



Section 7

Miscellaneous

Miscellaneous

| | |
|---------------------------------|------|
| Fire Extinguisher | 7-5 |
| Smoke Detector | 7-9 |
| Carbon Monoxide Detector | 7-11 |
| M.T.I. CO2 Detector Manual | 7-15 |
| L.P. Gas Detector | 7-21 |
| M.T.I. LPG Detector Manual | 7-23 |
| Parker Solenoid Valve | 7-29 |
| Television Connection Selector | 7-35 |
| HD Television Antenna | 7-37 |
| Hellwig Suspension Enhancement | 7-41 |
| Automatic Entry Step | 7-45 |
| Kwikkee Step Manual # 888 | 7-47 |
| MCD American Duo Roller Shades | 7-49 |
| MCD American Duo Owner's Manual | 7-51 |
| Illumagrip Entry Handle | 7-53 |
| Outside Shower Assembly | 7-59 |
| Hardwood Cabinet Doors | 7-61 |
| 12 Ton Bottle Jack | 7-63 |

Fire Extinguisher

A fire extinguisher is mounted in the Coach House behind the passenger seat on the right side of the motor home. The gauge on the unit should be checked periodically for pressure level. If the indicator is in the red, the unit should either be re-charged or replaced.





Kitchen / Garage Fire Extinguisher

An extinguisher's rating is not based on its size. It's the measure of its firefighting capability. For example a 10-B:C extinguisher puts out twice as much "Class B" fires as one rated 5-B:C.

Features:

- Suitable for use on fires common to the kitchen and garage.
- ULC Rated 10-B:C, Marine approved.
- High quality gauge for easy pressure check.
- Disposable.
- Strap bracket included.

Specifications:

| | |
|------------------------|---------------------------------|
| Product dimensions: | 4.5" x 14.2" x 3.6" deep |
| Colour / Case Pack: | Red / 6 units |
| Fire Rating: | 10-B:C |
| Charge Pressure: | 100psi |
| Range of throw: | 1.8 - 2.4 metres |
| Duration of discharge: | 8-12 seconds |
| Agent base: | Dry Powder (Sodium Bicarbonate) |
| Limited Warranty: | 6 Year |
| Weight: | 2lb |
| UPC: | 0-47871-66295-1 |



466295



R3020A

Smoke Detector

A smoke detector is mounted near the ceiling, behind the passenger front seat (rear side of side entrance door). The detector is battery (9 volt) operated and should be tested on a regular basis. Refer to the manufacturers instruction sheet, enclosed in this section, for the proper testing procedure and battery replacement. The smoke detector should be tested after each time the motor home has been in storage, before each use and at least once each week during use of the motor home. Smoke detectors should be replaced periodically as per the manufacturer's instructions.

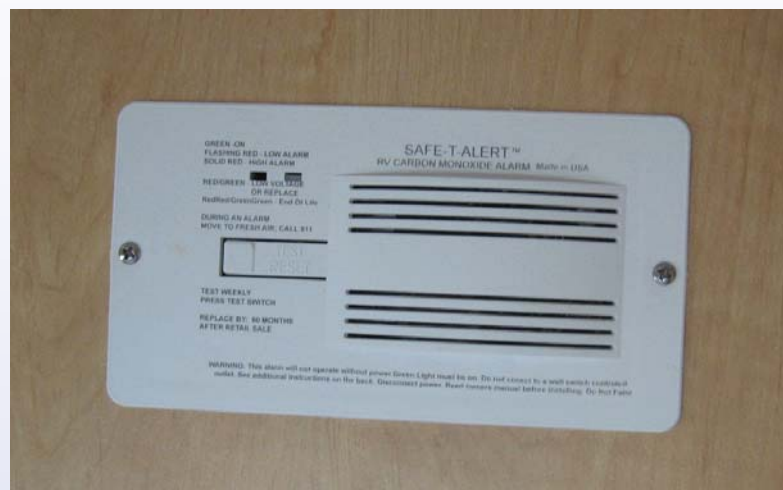


Carbon Monoxide Detector

A carbon monoxide detector is mounted in the following locations for your model.

| | |
|--------|--------------------|
| 240 | Above Refrigerator |
| 241 XL | Above Refrigerator |

The auxiliary battery and the chassis battery, which ever is stronger, power the detector and 3 amp fuses located behind the panel on which the detector is mounted, protect the unit. A green light on the detector front indicates that it is operating and any failure in the light should be investigated and remedied immediately. The detector should be tested on a regular basis as per the manufacturers instructions.



Insert Stickers for LP/C02 Detectors Here



RECREATIONAL VEHICLE (RV)

Carbon Monoxide Alarm

USER'S MANUAL

65 Series Surface Mount Models:

65-541, 65-541-R, 65-541-MS, 65-541-R-MS

65 Series Flush / Recess Mount Models:

65-542, 65-542-R, 65-542-MS, 65-542-R-MS

ALL RIGHTS RESERVED 65RV120810-1

ATTENTION: This user's manual contains important Carbon Monoxide (CO) alarm installation, operation, troubleshooting and warranty information. Read, follow, and keep this manual for future reference.

NOTE: If you install or purchase this alarm for another person, give this manual to that person.

IMPORTANT: This unit must be replaced within five years of its production date. This unit has an End of Life (EOL) signal that will sound after 5 years of use. Record the installation date in the section, Owner's Replacement Record, in this manual for future use. The replacement date indicates the date beyond which the device may no longer detect carbon monoxide. The device should be replaced.

The electronic CO sensor in your SAFE-T-ALERT™ CO alarm is very sensitive to CO gas. It will not react to most other gases.

WHY EVERY RV NEEDS A 65 SERIES CO 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! 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 Consumer Product Safety Commission (CPSC) recommends using at least one CO alarm located outside of sleeping areas. For the extra security, locate additional CO alarms in each sleeping area.

ABOUT THIS ALARM

Because CO is a colorless, odorless, tasteless and highly poisonous gas; it can endanger lives even at low levels of concentration. The CO Alarm will alert you to potentially dangerous situations. **The following symptoms may be related to CO POISONING. Discuss these symptoms with ALL household members and RV guests:**

- **Mild Exposure:** Headaches, running nose, sore or watery eyes, often described as "flu-like" symptoms.
- **Medium Exposure:** Dizziness, drowsiness, vomiting.
- **Extreme Exposure:** Unconsciousness, brain damage and death.

NOTE: Reported cases of CO gas poisoning indicate that while victims are aware they are not well, they are disoriented. They are unable to save themselves by exiting the RV or calling for assistance. **Small children and pets may be affected first.**

Your SAFE-T-ALERT™ Series alarm helps protect your family members and guests from CO produced while using your RV. CO gas is produced when any type of fuel is incompletely burned. Potential sources of CO in and around your RV can include gas or diesel engine exhaust, portable space heaters, gas stoves and ovens, furnaces, defective engine exhaust systems, charcoal, portable grills, other nearby RVs, portable generators, generator exhaust, and other propane-powered appliances. All are sources of CO.

The following are also sources of CO that may affect your RV:

- Extended operation of unvented fuel burning appliances can build up high CO levels.
- An idling vehicle in an open or closed garage.
- Temperature inversions can trap exhaust near the ground.
- 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.

WARNING:

LIMITATIONS OF CO ALARMS

THIS ALARM WILL NOT WORK WITHOUT POWER. Some reasons for no alarm power; are a blown or missing fuse, broken wire, a faulty wire connection or circuit breaker, a discharged battery, cut lead wires, or improper supply (+) or ground (-) connections.

THIS ALARM WILL ONLY INDICATE THE PRESENCE OF GAS AT THE SENSOR. CO may be present in other areas. MTI recommends installing CO alarms in all sleeping areas. **Do not block or cover** the alarm with any object that can prevent carbon monoxide from reaching the sensor.

THIS ALARM IS INTENDED FOR USE IN RV's. It is intended for use inside the RV. It is not designed to measure compliance with commercial and industrial standards.

THIS ALARM MAY NOT BE HEARD. The alarm's 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. Persons who are hard-of-hearing, have consumed alcoholic beverages, taken prescription, non-prescription or illegal drugs, may not hear the alarm.

THIS ALARM IS DESIGNED TO DETECT CARBON MONOXIDE. THE ALARM IS NOT DESIGNED TO DETECT SMOKE, OR FIRE.

THIS ALARM MAY NOT ALARM AT LOW CO LEVELS 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.

HOW TO PROTECT YOUR FAMILY

CAUTION- The SAFE-T-ALERT™ 65 Series combination CO Alarm is designed to protect individuals from the acute effects of carbon monoxide exposure. It will not fully safeguard individuals with specific medical conditions. If in doubt, consult a medical practitioner.

To protect yourself, family and guests, you should:

- **INSTALL THE ALARM 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 and need to be replaced.. See the section, **Test Procedure**, in this manual for further information.
- **MAKE REGULAR VISUAL INSPECTIONS.** Check all fuel burning equipment including gas water-heaters, kitchen gas stoves, space heaters, gas dryers and all pilot lights. Check the color of the pilot flame. The color should be blue.
- **MAKE REGULAR VISUAL INSPECTIONS OF THE ENGINE AND GENERATOR EXHAUST SYSTEMS.** Cracked exhaust systems can allow CO to enter the living area.
- **PROFESSIONALLY MAINTAIN YOUR ENGINE AND GENERATOR.** Although gas engines and generators produce CO, a poorly tuned engine and generator will produce greater amounts CO.

WHERE TO INSTALL

- MTI recommends installing a gas alarm in each sleeping area.
- The NFPA and Consumer Product Safety Commission recommends installing a CO alarm outside the sleeping area. The 65 Series CO alarm complies with that recommendation.
- **INSTALL ALARM** at least 4 inches off the floor.

WHERE NOT TO INSTALL 65 SERIES ALARMS

- **DO NOT INSTALL** behind furniture, drapes, in closets or areas that will block air flow to the alarm.
- **DO NOT INSTALL** within 12 inches (30cm) of opening windows, exterior doors, heating or return vents, or other drafty areas..
- **DO NOT INSTALL** on an outside wall.
- **DO NOT INSTALL** on a wall switch controlled by a power line, ground fault circuit or to a circuit breaker.

NOTE: Older RVs may have little or no insulation and therefore are draftier. Carefully consider mounting locations. The following diagrams provide additional alarm installation information:

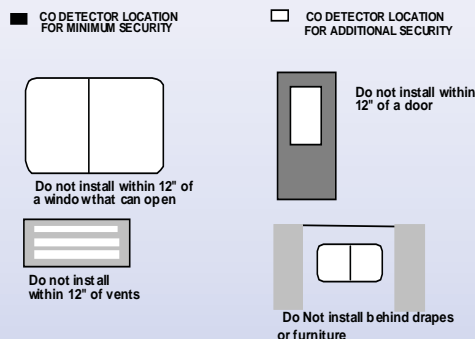
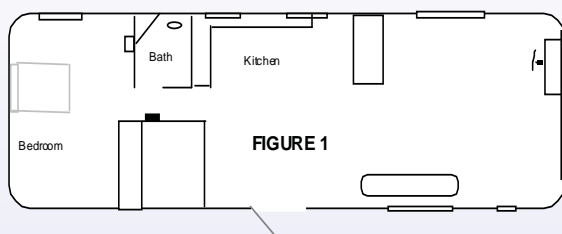


FIGURE 2

INSTALLATION INSTRUCTIONS

Models



WARNING

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

SHOCK HAZARD: Turn off power before installing.

Power Supply 12 VDC.

Recommended Wire Size 14 GA. TO 18 GA.

Connect the alarm to a properly fused circuit, maximum over protection device rating 6 amps.

All connections must be in accordance with the National Electrical Code in the Unites Stated and the Canadian Electric Code in Canada .

Connect to wiring or circuit that **CANNOT** be turned off by a switch or ground fault protector. Only use UL or recognized permanent wire connectors. It is acceptable to connect the 65 Series CO alarm to the main disconnect. The alarm will be off along with all other 12 volt equipment when the main disconnect is turned to the off position. The RV must not be occupied when the main disconnect is in the off position.

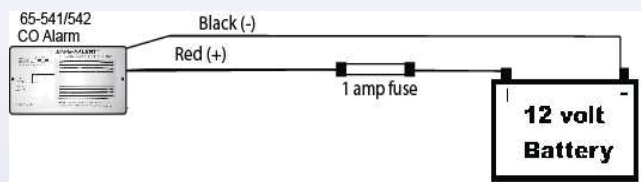
INSTALLATION INSTRUCTIONS

Follow these instructions carefully. Failure to follow these instructions can damage the unit and void the warranty.

Important: The 65 Series Flush / Recess mount case requires 1 1/2" (38mm) clearance behind the wall.

MODEL 65-541 / 65-542

1. **Basic Model 65-541/65-542** - Select a wall location at least 4" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. For the 60-541 Drill a 1/4" (6mm) hole for the wires.
2. Connect Supply (+) to the Red wire lead. Install a 1 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
3. Reconnect the power supply. Warm up 10 minutes then test the alarm.

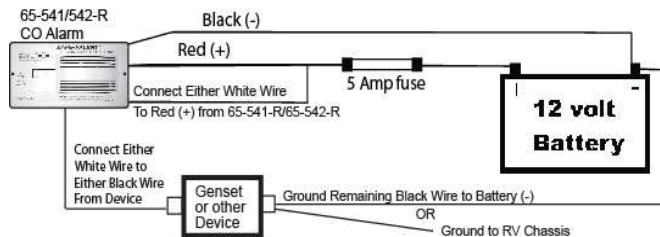


MODEL 65-541-R / 65-542-R (Relay Control)

1. **Model 65-541-R/65-542-R - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will

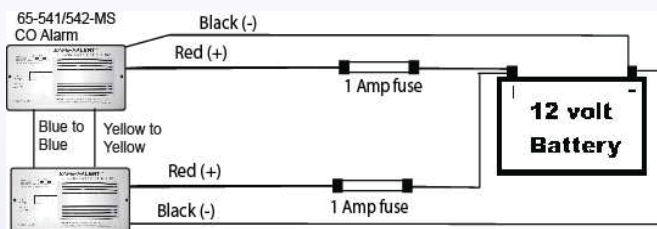
automatically re-energize after the unsafe levels of CO clears. Select a wall location at least 4" off the floor. 60-542-R Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 60-541-R drill 1/4" (6mm) hole for the wires.

