



T4 MINI

T4 Series Global Regulations 2025



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Section A: Chassis

1. Tillotson T4 Mini chassis: P/N: T-CHS-CS2-MK
 - 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-CS2-MK (Ref: Appendix 1)
 - 1.4. The chassis colour must remain as originally supplied. Tillotson Blue (RAL5015).
2. Rear Axle: P/N: T-AXL-30D980M
 - 2.1. Tillotson laser marked axle is mandatory to use as originally supplied.
 - 2.2. Dimensions: AXLE Ø30X5X980MM MOD.M TILLOTSON
 - 2.3. No shortening of the axle is allowed. Total Length 980mm.
 - 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 ANODIZED: P/N: T-STR-HUB1
- 8.13. Only original steering wheels 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. Seats & Supports:

- 9.1. Only original Tillotson Silver Line Racing Seats are permitted for use.
- 9.2. Seat P/N: T-SE-XXS / T-SE-XS / T-SE-RS1.
- 9.3. One (1) optional seat support can be installed on the left side. P/N: T-SE- SUP280 / T-SE- SUP300 / T-SE-SUP320 / T-SE-SUP340 / T-SE-SUP360 / T-SE-SUP400
- 9.4. No additional bars or extension bars are permitted for use to alter the mounting position of seats. Seats must be mounted to chassis seat support points.

10. Rims:

- 10.1. Tillotson Aluminium Laser Marked Rims are mandatory.
- 10.2. Slick Set of Rims consists of 2 x T-RIM-FRT115 and 2 x T-RIM-RR140. It is not permitted to use any other size Rim for use with slick tyres.
- 10.3. Wet Set of Rims consist of 2 x T-RIM-FRT115 and 2 x T-RIM-RR140. It is not permitted to use any other size Rim for use with wet tyres.
- 10.4. TILLOTSON VENTED ALUMINIUM FRONT RIM L115MM: P/N: T-RIM-FRT140. (From 2023 onwards there was a running change to this PN, with dimensions changed to overall width of product, now 109MM, which is permitted to use.)
- 10.5. TILLOTSON VENTED ALUMINIUM REAR RIM L140MM: P/N: T-RIM-RR140. (2023 onwards there was a running changed to this PN, with dimensions changed to overall width of product, now 146MM, which is permitted to use.)
- 10.6. It is permitted to use alternative beads and O-rings in the Rims.

11. Bodywork: KG-MK14 or KG-MK20

- 11.1. Only KG-MK14 or KG-MK20 bodywork is permitted for use.
- 11.2. CIK 2015 Front Spoiler Mounted Blocks are mandatory: P/N: T-SPO-PLATE.

12. Body Work Supports:

- 12.1. It's mandatory to use the CIK stamped Bodywork supports as supplied.

13. Engine Mount:

- 13.1. Engine mount P/N: T-ENG-MNTMK / **T-ENG-MNT3** is mandatory.

14. Fuel Tanks:

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

15. Chain Guard:

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

16. Permitted Optional Extras:

- 16.1. P/N: T-PLT-FR01: TILLOTSON FOOTREST PLATE CHROMED
- 16.2. P/N: **T-PLT-FR02: Tillotson Footrest Plate Type 2**
- 16.3. P/N: T-PED-FTSY-01: Tillotson footrest system 4mm
- 16.4. P/N: T-PEDAL-EXT-SET-01: Pedal Extenders Set PDL-ADP
- 16.5. P/N: T-FRA-PR01: CHASSIS PROTECTION KIT
- 16.6. P/N: T-SPR-PROT: SPROCKET PROTECTION KIT
- 16.7. P/N: T-STR-7SLPL: STEERING WHEEL PLATE – 7 DEG SLANTING
- 16.8. All optional extras must be used as originally supplied by Tillotson

Section B: Engine

1. Tillotson **TPP225RS-03** Engine:

- 1.1 The engine must remain as original from factory.
- 1.2 No after-market parts are permitted unless stated in **TPP225RS-03** 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.
- 1.6 Engine fairings / covers must remain as original with no aftermarket stickers permitted. It is allowed to run without the original stickers if removed for any reason.

2. Sealing:

- 2.1 **TPP225RS-03** engines must be fitted with the original engine ID Seal correlating with the engine ID number as supplied from the Tillotson factory. If an alternative seal number is identified the engine is not valid for competition.
- 2.2 Tillotson are the only sealing agent permitted to open the engines and re-seal as necessary unless there is an appointed sealing agent in the designated country.

3. 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.

