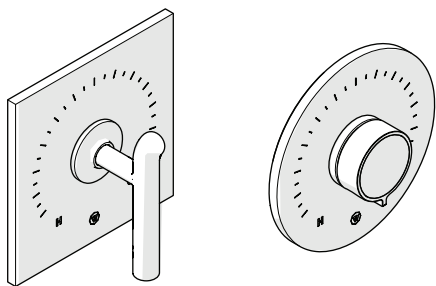


INSTALLATION GUIDELINES

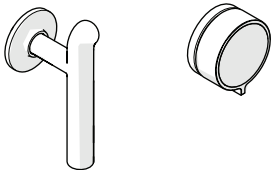
BOND THERMOSTATIC, VOLUME CONTROL, AND DIVERTER VALVE TRIM

BOND SQUARE OR ROUND THERMOSTATIC CONTROL VALVE TRIM WITH LEVER OR KNOB HANDLE



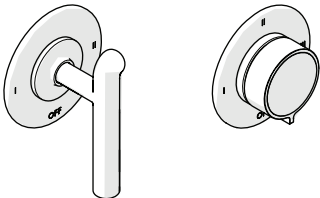
STYLES		
BTH110 [SHOWN]	BTH120	BTH12A
BTH12B	BTH12C	BTH12D
BTH12E	BTH12S	BTH130
BTH13S	BTH14A	BTH14B
BTH14D	BTH15C	
BTH210	BTH220	BTH22A
BTH22B	BTH22C	BTH22D
BTH22E	BTH22S	BTH230 [SHOWN]
BTH23S	BTH24A	BTH24B
BTH24D	BTH25C	

BOND VOLUME CONTROL WITH LEVER OR KNOB HANDLE



STYLES		
BVC110 [SHOWN]	BVC120	BVC12A
BVC12B	BVC12C	BVC12D
BVC12E	BVC12S	
BVC130 [SHOWN]	BVC13S	BVC14A
BVC14B	BVC14D	BVC15C

BOND TWO OR THREE WAY DIVERTER TRIM WITH LEVER OR KNOB HANDLE



STYLES		
B2T110 [SHOWN]	B2T120	B2T12A
B2T12B	B2T12C	B2T12D
B2T12E	B2T12S	
B2T130	B2T13S	B2T14A
B2T14B	B2T14D	B2T15C
B3T110	B3T120	B3T12A
B3T12B	B3T12C	B3T12D
B3T12E	B3T12S	
B3T130 [SHOWN]	B3T13S	B3T14A
B3T14B	B3T14D	B3T15C

INSTALLATION GUIDELINES

BOND THERMOSTATIC SHOWER SYSTEM

IMPORTANT:

- **ALL VALVES AND TRIMS SOLD SEPARATELY.**
- To ensure these product are installed properly, you must read and follow these guidelines.
- The owner/user of these products must keep this information for future reference.
- These products must be installed by a professional licensed contractor and must be on-site prior to rough-in. This allows the installer to visualize the installation.
- Refer to the Installation Guidelines provided with each VALVE for complete rough-in installation details and related information.
- Be sure your installation conforms to all federal, state, and local codes. In the State of Massachusetts, all installations must comply with the rules and regulations set forth within 248 CMR.
- **WARNING:** The **THERMOSTATIC VALVES** (GUTH60/GUTH38) features anti-scald protection. The risk of scalding exists until the installer has properly calibrated/adjusted the temperature setting during final TRIM installation.
- These products are sold partially assembled but shown fully disassembled for illustrative and service purposes only. Inspect these products to ensure you have all the parts required for proper installation.
- Use only a strap wrench or protected/smooth-jaw wrench on any finished surface.
- The use of certain plumber's putty may stain stone or tile surfaces.
- If further assistance is required, please contact Product Support at 1-800-927-2120 Monday through Friday, 8am - 6pm EST.
- Refer to the separate Service Parts Documents for available replacement parts.

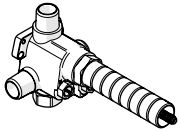
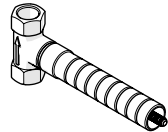
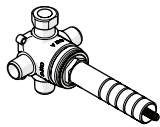
VALVE FUNCTION:

- **THERMOSTATIC VALVES** only mix hot and cold water and do not have volume or shut-off capabilities.
- **VOLUME CONTROL VALVES** controls on/off/volume and must be installed for each fitting that will have water flowing to it or a **DIVERTER VALVE** for multiple fittings.

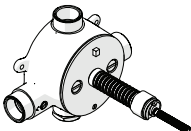
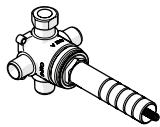
REQUIRED PLUMBING DETAILS:

- Depending on the number of end fittings in the shower system and how many are able to operate **SIMULTANEOUSLY**, the system will require either:

A. **GUTH60** system for a **MAXIMUM** of 2 fittings flowing simultaneously or,

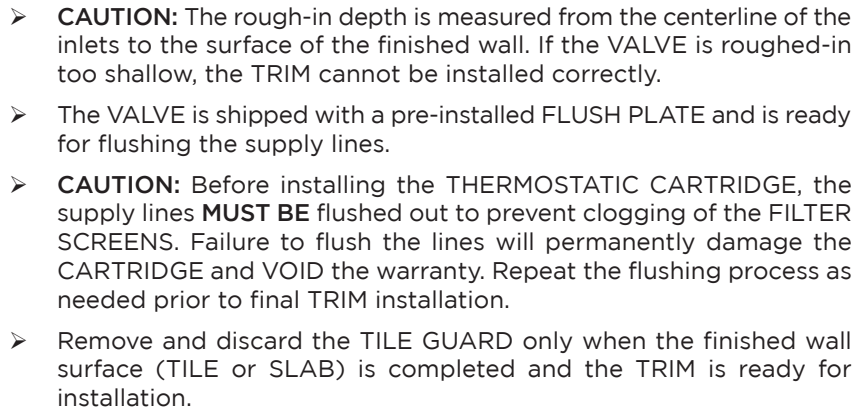
		STYLE	NUMBER OF OUTLETS	INLET/OUTLET CONNECTIONS
THERMOSTATIC VALVE		GUTH60	2	1/2" FEMALE NPT
VOLUME CONTROL VALVE		GUV C18 GUV C19	1	1/2" FEMALE NPT
DIVERTER VALVE		GUDV2T [SHOWN] GUDV3T	2 3	1/2" MALE NPT

B. **GUTH38** system for 3+ fittings flowing simultaneously.

		STYLE	NUMBER OF OUTLETS	INLET/OUTLET CONNECTIONS
THERMOSTATIC VALVE		GUTH38	2	3/4" FEMALE NPT
VOLUME CONTROL VALVE		GUV C16 GUV C17	1	3/4" FEMALE NPT
DIVERTER VALVE		GUDV2T [SHOWN] GUDV3T	2 3	1/2" MALE NPT

BOND THERMOSTATIC SHOWER SYSTEM WITH GUTH60

ROUGH-IN AND VALVE PREPARATION:



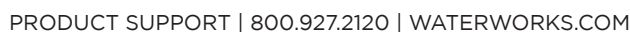
A	4-1/2" [114mm] MAX 3-5/8" [92mm] MIN
B	Ø2-1/2" [64mm]

Diagram illustrating the installation of the water stop assembly into a finished wall.

Labels and Dimensions:

- A:** 4-1/2" [114mm] MAX, 3-5/8" [92mm] MIN
- B:** Ø2-1/2" [64mm]
- Labels:** NUT [DO NOT REMOVE], WATERWORK, [CLOSE], [OPEN], SERVICE STOP SCREW (x2), FINISHED WALL, TILE GUARD, FLUSH PLATE [PRE-INSTALLED], "B" FITTINGS HOLE, "A" ROUGH-IN DEPTH, CENTERLINE OF INLET.

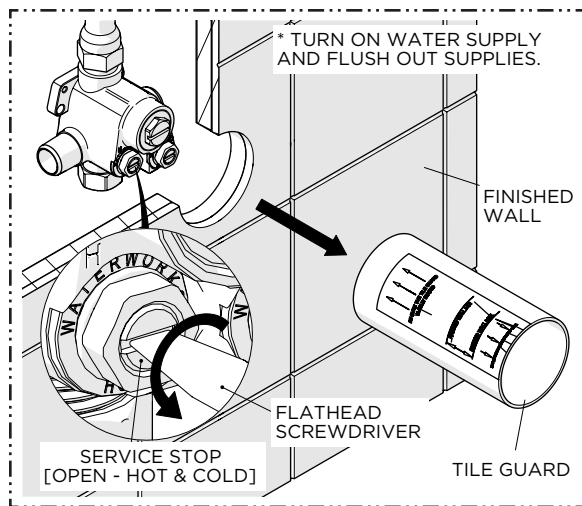
The diagram shows the assembly being installed into a finished wall. The tile guard is positioned against the wall, and the service stop screw is inserted through the tile guard into the flush plate. The nut is then tightened against the back of the flush plate. The diagram also shows the "open" and "close" positions of the stop screw.



INSTALLATION GUIDELINES

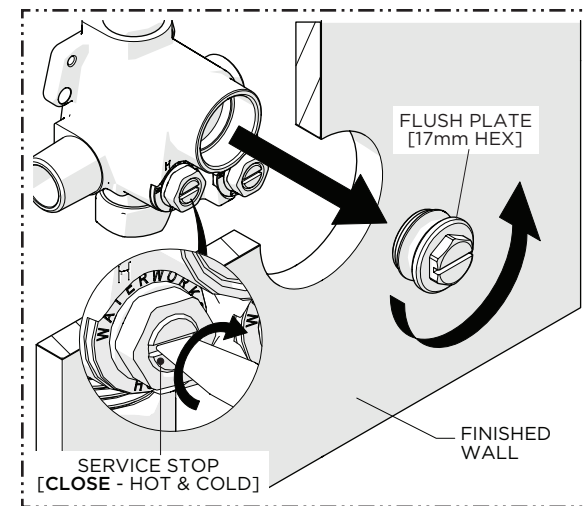
BOND THERMOSTATIC SHOWER TRIM WITH - GUTH60

WATERWORKS



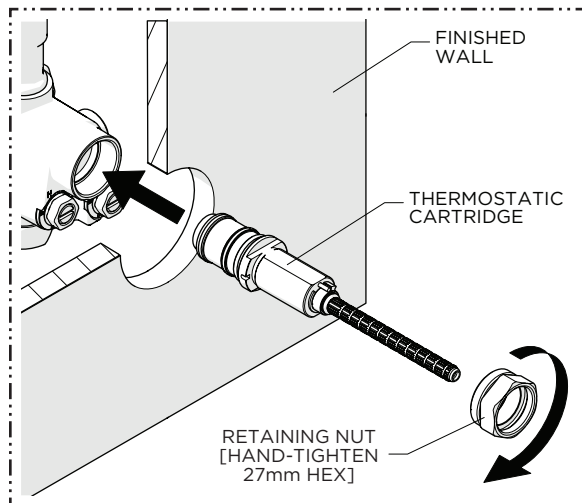
1. Turn on the water supplies then remove the TILE GUARD from the VALVE and **OPEN** the SERVICE STOPS (hot & cold) to flush out the lines.

