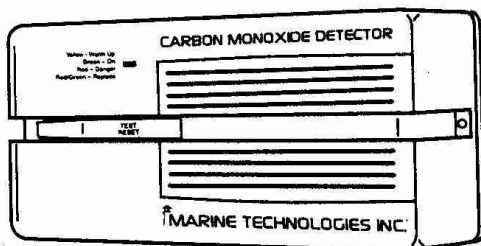


SAFE-T-ALERT™ BY MTI INDUSTRIES

MARINE CARBON MONOXIDE ALARM



Model 60-541

MODELS 60-541 AND 60-542 USER'S MANUAL

IMPORTANT

PLEASE READ CAREFULLY AND SAVE

This manual contains important information. Purchasers who install this alarm for use by others must leave this manual with the user.

PATENTS PENDING

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WHY EVERY BOAT NEEDS A SAFE-T-ALERT™ CARBON MONOXIDE ALARM.

Everyone is at risk for carbon monoxide poisoning! Particularly sensitive are children, pregnant women, the elderly and people with lung or heart disease or anemia!

WHY? Because Carbon Monoxide (CO) is an odorless, colorless gas that prevents the blood from carrying oxygen to vital organs. CO is 200 times more likely to replace oxygen in the blood.

The following symptoms are related to **CARBON MONOXIDE POISONING** and should be discussed with ALL members of the household.

Mild Exposure: Slight headache, nausea, vomiting, fatigue, (often described as "Flu-like" symptoms).

Medium Exposure: Severe throbbing headache, confusion, drowsiness, fast heart rate.

Extreme Exposure: Convulsions, heart failure unconsciousness, death.

The Consumer Product Safety Commission (CPSC) recommends use of at least one carbon monoxide ALARM located outside of sleeping areas. For best security locate an alarm in each sleeping area.

ABOUT CO GAS AND YOUR NEW CO ALARM

- Carbon monoxide gas is colorless, odorless, tasteless and highly poisonous, endangering lives even at low levels of concentration. Mild exposure (100 to 400 PPM) causes headaches and fatigue often resembling "flu-like" symptoms. Medium exposure causes severe headaches, drowsiness, nausea, and rapid heart rate. Extreme exposure (over 800 PPM) results in unconsciousness, convulsions, heart or respiratory failure and death.
- Many reported cases of carbon monoxide poisoning determined that while victims are aware they are not well, they become so disoriented they are unable to save themselves by either exiting the building or calling for assistance. Also, children and pets may be affected first.
- Carbon monoxide gas is produced when any type of fuel is incompletely burned. Gasoline engines and fuel burning appliances (furnace, fireplace, oven stove, water heater etc.) space heaters, gas and charcoal grills, etc. produce CO.
- Extended operation of unvented fuel burning appliances (range, oven, fireplace, etc.) can build up high CO levels.
- CO build up can be caused by reverse/negative venting of fuel burning appliances including; 1) Clogged, loose or faulty stacks or chimneys of (clothes dryers, furnaces and water heaters, etc.), 2) wind direction and/or velocity, 3) simultaneous operation of multiple fuel burning appliances, and/or exhaust fans.
- An idling vehicle in an open or closed garage, or near a home can cause high levels of CO to build up in a residence.
- Temperature inversions can trap exhaust near the ground.
- The electronic sensor in your Safe-T-Alert™ CO alarm is self-cleaning, very sensitive to carbon monoxide (CO) gas, and will not react to non-hazardous levels of any other gas.
- The test switch on the Safe-T-Alert™ CO alarm accurately tests all alarm functions. It is the only way to test the alarm.

**⚠ WARNING:
LIMITATIONS OF
CARBON MONOXIDE ALARMS**

Carbon monoxide alarms will not work without power. Some examples causing no alarm power are: A blown or missing fuse, broken wire, faulty wire connection or circuit breaker, a discharged battery.

CAUTION-This alarm will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide gas may be present in other areas. MTI recommends that alarms be installed in all sleeping areas.

