2020 Specifications Compliance
Score Card – Cadet Class

Judging Sub Category	Specifications	Team ID	
Primary Evidence	Primary Race Cars	Team Name	
Secondary Evidence	Engineering Drawings	School	
Criteria	1	Competition Class	

For clarification on individual regulations, refer to the 2020 Australian Technical Regulations.

Regulation	Regulation Overview	Quick Guide	Penalty	Car A	Judge 1	Judge 2	Deduction	Remarks	Rectification	
ARTICLE T2 – GENERAL PRINCIPLES									Pass/Fail	Pass/Fail
T2.4	Safe Construction	Visual Check	-10							
ARTICLE T3 – GENERAL CAR REGULATIONS									Pass/Fail	Pass/Fail
T3.1.1	Designed and engineered using CAD / CAM	Check Portfolio	-10							
T3.1.2	Body manufactured using CNC only.	Check Portfolio	-10							
T3.1.5	Mirrored Side Machining with 6mm cutter	Visual Check	-10							
T3.1.7	No separately formed balsa parts	Check Drawings	-10							
T3.1.8	Balsa default material for all non-rotating parts	Visual Check	-10							
T3.2.1	Leading Features Min Width – Foremost Extremity (FE)	3mm or R1.5mm	-10							
T3.2.2	Leading Features Min Width 6mm back from Foremost Extremity	6mm	-10							
T3.3.3	Hand Finishing Permitted. Max variation to CAD Model	3mm	-10							
T3.3.4	Hand created features not permitted	Visual Check	-10							
T3.4.2	REA Corporate Partner Decals (REA, DOD, F1iS, Visual Connections)	Visual Check	-2 ea							
T3.4.3.1	REA Corporate Logo Decals Minimum Dimensions	30mm x 15mm	-2 ea							
T3.4.3.2	Positioning of F1iS A & B Decals on Side Pods	Visual Check	-2 ea							
T3.4.3.3	Positioning of other Corp. Decals visible in top or side view	Visual Check	-2 ea							
T3.5	Undefined features	Check T1.6	-4							
			Points Penalty Page Total				-	Time Penalties Page Total	0.	s

LEGEND **Eligibility Regulations/Possible Disqualification** **Critical Regulations/Time Penalty (0.05s ea)**

2020 SPECIFICATIONS COMPLIANCE SCORE CARD – CADET CLASS

For clarification on individual regulations, refer to the 2020 Australian Technical Regulations.

Regulation	Regulation Overview	Quick Guide	Penalty	Car A	Judge 1	Judge 2	Deduction	Remarks	Rectification	
T3.6	Overall length	**Min:170 Max:210**	**-4**							
T3.8	Track clearance	**Min: 2mm**	-4							
T3.9.1	REA balsa default material for non-rotating components	**Visual Check**	**-4**							
T3.9.2	Balsa Thickness	**Min 3mm**	-1							
T3.10	Status during racing – no parts removed/added for racing	**Visual Check**	-2							
ARTICLE T4 – BODY & SIDE POD REGULATIONS									**Pass/Fail**	**Pass/Fail**
T4.1	Body construction – single continuous balsa between axles	**Visual & Drawing Check**	**-4**							
T4.2	Implants, foreign objects & voids not permitted	**Visual & Drawing Check**	**-4**							
T4.3	Side pod surface	**Min 30mm x 15mm**	-1							
T4.4	Virtual cargo – between centre line of front & rear axles	**T4.5**	**-4**							
T4.5	Virtual cargo identification on Engineering Drawings	**Drawing Check**	**-1**							
T4.6	Exclusion zones behind front wheels	**Min 15mm**	**-4**							
ARTICLE T5 – NOSECONE REGULATIONS										
T5.2	Nose cone non metallic material not behind front axle centre line									
ARTICLE T6 – WING RULES									**Pass/Fail**	**Pass/Fail**
T6.1	Identification of wing surfaces		**-1**							
T6.2.1	Front wing clear airspace	**Min 3mm**	**-4**							
T6.2.2	Rear wing clear airspace	**Min 3mm**	**-4**							
T6.3	Front wing/support structure in front of centre line of axle	**Visual Check**	-1							
T6.6	Front/support structure only connected to the nosecone	**Visual Check**	-1							
T6.7.1	Front wing span	**Balsa: Min 34mm**	**-4**							
T6.7.2	Rear wing span	**Balsa: Min 34mm**	**-4**							
			Points Penalty Page Total				**-**	**Time Penalties Page Total**	**0.**	**s**

LEGEND **Eligibility Regulations/Possible Disqualification** **Critical Regulations/Time Penalty (0.05s ea)**

2020 SPECIFICATIONS COMPLIANCE SCORE CARD – CADET CLASS

For clarification on individual regulations, refer to the 2020 Australian Technical Regulations.

