

STANDARDIZED EXTERIOR PROPULSION-TYPE IDENTIFICATION AND POWER-INDEPENDENT OCCUPANT EGRESS

Petition for Rulemaking to Support Occupant Rescue, Child Passenger Safety, and Vulnerable-Occupant Protection

Petitioner: Joseph A. Bercovic

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Submitted pursuant to 49 U.S.C. § 30111 and applicable NHTSA petition procedures

1. Executive Summary

This petition respectfully requests that the National Highway Traffic Safety Administration initiate rulemaking addressing two related occupant-rescue gaps: (1) requiring covered motor vehicles to communicate propulsion class through a standardized, externally perceivable, performance-based method; and (2) establishing minimum performance requirements for power-independent occupant egress and rescuer access from every designated seating row. Both requests arise from the same safety principle: when a parent, caregiver, child, or passenger in a driverless vehicle cannot speak for the vehicle, the vehicle must still communicate its hazards and preserve a practical path to rescue.¹

The issue is not whether one propulsion system is categorically safer or more dangerous than another. The narrower safety problem is that internal-combustion, hybrid, plug-in hybrid, battery-electric, and other alternative-propulsion vehicles can present different responder-relevant hazards and may require different assumptions during approach, suppression, extrication, isolation, towing, storage, and post-incident handling. Federal safety guidance already recognizes those differences. Yet propulsion type is often not reliably apparent from a safe approach distance, particularly after a crash or under darkness, smoke, weather, debris, or other degraded conditions.²

From the perspective of a parent, this creates a basic failure of safety communication. In a crash, the adult responsible for the child may be unconscious, injured, separated from the vehicle, absent from the scene, or unable to answer questions. A child may be too young, frightened, injured, nonverbal, or otherwise unable to identify the vehicle's propulsion system. The vehicle may be driven by a grandparent, babysitter, older sibling, coach, rideshare driver, or other caregiver who does not know whether it is a mild hybrid, plug-in hybrid, battery-electric vehicle, or another propulsion type. It may also be a fully autonomous ride-hail vehicle with no human driver at all. In those moments, the safety system should not depend on an injured or unfamiliar occupant correctly supplying technical information.

The vehicle itself should communicate a safety-relevant characteristic that may affect how rescuers approach and manage the incident. Existing badges, model names, trim designations, VIN lookup, rescue sheets, QR tools, proprietary applications, NHTSA-hosted emergency response guides, autonomous-vehicle operator protocols, and model familiarity may assist later, but they do not reliably solve the first-moment recognition problem. A standardized visual indication would not replace training or detailed response guides. It would help responders use those resources sooner and reduce avoidable uncertainty while occupants are waiting for rescue.³

The requested rulemaking is prospective, technology-neutral, and performance-based. For propulsion identification, it does not ask NHTSA to prescribe a proprietary product, regulate battery chemistry, select a particular symbol at the petition stage, or dictate fire-service tactics. It asks for a standardized visual indication located on the upper half of the vehicle, recognizable in daylight and defined low-light conditions from common approach angles, durable during initial response, and not dependent exclusively on normal low-voltage power, connectivity, software, or a remote operator. For occupant egress, it does not demand a particular handle design. It asks for a readily discoverable and mechanically operable rescue pathway that does not fail solely because 12-volt power, software, or electronic actuators are unavailable. Escape should not depend on which seat an occupant is assigned. Escape is not an optional feature.

2. Petitioner and Basis for Petition

2.1. Parent and Vehicle-Safety Interest

The Petitioner, Joseph A. Bercovic, is the father of six children and submits this petition in his individual capacity. Like other parents, he makes transportation decisions with the expectation that the vehicle, its restraints, and the broader motor-vehicle safety system will continue to protect occupants even when the parent cannot personally manage the emergency.

Parents can select age-appropriate restraints, maintain a vehicle, choose drivers, and teach safe behavior. They cannot guarantee that they will remain conscious, present, or able to communicate after a serious collision. Nor can they ensure that a young or injured child will know the vehicle's technical configuration. This petition addresses that point of vulnerability: when occupants most need the safety system to function, the people inside the vehicle may be least able to explain the hazard to rescuers.

2.2. Emergency-Management Background

The Petitioner also brings more than two decades of experience in emergency management, hazardous-materials operations, consequence management, interagency coordination, and high-risk response planning. That background is offered to explain the Petitioner's familiarity with emergency decision-making under incomplete information. It is not offered as a substitute for fire-service command authority or as a representation of any employer, military organization, public agency, or other institution.

The Petitioner submits this filing solely on his own behalf. Nothing in this petition should be interpreted as an official position, policy recommendation, endorsement, authorization, or representation of any current or former employer, military component, governmental entity, client, or affiliated organization. The observations and recommendations expressed here are the Petitioner's own.

2.3. Purpose and Public-Interest Basis

The purpose of this filing is to present the occupant-protection side of two connected safety gaps. Responders need accurate information to select an appropriate tactical posture, and occupants need a practical path to escape or rescue when the vehicle loses electrical power. Neither should depend on the continued consciousness, technical knowledge, or communication ability of the people inside the vehicle.

This concern is particularly important for children, persons with disabilities, nonverbal occupants, older adults, injured or disoriented passengers, and anyone traveling in a borrowed, rented, fleet, rideshare, caregiver-operated, or fully autonomous vehicle. The proposal is not anti-technology, anti-autonomy, or anti-electrification. It supports a diverse vehicle fleet by asking that propulsion type be communicated through one nationally intelligible, responder-oriented system rather than fragmented manufacturer branding, database entries, or operator-specific procedures.

3. Requested Rulemaking

3.1. Standardized Exterior Propulsion-Type Identification

The Petitioner respectfully requests that NHTSA initiate rulemaking requiring covered motor vehicles, including automated-driving-system-equipped and purpose-built driverless vehicles, to communicate propulsion class through standardized, externally perceivable, performance-based

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means. The purpose is to permit first responders and other emergency personnel to recognize propulsion class quickly and reliably during the initial moments of a crash, fire, entrapment, roadside emergency, towing event, or post-incident response.

