**NOTE**: Rules marked with an asterisk (\*) refer to the Formula Student 2019 Supplementary Rules

**Text highlighted in yellow has been changed from 2019 Part 4 Check Sheet**

**Checks highlighted with green box must be verified with photo evidence and notes in Appendix**

**Scrutineering queue will be ordered based on how well Pre-Scrutineering form has been completed, including quality of evidence.**

**Completion of Technical Scrutineering – FS USE**

|  |  |
| --- | --- |
| **Scrutineer Name** | **Date/Time** |
|  |  |

**VEHICLE WITH TALLEST DRIVER READY TO RACE**

**Equipment**

|  |  |  |  |
| --- | --- | --- | --- |
| Check | No. | Compliance Test | Rule Ref. |
| ⭘ Yes | 01 | FIRE EXTINGUISHER - Two (2) hand-held, 0.9 kg (2 lb.) minimum, dry chemical/powder (10BC, 1A10BC, 34B / 5A 34B, 20BE or 1A 10BE), extinguishers; 1 WITH CAR, 1 in paddock. Extinguishers must have gauges & be fully charged. (Must see BOTH & any additional at scrutineering) | T13.4 |
| ⭘ Yes | 02 | PUSH BAR - With vehicle, securely attached to vehicle, detachable, push & pull function for 2 people standing erect. Must be red in colour, attached to the rear of the vehicle for moving it and have a fire extinguisher installed. | T13.1 |
| ⭘ Yes | 03 | QUICK JACK - One device (red in colour) must be available to lift up all driven wheels > 100 mm above the ground. Lifting the car must be possible by one person. In lifted position the quick jack must be locked/secured and function without the support of a person or additional weights. | T13.2 |

**Wheels & Tyres**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ⭘ Yes | 04 | TYRES - No remoulds or retreads. Same Tyres on same axle. | | | T2.5.1\* |
|  | 05 | Make | Size | Compound |  |
| ⭘ Yes ⭘ N/A | 06 |  |  |  | T2.5 |
| ⭘ Yes ⭘ N/A | 07 |  |  |  | T2.5 |
| ⭘ Yes | 08 | Rain Tyres. 2.4 mm min. tread depth moulded by tyre manufacturer | | | T2.5.1 |

**VEHICLE WITH TALLEST DRIVER READY TO RACE**

**Chassis & Bodywork**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 09 | CAR NUMBERS - on front & both sides of car, minimum 15cm tall, 20 mm stroke & spacing. Must be clearly visible.   * IC: Black on White or White on Black only. * EV: Black or White on Green only. | T12.1.2\* |
| ⭘ Yes | 10 | FORMULA STUDENT LOGOS - on front and both sides in prominent locations. | T12.4\* |
| ⭘ Yes | 11 | SCHOOL NAME AND OTHET DECALS - School Name, or recognized initials, min 5 cm tall on both sides in Roman letters. Must be clearly visible. | T12.2 |
| ⭘ Yes | 12 | TECH STICKER SPACE – 125mm diameter on centreline of upper front nose of car. | IN1.3.1\* |
| ⭘ Yes | 14 | DRIVER STICKER SPACE. 8cm x 8cm on LHS of the car above 350mm from the ground such that the marshals can record the driver’s letter on the sticker at each event | IN1.3.3\* |
| ⭘ Yes ⭘ N/A | 15 | CAMERAS - Cameras must be secured by two points if >0.25kg. No cameras mounted to helmet. **Must not be able to impact driver.** | T13.5.1\* |
| ⭘ Yes | 16 | GROUND CLEARANCE – 30 mm minimum static ground clearance **with driver aboard**. | T2.3.2 |
| ⭘ Yes | 17 | SUSPESNION - Fully operational with dampers front and rear; 50mm minimum wheel travel with driver in vehicle. | T2.3 |

