

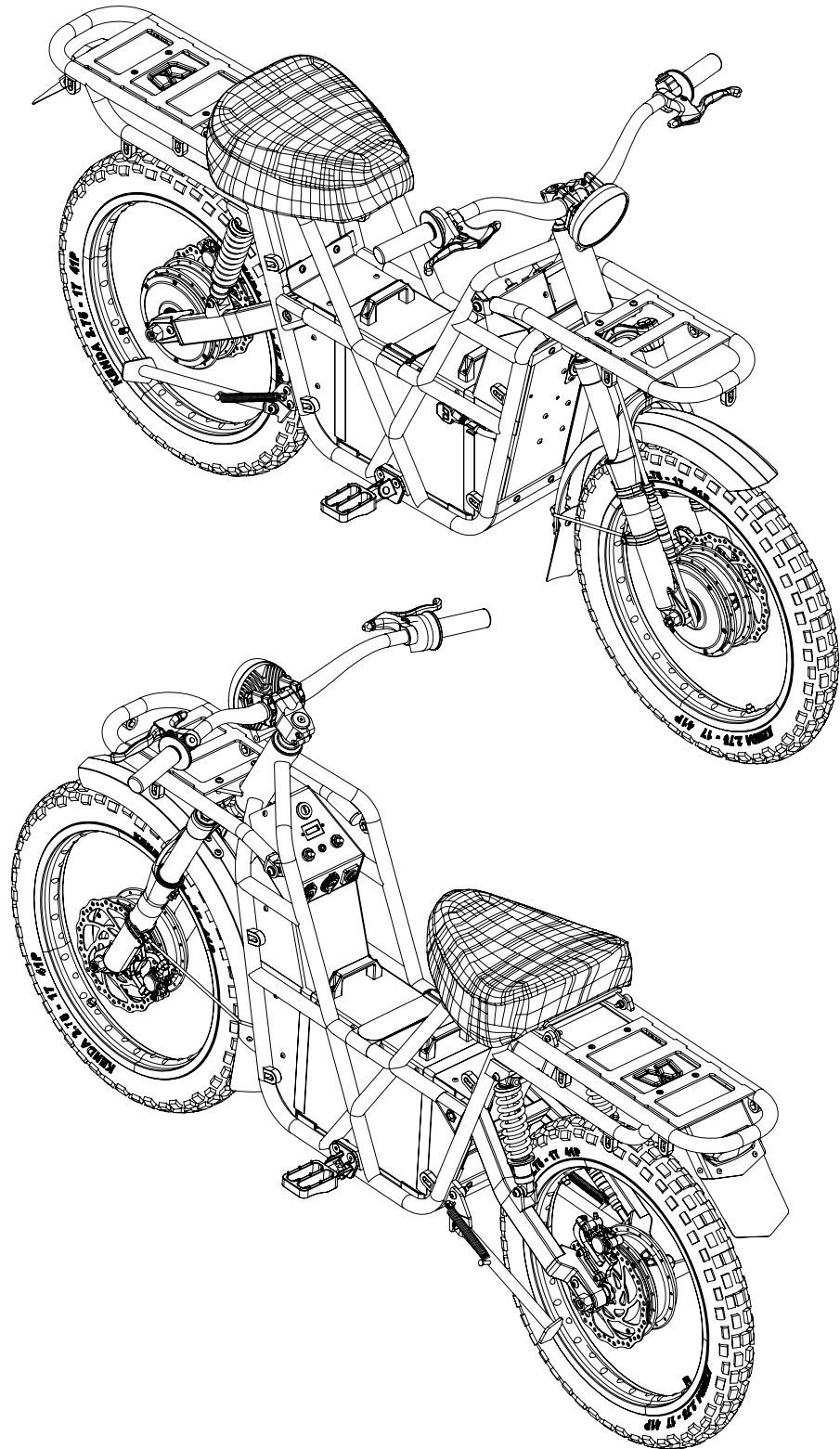


# 2X2

## **2017 2x2 Dealer Part Identification Manual**

# 2x2 Manufacturing Assembly Manual

Revision 6.0



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= Add grease



= Add anti-seize



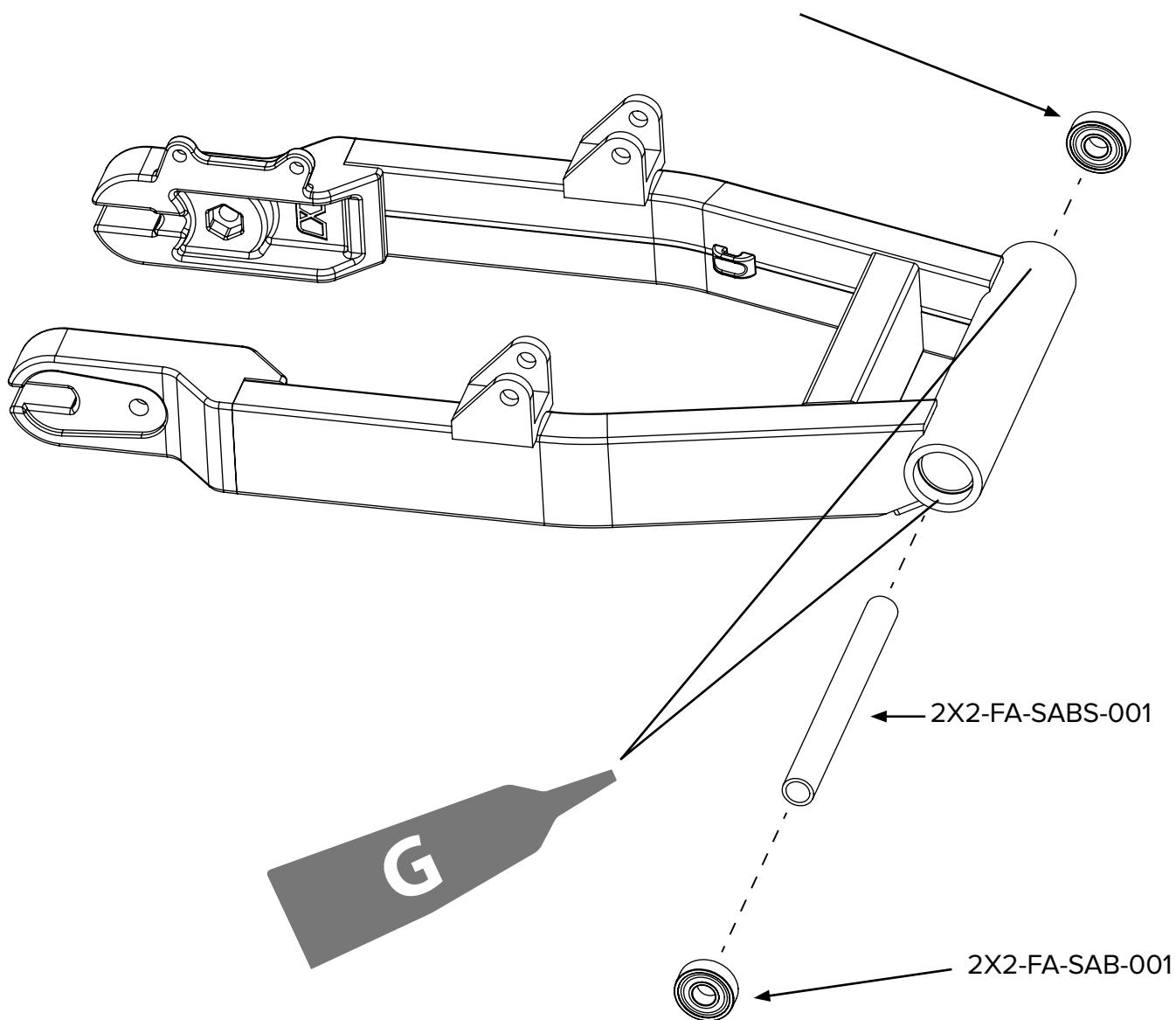
= Add loctite 243

# 1. Sub parts and sub assemblies

## 1.1 Swing arm assembly

Required parts:

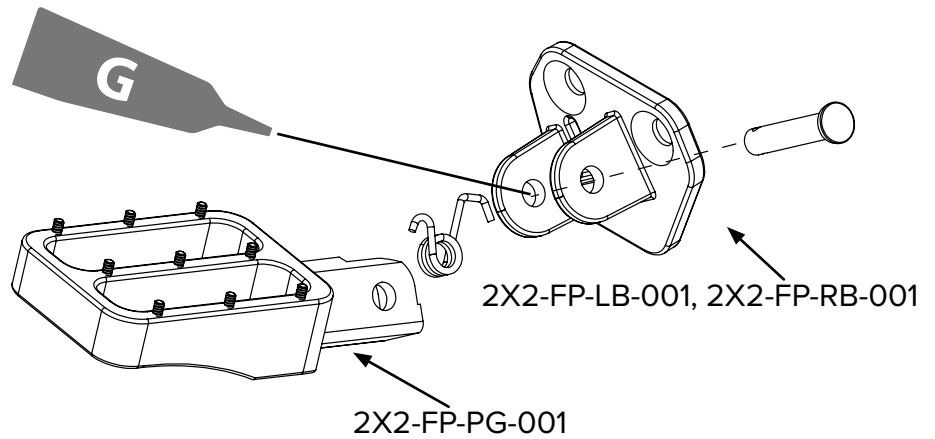
- Swing Arm (2X2-FA-SA-001)
- Swing Arm Bearing spacer (2X2-FA-SABS-001)
- Swing Arm Bearing (2X2-FA-SAB-001) x2



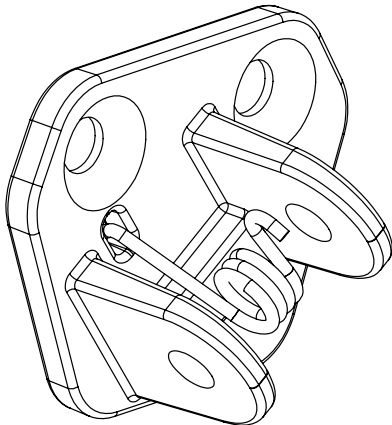
## 1.2 Foot Peg Assembly

### Required parts:

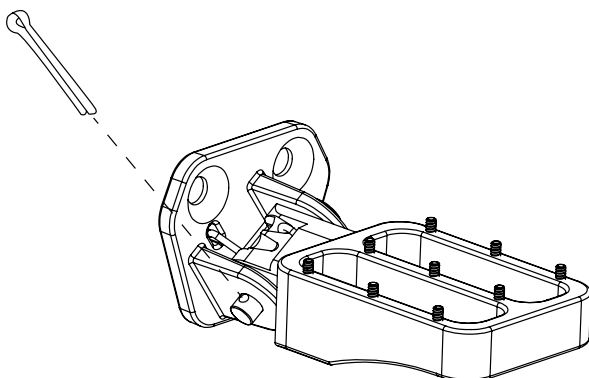
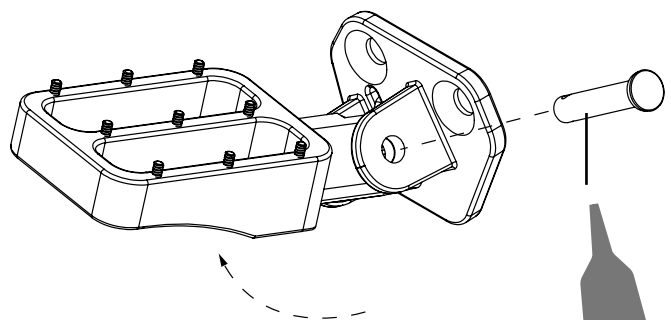
- Foot Pegs (2X2-FP-PG-001)
- Foot Peg Pivot pin (comes with foot peg)
- Foot Peg Spring (comes with foot peg)
- Foot Peg Split pin (comes with foot peg)
- Foot peg brackets (2X2-FP-LB-001), (2X2-FP-RB-001)



a. Insert spring into foot peg bracket, placing the long leg of the spring into the slot in the bracket

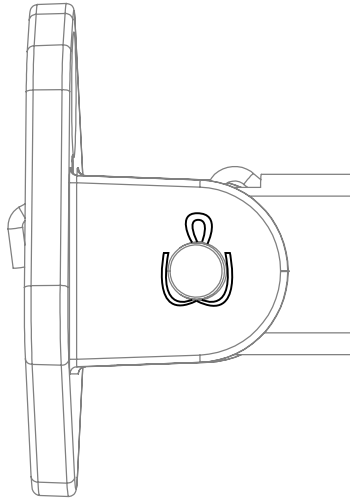


b. With the foot peg rotated up and slightly compressing the spring, insert the pivot pin.



c. Insert the split pin into the hole on the end of the pivot pint

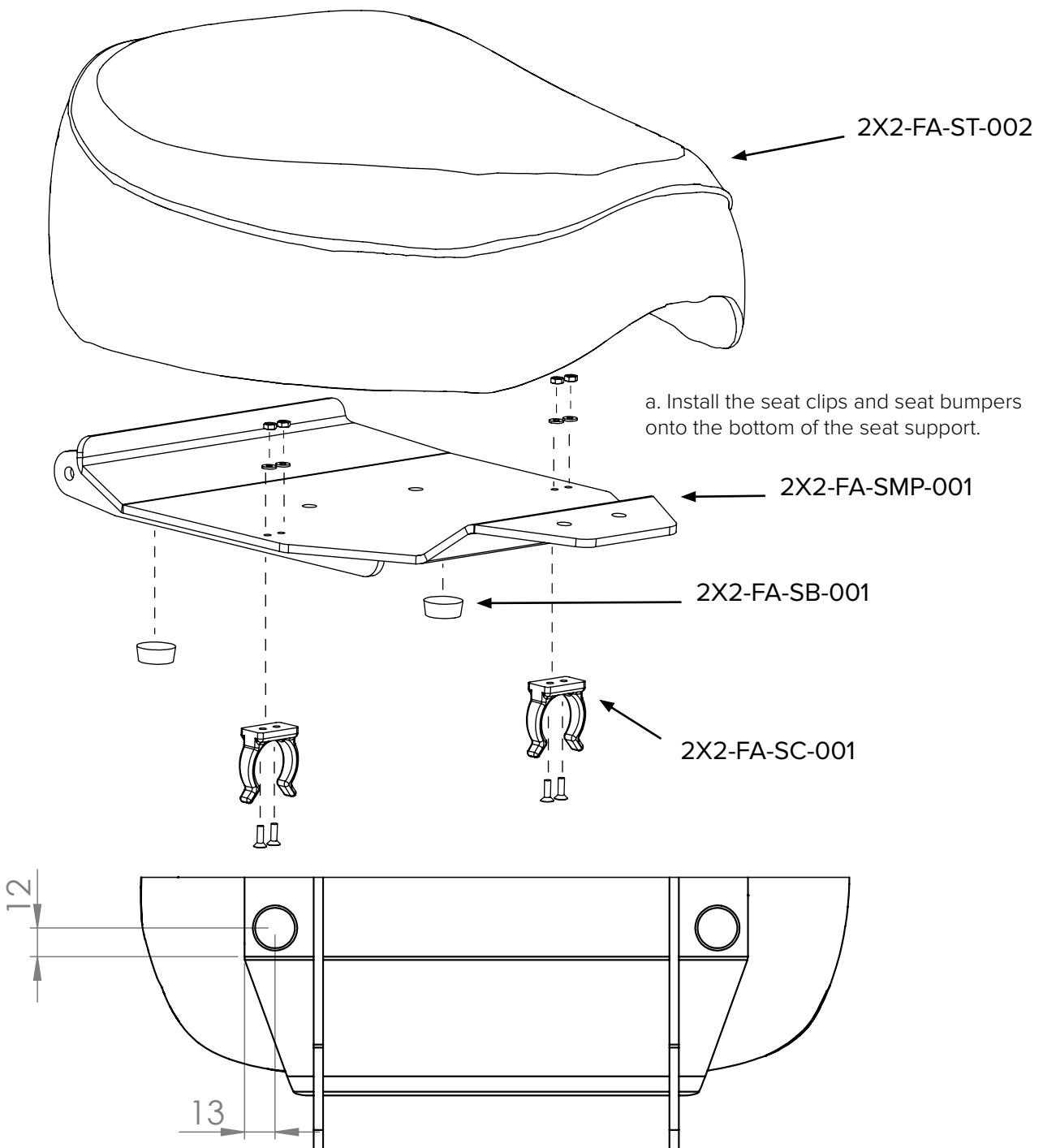
d. Bend each leg of the split pin around the pivot pin as illustrated.

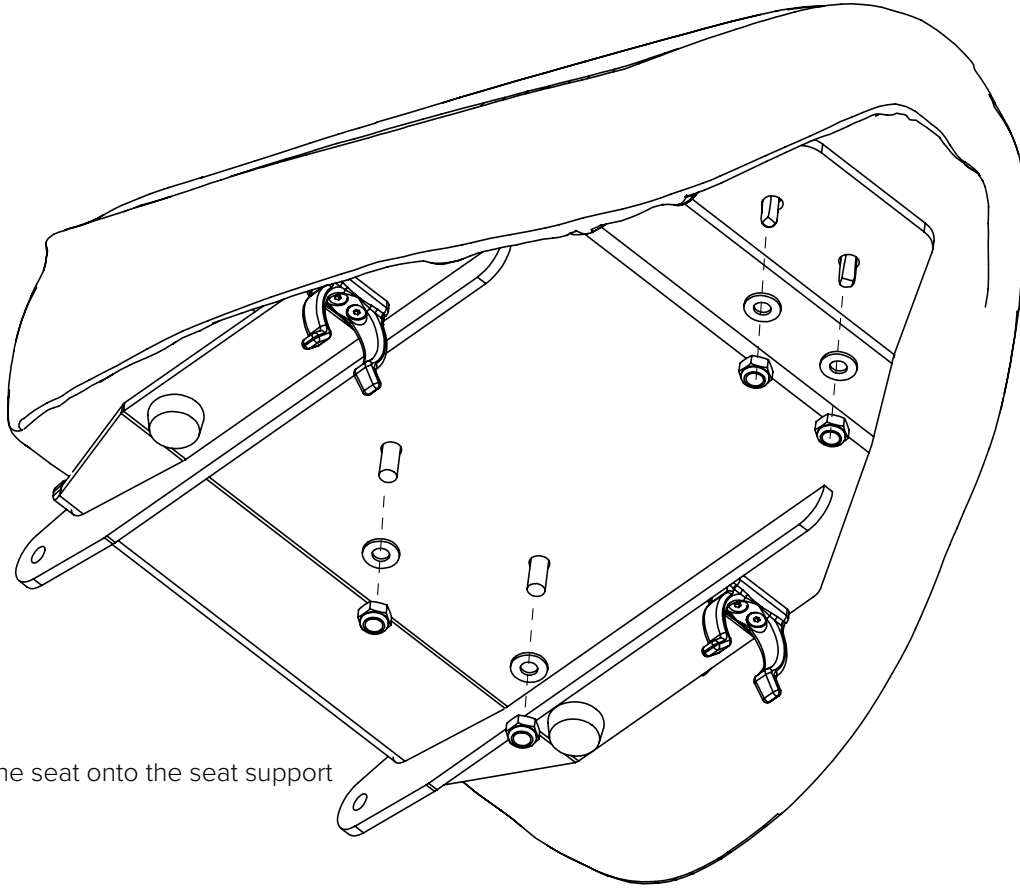


### 1.3 Seat assembly

Required parts:

- Seat (2X2-FA-ST-002)
- Seat Mounting plate (2X2-FA-SMP-001)
- Seat clips (2X2-FA-SC-001) x2
- Seat Bumpers (2X2-FA-SB-001) x2
- M3 x 10mm socket hex countersink x4
- M3 x 7mm x 0.9 flat washer x4
- M3 Nyloc nut x4
- M6 x 12.5 x 1.2 flat washers x 4
- M6 Flanged nut x 4





b. Install the seat onto the seat support

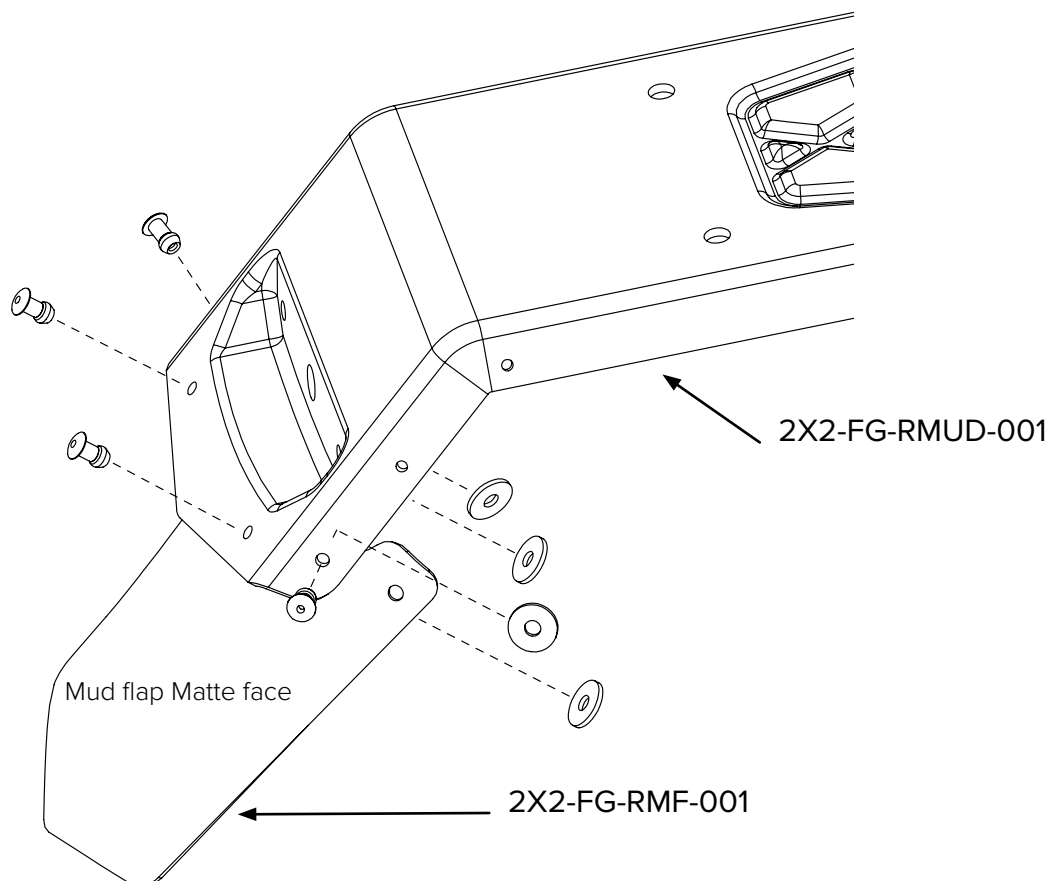


## 1.4 Rear mud guard assembly

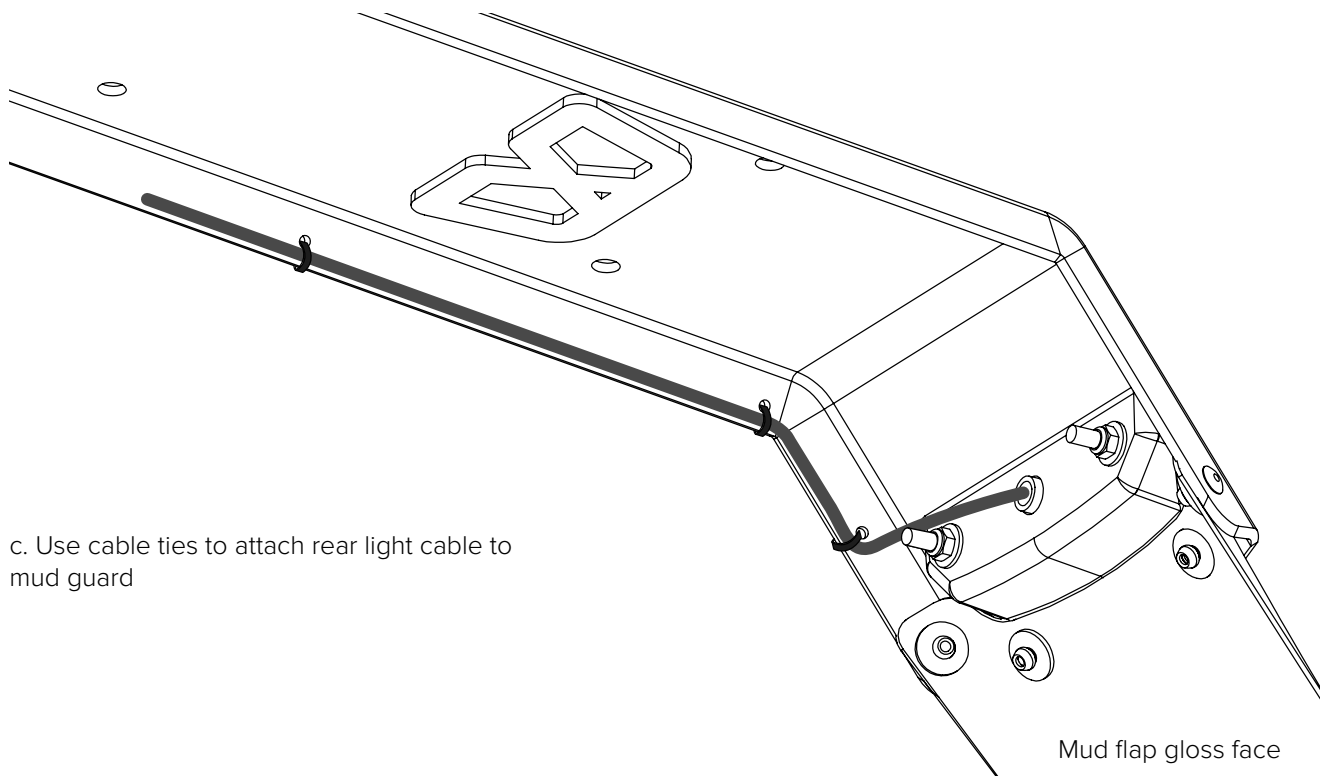
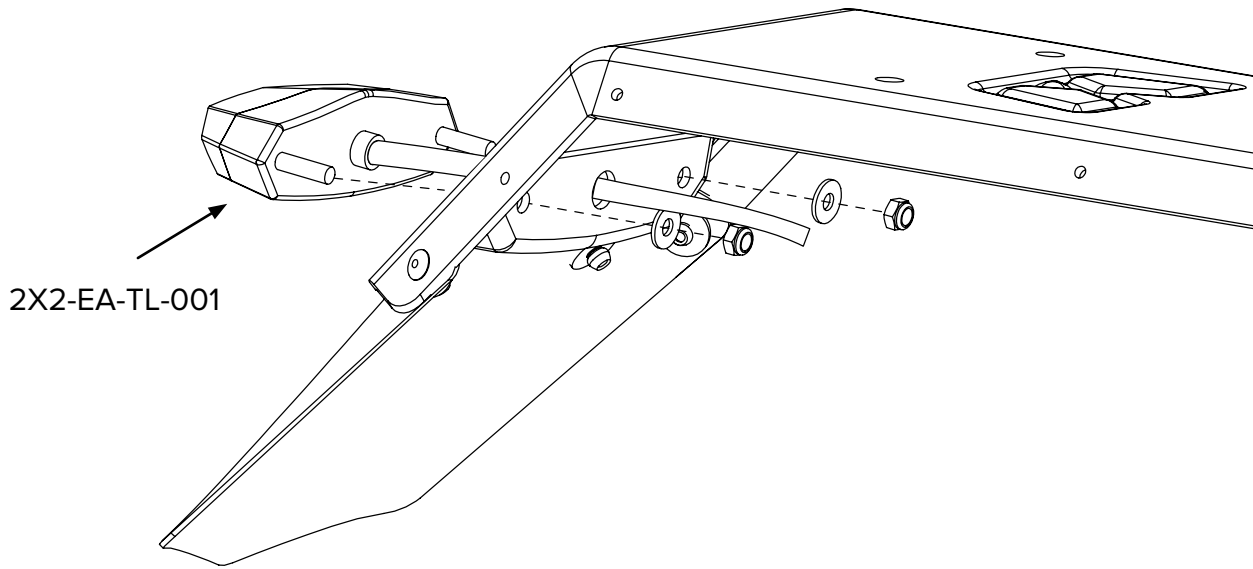
Required parts:

- Rear Mud guard (2X2-FG-RMUD-001)
- Tail light (2X2-EA-TL-001)
- Rear Mud flap (2X2-FG-RMF-001)
- 3.2 x 8 ALU/SST Black blind rivets x4
- M5 x 15 x 1.2 flat washers x4
- M5 x12.5 x 1.2 flat washers x2
- 75 x 2.4mm Black cable ties x3
- M5 standard nut

a. Install the rear mud flap using the rivets and M5 x 15 x 1.2mm washers



b. Install the tail light into the recess in the mud guard using the M5 x 12.5 x 1.2mm washers and M5 standard nuts.

