



FÉDÉRATION INTERNATIONALE  
DE MOTOCYCLISME

**2018**

**TRIAL TECHNICAL VERIFICATIONS**

**Manual for FMNRs**



## ***CHIEF TECHNICAL STEWARDS AND TECHNICAL STEWARDS***

The presence of the following Officials is required:

- **FMNR Chief Technical Steward – holder of a Senior Technical Steward Licence**
- **at least 3 Technical Stewards – at least one holder of a Technical Steward Licence**

It is kindly requested that the FMNR Chief Technical Steward and the Technical Stewards be in attendance

- of the **TECHNICAL BRIEFING with the FIM Technical Director on Friday at midday** or as specified by the FIM Technical Director;
- of the Technical Verifications, at least 1 hour before the beginning;
- of the verifications during and/or after the race, at the start or where specified by the FIM Technical Director.



## **AREA**

**The local Organiser/FMNR must provide a suitable area for the Technical Verifications:**

- minimum 5 x 15 m defined by metal barriers
- sheltered (covered), fully if possible, or on minimum 3 x 3 m at least
- flat ground and made of asphalt or concrete or similar material



## VERIFICATIONS

The rider or the mechanic or the Assistant is required to be present at the Technical Verifications.  
The presence of the rider is suggested.

The following checks must be performed:

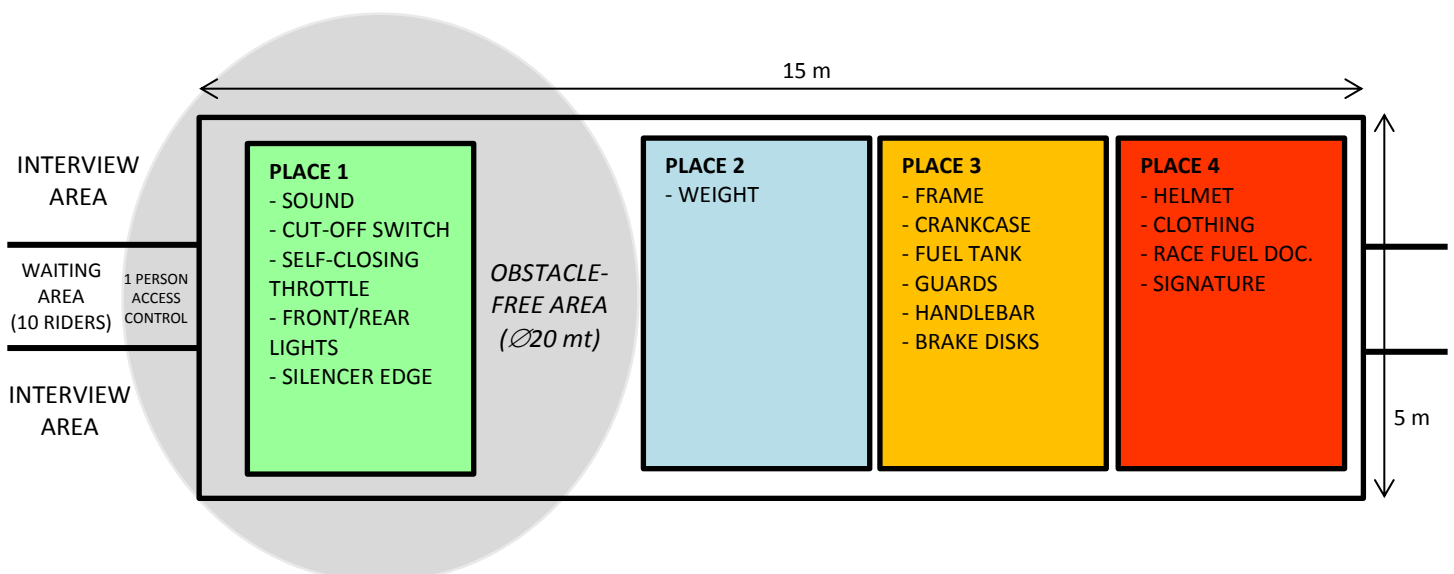
- SOUND
- CUT-OFF SWITCH
- SELF-CLOSING THROTTLE
- LIGHTS (FRONT, REAR, BRAKE) (not applicable for closed circuits when specified in SR)
- SILENCER EDGE