Carbon monoxide alarms may not be heard. The alarm loudness is designed to meet or exceed regulatory standards, however, the alarm may not be heard if alarms are located in remote locations or behind closed doors. The alarm may not be heard by persons who are hard of hearing, have consumed alcoholic beverages, taken prescription, non prescription or illegal drugs.

This Carbon Monoxide alarm is designed to detect carbon monoxide from ANY source of combustion. It is not designed to detect smoke, fire, or any other gas. This device may not alarm at low carbon monoxide levels. This product is intended for use in ordinary outdoor locations of family living units. It is not designed to measure compliance with the Occupational Safety Health Administration (OSHA) commercial or industrial standards. Individuals with medical problems may consider using warning devices which provide audible and visual signals for CO concentrations under 30 ppm. SEE "VISUAL AND AUDIBLE SIGNALS"

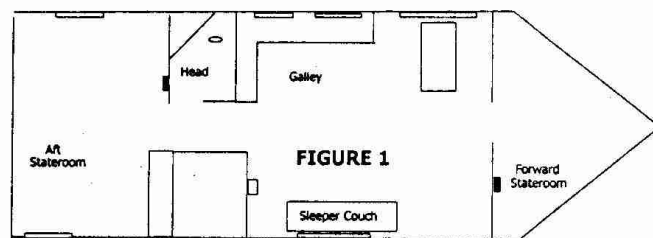
WHERE TO INSTALL CO ALARMS

For **MINIMUM** protection, CO alarms should be installed near all sleeping areas.

For **MAXIMUM** protection, CO alarms should be installed in all sleeping areas. See figure 1.

WHERE NOT TO INSTALL CO ALARMS

- NOT BEHIND FURNITURE, DRAPES, IN CLOSETS OR AREAS THAT WILL BLOCK AIR FLOW TO THE ALARM.
- NOT WITHIN 12 INCHES OF OPENING WINDOWS, EXTERIOR DOORS, HEATING OR RETURN VENTS, OR OTHER DRAFTY AREAS. See Figure 2.
- THE ALARM SHOULD NOT BE LOCATED WITHIN 5 FEET (1.5m) OF ANY COOKING APPLIANCE.

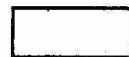


■ CO DETECTOR LOCATION FOR MINIMUM SECURITY

□ CO DETECTOR LOCATION FOR ADDITIONAL SECURITY



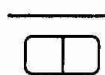
Do not install within 12" of a window that can open



Do not install within 12" of vents



Do not install within 12" of a door



Do Not install behind drapes or furniture

FIGURE 2

* ALL WIRING METHODS SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRIC OR CANADIAN ELECTRIC CODE

HOW TO TAKE CARE OF YOUR ALARM

Your carbon monoxide alarm is designed to be as maintenance free as possible. To keep your alarm in good working order, you must;

- **Test the alarm weekly.** (See "TEST PROCEDURE")
- **Observe the color of the indicator light** on the front panel of the alarm at frequent occasions and during your weekly test. (See section "Operating Instructions")
- **Vacuum the dust off the alarm cover** at least once a year (more frequently in dusty locations) using the soft brush attachment of your vacuum.
- **Clean the alarm cover** when dirty. Hand wash using a cloth dampened in clean water. Dry with a soft cloth.
- **DO NOT SPRAY CLEANING AGENTS OR WAXES** directly onto the front panel. The area should be well ventilated when household cleaning supplies or similar contaminants are used.


HOW ELSE TO PROTECT YOUR FAMILY FROM CARBON MONOXIDE

- **INSTALL CO ALARMS PROPERLY.** Carefully read and follow ALL the instructions in this manual. **Test your unit every week.** Alarms that do not work will not alert you to hazardous levels of CO gas.
- **MAKE REGULAR VISUAL INSPECTIONS** of all fuel burning equipment including gas water-heaters, kitchen gas stoves, space heaters, gas dryers and all pilot lights; check the color of the flame. The color of the flame should be blue.
- **MAKE REGULAR VISUAL INSPECTIONS OF THE ENGINE AND GENERATOR EXHAUST SYSTEMS.** Cracked exhaust systems can allow carbon monoxide to enter the living area.
- **PROFESSIONALLY MAINTAIN YOUR ENGINE AND GENERATOR.** Although gas engines and generators produce carbon monoxide, a poorly tuned engine and generator will produce greater amounts carbon monoxide.

