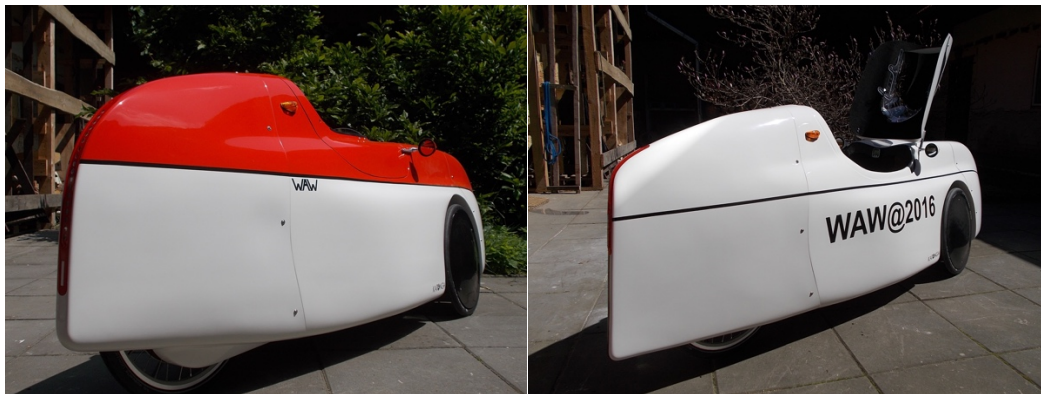


## Mounting guidelines for Rear Suspension on WAW@2014 or WAW@2016

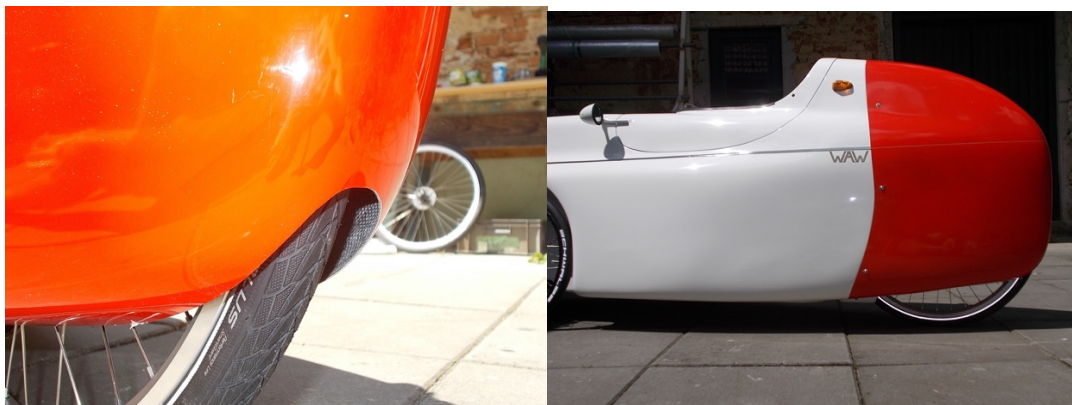
### Introduction:

It is possible to mount after purchase a rear suspension on the WAW@2016 and even on the WAW@2014 model. On the last the cut-out in the body to allow the vertical travel of return chain, wheel and derailleur will be necessary.

Tail fairing T3 has been developed specially for fitting with a rear suspension but tail T2 adapts also very well to a bigger vertical travel of the wheel as long if you cut it further out for wheel and derailleur.



Tail T1 is much shorter and if you wish to fit the rear suspension the cut-out for the wheel will end higher and it will be necessary to use a thin tire of maximal 35mm.



This after-mount is not meant for people who have not the needed experience or tools. An experienced person will spend approximately 4 hours on it without counting the 24h rest needed for the glue to harden. These guidelines explain main operations but will not give an answer to all situations depending on a specific configuration of the WAW on which it is mounted. Katanga is available to advice you in case of additional questions.

