

# SETON

## Instructions for Easy-Seal Tubes and Crowns

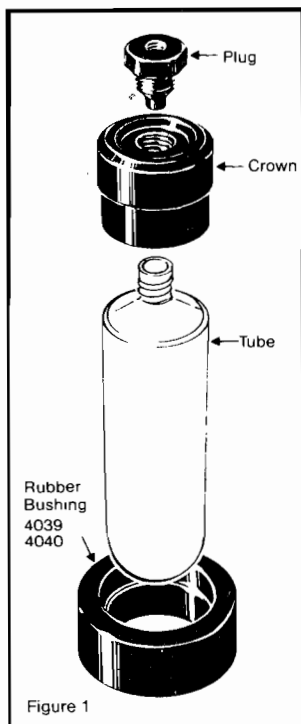


Figure 1

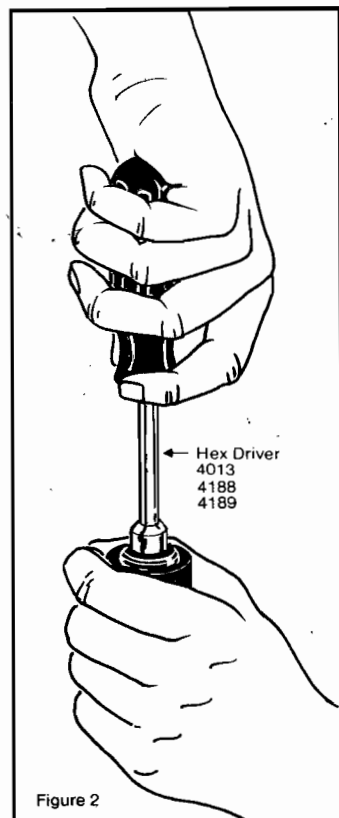


Figure 2

### EASY-SEAL CROWNS IN FIXED-ANGLE ROTORS\*

**Rotors:** 80Ti, 75Ti, 70.1Ti, 65, 50Ti, 40  
70Ti, 60Ti, 55.2Ti, 50.2Ti, 42.1

**Crown Assemblies:** 4015, 4016, 4017, 4018  
4019, 4020

Refer to Figures 1 and 2

**Note:** Delrin(1) crown assemblies should be used with mineral or paraffin oil overlays. Noryl(2) crown assemblies may stress crack when in contact with oils at centrifugal stresses.

- 1.1 Fill the tube so that the meniscus coincides with the top of the uppermost thread on the stem of the tube.
- 1.2 Screw the tube into the crown, making sure the crown is seated against the tube. **Do not overtighten the crown.** It is not necessary and may strip the threads on the tube.
- 1.3 Hold the crown and screw in the plug with the hex driver (PN 4013). The rubber bushing may be used to grip the crown while screwing in the plug. After sealing, there will be a gap of 0.1 to 0.3 mm between the underside of the plug hex and the top of the crown. The seal plug on the 5/8" size uses an o-ring to assist in sealing because it sees a higher G-force. This o-ring may be autoclaved while on the Noryl plug.
- 1.4 Place the sealed tube assembly into the rotor. It may be necessary to tilt the crown with the removal tool (PN 4014, not shown) in order for the crown to fit into the counterbore of the rotor.
- 1.5 After centrifugation, insert the removal tool and remove the tube assembly from the rotor.
- 1.6 Unscrew the plug for easy access to the tube contents.
- 1.7 Easy-Seal(3) tubes may be reused if they have not been punctured. To reuse a tube several times, leave the crown attached to the tube with the swage intact.
- 1.8 After centrifugation, Easy-Seal tubes may be removed from the crown by holding the tube and unscrewing the crown with an upward force. The flared stem of the tube tends to hold the two together. After cleaning, the tube may be screwed back into the crown by feeding the flared part of the tube into the crown threads and screwing down the crown. After removing the crown several times, the threads on the tube neck may become worn requiring disposal of the tube. The preferred method of reusing tubes is to leave the crown on the tube with the swage intact.
- 1.9 Polyallomer Easy-Seal tubes may be autoclaved with the crown attached if the crown is made of Noryl. If Delrin crowns are used, sterilize with aqueous solutions of 70% ethanol, 70% isopropanol or 10% hydrogen peroxide. Polyclear(3) tubes should not be autoclaved.

