RESCUE, EXTRICATION & SAFETY TEST & ASSESSMENT PROTOCOL v1.2 / 3.16緊急救援及事故脫困試驗規章

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1 INTRODUCTION Rescue services require detailed but readily-understood information regarding the construction of individual vehicles to extract trapped occupants as quickly and safely as possible. This is becoming more pressing as vehicles become stronger (e.g. use of high strength steels or composite materials), use different sources of power (e.g. electric/hybrid, hydrogen) and are equipped with an increasing number of safety devices (e.g. airbags, pre-tensioners, active pedestrian protection bonnets). Car makers have invested in “Rescue sheets” but their timely and free-of-charge availability and dissemination across Europe is not always guaranteed. Through the application of this protocol, Euro NCAP in collaboration with the International Service of Fire & Rescue Services (CTIF) promotes the appropriate availability of ISO 17840 compliant rescue sheets and response guides for new car models. To further assist the extrication efforts of first responders, the correct functioning of automatic door locks, i.e. unlocking after a crash, is checked. Finally, incentives are given for availability of technology that supports rescue activities and helps to prevent any further collisions with oncoming traffic or roadside structures, after the initial impact. Thanks to these new requirements, Euro NCAP includes for the first time Tertiary Safety into its assessment. The assessments to be performed in the areas of Rescue, Extrication and Safety contribute to the adult occupant protection rating. The	3.16.1 簡介 隨著車輛變得愈堅固（例如使用高強度鋼或複合材料）、使用不同動力來源（例如純電動/混合動力、氫燃料），且配備愈多安全裝置（例如空氣囊、預負載裝置、行人保護之主動式前方車蓋），因此救援服務需要個別車輛之詳細構造但容易理解資訊，以盡可能快速且安全救出受困人員。 車輛業者已製作「救援表單」，惟無法保證其即時、免費可用，且散布各地。透過本規章之應用，提倡新車型提供符合 ISO 17840 之救援表單及應變指南，確保妥適可用。為進一步協助第一線救難人員解救工作，將檢查自動門鎖功能是否正常，亦即檢查碰撞後車門解鎖。 本規章中詳列之要求分為二個區域：	

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requirements detailed in this protocol are divided into three areas: 1. Rescue: Information for First Responders – Rescue Sheet 2. Extrication: Unlocking of automatic door locking, door opening forces & seat belt unbuckling forces 3. Safety: Advanced eCall and Multi Collision Brake technology	(1)緊急救援：提供第一線救難人員之資訊－「救援表單」 (2)事故脫困：自動門鎖解鎖、車門開啟力及安全帶帶扣開脫力	
2 DEFINITIONS 2.1 Rescue Sheet (ISO 17840 part 1): Operational Summary sheet for a vehicle produced for rescue services containing relevant information on vehicle hazards such as electrical systems, pyrotechnic devices, material location and properties (high strength steel etc), fuel storage location and properties etc. Rescue Sheet is the main document that first and second responders use at the scene of an accident. 2.2 Emergency Response Guide (ERG ISO 17840 part 3): a template for more in-depth emergency response information to be used in combination with the Rescue Sheet for non-conventional engine vehicle. It is generally used by first and second responders as a source of information for training on non-conventional engine vehicles. 2.3 ISO standard 17840 - Road vehicles - Information for first and second responders – Containing the following 4 parts: Rescue sheet for passenger cars and light commercial vehicles (Part 1), buses, coaches and heavy commercial vehicles (Part 2), ERG template with all the needed pictograms in ERG and in Rescue Sheet (Part 3) and a standard for identification of the propulsion fuel or energy (Part 4). 2.4 Automatic Door Locking (ADL): System in the vehicle whereby the door latches automatically lock once the vehicle has reached a	3.16.2 名詞釋義 3.16.2.1 救援表單（ISO 17840 第一部分）：係指針對救援服務所製作之車輛操作摘要表，其中包含車輛風險相關資訊，例如電氣系統、火藥裝置、材料位置與屬性（高強度鋼等）、燃料儲存位置與屬性等。救援表單為第一線與第二線救難人員於事故現場使用之主要文件。 3.16.2.2 緊急應變指南（Emergency Response Guide，ERG ISO 17840 第三部分）：針對非傳統引擎車輛，更深入之緊急應變資訊範本，與救援表單結合使用。第一線與第二線救難人員於非傳統引擎車輛之培訓時會將其作為資訊來源。 3.16.2.3 ISO 17840 標準-道路車輛-提供第一線與第二線救難人員之資訊-包括以下四個部分：客車及輕型商用車救援表單（第一部分）；市區公車、長途客運、遊覽車及重型商用車救援表單（第二部分）；包含 ERG 及救援表單中所有必要圖示之 ERG 範本（第三部分）；動力推進燃料或能量之識別標準（第四部分）。 3.16.2.4 自動門鎖（Automatic Door Locking，ADL）：係指車輛達特定速度，自動讓車門上鎖之系統。系統於事故	

