

# MODEL C-VFF30 LOCKOFF/FILTER

## 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 103-2 repair kit instructions will provide the technician information to successfully repair the VFF30 Lockoff. 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 Lockoff 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 internal leaks resulting in serious injury and/or property damage.

### REPAIR KIT PART NUMBERS

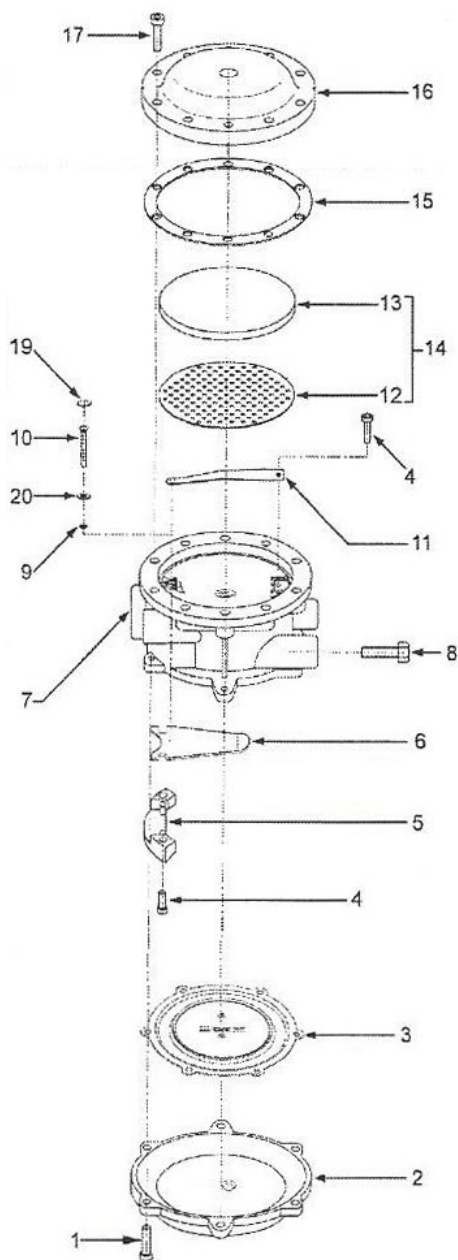
Part #	Description
C-RK-VFF30 Repair Kit, C-VFF30 (Standard Hydrin Diaphragm)	
C-RK-VFF30-2 Repair Kit, C-VFF30 (Silicone Diaphragm)	
C-RK-VFF30-3 Repair Kit, C-VFF30 (Blue Diaphragm)	
C-RK-VFF30-958 Repair Kit, C-VFF30 Blue Diaphragm, Hyster	

## MODEL C-VFF30 LOCKOFF/FILTER COMPONENTS

ITEM#	PART#	DESCRIPTION
1*	C-S1-15265-001	Screw, 8-32 Taptite (6)
2	C-C1-37	Diaphragm cover, (std., C-VFF30 only)
3*	C-BD1-26	Diaphragm Assy, Standard (C-RK-VFF30)
	C-BD1-27	Diaphragm Assy, Silicone (C-RK-VFF30-2)
	C-BD1-27-5	Diaphragm Assy, Blue (C-RK-VFF30-3)
4*	C-S1-15265-002	Screw, 8-32 Taptite (3)
5	C-F3-2	Fulcrum
6	C-L1-39	Valve operating lever
7	C-AB1-30149	Body ass'y
8	C-S1-15	Screw, 1/4-20 x 5/8" SEMS (2)
9*	C-S3-116	Seal, Lip Pin
10*	C-P1-15	Valve, operating pin
11	C-S2-40	Valve, spring
12*	C-S7-3	Screen, back-up filter
13*	C-F1-10	Filter
14*	C-AF1-10	Filter ass'y
15*	C-G1-89	Filter cover gasket
16	C-C1-38	Filter cover
17	*C-S1-15266-001	Screw, 12-24 Taptite (10)
18	C-AF4-66	Fitting, ball check, assy (not shown)
19	C-S4-18	Seat, C-VFF30
20*	C-W1-42	Washer, Seal Retaining

### NSS = Not Serviced Separately

\* Repair Kit Components. Note that extra screws (both slotted and torx) are included in the repair kits to replace any that may be damaged. When replacing screws, be sure to properly match thread type (self-tapping or machined) as the two types are not interchangeable.



# REBUILD INSTRUCTIONS

## Disassembly



1. Remove 10 screws from "Fuel In" cover.



2. Remove cover and C-GI-89 gasket.



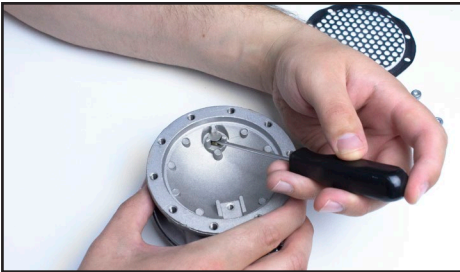
3. Remove C-F1-10 filter and screen C-S7-3.



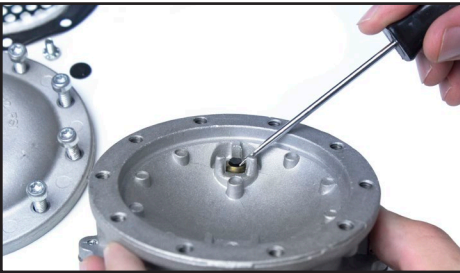
4. Remove C-S1-15265-002 screw retaining valve spring.



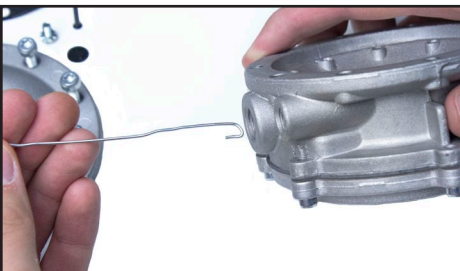
5. Remove valve spring.



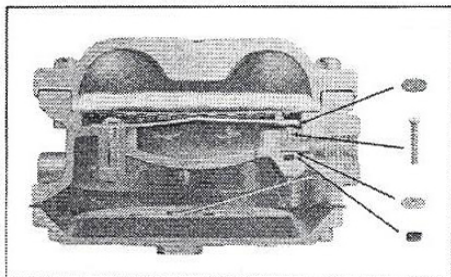
6. Using a small flat head screwdriver, remove C-S4-18 valve seat.



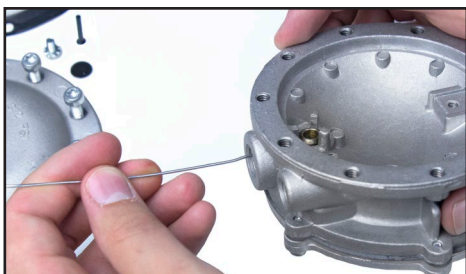
7. Gently lift up and remove the C-P1-15 valve operating pin.



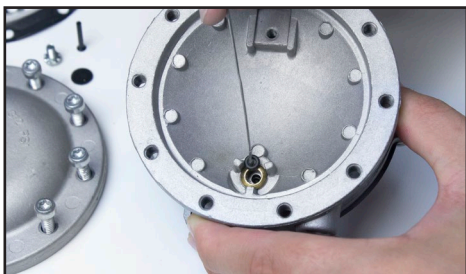
8. With paper clip or wire, fashion a hook as shown.



9. Cutaway show assembly of valve spring, valve seat, valve operating pin, seal retaining washer and pin lip seal. Note that removal of valve pin allows retaining washer to be removed "Out".



10. Insert paper-clip hook in center hole of C-W1-42 seal retaining washer and remove.



11. Using the same hook, remove the pin seal C-S3-116 through valve jet.



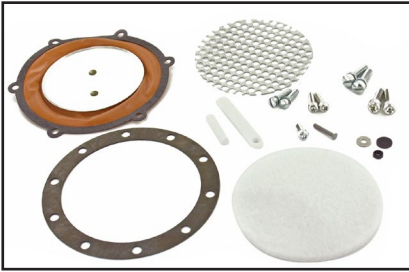
12. Remove 6 screws on diaphragm cover side.



13. Remove cover and diaphragm assy. Clean covers, body and metal parts as necessary with a safety solvent and dry prior to reassembly.

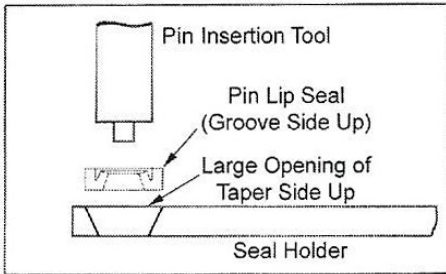
Do not use harsh solvents such as brake or carburetor cleaner on any of the non-metallic components as they will damage this material.

## Reassembly



14. C-RK-VFF30 Kit Includes:
- |   |                |                                 |
|---|----------------|---------------------------------|
| 1 | C-GI-89        | Gasket                          |
| 1 | C-F1-10        | Filter                          |
| 1 | C-S7-3         | Screen                          |
| 1 | C-BD1-27*      | Diaphragm Assy                  |
| 2 | C-S1-59        | Screw, 8-32 x 5/8"              |
| 2 | C-S1-100       | Screw, 12-24 x 5/8"             |
| 1 | C-S4-18        | Seat (Viton Bonded to Aluminum) |
| 1 | C-S3-116       | Seal, Lip Pin                   |
| 1 | C-PI-15        | Pin, Valve Operating            |
| 1 | C-W1-42        | Retainer Washer 1               |
| 1 | C-H1-14236     | Seal Holder Insertion Tool      |
| 1 | C-P1-14235     | Pin Insertion Tool              |
| 1 | Form 103-2     | Instructions                    |
| 2 | C-S1-15265-001 | Screw, 8-32 17/32" Taptite Torx |
| 2 | C-S1-15266-001 | Screw, 12-24 x 11/16 Torxfl     |
| 1 | C-S1-15265-002 | Screw, 8-32" 3/8" Taptite Torx  |

\*Standard diaphragm. See table on page 2 for optional diaphragms.

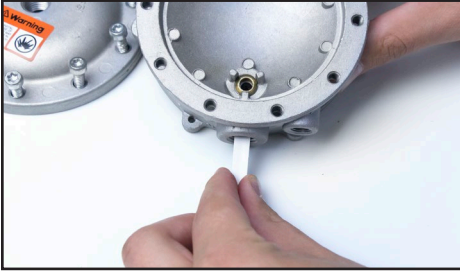


15. Lubricate the Lip Pin Seal C-S3-116 with petroleum jelly or Vaseline and insert into the Holder C-H1-14236 groove side up, as shown in the illustration. Note that the C-H1-14236 Seal Holder passage is tapered and the wide opening of the seal holder should be facing up.



16. Place the C-VFF30 body with the filter side up, as shown in the photo, on a flat surface. Ensure that the groove in the seal is visible from the top of the taper of the seal holder.





17. Place the holder in the up position and slide the holder into the seal into the body of the C-VFF30. Looking through the fuel port, position the seal above the cavity of the seal recess.



18. Coat the installation pin C-P1-14235 with petroleum jelly and push the seal through the holder and into the seal recess of the C-VFF30 body. Look through the fuel port to ensure the seal is seated in the seal recess and that the groove in the seal is visible.



19. Use needle nose pliers to hold C-W1-42 seal retainer washer.

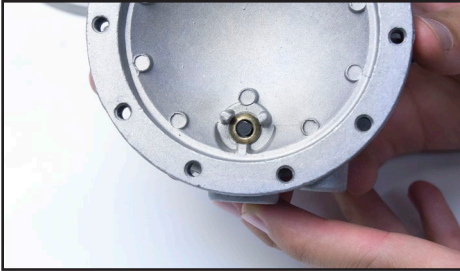


20. Insert seal retainer washer in slot to hold the lip seal in place.

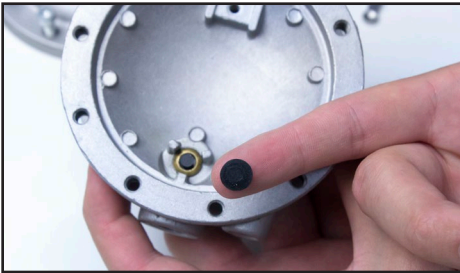




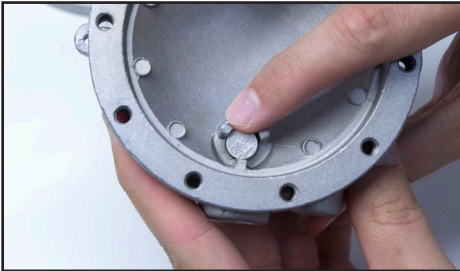
21. Lubricate pin with petroleum jelly and insert through hole in retainer washer and pin lip seal. Again rotate head of pin gently in a circular motion to ease pin into place through washer, lip seal and body housing.



22. Pin C-P1-15 is properly placed in valve jet.



23. Valve seat shown with aluminum side up ready to be placed on jet.



24. Place the seat with the viton (black rubber) side down, in position on jet.



25. C-S2-40 spring ready to be fastened in place. Be sure the arc in the center faces upward (see illustration in step 26 below).



26. Replace spring and fasten in place by C-S1-15265-002 screw (8-32). Align the tip of spring (over valve) and center between the 3 guide fins as shown in illustration. Tighten screw to 30 +/-3 in-lbs.



27. When spring is in place, lift slightly to ensure it can move freely.



28. Insert C-S7-3 screen and filter C-F1-10 into recess.



29. Press C-F1-10 filter so that it is properly seated in recess.



30. Place C-G1-89 gasket in place and align with screw holes.



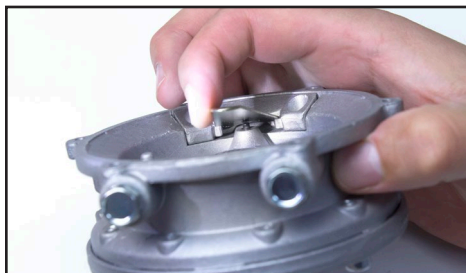
31. Insert screws opposite each other in the "Fuel In" cover and place on gasket. Thread the two screw C-S1-15266-001 through the gasket and into the body.



32. Insert remaining 8 screw in their openings.



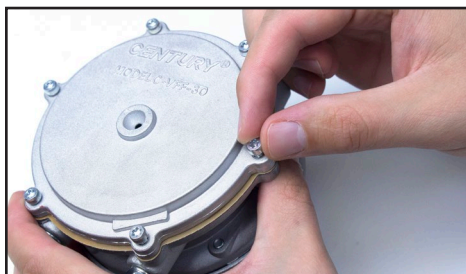
33. Tighten screws, alternating from side to side on opposite sides of the cover until all screws are solidly set. Torque to 65+/-5 in-lbs.



34. Lift lever C-L1-39 to ensure it moves properly and verify that the C-P1-15 lever control pin follows lever travel.



35. Turn diaphragm so the raised lip is downward (see illustration on page 2) place on the Lockoff and rotate to position so the screw hole pattern aligns with the holes in the body (there is only one position in which the holes will line up).



36. Place cover in correct position and insert screws C-S1-15265-001.



37. Tighten screws alternatively from side to side across cover until all are solidly fastened. Torque to 30 +/-3 in-lbs.



38. Pressurize the "Fuel In" opening with approximately 100 psi of air pressure. Draw a soap bubble across the Lockoff outlet and vacuum port (labeled "VAC") to verify that no air is flowing through either opening. If air escapes, the rebuild has failed and the Lockoff must be replaced. Apply a small amount of vacuum to the port labeled "VAC" to verify the air flows

freely through the outlet. Use soap and/or a commercial leak detector solution to inspect the gasket seals around the perimeter of the Lockoff for leaks. If leaks are found, the Lockoff must be replaced. If no leaks are found, the Lockoff 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.

**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 CENTURY PRODUCTS SHOULD NOT BE INSTALLED OR USED BY PERSONS NOT KNOWLEDGEABLE OF THE HAZARDS ASSOCIATED WITH THE USE OF GASEOUS FUELS.