2. **Do not connect to a previously installed solenoid. SEE: SPECIAL WIRING NOTICE.**
3. Connect Supply (+) to the Red wire lead. Install a 5 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.



MODEL 65-541-MS / 65-542-MS

1. **Model 65-541/65-542-MS Multi-station interconnect, (Maximum 10 units and 2000 feet of wire).** Allows multiple 65-541/542MS alarms to be connected together. When one of the alarms detects unsafe levels of CO or gas it will activate. It will also activate the audible alarm of all the interconnected units. Only the alarm that detected CO or gas will have its Red LED light lit up so that you can determine the cause of the alarm. Select a wall location no between 4" and 20" off the floor. 60-542-MS Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 60-541-MS drill 1/4" (6mm) hole for the wires.
2. Connect the Red wire to the 12 volt supply (+). Install a 1 amp fuse in the positive circuit (+). **Note you must use a separate 1 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. Interconnect Wiring – Connect Blue wires from each alarm and Yellow wires for each alarm. Continue connecting in series (Daisy Chain).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.

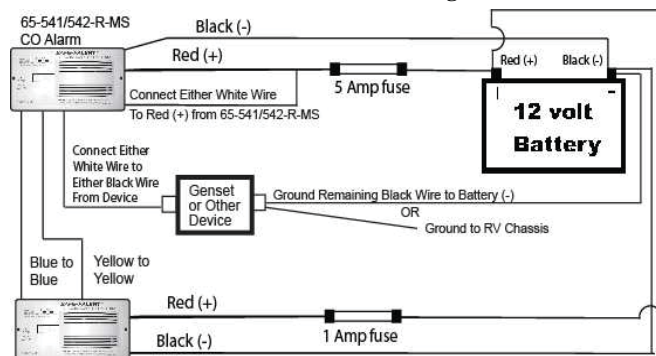


MODEL 65-541-R-MS / 65-542-R-MS

1. **Model 65-541-R/65-542-R-MS - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically re-energize after the unsafe levels of CO clears. Select a wall location at least 4" off the floor. 65-541-R-MS Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole. 65-542-R-MS drill 1/4" (6mm) hole for the wires.
2. **Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.**

3. Connect Supply (+) to the Red wire lead. Install a 5 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
4. Interconnect Wiring - Connect Blue wires from each alarm and Yellow wires from each alarm. Continue connecting in series (Daisy Chain).
5. Reconnect the power supply. Warm up 10 minutes then test the alarm.

Model 65-541-R-MS / 65-542-R-MS Wiring -



Only use UL or recognized permanent wire connectors to replace any unit installed with spade connectors or wire nuts.

TEST PROCEDURE

⚠ WARNING

TO REDUCE THE RISK OF CARBON MONOXIDE POISONING, TEST THIS ALARM'S OPERATION AFTER THE RV HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE BY PRESSING THE TEST/RESET BUTTON.

⚠ WARNING

WARNING: THE TEST BUTTON ONLY TESTS THE ALARM CIRCUIT NOT THE SENSORS. TO TEST THE CO SENSOR USE A CAN OF SAFE-T-ALERT CO TEST GAS TO TEST THE 400 PPM CALABRATION POINT. DO NOT TRY TO GENERATE CO TO TEST THE ALARM. The TEST/RESET button tests all ELECTRICAL functions of the alarm. It does not check the sensor operation.

The alarm may be tested at any time. The TEST/Mute switch is located on the front of the alarm. Press and hold the test button for 1 second **IMPORTANT - If this alarm does not test properly return it immediately for repair or replacement. If the alarm is over five years old replace it.**

SPECIAL WIRING NOTICE.

⚠ DANGER - FIRE RISK - DO NOT CONNECT A SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoid. You must use a new solenoid with the correct electrical rating.

OPERATION

When the unit is first powered up, the CO sensor requires a ten (10) minute initial warm-up period to clean the sensor element and achieve stabilization. The GREEN LED indicator will flash on and off during the 10 minute warm-up period. This unit cannot go into a alarm during the warm-up period. See Test Procedure in this manual. After the warm-up period, the GREEN power ON indicator should glow continuously. If the ON indicator light does not light, see the section, **Trouble-Shooting Guide**, in this manual for further information. **Do not attempt to fix it yourself.**

Brownout Protection - The unit can tolerate short power interruptions and brownouts where the circuit voltage drops as low as 1 VDC. If the brownout lasts too long, the unit will reset and operate as described above.

LOW POWER OPERATION

This alarm will operate normally down to 7 VDC. Do not operate this alarm below 7 VDC.

VISUAL AND AUDIBLE ALARM SIGNALS

This SAFE-T-ALERT™ CO Alarm is designed to be easy-to-operate. The alarm has two indicator lights that display a specific color for each monitored condition. There also is a matching sound pattern for alarm conditions.

CO ALARM

The Red CO LED will flash and the alarm will sound 4 "BEEPS" then silent for 5 Seconds. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures To Take During An Alarm.** This cycle will continue until the TEST/Mute button on the front of alarm is pressed. Ventilate the RV. The RED light will stay ON until the CO has cleared, or the alarm will reactivate in approximately 6 minutes if the CO is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV is properly ventilated.

MALFUNCTION/SERVICE SIGNAL If any malfunction is detected, the Gas LED will remain off and the Operational/CO LED will alternate Red/Green and the alarm will sound once every 15 seconds. Press the Test/Mute button. If the Test/Mute button does not clear the signals, check the battery voltage. **If the battery voltage is not low and the unit will not return to normal operation, immediately remove the alarm and return for service or warranty replacement.** See the warranty section in this manual.

| OPERATION | AUDIBLE SIGNAL | VISUAL SIGNAL |
|-----------------------|------------------------------|---------------------------------|
| NORMAL | NONE | STEADY GREEN |
| CO ALARM | 4 "BEEPS" 5 SECONDS OFF | STEADY RED |
| ALARM MALFUNCTION | BEEP" EVERY 25 SECONDS | ALTERNATING RED/GREEN |
| END OF LIFE SIGNAL | BEEPS EVERY 25-30 SECONDS | RED RED GREEN GREEN FLASHING |

MEMORY FEATURE – This alarm has a Peak Level Memory feature that remembers the approximate amount of CO that activated it. The memory feature does not record brief exposure to CO that would not activate the alarm. This alarm will indicate one of four levels with chirps and blinks with the CO LED:

To activate alarm level memory, press the TEST/RESET button for less than 1 second.

- 1 Chirp and 1 Green Blink = CO memory is clear
- 2 Chirps and 2 Red = below 100 ppm
- 3 Chirps and 3 Red Blinks = below 200 ppm
- 4 Chirps and 4 Red Blinks = above 200 ppm

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

All 65 Series 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.

TROUBLE-SHOOTING GUIDE

Use this chart to trouble-shoot problems with this 65 Series Alarm.

| PROBLEM | CAUSE/SOLUTION |
|--|--|
| Green Operational LED Off | 1. Wire Connection 2. Reversed Wiring 3. Main Power Off 4. Missing or Blown Fuse 5. Contact Customer Service |
| No Sound When Testing | Contact Customer Service |
| No Red LED When Testing | Contact Customer Service |
| Locked In Alarm | Contact Customer Service |
| MALFUNCTION ALARM | |
| LED Flashing Red/Green - Beeps Every 25 Seconds | 1. Check Battery Voltage |
| Battery Voltage is Good and Alarm Will Not Reset | 2. Contact Customer Service |
| End of Life Signal LED Flashing RED RED GREEN GREEN Beeps Every 25 Seconds | 1. Press Test/Reset Button to reset for 72 Hours. Can repeat for up to 30 Days 2. Replace Alarm |

HOW TO TAKE CARE OF YOUR ALARM

This CO Alarm is designed to be as maintenance free as possible. To keep your alarm in good working order, you must:

- **TEST THE ALARM WEEKLY** using the Test/Reset Button. See the section, **Test Procedure**, in this manual for further information.
- **VACUUM THE DUST OFF THE ALARM COVER.** At least once a year (more frequently in dusty locations), use the soft brush attachment from your vacuum to clean the alarm covers.
- **CLEAN THE ALARM COVER WHEN DIRTY.** Wash the alarm cover by hand. Use a cloth dampened in clean water. 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 an alarm malfunction.
- **OBSERVE THE COLOR OF THE INDICATOR LIGHT.** At frequent intervals and during your weekly test, check the indicator light on the front panel of the alarm.
- See the section, **Operation**, in this manual for further information.


SPECIFICATIONS

| | |
|-----------------------------|--|
| MODELS | 65-541, 65-541-R, 65-541-MS, 65-541-R-MS 65-542, 65-542-R, 65-542-MS, 65-542-R-MS |
| POWER SUPPLY | 12 VDC |
| NOMINAL CURRENT DRAW | 108mA |
| OPERATIONAL TEMPERATURE | -40° F to +150° F -40° C to +66° C |
| RELATIVE HUMIDITY | 15% (+/- 5%) to 95% (+/- 4%) |
| AUDIBLE OUTPUT | 85 dB @ 10 feet |
| CO ALARM TRIGGER | 4 -15 Minutes @ 400 ppm |
| CASE DIMENSIONS | 65-541 5.5"W x 3.5"H x 1.38"D 65-542 6.5"W x 3.5"H, 1.38"D |
| WARRANTY | 1 Year Limited |
| TESTING LABORATORY STANDARD | Underwriters Laboratories UL 2034, Third Edition |


PROCEDURES TO TAKE DURING AN ALARM

Follow the alarm procedures for your country. The emergency number depends on your travel location.

PROCEDURES TO TAKE DURING A CO ALARM IN THE USA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) gas, which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): **1)** Operate the Test/Mute button; **2)** Call your emergency local service (Phone Number _____) (fire department or 911); **3)** Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or 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.

PROCEDURES TO TAKE DURING A CO ALARM IN CANADA

 **WARNING:** Actuation of this device indicates the presence of carbon monoxide (CO) gas which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light: 1) Operate the Test/Mute. Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or 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 condition; 2) call your emergency local service (telephone number _____) (Fire department or 911).

© MTI INDUSTRIES 2011

LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. warrants to the original retail purchaser that its products will be free from defects of material or workmanship for a period of One (1) year from the date of retail purchase. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, MTI INDUSTRIES, INC. will replace this product free of charge.

LIMITS OF WARRANTY

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 retail 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, which may vary, from state to state.

PRODUCT NOT WARRANTED

NOTE- There are no user serviceable parts inside the case. Opening any SAFE-T-ALERT™ product for any reason voids the warranty. This warranty does not cover damage or failure resulting from acts of God, abuse, misuse, neglect, or faulty installation.

WARRANTY RETURN PROCEDURES

It is MTI's experience that a CO Alarm is sounding for a reason. Call, ask your dealer to call, or e-mail our Customer Service Department (as listed below) to trouble shoot the situation.

Customer Service Phone No. - 800-383-0269

Fax No. 847-546-9007

E-mail Service@mtiindustries.com

Web Site: www.mtiindustries.com

If Customer Service determines that the unit is defective, a Replacement Authorization (RA) number will be issued. **No product will be accepted for service or replacement without first obtaining a RA number.**

If authorized, return this product to:

MTI Industries, Inc.

Warranty Dept. RA # (INSERT RA NUMBER HERE)

31632 N. Ellis Drive Unit 301

Volo, IL 60073

NOTE: Mark the RA number in the area shown on the outside of the box!

OWNERS REPLACEMENT RECORD

Replace this SAFE-T-ALERT™ 65 SERIES CO alarm within 5 years, of the installation of the alarm.

Installation Date _____

Replace Date _____

Installer _____

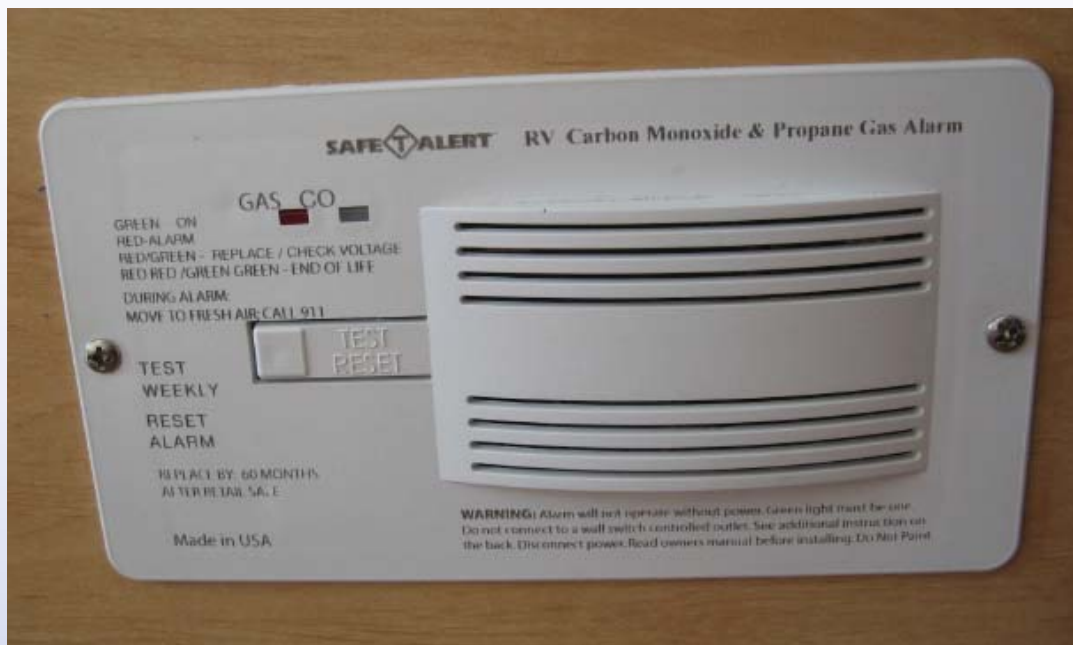
NOTE: The replacement date indicates the date beyond which the device may no longer detect accurately.