- 3.1 Valve clearances may be adjusted, and valves may be cleaned. Re-surfacing of the valve seat is permitted but it must remain as per the original valve seat angles. Valve seats of additional angles and/or angles not comparable to the factory stock of 30-45-60 degrees are not permitted.
- 3.2 Spark plugs may be cleaned to remove carbon.
- 3.3 The piston and combustion chamber may be cleaned to remove carbon.
- 3.4 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.

4. Engine Components:

- 4.1 Engine ignition switch and wires must remain in original location. It is not permitted to alter the wiring.
- 4.2 It is mandatory to use the Green Air Filter as per T4 Junior / Senior, P/N: T-AIRFILTER-01. No modification to the filter element is permitted.
- 4.3 A breathable rain sock or protective shield may be attached for wet-weather competition. It is not permitted for the protective shield to create any ram-air effect.
- 4.4 The rain sock or 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.
- 4.5 Oil breather valve cover: It is recommended to connect the oil breather pipe to a catch container. The container must be vented to the atmosphere.
- 4.6 Pulse signal from the engine must be taken from the inlet manifold to the fuel pump connection. The length of the pulse hose is recommended not to exceed 28cm.
- 4.7 Only original Fuel Pump is permitted. P/N: FP-10A
- 4.8 It is recommended to use the latest clutch guard as supplied (T-CLU-GRD-01). A minimum of two bolts must be used to mount the supplied chain guard.
- 4.9 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 recommended the supplied FS-1P.
- 4.10 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.
- 4.11 No aftermarket kill switch may be allowed and the OEM kill switch must be as supplied by manufacture.
- 4.12 Only one Intake Manifold is permitted for use T-IMF-MK2. No modifications to the intake manifold is permitted.
- 4.13 There are two versions of Inlet Valve and Exhaust Valve permitted:
 - Inlet Valves: 138210101 / 138210144
 - Exhaust Valves: 138210102 / 138210145
- 4.14 There are two types of Valve Cover Gasket permitted which are the existing part 138220038 and upgraded optional gasket 138220103.
- 4.15 It is mandatory to run with the Air Duct System from the 2025 T4 Nations Cup onwards. No modifications are permitted and only the original part / fixing is permitted to be used (T-COOLDUCT-ASY-01).

5. Exhaust System:

- 5.1 The Exhaust System is mandatory as supplied by Tillotson with the engine.
- 5.2 Exhaust System comprises of the following P/N: T-EXH-MINI-01
- 5.3 It is mandatory that the Exhaust protective shield is mounted to the exhaust to protect the driver side – P/N T-HEATSHIELD-196R-01.
- 5.4 All parts must remain as originally supplied. No tuning, modification or manipulating of material is permitted.
- 5.5 Exhaust gasket must be original, one and only one piece may be used. Use of silicone is permitted.
- 5.6 Use of an O2, EGT or CO2 sensor is NOT permitted.
- 5.7 Exhaust protection is recommended. The Manifold should be completely wrapped with a non-asbestos insulation material or sleeve.

6. Clutch:

- 6.1 The following clutch options are permitted.
 - P/N: T-CLU-21T-01
- 6.2 The clutch must be original as supplied by the manufacturer and no tuning, modification or manipulating of material is permitted.
- 6.3 It is strongly advised to mount the clutch inboard to avoid added strain on the crankshaft.

7. Spark Plugs:

- 7.1 The original spark plug supplied with the engine is recommended. The following spark plugs are permitted for use:
 - E3-96R-8
 - E3-106
- 7.2 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 **FM19-2A 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.

Section D: Tyres

1. Maxxis T4 Tyres are mandatory for T4 Series:

- 1.1 Only the following Maxxis tyres supplied by Tillotson are permitted for use.
 - Slick Tyre: P/N: T-MAX-MK-DRY1, T-MAX-MK-DRY2
 - Wet Tyre: P/N: T-MAX-MK-WET1, T-MAX-MK-WET2

Section E: Oil

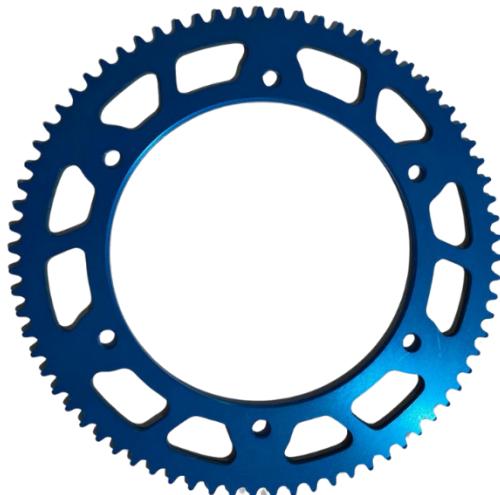
1. Tillotson Racing Xeramic Oil: P/N: T-OIL-001

- 1.1 Tillotson Racing Xeramic Oil is the only oil permitted for use in the TPP-196R engine.
- 1.2 Minimum volume of oil to be filled is 500ml. On technical inspection a minimum quantity of **400ml of Oil** must be present in each engine if drained.
- 1.3 No oil additives or foreign substances are permitted to use along with the oil.