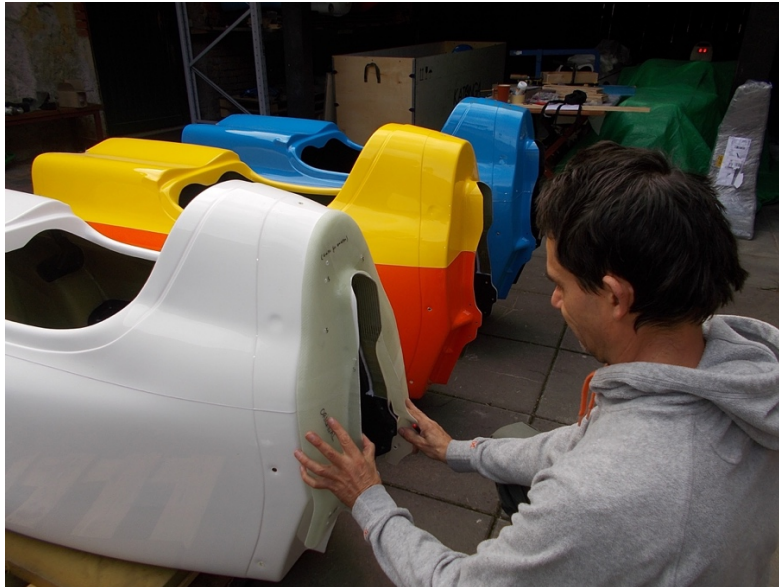
### Content of the Kit:

- Jig for drilling holes
- assembly of the wheel carrier with lower swings, upper swing, suntour shock, screws, washers and nuts.
- Carbone part supporting the upper swing and the shock.
- rivets 4.8mm
- fibre mix to thicken the epoxy and make the glue
- pump for the shock



### Preparation :

Unmount tail fairing, rear wheel, derailleur, housing, wire, drop-outs, connector for lights in tail or anything else that prevents a perfect fitting of the jig on the rear of the WAW.



If the WAW has the option chain protection, check if some regulating screws will not be an obstacle for the travel of the chain and remove them. From WAW@2016 on the glued part of the chain protection is mounted only with one regulating screw instead of three and is compatible with a rear suspension. In case that the right position of the chain protection cannot be found with one regulating screw, this part can be slightly thermo-formed using a hot air blower.

### Drilling the holes :

Fit the jig and check that it has everywhere close contact with the body. Draw the holes or drill directly into the body using the diameter written on the jig.



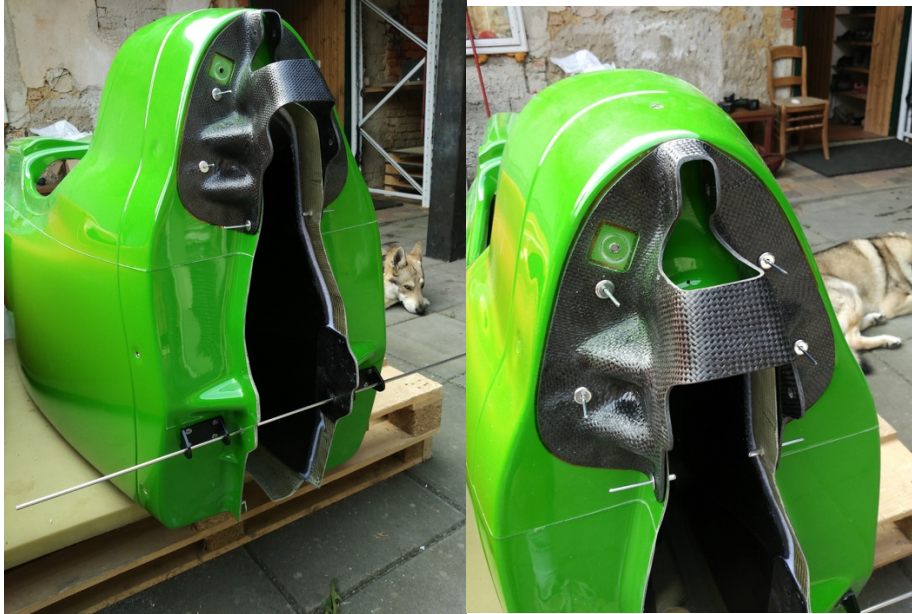


For an after-mount do not drill the highest hole (6mm → 20mm) on the jig. If the WAW has a connector for the lights in the tail, the existing hole in the body will be transferred on the carbon part delivered in the kit. If the WAW has no connector towards the tail, this hole is not needed at all.

