

ENGINEERED
TO MAKE YOU

smile

FAQ

Bafang parts

FAQs regarding the Bafang parts

You can find help on various questions and problems regarding Bafang parts on the following pages. Select the part on which you require help here. Then click on the question which is closest to your problem.



You can always return to the home page using the Home button 

In case of questions and ideas on the FAQs, please contact service.nl@bafang-e.com

Select the part

Front/Rear motor

Middle motor

Battery

Sensor

HMI

ERROR Codes

Controller

BESST Tool

Front/Rear motor

Motor makes an unusual sound

No support

Freewheel / Skip through

Hub breakage

Ball bearings

Oxidation

Cable breakage

Support level assistance incorrect

Inner-core is rusted



Middle motor

Freewheel / Skip through

No support

Motor makes an unusual sound

Speed sensor fault

Sensor issue



Battery

Battery range

Problem with LED's

Battery temperature to high

Battery doesn't function

Moisture in the battery

Battery doesn't charge

Battery shuts down

Battery rubber plug broken

Battery casing broken

Battery charger connector broken



HMI

Moisture in display

Defective display buttons

Incorrect battery percentage

Broken connector/cable breakage

Time/clock disfunction

Service notification

Display doesn't turn on/off

Speed isn't correct

Problem with range

Pin code entered incorrectly or lost

Total distance

Clear ERROR codes



Controller

ERROR Codes

Cable breakage

Lighting issue



Sensor

Backlash

Cable breakage

Cup broken

support inefficient



ERROR Codes

ERROR "04"

ERROR "07"

ERROR "08"

ERROR "09"

ERROR "10"

ERROR "11"

ERROR "12"

ERROR "13"

ERROR "14"

ERROR "15"

ERROR "21"

ERROR "25"

ERROR "26"

ERROR "27"

ERROR "30"

ERROR "33"

ERROR "35"

ERROR "36"

ERROR "37"

ERROR "41"



ERROR Codes

ERROR "42"

ERROR "43"

ERROR "44"

ERROR "45"

ERROR "46"

ERROR "47"

ERROR "48"

ERROR "61"

ERROR "62"

ERROR "71"

ERROR "81"

ERROR "CF01"

ERROR "CF02"

ERROR "CF03"

ERROR "CF04"

ERROR "CF05"

ERROR "CF06"

ERROR "CF07"

ERROR "CF08"

ERROR "CF09"



BESST Tool

Explanation BESST BOX

Problem 6

Which wheel circumference?

Problem 7

Difference ASOC - RSOC

Problem 8

Battery information in BESST Tool

Problem 9

Problem 5

Problem 10



motor makes an unusual sound

Initial Situation

- The motor makes an unusual sound when the support is on, or when the support is off, but the wheel is spinning
- This can be tapping, cracking, scraping or something like that

Information

Can be caused by the bearings, rust, gears

Procedure

- Replace the hub motor or complete wheel



Freewheel / Skip through

Initial Situation

- Motor skips, runs very rough or core motor is turning but does not support.

Information

Procedure

- Can you hear the core motor turning but no support?
The freewheel is broken → motor defect, change motor/complete wheel.
- Does the motor support or turn very rough? Probably the gears or bearings are broken. → Replace the motor or complete wheel



The ball bearings of the motor are broken

Initial Situation

- The bearings in the motor are broken or worn out

Information

The motor usually runs roughly

Procedure

- Change motor or complete wheel



Cable breakage

Initial Situation

- There is a cable break in the motor cable

Information

A cable break is always by OEM assembly or own use so never warranty!

Procedure

- No warranty, replace motor or complete wheel



motor is rusted

Initial Situation

- The motor is rusted

Information

Rust can be found on the outside, and sometimes on the inside of the motor.

Procedure

Check if motor has been opened

Yes? -> no warranty, still needs replacement.

No? -> Replace motor



Motor gives no assistance

Initial Situation

- The motor does not support

Information

No electrical support from the motor

Procedure

- Does the walkt assist function works fine?
Yes? -> Check the rotation or torque sensor.
No? -> Controller issue
- 1. Try different/correct software.
- 2. Change controller
- Can you hear the motor turning but no support?
Replace the complete motor, the freewheel is probably broken.



Hub breakage

Initial Situation

- The hub is broken

Information

This is due to its own fault and is therefore not a guarantee.

Procedure

- Replace motor or complete wheel



Oxidation in/on motor

Initial Situation

- The motor is oxidized

Information

This can only be done by damages so this is never a guarantee.

Procedure

- Replace motor or complete wheel



Support level assistance incorrect

Initial Situation

- support level 1/8 work minimally. In position 9 it works well.

Information

The support is not strong enough in position 1 to 8. In position 9 the support is normal.