- 1.4. Xeramic have developed with Tillotson a DYE test which can be carried out during technical inspection on race day.
- 1.5. Failure of the DYE test will result in exclusion and/or other penalties issued by the event organisers.

Section F: General Rules

1. Weight
 - 1.1. Recommended Minimum Total Weights (Kart and Driver combined):
 - Mini: 110KG
 - 1.2. All weight needs to be secured with minimum of two bolts including suitable counter sunk / disc washers of minimum Ø20MM.
2. Rear Sprockets
 - 2.1. Sprockets are open unless specified in supplementary regulations for a specific event like T4 Nations Cup or Regional races.
 - 2.2. **T4 Nations Cup 2025 permitted sprockets: 64/65T**
 - 2.3. The teeth structure on the rear sprocket must be manufactured in the same shape and tooth profile as the originally Tillotson supplied sprocket, as shown in image below.
 - 2.4. **Only full teeth sprockets are permitted for use in the T4 Series events. 0.5T sprockets are not permitted in competition**



3. Numbers
 - 3.1. Only original Tillotson supplied numbers are permitted to use at T4 Nations Cup event.
 - 3.2. It is mandatory to fit numbers to front Nassau panel, rear bumper, and both side pods.
4. Tyre Change During T4 Nations Cup 2025 Event
 - 4.1. In the case of unrepairable damage to a tyre mid event it is permitted to swap the tyre for a new or used tyre once inspected and approved by the technical control team.

5. Engine Replacement During T4 Nations Cup 2025 Event

- 5.1. In the case of an engine issue or failure beyond repair mid event, it is permitted to change the engine but only if authorised by Tillotson staff.
- 5.2. It is mandatory that the replacement engine serial number is obtained from technical control official, and this seal is added to the drivers scrutiny card.
- 5.3. Failure to change the serial number on the scrutiny sheet will be cause for disqualification for the following races.
- 5.4. Once an engine has been changed it is not permitted to use the original engine for the remainder of the event.

6. Sticker Kits

- 6.1. T4 Series Regional and National race events must use original Tillotson T4 Series sticker kits
- 6.2. T4 Nations Cup 25 regulations only permits the use of the latest (2023 onwards) Tillotson T4 Original sticker kit, shown below.
- 6.3. Tillotson T4 stickers must be complete with Front bumper, Side Pods, Nassau Panel, floor tray and Fuel tank. If stickers are missing drivers
- 6.4. NO ADDITIONAL STICKERS, BRANDING OR OVERLAYS ARE ALLOWED except in the Green highlighted areas dedicated to driver sponsors, areas displayed in picture below.
- 6.5. In each of these four (4) Green highlighted areas it is permitted to place one (1) driver sponsor sticker. Maximum Size per sticker :140mm x 40mm
- 6.6. Driver sponsor logos cannot be placed within 20mm of any official Tillotson Sponsor logos.
- 6.7. Tillotson reserves the right to request any driver to remove stickers that may be considered misplaced, unsuitable, offensive, political, or not in line with Tillotson brand values.
- 6.8. Tillotson reserves the right to refuse any driver access to the track for T4 Nations Cup event if the listed regulations are not met from first practice session at T4 Nations Cup 2024.
- 6.9. Driver name and country flag stickers as supplied by Tillotson at T4 Nations Cup 2025 are mandatory and only permitted to use on side pods as highlighted below in YELLOW.
- 6.10. Tillotson T4 Nations cup helmet visors are mandatory for all drivers.

