

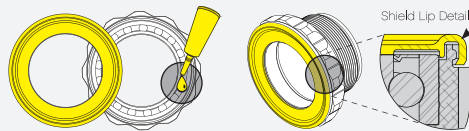
Spindle development

The e*thirteen spindle is based on a three sided polygon interface, as established by DIN Standard 32711. We modified it a tad to better suit machining and bicycle crank applications. This shape has been used since WWII starting with tank transmissions.

The interface has over 70 years of manufacturing research, development and improvement behind it. We didn't invent something to be different, we did our homework and discovered the best possible solution.

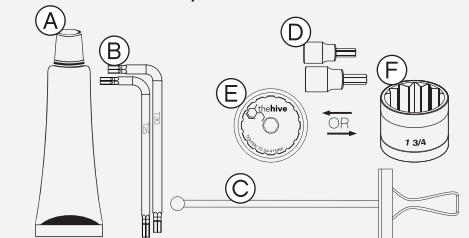
DIN 32711 EVO

BB preparation



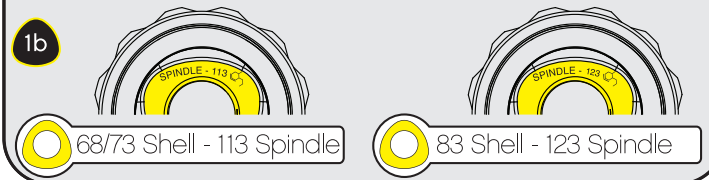
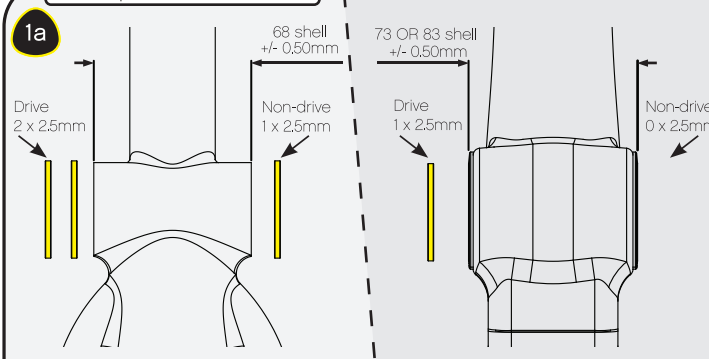
- Carefully remove bearing shields and lightly grease exposed bearing surfaces.
- Replace bearing shields and wipe away excess grease.
- Bearing seals must be removed prior to BB tool use.

Required tools



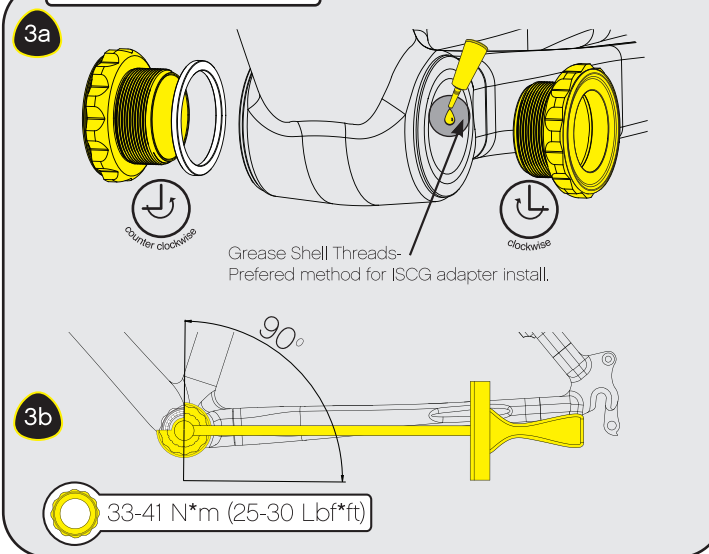
- (A) Grease (B) T25&T30 wrench (C) Torque wrench
(D) 8&10mm allen-3/8 socket (E) Hive BB tool
(F) 1 3/4" 12PT socket if you lose the hive tool

