

20. SOLO® SPEC COUPE (SSC)

OBJECTIVE: Provide an affordable autocross package that combines a street-able car and a capable autocross car using specified parts.

20.1 Eligible Vehicles

- Subaru® BRZ® (2013-16) (including 2015 Series.Blue and 2016 Series.HyperBlue models).
- Scion® FR-S® (2013-16) (including 2015 Release Series 1.0 and 2016 Release Series 2.0 models).

20.2 Mandatory Parts

A. Parts specified below (tires, wheels, and suspension) must be used. All components and parts (e.g., hardware) are required to be installed. Original equipment (OE) or equivalent components are not allowed. Required bumps stops are provided in the Eibach® PRO-PLUS Performance Handling Package.

B. Anti-roll (sway) bar end links *may be substituted but may serve no other purpose.*

To facilitate anti-roll bar installation and adjustment through the range of operation metal spacers (e.g., washers), may be added between the anti-roll bar bracket and the subframe. The spacers must be less than 7.00 mm (0.275") thick.

C. TIRES: Falken Azenis RT615K+, size: 225/45R17.

D. WHEELS

1. Diameter and width (in.): 17x8 (OE 17x7 may be used only as a full set of 4 wheels.)
2. Offset, including wheel spacer (mm): +40 (40ET or ET40) or greater
3. Weight, without spacer if used, minimum (lbs.): 17, including:
 - Wheel weights
 - TPMS sensor if installed
 - Tire valve stem (type unrestricted)

E. SUSPENSION (available from the Tire Rack®)

1. Eibach® PRO-PLUS Performance Handling Package #TR82105.880:
 - a. 82105.001 spring front (2)
 - b. 82105.002 spring rear (2)
 - c. 1J0412303 (770343) bump stop front (2), ~53mm height
 - d. BS770143 bump stop rear (2), ~33mm height
 - e. 82105.320F anti-roll bar front (1)
 - f. UB0346 bushing front (2)
 - g. 82105.320R anti-roll bar rear (1)
 - h. UB0347 bushing rear (1)
 - i. 1J0412303
 - j. 82105.310HK hardware kit (1)
2. SPC Performance® Adjustable Alignment Kit, part #60620T:
 - a. 67655 adjustable toe arm rear (2)

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- b. 67660 adjustable lower control arm rear (2)
- c. 81305 EZCam® XR bolts, 14mm (2)
- 3. Koni® Sport (Yellow) struts/shocks with tamper proof seal:
 - a. 8741-1560LSSC left front (1)
 - b. 8741-1560RSSC right front (1)
 - c. 8041-1416SSC rear (2)

20.3 Authorized Changes/Modifications:

- A. If a change or modification is not specifically authorized, it is not allowed. All repairs must comply with factory-authorized methods and procedures, or industry standard methods, as follows: If the manufacturer does not provide an appropriate method of repair, industry standard methods and procedures may be used. Such repairs may not result in a part or combination of parts that provides a performance advantage (e.g., significant change to weight, suspension control, power, etc.) as compared to the standard part(s). Competitors are strongly cautioned to use this allowance to make common-sense repairs only.
- B. Front bumpers, rear bumpers, body trim pieces and attachment points may be reinforced to prevent or repair damage from hitting cones. Reinforcements that are not visible to the exterior of the car are allowed. Such repairs and/or reinforcements may serve no other purpose.
- C. Wheel spacers are allowed provided the resultant combination with the wheel complies with the offset requirements.
- D. Wheel lug studs (e.g., length) and lug nuts may be changed.
- E. Components which are normally expendable and considered replacement parts may be used provided they are essentially identical to the standard parts, used in the same location, and provide no performance benefit. Examples are:
 - 1. Clutch and related components (excluding flywheel).
 - 2. Hardware (nuts, bolts, clips, etc.).
- F. Parts superseded by Toyota®/Subaru® may be used on either vehicle.
- G. These allowances are strictly to permit components to be replaced from alternate sources other than the original manufacturer. They should not be construed as an allowance to replace components with those which could be considered a “higher performance” alternative.
- H. It is not permitted to use non-compliant parts even if they have been set to the manufacturer’s specifications.

20.4 Bodywork

- A. Accessories, gauges, indicators, lights, and other appearance, comfort-and-convenience modifications which have no effect on performance and/or handling and do not materially reduce the weight of the car are permitted. This does not allow driver’s seat substitutions, or the removal of “tow hooks” or “tie-down loops.” Data acquisition systems (including video cameras) and the accompanying sensors are allowed but may serve no other purpose during a run than real-time display and data recording.