**Driver**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 18 | SHOULDER HARNESS MOUNTING points 180 - 230 mm apart. Angle from shoulder between 10 deg. up and 20 deg. down to horizontal. Any bracket used to mount the shoulder harness must not be able to contact the driver in the event of an impact. | T5.5  T5.5.6\* |
| ⭘ Yes | 19 | LAP BELT MOUNTING must pass over pelvic area between 45 - 65 deg. to horizontal for upright driver, 60-80 deg for reclined driver. Lap belts must not be routed over the sides of the seat. Pivoting mounting with eye bolts or shoulder bolts attached securely to Primary Structure. Min. tab thickness 1,6 mm | T5.4 |
| ⭘ Yes | 20 | VISIBILITY - 100 deg. min. field either side. Head rotation OK or mirrors. If mirrors, must be firmly installed and adjusted. | T4.10 |
| ⭘ Yes | 21 | MAIN HOOP & FRONT HOOP HEIGHTS - Helmet of tallest driver to be 50mm (2.0 ins) below lines between top of front and main roll hoops and between top of main hoop to rear attachment point of main hoop bracing. | T4.3.1 |
| ⭘ Yes | 22 | ROLL BAR PADDING - Roll bar or bracing that could be hit by driver’s helmet must be covered with 12 mm thick, SFI or FIA (hard) padding. Pipe insulation and foam **not** acceptable. | T5.8 |
| ⭘ Yes | 23 | HEAD RESTRAINT - Near vertical. Max. 25 mm from helmet. Helmet contact point 50 mm min. from any edge. May be changed for different drivers. Minimum 38x150x150mm. | T5.7\* |
| ⭘ Yes | 24 | CONTROLS - All controls, including shifter, must be inside cockpit. No arms or elbows outside the SIS plane. | T4.9 |
| ⭘ Yes | 25 | DRIVER FLUID PROTECTION - A firewall must extend sufficiently far upwards and/or rearwards such that any point, less than 100mm above the bottom of the helmet of the tallest driver, is not in direct line of sight with any of the following parts: fuel system, engine oil system, cooling system and low voltage battery. | T4.8  T4.8.1\* |
| ⭘ Yes | 26 | DRIVER EGRESS - All drivers must be able to exit the vehicle in less than 5s. Driver must be seated in ready to race condition with both hands on the steering wheel. (in all possible steering positions). The egress time stops when the driver has **both** feet on the ground | T4.11 |

**VEHICLE WITHOUT DRIVER**

**General**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 26a | VEHICLE STANDS – safely support vehicle off the ground, min 100mm ground clearance for all wheels, must not present a trip hazard and be completely in plan profile of vehicle | T13.2.5\* |
| ⭘ Yes | 27 | BODY AND STYLING - Open wheeled, open cockpit, formula style body. Vertical keep out zones 75mm in front/behind tyres (no aero exceptions), tyres unobstructed from sides. | T2.1.2 T2.1.3 |
| ⭘ Yes | 28 | NOSE MIN RADIUS - Min. 38 mm radius on nose. No large openings in bodywork into driver compartment in front of or alongside driver, (except cockpit opening). | T2.2.1 T2.2.3 |
| ⭘ Yes | 29 | BODYWORK EDGES - Bodywork edges that could contact a pedestrian must have a minimum radius of 1.0 mm (safety requirement) | T2.2.3 |
| ⭘ Yes ⭘ N/A | 30 | WING EDGES - Horizontal leading edges min 5 mm radius; vertical forward-facing edges min 3 mm radius. Any edge that could contact a pedestrian must have a minimum radius of 1.0 mm (safety requirement). | T8.3 |
| N/A | 31 | JACKING POINT – Deleted – Jacking Device and function must still be demonstrated – see Check 03 | NA |
| ⭘ Yes | 32 | FLOOR CLOSEOUT PANEL – Required from foot area to firewall; solid, non-brittle material; multiple panels are OK if gaps less than 3mm. | T4.7 |