Procedure

- Walk assist works well? Yes? -> Check software and update
- Still not ok? Replace controller.

Extra: Support levels are integrated in the brand specific software.
If BESST Pro compatible, its adjustable.



Freewheel / Skip through

Initial Situation

- Motor skips, runs very rough or does not support

Information

Procedure

- Can you hear the core motor turning but no support?
The freewheel is broken → replace the complete motor.
- Does the motor support or turn very rough? Probably the gears or bearings are broken. → Replace the motor or complete wheel



No support

Initial Situation

- The motor does not support

Information

Procedure

- Walk assist works -> replace motor
- Walk assist doesn't work -> check brake sensor
- Brake sensor works -> replace motor
- Connect to BESST to check torque / rotation sensor



Motor makes an unusual sound

Initial Situation

- The motor makes an unusual sound when the support is on, or when the support is off, but the wheel is spinning
- This can be tapping, cracking, scraping or something like that

Information

Procedure

- Gears ok? Check the chain and sprockets
- Replace motor



Sensor issue

Initial Situation

- There is a problem with the torque or cadance sensor

Information

Procedure

- Connect to BESST -> check signal (Torque/Cadance)
- No signal? -> replace motor
- Signal? -> other motor issue, change software or replace motor if still not fixed



Speed sensor fault

Initial Situation

- Speed sensor fault (Error 21)
- Not correct speed on the display

Information

Speed sensor does not give the correct info to the controller/display

Procedure

Midmotor:

- Check magnet distance 10-20mm
- Check in BESST for speed sensor output.
- Output? Display or controller fault
- No output? Speed sensor fault

Front/Rear motor:

Check in BESST for signal
Signal? Display fault
No signal? replace motor



Battery range

Initial Situation

- The range is less than expected.
- The range has strongly decreased

Information

The range is something that can depend on a lot of factors. Weight, tire pressure, headwind, road surface and so on.

Procedure

- Something changed recently? (Updated software?)

Extra: capacity may drop of a maximum of 10% each year.



Battery temperature is too high

Initial Situation

- The battery warms up without being in use, cycling or charging

Information

There are temperature sensors in the battery, which ensures that it automatically stops charging as soon as it rises above 60 degrees.

Procedure

- During charging? Connect to BESST

What to read in BESST:

- Battery temperature without charge
- Battery temperature after a ride
- Battery temperature when charging



Moisture in the battery

Initial Situation

- The battery is not completely waterproof anymore and moisture has gotten into it.

Information

All Bafang batteries are IP X6. But it can happen that due to a factory error or damage, water still gets into the battery.

Procedure

- Damage? No warranty -> new sales order
- No damage and in warranty? -> Replace



Battery shuts down

Initial Situation

- When the battery stops while driving and it is not yet empty

Information

In most cases when this occurs 1 cell or cell packet is defective.

Procedure

- Damage? No warranty -> new sales order
- No damage and in warranty? -> Test Through BESST and replace if it is correct

Extra: Could also be the low voltage protection that is in the controller software



Battery casing broken (to cover the charging point)

Initial Situation

- When the battery cover is broken

Information

A battery cap sits around the battery to protect the cells etc.

Procedure

- Damage? No warranty -> new sales order
- No damage and in warranty? -> Replace



Problem with LED's

Initial Situation

- When the LEDs are not functioning on the battery.
- When the LEDs are flashing and the battery cannot be recharged
- The LEDs are always on

Information

There are LED's on each battery of Bafang to display the battery indication and to wake it up/put it in sleep mode.

Procedure

- Damage? No warranty -> new sales order
- No damage and in warranty? -> Replace
- LED's are blinking and not charging? -> put them in deep sleep mode (press the button for 20sec until they blink 1 by 1 until the 1st only blinks 1x) and then wake back up.



Battery doesn't function

Initial Situation

- The battery has no power and there is no way to get it on.

Information

A battery from Bafang has 30 months warranty after production date and with invoice 36 months. A consumer gets 24 months.

Procedure

- Check with multi meter
- If there is no power -> try to get out of a possible sleep mode.

If this doesn't work -> replace battery



Battery doesn't charge

Initial Situation

- The battery cannot be charged with a charger.

Information

This must of course first be checked with several chargers.

Procedure

- Try an other charger firstly
- Put them in deep sleep mode (press the button for 20sec until they blink 1 by 1 until the 1st only blinks 1x) and then wake up.
- Still not able to charge? -> Charging plug defect or BMS defect. Replace.



Battery rubber plug broken

Initial Situation

- The rubber plug cover of the battery is broken.

Information

The rubber plug cover of the battery is only meant to prevent dust. The battery is also waterproof without the cap!

Procedure

- It is not possible to replace it yourself.



