

Traffic Sensor
Howaywall
895-DC15-T

1



MFB: KPS
RIDE: BLOOD RIVER D.R.

Fun Tech Industries
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Farrow



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BLOOD RIVER

DARK RIDE

GENERAL SPECIFICATIONS

RECOMMENDED TOOLS :

- A) 6' STEP LADDER
- B) LEVEL
- C) 5/16" ALLEN WRENCH
- D) HAMMER

REQUIRED SPACE:

62' IN LENGTH OVERALL
26.5' IN DEPTH OVERALL
21' IN HEIGHT OVERALL

RECOMMENDED LUBRICANTS :

- A) WD-40
- B) 90 WT. GEAR OIL
- C) GRAPHITE (COTE)
- D) NEVERSEIZE
- E) NON-DETERGENT OIL

ELECTRICAL:

220 VOLT SINGLE PHASE
100 AMP SERVICE REQ'D.
WINCH: 220 VOLT SINGLE
PHASE

SET - UP PROCEDURE

- 1) SPOT TRL. AND LEVEL IN BOTH DIRECTIONS. BLOCK PROPERLY
- 2) CONNECT PRIMARY ELECTRICAL FEED 220 SINGLE PHASE 100 AMP
- 3) UNPIN AND FOLD DOWN FRONT 2 PLATFORMS ONTO SUPPORT BRACES.
- 4) POSITION FRONT 2 FENCES AND LOCK INTO PLACE.
- 5) RELEASE ,FOLD OUT AND INSTALL FRONT AWNING BRACKETS
- 6) INSERT AND INSTALL CENTER FRONT AWNING.
- 7) FROM TRAILER ROOF UNPIN AND FOLD UP CENTER WING WITH THE BACK-LIT SIGN. INSERT AND PIN SUPPORT BRACES.
- 8) WINGS ON EITHER SIGN CAN NOW BE UNPINNED AND FOLDED UP. INSERT AND PIN THE CORRECT NUMBERED SUPPORT BRACE. THEY ARE NUMBERED 1 THRU 9.
- 9) HAND UP LADDER, FLAGS AND OVERHEAD LIGHTS. INSTALL ACCORDINGLY. PLUG IN 1500 WATT FIXTURES (220 VOLT)
- 10) UNTIE TENT TOP WHILE IN THIS STAGE
- 11) NOTE: SOME ELEMENTS OF SET-UP CAN BE DONE SIMULTANEOUSLY
- 12) ERECT ALL FLOOR BEAMS , JACKSTANDS, AND SPREADER BARS
- 13) UNPIN AND SWING OUT THE TWO END WALLS OF REAR BLDG.
- 14) LEVEL ALL BEAMS USING STRING LINE
- 15) SIMULTANEOUSLY MANUALLY PULL OUT FLOOR AND LOWER WITH WINCH UNTIL FLOOR WILL COME DOWN USING WINCH ONLY.
- 16) DISCONNECT WINCH NYLON STRAPS AND ROLL BACK ONTO SPOOL
- 17) UNLATCH REAR WALLS AND FOLD UP LOCKING INTO ADJACENT SIDE WALL. HANG INTERNAL CURTAINS 1 THRU 4.
- 18) INSERT ALL ROOF BEAMS. THEY ARE INTERCHANGEABLE.
- 19) CONNECT TRACK. INSTALL TWO SMALL SECTIONS AT DOORS. INSERT PINS INTO TRACK BREAKS AND TIGHTEN BOLTS USING ALLEN WRENCH. NO ELEC. CONNECTIONS REQD.
- 20) INSTALL STUNTS AS REQD. MAKE ALL ELEC. AND AIR CONNECTIONS.
- 21) PULL DOWN TENT TOP AND SECURE (ROPE/ BUNGY ETC.)
- 22) INSTALL EMERG. EXIT STAIRS AND HANDRAILS
- 23) SNAP ON BALLY CLOTH ON FRONT PLATFORM.
- 24) WITH BLOCK AND TACKLE, INSTALL THE TWO OUTER MECHANIZED MARQUEES. PLUG INTO OUTLET.
- 25) LIGHT TIGHT INSIDE OF BLDG (RAGS, CAULKING, DUCT TAPE ETC.)
- 26) CHECK VOLTAGE AT TRACK. ADJUST TAPS ON TRANSFORMER AS REQUIRED TO ACHIEVE 24 TO 26 VOLTS (AC)
- 27) GRAPHITE TRACK AS NEEDED. ALLOW TIME TO DRY.
- 28) CHECK OIL IN AIR COMPRESSOR AND DRAIN WATER.

