long periods between batches.
4. Keep fat clean. Strain or filter daily or at end of each shift. Add at least 15% fresh fat to your kettle daily.
5. At least once a day, cool a small amount of fat and taste it to see if it has picked up foreign flavors.
6. Discard fat that tends to bubble excessively before food is added.
7. Do not overload baskets-pieces should not touch when frying. Shake baskets to prevent food from sticking together. Fry similar sizes together.
8. Never salt foods directly over fat, salt in fat reduces its life.
9. Raw, wet foods, such as potatoes and oysters, should be drained or wiped dry before frying to extend the life of the frying fat. Have foods to be fried at room temperature.
10. Keep fat temperatures below smoking point to minimize frying odors.

## HANDY FRYING CHART

FOOD	COATING	PROCEDURE	TEMP OF	TIME IN MINUTES
<b>POTATOES</b>				
Standard French Fries		Cut in uniform pieces 1/2"	350	5-7
Blanch Only		square the long way	350	3-1/2
Brown Only			350	3-1/2
Long Branch		Cut in uniform pieces 3/4"		
		square the long way	350	7-10
Julienne (shoe string)		Cut in uniform pieces 1/8"		
		to 1/4" square the long way	350	3-6
Chips		Soak in cold running water until water does not run milky	350	2-3
<b>CHICKEN</b>				
Large Pieces	Batter or	Some prefer rolling in	325	9-11
Small Pieces	Breading	seasoned flour, dipping in egg	340	7-10
Pre-cooked		wash, and frying	350	3-4
<b>FISH</b>				
Fillets (Large)	Breading	Select fillets of uniform	350	4
Fillets (Small)	or Batter	size, skin out and dry.	350	3
Oysters	Breading or Batter	Use Oyster liquor in batter or breading	350	5
Clams	Batter		350	1
Scallops	Breading		350	4
Shrimp	Batter	Some prefer soaking 1/2 hour in cold seasoned milk	350	3
Smelts	Breading	Cut spinal cord several places to prevent curling	350	4
<b>MEATS</b>				
Chicken Fried Steak	Breading	Sever all connecting membranes at one inch intervals to prevent curling.	360	3-4
Cutlets	Breading		350	3-4
Chops	Breading		340	3-4
Meat Balls	Breading or rolled in flour		340	4-6
Brains	Breading		340	3-5
<b>VEGETABLES</b>				
Asparagus	Batter or crumbs	Pre-cook in salted water	350	3
Cauliflower	Batter or crumbs	Pre-cook and separate flowers	350	3
Egg Plant	Crumb Breading	Peel, cut cross-wise into 1/4"		
		slices	350	3
Onions	Light batter	Slice thin, soak in milk for two hours	350	3
<b>FRITTERS</b>				
Fruit (bananas, pineapples, apricots, berries)		Serve with fruit juice sauce	350	3-5
Corn	Batter	Serve with syrup or jelly	350	3-5
Vegetable (peas, green beans)		Serve with tomato cheese sauce	350	5-8
<b>MISCELLANEOUS</b>				
Croquettes	Breading		360	3
Chinese Noodles			375	1-2
French Toast			375	1
<b>DOUGHNUTS</b>				
Cake		7	375	1-1/2 - 2
Yeast, raised			375	1

MATERIAL			FINISH			MODEL NO. 115D & 115DL		PART NO.		
DR. M M	CK.	DATE 5-22-79	STAR MANUFACTURING CO.			TITLE WIRE DIAGRAM				
LIMITS UNLESS OTHERWISE NOTED FRACTIONS ± 1/64 DECIMALS ± .005			9325 OLIVE BOULEVARD ST. LOUIS MO. 63132			CHANGES	LTR	DATE	CHANGE	DR