Battery charger connector broken

Initial Situation

- The charging plug is broken in the battery and cannot be removed from it

Information

Disconnecting the charging plug is always done by your own use only. For this reason it is not a warranty.

Procedure

- Replace battery



Moisture in display

Initial Situation

- Moisture has been detected in the display

Information

A Bafang display is always IP X5. However, it may be due to an error or damage that moisture enters the display.

Procedure

- Does the display have damage? No guarantee so new sales order
- Doesn't the display have any damage? Replace display



Defective display buttons

Initial Situation

- The display controls are defective

Information

In various displays it can happen that ladies break the buttons with their nails by their own use. This is not a warranty

Procedure

- Does the display have damage? No guarantee so new sales order
- Doesn't the display have any damage? Replace display



Incorrect battery percentage

Initial Situation

- The battery percentage on the battery is not equal to what can be seen on BESST or the battery itself.

Information

The display shows how much battery power is available.

Procedure

- Battery percentage on older UART bikes is gathered in the Display
First step: Change software, otherwise change component
- Battery percentage on all Canbus bikes is gathered in the Controller
- First step: Change software, otherwise change component



Broken connector/ cable breakage

Initial Situation

- The display cable or connector is broken/damaged

Information

This is always due to incorrect assembly or personal use so never warranty!

Procedure

- Replace display



Disfunction time/clock

Initial Situation

- The clock/time is going to fast or slow.

Information

On several displays of Bafang you can see the time on the screen

Procedure

- Download the newest software and update the HMI



Service notification

Initial Situation

- The service button remains on the display screen

Information

The service button comes automatically when the customer has cycled 5000km.

Procedure

- Through the menu in the display, you can turn this off.
- Through BESST the dealer can disable/reset this.



Display doesn't turn on/off

Initial Situation

- The display cannot be turned off and on through the display

Information

With each display you have the possibility to turn it on and off Through the display itself or the controls.

Procedure

- Can you see the display Through BESST? -> Software update
- You can't see the display Through BESST, but you can see the controller? -> Replace the display



Speed isn't correct

Initial Situation

- The speed is not shown or not shown correctly on the display

Information

In the display you can see the speed by means of the speed sensor

Procedure

- No speed? Connect to BESST and check if there is a signal coming out. If so, replace the display. If not, the sensor is defective (ERROR 21)
2nd step: Change Controller.
- Too high/low = wheel circumference settings Through BESST



Problem with range

Initial Situation

- The range shown on the display does not correspond to the distance you should be able to reach according to the battery.

Information

On the display you can see an indication of the distance you should still be able to cycle.

Procedure

- For a new bike, the range on the display is not correct. This will adjust after 3-4 complete rides.
- Connect the bike to BESST for a controller software update



PIN code entered incorrectly or lost

Initial Situation

- The PIN code has been typed incorrectly or you forgot it, making it impossible to use the bike.

Information

With the DP C250.CAN, DP C251.CAN, DP C18.CAN and the DP C181.CAN you have the option to set a PIN code to lock the bike.

Procedure

- New software
- Replace display



Total distance to 0

Initial Situation

- The total kilometers that have been ridden are gone

Information

The display keeps track of the total distance travelled on the e-bike.

Procedure

- Resets when connecting a new display -> nothing can be done about this



Clear ERROR codes

Initial Situation

- You want to clear the history of errorcodes in the HMI

Information

Some displays keep a history of ERROR codes

Procedure

- In display → Go to menu → Go to display settings → press the +, - and powerbutton



ERROR codes

Initial Situation

- There is an controller error

Information

With a controller problem there is always an ERROR in the display

Procedure

- Look at the error codes



Cable breakage

Initial Situation

- The controller cable is broken or damaged

Information

This is always due to incorrect assembly or personal use so never warranty!

Procedure

- Replace controller



Backlash on torquesensor

Initial Situation

- there is some play on the torque sensor

Information

Pay close attention to the mounting near a torque sensor to prevent damage.

Procedure

- Bearings defective? replace sensor
- Not tightened properly -> first loosen left and then tighten right (ONLY WITH PLASTIC CUPS)
- Tighten aluminum cups to the left only!



Cable breakage

Initial Situation

- The torquesensor cable is broken or damaged

Information

This is always due to incorrect assembly or personal use so never warranty!

Procedure

- Mostly incorrectly mounted -> must firstly left and then right



Cup broken

Initial Situation

- The cup has broken

Information

This is always due to incorrect assembly or personal use so never warranty!