CAUTION: FAILURE TO FLUSH THE SUPPLY LINES WILL PERMANENTLY DAMAGE THE CARTRIDGE AND VOID THE WARRANTY! REPEAT THE FLUSHING PROCESS AS NEEDED BEFORE FINAL TRIM INSTALLATION.

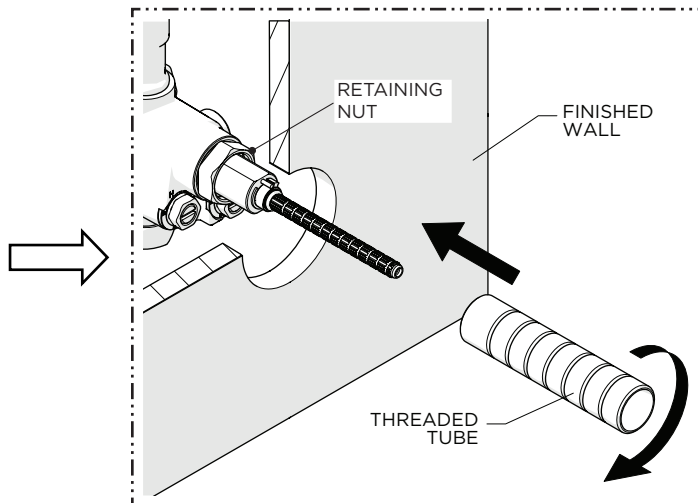


2. After the lines have been fully flushed, **CLOSE** the SERVICE STOPS (hot & cold) then unthread and remove the FLUSH PLATE.

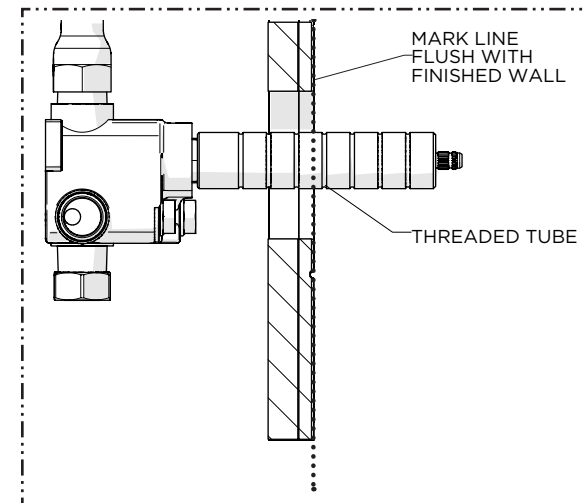
NOTE: DO **NOT** discard the FLUSH PLATE.



3. Insert the THERMOSTATIC CARTRIDGE into the VALVE BODY then thread and **hand-tighten** the RETAINING NUT into the VALVE BODY.



4. Thread the THREADED TUBE into the RETAINING NUT until snug.



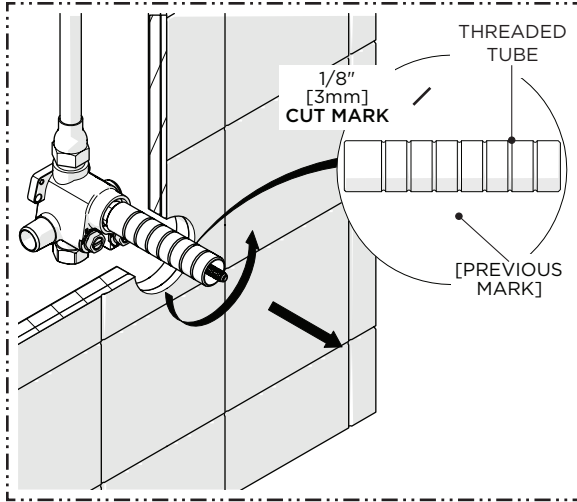
5. Mark the THREADED TUBE where it protrudes past the finished wall.

NOTE: A straight edge (not supplied) can be used to mark the TUBE.

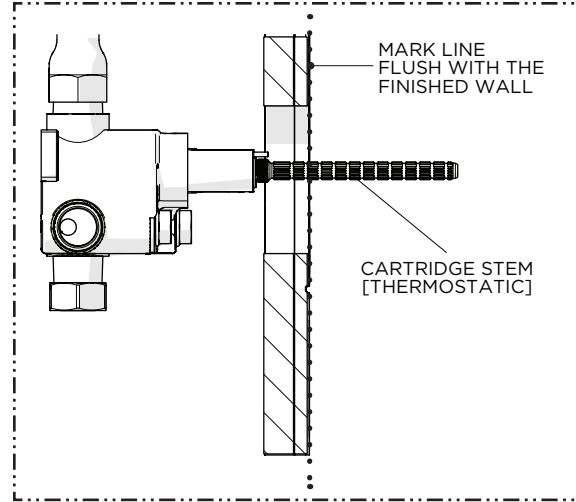
INSTALLATION GUIDELINES

BOND THERMOSTATIC SHOWER TRIM WITH - GUTH60

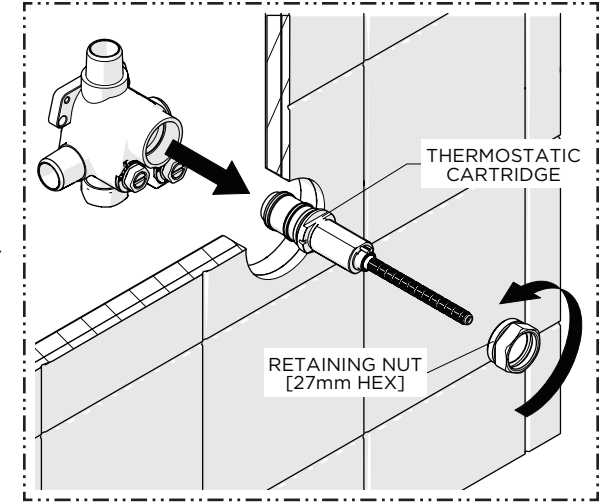
WATERWORKS



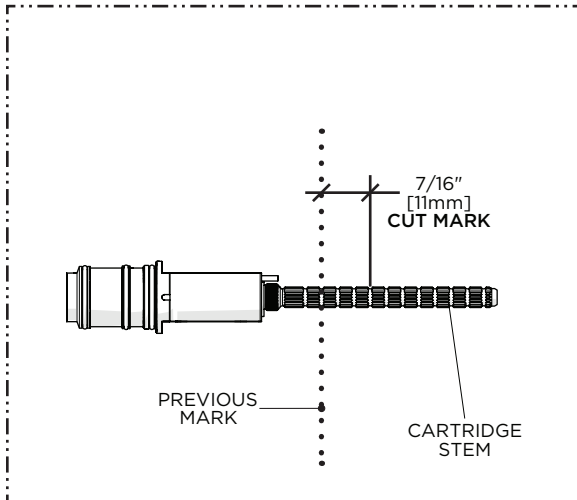
6. Remove the **THREADED TUBE** and cut it 1/8" [3mm] **behind** the previous mark so the TUBE will be 1/8" [3mm] below or recessed into the finished wall surface.



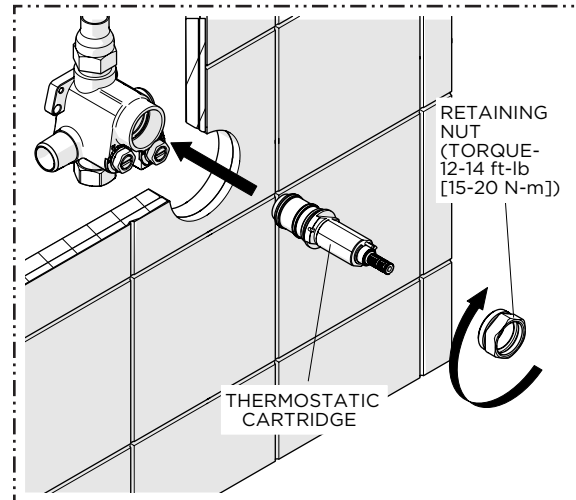
7. Mark the **CARTRIDGE STEM** where it protrudes past the finished wall.



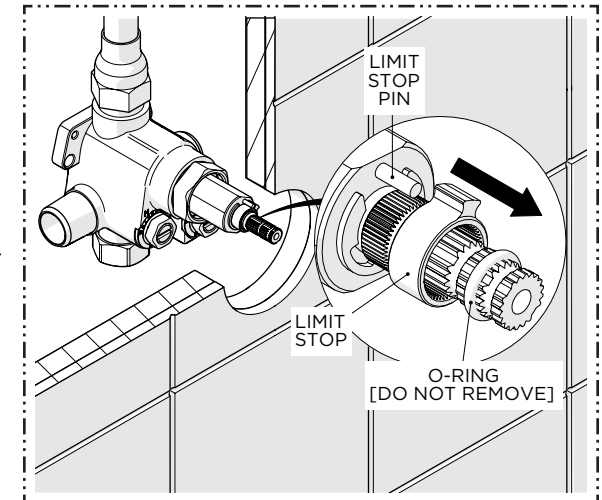
8. Unthread the **RETAINING NUT** and remove **CARTRIDGE**.



9. Carefully cut the **CARTRIDGE STEM** 7/16" [11mm] **in front** of the previous mark so the STEM will protrude 7/16" [11mm] from the finished wall surface.



10. Insert the **CARTRIDGE** back into the **VALVE BODY** then thread and securely tighten the **RETAINING NUT** to the specified torque settings shown.



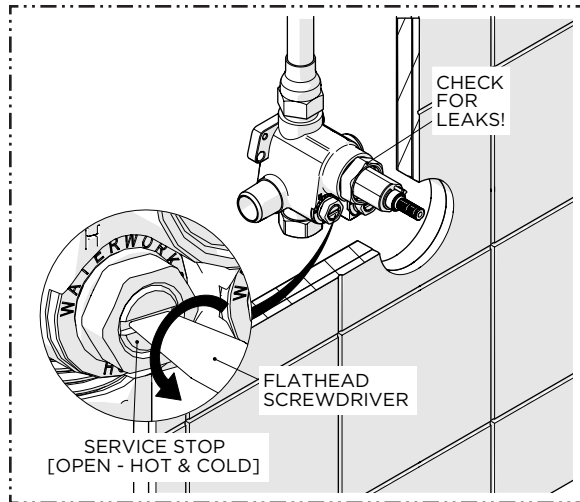
11. Slide the **O-RING** and **LIMIT STOP** on the **THERMOSTATIC CARTRIDGE** up the STEM.

