3030 S Susan Street, Santa Ana, CA 92704
Ph: +1 714 656 1200 Fax: +1 714 656 1400

MODEL J SERIES CONVERTER

REPAIR KIT INSTRUCTIONS

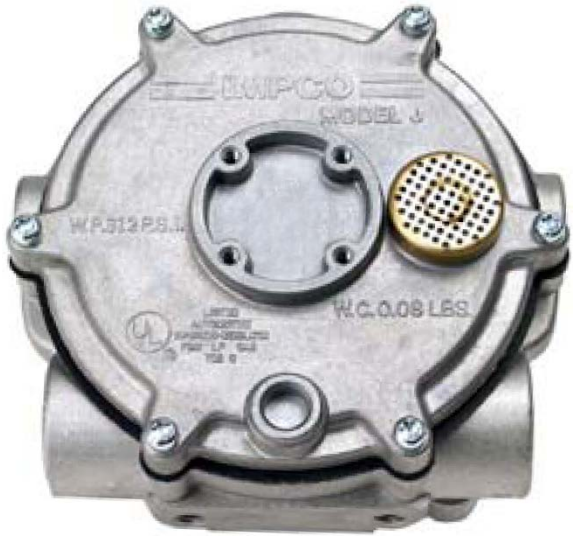
Important: Any maintenance, service or repair should be performed by trained and experienced service technicians. Proper tools and equipment should be used to prevent injury to the servicing technician, property or system components. Service repairs should always be performed in a safe environment and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

The IMPCO PPI-3 repair kit instructions will provide the technician information to successfully repair the Model 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:

BLACK: Hydrin diaphragm material is the standard material and is well suited for the most common applications.

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



Model J Converter

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

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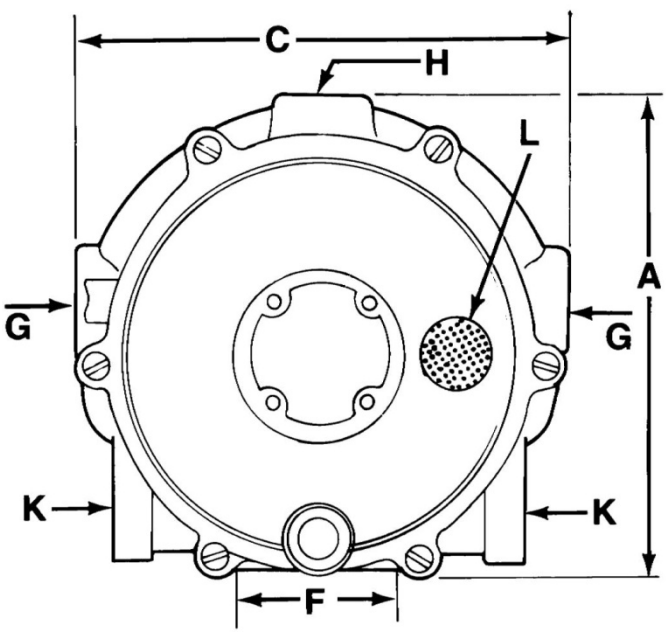

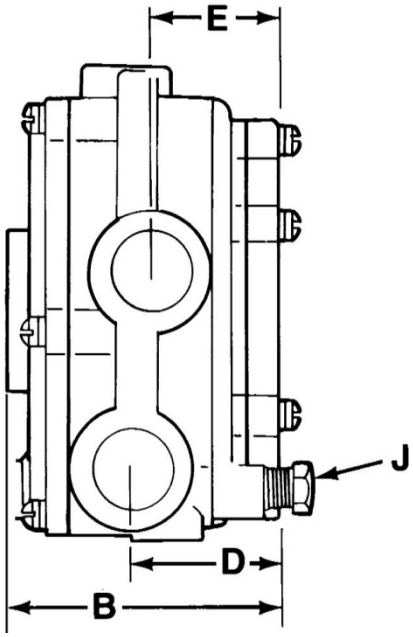

A	B	C	D	E	F	G	H	J	K	L
OVERALL HEIGHT	OVERALL DEPTH	OVERALL WIDTH	BACK OF COVERTER TO CTR OF VAPOR FUEL OUTLET	BACK OF CONVETER TO CTR. OF WATER OUTLET	MOUNTING HOLES CTR. TO CTR.	COOLANT INLET AND OUTLET (NPT)	LIQUID FUEL INLET (NPT)	PRIMARY TEST PORT (NPT)	VAPOR FUEL OUTLET (NPT)	VENT BALANCE LINE CONNECTION (NPT)
109.7mm (4.32")	67.6mm (2.66")	117.3mm (4.62")	34.5mm (1.36")	31.8mm (1.25")	41.4mm (1.63")	3/8"	1/4"	1/8"	1/2"	1/8"