Procedure

- The cup is the tightened so never warranty from Bafang
- Report defect on delivery to the supplier



Supports inefficiently

Initial Situation

- The support is not efficient
- Sometimes you get support and sometimes you don't

Information

The support from Bafang sensors should be smooth and can be adjusted Through BESST

Procedure

- Usually, the support settings are not correct
- Or it's because of one of the other sensor problems



"04" - The throttle has not returned to its correct position

Initial Situation

- The throttle has not returned to its correct position
- The display shows the error code 04

Information

The throttle is the signal input part of the controller. The throttle signal is the control signal for the operation of the motor.

Procedure

- Step 1 Check if the throttle is stuck
 - ✓ The throttle is stuck. Replace the throttle.
 - × The throttle is not stuck. Replace the controller.
- Step 2 Clear the error code (Conditions: Connect all components, Turn on the system)
 - ✓ Error code 04 is inactive. Repair complete.
 - × Error code 04 is active. Return to the step 1 or contact BAFANG if all steps have been completed and checked again.



"07" - Over voltage protection

Initial Situation

- Over voltage
- The display shows the error code 07 and the motor doesn't function.
- It always happens when you use a 36V motor with a 43V battery.

Information

Battery is a kind of on-board energy that provides pedelec energy.

Procedure

- Step 1 Use the BESST tool to read the voltage. Connect the pedelec to BESST, check the voltage value.
- Step 2 Use the BESST tool to update the controller.
- ✓ The system returns to normal. Go to step 3.
- × The system doesn't return to normal after the controller updated. Replace the battery.

- Step 3 Clear the error code (conditions: Connect all components, turn on the system)
- ✓ Error code 07 is inactive. Repair complete.
- × Error code 07 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again.



"08" - Error with the hall sensor

Initial Situation

- Error with the hall sensor
- The display shows the error code 08

Information

The hall sensor is used to let the motor drive smoothly and continuously as the electronic switch

Procedure

- Step 1 Check all the connectors from the motor (only for FM/RM) for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
- ✓ Correctly connected. Replace the controller
- ✓ Correctly connected, but controller is not the problem? Replace the motor.
- × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible.

- Step 2 If it's a M400 (MM G330) motor with CAN -> Replace controller
- Other MM? Change complete motor.
- ✓ Problem solved.



"09" - Fault with motor phase winding

Initial Situation

- Fault with motor phase winding.
- The display shows the error code 09 and the motor doesn't function.

Information

The three phases of motor construction are applied in our motor, so each phase is supposed to work properly.

Procedure

- Step 1 Replace the motor.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 09 is inactive. Repair complete
- × Error code 09 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"10" - Overtemperature of motor

Initial Situation

- The temperature inside the motor has reached its maximum protection value.
- The display shows the error code 10 and the motor doesn't function.

Information

The motor temperature sensor is used to detect the temperature inside the motor.

Procedure

- Step 1 Turn off the system and wait the pedelec to cool down
- Connect to Besst while getting the error, check temperature.
- ✓ System runs normal. Go to step 2
- × System doesn't return to normal after the pedelec cooled down. Replace the motor.
- Step 2 Clear the error code (Conditions: Connect all components, Turn on the system)
- ✓ Error code 10 is inactive. Repair complete.
- × Error code 10 is active. Return to the step 1 or contact BAFANG if all steps have been completed and checked again.



"11" - Motor temperature sensor fault

Initial Situation

- Motor temperature sensor fault
- The display shows the error code 11 and the motor doesn't function.

Information

The motor temperature sensor is used to measure the temperature inside the motor.

Procedure

- Step 1 Replace the motor.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 11 is inactive. Repair complete
- × Error code 11 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"12" – Controller current sensor fault

Initial Situation

- Controller current sensor fault.
- The display shows the error code 12 and the motor doesn't function.

Information

The controller current sensor is used for overcurrent protection.

Procedure

- Step 1 Replace the controller.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 12 is inactive. Repair complete
- × Error code 12 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"13" - Battery temperature sensor fault

Initial Situation

- Error with the temperature sensor
- The display shows the error code 13 and the motor doesn't function.

Information

The battery temperature sensor is used to detect the temperature inside the battery.

Procedure

- Step 1 Check battery temperature in Besst.
- Step 2 Replace the battery.

- Step 3 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 13 is inactive. Repair complete
- × Error code 13 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"14" - Overtemperature of controller

Initial Situation

- The protection temperature inside the controller has reached its maximum protection value.
- The display shows the error code 14 and the motor doesn't function.

Information

The controller temperature sensor is used to detect the temperature inside the controller.

Procedure

- Step 1 Check temperature in Besst
- Step 2 Turn off the system, allow the pedelec to cool down and restart the system
- ✓ System runs normal. Go to step 2.
- × System doesn't return to normal after the pedelec cooled down. Replace the motor.
- Step 3 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 14 is inactive. Repair complete
- × Error code 14 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"15" - Controller temperature sensor fault

Initial Situation

- Error with the temperature sensor inside of the controller.
- The display shows the error code 15 and the motor doesn't function.