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certain speed. They should also automatically unlock in the event of an accident, post impact. Short term deactivation for one single journey is permitted. 2.5 eCall: System fitted to a vehicle that sends an automatic message to an emergency call centre in case of a crash of the vehicle. eCall technology capable of sending advanced content, beyond what is legally specified (ECE 144), is referred to as eCall+ or Advanced eCall. 2.6 Multi Collision Brake (MCB): System fitted to a vehicle that applies the brakes to prevent or mitigate a subsequent impact when a vehicle has been involved in a collision of sufficient severity. In response to a primary collision with or without airbag deployment, information is sent to the braking system to decelerate the vehicle with the intention to bring the vehicle to a standstill. It must not be possible to deactivate the MCB by the driver. After a crash and the vehicle coming to a standstill it is allowed for the MCB to release the brakes in order to help first responders move the vehicle.	發生時(撞擊後)亦應自動解鎖。允許單次旅程短時間解除。	
3 SCORING SCHEME 3.1 The score achieved from the Rescue, Extrication & Safety assessment is directly applied to Adult Occupant Protection (Box1) without scaling. The score ranges from -2 points to +2 points. 3.2 A penalty will be applied, where the Rescue sheet is not available (-2 points) or non-compliant (-1 point) in accordance with the requirements in Chapter 4 of this protocol. No penalty in section 3.2 is a pre requisite to score points (see 3.5).	3.16.3 評等方式 依執行本規章之符合性判定結果揭露於 TNCAP 網站。	

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3.3 A -1 point penalty can be applied in accordance with the Extrication requirements in Chapter 5 of this protocol. 3.4 The sum of the penalties in sections 3.2 and 3.3 cannot exceed -2 points. 3.5 If no penalty in section 3.2 has been applied, 2 points can be scored: • 1pt can be scored when the vehicle is equipped with eCall+ in accordance with the requirements in Chapter 6. • 1pt can be scored when the vehicle is equipped with Multi-Collision Brake technology in accordance with the requirements in Chapter 7. Both technologies must meet the Vehicle Selection, Specification, Testing And Retesting (VSSTR) protocol fitment requirements to be awarded.		
4 RESCUE SHEET 4.1 The Rescue Sheet(s) (the model variant rated by Euro NCAP as well as other variants covered by the rating) must be submitted before inspection with additional information for database (i.e. links to OEM website, photo, etc.). 4.2 These Rescue Sheets (final version after inspection) must be available to the general public for the model variant rated by Euro NCAP as well as all the other variants covered by the rating that are available at the time of publication. 4.3 Each Rescue Sheet should be provided in PDF format as a unique document i.e. one file per model variant. Each Rescue Sheet should	3.16.4 救援表單 3.16.4.1 查驗前須先提交救援表單（TNCAP 評等之車款以及評等所涵蓋之其他車款），並檢附資料庫額外資訊（即車輛業者網站連結、照片等）。 3.16.4.2 針對 TNCAP 評等之車款以及發布時可用評等所涵蓋之其他所有車款，其救援表單（查驗後最終版本）須對外公開。 3.16.4.3 各救援表單應以 PDF 格式個別提供，即每個車款各一個檔案。印出時，救援表單不得超過四張 A4 大小頁面。若有商業授權及/或專有出版權，不得影響 TNCAP 向	