At a minimum, the rulemaking should consider objective requirements that the identification:

- communicate propulsion class through a uniform, nationally intelligible meaning;
- be visible from a responder approach distance established by the agency;
- be recognizable in daylight and defined low-light conditions;
- be locatable from common front, rear, and quartering approach angles;
- be located on the upper half of the vehicle within standardized locations or limited allowable exterior zones, with sufficient placement to support front, rear, and quartering recognition;
- remain usable through ordinary weathering and during the initial phase of defined post-crash conditions;
- remain recognizable following loss of normal vehicle low-voltage power without relying exclusively on the failed system; and
- be stated in objective, practicable, and enforceable performance terms.

A reasonable initial scope would apply prospectively to new covered vehicles after an appropriate compliance date. The rule should at least address internal-combustion, hybrid and plug-in hybrid, and battery-electric vehicles, while allowing NHTSA to determine whether hydrogen fuel-cell or other emerging propulsion architectures should be included in the first rule or a later phase. The requirement should apply regardless of whether the vehicle is human-driven, automated-driving-system-equipped, remotely supported, or operated as a driverless fleet vehicle.

The petition does not request an immediate retrofit obligation, a mandatory proprietary device, disclosure of proprietary powertrain design, or a federally prescribed suppression doctrine. It seeks a narrow hazard-communication requirement that supports occupant rescue before secondary tools, including emergency response guides, rescue sheets, autonomous-vehicle operator protocols, or remote support centers, can be safely or effectively used.

3.2. Power-Independent Occupant Egress and Rescuer Access

The Petitioner further requests that NHTSA initiate a companion rulemaking, or incorporate into an appropriate existing rulemaking, minimum performance requirements for power-independent occupant egress and rescuer access. The objective should be that loss of normal electrical power does not, by itself, convert an otherwise survivable event into prolonged entrapment.

- provide a mechanical means of opening each occupant door, or an equivalent power-independent escape and access route serving every designated seating row, when the normal 12-volt electrical system is unavailable;
- make the manual release readily discoverable, clearly marked, and operable without specialized tools by an adult occupant under emergency conditions;
- ensure that a power-independent escape pathway is not limited to the driver and front passenger positions;
- preserve a practical external access method for rescuers, including when a child-protection lock prevents a rear occupant from opening the door from inside;
- evaluate operation after defined crash, deformation, and electrical-power-loss conditions; and
- avoid treating an owner-manual instruction, mobile application, subscription service, or hidden emergency procedure as a substitute for an intuitive physical safety function.

NHTSA should also evaluate adding post-crash door operability, power-independent egress, and rescuer access to the consumer information presented through the New Car Assessment Program. A vehicle can protect an occupant during impact and still create a serious post-crash rescue problem. Both phases matter to real-world safety.

4. Occupant-Protection Safety Problem

4.1. A Safety System Should Not Depend on the Occupant Speaking for the Vehicle

The central occupant-protection problem is straightforward: after a serious incident, the person who knows the vehicle best may be unable to communicate, and the person most in need of rescue may never have known the vehicle's propulsion type at all.

A parent may be unconscious. A caregiver may have borrowed the vehicle and know only that it is "a hybrid." A teenager may be injured or disoriented. A young child may know the vehicle by its color or family nickname, not whether it contains a high-voltage battery, liquid fuel system, or both. Passengers in rideshare, rental, school, fleet, or shared vehicles may have no knowledge of the powertrain. In a fully autonomous vehicle, there may be no human driver to ask at all, and the passengers may be customers with no ownership or technical knowledge of the vehicle. None of these circumstances is unusual enough to justify leaving safety communication to the occupant.

Motor-vehicle safety features are generally expected to operate without requiring an injured person to explain them. Propulsion-type identification should follow the same principle. When propulsion class can affect the responder's initial assumptions, the vehicle should communicate that class externally and consistently.

4.2. Children and Vulnerable Occupants Have Limited Ability to Supply Technical Information

Children are not miniature technical witnesses. Depending on age, injury, fear, developmental capacity, language, disability, or separation from the driver, a child may be unable to answer even basic questions about the incident. A child restrained in a rear seat may also have limited awareness of what happened outside the passenger compartment.

The same limitation can affect adults who are unconscious, cognitively impaired, nonverbal, unfamiliar with the vehicle, or overwhelmed by the emergency. A safety system that works only when the occupant can identify the make, model, model year, trim, or powertrain is least reliable when the emergency is most serious.

The proposed identification requirement would not guarantee a particular rescue outcome. It would remove one avoidable information dependency by allowing the vehicle to communicate a responder-relevant fact even when its occupants cannot.

4.3. Propulsion Type Can Affect Rescue and Scene Management

Different propulsion systems do not always permit the same operational assumptions. NHTSA guidance directs responders to determine whether a vehicle is electric or hybrid-electric and warns that exposed electrical components and damaged high-voltage batteries may present shock, toxic or flammable gas, and immediate or delayed fire hazards. NTSB has identified electric-shock risk, thermal runaway, stranded energy, and reignition in damaged high-voltage lithium-ion battery incidents.³

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These considerations can affect approach, vehicle stabilization, extrication planning, no-cut zones, suppression, isolation, air monitoring, occupant movement, EMS coordination, towing, and storage. Hybrids and plug-in hybrids may combine conventional liquid-fuel hazards with high-voltage battery hazards. Battery-electric incidents may involve persistent energy, off-gassing, delayed escalation, or post-suppression monitoring concerns. Conventional vehicles remain hazardous, but they provide a different baseline of responder assumptions.⁴

For the parent waiting for a child to be reached, the relevant point is not comparative ideology about vehicle technologies. The relevant point is that accurate early classification can help rescuers align their actions with the actual vehicle sooner.

4.4. Ambiguity Can Consume Time or Increase Exposure

When propulsion type is uncertain, responders face a dilemma. They may proceed using conventional assumptions and later discover high-voltage or mixed-propulsion hazards, or they may delay commitment while seeking confirmation through badges, model knowledge, a VIN, a rescue sheet, or another source. The appropriate response will depend on incident conditions, but uncertainty itself is not safety-neutral.

In an entrapment, smoke, fire, rollover, or deteriorating medical condition, even a short classification delay may occur while personnel are simultaneously addressing traffic, stabilization, access, occupant condition, and scene hazards. Standardized exterior identification would not replace judgment. It would give responders one reliable fact earlier in that judgment process.