DARK CAR MAINTENANCE

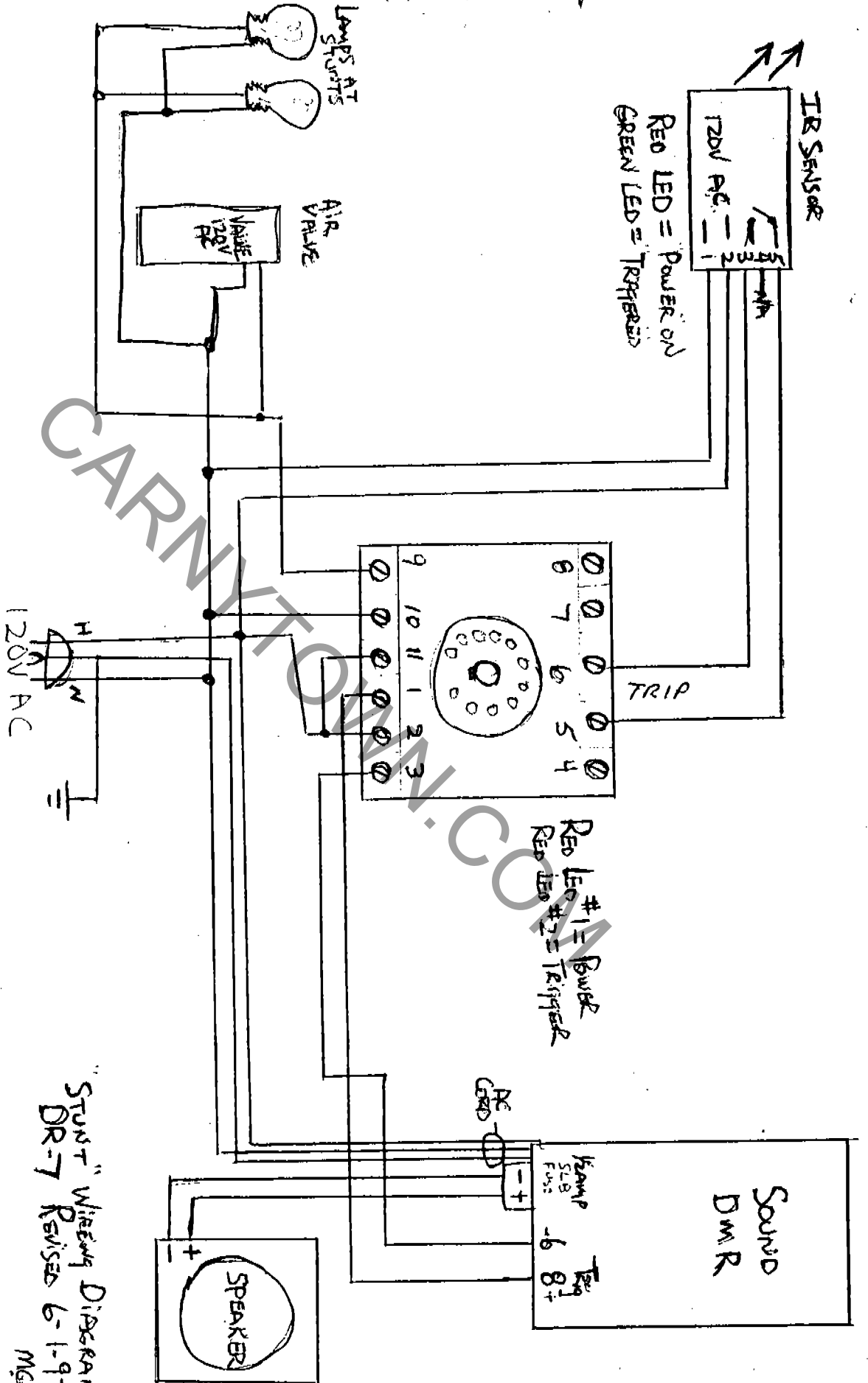
WEEKLY INSPECTION / ADJUSTMENT

- 1) CHECK CHAIN TENSION. ADJUSTMENT MADE BY LOOSENING OR TIGHTENING MOTOR DRIVE BRKT. AS REQUIRED. (3/4" WRENCH REQ'D.)
- 2) ADJUST DRIVE BELT TENSION. MOVE MOTOR AS REQUIRED. (1/2" WRENCH REQ'D.)
- 3) CHECK GEAR BOX FOR FLUID LEVEL. DO NOT OVER FILL.
- 4) CHECK AIR PRESSURE IN BOTH TIRES.
- 5) GREASE PILLOW BLOCK BEARINGS TWICE PER SEASON.
- 6) VISUALLY INSPECT ALL FASTENERS
- 7) GREASE DRIVE ' BALL' TO GUIDE UNIT WEEKLY
- 8) INSPECT LEAD WIRES. KEEP INTO THE PROPER POSITION. REPLACE THOSE BROKEN OR FRAYED.
- 9) INSPECT 'SHOES' FOR WEAR. THEY CAN BE SHIMMED FOR LONGER WEAR.
- 10) INSPECT RUBBER LORD MOUNTS. REPLACE AS BROKEN OR CRACKED.
- 11) INSPECT GUIDE WHEELS AS REQ'D. REPLACE IF DIAMETER FALLS BELOW 2.5".
- 12) INSPECT ALL COMPONENTS OF LAP BAR MECHANISM. LUBRICATE AS NEEDED. REPLACE ANY WEAK COMPONENTS WITH ORIGINAL PARTS.

RECOMMENDED OPERATIONAL PROCEDURE

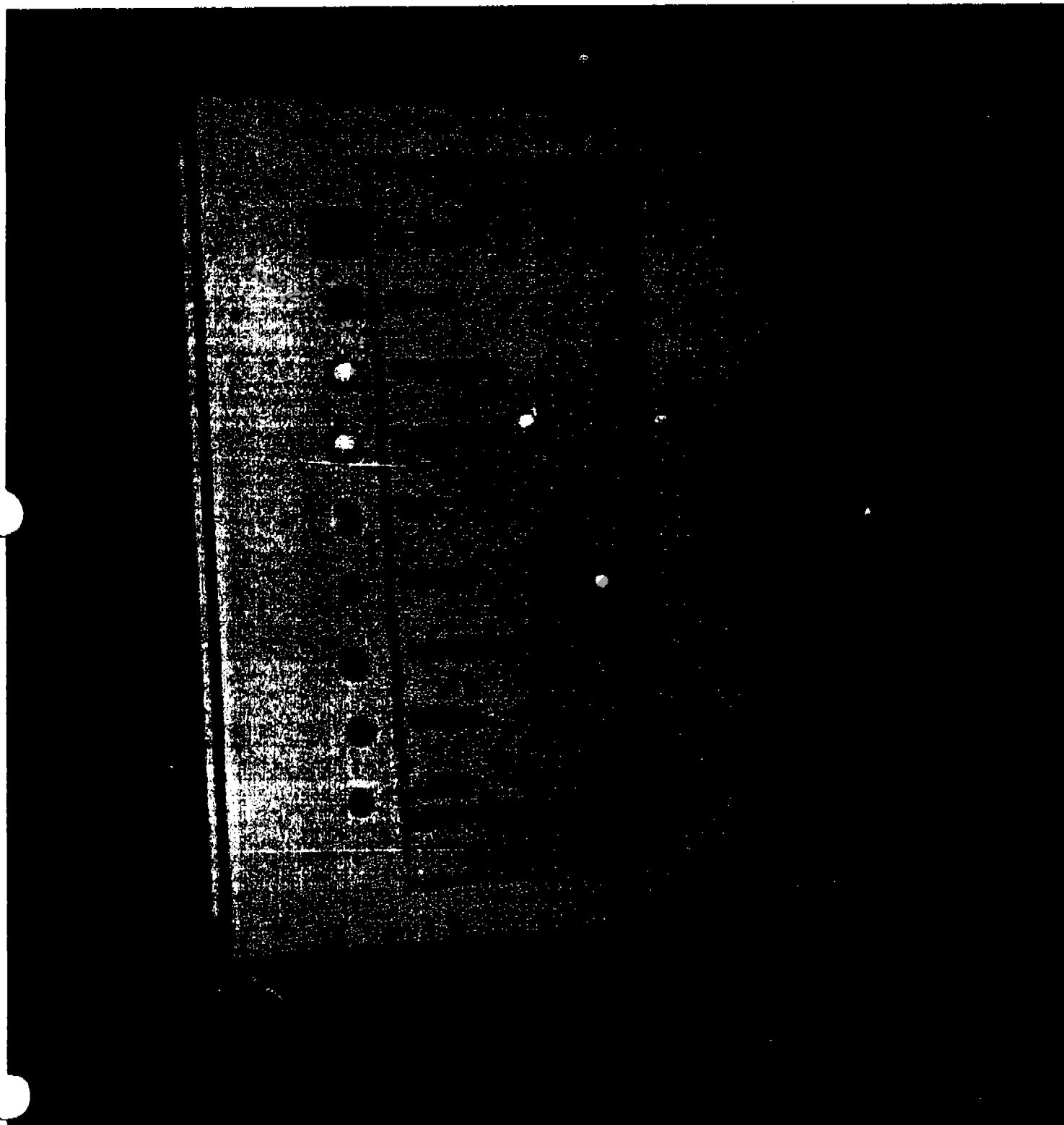
- 1) DO NOT OVERLOAD THE DARK CARS
- 2) REMEMBER: JUST BECAUSE YOU SEND A CAR IN, THERE'S NO GUARANTEE THAT IT WILL COME OUT. THEREFORE DO NOT KEEP SENDING CARS IN IF NO CARS ARE COMING OUT.
- 3) THE OPTIMUM PATTERN OF OPERATION IS THAT A MAXIMUM OF 4 CARS WILL BE INSIDE THE RIDE AT ANY GIVEN TIME AND 3 CARS WILL BE IN THE STATION.
- 4) AS THE CARS EXIT, UNLOAD AND MOVE UP IMMEDIATELY SO AS NOT TO ALLOW THE NEXT CAR TO CRASH INTO IT.
- 5) SEND EACH CAR IN AN EQUAL TIME DURATION OF PERHAPS 15 SECONDS. THIS WILL ALLOW PROPER SPACING SO AS NOT TO PULL EXCESSIVE CURRENT ON ANY ONE SECTION OF TRACK. THIS WILL ALSO ALLOW ENOUGH TIME TO UNLOAD EACH CAR BEFORE THE NEXT ONE COMES OUT.
- 6) DO NOT JOG CARS REPEATEDLY IN THE STATION AREA AS THE EFFECT WILL REDUCE ELEC. MOTOR LIFE.

