

The purpose of this document is to inform of the local rules that shall apply to 2017 Student Formula Japan. Any additional local rules that become necessary shall be posted on the JSAE website as they become available. These local rules are valid for the 2017 Student Formula Japan only.

2017 Student Formula Japan, Rules Committee

For both Japanese and overseas teams

J2017-01 Student Formula SAE Competition of Japan Rules

2017 Student Formula Japan (hereinafter abbreviated as 2017 SFJ) shall be held based on the rules of the 2017-18 Formula SAE® Rules (hereinafter abbreviated as 2017-18 FSAE®). However, the items described in the “Participation Rules” of the 2017 SFJ and in these local rules shall take priority over the rules of the 2017-18 FSAE®.

J2017-02 Baseline Steel Material (refer to rule T3.4.1 of 2017-18 FSAE®)

The baseline steel material shall be a material that satisfies either of the following conditions.

1. Mild or alloy steel with a minimum carbon content of 0.1% as guaranteed by a chemical composition standard.
2. Mild or alloy steel with a minimum tensile strength of 290 N/mm² as guaranteed by a mechanical strength standard.

J2017-03 Re-submission of Structural Equivalency Sheet (refer to rule T3.9.5 of 2017-18 FSAE®)

Re-submission of the Structural Equivalency Sheet shall not be permitted unless specifically instructed. In the event that the calculations are not submitted before the due date or before the re-submission due date instructed separately by the Inspection Committee, the team shall be disqualified from participating in the Competition.

J2017-04 Attachment Height of Impact Attenuator (refer to rule T3.20 of 2017-18 FSAE®)

The center of the impact attenuator shall be within 350 mm from the ground.

J2017-05 Method of Inspecting Driver Leg Space (refer to rules T4.1 and T4.2 of 2017-18 FSAE®)

(a) Vertical movement within 50 mm shall be permitted for template 9 only in order to avoid interference with the rack and pinion unit.

(b) Template 9 may be split into left and right sections to enable inspection even when the rack and pinion unit is positioned on the lower frame. In other words, the slit in template 9 may be extended to the top and bottom sides.

(c) Template 9 shall be placed perpendicular to an axis formed assuming a straight line from the cockpit to the pedals and moved parallel to that axis. During this movement, template 9 may be rotated within ±45 degrees around the back and forth axis.

(d) The steering shaft spline portion is excluded from the inspection range of template 8.

J2017-06 Quick Jack (refer to rule T6.6 of 2017-18 FSAE®)

It shall be possible to move the vehicle at all times without any additional manual effort using the quick jack for which design drawings are shown in the APPENDIX J-1. It shall also be possible to utilize the quick jack without

interfering with the vehicle body (i.e., the cowling, undercover, and so on).

J2017-07 JSAE Logo (refer to rule T13.3 of 2017-18 FSAE®)

The Society of Automotive Engineers (SAE) logo as specified in the 2017-18 FSAE® rules shall be replaced by the logo of the Society of Automotive Engineers of Japan (JSAE). In other words, the teams shall display the JSAE logo in a prominent location on the front and/or both sides of the vehicle. The JSAE logo stickers to be supplied to the teams at the competition site have approximate dimensions of 210 mm (width) × 115 mm (height).

J2017-08 Size of Technical Inspection Stickers (refer to rule T13.4 of 2017-18 FSAE®)

The stickers indicating that the technical inspection has been passed are divided into four parts, with total dimensions of 150 mm (width) × 100 mm (height).

J2017-09 Fire Extinguishers (refer to rule T14.14 of 2017-18 FSAE®)

It is not required to provide fire extinguishers equipped with a pressure gauge. However, each fire extinguisher shall be within its expiration date and the operation lever seal shall be in place. For fire extinguishers without a displayed expiration date, less than five years shall have passed since the date of manufacture. For example, 3-ABC type fire extinguishers and CO₂ fire extinguishers are recommended.

J2017-10 Fuel Allowed at SFJ (refer to rule IC2.1 of 2017-18 FSAE®)

The only fuel that shall be permitted is unleaded gasoline with a Research Octane Number (RON) of 100.

J2017-11 Sound Measuring Procedure for CVT-Equipped Vehicles (refer to rule IC3.2 of 2017-18 FSAE®)

Teams using a vehicle equipped with a CVT without a neutral position shall prepare an apparatus that can safely hold the driving wheels in a completely floating state during sound measurement.

J2017-12 Sound Measuring Procedure (refer to rule IC3.2.4 of 2017-18 FSAE®)

There is no change to the measurement speed for engines used in the 2016 Student Formula Japan. The measurement speeds for other engines shall be released separately.

J2017-13 Re-measurement of Noise (Relevant regulation 2017-18FSAE® IC3.4)

1. The vehicle that completed the endurance event is subject to the noise test.
2. The method of the noise testing applies IC 3.2 correspondingly.
3. It calls a penalty as follows according to measurements.
 - Up to +1dB of Reference Value(RV) is no penalty.
 - Over +1dB up to +2dB of RV is a penalty of ten points.
 - Over +2dB of RV is a penalty of 20 points.

