Appendix A: ISO13232 coding scheme

Figure A1. (a) OV contact point codes; (b) MC contact point codes; (c) RHA (to be used together with Table A1 and A3). W: width of OV; L: length of OV.
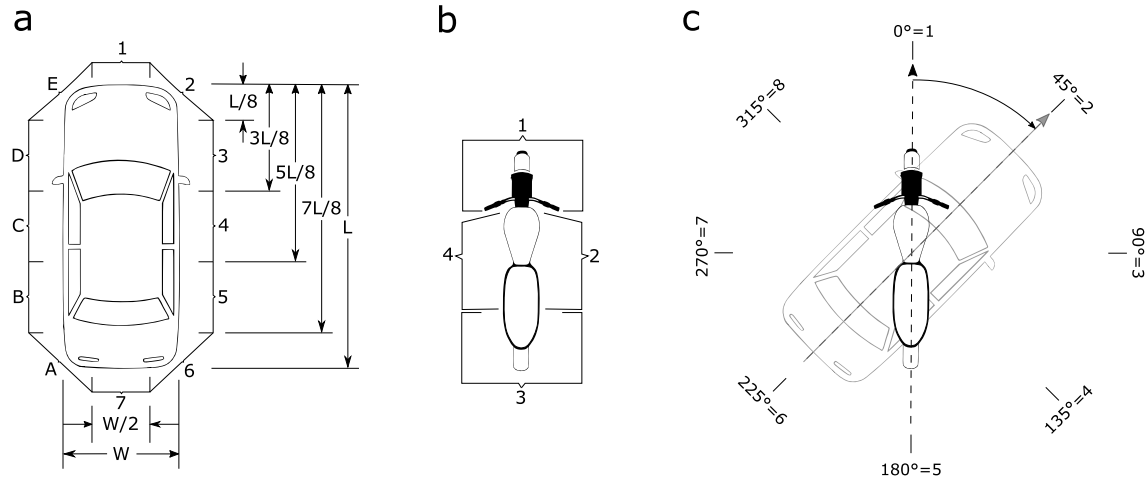

Table A1. Heading angle of OV relative to MC.

Cell range [deg]	Nominal value [deg]	Code number
337.5 < RHA ≤ 22.5	0	1
22.5< RHA ≤ 67.5	45	2
67.5< RHA ≤ 112.5	90	3
112.5< RHA ≤ 157.5	135	4
157.5< RHA ≤ 202.5	180	5
202.5< RHA ≤ 247.5	225	6
247.5 < RHA ≤ 292.5	270	7
292.5 < RHA ≤ 337.5	315	8

Table A2. OV and MC speed.

Cell range [m/s]	Nominal value [m/s]
0 ≤ speed ≤ 4.0	0
4.0 ≤ speed ≤ 8.5	6,7
8.5 ≤ speed ≤ 13.3	9.8
13.3 ≤ speed ≤ 17.5	13.4
17.5 ≤ speed	20.1

Table A3. Reclassification for left side OV contact point codes.

Sorted	Reclassified
OV contact point code	
A	6
B	5
C	4
D	3
E	2
MC contact point code	
2	4
4	2
Relative heading angle code	
2	8
3	7
4	6
6	4
7	3
8	2

Table A4. Injury body region codes.

Body region	Code
Head	1
Face	2
Neck	3
Upper extremity, including shoulder	4
Chest	5
Abdomen	6
Thoracic spine and/or lumbar spine	7
Pelvis and/or hips	8
Thigh	9
Knee	10
Lower leg	11
Ankle and/or foot	12
Other injury location	13

Table A5. Injury type codes.