TOWN.COM



KID POWER SYSTEMS

Automatic Safety Interlock System For
Fire / Smoke / Sprinkler
As Per N.F.P.A.



KIDPOWER SAFETY ALARM RELAY CONTROL PANEL OPERATION AND FUNCTIONS

PURPOSE AND FUNCTIONS OF SAFETY ALARM SYSTEM

- 1: The primary reason for installing a safety alarm system is to provide the necessary warning devices to aid the operator in assuring a safe environment for the customers. This is done by having approved fire/smoke detectors controlling an alarm relay control system. The alarm control system is basically an independently battery powered automatic emergency light source, a clearly audible warning horn, and the control needed to force the shutdown of the ride.
- 2: The control panel is monitoring for a loss of AC utility power and/or the opening of a switch in a smoke detector/sprinkler alarm.
- 3: The alarm system must be hooked to an independent source of electricity from batteries to power the horn and lights for adequate time to safely exit.
- 4: The alarm also must monitor the reserve of stored emergency power and alert an operator of a problem. If the stored reserves are deemed inadequate for proper operation, then the system disengages from the batteries and a warning light is turned on until the operator corrects the malfunction. In the meantime, the operation of the ride control is disabled.

These are the normal operating conditions AFTER the unit is properly installed and all power and control wires have been verified.

THIS ASSUMES :

- 1: The battery is hooked up and at normal voltage above 10 volts and the low battery lights are not "on".
- 2: The smoke alarm control loop is showing continuity and the panel indicating light is not on. (The normally closed switches and wiring are correct and not shorted across).
- 3: The AC utility voltage loss interface box is wired correctly for a normally closed wiring loop.
- 4: The ride "fold up switch" is in the normally closed position.
- 5: The override maintenance switch is in the "run" position.
- 6: The alarm control box has been "initialized" by doing a system reset.

**AFTER THE PREVIOUS CONDITIONS ARE COMPLIED WITH
THE FRONT PANEL LIGHTS WILL INDICATE:**

- A: Upon initial power up with internal capacitors discharged there will be a dead battery indication. This is normal, simply initialize system by pushing the reset button.
- B: If the internal logic board has been previously powered then the unit may indicate a "tripped" condition. This is also normal.

IF EITHER OF THE INPUTS HAVE BEEN TRIPPED:

- 1: The appropriate blue indicator light or lights will show what alarm circuit is being presently activated with an "on" condition.
- 2: The blinking reset LED will be "on".
- 3: All outputs will be operating.
 - A: The master relay will be "disengaged" shutting off ride power.
 - B: The emergency "lights" will be activated.
 - C: The "horn" will be activated.

OPERATOR ACTIONS AFTER ALARM SYSTEM HAS ENGAGED:

- 1: Push "HORN RESET" to silence the control panel horn warning. In smoke detectors with a built in horn, the alarm is not controlled directly with the control panel.
- 2: Observe panel input signal lights to determine cause of alarm or if alarm is still in progress.
- 3: If both "BLUE LIGHTS" are off, then try a "SYSTEM RESET".

NOTE - Only the control panel horn can be reset if an alarm signal is still present. The remote detectors with built-in horn alarms can only be temporarily reset with the "SYSTEM RESET" or by an interruption of battery power. The cause of the alarm must be remedied before the ride power can resume.

4: If the maintenance override switch is not in the "RUN" position, then the sprinkler\smoke alarm inputs are disabled for maintenance purposes.

5: If the A C override interface box is in the "UTILITY POWER OFF" position, then the A C utility alarm is disabled.

OPERATOR ACTIONS IF A DEAD BATTERY CONDITION OCCURS:

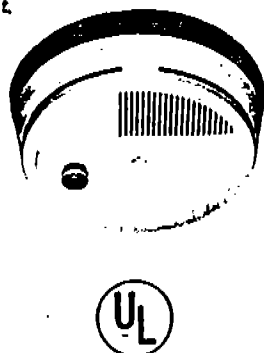
- o 1: Attempt a "SYSTEM RESET" to see if battery is been charged.
 - A: If "YELLOW 10 VOLT" light is "ON", then start battery charger immediately or the alarm may shut down again.
 - B: If "RED 8 VOLT" light comes back on, then battery power is totally gone or charger is not working.
 - C: If dead battery light and ride fold-up lights are "ON", then alarm will not respond to a system reset until the fold-up switch is closed.
 - D: The external emergency lamp switch is also disabled by the fold-up switch or a dead battery.

NOTE - The ride fold-up switch opens the control circuit for the master power relay, which shuts off the system power. This appears to the alarm sensor as a dead battery as the voltage was gone. The "SYSTEM RESET" will override the loss of signal after the fold-up switch has been closed.

THEREFORE - After each assembly and erection of the ride, the "SYSTEM" must be first energized by hooking up the battery voltage and completing the circuit in the fold-up switch, then finally initializing the controller by pushing the "SYSTEM RESET" button.



SL SERIES 445C
PHOTOELECTRONIC
SMOKE DETECTORS
120 VDC - 30 VDC



MODEL	DESCRIPTION
445C	Smoke detector
445CT	Smoke detector with 135° F heat sensor
445CR	Smoke detector with extra Form C alarm contact set
445CRT	Smoke detector with extra Form C alarm contact set and 135° F heat sensor

GENERAL DESCRIPTION

ESL Series 445C are Photoelectric, 4 wire system smoke detectors operating on the light-scattering detection principle. Series 445C smoke detectors are suited for Commercial, Industrial, Institutional and Residential fire alarm systems.

The detector is intended for 4 wire connection to UL listed 12 VDC and 24 VDC fire alarm control units. Each detector has one Form A (SPST-NO) alarm relay contact for connection to an alarm initiating circuit. An additional alarm relay contact (Form C SPDT) for auxiliary functions and/or an integral heat sensor are available as options on Models 445CR, 445CT, and 445CRT. Those equipped with auxiliary alarm contacts (option R) are listed as suitable for releasing service.

INSTALLATION

Series 445 smoke detectors mount to standard single gang or 4" octagonal (e.g. RACO #125 or equivalent) electrical boxes, and to WIREMOLD No. 5739 fixture boxes. The volume of the electrical box is determined by the number and size of conductors as required by the National Electrical Code (NFPA 70). All wiring must be installed in compliance with the NEC or the local code(s) having jurisdiction.

All field wiring connections are made to a terminal block on the printed circuit board. Access this area by inserting the blade of an 1/8" screwdriver in the small slot on the detector base, opposite the hinge. Gently depress the cover release tab, and swing the cover open. Remove the terminal block cover by gently pulling straight out. Dress all system wiring through the opening in the base of the smoke detector. Secure the detector to the mounting surface using the appropriate mounting holes and hardware. Strip 3/8" of insulation from each conductor and insert under the appropriate screw terminal. The barrier type terminal block will accommodate one wire of 14 AWG to 22 AWG under each side of each screw/clamping plate. This design prevents "looping" of wires and provides for supervision of conductors. See Diagram #2 WIRING for correct terminal usage.

CHECK ALL WIRING AND MOUNTING CONNECTIONS. Dress wiring neatly and re-install the terminal block cover. Close and securely attach the detector cover.

FINISHING THE INSTALLATION

All connections are completed and the wiring is checked for errors, apply power to the system. There should *not* be an alarm. If there is, power down the system and check each detector and the power supervision unit (if used), for correct wiring. If no alarm has occurred, check each detector's LED to verify that it is pulsing at

approximately one pulse every seven seconds. Go to the last detector (or the power supervision unit), and check the smoke detector power with a volt meter for the specified voltage.

