



# T4 Cadet

## T4 Series Global Regulations 2025

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**T4**  
SERIES



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## **Section A: Chassis**

1. Tillotson T4 Cadet chassis: P/N: T-CHS-BB1
  - 1.1. No upgrades or after-market components are permitted to install on the chassis.
  - 1.2. No modifications or structural changes can be made to either the chassis or any related components.
  - 1.3. All components must comply with diagram of T-CHS-BB1 (Ref: Appendix 1)
  - 1.4. The chassis colour must remain as originally supplied. Tillotson Blue (RAL5015).
  
2. Rear Axle: P/N: T-AXL-30D960M
  - 2.1. Tillotson laser marked axle is mandatory to use as originally supplied.
  - 2.2. Dimensions: AXLE Ø30X5X960MM MOD.M TILLOTSON
  - 2.3. No shortening of the axle is allowed. Total Length 960mm.
  - 2.4. Axle ride height can be adjusted between the three pre-set positions of Standard/High/Low. No additional machining can be made to alter the position of axle.
  - 2.5. Maximum Rear width is controlled by the mounting face of the rear hub not extended past the axle end point.
  - 2.6. Maximum Rear Width permitted is 1,140mm. Measurement is made from edge to edge of tyre on both sides.
  - 2.7. In wet weather conditions the Minimum Rear Width permitted is 1,065mm. Measurement is made from edge to edge of tyre on both sides.
  
3. Rear Axle Bearings: P/N: T-AXL-BRG3062
  - 3.1. Dimensions Ø30X62MM with 3 pins for Ø30mm axle.
  
4. Rear Axle Bearing Carrier: P/N: T-AXL-BBSUP62
  - 4.1. Dimensions: Ø62MM for Ø30mm axle.
  - 4.2. ANODIZED- TILLOTSON laser marked part is mandatory.
  - 4.3. All mounting bolts must be installed in bearing carrier.
  - 4.4. Bearing carrier mounting position can be adjusted between three pre-set positions to achieve Axle running position of Low/Standard/High. No additional machining can be made to change the mounting position of bearing carriers.
  
5. Sprocket Carrier: P/N: T-AXL-SUPSPT30
  - 5.1. ANODIZED- TILLOTSON laser marked part is mandatory.
  - 5.2. The Sprocket size is free, unless otherwise stated, for mounting onto the carrier.
  - 5.3. A sprocket protector is recommended but optional.
  
6. Rear Axle Hubs: P/N: T-HUB-RR3035 / T-HUB-RR3040
  - 6.1. Only original supplied Tillotson. Dimensions: Ø30XL35-40MM
  - 6.2. TILLOTSON REAR HUB ANODIZED laser marked part is mandatory.
  - 6.3. No alternative Hub lengths are permitted.

7. Brake System: P/N: T-BRK-SYS30

- 7.1. Brake system ANODIZED with Tillotson Laser Marking along with all original related components is mandatory. (Ref: Appendix 1)
- 7.2. Brake Safety cable must be installed: P/N: T-BRK-SFTCBL
  - 7.3. Ø30MM Brake disc Carrier: P/N:
  - 7.4. BLACK LINE REAR BRAKE DISC: P/N:
  - 7.5. TILLOTSON BRAKE PUMP Ø19MM ANOD. INOX: P/N:
  - 7.6. R1 REAR BRAKE PAD BLUE: P/N:

