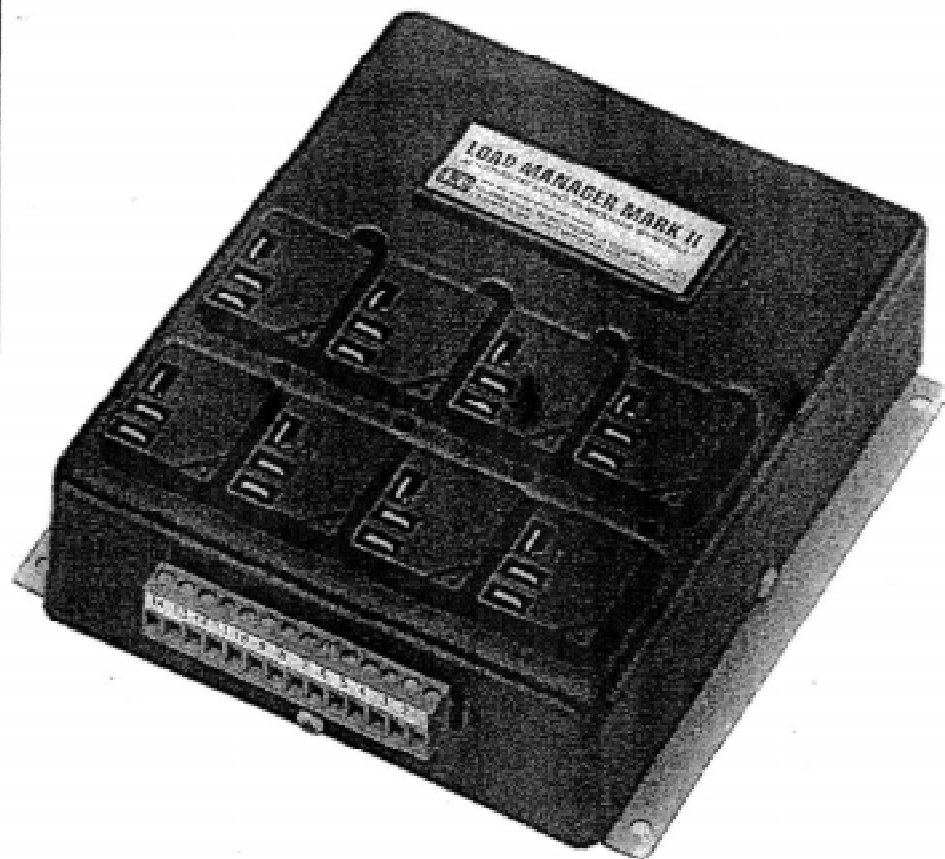
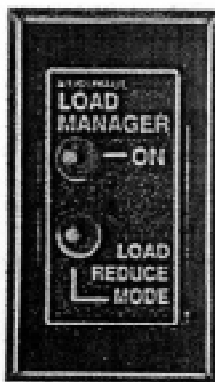


INSTRUCTION MANUAL

LOAD MANAGER MARK II

**A START-UP AND SHUT DOWN LOAD
SEQUENCER AND AUTOMATIC LOAD SHEDDING
SYSTEM WITH INTEGRAL RELAYS FOR 8 LOADS**

FOR 12 VOLT SYSTEMS



MODEL #091-60

3 YEAR WARRANTY



KUSSMAUL ELECTRONICS CO., INC.

170 CHERRY AVE., WEST SAYVILLE, N.Y. 11796

TOLL FREE: 800-346-0857

INTRODUCTION:

The Load Manager Mark II is a device which:

1. Sequentially energizes and deenergizes relays which are mounted inside the unit at approximately 1/2 second intervals in order to reduce transients in a vehicle's electrical system.
2. Detects when the vehicle's electrical load is greater than the output of the alternator. When this occurs, loads are sequentially deenergized until the alternator output is equal to the load.

The Load Manager Mark II contains the following features:

1. An electrical input which changes the Load Manager from an automatic load shedding device to operation only as an automatic load sequencer.
2. An automatic override of the Load Manager which operates all relays simultaneously by connecting one input to ground.
3. An adjustable time delay from .8 to 50 seconds which prevents load shedding until the adjusted timeout occurs. This timer starts when the Load Manager detects and overload. If the battery voltage returns to normal before the timeout, the timer is reset and no loads are shed.
4. An indicator panel which includes a Power ON LED indicator and a Load Reduce Indicator. This provides the vehicle's driver with the information that the Load Manager is in operation and that the loads are in the process of being shed,
5. Internally mounted relays which eliminate the need to supply separate relays in the vehicle. The loads are wired to the relay contacts at the top of the unit using standard 1/4" quick disconnect terminals. Each relay contact is rated at 30 amperes maximum at 12 volts.