Body region	Code
Abrasion and/or contusion	1
Laceration	2
Rupture	3
Dislocation	4
Fracture	5
Amputation	6
Concussion	7
Crush	8
Hematoma	9
Other type of injury	10

Appendix B: accident configurations

Figure B1. Schematic representation of the seven required ISO13232 impact configurations (413 is counted twice since it has two impact speed pairs); W: width of OV; L: length of OV; LMC: length of MC.
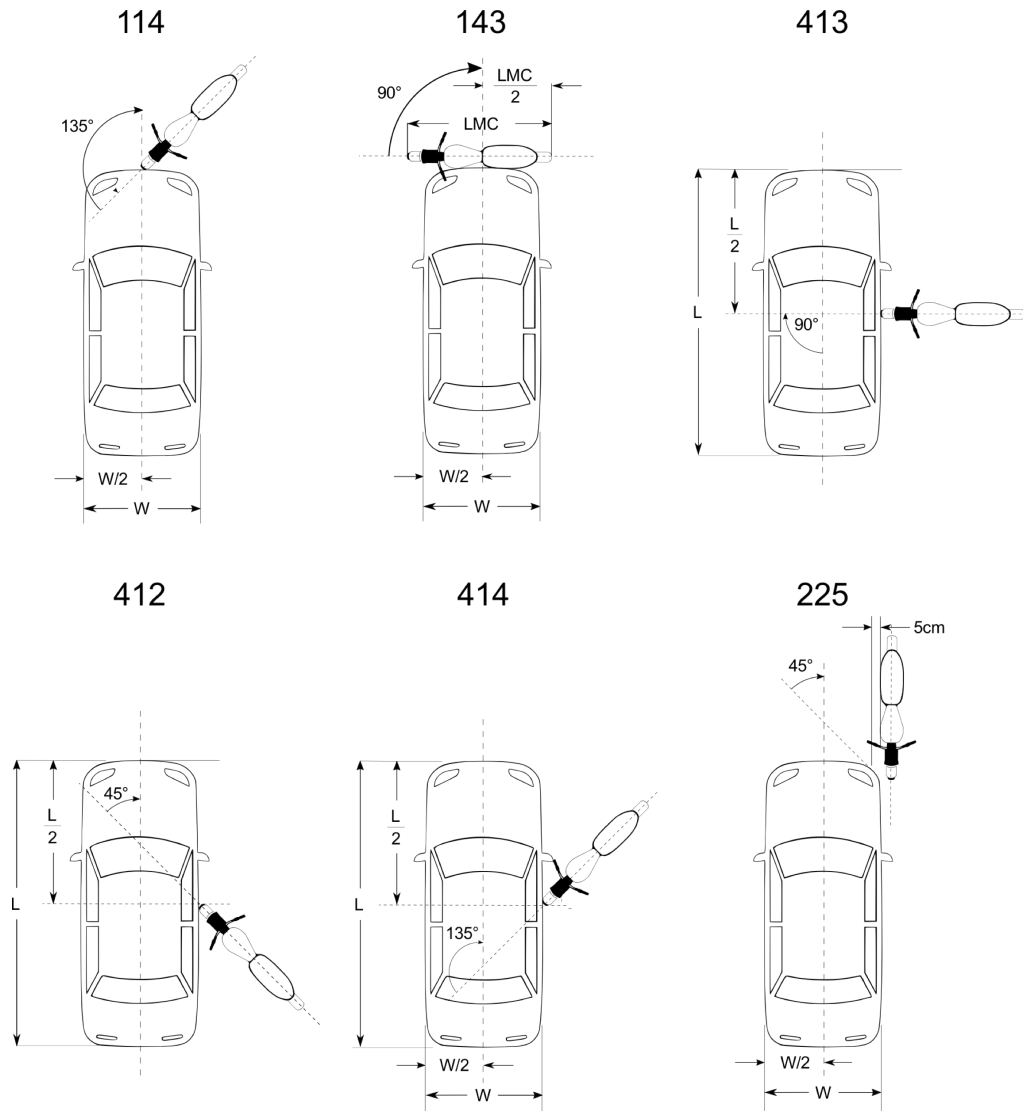
Figure B2. Schematic representation of the additional impact configurations (i.e. not included in the ISO13232 set) identified in this study. For other configurations please refer to Figure B1. W: width of OV; L: length of OV; LMC: length of MC.