

INSTALLATION INSTRUCTIONS FOR SENSOR ACTIVATED LAVATORY FAUCETS



Model EBF-187

Battery Powered, Sensor Activated Lavatory Faucet

Furnished with a Chrome Plated Metal Throat Plate

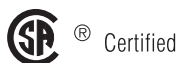


Model EBF-85

Battery Powered, Sensor Activated Lavatory Faucet

Furnished with a Black Plastic Throat Plate

**Compliant to: ASME A112.18.1
and CSA B125.1**



LIMITED WARRANTY

Sloan Valve Company warrants its EBF-85 and EBF-187 Faucets to be made of first class materials, free from defects of material or workmanship under normal use and to perform the service for which they are intended in a thoroughly reliable and efficient manner when properly installed and serviced, for a period of three years (1 year for special finishes) from date of purchase. During this period, Sloan Valve Company will, at its option, repair or replace any part or parts which prove to be thus defective if returned to Sloan Valve Company, at customer's cost, and this shall be the sole remedy available under this warranty. No claims will be allowed for labor, transportation or other incidental costs. This warranty extends only to persons or organizations who purchase Sloan Valve Company's products directly from Sloan Valve Company for purpose of resale. This warranty does not cover the life of the batteries (battery operated models).

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. IN NO EVENT IS SLOAN VALVE COMPANY RESPONSIBLE FOR ANY CONSEQUENTIAL DAMAGES OF ANY MEASURE WHATSOEVER.

PRIOR TO INSTALLATION

Prior to installing the Sloan EBF-85 or EBF-187 Faucet, install the items listed below. Also, refer to the Rough-In illustrations on Page 2.

- Lavatory/sink
- Drain line
- Hot and cold water supply lines or tempered water supply line

Mixing Valve

When installing the faucet with a Sloan mixing valve, these Installation Instructions AND the Installation Instructions packaged with the mixing valve MUST be followed.

Important:

- **INSTALL ALL PLUMBING IN ACCORDANCE WITH APPLICABLE CODES AND REGULATIONS.**
- **KEEP THREAD SEALANT OUT OF YOUR WATERWAY TO PREVENT COMPONENT PART DAMAGE! DO NOT USE ANY SEALANT ON COMPRESSION FITTINGS. FOR THREADED PIPE FITTINGS, DO NOT APPLY SEALANT TO THE FIRST TWO "STARTER" THREADS.**
- **FLUSH ALL WATER LINES UNTIL WATER IS CLEAR BEFORE CONNECTING SOLENOID TO SUPPLY STOPS.**

DO NOT INSTALL THE BATTERIES UNTIL THE FAUCET IS COMPLETELY INSTALLED. If the batteries are installed before the fiber optic cable has been connected to the valve module, the faucet will not properly set the sensing range for the sink on which it is installed.

DO NOT INSTALL THE SPRAY HEAD UNTIL AFTER THE SUPPLY LINES HAVE BEEN FLUSHED.

BAK-CHEK[®] TEE USAGE

When connecting the Sloan EBF-85 or EBF-187 Faucet to both hot and cold water supplies, a Bak-Chek[®] Tee is provided and required as illustrated in the Rough-in illustrations on Page 2. Water temperature can be controlled by adjusting the supply stops.

When connecting the faucet to a single line water supply or a pre-tempered water supply, a Bak-Chek[®] Tee is not required.

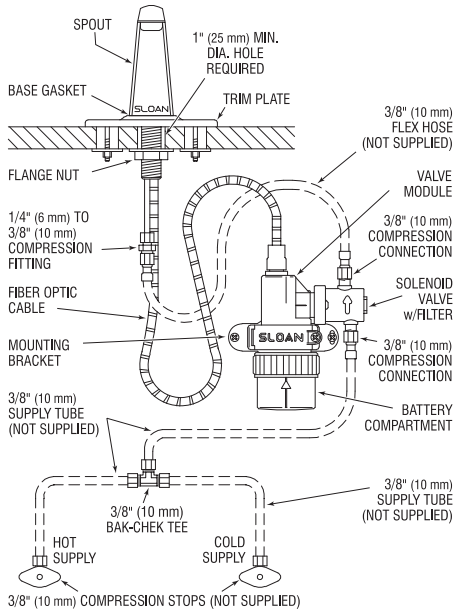
A Bak-Chek[®] Tee is not required or provided when a Temperature Mixing Valve is included with the faucet.

TOOLS REQUIRED FOR INSTALLATION

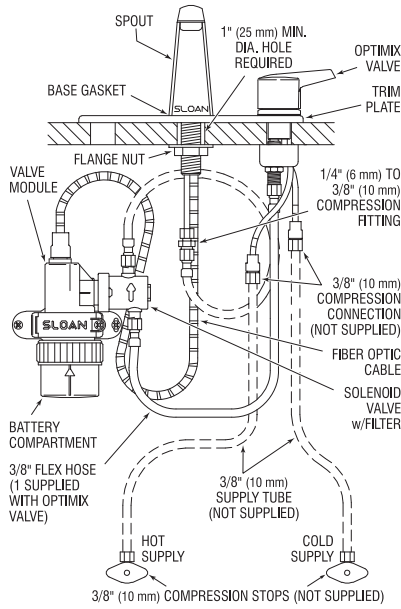
- Open end wrenches for hex sizes: 1/2", 9/16", 5/8", 15/16"
- Basin wrench
- Phillips head screwdriver, #2
- Hammer (if installing plastic or hollow wall anchors to mount valve module)
- 0.05" hex wrench (supplied)
- Spray head key (supplied)
- 1/4" drill bit (if plastic wall anchors are used to mount valve module)
- 5/16" drill bit (if hollow wall anchors are used to mount valve module)
- 3/8" drill bit (if toggle nut anchors are used to mount valve module)