MODEL	SECONDARY DIAPHRAM	OUTLET PRESSURE
JB	AD1-26 (BLACK HYDRIN)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-2	AD1-27 (SILICONE)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-3	AD1-27-5 (FLUOROSILICONE)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-2ULC	AD1-27 (SILICONE)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-C-140	AD1-26 (BLACK HYDRIN)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-C-2	AD1-27 (SILICONE)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-C-725	AD1-26 (BLACK HYDRIN)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-L-377	AD1-26 (BLACK HYDRIN)	Neg. 0.37 kPa (Neg. 1.5" H20)
JB-R	AD1-26 (BLACK HYDRIN)	Neg. 0.37 kPa (Neg. 1.5" H20)
JO	AD1-26 (BLACK HYDRIN)	Neg. 0.12 kPa (Neg. 0.5" H20)
JO-2	AD1-27 (SILICONE)	Neg. 0.12 kPa (Neg. 0.5" H20)

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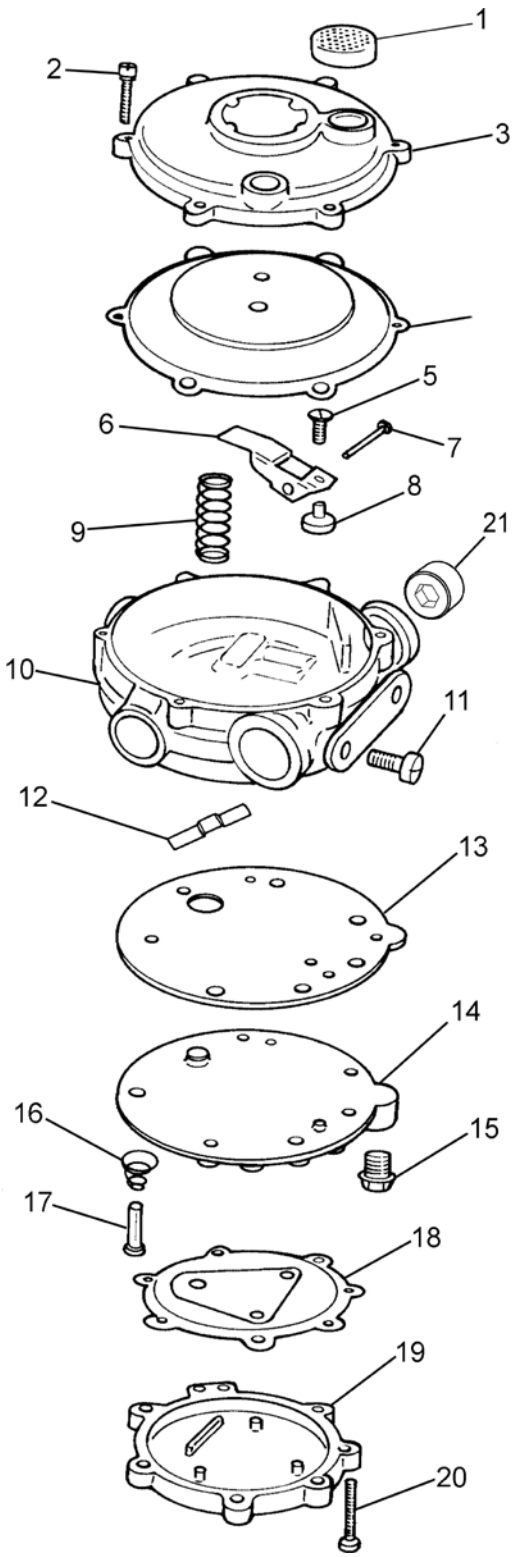
MODEL J SERIES CONVERTERS