Information

The controller temperature sensor is used to detect the temperature inside the controller.

Procedure

- Step 1 Turn off the system, allow the pedelec to cool down and restart the system
- ✓ System runs normal. Go to step 2.
- × System doesn't return to normal after the pedelec cooled down. Replace the controller.

- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 15 is inactive. Repair complete
- × Error code 15 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"21" - Speed sensor fault

Initial Situation

- Error with the speed sensor
- The display shows the error code 21 and the motor doesn't function.

Information

The speed sensor is used to measure the speed of pedelec.

Procedure

- Step 1 Restart the system.
 - ✓ System runs normal. Go to step 8.
 - × System doesn't return to normal after restarted. Check the magnet and speed sensor.
- Step 2 Check the clearance between the magnet and speed sensor.
 - ✓ The clearance is between 10 and 20mm. Go to step 3.
 - × The clearance isn't between 10 and 20mm. Adjust the magnet so it is. Then go to step 7.

See next page ➡



- Step 3 Check the speed sensor connector.
Check the connector and speed sensor cable for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
 - ✓ Correctly connected. Go to step 4
 - × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible. Then go to step 7.

- Step 4 Connect the pedelec to BESST, check the speed sensor signal in the controller.
 - ✓ The signal is normal. Go to step 5.
 - × Can't receive the signal from speed sensor. Go to step 6.

- Step 5 Replace the speed sensor.
 - ✓ The system runs normal. Go to step 8.
 - × The system doesn't return to normal. Go to step 7.

- Step 6 Replace the motor.
- Step 7 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 21 is inactive. Repair complete
 - × Error code 21 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"25" - Torque signal fault

Initial Situation

- Torque signal fault
- The display shows the error code 25 and the motor doesn't function.

Information

The torque sensor is used to measure the force applied on the pedals.

Procedure

- Step 1 Check the connector of the torque.
Check the torque sensor cable and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
- ✓ Correctly connected. Go to step 2
- × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible. Then go to step 5.

See next page ➡



- Step 2 Connect the pedelec to BESST and check the signal of the torque sensor.
 - ✓ The signal is normal. Go to step 3.
 - × Can't receive the signal from the torque sensor. Go to step 4.
 - Step 3 Use BESST to update the controller.
 - ✓ The system runs normal. Go to step 5.
 - × The system doesn't return to normal after the update. Go to step 4.
 - Step 4 replace the torque sensor.
 - Step 5 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 25 is inactive. Repair complete
 - × Error code 25 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again
- × Note: M400 Canbus Error 25, update the controller with Error 25 clearing software.



"26" - Torque sensor speed signal fault

Initial Situation

- Speed signal of the torque sensor has an error
- The display shows the error code 26 and the motor doesn't function.

Information

The torque sensor is integrated with a cadence sensor to measure the cadence applied on the pedals.

Procedure

- Step 1 Check all connectors on the pedelec.
Check the cables and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
- ✓ Correctly connected. Go to step 2
- × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible. Then go to step 5.

See next page ➡



- Step 2 Connect the pedelec to BESST and check the signal of the torque sensor.
 - ✓ The signal is normal. Go to step 3.
 - × Can't receive the signal from the torque sensor. Go to step 4.
- Step 3 Use BESST to update the controller.
 - ✓ The system runs normal. Go to step 6.
 - × The system doesn't return to normal after the update. Go to step 4.
- Step 4 Replace the torque sensor (Complete motor).
- Step 5 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 26 is inactive. Repair complete
 - × Error code 26 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again
- × Note: Calibration of the position sensor sometimes helps to clear this error.



"27" - Over current of the controller

Initial Situation

- Over current of the controller
- The display shows the error code 27 and the motor doesn't function.

Information

The controller is the component that controls the motor speed and is also the core of the system.

Procedure

- Step 1 Connect the pedelec to BESST, update the controller.
- ✓ System runs normal. Go to step 2.
- × System doesn't return to normal after restarted. Replace the controller.

- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 27 is inactive. Repair complete
- × Error code 27 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"30" - Communication failed

Initial Situation

- Communication fail
- The display shows the error code 30 and the motor doesn't function.

Information

The display provides battery voltage, speed display, riding status, lamp status, etc., and can also display the fault conditions of various electrical components of the pedelec.

Procedure

- Step 1 Check all connectors on the pedelec.
Check the cables and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
- ✓ Correctly connected. Go to step 2
- × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible. Then go to step 5.

