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## LOADHOG BATTERY CHARGER

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### PLEASE SAVE THESE IMPORTANT SAFETY AND OPERATING INSTRUCTIONS

For correct operation of the equipment, it is important to read and be familiar with this entire manual before installing and operating the charger.  
**DO NOT DISCARD THIS MANUAL AFTER READING.**



**LOOK FOR THIS SYMBOL TO POINT OUT SAFETY PRECAUTIONS. IT MEANS: BECOME ALERT—YOUR SAFETY IS INVOLVED. IF YOU DO NOT FOLLOW THESE SAFETY INSTRUCTIONS, INJURY OR PROPERTY DAMAGE CAN OCCUR.**

#### 1. IMPORTANT SAFETY INSTRUCTIONS

- a. Before using the battery charger, read all the instructions and caution markings on the battery charger, the battery, and all of the products using the battery.
- b. Do not touch uninsulated parts of the DC output connector or the battery terminals as there is a possibility of electric shock.
- c. Batteries produce hydrogen gas while operating, which can explode if ignited. Never smoke, use an open flame, or create sparks in the vicinity of the battery. Ventilate the area well when the battery is in an enclosed place and when it is being charged.
- d. Lead-acid batteries contain sulfuric acid which cause burns. Do not get in eyes, on skin, or on clothing. In case of contact with eyes, flush immediately with clean water for 15 minutes. Obtain medical attention.
- e. Connect or disconnect the battery plug only when the charger output is off to prevent arcing or burning.
- f. Only qualified personnel should program or service this equipment.
- g. De-energize all AC and DC power connections before servicing this unit. If injury does occur, apply standard treatment for electric shock and, if necessary, consult with a physician.
- h. The charger is not for outdoor use. Do not expose the charger to rain or snow.
- i. Do not operate the charger if it has received a sharp blow, been dropped, or otherwise damaged. Take it to a qualified service center.
- j. Do not disassemble the charger. Have the battery charger examined by an EnerSys service agent, or a local qualified service facility. If the charger is reassembled incorrectly, an explosion or electric shock may result.

#### 2. INTRODUCTION

The EnerSys LOADHOG battery charger is a convection cooled, solid state, SCR regulated charger designed to make battery charging simple. The charger has an IEI profile, which is: (a) High rate constant current, (b) Constant voltage, (c) Low rate constant current. The charger has a comprehensive, self-checking diagnostic program

to monitor the quality of charge and check its own safety conditions. A large easy-to-read, 16-button keypad controls all of the charger functions. The charger also has a five-digit, alpha-numeric display to show charger status messages and charge cycle data.

### 3. RECEIVING CHARGER

When a charger is received, a check for possible in-transit damage should be made. If any damage is found, it should be reported as a claim to the carrier.

### 4. LOCATING AND INSTALLING CHARGER

Proper installation of the charger is important in order to achieve good charger performance and to prevent damage to the charger and batteries. The charger should be located in a clean, cool, dry, and well ventilated area. To permit free airflow for convection cooling, allow four inches (4") minimum between the charger and any wall, six inches (6") from other equipment, and never store anything beneath the charger.

**CAUTION: DO NOT PLACE THE CHARGER ON OR NEAR FLAMMABLE MATERIALS. POSITION THE CHARGER ON A FOUNDATION OF STONE, BRICK, CONCRETE, OR GROUNDED METAL.**

### 5. AC ELECTRICAL SUPPLY

The charger must be connected to a single-phase, 60 ± 3% Hertz AC power source, which can be either 208, 240, or 480 ± 10% VAC. The AC input wire size, dependent on the charger model and the AC input voltage, can be obtained from Table 1 (see below). AC input lines must be installed by a qualified electrical contractor.

#### 5.1 AC FUSE MOUNTING

From Table 1 below, locate the proper AC fuse size (cartridge type fuses). If the fuse ampere rating is in the range of 5 to 30 amps, use the fuse reducer supplied with the charger and insert it into the fuse mount clip. Insert the proper fuse size into the fuse clip.