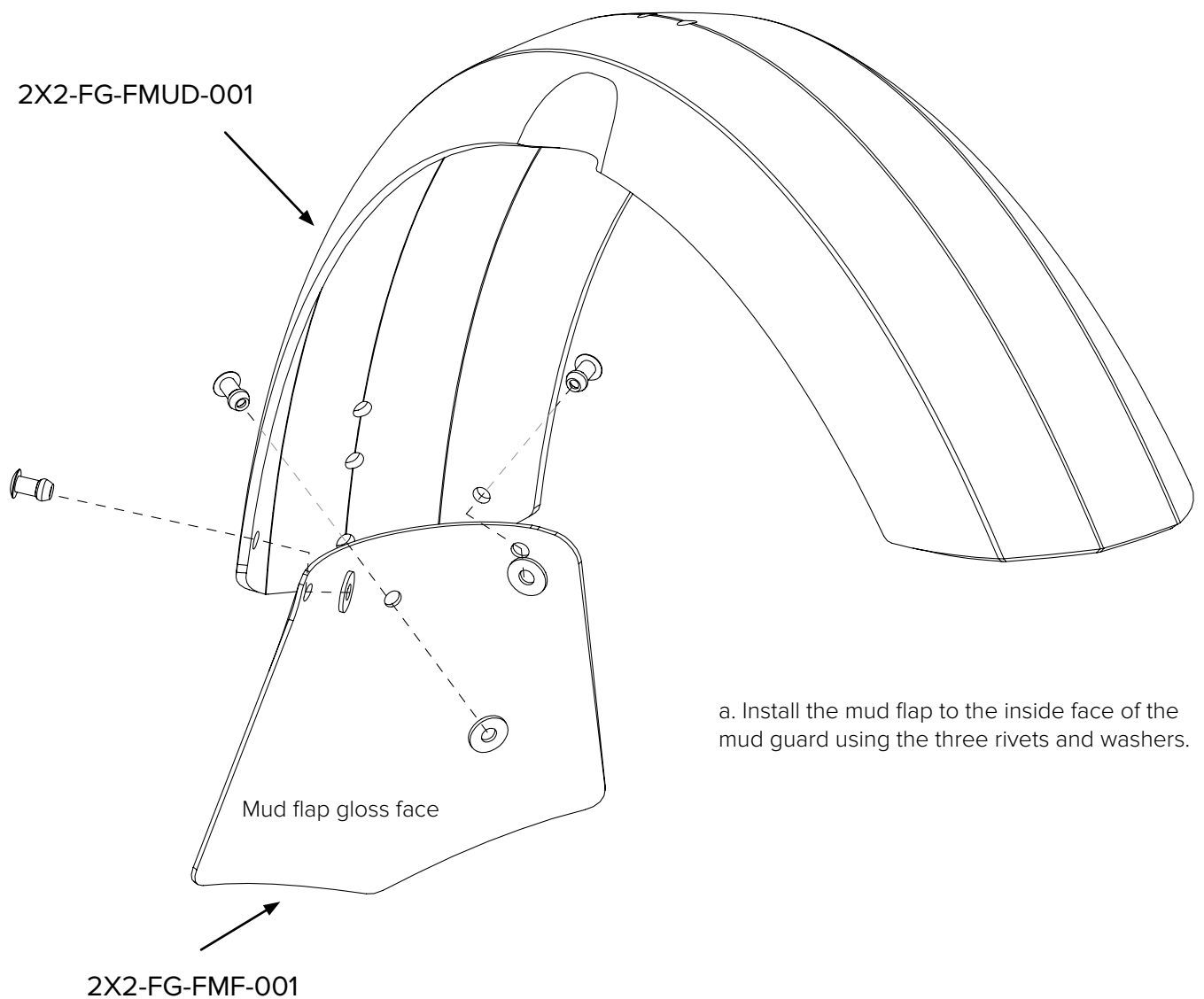


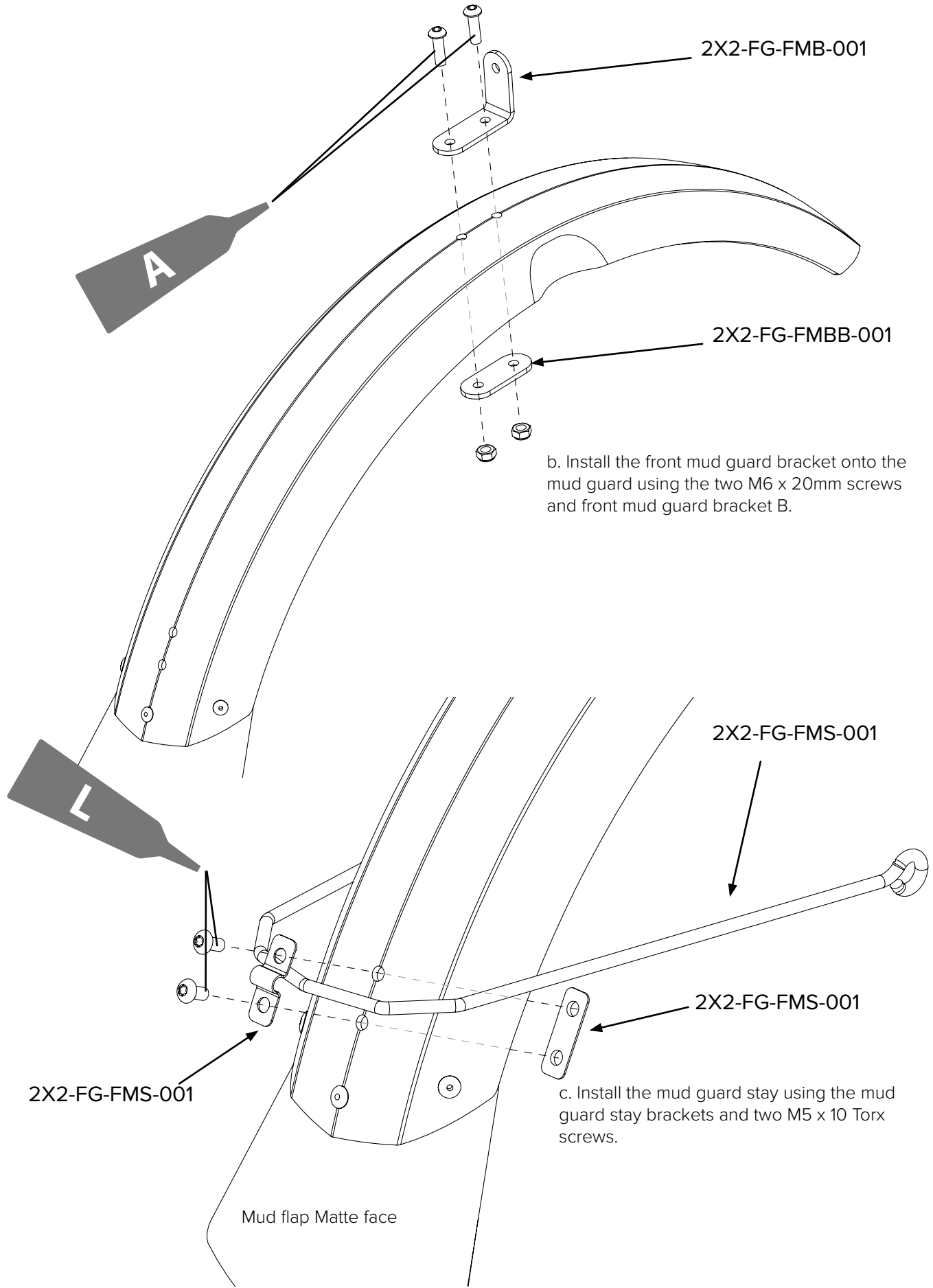
c. Use cable ties to attach rear light cable to mud guard

## 1.5 Front mud guard assembly

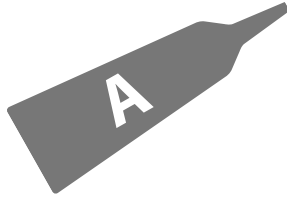
Required parts:

- Front Mud guard (2X2-FG-FMUD-001)
- Front Mud flap (2X2-FG-FMF-001)
- Front mud guard stay (Includes brackets) (2X2-FG-FMS-001)
- Front mud guard bracket (2X2-FG-FMB-001)
- Front mud guard bracket B (2X2-FG-FMBB-001)
- 3.2 x 8 ALU/SST Black blind rivets x3
- M5 x12.5 x 1.2 flat washers x3
- M6 x 20mm Hex button head screw x2
- M6 nyloc nut x2
- M5 x 10mm Torx button head screw x2





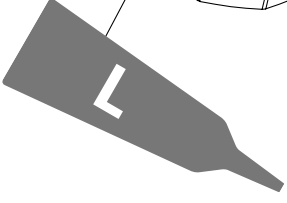
2X2-FG-FMB-001



2X2-FG-FMBB-001

b. Install the front mud guard bracket onto the mud guard using the two M6 x 20mm screws and front mud guard bracket B.

2X2-FG-FMS-001



2X2-FG-FMS-001

2X2-FG-FMS-001

c. Install the mud guard stay using the mud guard stay brackets and two M5 x 10 Torx screws.

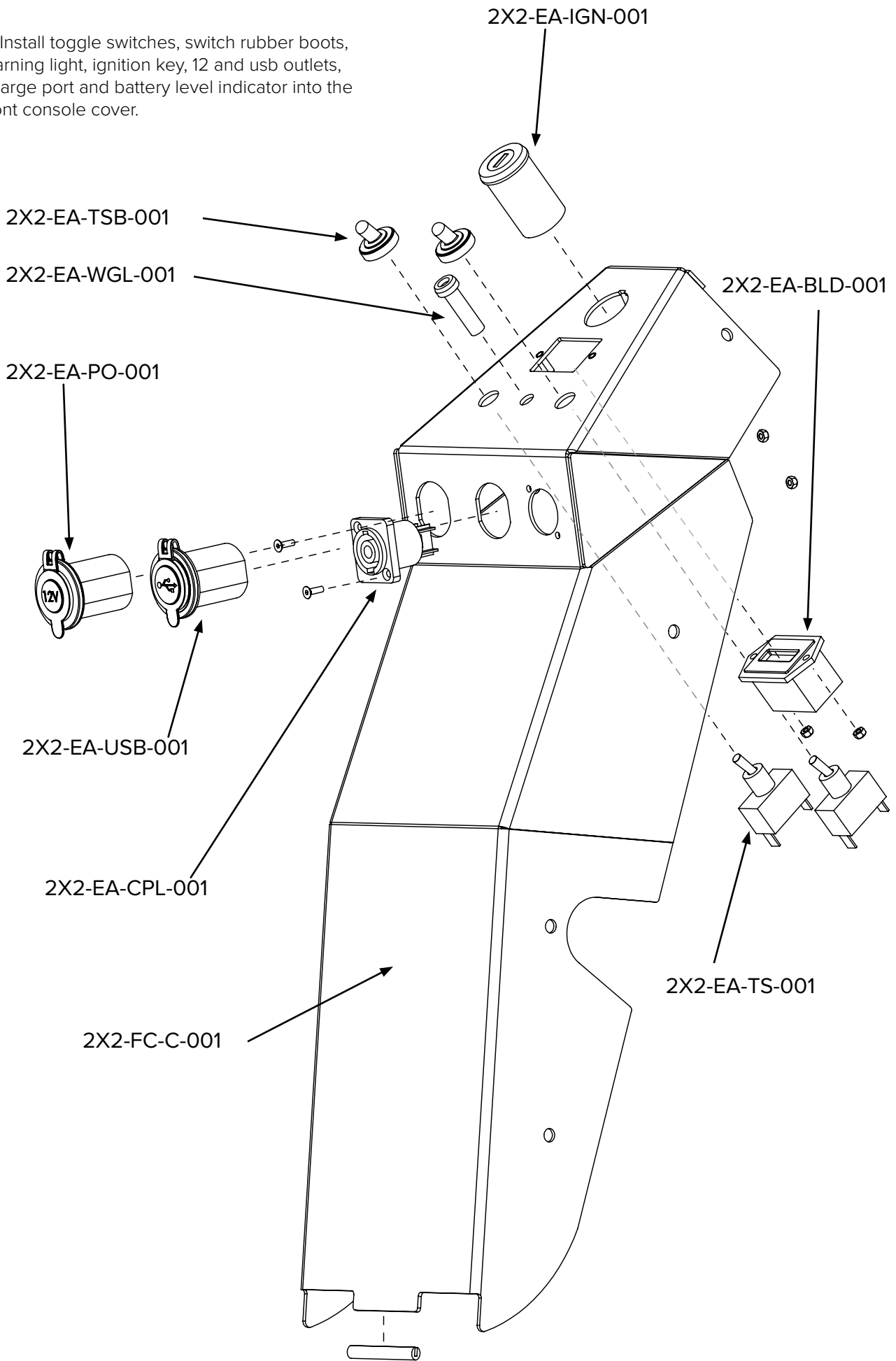
Mud flap Matte face

## 1.6 Front console assembly

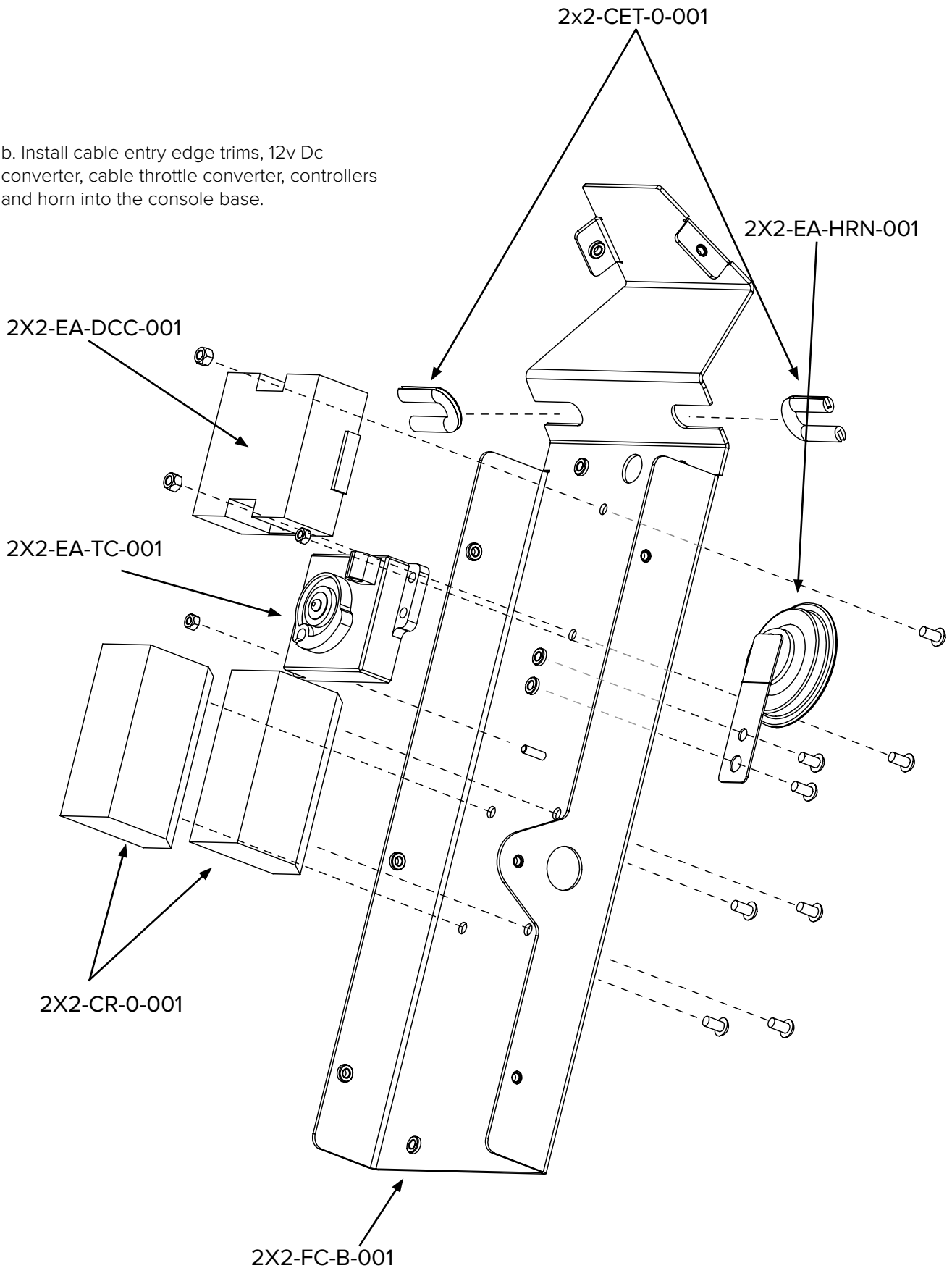
Required parts:

- Front console base (2X2-FC-B-001)
- Front console cover (2X2-FC-C-001)
- Console edge trim (per M) (2x2-CET-0-001)
- Controllers (2X2-CR-0-001) x2
- 12v DC converter (2X2-EA-DCC-001)
- Cable throttle converter (2X2-EA-TC-001)
- Ignition barrel (2X2-EA-IGN-001)
- Battery Level display (2X2-EA-BLD-001)
- 12v power outlet (2X2-EA-PO-001)
- USB outlet (2X2-EA-USB-001)
- Charger Port (2X2-EA-CPL-001)
- Toggle switch (2X2-EA-TS-001) x2
- Toggle switch boot (2X2-EA-TSB-001)
- Warning light (2X2-EA-WGL-001)
- Horn (2X2-EA-HRN-001)
- M5 nyloc nuts x2
- M5 x 10mm Torx button head screws x 8
- M3 x 12mm countersink hex screw x2
- M3 nyloc nuts x2
- Cable entry edge trim

a. Install toggle switches, switch rubber boots, warning light, ignition key, 12 and usb outlets, charge port and battery level indicator into the front console cover.



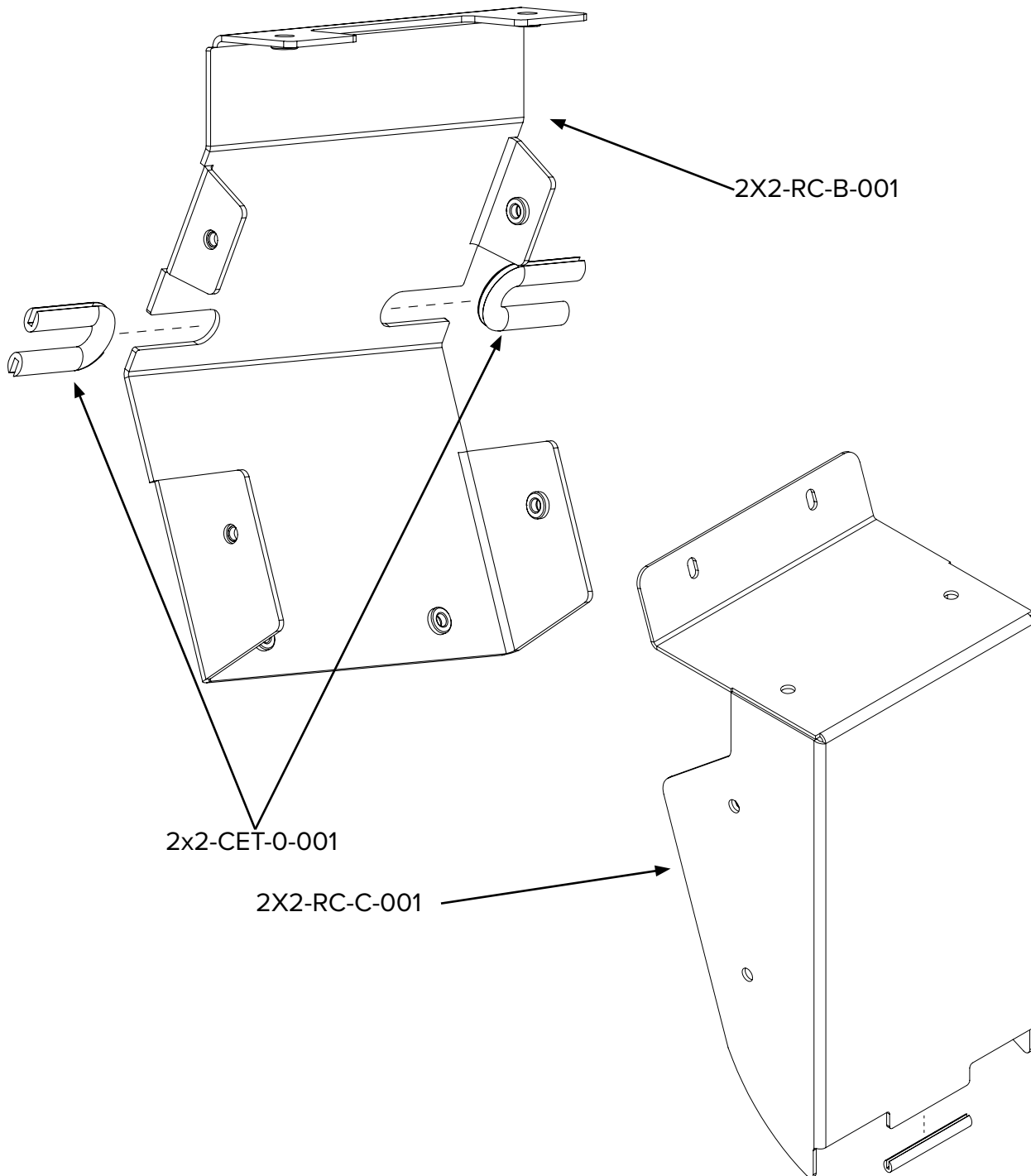
b. Install cable entry edge trims, 12v Dc converter, cable throttle converter, controllers and horn into the console base.



