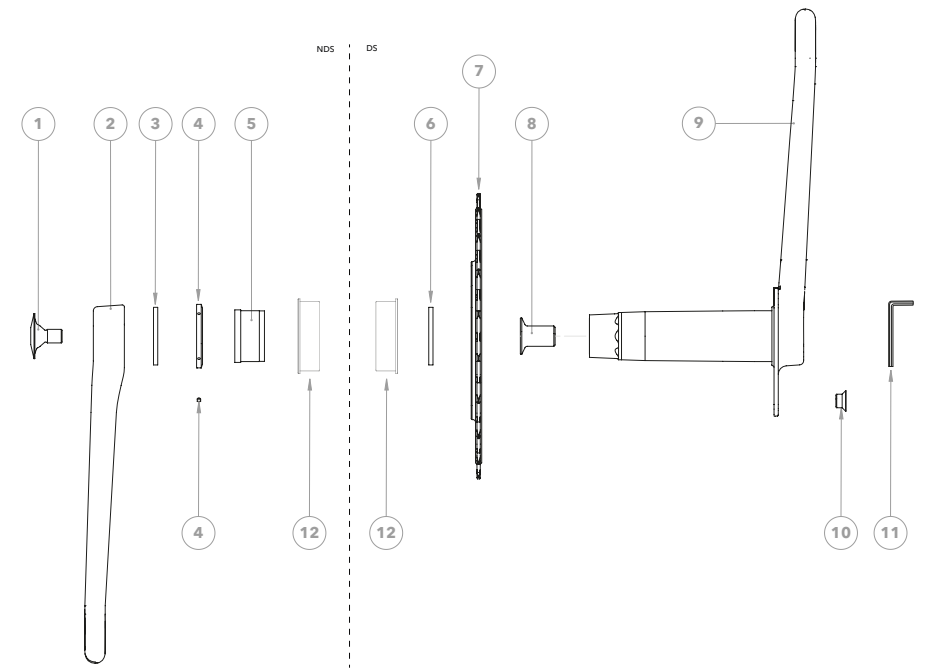




USER MANUAL  
**TORNO WIDE CRANK**



Please check that the package received contains all the parts of the following image.  
Pay attention to the spacers that are essential for proper assembly.



|   |                                          |
|---|------------------------------------------|
| 1 | Fixing bolt                              |
| 2 | Left crankarm                            |
| 3 | 4mm spacer                               |
| 4 | Adjustment unit ring                     |
| 4 | Adjustment unit screw,<br>2x M2.5 x 3 mm |
| 5 | Adjustment unit sleeve                   |

|    |                                            |
|----|--------------------------------------------|
| 6  | Spacers: 0.5, 1, 1.5, 2, 2.5               |
| 7  | Chainring                                  |
| 8  | Extractor bolt                             |
| 9  | Right crankarm                             |
| 10 | Chainring screw x4                         |
| 11 | Hexagonal key 1.25mm                       |
| 12 | Bearing cups<br><u>Not part of the kit</u> |

This crankset has been conceived and developed to maximize lightness and stiffness. Extra attention is required both for the assembly and for the maintenance, to prevent damage and malfunctions, and to ensure the best performance over the years. You need to be technically proficient, a generic knowledge about bicycle mechanics is not sufficient, in case of doubt, please let a qualified mechanic work on this crankset.

This manual is an integral part of your 3T Torno Wide, with important information regarding its safe long term operation.

Read this manual very carefully before you assemble the Torno Wide. Follow to the smallest detail all of the assembly and maintenance instructions, as well as those provided in the manuals of other manufacturers whose products are used in conjunction with the Torno.

Retain this manual for other users of your bike. Make also sure that all users read, understand and observe this manual. The latest release is also available in our website.

If you ever sell or give away your Torno Wide, this manual must be transferred to the new owner.

## **PRODUCT SERVICE LIFE**

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All bicycle products have a finite useful service life. This is determined by a combination of many factors including: typical load, correct installation, materials and technologies, product design, rider weight and power, care and maintenance, type of usage, impact damage. All these factors affect wear. Additionally, products are subject to a less-known form of wear known as 'material fatigue'. This is the progressive separation of the molecular structure, a 'micro-fracture' that eventually grows large enough to cause failure. To minimize your riding risk, 3T recommends you check your bicycle regularly for signs of wear. Have a qualified mechanic regularly inspect all parts of the bicycle for corrosion, wear, cracks, deformation, surface damage, and any sign of fatigue. Spotting early signs of fatigue requires visual enhancers like penetrating fluids. Any component that is worn out, has lost its structural integrity, or shows any sign of fatigue or damage must be replaced immediately, to reduce the possibility of an accident that could cause serious injury.

