



THUN ELECTRIFIES

Sensory BB-Cartridges

Assembly Instructions





FIG. 1



FIG. 2

Important notes on assembling sensory BB-Cartridges X-CELL R and RT Please be certain to read these notes before assembly!

1. Please take great care during assembly. Use only suitable tools.
Do not use an impact wrench! No complaints will be entertained if an X-CELL R and RT is damaged due to faulty assembly.
2. Components of X-CELL R and RT:
 - a) The sensory BB-cartridge (Fig. 1)
 - aa) The sensory BB-cartridge contains:
 - Sensor shell with sensing element and cable
 - Pre-assembled right-hand adapter with BS 1.375 x 24 LH thread
 - Spindle with square ends (12.73 mm)
 - Two 2RS ball bearings
 - b) Left-hand adapter (Fig. 2) with BS 1.375 x 24 RH thread (supplied loose)



Do not use any strong magnets or magnetized tools during assembly as this may lead to changes within the spindle's magnetic field. It causes X-CELL bb-sets to permanently lose their functionality!

X-CELL bb-sets should only be disassembled by Thun employees; otherwise the warranty expires.



FIG. 3



FIG. 4



FIG. 5

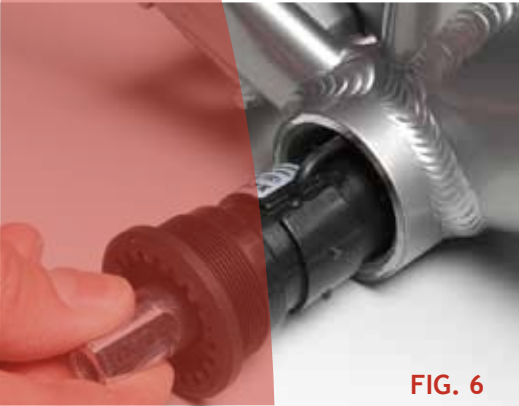


FIG. 6



FIG. 7

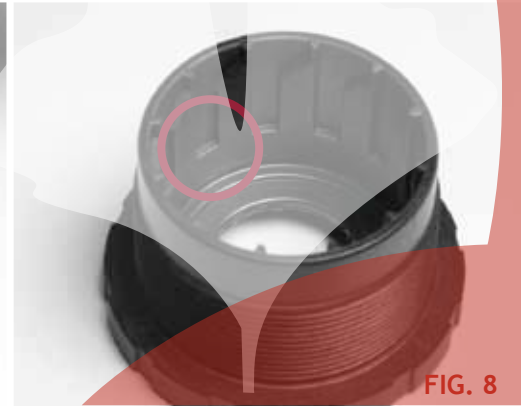


FIG. 8

Description of assembly

Prior to assembly, the bottom bracket's bore and tubes must be checked and any burrs that might interfere with the cable must be removed (according to EN 15194:2009). This is to prevent damage to the cable. Further, it is crucial that the inner diameter of the bottom bracket is not cylindrical however large enough in order to guarantee enough space for the cable.

- Screw the left-hand adapter (with RIGHT-HAND thread, Fig. 3) into the left side of the bottom bracket (Fig. 4) and tighten it to a torque of 25 - 30 Nm.
- Be advised to choose the right diameter of the drill-hole for the cable or plug feedthrough for the to be mounted X-CELL.
- Hold the BB-cartridge (Fig. 5) in front of the opening on the right-hand side of the bottom bracket (Fig. 6). Introduce the cable through the bottom bracket and through the drill hole, into the required frame tube, and push until it exits the end of the tube. Then either hold the end of the cable or secure it with a cable tie.
- Insert the BB-cartridge (Fig. 6) carefully into the bottom bracket so that the cable is on the same direction as the chosen frame tube. As you do so, pull gently on the cable so that it does not snag as the cartridge is inserted into the frame.
- While inserting the BB-cartridge into the bottom bracket, make sure that there is no excessive resistance.
- If there is excessive resistance, it may be that the projections on the sensor shell (Fig. 7) are not correctly aligned with the grooves in the left-hand adapter (Fig. 8). Another reason might be that there is not enough space for the cable within the bottom bracket.