WIRE SIZES

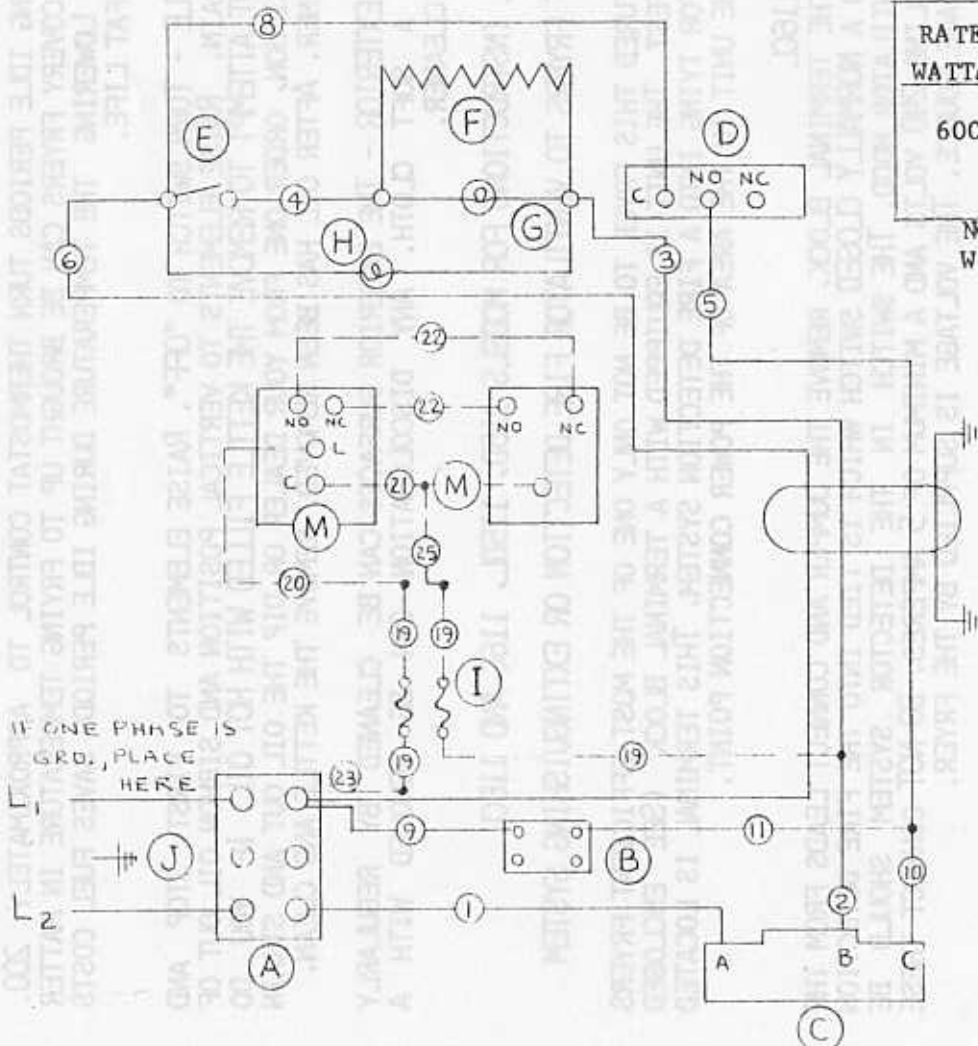
KEYS 5, 8, 9, 10, 11, 19, 20, 21, 22,  
23, 25  
#18 GA.

KEYS 1, 2, 3, 4, 6 #12 GA

RATED WATTAGE	SINGLE PHASE	NOMINAL AMPS	FOR SUPPLY CONNECTIONS USE NO.
6000	208V	28.8	10 AWG OR LARGER
	240V	25.0	

NOTE: FOR SUPPLY CONNECTIONS USE COPPER WIRE ONLY, SUITABLE FOR AT LEAST 90°C (194°F)

- (A) TERMINAL BLOCK (POWER HOOKUP)
- (B) TERMINAL BLOCK (FIRE EXTINGUISHING SYSTEM)
- (C) CIRCUIT BREAKER (SHUNT/TAP)
- (D) SAFETY THERMOSTAT
- (G) SIGNAL LIGHT (HEATING)
- (F) HEATING ELEMENT (6000 WATTS)
- (H) SIGNAL LIGHT (POWER ON)
- (E) THERMOSTAT
- (I) FUSE (TWO REQUIRED)  
BUSS TYPE SC5 (115DL ONLY)
- (J) FRAME GROUND

