

INSTALLATION AND OPERATING INSTRUCTIONS FOR MODEL UPKM-3

SAFETY MESSAGE TO OPERATORS OF FEDERAL SIGNAL LIGHT/SOUND SYSTEMS



The lives of people depend on your operation of Federal products. It is important to read and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

Qualifications

- To properly use a light system you must have a good understanding of general vehicle operation, a high proficiency in the use of safety warning equipment and thorough knowledge of State and Federal UNIFORM TRAFFIC CODES.

Sound Hazards

- Your hearing, and the hearing of others in or close to your emergency vehicle could be damaged by loud sounds. This can occur from short exposures to very loud sounds or from longer exposures to moderately loud sounds. For hearing conservation guidance, refer to Federal, State or local recommendations. OSHA Standard 1910.95 offers guidance on "Permissible Noise Exposure."
- All effective sirens and horns produce loud sounds that may, in certain situations, cause permanent hearing loss. You should minimize your exposure times and wear suitable hearing protection.

Sound Limitations

- Maximum sound output will be severely reduced if any objects are in front of the speaker. If your installation has obstructions in front of the speaker, drive even more cautiously. Frequently inspect the speaker to ensure that it is clear of any obstruction such as mud or snow, which will reduce maximum sound output.

Signaling Limitations

- Be aware that the use of your visual and audible signaling devices does not give you the right to force your way through traffic. Your emergency lights, siren and actions are REQUESTING the right-of-way. Although your warning system is operating properly, it may not alert everyone. People may not hear, see or heed your warning signal. You must recognize this fact and continue driving cautiously.
- Situations may occur which obstruct your warning signal when natural or man-made objects are between your vehicle and others, such as when you raise your hood or trunk lid. If these situations occur be especially careful.

Driving Limitations

- At the start of your shift, you should ensure that the warning system is securely attached to the vehicle and operating properly.
- If the unique combination of emergency vehicle equipment installed in your vehicle has resulted in the light/siren controls being installed in a position that does not allow you to operate them by touch only, **OPERATE CONTROLS ONLY WHILE YOUR VEHICLE IS STOPPED.**
- If driving conditions require your full attention, you should avoid operating the light/siren controls while the vehicle is in motion.

Continuing Education

- File these instructions in a safe place and refer to them periodically. Give a copy of these instructions to new recruits and trainees.

Failure to follow these safety precautions may result in property damage, serious injury, death to you, or your passengers or to others.

A. GENERAL.

The UPKM-3 is designed to work with all models of emergency vehicles that provide a negative ground signal from the transmission park neutral safety switch. The module will function to interface the vehicle neutral safety switch to the kill terminal of the siren and other ancillary devices.

Three wires are provided to control vehicle equipment. These wires are connected internally to a two-amp relay. The connections are YELLOW, relay common; BLUE, relay normally closed; GRAY, relay normally open.

When shifted into neutral or park the Unitrol UPKM-3 will apply the signal that is on the common lead of the relay to the secondary equipment. This allows siren tones to be shut off, strobe lights to be dimmed, and a variety of other switching functions performed. When shifted into reverse or drive, the Unitrol UPKM-3 will remove the control voltage, allowing the siren tones and other devices to resume normal operation automatically.

Connection to the vehicle is a simple matter of tapping into power and ground, and the vehicle neutral safety switch wires.

The UPKM-3 is encapsulated to avoid shorting to the vehicle.

B. INSTALLATION.



In standard vehicles and in vehicles with key-less entry systems the starter circuit goes to the PCM module. Therefore the UPKM-3 cannot be used in these vehicles. Failure to follow this caution may result in damage to the vehicle PCM module. The UPKM-3 functions normally in Crown Victoria Police vehicles.

Installation time is approximately 15 minutes. The tools required are:

- Slip joint pliers
- Phillips #2 screwdriver
- Appropriate wrench for battery terminal

Move the vehicle to an area where you can gain access to the vehicle interior, exterior and get under the hood. You will be disconnecting the vehicle battery positive for a short period of time. During this time you will be unable to drive the vehicle, therefore we suggest moving the vehicle to a location where it can stay and will not block emergency vehicle access.

Disconnect the vehicle battery positive lead.

Select a location *inside the vehicle passenger compartment*, where the transmission neutral safety switch, power and ground are readily available. Secure the module to an appropriate vehicle structure. **The unit is not intended for engine compartment installation.**

It is the installer's responsibility to determine an appropriate location in the vehicle circuitry to connect the WHITE transmission switch input wire from the UPKM-3.

Make sure when mounting the module, that you do not interfere with vehicle air bag deployment or hamper the proper operation of other safety devices.