8. Steering System and Components:

- 8.1. Only original supplied material is permitted as per T-CHS-CS2-MK (Ref: Appendix 1)
- 8.2. TILLOTSON LEFT SPINDLE Ø17MM, BEARINGS Ø10MM: P/N: T-SPD-LFT17
- 8.3. TILLOTSON RIGHT SPINDLE Ø17MM BEARINGS Ø10MM: P/N: T-SPD-RGH17
- 8.4. Front Ride Height can be adjusted by changing the configuration of the spacers provided. There are three optional positions Low/Standard/High
- 8.5. STEERING COLUMN SUPPORT 2 HOLES: P/N: T-STR-COLSUP1
- 8.6. TIE ROD L270MM ANODIZED TILLOTSON: P/N: T-TIE-ROD270
- 8.7. Tie rods can be installed in any of the available mounting positions on both steering columns and left/right spindles.
- 8.8. UPPER HEAD ECCENTRIC 2MM Ø10MM: P/N: T-SPD-UECC
- 8.9. LOWER HEAD ECCENTRIC 2MM Ø10MM: P/N: T-SPD-LECC
- 8.10. Only Caster / Camber Pills provided as standard are permitted for use. Any configuration within these perimeters is allowed.
- 8.11. TILLOTSON DIESIS KART STEERING WHEEL: P/N: T-STR-WHL1
- 8.12. TILLOTSON STEERING WHEEL SLANTING HUB ANOD: P/N: T-STR-HUB1
- 8.13. Only standard steering wheel and steering boss can be used with the exception of one optional part which is an angled steering plate (T-STR-7SLPL), of which a maximum of 2pcs can be mounted. The steering boss has two optional mounting positions of High/Low. No alternative mounting positions are permitted.
- 8.14. Data Acquisition / Lap timer / RPM counter permitted to be installed.

9. Bodywork: KG-MK14 or KG-MK20

- 9.1. Only KG-MK14 or KG-MK20 bodywork is permitted for use.
- 9.2. CIK2015FrontSpoilerMountedBlocksaremandatory:P/N: T-SPO-PLATE

10. Engine Mount:

- 10.1. Engine mount P/N: T-ENG-MNTMK is mandatory.

11. Engine Mount:

- 11.1. Engine mount P/N: T-ENG-MNTMK is mandatory.

12. Fuel Tanks:

- 12.1. Fuel tanks must be secured with supplied mounting kits.
- 12.2. Fuel tanks must also have breather pipe/overflow bottle.
- 12.3. FUEL TANK 4.5L, P/N: T-TNK-4L

### 13. Chain Guard:

- 13.1. Only one version of Chain Guard is permitted which is the original version supplied with the T4 Kart Package – P/N: T-CHN-GUARD2
- 13.2. The Chain Guard is to be mounted using only the original chain guard mounting bracket and support kit – P/N: T-CHN-GRDSUPP.

## **Section B: Engine**

### 1. Tillotson TPP105R-T4-Cadet-PKG-01 Engine:

- 1.1 The engine must remain as original from factory.
- 1.2 No after-market parts are permitted unless stated in TPP-196R engine fiche document.
- 1.3 No machining or other modification of interior engine surfaces (deburring, honing, grinding, polishing, sanding, media blasting, heat treatment) is permitted.
- 1.4 All parts are subject to visual comparison and must remain in substantially unaltered form when compared to an original part.
- 1.5 Engine and all components must comply with engine fiche document.

### 2. Material Permitted to Manipulate:

The following areas of adjustment and cleaning are permitted within reason. Any effect that alters the integrity of the components or which in the sole opinion of the scrutineer extends beyond reasonable cleaning is prohibited.

- 2.1 Valve clearances may be adjusted, and valves may be cleaned; however, valves must remain with the factory specification of 45-degree angle only. Valve seats of additional angles and/or angles not comparable to the factory stock of 30-45-60 degrees are not permitted.
- 2.2 Spark plugs may be cleaned to remove carbon.
- 2.3 The piston and combustion chamber may be cleaned to remove carbon.
- 2.4 Damaged thread repair: It is permitted to use Heli-coil or a similar thread repair insert as long as the part, after repair, is within the dimension, weight or measurements set on the engine fiche document.

### 3. Engine Components:

- 3.1 Engine ignition switch and wires must remain in original location. It is not permitted to alter the wiring.
- 3.2 It is mandatory to use the original Air filter assembly, P/N 306102054. No modification to the filter element is permitted.
- 3.3 A protective shield may be attached for wet-weather competition. It is not permitted for the protective shield to create any ram-air effect.
- 3.4 The rain shield is only permitted to be used when the track is declared wet or open. It is not permitted to be used when the track is declared as a dry race.
- 3.5 Pulse signal from the engine must be taken from the carburettor pulse connector to the fuel pump connection.
- 3.6 Only original Fuel Pump is permitted. P/N: FP-10A
- 3.7 It is mandatory to use the clutch guard as supplied (T-CLU-GRD-01). A minimum of two bolts must be used to mount the supplied chain guard.