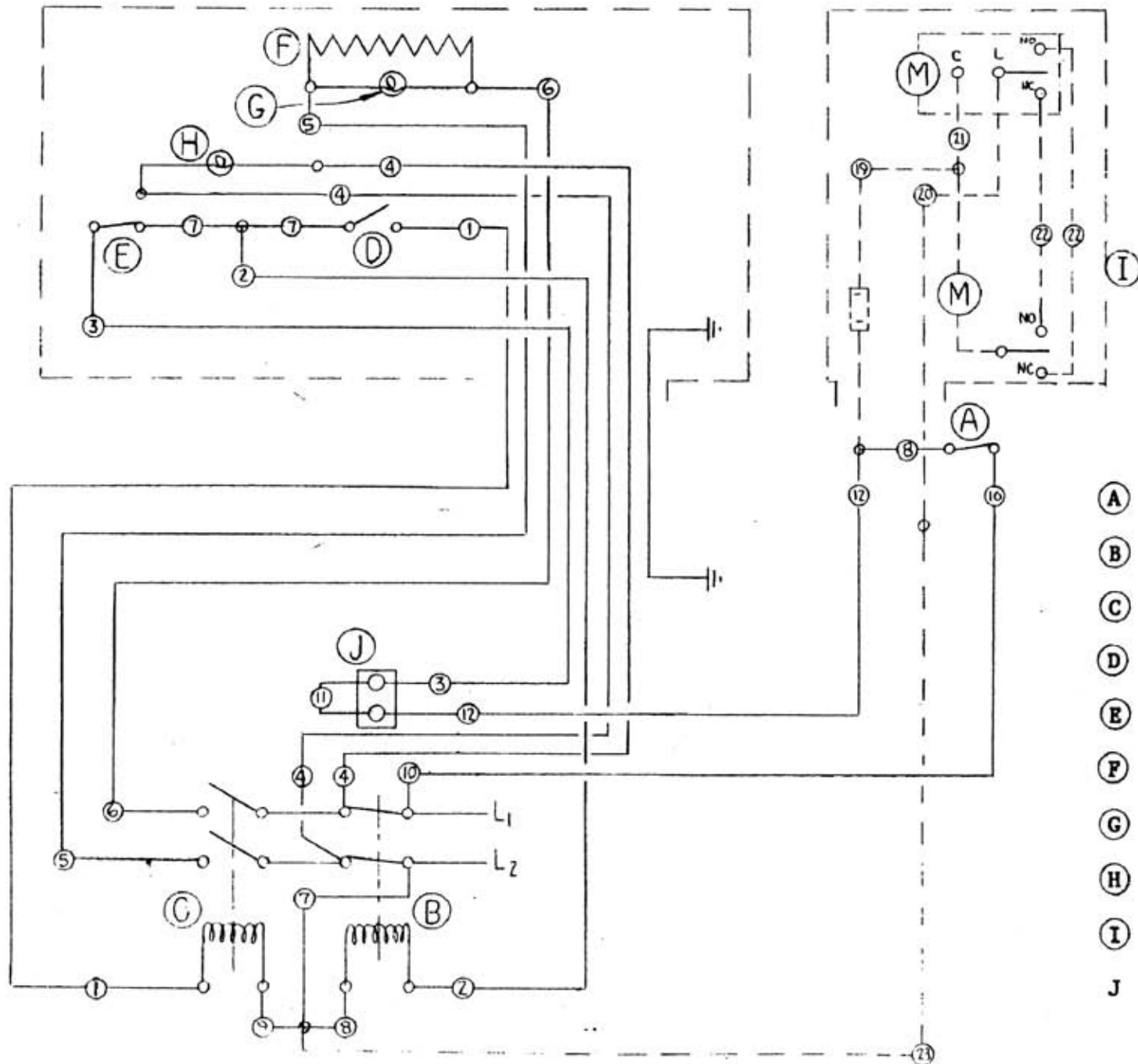


WIRING SHOWN IN DASHES, FOR MODEL 115DL ONLY

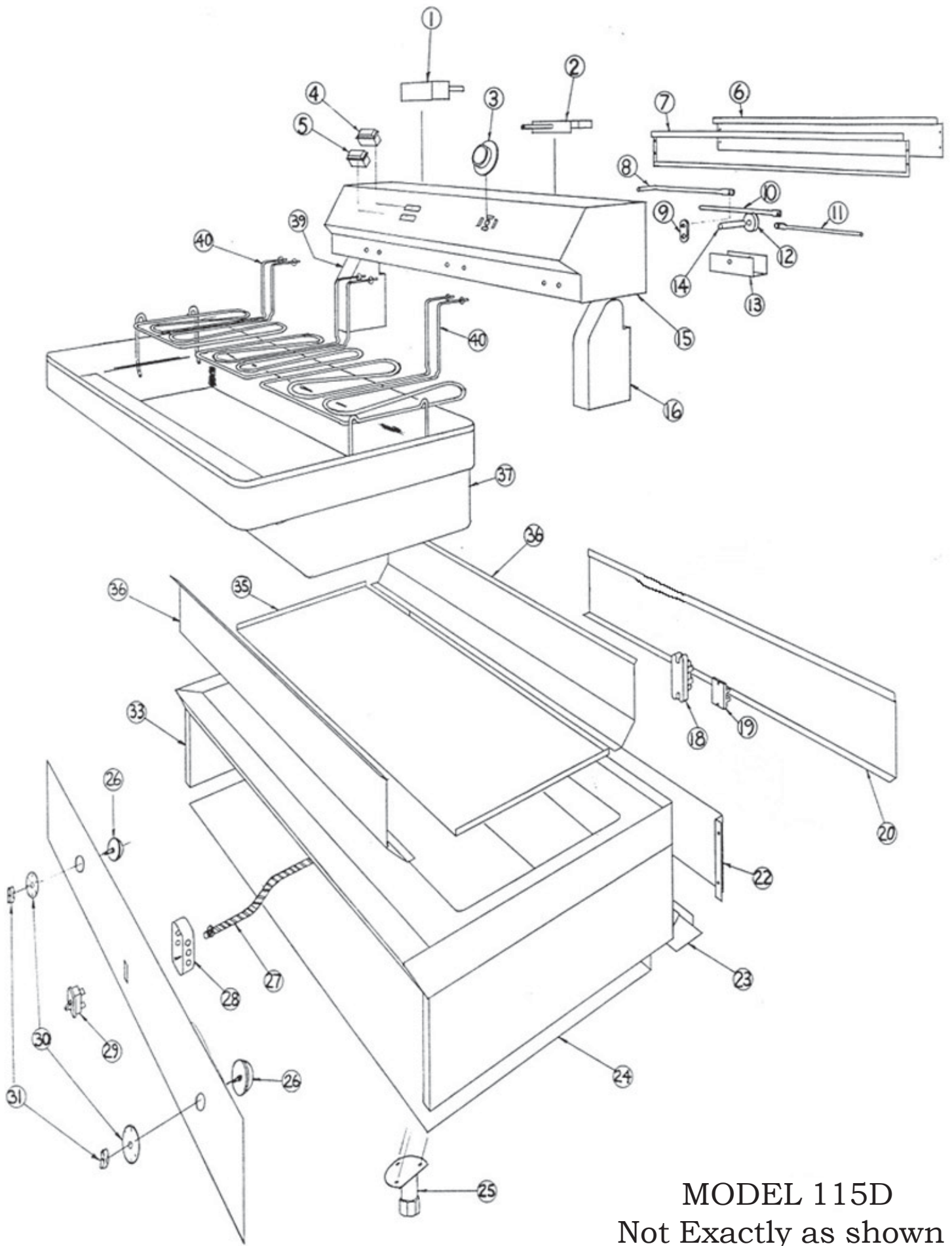


# MODEL 115C 115CL

# WIRING DIAGRAM



- (A) ON-OFF SWITCH
- (B) CONTACTOR (SAFETY THERMOSTAT)
- (C) CONTACTOR (THERMOSTAT)
- (D) THERMOSTAT
- (E) SAFETY THERMOSTAT
- (F) HEATING ELEMENT (6500 WATTS)
- (G) SIGNAL LIGHT (HEATING)
- (H) SIGNAL LIGHT (POWER ON)
- (I) WIRING (115CL-ONLY)
- J TERMINAL BLOCK (FIRE EXTINGUISHING SYSTEM)