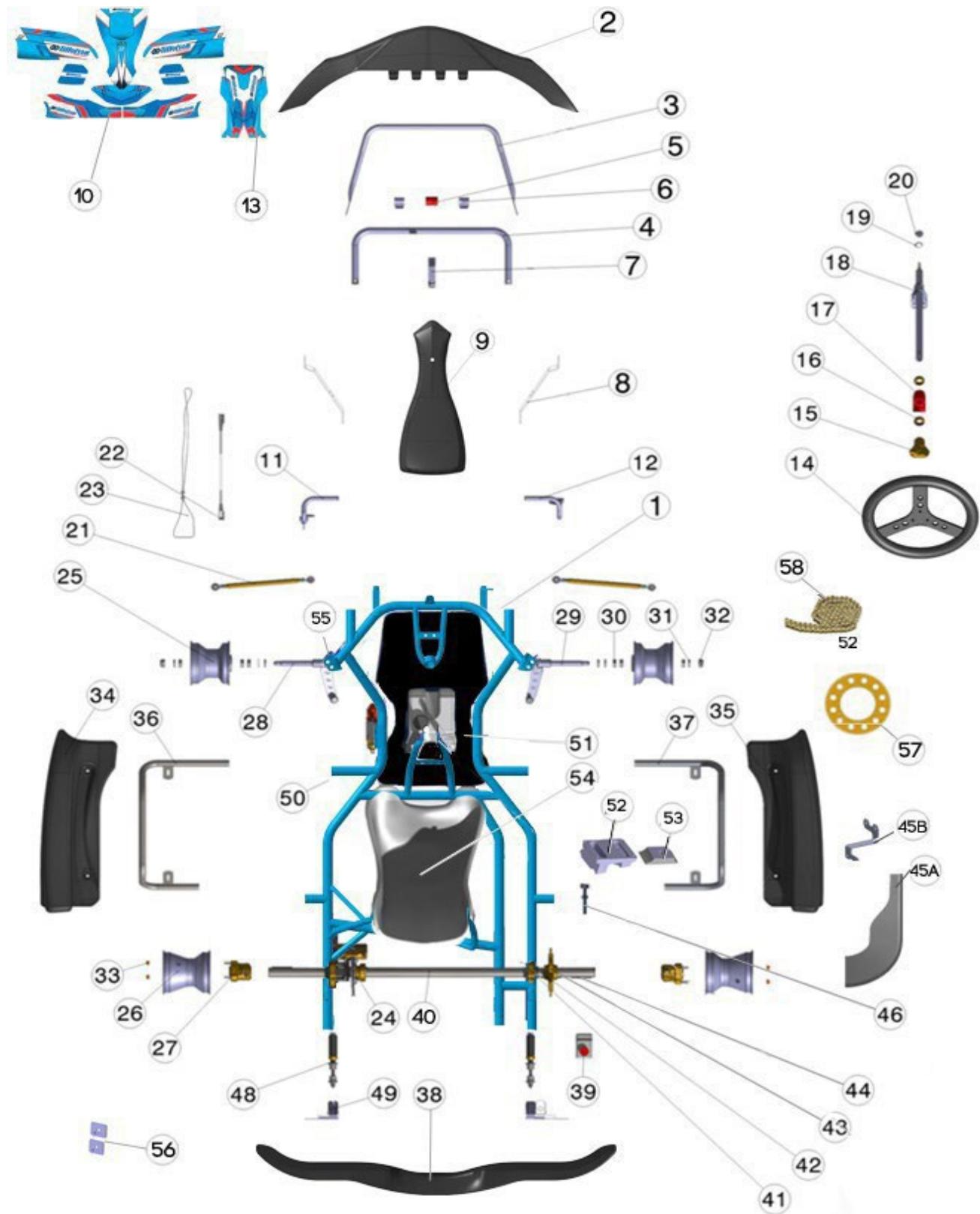


Refusal to adhere to any of the rules set out will be investigated by the race

officials and may result in disqualification from the race results.

