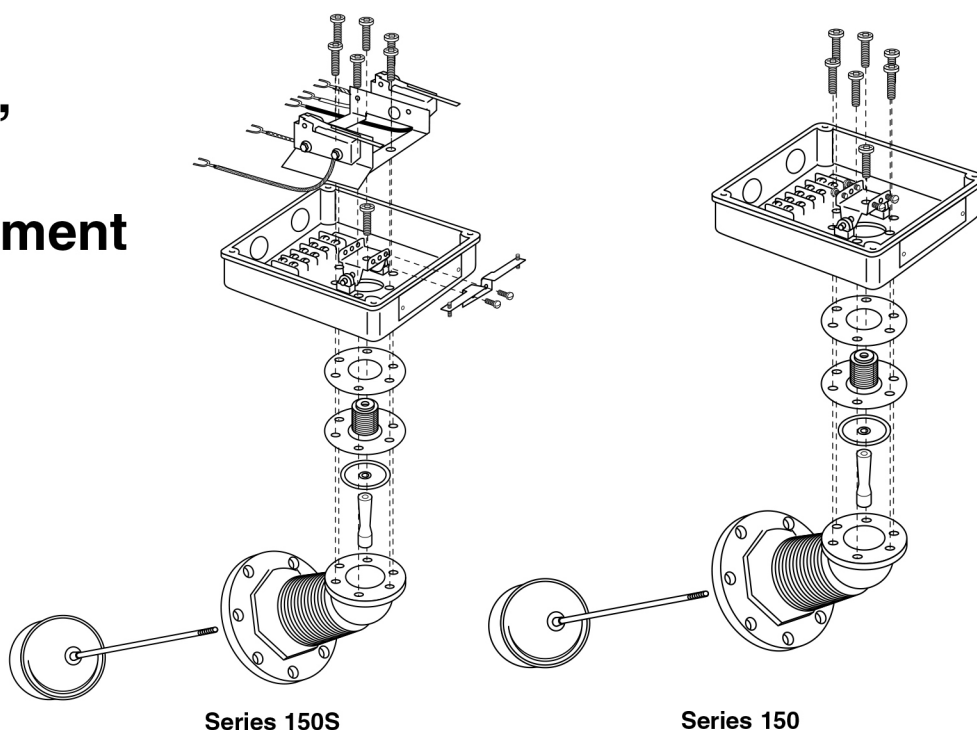
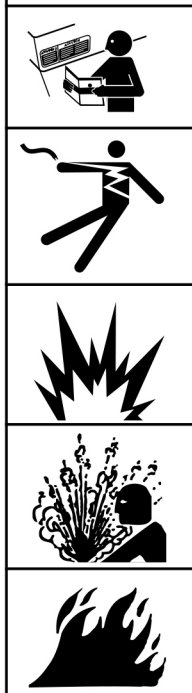




Series 150, 150S, 157, 157S Bellows Replacement



WARNING

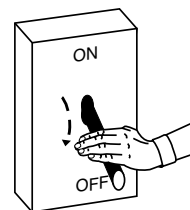


- Before using product, read and understand instructions.
- Save these instructions for future reference.
- All work must be performed by qualified personnel trained in the proper application, installation, and maintenance of plumbing, steam, and electrical equipment and/or systems in accordance with all applicable codes and ordinances.
- To prevent electrical shock, turn off the electrical power before making electrical connections.
- To prevent serious burns release all pressure and let boiler cool down to 80°F (27°C).
- Drain water level down below the float bowl chamber before taking the head mechanism out of the body.
- This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.

Failure to follow this warning could cause property damage, personal injury or death.

STEP 1 - Preparation

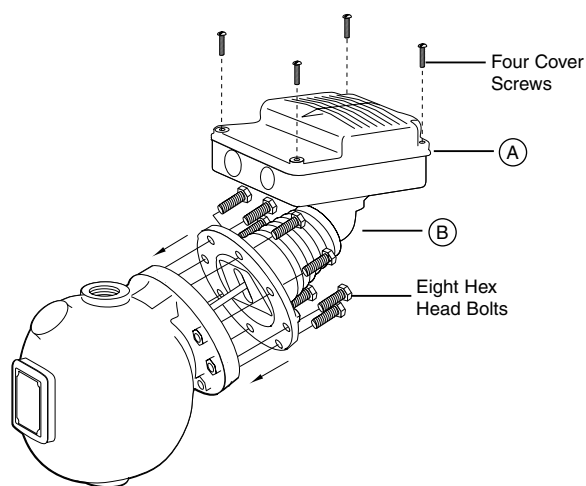
- a. To prevent electrical shock turn off all electrical power to the boiler.
- CAUTION:** There may be more than one source of power to the boiler.



