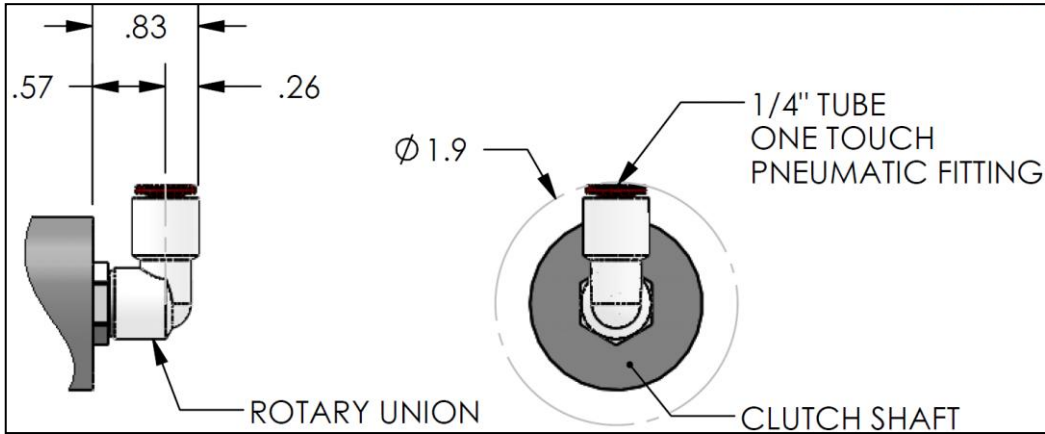


Installation Guide: Clutches, Brakes, & Clutch/Brakes

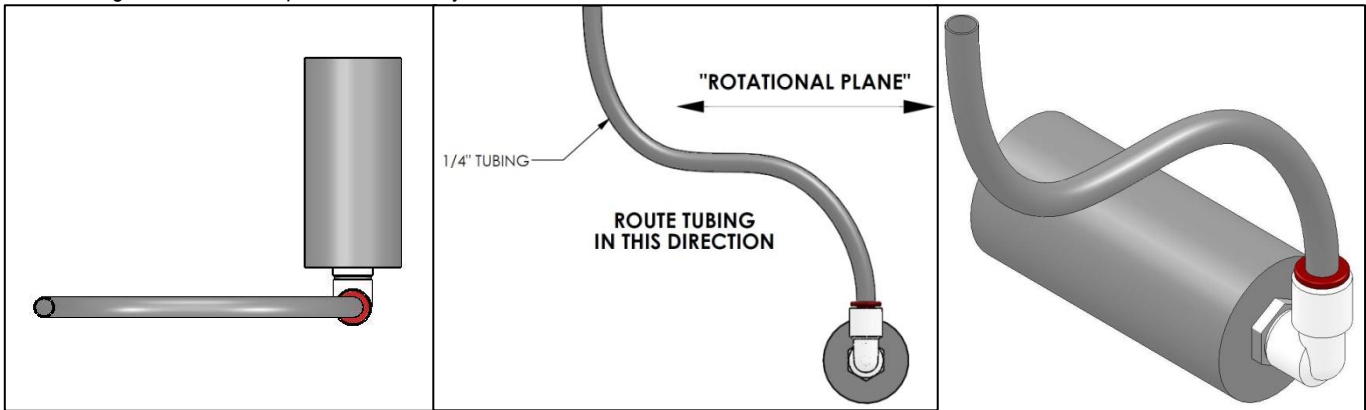
Pneumatic Tubing for Rotary Union Assembly

To maintain its integrity and to maximize the life of your rotary union and pneumatic clutch, brake, or clutch/brake assembly, the following steps should be followed during product installation. Improper installation procedures may lead to failure of the rotary union and clutch assembly.

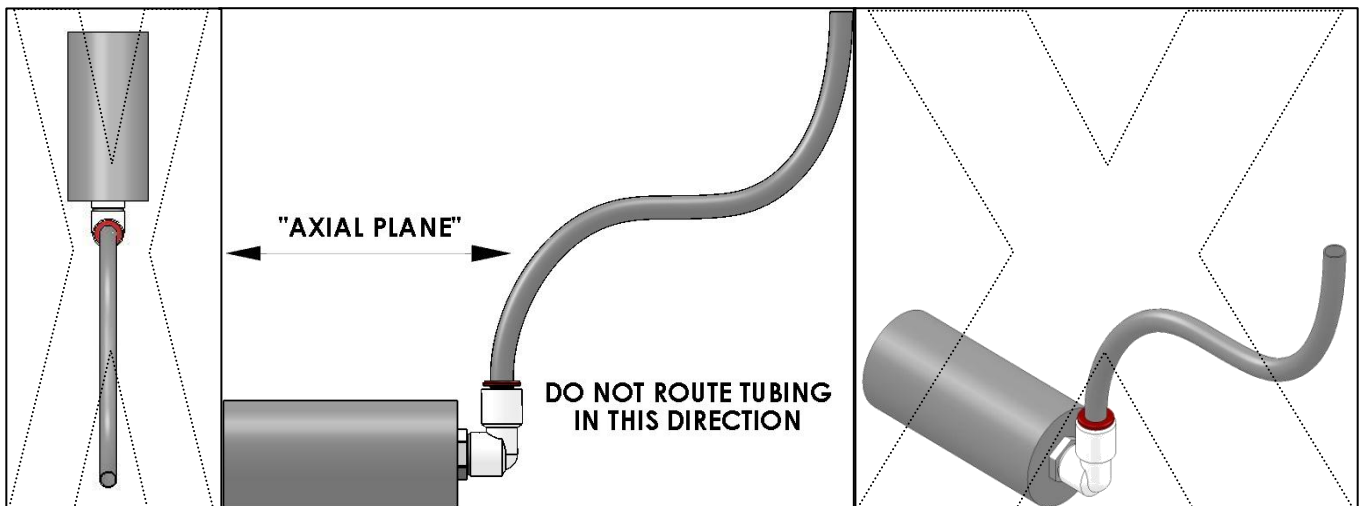
1. Install tubing into one-touch pneumatic fitting of the rotary union (SMC# KSL07-34S) on the shaft of the clutch assembly.



2. Route pneumatic tubing in a manner such that it is perpendicular to the clutch shaft. This direction may also be referred to as being in the rotational plane of the rotary union.



3. Be sure to avoid routing the tubing in a manner such that is inline with the clutch shaft as this will result in unintended axial loading. This direction may also be referred to as being in the axial plane of the rotary union. This should be avoided.



4. If improper routing cannot be avoided, the use of flexible tubing such as polyurethane tubing is strongly recommended as it may decrease the effects of improper installation and axial loading. However, this option may not eliminate premature failure.