

FIT DIAGNOSTIC KIT PINION MGU

Guide to Systematic Troubleshooting in the FIT System

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REVISIONS DOCUMENT

Revision	Date	Author	Change
V0	October 8,	D. Mumenthaler	- First version for field testing, remote Basic systems
V1	2025-11-28	D. Mumenthaler	- Add a master node to the system diagram - Adjustment of materials / color coding - Chapter 3: Flowchart instead of continuous text
V2	2026-02-13	D. Mumenthaler	- Chapter 3: Notes on the Maintenance Tool, addition of the Master Node System, new QR codes
V3	April 28, 2026	D. Mumenthaler	- Document layout, clarification of specific points, component names in English

MATERIAL

Part No.	Description	Cable Label	
550082	FIT Diagnostic Kit Pinion MGU, consisting of		
500098	FIT Display Cable for Pinion MGU	green	D1 D2 D3
501204	FIT Battery Connector for Pinion MGU	red	A1 A2 A3 A4
500039	FIT Charging Socket 4Fix with Rubber Cap	yellow	L
500134	FIT Speed Sensor for Brake Disc Magnet	orange	S
501659	FIT Extension Cable Battery	blue	B1 B2
501196	FIT Display Cable with Micro Q Connector	white	M1 M1
500355	FIT holder set 31.8 mm for center display with 500087 FIT Plug-in Adapter for Display	magenta magenta	- X1 X2
501262	FIT Remote Basic	magenta	R

* The components installed on the e-bike may have different part numbers, as alternative variants may exist (e.g., different cable lengths).

1 PURPOSE OF THE FIT DIAGNOSTIC KIT PINION MGU

When troubleshooting system errors (e.g., startup, communication errors), defect components should be identified as easily as possible so that repairs can be carried out with minimal effort. Preventive replacement of intact components should be avoided to prevent material wear and ensure repairs are completed in a timely manner. The kit is designed to enable the cause of the fault to be narrowed down as accurately as possible.

Replacement parts: Once a defective component has been identified, a replacement must be ordered for it and should not be replaced with parts from the FIT Diagnostic Kit Pinion MGU. To do so, please create a ticket specifying the defective component.

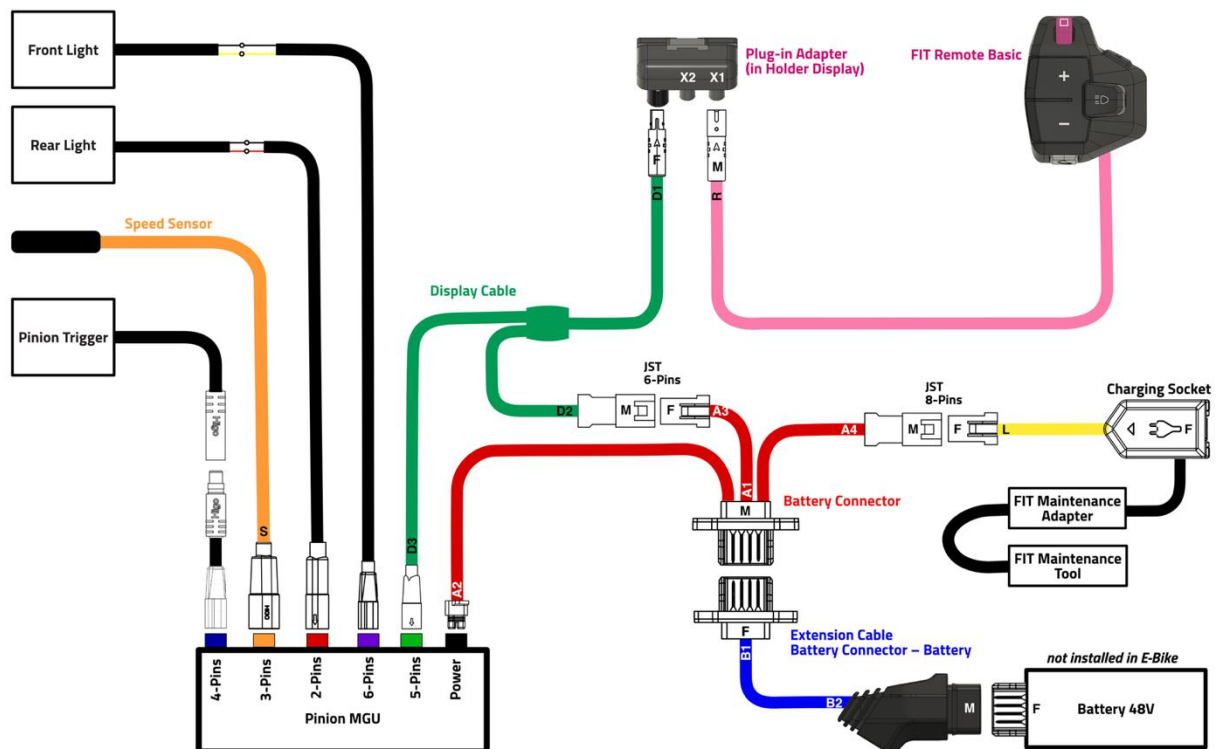
Not Intended: The material included in the Diagnostic Kit is specifically marked for this application and should not remain installed in the e-bike.