## 1.7 Rear Console assembly

Required parts:

- Rear console base (2X2-RC-B-001)
- Rear console cover (2X2-RC-C-001)
- Cable entry edge trim





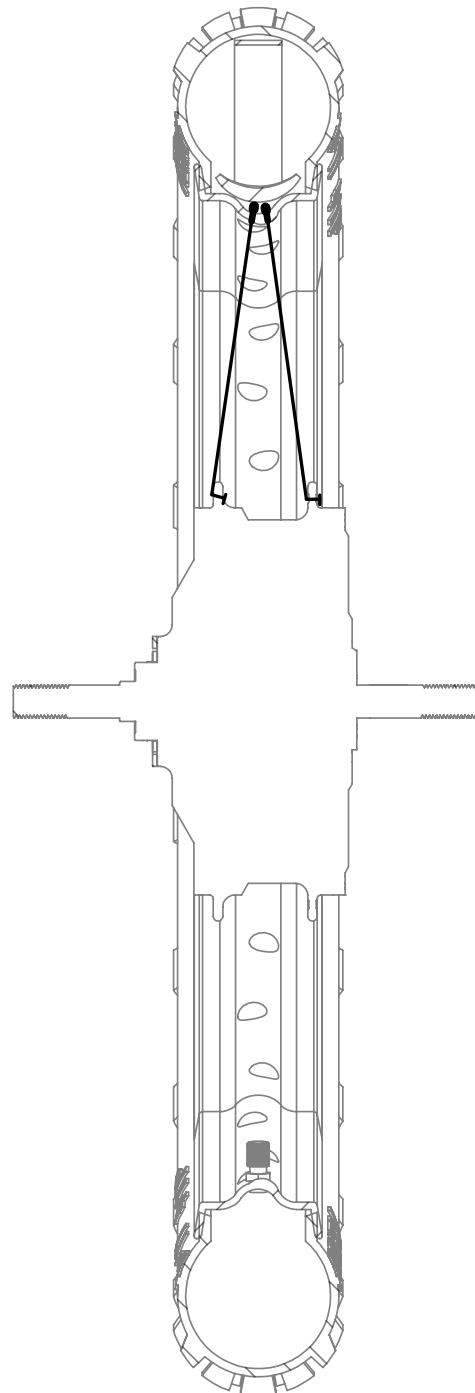
## 1.8 Wheel assembly

Required parts:

- Rim (2X2-WA-RIM-001 )
- Tyre (2X2-WA-TKEN-001), (2x2-WA-TKEN-002)
- Spokes (2X2-WA-SPOA-001)- shorter, (2X2-WA-SPOB-001)- longer
- Motor (2X2-MA-0-001)
- Rim Tape (2X2-WA-RT-002)
- Rim lock (2X2-WA-RL-001)
- Inner tube (2X2-WA-INT-001)

a. Lacing the wheel:

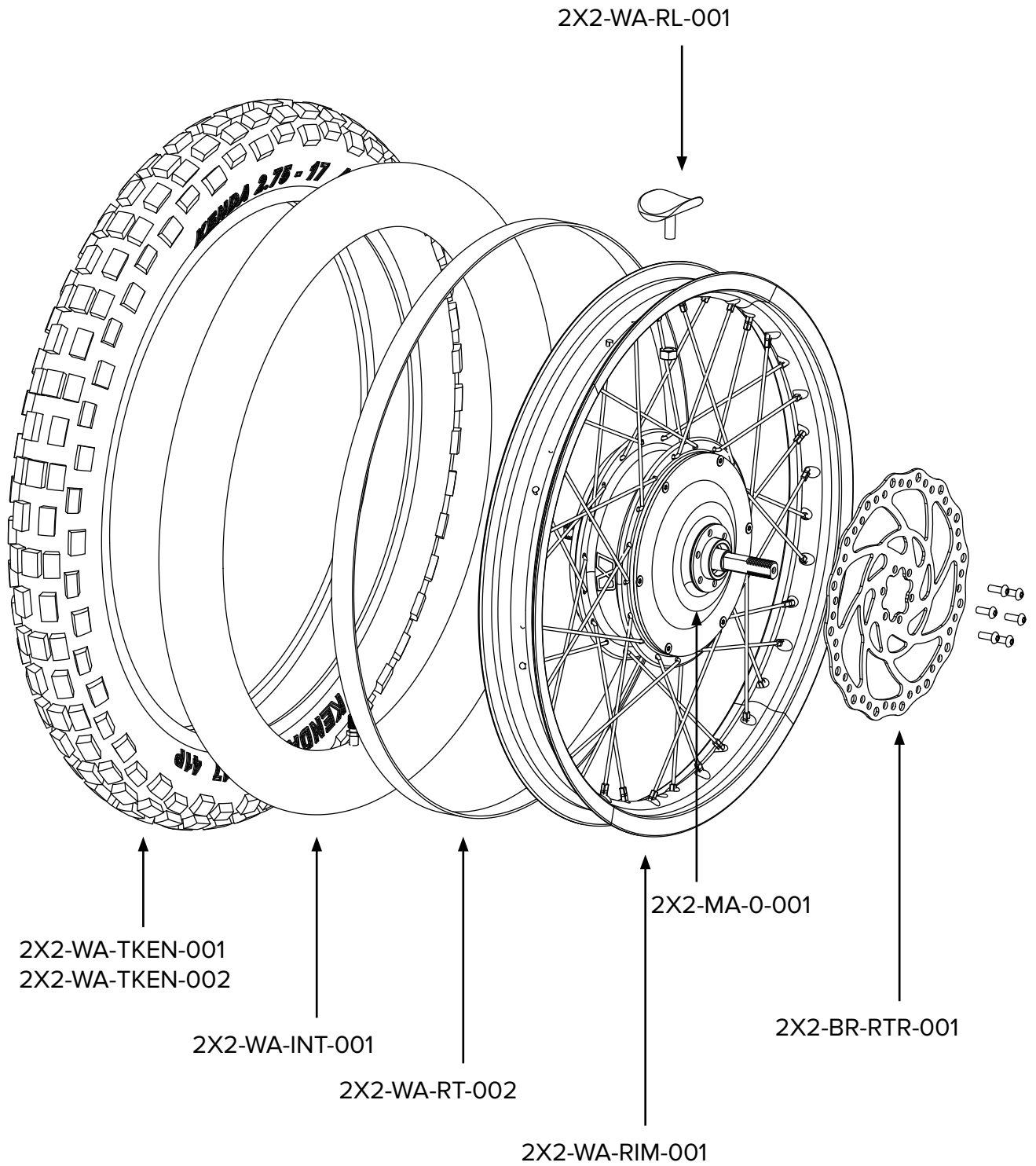
Spokes should be installed with heads facing to the non brake disk side of the motor. This helps to keep the wheel central to the motor and deals with the motor spoke flange offset.



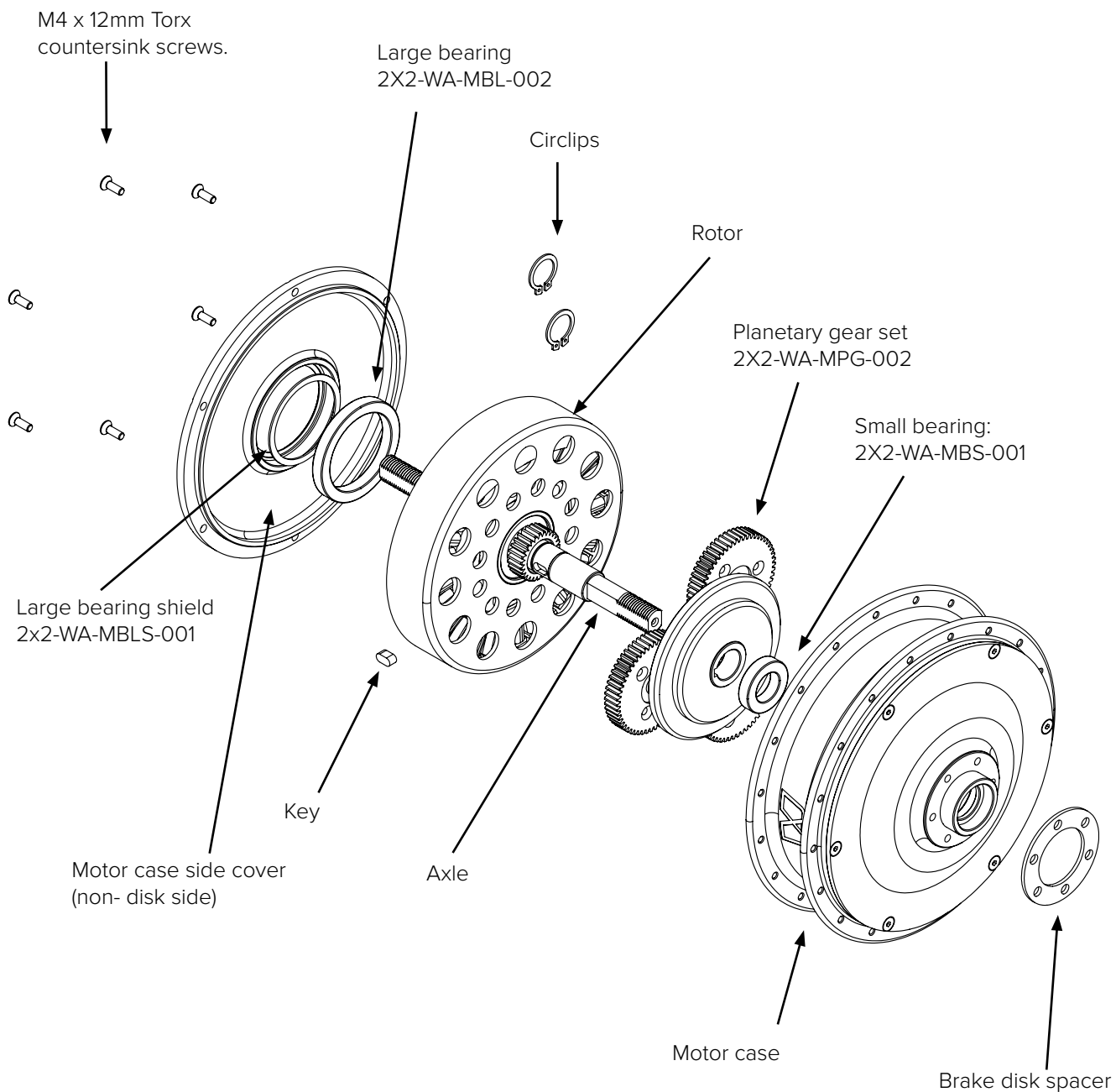
b. Install the Rim lock, rim tape, tyre tube and tyre to the rim

Inflate the tyre to 30psi

\* Actual tyre may vary



## 1.8.1 Motor assembly

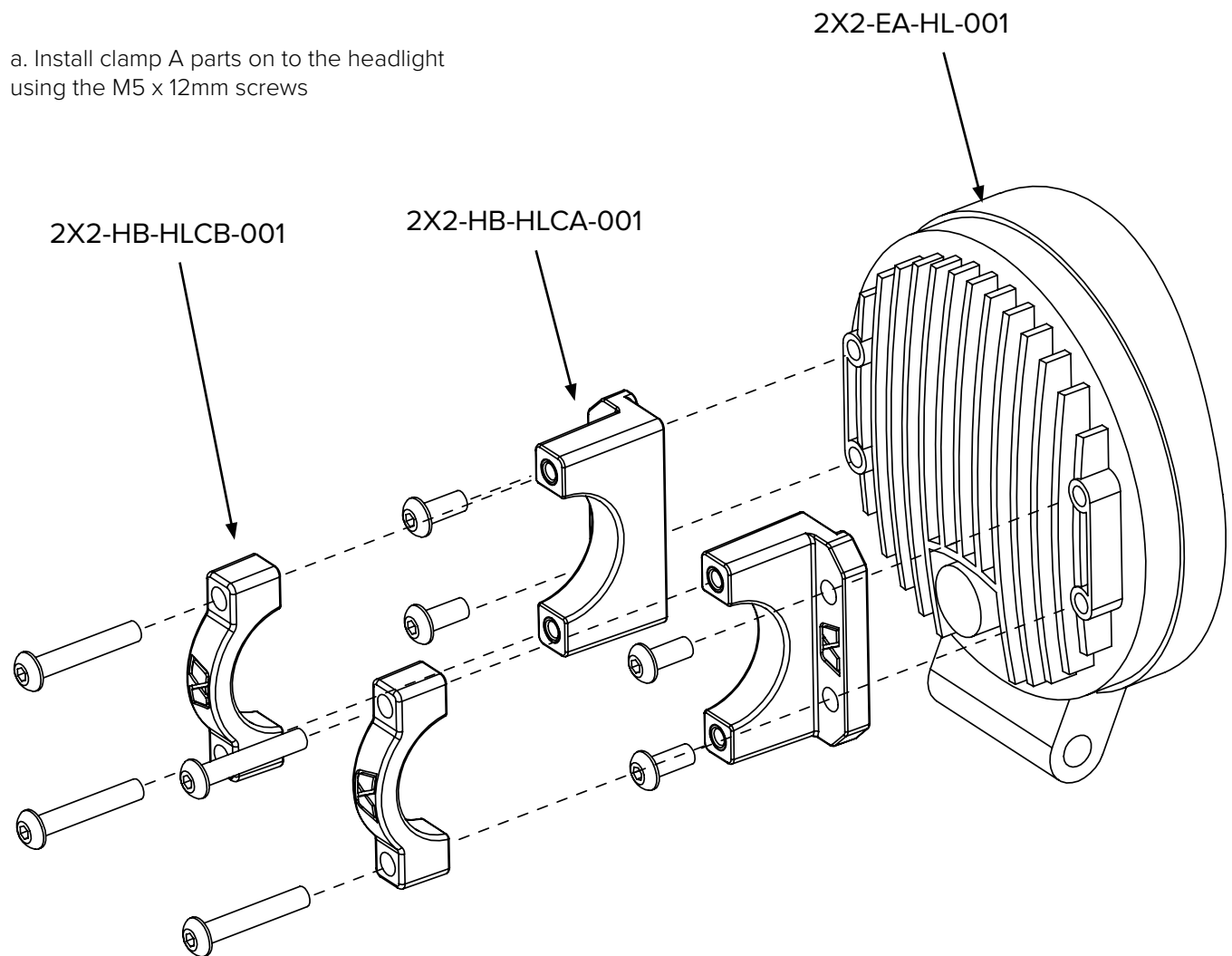


## 1.9 Headlight assembly

Required parts:

- Headlight (2X2-EA-HL-001)
- Headlight Clamp (2X2-HB-HLCA-001)
- Headlight Clamp B (2X2-HB-HLCB-001)
- M5 x 30 socket button head screw x4
- M5 x 12 socket button head screw x4

a. Install clamp A parts on to the headlight using the M5 x 12mm screws



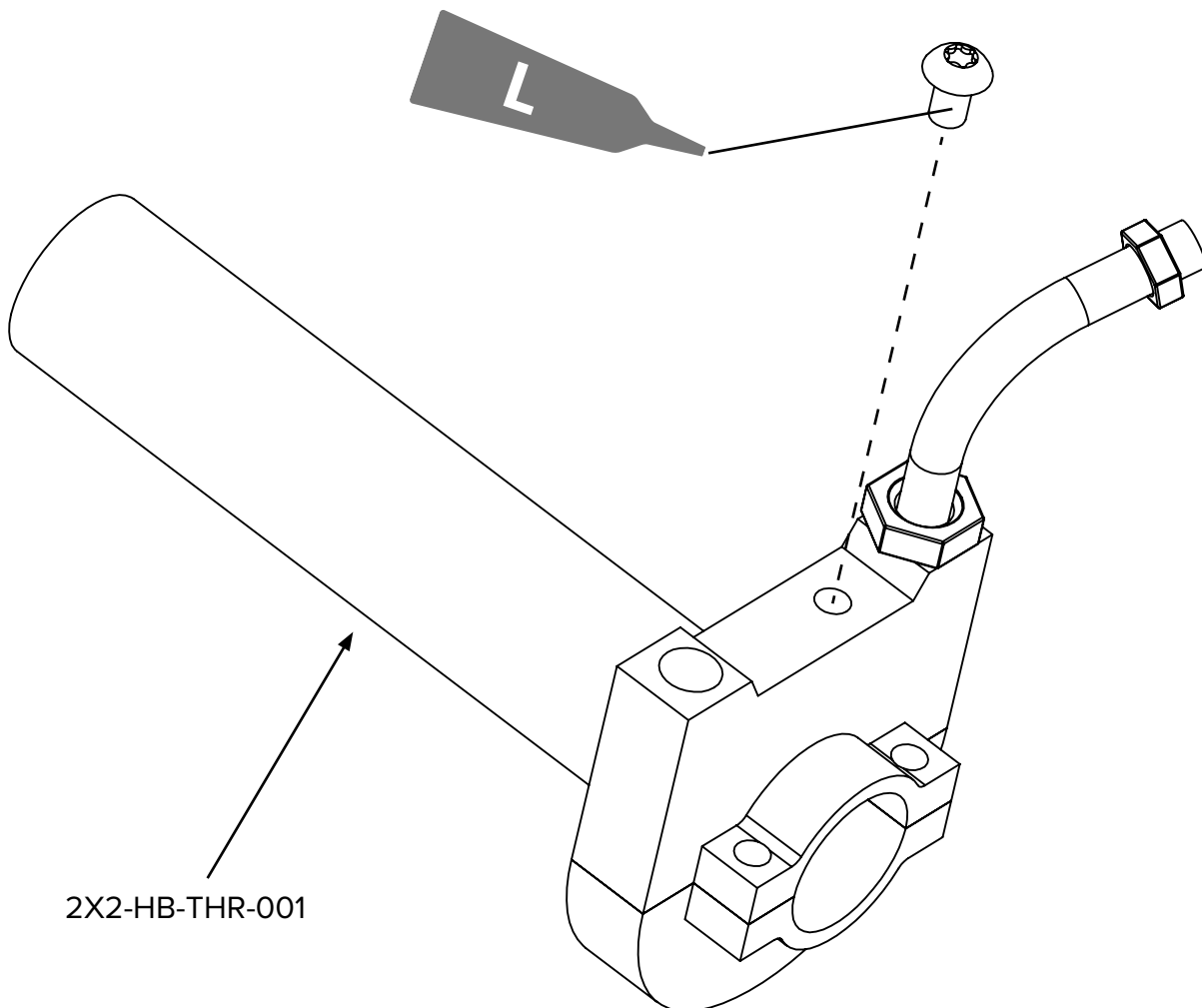
b. Install clamp B parts on to the clamp A parts using the M5 x 30mm screws, ensuring the logo direction matches between the two clamp parts.

## 1.10 Throttle assembly

Required parts:

- Throttle (2X2-HB-THR-001)
- M5 x 8mm Torx button head screw x1

a. Replace existing screw on the bottom of throttle body with an M5 x 8mm Torx button screw, applying loctite to the thread of the screw

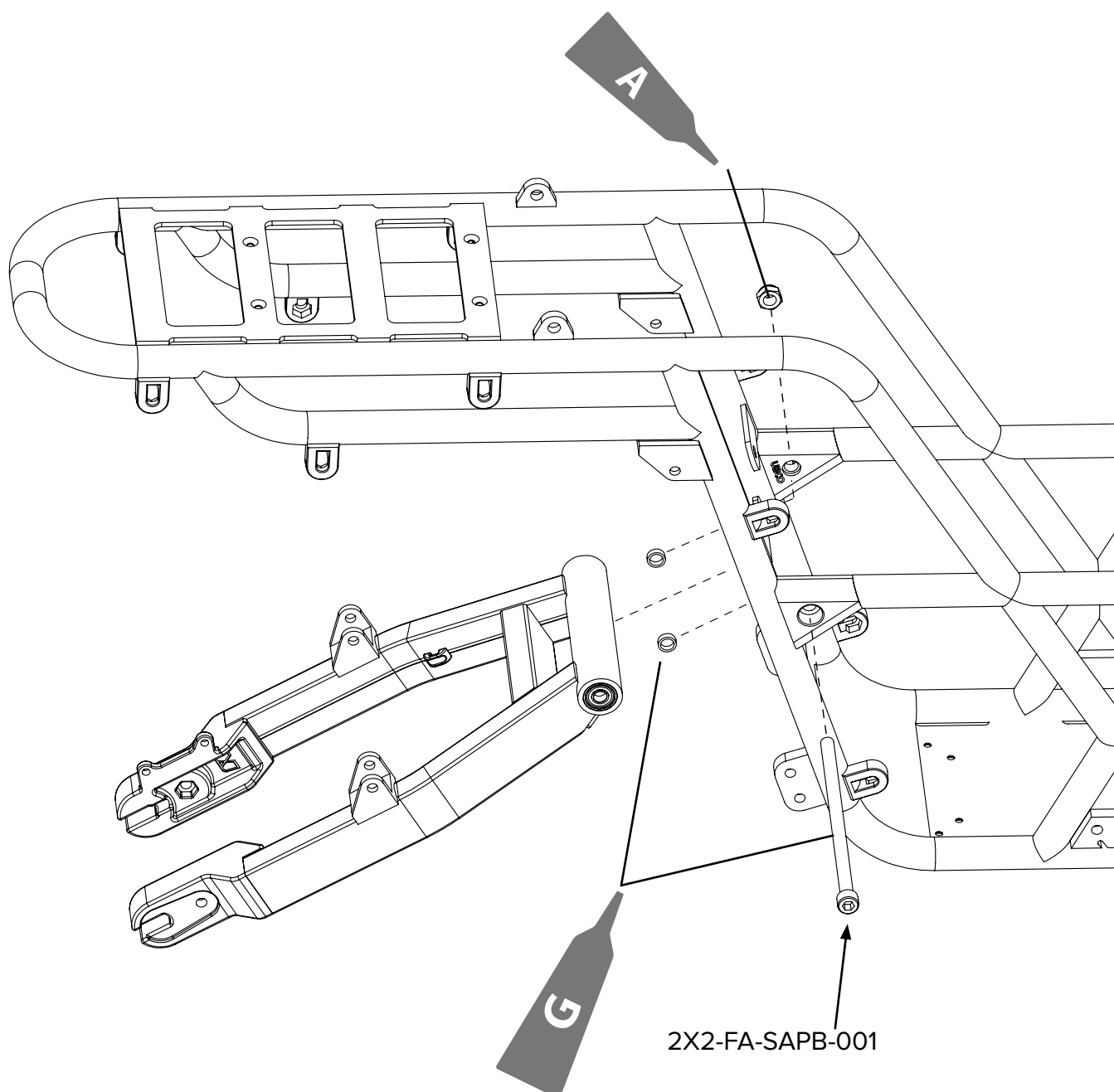


## 2. Assembling parts into the frame

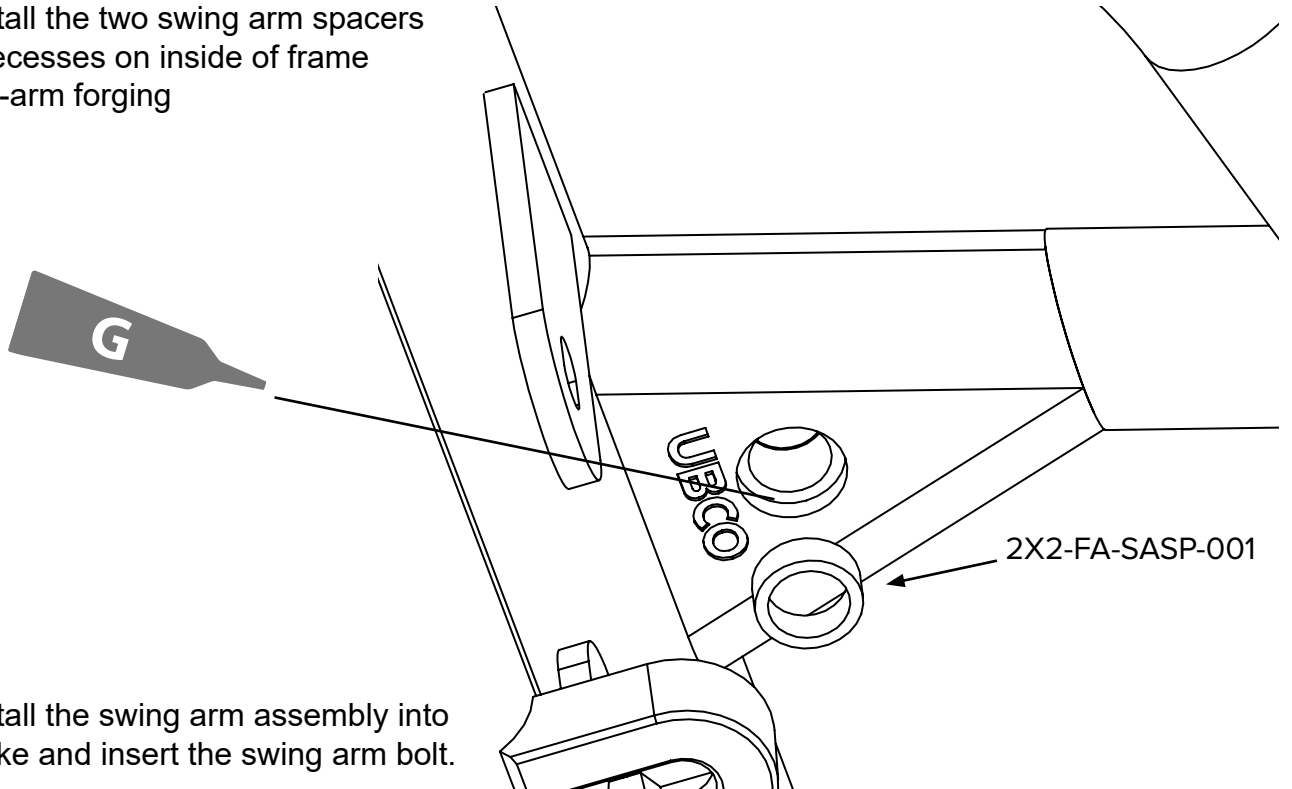
### 2.1 Swing arm installation

Required parts:

- Swing arm assembly
- Frame
- Swing arm spacers (2X2-FA-SASP-001) x2
- Rear shocks x2
- M10 x 200 hex socket screw
- M10 nyloc nut
- Suspension pivot bolts x4



a. Install the two swing arm spacers into recesses on inside of frame swing-arm forging

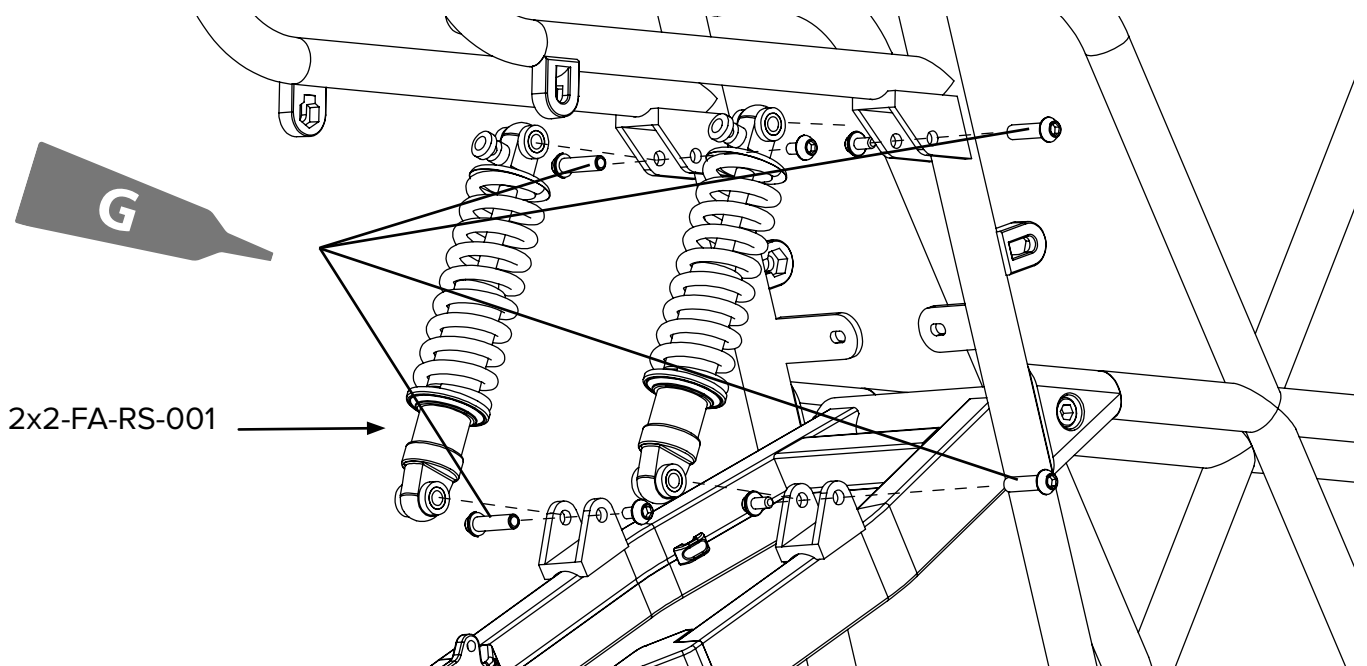


b. Install the swing arm assembly into the bike and insert the swing arm bolt.

c. Install the rear shock absorbers using the suspension pivot bolts supplied with the shocks.  
Install in the orientation shown below.