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be no more than four A4 sized pages when printed. Where commercial licences and/or exclusive publishing rights exist, these should not infringe on the rights of Euro NCAP and its members to make Rescue Sheets available at no cost to the general public.	社會大眾免費提供救援表單之權利。	
4.4 Rescue Sheets must be supplied in at least the following languages: English, German, French and Spanish (and all languages covering the Euro NCAP Application Area/EAA from the start of 2023).	3.16.4.4 救援表單必須至少提供繁體中文及英文。	
4.5 The Rescue sheet(s) must meet ISO 17840 Part 1 format (layout, order of information and pictograms) and should include a summary following ISO 17840 Part 3. The Rescue Sheet shall be tailored to each vehicle, that is, for a conventional ICE vehicle not all parts of the ISO standard need to be addressed. However for a pure EV for example then more information according to the ISO standard is required.	3.16.4.5 救援表單必須符合 ISO 17840 第一部分之格式（排版、資訊順序及圖示），且應含括遵循 ISO 17840 第三部分之摘要。救援表單應針對各車輛量身制定，即對於傳統內燃機引擎之車輛，不需處理 ISO 標準所有部分，惟對於如純電動車輛，則須根據 ISO 標準提供更多資訊。	
4.5.1 Content must be correct - Rescue Sheet will be checked during normal post-crash inspection on tested vehicles. The vehicle manufacturer will be permitted to make corrections before publication, as long as all material issued by the company is updated as well. (Copy of Rescue Sheet checklist is available as a separate document for download from the Euro NCAP website along with a Technical Bulletin offering guidance on how to create an ISO complaint Rescue Sheet - TB030 - Technical Bulletin Rescue Sheet Guidelines).	3.16.4.5.1 內容必須正確—救援表單應於受驗車輛執行一般碰撞後查驗時進行檢查。發布前允許車輛業者進行修正，惟該公司發布之所有資訊亦須更新。（參閱 TNCAP 救援表單檢核表，以及參見 Euro NCAP 技術通報 TB030 救援表單指引製作符合 ISO 規範之救援表單。）	
5 EXTRICATION 5.1.0 Automatic Door Locking	3.16.5 事故脫困 3.16.5.1 自動門鎖	

