

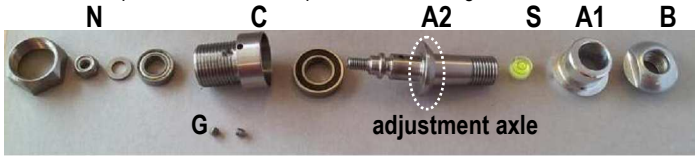
FORK ANGLE ADJUSTMENT 2

adjustment system used on
Joker/Joker Performance/Joker Zero/ Ego/Tekna Advance

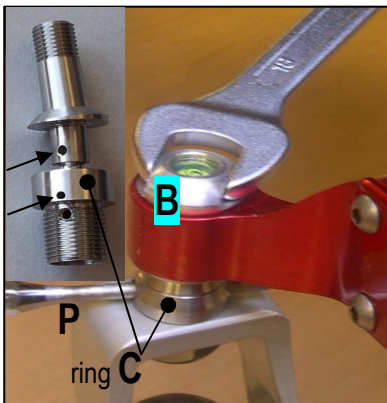
Whenever the seat height is changed or as periodic maintenance the fork angle should be checked and, if necessary, adjusted in order to have the fork axis perpendicular to the ground. To perform the adjustment, work on a perfect flat surface.

The fork adjustment system is based on the combination of two ring (A1, A2) with inclined plane. The upper ring A1 works on the fork support while the ring A2 works on the ring A1.

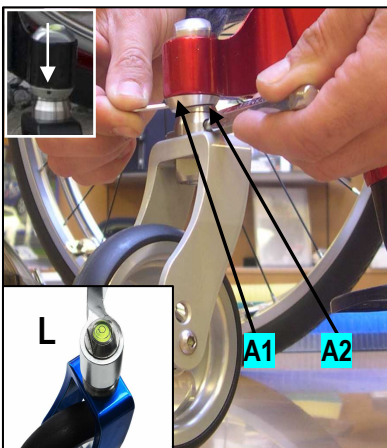
Hereafter the picture shows all the parts of the bearing unit.



Pictures 1, 2 and 3 show that the upper axle of the bearing unit, rotating on the lower axle (that allows the fork to turn), changes inclination thanks to the inclined plane of the ring A2. Pictures 4, 5 and 6 show three different inclinations of the ring A1 keeping A2 still. Each combination of the position of these two rings gives a different angle to the fork axis.



To carry out the adjustment, start with loosening the nut B with a 18 mm spanner. To do so, turn the fork until the hole of the adjustment axle is aligned with the ring C's and then insert a 2.5 mm steel pin P (or Allen key) into the two aligned holes. The nut B has to be loosened just enough to let the ring A1 move.



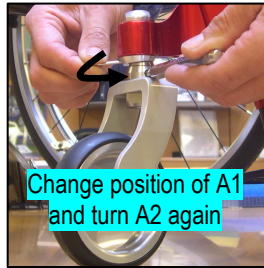
To turn the ring A1 insert a 2 mm steel pin (or a 2 mm Allen key).

The nut B should not be loosened too much otherwise the system becomes instable to proceed with the adjustment.

Now, while keeping the pin P through the hole, turn the fork to make the ring A2 turn without moving the ring A1.

While performing this operation check how the bubble of the spirit level L moves: if for the whole rotation of the ring A2 the bubble never pass through or close to the circle, it means that the position of ring A1 has to be changed.

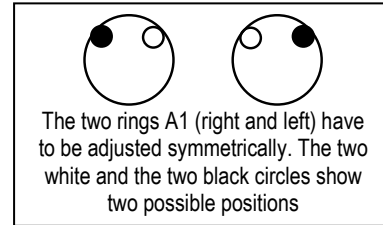
Turn the ring A1 a little and repeat the same operation above explained. This procedure has to be repeated until the position of the ring A1 allows the bubble to



be very close to the circle of the spirit level. At this stage it is possible to turn both the ring A1 and the fork together with very small movements until the bubble gets within the circle. Check the nut B is not too loose (to avoid losing the stability of the system) and not too tighten (in this case the ring A1 will not move). To tighten or loosen the nut B during adjustment, no tool is needed.

Once reached the correct angle, fix the system: with one hand hold the fork (with the pin P still through the ring A2's and adjustment axle's holes) and the pin on the hole of the ring A1 to control its position and, with the other bare hand, screw up the nut B as much as possible while checking the spirit level. Now gradually tighten the nut B with the 18 mm spanner. If, while tightening, the bubble moves away from the circle, it means that the fork has moved. To compensate such unwanted movement, turn the fork in the nut loosening direction and check the bubble. It may seldom happen, though, that even the ring A1 moves while tightening the nut B, if so just turn it in the nut loosening direction. Make sure the bubble is within the circle and then fully tighten the nut B

This adjustment system often allows two different combination A1/A2 with the same correct result (axis perpendicular to the ground). The two positions, even though they both give the 90° to the ground, are not exactly the same, in fact the distance between the rotation axle of the fork and the frame is different. This



means that the two forks have to be adjusted symmetrically and this surely help to adjust the "second" fork : just have a look where the hole of the ring A1 is with respect to the frame and symmetrically start form that point on the other fork to adjust.

Furthermore, the two combinations (when possible) allows to solve the problem of interference between front wheel and footplate or tube. If the first found position results with such interference, just try the second position that may be better, if not it will be necessary to either change front wheels or footplate position.

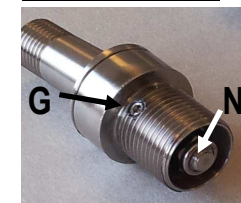


The two white arched show the possible different positions of the fork rotation axis (both at 90° to the ground). The difference can be a few millimetres.

Common mistakes

- Working on ring A1 and A2 (fork) together from the beginning – this does not give any precise point of reference (as ring A1 does in one any position that can be changed if not correct).
- Thinking that the front wheel must be orientates as when driving the wheelchair – the fork is part of the adjustment.
- Keeping the nut B too loose while finding the correct angle.

Possible maintenance.



As periodic maintenance, check if there is play on the bearing unit. If so, tighten the nut N until there is no play and the fork can still freely rotate. The two headless bolts G are a safety feature (hidden by the fork) to prevent the fork from coming off in case nut N accidentally comes off.

Previous version (until may 2012) The previous version did not have the headless bolts G and instead of the nut N there was a bolt. Before screwing this bolt it is advisable to remove it , squeeze the thread a bit a put strong thread lock before screwing it up again. If that bolt accidentally comes off, the whole fork will come off !