

General Vehicle Requirements

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These requirements apply to every vehicle entered in Bavarian Endurance Battle, regardless of category. Category-specific requirements also apply. Additional sections and regulations may be added. Teams must review the latest published requirements before participation.

Detailed roll cage requirements are being prepared and will be published separately. This release provides a foundation for build planning; it is not the complete rulebook.

01 / Roll Cage

A welded roll cage is mandatory. Bolt-in cages are prohibited.

A separate rulebook section is dedicated to detailed roll cage requirements and will be published soon. This general vehicle section is only a summary and does not contain the complete cage requirements. Cage design, materials, construction, mounting, and seat-back support must comply with that separate section. All cages must pass BEB technical inspection before participation.

02 / Racing Seat

A purpose-built racing seat of solid construction is mandatory. Production passenger-car seats and tube-and-cloth seats are prohibited. The seat must be in good condition, within its applicable validity period, and installed according to the manufacturer's instructions.

Purpose-built racing sliders or rails are permitted only with a double-latching mechanism that locks both rails. The seat, sliders, brackets, and all attachment points must be secure, with no looseness or play.

Rear seat-back support requirements, including adjustable supports for seats on sliders, will be addressed in the roll cage section.

03 / Safety Harness

A five- or six-point racing harness with the corresponding anti-submarine strap or straps is mandatory. Stock seat belts and four-point harnesses are prohibited.

- Harnesses must be in excellent condition, without fraying, cuts, damaged hardware, or deterioration.
- Legible approval labels meeting SFI 16.1 or 16.5, or FIA 8853/98 or 8853-2016, are required. Harnesses must remain within their labeled validity period. FIA harnesses expire after December 31 of the indicated year. Harnesses with only a manufacture date are accepted for two years from that date.
- Two separate shoulder straps with independent mounting points are required. Y-type harnesses are prohibited. Lap belts must be two or three inches wide. Shoulder belts must be compatible with the driver's head-and-neck restraint.
- All belts must release through a single metal quick-release buckle. Installation, routing, threading, and adjustment must follow the harness and head-and-neck restraint manufacturers' instructions. Harness-bar positioning and belt angles will be addressed in the roll cage section.
- Snap-end hooks must have a cotter pin through each hook's locking hole to prevent accidental opening or disengagement, installed according to the manufacturer's instructions.

- After a high-impact crash, remove the harness from service. Replace it or return it to the manufacturer for inspection and any permitted recertification before reuse.

Mounting hardware and reinforcement

- Bolted hardware must be SAE Grade 8 minimum or metric property class 8.8 minimum and comply with manufacturer requirements.
- Eye bolts must be purpose-built racing harness eye bolts made from forged SAE 1050 steel and approved by the harness manufacturer for the application.
- Sheet-metal mounting requires a backing plate or load-spreading washer on the opposite side of the panel (nut side). Plates must be mild steel at least 3/16 inch thick, with a minimum area of nine square inches (3 × 3 inches). Shapes may be adapted to fit the surface while maintaining this area. Washers must be at least three inches in outside diameter and 1/8 inch thick.
- Holes in the panel, plate, and washer must closely fit the bolt's nominal thread diameter, allowing only installation clearance. Oversized holes that could permit retaining hardware to pull through are prohibited.
- Eye bolts and other harness hardware must not be welded directly to original vehicle sheet metal. Welded mounting plates require a continuous 360-degree perimeter weld.
- Plates with captive nuts on the side opposite the harness attachment may be welded to structural panels. Nuts must meet the applicable hardware requirement; welding must be permitted by the hardware manufacturer.
- Eye bolts may be welded to plates only when their manufacturer expressly permits welding and specifies the procedure. Where permitted, the eye bolt requires a 360-degree weld to the plate, and the plate requires a full perimeter weld to the mounting surface.

04 / Arm Restraints

SFI 3.3 arm restraints are mandatory in convertibles and open-roof vehicles, including open T-tops and Targa tops. They must be worn on both arms and installed and adjusted according to the manufacturer's instructions to limit arms from extending outside the protected cockpit while allowing essential controls to be operated.

Arm restraints do not replace the mandatory cover for a sunroof opening. Glass roof panels are prohibited under Section 19.

05 / Master Electrical Kill Switch

A racing-type master electrical kill switch is mandatory. The driver must be able to operate it while fully belted and wearing full race equipment. An emergency responder outside the vehicle must also be able to operate it easily. A clearly marked external remote actuator is permitted.

- The control must be red and the OFF position clearly identified. Place the blue-triangle lightning-bolt sticker immediately beside the external switch or actuator. The sticker must be at least three inches across.
- The switch must stop the engine and isolate the battery, charging, ignition, and other vehicle electrical circuits. Exceptions are limited to the fire-suppression system, radio, and necessary life-support or medical devices; these circuits must be separately protected.
- Locate controls to reduce accidental operation and impact damage. Insulate exposed electrical terminals and connections.