4.5. Autonomous Vehicles Remove the Assumption of a Knowledgeable Driver

Autonomous vehicles make the information gap more acute. Waymo operates fully autonomous ride-hail vehicles without a human behind the wheel and publishes separate emergency-response and law-enforcement interaction materials for its Jaguar I-PACE and newer Ojai/Zeekr platforms. Those materials are useful, but their very existence confirms that responders may need vehicle-specific knowledge that a passenger does not possess.

On July 8, 2026, NHTSA stated that it had documented driverless automated vehicles driving into active emergency scenes, blocking the paths of ambulances and firefighters, or failing to recognize and respond to flashing lights, flares, smoke, fire, and traffic cones. NHTSA's Administrator described an automated vehicle that cannot safely interact with first responders as a danger to the general public. This petition does not seek to resolve every automated-vehicle interaction issue. It draws a narrower conclusion: when a vehicle has no driver, it must be more self-explanatory, not less.¹⁷

The requested propulsion identifier should therefore apply to automated-driving-system-equipped and purpose-built driverless vehicles on the same terms as other covered vehicles. A standardized visual indication on the upper half of the vehicle would give responders immediate propulsion information without first identifying the fleet operator, reaching a remote assistance center, opening a proprietary guide, or relying on passengers who may be injured or unfamiliar with the vehicle.

4.6. Rescuability Is Not a Consumer Crash-Rating Measure

Crashworthiness and rescuability are related but distinct. NHTSA's 5-Star Safety Ratings evaluate frontal, side, and rollover performance and communicate how well vehicles protect occupants in those crash scenarios. FMVSS No. 206 establishes requirements for door locks and door-retention components principally to reduce the likelihood of occupant ejection. Those are essential safety

objectives, but the public rating system does not assign a separate score for how quickly an occupant can exit, whether every seating row retains a power-independent escape path, or whether a rescuer can gain access after electrical failure.¹³

This creates a blind spot. A vehicle may manage crash forces effectively yet still leave surviving occupants dependent on an electronic actuator, a powered exterior handle, an obscure mechanical key procedure, or a manual release available only in selected seating positions. Post-crash survival is not complete if access to the occupant or escape from the vehicle becomes unnecessarily difficult.

For child passengers, this distinction is especially important. A child may be properly restrained and protected from the initial impact, but unable to understand a hidden release, reach a front-seat mechanism, retrieve a mechanical key, or explain the vehicle's emergency procedure. The safety framework should examine not only whether occupants survive the crash pulse, but whether they remain reasonably rescuable afterward.

4.7. Reported Cadillac LYRIQ Lockout Illustrates the Real-World Problem

A March 2026 ABC7 report described a 2024 Cadillac LYRIQ that became electrically unresponsive after a 12-month-old child had been placed and restrained inside. According to the report, the key fobs, mobile application, and attempted OnStar remote unlock did not open the vehicle because of the battery condition. The child remained alone inside for approximately 27 minutes while the family tried to gain access.¹²

The family ultimately used the mechanical key hidden in the key fob to open the rear hatch and remove the child through the cargo area. A service receipt reviewed by the station stated that the vehicle's 12-volt battery was faulty and was replaced. General Motors stated that the vehicle provided physical key access through the door or rear hatch and that the procedure was described in owner materials.¹²

The incident is significant even though an emergency procedure technically existed and the child was ultimately removed without reported physical injury. A safety method can exist on paper yet still fail the practical test of discoverability, speed, and usability under stress. Parents should not need to search online, discover during the emergency how to extract a mechanical key from the fob, navigate through a cargo area, or depend on a connected service while a child is locked inside a disabled vehicle. Power-independent access should be obvious before the emergency occurs, not discovered during it.

The LYRIQ incident is not offered as proof that a propulsion-identification visual would have unlocked the vehicle or prevented the child's entrapment. It would not. The incident demonstrates a related engineering and human-factors principle: an emergency safeguard should not depend exclusively on the same low-voltage electrical system, software, or connected service that may be unavailable during the emergency. That principle directly informs the requested exterior identification. It should remain visually recognizable in daylight, defined low-light conditions, and defined power-loss conditions without relying exclusively on the vehicle's ordinary electrical system. NHTSA should define that performance outcome while allowing manufacturers flexibility in the active, passive, or combined means used to achieve it.

4.8. Seat-Position-Dependent Escape: The Current-Generation Dodge Charger

The Dodge Charger provides a timely example of why escape capability should not vary by seating position. Mopar maintains a model-specific owner-manual portal for the four-door 2027 Dodge Charger. In the currently downloadable manual for the 2026 two- and four-door Charger, normal

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interior door opening is performed by an electronic button. The manual states that if the electronic door button does not work, including when the 12-volt battery is low, the doors can still be opened from inside using a manual handle located on each front door.¹⁴

The manual does not identify a corresponding interior manual release for the rear doors. It separately explains that, when the rear child-protection system is engaged, the rear doors can be opened only from outside and warns against trapping anyone in a vehicle during a collision. Whatever the design rationale, the resulting safety question is direct: why should front occupants have an expressly described power-independent release while rear occupants, including children, depend on powered operation or outside intervention?¹⁴

NHTSA should verify the final 2027 configuration and evaluate the broader design principle through rulemaking. Escape should not depend on whether an occupant is seated in the front or rear. Where child-protection locks intentionally prevent a child from opening a door from inside, the design should still preserve a rapid, intuitive, power-independent means for an adult rescuer to open that door from outside. The safety system must account for the people most likely to occupy the rear seats, not treat their rescue pathway as secondary.

The Charger example likewise supports a power-independent egress standard, not a claim that propulsion identification alone resolves entrapment. Its relevance to this petition is that modern vehicle rescue increasingly depends on systems that may fail together. NHTSA should evaluate identification and egress as distinct safety functions governed by the same foundational rule: the vehicle must remain understandable and rescuable when its occupants cannot communicate and normal electrical power is unavailable.

5. Why Current Identification Methods Are Inadequate for Occupant Protection

5.1. Manufacturer Badging Is Not an Emergency Safety System

Current propulsion-related badges and model names vary by manufacturer, vehicle line, trim, model year, and design philosophy. Some are explicit; others are subtle, brand-specific, or omitted. Terms such as “e,” “i,” “EQ,” “hybrid,” “plug-in,” or other proprietary designations may be meaningful to consumers familiar with the brand but do not create a uniform responder-oriented language.