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Euro NCAP understands the need for vehicles to be equipped with automatic locking doors due to such issues as security when stopped in traffic. However in the event of an accident the locked doors should automatically unlock, post impact, to allow the occupants to exit but also for entry by first responders.	考量車流停滯時安全問題，車輛需要配備自動門鎖。惟發生事故時，上鎖之車門應於撞擊後自動解鎖，使乘員離開也讓第一線救難人員得以進入。	
5.1.1 The Euro NCAP Secretariat will check with the OEM if their vehicle is fitted with automatic locking door latches as standard and inform the test laboratory accordingly.	3.16.5.1.1 車輛業者應於受驗車輛試驗資訊宣告車輛是否標準配備自動門鎖，並由 TNCAP 執行機構及檢測機構進行確認。	
5.1.2 If ADL is fitted as standard and by default always ON then the doors will be locked by the lab personnel prior to ALL full-scale tests. The test lab will be informed by the OEM of the procedure to ensure the doors are manually locked for the tests.	3.16.5.1.2 若自動門鎖為標準配備且預設始終維持開啟狀態，則執行所有實車撞擊試驗前，檢測機構人員應將車門上鎖。車輛業者應告知檢測機構程序，確保手動車門上鎖以進行試驗。	
5.1.3 If ADL is not fitted as standard but fitted to the test variant then doors will be locked in the frontal MPDB test and the side oblique Pole test. The doors will be left unlocked in the frontal Full Width test and Side Barrier test. If the ADL activates by itself in the Full width frontal test that is not an issue.	3.16.5.1.3 若自動門鎖非標準配備，而安裝於受驗車款，則車門應於前方偏置撞擊試驗及側方立柱撞擊試驗時上鎖。前方全寬撞擊試驗及側方撞擊試驗時，車門則保持未上鎖狀態。若自動門鎖於前方全寬撞擊試驗中自行致動，則不視為問題。	
5.1.4 Post-test the lab personnel will immediately check if any of the side doors in the front crash tests and any of the non-struck side doors in the side crash tests has remained locked/has not automatically unlocked. A maximum -1 point penalty will be applied if this issue is identified in at least one of the two tests where the doors were locked pre impact. This will follow the procedure for door opening in 5.2.	3.16.5.1.4 試驗後，檢測機構人員應立刻檢查前方偏置撞擊與前方全寬撞擊試驗時任何側門，以及側方撞擊與側方立柱撞擊試驗時任何非受撞擊側之側門，是否保持上鎖狀態/未自動解鎖。撞擊前已上鎖之車門若於試驗中至少一次發現此問題，則不符合本項要求。應依照 3.16.5.2 之車門開啟程序進行。	參考新版 Eruo NCAP 架構調整項次
5.1.5 Door opening forces	3.16.5.2 車門開啟力	

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5.1.6 The post impact door opening forces are measured after the two frontal impact tests. Only the side doors (not the tailgate for example) will be checked.	3.16.5.2.1 前方偏置撞擊與前方全寬撞擊試驗後，測量撞擊後之車門開啟力。僅檢查側門（不檢查尾門）。	
5.1.7 The unlatching/unlocking of the side doors will already have been checked as part of the automatic door locking section.	3.16.5.2.2 側門之解閂/解鎖(Unlatching/Unlocking)已包含於自動門鎖中進行檢查。	
5.1.8 Using a gauge attached to the door handle pull the door handle until a maximum force of 750N is registered. The opening force should be applied perpendicular to the door, in a horizontal plane, unless this is not possible. If the door opens before the 750N level is reached note down the opening force. If the door does still not open upon reaching 750N then use tools to open the door.	3.16.5.2.3 使用連接於車門把手之量測儀器拉動車門把手，直到記錄最大力量至 750N。除非無法執行，否則開啟力應垂直施加於車門水平平面。若於 750N 前即開啟車門，則記錄此開啟力量。若達到 750N 時車門仍無法開啟，則使用工具開啟車門。	
5.1.9 When dealing with a sliding door the opening force of [750N] shall be applied in a direction following the vehicle centreline – door should be pulled in this direction once the door unlatching forces have been carried out (as mentioned previously the unlatching/unlocking check of the side doors will already have been checked as part of the automatic locking doors section.)	3.16.5.2.4 滑門 750N 之開啟力應順著車輛中線方向施加—施加車門解閂力後，應沿此方向拉門（如上所述，側門解閂/解鎖於自動門鎖部分進行檢查）。	
5.1.10 An open hinged door is defined as a door that is opened to an angle of at least 45° relative to the door hinge axis, allowing enough room for occupant extraction.	3.16.5.2.5 開啟鉸鏈車門係指相對於車門鉸鏈軸，至少開啟 45°角度之車門，具有足夠空間救出乘員。	
5.1.11 An open sliding door is defined as a door that, when opened, presents a minimum opening of at least 500mm compared to the closed position of the door, that would allow the extrication of an occupant.	3.16.5.2.6 開啟滑門係指相較於車門關閉位置，車門最小開啟至少為 500mm，允許解救乘員。	
5.1.12 To summarise there are 2 stages to the door opening forces	3.16.5.2.7 車門開啟力程序分為兩階段：量測儀器施加負載	

