

MODEL C-J SERIES CONVERTER

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 to prevent injury.

The Form 102-2 Repair Kit instructions will provide the technician information to successfully repair the Model C-J regulator converter. Always inspect the major casting pieces for damage, corrosion or cracks before attempting a service repair. Be sure the repair kit part number you are using is correct for the regulator being serviced. Diaphragms are color coded and have different performance characteristics.

YELLOW: Silicone diaphragm material is the optional upgrade material that provides excellent flexibility in cold weather climates and is more resistant to chemical contamination.

BLUE: diaphragm material provides excellent high and low temperature durability with increased chemical resistance. This material is recommended for turbo applications.



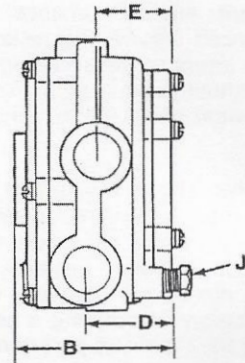
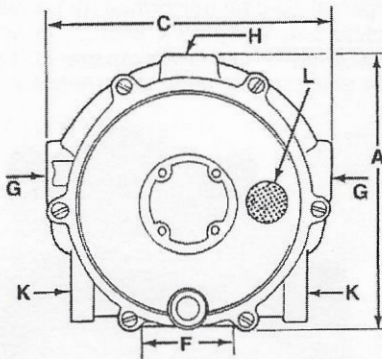
**WARNING**

Do not use Teflon tape to seal any fuel fittings. Failure to follow this warning may cause the regulator to leak internally, possibly resulting in serious injury and/or property damage and may void any warranty coverage.

REPAIR KIT PART NUMBERS

Part #	Description
C-RK-J	Repair Kit Model C-J, Hydrin Diaphragm
C-RK-J-2	Repair Kit Model C-J, w/Silicone Diaphragm
C-RK-J-200	Repair Kit Model C-J, for Towmotor
C-RK-J-3	Repair Kit Model C-J w Blue Diaphragm
C-RK-J-632	Standard RK-J For Clark
C-RK-J-71	Repair Kit Model C-J, for Toyota
C-RK-J-837	Repair Kit Model C-J, for Hyster
C-RK-J-895	Repair Kit Model C-J, for Allis Chalmers
C-RK-J-C	Repair Kit for Model C-J w/Check Valve (C-JB-C-725)
C-RK-J-C-3	Repair Kit Model C-J w/ Check Valve & Blue Diaphragm
C-RK-JC-734	Repair Kit for C-JO-C/Clark w/Check Valve

MODEL C-J SERIES CONVERTER

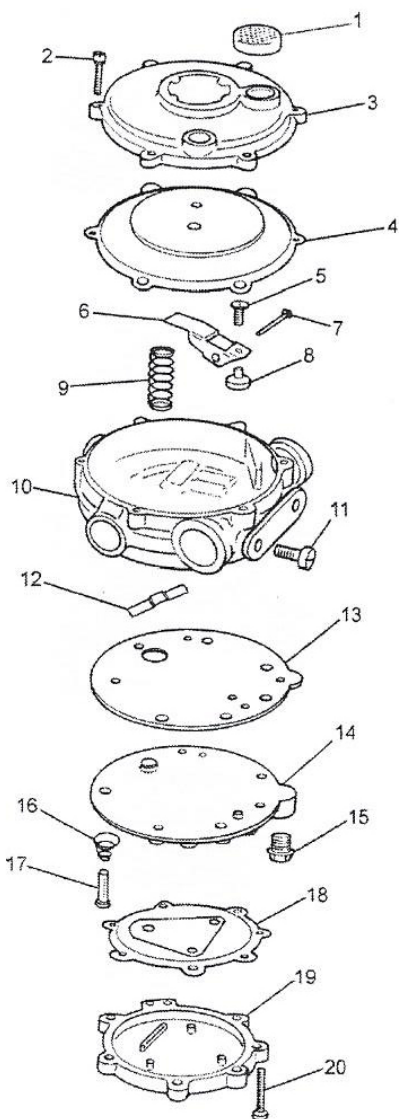


A	B	C	D	E
OVERALL HEIGHT	OVERALL DEPTH	OVERALL WIDTH	BACK OF CONVERTER TO CTR OF FUEL OUTLET	BACK OF CONVERTER TO CTR OF WATER OUTLET
120.65mm (4.75")	73.00mm (2.88")	118mm (4.63")	41.3mm (1.63")	34.9mm (1.38")