(1) Delrin is a registered trademark of E.I. duPont de Nemours & Co.

(2) Noryl is a registered trademark of General Electric Co.

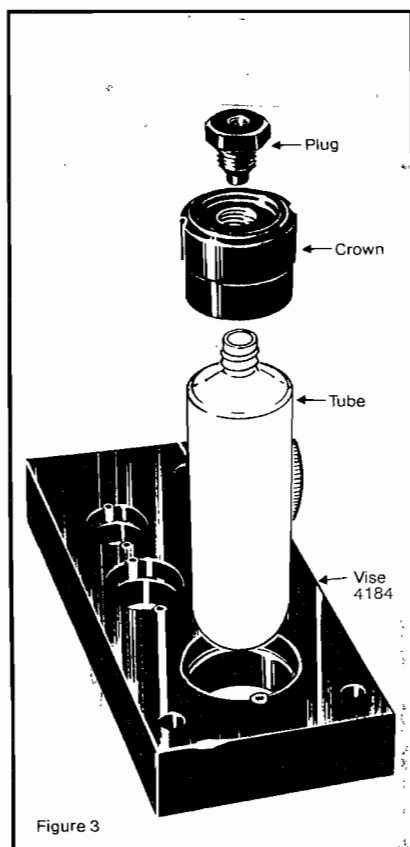
(3) Trademark of Seton Scientific Co.

\* U.S. Patent No.1 4,537,320 and UK Patent GB 2149325

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## ALUMINUM 5/8" CROWN IN FIXED ANGLE ROTORS\*



Rotors: 90Ti, 80Ti, 75Ti, 70.1Ti

Crown Assemblies: 4063, 4064

- 2.1 Fill the tube so that the meniscus coincides with the top of the uppermost thread on the stem of the tube.
- 2.2 Screw the tube into the crown, making sure the crown is seated against the tube. **Do not overtighten the crown.** It is not necessary and may strip the threads on the tube.
- 2.3 Hold the crown and screw in the plug with the hex driver (PN 4013).
- 2.4 With the crown now resting in the hole and the pins engaged in slots, firmly tighten the plug with the hex driver (PN 4013). Do not overtighten—it is not necessary and may damage the plug threads. If you do not have the Seton vise (PN 4184) but you have a Beckman tube cap vise (PN 305075), use it to hold the aluminum crown.
- 2.5 Place the sealed tube assembly into the rotor. It may be necessary to tilt the crown with the removal tool (PN 4014, not shown) in order for the crown to fit into the rotor counterbore.
- 2.6 After centrifugation, insert the removal tool (PN 4014) into the top of the plug and remove the tube assembly from the rotor.
- 2.7 Unscrew the plug for access to the tube contents. If this cannot be done by hand, place the tube assembly into the appropriate hole of the tube vise and unscrew the plug with a hex driver. Polyclear tubes in the 80Ti rotor crowns tend to be tightly swaged and attempts to remove a filled tube from the crown may cause agitation of the sample. It is recommended to first remove the tube liquid contents before removing the tube from the crown.
- 2.8 Easy-Seal tubes may be reused if they have not been punctured. If they are to be reused, leave the crown attached to the tube with the swage intact. If the crown is removed the unswaging and swaging operation may weaken the seal area of the tube.
- 2.9 Aluminum crowns, polyallomer tubes, and Noryl plugs with polyurethane o-rings can be autoclaved. The crown when attached and swaged to the tube can be autoclaved without disassembly.
- 2.10 For Aluminum crowns with Delrin plugs and polyurethane o-rings sterilization can be achieved by cold soaking in aqueous solutions of 70% ethanol, 70% isopropanol or 10% hydrogen peroxide.