- WEIGHT + BALLAST

- FRAME
- CRANKCASE
- FUEL TANK
- GUARD FOR THE COUNTERSHAFT SPROCKET AND REAR SPROCKET
- HANDLEBAR ENDS + PROTECTION + LEVERS
- BRAKE DISCS

- HELMET(S) (+ NATIONAL COLORS)
- PROTECTIVE CLOTHING
- RACE FUEL CERTIFICATE

The different activities must be planned within the area, with the following suggested distribution:





## ***TECHNICAL VERIFICATIONS FORM***

- **The rider or the assistant or the Team Manager is required to present the pre-filled Technical Verification form that is handed to him/her at the Administrative checks.**
- The form must be filled in in all its parts by the Technical Stewards.
- The form must be signed by the rider or the assistant or the Team Manager and by the Technical Director.



# Technical Verifications Form - TRIAL

IMN: \_\_\_\_\_ Date: \_\_\_\_\_

Rider: \_\_\_\_\_ Rider N°: \_\_\_\_\_

Motorcycle make and model: \_\_\_\_\_

Category:  TRIAL GP  TRIAL 2  TRIAL 125  TRIAL GPw  TRIAL 2w  TRIAL E  TDN

(For TDN) Team country: \_\_\_\_\_

**PLACE 1**

**Sound** Test 1  dB/A  ✓  ✗

Test 2  dB/A  ✓  ✗

Test 3  dB/A  ✓  ✗

2-strokes: MAX 103 dB/A  
4-strokes: MAX 105 dB/A

**Cut-off switch + throttle**  ✓  ✗

**Front/rear lights (open circuits)**  ✓  ✗

**Silencer edge**  ✓  ✗ → paint

**PLACE 3**

**Frame**  ✓  ✗

**Cranckcase**  ✓  ✗ } → sticker n° \_\_\_\_\_

**Fuel tank**  ✓  ✗ → paint

**Countershaft and rear sprocket**  ✓  ✗

**Handlebar**  ✓  ✗

**Brake discs**  ✓  ✗

**PLACE 2**

**Weight**  Kg  ✓  ✗

Classes 50 and Trial125: MIN 67 Kg  
Classes Trial2 and TrialGP: MIN 69 Kg

**PLACE 4**

**Rider's helmet**  ✓  ✗ → sticker n° \_\_\_\_\_

**Assistant's helmet**  ✓  ✗ → sticker n° \_\_\_\_\_

**Clothing**  ✓  ✗

**Fuel documents (for 'race' fuels)**  ✓  ✗

**POSSIBLE TESTS DURING OR AFTER THE RACE**

**Sound** Test 1  dB/A  ✓  ✗

Test 2  dB/A  ✓  ✗

Test 3  dB/A  ✓  ✗

2-strokes: MAX 104 dB/A  
4-strokes: MAX 106 dB/A

**Weight (after 1st lap)**  Kg  ✓  ✗

**Weight (after 2nd lap)**  Kg  ✓  ✗

Classes 50 and Trial125: MIN 66.33 Kg  
Classes Trial2 and TrialGP: MIN 68.31 Kg

By signing this Technical Verifications form, the Rider, Assistant or Team Manager, accepts and attests to the accuracy of the data as set forth above.

Rider/Assistant/Team Manager Name: \_\_\_\_\_  
Signature: \_\_\_\_\_

FIM Technical Director Name: \_\_\_\_\_  
Signature: \_\_\_\_\_



## SOUND

- The FMNR is requested to bring the necessary equipment.
- For the first World Championship event, all competitors' machines will be checked for sound level before the race. After the first event, the machine of a 'wild card-' or 'one event' rider, will be checked for the sound level before the race, as well as any other rider's machine on a random basis.
- Excessively loud machines must always be checked, regardless of the participants' status.
- EPVs (Group J) are exempted from sound level control.
- The rider or the Assistant or the Team Manager can present at the sound control, together with the vehicle, one (1) spare silencer to be checked.
- Other spare silencers may be presented after all participants have presented their vehicles, or on the following days of the event.
- The measured sound level must be written on the silencer and on the Technical Verification Form.