F	G	H	J	K	L
MOUNTING HOLES CTR. TO CTR.	COOLANT INLET AND OUTLET (NPT)	LIQUID FUEL INLET (NPT)	PRIMARY TEST PORT (NPT)	VAPOR FUEL OUTLET	VENT BALANCE LINE CONNECTION (NPT)
41.3mm (1.63")	3/8"	1/4"	1/8"	1/2"	1/8"

MODEL	SECONDARY DIAPHRAGM	OUTLET PRESSURE
C-JB	C-AD1-26 (Black Hydrin)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-2	C-AD1-27 (Silicone)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-3	C-AD-27-5 (Fluorosilicone)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-2ULC	C-AD1-27 (Silicone)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-C-140	C-AD1-26 (Black Hydrin)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-C-2	C-AD1-27 (Silicone)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-C-725	C-AD1-26 (Black Hydrin)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-L-377	C-AD1-26 (Black Hydrin)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JB-R	C-AD1-26 (Black Hydrin)	Neg. 0.37kPa (Neg. 1.5" H2O)
C-JO	C-AD1-26 (Black Hydrin)	Neg. 0.12kPa (Neg. 0.5" H2O)
C-JO-2	C-AD1-27 (Silicone)	Neg. 0.12kPa (Neg. 0.5" H2O)

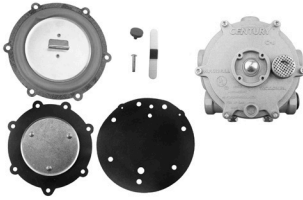
ITEM#	PART#	DESCRIPTION
1	C-S7-4	Screen, atmospheric vent
2	C-S1-15265-003	Screw, 8-32 x 7/8" Torx style (6)
3	C-C1-15830-1	Cover assembly secondary
4	C-AD1-26*	Diaphragm ass'y, secondary, Hydrin (C-RK-J, C-RK-J-C & C-RK-JC-734)
	C-AD1-27*	Diaphragm assy, secondary, Silicone (C-RK-J-2)
	C-AD1-27-5*	Diaphragm Assy, Secondary, Blue (C-RK-J-3)
5	C-S1-17460-001	Screw, 8-32 x 1/2" Torx style
6	C-L1-37*	Lever, Secondary
7	C-P1-8	Pin, Secondary Fulcrum
8	C-S4-27*	Seat, Secondary
9	C-S2-35	Spring, blue secondary, Neg. 0.37 kPa (Neg. 1.5" H2O), standard
	C-S2-38	Spring, orange, secondary, Neg. 0.12 kPa (Neg. 0.5" H2O), optional
10	C-AB1-15869	Body Assy, w/jet
11	C-S1-5	Plug, vapor outlet
12	C-S4-16*	Seat, Primary Reg Model C-J
13	C-G1-85*	Gasket, body Plate Model C-J
14	C-P2-26	Plate, Converter Body for Model C-J
15	C-P3-13	Plug, 1/8 NPT, hex head
16	C-S2-36	Spring, Primary Reg Model C-J
17	C-P1-14*	Primary valve pin
18	C-AD1-22*	Diaphragm Assy, Primary
19	C-C1-93	Cover, Primary
20	C-S1-15265-005	Screw, 8-32 x 7/8" Slot style (7)



NSS= Not Service Separately

*Included in repair kit

REPAIR INSTRUCTIONS



Under normal conditions, installation of a complete Model C-J Repair Kit should be necessary only at the time of a major engine overhaul or when the converter has been out of service for an extended period of time. Each kit includes the necessary gaskets, diaphragms, seals and some replacement screws.