**TABLE 1**

MODEL	208 VAC		240 VAC		480 VAC	
	FUSE SIZE	AC WIRE SIZE	FUSE SIZE	AC WIRE SIZE	FUSE SIZE	AC WIRE SIZE
24 – 800	OTS – 60	6 AWG	OTS – 60	6 AWG	OTS – 30	10 AWG
18 – 850	OTS – 60	6 AWG	OTS – 50	6 AWG	OTS – 25	10 AWG
12 – 850	OTS – 40	8 AWG	OTS – 35	8 AWG	OTS – 15	12 AWG
6 – 550	OTS – 15	10 AWG	OTS – 12	12 AWG	OTS – 7	14 AWG

Fuses F4, F7, and F8 are 0.5 amp

Fuses F5 and F6 are 2.0 amp

#### 5.2 CONFIGURATION OF JUMPERS

The jumper block is behind the protective covering located below the AC contactor. Located on the inside of the cover is a diagram showing the configuration of jumpers for the desired AC voltage. Once the jumpers have been selected for the desired AC voltage, reverify with the diagram on the cover, tighten the connections, and close the cover.

**WARNING: IMPROPER JUMPER CONNECTION MAY CAUSE SEVERE DAMAGE TO THE CHARGER AND BATTERY.**

#### 5.3 AC VOLTAGE CONNECTIONS

To connect the input AC voltage, route the AC conduit through the desired knockout hole. Route the AC wiring to the bottom connecting screws of the contactor and tighten screws securely.

**WARNING: IMPROPERLY CONNECTED AC VOLTAGE CONDUCTORS CAN CAUSE AN ELECTRICAL FIRE.**

Connect the AC ground to the center transformer support channel in the base of the charger.

**WARNING: DO NOT OPERATE THE CHARGER WITHOUT PROPER GROUNDING. IMPROPER GROUNDING CAN RESULT IN THE RISK OF AN ELECTRIC SHOCK.**

### 6. DC OUTPUT

The DC charging cable has a commonly used battery plug or receptacle. The polarity of the charger plug must be the same as the battery connector. The BLACK DC cable must be connected to the battery negative (-), and the RED DC cable must be connected to the battery

positive (+). The charger will not operate in a reversed polarity condition. The DC output fuse is a "fast-acting" fuse used to protect the silicon controlled rectifiers (SCRs). **Use only identical replacement fuses obtainable from your EnerSys service agent.**

## 7. APPLICATION

The charger can automatically charge and determine battery sizes within the range on TABLE 2. Batteries rated from 64% to 200% of the charger's 6 hour AH rating may be charged on a periodic basis. If the battery's 6 hour AH rating is not matched to the charger's size, battery life may suffer. For battery sizes not listed, contact your local EnerSys service agent.

**TABLE 2**

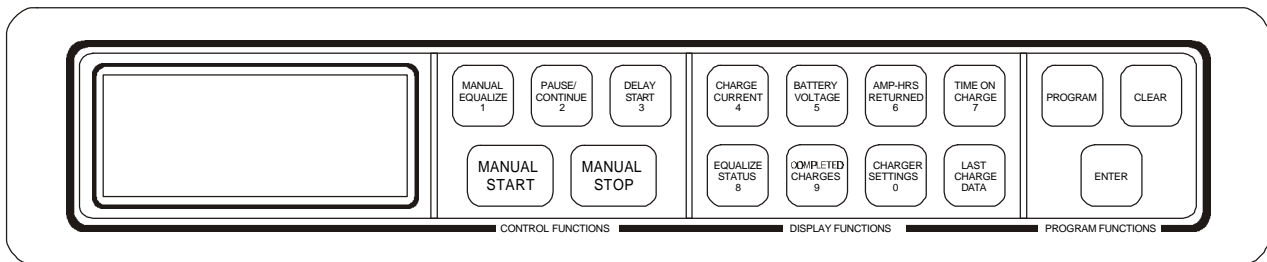
NAMEPLATE RATING	BATTERY CELL RANGE
24 cells	24, 18, 12, 6
18 cells	18, 12, 6
12 cells	12, 6
6 cells	6

## 8. OPERATION

The charger is controlled by the keypad located on the front of the charger. The keypad buttons are separated into three major sections which are used to control the charger's operations, display various functions, and program the user options.