**VEHICLE WITHOUT DRIVER AND BODY PANELS REMOVED**

**General**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 33 | DRIVER FOOT PROTECTION - Feet must be rearward of the Front Bulkhead and no part of shoes or legs above or outside the Major Structure (25x1.2 or equivalent) in side or front views when touching the pedals. No non-crushable objects within 25 mm rearwards of the AIP. | T1.1.3  T1.1.5  T3.11.1 T3.20.1 |
| ⭘ Yes | 34 | FIREWALL - Must be a fire-resistant material; must separate driver compartment from cooling, oil system & LV battery. Passthroughs OK with grommets. Multiple panels OK if gaps sealed. No gaps at sides or bottom. Must be rigidly mounted to the chassis. **Panel overlaps of at least 5mm and be sealed at the joints. Any sealing material must not be vital to the structural integrity of the ﬁrewall.** | T4.8 |
| ⭘ Yes | 35 | BELLYPAN HOLES – Must be vented to prevent accumulation of volatile fluids. Must have at least two holes (minimum of 25 mm in diameter). These holes must be positioned in the lowest part of the structure | T2.2.2 |
| ⭘ Yes | 36 | DRIVER’S LEG PROTECTION – Covers inside of cockpit over any sharp edges or moving suspension / steering components. | T5.9 |
| ⭘ Yes ⭘ N/A | 37 | GAS CYLINDERS - Proprietary manufacture & labelled, Non-flammable gas, regulator on tank, securely mounted, axis not pointed at driver, to rear of Main Hoop within the frame envelope, or in structural side pod, but not in cockpit, insulated from exhaust, appropriate lines & fittings. Positively retained, i.e. no tie-wraps. | T9.1 |
| ⭘ Yes ⭘ N/A | 38 | HIGH PRESSURE HYDRAULICS - Pumps and lines must have 1mm steel or aluminium shields protecting driver and workers. | T9.2 |

**VEHICLE WITHOUT DRIVER AND BODY PANELS REMOVED**

**Suspension, Steering & Brakes**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 41 | PICK-UP POINTS - Inspected thoroughly for integrity | T2.3.3 |
| ⭘ Yes | 42 | STEERING WHEEL - must have a continuous perimeter, near round (no concave sections) with driver operable quick disconnect. 25cm max from front hoop. | T2.6 |
| ⭘ Yes | 43 | STEERING - All steerable wheels must have positive stops placed on the rack to prevent linkage lock up or tires from contacting any part of the vehicle. 7 degrees max. free play at the steering wheel. NO STEER-BY-WIRE on front wheels. Rear wheel steering, max. 6 deg. and mechanical stops installed. No bonded joints in steering column. | T2.6\* |
| ⭘ Yes | 44 | BRAKES - Dual hydraulic system & reservoirs, operating on all four wheels, (one brake on limited slip differential is OK). **System must be protected by structure or shields from drivetrain failure or minor collisions**. No plastic brake lines. No brake-by-wire. No parts below chassis/tub in side view. Brake pedal capable of 2000N, no failures if official exerts max force (seated normally in vehicle). | T6 |
| ⭘ Yes | 45 | BRAKE RESERVOIR - To be separated from the driver with an impermeable barrier at least 0.5mm thick. | T6.1.11\* |
| ⭘ Yes | 46 | BRAKES – Should be covered by MSA | T6 |
| ⭘ Yes | 47 | FASTENERS – Steering, braking, harness and suspension systems must use SAE Grade 5 or Metric Grade M8.8 or higher specs (AN/MS) with visible positive locking mechanisms, no Loctite or lock washers. Min 4mm dia. Min of 2 exposed threads with locking nuts. Rod ends in single shear are captured by a washer larger than the ball diameter. Adjustable tie-rod ends must have jam nuts to prevent loosening. No Nylon lock nuts for Brake callipers or Brake discs. No button head cap, pan head or round head screws in critical locations, e.g. cage structure or harness mount. | T10  T10.1.5 |
| ⭘ Yes | 48 | WHEEL STUDS - No Aluminium or hollow wheel bolts / studs. No Extended or composite wheel studs. Single retaining nut must incorporate a device to retain the nut. Aluminium wheel nuts must be hard anodized. | T2.4  T2.4\* |