### **WEIGHT LIMIT**

A heavier rider and/or an aggressive riding style increase the stress on the products, reducing service life. 3T products are suitable for riders below 110 kg/240 lb.

### **WARNING: INTENDED USE**

3T Torno Wide crank system has been exclusively designed for installation and use on standard road and gravel bikes. Any use different from the intended use could cause an accident and result in death or serious injuries.

## ASSEMBLY & MAINTENANCE

### **WARNING:**

There is a serious risk of accidents if assembly and maintenance work is not performed by a qualified mechanic in a professional manner.

- Do not overestimate your technical ability. If you are not sure about your qualifications let a qualified mechanic perform all assembly and maintenance work.
- Always use an appropriate torque wrench and apply the specified tightening torques.
- Only use suitable, undamaged, high-quality tools.
- Only use original 3T spares which are available from your specialist dealer or directly from 3T.
- Never make any modifications to your 3T components.

### **WARNING: ON THE ROAD**

To minimize the risk of an accident, follow all local rules and regulations, use a certified helmet, never ride side by side with other cyclists on public roads, ride in a defensive manner and exercise maximum caution. Use lights, reflectors and bright clothing with reflective stripes especially when visibility is reduced.

### **WARNING: TRANSPORT AND STORAGE**

There is a risk of accident caused by bicycle components that have been damaged during transportation or storage. To reduce the risk:

- Always transport your bicycle in an appropriate and careful manner to prevent any structural damage.
- Do not expose your 3T components to an ambient temperature below -15°C (5°F) or above 55°C (131°F).

## ASSEMBLY

### INSTALLING THE TORNO WIDE CRANKSET

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#### PREPARING THE FRAME

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Secure your bicycle in an appropriate assembly stand. If installed, remove the crankset and the old bottom bracket.

Use a degreaser (and a brush on threaded shells) to clean the bottom bracket shell of your frame.

#### **⚠ WARNING**

Do not use aggressive solvents to prevent damage to the frame that could cause an accident.

Make sure that the bb shell has been tapped and faced properly, if necessary, rework the bottom bracket shell with the appropriate tools.

#### INSTALLING THE BOTTOM BRACKET

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Make sure that there is no part protruding inside and interfering with the assembly of the BB. Follow the bottom bracket manufacturer instructions.

#### ASSEMBLING THE CHAINRING

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#### **⚠ ATTENTION**

The chainring threads are very small and the screw engagement is only a few mm, therefore you must exercise maximum care. Apply some medium strength Loctite 243 on the threads. Assemble the chainring as shown in figure 2

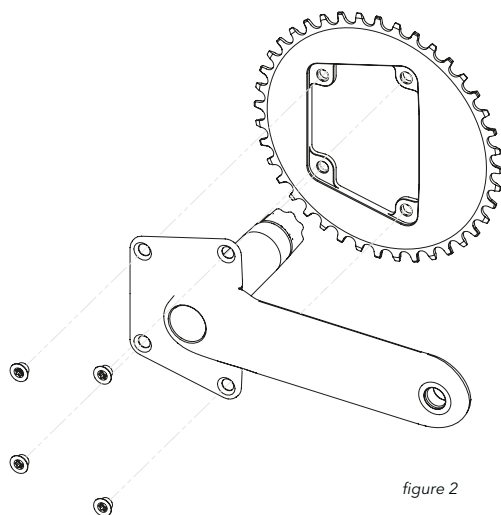


figure 2

### ASSEMBLING THE CHAINRING

The spider plate fits precisely in the recess of the chainring: tighten the screws (Torx30) gradually and alternately up to 6 Nm as shown in figure 3.

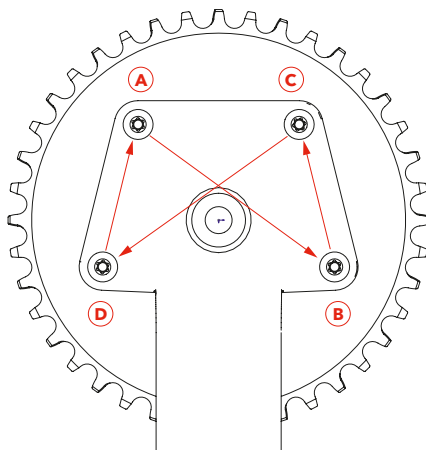
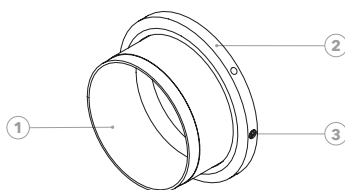


figure 3

### ADJUSTING UNIT

The adjusting unit has a slightly conical internal surface that fits on a slightly conical crank spindle, and comes with the adjusting ring already screwed on.