2 SYSTEM DIAGRAM

All cables shown in color are included in the package and are color-coded. The kit also includes a FIT Remote Basic and a Plug-in Adapter – all components of the kit are intended exclusively for troubleshooting and may not be sold. The connector designations mentioned are indicated by cable flags on the connectors of the cables included in the FIT Diagnostic Kit Pinion MGU.

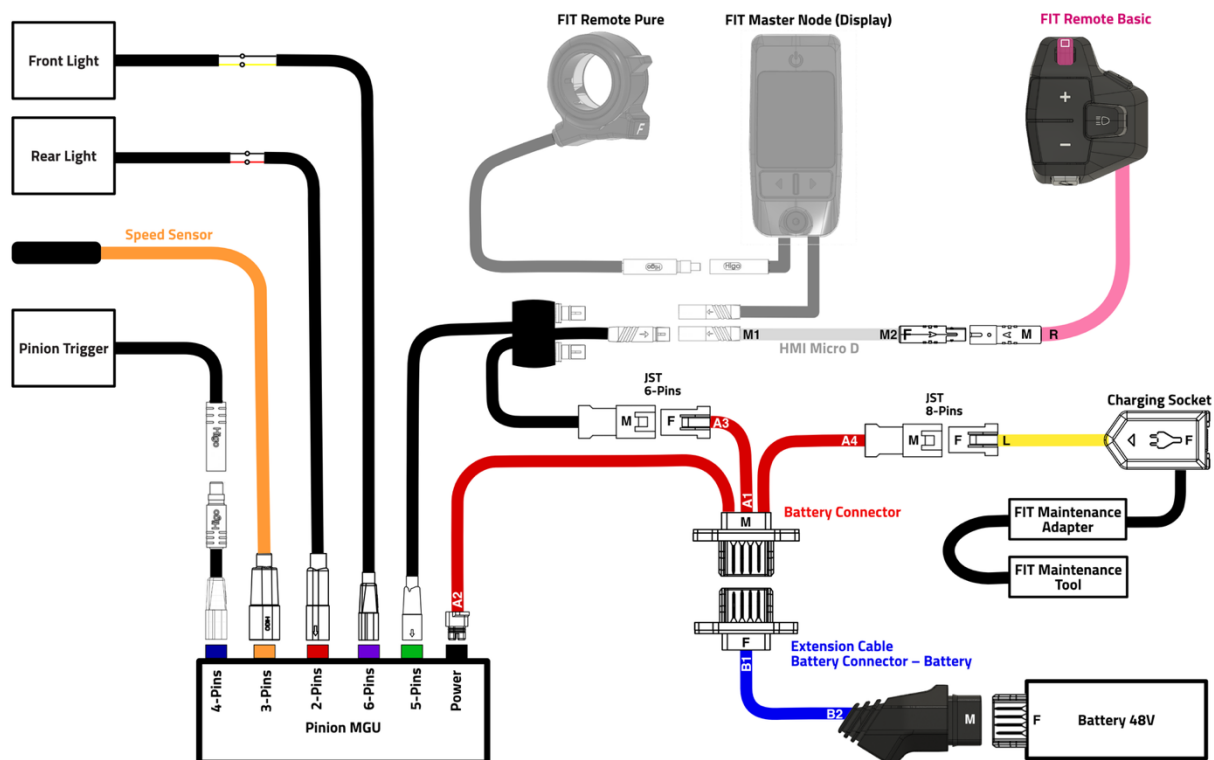
*The FIT Maintenance Adapter is required for diagnostics and can be ordered from the [e-shop](#).

