

TDCM | BB Torque Sensor

Installation & Operation Guide

CRITICAL INFORMATION



Sensor Plate

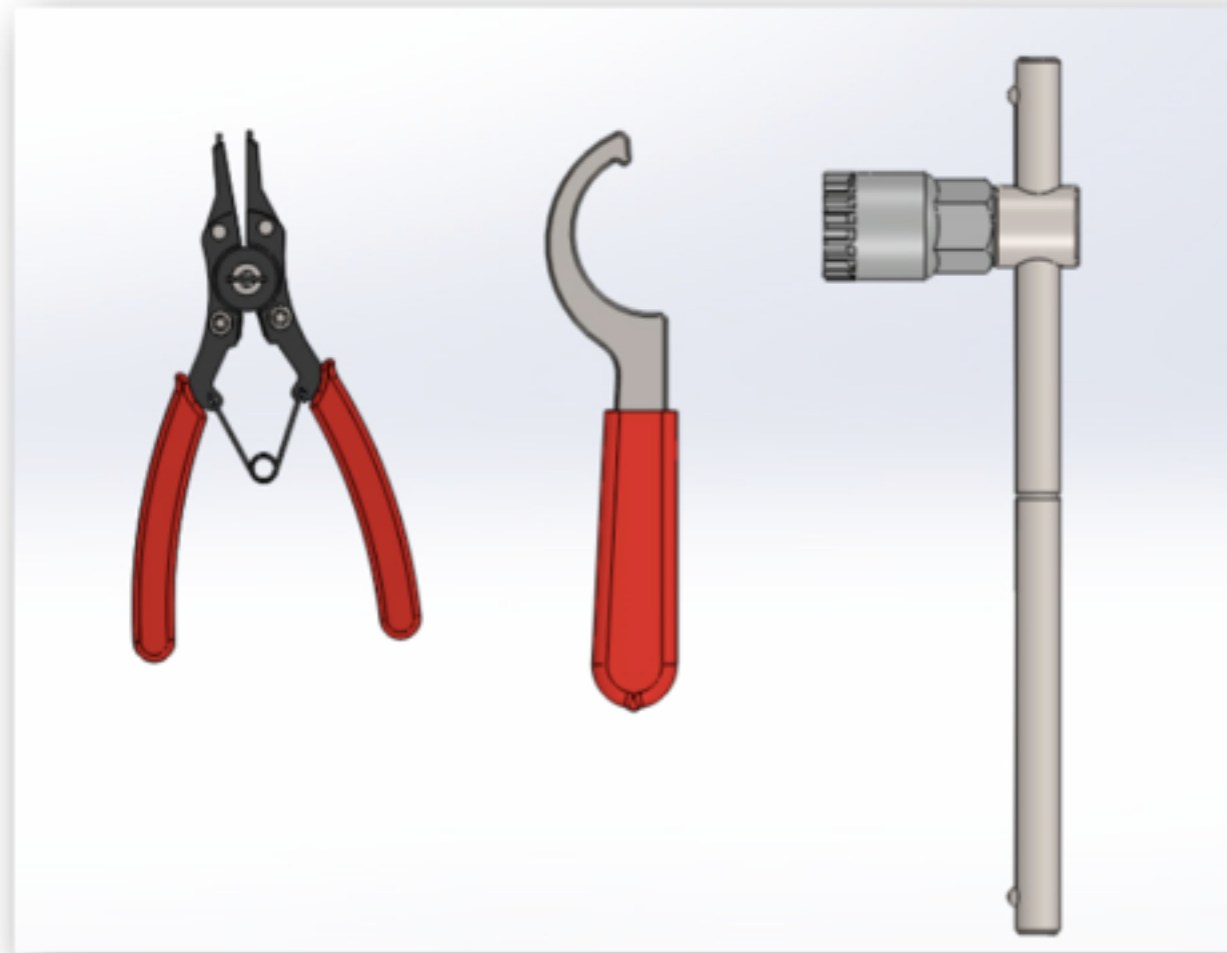
During installation and handling of the sensor please ensure this area is avoided. Heavy pressure on this sensor plate will influence the operation of the sensor.



