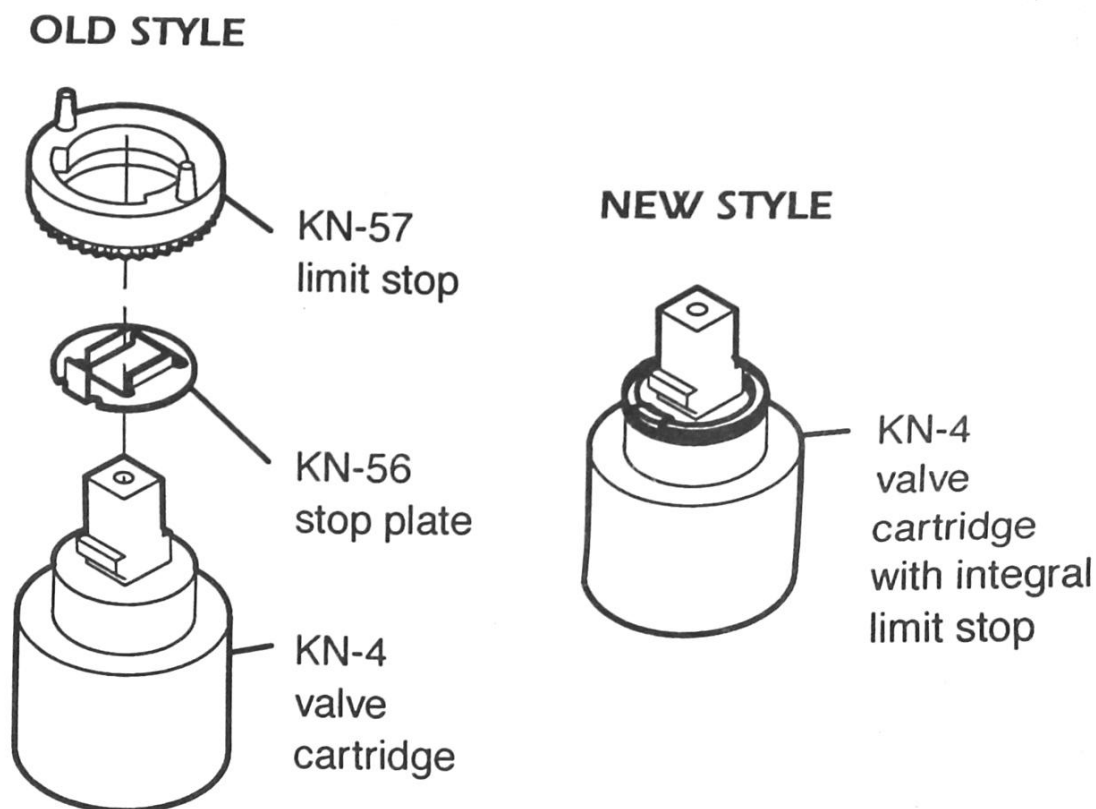


KN-4

Replacement Valve Cartridge Instructions

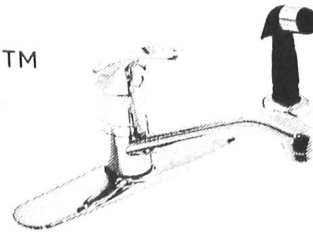


Remove the old KN-4 cartridge, KN-57 limit stop and KN-56 stop plate. Install the new KN-4 cartridge with integral limit stop. The KN-57 and KN-56 should be discarded. To adjust limit stop temperature, refer to Symmetrix® installation instructions: Kitchen faucet (ZV-330) or Lavatory faucet (ZV-329).

SYMMONS Symmetrix™

Kitchen Faucet S-23 Series

Installation and Service Instructions



Installation

Caution: Be sure to turn off hot and cold water supplies before installing or servicing faucet.

Step 1 If installing model with hose and spray, install hose guide into hole in sink (normally the far right hole on four hole sink). From underneath sink place washer then nut over hose guide and secure to sink. Insert hose through hose guide and up through middle hole from left in sink. Loosely install the anchor bar (KN-23), spacer (KN-26) and nut (L-36) on the mounting bolts and place gasket on base of faucet. From above sink attach hose securely to nipple on base of faucet.

Step 2 Align faucet to sink by matching underside arrow and word "FRONT" on base plate (KN-33) with front of sink. Without straightening copper supplies insert through center hole of sink and anchor bar/spacer/nut assemblies through holes in sink. Secure faucet to sink by tightening nuts from underside. (If sink surface is uneven use putty or sealant to make proper seal under base.)

Step 3 Carefully straighten copper supplies to avoid kinking tubing. Connect hot supply to left tube and cold supply to right tube using appropriate connectors.

Step 4 It is very important to thoroughly flush the supply lines to prevent foreign matter, i.e. copper chips, sand, stones, etc. from damaging the sealing surfaces of cartridge. Remove aerator and turn valve handle on to full cold position, open cold supply. Without closing, turn handle to full hot and open hot supply. Let water run in hot only and cold only positions long enough to flush supply lines thoroughly. If equipped with a hose and spray, direct spray head into sink and activate spray. Shut off faucet and replace aerator. Check for leaks.

Step 5 The handle limit stop can be set to limit handle turn to the hot position. The limit mechanism is factory set to allow full handle travel. To adjust the limit stop, turn handle to the full hot position and lift handle to open faucet approximately half way to obtain a smooth flow for correct initial temperature measurement.

Step 6 If when faucet is on and in full hot position and water is too hot, remove plug button (KN-157), loosen set screw (L-22) and remove handle (KN-3RB or KN-3BRB), lift limit stop ring (KN-4L) using a small flat head screw driver and rotate counter clockwise to lower temperature. If water is not hot enough, rotate clockwise (See Figure 1 on reverse side). After correct temperature is achieved, reattach handle, reversing procedure above.

Cartridge Replacement (KN-4)

Step 1 Remove plug button (KN-157), loosen set screw (L-22) and remove handle (KN-3RB or KN-3BRB).

Step 2 Engage tabs in cartridge wrench (LN-34) with slots in compression ring (KN-2) and use screwdriver in wrench holes or pliers on wrench and turn counter clockwise until compression ring engages with cap (KN-1). Continue turning counter clockwise so that cap/ring assembly is removed from the body (KN-11).

Step 3 Remove cartridge and three ring seal (KN-4).

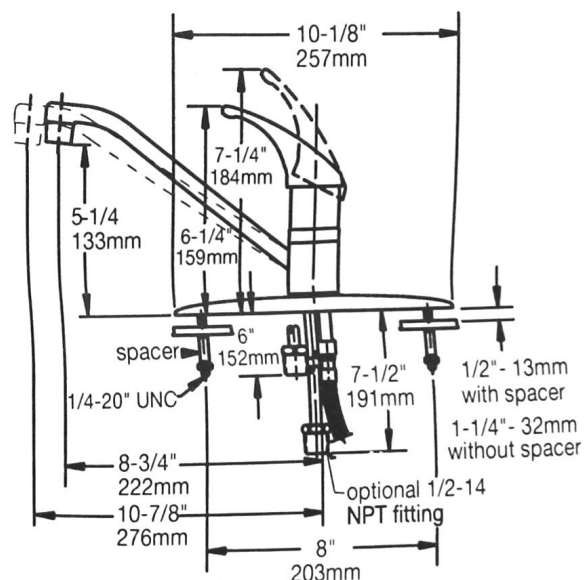
Step 4 Install new cartridge while taking care to maintain position of the three ring seal at the base of the cartridge. Match posts in base of cartridge with alignment holes in adapter plate during assembly.

Step 5 Reassemble faucet in reverse fashion. Thread cap onto body firmly by hand. Do not use a wrench which may damage the finish. Tighten compression ring (KN-2) finger tight using the wrench (LN-34) then 1/4 to 1/2 turn further. Set hot water limit stop in accordance with installation step 6 above.

Diverter replacement (KN-169)

1. Follow cartridge replacement steps 1 through 5 above.
2. Remove retaining ring (K-44) with 3/8" hex key wrench.
3. Remove diverter (K-43) and o-ring (K-46).
4. Grease diverter o-ring and install into body.
5. Press diverter into o-ring and body.
6. Replace retaining ring.

Dimensions Symmetrix Kitchen Faucet, S-23

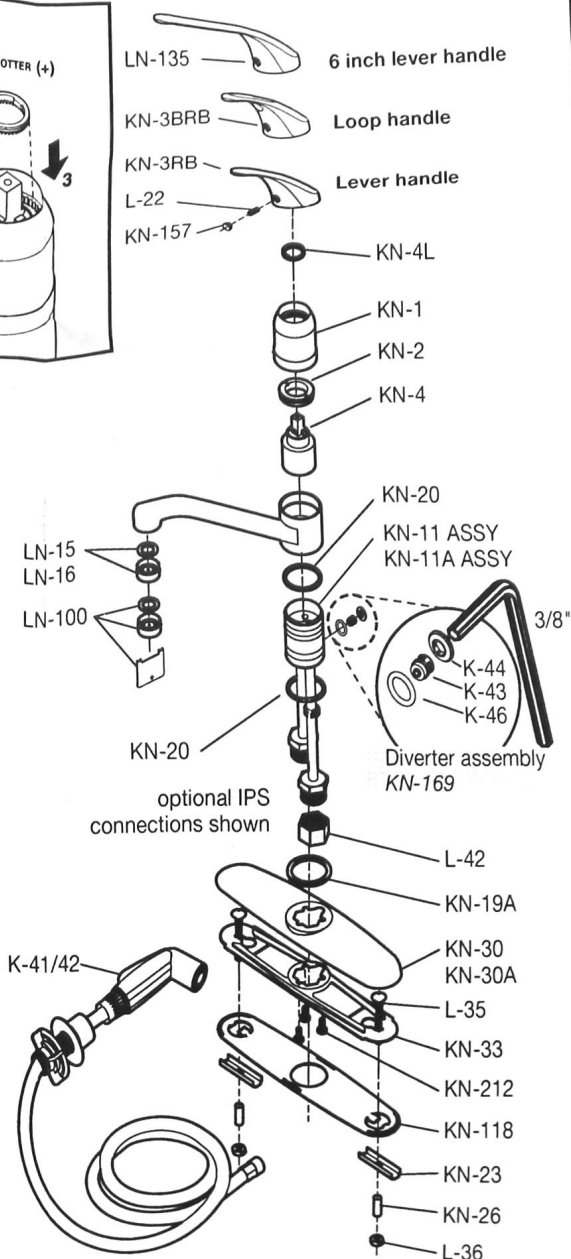
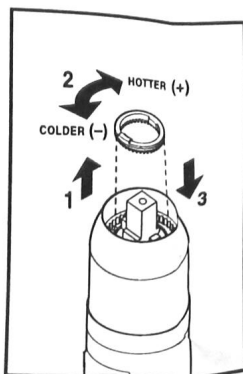


Note: Dimensions subject to change without notice.

Parts Assembly *Symmetrix Kitchen Faucet, S-23 Series*

K-41/42*	Hand spray and holder
K-43	Diverter valve
K-44	Retainer ring
K-46	O-ring
KN-1*	Valve cap
KN-2	Compression ring
KN-3RB*	Solid Handle
KN-3BRB*	Loop Handle
KN-4	Cartridge
KN-4L	Limit stop ring
KN-11 ASSY	Supply body assembly with diverter
KN-11A ASSY	Supply body assembly without diverter
KN-19A	Spacer
KN-20	O-ring (2)
KN-23	Anchor bar (2)
KN-26	Mounting spacer (2)
KN-30*	Escutcheon
KN-30A*	Escutcheon with hand spray hole
KN-33	Base plate
KN-118	Gasket
KN-157	Plug button
KN-169	Diverter assembly
KN-212	Screw (3)
L-22	Set screw
L-35	Carriage bolt (2)
L-36	Mounting nut (2)
L-42	Nut (2)
LN-15*	Aerator (Faucet with hand spray)
LN-16*	Aerator (Faucet without hand spray)
LN-34	Cartridge wrench (not shown)
LN-100	Aerator (vandal resistant)
LN-135	6" lever handle with red/blue indicators

* Note: When ordering parts for products with an optional decorative finish, append appropriate three letter finish suffix code to part numbers marked with an asterisk (*).



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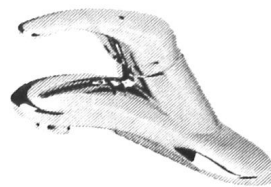
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Lavatory Faucet S-20 Series

Installation and Service Instructions



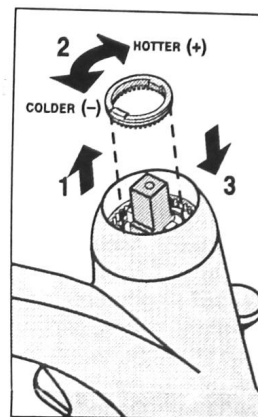
Installation

Caution: Be sure to turn off hot and cold water supplies before installing or servicing faucet.

1. Loosely install the anchor bar (KN-23), spacer (KN-26) and nut (L-36) on the mounting bolts and place gasket on base of faucet. Push faucet supplies and anchor bolt/spacer/nut assemblies with gasket through holes in sink. Secure faucet to sink by tightening nuts from underside. (If sink or counter surface is uneven, use putty or sealant to make proper seal under base.)
2. Connect hot supply to left tube and cold supply to right tube using appropriate connectors.
3. Pop-up drain installation:
 - a) Remove pop-up plug, tail piece and flange from the drain body. Make sure that locknut is threaded all the way down onto the body with flat friction washer in middle and beveled washer on top.
 - b) Apply plumbers putty or sealant to bottom of flange.
 - c) Install drain body through drain opening in lavatory and screw flange onto the drain body making sure that the threads are completely engaged for proper sealing and strength of the connection. Apply joint compound to all threaded parts to insure proper seal. Apply putty or teflon tape to tail piece before attaching to drain body.
 - d) Tighten locknut to compress the beveled flange evenly across the bottom of the drain opening taking care not to over tighten the locknut, causing damage to the lavatory.
 - e) Remove one of two ball washers from inside the threaded cavity. Insert pop-up plug and pivot rod into body. Add one ball washer (the second ball washer should remain inside the body) to the outside of the ball. Tighten the retaining nut until the ball is seated on the internal and external ball washers.
Note: The pop-up plug can be installed either in the removable or non-removable position, depending on the location of the hole located in the guide at the bottom of the plug.
 - f) Slide the pivot rod through one side of the spring clip, then the appropriate adjustment hole and then other side of the spring clip.
 - g) Insert lift rod through faucet housing and the top of the lift strap and secure it in place by tightening the screw.
Note: To ensure proper operation of lift rod and pop-up, some adjustment of the linkage may be required. There are two possible adjustment points: 1) lift strap to lift rod and 2) lift strap to pivot rod.
4. It is very important to thoroughly flush the supply lines to prevent foreign matter, i.e. copper chips, sand, stones, etc. from damaging the sealing surfaces of cartridge.

Remove aerator and turn valve handle on to full cold position, open cold supply. Without closing, turn handle to full hot and open hot supply. Let water run in hot only and cold only positions long enough to flush supply lines thoroughly. Shut off faucet and replace aerator. Check for leaks.

5. The handle limit stop can be set to limit handle turn to the hot position. The limit mechanism is factory set to allow full handle travel. To adjust the limit stop, turn handle to the full hot position and lift handle to open faucet approximately half way to obtain a smooth flow for correct initial temperature measurement.