See next page ➡



- Step 2 Connect the pedelec to BESST and use BESST to diagnose.
 - ✓ Find the problem. Repair according to the problem. Then go to step 5.
 - × Didn't find the problem. Go to step 3.
- Step 3 Replace the display.
 - ✓ The system runs normal. Go to step 5.
 - × The system doesn't return to normal. Go to step 4.
- Step 4 Replace the EB-BUS.
- Step 5 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 30 is inactive. Repair complete
 - × Error code 30 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again

× Note: Error 30 is mainly the connection between the Display -> controller and Controller - > Battery connection.
So faulty possibility's : Display, Display cable, Battery slider + Smart Communication cable or Controller fault.



"33" - Brake detection circuit is fault

Initial Situation

- Brake detection circuit is fault
- The display shows the error code 33 and the brake can't work normally

Information

An electronic brake system is provided to improve brake performance by making structure simple. The electronic brake cable is one component of the EB-BUS cable.

Procedure

- Step 1 Check all connectors on the pedelec.
Check the cables and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
 - ✓ Dirty or damaged pins. Clean the connector and pins, Repair the damaged harness, connector or pins if possible.
 - × Correctly connect. Replace the brakes
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 33 is inactive. Repair complete
 - × Error code 33 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"35" - Detection circuit for 15V has an error.

Initial Situation

- Detection circuit for 15V has an error.
- The display shows the error code 35

Information

Battery is a kind of on-board energy that provides pedelec energy.

Procedure

- Step 1 Connect the pedelec to BESST, update the controller.
 - ✓ System runs normal. Go to step 2.
 - × System doesn't return to normal after update. Replace the controller.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 35 is inactive. Repair complete
 - × Error code 35 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"36" - Detection circuit on the keypad has an error

Initial Situation

- Detection circuit on the keypad has an error
- The display shows the error code 36.

Information

Keypad on the display is the set of buttons that you press in order to operate it.

Procedure

- Step 1 Check all connectors on the pedelec.
Check the cables and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
- ✓ Correctly connected. Go to step 2
- × A damaged connection has been detected in the harness connector. Clean the connector and pins. Repair the damaged harness, connector or pins if possible. Then go to step 5.

See next page ➡



- Step 2 Lubricate the buttons of the display.
 - ✓ The system runs normal. Go to step 5.
 - × The system doesn't return to normal. Go to step 3.
- Step 3 Replace the display.
 - ✓ The system runs normal. Go to step 5.
 - × The system doesn't return to normal. Go to step 4.
- Step 4 Replace the controller.
- Step 5 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 36 is inactive. Repair complete
 - × Error code 36 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"37" - WDT circuit fault

Initial Situation

- WDT circuit is faulty
- The display shows the error code 37 and the WDT can't work normally

Information

Watchdog timer (WDT), or watchdogs, are circuits external to the processor that can detect and trigger a processor reset.

Procedure

- Step 1 Check all connectors on the pedelec.
Check the cables and connectors for the following conditions: Loose connector, Corroded pins, Bent or broken pins, Dirt or debris in or on the pins, wire insulation damage, connector shell broken.
 - ✓ Correctly connect. Replace the controller
 - × Dirty or damaged pins. Clean the connector and pins, Repair the damaged harness, connector or pins if possible.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
 - ✓ Error code 37 is inactive. Repair complete
 - × Error code 37 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"41/42" - Total voltage from the battery is too high/low

Initial Situation

- Total voltage from the battery is too high/low
- The display shows the error code 41/42 and the motor doesn't function.

Information

Battery is a kind of on-board energy that provides pedelec energy.

Procedure

- Step 1 Replace the battery.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 41/42 is inactive. Repair complete
- × Error code 41/42 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"43" - Total power from the battery cells is too high

Initial Situation

- Total power from the battery cells is too high
- The display shows the error code 43 and the motor doesn't function.

Information

Battery is a kind of on-board energy that provides pedelec energy.

Procedure

- Step 1 Replace the battery.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 43 is inactive. Repair complete
- × Error code 43 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"44" – Single cell voltage from the battery is too high

Initial Situation

- Voltage of the single cell is too high
- The display shows the error code 44 and the motor doesn't function normally.

Information

Battery is a kind of on-board energy that provides pedelec energy.

Procedure

- Step 1 Replace the battery.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 44 is inactive. Repair complete
- × Error code 44 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"45" - Battery temperature is too high

Initial Situation

- Temperature from the battery is too high
- The display shows the error code 45 and the motor doesn't function.

Information

The battery temperature sensor is used to detect the temperature inside the battery.

Procedure

- Step 1 Turn off the system, allow the battery to cool down, then restart the system and read the temperature trough Besst.
- ✓ System runs normal. Go to step 2.
- × System doesn't return to normal after the battery cooled down. Replace the battery.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 45 is inactive. Repair complete
- × Error code 45 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"46" - Battery temperature is too low

Initial Situation

- Temperature from the battery is too low
- The display shows the error code 46 and the motor doesn't function.