APPENDIX 1

T-CHS-CS1 Exploded View



APPENDIX 1

T-CHS-CS1 Parts List



1.1 Chassis BOM

ITEM	TILLOTSON P/N	DESCRIPTION
1	T-CHS-FRAMK	TILLOTSON T4 MINI FRAME
2	T-SPO-FRTMK14	FRONT SPOILER MOD.MK14 BLACK
3	T-SPO-LFSUPMK14	LOW FRONT SPOILER SUPPORT CHROMED
4	T-SPO-HFSMK14	MK14 HIGH FRONT SPOILER SUPPORT CHROMED
5	T-BMR-FCLI1	FRONT BUMPER CLIP (2 pieces)
6	T-SPO-FFAS1	FRONT SPOILER FASTENING
7	T-NAS-LPSMK	LOW NASSAU PANEL SUPPORT CHROMED
8	T-NAS-HPSMK	HIGH NASSAU PANEL SUPPORT CHROMED (2 pieces)
9	T-NAS-NHMK14	NUMBER HOLDER MOD.MK14 BLACK
10	T-STK-KITMK14	TILLOTSON STICKERS KIT MK14 + TANK
11	T-PED-BRKMK	MINIKART BRAKE PEDAL CHROMED
12	T-PED-ACCMK	MINIKART ACCELERATOR PEDAL CHROMED
13	T-STK-FLRMK	TILLOTSON MINIKART FLOOR PLATE STICKER
14	T-STR-WHL1	TILLOTSON DIESIS KART STEERING WHEEL
15	T-STR-HUB1	STEERING WHEEL SLANTING HUB KF INOX ANODIZED- TILLOTSON
16	T-STR-LOC1-1PC	STEERING LOCKING COLUMN BUSH TITAN GOLD ANODIZED (1 pieces)
17	T-STR-COLSUP1	STEERING COLUMN SUPPORT 2HOLES
18	T-STR-COL420	R MOD. STEERING COLUMNS L420MM CHROMED
19	T-STR-WAS23.5-1PC	SEEGER Ø23.5MM (1 pieces)
20	T-STR-RUB8-1PC	RADIAL UNIBALL Ø8 (1 pieces)
21	T-TIE-ROD210	TIE ROD L210MM INOX ANODIZED- TILLOTSON
22	T-TIE-ROD270	BRAKE TIE ROD M6X270MM CHROMED
23	T-BRK-SFTCBL	BRAKE SAFETY CABLE with clamp
24	T-BRK-SYS30	MKB-V1 REAR BRAKE SYSTEM (with 30 mm brake disc support)INOX - TILLOTSON
25	T-RIM-FRT115	VENTED ALUMINIUM FRONT RIM L115MM WITH Ø17MM BEARINGS
26	T-RIM-RR140	VENTED ALUMINIUM REAR RIM L140MM WITH VALVE
27	T-HUB-RR3040	REAR HUB Ø30XL40MM INOX - TILLOTSON
28	T-SPD-LFT17	LEFT SPINDLE Ø17MM, BEARINGS Ø10MM
29	T-SPD-RGH17	RIGHT SPINDLE Ø17MM BEARINGS Ø10MM
30	T-SPD-SP1017-1PC	Ø17 SPINDLE SPACER H10MM TITAN GOLD ANODIZED (1 pieces)
31	T-SPD-SP0517-1PC	Ø17 SPINDLE SPACER H5MM TITAN GOLD ANODIZED (1 pieces)
32	T-NUT-SLL14-1PC	NUT SELFLOCK LOW M14 (1 pieces)
33	T-NUT-COPM8	NUT FLANGED METALBLOCK COPPER M8 (12 pieces)
34	T-POD-LFTMK14	LEFT BODYWORK MOD.MK14 BLACK
35	T-POD-RGHMK14	RIGHT BODYWORK MOD.MK14 BLACK
36	T-POD-SUPLFTMK14	MK14 LEFT BODYWORK SUPPORT CHROMED
37	T-POD-SUPRGHMK14	MK14 RIGHT BODYWORK SUPPORT CHROMED
38	T-SPO-RRHULK	HULK REAR SPOILER BLACK

39	T-REC-TNK1	RECOVERY TANK
40	T-AXL-30D980M	AXLE Ø30X5X980MM MOD.M TILLOTSON
41	T-AXL-BBSUP62	BEARING BUSH SUPPORT Ø62MM for Ø30mm axle INOX - TILLOTSON
42	T-AXL-BRG3062	BEARING Ø30X62MM with 3 pins for Ø30mm axle
43	T-AXL-SUPSP30	SPROCKET SUPPORT FOR Ø30MM AXLE with screws INOX - TILLOTSON
44	T-AXL-KEY6660-1PC	AXLE KEY 6X6X60MM (1 pieces)
45/A	T-CHN-GUARD2	TILLOTSON CHAINGUARD
45/B	T-CHN-GRDSUPP	TILLOTSON CHAINGUARD SUPPORT KIT with screws
46	T-CHN-SCR1	CHAIN STRETCHER SCREW WITH NUT AND NYLON CAP
48	T-RRSPO-SCR28	HULK REAR SPOILER MOUNTING SCREWS KIT (Ø28MM) (RIGHT + LEFT)
49	T-RRSPO-SUPHK	HULK REAR SPOILER SUPPORT KIT
50	T-RFP-MK	MINI FLOOR PLATE
51	T-TNK-4L	FUEL TANK 4.5L
52	T-ENG-MNTMK	MINIKART TILLOTSON ALUMINIUM ENGINE MOUNT with screws
53	T-ENG-CLAMP	UNIVERSAL BRACKET 92MM
54	T-SE-RSX	RACING SEAT (NO LOGO)
55	T-SPD-ECCMK	CCS UPPER AND LOWER ECCENTRIC 2MM Ø10MM WHITE GALVANIZED (10 pieces)
56	T-SE-RSPLT-1PC	REINFORCEMENT SEAT PLATE (1 pieces)
57	T-SPR-74	KF STANDARD SPROCKET 74 TEETH GOLD ANODIZED
58	T-CHA-112	CHAIN CZ 219 GOLD - 112 LINKS