**Powertrain**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 49 | ENGINE - Four cycle piston engine, 710 cc maximum swept displacement. Waste heat recovery allowed. | CV1.1.1 |
| ⭘ Yes | 50 | ON-BOARD STARTER – Required. | CV1.2.1 |
| ⭘ Yes ⭘ N/A | 51 | ENGINE LUBRICATION SYSTEM - The lowest point of the engine lubrication system must be no lower than the lowest frame part, otherwise protection structure mounted to chassis necessary. | T7.3.1 |
| ⭘ Yes | 52 | CATCH TANKS - Any coolant overflow or lube system vents must have separate catch tanks, 0.9 l minimum each, 120°C material, behind firewall, below shoulder level. 3mm min. dia. vent away from driver down to the bottom level of frame, outside bodywork. Transmission or diff. require 0.9l catch bottle unless sealed. | T7.2 |
| ⭘ Yes | 53 | COOLANT – 100% water. **No Additives Whatsoever**. Oil permitted for electric motors. | T7.2 |
| ⭘ Yes | 54 | NO FLUID LEAK – e.g. Oil, grease, coolant, fuel, **Brake** **fluid**, etc. permitted | T7.2.4 |
| ⭘ Yes | 55 | SCATTERSHEILDS - Required for clutches, chains, belts, etc. No holes. M6 Grade 8.8 minimum. End parallel to lowest part of the sprocket/pulley in front and rear, **non-perforated**. **Must shield brake lines.** For chains, 2 mm min. thick solid STEEL, 3x chain width. For belts, 3 mm min. thick Al 6061-T6, 3x belt width. Finger guards must cover all drivetrain parts that spin while vehicle is stationary, no holes >12 mm dia. | T7.4 |

**Powertrain (continued)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ⭘ Yes | 56 | EXHAUST - Outlet no more than 45 cm behind rear axle centreline or more than 60 cm above the ground. | | | CV3.1.2 |
| ⭘ Yes | 57 | EXHAUST SHEILDING - Components outside the body forward of main hoop must be shielded from people approaching the vehicle. No fibrous/cloth wraps around exhaust tubes. | | | CV3.1.3  CV3.1.4 |
| ⭘ Yes | 58 | EXHAUST SYSTEM MOUNTS – No rubber mounts between exhaust and exhaust clamp | | | CV3.1.5\* |
| FUEL SYSTEM | | | | | |
| ⭘ Yes | 59 | Fuel Type (delete non-applicable) | 99 octane petrol | E-85 | CV2.1.1\* |
| ⭘ Yes | 60 | Appropriate fuel sticker applied adjacent to fuel filler. | | |  |
| ⭘ Yes | 61 | FUEL FILLER NECK - Min. 35 mm dia., within 30° of vertical. Fuel resistant, transparent sight tube or transparent filler neck, 6 mm min. ID, min 125 mm min. vert. height visible to fueller with vehicle fully assembled, with non-moveable fuel level line 12-25 mm below top of sight tube. Sight tube must NOT run below top of tank. Must prevent fuel spillage contacting driver, exhaust or ignition. Fuelled w/o manipulating vehicle in any way. Cap secure and capable of withstanding pressurization (i.e: threads or latch.) | | | CV2.6 |