ITEM #	PART #	DESCRIPTION
1	S7-4	Screen, atmospheric vent
2	S1-15265-003	Screw, 8-32 x 7/8" Torx style (6)
3	C1-15830-1	Cover Assy Secondary
4	AD1-26*	Diaphragm ass'y, secondary, Hydrin (RK-J, RK-J-C, RK-J-71, RK-J-200, RK-J-632, RK-JC-734 & RK-J-895)
	AD1-27*	Diaphragm Assy, Secondary, Silicone (RK-J-2)
	AD1-27-5*	Diaphragm Assy, Secondary, Fluoro-silicone (RK-J-3, RK-J-C-3 & RK-J-837)
5	S1-17460-001	Screw, 8-32 x 1/2" Torx style
6	L1-37*	Lever, Secondary
7	P1-8	Pin, Secondary Fulcrum
8	S4-27*	Seat, Secondary
9	S2-35	Spring, blue secondary, Neg. 0.37 kPa (Neg. 1.5" H20), standard
	S2-38	Spring, orange, secondary, Neg. 0.12 kPa (Neg. 0.5" H20), optional
10	AB1-15869	Body Assy, w/jet
11	S1-5	Screw, 1/4-20 x 5/8"
12	S4-16*	Seat, Primary Reg Mod J
13	G1-85*	Gasket, body Plate Mod J
14	P2-26	Plate, Converter Body for Mod J
15	P3-13	Plug, 1/8 NPT, hex head
16	S2-36	Spring, Primary Reg Model J
17	P1-14*	Primary valve pin
18	AD1-22*	Diaphragm Assy, Primary
19	C1-93	Cover, Primary
20	S1-15265-005	Screw, 8-32 x 7/8" Slot style (7)
21	P3-14	Plug, 1/2" NPT



NSS = Not Serviced Separately

* Included in repair kit

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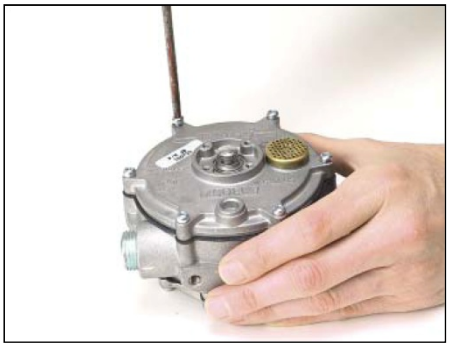
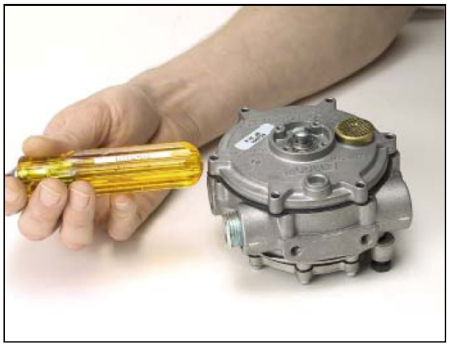
REPAIR INSTRUCTIONS

1. Under normal conditions, installation of a complete Model 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.



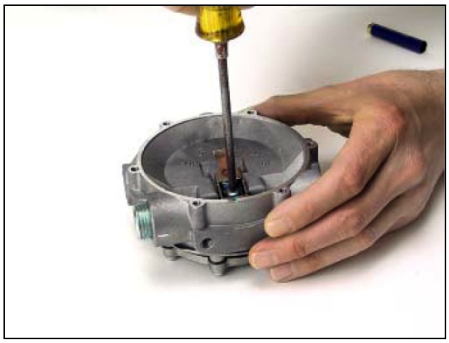
2. Remove the 6 screws (2) from the secondary cover assembly (3).

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

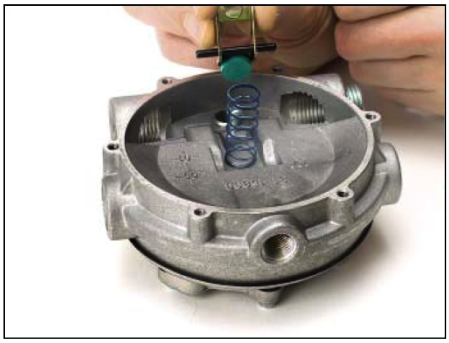


3. Loosen the secondary cover (3) by tapping around the circumference with a plastic screw driver handle.

4. Remove the secondary cover (3) and secondary diaphragm (4) as a unit. Note the secondary lever (6) 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.



