

TECHNICAL MANUAL

**UNIT, INTERMEDIATE DIRECT SUPPORT
AND INTERMEDIATE GENERAL SUPPORT
MAINTENANCE MANUAL (INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST)**

FIRE FIGHTING SYSTEM

FOR

LARGE TUG (LT)

NSN 1925-01-247-7110

This technical manual is an authentication of the manufacturer's commercial literature and does not conform with the format and the content requirements normally associated with Army technical manuals. This technical manual does, however, contain all essential information required to operate and maintain the equipment.

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**HEADQUARTERS, DEPARTMENT OF THE ARMY
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HEADQUARTERS
DEPARTMENT OF THE ARMY
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- I. Operation, Installation and Maintenance for Fire Detection System.
- II. Operation and Maintenance Manual for Halon 1301 Fire Suppression System.

NOTE

Not applicable to Hull No. LT801, LT804, LT805
Reference TM 55-1925-207-10 Para. 2-65
and section III of this manual for FM-200 operation.

- III. Installation, Operation and Maintenance Manual for Marine FM-200 Fire Suppression System.
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- 1-1. **Maintenance Forms and Records.** Department of the Army forms and procedures used for equipment maintenance will be those described by DA PAM 738-750, The Army Maintenance Management System.
- 1-2. **Reporting Errors and Recommending Improvements.** You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) located in the back of this manual directly to: Technical Publication Information Office, TACOM-RI, 1 Rock Island Arsenal, IL 61299-7630. A reply will be furnished directly to you.
- 1-3. **Preparation for Storage and Shipment.** Refer to Maintenance Section of the Operation and Maintenance Manual for Fire Detection System (Pyrotronics System 3).

NOTE

Not applicable to Hull No. LT801, LT804, LT805
Reference TM 55-1925-207-10 Para. 2-66 for FM-200
Operation and Preparation for Storage/Shipment procedures.

- 1-4. **Destruction of Army Materiel to Prevent Enemy Use.** Refer to TM 750-244-2 and TM 750-244-3 for instructions covering the destruction of Army Materiel to Prevent enemy use.

SECTION I

Operation, Installation and Maintenance for Fire Detection System

OPERATION INSTALLATION, AND MAINTENANCE MANUAL
FOR
FIRE DETECTION SYSTEM

U. S. ARMY LARGE TUGS

PREPARED FOR:
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3710 LAKESIDE COURT
MOBILE, ALABAMA 36693

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INTRODUCTION

The following manual is intended to be used by personnel responsible for operation, general periodic maintenance, service and repair of the Fire Detection System. Whenever you undertake to inspect, test, maintain, or service this system, always keep in mind that you are accepting responsibility for the safety of people's lives and protection of property and equipment. This equipment is designed and manufactured to meet the highest requirements. However, if this equipment is not maintained properly, it may not be capable of doing the job it is intended to do.

CP-35

Operating Instructions

OPERATION

In normal standby operation, all switches should be in normal position. The system power lamp should be on and the system alarm, system trouble lamps, zone alarm, zone trouble, audible signal circuit trouble LED indicators and all other indicators should be off.

When System Alarm Sounds

A. If system is used for fire detection, follow the response plan approved by the authority having jurisdiction. Check that every one is accounted for. Then, notify the Fire Department (If the system is connected to the Fire Department or a Central Station. this is done automatically by the control equipment). Keep in mind that the Fire Department or Central Station should be notified when resetting the system.

B. Audible device circuits associated with the silencable alarm output may be silenced by momentary operation of the ALARM SILENCE switch. Subsequent alarm conditions from another zone will cause the above audibles to again sound. DO NOT RESET THE SYSTEM. The zone LEDs will indicate the zone in which the alarming device is located. Locate the device initiating the alarm. This device will have its base lamp* on.

C. When the cause of the alarm has been located and corrected, reset the system by moving the RESET/LAMP TEST switch momentarily to RESET position. Reset all other switches that have been operated.

When a Trouble Condition Develops

A. The system trouble lamp and horn are activated. Call your authorized Pyrotronics Service Representative. The trouble should be diagnosed and repaired immediately.

B. The trouble buzzer may be silenced by moving the TROUBLE SILENCE switch to the SILENCE position. The trouble lamp will remain illuminated.

MAINTENANCE

To insure proper and reliable operation, the following inspection and testing schedule is recommended.