L.P. Gas Detector

A L.P. Gas detector is mounted in the following locations for your model.

| | |
|----------------------------|-------------------------------|
| 240 (Rear Bed) | Base of Rear Bed |
| 240 (Rear Sofa) | Base of Sofa Cabinet |
| 241 XL (Queen Bed) | Cabinet Floor in Entry Door |
| 241 XL (Twin Bed) | Base of Bed on Passenger Side |
| 241 XL (Dinette Rear Twin) | Base of Bed on Passenger Side |
| 241 XL (Sofa Rear Twin) | Base of Bed on Passenger Side |

L.P. Gas is heavier than air and will fall. It also has an odor additive which smells like rotten eggs so that it is readily detected when a leak is present. Check the operation of your detector on a regular basis to ensure it is working properly.





**RECREATIONAL VEHICLE (RV)
Combination Carbon Monoxide and Gas Alarm
USER'S MANUAL**

**70 Series Models 70-742, 70-742-MS
70-742-R Kit, 70-742-R-MS Kit**

PATENT US 7,248,156 ALL RIGHTS RESERVED 70RV062009-6

ATTENTION: This user's manual contains important Carbon Monoxide (CO) and gas alarm installation, operation, troubleshooting and warranty information. Read, follow, and keep this manual for future reference.

NOTE: If you install or purchase this alarm for another person, give this manual to that person.

IMPORTANT: This unit must be replaced within five years of its production date. Record the manufacture date in the section, Owner's Replacement Record, in this manual for future use. The replacement date indicates the date beyond which the device may no longer detect carbon monoxide, propane or natural gas accurately. The device should be replaced.

DUAL SENSOR TECHNOLOGY

The SAFE-T-ALERT™ 70 Series combination CO / Gas Alarm is an alarm that combines into a single compact system, a powerful alarm that detects both Carbon Monoxide (CO) and explosive gases Propane (LPG) and Methane (Natural Gas). The 70 Series uses the latest microprocessor technology combined with two electronic self-cleaning sensors that operate independently of each other. The combined unit can detect both CO and explosive gases simultaneously.

This detector is UL Listed as a CO Propane and Methane (Natural Gas) detector for RV use. Other explosive gases detected, but not tested by UL, include Acetone, Alcohol, Butane, and Gasoline all of which you may have in your RV.

To prevent false alarms from brief "puffs" of gas the detector has a recheck cycle before alarming. If high levels of gas remain during the recheck cycle, the detector will alarm.

The electronic CO sensor in your SAFE-T-ALERT™ CO alarm is very sensitive to CO gas. It will not react to most other gases.

WHY EVERY RV NEEDS A 70 SERIES CO AND GAS 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! 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 Consumer Product Safety Commission (CPSC) recommends using at least one CO alarm located outside of sleeping areas. For the extra security, locate additional CO alarms in each sleeping area. Safe-T-Alert CO alarms are available for secondary installations.

Propane gas can cause explosions! Using propane requires taking safety precautions to avoid injury. These gases are usually identified by an unpleasant odor. Certain conditions may make some people unable to detect this unpleasant odor. These conditions include advanced age, colds, allergies, and the use of tobacco, alcohol or drugs that may diminish the sense of smell.

ABOUT THIS ALARM

Because CO is a colorless, odorless, tasteless and highly poisonous gas; it can endanger lives even at low levels of concentration. The CO Alarm will alert you to potentially dangerous situations. **The following symptoms may be related to CO POISONING. Discuss these symptoms with ALL household members and RV guests:**

- **Mild Exposure:** Headaches, running nose, sore or watery eyes, often described as "flu-like" symptoms.
- **Medium Exposure:** Dizziness, drowsiness, vomiting.
- **Extreme Exposure:** Unconsciousness, brain damage and death.

NOTE: Reported cases of CO gas poisoning indicate that while victims are aware they are not well, they are disoriented. They are unable to save themselves by exiting the RV or calling for assistance. **Small children and pets may be affected first.**

Your SAFE-T-ALERT™ 70Series alarm helps protect your household members and guests from CO produced while using your RV. CO gas is produced when any type of fuel is incompletely burned. Potential sources of CO in and around your RV can include gas or diesel engine exhaust, portable space heaters, gas stoves and ovens, furnaces, defective engine exhaust systems, portable grills, other nearby RVs, portable generators, generator exhaust, and other propane-powered appliances. All are sources of CO.

The following are also sources of CO that may affect your RV:

- Extended operation of unvented fuel burning appliances can build up high CO levels.
- An idling vehicle in an open or closed garage.
- Temperature inversions can trap exhaust near the ground.
- 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.



WARNING:

LIMITATIONS OF CO and GAS ALARMS

THIS ALARM WILL NOT WORK WITHOUT POWER. Some reasons for no alarm power; are a blown or missing fuse, broken wire, a faulty wire connection or circuit breaker, a discharged battery, cut lead wires, or improper supply (+) or ground (-) connections.

THIS ALARM WILL ONLY INDICATE THE PRESENCE OF GAS AT THE SENSOR. CO or explosive propane/natural gas gases may be present in other areas. MTI recommends installing CO alarms in all sleeping areas. **Do not block or cover** the alarm with any object that can prevent a gas leak or carbon monoxide from reaching the sensor.

THIS ALARM IS INTENDED FOR USE IN RV's. It is intended for use inside the RV. It is not designed to measure compliance with commercial and industrial standards.

THIS ALARM MAY NOT BE HEARD. The alarm's 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. Persons who are hard-of-hearing, have consumed alcoholic beverages, taken prescription, non-prescription or illegal drugs, may not hear the alarm.

THIS ALARM IS DESIGNED TO DETECT CARBON MONOXIDE AND PROPANE GAS. THE ALARM IS NOT DESIGNED TO DETECT SMOKE, OR FIRE.

THIS ALARM MAY NOT ALARM AT LOW CO LEVELS 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.

HOW TO PROTECT YOUR FAMILY

CAUTION- The SAFE-T-ALERT™ 70 Series combination CO and Gas Alarm is designed to protect individuals from the acute effects of carbon monoxide exposure and gas leaks. It will not fully safeguard individuals with specific medical conditions. If in doubt, consult a medical practitioner.

To protect your family, you should:

- **INSTALL THE ALARM 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 or explosive gas. See the section, Test Procedure, in this manual for further information.
- **MAKE REGULAR VISUAL INSPECTIONS.** Check all fuel burning equipment including gas water-heaters, kitchen gas stoves, space heaters, gas dryers and all pilot lights. Check the color of the pilot flame. The color should be blue.
- **MAKE REGULAR VISUAL INSPECTIONS OF THE ENGINE AND GENERATOR EXHAUST SYSTEMS.** Cracked exhaust systems can allow CO to enter the living area.
- **PROFESSIONALLY MAINTAIN YOUR ENGINE AND GENERATOR.** Although gas engines and generators produce CO, a poorly tuned engine and generator will produce greater amounts CO.
- If you smell unusual odors you may have a gas leak, immediately call a local propane gas supplier or fire department to check for possible leaks.

WHERE TO INSTALL

- Install the 70 Series in the kitchen area near sources of a potential gas leaks. Some potential sources are a furnace, refrigerator, stove or oven. If potential sources of a gas leak are in separate areas, MTI recommends installing a gas alarm in each area.
- The NFPA and Consumer Product Safety Commission recommends installing a CO alarm outside the sleeping area. The 70 Series combination CO and gas alarm complies with that recommendation.
- **INSTALL ALARM** at least 4inches off the floor but no more than 20 inches off the floor.

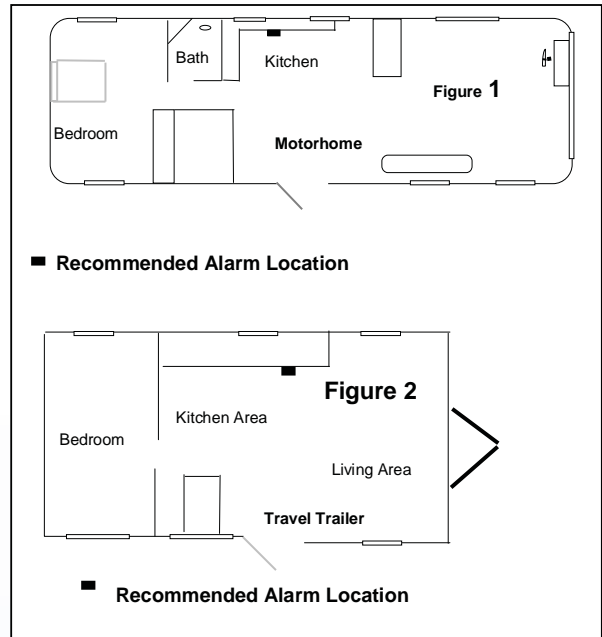
WHERE NOT TO INSTALL 70 SERIES ALARMS

- **DO NOT INSTALL** behind furniture, drapes, in closets or areas that will block air flow to the alarm.
- **DO NOT INSTALL** within 12 inches (30cm) of opening windows, exterior doors, heating or return vents, or other drafty areas..
- **DO NOT INSTALL** on an outside wall.
- **DO NOT INSTALL** on a wall switch controlled by a power line, ground fault circuit or to a circuit breaker.
- **NOTE:** Older RVs may have little or no insulation and therefore are draftier. Carefully consider mounting locations.

⚠ WARNING

ATTENTION: CCI CONTROLS GAS LEAK DETECTOR REPLACEMENT - DO NOT CONNECT ANY SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoids. You must use the new solenoid included in your Kit.

The following diagrams provide additional alarm installation information:



INSTALLATION INSTRUCTIONS

Models

70-742 70-742-MS 70-742-R Kit
70-742-R-MS Kit

⚠ WARNING

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

SHOCK HAZARD: Turn off power before installing.

Power Supply 12 VDC.

Recommended Wire Size 14 GA. TO 18 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 in the United States and the Canadian Electric Code in Canada.

Connect to wiring or circuit that **CANNOT** be turned off by a switch or ground fault protector. Only use UL or recognized permanent wire connectors. It is acceptable to connect the 70 Series CO / LP gas alarm to the main disconnect. The alarm will be off along with all other 12 volt equipment when the main disconnect is turned to the off position. The RV must not be occupied when the main disconnect is in the off position.

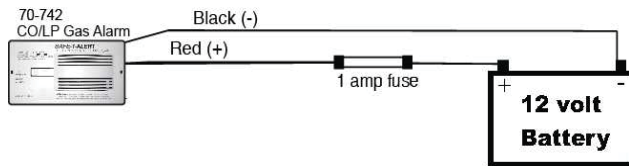
INSTALLATION INSTRUCTIONS

Follow these instructions carefully. Failure to follow these instructions can damage the unit and void the warranty.

Important: The 70 Series case requires 1 1/2" (38mm) clearance.

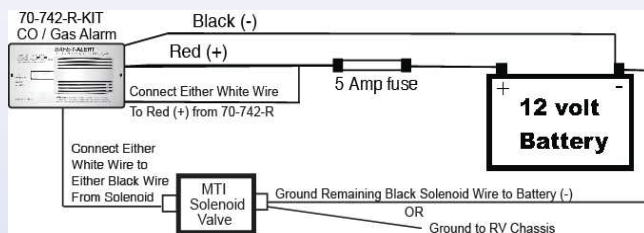
MODEL 70-742

1. **Basic Model 70-742** - Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. Connect Supply (+) to the Red wire lead. Install a 1 amp fuse in the positive (+) circuit. Connect the Black wire to the 12 volt Ground (-).
3. Reconnect the power supply. Warm up 10 minutes then test the alarm.



MODEL 70-742-R KIT

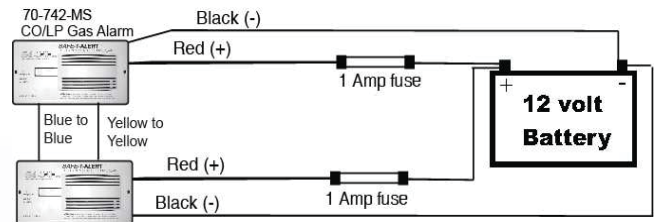
1. **Model 70-742-R Kit - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically energize after the unsafe levels of CO or explosive gas clears.
Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. **Mount the solenoid according to its separate instructions. You must install the solenoid included with the 70-742-R Kit. Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.** Connect the Red wire and either White wire from the alarm to the 12 volt supply (+). Install a 5 amp fuse in the positive (+) circuit between this connection and the battery. Connect the Black wire to the 12 volt Ground (-).
3. **Relay Output** – Connect the remaining White wire from the alarm to either black wire from the solenoid.
Ground the remaining Black wire from the solenoid to the negative side (-) of the 12 volt battery OR ground it to the RV Chassis.
Note: Some devices do not require correct polarity and can be connected to either terminal or wire.
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.



DANGER - FIRE RISK - CCI CONTROLS GAS LEAK DETECTOR REPLACEMENT
- DO NOT CONNECT A SAFE-T-ALERT alarm to non Safe-T-Alert supplied solenoid. You must use the new solenoid included in your Kit. DO NOT CONNECT TO A CCI SOLENOID.

MODEL 70-742-MS

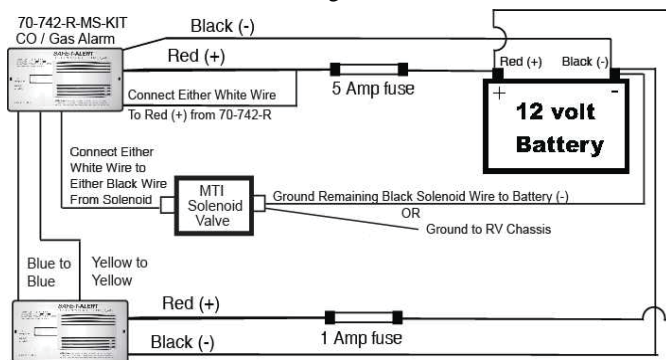
1. **Model 70-742-MS Multi-station interconnect, (Maximum 10 units and 2000 feet of wire).** Allows multiple 70-742-MS alarms to be connected together. When one of the alarms detects unsafe levels of CO or gas it will activate. It will also activate the audible alarm of all the interconnected units. Only the alarm that detected CO or gas will have its Red LED light lit up so that you can determine the cause of the alarm. Select a wall location no between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. Connect the Red wire to the 12 volt supply (+). Install a 1 amp fuse in the positive circuit (+). **Note you must use a separate 1 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. **Interconnect Wiring** – Connect Blue wires from each alarm and Yellow wires for each alarm. Continue connecting in series (Daisy Chain).
4. Reconnect the power supply. Warm up 10 minutes then test the alarm.