5. Remove the screw (5) retaining the secondary lever fulcrum pin.

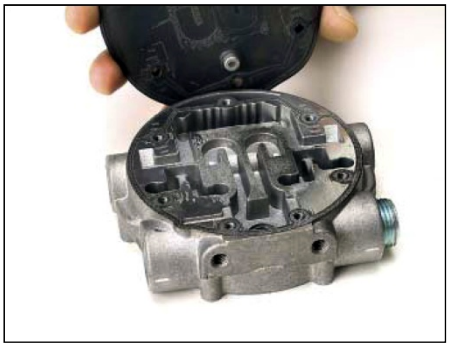


6. Remove the secondary lever (6) and fulcrum pin (7). Set aside fulcrum pin for reassembly. Remove the secondary spring (9).

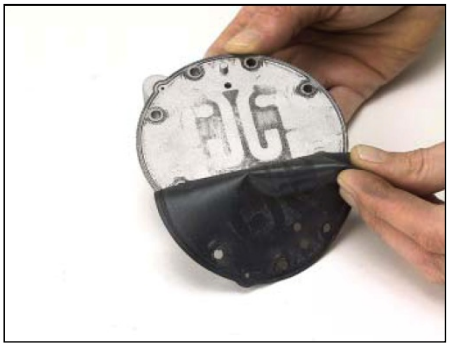
7. Turn the converter over. Remove the seven screws (20) and lift off the primary cover (19).

8. Remove the primary diaphragm (18).

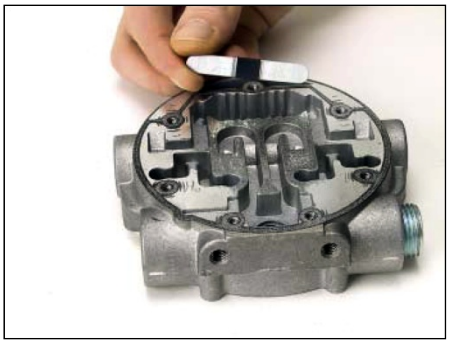
9. Remove the primary valve pin (17) and spring (16).



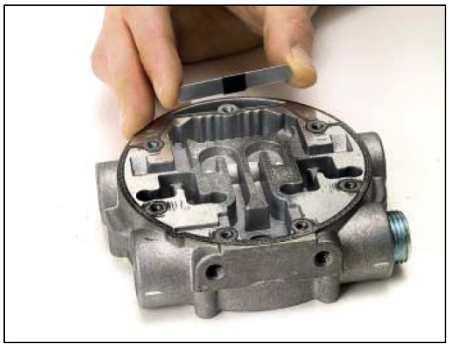
10. Remove plate (14) and the gasket (13).



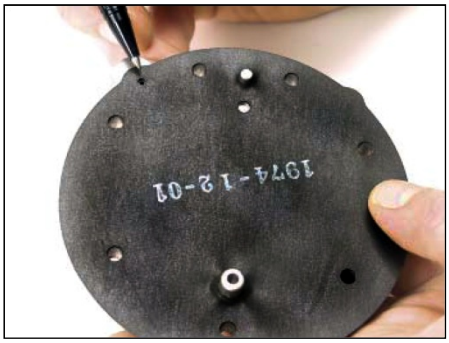
11. Remove the gasket (13) from the plate (14). Clean plate as needed to ensure a good seal with a new gasket.



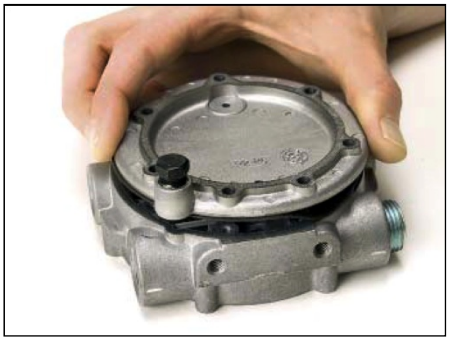
12. Remove the primary seat (12). Clean covers (3, 14, & 19), body (10) and all other metal parts as necessary with a safety solvent as needed and allow to dry prior to reassembly. Do not use harsh solvents such as brake or carburetor cleaner on any of the non-metallic components as they will damage the material.