J2017-14 Fuel Supply (refer to rule IC2.1 of 2017-18 FSAE®)

It shall be permitted to obtain a full tank of fuel at the fueling station before undergoing the Technical Inspections. The only fuel that shall be permitted is that supplied by the host at the Competition.

J2017-15 Fuel Tank and Exhaust Pipe distance (refer to rule IC2.4 and IC2.5 of 2017-18 FSAE®)

Teams shall be secure the clearance of fuel tank and an exhaust pipe not less than 50 mm.

Add heat shields with fire resistance equal to a fire wall also submit the evidence which proves this as there is no moving fuel temperature beyond the 50% distillate temperature of JIS standard K2202-2012 if teams can't secure a clearance of 50mm.

J2017-16 Distinguishing Colors of Master Switches and Shut Down Buttons (refer to rules IC4.1, IC4.2, IC4.3, EV5.2, and EV5.3 of 2017-18 FSAE®)

Master switches and shut down buttons shall be red.

Switches other than the cockpit-mounted master switch and cockpit-mounted shut down button that are installed around the driver's seat shall be any color apart from red.

J2017-17 Driver's Equipment (refer to rules T14.1 of 2017-18 FSAE®)

The equipment in accordance with the latest standards which is safer than 2017-18 FSAE® is accepted.

J2017-18 Push Bar (refer to rule D12.2.3 of 2017-18 FSAE®)

Although it is recommended that a fire extinguisher shall be mounted to the push bar, this is not a requirement.

J2017-19 Understanding of Flags Used in Dynamic Events (refer to rule D9 of 2017-18 FSAE®)

Only team members that pass the Flag Test* in the Technical Inspections shall be permitted to drive in the dynamic events.

Team members that have passed the Flag Test shall be awarded a driver's wristband. Drivers without a wristband shall not be permitted to participate in the dynamic events. The maximum penalty for any irregularity shall be disqualification from the Competition.

* Flag test: Team members shall be shown several types of flags and asked to promptly describe in words the actions that must be taken in reaction to the flag (e.g., red flag = come to an immediate safe controlled stop, etc.).

J2017-20 Scatter Shield (refer to rule EV2.1.3 of 2017-18 FSAE®)

The gap between the hole of the motor casing and the scatter shield is allowed. As for the hole on a vertical surface to rotation axis, the scatter shield is unnecessary.

J2017-21 Ready-To-Drive-Sound (refer to rule EV4.13, EV4.13.1 to EV4.13.5 of 2017-18 FSAE®)

The car doesn't have to make a Ready-To-Drive-Sound.

J2017-22 Charging (refer to rules EV8.2.2 of 2017-18 FSAE®)

Accumulators do not need to be removed from the car for charging. However, the indicator in accordance with EV 3.3.9 must be visually confirmed when the charging connectors are plugged / unplugged. Structurally EV 3.2.4 is still applicable.

J2017-23 Relaxation of Rules for EV Chargers (refer to rule EV8.3, EV5.8 of 2017-18 FSAE®)

Teams may be exempted from complying with the three rules described below if all of the following conditions are satisfied: The Standard Charging Procedure and Charging Abnormality Procedure documents shall be submitted at the same time as the Electrical System Form, team members shall be fully trained in the application of these two

documents to charging operations, these team members shall constantly monitor the state of charging while in possession of these documents, and these team members shall be capable of taking the appropriate measures if an abnormality occurs during charging.

(1) The interlock function related to the connection state of connectors described in EV8.3.3 of 2017-18 FSAE®

(However, the method used to confirm the connection state of the charger and accumulator shall be clearly stated in the Standard Charging Procedure document.)

(2) The function to turn off the charger using the AMS described in EV8.3.5 of 2017-18 FSAE®

(However, it shall be possible to visually confirm the detection state of the AMS at all times. In addition, the abnormality types of AMS, judgment methods, and charging stop methods shall be listed in the Charging Abnormality Procedure document.)

(3) The function to turn off the charger using the IMD described in EV8.3.7 of 2017-18 FSAE®

(However, it shall be possible to visually confirm the detection state of the IMD at all times. In addition, the abnormality types of IMD, judgment methods, and charging stop methods shall be listed in the Charging Abnormality Procedure document.)

(4) The discharge function when an emergency shutdown occurs described in EV5.8.3 of 2017-18 FSAE®

(However, the operation procedure after the emergency shutdown button is pressed shall be listed in the Charging Abnormality Procedure document.)

J2017-24 Failure Modes and Effects Analysis (FMEA) (refer to rule EV9.2.1 of 2017-18 FSAE®)

Only No.30 to 40 described on “FMEA” sheet of 2017 Failure Modes and Effects Analysis Template(Update 10/27/16) (File name:2017-FMEA-template1.xls)are applicable.