- b. Release all pressure from the boiler and let it cool down to 80°F (27°C). Drain the water level down below the float chamber.

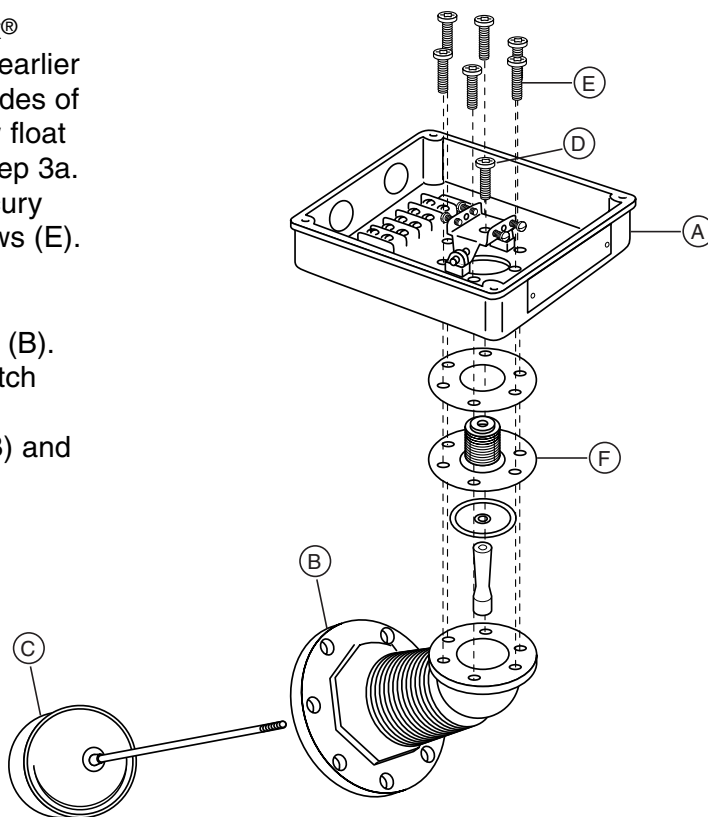
- c. Remove the four screws that hold the cover on the switch housing (A) and remove the cover. Mark all electrical supply wires so they can be returned to the proper terminals. Remove the wires and conduit connections from switch housing (A).

- d. Remove eight hex head bolts holding head mechanism (B) to float chamber. Carefully remove head mechanism (B) from float chamber and place in a vise.



- e. Holding float (C) firmly, unscrew Allen® or Torx® fastener (D). (Units with date codes of E99 or earlier will have Allen® head fasteners. Those with codes of F99 or later will have Torx® fastener). Unscrew float and float rod (C). For snap switch units see Step 3a. For mercury switch units remove the two mercury switches. Remove six (6) Allen® or Torx® screws (E).

- f. Remove switch housing (A) from head casting (B). The bellows assembly (F) may stick to the switch housing (A). Remove bellows assembly (F) and clean gasket surfaces on both head casting (B) and switch housing (A).