Adjust rear suspension so there is 20mm of exposed thread at the bottom of the shock.

Adjust rear suspension rebound setting to 4 clicks from slowest setting.

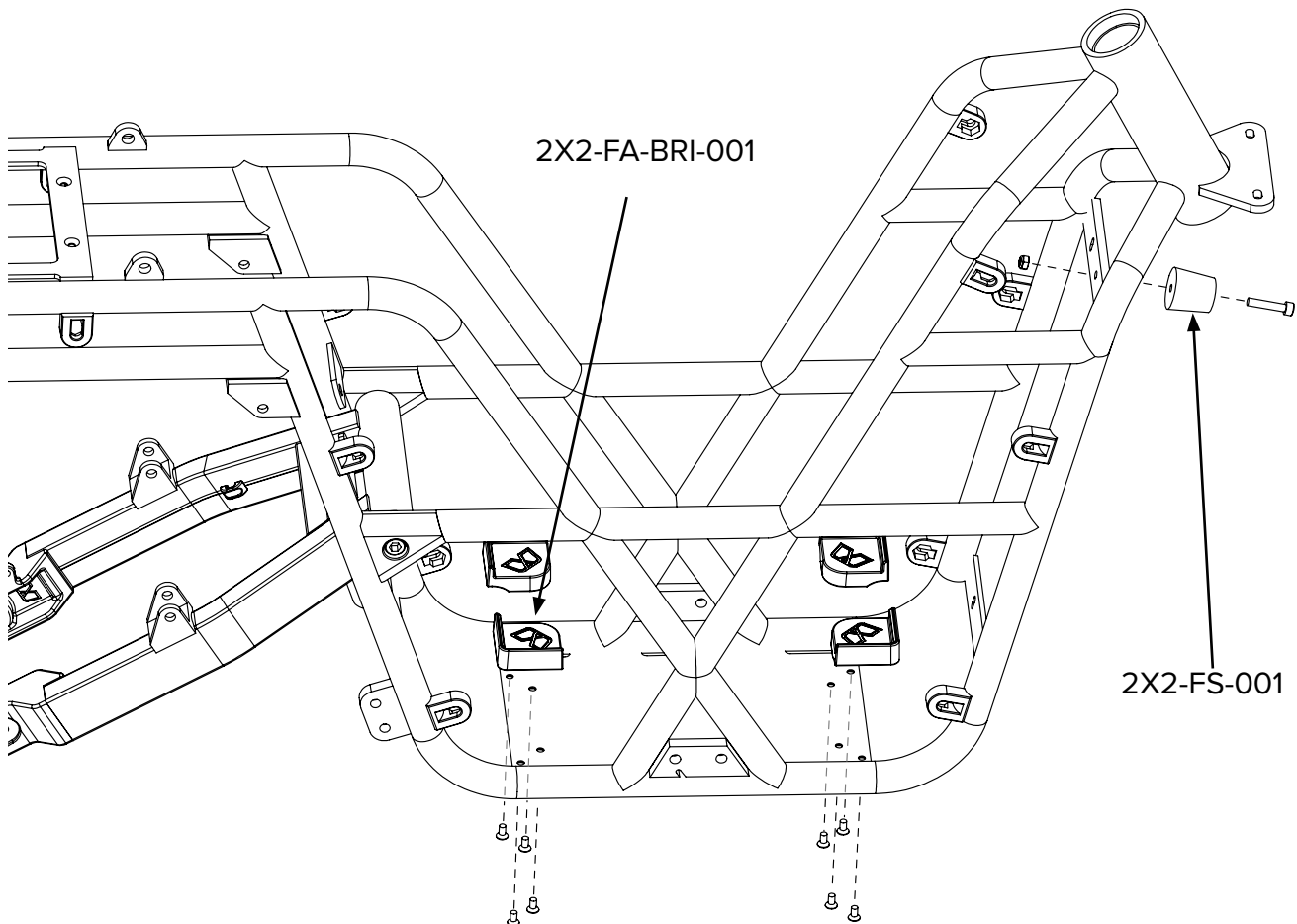


## 2.2 Battery Risers and fork stopper install

Required parts:

- Frame
- Battery risers (2X2-FA-BRI-001)
- Fork stopper (2X2-FS-001)
- M6 x 30mm hex socket screw x1
- M6 nyloc nut x1
- M5 x 10mm Torx countersink screws x8

a. Install the four battery risers on to the battery tray on the frame using the M5 x 10mm screws.



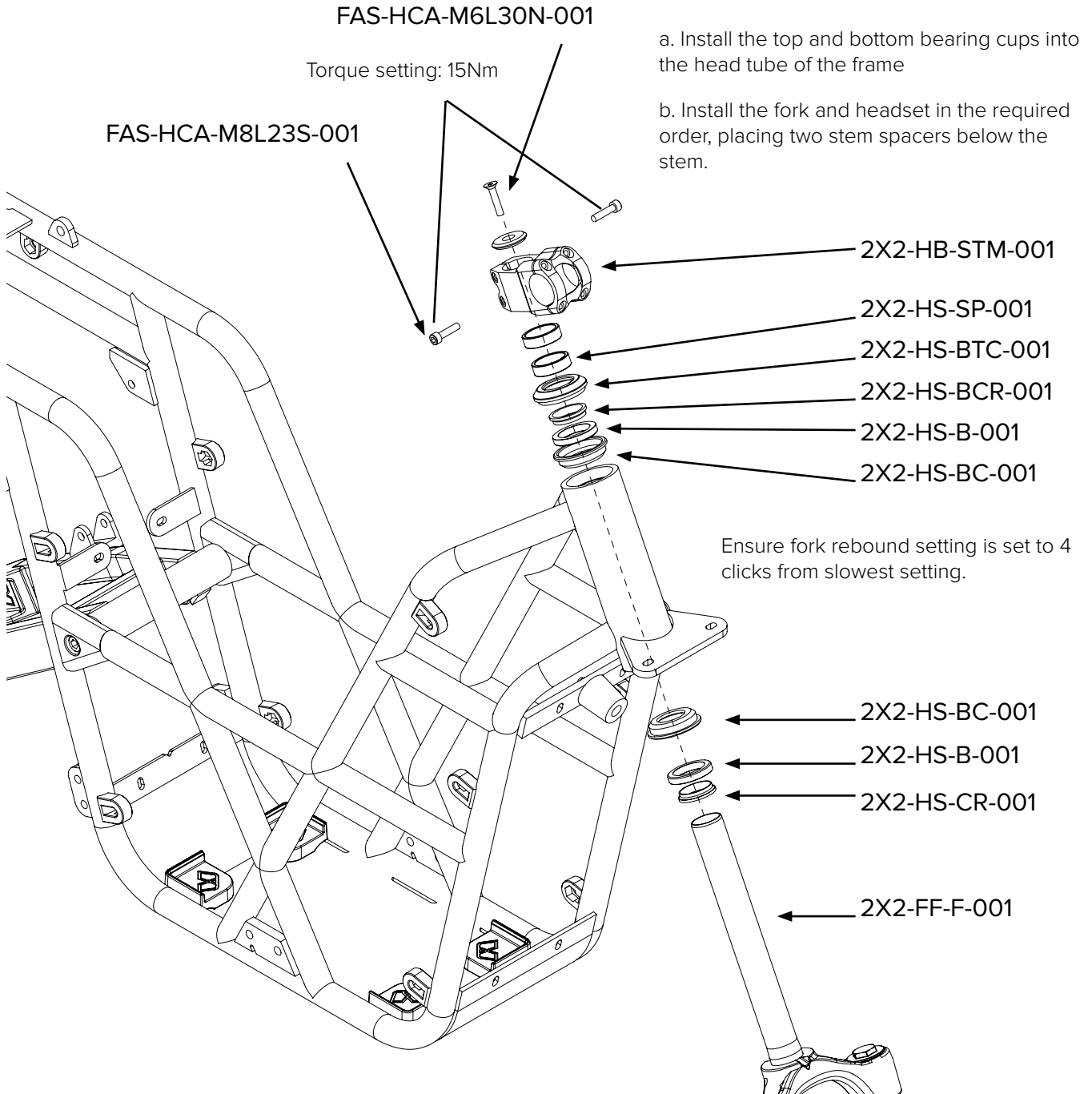
b. Install the fork stopper onto the top front frame cross member using the M6 x 30mm screw and M6 nyloc nut.



## 2.3 Suspension fork install

Required parts:

- Fork (2X2-FF-F-001)
- Headset (2XS-0-001)
- Headset spacer x2 (2x2-SP-001)
- Stem (2X2-HB-STM-001)
- Headset top screw (FAS-HCA-M6L30N-001)
- Stem side screws x2 (FAS-HCA-M8L23S-001)

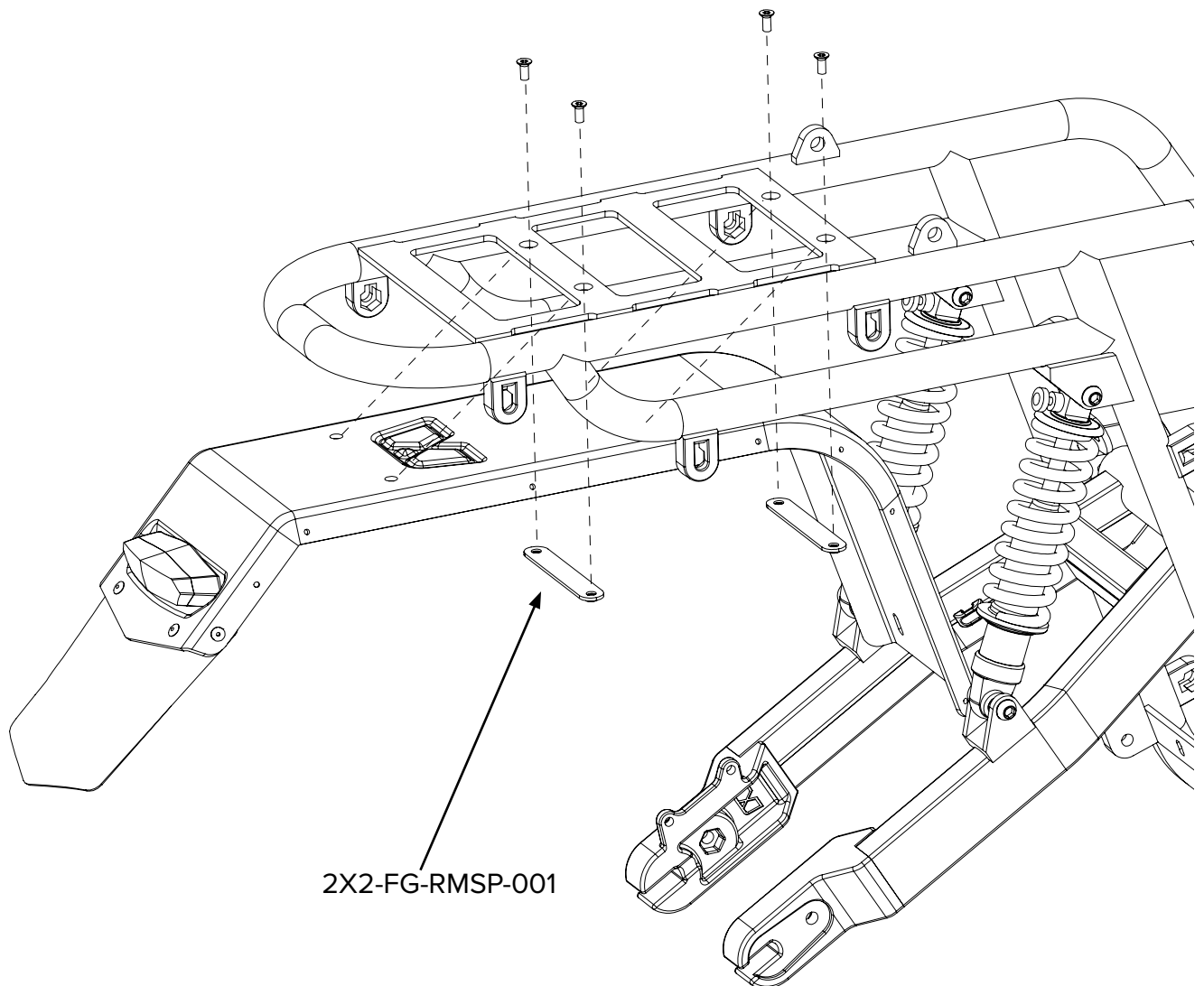


## 2.4 Rear mud guard install

Required parts:

- Frame
- Rear mud guard assembly
- Rear mud guard screw plates (2X2-FG-RMSP-001) x2
- M5 x 12mm Torx countersink screws x4

a. Install the rear mud guard assembly by sliding it under the frame rear carrier, aligning the two rear mud guard screw plates and fastening from the top using the four Torx screws.

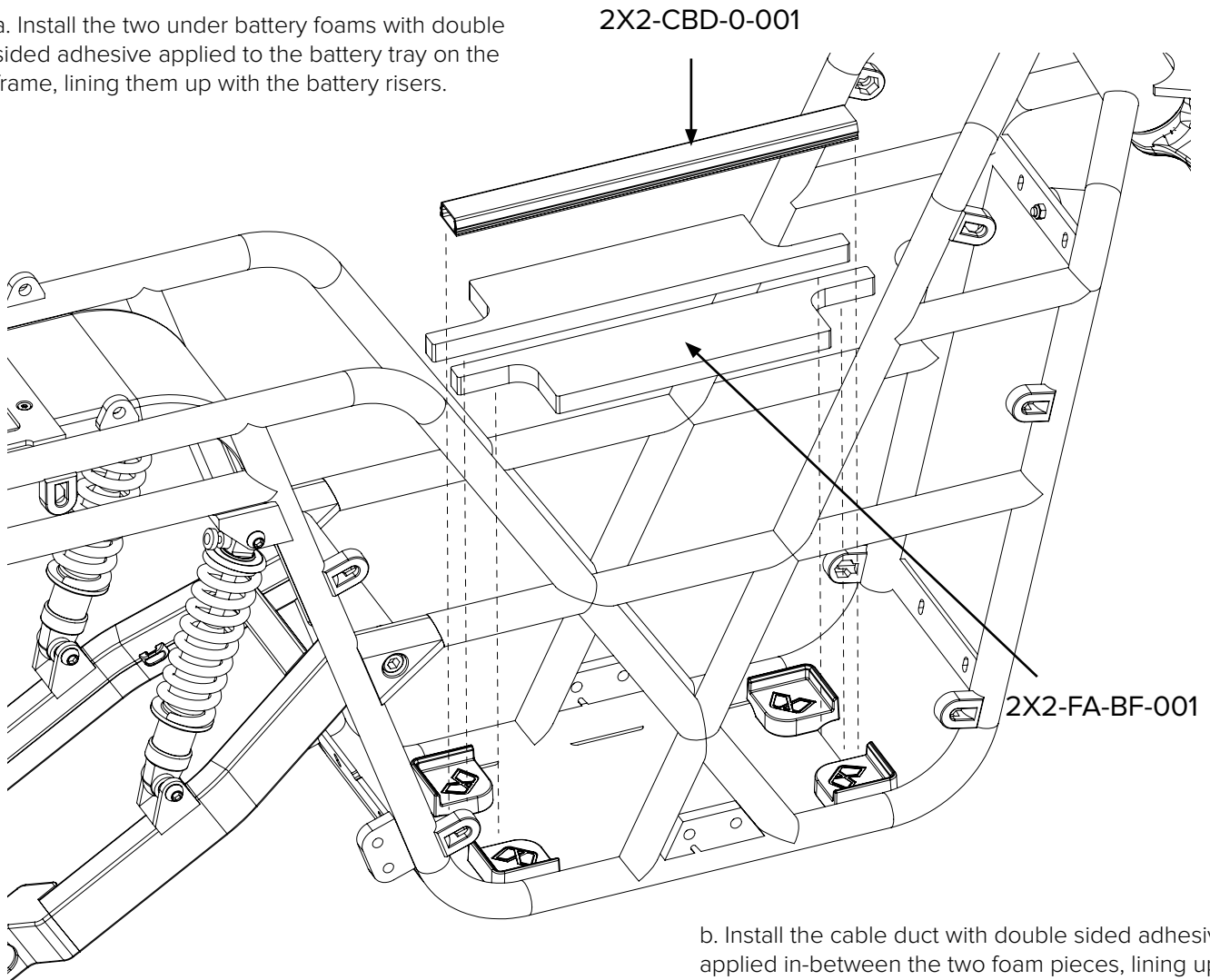


## 2.5 Under battery foam and cable duct install

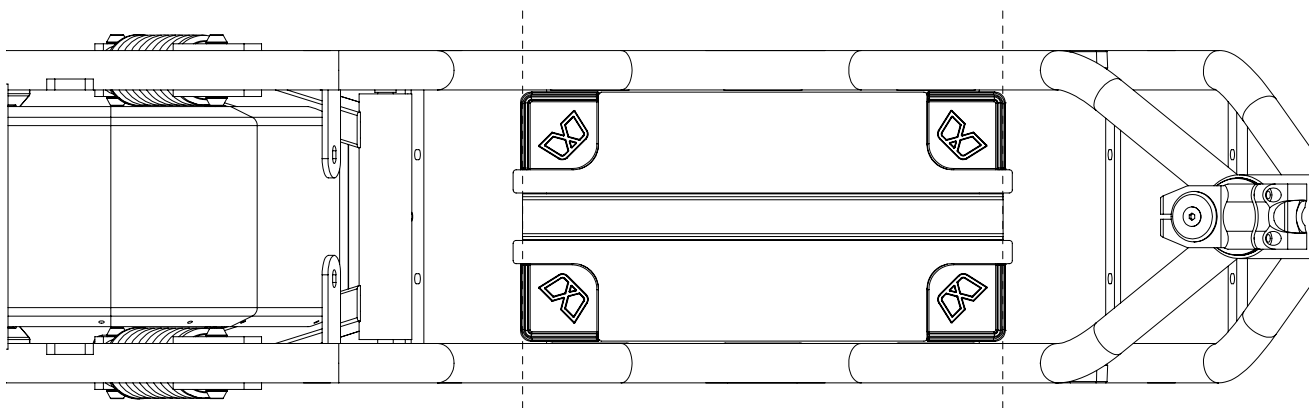
Required parts:

- Frame
- Under battery foam (2X2-FA-BF-001)
- Cable duct (2X2-CBD-0-001)
- High strength double sided adhesive

a. Install the two under battery foams with double sided adhesive applied to the battery tray on the frame, lining them up with the battery risers.



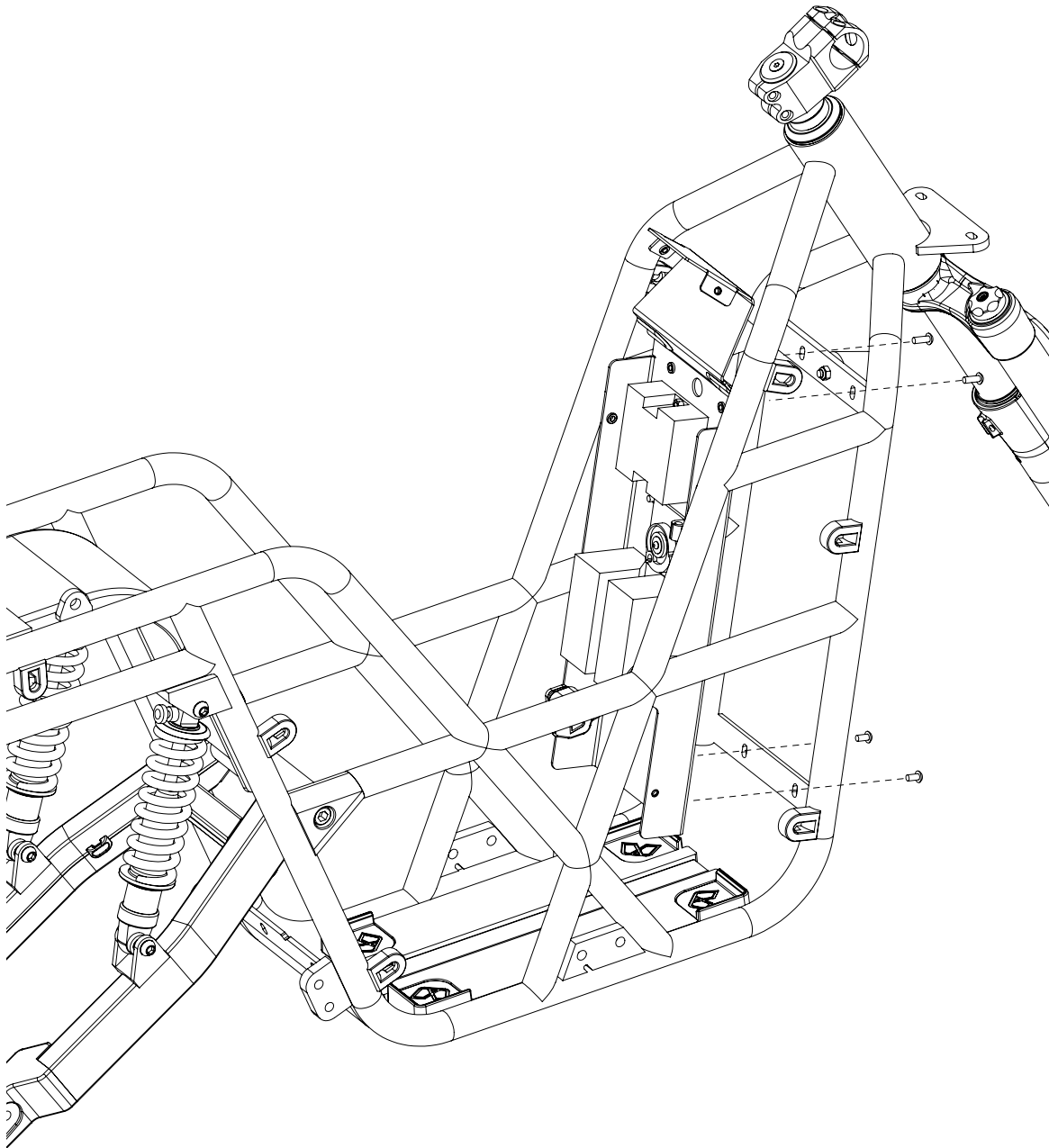
b. Install the cable duct with double sided adhesive applied in-between the two foam pieces, lining up the ends with the battery risers.