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procedure: Load gauge up to 750N and then tools. 5.1.13 Penalty only applied if load exceeds 750N and tools are required to open a door. 5.1.14 A maximum -1 point penalty will be applied if this issue is identified for at least one of the side doors in at least one of the two frontal tests.	至最大 750N，接著使用工具。 3.16.5.2.8 僅在負載超過 750N 且需要使用工具才能開啟車門判定為不符合要求。 3.16.5.2.9 若於前方偏置撞擊與前方全寬撞擊試驗中至少一次、至少一個側門有此問題，則不符合本項要求。	
5.2 Additional requirements for Electric door handles or handles retracting into door panel and having no possibility for physical grip More and more vehicles are now coming to the market with electric retracting door handles that sink into the door panel flush/level with the door panel surface. Obviously this can create an issue in an emergency situation where first responders need to be able to use the door handle to open the door.	3.16.5.3 電動車門把手或縮回門板且無法實體抓握把手之額外要求 目前市面上越來越多電動伸縮車門把手會沉入門板/與門板表面齊平，以致可能會在緊急情況下造成問題，因為第一線救難人員必須能使用車門把手來開啟車門。	參考新版 Eruo NCAP 架構調整項次
5.2.1 The door handle should be in the retracted / vehicle in motion position for the test.	3.16.5.3.1 試驗時，車門把手應處於縮回位置/車輛運動位置。	
5.2.2 The OEM should inform both the Euro NCAP Secretariat and the test laboratory if any special action is needed, for example if the engine must be running for the retracting door handles to operate as normal in the test.	3.16.5.3.2 若需要進行任何特殊動作，車輛業者應告知 TNCAP 執行機構及檢測機構，例如引擎是否必須運轉，伸縮車門把手才能於試驗中正常運作。	
5.2.3 For a retracting door handle it is permitted to apply special actions at the handle to have access to it. For example, pushing in one corner to pivot it and then hold the handle (if no tools are needed at all). This needs to be discussed with Euro NCAP Secretariat prior to tests and it must be explained in the Rescue Sheet and also in the vehicle handbook.	3.16.5.3.3 針對縮回之車門把手，允許進行特殊動作以碰觸把手。例如推壓一角使其移動再握住把手（若完全不需要任何工具）。試驗前須與 TNCAP 執行機構討論，且必須於救援表單及車主手冊中說明。	

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5.2.4 For the full scale tests, with the exception of the struck side doors in the side impacts, the handles of all side doors must be in the extended/ready to open (as explained in 5.2.3) position immediately after the test. It is assumed that by design the door handles will extend outwards ready for use when the SRS system deploys any airbag/detects a severe impact or the door handle remains in its retracted position but can be grabbed nevertheless by the first responder without any tool. The test laboratory personnel will note down the status of each door handle post impact.	3.16.5.3.4 針對實車撞擊試驗，除了側方撞擊中受撞擊側之車門外，所有側門之把手皆須於試驗後立即處於伸出/可開啟（如 3.16.5.3.3 所述）位置。假定根據設計，當 SRS 系統開展任何空氣囊/偵測到嚴重撞擊時，車門把手會向外伸出，處於可使用狀態，或車門把手維持於縮回位置，但第一線救難人員可不用任何工具即能抓握。檢測機構人員應記錄各車門把手撞擊後之狀態。	
5.2.5 A maximum penalty of -1 point will be applied where any of the side door handles listed in 5.2.4 cannot be used as normal or accessed without tools after the test.	3.16.5.3.5 試驗後，若 3.16.5.3.4 所列之任何側門把手無法正常使用或須使用工具碰觸，則不符合本項要求。	
5.2.6 It is not acceptable to direct the user/owner/rescuer of the vehicle to a cable release for the door in the luggage area for example or to have to connect a slave battery to the vehicle in order to extend the door handles. A vehicle equipped with electric door handles will not be given any special treatment compared to a vehicle with conventional door handles.	3.16.5.3.6 不允許引導車輛使用者/所有者/救難人員至如行李廂區內車門之纜線釋放裝置，或必須將輔助電池連接至車輛才能伸出車門把手。配備電動車門把手車輛與傳統車門把手車輛相同，不應有任何特殊待遇。	
5.3 Seat belt buckle unlatching (defined force to open a seat belt buckle) No extrication assessment would be complete without also dealing with the belted occupants and ensuring that the seat belt itself can be unlatched as normal to allow extrication of the occupant.	3.16.5.4 安全帶帶扣解開（安全帶帶扣開脫力） 處理繫上安全帶之乘員，確保安全帶本身可正常解開便於解救乘員於事故脫困評等中必不可少。	參考新版 Eruo NCAP 架構調整項次
5.3.1 Any position where the seat belt is used for the full scale tests shall be checked post-test once all of the door opening forces have	3.16.5.4.1 測量所有車門開啟力後，應於實車撞擊試驗後檢查有使用安全帶之任何位置。(若於試驗中使用車輛安全	