Contact Information and Resources

Email: sales@tillotson.ie

Website: www.tillotson.ie

YouTube Page: <https://youtube.com/channel/UCZgldHZI8EBj93WnvcKFRHA>

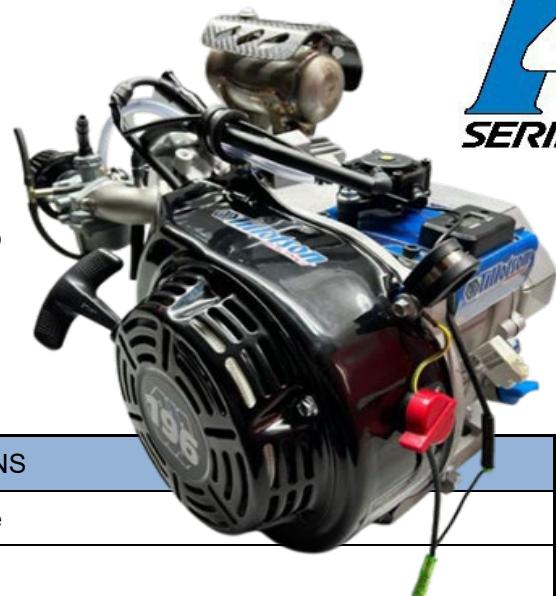


APPENDIX 2

Engine Fiche



Tillotson TPP225RS-03 Engine Fiche T4 Series Global Rules 2025

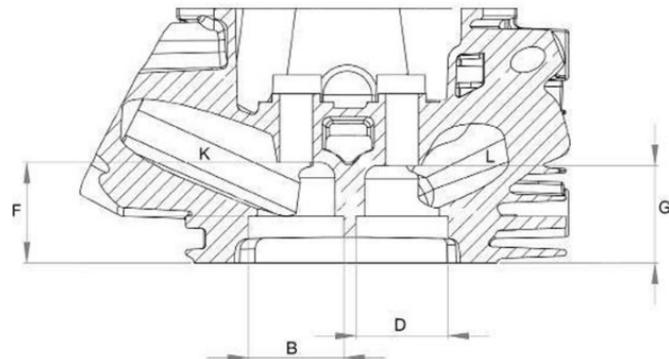
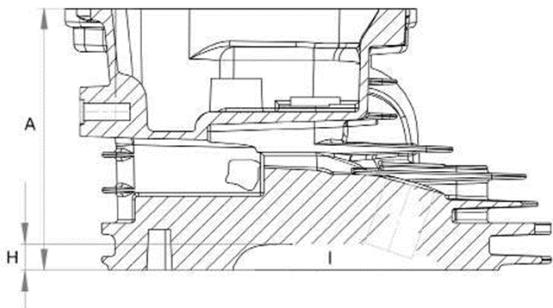


FEATURE	SPECIFICATIONS
Engine Type	2 Valve 4-Stroke
Fuel Type	Unleaded Petrol
Cylinder	Single/35° Heavy Reinforced Aluminum Block w/Cast Iron Sleeve
Cylinder Volume	225cc
Bore	72 mm/2.84in maximum
Stroke	55 mm/2.165in maximum
Piston – Deck Clearance	0.25mm +/- 0.23mm (0.00984" +/- 0.00905")
Cooling System	Air
Carburetor	FM19-2A
Cylinder Head	Aluminum Alloy 2-Valve Over Head Valve
Combustion Chamber Shape	26cc Factory Designed
Compression Ratio	09:01
Ignition	PVL Digital Built in Limiter 6,000rpm
Flywheel	Billet Aluminium
Connecting Rod	Race Spec w/Bearing Inserts
Rod Length	88 mm/3.4646 in
Camshaft	Race Cam with Built-in Compression Release
Engine Oil	Tillotson T4 Racing Oil