2.1 Wiring diagram with Remote Basic or Remote Basic E-Shift



2.2 Wiring diagram with Master Node Basic or Master Node Display

*The FIT Remote Pure and the FIT Master Node Display are not included in the scope of delivery.



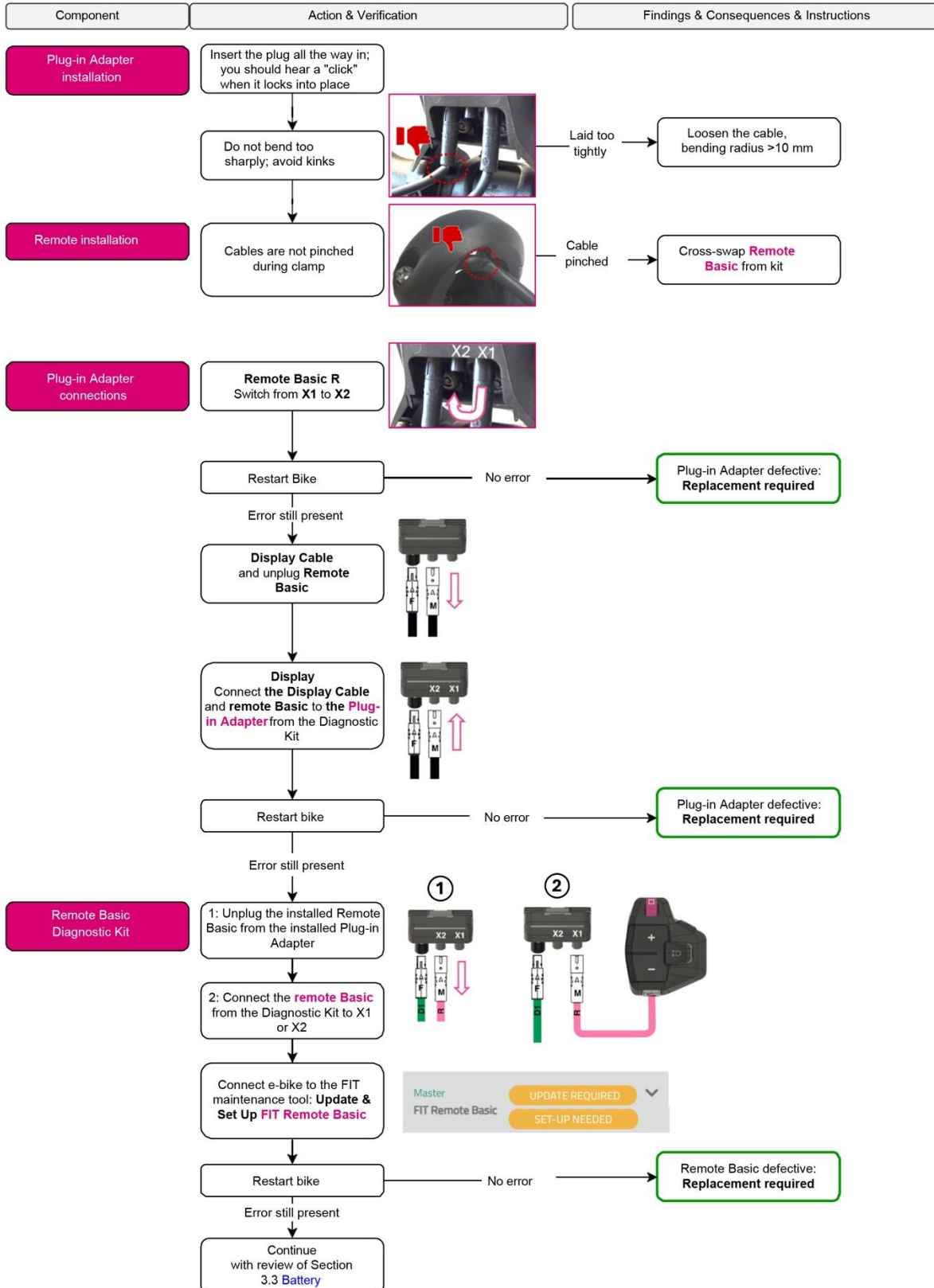
3 TROUBLESHOOTING PROCEDURE

All components that are easily accessible on the bike should be checked first to keep the amount of work to a minimum. Only if the source of the fault cannot be identified through these initial steps deeper-seated parts should be checked.

The order of the recommended steps is designed so that the most common faults can be identified early in the process with the least possible effort.