It consists of one sleeve (1) with an outside threaded portion, one threaded ring (2) and two M2.5 grub screws (3).

Do not tighten the grub screws for the moment, the ring must be free to rotate.

### INSTALLING THE CRANK

Once the BB/BB cups have been installed, the width has to be measured very precisely. The measure, to be taken with a precision caliper, must include the bearing dust covers.



The Torno Wide uses a 4mm spacer on the Non Drive Side (part of the kit) but requires a single or multiple spacers (also part of the kit) on the Drive Side to compensate for the width tolerance of the BB. The width has to be measured as shown in the picture 5, then the appropriate spacer thickness has to be calculated with this formula:

Drive Side spacer width =  $1.5 \text{ mm} + (45.25 \text{ mm} - \text{BB width in mm}/2)$ .  
The result will be rounded -if necessary- to the lower 0.5 mm.

$$S_{\text{spacer}} = 1.5\text{mm} + \left( 45.25 - \frac{\text{BB width}}{2} \right)$$

Example #1:

$$1.5 + (45.25 - 85.5/2) = 4 \text{ mm (no need to round it)}$$

Example #2:

$$1.5 + (45.25 - 86.40/2) = 3.55 \text{ mm that is rounded to 3.5 mm}$$

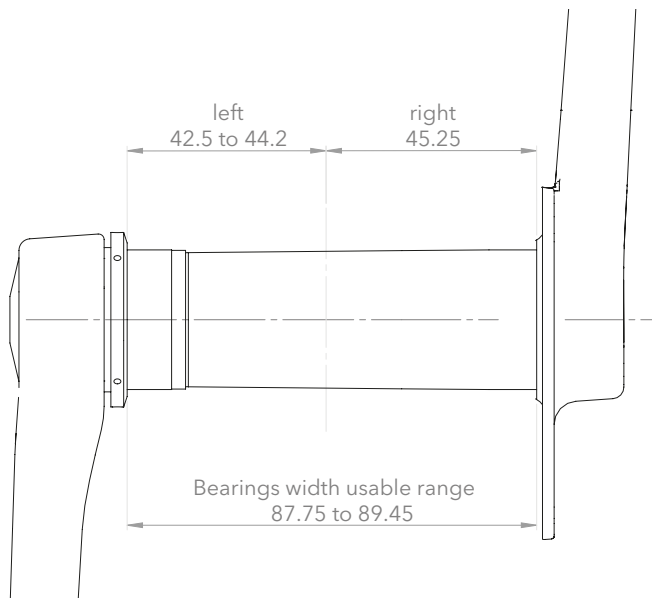
Example #3:

$$1.5 + (45.25 - 86.70/2) = 3.40 \text{ mm that is rounded to 3.0 mm}$$

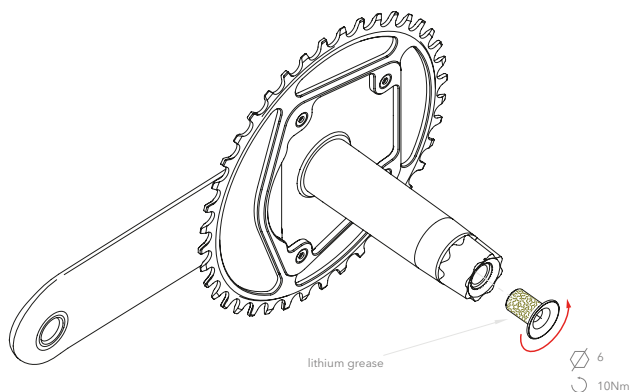
### INSTALLING THE CRANK

The width range of the bearings allowed by the Torno Wide crankset is shown in figure 6. The center plane is shown as well, together with the clearance on the left (non-drive) and right (drive) side.

figure 6



Apply lithium grease the thread of the extractor bolt



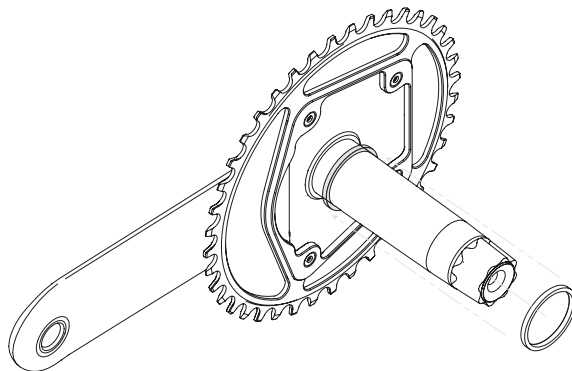
Screw counter clockwise the extractor bolt (6mm hex) into the axle with torque 10 Nm.