Every Six Months

A. Inspect all ionization detector heads for dust accumulations and when excessive, contact your authorized Pyrotronics Service Representative or factory for service.

B. Activate a detector or alarm initiating device. Check that base lamp lights* and that proper alarm and zone indications are given by the control panel. An ionization or photoelectric detector may be activated by blowing smoke into it. A thermal detector may be activated by an electric heat gun. A flame detector may be activated by holding a lighted match slightly below it.

IMPORTANT: If the system is connected to the Fire Department, or actuates an external system (fire extinguishing, etc) then move disconnect switches* to OFF position to prevent actuation. Be sure to reconnect at completion of inspection. Notify facility personnel that a system test is being performed so that any alarm soundings can be ignored during the test period.

C. Check operation of each detector/alarm initiating device on all circuits. Measure the sensitivity of each ionization detector with a Pyrotronics sensitivity checker (when applicable).

D. Check the supervisory circuits by operating the RESET/LAMP TEST switch to the RESET position. In this position, all visual indicators on the control panel should be lit and the trouble horn should sound.

Periodically Testing the System

A. The system should be tested at regular intervals to ensure its operational reliability and optimum performance. To test the system, activate a detector/alarm initiating device.

Check that all audible devices sound, that the system alarm lamp illuminates, and that the audible devices can be silenced*.

Check that the proper zone lamp responds.

B. Reset the system. Check that the system trouble lamp LEDs and horn and all zone lamps* are actuated when the reset switch is moved momentarily to the RESET position.

C. Return all switches to normal position.

D. If a disconnect switch is incorporated, and if the system is connected to a fire department, central station, or has external devices connected to it (fans, smoke door holders, fire extinguishing systems, etc) which are operated by the alarm controlled contacts, this equipment may be isolated from the alarm circuit during a test by moving the respective disconnect switch(es) to the DISCONNECT position. Operation of this switch prior to tests energizes the trouble lamp so that the switch will not be left in the DISCONNECT position inadvertently.

*When this feature is incorporated in the system.

Your local Pyrotronics authorized Service Representative is:

Name _____

Tel No. _____



Pyrotronics

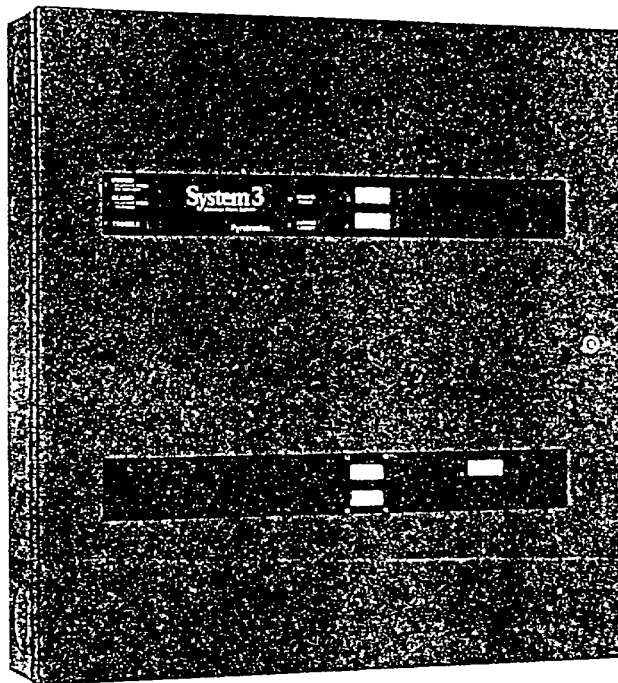
A Division of Baker Industries, Inc
Cedar Knolls, New Jersey 07927

Part No 315-084881A

These instructions should be framed and located adjacent to the control unit for ready reference.