To test each detector, use ESL Test Tool Model 401. Place the tool on the side of the smoke detector, between the hinges where the red dot is located. The magnet of the test tool will close a reed switch on the printed circuit board which, in turn, will simulate a smoke density greater than the alarm threshold of the smoke detector. Continue the test for 20 seconds or until an alarm occurs. If a successful test, the LED will light and the alarm relay contact (terminals 3 and 4) will close. To reset the detector, operate the system reset switch for 2 to 3 seconds to remove power from the detectors.

Control Unit alarm and all ancillary functions should be verified for a complete test of each detector. Follow this procedure for the remaining detectors.

TEST EVERY DETECTOR FOR PROPER OPERATION. This testing procedure should be conducted semi-annually by qualified personnel.

If a detector fails to function properly, pack it carefully and return it to the manufacturer for repair. Include an explanation of the suspected failure mode.

SUPERVISION OF SYSTEM WIRING

The detector's power is supervised by installing a power supervision unit for the appropriate control unit voltage at the end of the detector power circuit. The contacts of the supervision unit are wired in series with the system's alarm initiating circuit, and are closed when energized.

A break in the detector power circuit or a loss of power deenergizes the power supervision unit, opening the contacts and causing a trouble annunciation at the fire alarm control unit. See Diagram #2.

MAINTENANCE

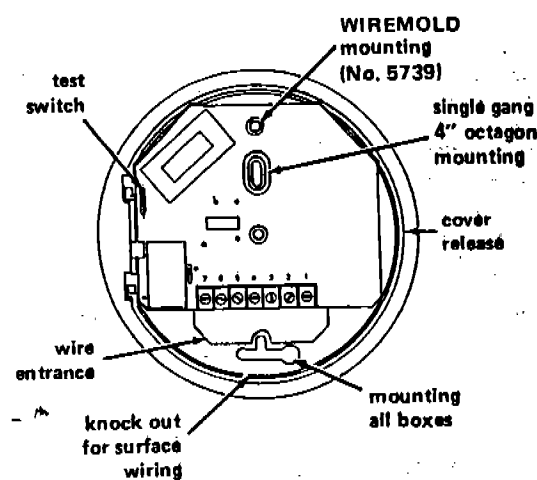
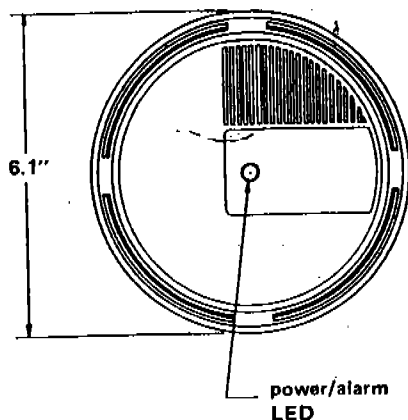
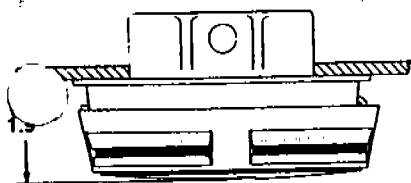
Series 445 smoke detectors are designed to require little maintenance. Once a year (more often in dusty environments), open the detector cover and use a vacuum and/or compressed air to loosen and remove dust from the screen surrounding the optical sensing mechanism. For detectors installed in hostile (dusty) environments, it may be necessary to purge the chamber with canned or clean, dry compressed air. It is important to notify all concerned parties when any maintenance or testing of a fire alarm system is to occur. Always test each detector after cleaning.

DO NOT attempt to adjust or alter the detector.

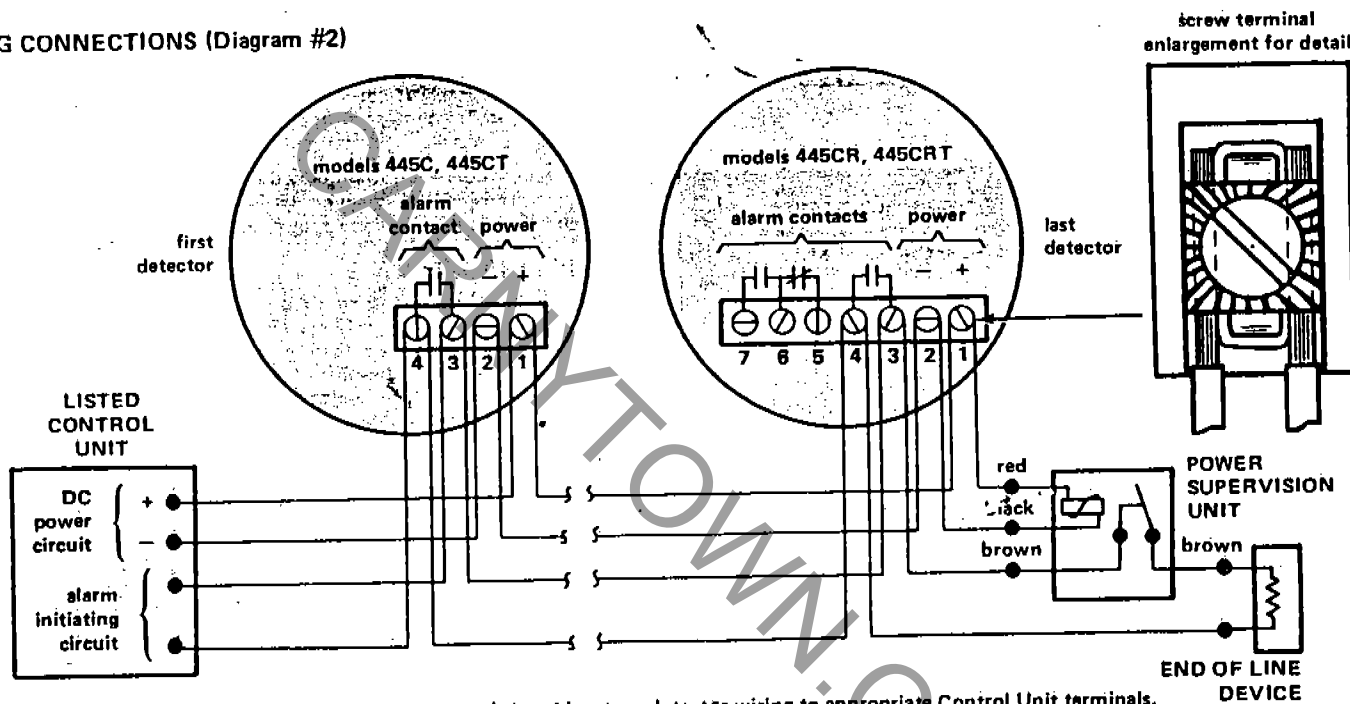
ELECTRICAL SPECIFICATIONS (nominal)*		
SMOKE DETECTORS - All Models		
Standby Voltage**	10-30 VDC or 10-30 VFWR	
Standby Current	40 µA @ 12 V; 100 µA @ 24 V	
Alarm Voltage**	10-30 VDC or 10-30 VFWR	
Alarm Current	15 mA @ 12 V; 30 mA @ 24 V	
Contact Rating (resistive)		
Models 445C, 445CT	1 Ampere @ 30 VDC or 120 VAC	
Models 445CR, 445CRT	2 Amperes @ 30 VDC or 120 VAC	
POWER SUPERVISION UNITS		
	MODEL 204A	MODEL 204C
Operating Voltage**	6-18 VDC	17-30 VDC
Operating Current	40 mA @ 12 V	10 mA @ 24 V
Contact Rating (resistive)	1 Ampere @ 30 VDC or 120 VAC	

* Actual Maximum-Minimum is +10%; -15% of nominal
**VDC - Filtered DC, 10% Ripple maximum
VFWR - Unfiltered Full Wave Rectified

OPERATIONAL DATA		
Operating Temperature Range	0°C to 50°C; 32°F to 120°F	
Operating Humidity Range	0 to 95% RH	
Detector Size:	Diameter	6.1 in. 15.5 cm
	Height	2.0 in. 5.0 cm
	Weight	8.8 oz. 0.25 kg
Power/Alarm Indicator LED	Standby	- Flashing
	Alarm	- Steady
Electronic Alarm Latch	Reset by momentary power interruption	
Sensitivity to Smoke	3.3%/foot (0.47 dB/m) nominal	



WIRING CONNECTIONS (Diagram #2)



For Emergency Operation (Class A), return detector wiring to appropriate Control Unit terminals.