## 2.6 Front console install

Required parts:

- Frame
- Front console base assembly
- M5 x 10mm Torx button head screws x2
- M5 x 14mm Torx button head screws x2

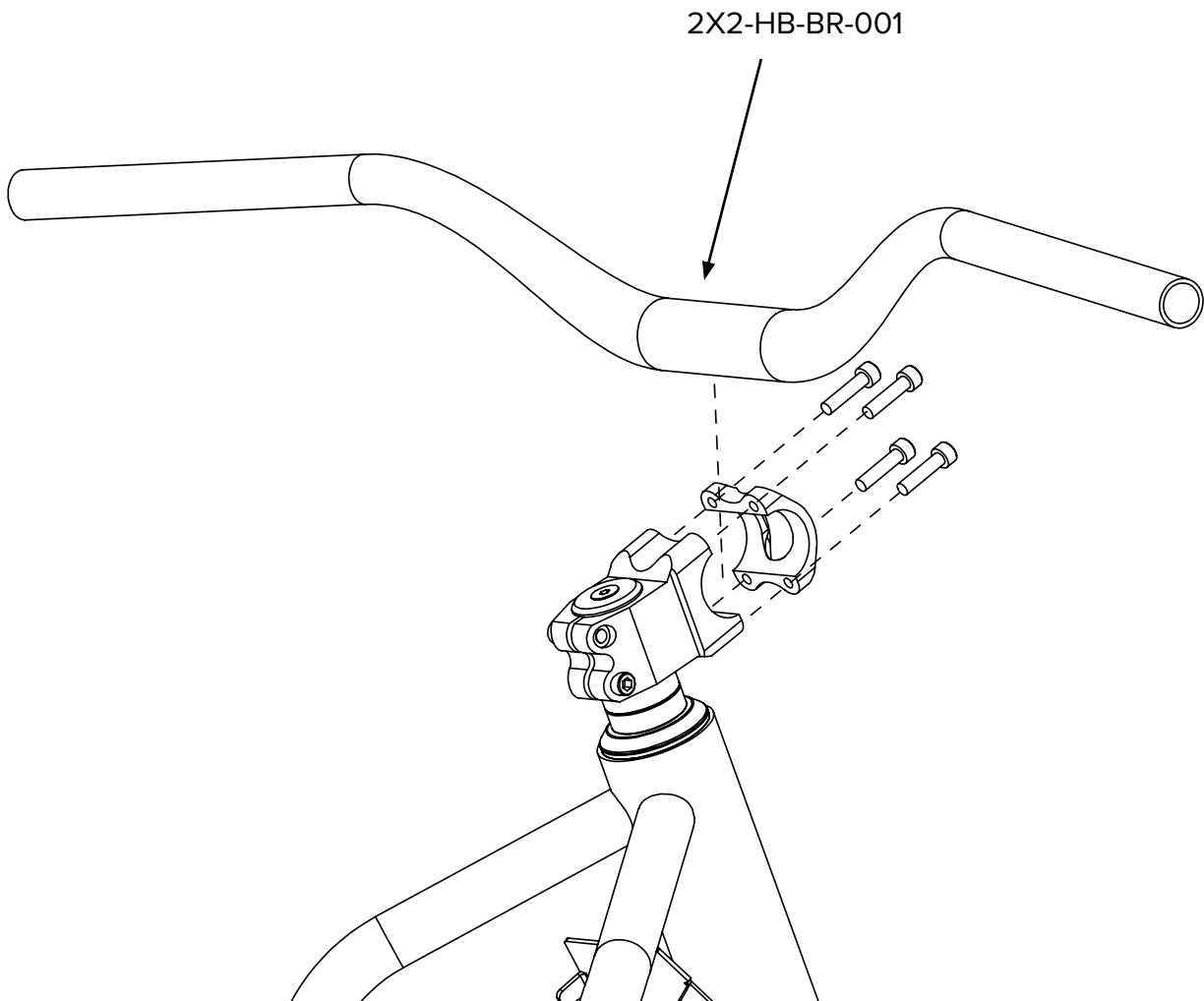


## 2.7 Handle bar install

Required parts:

- Frame (with fork and stem installed)
- Handle bars ( 2X2-HB-BR-001)

a. Install the handle bars by removing the front section of the stem and inserting the bars, re attach the front part of the stem and fasten the bolts.



## 2.8 Handle bar components install

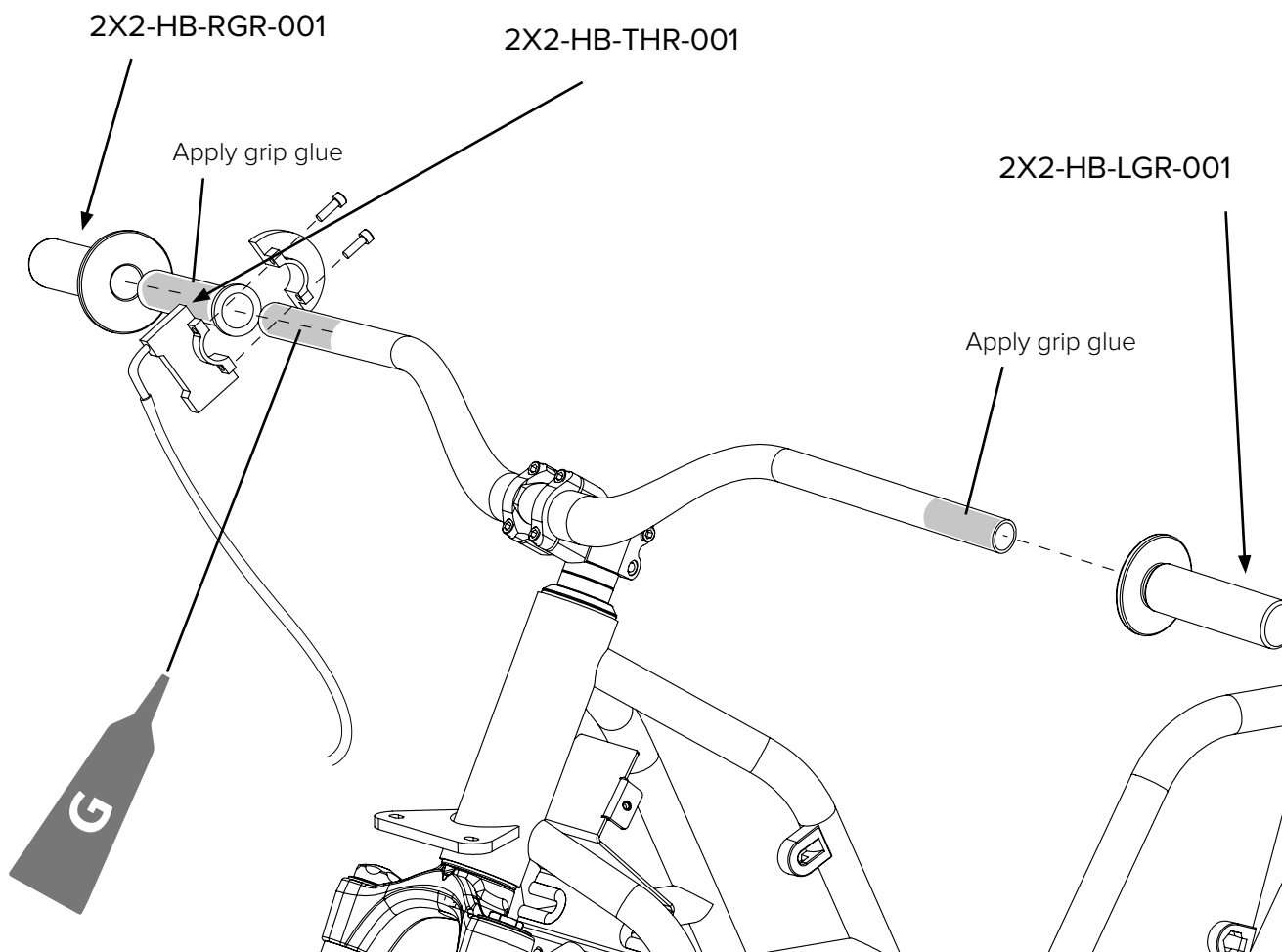
Required parts:

- Frame
- Grips (2X2-HB-LGR-001, 2X2-HB-RGR-001)
- Throttle (2X2-HB-THR-001)
- Grease
- Grip glue

a. Install the throttle to the right hand side of the handle bar, ensuring to apply grease between the bar and the throttle tube.

b. Install the left grip to the left hand side of the handle bars ensuring to use grip glue

c. Install the right hand grip to the throttle tube ensuring to use grip glue.

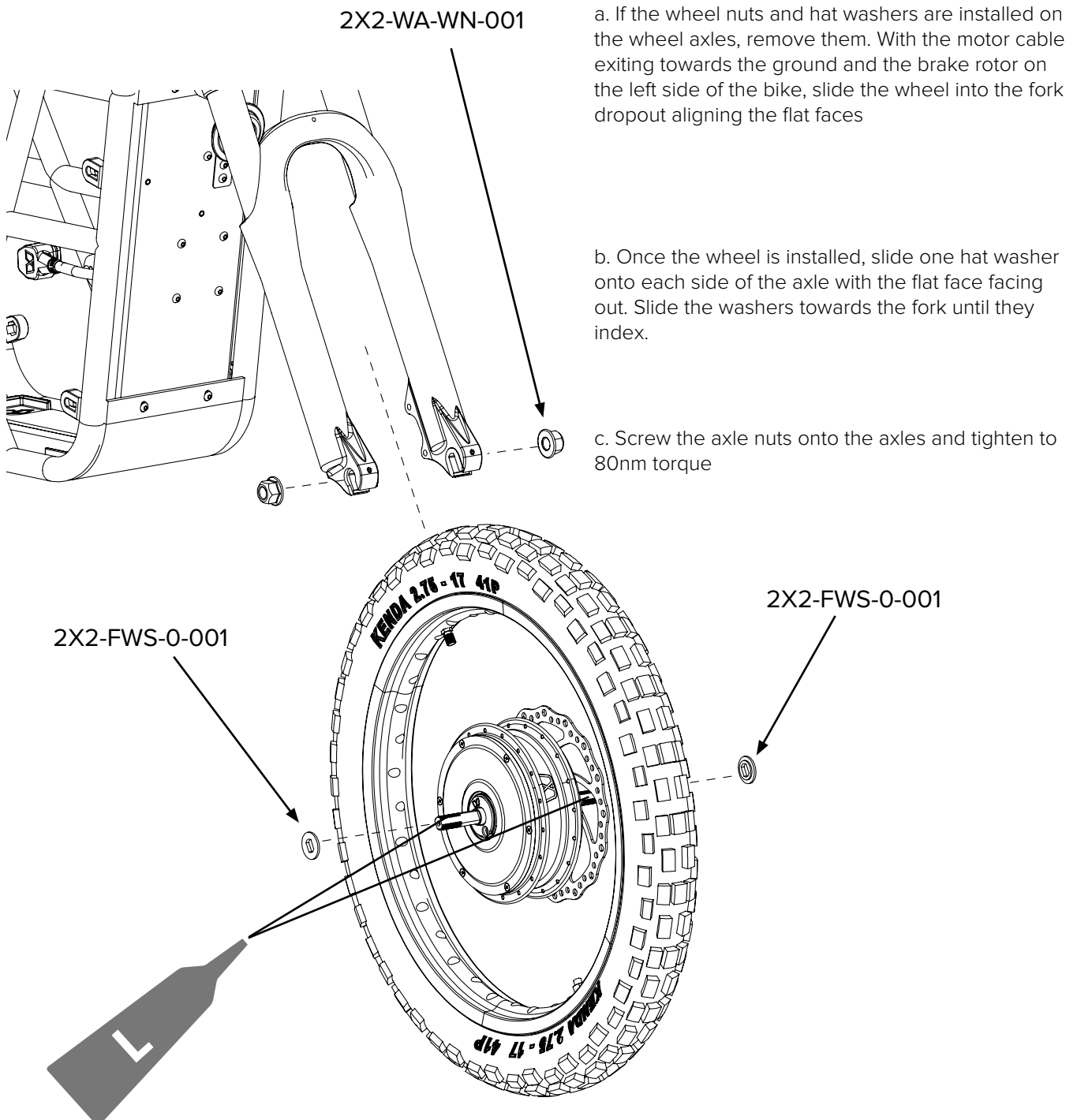


## 2.9 Installing the wheels

### 2.9.1 Installing the front wheel

Required parts:

- Frame assembly
- Wheel assembly
- Fork axle fork washer x2 (2X2-FWS-0-001)
- Wheel nut x2 (2X2-WA-WN-001)



## 2.9.2 Installing the rear wheel

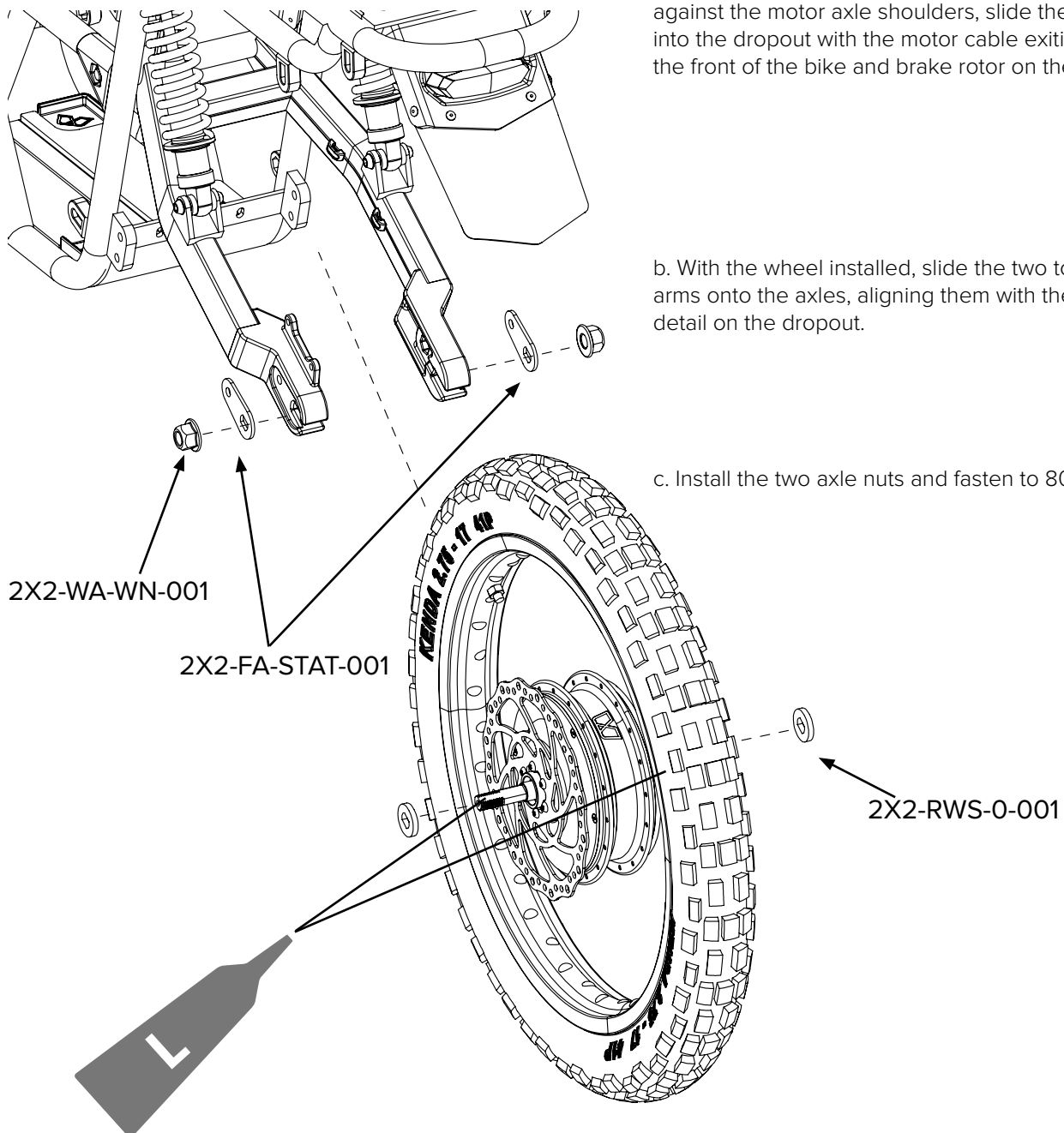
Required parts:

- Frame
- Wheel assembly
- Rear dropout washer x2 (2X2-RWS-0-001)
- Wheel nut x2 (2X2-WA-WN-001)
- Torque arms x2 (2X2-FA-STAT-001)

a. If the wheel nuts and torque arms are installed on the motor axles, remove them. Keep the rear dropout spacer washers installed on the motor axles. With the rear dropout spacer washers installed hard against the motor axle shoulders, slide the wheel into the dropout with the motor cable exiting towards the front of the bike and brake rotor on the left

b. With the wheel installed, slide the two torque arms onto the axles, aligning them with the matching detail on the dropout.

c. Install the two axle nuts and fasten to 80nm torque





## 2.10 Installing the brakes

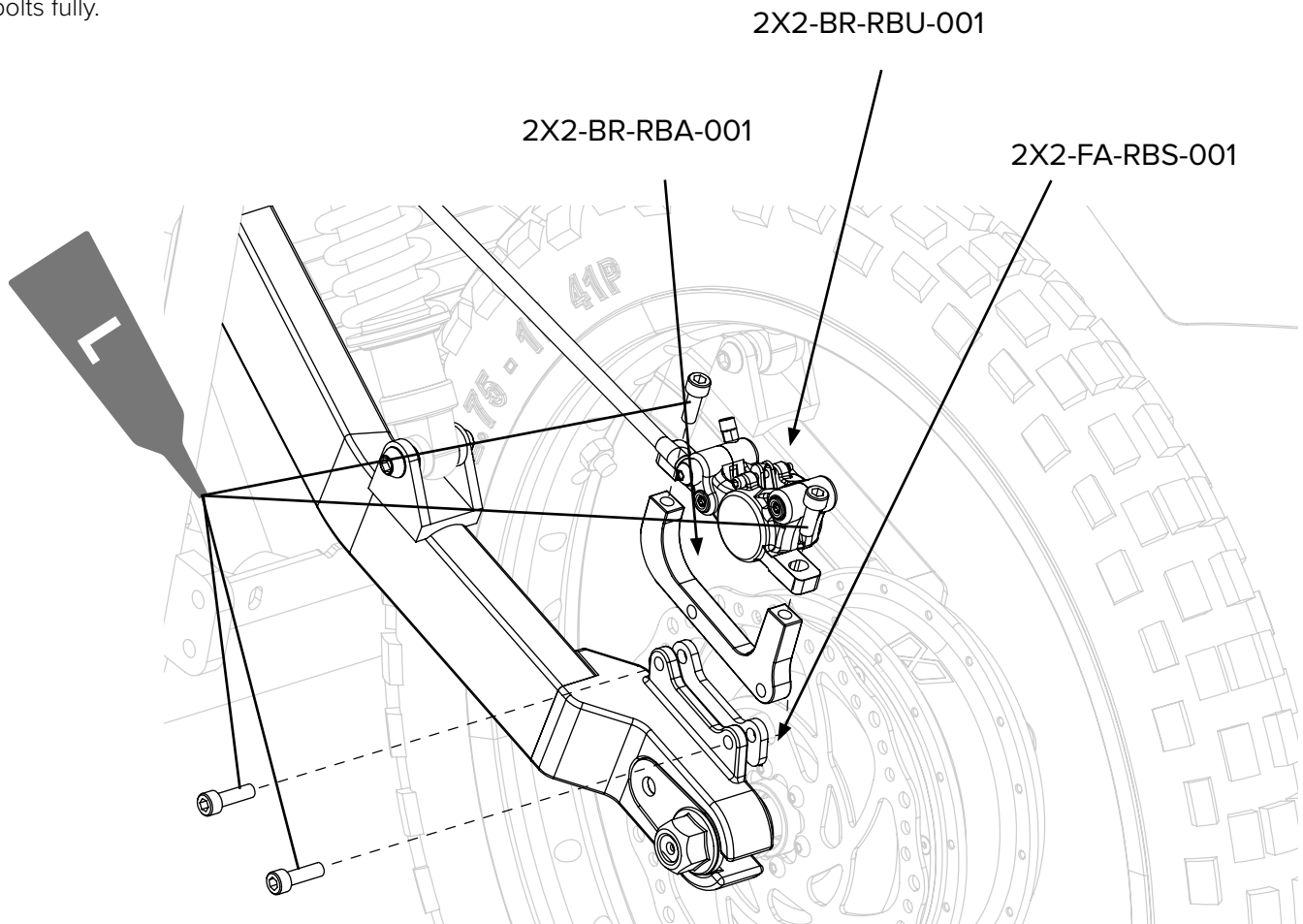
### 2.10.1 Rear brake install

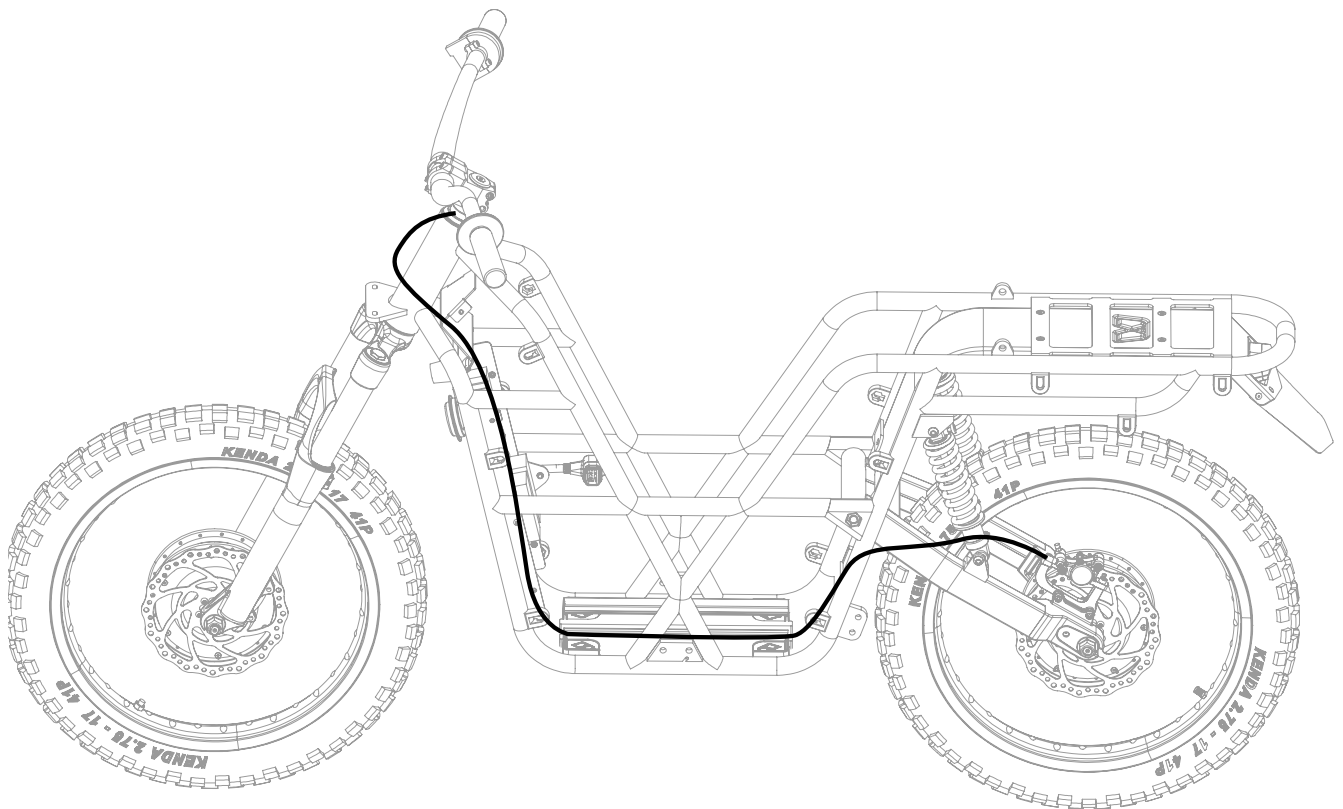
Required parts:

- Frame (with rear wheel installed)
- Rear brake unit (2X2-BR-RBU-001)
- Rear brake adapter (2X2-BR-RBA-001)
- Rear brake spacer (2X2-FA-RBS-001)
- M6 x 20mm Hex cap head screw x2

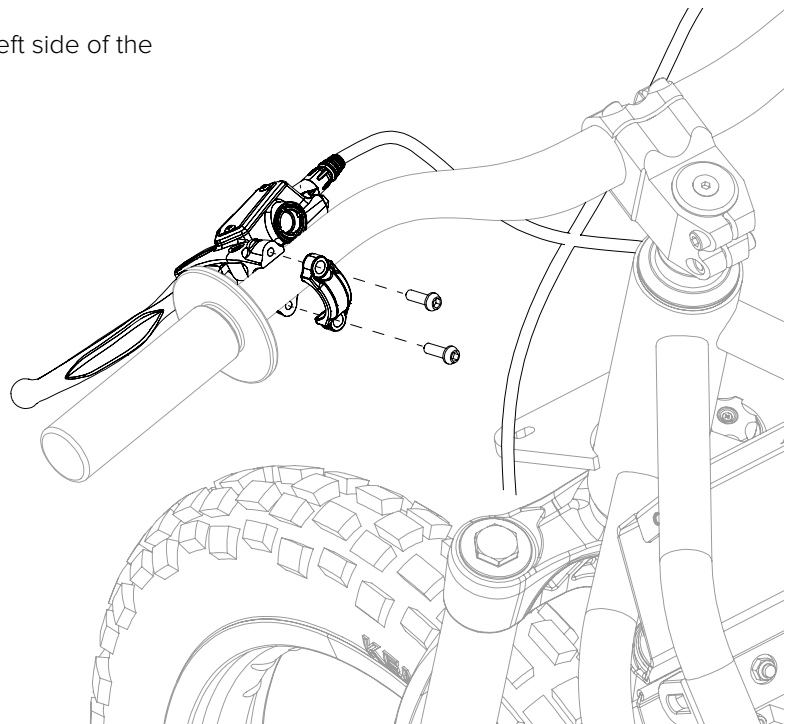
a. Install the brake adaptor to the brake mount on the swing arm using the swing arm brake spacer between the swing arm and the brake adapter. Fasten using two M6 x 20mm hex cap head screws.

b. Install the brake calliper onto the brake adapter using the M6 screws provided with the brake. Align the calliper with the brake rotor and tighten these bolts fully.





c. Install the rear brake lever on the left side of the handle bars.