### 8.1 CONTROL FUNCTIONS

This section of the keyboard (see Figure 1), which contains five buttons, permits the user to control the basic functions of the charger.



**Figure 1**

#### 8.1.1 MANUAL EQUALIZE

Pressing this button will convert a normal charge cycle into an equalize cycle. If the button is pressed again, the charge cycle will change back to a normal charge cycle. Pressing this button during an automatic equalize cycle will not cancel the equalize cycle (see section 8.1.4). To check to see if an equalize charge cycle is active see section 8.2.1. An equalize charge cycle has a termination rate of six hours after the 80% point (start knee) is reached.

#### 8.1.2 PAUSE/CONTINUE

A charge cycle will be suspended when this button is pressed or it will restart a charge cycle if this button was previously pressed. This allows a battery to be temporarily removed from the charger during a charge cycle without terminating the charge cycle. The pause interval for the charger is factory set at one hour. If "PAUSE/CONTINUE" is not pressed again within the one hour interval, the charge cycle will be terminated and all the data for that cycle will be lost. "PAUSE/CONTINUE" can also be used during a delayed start, but the delay time continues to run.

#### 8.1.3 DELAY START

A charge cycle start will be delayed by pressing this button. The delay time is factory set at four hours but may be changed using the program functions (see section 8.3). A delayed start may be overridden by pressing either "DELAY START" again or by pressing "MANUAL START".

#### 8.1.4 MANUAL START

This button is used to start a charge cycle. "MANUAL START" can also be used to override a delayed start or change an automatic equalize charge cycle into a normal charge cycle.

#### 8.1.5 MANUAL STOP

Pressing the "MANUAL STOP" button will terminate a charge cycle at any time.

### 8.2 DISPLAY FUNCTIONS

Status of the charge cycle is displayed to the user using this section of the keypad (see Figure 1). Only the information shown in the brackets will be shown on the display when one of the following buttons is pressed (xxx.x = numerical value).

#### 8.2.1 CHARGE CURRENT

When the "CHARGE CURRENT" button is pressed, the DC current to the battery is displayed. For a normal charge cycle the current

value is displayed as: [xxx.x A]. For an equalize charge cycle the current value is displayed as [xxx.x E].

### 8.2.2 BATTERY VOLTAGE

The "BATTERY VOLTAGE" button will display the battery voltage as [xx.xx V] when it is pressed.

### 8.2.3 AMP-HOURS RETURNED

The display will show the cumulative amp-hours returned to the battery as [xxxx H] when this button is pressed.

### 8.2.4 TIME ON CHARGE

Pressing the "TIME ON CHARGE" button will display the elapsed time since the charge cycle was started as [ hh-mm ] (hours-minutes).

### 8.2.5 EQUALIZE STATUS

When the "EQUALIZE STATUS" button is pressed the number of normal charge cycles between automatic equalize charges followed by the number of normal charge cycles until the next automatic equalize charge is displayed as [xx BETWEEN AUTO EQUALIZE xx NEXT AUTO EQUALIZE].

### 8.2.6 COMPLETED CHARGES

The number of accumulated completed charge cycles is displayed as [xxxx C] when the "COMPLETED CHARGES" button is pressed.

### 8.2.7 CHARGER SETTINGS

Pressing the "CHARGER SETTINGS" button will show you the values of the following:

BATTERY SIZE IN CELLS	[ cc CELLS ]
BATTERY SIZE IN AMP-HOURS	[ xxxx AH ]
DELAY START TIME	[ hh-mm DELAY ]
PAUSE TIME	[ hh-mm PAUSE ]

cc is the battery cell size the charger is programmed for if not charging, or the actual number of battery cells that the charger is charging.

### 8.2.8 LAST CHARGE DATA

The last completed charge cycle status is displayed when this button is pressed (see section 8.3.2 for the definition of a completed charge cycle).

BATTERY VOLTAGE	[xx.xx V]
CHARGE CURRENT (generally finish current)	[xxx.x A]
AMP-HOURS RETURNED	[xxxx AHR]
TIME ON CHARGE	[hh-mm]

## 8.3 PROGRAM FUNCTIONS

This section of the keypad allows you to adjust the operating characteristics of the charger. There are four functions in the program mode of operation as listed in sections 8.3.1 to 8.3.4. To change one of these functions, refer to section 8.3.5 for the proper programming sequence. Programming the

charger functions must be done before starting a charge cycle.

### 8.3.1 DELAY TIME

This function sets the amount of time a charge cycle start is to be delayed when using the "DELAY START" button (see section 8.1.3). The delay time can be set anywhere within a range of 0-32 hours.

### 8.3.2 CHARGE CYCLES COMPLETED

The number of completed charge cycles is accumulated and displayed for this function. The completed charge cycle function may be changed or set back to zero as desired. A charge cycle must have the following two criteria to be counted as a completed charge cycle: (a) it must remain in the high rate for a minimum of one-half (½) hour before reaching 80% charge and (b) it must be allowed to finish without interruption.

### 8.3.3 DISPLAY VARIABLES

When a charge cycle is running, the display can show data about the charge cycle on a rotating basis. This function lets you select what data you want displayed. Any combination of CHARGE CURRENT (4), BATTERY VOLTAGE (5), AMP-HOURS RETURNED (6), and TIME ON CHARGE (7) can be selected for display. If, for example, only the CHARGE CURRENT and the BATTERY VOLTAGE are desired to be displayed, enter "45" when programming this function.

### 8.3.4 AUTO-START 0 = OFF, 1 = ON

When this function is set to "1", the charger will start automatically when a battery is connected. When set to "0", a charge cycle will not begin until either the "DELAY START" or the "MANUAL START" button is pressed.

### 8.3.5 PROGRAMMING STEPS

- Press "PROGRAM" when the charger is not in a charge cycle. Wait until "PRESS ENTER" is displayed, then push the "ENTER" button and the first function and its value will be shown on the display.
- If no changes are desired for a given item, press "ENTER" and the next function will be displayed. When the fourth function is displayed pressing "ENTER" will return to the first function.
- If a change to an item is needed, press the appropriate numbered key(s) to enter the desired value. Press "ENTER" when the change is completed.
- To return to a previous function either repeatedly press "CLEAR" to go backward one function at a time or "ENTER" to go

forward one function at a time until the desired function is displayed.

- e. After all changes have been made, reverify the function settings by pressing "ENTER" continuously to scan the function list.
- f. Press "MANUAL STOP" to save the new settings and exit the programming mode.

## 9. CHARGE TIME

The amount of time a battery charges will vary depending on the depth of discharge (DOD). A charge cycle will terminate if it remains in a high rate for 7 hours (see 12.1, START TIME EXCEEDED). After the charge cycle has reached 80%, a normal charge cycle will be terminated either of two ways:

- a. a time interval of 3 hours
- b. DVDT - when the charger senses a very small change in battery voltage during its sampling time period

A normal charge cycle should not exceed 8 hours. An equalize charge cycle will terminate 6 hours after 80% has been reached. Both normal and equalize charge cycles will terminate if they extend beyond 12 hours (see 12.1, CHARGER RAN TOO LONG).

## 10. AC POWER FAILURE

If the AC power fails during a charge cycle, a delayed start, or a pause condition, the charger will resume the operation in progress when the power is restored. However, some information may be lost if the battery is disconnected during the power failure.



**WARNING: IF THE DISPLAY IS BLANK, DO NOT ASSUME THAT THE POWER IS OFF OR AN ELECTRIC SHOCK MAY OCCUR.**

## 11. MAINTENANCE

The charger requires minimal maintenance. It should be kept clean and all connections tight. BE SURE THAT THE CHASSIS IS SECURELY GROUNDED. Twice a year, or as often as the cleanliness of the area may dictate, the louvers should be vacuumed and the interior thoroughly blown with DRY air.