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been measured. (For both adult and child if car seatbelt is used to restrain child dummy and/or CRS in test).	帶束縛兒童人偶及/或兒童保護裝置，則成人與兒童皆然）。	
5.3.2 Frontal impacts - The seat belt buckle shall completely open under a load of no more than 60N applied directly to the centre point and in the direction of the opening movement of the buckle release button. The operator shall hold the buckle with one hand ensuring the application of the force measurement in the correct orientation with the other hand to measure in the axis of the buckle opening movement.. The measurement shall provide a load versus time / displacement information of the opening behaviour to identify potential measurement artefacts, which could be derived from a second contact of the buckle release button after release with the buckle housing. In such a case the first peak of force should be interpreted as the opening force. The point of contact of the test equipment shall comply with the definition in UNECE R.16 7.8.2. It is permitted to move the adult dummy, child dummy or CRS in order to access the buckle.	3.16.5.4.2 前方偏置撞擊/前方全寬撞擊—安全帶帶扣應在不超過 60N 負載下完全開啟，施加力直接作用於中心點並沿帶扣釋放按鈕之開啟方向。操作員應一手握住帶扣，確保施力量測正確，另一手測量帶扣開啟移動軸。量測應提供開啟行為之負載相對於時間/位移資訊，以辨識潛在量測人為瑕疵，此可能是因帶扣釋放按鈕釋放後與帶扣外殼之二次接觸所產生。在此情況下，力量之首次峰值應作為開啟力。測試設備之接觸點應符合 UN R16 7.8.2 之定義。可移動成人人偶、兒童人偶或兒童保護裝置以碰觸帶扣。	
5.3.3 Side impacts – The seat belt buckle shall completely open under a load of no more than the limit value applied directly to the buckle release button. As a first step in 2020, 2021 and 2022 the unlatching force value shall be monitored for all side impact vehicles. It is anticipated that for these side tests the unbuckling load limit should be defined as a value between 60N and 100N.	3.16.5.4.3 側方撞擊/側方立柱撞擊—安全帶帶扣應在不超過直接施加於帶扣釋放按鈕之限制負載下完全開啟。應監控所有側方撞擊車輛之帶扣開脫力，且帶扣解開負載限制值應介於 60N 至 100N 之間。	
5.3.4 No further steps will be taken to open the buckle or tools allowed to cut the belt, unbolt the buckle from the car etc.	3.16.5.4.4 不得採取進一步措施解開帶扣，或使用工具剪斷安全帶、從車上移除帶扣等。	