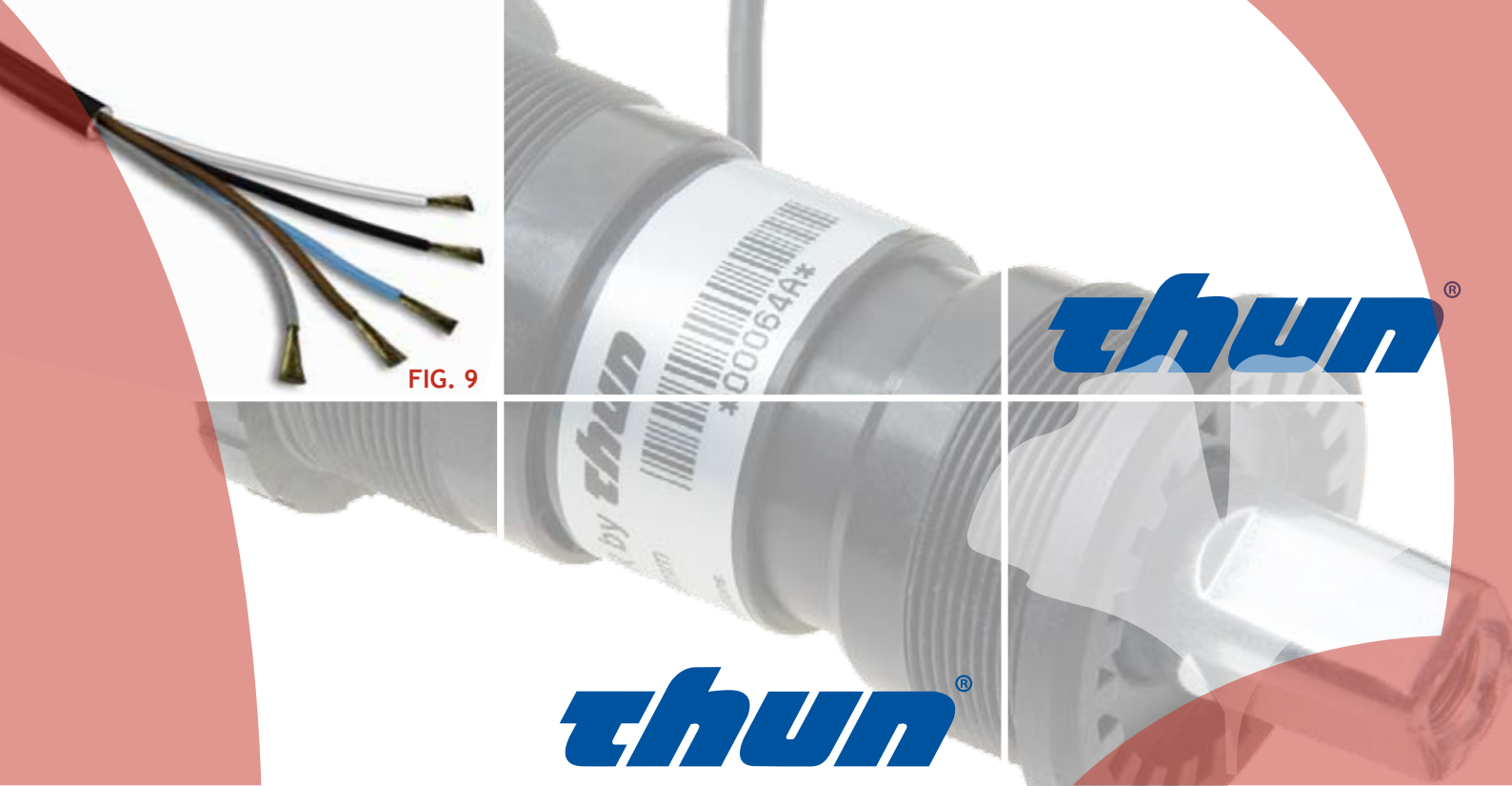


FIG. 9

- Hold the end of the cable and screw in the right-hand adapter (the cable should not be pulled!). Then tighten the right-hand adapter to a torque of 25-30 Nm.
- Please pay attention to the following connection diagram during the assembly of the X-CELL (Fig. 9):

Wirecolor	Description
Black	Ground
White	power supply
Grey	Torque signal (only X-CELL RT)
Brown	Sinus signal
Blue	Cosinus Signal

The sinus and cosinus signal is used to detect the rotation direction and cadence of the X-CELL spindle and must be adapted to the programming of the controller. Important to know is if you are changing from a K-version to a L-version the signal of the rotation direction is also inverted.

Errors and modifications excepted!