Regulation	Regulation Overview	Quick Guide	Penalty	Car A	Judge 1	Judge 2	Deduction	Remarks	Rectification	
T6.9.1	Front wing chord	Min 15mm	-2							
T6.9.2	Rear wing chord	Min 15mm	-2							
T6.10.1	Front wing thickness	Balsa: Min 3.5mm Max: 9mm	-2							
T6.10.2	Rear wing thickness	Balsa: Min 3.5mm Max: 9mm	-2							
T6.11	Rear wing positioning behind centre line of rear axle	Visual Check	-1							
T6.12	Rear wing height measured normal to bottom surface	> 34mm	**-4**							
ARTICLE T7 – WHEEL REGULATIONS									**Pass/Fail**	**Pass/Fail**
T7.1	Number and location, common shared centreline	4, 2 x2	**-4**							
T7.2.1	Combination of four unmodified REA standard wheels	Visual Check	**-4**							
T7.5	Full contact width with race track – no camber	80gsm paper	-2							
T7.6	No tyre tread – consistent diameter & circumference	Visual Check	-2							
T7.7	Freely rotating wheels – forward rolling motion	Reasonably minimal effort	**-4**							
T7.8	Visibility in front view – permitted height of obstruction	Max 15mm	**-4**							
T7.9	Visibility from top, bottom & side. No obstruction	Min 1mm exclusion zone	**-4**							
ARTICLE T8 – WHEEL SUPPORT REGULATIONS									**Pass/Fail**	**Pass/Fail**
T8.3	Four unmodified REA axle grommets	Visual Check	**-4**							
T8.4.2	2 standard REA axles. No other material to be used.	Visual Check	-2							
T8.5.1	No added parts or modifications to wheel systems	Visual Check	-2							
			Points Penalty Page Total				**-**	**Time Penalties Page Total**		**0. s**

LEGEND **Eligibility Regulations/Possible Disqualification** **Critical Regulations/Time Penalty (0.05s ea)**

2020 SPECIFICATIONS COMPLIANCE SCORE CARD – CADET CLASS

For clarification on individual regulations, refer to the 2020 Australian Technical Regulations.

Regulation	Regulation Overview	Quick Guide	Penalty	Car A	Judge 1	Judge 2	Deduction	Remarks	Rectification	
ARTICLE T9 – TETHER LINE GUIDE REGULATIONS									**Pass/Fail**	**Pass/Fail**
T9.1	2 guides firmly secured, front and rear underside of car	Visual Check	-1							
T9.2	Longitudinal separation measured inside edges of guides	Min 120mm	-1							
T9.4.1	Guides must be closed for racing	**Visual Check**	**-4**							
T9.4.2	No sharp edges	**Visual Check**	**-4**							
T9.4.3	Adequate strength & fixing	**200g mass**	**-4**							
T9.5.1	2 Standard REA Tether Line Guides	Visual Check	-1							
T9.5.2	Placement must be within the 6mm x 6mm tether slot feature	Visual Check	-1							
ARTICLE T10 – POWER PLANT PROVISIONS REGULATIONS									**Pass/Fail**	**Pass/Fail**
T10.1	Cylinder must interface with launch pod	**Visual Check**	**-20**							
T10.2	CO_2 cylinder chamber diameter	19mm	-1							
T10.3	Depth of chamber	Min 50mm Max 60mm	-1							
T10.4	Height of lowest point of chamber above track surface	**Min 22mm**	**-4**							
T10.5	CO_2 cylinder chamber completely surrounded by balsa	**Min 3mm**	**-4**							
T10.6	Paint & other materials not present in CO_2 cylinder chamber	Visual Check	-1							
T10.7	CO_2 cylinder inserted & withdrawn – no removal of car parts	**Visual Check**	**-4**							
			Points Penalty Page Total				**-**	**Points Grand Total**		**/80**
			Time Penalties Page Total				**0. s**	**Time Penalty Grand Total**		**0. s**

LEGEND **Eligibility Regulations/Possible Disqualification** **Critical Regulations/Time Penalty (0.05s ea)**

2020 MANUFACTURING (CADET)
SCORE CARD

JUDGING SUB CATEGORY	MANUFACTURING	TEAM ID	
PRIMARY EVIDENCE	EXAMINATION OF CAR IN PARC FERME	TEAM NAME	
SECONDARY EVIDENCE	NIL	SCHOOL	
CRITERIA	3	COMPETITION CLASS	

	Low	Developing	Advanced	Score
Criteria	**0 1 2**	**3 4 5 6**	**7 8 9 10**	**/10**
3.6 **Quality of Finished Product - Geometry/Form**	Reasonable form with some inconsistencies	Good overall form and assembly with attention to detail	Exceptional attention to detail across all aspects of form.	/10
3.7 **Quality of Finished Product - Surface finish**	Reasonable finish with some inconsistencies	Good overall finish quality with attention to detail	Showcase finish quality. Exceptional attention to detail.	/10
			Manufacturing GRAND TOTAL	/20

2020 Engineering Design (Cadet) Score Card

Judging Sub Category	Engineering Design Process	Team ID	
Primary Evidence	Team Poster	Team Name	
Secondary Evidence	Optional Team Interview	School	
Criteria	4	Competition Class	

	Low	Developing	Advanced	Score
Criteria	0 1 2	3 4 5 6	7 8 9 10	/10
4.1 Ideas	Single or basic concepts	Multiple concepts with links to research.	Several technically inspired ideas for different car features/functions	/10
4.4 Analysis	Little evidence of analysis	Analysis which is relevant and results documented	Quality analysis methodologies. Accurate results and data linked to design revisions. Advanced use of CFD and other design tools.	/10
4.6 Evaluation	No or limited evaluation	Evaluations at different stages	Excellent ongoing evaluations linked to improvement actions	/10
4.7 Overall Design Technical Merit	Basic design process with little technical merit	Developed design process with some technical merit	Original & clever developed design process with excellent technical merit	/10
			Design Process GRAND TOTAL	/40