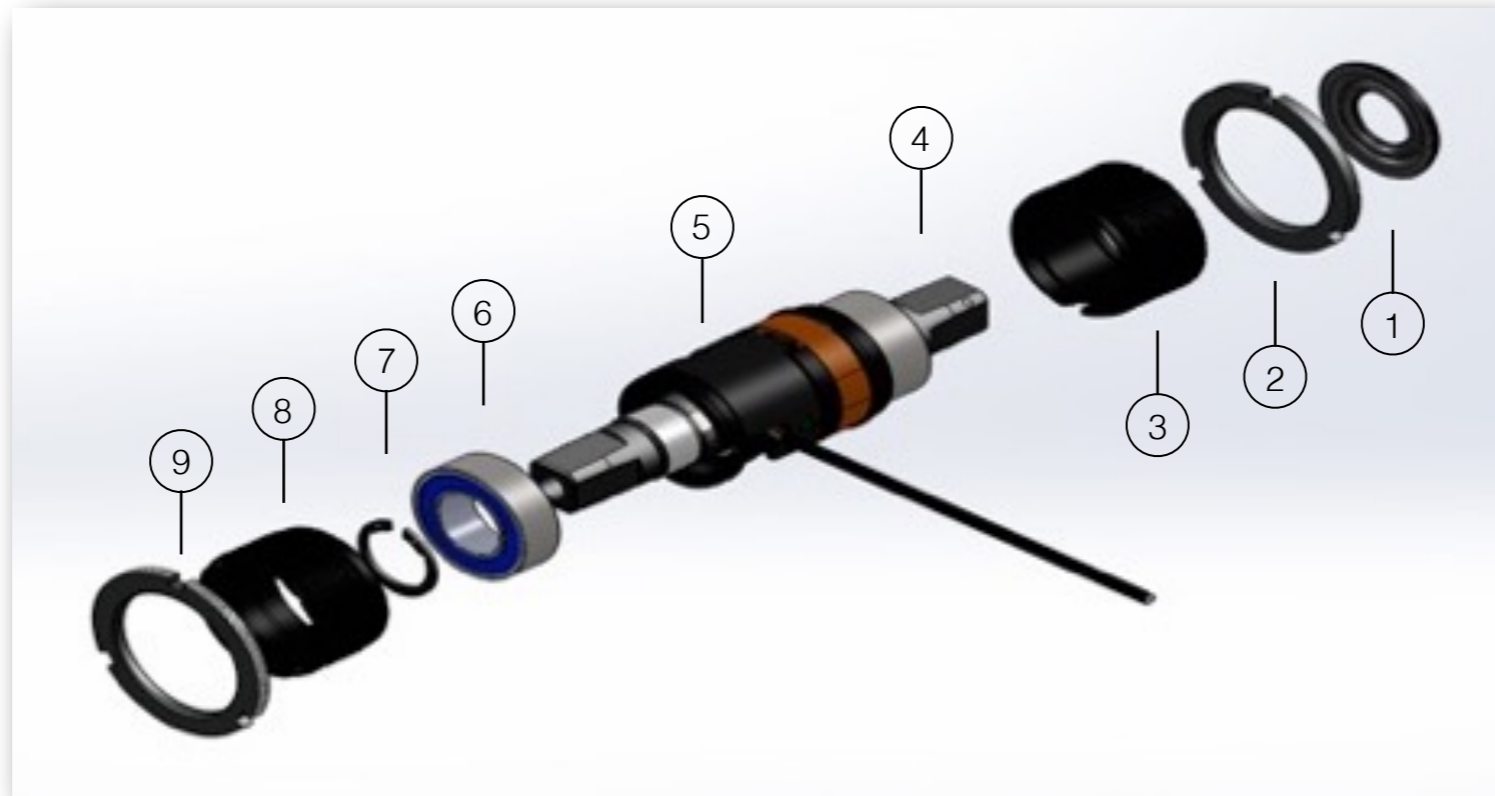
Signal Consistency

For the installation process ensure that every sensor remains with its original parts, especially the right adjustment cap (highlighted). Each sensor is specifically programmed to match the dimensional variations and changing parts between sensors gives the potential to influence the torque signal.