Step 1) Remove the 6 screws (C-S1-15256-003) from the secondary cover assembly (3).

NOTE: Identify type and location of screws removed (ie. Torx) to ensure the same type and size screws are returned to the correct locations during reassembly.



Step 2) Loosen the secondary cover by tapping around the circumference with a plastic screw driver handle.



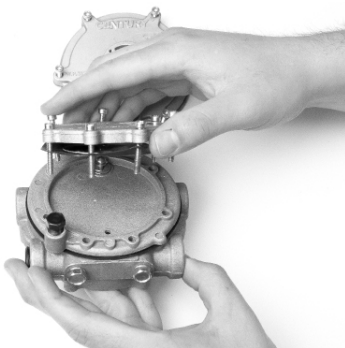
Step 3) Remove the secondary cover and secondary diaphragm as a unit. Note the secondary lever protruding through the metal tab slot of the secondary diaphragm. Slide the cover and diaphragm toward the gas inlet to free the lever from the slotted tab of the diaphragm. Take care not to bend the lever.



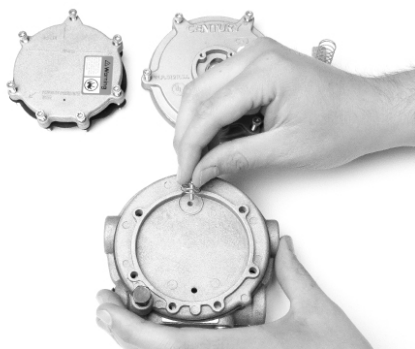
Step 4) Remove the secondary lever fulcrum retaining screw (C-S1-17460-001). Remove the secondary lever and fulcrum pin and set aside for reassembly. Remove the secondary spring.



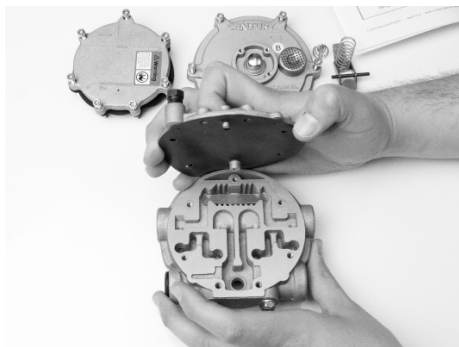
Step 5) Turn the converter over. Remove the seven screws (C-S1-15265-005) and lift off the primary cover.



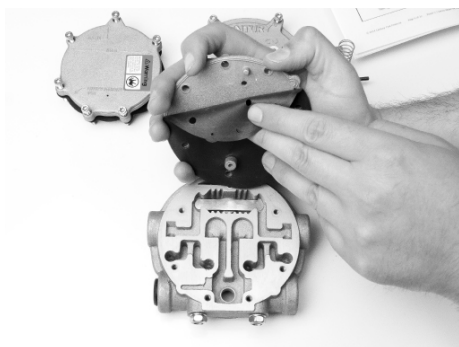
Step 6) Remove the primary diaphragm.



Step 7) Remove the primary valve pin and regulator spring.



Step 8) Remove cover plate and the gasket.



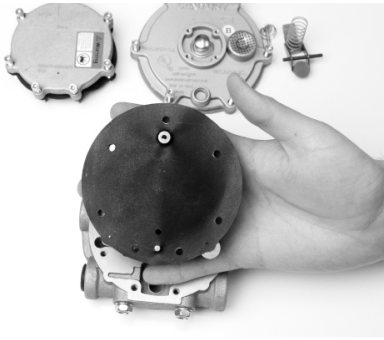
Step 9) Remove the gasket from the cover plate. Clean cover plate as needed to ensure a good seal with a new gasket.