CAUTION: DO NOT use looped wire under screw terminals. These terminals are designed to prevent looping of an unbroken wire around or under a terminal screw in a manner that would permit the looped wire to remain unbroken during installation. This would preclude supervision if the wire were to dislodge from the terminal.

Positive air pressure from wiring openings, conduit, mounting boxes, or plenums causing air movement through and away from the detector from behind may prevent proper operation. Seal all such openings causing unwanted air flows.

SMOOTH CEILING SPACING

On smooth ceilings, spacing of 30 feet (9.1 meters) may be used as a guide. Other spacing may be used depending on ceiling height, high air movement, and other conditions or response requirements.

In all installations, good engineering judgement should govern.

For more information on ESL Series 445 Smoke Detectors, including application information and detailed performance data, cleaning instructions, sensitivity verification procedure, and recommendations on spacing and placement, read Technical Bulletin 2282-TB "SERIES 445 PRODUCT GUIDE."

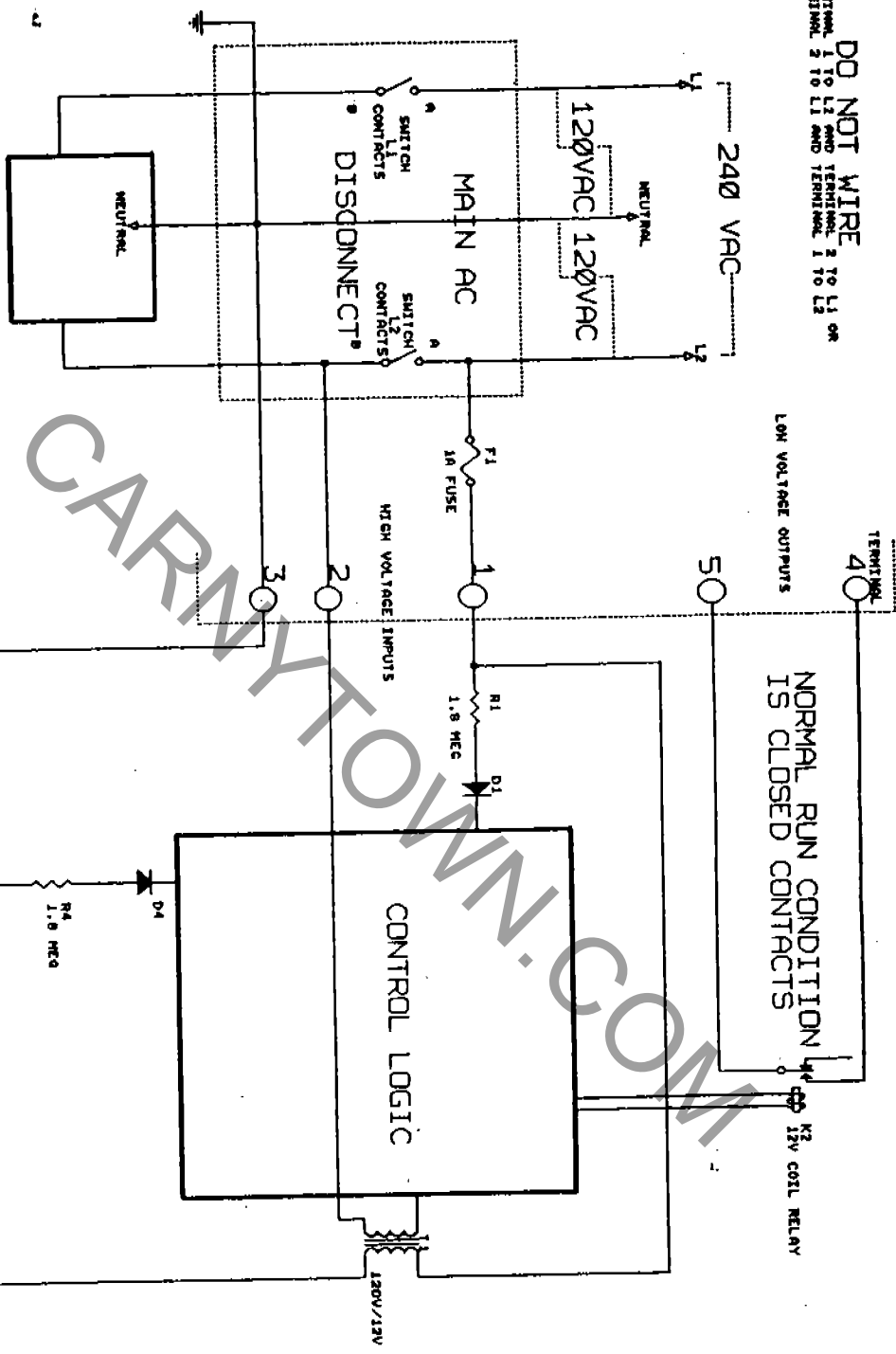
Consult National Fire Protection Association Publications, "NFPA 72E - 1984, Standard on Automatic Fire Detectors," and, where applicable, "NFPA 74 - 1984, Standard for the Installation, Maintenance, and Use of Household Fire Warning Equipment."



ELECTRO SIGNAL LAB, INC.
1022 Hingham Street, Rockland, MA 02370
Telephone (617) 871-1800