-BB Spacers Needed-



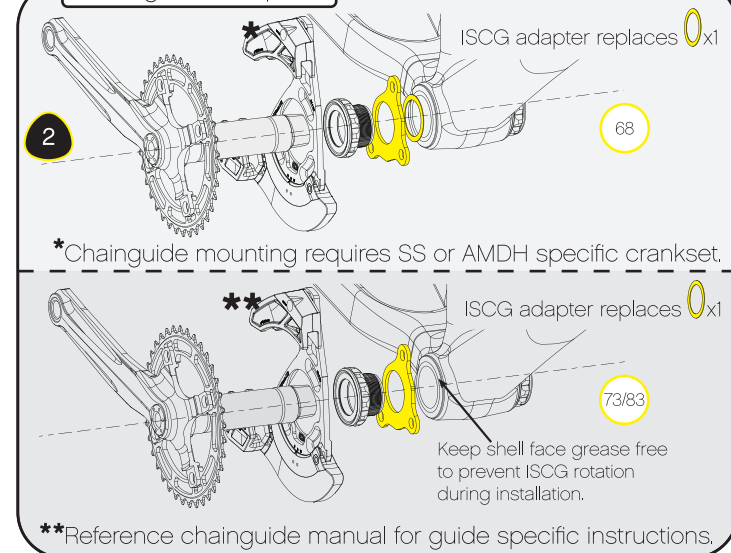
Start off clean. Clean and inspect BB shell. If installing on a new frame have your LBS face the BB shell to ensure both faces are parallel.
1a) Determine the number of spacers for your shell width.
1b) 68/73mm BB shells require the 113mm spindle crankset. For 83mm shells use the 123mm spindle crankset

-BB Installation-



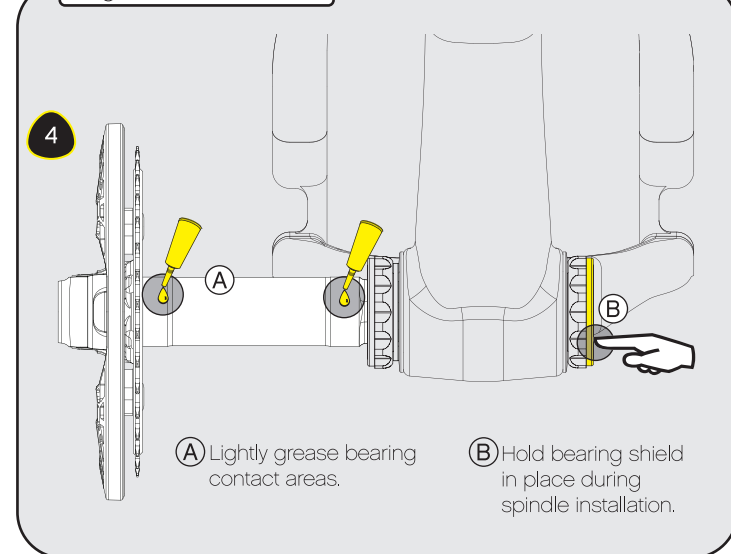
Install the BB. 3a) Apply grease to the shell threads. Keep shell face grease free if using an ISCG adapter to prevent rotation during install. Start threading in the BB cups by hand. Drive side BB cup threads in COUNTER CLOCKWISE. Non drive side BB cup threads in clockwise. 3b) USE A TORQUE WRENCH to tighten BB cups to 33-41 Nm (25-30 Lbf*ft)

-Chainguide Adapters-

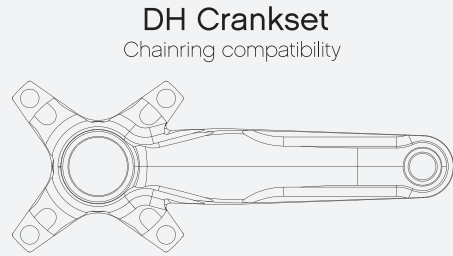


Chainguides with ISCG adapters - (Optional). 3) ISCG chainguide adapter will replace one (1) 2.5mm BB spacer. Use only AMDH or XC SS crankset when using any single ring chainguide. Use triple or XC crankset with dual ring chainguides. Reference the chainguide manufacturers installation manual for guide specific set up instructions.