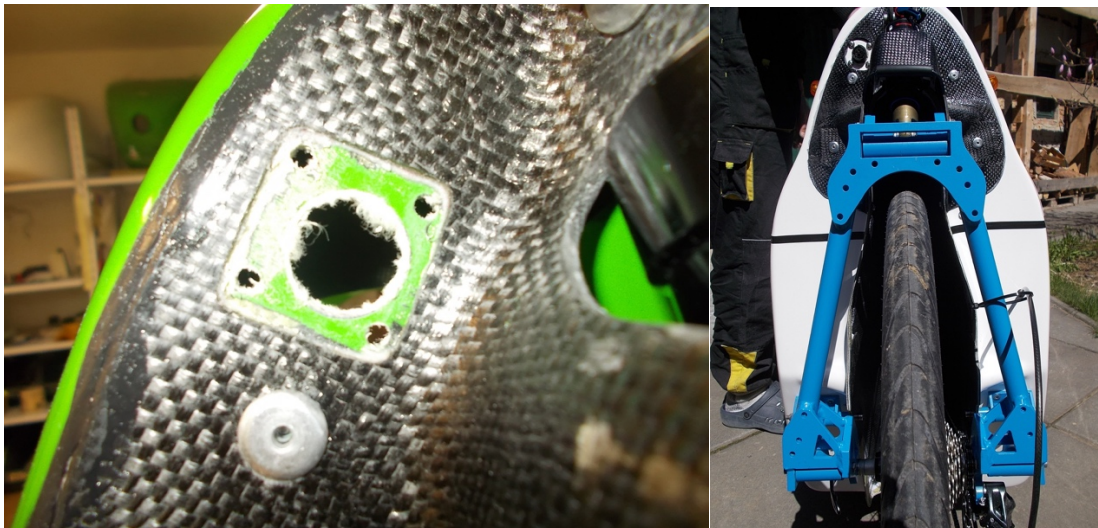


Test the position of the carbon part by putting it in place and pushing the rivet manually in the holes. If needed, drill again through the holes which are not on top of each other without moving too much the carbon part. The axle of the lower swings must be in line with each other. If necessary make the hole with 8mm diameter a little bigger so that the M6 screws, axles for the lower swings, can be mounted well.





If the WAW has a connector for lights in the tail, you must at this moment copy the hole of the connector in the body to the new carbon part, as well as the holes for the screws. Afterwards you cut this out in the carbon part in such way that the head of the screws rest directly on the body so that the connector coming from the tail can enter deep enough on the connector on the body.



The superior edge of the body must be adapted to allow place for the shock when the suspension is completely extended. Cut out an oval part like on the picture. The edge should still be minimally 30 mm

large because it will serve as limit for the start of travel of the rear suspension.



#### Glue the carbon part :

Before gluing the carbon part, the surface needs to be made rough. On the body side, this surface is previously marked with the help of the carbon part and it needs to be grinded till the gel coat disappears.