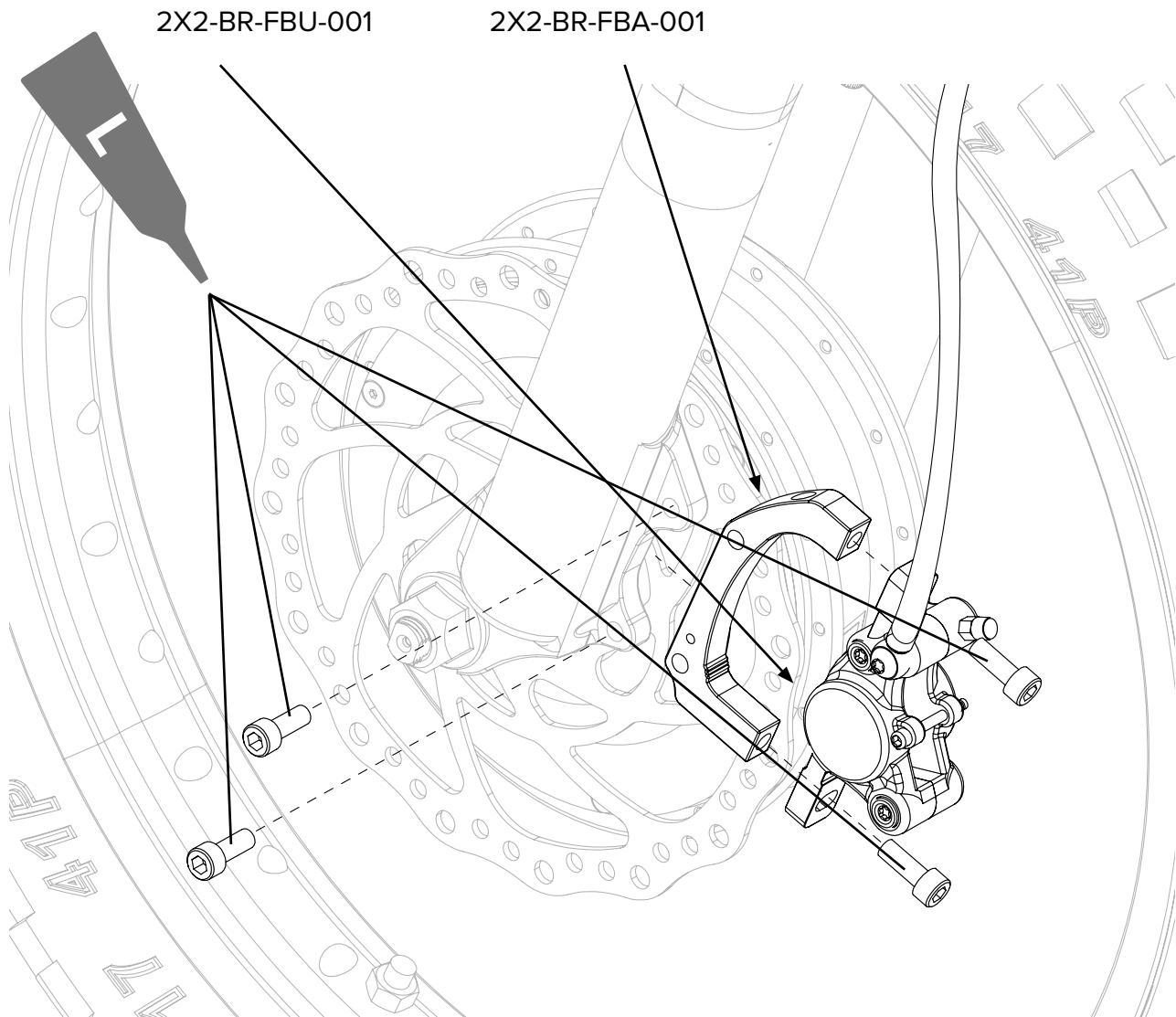
## 2.10.2 Front brake install

Required parts:

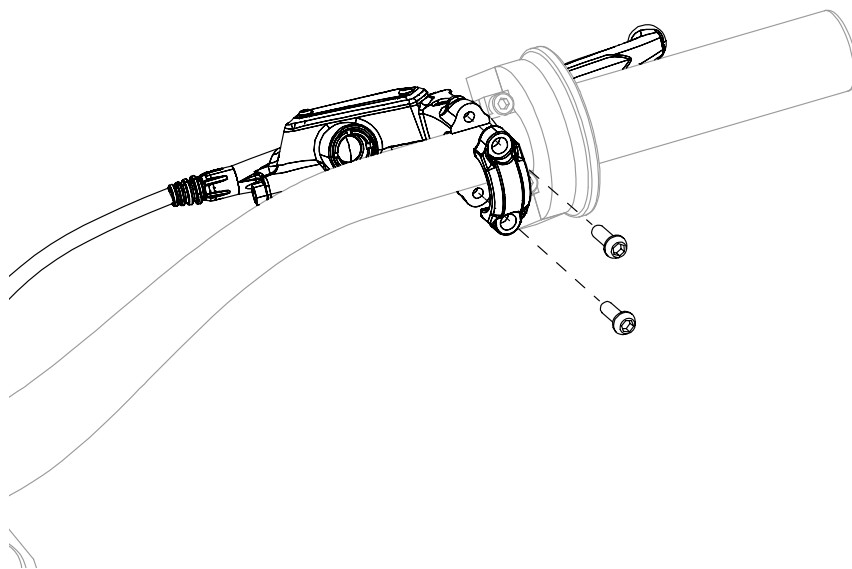
- Frame (with wheels installed)
- Front brake unit (2X2-BR-FBU-001)
- Front brake adapter (2X2-BR-FBA-001)
- M6 x 16mm Hex cap head screw x2

a. Install the brake adaptor to the brake mount on the front fork using the M6 x 16mm hex cap head screws.

b. Install the brake calliper onto the brake adapter using the M6 screws provided with the brake. Align the calliper with the brake rotor and tighten these bolts fully.



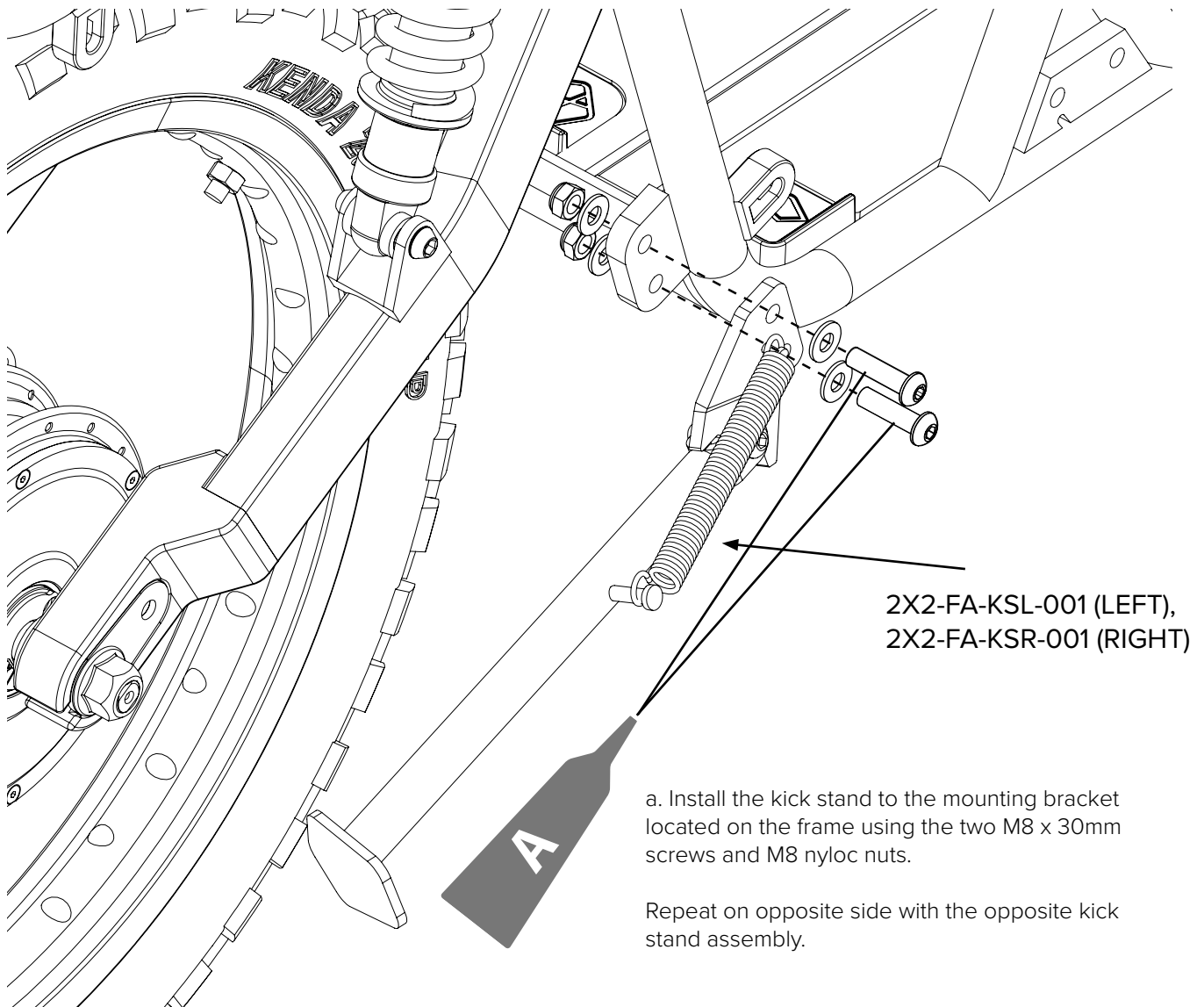
c. Install the front brake lever on the right side of the handle bars.



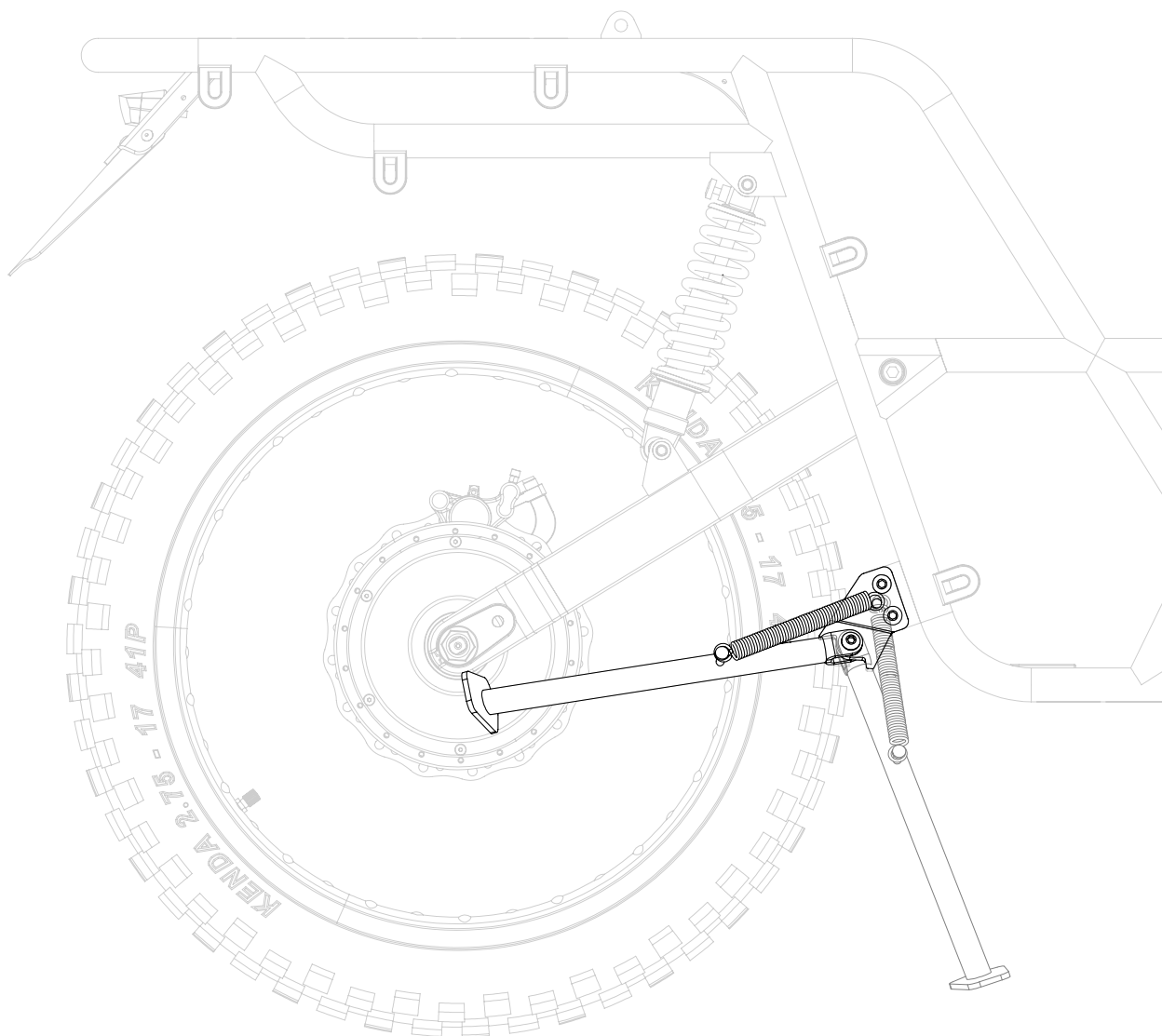
## 2.11 Kick Stand install

Required parts:

- Frame
- Kick stand assemblies (2X2-FA-KSL-001, 2X2-FA-KSR-001)
- M8 x 30mm Hex button head screw x2
- M8 nyloc nut x2
- M8 x 17 x 1.6mm flat washer x4



Ensure the correct kickstand is installed on the correct side of the frame. The stand should fold up to the rear and fold down towards the ground.



## 2.12 Foot peg install

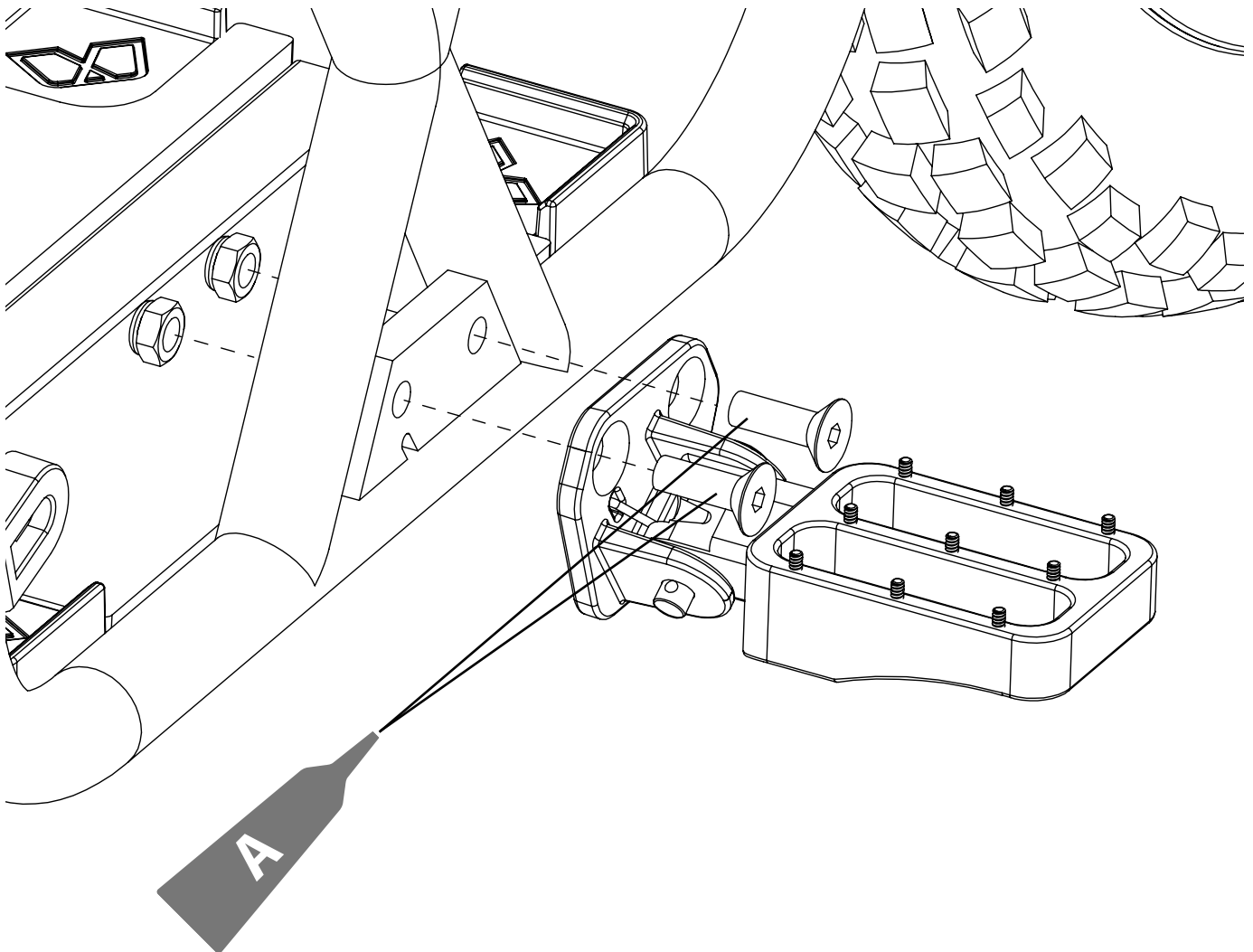
Required parts:

- Frame
- Foot peg assembly
- M8 x 25 Hex countersink screw x2
- M8 nyloc nut x2

a. Install the foot peg assembly onto the frame using the two M8 x 25mm countersink screws and M8 nyloc nuts ensuring the foot peg spring aligns with the relief detail in the frame mounting bracket.

The foot peg should fold up towards the rear of the bike.

Repeat on opposite side.



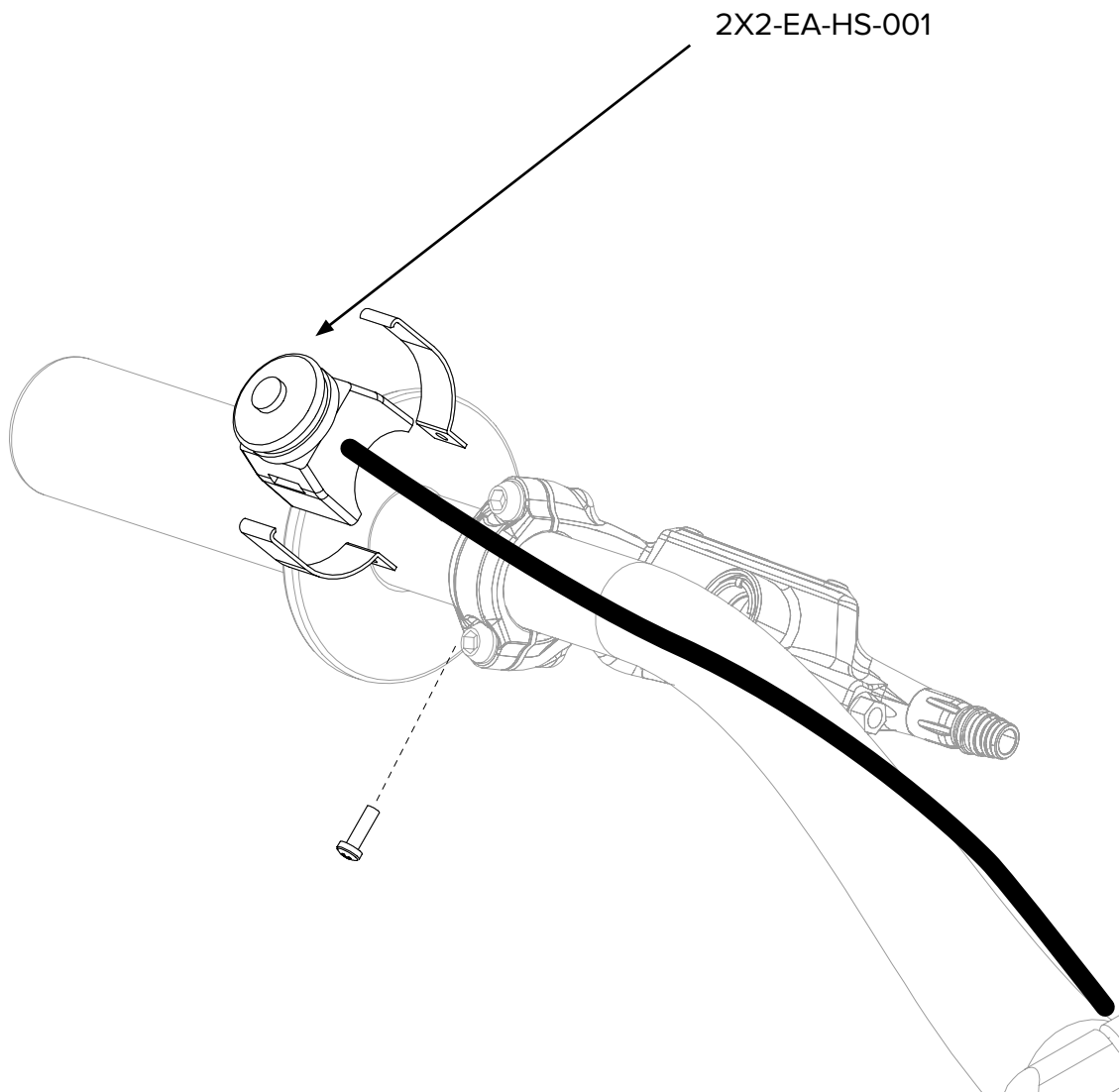
## 2.13 Horn switch install

Required parts:

- Frame
- Horn switch (2X2-EA-HS-001)

a. Install the horn switch on to the left side of the handle bars using the included clamp plates and fastening screw.

Position the switch so the wire is exiting towards the centre of the bike and the switch is positioned to the right of the brake lever.





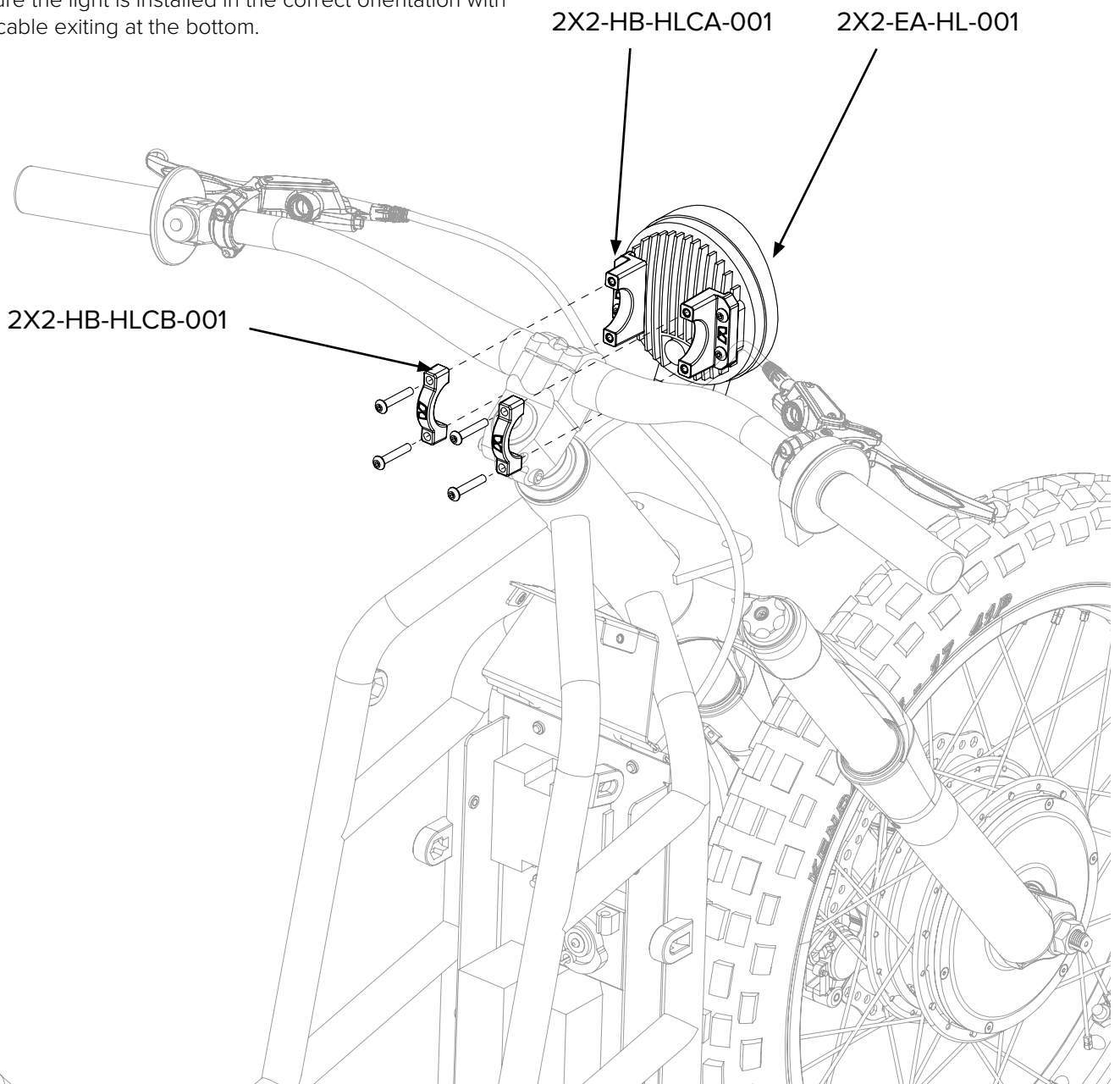
## 2.14 Headlight install

Required parts:

- Frame
- Headlight sub assembly

a. Install the headlight centred on the handlebars by unfastening the clamp and clamping it around the handlebars.

Ensure the light is installed in the correct orientation with the cable exiting at the bottom.