3.1 Checking the Cockpit with Remote Basic or Remote Basic E-Shift

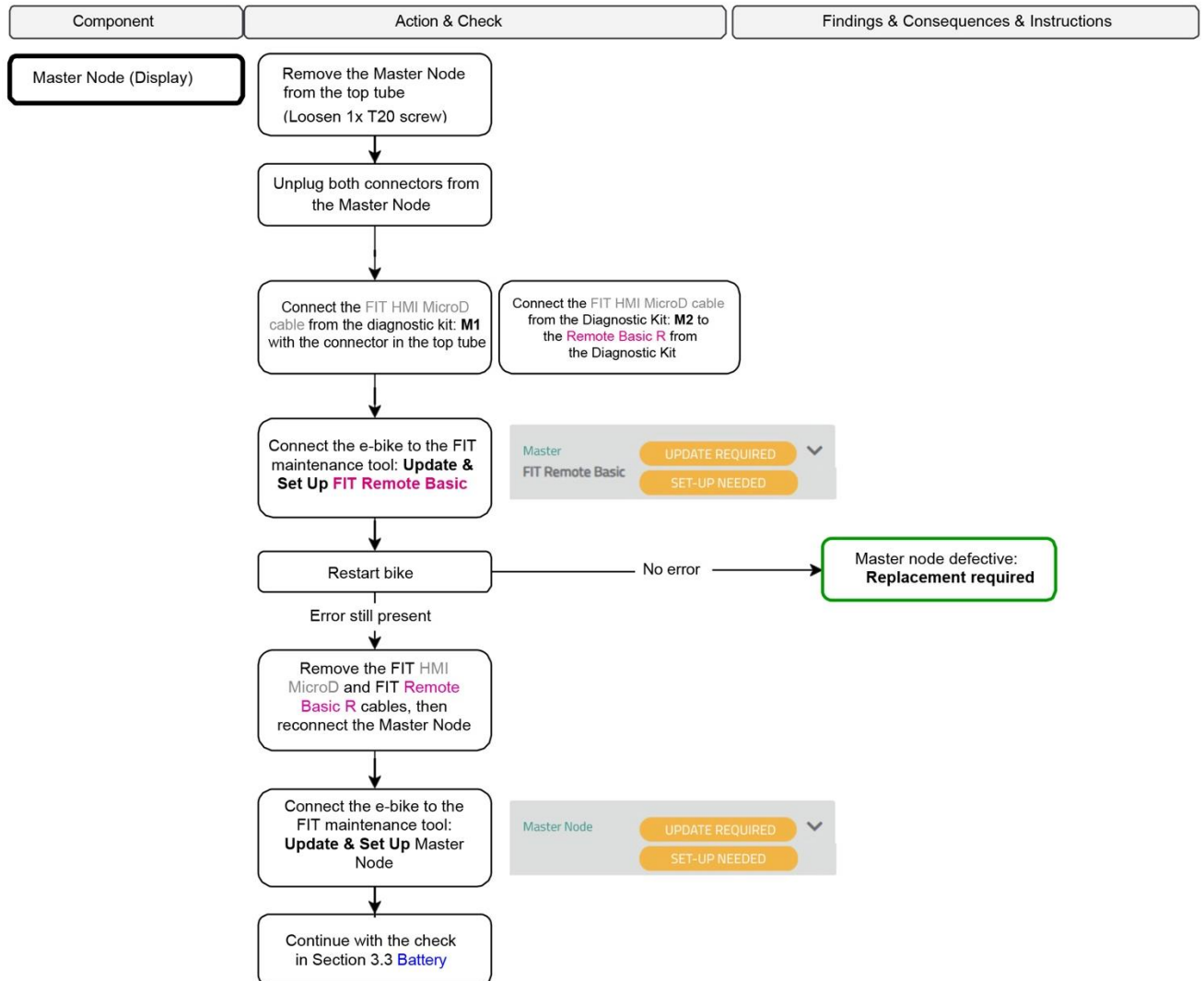
→ See wiring diagram in Section 2.1



* As soon as another remote is connected to the system, the e-bike must be connected to the FIT maintenance tool and, if available, an update must be performed.