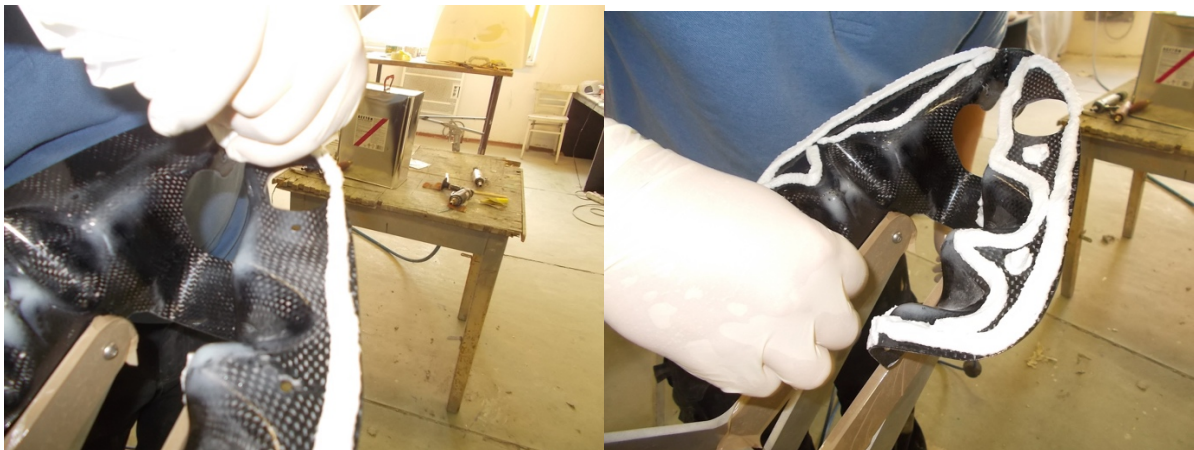


After cleaning these surface, apply epoxy on them for a better bounding of the glue and continue before drying out of this epoxy





Add to approximately 50g of epoxy the white fibre mix added to the kit. Mix well till you have a uniform pasta. If it is still flowing, add some more fibre mix. Introduce this in a plastic bag and cut one angle out so that you can apply the glue on the carbon part there where it will touch the body.



Put the carbon part in place and introduce the rivets. Rivet them all except the one at the left under, directing towards the rear wheel well, which will only be riveted after the glue has hardened. Remove all excess glue and clean with alcohol. Let harden for 24h.





The body of model WAW@2014 has shorter lateral edges around the rear wheel and after gluing the carbon part, some openings between this part and the body need to be closed to prevent from entering water and dirt. This can be done by laminating 2 bands of fibres over them. Do not add material 15 mm around the axle of the upper swing during this operation.



### Mounting the assembly:

The assembly is already prepared for mounting to reduce time and complications. Nuts and washers of screws that have to be fixed to the WAW need to be unscrewed. Decompress the shock as much as possible.

Position the assembly and attach the black mounting plates of the lower swings on the body. Introduce between the mounting plates and the body some glue-sealant (type that stays soft after hardening, like wind shield adhesive) and tighten the screws a little. After 4 hours, tighten them more. The long M6 screws which serve as axles for the lower swings should not be tightened too much because the ball bearings will be compressed. If turning of the swings becomes harder, unscrew a little. A contra-nut will block this screw from the inside of the wheel well.



The shock and the upper swing are now introduced in the cavity formed between the body and the carbon part. The upper fixation of the shock can stay free when mounting the screws which link the upper swing left and right to the carbon part. You will need a short alan key to access these screws. Between the swing and the carbon part is a plain washer, rounded side towards the ball bearing. Between the carbon part and the safety nut is a dented washer. If needed for correct fitting, make the hole for these screws a little bigger. Tighten well here, no risk to compress the ball bearings.