Recommended Tools



1. External snap ring pliers (Snap-On #PR15 or equivalent)
2. Hook spanner wrench
3. Standard bottom bracket socket wrench
4. Light, high quality grease (Park Tools PolyLube 1000 Lubricant or equivalent)



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|---|--------------------------|------------------------------|
| 1 | Rubber Dust Seal | Disassemble for installation |
| 2 | Right Side Lock Ring | Disassemble for installation |
| 3 | Right Side Adjusting Cap | Disassemble for installation |
| 4 | Spindle | Do not disassemble |
| 5 | Torque Sensor Shell | Do not disassemble |

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|---|-------------------------------|------------------------------|
| 6 | Roller Bearing / Ball Bearing | Disassemble for installation |
| 7 | Snap Ring | Disassemble for installation |
| 8 | Left Side Adjusting Cup | Disassemble for installation |
| 9 | Left Side Lock Ring | Disassemble for installation |

Installation of Faraday BB Eccentric.

1. Install driveside (R) and non driveside (L) eccentrics into frame BB shell.
2. Rotate eccentric to position as shown and tighten eccentric M6 screws to 12 Nm.



TDCM BB Torque Sensor Disassembly.

1. Remove snap ring and left bearing.



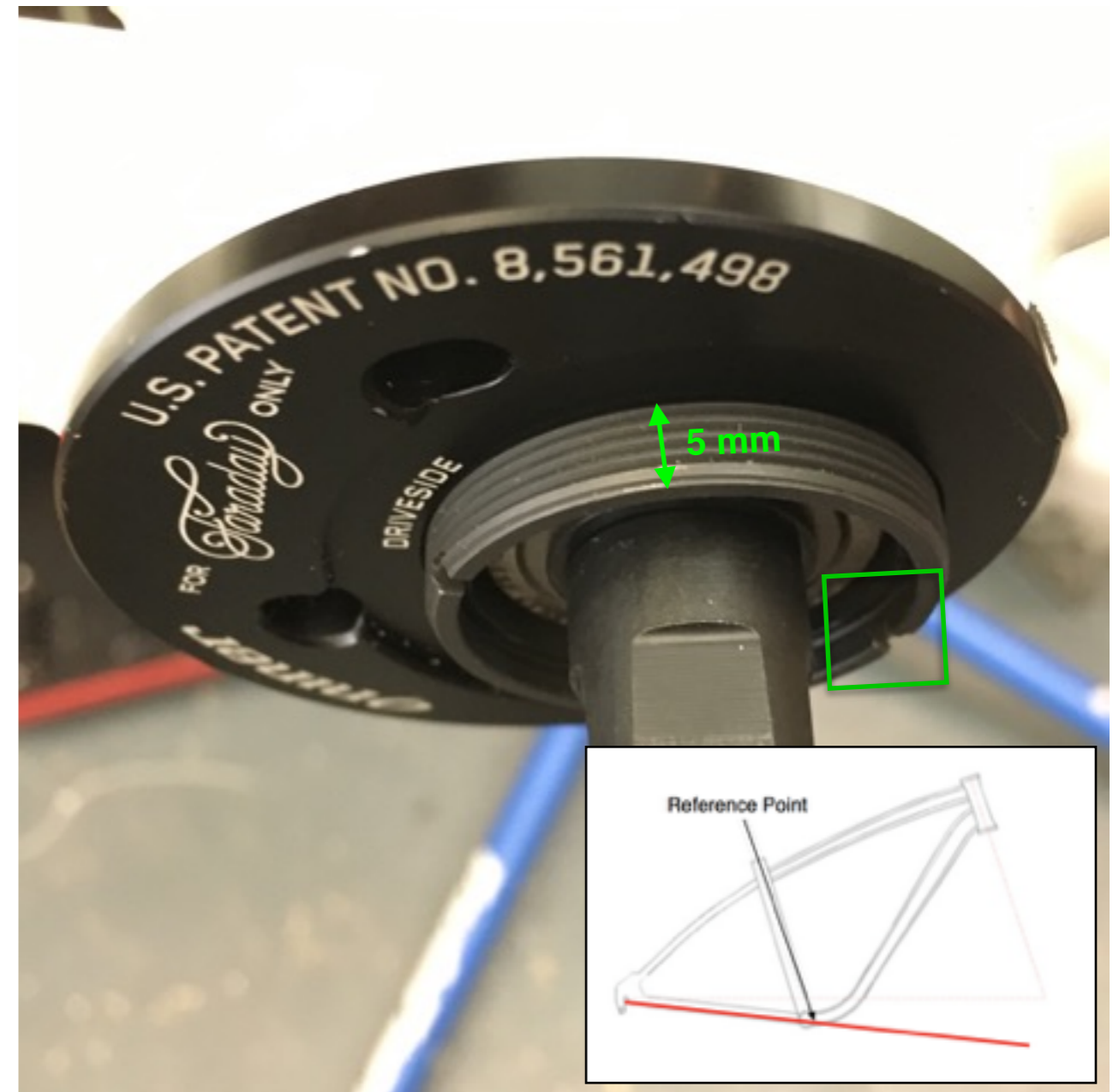
Installation of BB Torque Sensor.