NOTE: Do **NOT** remove or damage the O-RING.

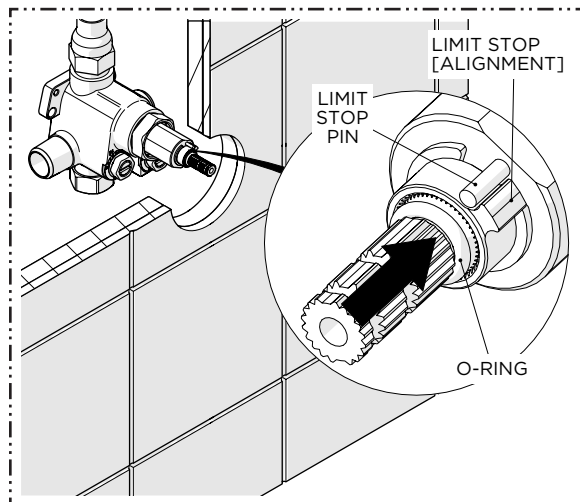
INSTALLATION GUIDELINES

BOND THERMOSTATIC SHOWER TRIM WITH - GUTH60

WATERWORKS

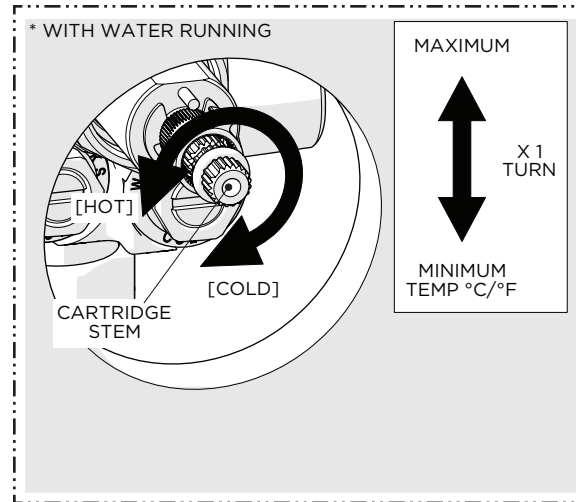


12. Open the SERVICE STOPS (hot & cold) and check for leaks.



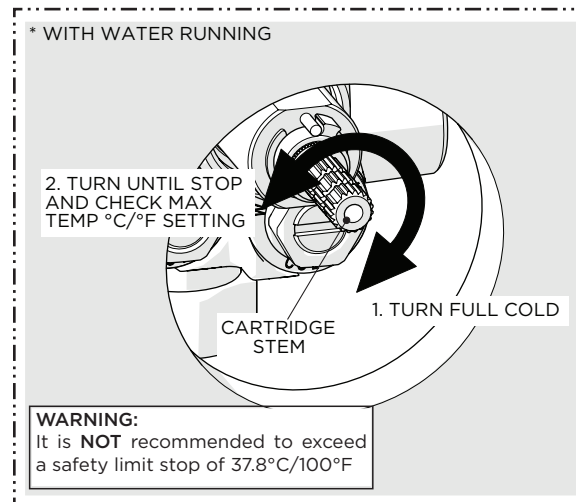
15. Slide the LIMIT STOP and O-RING back down the STEM making sure to properly align the LIMIT STOP with the LIMIT STOP PIN.

NOTE: The O-RING will prevent the LIMIT STOP from sliding off the STEM.



13. Open a **DIVERTER OR VOLUME CONTROL VALVE** then slowly rotate the CARTRIDGE STEM clockwise to attain full hot. Verify that a full range of temperatures exists.

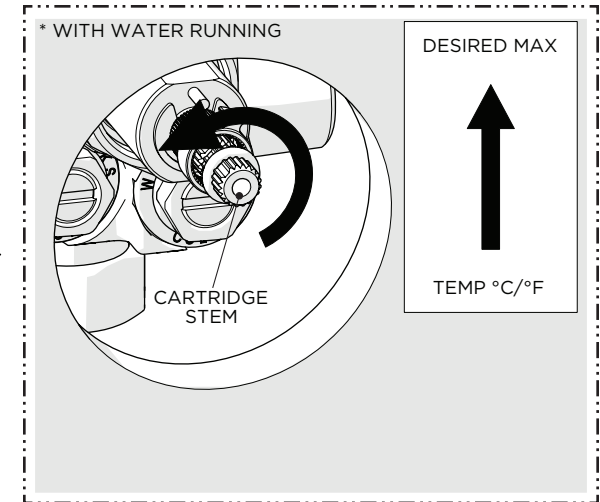
NOTE: It's approximately 1 complete rotation.



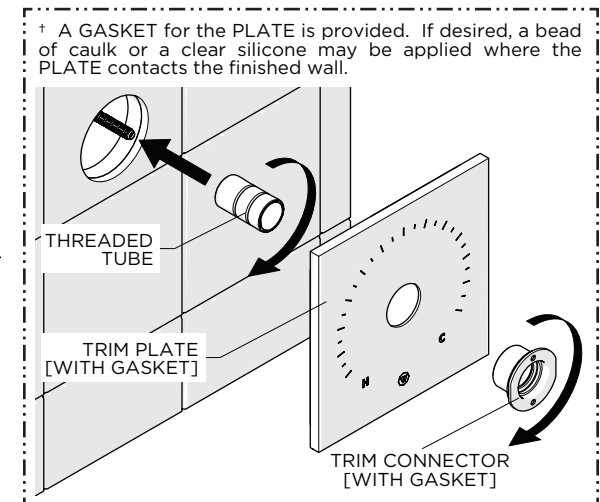
16. Turn the CARTRIDGE STEM clockwise to full cold then counter-clockwise until snug and verify the maximum desired bathing temperature set in the previous step.

WARNING: It is NOT recommended to exceed a safety limit stop to 37.8°C/100°F.

➤ **IF THE MAXIMUM BATHING TEMPERATURE IS NOT CORRECT, REPEAT THE CALIBRATION PROCEDURES.**



14. With water running rotate the CARTRIDGE STEM to adjust the temperature to the **maximum** desired bathing temperature, verified with a thermometer, then turn the water off and make sure **NOT** to change this setting.



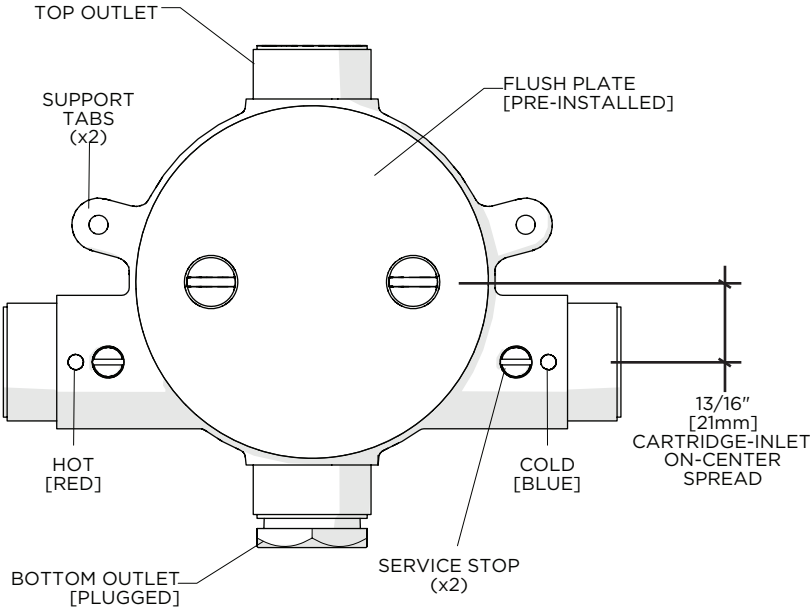
17. Thread the THREADED TUBE back into the RETAINING NUT until snug. Slide the TRIM PLATE over the TUBE and firmly hold it against the finished wall then thread and securely tighten the TRIM CONNECTOR onto the TUBE making sure to use the GASKET provided

