Parker Seal-Lok® Fittings
Brazing and Assembly Guide

Bulletin 4350 B2
OCTOBER 1999

TUBE PREPARATION

Accurately establish the required length of tubing, allowing for insertion depth in the spud (TL Sleeve).

① Cut the tubing reasonably square (±1°) to proper length. While cutting with hacksaw use Parker "TRU-CUT" sawing vise to assure squareness of cut.

NOTE: *Use of tube cutter is not recommended. It collapses tube end, retarding capillary flow of braze alloy.*

② Lightly debur both ID and OD. Avoid excessive corner break at OD. It retards flow of braze alloy.

③ Remove metal chips from the tube end using a brush or compressed air.

PARTS CLEANING

Clean metal surfaces are essential for proper brazing. Clean parts as follows:

Degrease and clean tube ends.

④ Degrease tube end thoroughly with an oil free solvent to remove any oil film or grease from the surface.

⑤ Clean tube end to bare metal using aluminum free emery cloth. Wipe the end clean of all loose particles. Use solvent if necessary.

⑥ Degrease and dry the spud to remove protective oil film.

FLUXING

Flux prevents oxidation of metal surfaces and promotes proper braze alloy flow. It also acts as a temperature indicator.

⑦ Install preformed braze ring (SBR) into the sleeve until it seats on the internal shoulder.

⑧ Apply flux liberally to tube end for approximately 1-1/2-inch length. Flux can be applied either by brush or by dipping the tube end into flux thinned by hot water to a consistency of paint.

⑨ Apply flux to the inner wall of the spud and over the brazing ring.

⑩ Install spud over the tube making sure the braze ring butts up against it.

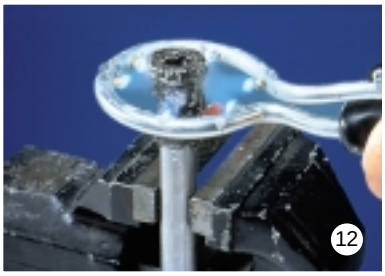
⑪ Flux all outside surfaces of the spud liberally.

BRAZING THE ASSEMBLY

Clamp the fluxed tube-spud assembly in a vise.

⑫ Start applying heat at the spud end away from braze ring — and slowly work toward the ring. A multi-flame torch (available from your Parker distributor) heats the joint more uniformly than a single flame torch. NOTE: Do not overheat.

Brazing the Assembly continued on other side.



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BRAZING THE ASSEMBLY (CONTD.)

⑬ Keep heating the joint and watch the flux. When the flux becomes completely clear it is an indication of being very close to proper brazing temperature of 1145°F. Watch the braze ring. As soon as it melts and the spud settles down on the tube end, stop applying heat. Braze alloy will flow through the joint and appear on the other side of spud, forming a continuous fillet around the tube.

CLEANING COMPLETED JOINT

⑭ After stopping heat application, allow about 10 seconds for the braze alloy to solidify. Then, immerse the joint in hot water (approx. 140°F). Adding Parker braze cleaner to the hot water makes cleaning easier. This sudden cooling cracks the braze flux residue, making it easier to remove.

⑮ Any remaining residue can be removed by wiping with a clean cloth or careful wire brushing if necessary, making sure not to scratch sealing surface of the spud.

BRAZE EXAMINATION

⑯ Inspect braze for a fillet all the way around the tube at the far end (small diameter) of the spud.

NOTE: *If there are gaps in the fillet, the joint may not be sound. In this case, rebrazing, using external braze wire, is recommended. Follow the same cleaning, fluxing and heating procedures and apply filler braze alloy externally as is needed.*

Inspect seal surface. There should be no braze alloy overrun or build-up on this face.

If there is build-up, remove very carefully with emery paper being careful not to scratch the seal surface. If this is not possible — remove the old spud and rebraze a new spud in its place.

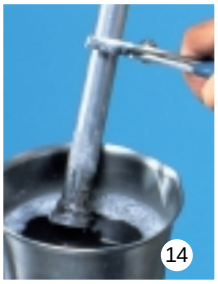
⑰ If the parts are not to be used soon after brazing, a coating of rust inhibitors such as WD-40 or SP-350 is recommended for the braze and heat affected area.

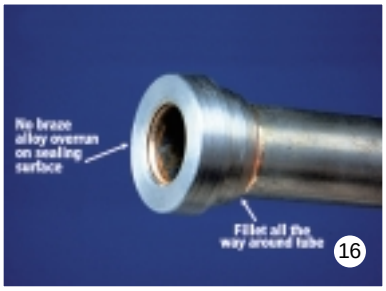
FINAL INSTALLATION

⑱ Ensure that the correct O-ring is properly placed in the face seal O-ring groove. It is recommended that a CORG assembly tool be used when installing the O-ring into Seal-Lok Captive O-ring Groove (CORG).

⑲ After installation of the O-ring, place the tube assembly against the fitting body so that the flat face of the sleeve comes in full contact with the O-ring.

⑳ Thread the nut to the finger tight position and tighten to the recommended torque value from Table 20A. (A back-up wrench may be necessary to prevent movement of the fitting.)





SAE Dash Size	Tube Side Thread Size	Tube Side Assembly Torque (+10% –0%)			Flats from Wrench Resistance (F.F.W.R.)
		in-lb.	ft-lb.	N-m	Tube Nuts
–4	9/16-18	220	18	25	1/4 to 1/2
–6	11/16-16	360	30	40	1/4 to 1/2
–8	13/16-16	480	40	55	1/4 to 1/2
–10	1-14	—	60	80	1/4 to 1/2
–12	1 3/16-12	—	85	115	1/4 to 1/2
–14	1 5/16-12	—	95	130	1/4 to 1/2
–16	1 7/16-12	—	110	150	1/4 to 1/2
–20	1 11/16-12	—	140	190	1/4 to 1/2
–24	2-12	—	180	245	1/4 to 1/2
–32	2 1/2-12	—	360	490	—

Table 20A — Assembly Torque and F.F.W.R.

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