| ⭘ Yes | 62 | FUEL TANK - must lie within major structure of the chassis with full side and rear impact protection & firewall between fuel supply & driver. Rigid tanks **cannot carry structural load** & must be flexibly mounted. Bladders or bags in rigid container. No portion of fuel system below lower surface of frame. | | | CV2.2 CV2.3 |
| ⭘ Yes | 63 | FUEL LINES - No plastic lines between fuel tank & engine. Fuel injection systems must use metal braided hose with threaded fittings or reinforced rubber hose with approved clamps. Must be securely attached and protected from possible rotating equipment or collision failure. No plastic connectors in fuel line. High pressure injection systems see CV 2.5.2 | | | CV2.4 CV2.5 |
| ⭘ Yes | 64 | REFUELLING must be able to be accomplished without the removal of any body parts of the vehicle. | | | CV2.6.4 |
| ⭘ Yes | 65 | FUEL VENTS must exit outside of the bodywork and have a check valve to prevent leakage if car inverted. | | | CV2.8.2 |
| ⭘ Yes | 66 | FUEL RAIL must be securely attached to block, head or intake manifold with brackets & mechanical fasteners (grade min. 8.8). Plastic, carbon fibre or rapid prototyping flammable materials are prohibited. | | | CV2.5.1  T10.2.2 |
| ⭘ Yes | 67 | AIR INTAKE SYSTEM ROLL OVER PROTECTION - All parts of the engine air and fuel control systems, (including throttle body or carburetor, air intake ducting, air cleaner & air box), must lie within a surface defined by the top of the roll bar and the outside top edge of the tyres. | | | CV1.3.1 |
| ⭘ Yes | 68 | AIR INTAKE SYSTEM - Any portion of the air intake system <350 mm above ground must have side and rear Impact protection to rule CV 1.3.2 and be supported if cantilevered (isolated to frame, rigid to engine). Intercooler after throttle body. | | | CV1.3.2 |
| ⭘ Yes ⭘ N/A | 69 | COMPRESSORS - Turbo or super chargers allowed if not OEM to engine; must be between restrictor and throttle. Carburettors are not allowed if compressors are used. Compressor recirculation valves are ok if located downstream of restrictor. | | | CV1.8 |
| ⭘ Yes | 70 | INTAKE MANIFOLD must be securely attached to block or head with brackets & positive locking mechanical fasteners. OEM type rubber bushings not sufficient. | | | CV1.3.3 |
| ⭘ Yes | 71 | RESTRICTOR must be circular; max. diam. 20.0 mm for gasoline fuelled vehicles and 19.0 mm for E85 fuelled vehicles. Cannot be movable. Placed before any compressor. | | | CV1.7 |

