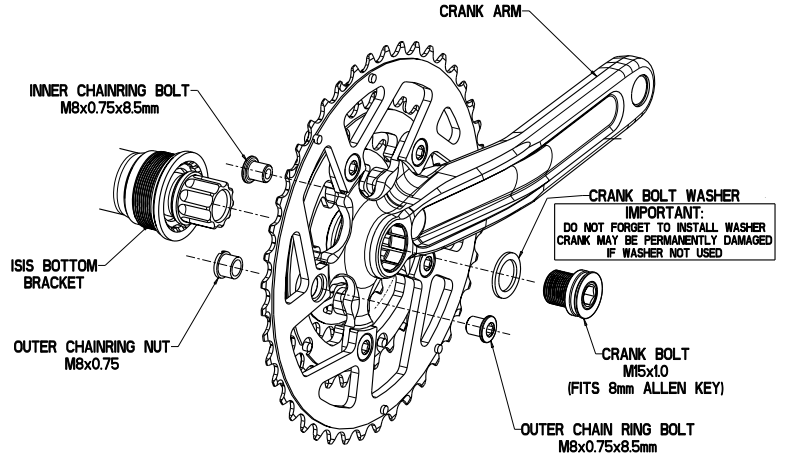
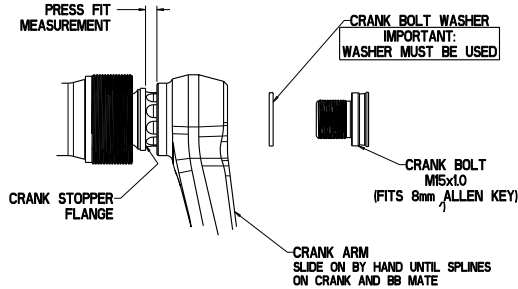


# TURBINE LP ISIS CRANK



We strongly recommend that you have a professional bike shop install and service your Race Face components. Improper assembly and/or adjustment will significantly compromise the strength and life span of this component. If you choose to install the component yourself, please follow the installation instructions carefully. **NOTE:** The rider assumes all risks upon installation and use of Race Face components.



The ISIS DRIVE spline system is the new standard for strength, stiffness and performance for cranksets and bottom brackets. The ISIS DRIVE spindle end features 10-16mm long, tapering (1 deg) flutes (teeth) ending at a hard stop "flange". The ISIS DRIVE crank arm features a mating 10-flute socket with the same 1 degree taper. The mating tapers guarantee a tight, creak-free interference fit between the two parts. The hard stop or "Crank Stopper Flange" positions the crank consistently to achieve ideal front shifting performance. Finally, the Crank Stopper Flange in combination with the super stiff oversize crank bolts rigidly "sandwich" the crank arm in place, eliminating any movement that is typical of traditional square taper interface systems.

The Race Face Turbine LP ISIS Drive Cranksets have been designed and engineered to be a simple, service free, install it and forget it system. Please follow these simple installation instructions to ensure proper operation and long life of your new cranks.

## CHAINLINE:

"Chainline" is a measurement from the centerline of your frame to the tip of the middle chainring on the crankset. This measurement is important because front shifting performance is directly connected to the chainline measurement on your bike.

All Race Face crank models (Prodigy, Turbine LP, Next LP, North Shore DH) are designed to achieve a chainline of 48.5-49.5mm when installed on a standard ISIS Drive 113mm (81mm ISIS designation) spindle such as the Race Face Prodigy or XS model.

## TOOLS REQUIRED:

- 1) 8mm allen (hex) key (preferably with a long 6-8" handle)
- 2) Torque wrench with 8mm allen head socket (preferred)
- 3) 5mm allen (hex) key for chainring bolts
- 4) Waterproof grease

## TORQUE SPECIFICATIONS:

Crank Bolts (initial 1" installation).....	40 foot-pounds (54 Newton-Meters)
Crank Bolts (subsequent re-tightening).....	35 foot-pounds (47 Newton-Meters)
Inner Chainring Bolts.....	100 inch-pounds (11.3 Newton-Meters)

## CRANK INSTALLATION:

- 1) Install outer and middle chainrings using standard chainring bolts and nuts. Tighten bolts alternately in a crossing pattern to eliminate even-odd load on bolts. This is similar to fastening the lug nuts on your car wheels.

**Note:** To eliminate loosening, we recommend use of loctite small thread locker (purple) on outer chainring bolt threads if steel bolts are used. If aluminum hardware is used, grease the threads and check them regularly. If titanium hardware is used, apply "Finish Line Ti-Prep" anti seize compound to the threads and check them regularly.

