

# REGULAR CLASS INSPECTION CHECKLIST

## Technical and Safety-2016

TEAM NUMBER: \_\_\_\_\_

TEAM NAME: \_\_\_\_\_

**Caution: Aircraft is to be presented with prop, flight battery AND red shunt plug removed**

With the exception of a standard tape measure and official test blocks and gauges, team must provide any materials and/or tools required to demonstrate compliance with Technical Inspection requirements.

	PASS	FAIL	
<b>Flight battery, prop AND red arming plug removed</b>	_____	_____	Safety
<b>General Aircraft Requirements</b>			
<b>Aircraft Identification</b>			2.1
University Name and address on inside or outside of aircraft	_____	_____	2.1.1
3" minimum size team number on top and bottom of the wing	_____	_____	2.1.2
3" minimum size team number on sides of aircraft (vertical tail or fuselage)	_____	_____	2.1.2
University name or initials clearly displayed on the wings or fuselage.	_____	_____	2.1.3-4
<b>Empty CG Design Requirement and Empty CG Markings</b>			2.3
Aircraft empty CG is located in a safe flyable position	_____	_____	2.3.1
All aircraft have the fuselage clearly marked on both sides with a classic CG symbol (at least .5" in dia.) centered on the Empty CG location	_____	_____	2.3.2
Empty CG position on aircraft matches submitted drawing	_____	_____	2.3.3/6.1.3
<b>Aircraft uses a 2.4 GHz radio control system</b>	_____	_____	2.6
<b>Spinner or model aircraft type safety nut installed</b>	_____	_____	2.7
<b>No metal prop</b>	_____	_____	2.8
<b>No lead used in any portion of the aircraft or payload</b>	_____	_____	2.9
<b>Payload does not contribute to the structural integrity of the airframe</b>	_____	_____	2.10.
<b>Aircraft Ballast</b>			2.11
Ballast not installed in closed payload bay	_____	_____	2.11.1/.4
Ballast stations must be indicated on 2D drawing (if ballast is used)	_____	_____	2.11.2
Ballast must be properly secured to avoid shifting or falling off the aircraft	_____	_____	2.11.3
<b>Aircraft is powered only by the Engines/Motors installed in aircraft</b>			
No other forms of stored potential or kinetic energy may power the aircraft in flight	_____	_____	2.12
<b>Control surfaces, hinges and control horns secure and free from slop</b>	_____	_____	2.13
<b>All servos properly sized for aircraft</b>	_____	_____	2.14
<b>All linkages secure. If a clevis is used, it must have a keeper</b>	_____	_____	2.15

	PASS	FAIL	Rule
<b>Red arming plugs for electric aircraft</b>			2.16
Aircraft must have a discrete and removable red arming plug	_____	_____	2.16
Arming plug must be located on top of aircraft	_____	_____	2.16.2
Arming plug is located between 40 and 60% of the fuselage length from prop	_____	_____	2.16.1
(Teams may not disconnect wiring harness to arm and disarm their system)	_____	_____	2.16.3
<b>Safety equipment</b>			
Team must present at least two pairs of safety glasses for inspection	_____	_____	1.17.5
<b>Regular Class Requirements</b>			
<b>Aircraft Dimensions</b>			
Length + width + height = 175 inches or less (tolerance + .25")	_____	_____	7.1
(Aircraft MUST be measured in takeoff position)			7.1
Aircraft length, wingspan and height measured and compared to 2D drawing.	_____	_____	6.1
Tolerance+/- .25". Any other measurement on the drawing may be inspected. Deviation from drawing requires Eng. Change Request (ECR)	_____	_____	6.1.1
<b>Restricted Material and Equipment</b>			
Confirm no fiber reinforced composite material in aircraft	_____	_____	7.2.1
(Exceptions are commercially available FRP prop, landing gear, motor mount and minor hardware)			7.2.2
Wing is not retained with rubber bands	_____	_____	7.2.3
No gyroscopic assist or autopilot installed	_____	_____	7.2.4
<b>Flight Battery</b>			
Battery must be a clearly marked commercially available <b>six cell</b>			
Lithium polymer pack of <b>3000 mAh</b> minimum capacity and <b>rated at least 25C</b>	_____	_____	7.3.3
Battery and battery plug easily accessible	_____	_____	Safety
Battery properly restrained against all flight loads	_____	_____	Safety
<b>Enclosed Payload Bay and Payload</b>			
Official Payload Bay test block must fit in Payload Bay	_____	_____	7.4.2.6
Payload bay dimensions are 4" x 4" x 10", plus .125", minus 0"	_____	_____	7.4.2.2
Enclosed payload bay must have a continuous top, bottom and four sides	_____	_____	7.4.2.1
At least one side must be removable for payload bay access	_____	_____	7.4.2.3
The interior surfaces of the payload bay must be smooth and unbroken	_____	_____	7.4.2.4
Payload support assembly must prevent weight from shifting	_____	_____	7.4.3.1
Only the payload support can penetrate the payload bay (no lightning holes)	_____	_____	7.4.2.5
Payload support assembly must be removable for the payload bay fit check	_____	_____	7.4.2.6
Payload consists of plates and plates are retained as one homogenous mass	_____	_____	7.4.3
No excessive payload support structure hardware extending past payload bay	_____	_____	7.4.2.7
Tape, Velcro, rubber bands and friction systems not be used to retain payload	_____	_____	7.4.3.5
<b>Power Limiter</b>			
Model must have a unmodified 2015 version 1000 watt SAE			
Power Limiter properly installed, accessible and securely mounted	_____	_____	7.3.4

	PASS	FAIL	Rule
<b>Wings and tail assemblies free of warps and mounted securely</b>	_____	_____	Safety
<b>Landing Gear and Wheels</b>			
Landing gear mounted securely	_____	_____	Safety
Wheel collars secure	_____	_____	Safety
<b>Motor and Electronic Speed Control (and gear box if applicable)</b>			
Motor (and 1/1 gear box if installed) properly mounted and secure	_____	_____	Safety
Prop rotates at same RPM as motor (no gear reduction)	_____	_____	7.3.2
<b>Radio Equipment</b>			
All servos installed properly and securely	_____	_____	Safety
Radio power switch mounted properly if RX battery used	_____	_____	Safety
1000 mAh minimum radio battery, properly secured, Lipo or LiFe, (regulator allowed)	_____	_____	7.3.5
Receiver mounted securely	_____	_____	Safety
<b>Throttle and Radio Function</b>			
Confirm red arming plug removed	_____	_____	Safety
Flight battery installed and connected	_____	_____	Safety
Turn on TX and aircraft radio system	_____	_____	Safety
Install red arming plug	_____	_____	Safety
All flight control and ground steering servos operate in correct direction and without clashing or overloading	_____	_____	Safety
Check for correct throttle response	_____	_____	Safety
Motor turns in correct direction	_____	_____	Safety
Check that low throttle and/or low throttle trim completely stops motor	_____	_____	Safety
Radio fail safe functional: Motor must go to zero RPM if TX signal lost	_____	_____	2.6
Remove red arming plug, remove flight battery and confirm aircraft is off.	_____	_____	Safety
Turn off TX	_____	_____	Safety
<b>Inspection Sticker(s)</b>			
All airframe parts and batteries stickered after technical inspection (wings, fuselage, tail, demo payload, spare airframe parts, if any)	_____	_____	
<b>First Inspection</b>	_____		
<b>Second Inspection</b>	_____		

**Instructions: First inspector notes pass or fail items. If anything does not pass, that item must be corrected by the team and re-inspected by the second inspector.**