

GLOBAL HARMONIZATION OF PTW, AND 3W BRAKING

DEVELOPMENT OF DRAFT GTR PROPOSAL

Conclusions reached at the 1st Informal meeting on the motorcycle braking GTR, Pisa, 03/07/16-17

Document revision date: 03/07/29

1. SCOPE	1. Scope	Wait for the outcome of GRSG vehicle classification. Intended to apply to two and three-wheeled motorcycles including mopeds	T Canada to consider how to separate out 3-wheelers which are not considered motorcycles
2. DEFINITIONS	2. Definitions	To be determined. Need to add: brake, transmission, control, CBS, split service, ABS, laden	Add during GTR development
3. REQUIREMENTS 3.1 Performance	3. Requirements	<ul style="list-style-type: none">- Performance requirement to be based on MFDD or [the corrected stopping distance, taken from measured data].- Test the brakes separately, unless otherwise specified- Clarify requirements for split brake systems where necessary	<ul style="list-style-type: none">- T Canada and USA to review whether or not to include stopping distance.- Define conversion formula
3.2 General:			
3.2.1 Design	19. Design durability	Needs to be specific and in principle testable	IMMA to propose a text based on FMVSS and 13H

	4. Type of service brake system	see definitions	see definitions
	10. Parking brake characteristics	ECE or FMVSS	USA to review the current test procedures
	5. Mechanical service brake system	A general requirement for component integrity would be appropriate	Need to define general test procedures (so that the requirement can be enforced) or delete the item
	6. Hydraulic service brake system		
	7. Master cylinder reservoirs	Use text from FMVSS 122 (S5.1.2.1)	
	8. Reservoir labelling	Make a requirement to have a warning statement and not specify the language (if not done by symbols) based on FMVSS	IMMA to research how this would be treated by the EU, e.g. using symbols and an explanation in the owners manual
3.2.2 Operation	9. Failure indicator lamp	Use text from FMVSS (S5.1.3, S5.1.3.1)	
	11. Inspection of pad/lining	Use FMVSS wording.	To agree when this should be done
4. TESTS			
4.1 General	23. Transmission	Unless otherwise specified, all stops are to be made with the clutch disengaged. (Not applicable to auto gearbox)	

	25. Ambient temperature	Ambient temperature between 4 and 38°C. (to avoid frozen surface)	
	26. Wind velocity	Not more than 5 m/s.	
	28. Vehicle position and wheel lock	All stops to be made without deviation from the test lane and without wheel lockup (not applicable to ABS equipped vehicles <10 km/h). Vehicle shall start in the middle of the lane	
	30. Brake actuation force	T Canada does not think minimum values are necessary ECE/Japanese more stringent	USA to review need for minimum values and clarify current requirements IMMA to provide clear specification of the application point, e.g. ISO
	29. Thermocouples	Brake temperature to be measured on the disc or shoe with thermocouples.	
	31. Test procedure and sequence	Not necessary but to simplify testing, the heat fade test could be done last	To agree any sequence requirement
4.2 Preparation			

4.2.1 Track	27. Road surface	<p>Test area to be clean, dry and level road surface. Test surface to have a skid number of 81. Maximum lane width of 2.5 m for two-wheeled motorcycles; vehicle width plus 2.5m for two-wheeled motorcycles with sidecar or three wheeled motorcycles.</p> <p>[For ABS, see ECE 78 Annex 4]</p> <p>For the parking brake test, surface shall be Portland cement concrete .</p>	
4.2.2 Vehicle	21. Vehicle weight	<p>Wait for the definition of mass from GRSG (if time allows)</p> <p>Final decision will depend on agreed test procedures</p>	USA to consider any consequences from the Phase 2 testing
	22. Tyre pressure	Manufacturer recommendation	
	Brake burnishing	Include a requirement that the manufacturer will carry out the burnishing and show records to the test house on request	IMMA to draft a proposal with justification
4.3 Dry Stop Tests	13. Dry stop tests	Separate the basic and the high speed tests	<p>To agree on the number of stops needed</p> <p>IMMA to review possible use of ISO method (5 tests average the 3 in the middle)</p>

4.4 Wet Brake	18. Wet braking	the ECE test for disc brake systems	<p>USA and T Canada to consider need for a drum brake test</p> <p>IMMA to consider a revised immersion test for drum brakes, particularly for scooters.</p>
4.5 Heat Fade	14. Fade and recovery	<p>Mopeds (L1 & L2) would be excluded</p> <p>Provisionally, the ECE method would be used</p>	<p>T Canada to review low speed motorcycles (not mopeds)</p> <p>USA to review requirements</p>
4.6 High Speed	13. High Speed Test	Use test procedure from Japanese standard for the high speed test.	USA to review high speed test
4.7 Parking Brake	17. Parking brake system efficiency	No conclusion	USA to review relative severity
4.8 ABS	37. Anti-lock (ABS) Systems	ECE Annex 4 is the only procedure available. May be altered following future tests with ABS systems.	Need to wait for the results of the USA's ABS testing
4.9 Partial Failure	16. Partial failure	Only needed for split service brake systems.	IMMA to consider the FMVSS test procedure and prepare an adaptation if necessary (e.g. to include MFDD)

ITEMS PROVISIONALLY DELETED :			
	12. Pre burnish test	Provisionally, not necessary	USA to review the need for a pre-burnishing test
	15. Final effectiveness test	Not necessary because no sequence of testing specified	USA and T Canada to review need for test
	24. Engine	Not applicable to motorcycles	USA to review need
	33. Pre-test instrumentation check	Test house responsibility	
	36. Final inspection	Not necessary because no sequence of testing specified	