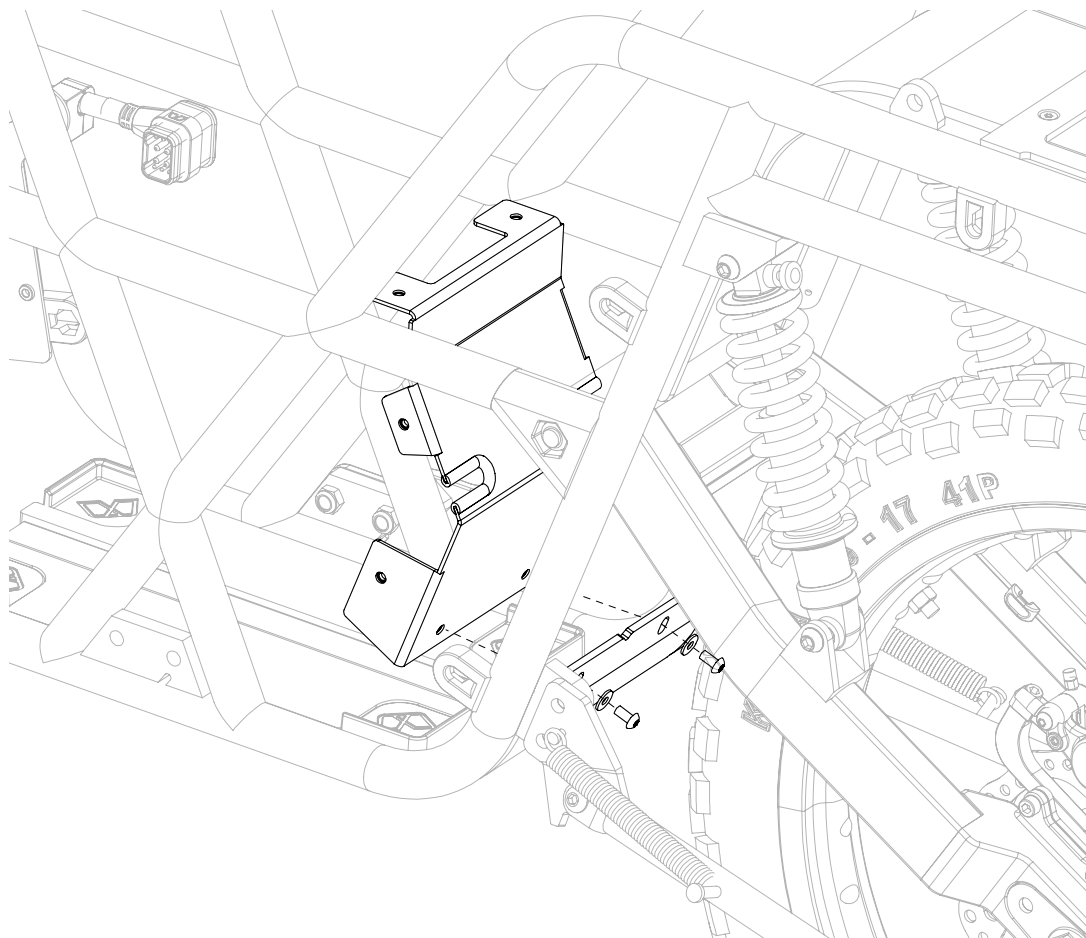


## 2.15 Rear console install

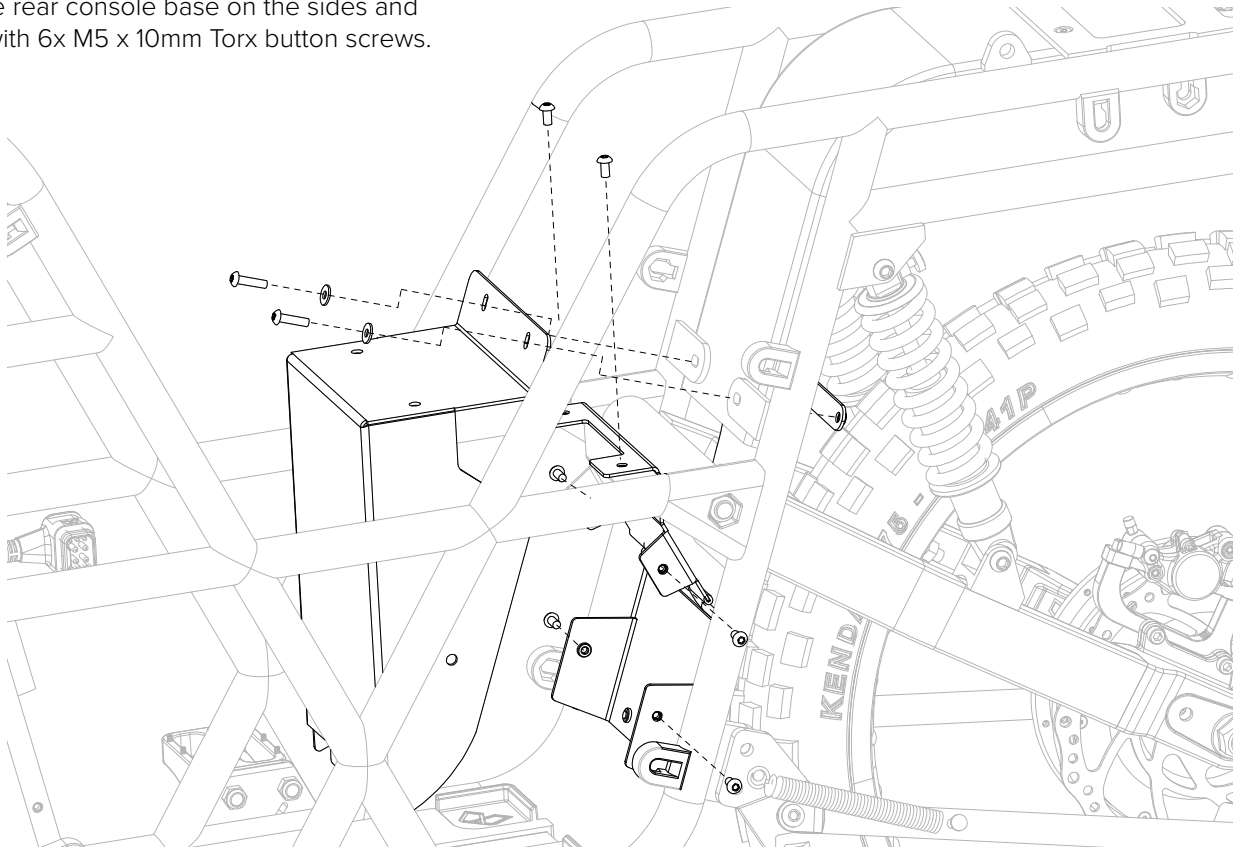
Required parts:

- Frame
- Rear console base (2X2-RC-B-001)
- Rear console cover (2X2-RC-C-001)
- Swing-arm mud flap (2X2-FG-SAMF-001)
- Rear mud guard screw plates (2X2-FG-RMSP-001) x1
- M5 x 10mm Torx button head screws x2
- M5 x 12.5 x 1.2mm flat washer x2
- M5 x 10mm Torx button head screws x6
- M5 x 20mm Torx button head screw x2

a. Install rear console base into frame using the two M5 torx screws and two M5 washers. Ensure cables are fed through the cable holes, motor cable and rear light cable on the right, rear brake on the left.

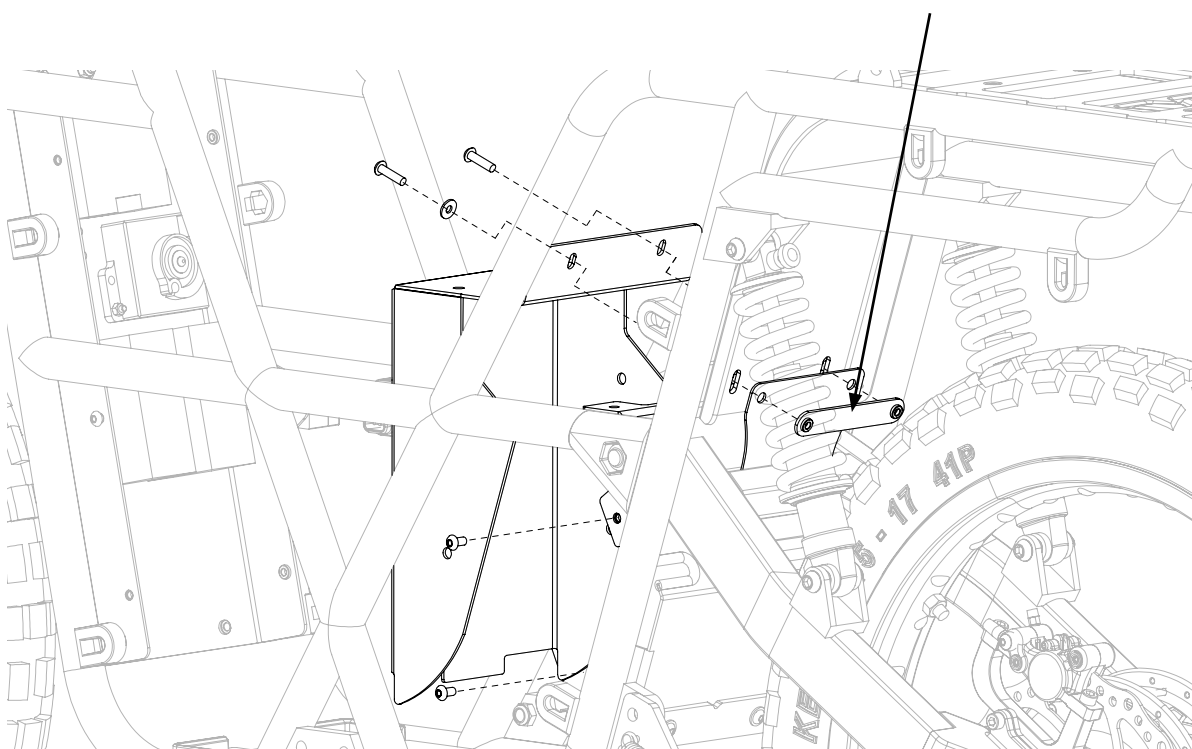


b. Install the rear console cover, fastening it to the rear console base on the sides and top with 6x M5 x 10mm Torx button screws.



c. Install the Rear console cover onto the frame cross members using 2x M5 x 20mm Torx button screws, The swing arm mud flap must also be installed at this stage. Install the swing arm mud flap with the textured side facing outwards, use a rear mud guard screw plate to fasten the Rear console cover and mud flap to the frame.

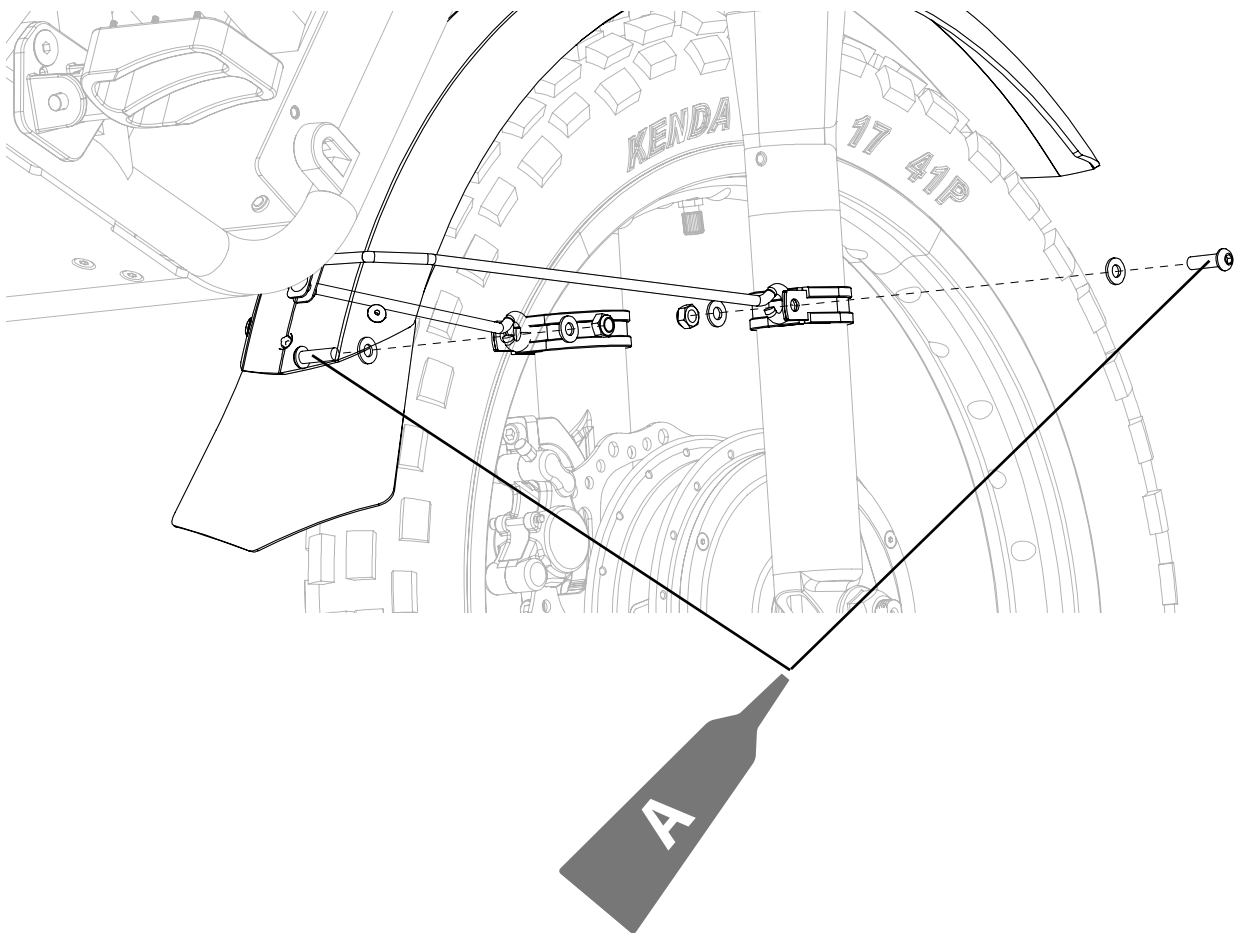
2X2-FG-RMSP-001



## 2.16 Front mud guard install

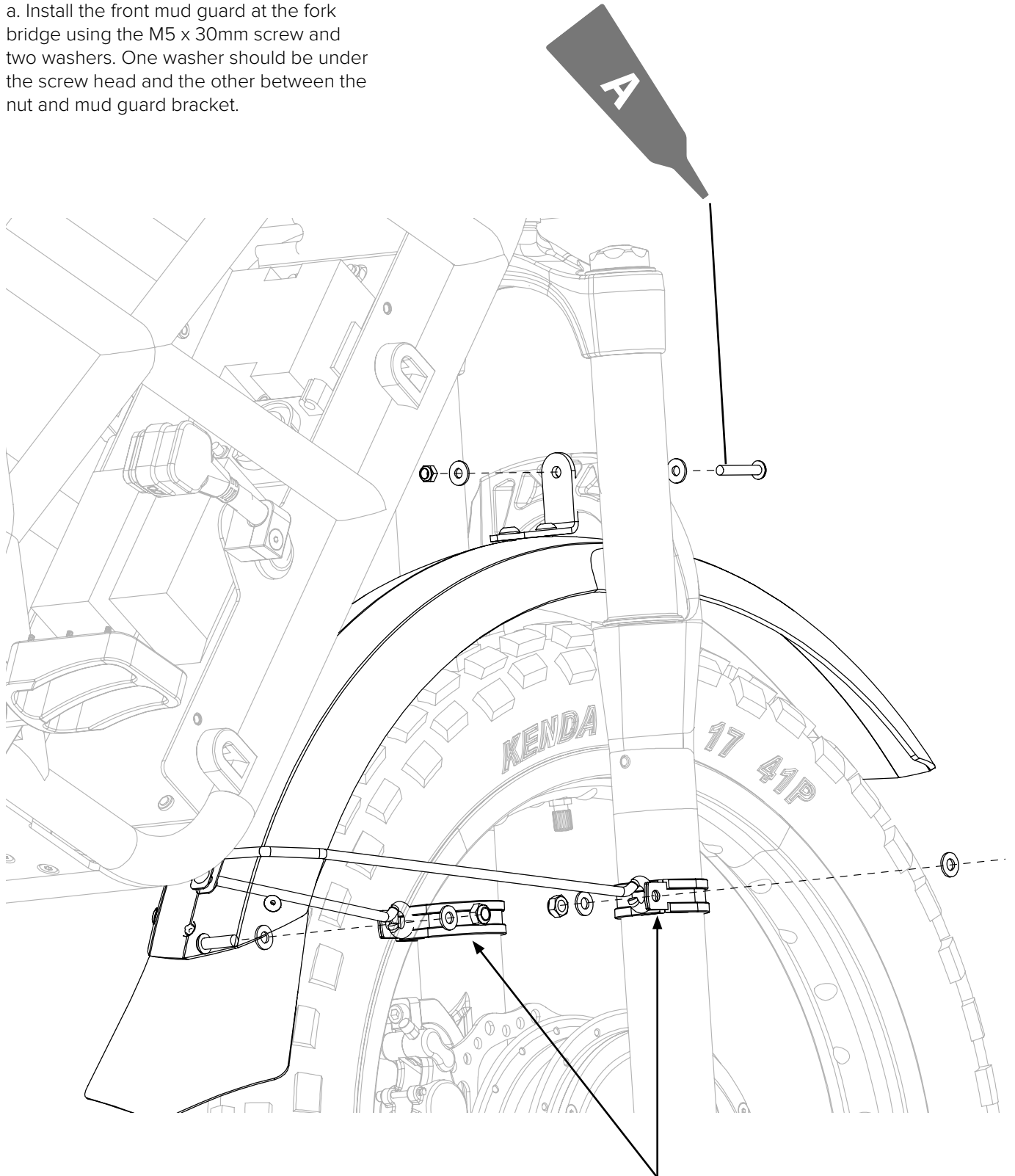
Required parts:

- Frame
- Front mud guard sub assembly
- Fork clamp A (large) (2X2-FCA-0-001) x2
- M6 x 20mm Hex button head screw x2
- M5 x 30mm Hex button head screw x1
- M6 x 1.25 x 1.2mm flat washer x4
- M5 x 12.5 x 1.2mm flat washer x2
- M6 nyloc nut x2
- M5 nyloc nut x1



a. Install the front mud guard at the fork bridge using the M5 x 30mm screw and two washers. One washer should be under the screw head and the other between the nut and mud guard bracket.

a. Install the front mud guard at the fork bridge using the M5 x 30mm screw and two washers. One washer should be under the screw head and the other between the nut and mud guard bracket.



2X2-FCA-0-001

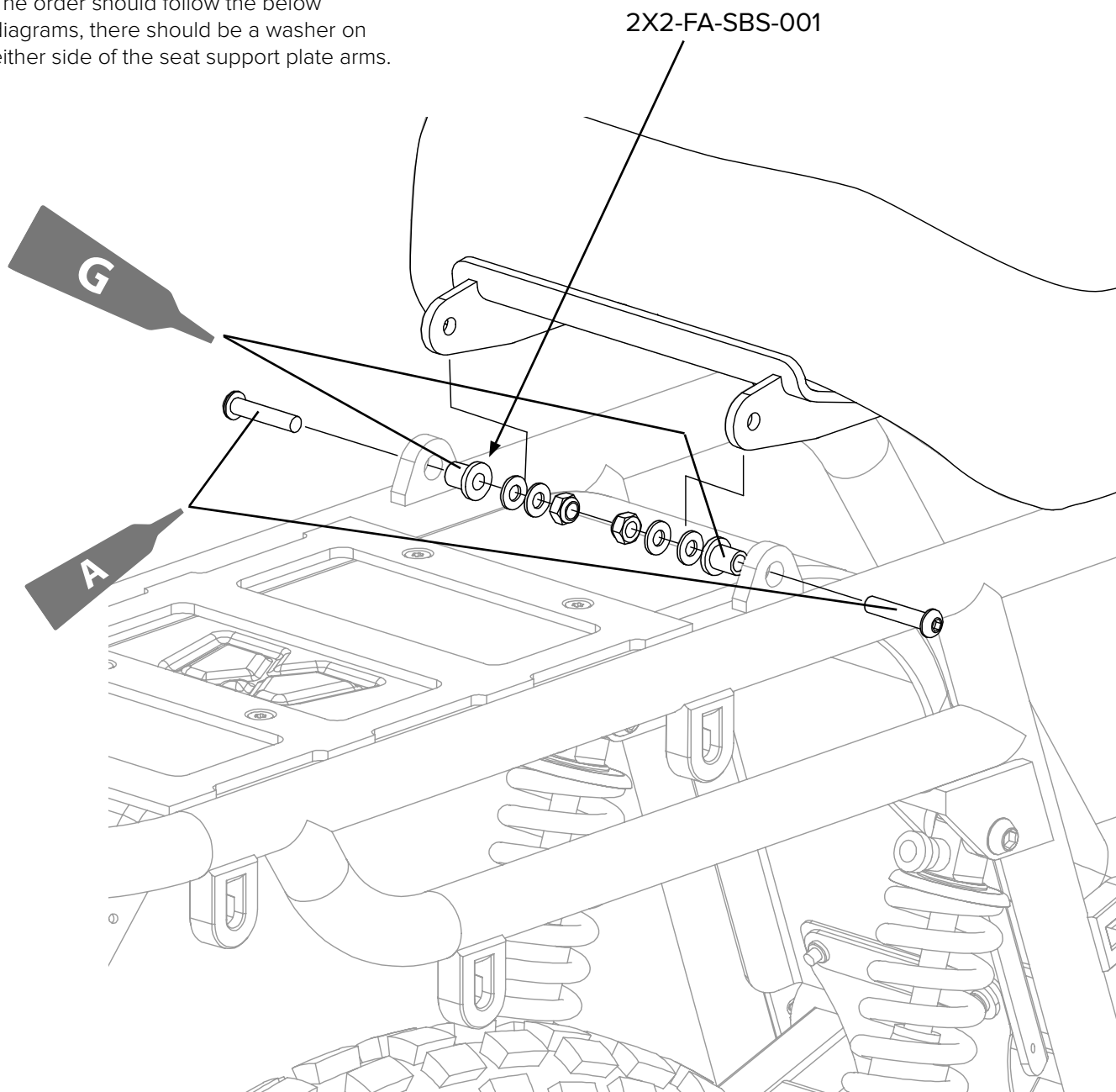
## 2.17 Seat install

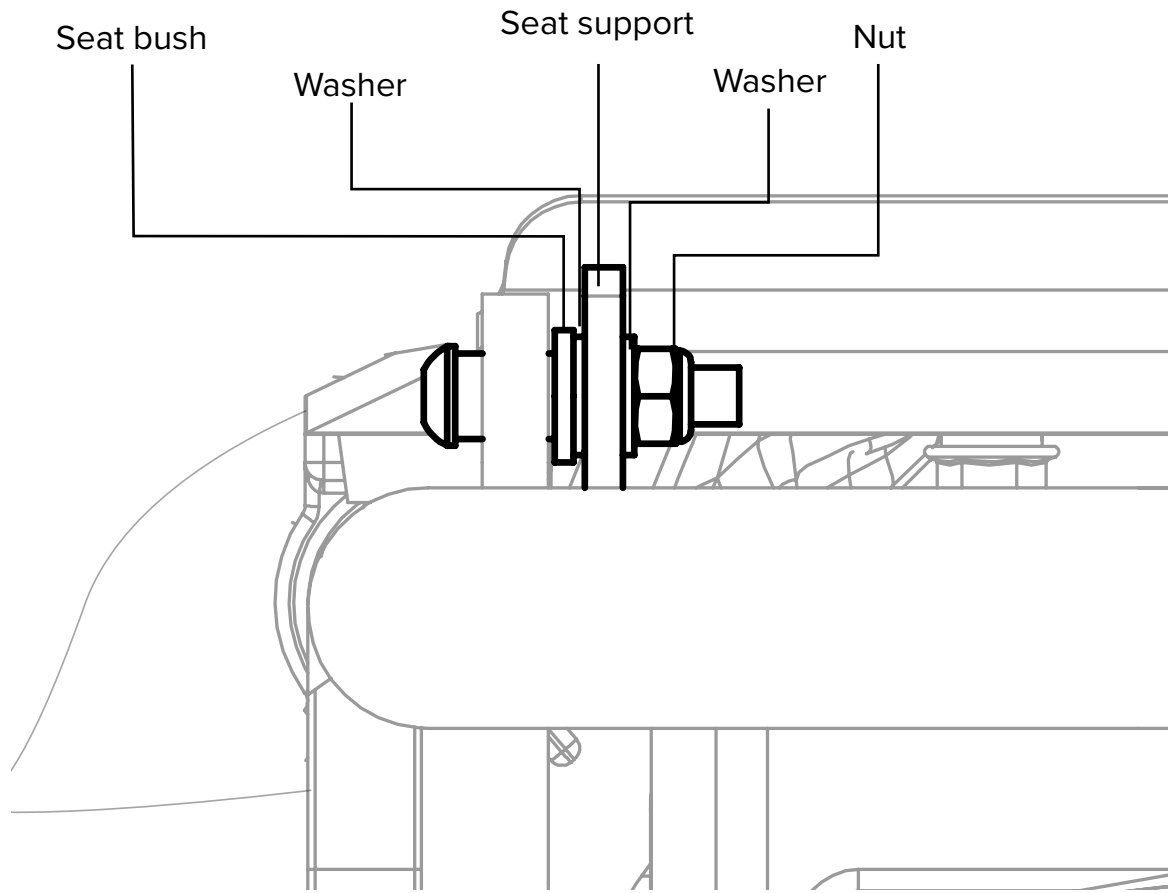
Required parts:

- Frame
- Seat sub assembly
- Seat bush (2X2-FA-SBS-001)
- M6 x 30mm Hex button head screw x2
- M6 x 12.5 x 1.2mm flat washer x4
- M6 Nyloc nut

a. Install the seat assembly onto the frame using the seat bushes, M6 x 30mm screws, flat washers and nyloc nuts.