MODEL 70-742-R-MS KIT

1. **Model 70-742-R-MS Kit - With Normally Closed relay.** This unit supplies a relay with contacts rated 12 VDC, 3 amp (max). The relay is energized whenever the alarm is operational. It may be used to shut down a generator or to open an (optional) gas solenoid valve. The relay may also be used to interface to alarm systems, using either the normally closed or normally open contact, depending on the requirements of the alarm system. In the event of an alarm the relay will shut off. It will automatically energize after the unsafe levels of CO or gas clears.
Select a wall location between 4" and 20" off the floor. Cut a 5 5/8" (143mm) W x 3 1/8" (79mm) H hole.
2. **Mount the solenoid according to its separate instructions. You must install the solenoid included with the 70-742-R-MS KIT. Do not connect to an existing installed solenoid. SEE: SPECIAL WIRING NOTICE.** Connect the Red wire and either White wire from the alarm to the 12 volt supply (+). Install a 5 amp fuse in the positive (+) circuit between this connection and the battery. **Note you must use a separate 5 amp fuse for each alarm.** Connect the Black wire to the 12 volt Ground (-).
3. **Relay Output** – Connect the remaining White wire from the alarm to either black wire from the solenoid. Ground the remaining Black wire from the solenoid to the negative side (-) of the 12 volt battery OR ground it to the RV Chassis.
Note: Some devices do not require correct polarity and can be connected to either terminal or wire.
4. **Interconnect Wiring** - Connect Blue wires from each alarm and Yellow wires from each alarm. Continue connecting in series (Daisy Chain).
5. Reconnect the power supply. Warm up 10 minutes then test the alarm.

Model 70-742-R-MS-KIT Wiring -



SPECIAL WIRING NOTICE: When replacing CCI Controls LP Gas Leak Detectors they may have two power leads. Safe-T-Alert units only have one power lead. Simply connect the Safe-T-Alert power lead (Red) to the coach/house power supply and cap or remove the other power lead. **DO NOT CONNECT BOTH POWER LEADS TO THE Safe-T-Alert ALARM – this will result in a dead chassis battery.**

Only use UL or recognized permanent wire connectors to replace any unit installed with spade connectors or wire nuts.

TEST PROCEDURE



TO REDUCE THE RISK OF CARBON MONOXIDE POISONING OR PROPANE GAS EXPLOSION, TEST THIS ALARM'S OPERATION AFTER THE RV HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE PER WEEK DURING USE BY PRESSING THE TEST/RESET BUTTON.



WARNING: THE TEST BUTTON ONLY TESTS THE ALARM CIRCUIT NOT THE SENSORS. YOU MAY USE PROPANE OR BUTANE GAS TO TEST THE GAS SENSOR. Note it may take up to 10 seconds for the alarm to sound.

TO TEST THE CO SENSOR USE A CAN OF SAFE-T-ALERT CO TEST GAS TO TEST THE 400 PPM CALABRATION POINT. DO NOT TRY TO GENERATE CO TO TEST THE ALARM. The TEST/RESET button tests all ELECTRICAL functions of the alarm. It does not check the sensor operation.

The alarm may be tested at any time. The TEST/Mute switch is located on the front of the alarm. Press and hold the test button for 1 second **IMPORTANT - If this alarm does not test properly return it immediately for repair or replacement. If the alarm is over five years old replace it.**

OPERATION

When the unit is first powered up, the CO sensor requires a ten (10) minute initial warm-up period to clean the sensor element and achieve stabilization. The GREEN LED indicator will flash on and off during the 10 minute warm-up period. This unit cannot go into a alarm during the warm-up period. See Test Procedure in this manual. After the warm-up period, the GREEN power ON indicator should glow continuously. If the ON indicator light does not light, see the section, **Trouble-Shooting Guide**, in this manual for further information. **Do not attempt to fix it yourself.**

Gas Alarm: When you power the alarm, it has a warm-up period of approximately 1 minute. This unit cannot go into a gas alarm during the warm-up period. After 1 minute the alarm can detect explosive gas and will energize the relay on models 70-742-R Kit and 70-742-R-MS Kit.

Simultaneous CO and Gas Alarms— Because the risk of a propane gas explosion is generally a more serious danger, your alarm unit gives the gas alarm a higher priority during simultaneous alarm condition.

If your unit generates alarms for both Gas and CO at the same time, the gas LED will flash red and the beeper will sound. The CO LED will be a solid Red until the CO is ventilated out of the RV, at which time the LED will return to the Green operational/safe color.

Brownout Protection - The unit can tolerate short power interruptions and brownouts where the circuit voltage drops as low as 1 VDC. If the brownout lasts too long, the unit will reset and operate as described above.

LOW POWER OPERATION

This alarm will operate normally down to 7 VDC. Do not operate this alarm below 7 VDC.

VISUAL AND AUDIBLE ALARM SIGNALS

This SAFE-T-ALERT™ CO / Propane Gas Alarm is designed to be easy-to-operate. The alarm has two indicator lights that display a specific color for each monitored condition. There also is a matching sound pattern for alarm conditions.

CO ALARM

The Red CO LED will flash and the alarm will sound 4 “BEEPS” then silent for 5 Seconds. These signals indicates that the CO level is over 70 ppm. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures To Take During An Alarm**. This cycle will continue until the TEST/Mute button on the front of alarm is pressed. Ventilate the RV. The RED light will stay ON until the CO has cleared, or the alarm will reactivate in approximately 6 minutes if the CO is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV s properly ventilated.

PROPANE GAS ALARM

The Red LED will Flash and the alarm will sound a steady tone whenever a dangerous level of propane or methane gas is detected. **IMMEDIATE ACTION IS REQUIRED.** See **Procedures Take During A Gas Alarm**. The detector will continue to alarm until the Test/Mute switch on the front of the alarm is pressed. Ventilate the RV. The RED Gas LED will continue to flash until the gas has cleared, or the gas alarm will reactivate in approximately 5 minutes if the gas is still present. DO NOT RE-ENTER THE RV. This alarm will return to normal operation after the RV s properly ventilated.

MALFUNCTION/SERVICE SIGNAL If any malfunction is detected, the Gas LED will remain off and the Operational/CO LED will alternate Red/Green and the alarm will sound once every 15 seconds. Press the Test/Mute button. If the Test/Mute button does not clear the signals, check the battery voltage. **If the battery voltage is not low and the unit will not return to normal operation, immediately remove the alarm and return for service or warranty replacement.** See the warranty section in this manual.

| OPERATION | AUDIBLE SIGNAL | VISUAL SIGNAL |
|-----------------------|------------------------------|---------------------------------|
| NORMAL | NONE | STEADY GREEN |
| CO ALARM | 4 “BEEPS” 5 SECONDS OFF | STEADY RED |
| PROPANE ALARM | CONSTANT | FLASHING RED |
| ALARM MALFUNCTION | BEEP” EVERY 25 SECONDS | ALTERNATING RED/GREEN |
| END OF LIFE SIGNAL | BEEPS EVERY 25-30 SECONDS | RED RED GREEN GREEN FLASHING |

MEMORY FEATURE – This alarm has a Peak Level Memory feature that remembers the approximate amount of CO that activated it. The memory feature does not record brief exposure to CO that would not activate the alarm. This alarm will indicate one of four levels with chirps and blinks with the CO LED:

To activate alarm level memory, press the TEST/RESET button for less than 1 second.

- 1 Chirp and 1 Green Blink = CO memory is clear
- 2 Chirps and 2 Red = below 100 ppm
- 3 Chirps and 3 Red Blinks = below 200 ppm
- 4 Chirps and 4 Red Blinks = above 200 ppm

TROUBLE-SHOOTING GUIDE

Use this chart to trouble-shoot problems with this 70 Series Alarm.

| PROBLEM | CAUSE/SOLUTION |
|---|--|
| Green Operational LED Off | 1. Wire Connection 2. Reversed Wiring 3. Main Power Off 4. Missing or Blown Fuse 5. Contact Customer Service |
| No Sound When Testing | Contact Customer Service |
| No Red LED When Testing | Contact Customer Service |
| Locked In Alarm | Contact Customer Service |
| MALFUNCTION ALARM LED Flashing Red/Green - Beeps Every 25 Seconds | 1. Check Battery Voltage |
| Battery Voltage is Good and Alarm Will Not Reset | 2. Contact Customer Service |
| End of Life Signal LED Flashing RED RED GREEN GREEN Beeps Every 25 Seconds | 1. Press Test/Reset Button to reset for 72 Hours. Can repeat for up to 30 Days 2. Replace Alarm |

HOW TO TAKE CARE OF YOUR ALARM

This CO / Propane Gas Alarm is designed to be as maintenance free as possible. To keep your alarm in good working order, you must:

- **TEST THE ALARM WEEKLY** using the Test/Reset Button. See the section, **Test Procedure**, in this manual for further information.
- **Test the Alarm every six months** with Safe-T-Alert CO Test Gas and with a butane lighter. See **Test Procedure** Section.
- **VACUUM THE DUST OFF THE ALARM COVER.** At least once a year (more frequently in dusty locations), use the soft brush attachment from your vacuum to clean the alarm covers.
- **CLEAN THE ALARM COVER WHEN DIRTY.** Wash the alarm cover by hand. Use a cloth dampened in clean water. 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 an alarm malfunction.
- **OBSERVE THE COLOR OF THE INDICATOR LIGHT.** At frequent intervals and during your weekly test, check the indicator light on the on the front panel of the alarm.
- See the section, **Operation**, in this manual for further information.

PROCEDURES TO TAKE DURING AN ALARM

Follow the alarm procedures for your country. The emergency number depends on your travel location.

PROCEDURES TO TAKE DURING GAS ALARM

1. Turn off all Gas appliances (Stove, Heater, Furnace, Refrigerator, etc.), extinguish all flames and smoking material.
2. Press the Test/Mute switch. **DO NOT DISCONNECT POWER**
3. Evacuate the RV. Make sure everyone is accounted for. Leave the door and windows open.
4. Turn off the propane tank valve.
5. Determine and repair the source of the leak. Get professional help if necessary. **CAUTION- DO NOT RE-ENTER UNTIL THE PROBLEM IS CORRECTED.**

PROCEDURES TO TAKE DURING A CO ALARM IN THE USA

⚠ WARNING: Actuation of this device indicates the presence of carbon monoxide (CO) or propane gases, which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): 1) Operate the Test/Mute button; 2) Call your emergency local service (Phone Number _____) (fire department or 911); 3) Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or 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.

PROCEDURES TO TAKE DURING A CO ALARM IN CANADA

⚠ WARNING: Actuation of this device indicates the presence of carbon monoxide (CO) and propane gases which can KILL YOU. If signal sounds (4 beeps and flashing or solid red light): 1) Operate the Test/Mute. Immediately move to fresh air - outdoors or by an open door/window. Check that all persons are accounted for. Do not reenter the premises or 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 condition; 2) call your emergency local service (telephone number _____) (Fire department or 911).

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

All 70 Series 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 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.**

| | |
|-------------------------|---|
| MODELS | 70-742, 70-742-MS, 70-742-R Kit, 70-742-R-MS Kit |
| POWER SUPPLY | 12 VDC |
| NOMINAL CURRENT DRAW | 108 mA |
| OPERATIONAL TEMPERATURE | -40° F to +150° F -40° C to +66° C |
| RELATIVE HUMIDITY | 15% (+/- 5%) to 95% (+/- 4%) |
| AUDIBLE OUTPUT | 85 dB @ 10 feet |
| GAS ALARM TRIGGER | < 25% of the LEL of Propane and Methane |
| GAS LEVEL CONFIRMATION | 8 Second delay before alarm |
| CO ALARM TRIGGER | 4 -15 Minutes @ 400 ppm |
| CASE DIMENSIONS | 6.5"W x 3.5"H x 1.38"D |
| WARRANTY | 1 Year Limited |
| TESTING LABORATORY | Underwriters Laboratories |
| STANDARD | UL 1484, Fourth Edition UL 2034, Third Edition |

LIMITED PRODUCTS WARRANTY

MTI INDUSTRIES, INC. warrants to the original retail purchaser that its products will be free from defects of material or workmanship for a period of One (1) year from the date of retail purchase. If proven to have been defective in original materials or workmanship and returned, delivery costs prepaid, **MTI INDUSTRIES, INC.** will replace this product free of charge.

LIMITS OF WARRANTY

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 retail 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, which may vary, from state to state.

PRODUCT NOT WARRANTED

NOTE- There are no user serviceable parts inside the case. Opening any SAFE-T-ALERT™ product for any reason voids the warranty. This warranty does not cover damage or failure resulting from acts of God, abuse, misuse, neglect, or faulty installation.

WARRANTY RETURN PROCEDURES

It is MTT's experience that a CO / Propane Gas Alarm is sounding for a reason. Call, ask your dealer to call, or e-mail our Customer Service Department (as listed below) to trouble shoot the situation.

Customer Service Phone No. - 800-383-0269

Fax No. 847-546-9007

E-mail Service@mtiindustries.com

Web Site: www.mtiindustries.com

If Customer Service determines that the unit is defective, a Replacement Authorization (RA) number will be issued. **No product will be accepted for service or replacement without first obtaining a RA number.**

If authorized, return this product to:

MTI Industries, Inc.

Warranty Dept. RA # (INSERT RA NUMBER HERE)

31632 N. Ellis Drive Unit 301

Volo, IL 60073

NOTE: Mark the RA number in the area shown on the outside of the box!

NOTE:

70-742 is the basic unit (Single-station) with no interconnect, no relay, and no solenoid.

70-742-MS is the Multi-station unit with interconnect, no relay, and no solenoid.

70-742-R Kit is the basic unit (Single-station) with no interconnect, with a relay, and with a solenoid.

70-742-R-MS Kit is the Multi-station unit with interconnect, with a relay, and with a solenoid.

OWNERS REPLACEMENT RECORD

Replace this SAFE-T-ALERT™ 70 SERIES CO / GAS propane alarm within 5 years, of the production date on the back of the alarm.