- At inspection, the switch will be operated with the engine running at approximately 3,000 RPM. The engine must stop and the required circuits must disconnect.



Required external master-switch location marker. Illustration is not actual sticker size.

06 / Lighting and Traffic Identification

Working headlights, red rear running lights, and red brake lights are mandatory. Securely mounted replacement headlights are permitted. A separate rear-facing traffic-identification light is also mandatory.

Category designation	Headlights	Rear identification
Slower traffic	Yellow	Yellow / amber
Faster traffic	White	White

For yellow-designated categories, securely applied yellow headlight tint film is permitted and recommended. Purpose-built yellow headlights are also permitted. Film must not excessively reduce output.

Rear identification lights may be LED or halogen. A securely mounted three-inch yellow/amber pod light is acceptable for yellow-designated categories; an equivalent white light is acceptable for white-designated categories. The light must be clearly visible from behind and aimed to avoid dazzling drivers. It must not obscure or replace red running or brake lights.

Headlights, running lights, and identification lights must remain on throughout the race. Brake lights must operate when braking. Category assignments and any additional lighting specifications will be published separately.

07 / Chassis

Tube-chassis vehicles are prohibited. A required cage installed in a production vehicle does not constitute a tube chassis. Any future event permitting tube-chassis vehicles will expressly state that allowance in its event rules.

08 / Fluid Leaks

Absolutely no fluid leaks are permitted outside the vehicle or inside the cabin, including engine, transmission, differential, cooling, fuel, brake, and clutch fluids.

On BMW models with a pedal-mounted clutch master cylinder inside the cabin, the cylinder and connections must be completely leak-free. Fluid on shoes, pedals, or floors creates a slip hazard, compromises pedal control, and presents a potential fire hazard.

A leaking vehicle will not be permitted on track until repaired and approved by BEB technical inspection.

09 / Cooling-System Fluid

Distilled water is the only permitted cooling-system fluid, including liquid cooling circuits for forced-induction systems. Antifreeze, coolant mixtures, tap water, and all additives are prohibited.

10 / Fluid Lines and Cabin Protection

Fuel, coolant, brake, and other fluid lines must not run through the driver compartment except where expressly permitted.

Where category rules permit rear radiators or liquid-cooled forced-induction equipment, cabin cooling lines must use aluminum, steel, or stainless-steel tubing, or AN-style braided hose rated for the fluid, temperature, and pressure. Lines must be secured, protected from abrasion, and fully enclosed in an aluminum or steel tunnel separating lines and fittings from the driver. Braided hose alone is insufficient.

Pending clarification: Acceptance of the factory pedal-mounted clutch master cylinder and its necessary connection will be clarified before final release. Any such components must be entirely leak-free.

11 / Battery Mounting and Protection

Batteries must be secured to the chassis with a metal mounting structure and metal hold-down hardware. Zip ties, tape, flexible straps, and improvised restraints are prohibited. Both terminals must have insulating covers.

A battery in the driver compartment must also be enclosed in a securely mounted battery box. The box does not replace the metal hold-down.

12 / Exhaust System

Exhausts must be complete, leak-free, and supported by proper metal hangers and mounting hardware. Zip ties, tape, belts, and improvised supports are prohibited.

Outlets must be behind a transverse vertical plane through the driver's head in the normal driving position. Side exits are permitted behind that plane and ahead of the rear tire. Underbody outlets must terminate behind the rear tire or extend to the rear bumper. Gases must not discharge into the cabin.

Broken, loose, or leaking exhausts must be repaired and approved before track participation.

Proposed noise limit: 92 dB measured 55 feet from the exhaust outlet, subject to stricter venue limits. The measurement procedure remains pending and will be published separately.

Stock category: The complete stock exhaust system must remain, securely mounted and free from leaks.

13 / Windows and Windshield

Driver and front-passenger windows must remain fully lowered throughout the race. Windows and mechanisms may be removed, including where door bars extend into the door cavity.

A sturdy, driver-protecting windshield is mandatory. Glass must be OE-type laminated safety glass. Genuine polycarbonate (Lexan) is permitted. Acrylic (Plexiglas) and other non-polycarbonate plastics are prohibited. Non-OE windshields must be sufficiently thick, securely mounted, and suitably braced to resist heavy-object impacts at racing speed.

Stock category: Only OEM glass is permitted for the front windshield and rear window; polycarbonate replacements are prohibited.