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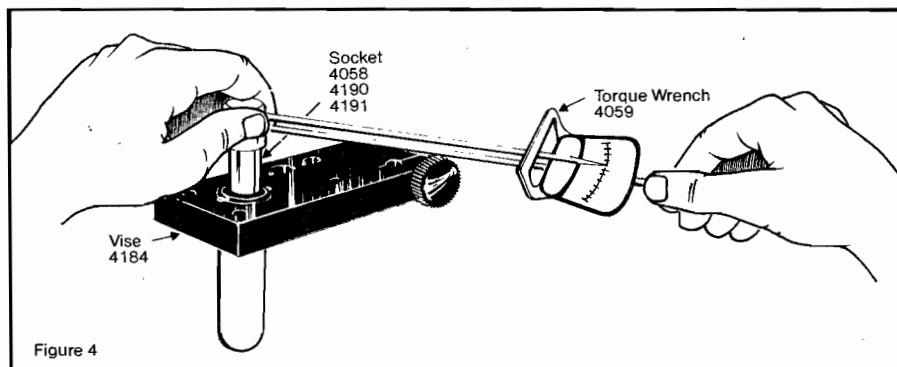
## ALUMINUM 1/2" CROWN IN FIXED ANGLE ROTORS\*

Rotors: 50.3Ti, 40.3, 40.2

Crown Assembly: 4171

Refer to Figures 3 and 4

- 3.1 Fill the tube so that the meniscus coincides with the top of the uppermost thread on the stem of the tube.
- 3.2 Screw the tube into the crown, making sure the crown is seated against the tube. **Do not overtighten the crown.** It is not necessary and may strip the threads on the tube.
- 3.3 Hold the crown and screw in the plug with the hex driver (PN 4189).
- 3.4 With the crown now resting in the hole and the pins engaged in slots, firmly tighten the plug with the hex driver (PN 4189). Do not overtighten. It is not necessary and may damage the plug threads. If you do not have the Seton vise (PN 4184) but you have a Beckman tube cap vise (PN 305075), use it to hold the aluminum crown.
- 3.5 Place the sealed tube assembly into the rotor. It may be necessary to tilt the crown with the removal tool (PN 4014, not shown) in order for the crown to fit into the rotor counterbore.
- 3.6 After centrifugation, insert the removal tool (PN 4014) into the top of the plug and remove the tube assembly from the rotor.
- 3.7 Unscrew the plug for access to the tube contents. If this cannot be done by hand, place the tube assembly into the appropriate hole of the tube vise and unscrew the plug with a hex driver. Polyclear tubes tend to be tightly swaged and attempts to remove a filled tube from the crown may cause agitation of the sample. It is recommended to first remove the tube liquid contents before removing the tube from the crown.
- 3.8 Easy-Seal tubes may be reused if they have not been punctured. If they are to be reused, leave the crown attached to the tube with the swage intact. If the crown is removed the unswaging and swaging operation may weaken the seal area of the tube.
- 3.9 Aluminum crowns, polyallomer tubes, and Noryl plugs with polyurethane o-rings can be autoclaved. The crown when attached and swaged to the tube can be autoclaved without disassembly.
- 3.10 For Aluminum crowns with Delrin plugs and polyurethane o-rings sterilization can be achieved by cold soaking in aqueous solutions of 70% ethanol, 70% isopropanol or 10% hydrogen peroxide.