Production Date _____

Replace Date _____

Installer _____

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

© MTT INDUSTRIES 2009

Parker Solenoid Valve

Your LP Detector is installed with an electric Solenoid Valve which will shut off the flow of LP Gas to your motorhome in the event that the LP Detector senses gas. This automatic valve will help deter the harmful effects of unwanted LP Gas inside your motorhome. In the event that your LP Detector trips, open all windows and doors to immediately “FLUSH” the air inside your motorhome.

Gold Ring™ Solenoid Valve Installation and Maintenance Instructions



2-Way Direct Acting Combustion Valves Normally Closed

NEMA 1
Series NM22-0501
NPT 3/8
Orifice 5/16

Parker Hannifin Corporation
Skinner Valve Division

Bulletin 7262 Effective 1 Sept 87
Revision C Revised 1 Jun 91

Warnings

1. Check nameplate for correct catalog number, pressure, voltage and service. Do not install if unsuitable.
2. For protection and proper operation of the solenoid valve, install a strainer or filter suitable for the service involved as close to the valve inlet as possible.
3. This valve requires periodic cleaning and inspection depending on the service. This should be done at least once every 12 months or every 500,000 cycles, whichever occurs first.
4. Turn off electrical power supply and line pressure to the valve. Bleed trapped pressure from the lines before inspecting, cleaning, servicing, or repairing the valve.

Description:

NM22 solenoid valves are direct-acting and have integral seats.

Operation:

NORMALLY CLOSED

Closed when de-energized; open when energized.

Installation:

1. Application

Refer to Parker Gold Ring™ catalog for application information.

2. Positioning

Unit valves may be mounted in any position. It is recommended that unit valves be mounted vertical and upright to prevent accumulation of debris in plunger tube.

3. Piping

Connect piping to valve according to markings on valve body. Apply pipe compound or sealing material sparingly to male pipe threads only. If applied to valve thread, it may enter valve and cause operational difficulties. Pipe strain should be avoided by proper support and alignment of piping. **Do not use valve as a lever when tightening pipe.**

4. Wiring

Wiring must comply with local and national electrical codes.

5. Solenoid Temperature

Standard catalog valves are supplied with coils designed for continuous duty service. When the solenoid is energized for a long period, the solenoid frame becomes hot and can be touched with the bare hand for only an instant. This is a safe operating temperature. Excessive heating will be indicated by the smoke and odor of burning coil insulation.

Maintenance:

1. Cleaning

Periodic cleaning of solenoid valves is recommended. Frequency will depend on fluid and service, but should never be less than every 12 months or 500,000 cycles whichever occurs first. In general, if the voltage to the coil is correct, sluggish operation, excessive leakage or noise will indicate cleaning or repair is required. Clean valve filter or strainer when cleaning valve. See valve disassembly and reassembly instructions below.

2. Preventative Maintenance

- a. Keep media flowing through valve as free from dirt and foreign matter as possible.
- b. While not in service, operate valve at least once a month to insure proper opening and closing.
- c. Periodic inspection (depending on media and service conditions) of internal valve parts for damage or excessive wear is recommended. Inspect at least every 12 months or 500,000 cycles, whichever occurs first. Thoroughly clean all parts. Replace worn or damage parts with Gold Ring™ Rebuild Kit. Use all parts for best results. Clean valve filter or strainer when cleaning valve.

3. Troubleshooting Guide

a. Faulty Controls Circuit

Check the electrical system by energizing the solenoid. A metallic click signifies solenoid is operating. Absence of click indicates loss of power supply. Check for loose or blown out fuses, open-circuit or grounded coil, broken lead wires or splices.

b. Burned-Out Coil

Check for open-circuited coil. Replace coil if necessary.

c. Low Voltage

Check voltage across the coil lead. Voltage must be least 85% of nameplate rating.

d. Incorrect Pressure

Check valve pressure. Pressure to valve must be within range specified on nameplate.

e. Excessive Leakage

Disassemble valve and clean all parts. Replace worn or damaged parts with a Gold Ring™ Rebuild Kit. Use all parts for best results. Install filtration if indicated. See valve disassembly and reassembly instructions.

4. Coil Replacement

Turn off electrical power supply and disconnect coil lead wires. Refer to exploded view.

5. Valve Disassembly and Reassembly (Refer to Exploded Views)

Turn off electrical power supply and line pressure. Bleed trapped pressure from lines.

- a. To replace coil, remove the two (2) screws and remove the flux frame and coil off the eyelet. Remove coil and spring washer from flux frame. The coil can now be replaced.
- b. Lift off the enclosure tube assembly and the plunger assembly.
- c. All parts are accessible for cleaning or replacement.
- d. Inspect valve body seat for scratches, nicks, dents or other blemishes. Replace if damaged.
- e. Reassemble in reverse order of disassembly, paying careful attention to Exploded Views provided. Apply 44 ± 4 inch pounds of torque to the screws. Lubricate all gaskets with DOW CORNING® DC 200 oil or an equivalent high grade silicone oil.
- f. DO NOT alter, modify, or use parts not obtained in Rebuild Kit from original manufacturer.

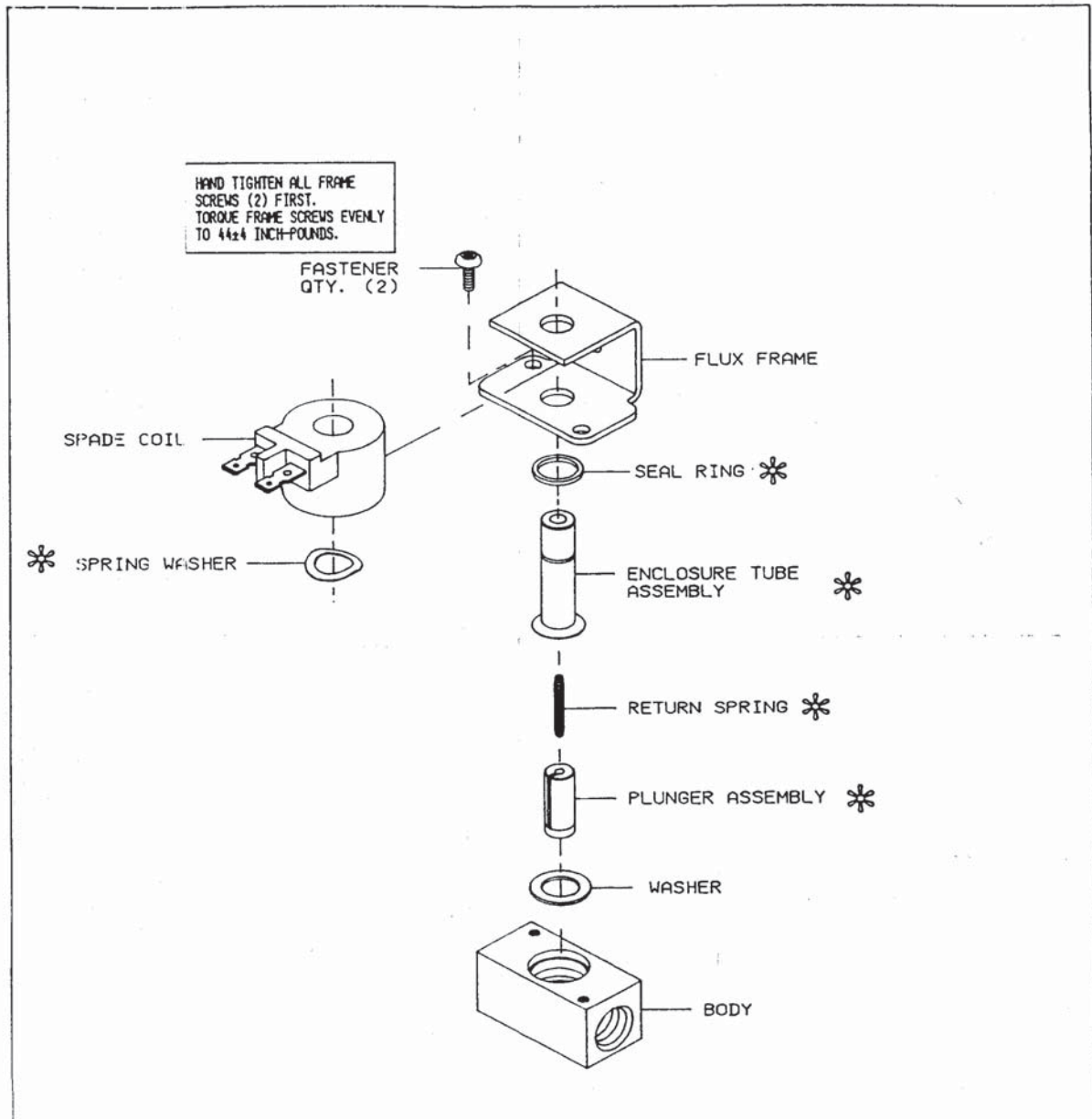
Parker Gold Ring™ Rebuild Kits

Rebuild Kits and Unit Solenoid are available for Gold Ring™ Valves. Parts marked with an asterisk (*) are included in Rebuild Kits (See Exploded Views).

Ordering Information For Rebuild Kits

When ordering Parker Gold Ring™ Rebuild Kits or Unit Solenoids, specify Valve Catalog Number, Serial Number and Voltage.

**NORMALLY CLOSED
3/8" NPT
ALUMINUM**



1. Electrical Rating:

Voltage: 24V
Frequency: 60HZ
Rated Current: .294A
Minimum Current: .237A
Maximum Current: .337A

2. Ambient Operating Temperature Limits:

Maximum 125°F
Minimum 32°F

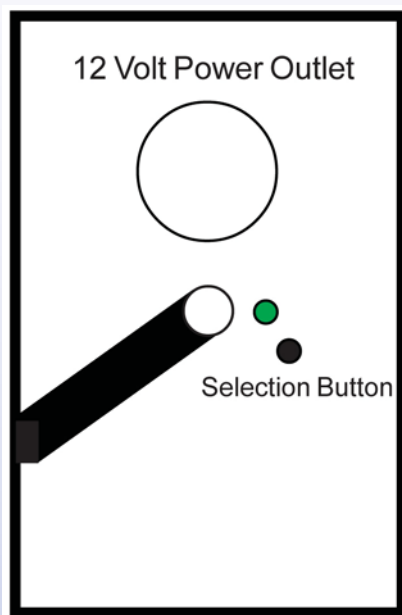
* PARTS INCLUDED IN REBUILD KITS

Parker Hannifin Corporation
147 W. Hwy Road
Madison, MS 39110
(601) 356-4123

Television Connection Selector

Reception on your Television may be supplied by a Cable Source, (when plugged into the side of the motorhome) or the HD Television Antenna. There is a selector switch located in the panel above the driver's seat. When the "Green" light is lit, you are receiving signal from the HD Television Antenna. When the light is off, you are receiving signal from the cable source.

This switch does NOT affect Satellite systems which may be installed on your motorhome.



"Green" Light On - HD Television Antenna

"Green" Light Off - Cable Source
(Must be hooked up to side of Motorhome)

HD Television Antenna

An external antenna is mounted on the roof of your motorhome. This antenna will receive and supply HD signals over the air to your television.

The signal can vary while the motor home is in motion, parked in a fringe area, or near large obstacles. The antenna has a remote control to align the antenna to receive signals from the TV station you would like to view. Adjust the reception using the remote control supplied until the signal comes in to provide an optimal signal in your location.



Remote Control



Insert HD Television Antenna Manual Here

Hellwig Suspension Enhancement



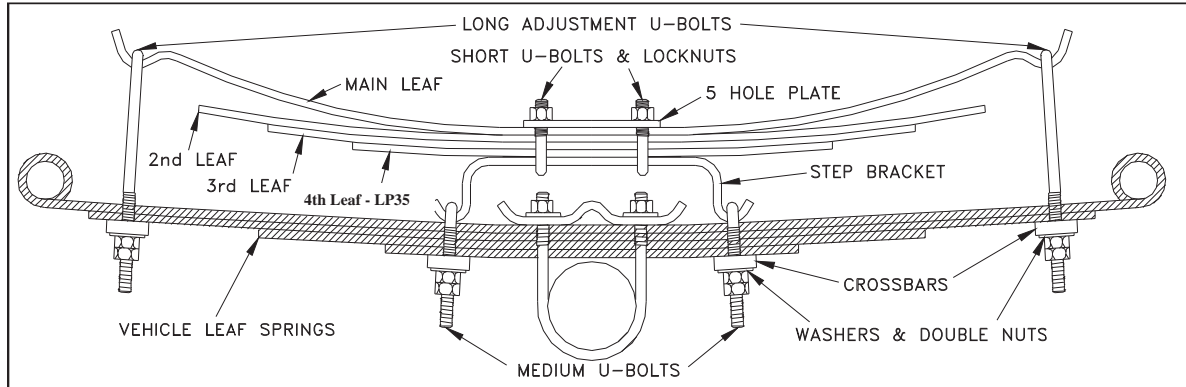
Mercedes-Benz

Mercedes Benz chassis are equipped with Hellwig suspension enhancements to smooth out the ride and dampen road irregularities. This system has been installed at the factory and should not need any adjustments for the life of your vehicle.

INSTALLATION INSTRUCTIONS

Thank you for purchasing a quality Hellwig Product.

PLEASE READ THIS INSTRUCTION SHEET COMPLETELY BEFORE STARTING YOUR INSTALLATION PROCEDURES.



TORQUE TABLE

BOLT SIZE: 3/8" = 20-30 ft. lbs. - 7/16" = 35-45 ft. lbs. - 1/2" = 50-70 ft. lbs. - 9/16" = 70-90 ft. lbs

SAFETY: PARK YOUR VEHICLE ON A FLAT LEVEL SURFACE, SET THE PARKING AND CHOCK THE FRONT TIRES.

NOTE: THIS KIT INCLUDES LOCKNUTS WHICH REQUIRE TIGHTENING WITH A WRENCH AFTER BEING STARTED BY HAND.

NOTE: IF YOUR VEHICLE IS EQUIPPED WITH A BRAKE FLUID PROPORTIONING VALVE ON THE REAR AXLE READ INSERT (R-362)

IMPORTANT NOTE: IF YOUR VEHICLE IS EQUIPPED WITH A FACTORY CONTACT OVER LOAD IT MUST BE REMOVED BEFORE INSTALLING THE NEW HELPER SPRINGS.