PROCEED TO HANDLE INSTALLATION ON PAGE 15

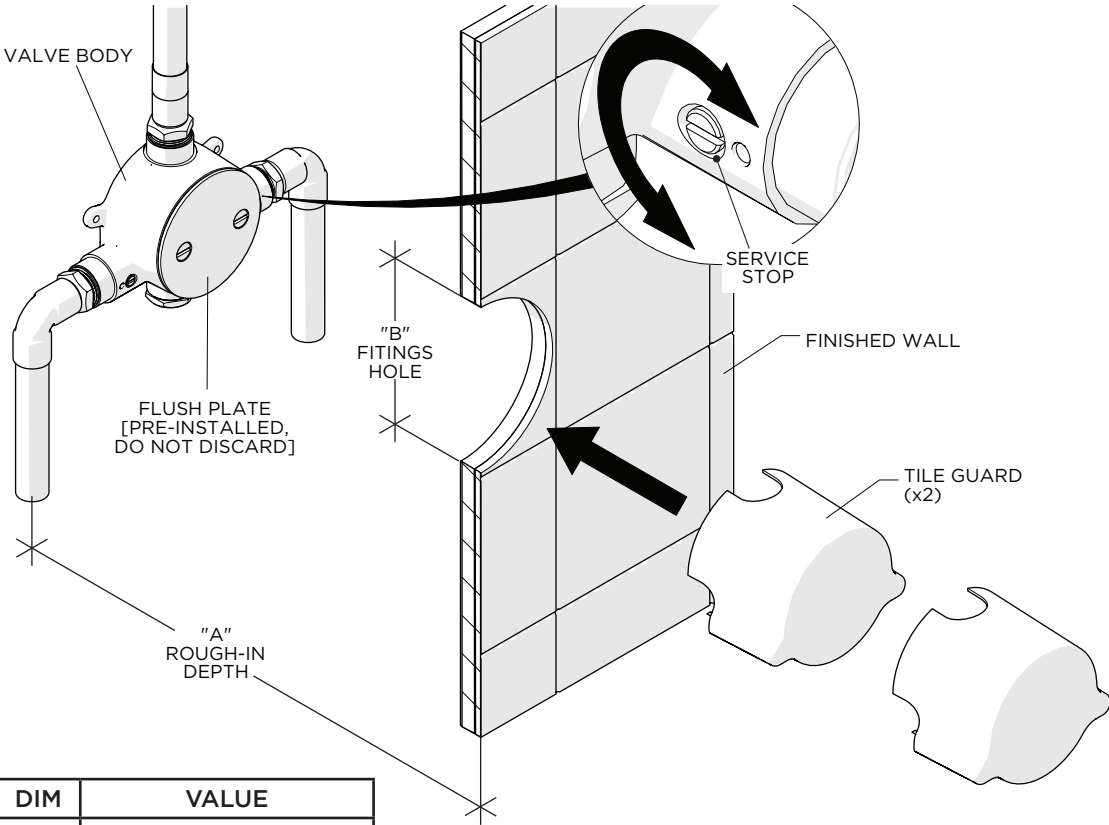
INSTALLATION GUIDELINES

BOND THERMOSTATIC SHOWER SYSTEM WITH GUTH38

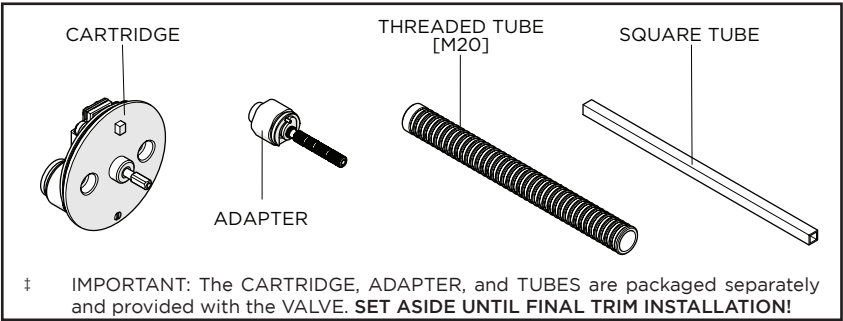
ROUGH-IN AND VALVE PREPARATION:



- **CAUTION:** The rough-in depth is measured from the centerline of the inlets to the surface of the finished wall. If the VALVE is roughed-in too shallow, the TRIM cannot be installed correctly.
- The VALVE is shipped with a pre-installed FLUSH PLATE and is ready for flushing the supply lines.
- **CAUTION:** Before installing the THERMOSTATIC CARTRIDGE, the supply lines MUST BE flushed out to prevent clogging of the FILTER SCREENS. Failure to flush the lines will permanently damage the CARTRIDGE and VOID the warranty. Repeat the flushing process as needed prior to final TRIM installation.
- Remove and discard the TILE GUARDS only when the finished wall surface (TILE or SLAB) is completed and the TRIM is ready for installation.



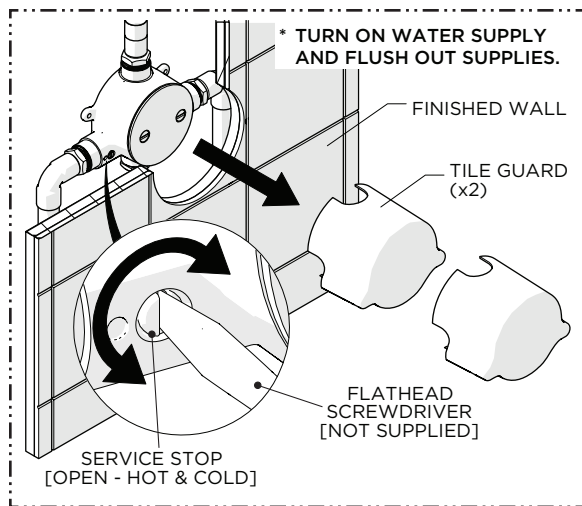
DIM	VALUE
A	10-3/8" [264mm] MAX 3-5/8" [92mm] MIN
B	Ø5-1/4" [133mm]



INSTALLATION GUIDELINES

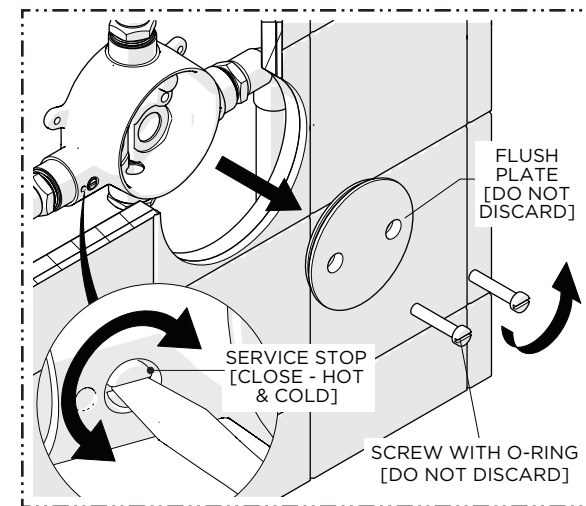
BOND THERMOSTATIC SHOWER TRIM WITH - GUTH38

WATERWORKS

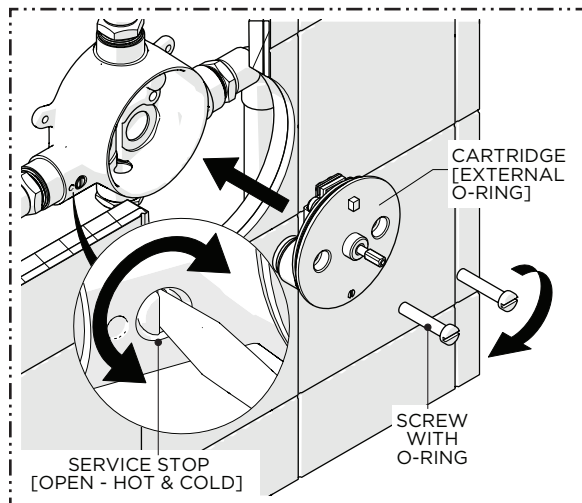


1. Turn on the water supplies then remove the TILE GUARDS from the VALVE and OPEN the SERVICE STOPS (hot & cold) to flush out the lines.

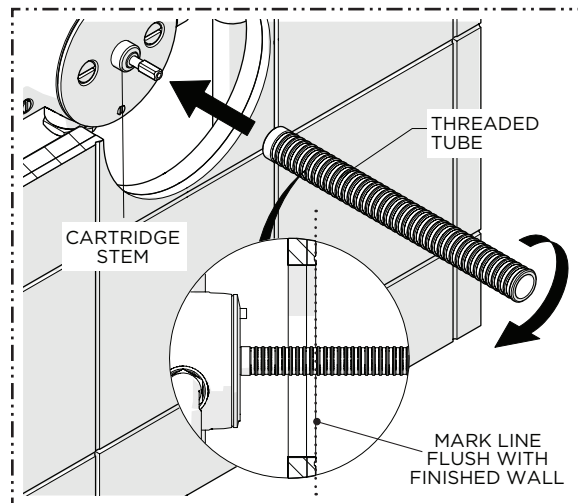
CAUTION: FAILURE TO FLUSH THE SUPPLY LINES WILL PERMANENTLY DAMAGE THE CARTRIDGE AND VOID THE WARRANTY! REPEAT THE FLUSHING PROCESS AS NEEDED BEFORE FINAL TRIM INSTALLATION.



2. After the lines have been fully flushed, **CLOSE** the hot and cold SERVICE STOPS then unthread the SCREWS and remove the FLUSH PLATE.

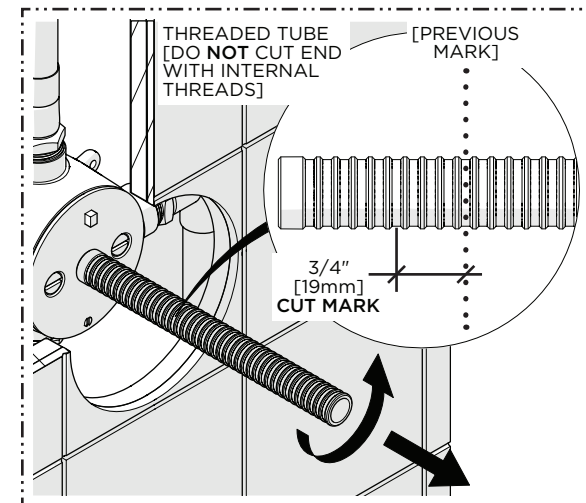


3. Insert the CARTRIDGE into the VALVE BODY then thread and securely tighten the SCREWS, re-open the SERVICE STOPS, and check for leaks.



4. Fully thread the THREADED TUBE onto the CARTRIDGE STEM and mark the TUBE where it protrudes past the finished wall.

NOTE: A straight edge (not supplied) can be used to mark the TUBE.

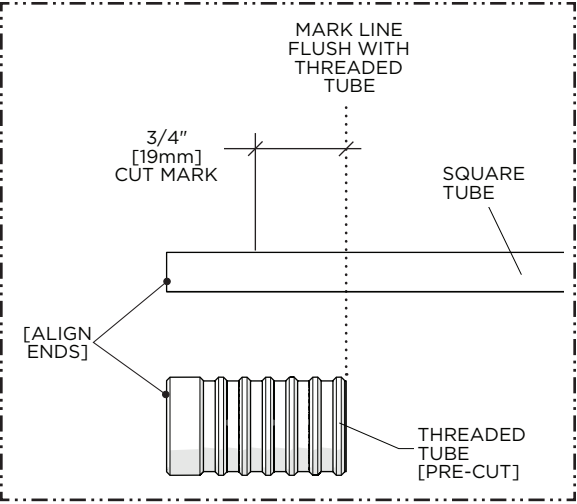


5. Remove the THREADED TUBE then cut it 3/4" [19mm] **behind** the previous mark.

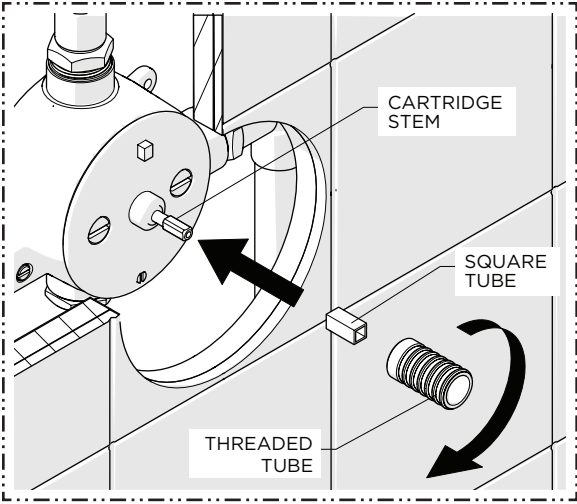
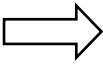
CAUTION: Do **NOT** cut the end with the internal threads.

