



Malaysia Abilympics Competition

14. Bicycle Assembly

1. Task Assignment

The task consists in assembling a women's city bike. Some of its parts may be pre-installed in order to facilitate the work of contestants.



Category of the model to be used during the competition

Summary of the main assembly steps:

- Installation of the bicycle drive, of the crankset and pedals,
- Installation of the derailleur gears,
- Installation of the chain,
- Installation of the fork, of the stem and of the handlebars,
- Installation of rim brakes on both the front and the back wheel,
- Installation of the seat post and the saddle,
- Installation of the cables and their sheaths,
- Adjustment of any buckling or axle problems,
- Assembly of air chambers and tires,
- Installation of the lights, the mudguards, the carrier rack and any other accessories,
- Installation of the wheels,
- Adjustment of all systems.

2. Allocated Time

4 hours and 30 minutes of competition.

3. Requirements

- Contestants must respect the rules of safety and hygiene.
- A model bike will be available for about 30 minutes before the beginning of the competition, after which it will be hidden from contestants.
- Once they have adjusted the buckling of the wheels, contestants will notify the jury for evaluation and carry on with the installation of the remaining parts.
- Any contestant caught cheating, talking to someone from the public or using a communication device will suffer a penalty of 5 points for the first transgression. A second transgression will lead to an exclusion from the contest.

4. Procedure







On the day of the competition, contestants will be welcomed on the contest stand by members of the jury. A briefing about the organisation of the competition and the safety rules will be arranged. Contestants will draw lots to be assigned to a work station.

Contestants will have 4 hours and 30 minutes to complete the task.

5. List of the provided equipment




(The tools and equipment depicted below only serve for information purposes only.)

Non-exhaustive list.

No.	Tool	Photo	Specifications	Qty per contestant
1	Work station with 1 workbench		Height can be adapted if necessary	1
2	Bike repair stand			1
3	Bike parts			1 set
4	Cable and sheaths, cable stops			1 set
5	Set of tools specific to the type of bike to be worked on			1 set for all contestants
6	Truing stand			1

7	Wheel alignment gauge			1
8	Torque wrench 3-15 Nm			1
9	Torque wrench 10-60 Nm			1
10	Lubricant and other useful consumables			1 set
11	Bike presentation stand			1
12	Recycling bins		For selective sorting. 3 bins	1 set for all contestants
13	Industrial paper towels			1 roll

6. List of tools to be brought for each contestant

No.	Tool	Photo	Specifications	Notes
1	Toolbox: set of screwdrivers, different wrenches, tire levers, cutting pliers for cables and sheaths...		Set of standard tools for bicycle mechanics	1
2	Hammer			1
3	Spoke wrenches			1 set

4	Male hex keys			1 set
5	Monkey wrench			
6	Bicycle pump		Contestant's choice	1
7	Professional work clothes		Contestant's choice	1
8	Safety shoes		Contestant's choice	1 pair
9	Work gloves		Contestant's choice	1 pair
10	Safety glasses		Contestant's choice	1 pair

7. Evaluation Criteria

No.	Evaluation Criteria	Scoring scale
1	Respect of the rules of safety, hygiene and waste sorting management	3
2	Method and organization of the work station	7
3	Correct assembly of the derailleur gears	7
4	Correct assembly of the chain	3
5	Correct assembly of the front braking system	5
6	Correct assembly of the rear braking system	5
7	Correct assembly of the stem and the handlebar	3
8	Correct assembly of the seat post and saddle	3
9	Correct alignments of the handlebar, the seat post and the saddle	4
10	Correct assembly of the crankset and pedals	5
11	Precision of the adjustment of wheel buckling and of wheel	7.5

	alignment	
12	Precision of the adjustment of both axles	7.5
13	Correct assembly of the front air chamber and tire	5
14	Correct assembly of the rear air chamber and tire	5
15	Correct assembly of the cables and sheaths	5
16	Correct assembly of the lighting system	3
17	Correct assembly of the mudguards, carrier rack and accessories	2
18	Quality of the adjustments of the gear shifting systems	7
19	Quality of the adjustments of the braking systems	8
20	Complete assembly and adjustment of the bike within the allocated time	5
TOTAL POINTS		100