**Electrical**

|  |  |  |  |
| --- | --- | --- | --- |
| ⭘ Yes | 72 | BRAKE LIGHT - One RED brake light on vehicle centreline, height between wheel centreline & driver's shoulders and near vertical in side elevation. Round, triangle, or rectangular on black background. 15cm² minimum illuminated area, clearly visible from the rear and in bright sunlight. | T6.3.1 T6.3.2 |
| ⭘ Yes | 73 | PRIMAY MASTER SWITCH - must be located on the right side of the vehicle, in proximity to the main hoop, at the 95th percentile male driver’s shoulder height. Switch handle must be >50mm lever, horizontal when in ON position. **ON and OFF must be clearly marked.** | T11.2 T11.2.3\* |
| ⭘ Yes | 74 | SHUTDOWN BUTTONS **– min 2 on left and right of vehicle behind driver compartment at drive head level,** must be accessed from outside of vehicle, min 40mm, rotary type, no relay, must kill ALL electrical systems. Must cause engine to stop when actuated. | T11.4 CV4.1 |
| ⭘ Yes | 75 | COCKPIT SHUTDOWN BUTTON - Pull-On, Push-OFF, alongside & unobstructed by steering wheel, easily reached by driver. **Must kill ignition & fuel pump(s).** Marked with international symbol. | T11.4.4  CV4.1 |
| ⭘ Yes | 76 | BRAKE PEDAL OVER-TRAVEL SWITCH - Must constantly open the shutdown circuit if one brake circuit fails for brake balance bar in all possible positions. No re-start if released or actuated a second time. Push pull or flip type must **not** rely on programming to work. Not resettable by driver. Must not damage/plastic deform vehicle to demo. | T6.2 |
| ⭘ Yes | 77 | INERTIA SWITCH - must be rigidly attached to the vehicle, demountable for functionality check. Must open the shutdown circuit and kill ignition & fuel pump(s) when accelerated between 6g and 11g. Must cause engine to stop when actuated. | T11.5 |
| **LV Battery (All)** | | | |
| ⭘ Yes | 78 | LV BATTERY must be attached securely to the frame within the rollover protection envelope and protected from front, side and rear collisions by T3.2 structure. | T11.7.2 |
| ⭘ Yes ⭘ N/A | 79 | LV BATTERY TYPE - If using chemistries other than lead acid must be identified on each side of the car with the required symbol showing battery chemistry at the approximate fore-and-aft position of the battery and clearly identifying access in case of fire. | T11.7.8\* |
| ⭘ Yes ⭘ N/A | 80 | LV BATTERY DATASHEET - If not lead acid must have datasheet, etc. available | T11.7.8\* |
| ⭘ Yes | 80a | LV BATTERY SHORT CIRCUIT PROTECTION – not more than 100mm from ungrounded terminals | T11.7.6 |
| **LV Battery (All Lithium Chemistries)** | | | |
| ⭘ Yes ⭘ N/A | 81 | OVERCURRENT PROTECTION – system must trip at or below the maximum specified discharge current of the cells within the times specified on the datasheet for the battery. | T11.7.9\* |
| ⭘ Yes ⭘ N/A | 82 | LV BATTERY CASING - a rigid, sturdy and fire-retardant casing to UL94-V0, FAR25 or equivalent and be separated from the driver and sources of heat by a firewall (OEM battery casing of well know suppliers acceptable) | T11.7.9\* |
| ⭘ Yes ⭘ N/A | 83 | FIRE EXTINGUISHER ACCESS – must provide access for a fire extinguisher nozzle of size 35mm dia.x150mm long without removing body panels with the driver seated normally (clearly marked covers which can be easily "punched through" are acceptable). | T11.7.9d\* |
| ⭘ Yes ⭘ N/A | 84 | FIRE EXTINGUISHER ACCESS TUBE - If > 50mm inboard of the access hole a tube of at least 35mm diameter must be present to direct the discharge from the extinguisher towards the battery. | T11.7.9e\* |
| **LV Battery (Lithium Chemistries other than LiFePO4)** | | | |
| ⭘ Yes ⭘ N/A | 85 | OVERTEMPERATURE PROTECTION - Have overtemperature protection of at least 30% of the cells that trips at or below the maximum specified temperature of the cells or at 60◦C, whichever is lower and disconnects the battery. | T11.7.10\* |
| ⭘ Yes ⭘ N/A | 86 | VOLTAGE PROTECTION - Include voltage protection of all cells that trips when any cell leaves the allowed voltage range on the manufacture’s datasheet and disconnects the battery. | T11.7.10\* |
| ⭘ Yes ⭘ N/A | 87 | SYSTEM DISPLAY - Must be possible to display all cell voltages and measured temperatures, e.g. by connecting a laptop. | T11.7.10\* |