A parent should not have to assume that every responder, witness, caregiver, or tow operator recognizes every manufacturer's naming convention. A national safety problem is not adequately addressed by optional branding choices.

5.2. Damage and Emergency Conditions Can Defeat Existing Cues

The cues most commonly relied upon may be the first things lost in a crash. Badges can be small, detached, burned, covered by soot, obscured by debris, hidden by vehicle orientation, or located on a damaged panel. Darkness, rain, snow, fog, smoke, steam, roadway glare, and apparatus lighting can make subtle markings unreadable from a safe approach distance.

The relevant design question is not whether a badge can be read in a showroom. It is whether propulsion class can be recognized when the vehicle is damaged, visibility is poor, occupants require assistance, and responders are conducting initial size-up.

5.3. VIN, Rescue Sheets, and Applications Are Secondary Tools

VIN lookup, emergency response guides, rescue sheets, QR systems, telematics, proprietary applications, and autonomous-vehicle operator protocols can provide valuable detail. NHTSA's emergency-response information framework confirms that propulsion and powertrain information are safety-relevant. But those tools generally require the responder to identify the vehicle, obtain access to a number or document, use a functioning device, locate the correct record, identify the correct market and model year, contact an operator, or move close enough to inspect the vehicle.^{5,17}

Those are downstream steps. They do not fully solve the threshold question of what kind of vehicle responders are approaching. A standardized exterior identifier would serve as the bridge between first sight and detailed model-specific guidance.

5.4. NHTSA's Public Guide Repository Is Not a Complete First-Approach System

NHTSA maintains a public repository of manufacturer-submitted emergency response guides and rescue sheets for covered electric-powered vehicles. The repository is important, but it is not a real-time identification system. Its usefulness depends on the completeness, currency, market specificity, and categorization of the materials submitted and posted.⁵

The NHTSA-hosted July 2025 Audi guide illustrates the problem. It states that mild-hybrid vehicles using up to 48 volts do not differ externally from conventional Audi vehicles, while also stating that identifying electrified vehicles as soon as possible is crucial. Its classification table lists the A8 as a mild-hybrid example and separately lists an 'A8 hybrid'; another section identifies that A8 hybrid as a 2012-2017 full hybrid. Audi of America's U.S. A8 line during those years did not include that D4 full-hybrid model, and Audi later introduced a different A8 TFSI e plug-in hybrid in the United States. A broad global guide can therefore present model names and dates that do not map cleanly to the U.S. fleet confronting an American responder.¹⁵

The omission problem appears at the other end. The Petitioner's own W223 Mercedes-Benz S 580 is identified by Mercedes-Benz as using a 48-volt mild-hybrid system. As of August 2, 2026, the Petitioner could not locate a model-specific S 580 guide in NHTSA's public repository. The vehicle also carries no exterior marking identifying it as a hybrid or as containing a 48-volt system. To a responder at first approach, it presents as a conventional S-Class even though its powertrain architecture is electrified.¹⁶

These examples do not mean the repository is useless. They mean it is not consistently complete, current, market-matched, or precise enough to carry the burden of first-approach recognition. A responder should not have to resolve a database omission or model-history ambiguity while a child waits. The repository should remain a secondary source of detailed information; the vehicle itself should provide a standardized visual indication on its upper half.

5.5. Occupant Knowledge Is Unreliable by Design

The current environment implicitly assumes that someone at the scene may know what the vehicle is. That assumption fails in predictable circumstances: the registered owner is absent; the driver borrowed or rented the vehicle; the caregiver is unfamiliar with the trim; the occupants are injured; the first caller saw only smoke or a collision; or the only conscious occupant is a child.

This is not a training failure by parents or passengers. Most vehicle occupants are not expected to understand model-specific propulsion terminology. The communication burden belongs with the design of the vehicle and the national safety system, not with the injured person waiting for rescue.

5.6. The Recognition Gap Extends Beyond the Fireground

The consequences of initial classification can follow the vehicle after rescue. EMS, law enforcement, towing operators, investigators, storage personnel, repair facilities, and property owners may inherit a damaged vehicle and its residual hazards. NHTSA towing guidance and PHMSA advisories recognize that damaged high-voltage batteries may remain energized and may present delayed fire, vent-gas, transportation, or storage concerns.⁸

Earlier, standardized recognition would improve the continuity of hazard information as responsibility passes from the first responder to downstream personnel. That continuity protects not only professionals but also families, bystanders, neighboring property, and the public.

6. Record Evidence Supporting Rulemaking

This petition does not depend on a finding that electrified vehicles are more likely than conventional vehicles to crash or burn. It depends on the narrower, documented proposition that propulsion-specific information can affect emergency operations and that the vehicle fleet is becoming more diverse.

NTSB's 2020 safety report examined electric-vehicle fires and identified electric-shock risk, thermal runaway, stranded energy, and reignition as risks to emergency responders. NHTSA interim guidance instructs responders to determine whether a vehicle is electric or hybrid-electric, assume damaged high-voltage systems may remain energized, and account for toxic or flammable gas release and immediate or delayed fire. USFA and NHTSA have issued dedicated electric-vehicle fire and rescue guidance, confirming that propulsion type is operationally relevant.²

NHTSA also maintains manufacturer-submitted emergency response guides and rescue sheets, and its FMVSS No. 305a framework addresses electric-powertrain integrity and standardized emergency information. Those measures are important, but they remain document-based and do not by themselves create a uniform first-approach visual indication. The Audi and Mercedes-Benz examples described above further show that a repository may contain global or historical classifications while omitting a current U.S. mild-hybrid model, making it unsuitable as the sole first-arrival identification method.^{5,15,16}

The Washington State Patrol's 2025 Electric Vehicle Fires Study reported low self-rated preparedness among affected responder groups and found that many towing companies surveyed lacked a system to identify electric vehicles involved in accidents. The study recommended a universal marker or identifying sticker for EVs or hybrids involved in collisions. That recommendation directly supports the practicality of a nationally uniform recognition method.⁶

Federal energy and vehicle-availability data also reflect continued growth and diversification in battery-electric, plug-in hybrid, and hybrid offerings. As the number of configurations and manufacturer-specific naming systems increases, reliance on individual model familiarity becomes less workable.⁷