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



Cylinder Head PN 138220050			Tillotson Tech Tool
A. Overall Height	74.02mm min	T-TT-TE7	
B. Intake Seat ID	24.75mm \pm 0.1mm	T-TT-TE7	
C. Intake Seat Angle	60-45-30		
D. Exhaust Seat ID	22.6mm \pm 0.2mm	T-TT-TE3	
E. Exhaust Seat Angle	60-45-30		
F. Bowl Depth Intake	29.3mm \pm .02mm	T-TT-TE50-1	
G. Bowl Depth Exhaust	28.4mm \pm 0.2mm	T-TT-TE60-1	
H. Combustion Chamber Depth	7.0mm \pm 0.2mm		
I. Valve Head Height from Gasket Surface	6.5mm \pm 0.3mm		
J. Intake Port Volume	30cc maximum		
K. Exhaust Port Volume	24cc maximum		



		
Cylinder Head Gasket PN138220030	Rocker Arm PN138190033	Guide Plate PN138190031
Material	Material	Material
Thickness	Ratio	Steel
Fire Ring	Length	
	Tip Shape	
	Weight	

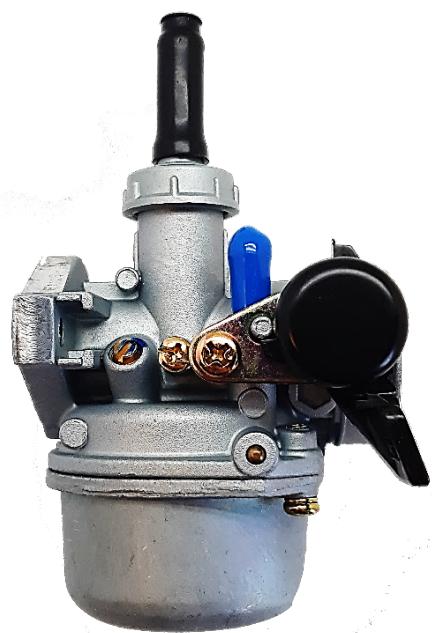
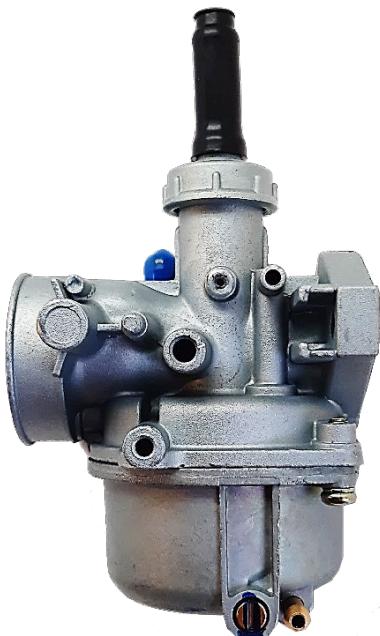
		
Valve Lifter / Tappet PN138190013	Valve Spring PN138220029	Guide Plate PN138190031
Material Mild Steel	Material Steel	Material Steel
Overall Length 34.7 mm ± 0.2mm	Relaxed Height Max 26.2mm / Min 25.2mm	Overall Height 7.9 mm min
Ø Stem 8 mm ± 0.2mm	Wire Ø 2.5 mm ± 0.2mm	Overall O.D. 20.7 mm ± 0.2mm
Ø Head 23.6 mm ± 0.2mm	Overall O.D. 21.1 mm ± 0.2mm	Retainer Weight 6.4 g min
Weight 19.5 g ± 1 g	Spring Force 26 lbs max @0.815 in (20.7mm) height	

		
Push Rod PN 138190032	Intake Valve PN 138210101 / 138210144	Exhaust Valve PN 138210102 / 138210145
Material Steel	Material Steel	Material Aloy Steel
Overall Length 134 mm ± 0.25 mm	Overall Length 663.8 mm min	Overall Length 63.8 mm min
Ball End Ø 5 mm ± 0.2mm	Ø Stem 4.8 mm min	Ø Stem 4.8mm min
Rod Ø 4 mm ± 0.2mm	Ø Head 27 mm ± 0.2mm	Ø Head 25 mm ± 0.2mm
Weight 11 g ± 1 g	Valve Margin 2.3 mm ± 0.5mm	Valve Margin 2.3 mm ± 0.5mm
	Valve Angle 45°	Valve Angle 45°
	Weight 21 g ± 0.25 g	Weight 19.5 g ± 0.5 g