3.2 Checking the Cockpit with Master Node Basic or Master Node Display

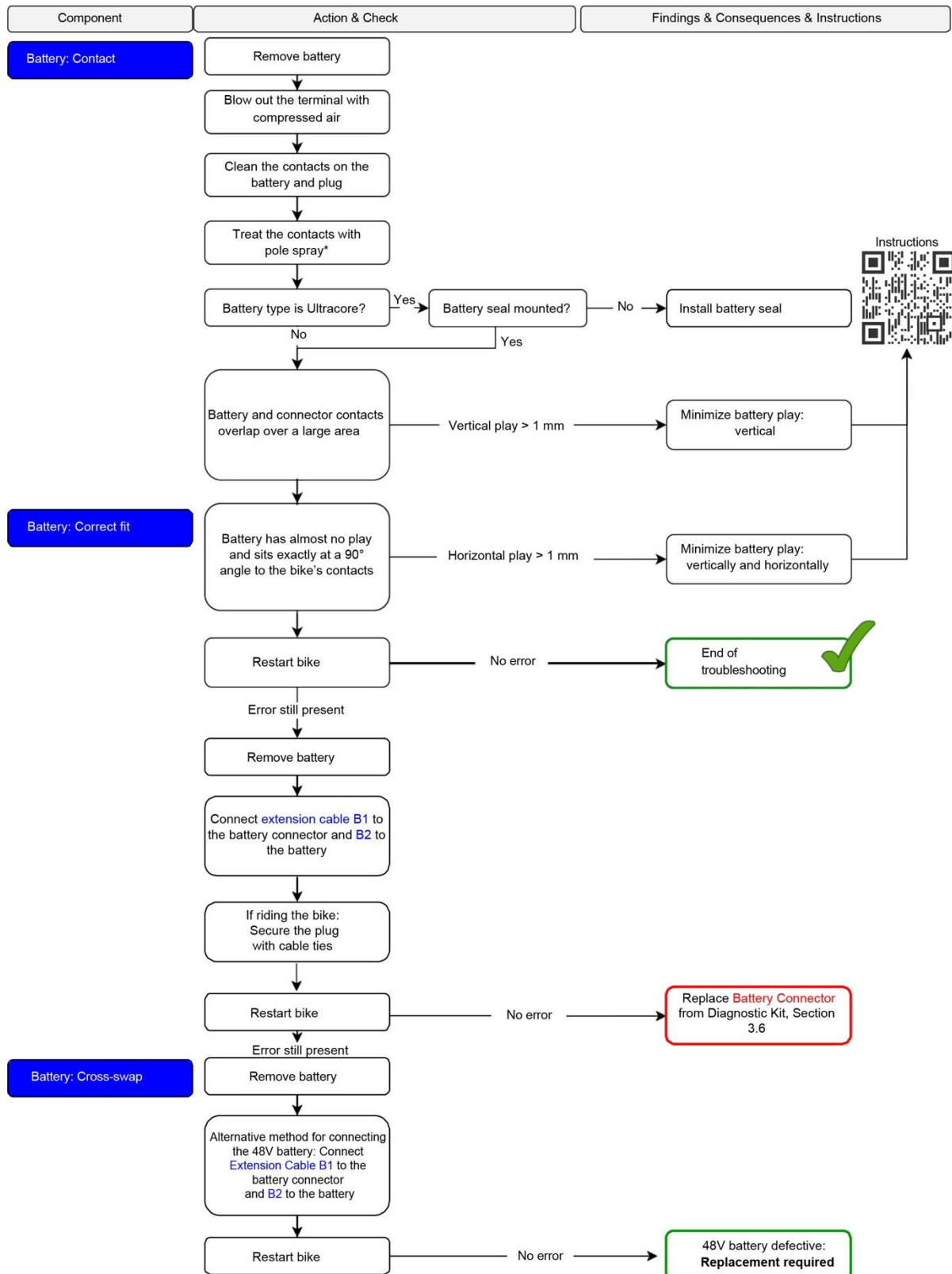
→ See wiring diagram in Section 2.2



→ If the **FIT Remote Pure** is not working, please check the cabling between the Master Node and the remote: pinched cables, a tight bend in the cable, or loose connectors can lead to communication errors.

3.3 Checking the Battery: fit and contact

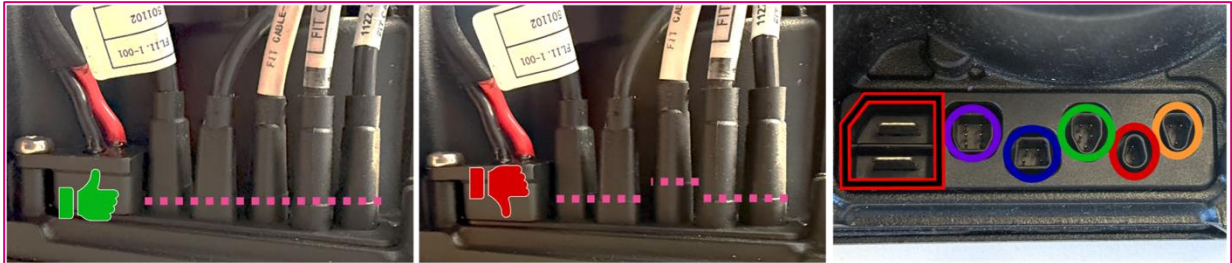
Check the battery's fit to ensure permanent contact and that there are no (brief) interruptions at any time during the ride, even with vibrations.



*Polspray Atlantic available in the FIT E-Shop, PN 501630

3.4 Checking the signal connections on the Pinion MGU

Check that all connectors on the MGU are securely seated and restart the bike. The connectors must be inserted far enough so that the **marking lines** are **on the same level** and contact interruptions are not possible due to loose connectors.