International and industry standards further show that propulsion-energy identification is a recognized safety subject. ISO 17840-4 addresses propulsion-energy identification for first and second responders, and SAE J3108/1 addresses standardized coding for alternative-fuel vehicles. These materials do not dictate the exact U.S. rule requested here, but they demonstrate that standardized propulsion identification is technically and institutionally plausible.⁹

Automated-vehicle response materials reinforce the same principle. Waymo publishes dedicated first-responder guides and law-enforcement interaction protocols for its driverless vehicles, while NHTSA's July 2026 call to action documented instances in which driverless automated vehicles interfered with active emergency operations. Operator-specific guides and remote support can be valuable, but a vehicle with no human driver presents an even stronger need for immediate, standardized visual communication at the scene.¹⁷

7. Proposed Performance-Based Standards

7.1. Covered Vehicles and Propulsion Classes

The initial rule should apply prospectively to new covered motor vehicles manufactured for sale in the United States after an appropriate compliance date, including vehicles equipped with automated driving systems and purpose-built driverless fleet vehicles. A first-generation standard should address at least:

- internal-combustion engine vehicles;
- hybrid, mild-hybrid, and plug-in hybrid vehicles; and
- battery-electric vehicles.

NHTSA may determine during rulemaking whether hydrogen fuel-cell vehicles, gaseous-fueled vehicles, or other emerging architectures should be included initially or addressed later. The key is that the classification system remain administratively stable and understandable. Automated-driving capability does not change the propulsion classification and should not create an exemption from the identification requirement.

7.2. Exterior Visibility and Recognition

The identification should be a standardized visual indication located on the upper half of the vehicle, perceivable from outside, and recognizable from a specified approach distance before responders must enter the immediate hazard area or rely on close inspection. The agency should evaluate performance under daylight and defined low-light conditions and may use objective criteria involving contrast, reflectivity, shape, pattern, material, passive visibility, active enhancement, or another technology-neutral measure.

The core visual indication should remain recognizable after loss of the vehicle's normal low-voltage power and should not depend on connectivity, software, a mobile application, telematics, or a remote operations center. NHTSA should define the required safety outcome rather than prescribe a particular technology. Manufacturers should remain free to comply through passive means, active means with independent backup, redundant active and passive elements, or another objectively testable design.

7.3. Placement and Approach Angles

The standard should require the visual indication to appear on the upper half of the vehicle within fixed locations or limited allowable zones, with sufficient placement to support recognition from common front, rear, and quartering approaches. Responders should not have to search across manufacturer-specific locations. Upper-half placement would reduce the likelihood that the indication is hidden by traffic barriers, standing water, roadway debris, snow, curb lines, or damage concentrated on the lower body, while still allowing NHTSA to define practical approved zones for different vehicle shapes.

7.4. Durability and Initial Survivability

The required identification should withstand ordinary weathering, washing, abrasion, and service-life exposure. It should also remain recognizable during the initial response after defined minor crash damage, soot, water application, or partial surface obstruction. The standard need not demand survival in every catastrophic event, but it should not predictably disappear under the conditions that make identification most important.

7.5. Uniform Meaning and Technology-Neutral Compliance

The meaning of the identifier should be fixed nationally and should not vary by manufacturer, trim, brand language, model number, autonomous-vehicle operator, or fleet. The core visual indication should not depend on active connectivity, database access, QR scanning, a proprietary application, a remote support center, or the functioning of the vehicle's electrical system. Those tools may supplement the identifier but should not substitute for immediate visual recognition.

The petition does not ask NHTSA to select a final symbol, color, contrast scheme, material, active or passive implementation, or physical format at this stage. It does ask that the required visual indication occupy standardized or limited allowable zones on the upper half of the vehicle and remain recognizable under objective approach, visibility, durability, and power-loss conditions. The remaining design questions should be developed through notice-and-comment rulemaking, human-factors analysis, testing, manufacturer input, responder input, disability-access considerations, and practicability assessment.

7.6. Objective Criteria and Implementation

The final rule can be stated through measurable criteria for presence, classification meaning, upper-half placement, approach distance, daylight and low-light recognizability, approach angles, durability, continued usability after defined minor damage or obscuration, and equal application to human-driven and automated vehicles. FMVSS No. 141 provides a useful regulatory analogy because it establishes an externally perceptible performance requirement to address a safety-recognition problem associated with hybrid and electric vehicles.¹⁰

A reasonable phase-in could begin no earlier than the second model year after publication of a final rule or another lead time developed through notice and comment. Prospective application would avoid immediate retrofit costs while allowing the national fleet to become progressively more self-explanatory.

7.7. Power-Independent Egress and Rescuer-Access Criteria

A minimum egress standard should require at least one practical power-independent escape pathway serving every designated seating row and a practical external access pathway for rescuers. The pathway should remain available after loss of the normal 12-volt system and should not depend on active connectivity, software, a mobile application, a paid subscription, or prior knowledge of a hidden procedure.

The agency should evaluate objective criteria for manual-release location, marking, reach, operating force, discoverability, usability in darkness, and continued function after defined crash deformation. A manual release that exists but is concealed, requires removal of trim, or is available only to front-seat occupants should not be treated as equivalent to a readily usable emergency exit.

Child-protection locks require special treatment rather than an exemption from rescuability. A child lock may appropriately prevent a young occupant from opening a rear door from inside during

normal travel, but it should not eliminate a power-independent external rescue path. The final standard should reconcile child containment during travel with rapid adult access during electrical failure or post-crash rescue.

8. Expected Safety Benefits and Cost Considerations

8.1. Occupant and Child-Passenger Benefits

The principal benefit is earlier and more reliable classification of a safety-relevant vehicle characteristic. That information can support safer approach decisions, more informed extrication planning, better alignment of protective posture and suppression tactics, and more coherent transfer of hazard information to EMS, towing, storage, and other downstream personnel.

For children and vulnerable occupants, the rule would provide a form of passive protection. It would function without requiring the child to understand the vehicle, without requiring the parent to remain conscious, and without requiring a caregiver to know manufacturer terminology. The vehicle would communicate on behalf of occupants who cannot speak for themselves.

A power-independent egress requirement would provide a second form of passive protection. It would preserve a physical rescue pathway when electronic systems, powered handles, remote services, or software are unavailable. The benefit is not convenience. It is reducing the risk that an occupant who survives the initial event remains trapped solely because the vehicle lost low-voltage power or because the only manual release is located in another seating row.