The order should follow the below diagrams, there should be a washer on either side of the seat support plate arms.



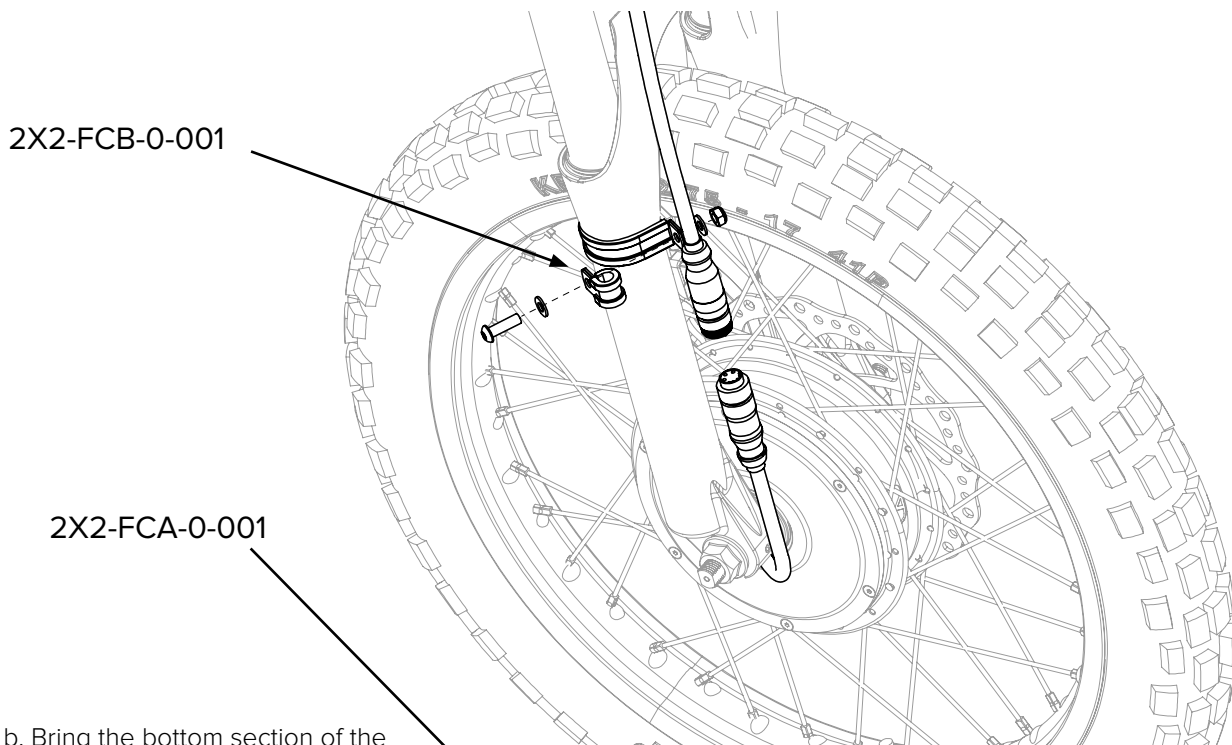


## 2.18 Front motor cable install

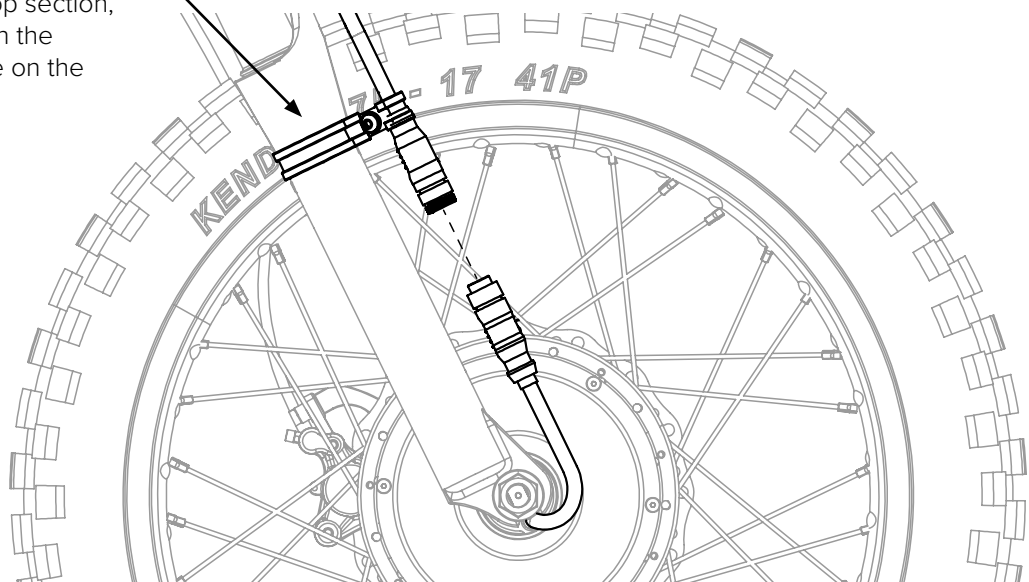
Required parts:

- Frame
- Fork Clamp A (2X2-FCA-0-001)
- Fork Clamp B (small) (2X2-FCB-0-001)
- M6 x 20mm Hex button head screw x1
- M6 x 12.5 x 1.2mm flat washers x2
- M6 Nyloc nut

a. Fasten the top part of the front motor cable to the fork using the Fork clamp B, then fasten the Fork Clamp B to the Fork Clamp A positioned at the top of the parallel section of the fork lower. Fix the Fork Clamp B to the side of the Fork Clamp A using the M6 screw, washers and Nyloc nut. Ensure the Fork Clamp B securely holds the upper part of the motor cable.



b. Bring the bottom section of the motor cable up to the top section, plug together and fasten the threaded locking sleeve on the plug ends.





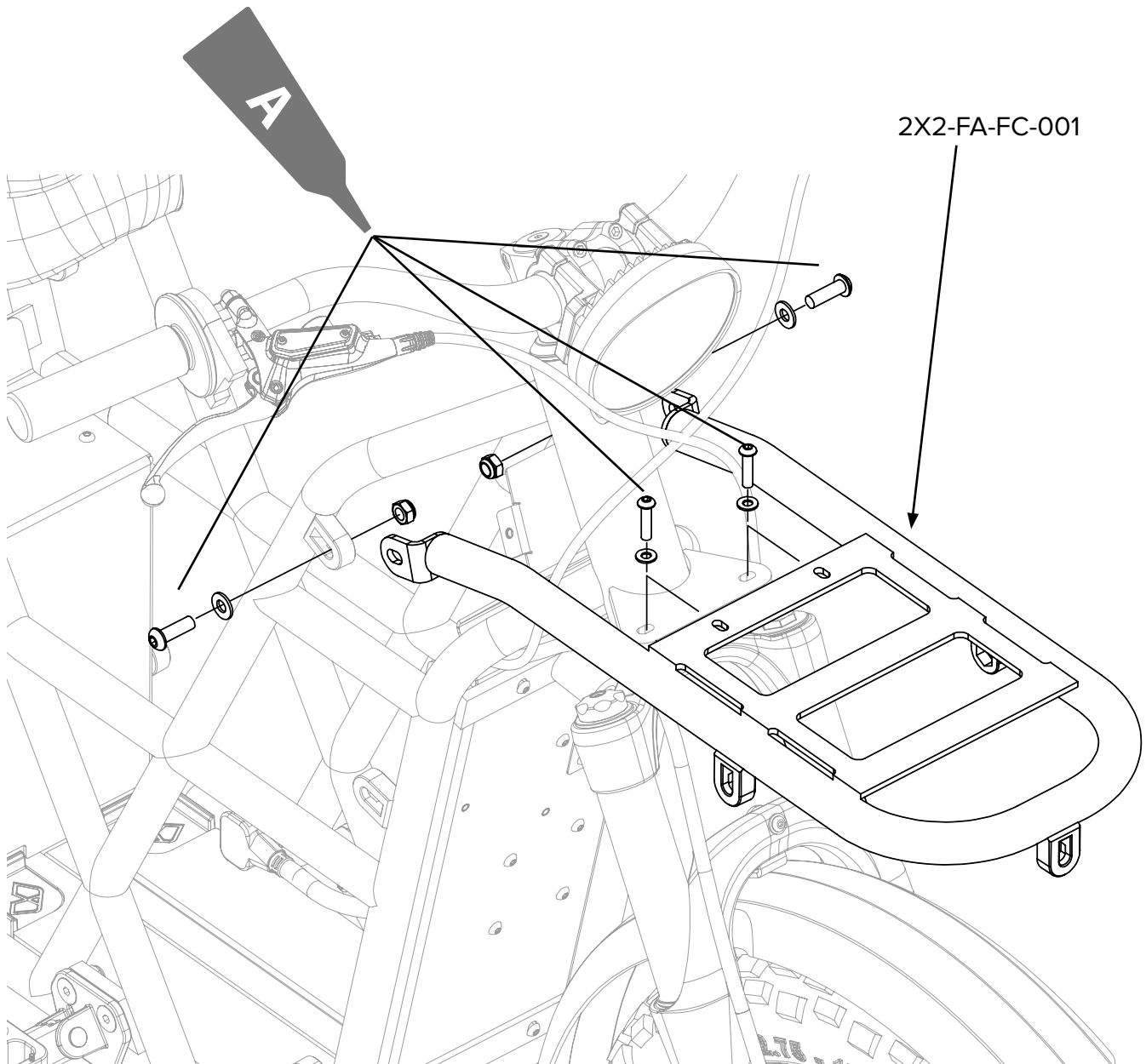
## 2.19 Front carrier install

Required parts:

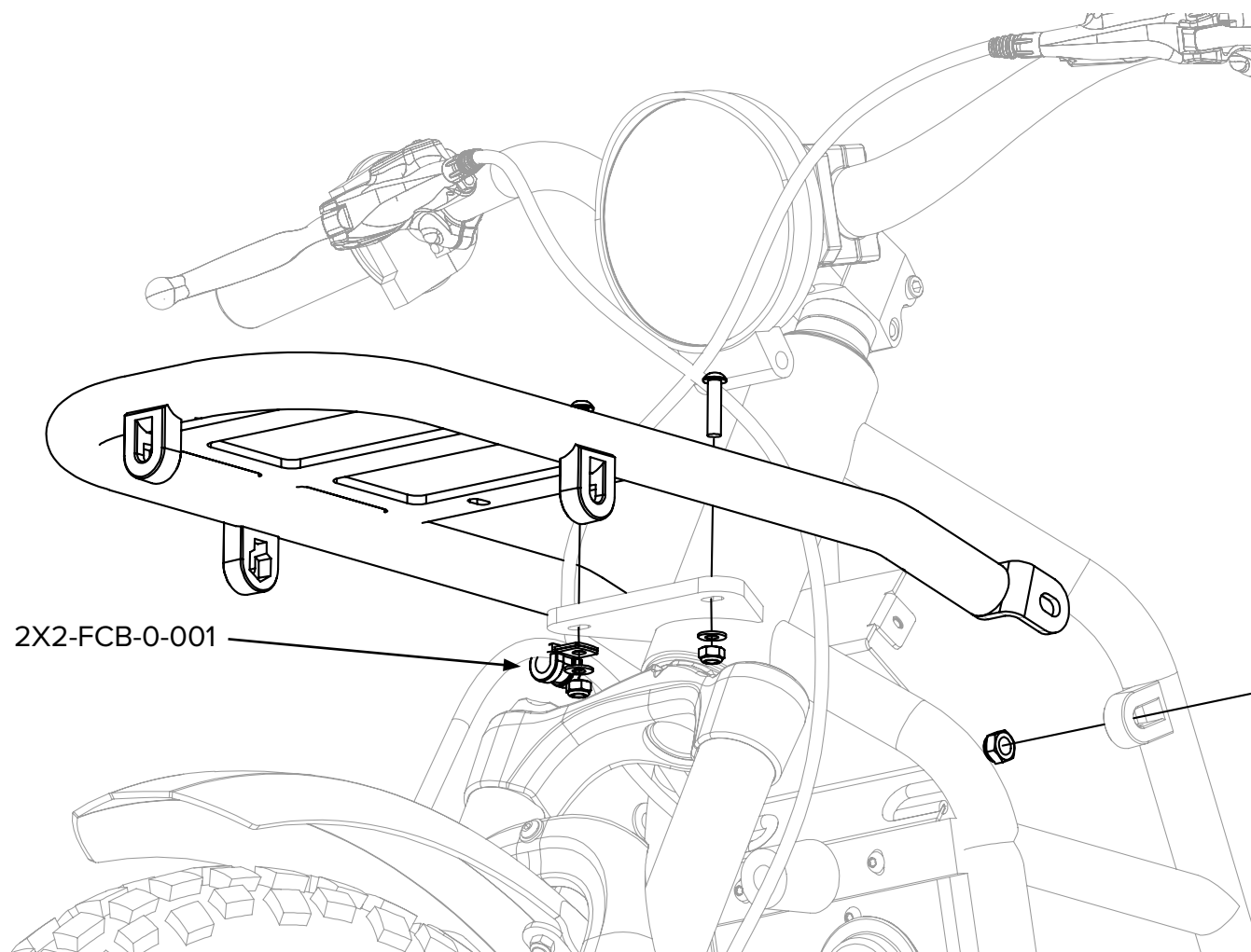
- Frame
- Front carrier (2X2-FA-FC-001)
- Fork Clamp B (small) (2X2-FCB-0-001)
- M6 x 25mm Hex button screw x2
- M8 x 25mm Hex button screw x2
- M6 x 12.5 x 1.2mm flat washer
- M6 nyloc nut
- M8 nyloc nut

a. Install the front carrier using the two M8 x 25mm hex button screws to fasten the rack to the top two accessory lugs on the frame. The front carrier plate should rest on the mounting plate attached to the head tube.

b. Fasten the carrier to the head tube mount using the two M6 x 25mm hex button screws, M6 washers, Fork clamp B and M6 nyloc nuts.



The Fork clamp B which holds the front motor cable is installed at this stage and gets installed underneath the head tube mount as pictured below.



## 2.20 Front console cover install

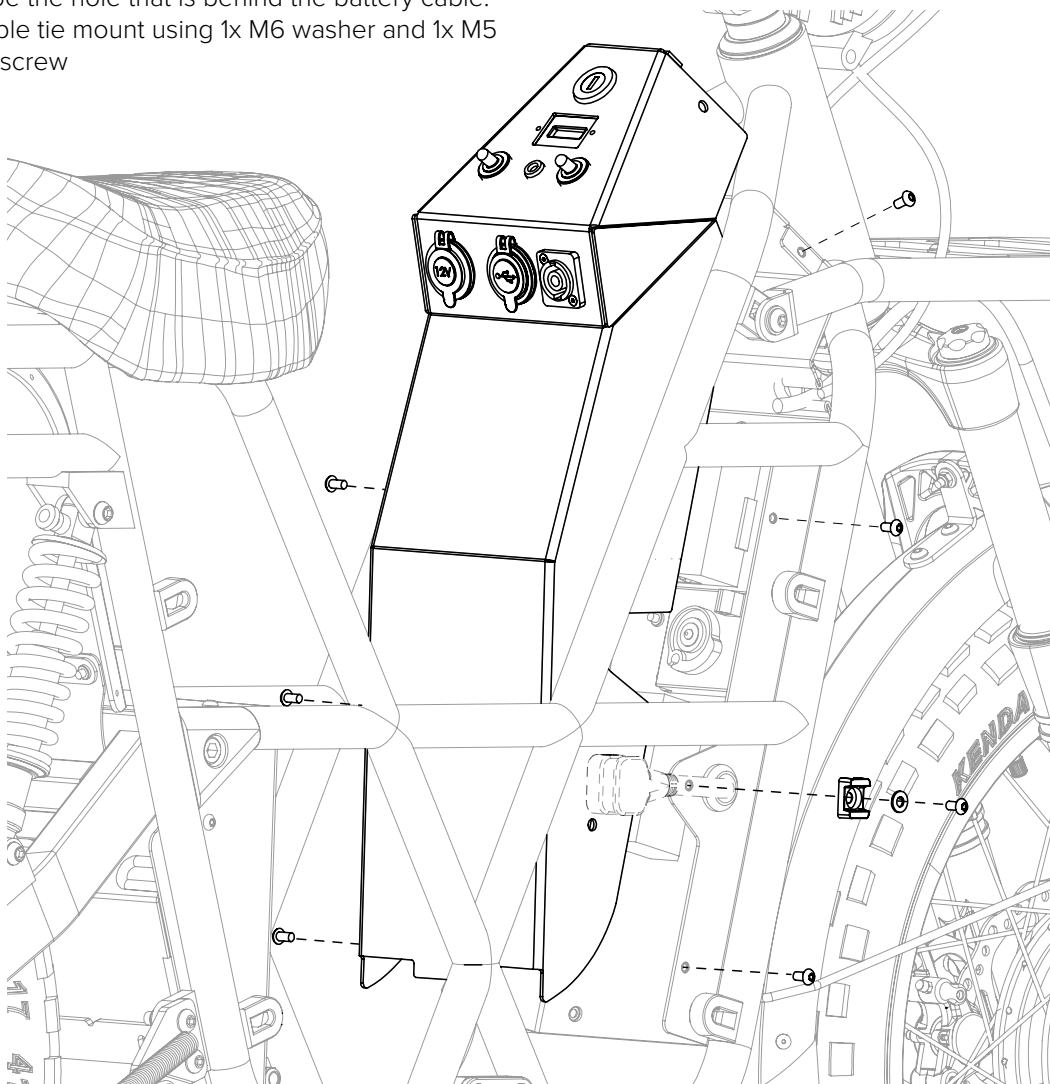
Required parts:

- Frame
- Front console cover (with components installed)
- Cable tie mount x1 (2x2-CTM-0-001)
- M5 x 10mm Torx button head screws x8
- M6 x 12.5 x1.2mm flat washer x1
- Black 5mm cable tie x1 (2x2-CT-MED-001)

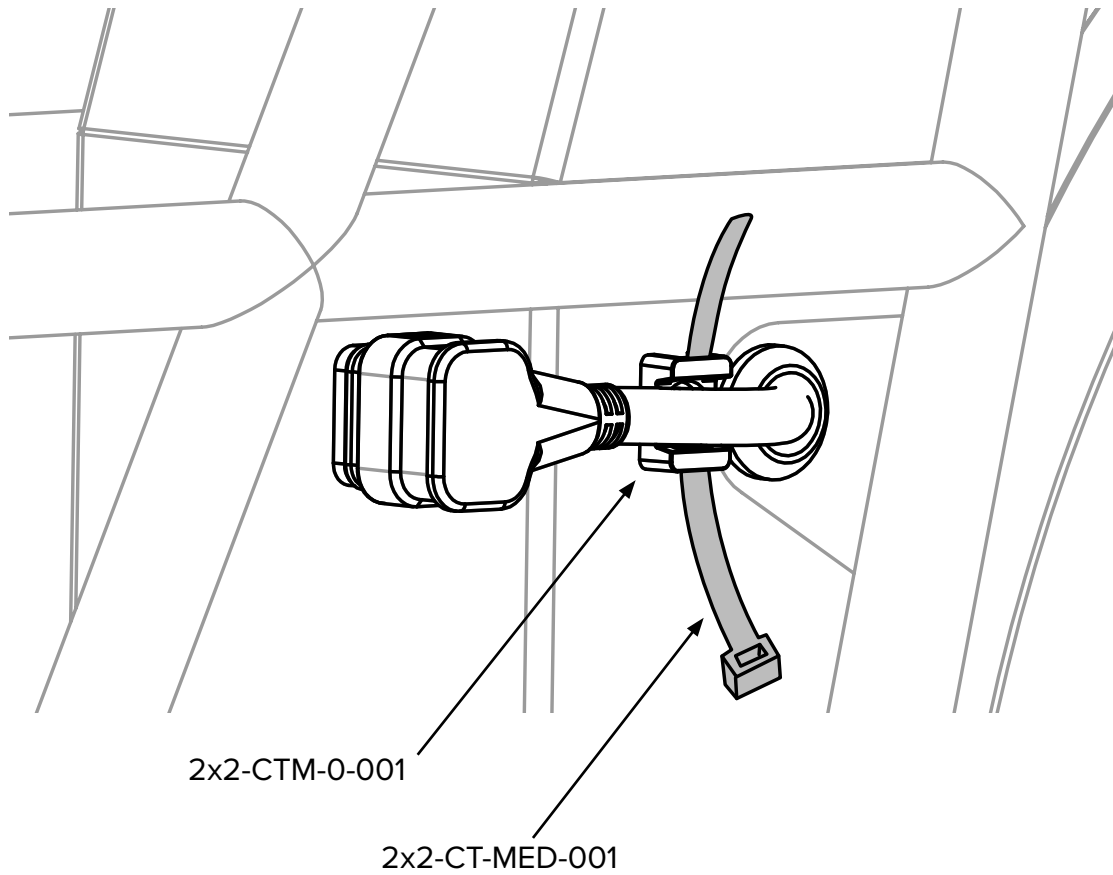
a. Install the front console cover, ensuring to connect all electrical connectors.

Fasten the cover to the console base using 8x M5 x 10mm torx button head screws.

A cable tie mount must be installed on the right hand side of the console, second hole up from the bottom. This should be the hole that is behind the battery cable. Install the cable tie mount using 1x M6 washer and 1x M5 x 10mm Torx screw



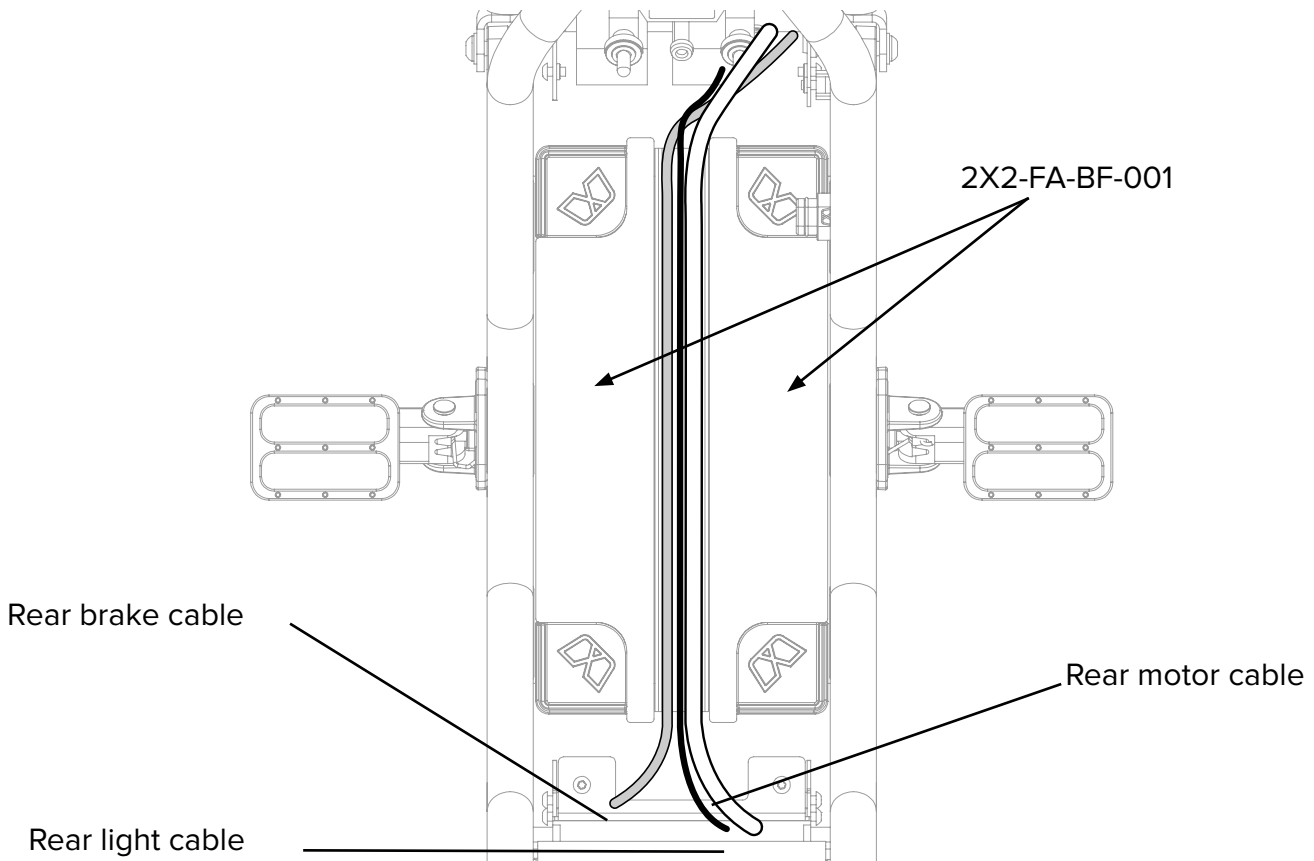
b. Secure the battery cable to the cable tie mount installed on the console using a 5mm cable tie. Feed the cable tie in from the bottom, through the openings in the mount and under the cable. Fasten the cable tie, pull tight and then trim off the extra length on the cable tie.



## 2.21 Cable routing

Care is to be taken when routing the cables to the rear of the bike. Cables should enter and exit the centre cable ducting on the same side to avoid cable crossing over the top of each other.

Extra care should be taken where the cables exit the cable ducting at both ends to prevent the bottom edge of the console covers rubbing the cables.



It is recommended that the top cap of the cable ducting is cut 5mm longer than the bottom at each end to protect the cables from the bottom edge of the console covers.

