



1501-L VACUUM SAFETY SWITCH KIT

REPAIR KIT INSTRUCTIONS

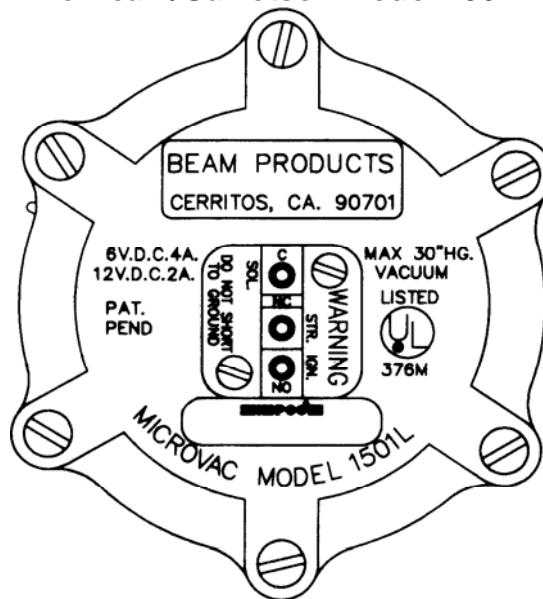
Important: Any maintenance, service or repair should be performed by trained and experienced service technicians. Proper tools and equipment should be used to prevent injury to the servicing technician, property or system components. Service repairs should always be performed in a safe environment and the technician should always wear protective clothing and eye protection to prevent injury.

The IMPCO PPI-119 repair kit instructions will provide the technician information to successfully repair the 1501-L Vacuum Safety Switch using repair kit part number 1501-RK.

PRIOR TO ANY REPAIR OR MAINTENANCE:

Always inspect the major casting pieces for damage, corrosion, cracks, or pits before attempting a service repair.

The Beam/Garretson Model 1501-L



WARNING:

IMPROPER INSTALLATION OR USE OF THIS PRODUCT MAY CAUSE SERIOUS INJURY AND/OR PROPERTY DAMAGE.

SERVICE TECHNICIANS AND USERS

SHOULD CAREFULLY READ AND ABIDE BY THE PROVISIONS SET FORTH IN NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET #37 FOR STATIONARY ENGINES, #52 FOR CNG VEHICULAR FUEL SYSTEMS OR #58 FOR LPG SYSTEMS.

INSTALLERS

LPG INSTALLATIONS IN THE UNITED STATES MUST BE DONE IN ACCORDANCE WITH FEDERAL STATE OR LOCAL LAW, WHICHEVER IS APPLICABLE AND NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET #58, STANDARD FOR STORAGE AND HANDLING OF LIQUEFIED PETROLEUM GASES TO THE EXTENT THESE STANDARDS ARE NOT IN VIOLATION WITH FEDERAL, STATE OR LOCAL LAW.

IN CANADA

REFER TO CAN/CGA PROPANE INSTALLATION CODES.

CNG INSTALLATIONS IN THE UNITED STATES

MUST BE DONE IN ACCORDANCE WITH FEDERAL STATE OR LOCAL LAW AND NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET #52, COMPRESSED NATURAL GAS (CNG) VEHICULAR FUEL SYSTEMS TO THE EXTENT THESE STANDARDS ARE NOT IN VIOLATION WITH FEDERAL, STATE OR LOCAL LAW.