The proposal would also improve consistency across jurisdictions. Responders could learn one national system of meaning rather than a growing collection of brand-specific badges and trim names. Consistency is itself a safety benefit because it reduces cognitive burden during high-pressure, low-information events.

8.2. Practicability and Cost

The requested rule should impose modest incremental costs compared with typical vehicle design and compliance requirements. Manufacturers already design and install exterior markings, labels, reflectors, trim elements, and vehicle-identification features. The missing element is a uniform safety purpose and objective performance standard, not a new manufacturing capability.

The petition seeks a prospective requirement and does not request immediate retrofit of the existing fleet. Manufacturers would retain flexibility to integrate compliant identification into normal design cycles. NHTSA could consider multiple compliance pathways so long as each produces the same nationally intelligible safety result.

The expected benefit should not be overstated. The identifier would not prevent crashes, extinguish fires, or replace trained responders. It would improve the speed, accuracy, and consistency with which responders identify propulsion class during the part of the emergency when occupants may be unable to provide that information.

9. Conclusion

Parents are expected to make countless decisions intended to protect children in vehicles: selecting appropriate restraints, ensuring proper installation, choosing responsible drivers, maintaining the vehicle, and teaching safe behavior. But no parent can guarantee that he or she will remain present, conscious, and able to communicate after a serious crash. At that point, the vehicle safety system must continue to function without the parent's assistance.

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The national vehicle fleet is becoming less self-explanatory as outwardly similar vehicles incorporate different propulsion and energy-storage systems, mild hybrids carry no exterior indication, and fully autonomous vehicles may arrive at an emergency scene without any human driver to explain them. Federal, state, international, and industry materials recognize that propulsion information can affect emergency response. Current identification methods remain inconsistent, manufacturer-dependent, damage-prone, vulnerable to incomplete or market-mismatched database information, and too reliant on close inspection or secondary documents.

Standardized exterior propulsion-type identification and power-independent occupant egress are narrow, practical responses to related rescue problems. Neither would characterize one technology as inherently unsafe or prescribe a proprietary product. One would require the vehicle to communicate a responder-relevant fact through a uniform visual indication on its upper half. The other would require the vehicle to preserve a practical physical path to the people inside when normal electrical systems are unavailable.

The reported lockout and seat-dependent release examples are not offered as evidence that propulsion identification, standing alone, would prevent entrapment. They show why emergency functions must be designed around failure: the visual indication must remain recognizable when normal power is lost, and the vehicle must retain a practical path in and out when electronic systems do not respond. The guide-repository and autonomous-vehicle examples show why the first-arrival information cannot depend entirely on a database, a remote operator, or a driver who may not exist.

When an occupant cannot speak, and especially when no human driver is present, the vehicle should communicate what rescuers are approaching. When electrical power fails, it should preserve a practical path out and in. For children and vulnerable occupants, neither is a convenience. Escape must not depend on seat location. The Petitioner therefore requests rulemaking for a nationally consistent visual propulsion indication on the upper half of covered vehicles and for power-independent occupant egress and rescuer access.

Appendix A - Declaration of Joseph A. Bercovic

I, Joseph A. Bercovic, submit this declaration strictly in my individual capacity. I do not submit it on behalf of any employer, military component, governmental agency, client, or affiliated organization. The experiences, concerns, and recommendations expressed here are my own.

I am the father of six children. Over the years, I have buckled infants into rear-facing seats, checked harnesses twice, trusted relatives and caregivers to carry my children safely, and watched older children begin to travel with greater independence. Parents are told, correctly, that safety begins with us. We select the right restraint, install it properly, maintain the vehicle, choose responsible drivers, and teach safe behavior. But there is a point beyond which parental preparation cannot reach. I cannot promise that I will remain conscious after a collision. I cannot promise that I will be standing beside the vehicle when an electrical system fails. I cannot promise that a frightened or injured child will know how to identify the vehicle, explain its propulsion system, or find a hidden emergency release.

That moment is the reason I filed this petition. A young child does not know whether the family vehicle is powered by an internal-combustion engine, a mild-hybrid system, a plug-in hybrid system, or a high-voltage battery. To a child, it is simply the car. A passenger in a driverless ride-hail vehicle may know even less, because there may be no human driver and no relationship at all between the passenger and the vehicle. If the adult who knows the family vehicle is unconscious, injured, absent, or separated from it, the vehicle must communicate the responder-relevant facts that the child cannot. A child should not bear the consequences of an identification problem the child cannot understand, communicate, or control.

I also bring more than two decades of experience in emergency management, hazardous-materials operations, consequence management, interagency coordination, and high-risk response planning. That experience has taught me that the first moments of an emergency are rarely orderly. Responders work with incomplete information while conditions change around them. Darkness, smoke, weather, traffic, damaged vehicles, injured occupants, and conflicting priorities all compete for attention. Critical safety information is most valuable when it is immediate, standardized, and available without requiring someone to move closer to the hazard or search through a database. I do not offer this background as a substitute for fire-service command authority. I offer it because it has shown me how avoidable uncertainty can consume time and increase risk.

Different propulsion systems can create different responder-relevant hazards and may affect approach, suppression, extrication, isolation, towing, storage, and post-incident handling. I do not claim that battery-electric vehicles are categorically more dangerous than conventional vehicles, or that every incident will unfold the same way. My point is narrower: when propulsion class can affect the assumptions rescuers make, the vehicle should identify that class externally, uniformly, from a safe approach distance, and through a standardized visual indication on its upper half. The vehicle should speak when its occupants cannot.