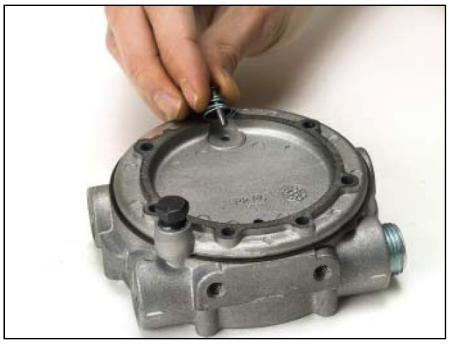
13. Install new primary seat (12).



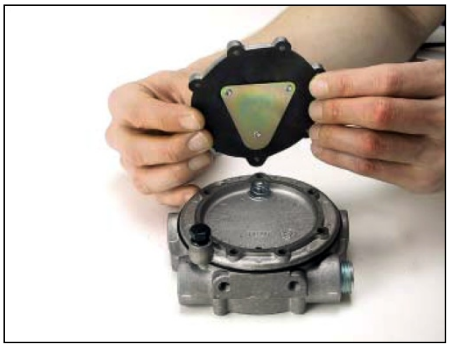
14. Set new plate gasket (13) on the plate (14). The primary pressure hole in the gasket must line up with the hole in the body cover plate as noted in the photo at left.



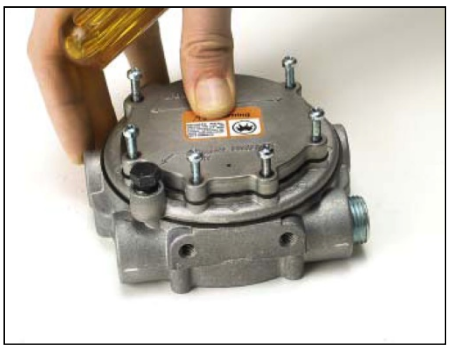
15. Place the plate (14) and gasket (13) on to the body (10) and align the screw holes.



16. Insert the new primary valve pin (17) through the spring (16) and insert into the plate (14) with the larger diameter end of the spring resting against the plate.



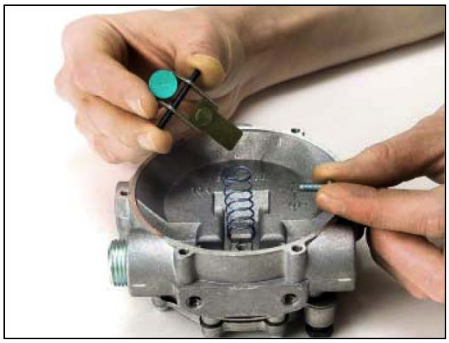
17. Set the primary diaphragm (18) in place on the plate (14). Line up the screw holes to the plate.



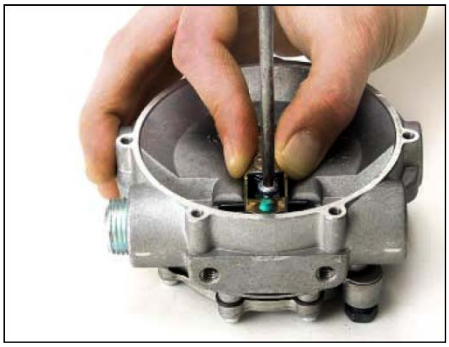
18. Carefully place the primary cover (19) over the diaphragm (18). Hand-thread the screws (20) through the cover and plate (14) into the converter body (10).

19. Tighten the screws (20) to 37-43 in-lb. (4.2-4.9 N•m) in a criss-cross pattern.

20. Assemble the new secondary seat (8) and new secondary lever (6) by inserting the seat retaining tip to the end opening of the lever as shown. Be sure the new seat properly locks into place.



21. Position the secondary spring (9) in place on the body (10). Place the secondary lever assembly (6 & 8) into place over the spring (9).