Pyrotronics System 3

Universal Alarm Control



MODEL CP-35 CONTROL PANEL

INSTALLATION AND MAINTENANCE INSTRUCTIONS



Pyrotronics A Division of Baker Industries, Inc
8 Ridgedale Avenue, Cedar Knolls, New Jersey 07927

Part No 315-085063A

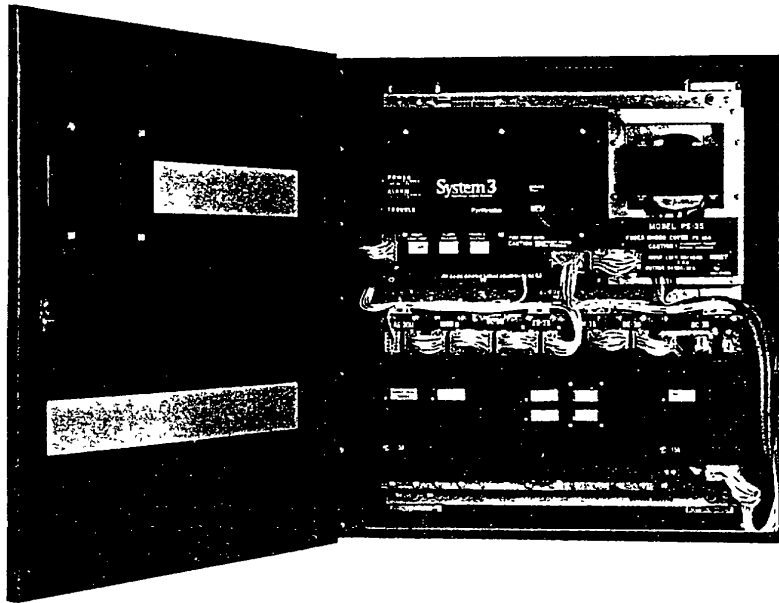


Figure 1
Interior View of CP-35
Displays Power Supply (PS-38)
and Modules Selected

INSTALLATION AND WIRING

The reliability of the Pyrotechnics System 3 depends to a great extent upon proper installation of the control panel, modules, detectors, associated equipment, and wiring. These Instructions outline the requirements for a satisfactory installation. Careful completion of each detail will provide an automatic detection and control system that will be dependable and give reliable operation. Connection terminals for the Control Panel are shown in Figure 3, WIRING INFORMATION. The wiring arrangement for a typical system with control panel and modules is shown in Figure 4, TYPICAL SYSTEM WIRING.

Connection terminals for the Individual modules are shown on the **Operation and Installation Instructions** sheet provided with each of the modules.

Any questions regarding the equipment or installation should be directed to an authorized Pyrotechnics Service Representative.

Mounting the Control Panel Enclosure (Figure 2)

The control panel enclosure should be securely fastened to a shock and vibration-free surface in a clean, dry area. It should be mounted with the top of the enclosure approximately six feet above the floor. The location should ensure that the control panel is easily visible and readily accessible for maintenance. Sufficient room is necessary to open the enclosure door.

Wiring should be in accordance with national and local codes for fire alarm circuits. Use knockouts provided. For AC supply power, use No 14 or larger AWG, 600V insulation wire.

The module/frame assembly should be picked up by the straps provided at the end of the wiring channels. Do not place hands behind the modules, as the circuitry may be damaged. Install the module/frame assembly in the enclosure, securing it to the studs with the 5/16 in nuts provided.

CAUTION: Do not overtighten nuts (do not use ratchet type wrench), as the studs can be broken if excessive force is applied.