- 3.8 A maximum of one in-line fuel filter is mandatory to ensure that dirt and contamination within the fuel system does not affect engine performance. We recommend the supplied FS- 1P.
- 3.9 Blower housing / starter assembly must be original and properly installed. No taping, covering, or restricting of air of any part of this assembly is permitted.
- 3.10 No aftermarket kill switch may be allowed and the OEM kill switch must be as supplied by manufacture.

#### 4. Exhaust System:

- 4.1 The Exhaust System is mandatory as supplied by Tillotson with the engine.
- 4.2 Exhaust System comprises of the following P/N's: 306102057, 306102058, 306102060.
- 4.3 All parts must remain as originally supplied. No tuning, modification or manipulating of material is permitted.
- 4.4 The Exhaust Gauze must remain intact as originally supplied.
- 4.5 Exhaust gasket must be original, one and only one piece may be used. Use of silicone is permitted.
- 4.6 Use of an O2, EGT or CO2 sensor is NOT permitted.

#### 5. Clutch:

- 5.1 The following clutch options are permitted.
  - P/N: T-CLU-NS-18T-BB01 / T-CLU-18T-01
- 5.2 The clutch must be original as supplied by the manufacturer and no tuning, modification or manipulating of material is permitted.
- 5.3 It is strongly advised to mount the clutch inboard to avoid added strain on the crankshaft.

#### 6. Spark Plugs:

- 6.1 The original spark plug supplied with the engine – Autolite 255 is mandatory to use P/N 306102022.
- 6.2 Sealing washer must be in place and remain original on the stock spark plug used. Temperature thermocouple is permitted once the sealing washer is not modified.

***During technical inspections, a new stock part can be used as reference to compare a competitor's part for legality.***

### **Section C: Carburettor**

#### 1. Tillotson FM10-1A Carburettor:

- 1.1 The carburettor must remain as originally supplied from Tillotson.
- 1.2 No after-market parts are permitted.
- 1.3 No machining or other modification of the surface finish is permitted.
- 1.4 Only the Tillotson supplied jets and slides are permitted for use.
- 1.5 All parts are subject to visual comparison and must remain in substantially unaltered form when compared with an original part.
- 1.6 Carburettor and all components must comply with carburettor fiche.



## Tillotson TPP-105R Engine Fiche T4 Series Global Rules 2025





FEATURE	SPECIFICATIONS
Engine Type	2 Valve 4-Stroke
Fuel Type	Unleaded Petrol
Cylinder	Single Aluminum Block w/Cast Iron Sleeve
Cylinder Volume	105cc
Bore	54mm
Stroke	46mm
Cooling System	Air
Carburetor	Tillotson FM10-1A
Cylinder Head	Aluminum Alloy 2-Valve Over Head Valve
Compression Ratio	8.6 : 01
Rod Length	76mm
Engine Oil	Tillotson T4 Racing Oil, 350 ml ± 50 ml

Engines must conform to the technical data provided with no modification or machining allowed. Parts must be original as supplied by the manuf







Cylinder Head PN 306102021		
A.	Overall Height	52mm min
B.	Intake Seat ID	19.06mm ± 0.2mm
C.	Exhaust Seat ID	16.83mm ± 0.2mm
D.	Intake Port Max Height	18.09mm ± 0.2mm
E.	Intake Port Max Width	18.09mm ± 0.2mm
F.	Exhaust Port Max Height	18.15mm ± .02mm
G.	Exhaust Port Max Width	18.15mm ± .02mm

			
<b>Cylinder Head Gasket PN 306102024</b>		<b>Rocker Arm PN 306102037</b>	
Material	Composite	Material	Steel
Thickness	1.26 mm ± .3 mm		