## 12. MESSAGES

The five-digit alpha-numeric display is also used to display messages about the charger status. Messages longer than the five-digit display are

scrolled across the display. The three types of messages displayed are:

- a. ERROR MESSAGES
- b. OPERATIONAL MESSAGES
- c. PROGRAM MESSAGES

### 12.1 ERROR MESSAGES

The charger has a self-diagnostic feature to detect problems, which are then displayed using an ERROR message. If a charge cycle is in progress when an error message occurs, the cycle may be terminated. An ERROR message will be continuously displayed until "CLEAR" is pressed. If any problem cannot be resolved, consult your EnerSys service agent. The ERROR messages are shown below:

#### **CAUTION DOOR IS OPEN HIGH VOLTAGE EXPOSED:**

Close and secure the open charger door.

#### **CHARGE RAN TOO LONG:**

The battery requires over 12 hours to fully charge.

#### **CHARGER TOO HOT:**

The charger's temperature sensor indicates high temperature.

#### **CHECK AC PWR FUSES:**

One or more of the AC power fuses has opened.

#### **DC CORD UNPLUGGED OR DC FUSE BLOWN:**

The DC cord was unplugged or the DC fuse opened during a charge cycle.

#### **EEPROM BAD:**

The message displayed when the charger is unable to save data.

#### **LOW OUTPUT POWER:**

This is displayed when the charger is unable to deliver 80% of the programmed start charge current.

#### **OPEN SCR TEMP PROBE:**

The charger's internal temperature sensor has failed.

#### **OVER AH DELIVERED:**

More than 150% of the programmed amp-hours has been delivered to battery.

#### **OVER CURRENT:**

The start charge current is greater than 125% of the programmed current.

#### **OVER VOLTAGE:**

The start charge voltage exceeded 2.9 Volts per cell. Example: An 18 cell charger is connected to a 24 cell battery.

#### **PROGRAM VALUES TOO HIGH:**

The number of battery cells or the battery AH capacity programmed into the charger exceeded the chargers capacity.

#### **START TIME EXCEEDED:**

The charger remained in the start rate for seven hours.

#### **STUCK:**

A switch remained closed too long after being depressed.

## 12.2 OPERATIONAL MESSAGES

Operational messages are displayed as required before, during, and after a charge cycle. The information displayed by these messages is intended to inform the operator of charge option settings and charger performance. The list of operational messages is shown below (cc = number of cells, aaa = amps, xxxx = numerical values, hh-mm = hours-minutes):

### **THIS LOADHOG CHARGER AUTOMATICALLY ADJUSTS ITS OUTPUT TO CHARGE cc CELL BATTERIES RANGING FROM aaa TO aaa AH WITHOUT ADJUSTMENT:**

The greeting message given after AC power is applied.

#### **NEXT:**

This message is shown when the charger does not have a battery connected to it.

#### **PUSH START:**

The message displayed when the charger is connected to a battery that is ready to charge.

#### **-----:**

Five dashes are displayed to acknowledge an instruction.

#### **\*\*\*\*\*:**

A five character snowflake pattern is displayed when the onboard computer is processing information.

#### **NOBAT:**

This message is displayed if "MANUAL START" or "PAUSE/CONTINUE" is pushed and charger is not connected to a battery.

### **CHARGER SEES A cc CELL BATTERY STARTING CHARGE SELF TEST CHARGING A cc CELL BATTERY:**

The start up messages displayed when the charger is starting a charge cycle.

#### **TESTING FOR cc CELL BATTERY:**

This message shown if a battery appears to have less cells than the number of cells programmed.

#### **MANUAL EQUALIZE ON:**

This message is given when MANUAL EQUALIZE is pressed. It makes the charge cycle an equalize charge cycle.

#### **MANUAL EQUALIZE OFF:**

The message shown when "MANUAL EQUALIZE" is pressed, turning an equalize charge cycle into a normal charge cycle.