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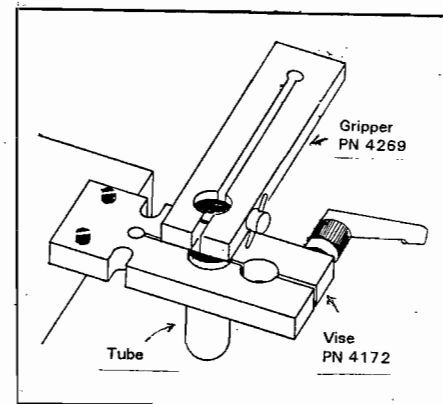
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## Instructions for Easy-Seal™ Tubes and Crowns

### ALUMINUM 11mm & 13mm CROWN IN FIXED ANGLE ROTORS\*

**Rotors:** Beckman TLA-100.2, TLA-120.2, TLA-100.3, TLA-100.4 + others  
Hitachi RP80-AT, RP100-AT, RP120-AT, RP 100-AT4  
**Crown Assy:** 4264 & 4267  
**Tubes:** 6011, 6020, 6021, 6022 Polyallomer  
8011, 8020, 8021, 8022 Polyclear™

- 1.1 Fill the tube so that the meniscus coincides with the top of the uppermost thread on the stem of the tube.
- 1.2 Screw the crown onto the top of the tube, making sure the crown is seated against the tube. **Do not overtighten the crown.** It is not necessary and may strip the threads on the tube.
- 1.3 Hold the crown and screw in the plug with your fingers.
- 1.4 The crown and tube are of small diameter and may not be easily held in the fingers while tightening the plug and forming a swaged compression seal. To hold the crown/tube assembly, place it into the bench-mounted vise (PN 4172). Insert the assembly into the appropriate 11 or 13mm diameter hole from the underside of the vise. Position the crown so that the bottom of the aluminum crown is approximately flush with the bottom of the vise. To secure the crown (with attached tube) in the vise, tighten the handle on the side of the vise while holding the crown/tube in the hole. Tighten the plug with the 3/8" hex driver (PN 4189). **Do not overtighten.** It is not necessary and may damage the plug threads.
- 1.5 It is important that the tube remains seated against the bottom of the crown while the plug is tightened. It is helpful to gently hold the tube with the fingers of one hand while tightening the plug with the hex driver in the other. If the tube turns when the plug is screwed down, remove the plug, turn the tube against the underside of the crown and again screw in the plug.
- 1.6 Place the sealed tube assembly into the rotor.
- 1.7 After centrifugation, insert the removal tool (PN 4014) into the top of the plug and remove the tube assembly from the rotor.
- 1.8 Place the crown/tube assembly into the vise from the underside, tighten the vise handle to secure the assembly and unscrew the plug with the hex driver. Polyclear tubes tend to be more tightly swaged and attempts to remove a filled tube from the crown may cause agitation of the sample. In this case, it is recommended to first remove the tube liquid contents before removing the tube from the crown. If this is not possible, an alternative method is to raise the tube with crown attached until the bottom of the crown is above the top of the vise, and gently tighten the vise, gripping the tube. Tighten the vise to secure the tube but be careful to not push liquid out of the tube.
- 1.9 Place the black gripper tool (PN 4269) on the top of the crown, selecting the appropriate hole size. The 11mm diameter hole is on one side of the clamp and the 13mm on the other. Tighten the "T" knob until the gripper is firmly clamped to the crown. By unscrewing (counterclockwise) the gripper/crown 1-1/2 turns the tube swage is straightened, and the crown can be removed easily with the fingers. If the vise handle interferes with turning the gripper, disengage the handle by pulling outward. Reposition the handle.
- 1.10 Easy-Seal tubes may be reused if they have not been punctured. If they are to be reused, it may be convenient to leave the crown attached to the tube with the swage intact.
- 1.11 Aluminum crowns and polyallomer tubes can be autoclaved. It is not recommended to autoclave the polyacetal (white) plugs. Sterilization of the plugs with o-ring attached can be achieved by cold soaking in aqueous solutions of 70% ethanol, 70% isopropanol or 10% hydrogen peroxide.



\* U.S. Patent 4,537,320 and UK Patent GB 2149325 apply.  
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