SPECIFICATIONS

SAFE-T-ALERT™	60-541 and 60-542	
Power Supply	12 VDC	
Operating Voltage	7 -16 VDC	
Average Standby Current Draw	60 mA @ 12 VDC	
Operational Temperature	-40° F to +150° F -40° C to +66° C	
Relative Humidity	15% (+/- 5%) to 95% (+/- 4%)	
Gas Detected	Carbon Monoxide	
CO Alarm Level:	OVER 100 PPM	
Low CO Alarm	70 to 100 PPM	
No Alarm	30 ppm for 30 Days	
Warm Up Time	10 Minutes	
Alarm Silence Time	Under 6 Minutes	
Case Dimensions	60-541 5" x 3" x 1.5" 60-542 6.5"x 3.5" x 1.5"	
Audible Alarm	85 db @ 10 Feet	
NORMAL OPERATION LOW CO ALARM CO ALARM MALFUNCTION	AUDIBLE SIGNAL	VISUAL SIGNAL
	NONE	GREEN
	4 "BEEPS" 5 SECONDS OFF	FLASHING RED
	4 "BEEPS" 5 SECONDS OFF BEEP EVERY 30 SECONDS	STEADY RED RED/GREEN
Applicable UL Standard	UL 2034 RV REV OCTOBER 1, 1998 UL 1524 MARINE	

PROCEDURES TO TAKE DURING AN ALARM

 **WARNING:** Actuation of your CO alarm indicates the presence of carbon monoxide (CO) which can KILL YOU. If the alarm sounds; **1)** Operate the reset/silence button; **2)** Call your emergency services (Phone Number _____) (fire department or 911); **3)** Immediately move to fresh air - outdoors or by an open door/window. Do a head count to check that all persons are accounted for. Do not reenter the premises nor move away from the open door/window until the emergency responders have arrived, the premises have been aired out, and your alarm remains in its normal operation. **4)** After following steps 1-3, if your alarm reactivates within a 24 hour period, repeat steps 1-3 and call a qualified appliance technician. (Phone Number _____) to investigate for sources of CO from fuel burning equipment and appliances, and inspect for proper operation of this equipment. If problems are identified during this inspection have the equipment serviced immediately. Note any combustion equipment not inspected by the technician and consult the manufacturers' instructions, or contact the manufacturer directly, for more information about CO safety and this equipment. Make sure that the motor vehicles are not, and have not been, operating in an attached garage or adjacent to the residence.

WARNING

DO NOT attempt to test the alarm by any other means than by using the TEST/RESET button. DO NOT attempt to produce CO to test the alarm. The TEST/RESET button tests all functions of the alarm and is the ONLY safe way to be sure the alarm is working properly.

The alarm may be tested at any time after power is applied by pressing the TEST/RESET button, located on the front of the alarm. The alarm is working properly if the GREEN indicator light changes color to RED and the horn is sounds.

TROUBLE SHOOTING

PROBLEM	CAUSE/SOLUTION
GREEN LIGHT OFF	1. WIRE CONNECTION 2. REVERSED WIRING 3. MAIN POWER OFF 4. MISSING OR BLOWN FUSE 5. RETURN
NO SOUND IN TEST NO RED LED IN TEST LOCKED IN RED ALARM	RETURN IMMEDIATELY
ALARM WITH RED/GREEN LED - WILL NOT RESET	RETURN IMMEDIATELY

OPERATION

Each Safe-T-ALERT™ CO alarm is equipped with a self-cleaning CO sensor and requires a ten (10) minute initial warm-up period to clean the sensor element and achieve stabilization. The GREEN indicator will flash on and off during the 10 minute warm up period.

The GREEN power ON indicator should glow continuously after the warm up period. If the indicator light does not light, recheck all wire and power connections. Return this alarm for service if the power connections are correct but the indicator still does not light. Do not attempt to fix it yourself.

This Safe-T-Alert™ CO alarm is designed to be as easy to operate as possible. This alarm has an indicator light that displays a specific color for each monitored condition. There also is a matching sound pattern for alarm conditions.