1. Insert sensor cable into frame and up seat tube.
2. Position sensor cable into BB channel (green square).
3. Note sensor position key (red circle).
4. Insert BB torque sensor completely into frame.



Installation of Driveside (R) Bearing Cup.

1. Note driveside bearing cup slot in red circle.
2. Screw driveside bearing cup into eccentric. *Note that driveside bearing cup and eccentric use LH threads.
3. Be sure BB torque sensor is inserted far enough into frame that sensor position key does not touch bearing cup slot during installation.
4. Stop threading driveside bearing cup into frame when ~5 mm of threads remain outside of eccentric.
5. Note final position of bearing cup slot in green square. Final slot position must be inline with rear axle.



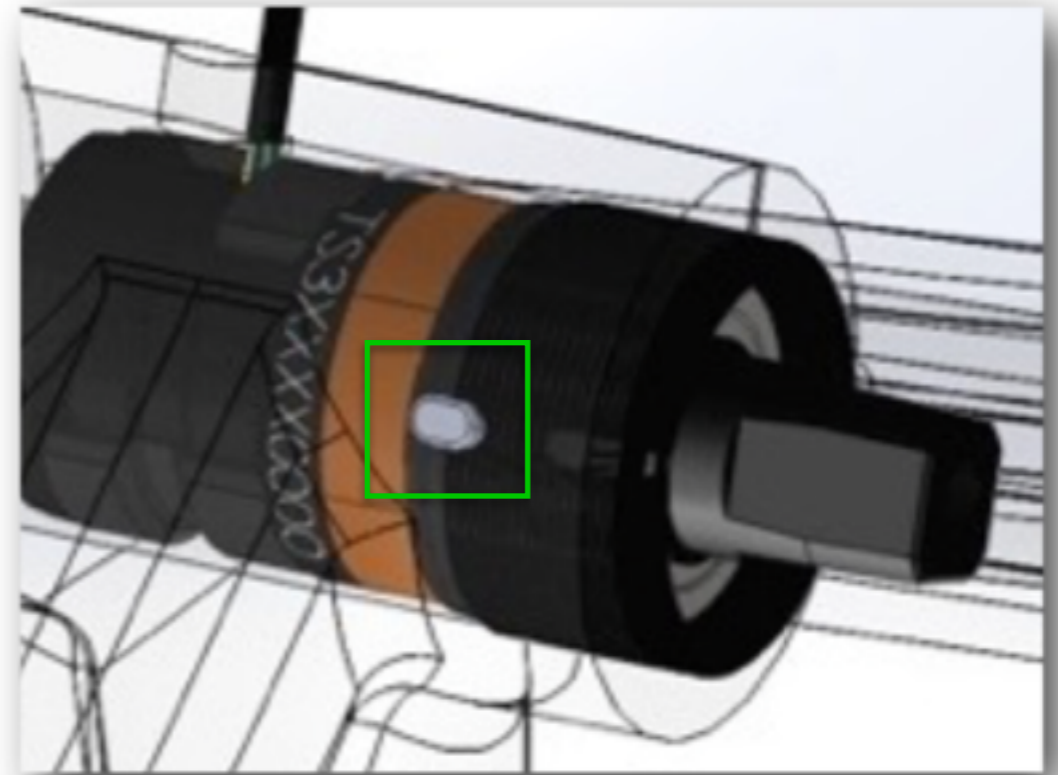
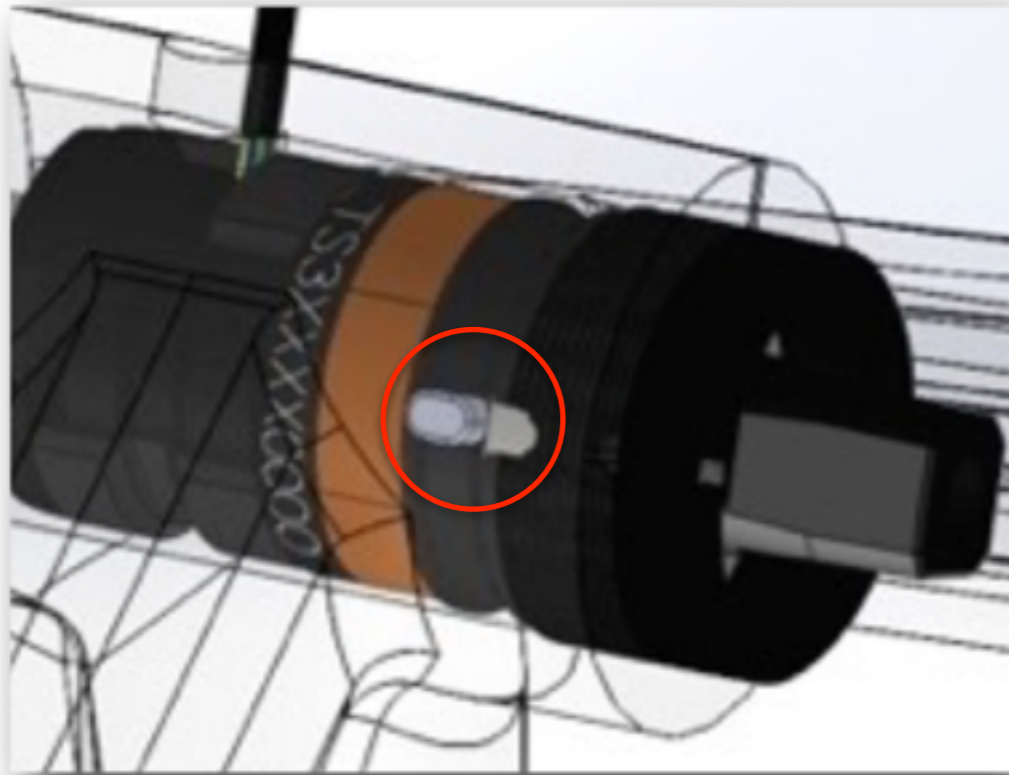
Installation of Driveside (R) Bearing Cup Lock Ring.