Place	# persons	Marking	Reference Art.	Necessary material
1	2	Value on Technical verification's form	01.79	<ul style="list-style-type: none"> <li>- Sound-meter</li> <li>- Calibrator</li> <li>- Spare batteries</li> <li>- Tripod</li> <li>- Bike frame</li> <li>- Revolution meter</li> <li>- Technical Verification form</li> <li>- Writing material</li> <li>- 2 ECUs per make</li> </ul>

FIM TRIAL World Championships, Cups and Prizes		
Type of engine	Sound limit	
	Before or during race	After race
2-stroke	103 dB/A	104 dB/A
4-stroke	105 dB/A	106 dB/A

- The values that have to be respected after the race take into account the degradation of the silencer (i.e. the limit is raised of 1 dB/A).
- The values already take into account the accuracy of the method, which is estimated to be of 2 dB/A by using the current sound test equipment.

No deductions for ambient temperature, pressure or altitude are allowed.



**Specifically for Trial, the sound is measured at a fixed rpm plateau (10000 rpm), obtained through the use of a dedicated ECU mapping for 4-strokes and an external purpose-made ECU for 2 strokes. 2 ECUs per brand and per model must be provided by the manufacturers and be available at the Technical Verifications.**

- 2-stroke motorcycles: neutral+clutch, full throttle during 1 s and measurement of the sound value by Race Patrol Lite. An "external" ECU (same for all capacities) will be connected to the motorcycle before the test.
- 4-stroke motorcycles: neutral+clutch, full throttle during 1 s and measurement of the sound value by Race Patrol Lite. A dedicated ECU (same for all capacities) mapping will be switched to during the Technical Verifications.





### ***CUT-OFF SWITCH and SELF-CLOSING THROTTLE***

<b>Place</b>	<b># persons</b>	<b>Marking</b>	<b>Reference Art.</b>	<b>Necessary material</b>
1	1	-	37.01, 37.02	- Technical Verification form - Writing material

### ***FRONT/REAR LIGHTS (not applicable for closed circuits when specified in the SR)***

<b>Place</b>	<b># persons</b>	<b>Marking</b>	<b>Reference Art.</b>	<b>Necessary material</b>
1	1	-	37.01	- Technical Verification form - Writing material

### ***SILENCER EDGE***

<b>Place</b>	<b># persons</b>	<b>Marking</b>	<b>Reference Art.</b>	<b>Necessary material</b>
1	1	Paint	01.31	- Paint marker - Solvent for cleaning - Technical Verification form - Writing material



## WEIGHT

- **The FMNR is requested to bring the necessary equipment.**
- **All competitors' machines will be checked for weight before the race.**
- The minimum weights (without rider and/or passenger, with all operational fluids) of the Trial motorcycles are:
  - ✓ For motorcycles  $\leq 125\text{cc}$ : 67 kg
  - ✓ For motorcycles  $> 125\text{cc}$ : 69 Kg
 except where otherwise specified (see Art. 01.50 for Group J: Powered Electric Vehicles).
- These are absolute limits and no tolerance is applied when the machine is checked before the race.
- The use of ballast to stay over the minimum weight is forbidden. The term "ballast" refers to as any component, device or part, the primary function of which is to add weight to the machine. All components, devices and parts must be firmly fixed to the motorcycle.
- Post-race checks are to be carried out according to a ballot and/or at the discretion of the FIM Technical Director. A 1% tolerance in the weight of the machine is accepted when checked during or after the event, in order to take into account the variability of the test conditions. This means that the minimum weights (without rider and/or passenger, with all operational fluids) during or after the event are:
  - ✓ For motorcycles  $\leq 125\text{cc}$ : 66.33 kg
  - ✓ For motorcycles  $> 125\text{cc}$ : 68.31 kg

Place	# persons	Marking	Reference Art.	Necessary material
2	2	Value on Technical verification's form	01.19	<ul style="list-style-type: none"> <li>- Certified (&lt;24 months before) and calibrated scale (minimum 100g resolution)</li> <li>- Reference weights</li> <li>- Ramps</li> <li>- Technical Verification form</li> <li>- Writing material</li> </ul>

- In case of use of the FIM scale, this is constituted by two platforms connected between each other through a unit and the unit connected to a reader/control device. The whole equipment has been calibrated and configured for use with such a configuration only (see picture below). More specifically, the motorcycle must be weighed standing in equilibrium with each wheel positioned in the middle of each platform. The presence of ramps will ease the positioning of the motorcycle.