14 / Rearward Visibility

Three clear, securely mounted mirrors are mandatory: one exterior mirror on each side and one interior mirror. Cracks, fading, darkening, or other visibility obstructions are unacceptable. Mirrors must allow identification of approaching traffic. Wide-angle or panoramic racing mirrors are permitted and encouraged.

15 / Tow Points

Accessible, purpose-built towing points are mandatory at both front and rear. Proper tow hooks, straps, or equivalent recovery points are permitted and must support vehicle recovery.

Mark each point with a red arrow bearing white TOW lettering. If suitable points are unavailable, recovery personnel may use another accessible attachment point, which may damage the vehicle.

16 / Air Jacks

Air jacks are prohibited. Existing air jacks must be disabled before participation.

17 / Fuel and Fuel Cells

17.1 / Permitted fuel: Only commercially available pump gasoline rated 91 AKI or lower is permitted. Race fuel, alternative fuels, octane boosters, and separately added additives are prohibited. Forced-induction vehicles must be tuned for the permitted fuel.

17.2 / Fuel cells: Every installed fuel cell must comply, even where its category does not require one.

- A solid, securely welded or bolted bulkhead must separate the cell, pump, filler neck and hoses, and vent lines from the driver compartment. Construction and attachment must maintain separation during a crash.
- The bladder must be certified to FIA FT3-1999, FT3.5-1999, or FT5-1999 and fully enclosed in a protective container meeting the thicknesses below.
- Install internal foam baffling according to manufacturer instructions and applicable certification requirements.
- Filler caps, hoses, vents, and fittings must prevent fuel escape when partially or completely inverted. A small drain hole is permitted in the outer container, never in the bladder.
- Install, maintain, and replace components according to manufacturer instructions. Bladders older than five years are prohibited.
- Record the manufacture date and serial number in the vehicle’s technical records or logbook. Proof of age is required at inspection. Retain the manufacturer’s certificate and purchase receipt.

Container material	Minimum thickness
Steel	0.036 inch
Aluminum	0.059 inch
Marlex / specified HDPE or polypropylene	0.125 inch
Carbon fiber	0.079 inch

17.3 / External containers: One additional external fuel-holding container, such as a surge tank, swirl pot, or vent can, is permitted, limited to 1.5 liters (approximately 0.4 U.S. gallons). It must be metal, use threaded fittings to stainless-steel braided fuel hoses, be securely mounted, and be separated from the driver by a solid bulkhead. A larger container is considered another fuel cell and must meet Section 17.2. Sections 8, 10, and 24 also apply.

18 / Window Tint

Aftermarket tint, tinted film, and painted or darkened coatings are prohibited on all remaining windows, including Stock vehicles. Windows must provide clear visibility. The yellow headlight film permitted by Section 6 is not window tint.

19 / Glass Sunroofs and Roof Panels

Glass sunroofs and other glass roof panels are prohibited. Remove the glass and close the opening with a securely attached metal panel or strong composite panel approved at inspection. Uncovered sunroof openings are prohibited.

20 / Interior Removal

Removal of unnecessary carpeting, trim, headliners, sound deadening, and unused passenger seats is permitted and encouraged. HVAC and parking-brake components may be removed provided required visibility, braking function, and a safe means of remaining stationary are retained.

Remaining components must be secure. Removal must not expose sharp edges or compromise safety equipment. Seal openings as required by Section 24.

Stock category: The dashboard and recognizable dashboard appearance must remain. Other interior components may be removed unless category rules require otherwise.

21 / Onboard Fire-Suppression System

A fully charged, securely mounted system with a visible certification label is mandatory: SFI 17.1 or 17.2, or FIA approval under Technical List 16 or 52. Minimum agent capacity is three liters for volume-rated systems or 2.25 kilograms for mass-rated systems. Larger systems are recommended. Certification and manufacturer requirements for the application also apply.

- Install all components according to certification documentation and manufacturer instructions. Secure cylinders using manufacturer brackets and metal bolts, nuts, and washers.
- At least two nozzles are required: one for the cockpit and one for the engine bay. Install any additional nozzles required by the manufacturer. Follow prescribed nozzle placement, direction, and plumbing.
- A manual activation control must be reachable by the seated, fully belted driver with the steering wheel installed. Automatic activation may be added. An external control is strongly recommended.
- Mark every activation control with the supplied red E symbol inside a white circle with a red border, immediately beside the control. Electrical activation must remain operational with ignition and master switch off.
- Service through the manufacturer or authorized agent at least every two years, or sooner if required. A current service label must show last-service and service-due dates.

- Before track entry, remove activation safety pins, power electrical controllers, and eliminate all impediments to activation.



Required fire-system activation marker. Illustration is not actual sticker size.

Teams are solely responsible for installation, inspection, maintenance, readiness, and operation of their fire-suppression systems.