CAUTION
 ONLY HOOK TERMINAL 1 TO L2 & AND
 ONLY HOOK TERMINAL 2 TO L1 AND

DO NOT WIRE
 TERMINAL 1 TO L2 AND TERMINAL 2 TO L1 OR
 TERMINAL 2 TO L1 AND TERMINAL 1 TO L2

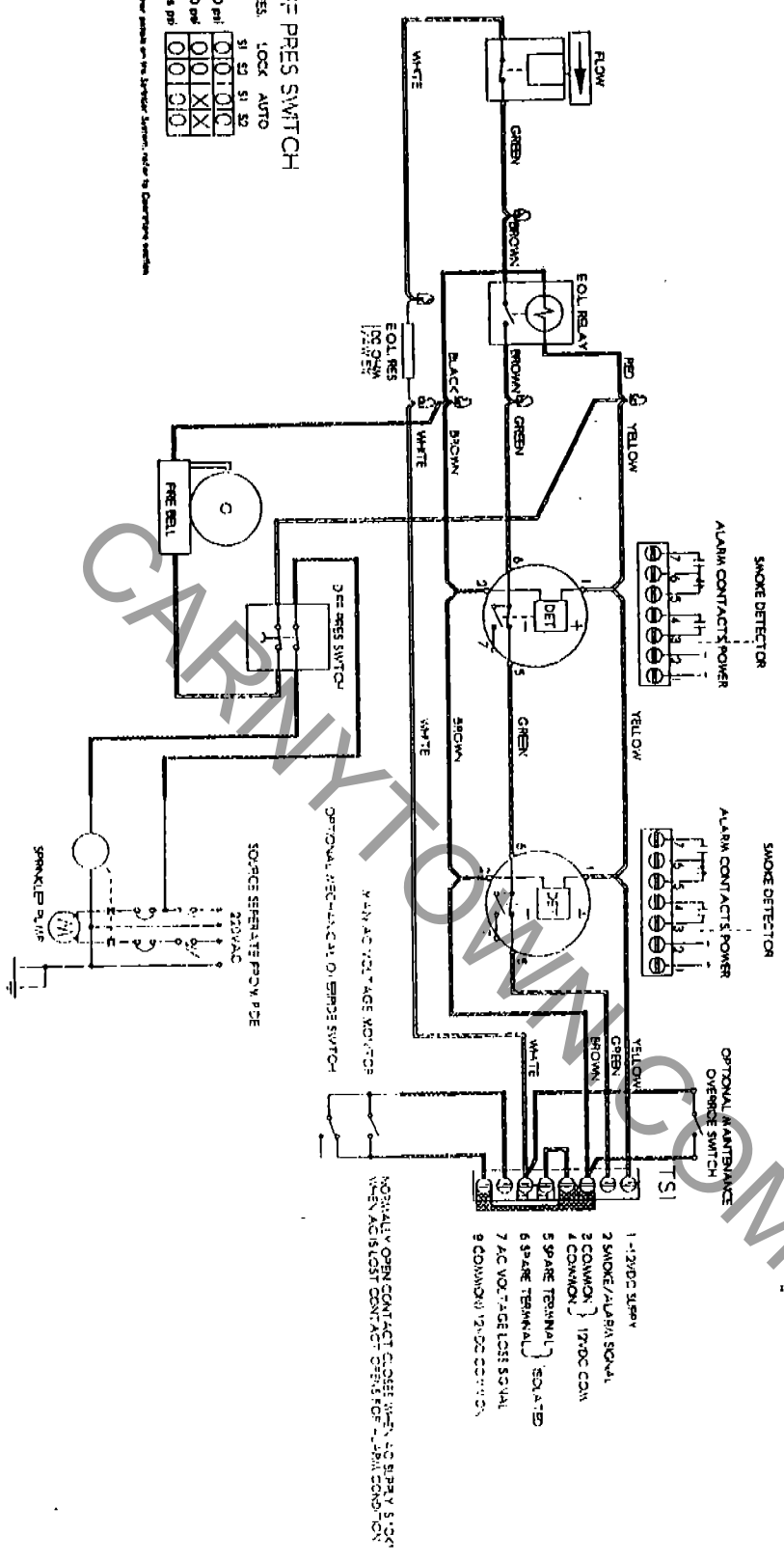


OPERATION

ALARM AND ALARMS OUTPUTS ARE THE NORMALLY CLOSED CONTACTS TO SILENCE THE ALARM WHEN INPUT VOLTAGE IS PRESENT AT L1 AND L2. IF THE DISCONNECT IS OPENED, A SIGNAL IS SENSED ACROSS THE OPEN SWITCH AND THE DISARM RELAY IS ACTIVATED. THE VOLTAGE LOSS ALARM IS DISABLED EVEN IF THE INPUT VOLTAGE IS LOST WITH THE DISCONNECT IN AN OPENED STATE. IF THE DISCONNECT IS CLOSED WITH THE INPUT VOLTAGE MISSING, THE ALARM WILL BE AUTOMATICALLY ENGAGED WHEN THE INPUT VOLTAGE IS BACK ON.

S-V TECHNOLOGY, INC	
6701 S.E. ALBERTA AVE	
PORTLAND, OR 97206	
TITLE AC OVERRIDE INTERFACE CIRCUIT	
Sheet Document Number	ACINFACE.BLK
Date	JUNE 14, 1991
REV	5

DIFF PRES SWITCH
 PRES. LOCK AUTO
 S1 S2 S1 S2
 0-10 psi 0101010
 10-30 psi 0101010
 30 Plus psi 0101010

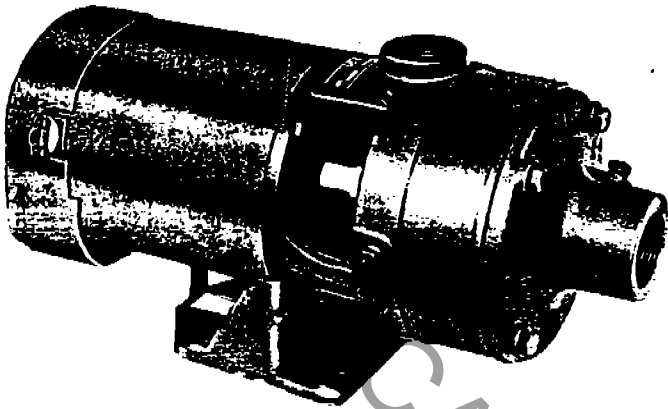


MATERIALS		DRAWING DESCRIPTION		REFER. & SPEC	
QTY	DESCRIPTION	QTY	DESCRIPTION	QTY	DESCRIPTION
1	SMOKE DETECTOR	1	SMOKE DETECTOR	1	SMOKE DETECTOR
1	DIFF. PRES. SWITCH	1	DIFF. PRES. SWITCH	1	DIFF. PRES. SWITCH
1	FIRE BELL	1	FIRE BELL	1	FIRE BELL
1	SOL. RELAY	1	SOL. RELAY	1	SOL. RELAY
1	SPRINKLER PUMP	1	SPRINKLER PUMP	1	SPRINKLER PUMP
1	TS1 TERMINAL BLOCK	1	TS1 TERMINAL BLOCK	1	TS1 TERMINAL BLOCK
1	WIRING	1	WIRING	1	WIRING