### **PAUSE WAS PRESSED CHARGER HAS STOPPED BATTERY MAY BE UNDERCHARGED ALL DATA SAVED PAUSE hh-mm:**

This is displayed when "PAUSE" is used to interrupt a charge cycle.

#### **PAUSE hh-mm:**

Message displayed while pause is in affect.

### **UNPLUG DC CORD AND PLUG IN DC CORD TO ACTIVATE:**

The message displayed when "DELAY START" is pushed without first disconnecting the charger from a previously charged battery.

### **DELAY ON OVERRIDES AUTO START PLUG IN DC CORD TO ACTIVATE:**

The message given if "DELAY START" is pushed when the charger is disconnected from a battery.

### **DELAY ON OVERRIDES AUTO START UNPLUG DC CORD AND PLUG IN DC CORD TO ACTIVATE:**

This is shown when "DELAY START" is pressed with "AUTO START ON" and a previously charged battery is still connected.

#### **DELAY hh-mm:**

The message displayed when a battery is connected with the delayed start ON.

#### **DELAY OFF:**

This is shown if "DELAY START" is pressed a second time.

### **STOP WAS PRESSED CHARGER HAS STOPPED BATTERY MAY BE UNDERCHARGED:**

The messages displayed when "MANUAL STOP" is pressed.

#### **CHARGER HAS STOPPED:**

This is displayed when the charger is not in a charge cycle or a delay start and "PAUSE" is pushed.

#### **TIME:**

Message displayed when the pause time is about to expire.

#### **xxx.x A:**

This value is displayed when "CHARGE CURRENT" is pressed.

#### **xx.xx V:**

The value shown when "BATTERY VOLTAGE" is pressed.

#### **aaa H:**

Pressing "AMP-HOURS RETURNED" will give you this value.

#### **hh-mm:**

The time displayed when "TIME ON CHARGE" is pushed.

### **xx BETWEEN AUTO EQUALIZE xx NEXT AUTO EQUALIZE:**

This is displayed when "EQUALIZE STATUS" is pressed.

#### **xxxx C:**

The value displayed when "COMPLETED CHARGES" is pushed.

### **cc CELLS aaa AHR hh-mm DELAY hh-mm PAUSE:**

The messages displayed when "CHARGER SETTINGS" is pushed (see 8.2.7).

#### **xx.xx V xxx.x A aaa AHR hh-mm:**

The values displayed when "LAST CHARGE DATA" is pressed.

#### **80%:**

Displayed after the battery reaches 80% of a full charge.

#### **READY:**

This is displayed when the charge cycle is completed and the battery is ready for use.

### 12.3 PROGRAM MESSAGES

Program messages are displayed only in the programming mode. The messages inform the operator of the current values programmed which can be changed by the user at his discretion.

Listed are the various programming messages.

**PRESS "ENTER":**

Instruction displayed when entering the program mode.

**DELAY hh-mm:**

The first message displayed in the program mode shows the delay time before the charger starts.

**COMPLETED CHARGES xxxx:**

This message shows the accumulated number of completed charge cycles.

**DISPLAYS xxxx:**

The message shows which display functions will be displayed during the charge cycle (see 8.3.3 ).

**ERROR:**

This is displayed when an incorrect entry was made, push "CLEAR" to erase.

**AUTO-START 0=OFF 1=ON DELAY START  
OVERRIDES AUTO START x:**

This message is displayed when the delayed start is ON.

**AUTO-START 0=OFF 1=ON x:**

This is displayed when the delay start is OFF.

### 13. PARTS LIST

The following is a list of parts found in the various model LOADHOG chargers. When replacing a part, **USE ONLY ORIGINAL FACTORY REPLACEMENT PARTS** of the correct size and rating.