- B. Alternate shift knobs are allowed.
- C. Spare tires, tools, and jacks may be removed. Any fastening hardware and/or other pieces that can no longer be firmly secured in the absence of the spare tire may be removed if necessary to ensure compliance with Solo® Rules section 3.3.3.B.1, Safety Inspections, Inspection Requirements.
- D. Driver restraints as outlined in Solo® Rules section 3.3.1, Driver Restraints, are allowed. Seats may not be cut to allow for the installation of alternate seat belts or harnesses. A horizontal “harness bar” may be used as part of the installation hardware for allowed driver restraints provided it has no more than two (2) attachment points to the chassis and is bolted at those locations. A C-type harness bar may also be used; it may have four (4) bolted attachment points to the chassis (2 primary and 2 supporting connections to resist rotation). Truss-type harness bars with more than two (2) attachment points are not allowed.
- E. Cars may add one (1) rear trailer hitch. Factory tie downs and cosmetic pieces (e.g., diffusers) may be modified or removed to facilitate hitch installation. Complete or partial removal of the hitch is allowed for competition, provided it does not result in a reduction in weight compared to the unmodified standard configuration.
- F. Tow bar brackets may be installed and may serve no other purpose.
- G. Any item not permanently in place by manufacturer-installed fasteners may be removed (i.e., emergency tool kits).

20.4 Brakes

The make and material of brake linings (pads) may be changed.

20.5 Suspension

- A. Alignment: Both the front and rear suspension may be adjusted through their designed range of adjustment by use of the specified parts. No suspension part may be modified for the purpose of adjustment unless such modification is specifically authorized by the manufacturer service documentation.
- B. Bushings
 1. Suspension bushings as supplied in the kits are mandatory.
 2. Those not included in the supplied kits may not be replaced with bushings of a different material or dimension.

20.6 Electrical System

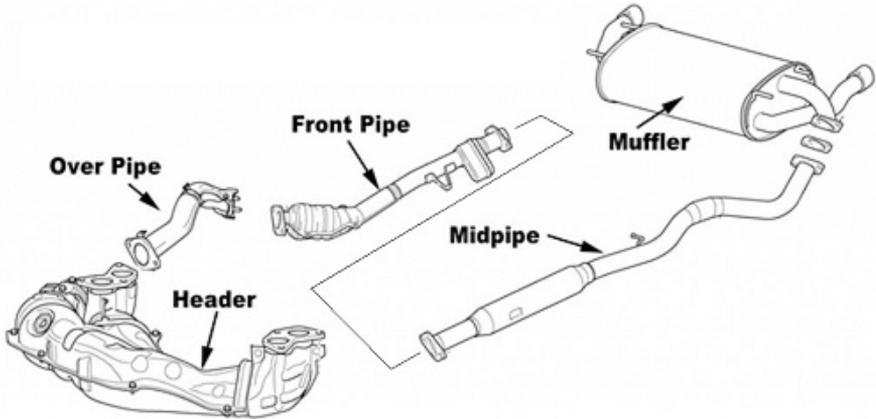
- A. The make of spark plugs is unrestricted.
- B. No changes are permitted to electronic engine management systems or their programming.
- C. Tire Pressure Monitoring Systems (TPMS) may be disabled. Altering the signal to the TPMS module is allowed.

Engine and Drivetrain

- A. The engine air filter element may be removed or replaced provided the air flow path remains as originally designed (i.e., no additional openings). No other components of the air induction system may be removed, replaced, or modified.

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- B. Oil filters are unrestricted.
- C. The installation of oil catch tanks or oil separators is allowed provided the function of the PCV system remains functional.
- D. An oil cooler is allowed provided no unauthorized modifications are made to perform the installation.
- E. The muffler and midpipe (as shown in the following figure) may be substituted provided the system exits the car in one or both original locations.
 - Weight, minimum, both muffler and midpipe (lbs.):18



- F. Silicone replacement hoses are allowed as alternate components provided they meet the requirements of Solo® Rules section 13, Street Category, with regard to size, shape, location, and performance equivalence. Replacement induction system air intake hoses must also match the standard part in stiffness, contour, and internal wall texture.
- G. Lubricants and fluids are unrestricted.
- H. Fuel must be Federally-approved for use on public highways and is widely distributed and typically sold in filling stations, commonly called “pump fuel” with typical octane ratings or AKI (Anti-Knock Index) (R+M/2) displayed on the pump between 87 and 93. The maximum octane rating allowed is what is typically delivered from a pump marked 93 octane*. Fuels comprised of more than 15% ethanol may only be used when specified by the manufacturer (e.g., in the owner’s manual for flex-fuel vehicles).

* Octane verification: Octane levels will vary from the number listed on the pump. Octane testing has a “margin of error” and different testing procedures will produce similar but different results. For the purposes of testing gasoline, a result that exceeds 95.9 octane is not allowed and will result in a disqualification with no exceptions (hard limit). This limit gives competitors a 99.99+% confidence level that fuel purchased from a pump marked 93 octane is compliant. **WARNING:** Competitors attempting to approach the 95.9 octane limit through mixing or by any other means may inadvertently create fuel that appears compliant but may test above the 95.9 hard limit.