

FastSeal Assembly Instructions & Troubleshooting

FastSeal™ assembly consists of the following steps:

1. Prep - cutting, deburring and cleaning of the tube
2. Pre-set
3. Pre-set inspection
4. Final installation

1. Prep

To start, please select your tubing OD and wall thickness using Table 1.

Tube OD	Wall Thickness			
	0.035	0.049	0.065	0.083
1/4"	X	X		
3/8"		X	X	
1/2"		X	X	X

Table 1

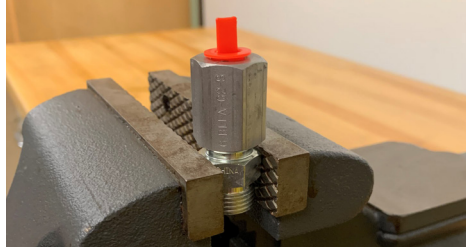
For proper tube end preparation see the [Assembly and Installation Section Parker's Catalog 4300](#) or watch our [techConnect Tube End Prep Video](#).

2. Pre-set

FastSeal connections require pre-setting that can be accomplished by hand with a wrench and is best done with the assistance of a fixed vice.



Step 1 – Place marking tool on tube until it bottoms out. Mark around OD as shown. If marking tool is not available, use insertion depths shown in Table 2.



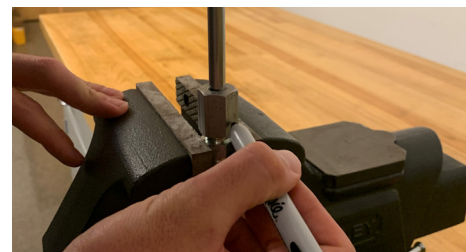
Step 2 – Thread FastSeal nut onto fitting body or mandrel hand tight. This is best completed with the assistance of a fixed vice if available.



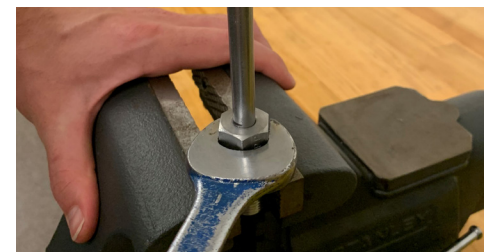
Step 3 – Lubricate the end of the tube with hydraulic oil to help with insertion in the next step.



Step 4 – Insert the tube into the FastSeal nut to the tube depth mark. Twist and push tube to aid the insertion. You will feel the tube pop past the O-ring and bottom out.



Step 5 – Mark the nut and body as shown to assist with the FFFT preset.



Step 6 – Tighten the nut to specified FFFT of 7-8 flats. You should feel a perceptible torque rise around 7 flats.

⚠ CRITICAL STEP:

A heavy deburr, per Figure 1 of at least 1 mm on the tube is recommended to prevent damage to the internal O-ring. Ensure tube is clean and all chips and debris have been removed from the tube. The deburr dimension can be checked visually (roughly the thickness of a coin) or with the depth gauge on the back end of the marking tool.

Figure 1: Recommended deburr

Tube OD	Depth - in (mm)
1/4"	0.62 (16)
3/8"	0.66 (17)
1/2"	0.71 (18)

Table 2: Tube Insertion Depths

3. Pre-set Inspection

The gap closure is an important visual inspection to make after presetting the **FastSeal** nut. A “closed gap” can vary from 0-0.01” (0-0.25mm). This small gap may be caused by spring back of the material and will close when the parts are tightened at final assembly.



Loosen and back off nut to inspect the sleeve gap to ensure it has closed (see Figure 2).

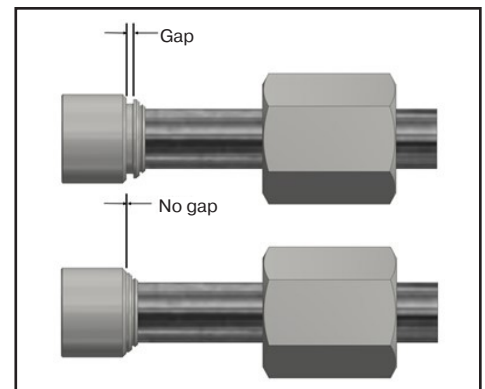


Figure 2: Gap closure inspection reference

4. Installation

Once the gap is confirmed closed, assemble tube to fitting body and torque to the values shown in Table 3.

Tube OD	Torque – in-lb (Nm)
1/4"	220 (25)
3/8"	360 (40)
1/2"	480 (55)

Table 3: Final Assembly Torque

Troubleshooting

Unsure if tube is bottomed	Use tube marking tool or insertion depths in Table 2 to mark tube prior to insertion and to identify if you have met appropriate depth when tube is inserted into nut.
Unable or difficult to push tube into nut	<p>Tube may be oversized or oval. Use tube making gauge to check for correct size and ovality. If tube does not fit in gauge do not use, select another tube and use gauge to verify the size and ovality before using.</p> <p style="text-align: center;">OR</p> <p>Ensure nut was not tightened more than hand tight onto fitting or mandrel body before inserting tube. Do not wrench tighten nut before tube is fully inserted this may cause bite ring to begin to preset, interfering with tube insertion.</p>
Tube will not push to marked depth on tube	<p>Avoid O-ring damage, DO NOT FORCE TUBE. Remove tube and ensure tube is properly deburred to at least 0.040in (1.0 mm) and is cleaned thoroughly. Inspect the tube to ensure it is round, within dimensional specs (should easily fit in tube marking gauge). Ensure a small amount of oil is applied to end of tube before inserting, use slight twist when inserting.</p> <p>DO NOT FORCE, DO NOT USE A HAMMER.</p>
Gap not closed after presetting	If gap of more than 0.01in (0.25mm) is detected, reassemble to last marked position, tighten nut ½ additional flat, inspect gap for closure.
Leaks at low pressure	Internal O-ring may be damaged. Contact Division for assistance.
Leaks at high pressure	Inspect the ferrule and sleeve to confirm there was no gap after presetting. Ensure connection was tightened to proper Seal-Lok assembly torque per table S14 4300 catalog. Confirm Seal-Lok trap seal is not damaged or missing. Internal O-ring may be damaged. Contact Division for assistance.
Tube moves in nut after presetting or final assembly	Preset was not done correctly. DO NOT USE CONNECTION . Remake tube assembly.
Tube pulls out of nut after preset	Preset was not done correctly, tube too hard. DO NOT USE CONNECTION . Check tube material, wall thickness and size. FastSeal nuts are intended for use with low carbon steel seamless or DOM tube intended for hydraulic applications (reference SAE J524/J525).
Unsure what tubes to use	FastSeal nuts are intended for use with low carbon steel seamless or DOM tube intended for hydraulic applications (reference SAE J524/J525). Use of the correct tube wall is critical to meet performance criteria. Recommended tube walls can be found in Table 1.

WARNING

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