

MTI INDUSTRIES, Inc.™
RV PROPANE GAS DETECTOR
MODEL 20-441-P
USER'S MANUAL

IMPORTANT
PLEASE READ CAREFULLY
 This manual contains important information. Anyone who installs this unit for use by others must leave this manual with the owner. **Do not throw this out.**

 **RECREATIONAL VEHICLE GAS DETECTOR**
 Manual #204207-7
 FILE NO. E151570

IMPORTANT: Always follow the operation and safety instructions of the gas appliance manufacturer.

 **WARNING**
CONNECT ONLY TO WIRING THAT CANNOT BE TURNED OFF BY A WALL SWITCH OR GROUND FAULT PROTECTOR.

IMPORTANT: Failure to follow the installation instructions may void the warranty.

SPECIAL FEATURES OF THE MTI INDUSTRIES™ GAS DETECTORS

This MTI Industries™ propane gas Detector is listed by Underwriters Laboratories, Inc. for use in recreational vehicles. Other explosive gases detected but not tested by Underwriters Laboratories include Acetone, Alcohol, Butane, Gasoline all of which you may have in your Trailer, Truck Camper, Van Camper or Motorhome.

When dangerous levels of propane gas (< 25% LEL) are detected the Detector signal will activate. A reset/mute circuit can be activated to temporarily silence the Detector while you ventilate.

RECOMMENDED WIRE GAUGE.....14 GA.
 POWER SUPPLY.....12 vDC
 WIRE COLOR CODE: RED SUPPLY (+)
 BLACK GROUND (-)
 FUSED CIRCUIT MAXIMUM.....15 AMP

 **WARNING**

LIMITATIONS OF PROPANE GAS DETECTORS

THIS UNIT will not work without power. Examples causing no power are: Cut lead wires, faulty circuit connection, a blown or missing fuse, improper supply (+) or ground (-) connections.

This Detector will only indicate the presence of propane gas at the sensor. Explosive gas may be present in other areas.

This Detector may not be heard. The Detector loudness meets or exceeds regulatory standards. However, if this Detector is in remote locations or behind closed doors the Detector may not be heard. Persons who are hard of hearing may not hear the Detector.

This Detector is not a smoke or fire Alarm. It is also not a carbon monoxide alarm.

This Detector is not suitable for installation in hazardous areas as defined in the National Electrical Code.

HOW TO TAKE CARE OF YOUR DETECTOR

To keep your Detector in good working order, you must:

- **Test the Detector weekly.** (See “TEST PROCEDURE”)
- **Observe the color of the indicator light** on the front of the unit regularly. (See “Operating Instructions”)
- **Vacuum the dust off the Detector cover weekly,** (more frequently in dusty locations), using the soft brush attachment of your vacuum.
- **Clean the Detector cover weekly.** Hand wash using a damp cloth, or paper towel. Dry with a soft cloth.
- **DO NOT SPRAY CLEANING AGENTS OR WAXES** directly onto the front panel. This action may damage the sensor, cause an Alarm or cause a malfunction.

WHERE TO INSTALL GAS DETECTORS

This Detector is UL® listed for installation in recreational vehicles. Install this Detector near sources of a potential gas leak. Some potential sources are a furnace, water heater, stove or oven. If potential sources of a gas leak are in separated areas, MTI recommends installing a Detector in each area. **See Figure 1 and 2.**

CAUTION: Propane is heavier than air. For propane gas detection, install this Detector from 4 to 20 inches off the floor.

 **WARNING**

WHERE NOT TO INSTALL THIS GAS DETECTOR. See Figure 3.

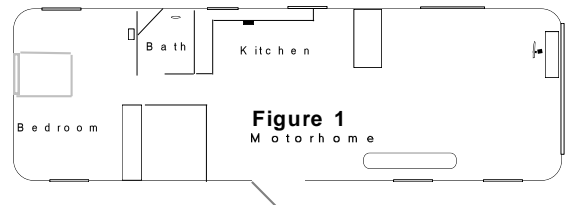
- **BEHIND FURNITURE, DRAPES, IN CLOSETS OR AREAS THAT WILL BLOCK AIR FLOW TO THE DETECTOR.**
- **WITHIN 12 INCHES OF EXTERIOR DOORS, WINDOWS, HEATING OR RETURNS VENTS, OR OTHER DRAFTY AREAS.**
- **IN OR ON OUTSIDE WALLS**
- **TO A WALL SWITCH CONTROLLED POWER LINE, GROUND FAULT CIRCUIT OR CIRCUIT BREAKER.**
- **NOTE:** Older homes and RVs may have little or no insulation and therefore are more drafty. Carefully consider mounting locations.