FAUCET ROUGH-IN

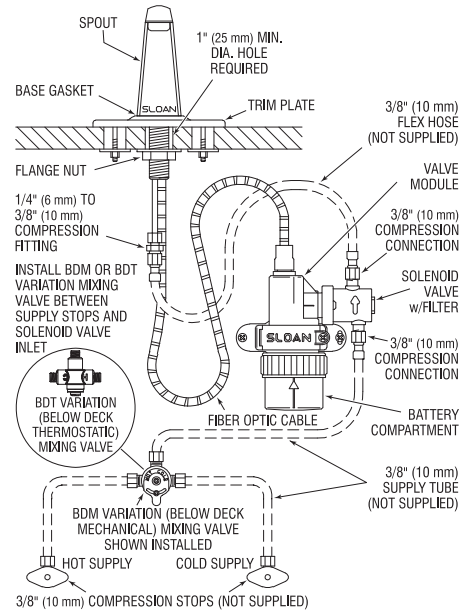
EBF-85 and EBF-187 Faucet with Bak-Chek® Tee for Hot and Cold Water Supply (shown with 4" trim plate)



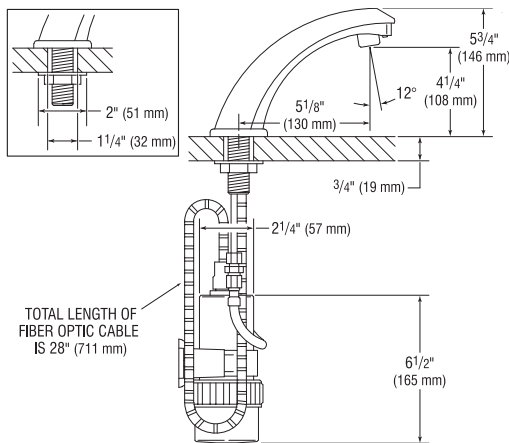
EBF-85 and EBF-187 Faucet with ADM Variation Mixing Valve for Hot and Cold Water Supply (shown with 8" trim plate)



EBF-85 and EBF-187 Faucet with BDM and BDT Variation Mixing Valves for Hot and Cold Water Supply (shown with 4" trim plate)



EBF-85 and EBF-187 Battery Powered Faucet



FAUCET INSTALLATION

1 Install Faucet Spout and Trim Plate — Refer to the appropriate step (1A-1C) for your application.

Note: When installing with a Sloan Mixing Valve, install Faucet and Trim Plate before installing Mixing Valve. For complete installation guidelines, refer to the Installation Instructions supplied with the Sloan mixing valve.

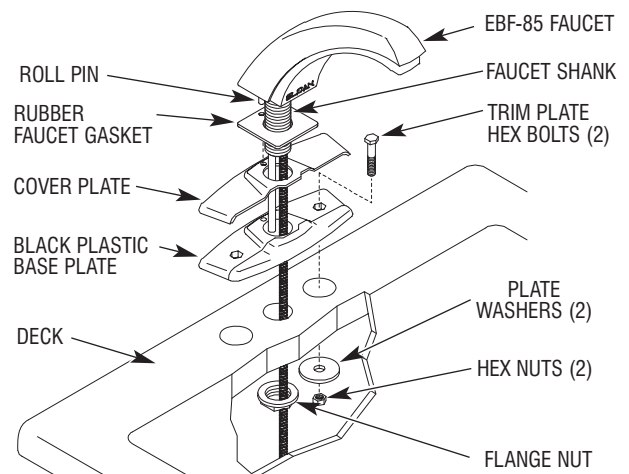
1A ETF-295-A (for EBF-85) Single Hole 4" Trim Plate

- A** Slide Rubber Faucet Gasket onto Faucet Shank. Ensure that Roll Pin on base of Faucet fits into hole in Rubber Faucet Gasket.

Note: If Trim Plate is used on a sink with a center hole only, Trim Plate Bolts are not used. Apply plumber's putty to underside of Trim Plate to prevent Faucet from rotating.