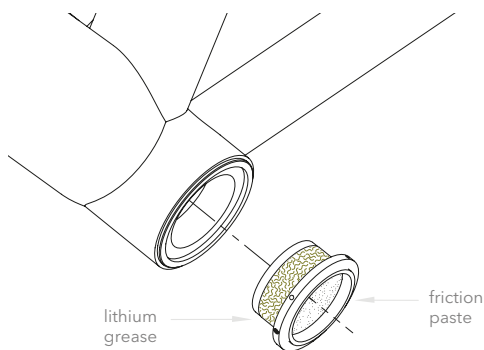
## ASSEMBLY

### INSTALLING THE CRANK

Insert the appropriate spacer(s) onto the axle, according to the calculation explained above.



Apply lithium grease on the outside of the adjusting unit (1) which will go in contact with the bearing, and apply a friction paste on the inside, that will go in touch with the spindle, to prevent rotation during adjustment.



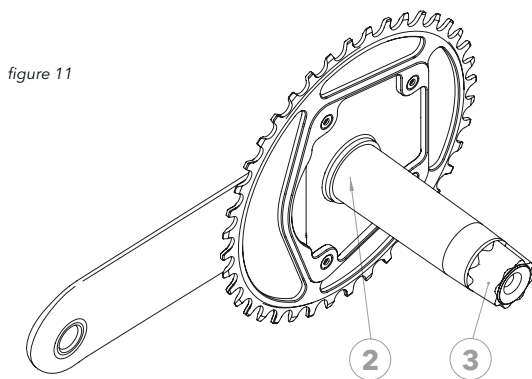
Position the ring of the adjusting unit in the middle of the thread.

### INSTALLING THE CRANK

Insert the assembled adjusting unit (sleeve, ring, 2 screws) inside the NDS bearing. Do not push it fully inside, there should be a 5-10 mm gap between the adjusting ring and the bearing as shown in figure 10.



Apply white lithium grease to the DS bearing seat of the axle and to the axle spline profile as shown in figure 11.



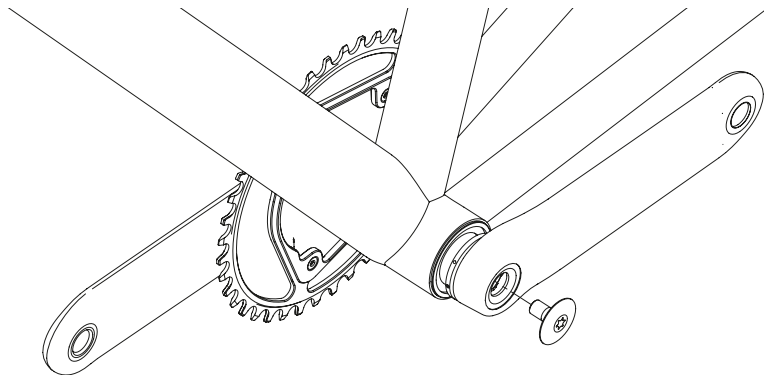
Insert the axle of the right crank through the bottom bracket and the adjusting unit (with the DS spacers installed). Push it in by hand all the way until it stops against the bearing. Check that there is no clearance or play between crank, spacer and the bearing.

Apply white lithium grease inside the female spline profile of the left crankarm.

Insert the 4mm spacer on the spindle and fit the left crankarm to the axle spline profile. Make sure the left and right-hand crank are at 180°!

### INSTALLING THE CRANK

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Apply white lithium grease on the thread and under the head of the crank fixing bolt.

Screw in the left crank fixing bolt (6mm hex or TX 40) (counter clockwise) and tighten to 30 Nm.

While and after tightening, make sure that the ring of the adjusting unit is able to move freely.

Use a rubber mallet carefully to make sure the right crank is still pushed all the way against the bearing.