-Right Arm Assembly-



Installing the spindle. 4) Guide spindle into drive side bearing. Gently push through both cups. Light force may be required. DO NOT use a hammer to seat the crank. Remove the crank, re grease and try again. Hold the non drive side bearing shield in place during spindle installation to ensure it remains properly seated.



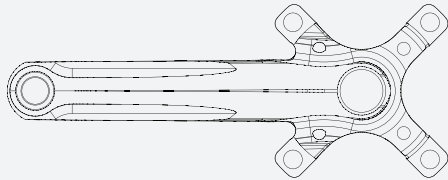
DH Crankset

Chaining compatibility

- 22-36T Shift Rings
- 24-38T Shift Rings
- All Guide Rings
- Triple 22T Ring
- Triple 32T Ring
- Triple 44T Ring

XC SS / Triple Crankset

Chaining compatibility

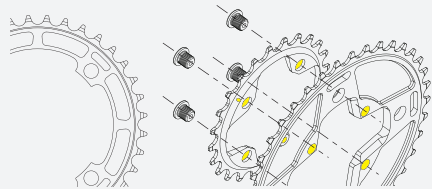


XC Single Speed

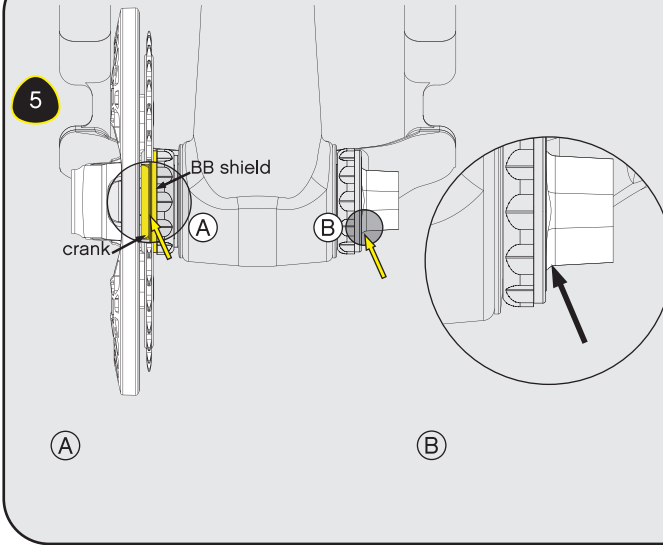
- 22-36T Shift Rings
- 24-38T Shift Rings
- All Guide Rings
- Triple 22T Ring
- Triple 32T Ring
- Triple 44T Ring

XC Triple Crankset

- 22-36T Shift Rings
- 24-38T Shift Rings
- All Guide Rings
- Triple 22T Ring
- Triple 32T Ring
- Triple 44T Ring