J2017-25 Relaxation of Rules for First Year Vehicle (refer to rule A6.8 and S6.15 of 2017-18 FSAE®)

As for EV Category, teams may use their frame constructed for the 2016 Student Formula Japan Electric event if the frame meets or is modified to meet the applicable 2017-18FSAE® (Section T3 or Section AF), then penalties described in S6.15 are not applicable.

However as for ICV Category, the car still must have a completely new frame at least.

J2017-26 Submission of the ESF or FMEA (refer to rules EV9.3 and EV9.4 of 2017-18FSAE® and rule 11 of SFJ)

Re-submission of the Electrical System Form (ESF) or Failure Modes and Effects Analysis (FMEA) may be requested multiple times to ensure that these materials achieve a sufficient degree of completion. In the event that re-submission is required, a maximum of fifty (50) negative points will be penalized depending on the degree of completion of these materials at the final deadline. However, the combined penalty due to the degree of completion and due to the late submission defined in rule EV9.4 of 2017FSAE® shall not exceed fifty (50) negative points in total. In addition, the order of the Electrical Technical Inspection shall be determined based on the degree of completion of the ESF and FMEA, as well as the order in which the documentation is received.

J2017-27 Relaxation of Requirement for Electrical Connections to Use Positive Locking Mechanisms (refer to rule EV4.5.12 of 2017 -18FSAE®)

The requirement to use positive locking mechanisms described in EV4.5.12 of 2017-18 FSAE® shall be regarded as satisfied if the following condition is met.

Condition: If, during the vehicle inspection, the team can clearly demonstrate that sufficient axial force or contact pressure has been applied to the connections.

(A record of the fastening torque or riveting bonding force is acceptable.)

Furthermore, the structure shall allow no application of external force (tension, torsional, or flexural) from the wiring to the connection.

J2017-28 Relaxation of Requirement for Use of Sensors with Different Transfer Functions as Accelerator Pedal Position Sensors (APPS) (refer to rule EV2.3.4 of 2017-18 FSAE®)

There is no requirement for APPS with two different transfer functions.

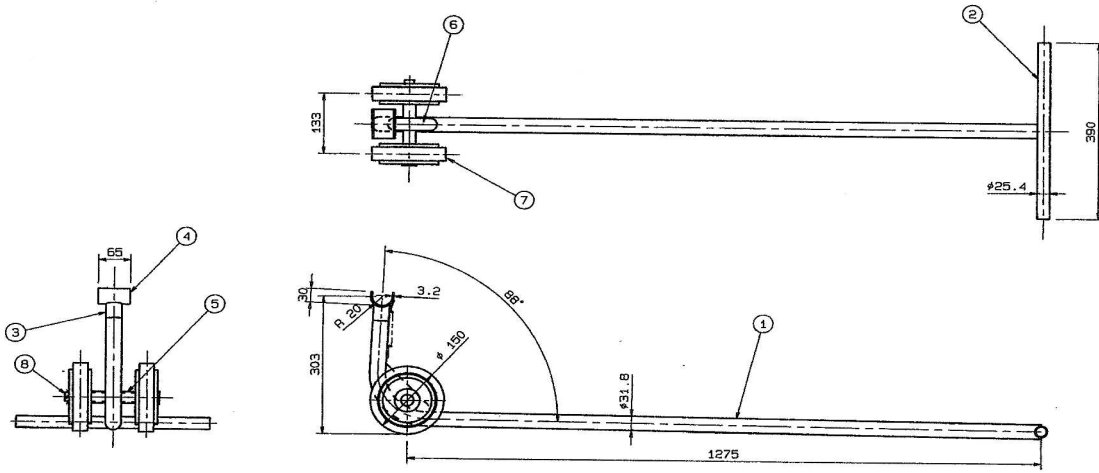
J2017-29 Relaxation of Weight Rule in the Accumulator Container Section Requirements (refer to rule EV3.4.6 of 2017-18 FSAE®)

Teams may comply with the design guidelines in the 2016 Formula SAE® Rules (EV3.4.6).

J2017-30 Relaxation of Prohibition of Cell Balancing when Accumulator Isolation Relays (AIR) Are Open (refer to rule EV5.1.3 of 2017-18 FSAE®)

This rule may be regarded as not applicable providing that the high voltage (HV) portions of the accumulator management system (AMS) are inside the accumulator container.

APPENDIX J-1
Quick Jack



8	SHAFT	1	S45C	
7	TYRE	2		
6	GUSSET	1	SPCC t 1.6	
5	HOUSING	1	SP225.4x12.5	
4	SUPPORT	1	SPCC t 3.2	
3	NECK	1	SS400	
2	HANDLE	1	SPW25.4x11.6	
1	MAIN TUBE	1	SPW31.8x11.6	
	QUICK LIFT JACK	1		
NO	PART NO	NAME	QTY	MATERIAL