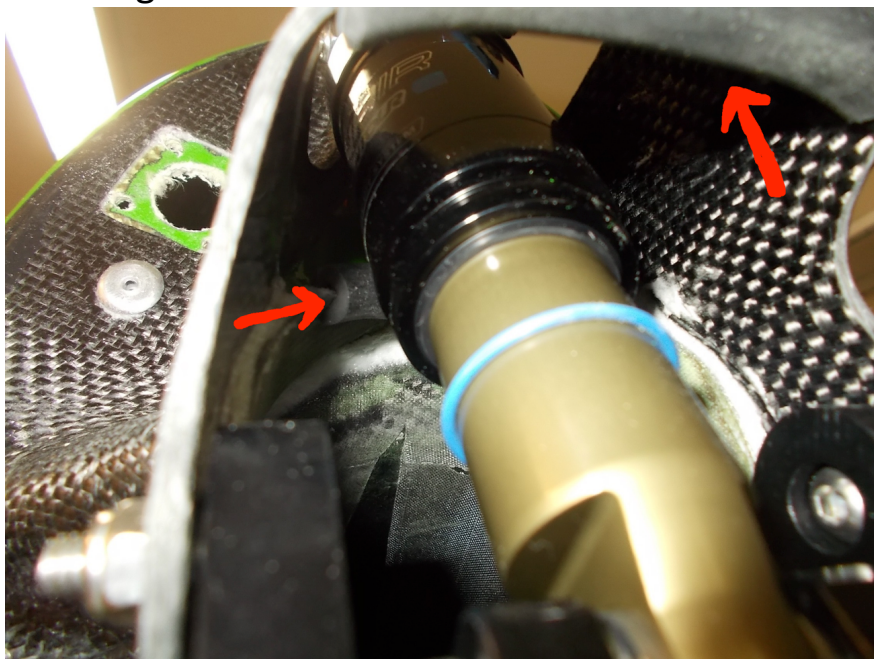




Now attach the upper part of the shock. Note the reduction tube from diameter 8 to 6mm in the shock. Tighten well enough the safety nut so that the shock moves around the aluminium bushings.

#### Finition :

Start and end of travel are limited by two rubbers. Simulate with a decompressed shock the complete movement and if needed grind away more of the edge if the shock touches it before reaching completely the decompressed position. For a better access, free again the upper fixation of the shock. Then, glue the rubber with instant glue.





The suspension has a travel of 6cm and is very progressive thanks to its construction. The ideal pressure is between 5 bar and 7 bar, depending of the load in the WAW. Without load the WAW should be lower with 0,5 to 1 cm compared to complete extension (position when you lift the WAW but wheel is still touching the ground), with driver inside this should be 2 to 2,5 cm.

The whole suspension has been designed with the intention to be robust and resist long without special maintenance or replacement of parts. Till now practical experience confirmed this but we need more time and km to collect more data. Regular cleaning and control is advised. Ball bearings are of the type 626 2RS. Follow the instructions in the manual of SUNTOUR for maintenance of the shock.

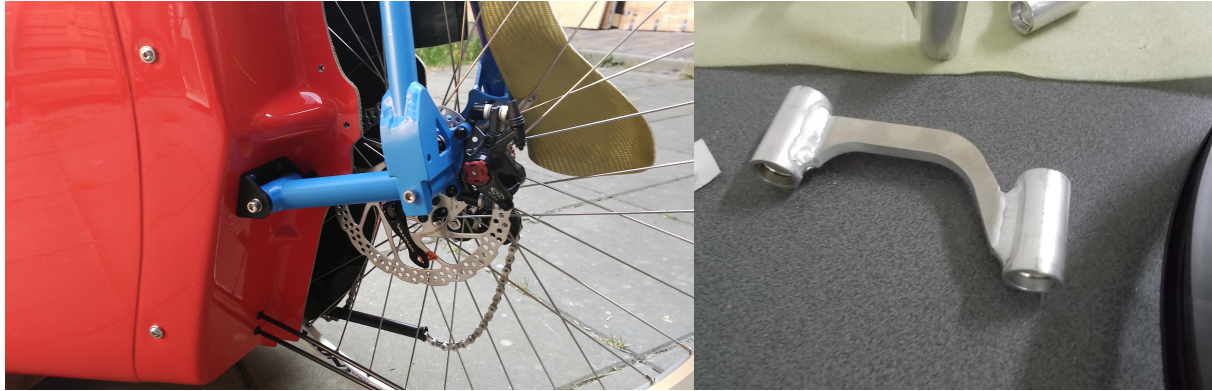
The option chain protection for a WAW with rear suspension looks different. The glued part sticks out more backwards and the removable part is moving together with the wheel carrier. It is less closed than before but water and dirt coming from the rear wheel and falling from the upper part of the wheel compartment will flow out without touching the shock, chain or derailleur.



Braking on the rear wheel of a tadpole trike can be hazardous but some mountain countries ask for the possibility of additional braking

capacity. Therefore, the left drop-out has been standardly adapted to mount a disc brake for 180mm discs.

For SRAM Dual Drive and for hub engines more place is needed at the right side of the wheel axle. A specific lower pivot has been developed for this purpose.



Good luck!

Katanga, 20.10.2016