I do not have to imagine the identification gap entirely. I own a Mercedes-Benz S 580 from the W223 generation. Mercedes-Benz identifies that vehicle as using a 48-volt mild-hybrid system. Yet there is no exterior badge, marking, or other visual indication telling a responder that the car is a hybrid or that it contains a 48-volt electrical architecture. As of August 2, 2026, I also could not locate a model-specific S 580 guide in NHTSA's public emergency-response repository. Standing beside the vehicle, an ordinary observer would see an S-Class sedan and nothing more. The relevant

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technical fact exists in manufacturer literature, but not where a responder needs it during first approach.¹⁶

That led me to examine NHTSA's public guide repository more closely. The Audi guide hosted there says that 48-volt mild hybrids do not differ externally from conventional Audi vehicles and that identifying electrified vehicles as soon as possible is crucial. The same guide lists the A8 as a mild-hybrid example and also lists an A8 hybrid from 2012 through 2017, even though that full-hybrid version was not part of Audi of America's U.S. A8 line for those years and a different A8 plug-in hybrid arrived later. I do not offer that example to dismiss the repository. I offer it because a secondary library can be valuable and still be incomplete, market-mismatched, or out of date for the vehicle directly in front of a responder. A child should not have to wait while someone resolves that ambiguity.¹⁵

The same concern becomes sharper with autonomous vehicles such as Waymo's driverless ride-hail fleet. In that vehicle there may be no driver to question, no owner at the scene, and no person inside who knows how the propulsion system, autonomous controls, or emergency procedures are configured. Waymo publishes dedicated first-responder materials, and NHTSA has publicly warned that driverless automated vehicles have entered emergency scenes, blocked responders, or failed to recognize basic emergency conditions. I support autonomous technology and its potential safety benefits, but a vehicle without a driver must be more understandable to rescuers, not less. Operator-specific documents and a remote assistance number are not substitutes for an immediate, standardized visual indication on the vehicle itself.¹⁷

I was deeply affected by the March 2026 report involving a 12-month-old child locked inside a 2024 Cadillac LYRIQ after a reported 12-volt battery failure left the vehicle electrically unresponsive. The family reportedly tried the key fobs, the mobile application, and OnStar. The child remained alone inside for approximately 27 minutes before the family obtained the hidden mechanical key and removed the child through the rear hatch. The family said they were grateful that the weather was cool and rainy rather than extreme heat. As a parent, it is difficult to read that account without imagining the helplessness of standing inches from a child and being unable to reach her. The child had done nothing wrong. She was exactly where the adults responsible for her had placed her, restrained inside a vehicle they trusted.

That incident does not prove that a propulsion-identification visual would have unlocked the LYRIQ or prevented the entrapment. It would not. What it demonstrates is a principle that should guide emergency vehicle design: a safeguard is not truly resilient when it depends exclusively on the same low-voltage electrical system, software, or connected service that may be unavailable during the emergency. The requested propulsion identifier should therefore be a standardized visual indication on the upper half of the vehicle that remains recognizable in daylight, defined low-light conditions, and defined power-loss conditions through an objectively testable design. NHTSA should define the outcome and allow manufacturers flexibility in how they meet it.

I was equally troubled by the current-generation Dodge Charger owner's materials. The official handbook describes normal interior door opening through electronic buttons and expressly identifies manual handles on each front door when the electronic system does not work, including when the 12-volt battery is low. The same material does not identify a corresponding interior manual release for rear-door occupants. Mopar also maintains an online owner-manual portal for the 2027 four-door Charger, and I ask NHTSA to verify the final 2027 configuration. The underlying question should not depend on a model year: why should a person seated in front have an expressly described power-independent way out while a person in the rear may depend on powered operation or outside

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intervention? Rear seats are where children are placed precisely because we are trying to protect them. Their rescue pathway should not be treated as secondary. Escape should not depend on which seat a person occupies. Escape is not an optional feature.

I have also reviewed NHTSA's public 5-Star Safety Ratings framework. Those ratings evaluate frontal, side, and rollover protection, and FMVSS No. 206 principally addresses door retention to reduce occupant ejection. Those are essential safety functions. But as a parent, a five-star rating naturally sounds like a broad judgment that the vehicle will protect my family. The rating does not separately tell me whether every seating row retains a power-independent escape path, whether a door can be opened after low-voltage failure, or whether a rescuer can gain access after the crash. A vehicle can protect a child during the impact and still create a serious rescue problem afterward. Real-world safety includes surviving the collision and remaining reasonably rescuable after it.

The LYRIQ lockout and the Charger door-release design are not offered as proof that propulsion identification alone resolves occupant entrapment. They support a separate power-independent egress and rescuer-access standard. The NHTSA guide-repository and autonomous-vehicle examples support the identification request by showing why responders cannot be expected to depend on a perfectly current database, a knowledgeable driver, a reachable remote operator, or a communicative occupant. Identification and egress are distinct functions, but both should be designed around foreseeable failure rather than ideal operation.

I can accept that no vehicle design can eliminate every hazard or guarantee every rescue. I cannot accept avoidable silence from the vehicle at the exact moment my child may be unable to speak, or when there may be no driver at all. When I cannot identify the vehicle for responders, the vehicle should identify itself. When normal electrical power fails, the vehicle should preserve a practical path out and a practical path in. These are not luxury features or matters of convenience. They are the last layer of protection after the parent has done everything within the parent's control.

For these reasons, I support prospective, objective, performance-based, and technology-neutral requirements for standardized exterior propulsion-type identification and for power-independent occupant egress and rescuer access serving every designated seating row. I ask NHTSA to define the safety outcomes and allow manufacturers flexibility in how they meet them, provided the propulsion indication appears in standardized or limited allowable zones on the upper half of the vehicle, remains visually recognizable under defined emergency conditions, applies equally to human-driven and driverless vehicles, and the rescue pathway remains practical, discoverable, and usable when it is needed most.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on the 3rd Day of August 2026