Symptoms if connections are not properly plugged in:

Orange, speed sensor: not connected or incorrectly adjusted; speed 0.0 km/h, error message on display appears only after a delay while riding.

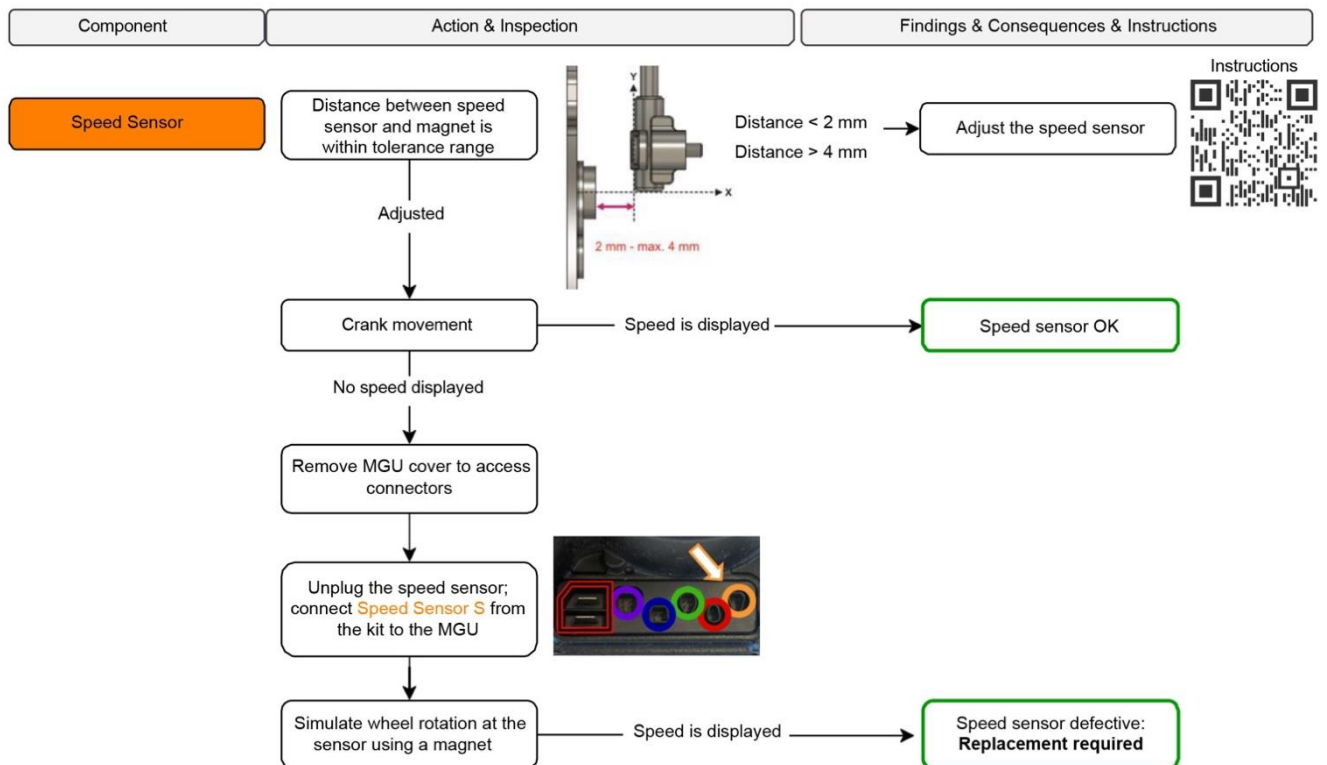
Red, rear light: not connected 🚫 rear light off, no error message.

Green, display cable: if not connected or defective 🚫 error message on display "Restart e-bike".

Blue, Pinion Trigger: if not connected 🚫 manual shifting no longer works, no error message.

Purple, front light: if not connected 🚫 front light off, no error indication.

3.5 Checking the Speed Sensor Installation



3.6 Wiring: Replace Display Cable and Battery Connector