22 / Airbags, Steering Wheels, and Quick Releases

Remove all airbags, including steering-wheel, dashboard, seat, side, and curtain airbags. Disabling alone is insufficient.

A purpose-built racing wheel is mandatory in every category, including Stock. Wheel, hub, adapters, and hardware must be secure and free from looseness or play.

Quick releases are permitted and strongly encouraged for emergency exit. If fitted, the specific mechanism must be manufacturer-certified to SFI 42.1, have identifiable manufacturer markings and verifiable compliance documentation, lock positively without play, and be operable with racing gloves. Install and operate according to manufacturer instructions. Unmarked, counterfeit, or undocumented units are prohibited. Brand name alone does not establish compliance.

Remove or permanently disable all steering-column and anti-theft steering locks so they cannot engage during operation. Vehicles with functional steering locks are prohibited on track.

23 / Cabin Security, Wiring, and Sharp Edges

No loose items are permitted. Cameras, electronics, driver cooling, fans, scoops, diagnostic equipment, screens, and all additions must withstand racing forces, vibration, and minor impacts without detaching or entering the driver's space.

Organize and secure wiring, protect it from abrasion, heat, and moving parts, and keep controls and exit paths clear. Zip ties and suitable clips are permitted for wiring. Loose, tangled, or unsupported wiring must be corrected.

Finish, cover, or guard all exposed sharp edges, including cut panels and brackets, to protect the driver and assisting crew. Unsafe equipment, wiring, or edges must be corrected before track participation.

24 / Firewall and Fuel-System Bulkheads

The engine-bay firewall must be completely sealed, without uncovered holes, gaps, or openings. Cover openings left by removed HVAC or other equipment with aluminum, steel, or fire-resistant composite panels secured by bolts, screws, or rivets. Adhesive alone is prohibited.

Seal necessary wire, hose, and control pass-throughs to maintain the barrier against flame, hot gases, and fluids. Pass-throughs do not override Section 10. Apply the same sealing and attachment requirements to the fuel-system bulkhead. Unsealed openings or insecure covers must be corrected before track participation.

25 / Brake System

The brake system must be fully functional, leak-free, and suitable for endurance racing.

Hard lines: Securely mounted and free from abrasion damage, corrosion, kinks, cracks, crushing, or other damage. Replace damaged lines before participation.

Flexible hoses: Subject to visual inspection. Any cracking, abrasion, heat damage, deterioration, leakage, or other visible damage causes inspection failure. Replace unacceptable hoses. New hoses are strongly recommended; no fixed age limit applies.

Purpose-built stainless-steel braided brake hoses are permitted and strongly encouraged in every category, including Stock. Hoses and fittings must be compatible and installed according to manufacturer instructions. Prevent stretching, twisting, pinching, and contact with tires, moving parts, or hot surfaces through full steering and suspension travel.

Brake fluid: Fresh, high-boiling-point DOT 4 racing fluid or compatible DOT 5.1 fluid is strongly recommended in all categories, including Stock. Completely flush old fluid, refill with suitable fresh fluid, and bleed before participation. Follow brake-system compatibility requirements. Select by published dry and wet boiling points, not DOT number alone.

Classification minimums	Dry boiling point	Wet boiling point
DOT 4	446°F / 230°C	311°F / 155°C
DOT 5.1	500°F / 260°C	356°F / 180°C

DOT 5 silicone fluid must not be mixed with DOT 3, DOT 4, or DOT 5.1. It is not a direct upgrade for systems designed for those fluids.

26 / Doors, Locks, and Emergency Release

All doors must remain operable from outside the vehicle. Driver and front-passenger doors must also be operable from inside whenever closed, including during race participation.

Door locks - no exceptions: All door locking mechanisms must be permanently disabled, regardless of whether the doors are gutted or retain their stock configuration. This applies to every door in every category, including Stock. Mechanical locks, electronic locks, automatic locking, and deadlock functions must be disabled so no door can lock. Disabling locks must not disable the latches that securely hold doors closed.

Interior release: If an interior opening handle is removed, replace it with a clearly visible red, purpose-built racing door-release strap made from fire-resistant material documented by its manufacturer. Pulling the strap must positively release the latch and allow the door to open. Mount the strap securely and keep it accessible from inside. An ordinary door-pull strap that does not operate the latch is insufficient.

Secure closure: Doors, hinges, latches, strikers, and modified release mechanisms must be securely mounted and operate reliably when opening and closing. Closed doors must latch positively and remain secured under vibration, minor impacts, and hard cornering. Loose or rattling doors, or doors that may open unintentionally, are prohibited.

Inspection: BEB will check interior and exterior release operation, disabled locks, and secure closure. Any deficiency must be corrected before the vehicle is permitted on track.