

Test Report

Testing Laboratory
Product Safety



Test report No.	QA20140702
Applicant:	KingRack
Test item:	Rear Bicycle Carrier
Item No.	Scorpion
Test date:	2014/7/2
Testing Location	KingRack Testing Lab
Test Principle:	XP 18 904 4
Test Result:	The above mentioned test item passed the test specification

Test Engineer: Lung Date: 2014/7/3

Reviewer: Chiason Date: 2014/7/4

Remark notes:

- 1.The test sample carries of maximum 2 bikes with load capacity 60kg.
- 2.Rear bicycles carrier installed on the tow ball.

Dynamic tests

Description of the sleeping policeman

The sleeping policeman shall be according to figure 11.

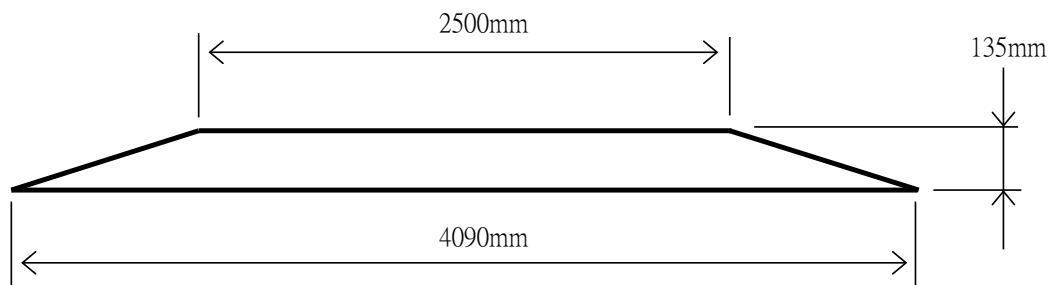


Figure 1 - Sleeping policeman Characteristics

This test shall be carried out as follows:

- a) Mount the rear bicycle carrier device on the appropriate vehicle(BENZ ML350).
- b) Adjust the test bicycle to 45kg each, and carried 2 bikes with $45 \times 2 = 90$ kg.
- c) Stabilise the vehicle speed at 30 km/h.
- d) Pass over the sleeping policeman at this constant speed 3 times.
- e) Measure and record the residual deflection.



Figure 2 - Test car - BENZ ML350



Figure 3 - Application of the angle measure on the test bicycles



Figure 4 - "α angle" and "β angle" zeroing



Figure 5 - Mark the clamp location and setting move distance = D.

$\alpha(\text{angle}) \leq 3^\circ$ $D(\text{distance}) \leq 20 \text{ mm}$
 $\beta(\text{angle}) \leq 3^\circ$



$\alpha 1$	
Before test	4°
After 3 times	4.2°
Angular deflection	0.2°
Verdict	Pass

Figure 6 - Measure $\alpha 1$ angle after 3 times



$\alpha 2$	
Before test	176°
After 3 times	176.2°
Angular deflection	0.2°
Verdict	Pass

Figure 7 - Measure $\alpha 2$ angle after 3 times

$\alpha(\text{angle}) \leq 3^\circ$ $D(\text{distance}) \leq 20 \text{ mm}$
 $\beta(\text{angle}) \leq 3^\circ$



β_1	
Before test	164.9°
After 3 times	162.9°
Angular deflection	2°
Verdict	Pass

Figure 8 - Measure β_1 angle after 3 times



β_2	
Before test	163.8°
After 3 times	162.9°
Angular deflection	0.9°
Verdict	Pass

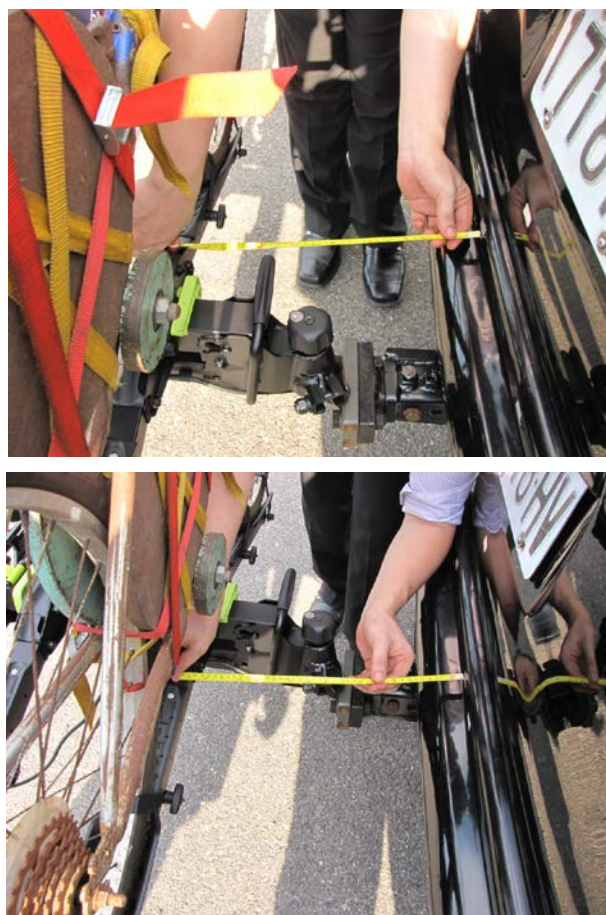
Figure 9 - Measure β_2 angle after 3 times

$\alpha(\text{angle}) \leq 3^\circ$ $D(\text{distance}) \leq 20 \text{ mm}$
 $\beta(\text{angle}) \leq 3^\circ$ $\delta(\text{angle}) \leq 1.5^\circ$



β_3	
Before test	0.7°
After 3 times	0.4°
Angular deflection	0.3°
Verdict	Pass

Figure 10 - Measure β_3 angle after 3 times



Right	
Before the test	410mm
After the test	410mm
Left	
Before the test	410mm
After the test	410mm
δ	
Before the test	0°
After the test	0°
Verdict	PASS

Figure 11 - measure left and right distance to calculate δ