1. Install and fix driveside bearing cup lock ring. *Note that driveside bearing cup lock ring uses LH threads.



Placement of Sensor Position Key.

1. Rotate BB torque sensor body until position key lines up with bearing cup slot.
2. Push BB torque sensor position key into bearing cup slot. *Note you will feel and hear a slight click when key is correctly inserted into slot.



Installation of Non Driveside (L) Bearing and Snap Ring.

1. Check that BB torque sensor position key has *not* moved from drive side bearing cup slot.
2. Install non driveside bearing onto BB torque sensor spindle until bottomed out on bearing seat.
3. Push snap ring onto spindle until completely seated in snap ring groove.



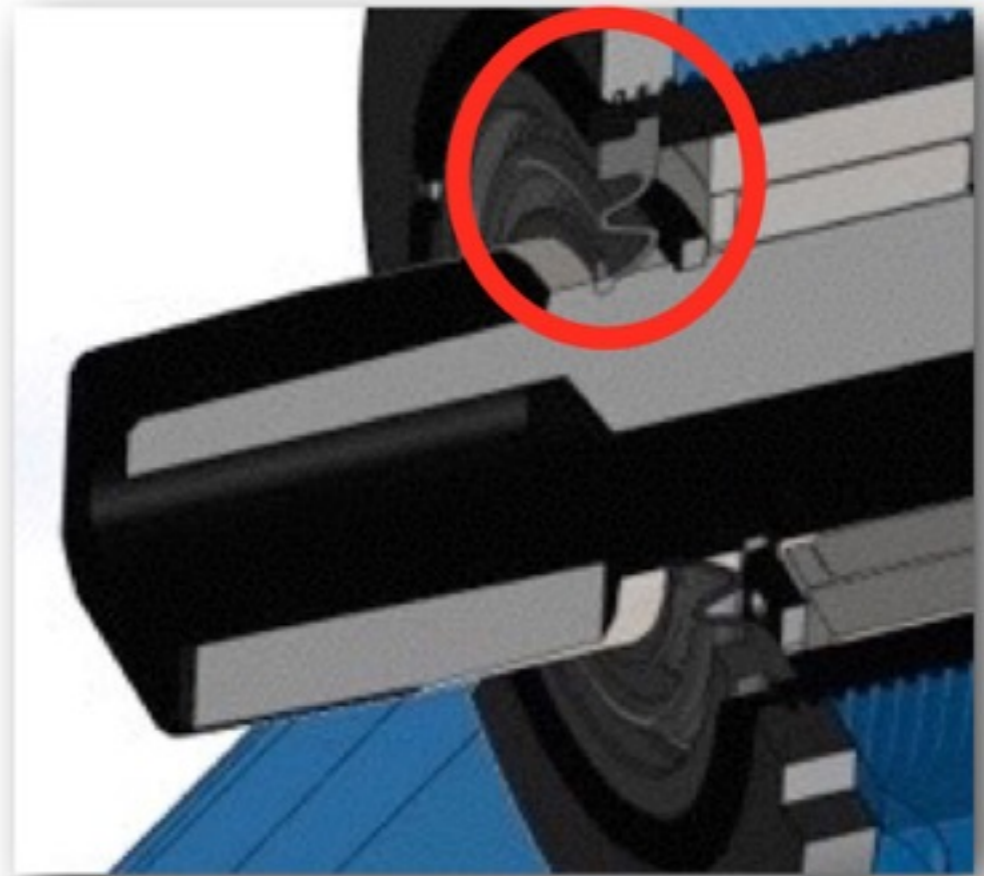
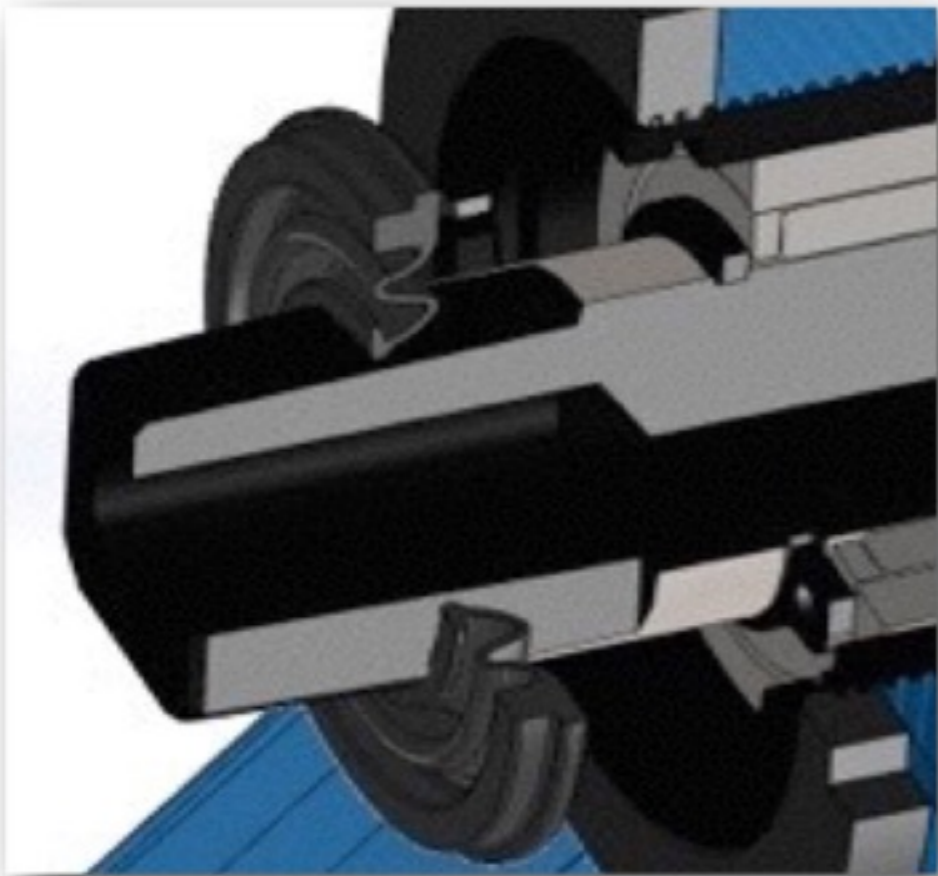
Installation of Non Driveside (L) Bearing Cup.