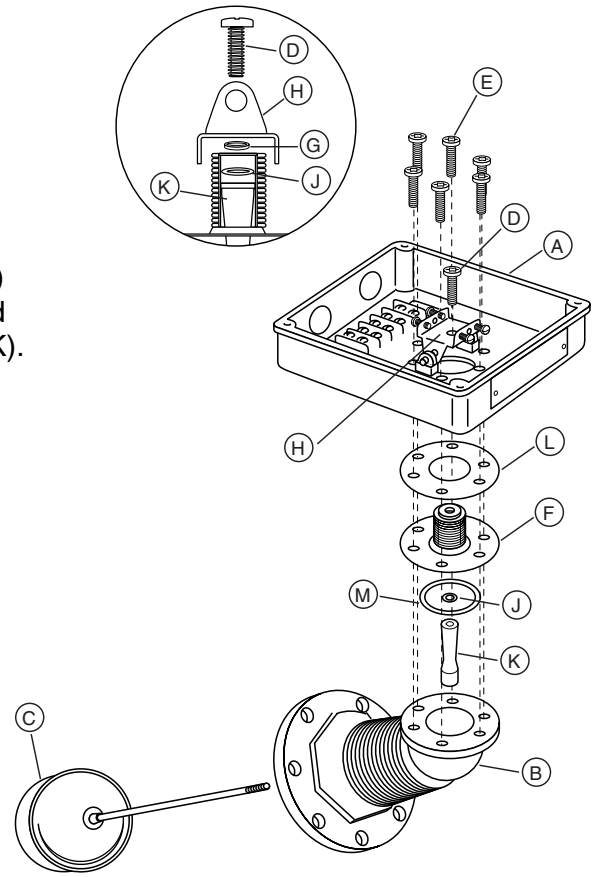
STEP 2 - Changing the Bellows for Mercury Switch Units (For Snap Switch See STEP 3)

a. NOTE: On units that have Allen® head screws they should be replaced with Torx® screws (furnished).

b. Take the new bellows assembly (F) and disassemble it noting the order of the parts. Put sealing washer (J) on top of float arm (K) and insert into inside of bellows (F). Place gasket (L) over bellows (F). Insert this assembly into switch housing (A) and bracket (H). If the screw (D) was an Allen® screw, the spacer washer (G) will have to be put in the top hole of bracket (H). Take Torx® screw (D) (furnished) and insert it into hole on top of bracket (H) and spacer washer (G) (if needed) and screw into float arm (K). Hand tighten only.

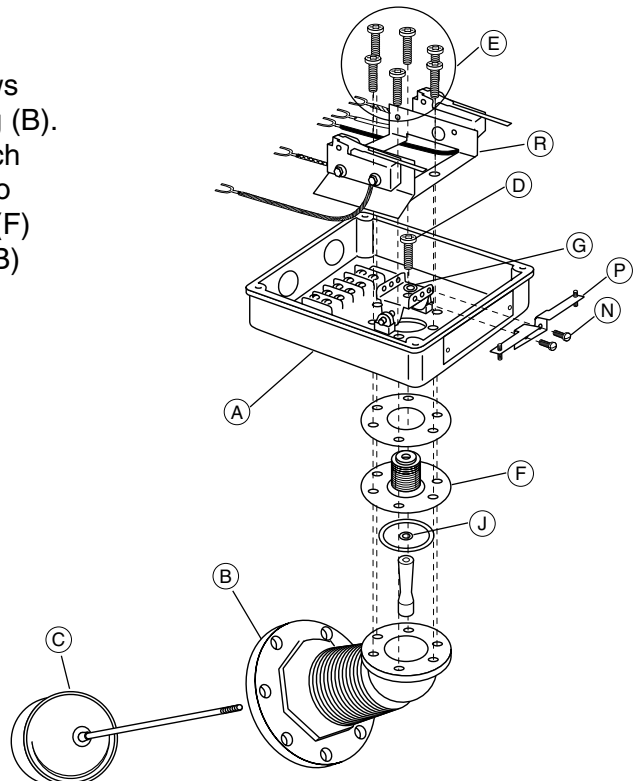
c. Make sure tapped hole on float arm (K) is facing the correct way, so the float and float rod (C) can be screwed into it when bellows assembly is assembled on the head casting. Place gasket (M) on casting (B). Center the gasket and place the bellows assembly (F) and switch housing (A) on head casting (B). Insert and tighten six (6) Torx® screws (E) to 125 in. lbs. (14 N•m).

d. Screw float and float rod (C) into float arm (K) and hand tighten. Center the float rod in the float rod guide (not shown) and tighten Torx screw (D) to 125 in. lbs. (14 N•m). Make sure you hold the float in place while tightening screw (D). Move the float up and down, making sure there is no binding and that the float rod is still centered.