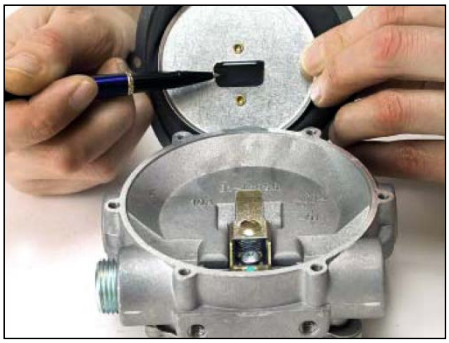


22. Hold the lever assembly (6 & 8) with the fulcrum pin (7) in place in its locating groove and fasten in place with the retaining screw (5).

23. Tighten the screw (5) to 29-35 in.lbs. (3.3-4.0 N•m).

24. The end of the secondary lever (6) should be 1/32" below the level of the body casting (10). Use a straight edge to measure. Remove and gently bend the lever if necessary to obtain the correct height.

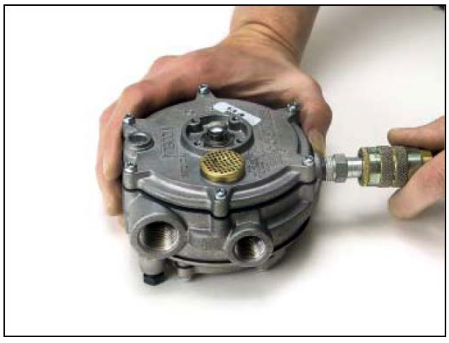
    NOTE: Bending the lever while installed may result in damage to the seat (8). Remove the lever from the body, bend, reinstall, and then re-check the height.



25. Align the secondary diaphragm (4) to the secondary lever (6) as shown. The end of the lever must protrude through the tab slot on the bottom of the new diaphragm (4) after installation. The gap from which the link is punched should be located toward the gas inlet.

26. Install the secondary cover (3) with the six screws (2).

27. Tighten the screws (2) in a crisscross pattern to 29-35 in-lb. (3.3-4.0 N•m), to complete the installation of the repair kit components.

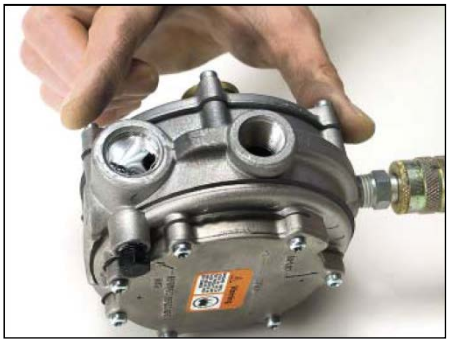


28. Attach a 100 psi air pressure hose to the regulator "IN-LET" fitting.

29. *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 button.

30. Check the primary cover for leaks using liquid leak detector solution.



31. 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.

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WARNING:

IMPROPER INSTALLATION OR USE OF THIS PRODUCT MAY CAUSE SERIOUS INJURY, DEATH 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 AND LOCAL LAWS 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 OF FEDERAL, STATE OR LOCAL LAW.

COUNTRIES OUTSIDE OF USA REFER TO THE GOVERNING AGENCIES OVERSEEING CNG AND PROPANE APPLICATIONS.

CNG INSTALLATIONS IN THE UNITED STATES MUST BE DONE IN ACCORDANCE WITH FEDERAL, STATE AND 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 OF FEDERAL, STATE OR LOCAL LAW.

LPG AND/OR NATURAL GAS INSTALLATIONS ON STATIONARY ENGINES MUST BE DONE IN ACCORDANCE WITH FEDERAL, STATE AND 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 SERIES INJURY OR PROPERTY DAMAGE.

SERVICE TECHNICIANS DUE TO THE INHERENT DANGER OF GASEOUS FUELS, IMPCO PRODUCTS SHOULD NOT BE INSTALLED OR USED BY PERSONS NOT KNOWLEDGEABLE OF THE HAZARDS ASSOCIATED WITH THE USE OF GASEOUS FUELS. ANY MAINTENANCE, SERVICE OR REPAIR SHOULD BE PERFORMED BY TRAINED AND EXPERIENCED SERVICE TECHNICIANS.

PROPER TOOLS AND EQUIPMENT 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.

INSPECT BEFORE USE 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.

NO TEFLON TAPE 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, DEATH AND/OR PROPERTY DAMAGE AND MAY VOID ANY WARRANTY COVERAGE.