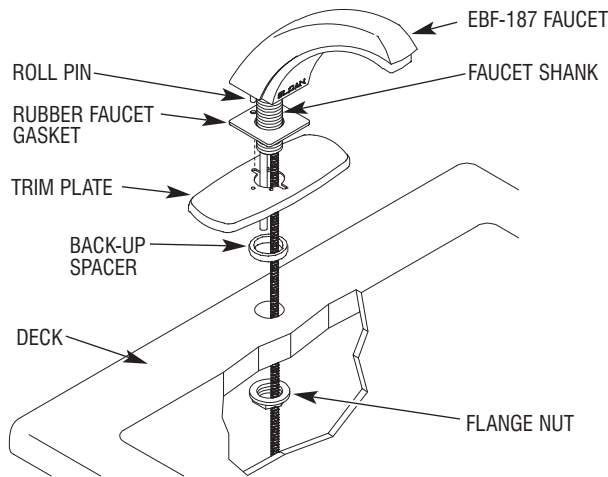
- B** Insert Hex Bolts into Black Plastic Base Plate (if sink has only a center hole, see note above). Place Chrome Cover Plate over Black Plastic Base Plate. Slide Trim Plate assembly onto Faucet Shank. Align Roll Pin with small hole in Trim Plate assembly.

- C** Insert Trim Plate Bolts through the 4 inch (102 mm) spread deck holes and Faucet Shank through the 1 inch (25 mm) minimum diameter deck hole. Secure Trim Plate to Deck using the large Plate Washers and Hex Nuts supplied. Secure Faucet from below Deck using the Flange Nut supplied.



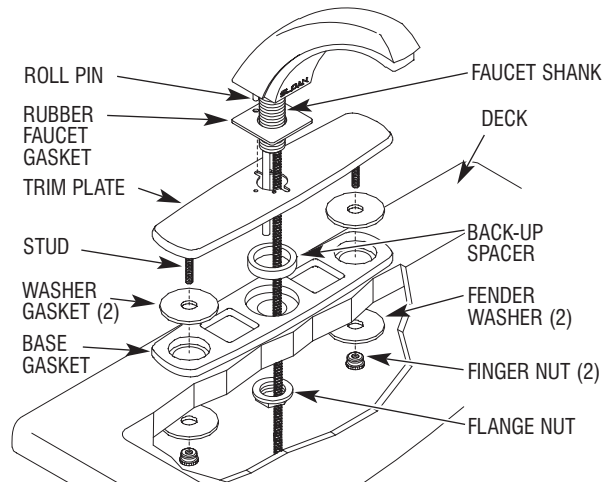
1B ETF-312-A (for EBF-187) Single Hole 4" Trim Plate

- A** Slide Rubber Faucet Gasket onto Faucet Shank. Ensure that Roll Pin on base of Faucet fits into hole in Rubber Faucet Gasket.
- B** Slide Trim Plate and Back-up Spacer onto Faucet Shank. Align Roll Pin with small slot in Trim Plate.
- C** Secure Faucet from below Deck using the Flange Nut supplied.



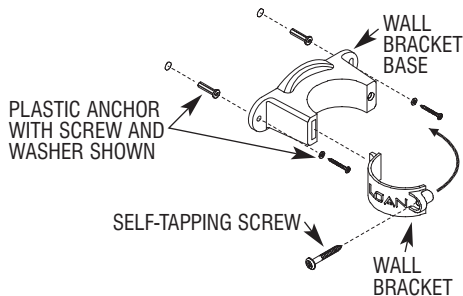
1C ETF-510-A (for EBF-85/187) Single Hole 8" Trim Plate

- A** Slide Rubber Faucet Gasket onto Faucet Shank. Ensure that Roll Pin on base of Faucet fits into hole in Rubber Faucet Gasket.
- B** Slide Trim Plate and Back-up Spacer onto Faucet Shank. Align Roll Pin with small slot in Trim Plate.
- C** Slide Washer Gaskets over Studs. Place Studs and Faucet Shank through Base Gasket and holes in Deck.
- D** Secure Trim Plate from below Deck using the two (2) Fender Washers and two (2) Finger Nuts supplied.
- E** Secure Faucet from below Deck using the Flange Nut supplied.



2 Install Valve Module Wall Bracket

- A** Install the Wall Bracket in an appropriate location as shown in the Rough-In illustrations on Page 2.
- B** Position Wall Bracket within 20 inches (508 mm) from Faucet. When installed, the Fiber Optic Cable from the Faucet Spout to the Valve Module should have some slack.

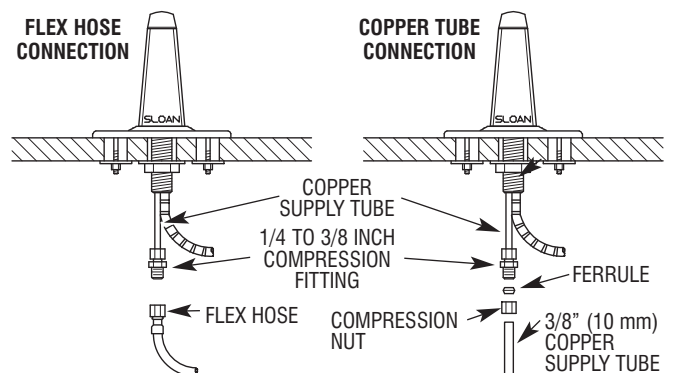


- C** Use Wall Bracket Base as a template to mark off holes on wall for Mounting Screws. Determine the appropriate Mounting Fastener for the particular wall type (three different fastener types are included; see parts list). Drill two (2) appropriately sized holes:
 For Plastic Wall Anchor — 1/4" (6 mm) holes
 For Hollow Wall Anchor — 5/16" (8 mm) holes
 For Toggle Nut Anchor — 3/8" (10 mm) holes
- D** Install Wall Bracket Base to wall using the appropriate fastener.

3 Connect Flex Hose or Copper Tubing to Spout

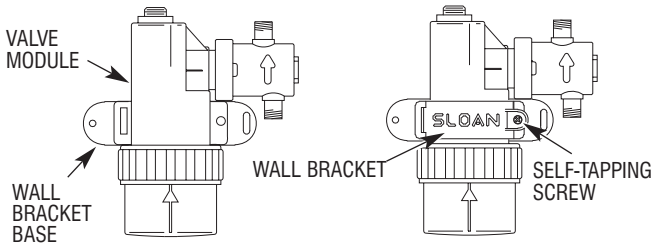
IMPORTANT: Keep thread sealant out of your waterway to prevent component part damage! DO NOT use any sealant on compression fittings. For threaded pipe fittings, DO NOT apply sealant to the first two "starter" threads.

- A** Install the 1/4 inch end of the 1/4 to 3/8 inch Compression Fitting onto the Spout's copper Supply Tube.
- B** Connect one end of Flex Hose or Copper Tube to the Compression Fitting.



4 Install Valve Module

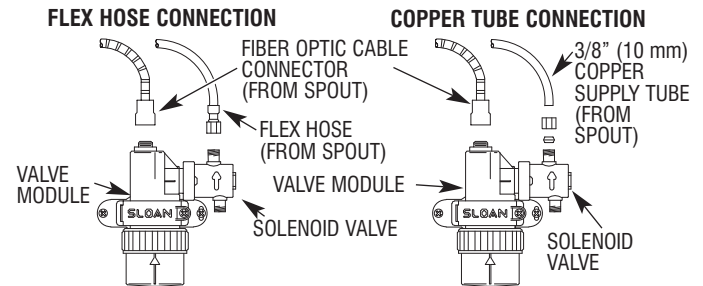
- A** Install Valve Module into Wall Bracket Base as shown below.
- B** Insert tab of Wall Bracket into slot of Wall Bracket Base.
- C** Swing Wall Bracket into position as shown below and secure using the Self-tapping Screw provided.



5 Connect Flex Hose or Copper Tubing to Solenoid Valve and Connect Fiber Optic Cable

- A** Connect the free end of the Flex Hose or Copper Tube (now attached to the Spout) to the outlet side of the Solenoid Valve as shown below.

Note: An arrow on the body of the Solenoid Valve indicates the water flow direction and points toward the outlet side of the Solenoid Valve. The Valve Module can be rotated and positioned in the Wall Bracket to accommodate tight installation requirements. **Additionally, the Solenoid Valve can be rotated 360 degrees on the Valve Module.** The Solenoid Valve should be rotated to the most convenient position for making water line connections.



- B** Remove the Rubber Caps from the Fiber Optic Cable Connector and Valve Module.
- C** Connect the Fiber Optic Cable to Valve Module.
- D** The Cable Connector is keyed and will slide into Valve Module in only one orientation. Thread the Connector Cap onto Valve Module to secure the connection.

6 Connect Supply Line(s) from Supply Stop to Solenoid Valve Inlet

Important: Keep thread sealant out of your waterway to prevent component part damage! DO NOT use sealant on compression fittings. When thread sealant is used, do not apply it to the first two "starter" threads.

- A** **For Dual Line Hot and Cold Water Supply Applications**

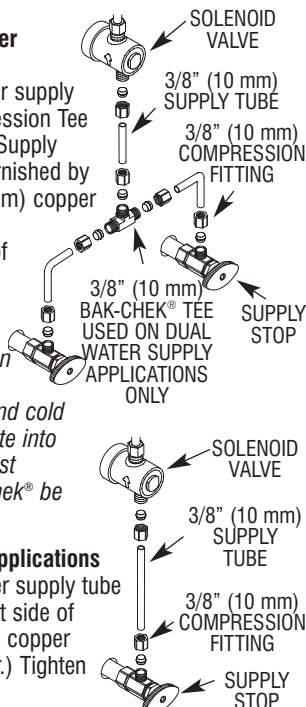
Install a 3/8 inch (10 mm) copper supply tube between Bak-Chek® Compression Tee and hot and cold supply stops. (Supply stops and copper supply tube furnished by installer.) Install a 3/8 inch (10 mm) copper supply tube between Bak-Chek® Compression Tee and inlet side of Solenoid Valve. Tighten Compression Fittings securely.

Note: Failure to install the Bak-Chek® Tee can result in a cross flow connection when the faucet is off and the supply stops are open. If pressure of the hot and cold water supply differ, hot water can migrate into the cold water supply or vice-versa. Most plumbing codes require that the Bak-Chek® be used to prevent this.

- B** **For Single Line Water Supply Applications**

Install a 3/8 inch (10 mm) copper supply tube between the supply stop and inlet side of Solenoid Valve. (Supply stop and copper supply tube furnished by installer.) Tighten Compression Fittings securely.

Important: Flush dirt, debris, and sediment from the supply line(s).

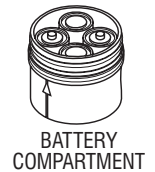


7 Install Batteries

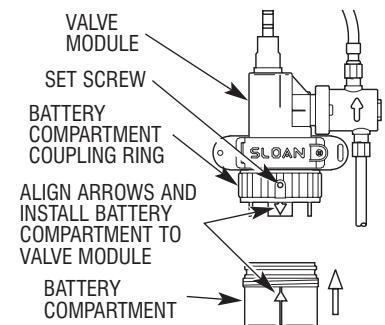
Important: DO NOT INSTALL THE BATTERIES UNTIL THE FAUCET IS COMPLETELY INSTALLED. If the batteries are installed before the fiber optic cable has been connected to the valve module, the faucet will not properly set the sensing range for the sink on which it is installed.

- A** Loosen security set screw on the Coupling Ring with a 0.05" hex wrench and Unscrew Battery Compartment Coupling Ring. Remove Battery Compartment.

- B** To ensure proper operation, insert four (4) new C-size Alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown at the bottom of the Battery Compartment. Make sure that Spout is properly centered and that no objects are in the sink.



- C** Reattach the Battery Compartment to the Valve Module by aligning the arrow on the Battery Compartment with the arrow on the solid tab of the Valve Module.



- D** Secure by tightening Battery Compartment Coupling Ring. To deter unauthorized removal of batteries, use a 0.05" hex wrench to tighten the security set screw on the Coupling Ring.

Start Up Mode

Sloan OPTIMA Plus® EBF-85 and EBF-187 Electronic, Sensor Activated Lavatory faucets use *Adaptive Sensing* technology to automatically set its sensing range once power is supplied to the faucet. No mechanical range adjustments are required. The faucet automatically adapts its range to its surrounding environment.

Self-Calibration Procedure

When the Battery Compartment is assembled to the Valve Module with full electrical power, the faucet initiates a self-calibration mode and uses *BEEPs* to indicate the status of this mode. To prevent improper calibration, ensure that the Spout is centered properly and that no targets are in the detection range of the sensor when the electrical connections are made. An initial series of *BEEPs* indicates that power is being supplied to the faucet. For the next thirty (30) seconds, the sensor determines the most suitable range setting for its environment. Water will not flow from the faucet during this automatic range calibration. After the range is calibrated, a second series of *BEEPs* indicates that the faucet is ready for use. Under normal operation, this faucet adapts its range to changes in the environment.

If manually starting the recalibration procedure is necessary, unscrew the Coupling Ring to break the electrical connection between the Battery Compartment and the Valve Module. Reconnect the electrical connection by reattaching Battery Compartment (with batteries) to the Valve Module and tighten the Coupling Ring. The self-calibration procedure should start automatically after proper electrical connections are made.

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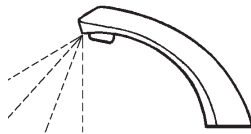
Start-Up

- A** Remove Spray Head.
- B** Open supply stop(s), then activate Faucet for 30 seconds by placing hands in front of sensor. The Solenoid Valve should “click,” the Valve Module should “beep” and water should flow from the Spout. If this does not occur, refer to the Troubleshooting section of this instruction instructions.
- C** Close supply stop(s) and reinstall Spray Head in Spout using Key provided.
- D** Reopen supply stop(s), activate Faucet and check for leaks.

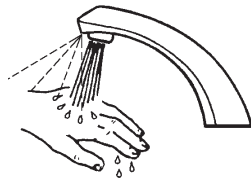
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Test Faucet Operation

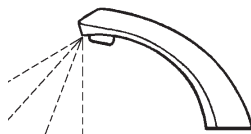
1. A continuous invisible beam of infrared light is emitted from the fiber optic “eyes” located on the front of the lavatory faucet.



2. As the user's hands enter the beam's effective range (beneath the spray head), the beam is reflected back into the receiver “eye” and activates the solenoid valve allowing tempered water to flow from the faucet into the sink. Water will flow until the hands are removed or until the faucet reaches its automatic time out limit setting.



3. When hands are moved away from the Sensor, the loss of reflected light initiates an electrical signal that deactivates the Solenoid Valve, shutting off the water flow. The Circuit then automatically resets and is ready for the next user.



CARE AND CLEANING OF CHROME AND SPECIAL FINISHES

DO NOT use abrasive or chemical cleaners (including chlorine bleach) to clean faucets that may dull the luster and attack the chrome or special decorative finishes. Use ONLY soap and water, then wipe dry with clean cloth or towel.

While cleaning the bathroom tile, protect the faucet from any splattering of cleaner. Acids and cleaning fluids will discolor or remove chrome plating.

BATTERY REPLACEMENT PROCEDURE (Step 7A on Page 4)

Sloan OPTIMA Plus® EBF-85 and EBF-187 Battery Powered, Sensor Activated Lavatory faucet models are furnished with four (4) Duracell C-size Alkaline batteries that provide up to 2 years of operation (at 8000 cycles per month). When the batteries are low and need to be replaced, the EBF-85 and EBF-187 will signal you. When 256 cycles remain in the unit, the faucet will BEEP each time it is activated. At this point we recommend battery replacement. Sloan Valve recommends the use of Duracell MN-1400 C-size batteries.

To Replace Batteries:

Note: Water supply to the faucet does not need to be turned off when replacing batteries.

Loosen security set screw on the Coupling Ring with a 0.05" hex wrench. Unscrew Battery Compartment Coupling Ring. Remove Battery Compartment. To ensure proper operation, remove old batteries and insert four (4) new C-size Alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown at the bottom of the Battery Compartment. Reattach the Battery Compartment to the Valve Module by aligning the arrow on the Battery Compartment with the arrow on the solid tab of the Solenoid Valve Module. Secure by tightening Battery Compartment Coupling Ring. To deter unauthorized removal of batteries, use a 0.05" hex wrench to tighten the security set screw on the Coupling Ring.

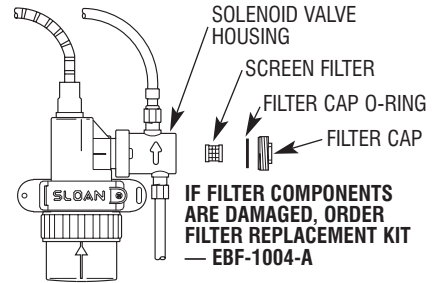
Upon installation of the batteries, the EBF-85 and EBF-187 faucet will begin a new self-calibration procedure (see START UP MODE).

SOLENOID SCREEN FILTER CLEANING PROCEDURE

Note: Before cleaning the Screen Filter, turn off the water supply at the supply stop(s) and activate the faucet to relieve any pressure in the system.

- A** Unscrew the Filter Cap and remove it from the Solenoid Valve Housing and carefully pull the Screen Filter with attached rubber seals out from the Solenoid Valve Housing.
- B** Clean the Screen Filter using fresh tap water only. If necessary, use a small brush to clean. Use caution while cleaning to prevent damage to the Solenoid Screen Filter. If any Filter components are damaged, order Filter Replacement Kit EBF-1004-A.
- C** Carefully replace the Screen Filter into the groove of the Solenoid Valve Housing. Examine the Filter Cap O-ring for wear or damage; replace if necessary.

- D** If necessary, lubricate the Filter Cap O-ring with water to keep it in place in the groove of the Filter Cap. Screw the Filter Cap into the Solenoid Valve Housing.



- E** Turn on the water supply at the supply stop(s). Activate the faucet to purge any air from the system lines. Check for leaks and repair as necessary.

TROUBLESHOOTING GUIDE

Note: BEEP sounds are emitted from the Solenoid Valve Module (not from Faucet Spout). For the first ten (10) minutes of operation (or after battery replacement or electrical power is reconnected), the unit BEEPS every time the faucet is activated to indicate that the range limits are set. To conserve battery power, the battery model will not BEEP again until it indicates low battery power.

1. PROBLEM: Module emits audible “BEEPs” when activated.

CAUSE: Electrical power supplied to the faucet is extremely low (battery power is nearly exhausted or brownout electrical conditions exist).

SOLUTION: Reconnect electrical power.

To ensure proper operation, insert four (4) new C-size Alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown at the bottom of the Battery Compartment. Reinstall Battery Compartment.

2. PROBLEM: Sensor is activated but faucet does not deliver water.

INDICATOR: Module DOES NOT produce audible “BEEPs.”

CAUSE: No electrical power is supplied to the faucet (battery power is fully exhausted or blackout electrical conditions exist).

SOLUTION: Replace or reconnect electrical power supply.

To ensure proper operation, insert four (4) new C-size Alkaline batteries. Check that the orientation of each battery matches the positive (+) and negative (-) symbols shown at the bottom of the Battery Compartment. Reinstall Battery Compartment.

CAUSE: Electrical power supply is not properly connected (Batteries or Battery Compartment is not installed properly).

SOLUTION: Check that the orientation of the batteries match the positive (+) and negative (-) symbols shown at the bottom of the Battery Compartment. Reinstall the Battery Compartment.

CAUSE: Solenoid Valve Module is defective.

SOLUTION: Replace EBF-11-A Solenoid Valve Module.

INDICATOR: Module produces audible “BEEPs” when all electrical connections are made and after 30-second calibration procedure, but NOT when a target is placed in the detection zone of the Sensor.

CAUSE: Fiber Optic Cable is not connected correctly to Solenoid Valve Module or was not connected when proper electrical connections were made.

SOLUTION: Reconnect Fiber Optic Cable to Solenoid Valve Module. Unscrew Coupling Ring to open Battery Compartment and reset the electrical system. Reattach the Battery Compartment to the Valve Module. Tighten Coupling Ring.

CAUSE: Fiber Optic Cable is defective.

SOLUTION: Replace EBF-1009-A Sensor Cable, or the Faucet/Sensor Assembly listed below.

For an EBF-85 model: Replace EBF-10-A Faucet/Sensor Assembly.

For an EBF-187 model: Replace EBF-170-A Faucet/Sensor Assembly.

CAUSE: Solenoid Valve Module is defective.

SOLUTION: Replace Solenoid Valve Module.

Replace EBF-11-A Solenoid Valve Module.

INDICATOR: Module produces audible “BEEPs” when a target is placed in the detection zone of the Sensor and Solenoid Valve produces an audible “CLICK,” but NO water flows.