- 2) Apply grease to the threads of the supplied 8.5mm inner chainring bolts (or antiseize if you're using Ti hardware). This is absolutely necessary since you are threading these bolts directly into an aluminum spider on the crank.
- 3) Install inner chainring using pre-greased bolts. Torque to 100 inch/lbs. Use crossing pattern for tightening as per step #1. Use caution not to over-tighten these bolts and strip the aluminum threads in the spider.

**Note:** If you are using an aluminum inner chainring, be sure that it is the type with a recess for the chainring bolt head to fit into. Aluminum chainrings are relatively thick, and aluminum inner chainrings without this recess will decrease the amount of chainring bolt thread contact into the spider, increasing the chance of pulling the threads out or stripping them.

- 4) Inspect bottom bracket spindle. Make sure splines are in good shape, and free of burrs or sharp edges that may damage crank arm. Make sure the threads inside the spindle are in good shape.
- 5) Apply a generous amount of waterproof grease to all of the spline teeth on both ends of the spindle as well as to the threads on the inside of the spindle.

## INSTALLATION (CONT'D)

- 6) Slide the crank arm onto the spindle in a horizontally opposed relation. You will notice that the crank will not slide all the way onto the crank stopper at the end of the spline teeth on the spindle. This is okay and correct. There is a mating taper on the root of the spline flutes and on the mating splines in the crank arms. This taper creates an interference fit between the two parts, eliminating movement and creaks. The gap you notice after sliding the crank arm onto the spindle by hand is called the PRESS FIT MEASUREMENT.

**Note:** Crank bolts with washers are included with all Race Face ISIS Drive bottom brackets. ISIS Drive bottom brackets may be spec'd with either M12x1 or M15x1 bolt threads, depending on BB design and intended use. Both sizes are much stiffer and stronger than the conventional M8x1 bolts that are used with traditional square taper interfaces. Always use the crank bolts supplied with your bottom bracket. Do not substitute inferior crank bolts made of lower strength Titanium or Aluminum.

**CAUTION: ALWAYS USE WASHERS UNDER THE HEAD OF THE CRANK BOLTS!! SOME CRANK BOLTS MAY COME WITH "BUILT IN" WASHERS AND SOME MAY COME SEPARATE. IF THE CRANK BOLTS ARE INSTALLED WITHOUT THE WASHERS, THE SOFTER ALUMINUM OF THE CRANK ARM'S SPLINE TEETH WILL BE PERMANENTLY DAMAGED, RENDERING THE CRANK ARM UN-USABLE. INSTALLATION OF CRANK ARMS WITHOUT WASHERS WILL VOID ALL WARRANTIES ON THE CRANK ARMS.**

- 7) Using your 8mm allen key, install the crank bolts into the spindle threads and tighten until the back face of the crank arm bottoms out against the CRANK STOPPER FLANGE on the BB spindle. We recommend an initial installation torque of **40ft./lbs. (54 N.m)**, however, this requirement may vary depending on the crank arm design and material. The most important thing is to make sure that the crank arm contacts the CRANK STOPPER FLANGE, not the torque required to achieve contact, however, exceeding 40ft/lbs. when the crank has already bottomed out against the CRANK STOPPER FLANGE may damage the mating face on the softer aluminum of the crank arm.

\* The combination of the super stiff M12 or M15 bolt, along with the crank contacting the CRANK STOPPER FLANGE on the spindle creates a super rigid interface that does not allow the crank arm to move around the BB spindle, as is the case with traditional square taper interfaces. This, along with the extremely high torque load carrying capacity of the 10 flute splined interface eliminate all of the typical problems associated with the traditional square taper interfaces.

- 8) Install your chain and pedals, and adjust your front derailleur to manufacturer's specs. You're ready to ride!

## MAINTENANCE INSTRUCTIONS:

- 1) **CHECK THE TIGHTNESS OF YOUR CRANK BOLTS AFTER YOUR FIRST RIDE, AND PERIODICALLY THEREAFTER. USE A TORQUE SPEC OF 35FT./LBS (47 N.m) FOR RE-TIGHTENING CHECKS.**
- 2) Check and re-tighten if necessary, chainring bolts after your first ride and periodically thereafter. Pay special attention to the inner chainring bolts, as they are installed with lubricant. Riding with inner chainring bolts loose may damage or strip the threads in the aluminum spider. However, be careful not to over-tighten.
- 3) Removal and cleaning cranks and chainrings with solvent is perfectly safe. Removal and re-greasing of hardware will be required.

## IMPORTANT

7075 Aluminum Alloy, as used in Race Face cranks is exceptionally strong, but also has poor resistance to corrosion. The crank arms are coated to protect against corrosion.

Do not attempt to remove anodized or painted coating from cranks using "oven cleaner" or any other means. This will severely affect the integrity of the part. Such chemicals attack the aluminum alloy. **Such actions eliminate and void all warranties.**

**If you get bored of the color, sell the cranks to someone who likes it and get yourself a new set!**