1. Raise the rear of the vehicle by the frame so that the rear tires are just slightly contacting the floor. Be sure to Block the front tires and use Jack Stands to support the vehicle by the frame. This will increase the vehicle's spring arch to ease installation.
2. Lay out the spring leaves into two (2) sets. Each will consist of a long, medium and a short leaf. The hole in the middle of the leaves is punched (1") off center. Lay the leaves so that the long ends are all in the same direction.
3. Stack the leaves so that the short leaf is on the bottom and the long leaf is on the top. Use the (3/8") bolt, nut and lock washer that are provided to tighten the spring stack tightly. **Tighten this center bolt completely.**
4. Place the spring stack on top of the Step Brackets and install the (5) hole plate on top of the spring stack. Using the small U-bolts and the (7/16") lock nuts that are provided mount the spring stacks to the Step Brackets with the (5) hole plate. **Tighten completely.** Be sure that the springs are straight in line with the Step Bracket. SEE DIAGRAM.
5. Place the assembled spring on top of the truck springs. In most cases the long ends of the springs go towards the rear. Align the springs to be centered over, and in line with the truck springs from front to rear. Front to rear adjustment may be needed to position the Helper Springs and clear any vehicle components or spring alignment clamps.
6. Install the medium U-bolts over the ends of the Step Brackets and install the crossbar with the washers and double nuts to connect the Step Brackets to the truck springs. **Leave loose at this time.**
7. Place the long U-bolts on the ends of the Helper Springs and install the crossbars with the washers and double nuts. **Leave loose at this time.** A C-clamp may be needed to compress the helper spring ends to attach the crossbars and start the threads of the nuts.

READ OPPOSITE SIDE COMPLETELY



559-734-7451 800-367-5480 FAX 559-734-7460

8. Align the U-bolts and the Helper Springs to be centered and in line with the truck springs. Tighten the medium length U-bolts on the Step Bracket completely and double nut.
9. Lower the vehicle to the ground and tighten the end U-bolts to attain the desired height and tension. Double nut the U-bolt or loosening will result. Tightening the end U-bolts will increase and loosening will relieve tension. **Be sure to double nut after each adjustment.** Be sure to check for clearance above the Helper Spring to the body, fuel filler hose etc..
10. The minimum tension adjustment is having enough tension on the end U-bolts so that they do not loosen or rattle and move when the vehicle is driven over rough or bumpy surfaces. The maximum is having the end U-bolts tightened so that the ends of the Helper Springs are no closer than (1/4") above the vehicle springs.
11. Check your installation for clearance on all undercarriage components; wires, fuel and brake lines. Test drive the vehicle and recheck your installation, adjust as needed. Recheck on a monthly regular basis thereafter.

IMPORTANT NOTES, WARNINGS AND TIPS

READ THIS INSTRUCTION SHEET COMPLETELY BEFORE STARTING YOUR INSTALLTION

IMPORTANT NOTE: CHECK YOUR INSTALLATION. ARE ALL NUTS AND BOLTS SECURELY TIGHTENED AND DOUBLE NUTTED WHERE PROVIDED? BOUNCE THE VEHICLE CHECKING FOR CLEARANCE ON ALL UNDERCARRIAGE COMPONENTS, MUFFLERS, GAS FILLER PIPES, BRAKE LINES, EMERGENCY BRAKE CABLE, AIR CONDITIONING LINES, RUBBER BOTTOMING PADS, ETC.

If this unit is to be installed on any DODGE VAN OR MOTORHOME CHASISI model numbers, B300, B400, MB300 OR MB400 and F30, F40, F44 with plastic molded gas tank a special clearance bracket is required and is available through your local dealer or from Hellwig Products Company (SB621).

For installation on: Wagoneer, Cherokee and J-Series Pick-ups (25350). Locate the double studded plate assembly provided in this kit. This bracket mounts on the front half of the rear spring. Install this bracket with the legs pointing outward to the body of the vehicle. The flat plates will be parallel to the frame and the legs or studs parallel to the ground. One leg will nest in the grove on the accessory spring. The other leg under the vehicle's original spring. Place the final plate on the legs of the bracket and apply washers and double nut.

Before attempting the installation of any Hellwig Accessory Spring, be sure and identify the vehicle to which the accessory spring will be installed as either being or not being equipped with height sensing brake fluid proportioning valve. If a vehicle is equipped with the brake fluid proportioning valve on the rear axle, it is recommended that any Hellwig Full Time Accessory Spring **NOT** be installed. Only the Progressive Rate Accessory Springs are to be installed on these vehicles. Some of the vehicles manufacturers (FORD, GM, DODGE) have recommended an adjustment or modification of the brake system. If the vehicles height or weight requirements have been changed due to the suspension modifications or unusual load situations, contact your local dealer for correct adjustment after installation.

If you have any questions about the application, please contact Hellwig Products Company inc.

IMPORTANT NOTE: Hellwig helper springs are designed to increase the "Level Load" carrying capacity of your vehicle. Never load the vehicle that this unit is installed on beyond the manufacturer's maximum gross vehicle weight rating.

ATTENTION INSTALLER: BE SURE THAT THE CUSTOMER RECEIVES THIS INSTRUCTION SHEET, ALL IMORTANT NOTE CARDS AND THE WARRANTY FORM

208 (R-208)

02/27/04

Automatic Entry Step

Kwikkee Entry Steps will automatically extend and retract when you open the main entrance door to your motorhome. If you would like the step to stay in the “open” position when you are parked, flip the “override” switch located on the main switch panel just inside your motorhome door.



Insert Kwikkee Installation Manual #888 Here

MCD American Duo Roller Shades

Your coach is equipped with MCD American Duo Roller Shades. This system allows you to use the Day Shade or the Night Time Privacy Shade. Refer to the MCD Innovations Owner's manual for care and warranty instructions.



3303 N. McDonald St.
McKinney, TX 75071
972.548.1850
800.804.1757
www.mcdinnovations.com

Insert MCD American Duo Owner's Manual Here

Illumagrip Entry Handle

Entry Handles installed by Coach House Motorhomes are illuminated by L.E.D. bulbs which are connected to the outside lighting circuits. These handles will light up when the porch/step light circuit is turned on. Follow the care and cleaning guide on the following page for a long life of these handles.



Caring for your IllumaGrip™ Assist Handles

CLEANING:

These handles must be cleaned with mild soap and water only.

Use of any harsh or abrasive cleaning agents will void all warranties.

Clean with lukewarm water a mild, nonabrasive cleaner and a clean, soft cloth.

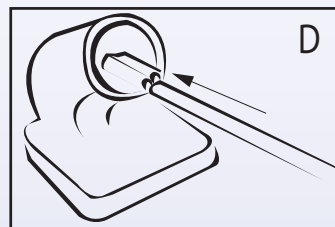
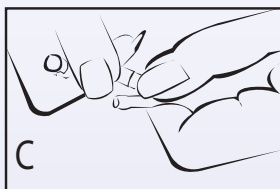
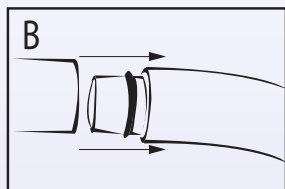
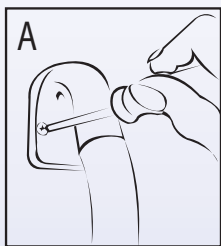
Use only light pressure and avoid rubbing dirt or grit into the surface.

Turn the cloth often and replace with a clean cloth frequently.

LED CHANGING:

Many of our handles are lit with an LED assembly in the end cap. If you need to replace the LED, follow these simple instructions.

1. Remove the screws holding the handle to the mounting surface. (See Fig. A)
2. Gently pull the handle from surface, being careful not to pull too hard on the wiring.
3. Remove the top end cap where the LED is housed. (See Fig. B)
4. Locate the LED assembly wiring that will exit the top end cap.
5. Pull the quick disconnect fittings apart. (See Fig. C) Be careful not to let the wiring fall back into the wall.
We suggest taping the wiring to the side of the mounting surface until you're ready to connect the new LED
6. Push the LED wires until the LED assembly exits the front of the end cap.
7. Pull the LED completely out of the end cap.
8. Push the new LED assembly into the front of the end cap making sure the wires exit through the back side of the end cap. (See Fig. D)
9. Connect the quick disconnect fittings from the new LED assembly to the wiring.
10. Bring power to your light to make sure that the connection is correct. LEDs are polarity sensitive.
If the LED will not light, reverse the connections (quick disconnect fittings)
11. Push the wiring into the wall and reattach the screws holding the handle to the wall.



CORPORATE: 230 E. Lakewood Blvd., PO Box 8338, Holland, MI 49422-8338

Phone: 616-396-1355 ~ Fax: 616-396-1152

ELKHART: 1015 Verdant, Elkhart, IN 46516

Phone 574-389-8986 - Fax: 574-389-8687

E-Mail: sales@itc-us.com

Websites: www.itc-marine.com; www.itc-rv.com; www.itc-industrial.com

505

IllumaGrip™ Installation Instructions

The IllumaGrip™ series of assist handles are shipped completely assembled and either glued or taped in final installation position. This assure that the handle will be in the correct orientation when installed on your unit. In order to maintain the correct orientation of the components, the following installation procedure is recommended.

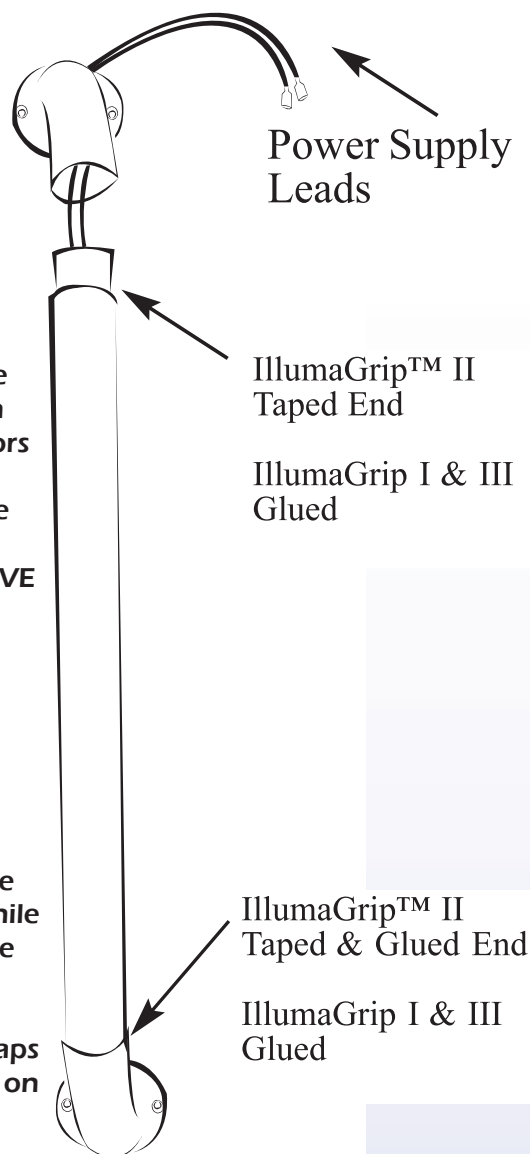
NOTE:

IllumaGrip™ II end caps are shipped with tape around the joints between the acrylic handle and the end cap. Leave this tape in place until installation in complete. IllumaGrip™ I and III end caps are glued to the acrylic.

MOUNTING YOUR HANDLES:

1. Align the IllumaGrip™ in the desired mounting location and mark screw holes.
IF YOUR HANDLE IS UNLIT, PROCEED WITH STEPS 3-5
IF YOUR HANDLE IS LIT WITH AN LED: Pre-drill the wire access hole through the wall and locate the connection wiring. Connect the supplied wire pigtail and connectors to your internal wiring. Test the light.
CAUTION: LED's are polarity sensitive. The **BLACK** wire must connect to the **POSITIVE** side of the vehicle's 12 volt line. The **WHITE** wire must connect to the **NEGATIVE (GROUND)** of the vehicle's 12 volt line.

2. Feed the wires from the top end cap through the hole you made in step 1.
3. Install #8 flat head screws to mount the end caps.
4. Apply a slight downward pressure on the top end cap may assist in alignment of the top end cap of the handle to the unit and hold the end cap firmly to the acrylic while installing. Torque all screws to the point where they are firmly seated into the countersink of the base.
5. Remove the shipping tape (if present) from both end caps where they join to the acrylic and the protective sleeve on the acrylic (if present).