CAUSE: Water supply to faucet is not open.

SOLUTION: Open supply stop(s) completely.

CAUSE: Bak-Chek® is installed backward.

SOLUTION: Reinstall Bak-Chek® properly.

CAUSE: Solenoid Filter is clogged.

SOLUTION: Remove, clean, and reinsert. Replace with EBF-1004-A Solenoid Filter Kit if necessary.

CAUSE: Aerator or Spray Head is clogged.

SOLUTION: Remove, clean, and reinsert.

INDICATOR: Module produces audible “BEEPs” when a target is placed in the detection zone of the Sensor, but Solenoid Valve does NOT produce an audible “CLICK,” and NO water flows.

CAUSE: Solenoid Valve Module is defective.

SOLUTION: Replace EBF-11-A Solenoid Valve Module.

3. PROBLEM: Faucet delivers only a slow flow or dribble when Sensor is activated.

CAUSE: Water Supply Stop(s) are partially closed.

SOLUTION: Open the Supply Stop(s) completely.

CAUSE: Solenoid Filter is clogged.

SOLUTION: Remove, clean, and reinsert. Replace with EBF-1004-A Solenoid Filter if necessary.

CAUSE: Aerator or Spray Head is clogged.

SOLUTION: Remove, clean, and reinsert.

4. PROBLEM: Faucet does not stop delivering water or continues to drip after user is no longer detected (automatic shut-off fails even when batteries are removed).

CAUSE: Solenoid Valve is connected backward.

SOLUTION: Disassemble Solenoid Valve compression fittings at the inlet and outlet positions. Water should flow from inlet through the Solenoid Valve to outlet according to the direction shown by the arrow on the side of the Solenoid Valve. Reconnect the fittings in the correct orientation.

CAUSE: Solenoid Valve seat is dirty.

SOLUTION: Remove, clean, and reinsert Solenoid Filter. Activate faucet several times to flush out dirt.

CAUSE: Solenoid Valve is dirty.

SOLUTION: Backflush by reversing water flow (opposite to the direction shown by the arrow on the side of the Solenoid Valve) through the Solenoid Valve. Reconnect the compression fittings in the correct orientation. Activate faucet.

CAUSE: Solenoid Valve Module is defective.

SOLUTION: Replace EBF-11-A Solenoid Valve Module.

5. PROBLEM: The water temperature is too hot or too cold on a faucet connected to hot and cold supply lines with Bak-Chek®.

CAUSE: Supply Stops are not adjusted properly.

SOLUTION: Adjust Supply Stops.

CAUSE: Bak-Chek® is installed backward.

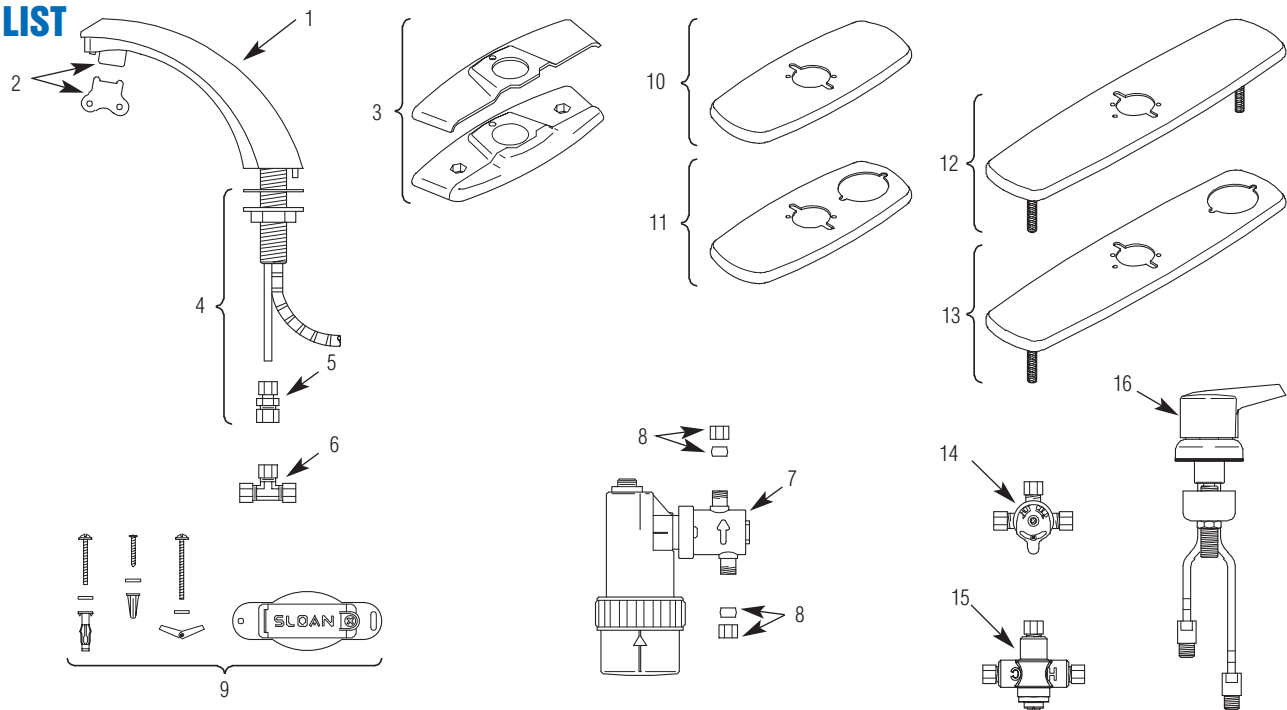
SOLUTION: Reinstall Bak-Chek® correctly.