1. Check again that BB torque sensor position key has *not* moved from drive side bearing cup slot.
2. Screw non driveside bearing cup into eccentric. *Note that non driveside bearing cup and eccentric use RH threads.
3. Tighten bearing cup to 50 Nm. *Note that bearing cup torque spec is *very* important for proper function of torque sensor.
4. Install and fix non driveside lockring.



Installation of rubber dust seal.

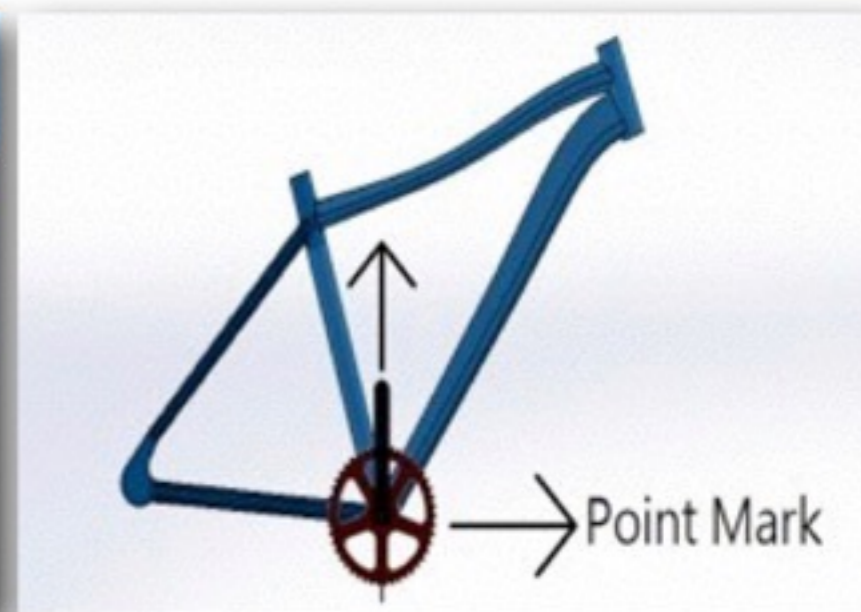
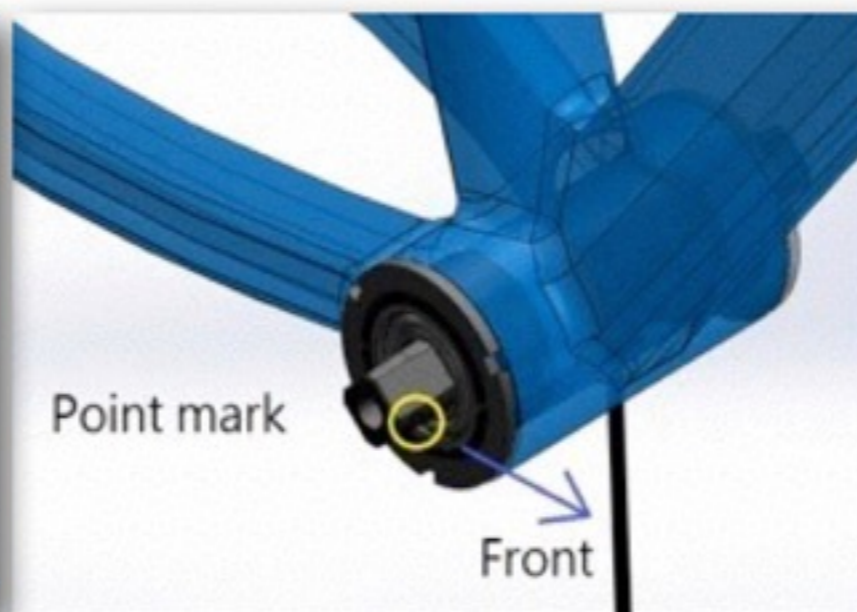
1. Slide rubber dust seal over driveside (R) BB spindle.
2. Seat inside diameter of rubber dust seal into outermost groove on BB spindle.
3. Seat outer diameter of rubber dust seal into groove on right side adjusting cup.