CORPORATE: 230 E. Lakewood Blvd., PO Box 8338, Holland, MI 49422-8338
Phone: 616-396-1355 ~ Fax: 616-396-1152

ELKHART: 1015 Verdant, Elkhart, IN 46516
Phone 574-389-8986 - Fax: 574-389-8687

E-Mail: sales@itc-us.com

Websites: www.itc-marine.com; www.itc-rv.com; www.itc-industrial.com 0905

ITC INCORPORATED CONDITIONS OF SALE (Quotation/Confirmation)

1. Expiration of Quotation. Any quotation by ITC, Incorporated ("ITC") will be held open for acceptance for a period of 60 days from the date of the quotation; however, ITC reserves the right to correct clerical and typographical errors, including price and quantity numbers, within 15 days after acceptance of an order based on the quotation.
2. Acceptance. This order is subject to the following terms and conditions. Terms stated by the Buyer in any other communication, prior or subsequent hereto, shall NOT be binding on ITC if different from or in addition to any of the provisions hereof or the quotation, unless expressly agreed to in writing by ITC. Acceptance by the Buyer of this order, orally or in writing, or of any goods provided hereunder or payment therefore, shall constitute acceptance of these terms and conditions.
3. Payment. Payment is due on a NET 30 DAYS basis unless otherwise agreed in writing. All payments not made by the due date shall bear interest at a rate of 1½% per month. If the Buyer fails to fulfill the terms of payment, or ITC has any doubt at any time as to the Buyer's financial responsibility, ITC may either decline to make further deliveries except upon receipt of cash or other satisfactory security, or may terminate the entire agreement. The Buyer shall reimburse ITC for any costs of collection incurred in collecting any past due sums, including attorneys' fees. To secure the Buyer's obligation to pay ITC the purchase price of the goods, the Buyer grants to ITC a security interest in the goods and any proceeds thereof, with full rights as a secured party under the Uniform Commercial Code, and the Buyer appoints ITC as its attorney in fact to sign any financing statements evidencing such security interest on behalf of the Buyer.
4. Shipment and Risk of Loss. The Buyer shall take delivery of the goods F.O.B. ITC's facility, unless otherwise agreed in writing. Method and route of shipment are at ITC's discretion, unless the Buyer supplies instructions otherwise. All expenses and risks of loss or any damages incurred in the transportation of the goods, including any risks of loss in loading or unloading, shall be borne solely by the Buyer, unless otherwise specified. All claims for loss, damage or delay against the carrier must be made by the Buyer. The Buyer shall accept partial delivery of any order and any defect related to said partial delivery or failure to make any subsequent partial delivery shall be severable and not constitute a breach of the entire agreement. Freight shall be shipped on ITC's shipper account unless otherwise agreed to between ITC and Buyer. To qualify for shipping collect (against Buyer's account number), the customer must be in good standing and have reached a minimum of US\$10,000 in annual sales with ITC. If freight for a collect account is invoiced back to ITC for any reason, ITC reserves the right to charge Buyer all the associated freight along with a fee of \$50 for processing. For Buyers with credit card payment terms, freight collect shipments from ITC will not be allowed.
5. Delays and Damages. ITC shall attempt to make deliveries in accordance with its quotation or production order, but if for any reason ITC fails to make such deliveries or to make them within the time stated, or cancels any order, ITC shall not be liable for any loss or damage resulting from any such failure or delay in delivery, or from any such cancellation or for loss of use or loss of profits, or for any other consequential, incidental or special damages on account of delay in delivery.
6. Rejection of Non-Conforming Goods. The Buyer must notify ITC in writing of any rejection of goods deemed non-conforming within 6 months of delivery. The notification shall identify each alleged non-conforming of the goods and describe that portion of the shipment being rejected. If the Buyer shall fail to give such notice or if the Buyer uses the goods in any manner inconsistent with the rights of ITC, the goods shall be deemed to conform to the terms hereof in all respects and the Buyer shall be bound to accept and pay for the goods in accordance with these terms.
7. Cancellation or Modification. Any order accepted by ITC may be canceled or modified by the Buyer only upon the written approval of ITC. The Buyer shall reimburse ITC for all expenses incurred by ITC in connection with such order, including without limitation for engineering drawings and materials. Custom parts specifically designed and/or manufactured for the Buyer are subject to notification in writing to ITC by the Buyer in the event of any one of the following occurrences: 1) the termination of any program that would affect the custom part purchases, 2) any engineering change pertaining to the custom part, and 3) any decision that would cause the Buyer to cease purchases of the custom part. In any one of these occurrences, other than non-performance by ITC, the Buyer agrees to pay ITC for inventory held by ITC.
8. Limited Warranty and Limitation of Remedy and Damages. ITC warrants the goods to be free from defects in material or workmanship under normal operating conditions from the date of delivery, regardless of the date of installation or first use. In the event Buyer supplied the drawings for the goods, ITC's warranty is further limited to manufacturing the goods to the specifications on the drawings and ITC assumes no obligation or liability for design and/or fitness for particular purpose. Any claim under this warranty shall be deemed waived unless ITC is notified within 30 days of the discovery of the defect and given the opportunity to inspect such defect, and, if necessary, the goods are returned to ITC. ITC's obligation under this warranty shall be LIMITED, at its option, to the modification, repair or replacement of the goods by ITC. In no event shall ITC be liable for consequential, incidental or special damages, loss of profit or production, or for transportation, installation or other costs associated with the goods. THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. This warranty shall not apply to any goods which have been subject to abuse, accident, alteration or misuse.
9. Limitation of Liability. ITC's liability on any claim of any kind, including negligence, strict or product liability, or breach of warranty or contract, for any loss or damage arising out of or connected with this contract, or the performance or breach thereof, or the manufacture, sale or use of the goods furnished hereunder shall in no case exceed the price allocable to such goods which gives rise to the claim, and shall not include any liability for any consequential, incidental or special damages.
10. Reliance Upon Buyer's Information. In the preparation of the quotation and the goods, ITC has relied on information supplied by the Buyer. In the event such information is inaccurate, ITC shall not be liable for any claim resulting from such inaccurate information, including negligence, strict or product liability, or breach of warranty or contract, with respect to the goods, the performance of breach of this contract, or any defects of design, material or workmanship.
11. Indemnification. Buyer shall defend, indemnify and hold harmless ITC and its agents from any claims, damages or expenses including attorneys' fees, arising or alleged to arise from any asserted deficiencies or defects in the goods caused by any alteration thereof with or without ITC's consent made by the Buyer, the improper handling, storage or installation by the Buyer, or any action taken by the Buyer which voids the UL certification.
12. Non-Performance. Neither party shall be liable to the other for failure to perform its obligation in whole or in part when performance is prevented by flood, drought, fire or any other casualty, war, riot, insurrection, acts of God, restrictions or interference by any government or governmental agency, strike, labor action, or any similar cause beyond the control of the party failing to perform, for the period during which such cause of failure exists.
13. Limitation Period for Bringing Action. No action may be commenced to enforce this contract or for any breach hereof, or for any defect or deficiency of the goods to be delivered hereunder, whether on warranty, contract, negligence, or strict products liability, unless such action is brought within 12 months after accrual of such cause of action.
14. Choice of Law and Forum. This contract shall be governed by the laws of the State of Michigan, notwithstanding any state's choice of law rules to the contrary. The Buyer consents and agrees that any action brought to enforce this contract, or for any breach hereof, or for any defect or deficiency of the goods to be delivered hereunder, whether on warranty, contract, negligence, or strict products liability, shall be brought solely in a state or federal court sitting in the State of Michigan, and the Buyer consents and submits to the jurisdiction of such court.

GENERAL PRODUCT LIMITED WARRANTY

ITC warrants, to the original consumer, that the product will be free of defects in materials and/or workmanship for the period of time set forth herein. This warranty period will begin from the later of the original date of purchase of the product or the date of sale of the recreational vehicle or boat in which the product is installed is first sold to the first consumer provided that adequate documentation of said consumer sale date is provided to ITC. Adequacy of the authenticity of the consumer sale date will be determined by ITC in its sole discretion. In the event the consumer sale date is not provided or not determined to be adequate by ITC, then the warranty period will begin on the original date of purchase of the product from ITC. Except as set forth below, this general product limited warranty will extend for three years. All exterior faucets, exterior showers, exterior plumbing products, and clocks will have a one year warranty period. All assist handles will have a two year warranty period, provided that crazing caused by chemical attack from a contaminant is not covered by any warranty. Products that are primarily comprised of 316 stainless steel will have a five year warranty period. Bulbs, including halogen, incandescent, xenon, and light emitting diodes (LEDs) are excluded from the warranty.

MAXIMUM LIABILITY ITC's liability to repair or replace a damaged item shall be limited to the original purchaser of the item at the original invoice price of the damaged unit, acceptable labor charges, acceptable freight charges, and dealer charge backs mandated by state law. ITC will not credit customers for excessive labor or freight charges or unauthorized dealer or customer markup fees. Acceptable freight and labor charges are available from ITC upon request.

INSPECTION ITC reserves the right to review the damaged product and the site where the damage occurred. ITC may require the purchaser to ship the item to ITC for inspection. The damaged item must remain available for inspection until the claim is finalized. In the event ITC requests to inspect the product, it agrees to dispatch its findings pertaining to the alleged defective product within 45 days of receiving the product. Whenever claims are settled, ITC reserves the right to be subrogated under any existing insurance policies the purchaser may have.

EVENTS THAT VOID WARRANTY All above warranties are null and void if any one or more of the following events occurs: (a) the item is not provided to ITC for inspection upon ITC's request; (b) ITC determines that the item has been improperly installed, altered in any way or tampered with; (c) ITC determines that the item was not used under normal operating conditions or in accordance with labels or instructions for the item including; (d) ITC determines the product was not properly maintained, and/or; (e) ITC determines that an unauthorized repair, modification, disassembly, or other changes to the product created the alleged defect. In addition to the foregoing, this Warranty does not protect against damage to the product when ITC determines, in its sole discretion, that the damage resulted from acts of God such as lightning, flood, earthquake, war, vandalism, theft, normal-use wear and tear, terrorism, strikes, and labor stoppages. This warranty specifically excludes damage, deterioration or discoloration caused by sunlight or similar ultraviolet rays and/or wavelengths and/or dents, holes or scratches to the unit caused by stones, rocks, debris and/or vehicles.

EXCLUSIVE REMEDY This Warranty contains the sole warranty of ITC with respect to the product and is given in lieu of all other warranties. There are no other warranties, express or implied, including implied warranties of merchantability or fitness for a particular purpose and any implied warranties that cannot be waived and/or excluded are hereby limited in duration to the terms of this Warranty.1

LIMITATION ON LIABILITY In no event shall ITC or any affiliate of ITC be liable for direct, indirect, special, incidental, consequential, or multiple damages arising out of the use of the item, regardless of the legal theory on which such claim is based, even if ITC has been advised of the possibility of such damage. Consequential damages shall include, but are not limited to loss of profits, loss of savings or revenue.

1 Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not be applicable.

ITC SAMPLE POLICY

We at ITC understand the necessity of sending out samples to our customers for review for product quality and to determine if the product will work in the application for which it has been suggested. It is not cost-effective for us to send samples to all of our customers without charging or memo-billing for some of the products because of the prohibitive costs involved in doing so. It is the policy of ITC to send out samples at no charge for any items if the accumulated invoice amount of the samples is not over US\$60.00. In the event that the invoice amount exceeds US\$60, it is our policy to send the customers a memo bill. The memo bill would become payable by the customer after 90 days if they have not returned the products to either an ITC representative or returned the products against an RGA. We understand that variations to this policy will sometimes be required. When such circumstances arise, the customer's ITC representative is responsible for communicating the deviation from the policy throughout the ITC organization, which includes, but is not limited to, customer service and accounts receivable.

ITC RETURN POLICY

- 1) ITC will accept absolutely no returns for product found defective at the distributor or returned by a dealer or customer as a warranty claim without a Return Authorization Number (RGA). Customers should contact our Quality Department (Phone 616-396-1355 or Fax 616-394-5881 or Email: quality@itc-us.com) to obtain a Return Authorization Number (RGA) prior to sending product back to ITC, Inc.
- 2) All correspondence and credits pertaining to the alleged non-conforming product will reference the RGA number. If your company uses its own return goods numbering system, ITC will make every effort to include both reference numbers on ITC's RGA. All returns must be accommodated by our RGA number or they will not be processed. If product is received without our RGA number written on the outside of the carton, it will be refused upon receipt. All customers have 90 days to return product or the RGA will be voided.
- 3) ITC will reimburse a customer for credit on returned parts that are determined defective by ITC. Credit is entered based on the current Distributor quoted price for said part, acceptable labor charges and Dealer charge backs mandated by State law. ITC will not credit customers for unauthorized Dealer mark-ups or customer mark-up fees.
- 4) ITC will not issue credit for parts that were damaged or inappropriately handled by customer. Alterations to an ITC part will invalidate the warranty.
- 5) To preserve your claim, please securely package all parts before shipping to ITC. All claims are reviewed by ITC's Quality Department to determine the validity of the claim.
- 6) Invalid returned parts (non-ITC parts) shall be held for 15 days maximum, then destroyed or returned at customer's expense, ITC will notify customer accordingly. Repeated submission of invalid parts will warrant us charging the offending customer a handling fee. If a part is damaged or lost during transit, customer is responsible for directing a claim to the courier service, not ITC.
- 7) ITC is not responsible for freight charges of parts that the customer has ordered in error or for parts that are found not defective. For all returns and warranty claims accepted by ITC, the chart below shows the maximum amount of ground freight charges allowed which are refundable by ITC (over 20 LBS requires prior approval).
- 8) A 25% or \$25.00 (whichever is greater) restocking fee will be invoiced or deducted from the return credit for parts that are not defective or parts ordered in error.
- 9) If a scrap credit is authorized by ITC, we will issue an RGA number and apply the credit to the customer's account without inspecting the product or having it returned to ITC.
- 10) ITC warranty is attached for reference purposes.

CORPORATE OFFICE:
ITC Incorporated
230 E. Lakewood Blvd., PO Box 8338
Holland, MI 49422-8338

Fax: (616) 396-1152



ELKHART OFFICE
ITC Incorporated
1015 Verdant

Elkhart, IN 46516

Phone: (616) 396-1355 Phone: (574) 389-8986

Fax: (574) 389-8687

Revised 9/14/09

Outside Shower Assembly

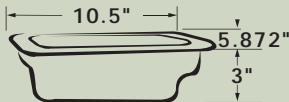
Coach House Motorhomes come with an outside shower assembly which provides hot and cold running water for outdoor applications.

Specifications:

- Designed for use in a pressure regulated, portable water system with a maximum operating pressure of 40 psi.
- Maximum flow rate with the faucets fully opened - 2/5 GPM.
- DO NOT ALLOW TO FREEZE
- Do not connect directly to a high pressure residential water supply.

Exterior Shower

- Compact Unit
- Available in arctic white, black, or grey
- Choose from latching or locking shower door
- Impact & temperature resistant, paintable and UV stable housing
- 5' hose standard with 8' hose option available
- Stainless steel hinge pin
- Anti-siphon vacuum breaker



97022-A-5 | White Latching Exterior Shower



97023-B-5 | Black Locking Exterior Shower

| ITEM NUMBER | DESCRIPTION | FINISH/COLOR | CUTOUT | LISTINGS | CASE QTY | |
|-------------|---|--------------|-----------|----------|----------|-----|
| 97022-A-5 | Exterior Shower, Latching Door | Arctic White | 4.5" x 9" | CSA | 10 | |
| 97022-B-5 | | Black | | | | |
| 97022-G-5 | | Grey | | | | |
| 97023-A-5 | Exterior Shower, Locking Door | Arctic White | | | | |
| 97023-B-5 | | Black | | | | |
| 97023-G-5 | | Grey | | | | |
| 97022-001 | Replacement Shower Head | Arctic White | | | | |
| 97022-008 | Replacement Faucet Set (Includes: Valve Body, Valve Nuts, Handles) | N/A | | | | N/A |
| 97020-080 | Replacement Straight Nipple, Seal Collar & O-Rings | | | | | |
| 97020-004 | Exterior Shower 8' Hose | | | | | |
| 97022-006 | Replacement Vacuum Breaker | | | | | |

Hardwood Cabinet Doors



Limited Three Year Warranty for Coach House Owners

Congratulations on the purchase of a *Coach House*® Luxury Motor Home! This warranty covers the wood cabinet doors found throughout your new motor home.