INSTALLATION GUIDELINES

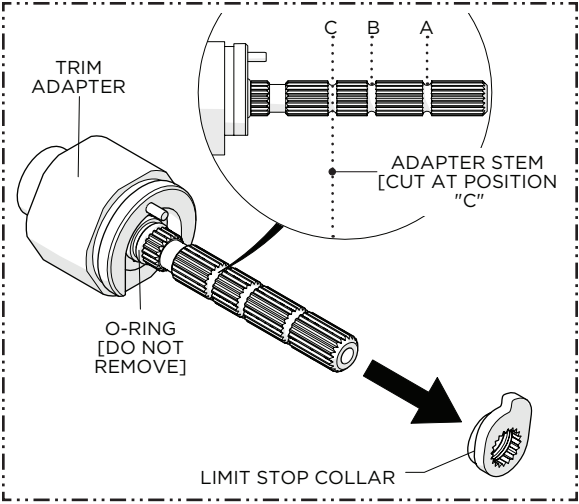
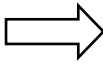
BOND THERMOSTATIC SHOWER TRIM WITH - GUTH38



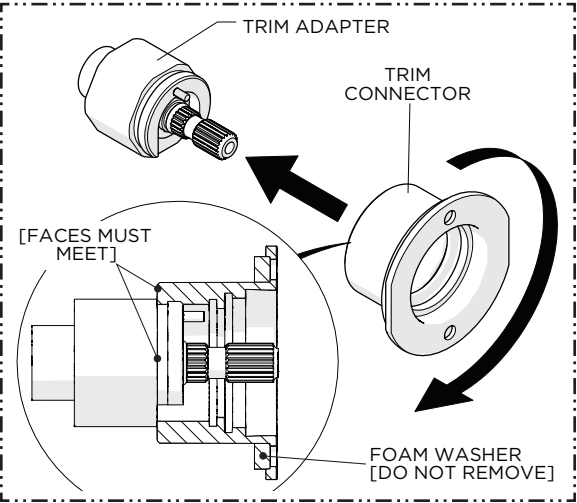
6. Align the pre-cut **THREADED TUBE** with the **SQUARE TUBE** then mark and cut the **SQUARE TUBE** 3/4" [19mm] **shorter** than the **THREADED TUBE**.



7. Slide the **SQUARE TUBE** onto the **CARTRIDGE STEM** then thread the **THREADED TUBE** onto the **STEM** until snug.

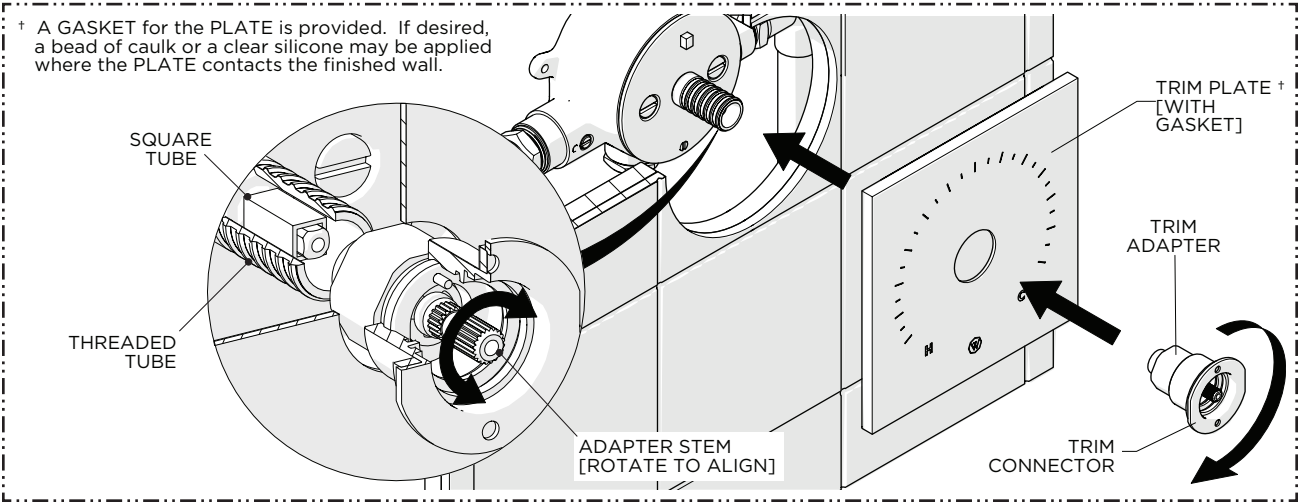
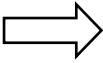


8. Remove the **LIMIT STOP COLLAR** from the **TRIM ADAPTER** then cut the **ADAPTER STEM** at position "C" as shown.



9. Thread the **TRIM CONNECTOR** onto the **TRIM ADAPTER** until the bottom face of the **CONNECTOR** touches the **ADAPTER**.

NOTE: Do **NOT** remove the **FOAM WASHER** from the **TRIM CONNECTOR**.

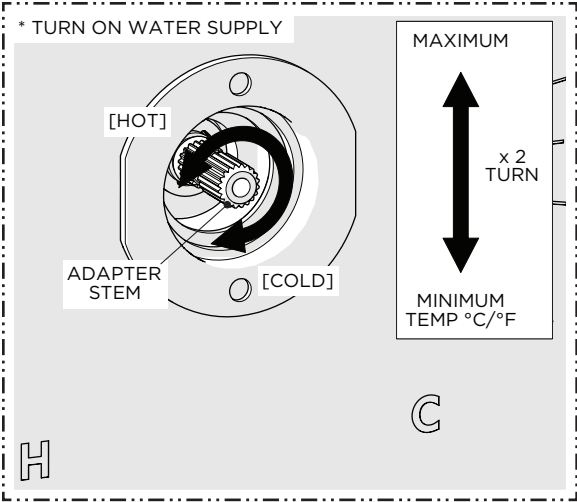


10. Firmly holding the **TRIM PLATE** against the finished wall, thread and securely tighten the **TRIM ADAPTER & CONNECTOR ASSEMBLY** onto the **THREADED TUBE**.

NOTE: **ROTATING THE ADAPTER STEM** WILL HELP PROPERLY ALIGN IT WITH THE **SQUARE TUBE**.

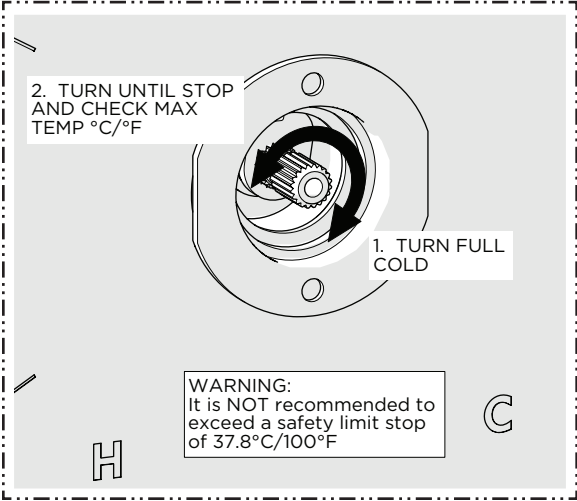
INSTALLATION GUIDELINES

BOND THERMOSTATIC SHOWER TRIM WITH - GUTH38



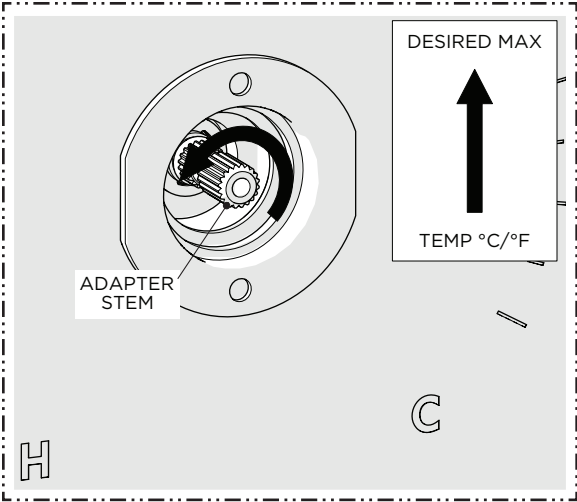
11. Open a DIVERTER or **VOLUME CONTROL VALVE** then slowly rotate the ADAPTER STEM clockwise to attain full cold then rotate it counter-clockwise to attain full hot. Verify that a full range of temperatures exists.

NOTE: It's approximately 2 complete rotations.

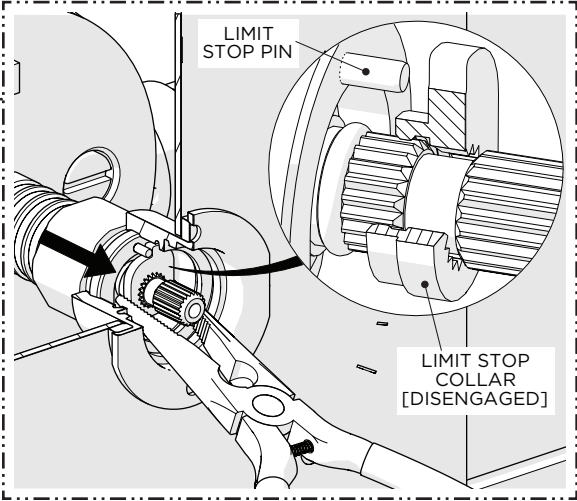


14. Turn the ADAPTER STEM clockwise to full cold then counterclockwise until snug and verify the **maximum** desired bathing temperature set in the previous step.

WARNING: It is NOT recommended to exceed a safety limit stop of 37.8°C/100°F.

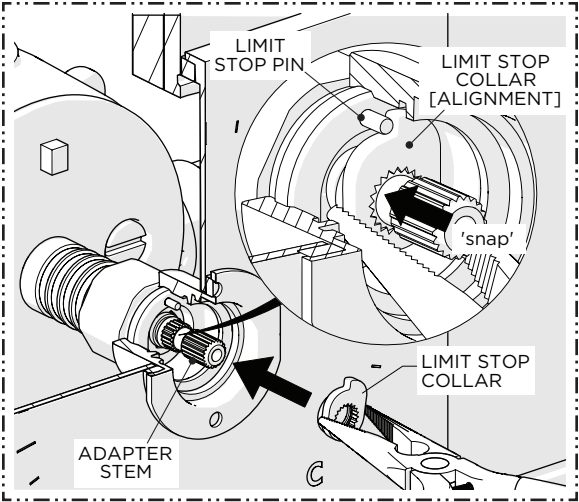


12. With water running, rotate the ADAPTER STEM to adjust the temperature to the **maximum** desired bathing temperature, verified with a thermometer, then turn the water off and make sure **NOT** to change this setting.