! IMPORTANT - DO NOT SKIP !

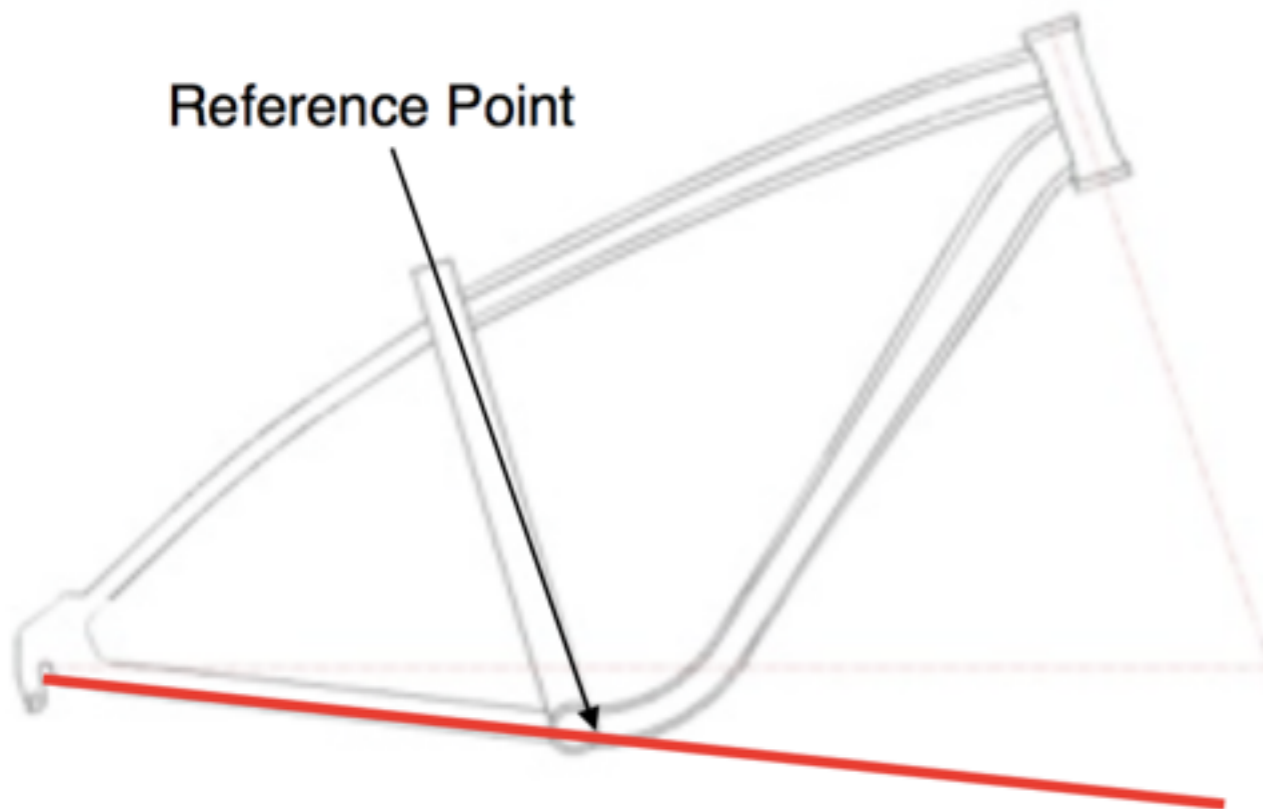
BB spindle position and crank installation.

1. Turn the spindle until the round dot (see yellow circle) is facing forward.
2. Install right crank in upwards position.
3. Install left crank.



Torque Sensor Signal Troubleshooting.

1. Non driveside (L) bearing cup torque spec is 40 Nm - 60 Nm. If torque sensor is not operating normally please double-check non driveside bearing cup tightness.
2. Torque sensor position key must face forward and be inline with rear axle. If torque sensor is not operating normally please double-check sensor installation position.
3. Sensor cable damage or sensor connector damage will affect function. If torque sensor is not operating normally please double-check connector and cable for damage.



END