Wood is a material formed by nature not man and must be handled as such. Characteristics of wood are what give it its beauty and charm. Therefore, there may be some slight color variances due to the natural color variations in wood. The infinite variety in color, grain, and texture is what gives wood its natural character. Because of the differences among varying wood species, even within the same species, no two trees are alike. Climate, light, rainfall and minerals in the soil all create diverse and unique grain and color patterns in each piece of wood. These natural variations are not considered defects. We guarantee our doors free from defect in material and workmanship for three years from the purchase date of your Coach House model. Our warranty applies to the original motor home owner only.

Natural wood will expand and contract with climate and temperature conditions. Our doors are built to allow for proper wood movement. We will not be liable for damages done due to negligence or improper handling and/or cleaning of our doors.

We will guarantee against warpage, twisting or swelling for doors that have been given responsible treatment and are within our minimum or maximum sizes. Warp or twist of 3/16" or less is not considered a defect.

Reasonable Treatment Required for Wood Doors

Doors should not be subjected to abnormal heat, cold, extreme humid or dry conditions or any sudden changes in temperature or humidity and they should never be left open to the elements.

Replacement Policy

Contact your salesperson within one business week of receiving the defective materials. Your representative will arrange to inspect the doors. We may request the defective products be returned for inspection; if so please repackage the doors for shipment. We will have the materials returned to us at no charge to you. In order to minimize the inconvenience to you, Georgia Hardwoods will do our best to replace any defective products as soon as possible.

Contact Information

For Warranty Issues, please contact us at 800-992-6462 to initiate the claim process.

12 Ton Bottle Jack



PRODUCT SPECIFICATIONS

| | |
|--------------------|---|
| MODEL #: | 7384 |
| DESCRIPTION: | BOTTLE JACK |
| CAPACITY: | 12 TON |
| JACK SIZE: | 5 1/4" (L) X 5 1/8" (W) |
| MIN. HEIGHT: | 9 3/8" |
| MAX. HEIGHT: | 18 1/2" |
| SCREW EXT.: | 3 1/8" |
| HANDLE LENGTH: | 18 1/8" |
| OPERATING FORCE: | 102.0 LBS |
| SADDLE DIM.: | 1 3/4" |
| NET WEIGHT: | 17.4 LBS |
| VOLUME OF HD. OIL: | 360 C.C. |
| COLOR BOX DIM.: | 5 5/8" (L) X 5 1/2" (W) X 10 1/4" (H) |
| GROSS WEIGHT: | 72.6 LBS / 4 PCS |
| CARTON BOX DIM.: | 11 7/8" (L) X 11 5/8" (W) X 11 3/8" (H) |
| CUFT.: | 0.91 CUFT (2120 PCS/ 20' CTN) |

FEATURE

- MEETS ASME/ANSI - PALD SAFETY STANDARDS
- LIFTING RANGE: 9 3/8" TO 18 1/2"
- PATENTED BUILT-IN BY-PASS DEVICE MECHANISM
- TWO PCS. HANDLE
- HEAT TREATED EXTENSION SCREW

ONE YEAR LIMITED WARRANTY

For a period of one (1) year from date of purchase, **ATD Tools Inc.** will repair or replace, at its option, without charge, any of its products which fails due to a defect in material or workmanship under normal usage. This limited warranty is a consumer's exclusive remedy.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, to **ATD Tools Inc.** Warranty Service Department, 160 Enterprise Drive, Wentzville, MO 63385.

Except where such limitations and exclusions are specifically prohibited by applicable law, (1) THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY SHALL BE THE REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS AS DESCRIBED ABOVE. (2) **ATD Tools Inc.** SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGE OR LOSS WHATSOEVER. (3) ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO ONE YEAR, OTHERWISE THE REPAIR, REPLACEMENT OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. (4) ANY MODIFICATION, ALTERATION, ABUSE, UNAUTHORIZED SERVICE OR ORNAMENTAL DESIGN VOIDS THIS WARRANTY AND IS NOT COVERED BY THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

SAFETY INSTRUCTIONS

BEFORE USE

1. Verify that the product and the application are compatible.
2. Before using this product, read the owner's manual completely and familiarize yourself thoroughly with the product, its components and recognize the hazards associated with its improper use.
3. Open the release valve (counter-clockwise no more than 1/2 full turn).
4. With ram fully retracted, locate and remove the oil filler plug. Insert the handle into the handle sleeve, then pump 6 to 8 strokes. This will help release any pressurized air which may be trapped within the reservoir. Ensure the oil level is just below the oil filler plug hole. Reinstall the oil filler plug.
5. Check to ensure that jack rolls freely (if so equipped) and that the pump operates smoothly before putting into service. Replace worn or damaged parts and assemblies with Atd Tools Authorized Replacement Parts only. (See Replacement Parts Section)
6. Inspect before each use. Do not use if bent, broken or cracked components are noted.



WARNING

- Study, understand, and follow all instructions provided with and on this device before use.
- Do not exceed rated capacity.
- Use only on hard, level surfaces capable of sustaining rated capacity loads.
- Lifting device only.
- Immediately after lifting, support the vehicle with appropriately rated stands
- Never work on, under or around a load supported by this device.
- Failure to heed these markings may result in personal injury and/or property damage.



OPERATION

Lifting

1. Assemble handle, ensure that spring clips align with slots.
2. Secure the load to prevent inadvertent shifting and movement.
3. Place vehicle in part gear.
4. Position the jack near desired lift point.
5. Close the release valve by turning it clockwise until it is firmly closed.

Note: Use the handle provided with this product or an authorized replacement handle to ensure proper release valve operation. When using to lift vehicle, lift only on the manufacturer's recommended lift points and in accordance with the published guidelines in your vehicle owners manual. Always use jack stands to support the load immediately after lifting.

5. Insert and secure handle into handle sleeve. Pump handle until saddle contacts load.
6. Raise load to desired height, then immediately transfer the load to appropriately rated support devices such as jack stands.



WARNING



To avoid crushing and related injuries:
NEVER work on, under or around a load supported only by jack. **ALWAYS** use adequately rated jack stands.

Lowering

1. Raise load enough to carefully remove jack stands.
2. Insert handle onto release valve and slowly turn handle counterclockwise, but no more than 1/2 turn.
3. If load fails to lower:
 - a. Carefully transfer the load to another lifting device and jack stands.
 - b. Carefully remove affected jack, and then the jack stands. Lower the load, again by slowly turning the release valve no more than 1/2 turn.

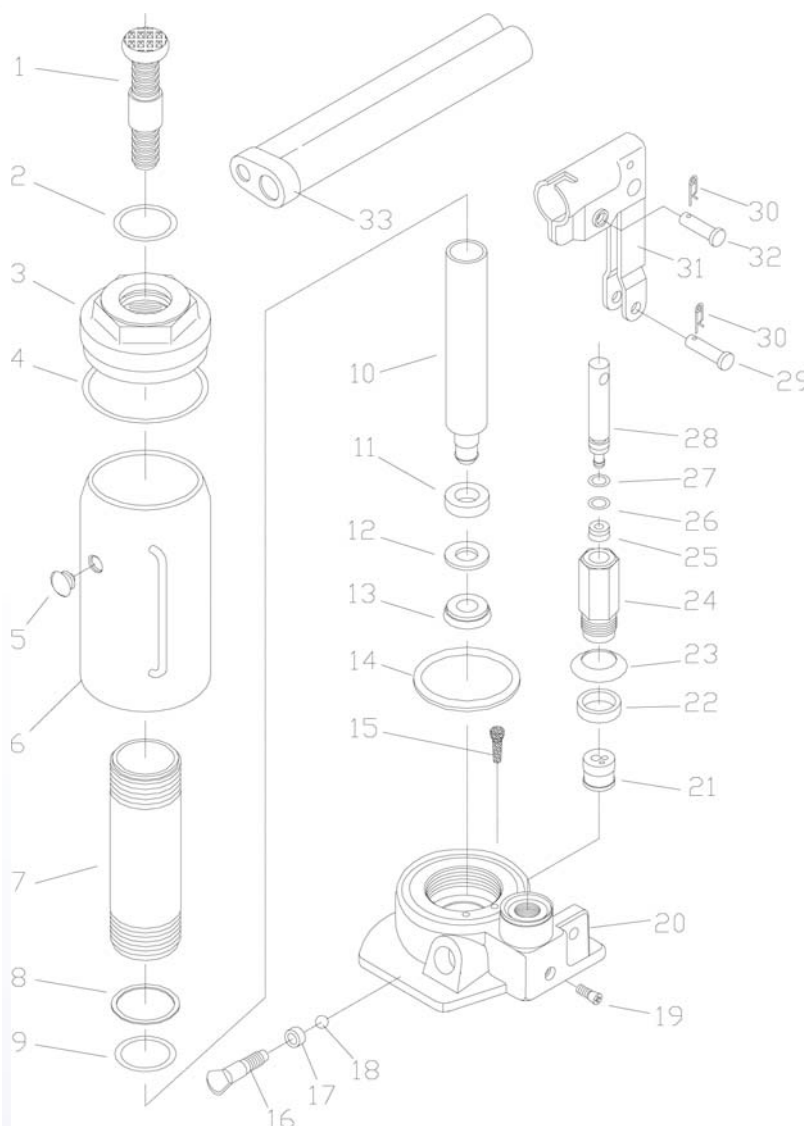
! SAFETY MESSAGE !

Be sure all tools and personnel are clear before lowering load. No alterations shall be made to this device. Only attachments and/or adapters supplied by the manufacturer shall be used.

4. After removing jack from under the load, push ram and handle sleeve down to reduce exposure to rust and contamination.

| ITEM | PARTCODE | DESCRIPTION | QTY |
|------|----------------|---------------------|-----|
| 1 | * | extension screw | 1 |
| 2 | * | o-ring | 1 |
| 3 | * | top nut | 1 |
| 4 | * | gasket (upper) | 1 |
| 5 | 5905-00100-000 | filler plug | 1 |
| 6 | B120-14000-000 | reservoir | 1 |
| 7 | * | cylinder | 1 |
| 8 | * | back-up ring | 1 |
| 9 | * | o-ring | 1 |
| 10 | * | ram piston | 1 |
| 11 | B120-13001-000 | ram bearing | 1 |
| 12 | * | back-up ring | 1 |
| 13 | * | u-cup | 1 |
| 14 | * | gasket | 1 |
| 15 | B120-10003-000 | filter | 1 |
| 16 | B020-10005-000 | release valve | 1 |
| 17 | * | seal | 1 |
| 18 | 5601-00635-000 | steel ball | 1 |
| 19 | * | screw | 1 |
| 20 | * | base | 1 |
| 21 | B020-16000-000 | hyd. cartridge | 1 |
| 22 | * | seal | 1 |
| 23 | B020-15002-000 | washer | 1 |
| 24 | B080-15001-000 | pump cylinder | 1 |
| 25 | * | u-cup | 1 |
| 26 | * | back-up ring | 1 |
| 27 | * | o-ring | 1 |
| 28 | B080-15101-000 | pump piston | 1 |
| 29 | 5405-07027-000 | pin | 1 |
| 30 | 5405-02018-000 | snap ring | 2 |
| 31 | B080-14000-000 | handle sleeve assy. | 1 |
| 32 | 5405-07024-000 | pin | 1 |
| 33 | B080-20000-000 | handle | 1 |

* part is not available



MAINTENANCE

Important: Use only a good grade hydraulic jack oil. Avoid mixing different types of fluid and NEVER use brake fluid, turbine oil, transmission fluid, motor oil or glycerin. Improper fluid can cause premature failure of the jack and the potential for sudden and immediate loss of load. We recommend Mobil DTE 13M.

Adding oil

1. With saddle fully lowered and pump piston fully depressed, set jack in its upright, level position. Remove oil filler plug.
2. Fill until oil is level with the filler plug hole, reinstall oil filler plug.

Changing oil

For best performance and longest life, replace the complete fluid supply at least once per year.

1. With saddle fully lowered and pump piston fully depressed, remove the oil filler plug.
2. Lay the jack on its side and drain the fluid into a suitable container.

Note: Dispose of hydraulic fluid in accordance with local regulations.

3. Fill with good quality jack oil. Reinstall oil filler plug.

Lubrication

1. A coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that assemblies move freely.
2. Periodically check the pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with a clean, oil soaked rag.

Note: Never use sandpaper or abrasive material on these surfaces !

Storage

When not in use, store the jack with pump piston and ram fully retracted.

TROUBLESHOOTING

| Symptom | Possible Causes | Corrective Action |
|-------------------------------------|--|---|
| Jack will not lift load | <ul style="list-style-type: none">• Release valve not tightly closed• Overload condition | <ul style="list-style-type: none">• Ensure release valve tightly closed• Remedy overload condition |
| Jack bleeds off after lift | <ul style="list-style-type: none">• Release valve not tightly closed• Overload condition• Hydraulic unit malfunction | <ul style="list-style-type: none">• Ensure release valve tightly closed• Remedy overload condition• Contact ATD Tech. Service |
| Jack will not lower after unloading | <ul style="list-style-type: none">• Reservoir overfilled | <ul style="list-style-type: none">• Drain fluid to proper level |
| Poor lift performance | <ul style="list-style-type: none">• Fluid level low• Air trapped in system | <ul style="list-style-type: none">• Ensure proper fluid level• With ram fully retracted, remove oil filler plug to let pressurized air escape, reinstall oil filler plug |
| Will not lift to full extension | <ul style="list-style-type: none">• Fluid level low | <ul style="list-style-type: none">• Ensure proper fluid level |