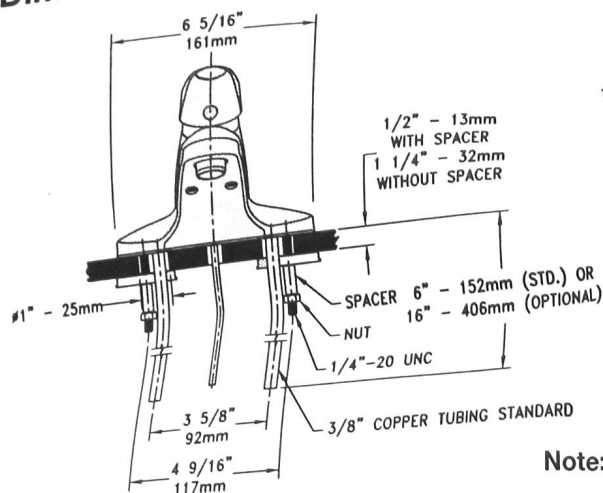
Stop limit adjust

6. If when faucet is on and in full hot position and water is too hot, remove plug button (KN-157), loosen set screw (L-22) and remove handle (KN-3RB, KN-3BRB or LN-135). Lift limit stop ring using a small flat head screw driver and rotate counter clockwise to lower temperature. If water is not hot enough, rotate clockwise (See Figure 1 on reverse side). After correct temperature is achieved, reattach handle, reversing procedure above.

Replacing cartridge (KN-4)

1. Remove plug button (KN-157), loosen set screw (L-22) and remove handle (KN-3RB, KN-3BRB or LN-135).
2. Engage tabs in cartridge wrench (LN-34) with slots in compression ring (KN-2) and use screwdriver in wrench holes or pliers on wrench and turn counter clockwise until compression ring engages with cap (LN-8). Continue turning counter clockwise so that cap/ring assembly is removed from the body (LN-371). Remove cartridge and three ring seal (KN-4).
3. Install new cartridge while taking care to maintain position of the three ring seal at the base of the cartridge. Match posts in base of cartridge with alignment holes in valve body during assembly.
4. Reassemble faucet in reverse fashion. Thread cap onto body firmly by hand. Do not use a wrench which may damage the finish. Tighten compression ring (KN-2) finger tight using the wrench (LN-34) then 1/4 to 1/2 turn further.
5. Set hot water limit stop in accordance with installation step 5 above.

Dimensions Symmetrix Lavatory Faucet, S-20-2



Note: Dimensions subject to change without notice.

Parts Assembly Symmetrix Lavatory Faucet, S-20 Series

- KN-2 Compression ring
- KN-3RB* Solid handle
- KN-3BRB* Loop handle
- KN-4 Cartridge
- KN-23 Anchor bar (2)
- KN-26 Mounting spacer (2)
- KN-157 Plug button
- LN-8* Valve cap
- LN-11* Screw (2)
- LN-15* Aerator without removal key
- LN-34 Cartridge wrench (not shown)
- LN-135 6" lever handle with red/blue indicators
- LN-363* Undercover plate
- LN-370 Mounting gasket
- LN-371 Cartridge housing assembly
- L-22 Set screw
- L-36 Mounting nut (2)
- L-42 Nut (2)
- RL-154* Pop-up drain assembly (complete)
- P-26 Grid drain assembly (complete)

For Decorative Finish Faucets add suffix to parts marked with an asterisk as follows:

Suffix -STN Radiance® Satin finish

Aerator (flow regulator)	Part Number	
	Standard Aerator	Vandal Resistant with removal tool
2.2 gpm (8.3L/min)	LN-15*	LN-101*
1.5 gpm (5.7L/min)	FLR-110-1.5*	----
1.0 gpm (3.8L/min)	FLR-110-1.0*	----
.5 gpm (1.9L/min)	----	LN-100*
Removal tool part number, LL-60K		

Reference chart