Information

The battery temperature sensor is used to detect the temperature inside the battery.

Procedure

- Step 1 Bring the battery to room temperature and wait for a certain time or read the current temperature trough Besst.
- ✓ The system runs normal. Go to step 2.
- × The system still doesn't work. Replace the battery.
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 45 is inactive. Repair complete
- × Error code 45 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"47" - SOC of the battery is too high

Initial Situation

- SOC of the battery is too high
- The display shows the error code 47 and the motor doesn't function.

Information

BMS communicates with the controller about the SOC of the battery.

Procedure

- Step 1 Replace the battery
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 47 is inactive. Repair complete
- × Error code 47 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



"48" - SOC of the battery is too low

Initial Situation

- SOC of the battery is too low
- The display shows the error code 48 and the motor doesn't function.

Information

BMS communicates with the controller about the SOC of the battery.

Procedure

- Step 1 Replace the battery
- Step 2 Clear the error code (conditions: connect all components, turn on the system)
- ✓ Error code 48 is inactive. Repair complete
- × Error code 48 is active. Return to step 1 or contact Bafang if all steps have been completed and checked again



“61” - Shifter gear fixed

Initial Situation

- The gear shifter is jammed

Information

Procedure

- Step 1 Check if the gear shifter is not jammed
- Step 2 Replace the gear shifter
- Step 3 Replace controller



“62” - Electric derailleur does not release

Initial Situation

- The electronic derailleur is stuck and will not release

Information

Procedure

- Step 1 Replace the derailleur
- Step 2 Replace the controller



"71" - Electric lock is jammed

Initial Situation

- The electronic lock is jammed

Information

Procedure

- Step 1 Update the HMI via BESST to see if it solves the problem.
- Step 2 Replace the HMI



“81” - Bluetooth module has an error

Initial Situation

- The bluetooth module in the display has an error

Information

Procedure

- Step 1 Update the HMI via BESST to see if it solves the problem.
- Step 2 Replace the HMI



CF01 - The mass code

Initial Situation

- The mass code
- The display can't function normally

Information

Procedure

- Step 1 Check the display and replace to see if it's a controller issue
 - ✓ The new display works well. Repair complete
 - × The new display doesn't work. Go to step 2
- Step 2 Replace the controller to see if it's a controller issue.
 - ✓ The display works as normal. Repair complete.
 - × The display still doesn't work. Contact Bafang.



CF02 - Cannot power on the display

Initial Situation

- Can't turn on the display

Information

Procedure

- Step 1 Check the display and replace to see if it's a display issue
 - ✓ The new display works well. Repair complete.
 - × The new display doesn't work. Go to step 2.
- Step 2 Replace the battery to see if it's a battery issue.
 - ✓ The display can be turned on. Repair complete.
 - × The display still can't be powered on. Go to step 3.
- Step 2 Replace the controller to see if it's a controller issue.
 - ✓ The display can be turned on. Repair complete.
 - × The display still doesn't work. Contact Bafang.



CF03 - Runaway Phenomenon

Initial Situation

- Runaway phenomenon
- The motor works at high speed as soon as the system is turned on.

Information

Procedure

- Step 1 Replace the controller to see if it's a controller issue
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the sensor to see if it's a sensor issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF04 - E-brake cannot work

Initial Situation

- The E-brake doesn't function

Information

Procedure

- Step 1 Replace the E-brake to see if it's a E-brake issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the controller to see if it's a controller issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF05 - The light cannot work

Initial Situation

- The light doesn't work
- The light doesn't work normally

Information

Procedure

- Step 1 Replace the light cable to see if it's a light problem.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the light to see if it's a light problem.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 3.
- Step 3 Replace the controller to see if it's a controller issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF06 - 6km function does not work

Initial Situation

- 6km function doesn't work
- Walk assistance doesn't work

Information

The Walk Assist assists with walking, for example to push the bike up somewhere or to park the bike.

Procedure

- Step 1 Replace the controller to see if it's a controller problem.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the display to see if it's a display issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 3.
- Step 3 Replace the motor to see if it's an motor issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF07 - The throttle does not work

Initial Situation

- The throttle doesn't work
- The system doesn't work normally

Information

The throttle is an option in which the pedal sensor is 'overridden'. By means of the throttle the support is controlled.

Procedure

- Step 1 Replace the display to see if it's a display problem.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the controller to see if it's a controller issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF08 - The cruising range is short

Initial Situation

- The NEDC is abnormal
- The cruising range is short

Information

the distance you can travel with your pedelec before you need to charge it

Procedure

- Step 1 Replace the battery to see if it's a battery problem.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Go to step 2.
- Step 2 Replace the controller to see if it's a controller issue.
 - ✓ Problem solved. Repair complete.
 - × Error still happens. Contact Bafang.