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5.3.5 The test laboratory should note the load at which each buckle releases. 5.3.6 A maximum penalty of -1 will be applied where any of used buckles in the frontal tests do not open when a load of up to 60N is applied.	3.16.5.4.5 檢測機構應記錄每個帶扣開啟之負載。 3.16.5.4.6 當施加負載至最大 60N，前方撞擊試驗中任何使用之帶扣仍未解開，則不符合本項要求。	
6 POST-CRASH TECHNOLOGY - ADVANCED eCall 6.1 The advanced eCall system must provide the number of occupants and/or recent vehicle locations N1 and N2. The rewards shall be 0.5 points for number of occupants and 0.5 points for recent vehicle locations N1 and N2. 6.2 Functions that qualify are listed in the table below: (請參考頁末表格) 6.3 Euro NCAP will require the following data from the OEM: 1. Extract of ECE 144 approval document or (EU)2015/758 approval document 2. Copy of the MSD content (the text message/SMS as sent by the car to the PSAP) 7. POST-CRASH TECHNOLOGY – MULTI COLLISION BRAKE 7.1 In the past, in order to qualify for a Euro NCAP “Advanced” reward OEM’s needed to provide a dossier containing data on how their Multi Collision Braking (MCB) system worked and also how it was tested by OEM to prove that it functioned correctly. This was done with both simulations and full scale testing. It is now the intention for the OEM to provide a similar set of data from 2020 onwards for the MCB system to be awarded points. This data must	(國內尚未具備檢測能量，因此暫不導入)	

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be provided before the car goes through the full Euro NCAP tests and assessment. This data can be generated in-house or by a Euro NCAP accredited laboratory, according to the preference of the OEM. 7.2 The OEM must mention in the vehicle handbook that the vehicle is equipped with an MCB system and it should explain how it works. Definitions 7.3 Multi Collision Brake (MCB): System fitted to a vehicle that applies the brakes to prevent or mitigate a subsequent impact when a vehicle has been involved in a collision of sufficient severity. In response to a primary collision with or without airbag deployment, information is sent to the braking system to decelerate the vehicle with the intention to bring the vehicle to a standstill. It must not be possible to deactivate the MCB by the driver. After a crash and the vehicle coming to a standstill it is allowed for the MCB to release the brakes in order to help first responders move the vehicle. 7.4 MCB trigger signal: Signal sent from the crash detection function to the braking system during a primary collision. Overview 7.5 The test procedure for the Multi Collision Brake technology consists of two parts: Part A) a destruction-free demonstration of braking caused by the MCB trigger signal, Part B) documentation showing that the MCB trigger signal is sent during a Frontal crash test.		

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Part A) Destruction-free MCB test 7.6 The vehicle under test drives in a straight line on a dry surface at a velocity of 15km/h ±1km/h. 7.7 The MCB trigger signal is simulated on the vehicle network using test and development equipment of the OEM. 7.8 If declared necessary by the OEM, the acceleration pedal shall be disengaged immediately prior to simulation of the MCB trigger signal. 7.9 The brake pedal must not be engaged by the driver or other means during the entirety of the test. 7.10 The MCB test is passed if the vehicle exceeds a minimum deceleration of 3m/s² with brakes lights on. Part B) Documentation to be provided by the OEM before official Euro NCAP testing 7.11 The OEM can choose any full scale Frontal crash test where the MCB will be activated. 7.12 Video recording of the test at a ¾ angle from the rear on driver side to show the brakes lights are ON. 7.13 Data from this test that shows that the MCB trigger signal is sent on the vehicle network during the crash. Transition Period 7.14 During a transition period of three years after the MCB Protocol is active (2020, 2021 and 2022), OEMs can also score the MCB point using Part B only, witnessed by either Euro NCAP or Euro		

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NCAP accredited laboratory personnel. Additional Requirements and Provisions 7.15 The Multi Collision Brake must be described in the user manual of the tested vehicle. 7.16 An OEM-specific name for the MCB technology can be used in the manual. 7.17 The test procedure is organized and performed by the OEM. 7.18 The test procedure can be performed using a pre-series vehicle.		