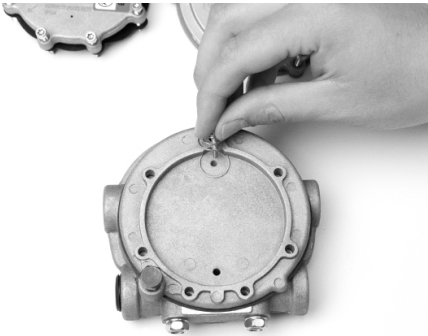
Step 10) Remove the primary seat. Clean covers, body and metal parts as necessary with a safety solvent as needed and allow to dry prior to reassembly. Do not use harsh solvents such as brake or carburetor cleaner on any of the non-metallic components as they will damage the material.



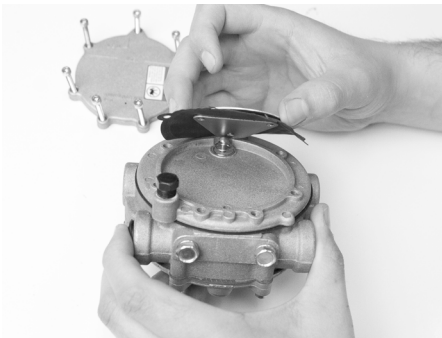
Step 11) Install new primary regulator valve.
NOTE: Make sure black rubber seat faces down.



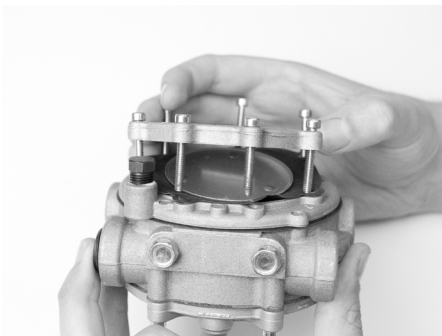
Step 12) Set new primary gasket, (C-G1-85), from the kit on the converter cover plate. The diaphragm will only fit one way (screw hole spacing prevents improper orientation of the diaphragm). The primary pressure hole in the gasket must line up with the hole in the body cover plate.



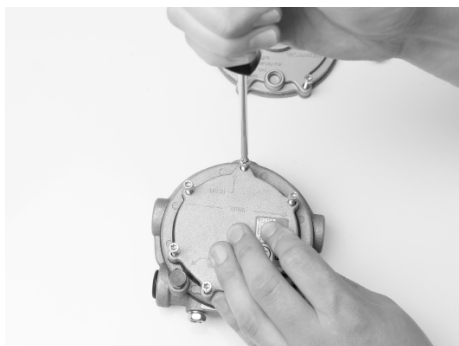
Step 13) Insert the new primary valve pin through the spring and insert into the cover with the larger diameter end of the spring resting against the plate.



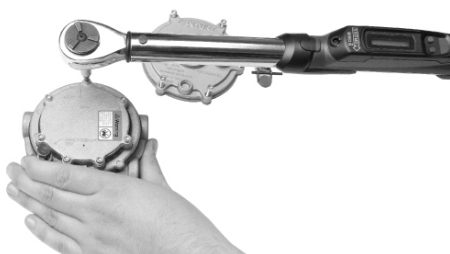
Step 14) Place the cover plate on to the converter body and align the cover screw holes.



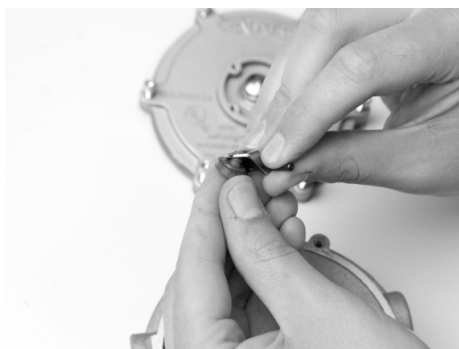
Step 15) Set the primary diaphragm in place on the converter body cover plate. Line up the screw holes to the cover plate.



Step 16) Carefully place the primary cover over the diaphragm. Hand-thread the screws through the cover and cover plate into the converter body.



Step 17) Tighten the screws to 22-28 in-lb. (2.5-3.2Nm) in a criss-cross pattern.