					
<b>Valve Lifter/Tappet PN: 306102040</b>		<b>Valve Spring PN: 138190087</b>		<b>Push Rod PN: 306102039</b>	
Overall Length	33mm ± 0.2 mm	Material	Steel	Material	Steel
Stem Diameter	6mm ± 0.2 mm	Diameter	1.62mm ± 0.25mm	Overall Length	115 mm ± 0.25 mm
Head Diameter	19.7mm ± 0.2 mm	Overall O.D.	15.8 mm ± 0.2 mm	Rod Diameter	4 mm ± 0.2 mm
Weight	12.5g +/- 0.5g	Weight	3.0g ± 0.3g	Weight	11g min



					
<b>Intake Valve PN: 306102044</b>		<b>Sparkplug</b>		<b>Exhaust Valve PN: 306102043</b>	
Material	Alloy Steel	Model	255 or BMR7A	Material	Alloy Steel
Overall Length	42mm min	Brand	Autolite or NGK	Length	42mm min
Stem Diameter	5.3mm min			Stem Diameter	5.3mm min
Head Diameter	19.05mm max			Head Diameter	21.15mm max
Weight	12.5g min			Weight	14g min

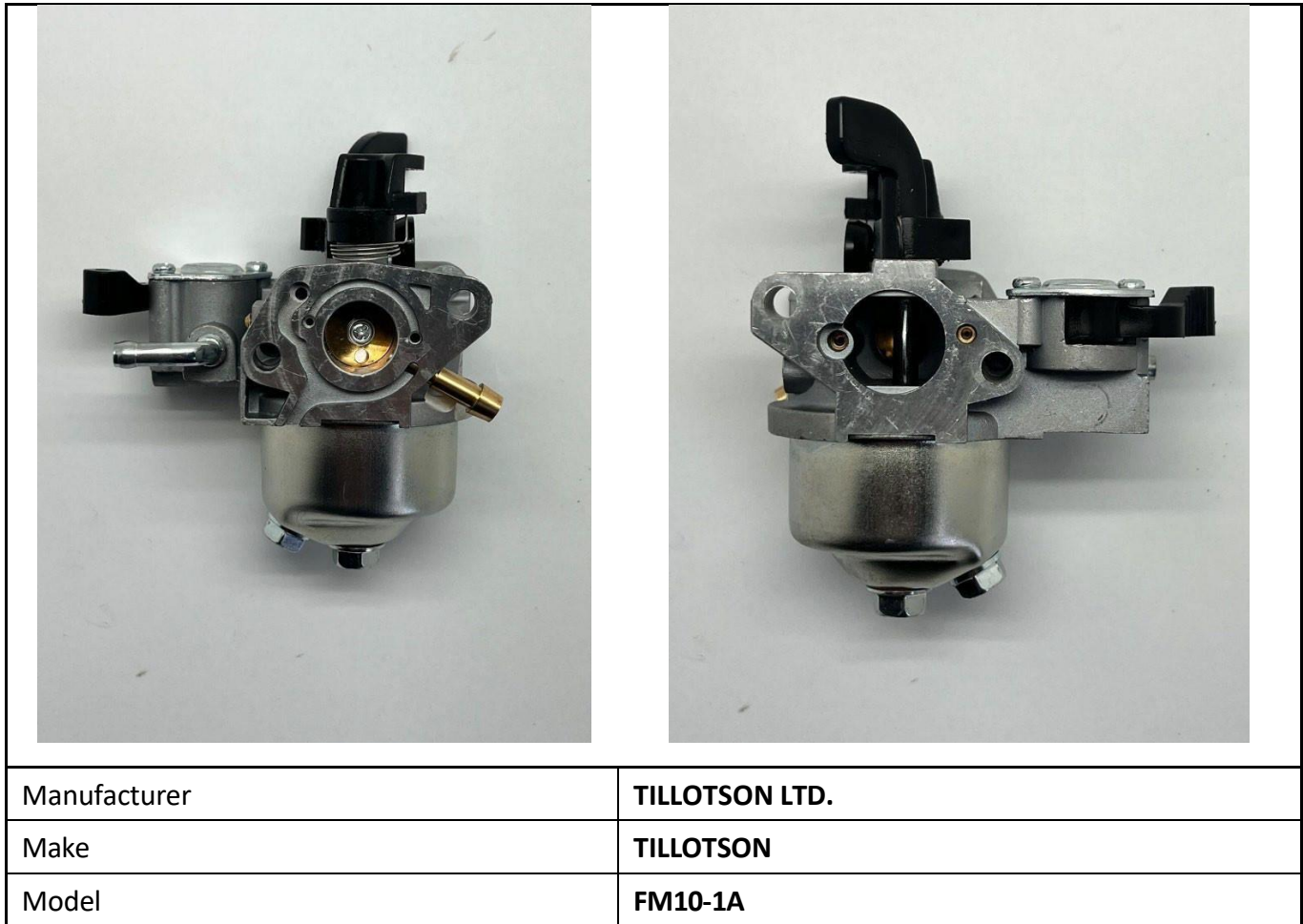
					
<b>Ignition Coil PN: 306102069</b>		<b>Clutch PN T-CLU-NS-18T-BB01</b>		<b>Exhaust PN 306102058</b>	
RPM Limin	No Limit	Brand	Noram Stinger	Overall Length	126.2mm
Type	Analog TCI	Weight	1.245kg (with keyway)	Overall Width	78.2mm
		Clutch Shoes	3pcs	Exhaust Outlet	17mm
		Clutch Springs	3pcs	Weight	242g

	
<b>Exhaust Gasket PN 306102060</b>	
Thickness	3.84mm
Centre Hole Diameter	18.16mm

<b>Fastener Torque Specs</b>		
<b>Description</b>	<b>Wrench/ Socket Size</b>	<b>Torque</b>
Blower Housing	8 mm	10 N.m
Carburetor to Manifold	10 mm	10 N.m
Connecting Rod	1/4" 12 Point	13 N.m
Cylinder Head Bolts	12 mm	20 N.m
Exhaust Brace Screw	13 mm	24 N.m