Joseph A. Bercovic

Appendix B - Notes and Authorities

1. 49 U.S.C. § 30111(a) (authorizing the Secretary of Transportation to prescribe motor vehicle safety standards that are practicable, meet the need for motor vehicle safety, and are stated in objective terms).
2. National Transportation Safety Board, Safety Risks to Emergency Responders from Lithium-Ion Battery Fires in Electric Vehicles, Safety Report NTSB/SR-20/01 (2020).
3. National Highway Traffic Safety Administration, Interim Guidance for Electric and Hybrid-Electric Vehicles Equipped With High-Voltage Batteries (Law Enforcement / Emergency Medical Services / Fire Department), DOT HS 811 575 (Mar. 2014).
4. U.S. Fire Administration & National Highway Traffic Safety Administration, Electric Vehicle Fire/Rescue Response Operations (2025).
5. National Highway Traffic Safety Administration, Emergency Response Guides, <https://www.nhtsa.gov/emergency-response-guides>; Federal Motor Vehicle Safety Standards; FMVSS No. 305a, Electric-Powered Vehicles: Electric Powertrain Integrity, 89 Fed. Reg. 26818 (Apr. 15, 2024).
6. Washington State Patrol, Electric Vehicle Fires Study, SSB 5812 (2025), including survey findings concerning preparedness, towing-industry identification practices, and a recommendation for a universal marker or identifying sticker for EVs or hybrids involved in collisions.
7. U.S. Department of Energy, Strategy for Achieving a Beneficial Vehicle Grid Integration (VGI) Future (Jan. 2025); U.S. Department of Energy and U.S. Environmental Protection Agency, Fuel Economy Data / Vehicle Technologies Office model-availability data for light-duty electric and hybrid-electric offerings.
8. National Highway Traffic Safety Administration, Interim Guidance for Electric and Hybrid-Electric Vehicles Equipped With High-Voltage Batteries (Towing and Recovery Operators and Vehicle Storage Facilities), DOT HS 811 576 (Mar. 2014); Pipeline and Hazardous Materials Safety Administration, Safety Advisory Notice: Transportation of Electric Vehicles Containing Lithium Batteries Damaged by Extreme Weather Events (Apr. 7, 2023).
9. International Organization for Standardization, ISO 17840-4:2018, Road vehicles - Information for first and second responders - Part 4: Propulsion energy identification; SAE International, SAE J3108/1_202412, Standard Coding as an Identification Method for Alternative Fuel Vehicles (Dec. 12, 2024).
10. 49 C.F.R. § 571.141 (FMVSS No. 141, Minimum Sound Requirements for Hybrid and Electric Vehicles), an example of an externally perceptible performance standard addressing a vehicle-recognition safety problem.
11. Goodall, Noah J., Emergency Management Strategies for Electric Vehicles, Virginia Transportation Research Council Report No. 26-R30 / FHWA/VTRC 26-R30 (2026).
12. Stephanie Sierra, Baby Locked in Bay Area Family's Cadillac EV After Sudden 'Faulty Battery' Shuts Car Down, ABC7 San Francisco (Mar. 11, 2026), <https://abc7news.com/post/baby-locked-antioch-family-general-motors-cadillac-electric-vehicle-sudden-faulty-battery-shuts-car-down/18700840/>; Cadillac, 2024 LYRIQ Owner's Manual (describing physical-key access through the liftgate and interior door-handle operation).
13. National Highway Traffic Safety Administration, Car Safety Ratings / 5-Star Safety Ratings (describing frontal, side, and rollover evaluations); 49 C.F.R. § 571.206, FMVSS No. 206, Door Locks and Door Retention Components (stating that the standard is intended to minimize occupant ejection); NHTSA, Laboratory Test Procedure TP-206-08.
14. FCA US LLC, 2026 Dodge Charger 2D/4D Owner Handbook, pp. 13 and 39-40 (Interior Door Opening; Manual Door Opening; Manual Door Latching/Unlatching), https://vehicleinfo.mopar.com/assets/publications/en-us-ca/2026/Dodge/Charger_2D4D/104023_26_LB_OH_EN_USC_DIGITAL_E2_V2.pdf; Mopar, 2027 Dodge Charger 4 Door Owner's Manual online portal, accessed Aug. 2, 2026. The 2026 handbook expressly identifies manual handles on each front door when the electronic door button does not work; NHTSA should verify the final 2027 four-door configuration and rear-seat emergency-release provisions.
15. National Highway Traffic Safety Administration, Emergency Response Guides, <https://www.nhtsa.gov/emergency-response-guides> (manufacturer-submitted guide and rescue-sheet repository), accessed Aug. 2, 2026; Volkswagen Group of America, Guideline for Rescue and Recovery Personnel (Audi), Version 07/2025, pp. 18, 34 (stating that 12- to 48-volt mild-hybrid vehicles do not differ externally from conventional Audi vehicles, listing the A8 among mild-hybrid examples, and identifying an A8 hybrid for 2012-2017); Audi of America, 2013 Audi A8/S8/W12 Media Information Kit, rev. July 2012; Audi of America, Plug-in Trifecta: 2021 Audi Q5, A7 and A8 TFSI e Models, Oct. 12, 2020, <https://media.audiusa.com/releases/443>.
16. Mercedes-Benz USA, 2022 S-Class Sedan Quick Reference Guide, Aug. 5, 2021 (identifying the S 580 4MATIC Sedan as equipped with a 4.0L V8 and 48-Volt Mild Hybrid system), <https://media.mbusa.com/releases/release-7122b266eca9fbce132ea26634041549-2022-mercedes-benz-s-class-sedan-quick-reference-guide>; NHTSA Emergency Response Guides public-repository search for Mercedes-Benz S 580, accessed Aug. 2, 2026 (no model-specific result located by the Petitioner); Petitioner's personal observation of the exterior of his W223 S 580.

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17. National Highway Traffic Safety Administration, Trump's Transportation Department to AV Developers: 'An Automated Vehicle That Cannot Safely Interact With First Responders is a Danger to the General Public,' July 8, 2026, <https://www.nhtsa.gov/press-releases/av-developers-automated-vehicle-that-cannot-safely-interact-first-responders-danger>; Waymo, First Responders, including the Jaguar I-PACE and Ojai/Zeekr emergency response guides and law-enforcement interaction protocols, <https://waymo.com/firstresponders/>, accessed Aug. 2, 2026.

Additional Standards and Guidance Retained from the Supporting Record

- 49 C.F.R. § 571.305 and § 571.305a.
- Agency for Toxic Substances and Disease Registry, Medical Management Guidelines for Hydrogen Fluoride (HF).
- U.S. Department of Energy, Alternative Fuels Data Center, Electric Vehicle Safety Training Resources for First and Second Responders.
- International Organization for Standardization, ISO 17840-1:2022, Road vehicles - Information for first and second responders - Part 1: Rescue sheet for passenger cars and light commercial vehicles.
- International Organization for Standardization, ISO 17840-3:2019, Road vehicles - Information for first and second responders - Part 3: Emergency response guide template.
- National Fire Protection Association, Electric and Hybrid Vehicle Quick Reference: Fire Service Edition (2014).
- SAE International, J2990, Hybrid and EV First and Second Responder Recommended Practice.