MODEL 115D  
Not Exactly as shown

# PARTS LIST

EFFECTIVE— **02-04-04 rb**

8E

MODEL 115D , 115DL , 115DKT , 115DLKT

15 LB. DESIGNER SERIES ELECTRIC FRYERS

KEY NUMBER	PART NUMBER	NUMBER PER UNIT	DESCRIPTION
(SERIAL # 11512266 & UP)			
1	2T-Y2136	1	SAFETY THERMOSTAT (450°F) (Robertshaw # LCC-57-024-0000)
2	2T- <b>Z7208</b>	1	THERMOSTAT
*	2T-Y2639	1	THERMOSTAT - PRESET (365°F) 115DKT, 115DLKT
3	2R-9790	1	THERMOSTAT KNOB
4	E1-116313	1	SIGNAL LIGHT - HEATING (AMBER)
5	E1-116314	1	SIGNAL LIGHT - POWER (WHITE)
*	E1-115604	1	SIGNAL LIGHT - POWER (WHITE) 115DKT, 115DLKT
6	E1-115726	1	ELEMENT HOUSING COVER
7	2I-9945	1	GASKET
8	E1-Y5108	1	ROD - CATCH RELEASE
10	E1-7653	1	ROD - CATCH
10a	2P-7969	1	SPRING
*	15 E1-115717	1	ELEMENT HOUSING ASSY COMPLETE (240V) 115D, 115DL
*	E1-115771	1	ELEMENT HOUSING ASSY COMPLETE (208V) 115D, 115DL
*	E1-115729	1	ELEMENT HOUSING ASSY COMPLETE (208V) 115DKT
*	E1-115773	1	ELEMENT HOUSING ASSY COMPLETE (208V) 115DLKT
15	E1-115708	1	ELEMENT HOUSING
*	15 E1-115728	1	ELEMENT HOUSING 115DKT, 115DLKT
16	E1-7310	1	SUPPORT - LEFT
18	2E-Y2849	1	TERMINAL BLOCK (POWER) (Not Ceramic)
19	2E-Y1654	1	TERMINAL BLOCK (FIRE)
20	E1-7672	1	COVER - BACK
25	Z1-115006	4	FOOT ASSEMBLY (LESS FOOT)
	2A-9347	4	FOOT EXTENSION
	2C-9348	4	STUD
	2A-7612	4	FOOT
29	2E-Y3145	1	SWITCH - BREAKER (SHUNT) (30 Amp, Airpax)
33	J1-6305	2	SIDE PANEL
37	E1-115714	1	KETTLE ASSEMBLY (13 Lbs Shipping)
39	E1-7311	1	SUPPORT - RIGHT

IMPORTANT: WHEN ORDERING SPECIFY VOLTAGE OR TYPE GAS DESIRED  
INCLUDE MODEL AND SERIAL NUMBER—(1) MINIMUM PARTS ORDER—\$5.00