INSTALLATION INSTRUCTIONS

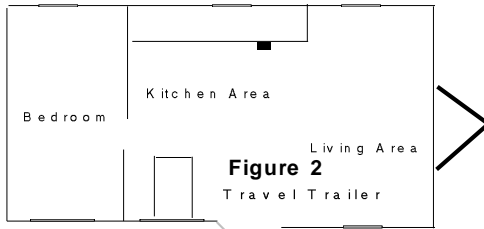
Power Supply 12 vDC. Connect the Detector to a properly fused circuit. All connections must be in accordance with the National Electrical Code.

CAUTION: ONLY USE UL® APPROVED CONNECTORS DISCONNECT POWER UNTIL THE INSTALLATION IS COMPLETE

20-441-P: REFER TO (“WHERE TO AND NOT TO INSTALL GAS DETECTOR”) Install the back plate and drill a 1/4” hole for the power leads. Connect the RED (+) power lead to the fused circuit. Connect the BLACK lead to Ground (-). Slide the Detector enclosure onto the mounting plate. Reconnect the power supply.

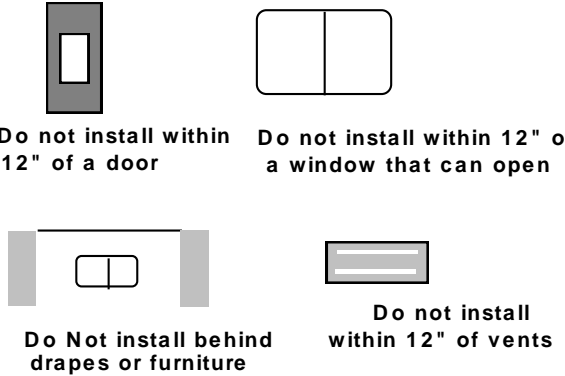


■ Alarm Location Minimum Protection




■ Alarm Location Minimum Protection

DO NOT INSTALL Figure 3



OPERATION

 **WARNING:** This Detector cannot detect propane gas or sound the Alarm for two minutes after it has been turned on.

POWER ON: When powered the LED color will be Green (Operational).

TESTING

⚠ WARNING: TEST THE OPERATION OF THIS DETECTOR AFTER THE RECREATIONAL VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE.

⚠ WARNING: DO NOT USE A CIGARETTE LIGHTER. THE BUTANE GAS MAY DAMAGE THE SENSOR.

1. Simply press the Test/Mute switch at any time the Detector is powered. The LED should turn RED and the Alarm should sound. Release the switch.

IMPORTANT - If this Detector does not test properly return it immediately for repair or replacement.

ALARM SIGNAL

The Green LED will turn Red and the audible signal will activate whenever the level of propane gas exceeds the Alarm threshold. The unit will continue to Alarm until the gas clears or the Mute switch is pressed. See (Procedures Take During an Alarm and Alarm Signal Mute sections)

ALARM SIGNAL MUTE

Press the TEST-MUTE button when the detector is in Alarm. 1. The audible Alarm signal will stop, 2. the RED Alarm LED will remain on until the gas has dropped below the Alarm point at which time the LED will turn Green, 3. If dangerous gas levels remain after the end of the Mute cycle (about 90 seconds) the Alarm will re-activate.

MALFUNCTION ALARM

A fault in the sensors operation or low battery voltage will activate the malfunction Alarm. The LED will turn Red Green and the sounder activate.

IMPORTANT: IN THE EVENT OF A MALFUNCTION ALARM check the batteries voltage. If the voltage is above 8v DC, call 1-800-383-0269. Do not Use your RV without a working Gas Detector installed.

LOW POWER OPERATION

This Detector will operate normally down to 8 vDC. Low voltage will activate the malfunction alarm.