LOAD MANAGEMENT PROGRAMMING:

Recognizing that priorities may change after an installation is made, the LOAD MANAGER MARK II is designed so that the sequence of load removal may be easily altered.

At installation the highest priority load is wired to relay K1 which is operated by terminal 3. The second highest priority load is wired to relay K2 which is operated by terminal 4. A total of 8 relays, decreasing in priority are operated by terminals 5, 6, 7, 8, 9 & 13. See Schematic, Installation, dwg A091-60-006.

Upon start-up, when the LOAD MANAGER MARK II operates as a sequential loading device, the loads are applied in priority order with the highest priority first.

When the LOAD MANAGER feature is enabled and excessive electrical loads cause a drop in battery voltage, the LOAD MANAGER MARK II will deenergize loads at approximately 60 second intervals starting with the lowest priority. Loads will be removed until the voltage returns to normal. The exact interval between load removals depends on the degree of overload and the capacity of the batteries. With only a slight overload and large batteries the time interval is extended.

After installation the user may vary the priority by altering the switch setting from the BASIC SETTINGS illustrated on dwg A091-60-005.

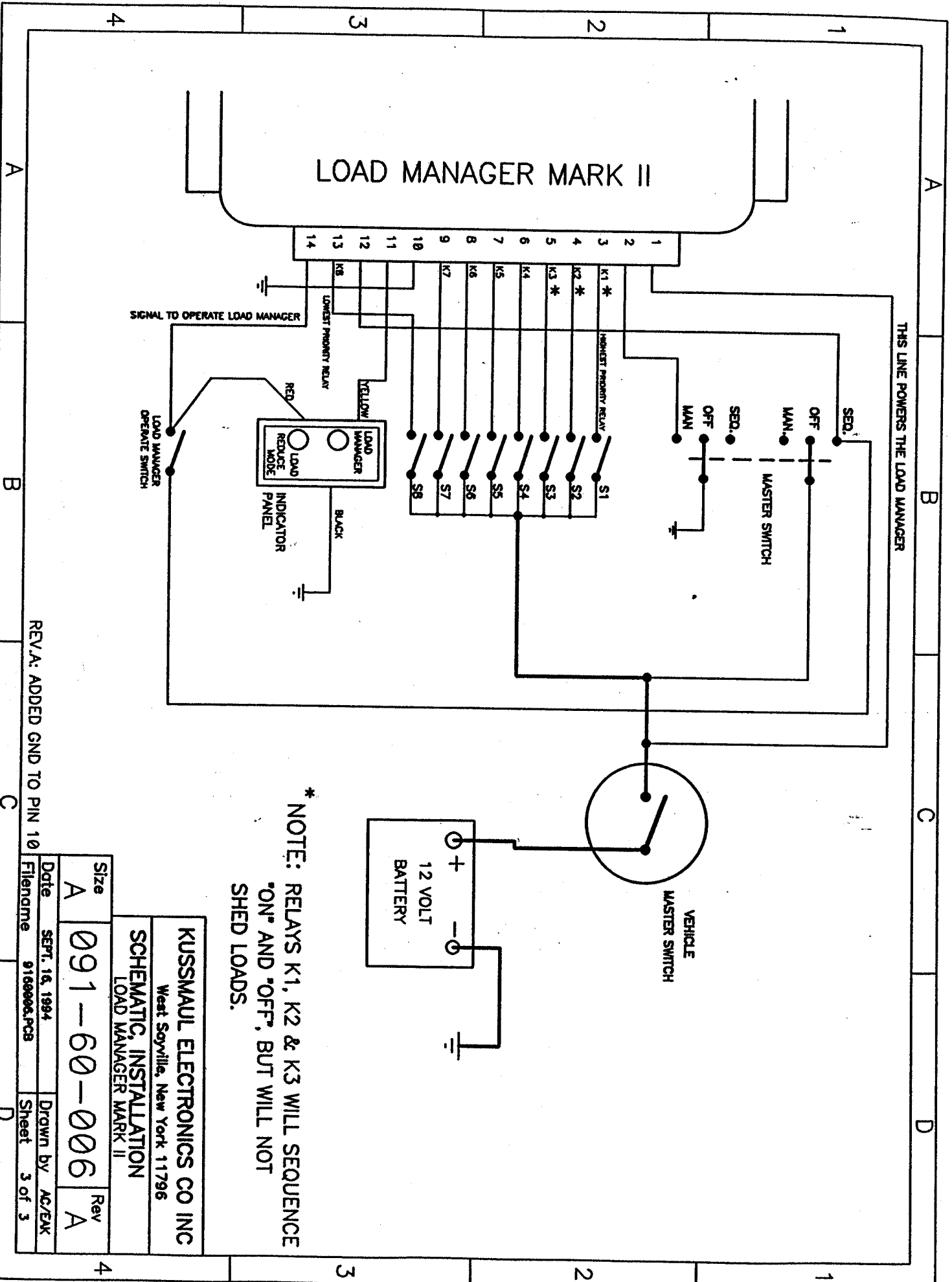
CAUTION

THERE ARE 5 SWITCHES, EACH WITH 5 LEVERS.
ONLY ONE LEVER ON EACH SWITCH MAY BE
IN THE "ON" POSITION

Each switch controls the operation of a relay. The actuation sequence of a particular relay is controlled by the individual levers of each switch. Lever #5 is the lowest priority, while lever #1 is the highest. It is thus possible to arrange the relay operating priority for the 5 lowest priority relays.

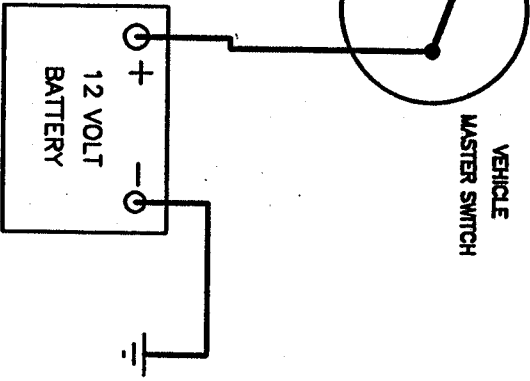
NOTE

The LOAD MANAGER MARK II contains the load switching relays. The manual switches wired by the installer control the 12 volt supply to these relays.
THE RELAY CONTACT CAPACITY IS 30 AMPS. DO NOT EXCEED



THIS LINE POWERS THE LOAD MANAGER

* NOTE: RELAYS K1, K2 & K3 WILL SEQUENCE ON AND OFF, BUT WILL NOT SHED LOADS.