PAGE 1  
OF 2



**Star Manufacturing International, Inc.**

9325 Olive Boulevard, P.O. Box 8492, St. Louis, MO 63132

Phone (314) 994-0880 • FAX (314) 994-0406

# PARTS LIST

EFFECTIVE— 02-04-04 rb

8E

MODEL 115D , 115DL , 115DKT , 115DLKT  
15 LB. DESIGNER SERIES ELECTRIC FRYERS

KEY NUMBER	PART NUMBER	NUMBER PER UNIT	DESCRIPTION
			(SERIAL # 11512266 & UP)
40	2N-Y5653	1	ELEMENT (240V/6000W)
	2N-Y5654	1	ELEMENT (208V/6000W)
	E1-115778	1	CLAMP & HANDLE ASSEMBLY
	E1-Y5657	1	UPPER ELEMENT CLAMP <b>2C-1516, Screw</b>
	E1-Y1890	1	BRACE - ELEMENT (SMALL) <b>2C-2560, Nut</b>
	E1-Y1889	1	BRACE - ELEMENT <b>2C-1827, Washer</b>
	2I-5659	2	GROMMET - CAPILLARY
	2P-5737	6	CLIP - CAPILLARY
	E1-7363	4	CLAMP - CAPILLARY BULB
	<b>2P</b> -Y3406	4	SPACER - CAPILLARY BULB
	E1-115760	1	HARNESS ASSEMBLY
	E1-115710	1	TOP ASSEMBLY
	E1-115753	1	TOP ASSEMBLY 115DL, 115DLKT
	E1-115711	1	FRONT PANEL ASSEMBLY
	E1-115752	1	FRONT PANEL ASSEMBLY 115DL, 115DLKT
	E1-Y3152	1	COVER PLATE-FUSE HOLDER (NOT SHOWN) 115D, 115DKT
	E1-115754	2	FUSE HOLDER ASSY (NOT SHOWN) 115DL, 115DLKT
	2E-Y2342	2	FUSE (NOT SHOWN) 115DL, 115DLKT
	2B-115774	1	BASKET - LEFT (4" WIDE)
	2B-115775	1	BASKET - RIGHT (4" WIDE)
	2B- <b>Y8847</b>	1	BASKET - LEFT (8" WIDE)
	2B- <b>Y8846</b>	1	BASKET - RIGHT (8" WIDE)
	2B-116111	1	BASKET - LEFT (8" WIDE) 115DL, 115DLKT
	2B-116112	1	BASKET - RIGHT (8" WIDE) 115DL, 115DLKT

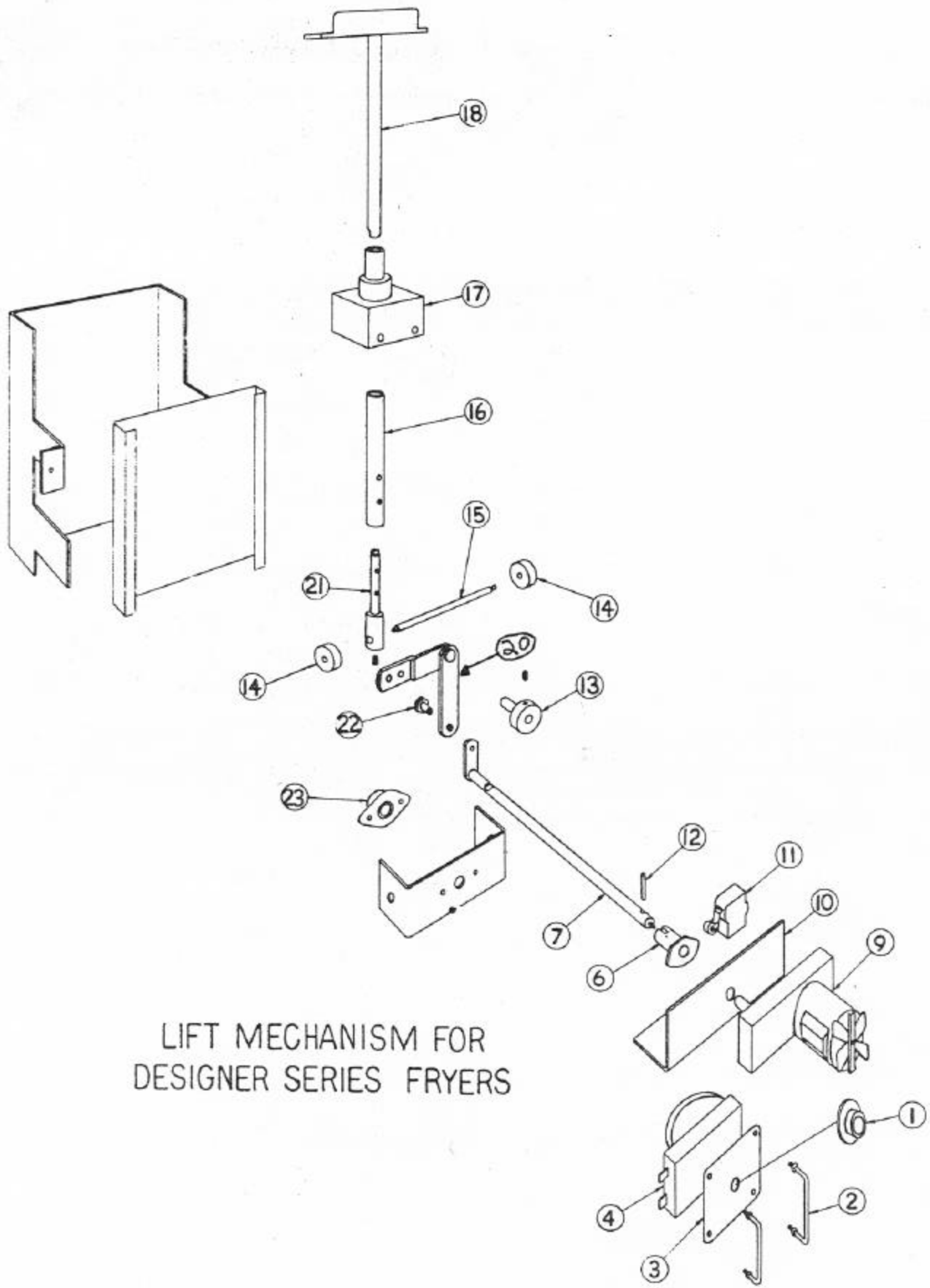
IMPORTANT: WHEN ORDERING SPECIFY VOLTAGE OR TYPE GAS DESIRED  
INCLUDE MODEL AND SERIAL NUMBER—(1) MINIMUM PARTS ORDER—\$5.00