Exhaust Stud	8 mm	10 N.m
Flywheel Fan	21 mm	40 N.m
Intake to Cylinder Head	5 mm	10 N.m
Oil Drain Plug	10 mm	20 N.m
Rocker Arm Stud	12 mm	24 N.m
Rocker Arm Set Screw	10 mm	10 N.m
Sparkplug	21 mm	24 N.m
Side Cover	10 mm	18 N.m
Valve Cover	8 mm	7 N.m

APPENDIX 2  
Carburetor Fiche

**CARBURETOR  
TILLOTSON FM10-1A**



<b>Measurements &amp; Tolerance Index</b>			
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>TOLERANCE</b>	<b>METRIC</b>
1	Venturi Max Measurement	0.421" Max	10.7mm Max
2	Throttle Bore Diameter	0.594" Max	15.1mm Max
3	Air Jet for Idle	0.048 +/- 0.004"	1.22 +/- 0.1mm
4	Air Jet for Main Jet	0.033 +/- 0.004"	0.85mm +/- 0.1mm
5	Emulsion Tube Drilling Dia. (x 16)	0.024" Max	0.62mm Max
6	Emulsion Tube Drilling Dia. Top (x 2)	0.029" Max	0.75mm Max
7	Emulsion Tube Dia. at Top	0.061" Max	1.55mm Max
8	Emulsion Tube Dia. at Bottom through centre	0.067" Max	1.7mm Max
9	Emulsion Tube Length	1.063 +/- 0.006"	27.02mm +/- 0.15mm
10	Main Jet Orifice	0.019" +/- 0.002"	0.5mm +/- 0.05mm
11	Inlet Seat Diameter	0.051 +/- 0.004"	1.3mm +/- 0.1mm
N/A	Float Weight (W/O Needle attached)	0.141 +/- 0.017Oz	4g +/- 0.5g
N/A	Feedhole for Air Jet (under plastic cover)	0.087 +/- 0.004"	2.23mm +/- 0.1mm
12	Butterfly Diameter	0.59 +/- 0.004"	15mm +/- 0.1mm
N/A	Butterfly Thickness	0.039 +/- 0.004"	1mm +/- 0.05mm
13	Insulation Block Diameter	0.7 +/- 0.004"	17.76mm +/- 0.1mm
N/A	Insulation Block Thickness	0.226 +/- 0.004"	5.76mm +/- 0.1mm