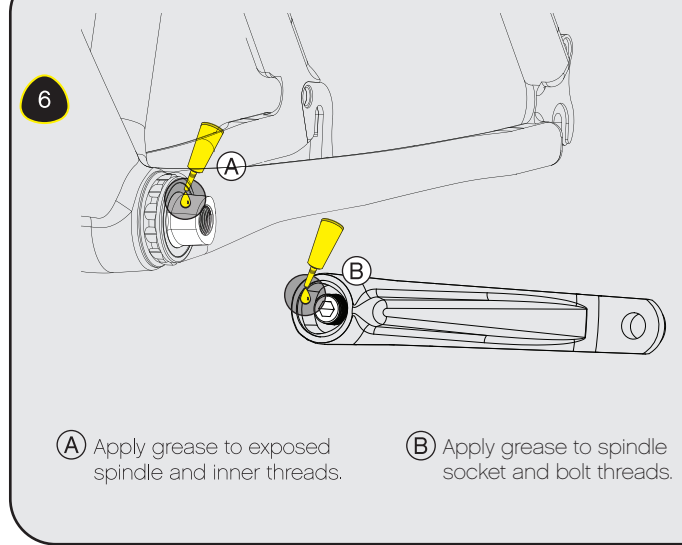


-Right Arm Assembly-



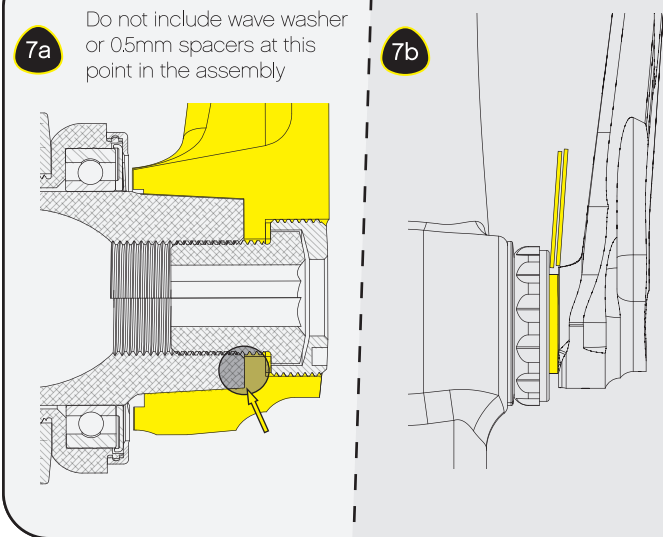
5) After the drive side crank and spindle assembly has been installed check to make sure the crank arm is seated and touching the drive side BB shield. When installed correctly the spindle radius should be exposed and visible on the non drive side BB assembly. If the crank does not contact the drive side bearing shield, Remove the assembly and re grease before trying again.

-Left Arm Assembly-



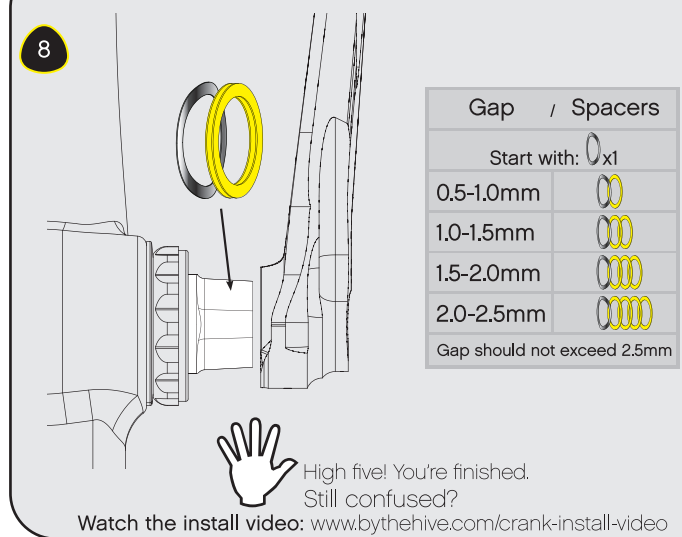
6) Apply grease to the exposed polygon spindle and threads. Apply grease to the left crank arm socket as well as the threads of the 8mm M16 self extracting crank bolt.

-Left Arm Assembly-



7a) Install left crank arm (without wave washer) and tighten crank bolt until the spindle end makes full contact with the inside of the crank arm socket, but not to full torque spec. 7b) Use the 0.5mm spacers to measure the gap between crank and BB seal face. If the gap measures two (2) spacers wide, in the final assembly the wave washer will replace one (1) of the two (2) spacers. Remove the left arm from the BB assembly.

-Final Assembly-



8) Select the correct number of spindle washers and place on the spindle with the wave washer closest to the BB seal. Install and tighten the left crank arm assembly, tightening the 8mm M16 crank bolt to 41-47 Nm (30-35 Lbf*ft). Check spindle preload by squeezing non-drive arm against chainstay. If crank is loose remove the left arm and add additional spacers. Install pedals and tighten to 31-34 Nm (23-25 Lbf*ft).