CF09 - Issues on display

Initial Situation

- The display has an issue
- The display can't work normally

Information

Replace the display when this occurs:

- A: Water inside the display.
- B: The button of display does not work.
- C: Display cable is broken.
- D: Screen broken.
- E: The holder broken.
- F: Screw broken
- G: Black screen

Procedure

- Step 1 Replace the display.
- ✓ Problem solved. Repair complete.
- × Error still happens. Contact Bafang.



Explanation BEST BOX

Connection display

Connection controller

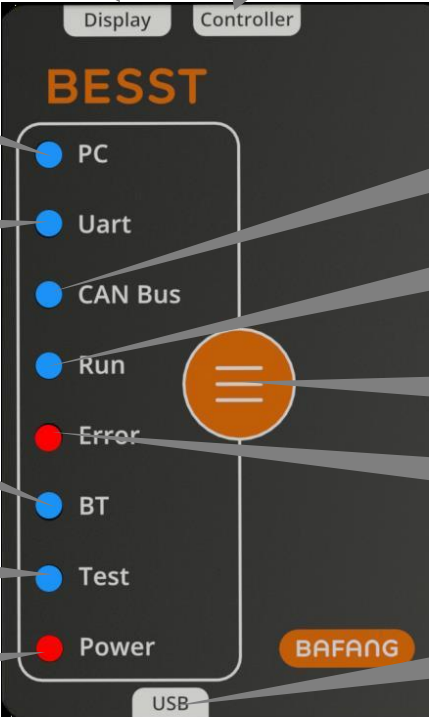
Allows downloading software from PC to BEST BOX

Displays updating the UART system

Bluetooth (dev)

Indicates that the software has been loaded correctly from PC to BEST BOX

Power



Displays update process of the CAN system

BEST BOX is running

RESET button

Indicates ERROR status

USB port to connect to PC

Wheel sizes and corresponding wheel circumference

Wielmaat	Max wielomtrek(mm)	Min wielomtrek(mm)
7	590	587
8	685	591
10	886	811
12	1026	935
14	1199	1048
16	1330	1208
17	1379	1208
18	1570	1380
20	1649	1451
22	1824	1692
24	1980	1791
26	2508	1913
27	2200	2145
28	2270	2078
29	2348	2292
32	2652	2452
27.5	2240	2053
400	1301	1208
450	1570	1400
600	1946	1789
650	2103	2009
700	2250	2100

The wheel size with the corresponding minimum and maximum wheel circumference



Difference ASOC - RSOC

ASOC: is the difference between design capacity (DC) and current remaining capacity, (RC). Always 100% or lower. When a battery is new it will be 100%, as the capacity decreases, due to age, use, temp, etc., this value will decrease.

RSOC: Current percentage of load. The difference between the remaining capacity (RC) and the fully charged capacity (FCC). When a battery is fully charged, it can be up to 100% at any time and displays the current charge status of the battery in BEST system.

ASOC	13	%	RSOC	13	%
Pack Voltage	41271	mV	Capacity Left	1629	mAh
Full Charge Capacity	12000	mAh	Temperature	20.9	°C
Current	-26	mA	Cell 1-7	3439,3439,3439,3439,3439,3439,3439,3439	mV
Cell 8-14	3439,3440,3440,3440,3439,0,0	mV	Cycle Count	2	
Current Charge Interval	7	d	Max Charge Interval	209	d



Difference ASOC - RSOC

The current voltage of the battery pack. The range of 36V ~ 49.2V

Full charge capacity: the battery is charged by means of a charger to its full design capacity.

current energy use

Cell balance between the 12 cells.

number of days before last charged.

ASOC	13	%	RSOC	13	%
Pack Voltage	41271	mV	Capacity Left	1629	mAh
Full Charge Capacity	12000	mAh	Temperature	20.9	°C
Current	-26	mA	Cell 1-7	3439,3439,3439,3439,3439,3439,3439,3439	mV
Cell 8-14	3439,3440,3440,3440,3439,0,0	mV	Cycle Count	2	
Current Charge Interval	7	d	Max Charge Interval	209	d



ASOC	13	%	RSOC	13	%
Pack Voltage	41271	mV	Capacity Left	1629	mAh
Full Charge Capacity	12000	mAh	Temperature	20.9	°C
Current	-26	mA	Cell 1-7	3439,3439,3439,3439,3439,3439,3439,3439	mV
Cell 8-14	3439,3440,3440,3440,3439,0,0	mV	Cycle Count	2	
Current Charge Interval	7	d	Max Charge Interval	209	d

current capacity

current battery temperature

Cell balance between the 12 cells.

Number of full charges

number of days first charged