VISUAL SIGNALS AND AUDIBLE SIGNALS

1) LOW CO ALARM - FLASHING RED LIGHT, AND 4 "BEEPS" THEN OFF FOR 5 SECONDS - indicates the presence of 70 ppm or more of CO. **IMPORTANT: See "Procedures To Take During An Alarm."** This cycle will continue until the reset switch has been activated. Then the RED light will continue to flash until the CO has cleared, or the alarm will reactivate in approximately 6 minutes in the event carbon monoxide is still present. If the level of CO continued to rise above 100 ppm the FLASHING RED LED will change to STEADY RED. See CO Alarm Below.

2) CO ALARM - STEADY RED AND 4 "BEEPS" THEN OFF FOR 5 SECONDS - indicates that the CO level is over 100 ppm. **IMMEDIATE ACTION IS REQUIRED. See "Procedures To Take During An Alarm."** This cycle will continue until the reset switch has been activated. Then, the RED light will stay ON until the CO has cleared, or the alarm will reactivate in approximately 6 minutes if the carbon monoxide is still present.

3) MALFUNCTION ALARM: ALTERNATING RED AND GREEN LIGHT, BEEP EVERY 30 SECONDS AND THE TEST/RESET WILL NOT CLEAR THE SIGNALS. **IMMEDIATELY REMOVE THE ALARM AND RETURN IT FOR REPLACEMENT OR REPAIR.**

SPECIAL MEMORY FEATURE

This Safe-T-Alert™ CO alarm has a Peak Level Memory feature that remembers the approximate amount of carbon monoxide that activated the alarm.

Step 1. To activate alarm level memory, press the Test switch for less than 1 second.

Note: (1) "Beep" and (1) Green Flash means memory is clear.

(2) "Beeps" and (2) Red Flashes = under 100 ppm

(3) "Beeps" and (3) Red Flashes = under 200 ppm

(4) "Beeps" and (4) Red Flashes = over 200 ppm

To erase memory, disconnect power for 15 seconds.

To reactivate memory repeat step 1.

LIMITED WARRANTY

MTI INDUSTRIES, INC. Warrants to the original purchaser that this carbon monoxide alarm will be free from defects of material or workmanship for a period of One (1) YEAR, from the date of original purchase. Return this alarm, delivery costs prepaid, if defective in original materials or workmanship and MTI INDUSTRIES, INC. will repair or replace this alarm free of charge.

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 shall be 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. To return products under warranty pack the alarm carefully in a padded container. Include 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 Unit 301 Volo, IL 60073 Customer Service Phone No. - 800-383-0269

Fax No. - 847-546-9007

Web Site: www.mtiindustries.com

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WARNING

FAILURE TO FOLLOW THE FOLLOWING INSTRUCTIONS MAY RESULT IN A MALFUNCTION OF THE ALARM AND MAY VOID THE WARRANTY.

INSTALLATION INSTRUCTIONS Models 60-541 and 60-542.

WARNING

CONNECT ONLY TO WIRING THAT CANNOT BE TURNED OFF BY A SWITCH OR GROUND FAULT PROTECTOR. Only use UL® recognized connectors.

WARNING

These alarms are designed to be mounted on a wall 12" to 72" off the floor. See sections Where TO and NOT TO Install CO alarms.

WARNING

SHOCK HAZARD: Turn off power before installing

Power Supply 12 VDC. Recommended Wire Size 14 GA. Connect the alarm to a properly fused circuit, maximum over protection device rating 15 amps. All connections must be in accordance with the National Electrical Code.

1. Select a wall location and drill a 1/4" hole for the 60-541. Cut a 4" W x 3" H hole for the 60-542.
Note: The 60-542 requires 13/8" clearance for the case.

2. Connect Supply (+) to the Red wire lead.
Ground to Black (-) to the Black wire lead.
3. Reconnect the power supply.

TEST PROCEDURE

WARNING

TO REDUCE THE RISK OF CARBON MONOXIDE POISONING, TEST THE ALARM'S OPERATION AFTER THE BOAT HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE.