

CENTURY MODEL H CONVERTOR / REGULATOR

REPAIR KIT INSTRUCTIONS

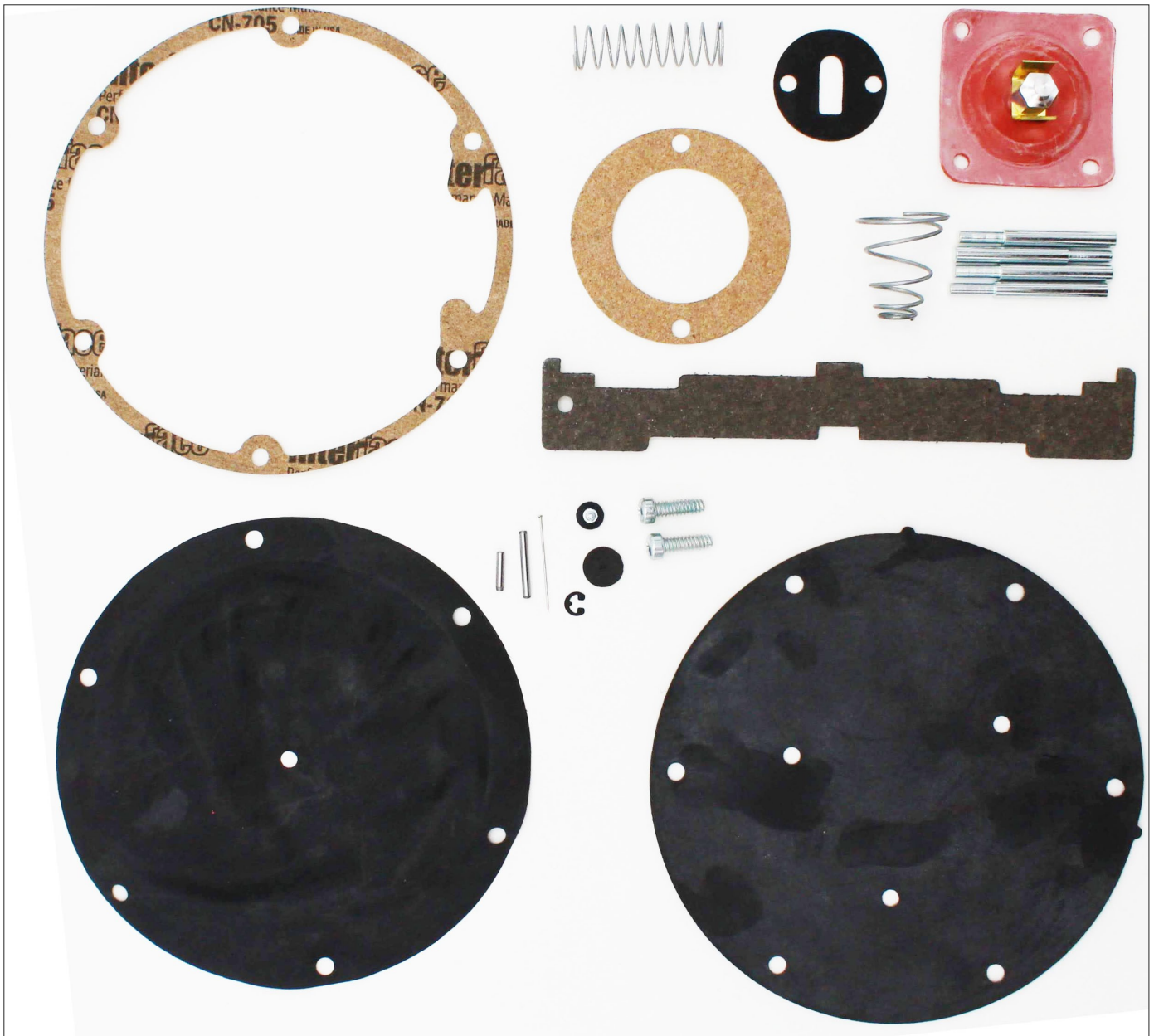
KIT P/N: C-286-1301A

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 110-1 repair kit instructions will provide the technician information to successfully repair the Model H. 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.



MODEL H CONVERTOR / REGULATOR COMPONENTS



REBUILD INSTRUCTIONS

Disassembly

1. Remove the primer and front cover.
2. Remove the secondary diaphragm , support plate, gasket, and secondary valve lever assembly.
3. Remove the two screws holding the inlet assembly and slide assembly from the opening in the side of the primary body (FIGURE 1).
4. Remove the square diaphragm cover and lift the diaphragm assembly from the primary cavity. This assembly is rarely defective and requires service only if the primary pressure is incorrect or the convertor is being completely rebuilt.
5. Remove the nine back screws and lift the back cover and gasket from the convertor body. Discard the gasket.
6. Wash all the parts in solvent and dry with compressed air. Although diaphragms and valve seats can normally be reused, it is advisable to discard them and install new parts when the convertor is reassembled.
7. Inspect all parts for wear, damage, or distortion. Discard any questionable items.

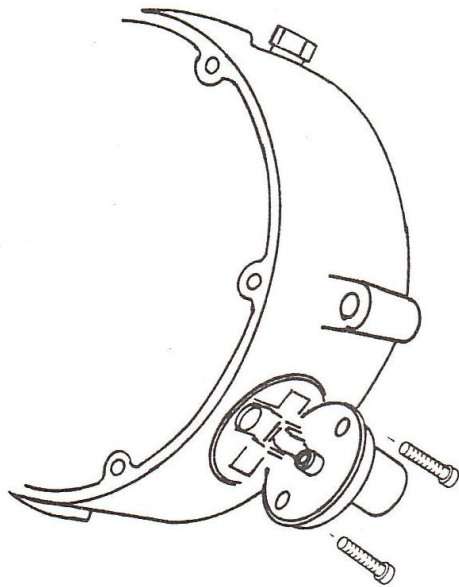


FIGURE 1. Disassembly

REBUILD INSTRUCTIONS

Assembly

1. Check the back plate and the back surface of the convertor with the straight edge to determine if they are flat. Any variation in these surfaces will cause difficulty in preventing leaks around the back of the gasket.
2. Should an uneven or warped condition exist, lap castings on the surface plate until the condition is corrected. **DO NOT PROCEED UNTIL THIS WORK IS COMPLETED!** Severely warped parts will require matching or replacing.
3. Lay the Convertor body face down. Place a new gasket in position and insert aligning pins to hold it in place. The back gasket and plate cannot be installed incorrectly. Insert the screws and turn down extremely tight. Start with the center screws and then alternate from one side to the other.

NOTE: DO NOT USE GASKET SEALING COMPOUND ON ANY GASKET OR DIAPHRAGM!

PRIMARY DIAPHRAGM ASSEMBLY (FIGURE 2)

Place the diaphragm assembly over the opening into the primary cavity, making sure that the damper spring is in position to contact the sides of the opening when the diaphragm is all the way down, and hold it in position with four aligning pins. Place the primary regulator spring with the small coil end on top of the diaphragm assembly and install the cover.

Place the diaphragm cover down and remove the aligning pins **ONE AT A TIME** being sure to insert a screw in each hole before removing the next pin (FIGURE 3). Turn the screws down to hold the cover and diaphragm assembly lightly against the gasket and casting surface. Tighten all four diaphragm covers screws alternately, evenly, and securely.

CAUTION: FAILURE TO USE ALIGNING PINS WHILE SCREWS ARE INSTALLED MAY RESULT IN SCREWS CUTTING INTO DIAPHRAGM!

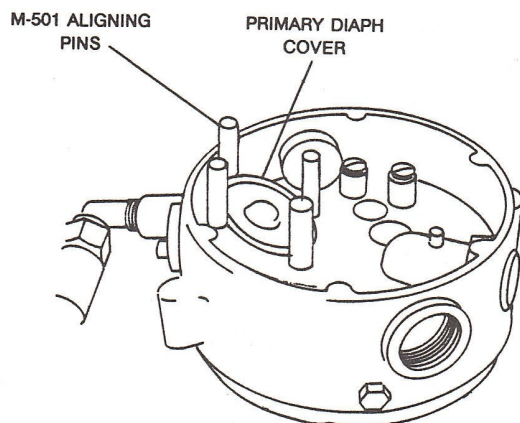


FIGURE 2. Primary Diaphragm Assembly

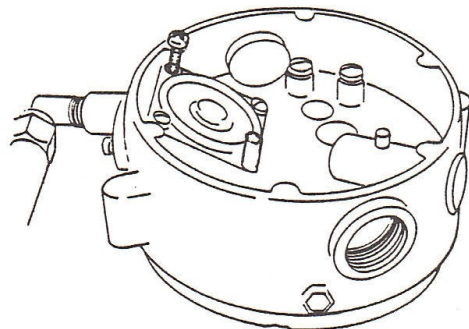


FIGURE 3. Aligning Pins

PRIMARY INLET AND VALVE ASSEMBLY (FIGURE 4)

1. Install a new valve seat and secure in the valve lever with hair pin cotter key.
2. Place the new gasket over the jet and against the inside surface of the inlet fitting. Mount the lever and valve assembly in place and insert the hinge pin.
3. Turn the body and assembly upside down.
4. Slide the completed inlet fitting and valve assembly into the opening inside of the primary body and secure the two screws.

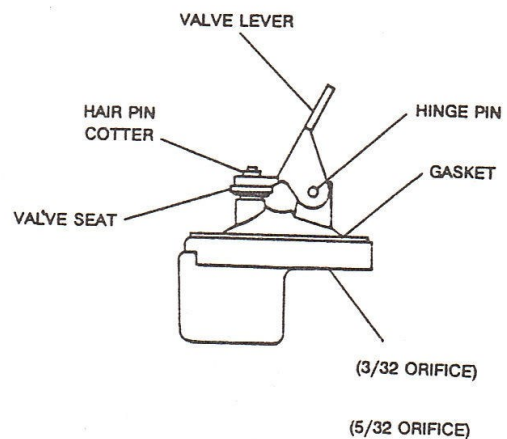


FIGURE 4. Primary Inlet and Valve Assembly

PRESSURE TEST (FIGURE 5)

Attach the compressed air hose to the inlet fitting and place the gauge over the secondary orifice; turn on the air supply and proceed as follows:

1. Note pressure gauge reading. Pressure should be between 4-7 PSI with inlet pressure of 130-180 PSI. If the pressure does not fall within these limits, retrace the previous operations to double check the work to this point. Pay particular attention to the primary valve lever and pin. Wear or distortion at this point may be responsible. Extremely low pressure indicates the spring has been left out.
2. If the pressure creeps upward, the primary valve is leaking and must be reworked. Foreign material, such as metallic chips, is the most frequent cause of this problem.
3. Check the pressure under simulated operating conditions by lifting the gauge slightly away from the orifice, thus allowing air to escape. Pressure will drop slightly and return to the original reading upon stopping the leak.

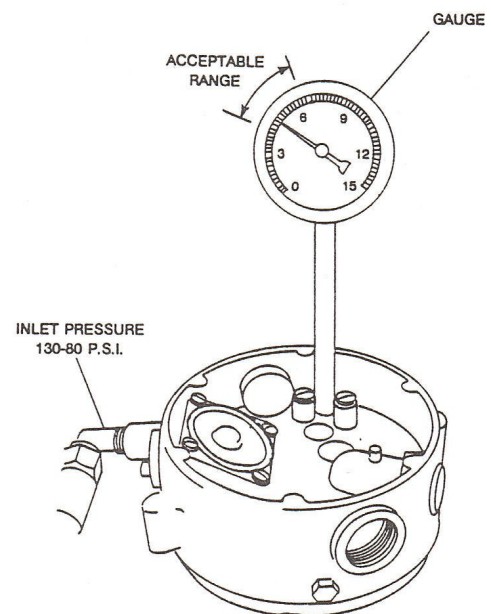


FIGURE 5. Pressure Test

SECONDARY VALVE AND LEVER ASSEMBLY (FIGURE 6)

1. Assemble the new valve seat on the valve lever using the pin. Inset the pin through the valve seat and lever insert. Press the valve seat against the flat surface and bend the pin over sharply. **DO NOT HAMMER ON BENT PIN.** The seat is self-aligning and may not seal properly if held too rigidly against the valve lever.
2. Place the secondary spring in the pocket of the secondary chamber.
3. Insert the hinge pin in the legs of the lever and place the lever and seat assembly in position and retain with the two screws in the mounting posts. Check the position of the spring to make sure it is located on the spring boss.
4. Open the valve by hand and allow it to snap closed several times to align the seat with the orifice.
5. Use the lever gauge to set the lever height (FIGURE 7). If no gauge is available, measure from a straight edge across the face of the casting to the closest point at the tip of the valve lever. Distance should be $5/16"$ from the valve lever to obtain the correct setting.

FINAL TESTING, SEMI- ASSEMBLED CONVERTOR

1. Reconnect the air supply to the convertor inlet. Plug one fitting opening and apply the soap bubble to the remaining water outlet. Any continuous growth of the soap bubble indicates leakage through the back of the gasket and will require rework of its installation.
2. Test all gasket surfaces, edges, openings, etc. for leaks with the soap solution or by immersing the entire unit in water. Any leaks must be corrected before proceeding further. Pay particular attention to the secondary seat. If correctly installed, it will not leak. Be sure to blow the unit off thoroughly to make sure no water remains from the test.