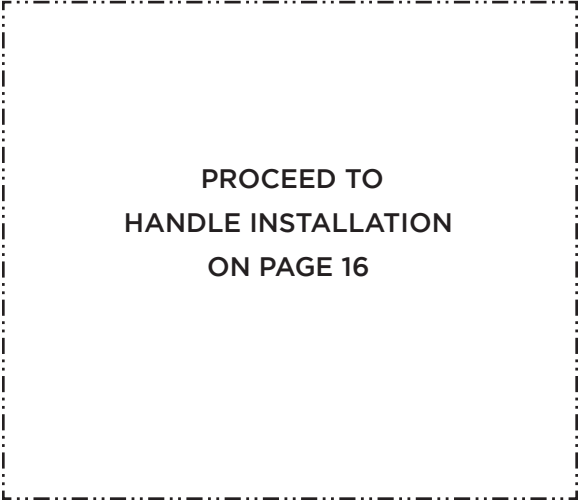
IF THE MAXIMUM BATHING TEMPERATURE IS NOT CORRECT OR NEEDS TO BE ADJUSTED.

15. Slightly pull the LIMIT STOP COLLAR forward so it does not hit the PIN and REPEAT steps 11 through 14 to re-calibrate the temperature setting.



13. Slide the LIMIT STOP COLLAR back down the ADAPTER STEM making sure to properly align it with the LIMIT STOP PIN and pressing down firmly.

NOTE: Pressing down firmly on the COLLAR will engage the O-RING is fully seated in its groove which will keep the collar securely in place.

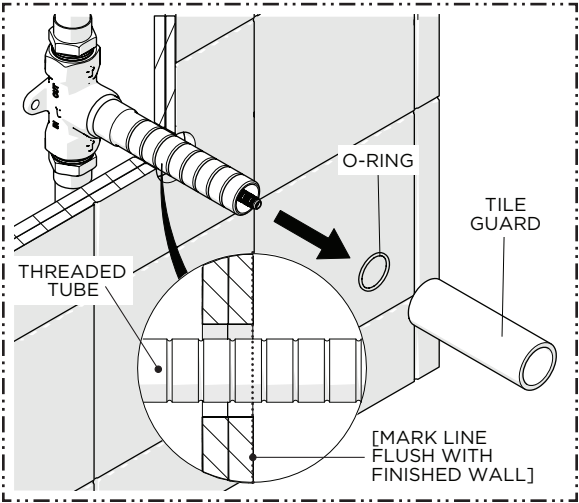
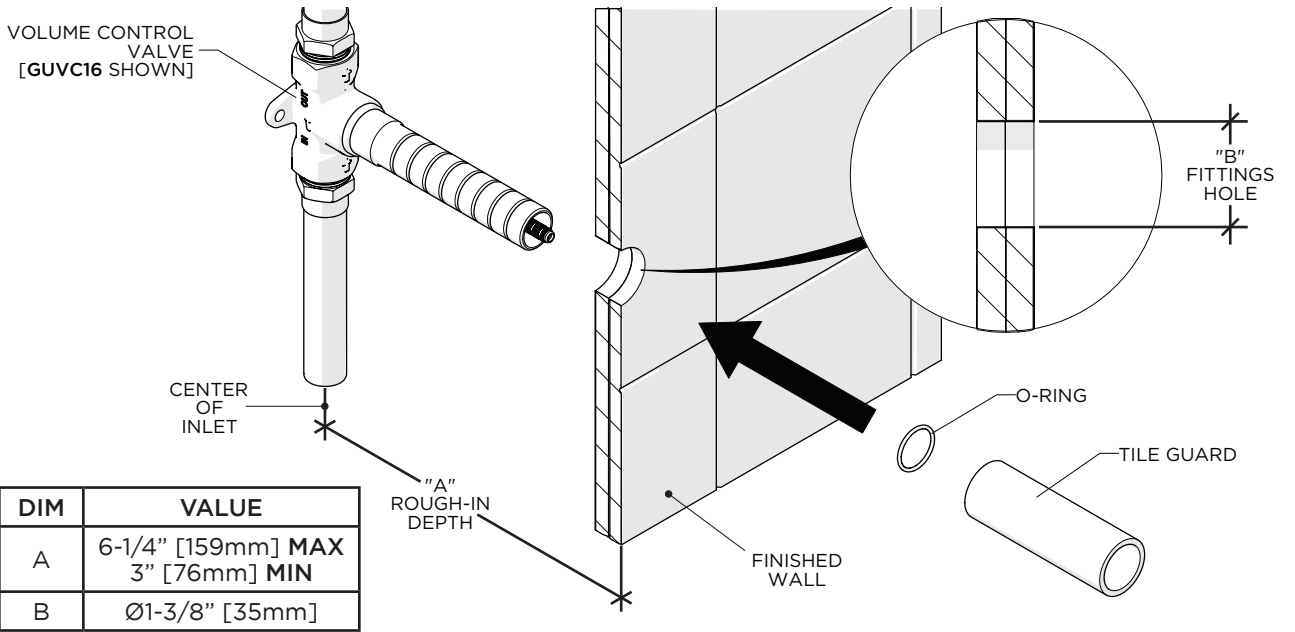


INSTALLATION GUIDELINES

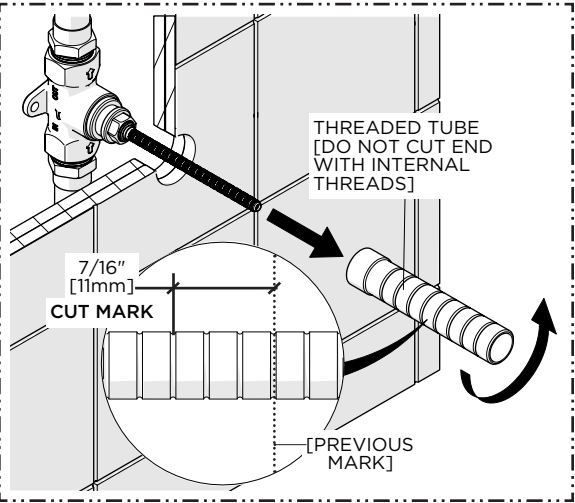
BOND VOLUME CONTROL TRIM WITH GUVVC16/17/18/19

WATERWORKS

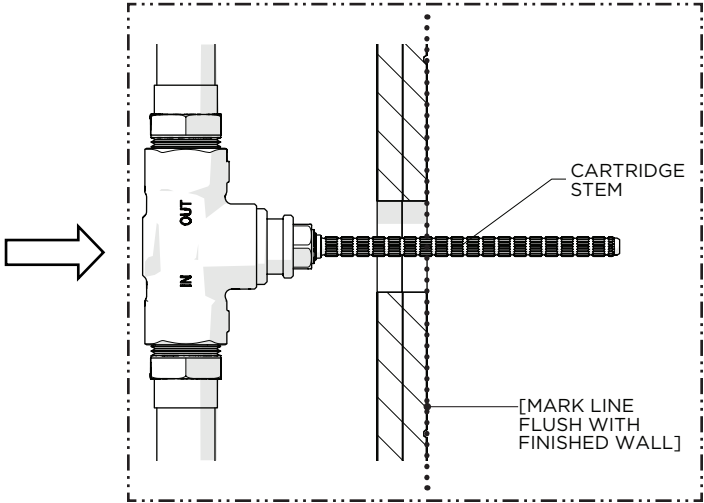
- **CAUTION:** The rough-in depth is measured from the centerline of the inlets to the surface of the finished wall. If the VALVE is roughed-in too shallow, the TRIM cannot be installed correctly.
- Remove and discard the TILE GUARD only when the finished wall surface (TILE or SLAB) is completed and the TRIM is ready for installation.



1. Remove the TILE GUARD when ready to install the TRIM then mark the THREADED TUBE where it protrudes past the finished wall.
NOTE: A straight edge (not supplied) can be used to mark the TUBE.



2. Remove the THREADED TUBE then cut it 7/16" [11mm] in front of the previous mark so the TUBE will be 7/16" [11mm] below or recessed into the finished wall surface.

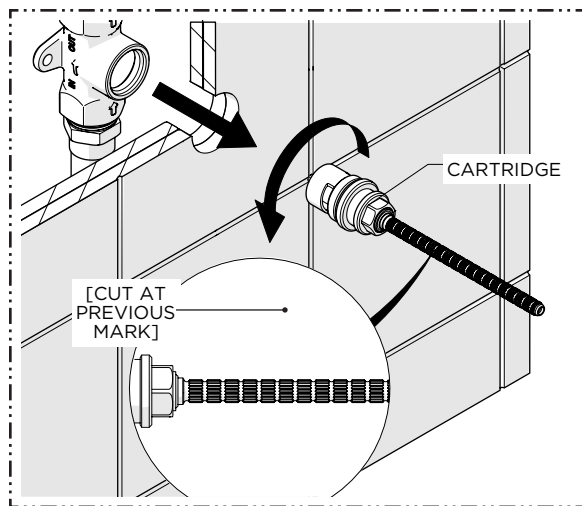


3. Mark the CARTRIDGE STEM where it protrudes past the finished wall.
NOTE: A straight edge (not supplied) can be used to mark the CARTRIDGE STEM.

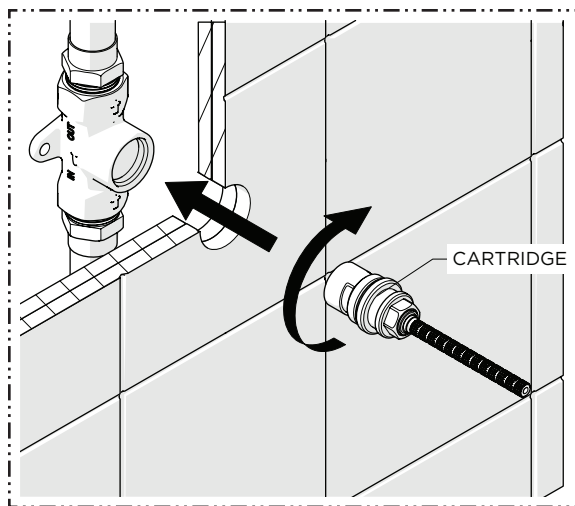
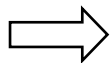
INSTALLATION GUIDELINES

BOND VOLUME CONTROL TRIM WITH GUV C16/17/18/19

WATERWORKS

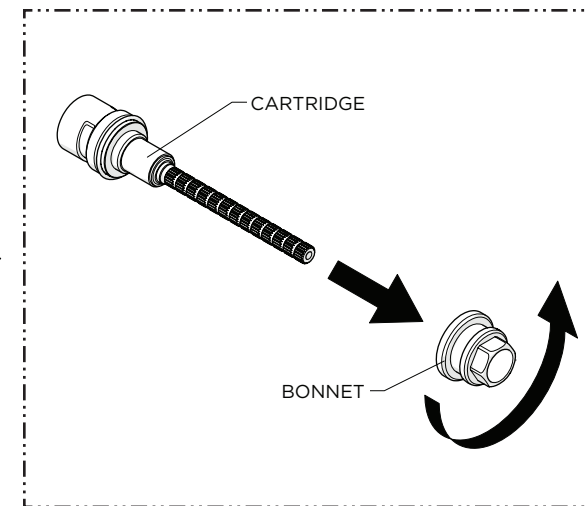
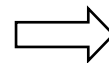


4. Remove the CARTRIDGE using a 21/32" [17mm] shower valve socket wrench (not supplied) then cut the CARTRIDGE STEM at the previous mark.