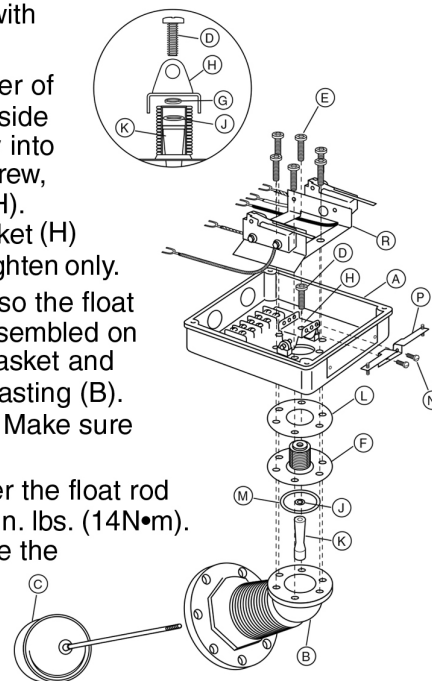
Step 3 - Changing the Bellows for Snap Switch Units

a. Clean out sealant and remove two (2) screws (N) and bracket (P). Remove (6) Allen® or Torx® screws (E). Remove switch housing (A) from head casting (B). The switch bracket (R) will come out with the switch housing (A). The bellows assembly (F) may stick to the switch housing (A). Remove bellows assembly (F) and clean gasket surfaces on both head casting (B) and switch housing (A).



Step 3 - Changing the Bellows for Snap Switch Units cont'd)

- b. NOTE:** On units that have Allen® head screws they will be replaced with Torx® screws (furnished).
- c.** Take the new bellows assembly (F) and disassemble it noting the order of parts. Put sealing washer (J) on top of float arm (K) and insert into inside of bellows (F). Place gasket (L) over bellows (F). Insert this assembly into switch housing (A) and bracket (H). If the screw (D) was an Allen® screw, the spacer washer (G) will have to be put in the top hole of bracket (H). Take Torx® screw (D) (furnished) and insert it into hole on top of bracket (H) and spacer washer (G) (if needed) and screw into float arm (K). Hand tighten only.
- d.** Make sure the tapped hole on float arm (K) is facing the correct way, so the float and float rod (C) can be screwed into it when bellows assembly is assembled on the head casting. Place gasket (M) on head casting (B). Center the gasket and place the bellows assembly (F) and the switch housing (A) on head casting (B). Insert and tighten the six (6) Torx® screws (E) to 125 in. lbs. (14N•m). Make sure that two (2) of the screws capture the switch bracket (R).
- e.** Screw float and float rod (C) into float arm (K) and hand tighten. Center the float rod in the float rod guide (not shown) and tighten Torx® screw (D) to 125 in. lbs. (14N•m). Make sure you hold the float in place while tightening screw (D). Move the float up and down, making sure there is no binding and that the float rod is still centered. Install bracket (P) using screws (N), tighten to 40 in. lbs. (4.5 N•m).



STEP 4 - Assembling the Head to the Body and Test for Proper Operation

- a.** Clean the gasket surface on head casting (B) and the body casting. Using a new gasket (furnished) mount the head mechanism to the body casting. Tighten the eight (8) bolts to 18 ft. lbs. (24N•m). Reattach conduit connectors and connect wires to the proper terminals. Turn on electrical power to the boiler.
- b.** Run the unit through several cycles of operation, noting the operating points. On the snap switch controls it may be necessary to readjust the switches. If this is necessary follow the enclosed instructions. (See attached for reference only, MM-235).

COMMERCIAL WARRANTY

Warranty. For goods sold to commercial buyers, Seller warrants the goods sold to Buyer hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be (i) be built in accordance with the specifications referred to in the quotation or sales form, if such specifications are expressly made a part of this Agreement, and (ii) free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the date of manufacture, whichever shall occur first, unless a longer period is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render the Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller's instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

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Warranty. For goods sold for personal, family or household purposes, Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the product date code, whichever shall occur first, unless a longer period is provided by law or is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller's instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

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To make a warranty claim, check first with the dealer from whom you purchased the product or call +1-847-966-3700 for the name and location of the nearest dealer providing warranty service.

xylem
Let's Solve Water

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