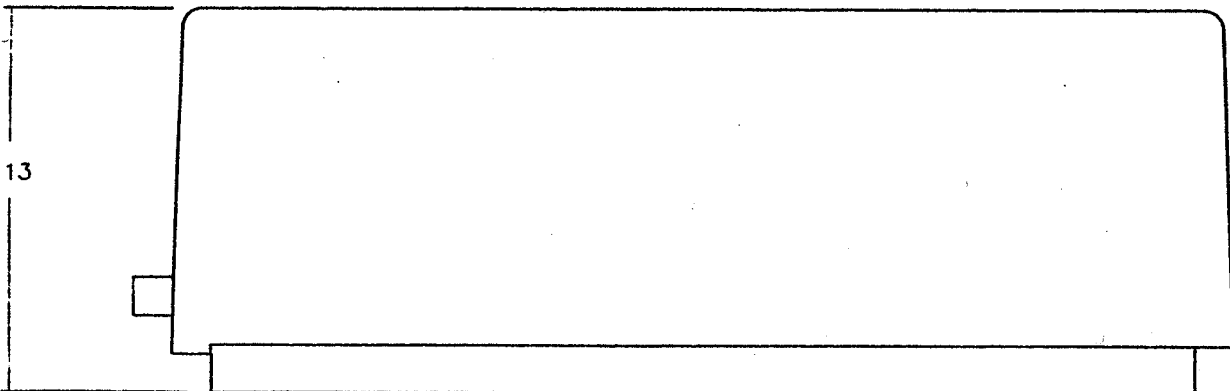
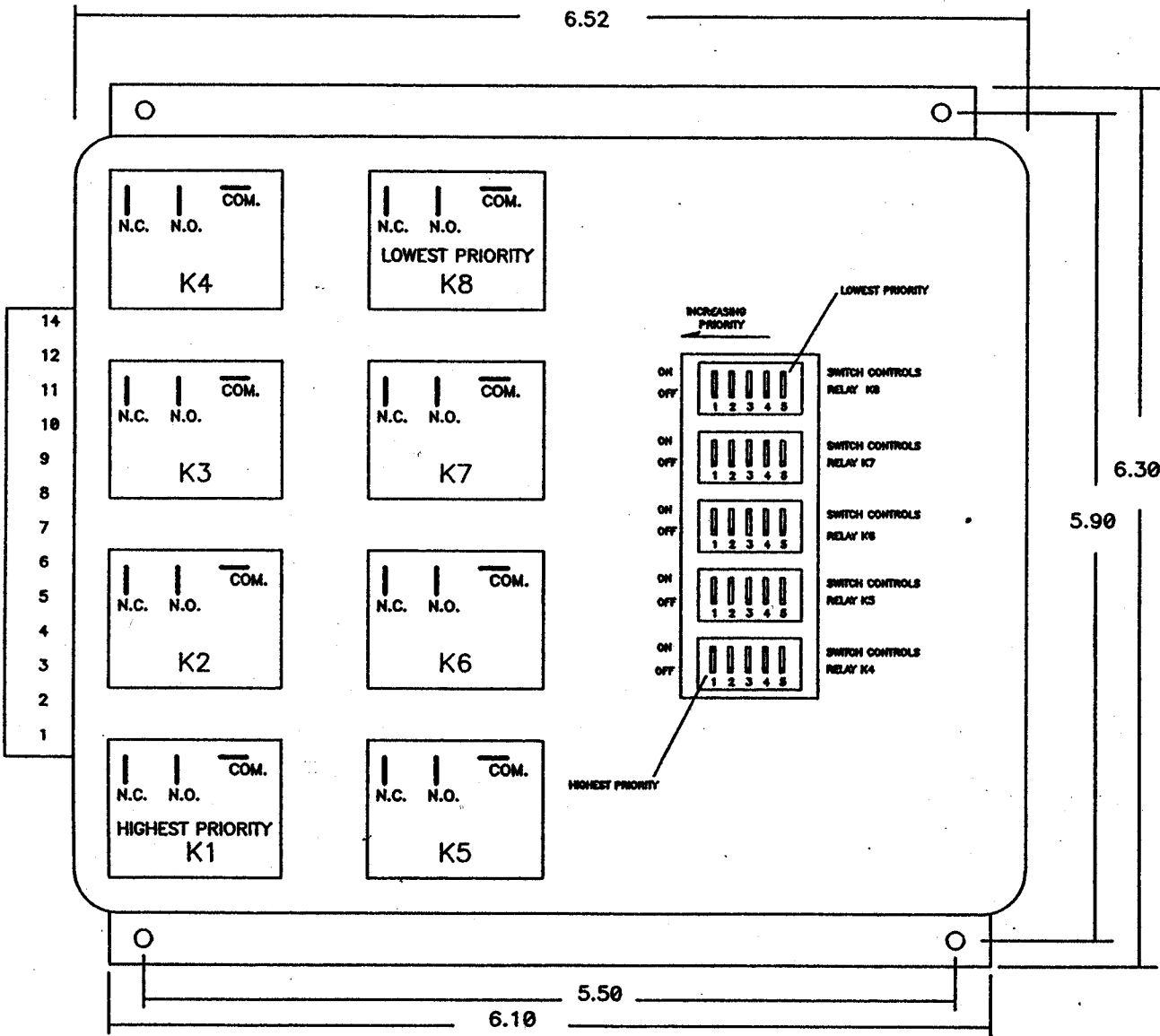


KUSSMAUL ELECTRONICS CO INC
 West Soyville, New York 11796

SCHEMATIC, INSTALLATION
 LOAD MANAGER MARK II

Size	A	Rev	A
Date	SEPT. 16, 1994	Drawn by	AC/EAK
Filename	9160006.PCB	Sheet	3 of 3

REV.A: ADDED GND TO PIN 10



INSTALLATION RECORD & WARRANTY

Date Installed _____

Installed By _____

Vehicle Identification _____

Vehicle Owner _____

WARRANTY

All products of Kussmaul Electronics Company Inc. are warranted to be free of defects of material or workmanship. Liability is limited to repairing or replacing at our factory, without charge, any material or defects which become apparent in normal use within 3 years from the date the equipment was shipped. Equipment is to be returned, shipping charges prepaid and will be returned, after repair, shipping charges paid.

Kussmaul Electronics Company, Inc. shall have no liability for damages of any kind to associated equipment arising from the installation and /or use of the Kussmaul Electronics Company, Inc. products. The purchaser, by the acceptance of the equipment, assumes all liability for any damages which may result from its installation, use or misuse, by the purchaser, his or its employees or others.