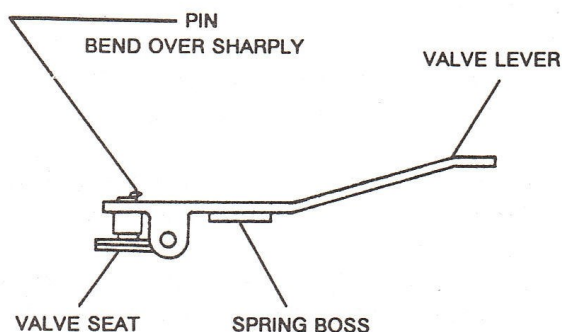


FIGURE 6. Secondary Valve and Lever Assembly

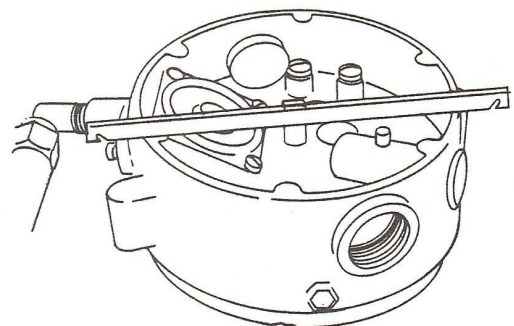


FIGURE 7. Lever Adjustment

SECONDARY DIAPHRAGM ASSEMBLY (FIGURE 8)

1. Place the small diaphragm plate on the screw with the flange on the plate toward the screw head. Locate the diaphragm on the screw with the concave or dished side away from the screw head. Set the large diaphragm plate on the screw with the flange away from the diaphragm and screw the diaphragm button on the exposed threads. Tighten securely.
2. Insert the aligning pins in the front cover screw holes, using every other hole. Slide the gasket over the pins with the gasket ears over the primary cover screws then slide on support plate. Mount the secondary diaphragm assembly on the pins with the button toward the convertor lever. (FIGURE 9)
3. Locate the cover aligning pins and install the front cover screws. Remove the aligning pins and insert the remaining screws. **DO NOT TIGHTEN!** (The front cover may be installed in any position, however, it should be placed so that the Century logo is over the secondary valve).
4. Lift the diaphragm up against the cover by pulling with pliers through the center hole in the cover. Tighten all the screws while lifting the diaphragm (FIGURE 10).
5. Install the primer and check for operation with a 12 volt power source. Check for clearance between the diaphragm assembly and primer plunger tip . If no clearance exists, recheck lever setting.
6. Apply air pressure to the inlet fitting and check for secondary valve leakage with soap bubble over the vapor outlet. Depress the primer manually or electrically to check for fuel flow. The volume need not be great but should be audible.

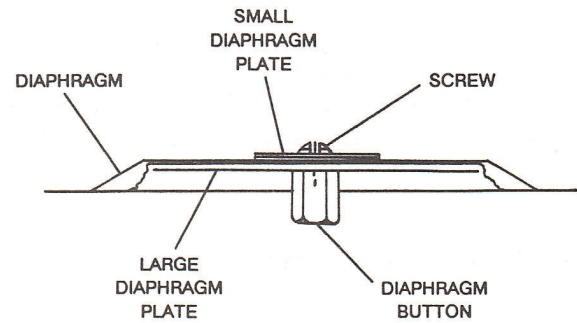


FIGURE 8. Secondary Diaphragm Assembly

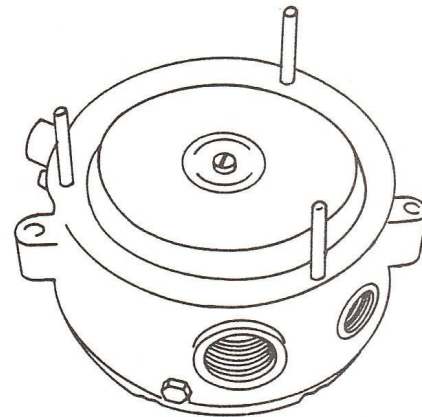


FIGURE 9. Aligning Pins

LIFT
DIAPHRAGM
WHILE TIGHTENING

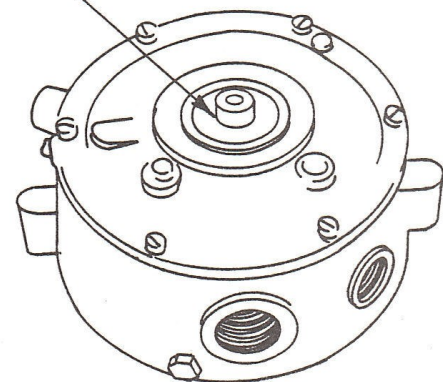


FIGURE 10. Diaphragm Positioning

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.