



9th International
Abilympics
Bordeaux 2016

Vocational Skills Contest

V38 Motorcycle Mechanics

1. Task Assignment

The task consists in the completion of two modules.

- Module n°1: Motorization.

Using a provided guide sheet with a pre-established diagnostic, contestants will repair a single-cylinder engine (Suzuki RMZ 450 or similar) by performing the following steps:

- Forming hypotheses, searching for the necessary information and establishing the procedure sheet.
- Dismantling the engine (disassembly of the cylinder head, cylinder and piston).
- Completing the engine's metrology and assessing the degree of wear of its elements.
- Identifying which parts to replace and asking the jury for the substitutes necessary to repair the engine.
- Performing the reassembly and making sure the system functions properly.

- Module n°2: Diagnostic.

Contestants will establish the diagnostic of the ignition and fuel injection systems, take measurements, identify the deficient part(s) and complete the repairs.

Contestants will use:

- KDS (Kawasaki Diagnostic System) diagnostic software (English and French versions)
- A procedure sheet which will be provided on the day of the competition.
- One Kawasaki Z750 or Z800 motorcycle (or similar model).

2. Allocated time: 5h00

5 hours of competition.

- Module 1: 3 hours and 30 minutes.
- Module 2: 1 hour and 30 minutes.



3. Requirements

- Contestants will respect the technical specifications.
- Contestants will respect the safety and hygiene rules.
- 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

Day -1 (March 24th): On the day before the competition, contestants will be welcomed by members of the jury. A briefing about the organization of the competition and the safety rules will be arranged. Contestants will draw lots to be assigned to a work station, where they can drop off their tools. They will also draw lots to be assigned to one of two groups for module n°2.




Day 1 (March 25th): Contestants will have 3 hours and 30 to complete module n°1. At the end of module n°1, a 15-minute briefing about the use of the KDS software will be organized, after which contestants will have a 15-minute Q&A session with members of the jury.

Day 2 (March 26th): Contestants will be divided into two groups; group n°1 will have 1 hour and 30 minutes to complete module n°2 while group n°2 will be waiting in a recreation room prepared for them. They will have 1 hour and 30 minutes to complete module n°2 once group n°1 has finished competing.

5. List of the provided equipment


Non-exhaustive list.

N°	Equipment	Photo	Specifications	Qty per contestant
01	Workbench		Height can be adapted to each contestant's specific handicap	1
03	Flywheel puller		RMZ 450	1
04	Exhaust extraction system			1
05	Metrology tools: micrometer			1
06	Cylinder bore gauge		For measuring the diameter of the cylinder	1
07	Filler gauge			1 set
08	Plastigauge			1

09	Valve adjustment shim kit			1
10	Torque wrenches		One 2m.daN and one 10m.daN	2 wrenches
11	Gaskets			1 set
12	Gasket sealant			1 pack
13	Trashcans		3 bins for waste separation	1 set for everyone
14	Oil container		For waste separation	1



6. List of tools to be brought for each contestant

N°	Tool	Photo	Specifications	Qty
01	T-wrench		Sizes 8, 10, 12, 14 and 17	1 set
02	Box wrenches		Sizes de 8, 10, 12, 14 et 17	1 set
03	Hex keys		Sizes 4, 5 and 6	1 set
04	Screwdrivers		Flat-head and cross-head	1 set
05	Multimeter		For measuring resistance and voltage	1
06	Working clothes		Contestant's choice	1
07	Safety shoes		Contestant's choice	1 pair
08	Work gloves		Contestant's choice	1 pair
09	Safety glasses		Contestant's choice	1 pair

7. Evaluation criteria



N°	Items to be Evaluated	Scoring Scale
Module n°1: Motorization. 60/100		
01	Proper organization of the work station, respect of the safety and hygiene rules	05
02	Coherence of hypotheses, the procedure sheet is accurate	10
03	Coherence of the disassembly sequence, disassembly performed correctly	05
04	Metrological measurements are performed correctly	10
05	Correct identification of the deficient parts	10
06	Coherence of the reassembly sequence, reassembly performed correctly	05
07	The methods used during the competition are appropriate, the disassembled elements weren't damaged	05
08	The engine functions properly	10
Module n°2: Diagnostic. 40/100		
09	Coherence of the hypotheses, the proposed diagnostic process is adapted to the system failure	05
10	Measurements have been taken correctly	10
11	Correct identification of the deficient part(s)	05
12	Repairs have been properly carried out, the system functions correctly	10
13	Correct use of the KDS software	05
14	Each module has been completed within the given time and every task has been fulfilled	05
	Total	100