**Electronic Throttle Only**

|  |  |  |  |
| --- | --- | --- | --- |
| **Accelerator Pedal Position Sensors (APPS)** | | | |
| ⭘ Yes | 88 | Torque Encoder must return to original position, if not actuated. | T11.8.3 |
| ⭘ Yes | 89 | Two springs must be used to return the pedal to the off position and each spring must work with the other disconnected. NOTE: The springs in the APPS/sensors are not acceptable return springs. | T11.8.4 |
| ⭘ Yes | 90 | The pedal must have a positive stop to prevent sensors from being mechanically overstressed. | T11.8.4 |
| ⭘ Yes | 91 | At least two sensors must be fitted as APPS not sharing supply or signal lines. The sensors must have different transfer functions, each having a +ve slope sense with either different gradients and/or offsets to the other(s). | T11.8.5 T11.8.6 |
| ⭘ Yes | 92 | Each APPS must be able to be disconnected during scrutineering to enable plausibility checks to be carried out | T11.8.11 |
| **Throttle Position Sensors (TPS)** | | | |
| ⭘ Yes | 93 | At least two TPS installed | CV1.6.4 |
| ⭘ Yes | 94 | Two sources of energy to return the throttle to idle position. One must be a return spring (springs in the TPS are not acceptable). | CV1.6.8 |
| **Brake System Pressure Sensor** | | | |
| ⭘ Yes | 95 | Brake System pressure switch must be fitted to check plausibility. | T11.6 |
| ⭘ Yes | 96 | The must be able to be disconnected during scrutineering to enable plausibility checks to be carried out | T11.6 |
| **APPS Implausibility Check** | | | |
| ⭘ Yes | 97 | With the throttle open, disconnect at least 50% of the APPS and check that the throttle closes. | T11.8 |
| **TPS Implausibility Check** | | | |
| ⭘ Yes | 98 | With the throttle open, disconnect at least 50% of the TPS and check that the throttle closes. | CV1.6.3 |
| **Brake System Pressure Sensor Implausibility Check** | | | |
| ⭘ Yes | 99 | With the throttle open, disconnect the BSE and check that the throttle closes. | T11.6 |
| **APPS/TPS Implausibility Check** | | | |
| ⭘ Yes | 100 | Activate fuel pump (verify that it is running), open throttle, insert a blocking device in throttle body and release throttle pedal. After 1 s, power to ignition, injection and fuel pump shuts down and throttle goes to idle position. Must remain shut down until the TPS signals indicate the throttle returned to idle position for at least one second. | CV1.6 |
| **Brake System Plausibility Device** | | | |
| ⭘ Yes | 101 | Simulate a throttle of >5kw and apply heavy braking. The Shutdown circuit (power to ignition, injection and fuel pump) must open if the implausibility persists for more than 0.5sec. **Brake System Pressure sensor must be used to detect braking**. | T11.6 |
| ⭘ Yes | 102 | The ignition, injection and fuel pump may not automatically return to active state after the BSPD activation condition is removed. The Driver must not be able to reactivate the system. System may reset after 10s if implausibility resolved. | T11.6 |
| ⭘ Yes | 103 | BPSD STANDALONE CIRCUIT – Evidence must be provided that the BSPD as a standalone non-programmable circuit | T11.6 |

**Mechanical Throttle Only**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ⭘ Yes | 105 | | THROTTLE (Cable throttle only) - Must have minimum of **2 springs** **visible** at the throttle body, each capable of closing the throttle independently. TPS not acceptable as a return spring. Cable must have smooth operation with no binding or sticking; min. 50mm from any exhaust component. | | CV1.5 |
| ⭘ Yes | 106 | | THROTTLE PEDAL (Cable throttle only) - Throttle Pedal must have positive stop to prevent overstressing cable. Check that the cable cannot be damaged by the driver’s foot. | | CV1.5.6 CV1.5.7 |
| **Brake System Plausibility Device** | | | | | | |
| ⭘ Yes | | 107 | | Simulate a throttle of >25% and apply heavy braking. The Shutdown circuit (power to ignition, injection and fuel pump) must open if the implausibility persists for more than 0.5sec. **Brake System Pressure sensor must be used to detect braking**. | T11.6 | |
| ⭘ Yes | | 108 | | The ignition, injection and fuel pump may not automatically return to active state after the BSPD activation condition is removed. The Driver must not be able to reactivate the system. | CV1.6.3 | |
| ⭘ Yes | | 109 | | BPSD STANDALONE CIRCUIT – Evidence must be provided that the BSPD as a standalone non-programmable circuit | T11.6 | |

**APPENDIX – Check Evidence: Please add pictures demonstrating compliance for specified checks:**

|  |  |
| --- | --- |
| **Check Number** | **Photos and Notes** |
| **Check 01** | **Example:**  **\*Photo and details of fire extinguishers\*** |
| **Check 02** |  |
| **Check 03** |  |
| **Check 04-08** |  |
| **Check 18** |  |
| **Check 21** |  |
| **Check 22** |  |
| **Check 23** |  |
| **Check 26a** |  |
| **Check 27** |  |
| **Check 35** |  |
| **Check 42** |  |
| **Check 45** |  |
| **Check 55** |  |
| **Check 66** |  |
| **Check 79** |  |
| **Check 82** |  |
| **Check 83** |  |
| **Check 84** |  |
| **Check 105** |  |
| **Check 106** |  |