DESCRIPTION	CHARGER MODEL			
	LH-6-550 12 V	LH-12-850 24 V	LH-18-850 36 V	LH-24-800 48 V
TRANSFORMER	84912330S	84912320S	84912310S	84912405S
VARISTOR INSULATOR	85713678S	85712642S	85712642S	85712642S
RELAY, AC	84013322S	84013322S	84013322S	84012673S
HEATSINK W /SCR	83113619S	83112688S	83112688S	83112688S
SCR	84313716S	84312948S	84312948S	84312948S
SHUNT	83613323S	83613257S	83613257S	83613257S
TAP STRIP	84613327S	84613321S	84613321S	84613321S
TERMINAL JUMPER	83713724S	83713443S	83713443S	83713443S
FUSE, DC	82810910S	82810901S	82810901S	82810901S
TAP STRIP PANEL	85713728S	85713539S	85713539S	85713539S
CABINET BASE *	85713694S	85713581S	85713547S	85713468S
COMPLETE CABINET *	85814776S	85814777S	85814778S	85814779S
SHORT SUPPORT *	-	-	85714278S	85714278S
LONG SUPPORT *	-	-	85714279S	85714279S
INNER PANEL	85713713S	85713542S	85713542S	85714226S
INNER COVER PANEL	85713702S	85713609S	85712898S	85714311S
CAPACITOR, LARGE	82013572S	82013423S	82013111S	82013751S
TRANSFORMER ID BOARD	80113487S	80113499S	80113509S	80113540S
VARISTOR	89012717S	89012717S	89012717S	89013966S
FUSE, F5-6, 2 AMP	82804687S	82804687S	82804687S	-
FUSE, F5-6, 3 AMP	-	-	-	82804688S
FUSE, TRS-R-7 OR FRS-R-7	82813783S	-	-	-
FUSE, F1-2, OTS-12	82813637S	-	-	-
FUSE, F1-2, OTS-15	82813363S	82813363S	-	-
FUSE, F1-2, OTS-25	-	-	82813362S	-
FUSE, F1-2, OTS-30	-	-	-	82813361S
FUSE, F1-2, OTS-35	-	82813636S	-	-
FUSE, F1-2, OTS-40	-	82813634S	-	-
FUSE, F1-2, OTS-50	-	-	82813633S	-
FUSE, F1-2, OTS-60	-	-	82812871S	82812871S



13. Parts List (continued)

**COMMON PARTS**

<b>DESCRIPTION</b>	<b>PART NO.</b>
TOP COVER *	85712153S
DOOR COMPLETE * ++	85714764S
CABINET, BACK & SIDES *	85713286S
COVER ANGLE *	85713293S
BASE ANGLE *	85713302S
DOOR LATCH ++	83714201S
KEYPAD ++	84513279S
DOOR MAGNET ++	83712798S
DOOR ADJUST BRACKET ++	85713296S
SPACER, DOOR HINGE ++	83713454S
FRONT DOOR ++	85714764S
BUMPER, SMALL ++	83713592S
HANDLE ++	85713536S
BUMPER 3/8" x 1/2"	83713466S
INNER DOOR	85713646S
CABLE CLAMP	83713782S
BUSHING, SB13-75-16	83704564S
MOUNTING RAIL	85712536S
DOOR SAFETY SWITCH	84512893S
DC CORD, W/ SB350	85212714S
DC CORD, W/ SB175	85214252S
TEMPERATURE TRANSDUCER	85812393S
TRANSFORMER POWER SUPPLY	84912550S
CONTROL HARNESS	85412942S
CONTROL MODULE	80113330S
CAPACITOR, .22 MFD	82014277S
BUSHING, SB750-10	83010917S
BUSHING, DC CORD	83702008S
SHUNT INSULATOR	85712947S
HEATSINK MOUNTING BRACKET	85712646S
FUSEHOLDER INSULATOR	85712616S
FUSEHOLDER, F4-8	82803837S
FUSE, F4, 7, 8, 0.5 AMP	82805135S
FUSEHOLDER, F9	82817842S
FUSE, F9, 1 AMP, FNQ1	82804630S
FUSEHOLDER, F1-2, LARGE	82812869S
REDUCER, FUSE, F1-2, OTS	82817176S

\* Parts included in complete cabinets

++ Parts included in complete door

# 14. WIRING DIAGRAM