NOTE: For some systems, a thermostatic mixing valve may be required.

For additional information about Sloan Mixing Valves or Trim Plates, consult our Installation Instructions and Maintenance Guides.

If further assistance is required, please contact the Sloan Valve Company Installation Engineering Department at 1-888-SLOAN-14 (1-888-756-2614)

PARTS LIST



Item No.	Part No.	Description
1	EBF-10-A	Faucet and Sensor Assembly (EBF-85 with Black Plastic Throat Plate)
	EBF-170-A	Faucet and Sensor Assembly (EBF-187 with CP Metal Throat Plate)
	EBF-1009-A	Fiber Optic Sensor Cable Assembly Only (replaces EBF-12-A, includes lens holder)
2	ETF-1021-A	0.5 gpm (1.9 Lpm) Spray Head with Key (female thread)
	ETF-1022-A	2.2 gpm (8.3 Lpm) Aerator Spray Head with Key (female thread)
	ETF-1027-A	2.2 gpm (8.3 Lpm) Laminar Flow Spray Head (female thread)
	ETF-435	Replacement Key ONLY for ETF-1021-A and ETF-1022-A Spray Heads. (NOT required for ETF-237 Laminar Flow Spray Head)
3	ETF-295-A	4" (102 mm) Centerset Trim Plate Kit for EBF-85 Faucet (Faucet Only); includes two (2) Nuts, two (2) Hex Screws, two (2) Flat Plate Washers, Single Hole CP Cover Plate and Black Plastic Base Plate
	ETF-299-A	4" (102 mm) Centerset Trim Plate Kit for EBF-85 Faucet with Optional Mixing Valve includes Dual Hole CP Cover Plate and Black Plastic Base Plate (not shown)
4	ETF-290-A	Faucet Mounting Kit, includes Rubber Gasket, Flange Nut and ETF-297 1/4" to 3/8" Reducing Compression Fitting Connector
5	ETF-297	1/4" to 3/8" Reducing Compression Fitting Connector
6	ETF-617-A	3/8" Bak-Chek® Tee Compression Fitting
7	EBF-11-A	Solenoid Valve Module Assembly; includes Solenoid Enclosure, Solenoid Body, and Filter Cap
	EBF-4	Four (4) C-size Alkaline Batteries
8	EBF-16	ETF-208, 3/8" (10 mm) Ferrule, two (2) supplied and ETF-209, 3/8" (10 mm) Compression Nut, two (2) supplied
9	EBF-25-A	Mounting Bracket Kit; includes Wall Bracket Base, Wall Bracket, Self-tapping Screw, two (2) Wood Screws plus Washers and Plastic Anchors, two (2) Screws plus Washers and Toggle Nuts, two (2) Screws plus Washers and Hollow Wall Anchors

Item No.	Part No.	Description
-	EBF-1004-A	Solenoid Filter Replacement Kit; includes Filter Screen Assembly and O-ring

OPTIONAL TRIM PLATES

10	ETF-312-A	4" (102 mm) Centerset Trim Plate Kit for EBF-187 Faucet (Faucet Only); includes Back-up Spacer, Self-tapping Screw and CP Single Hole Trim Plate Assembly
11	MIX-101-A	4" (102 mm) Centerset Trim Plate Kit for EBF-85 or EBF-187 Faucet with Optional Mixing Valve; includes Back-up Spacer, Self-tapping Screw and CP Dual Hole Trim Plate Assembly
12	ETF-510-A	8" (203 mm) Centerset Trim Plate Kit for EBF-85 or EBF-187 Faucet (Faucet Only); includes two (2) Finger Nuts, two (2) Washer Gaskets, two (2) Fender Washers, Base Gasket, Back-up Spacer and CP Single Hole Trim Plate Assembly
13	MIX-104-A	8" (203 mm) Centerset Trim Plate Kit for EBF-85 or EBF-187 Faucet with Optional Mixing Valve; includes one (1) Finger Nut, one (1) Washer Gasket, one (1) Fender Washer, Base Gasket, Back-up Spacer and CP Dual Hole Trim Plate Assembly

OPTIONAL MIXING VALVES

14	MIX-60-A	Below Deck Mechanical Water Mixing Valve (BDM Variation)
15	MIX-135-A	Below Deck Thermostatic Water Mixing Valve (BDT Variation)
16	MIX-110-AA	Optimix® Deck Mounted Water Mixing Valve

NOTICE: The information contained in this document is subject to change without notice.

If further assistance is required, please contact the Sloan Valve Company Installation Engineering Department at 1-888-SLOAN-14

(1-888-756-2614)

For additional information about Sloan Mixing Valves or Trim Plates, consult our Installation Instructions and Maintenance Guides.

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