Power Requirements

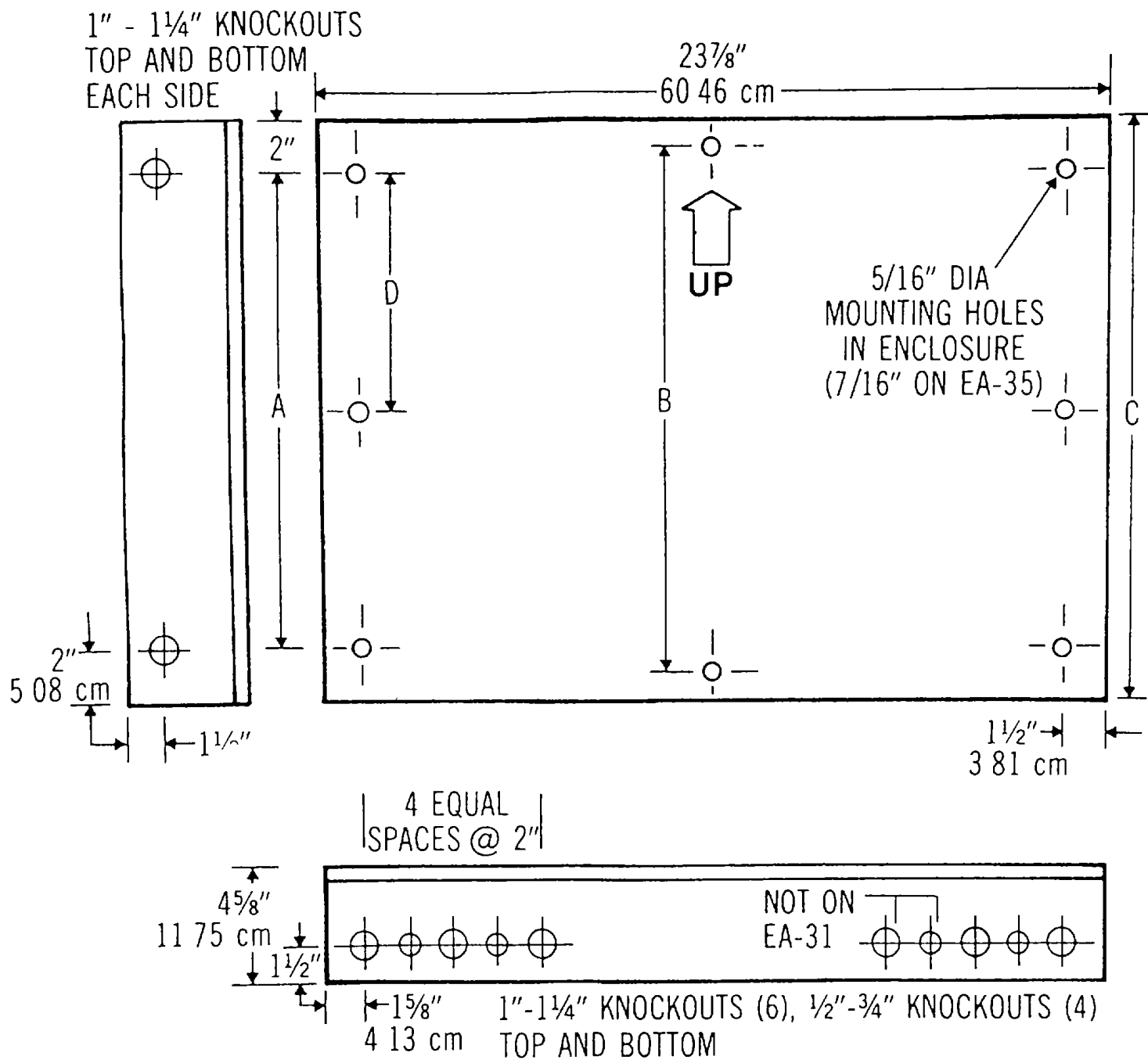
The CP-35 is designed to operate from the 24 VDC output provided from the Models PS-34 or PS-35 power supplies. Connection from the CP-35 to the power supply is made by a six-wire harness assembly.

The PS-34 or PS-35 power supply operates from a 120/240 volt, 50/60 Hz, three-wire, grounded neutral, power source. The power supply must be connected directly through separate circuit breakers or fuses, to the line side of the main power feed for the building. No other equipment may be supplied from these separate circuit breakers or fuses. Wire must run continuously from the AC power source to the PS-34/35 input terminals. Refer to Figure 3, WIRING INFORMATION.

Installing the Control Panel and Power Supply

The system power supply, PS-34 or PS-35, is installed in the upper right-hand corner of the enclosure and occupies three module spaces. Immediately to the left is the CP-35 Control Panel. These two modules together occupy the entire top tier. When the BC-35 charger/transfer module is used, it should be placed directly below the power supply module in the second tier. Battery Extender Module BE-35 and Meter Module MM-35, when used, are placed to the left of the BC-35 and an interconnecting cable to each and to the CP-35 should be engaged (See Figure 4.)

Other system modules may now be placed adjacent to the last battery associated module and connected to CP-35 at P2, via the JA-24 plug and harness assembly. Subsequent modules may then be placed to fill up the second tier and then the third, etc.



Enclosure	A	B	C	D
EA-31	10" 25.4 cm	—	14" 35.56 cm	—
EA-32	20 1/2" 52.07 cm	22 3/8" 56.83 cm	24 1/2" 62.23 cm	—
EA-33	31" 78.74 cm	32 7/8" 83.50 cm	35" 88.95 cm	15 1/2" 39.37 cm
EA-35	52" 132.08 cm	53 3/8" 136.84 cm	56" 142.24 cm	26" 66.04 cm

Figure 2
Enclosure Mounting Dimensions