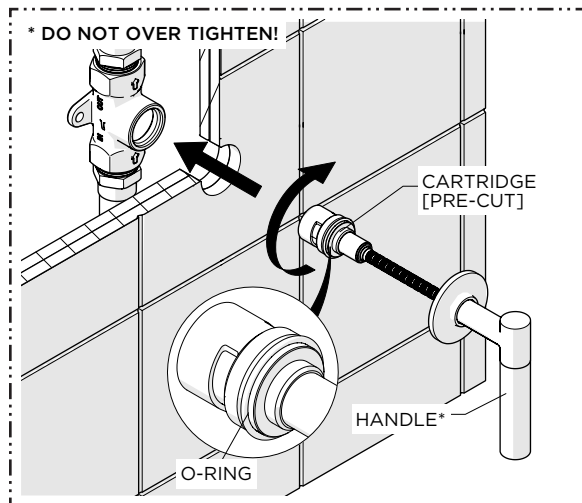
GUVC18 & GUVC19 ONLY:

5. Thread and securely tighten the CARTRIDGE back into the VALVE.



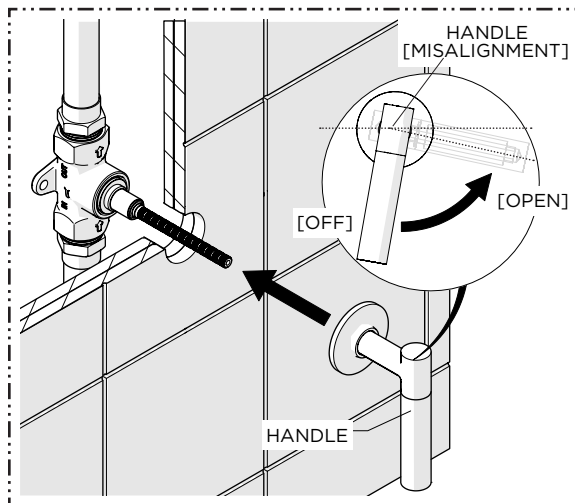
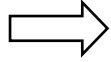
STEPS 6 - 10 GUVC16 & GUVC17 ONLY: HANDLE ALIGNMENT.

6. After cutting the CARTRIDGE STEM, unthread the BONNET from the CARTRIDGE if not already disassembled when removing from the VALVE..

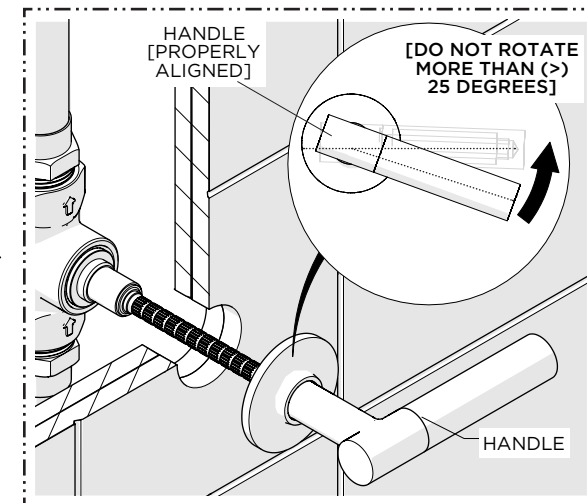
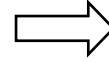


7. Using the HANDLE, thread the CARTRIDGE back into the VALVE until there is **NOTICEABLE** resistance.

NOTE: Ensure the O-RING on the CARTRIDGE has not been damaged and is properly seated.



8. Remove and replace the HANDLE to position it as close as possible to the "OFF" position then turn the HANDLE a 1/4 turn to the "OPEN" position making sure NOT to unthread the CARTRIDGE.



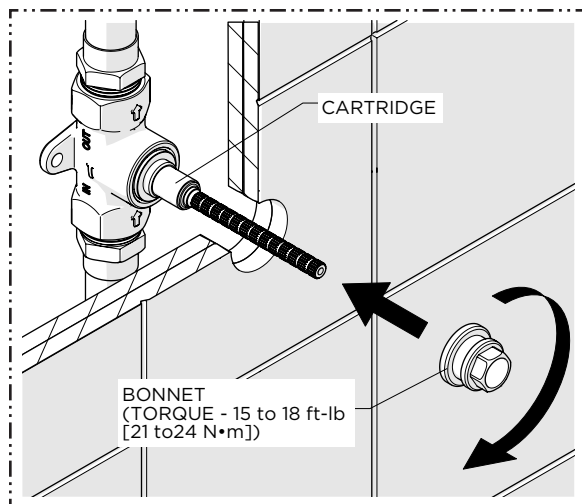
9. **If needed**, carefully continue to rotate the HANDLE counter-clockwise to obtain the proper alignment. Do **NOT** rotate/unthread the CARTRIDGE more than 25 degrees.

NOTE: Repeat Steps 7 & 8 if the CARTRIDGE is unthreaded too far.

INSTALLATION GUIDELINES

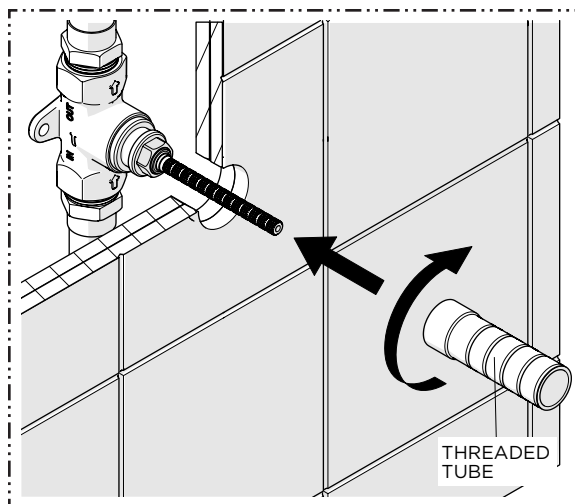
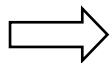
BOND VOLUME CONTROL TRIM WITH GUV C16/17/18/19

WATERWORKS

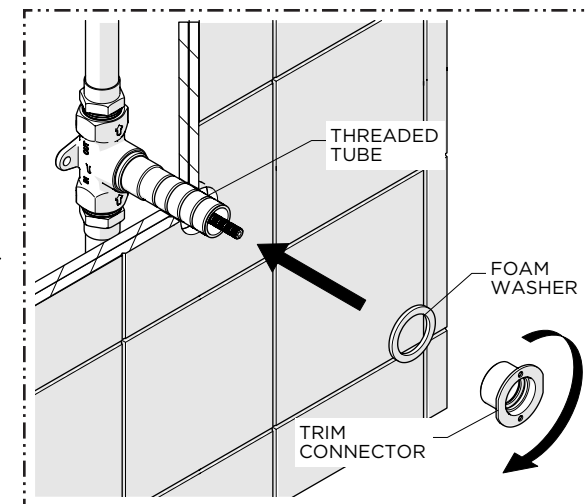
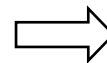


10. Remove the HANDLE then thread and securely tighten the BONNET back onto the CARTRIDGE.

NOTE: The BONNET requires a torque between 15 and 18 ft-lb [21-24 N•m].



11. Thread and securely tighten the THREADED TUBE back onto the CARTRIDGE until snug.



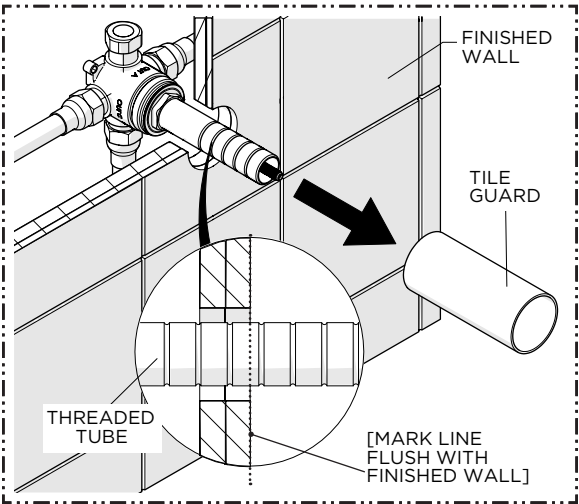
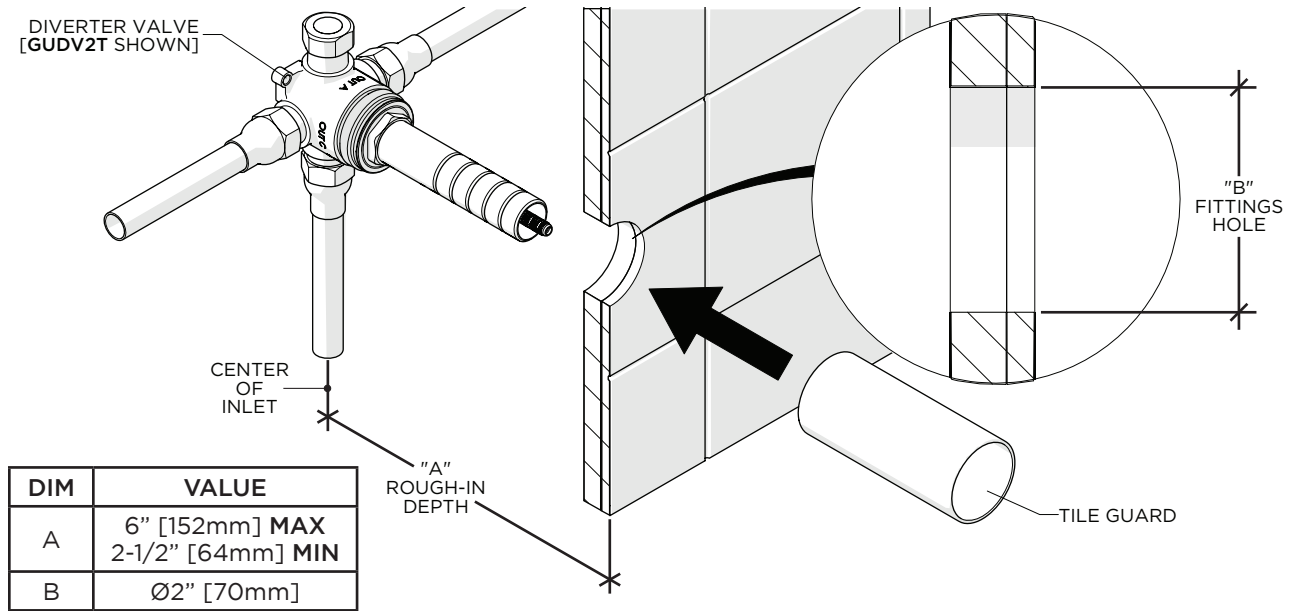
12. Using the FOAM WASHER provided, thread and securely tighten the TRIM CONNECTOR onto the THREADED