PAGE 3  
OF 3



**Star Manufacturing International, Inc.**

9325 Olive Boulevard, P.O. Box 8492, St. Louis, MO 63132  
Phone (314) 994-0880 • FAX (314) 994-0406



LIFT MECHANISM FOR  
DESIGNER SERIES FRYERS

# PARTS LIST

OCTOBER 1992

EFFECTIVE—

8E

MODEL 115DL , 115DLKT , 116CL

ELECTRIC FRYER LIFT MECHANISMS

KEY NUMBER	PART NUMBER	NUMBER PER UNIT	DESCRIPTION	
1	2R-9178	1/2	KNOB - TIMER	115DL/116CL
1a	2R-9180	1/2	TIMER BUTTON - ORANGE	115DL/116CL
2	2R-8229	2/4	KNOB - SHIELD	115DL/116CL
3	2M-9150	1/2	PLATE - TIMER	115DL/116CL
4	2P-9177	1/2	PUSH BUTTON TIMER	115DL/116CL
6	E1-115054	1/2	DRIVE CAM ASSEMBLY	115DL/116CL
7	E1-115053	1/2	DRIVE SHAFT ASSEMBLY	115DL/116CL
9	2U-8077	1/2	MOTOR (240V)	115DL/116CL
	2U-8093	1/2	MOTOR (208V)	115DL/116CL
10	2A-8862	1/2	ROLL PIN	115DL/116CL
11	2E-8456	1/2	MICRO SWITCH	115DL/116CL
12	2C-Y5919	1/2	PIN	115DL/116CL
13	2A-Y1194	1/2	SET COLLAR	115DL/116CL
14	E1-8409	2/4	SHAFT ROLLER	115DL/116CL
15	E1-8410	1/2	ROLLER SHAFT	115DL/116CL
16	2V-8408	1/2	LIFTING TUBE	115DL/116CL
17	E1-115076	1/2	BEARING BLOCK ASSEMBLY	115DL/116CL
18	E1-115056	1/2	BASKET CATCH ASSEMBLY	115DL/116CL
20	E1-115057	1/2	CONNECTING ROD ASSEMBLY	115DL/116CL
21	E1-8403	1/2	SHAFT - LIFTING	115DL/116CL
22	E1-8411	1/2	CONNECTING ROD NUT	115DL/116CL
23	2P-9615	1/2	BEARING - SELF ALIGN	115DL/116CL

\*SUGGESTED PARTS STOCKING--

IMPORTANT: WHEN ORDERING SPECIFY VOLTAGE OR TYPE GAS DESIRED  
INCLUDE MODEL AND SERIAL NUMBER—(1) MINIMUM PARTS ORDER—\$5.00

PAGE 1  
OF 1



**Star Manufacturing International, Inc.**

9325 Olive Boulevard, P.O. Box 8492, St. Louis, MO 63132

Phone (314) 994-0880 • FAX (314) 994-0406