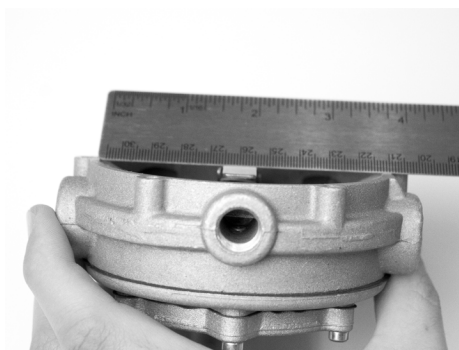
Step 18) Assemble the new secondary seat by inserting the seat retaining tip to the end opening of the lever as shown. Be sure the new seat properly locks into place. Position the secondary spring in place on the body. Place the secondary lever assembly into place over the spring.



Step 19) Hold the lever assembly with the fulcrum pin in place in its locating groove and fasten in place with the screw (C-S1-17460-001).



Step 20) Tighten the screw to 32 +/-3 in-lbs. (3.62 +/- 0.34 Nm).



Step 21) The end of the secondary lever should be 1/32" below the level of the body casting. Use a straight edge to measure. Remove and gently bend the lever if necessary to obtain the correct height.

Note: Bending the lever while installed may result in damage to the seat. Remove the lever from the body, bend, reinstall, and then re-check the height.



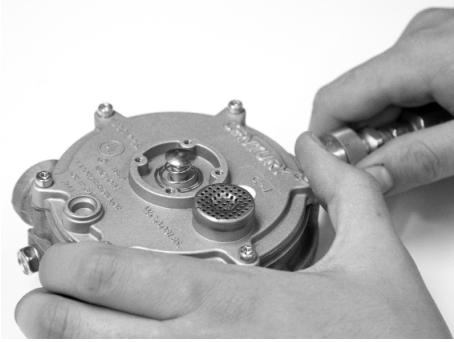
Step 22) Align the secondary diaphragm to the secondary lever as shown. The end of the lever must protrude through the tab slot on the bottom of the new diaphragm after installation. The gap from which the link is punched should be located toward the gas inlet.



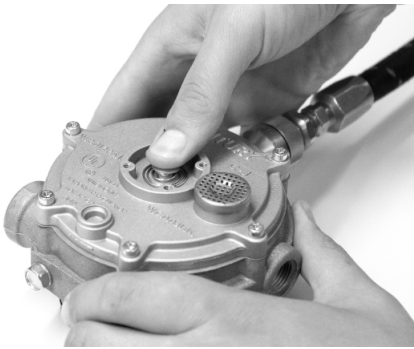
Step 23) Install the secondary cover with the six screws (C-S1-15265-003).



Step 24) Tighten the screws in a crisscross pattern to 22-28 in-lb. (2.5-3.2 Nm), to complete the installation of the repair kit components.

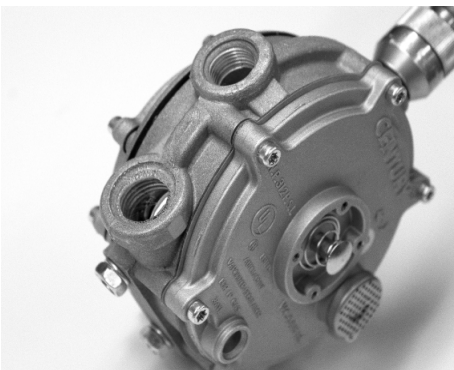


Step 25) Attach a 100 psi air pressure hose to the regulator "INLET" fitting.



Step 26) *For models with a primer button:* Depress the primer button several times. Air flow should be detected when the primer is depressed.

Note: Not all models include a primer button. Skip this step for models without a primer.



Step 27) Check the primary cover for leaks using liquid leak detector solution. Make sure one of the regulator's secondary outlets is plugged. Draw a bubble of leak solution over the other regulator outlet. The bubble should hold for several seconds when the regulator is pressurized. If any leaks are found, the regulator must be replaced. If no leaks are found, the regulator can be reinstalled and returned to service.

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 WARRANTY ON THE PRODUCTS AND MAY CAUSE SERIOUS INJURY OR PROPERTY DAMAGE.

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