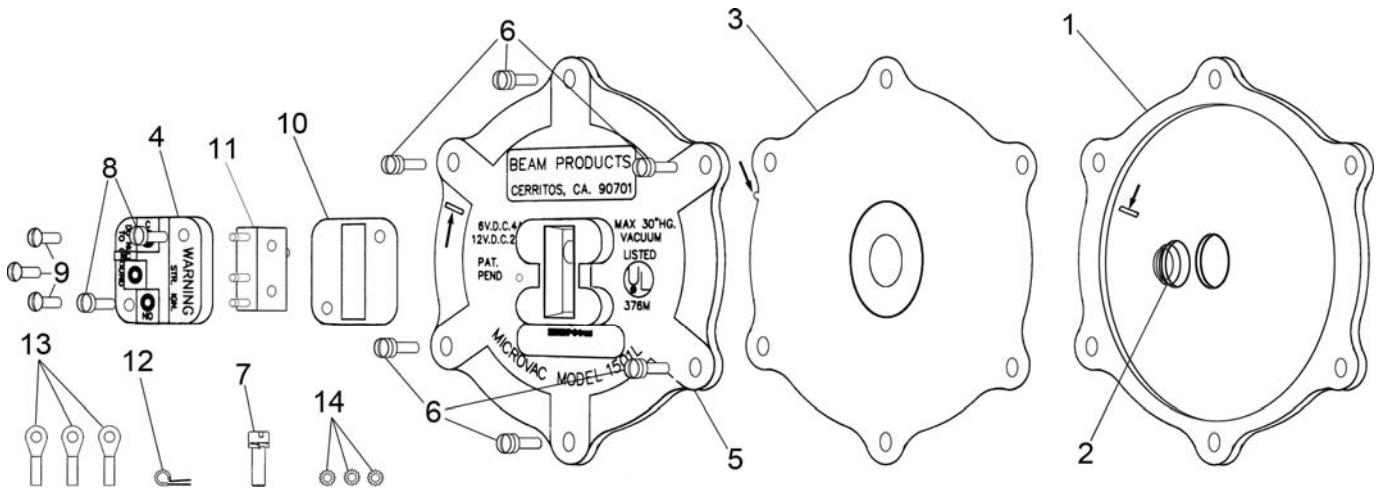
IN CANADA

REFER TO CAN/CGA CNG INSTALLATION CODES.

LPG AND/OR NATURAL GAS INSTALLATIONS ON STATIONARY ENGINES

MUST BE DONE IN ACCORDANCE WITH FEDERAL, STATE OR LOCAL LAW AND NATIONAL FIRE PROTECTION ASSOCIATION PAMPHLET #37, STATIONARY COMBUSTION ENGINES AND GAS TURBINE ENGINES, TO THE EXTENT THESE STANDARDS ARE NOT IN VIOLATION WITH FEDERAL, STATE OR LOCAL LAW. FAILURE TO ABIDE BY THE ABOVE WILL VOID ANY IMPCO WARRANTY ON THE PRODUCTS AND MAY CAUSE SERIOUS INJURY OR PROPERTY DAMAGE.

DUE TO THE INHERENT DANGER OF GASEOUS FUELS THE IMPCO PRODUCTS SHOULD NOT BE INSTALLED OR USED BY PERSONS NOT KNOWLEDGEABLE OF THE HAZARDS ASSOCIATED WITH THE USE OF GASEOUS FUELS.



Disassembly Instructions:

1. Disconnect the negative battery terminal.
2. Remove Screws (8), (9), the Micro Switch Terminal (4) and Microswitch assembly (11), and Gasket (10). Discard Gasket.
3. Remove the vacuum port connection to the switch.
4. Remove Screws (6) securing the Front and Back Covers (1 & 5). Remove Diaphragm (3) and Spring (2) and discard.
5. Clean the Front and Back Covers (1 & 5) with Safety Solvent.
6. Remove the Microswitch (11) and discard.

Reassembly Instructions:

1. Inspect the wire Terminals (13) and Screws (9) securing the wires and if necessary. **NOTE:** additional Screws (7) and a Clamp (12) are included to secure wires, if necessary. Use the longer Screw (7) to secure the Clamp in place of Screw (6).
2. Place the Microswitch (11) into the Microswitch Terminal (4).
3. Place the Gasket (10) over the Microswitch (11).
4. Insert the Microswitch Terminal (4) and Microswitch (11) assembly into the Front Cover (5) and secure with Screws (8). Torque to 8 +/- 2 in-lbs (.9 +/- .2 Nm).
5. Place the Spring (2) into the depression of the Back Cover (1) with the taper pointing upward.
6. Place the Diaphragm (3) metal side up on top of the Back Cover (1) and Spring (2). Rotate the Diaphragm so the small tab on the perimeter matches the line cast inside the Back Cover. Refer to the arrows in the illustration noting the tab and cast lines.

Item#	Description	Qty	Part
1	Cover, Back	1	NSS
2*	Spring	1	NSS
3*	Diaphragm	1	NSS
4*	Microswitch Terminal	1	NSS
5	Front Cover	1	NSS
6	Screw, 10-32 .50L	6	NSS
7*	Screw, 10-32 .62L	1	NSS
8*	Screw, 6-32 .44L	2	NSS
9*	Screw 4-40X3/16 Sltd Rnd	3	NSS
10*	Gasket, Microswitch	1	NSS
11*	Microswitch	1	NSS
12*	Clamp, Neoprene Covered	1	NSS
13*	Terminal, Solderless	3	NSS
14*	Star Washer	3	NSS

*Included in Repair Kit 1501-RK
NSS=Not Sold Separately

7. Place the Front Cover (5) over the Back Cover (1), sandwiching the Diaphragm (3). Rotate the Front Cover so the line cast near the perimeter lines up with the tab on the Diaphragm and the line cast into the Back Cover. Refer to the arrows in the illustration noting the tab and cast lines.
8. Insert Screws (6) to secure the Front and Back Covers (1 & 5). Torque to 25 +/- 3 in-lbs. (2.8 +/- .3 Nm).
9. Use Loctite 567 thread sealer on the threads of the vacuum port and reconnect the fitting to the switch. **NOTE:** Use the thread sealer SPARINGLY to avoid clogging the small hole of the vacuum switch.
10. Connect negative battery cable.
11. Start and stop engine to ensure the vacuum switch is functioning correctly.