For typical installations, grounded input to Park Siren Deactivator used with Federal Signal or Unitrol sirens, follow the instructions in paragraph 1. Typical. For other user-defined applications, follow the instructions in paragraph 2. Alternate. For 2000 Chevy Impala, follow the instructions in paragraph 3. Chevy Impala. For 2000 and above Ford Crown Victoria, follow the instructions in paragraph 4. Ford Crown Victoria.



In all installations where the UPKM-3 module is being connected to an external relay or solenoid, fly-back voltage protection (from the collapsing electromagnetic field) MUST be installed at the relay or solenoid. This is to protect the UPKM-3 from the voltage spike that occurs and extends the life of the module.

1. Typical.

Make the following connections:

- a. BLACK lead of the UPKM-3 to ground. Tap into a ground wire or connect it to the vehicle frame.
- b. RED lead of the UPKM-3 to battery (+). Tap into a power-wire. Make sure the wire is continuous battery power via a user-supplied fuse, 1A.
- c. WHITE lead of UPKM-3 to the transmission neutral safety switch.
- d. YELLOW lead of the UPKM-3 to ground.
- e. BLUE wire is not used.
- f. GRAY lead of the UPKM-3 to the siren inhibit input of the siren.

g. BROWN lead of the UPKM-3 to the siren is not used. It may be tied off or trimmed.

2. *Alternate.*

Make the following connections:

a. BLACK lead of the UPKM-3 to ground. Tap into a ground wire or connect it to the vehicle frame.

b. RED lead of the UPKM-3 to battery (+). Tap into a power wire. Make sure the wire is continuous battery power via a user supplied fuse, 1A.

c. WHITE lead of the UPKM-3 to the transmission neutral safety switch.

d. YELLOW lead of the UPKM-3, relay common, to ground or battery (+) as required by user defined application.

e. BLUE lead of the UPKM-3, normally closed contact, or GRAY lead of the UPKM-3, normally open contact, to the control input of the user defined application, as required.

f. BROWN lead of the UPKM-3 to the siren is not used. It may be tied off or trimmed.

3. *Chevy Impala.*

Make the following connections:

a. BLACK lead of the UPKM-3 to ground. Tap into a ground wire.

b. RED lead of the UPKM-3 to battery (+). Tap into a power wire. Make sure the wire is continuous battery power, via a user supplied fuse, 1A.

c. YELLOW lead of the UPKM-3, relay common, to ground.

d. BLUE lead of the UPKM-3 is not used.

e. GRAY lead of the UPKM-3 to the siren-inhibit input of the siren.

f. Locate and cut the wire from the shift interlock solenoid to the Body Control Module (BCM).

g. WHITE lead of the UPKM-3 to the Body Control Module (BCM).

h. BROWN lead of the UPKM-3, to the shift-interlock solenoid. (See figure 1.)

4. *Ford Crown Victoria.*

Make the following connections:

a. BLACK lead of the UPKM-3 to ground. Tap into a ground wire.

b. RED lead of the UPKM-3 to battery (+). Tap into a power wire. Make sure the wire is continuous battery power, via a user supplied fuse, 1A.

c. YELLOW lead of the UPKM-3, relay common, to ground.

d. BLUE lead of the UPKM-3 is not used.

e. GRAY lead of the UPKM-3 to the siren-inhibit input of the siren.

f. WHITE lead of the UPKM-3 to the ignition switch start line. For 2005 and above, connect the white lead to circuit 262 (BRN/PINK) between central junction box fuse 12 and the digital transmission range sensor C167 pin 12.

g. BROWN lead of the UPKM-3 to the siren is not used. It may be tied off or trimmed.

C. MAINTENANCE.

Contact your local dealer/distributor for replacement parts availability or contact the Federal Signal Service Department at:

Service Department
Federal Signal Corporation
2645 Federal Signal Drive
University Park, IL 60466

800-433-9132
800-343-9706 (Fax)
empserviceinfo@fedsig.com

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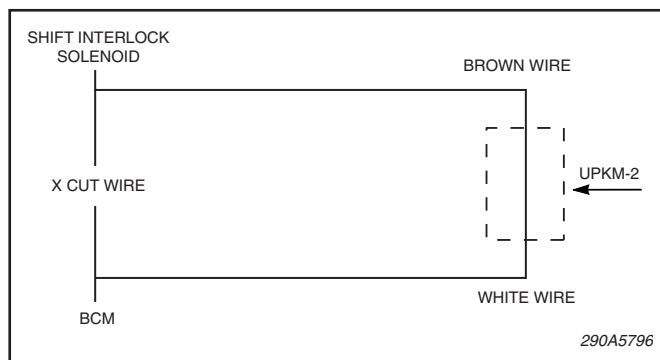


Figure 1.