Progressively screw the adjusting unit ring against the bearings until there is no play in the crank-set, then fix it hand tight with the grub screw using the supplied 1.25 mm allen key.

The cranks should be able to spin freely with no friction.

## ASSEMBLY

### ASSEMBLING THE PEDALS

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- Make sure you identify the L and R pedals, they have different threads: the DS pedal has a RH thread, the NDS pedal has a LH thread
- Do not exceed the 20 Nm recommended tightening torque for the pedals
- Do not use a lower torque or you will detach the threaded metal inserts and you both damage the cranks and won't be able to remove the pedals

#### **ATTENTION:**

Most power meter pedals have longer threads because they host the electronics in the spindle. These longer threads may protrude on the inside of the crankarm, interfering with the chainstay or with the chain. Make sure there's sufficient clearance (normally 2-2.5mm) both with the Chainstay, and with the chain (on the smallest cog) and if needed use a spacer of 1mm (no more than 1mm) between the pedal and the crank.

- Power meter pedals manufacturers usually offer their indication about such minimum clearance.
- Do not use the pedals if the clearance is insufficient even with the 1 mm spacer.

Apply grease to the threads and assemble the pedals

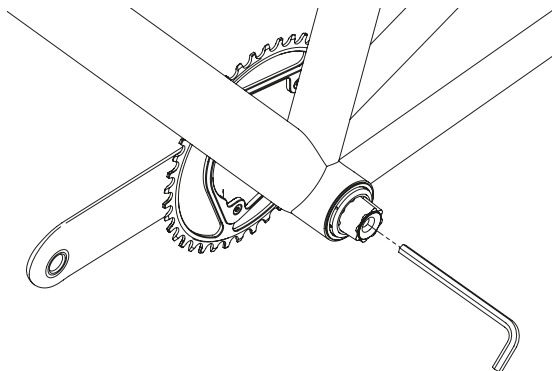
### DISASSEMBLY

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Remove the left crank fixing bolt (clockwise)

Use a 6 mm Hex key on the extractor bolt from the non-drive side. Loosen it (clockwise) and push the left crankarm off.

Remove the right crankarm pushing the axle out of the bearings. Remove the adjusting unit.



### IMPORTANT MAINTENANCE INFORMATION

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Please note that improperly performed assembly and maintenance work could invalidate your warranty rights.

Maintenance is very important to maximize safety.

The maintenance intervals required for your bicycle depend on how often and in which weather conditions it is used and should be conducted more frequently if the bicycle is used in certain environmental conditions (rain, dirt, sand, seaside etc.).

Salt and other agents used in cold weather to prevent icing on streets are especially damaging to bicycle parts, if riding on those streets cannot be avoided, the bicycle should be properly cleaned, and all traces of such treatment agents removed, immediately after the ride.

In general, when conducting regular maintenance procedures, make sure your bicycle is always clean and well protected by appropriate lubricants.

Ask your specialist dealer about which products are best for your use as well as information on their correct application.

#### **WARNING**

Loose screws may lead to failure and accidents, check after the first 100km and then every 2500km the various bolts and screws to make sure they are properly tightened. Turning a screw destroys the thread locker, so you must re-apply it any time a screw is tightened or unscrewed.

Check regularly that there is no play in the crankset and that it spins freely with no roughness in the bearing.

Regularly clean the parts and make sure there are no signs of damage, like dents, cracks, scratches, abrasions, wear and anything that might indicate a structural problem.

Never use a high-pressure washer or a steam cleaner, as the bearing seals cannot withstand the pressure and temperature damages many parts. Also, water that enters certain spaces won't be able to come out.

Never use aggressive solvents or cleaners as they damage surfaces and materials.

Only use commercially available paint care products and neutral soap with water to clean your bicycle and parts.

Maintain the bike in flawless conditions. Care and maintenance will prolong the service life of your bicycle and components and improve your safety.

If you suspect that there is a problem with your bicycle, stop using it immediately and contact a qualified mechanic for a professional inspection.

## MAINTENANCE

### BEFORE EVERY RIDE

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#### **WARNING**

To minimize the risk of accidents check your bike and your 3T components before each ride to ensure there is no damage. Strange noises might be a sign of structural damage. If any anomaly is noticed, have the bike and its components inspected by a qualified mechanic before further use. Do not exceed the maximum overall weight allowed for for your 3T components.

### TORNO WIDE COMPATIBILITY

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For the regularly updated compatibility information please refer to our website.

NOTE



**3T.BIKE**