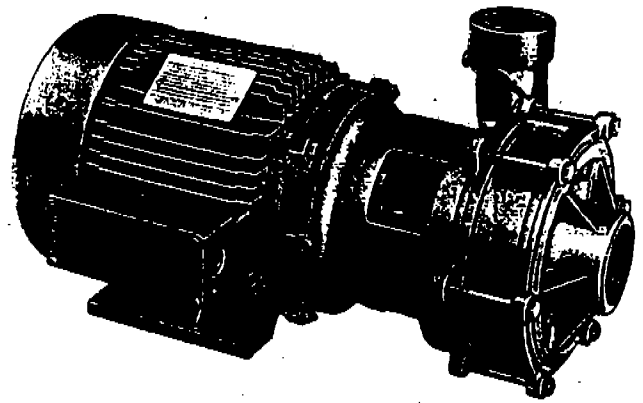


INSTALLATION, OPERATION, MAINTENANCE

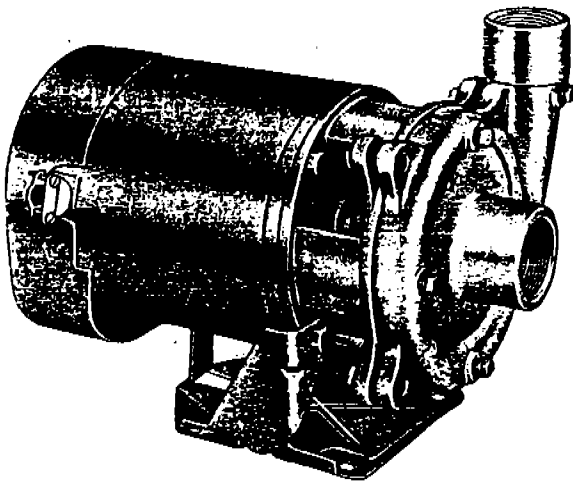
CENTRIFUGAL PUMPS



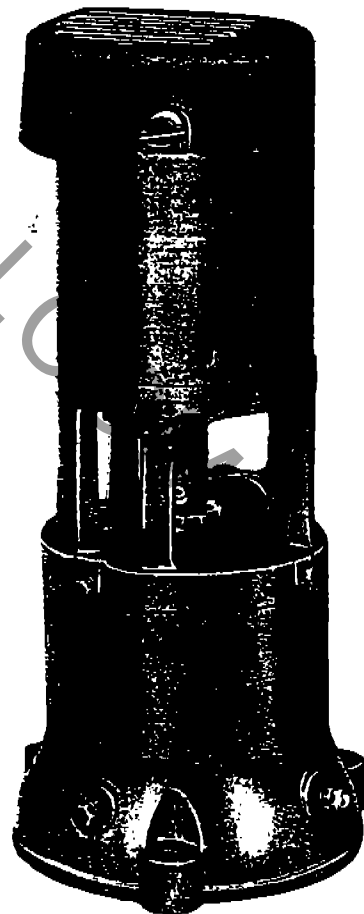
CJ101 Series



**C2000 Series
C22 Series**



CJ103 Series



C60 Series

SERVICE CHECK LIST

MOTOR WILL NOT RUN

If the motor is cold, check if power is reaching motor. Use a simple test lamp. If power is reaching a cold motor, the motor is probably burned out.

If the motor is warm, it usually indicates that the automatic reset overload has tripped. Check:

1. Motor wired for the same voltage as the supply. See wiring diagram under the motor terminal plate or the motor canopy.
2. Voltage at switch as the motor starts. A voltage drop of more than 10% indicates undersize wiring.
3. Mechanical drag in the pump or motor. An unprimed pump should start freely and spin after shutting off the power.

INITIAL PRIME

It is often necessary to reprime the pump several times to work all the air out of the system. If it still on't prime--

Check for leaks in the system. A drop in the water level in the pump body indicates a leak in the piping or foot valve.

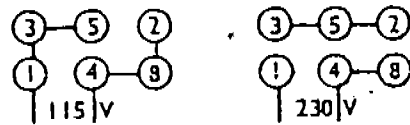
LOSS OF PRIME

This usually indicates that the well level has dropped below the inlet or leak has developed in the suction system.

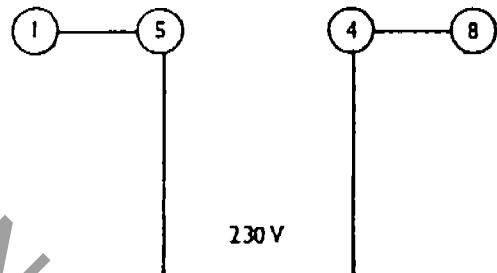
LOW PRESSURE

Check water level in well.
Check for leaks in the piping.

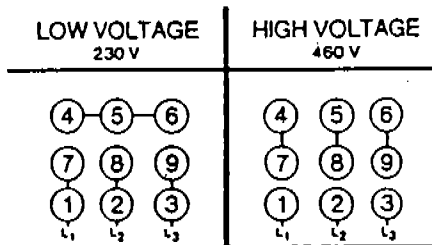
BALDOR 1 PHASE 3 HP MOTOR



BALDOR 1 PHASE 5 HP MOTOR



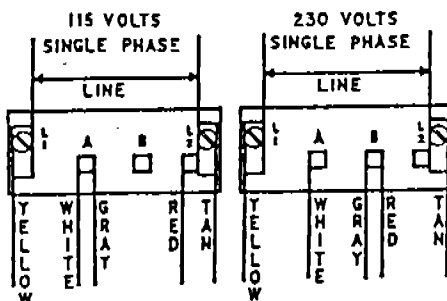
FLINT & WALLING 3 PHASE MOTORS



CONNECTIONS FOR 3 PHASE, 9 LEADS

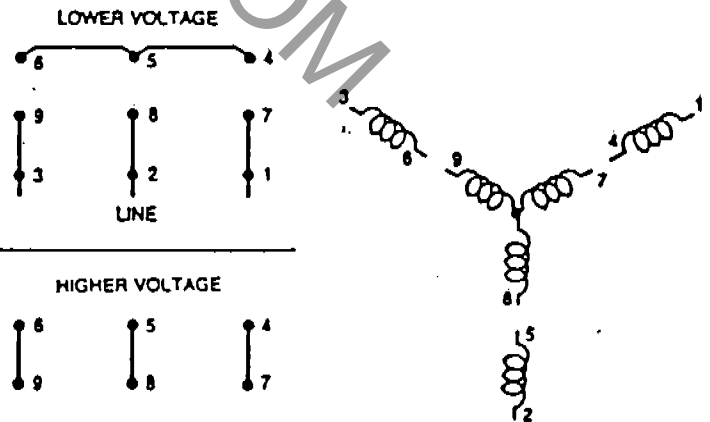
NOTE -- TO REVERSE ROTATION, INTERCHANGE THE EXTERNAL CONNECTIONS TO ANY TWO LINE LEADS

FLINT & WALLING 1 PHASE MOTORS



DUAL VOLTAGE WIRING DIAGRAM

BALDOR 3 PHASE MOTORS



Rotation is reversed by reversing any two line wires.

INSTALLATION INSTRUCTIONS

EOL200 End-Of-Line Module

GENERAL INFORMATION:

The EOL200 End-Of-Line Module is intended to be used as a line-supervision device in 4-wire fire detection circuits. It is designed to be installed at the end of the circuit run using an end-of-line (EOL) resistor as specified by the control manufacturer.

OPERATION:

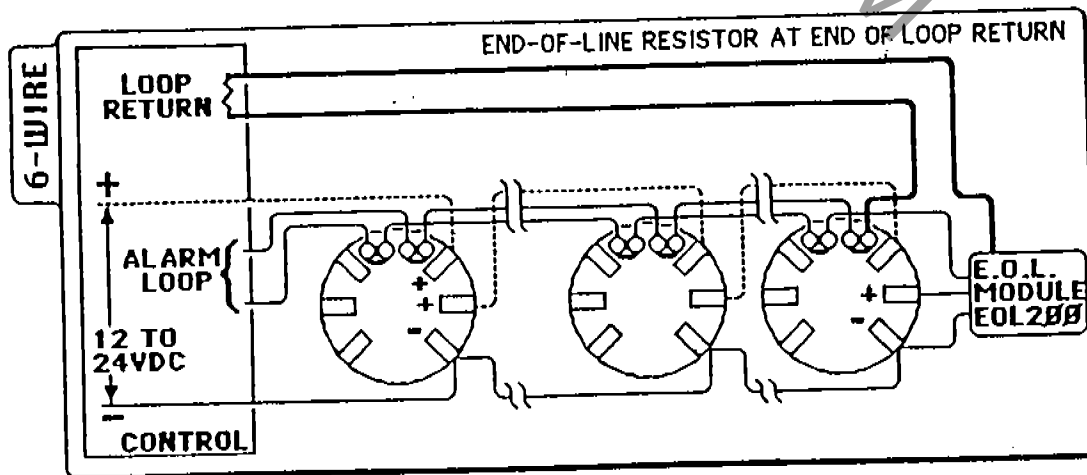
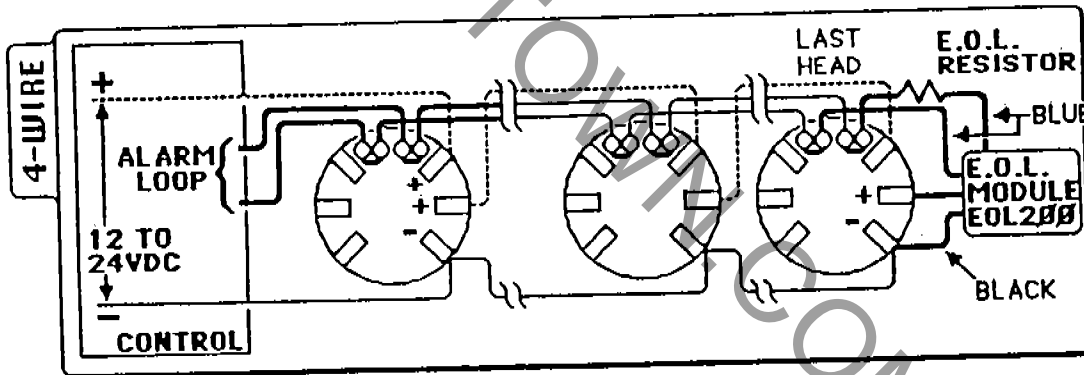
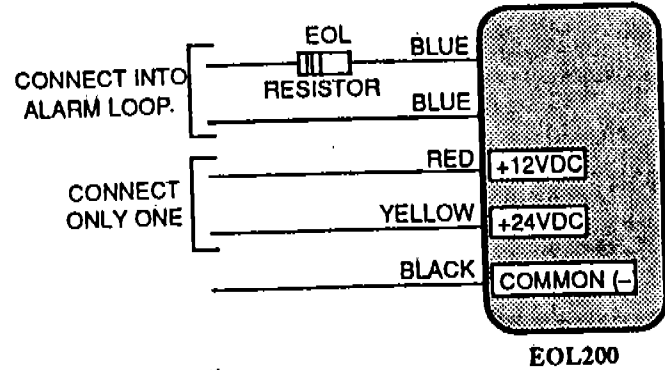
When properly connected, power is supplied to the module through the black and either red or yellow leads. While power is applied, a relay within the EOL200 electrically connects the blue leads together to form a closed alarm circuit which includes the EOL resistor.

Power may be disrupted for any number of reasons including a break in the power wiring, or wiring that is shorted together. Should power be removed from the EOL200, the blue leads will disconnect causing an open (or break) in the alarm circuit. The control, upon sensing the open circuit, will then initiate a trouble signal.

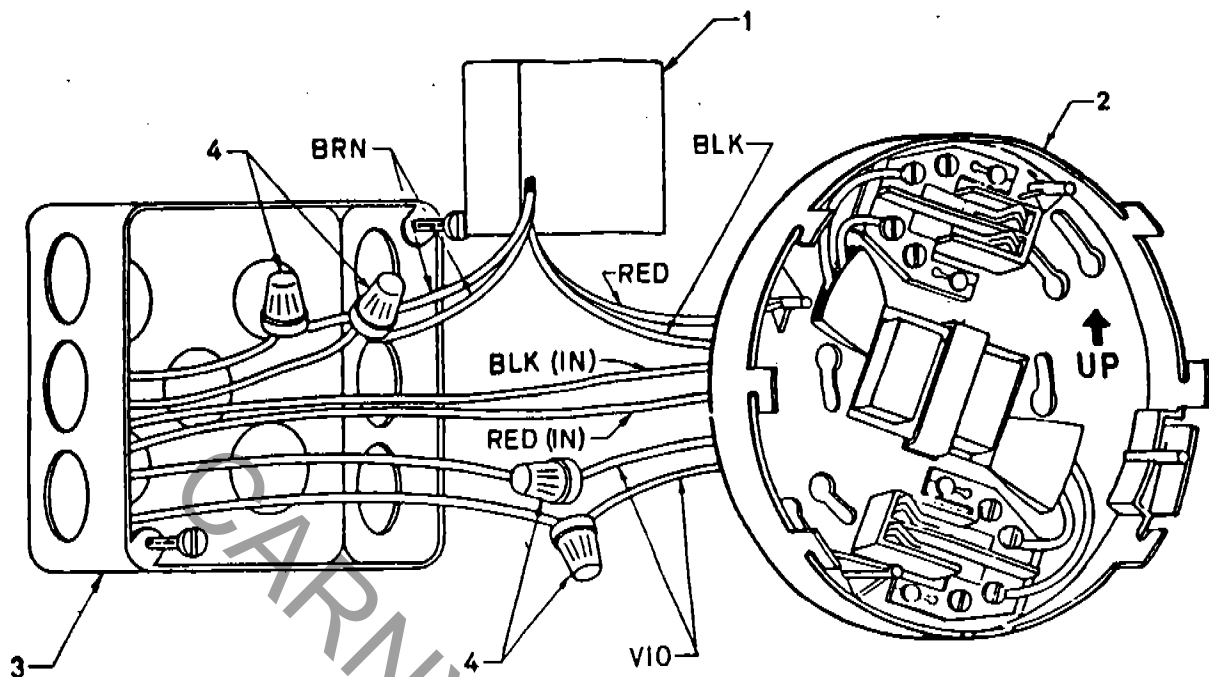
WIRING:

Shown below using DS200 smoke detectors is the EOL200 in a classical 4-wire circuit, and a 6-wire "alarm loop return" configuration. The following notes apply with use of the EOL200:

- 1) The EOL200 is connected to the last head on the circuit run so that the entire wiring run is supervised.
- 2) An EOL resistor as specified or supplied by the control manufacturer must be used with the EOL200. Polarity is not important, and the resistor may be connected to either blue wire. The EOL200 & resistor combination is then connected across the end of the alarm loop.
- 3) Connect either the red or yellow power lead, but not both. Use red for 12V circuits, or yellow for 24V circuits.



INSTALLATION INSTRUCTIONS
FOR END OF LINE RELAY MODULE



1. Wire nut (Item 4) incoming initiating Leads, observing color code. ie: BRN to BRN, VIO to VIO.
2. Connect appropriate Control leads as shown. Red (in) and Red from module to Terminal 1B, Black (in) to Terminal 2. Black of module to Terminal 3. (Wht/Yel to Terminal 4 and Blk/Wht to Terminal 3 if Smoke Alarm indicator is used.) If Red flying leads available, wire nut Red (in) to one Red lead, and Red from module to other flying Red Lead.
3. Neatly dress wires and Relay Module housing (Item 1) into junction box (Item 3), and mount detector connector housing (Item 2).
4. Caution: Be careful not to pinch wires.
5. Mount detector according to Manufacturers Installation Instructions.



DISCOUNT FIRE SYSTEMS INC.

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Builders Board #45441

MAINTENANCE AND OPERATION INSTRUCTION

Thank you for purchasing your fire protection system from Discount Fire Systems, Inc. Although this system is virtually maintenance free there are some things that need to be looked after.

The sprinkler heads in your system are maintenance free except that they should be kept clean from dust and care should be taken not to damage the head from impact from any obstacle. These heads are pre-set at the factory to activate at 165 , so keep heat sources away from them.

Your system is equipped with an inspectors test valve which should be used to check the alarm system. By opening this valve the pump should start and the electrical bell should sound. When the valve is closed the pump should shut-off and the bell should silence.

You will notice a pressure switch located in the riser of your system. Turning the lever on the side of the switch will activate the pump. This lever should be manually held to the on position until the pump remains running with out the lever being held. The pump should run until the system reaches operating pressure then the pump should stop. If a sprinkler head opens, the pump will run until the supply tank is empty, then the pump will shut off. The pump should never be run dry as this will damage the bearings and pump impeller.

If this system is subjected to freezing conditions, care should be taken to drain the water to prevent damage to the pump and piping.