End of Life Signal – The Sensor has a 5 Year Service Life

All 20-441-P models include an End of Life (EOL) Signal indicating the sensor has reached the end of its service life and you must replace the alarm. The signal is the LED flashing RED RED GREEN GREEN with a beep every 25-30 seconds. The EOL Signal may be reset by pushing TEST / RESET button on the alarm. This will reset the EOL Signal for a period of 72 hours (3 days) for a total of up to 30 days. After 30 days the signal cannot be reset and the alarm must be replaced. DO NOT DISCONNECT THE ALARM UNTIL YOU HAVE A REPLACEMENT ALARM AVAILABLE TO INSTALL.

LED and Sounder Signals

<u>OPERATION</u>	<u>AUDIBLE SIGNAL</u>	<u>VISUAL SIGNAL</u>
NORMAL	NONE	STEADY GREEN
PROPANE ALARM	CONSTANT	FLASHING RED
ALARM MALFUNCTION	BEEP" EVERY 30 SECONDS	ALTERNATING RED/GREEN
END OF LIFE	BEEPS EVERY 25-30 SECONDS	FLASHING RED RED GREEN GREEN

TROUBLE SHOOTING GUIDE

<u>PROBLEM</u>	<u>CAUSE AND SOLUTION</u>
LED OFF	1. FAULTY WIRE CONNECTION 2. REVERSE POLARITY 3. BAD OR MISSING FUSE 4. DEAD BATTERY
NO SOUND IN TEST	1. Call 800-383-0269
NO RED LED IN TEST	1. Call 800-383-0269
ALARMS AFTER WARM UP WITHOUT GAS PRESENT	1. Contaminated Sensor. Press the Test/mute Switch and Wait 90 seconds
AUDIBLE ALARM WITH RED-GREEN LED NO RESET	1.Call 800-383-0269

SPECIFICATIONS

POWER SUPPLY	12 vDC
OPERATIONAL VOLTAGE	8-16 vDC
CURRENT DRAW	90 mA @ 12 vDC
OPERATIONAL TEMPERATURE	-31° F to 150° F -35° C to 66° C
RELATIVE HUMIDITY	15% to 93%
AUDIBLE OUTPUT	85 dB @ 10 feet
VISUAL OPERATIONAL SIGNAL	GREEN
VISUAL ALARM SIGNAL	RED
VISUAL MALFUNCTION SIGNAL	RED/GREEN
ALARM TRIGGER	< 25% of the LEL of Propane
CASE DIMENSIONS	3 1/2" W x 2 1/2" H x 1 1/2" D
CASE MATERIAL	GA Gulf PVC SP- 7107 WHT 306
FLAME RATING	94-5VB
WARRANTY	1 Year Limited
TESTING LABORATORY	Underwriters Laboratories
LISTING STANDARD	ANSI /UL1484, Fourth Edition.

OWNERS REPLACEMENT RECORD

Replace this SAFE-T-ALERT™ propane alarm 5 years after retail purchase.

Purchase Date

Replacement Date

Installer

NOTE: The replacement date indicates the date beyond which the device may no longer detect accurately. Replace the Detector immediately.

LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. Warrants to the original purchaser that this Detector will be free from defects of material or workmanship for a period of one (1) year. If defective in original materials or workmanship and returned, delivery costs prepaid, MTI INDUSTRIES, INC., will repair or replace this product free of charge.

LIMITS OF WARRANTY

Repair or replacement is your exclusive remedy under this limited warranty or any other warranty (including any implied warranty of merchantability for a particular purpose). Any and all implied warranties or merchantability or fitness for a particular purpose is limited to the warranty period from the original date of purchase. MTI INDUSTRIES, INC., its dealers and distributors shall in no case be responsible or in any way liable for any incidental or consequential damages for any reason. Some states do not allow the limitation or exclusion of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty gives you specific rights, and you may also have other rights that may vary from state to state.

WARRANTY RETURN POLICY

Warning-opening this product for any reason voids the warranty. There are no user serviceable parts in the case. This Detector requires an authorization number (RA) for repair or replacement. Call MTI for a RA number. Pack the Detector carefully in a padded container. Include the RA number, an explanation of the problem, the original dated sales receipt, and your return address. Send, shipping prepaid, to: MTI Industries, Inc. 31632 N. Ellis Drive Bldg. 301 Volo, IL 60073 Customer Service Number: 800-383-0269 e-Mail info@mtiindustries.com www.Safe-T-Alert.com

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