## FRAME

Place	# persons	Marking	Reference Art.	Necessary material
3	1	Sticker on the right-hand side of the steering	-	- FIM multi-purpose stickers - Paint marker - Solvent for cleaning - Technical Verification form - Writing material

## CRANCKCASE and COUNTERSHAFT/REAR SPROCKET GUARDS

Place	# persons	Marking	Reference Art.	Necessary material
3	1	Sticker on the right-hand side of the crankcase	-	- FIM multi-purpose stickers - Paint marker - Solvent for cleaning - Technical Verification form - Writing material

## FUEL TANK

Place	# persons	Marking	Reference Art.	Necessary material
3	1	Paint on the right-hand side of the crankcase	01.28	- FIM multi-purpose stickers - Paint marker - Solvent for cleaning - Technical Verification form - Writing material

It is requested to present motorcycles without fuel tank cover.

## HANDLEBAR

Place	# persons	Marking	Reference Art.	Necessary material
3	1	-	01.33	- Technical Verification form - Writing material



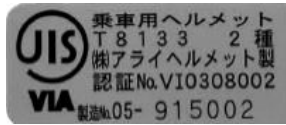


## BRAKE DISKS

Place	# persons	Marking	Reference Art.	Necessary material
3	1	-	41.03, 41.04	- Technical Verification form - Writing material



## HELMETS

- All rider's and assistant's helmet must be checked at all events.
- If helmets are in conformity with at least one of the recognised international standards, the FIM label must be applied on the bottom rear of the helmet.

EUROPE	ECE 22-05	 <b>051406/J-1952</b>  <small>a = 8 mm min.</small>
JAPAN	JIS T 8133:2007 (valid until 31.12.2019) JIS T 8133:2015	 
USA	SNELL M 2010 (valid until 31.12.2019) SNELL M 2015	

Place	# persons	Marking	Reference Art.	Necessary material
4	2	Sticker on the bottom rear of the helmet	01.67, 01.69, 01.70, 01.73	- FIM helmet stickers - Technical Verification form - Writing material





## **CLOTHING**

- **The suit or trousers and long-sleeve shirt must be checked at all events.**
- **If the recommended back, chest, elbow and knee protectors, incorporated within the suit or worn separately, are used, it is recommended to present them at the Technical Verifications.**



## **RACE FUEL CERTIFICATE**

- **All participants who use “race” fuels (rather than fuels obtained from public fuel stations) must be in possession of the certificate provided by the fuel company that supplied the fuel.**
- This certificate will be required at the preliminary Technical Verifications together with an oral declaration of the fuel make and type.

*63.04.2 Fuel companies which supply 'race' fuels (fuels other than those obtained at public fuel stations) to participating teams/riders must submit 10 L (2 x 5 L) to the laboratory appointed by the FIM for analysis in accordance with the specification. Providing the fuel is within the specification, a certificate containing a test report and batch number will be issued to the fuel company. The fuel company must provide a copy of such certificate\* to their client rider/teams before they take part in a race. Contact for fuel analysis: [fimfuels@intertek.com](mailto:fimfuels@intertek.com).*



## **CTI BOX**

A "CTI box" made of aluminium, with wheels and combination locker, is available at the Promoter's and contains the following items:

- 2 scale platforms with transport bolts (to be removed when weighing) + cable
- Tool for removing bolts
- Scale reader + cable
- 4 ramps
- Reference weights
- Race Patrol case + iPad
- Tripod
- Meter
- 6 paint markers (Edding 750 + 751)
- 1 roll of multi-purpose stickers (black and white), #27000-27999
- 1 roll of helmet stickers (silver), #BW000-BW999
- Silver case with material for fuel testing (pipettes, forms, lid-closer tool, vials+cardboard, caps, foam)
- FIM tape
- Solvent + tissue

It is kindly requested to put back in the box the items used at each event.