PROCEED TO
HANDLE INSTALLATION
ON PAGE 16

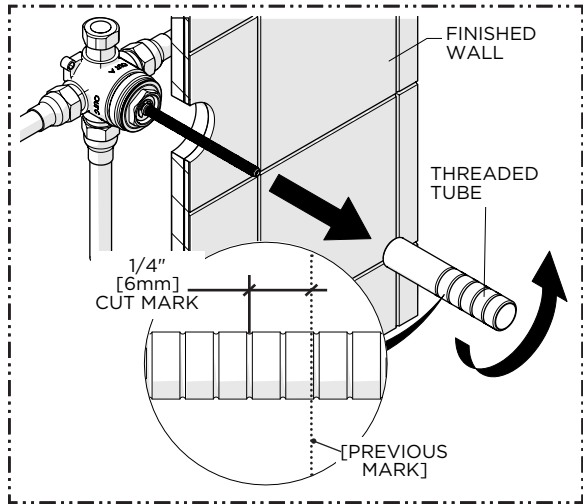
INSTALLATION GUIDELINES

BOND DIVERTER TRIM WITH GUDV2T/3T

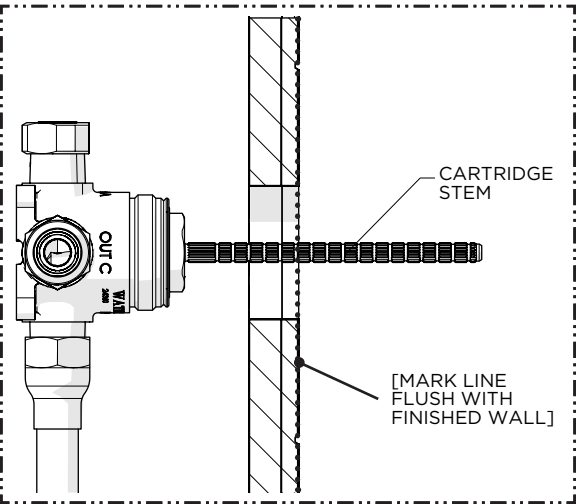
- **CAUTION:** The rough-in depth is measured from the centerline of the inlets to the surface of the finished wall. If the VALVE is roughed-in too shallow, the TRIM cannot be installed correctly.
- The DIVERTER VALVE TRIM components (i.e. HANDLE and TRIM PLATE) are packaged separately from each other.
- Remove and discard the TILE GUARD only when the finished wall surface (TILE or SLAB) is completed and the TRIM is ready for installation.



1. Remove the TILE GUARD when ready to install the TRIM then mark the THREADED TUBE where it protrudes past the finished wall.
NOTE: A straight edge (not supplied) can be used to mark the TUBE.



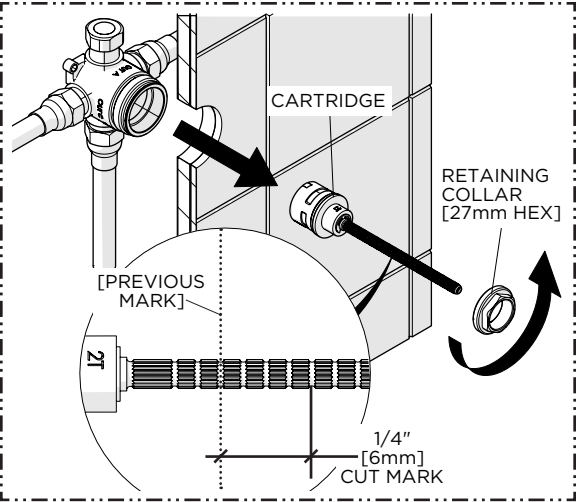
2. Remove the THREADED TUBE then cut it 1/4" [6mm] behind the previous mark so the TUBE will be 1/4" [6mm] below or recessed into the finished wall surface.



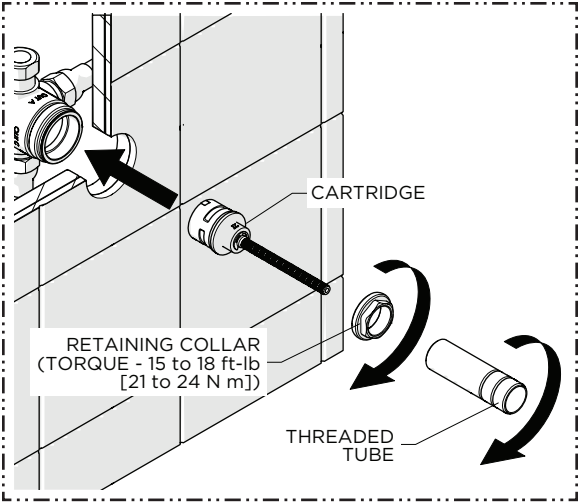
3. Mark the CARTRIDGE STEM where it protrudes past the finished wall.
NOTE: A straight edge (not supplied) can be used to mark the CARTRIDGE STEM.

INSTALLATION GUIDELINES

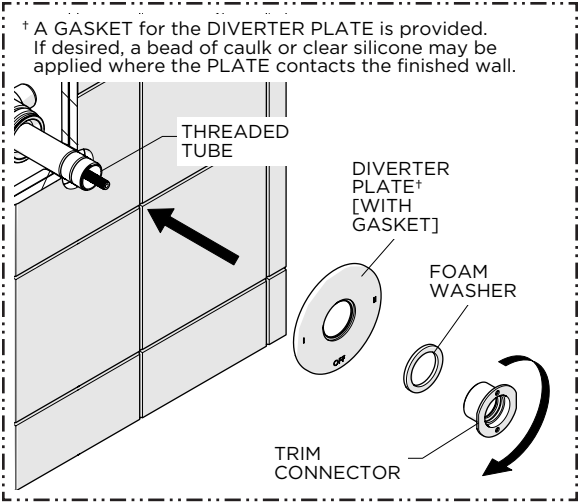
BOND DIVERTER TRIM WITH GUDV2T/3T



4. Remove the CARTRIDGE using a 21/32" [17mm] shower valve socket wrench (not supplied) then cut the CARTRIDGE STEM 1/4" [6mm] in front of the previous mark so the STEM will protrude 1/4" [6mm] from the finished wall surface.



5. Re-insert the CARTRIDGE then thread and securely tighten the RETAINING COLLAR to the specified torque setting shown.
Thread the THREADED TUBE back into the RETAINING COLLAR until snug.



6. Firmly hold the DIVERTER PLATE against the finished wall, then thread and securely tighten the TRIM CONNECTOR onto the THREADED TUBE making sure to use the FOAM WASHER provided.

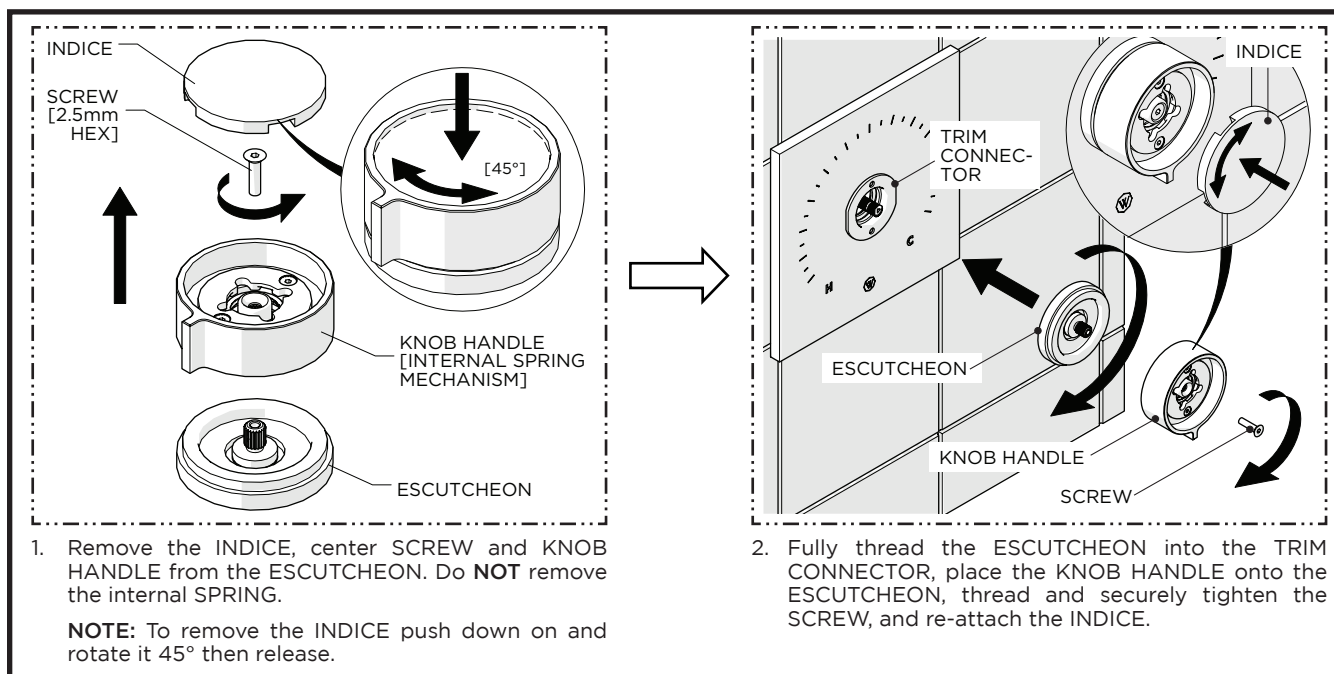
PROCEED TO
HANDLE INSTALLATION
ON PAGE 16

INSTALLATION GUIDELINES

BOND KNOB AND LEVER HANDLE INSTALLATION

WATERWORKS

STEPS 1 - 2 KNOB HANDLE INSTALLATION ONLY



STEPS 3 - 4 LEVER HANDLE INSTALLATION ONLY