	<p>Ignition Coil 138220102</p> <p>RPM Limit 6,000rpm Brand PVL Type Digital</p>
	<p>Flywheel PN:138220018</p> <p>Material Billet Aluminum Diameter 165mm ± .2mm Weight 1.43 kg ± .02kg Width 4mm +/- 0.2mm</p>

Flywheel Keyway PN: T-FLY-KEY-01	Intake Manifold T-IMF-MK2
	
Max Height: 5.45mm Max Length: 18mm Width 4mm +/- 0.2mm	Bore Diameter: 20.2mm Max

Fastener Torque Specs		
Description	Wrench/ Socket Size	Torque
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	36 N.m
Exhaust Brace Screw	13 mm	28 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	22 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	33 N.m
Valve Cover	8 mm	7 N.m

APPENDIX**Carburetor Fiche****CARBURETOR**
Tillotson FM19-2A

Manufacturer	TILLOTSON LTD.
Make	TILLOTSON
Model	FM19-2A

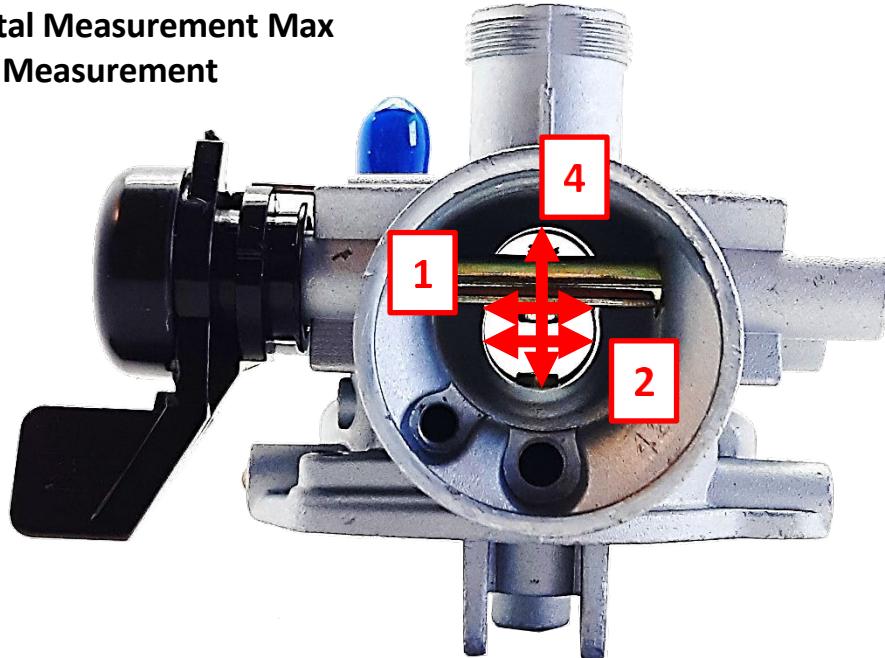
Measurements & Tolerance Index

ITEM	DESCRIPTION	TOLERANCE	METRIC
1	Venturi Horizontal Measurement Centre	0.487" Max	12.37mm
2	Venturi Horizontal Measurement Max	0.52" Max	13.21mm
3	Throttle Bore Diameter	0.77" Max	19.56mm
4	Venturi Vertical Measurement	0.72" Max	18.29mm
5	Air Pick Off Hole	0.04 +/- 0.004"	1.02 +/- 0.1mm
6	Venturi Idle Air Hole	0.082 +/- 0.004"	2.08 +/- 0.21mm
7	Fuel In	0.054" Max	1.37mm Max
8	Main Feed Hole	0.086" Max	2.18mm Max
9	Pilot Feed Hole	0.045 +/- 0.004"	1.14mm +/- 0.1mm
10	Emulsion Tube & Main Jet Length	1.162 +/- 0.015"	29.51 +/- 0.4mm
11	Main Jet Orifice	0.0354" Max	0.82mm +/- 0.03mm
12	Main Jet Emulsion Orifice	0.019" Max	0.48mm Max
13	Pilot Jet Orifice		0.33m +/- 0.04mm
14	Pilot Jet Emulsion x6	0.029" Max	0.74mm Max
15	Slide Length Max	0.964 +/- 0.004"	24.48 +/- 0.1mm
16	Slide Diameter	0.57 +/- 0.004"	1.44 +/- 0.1mm
17	Needle Length	1.55 +/- 0.004"	39.37 +/- 0.1mm

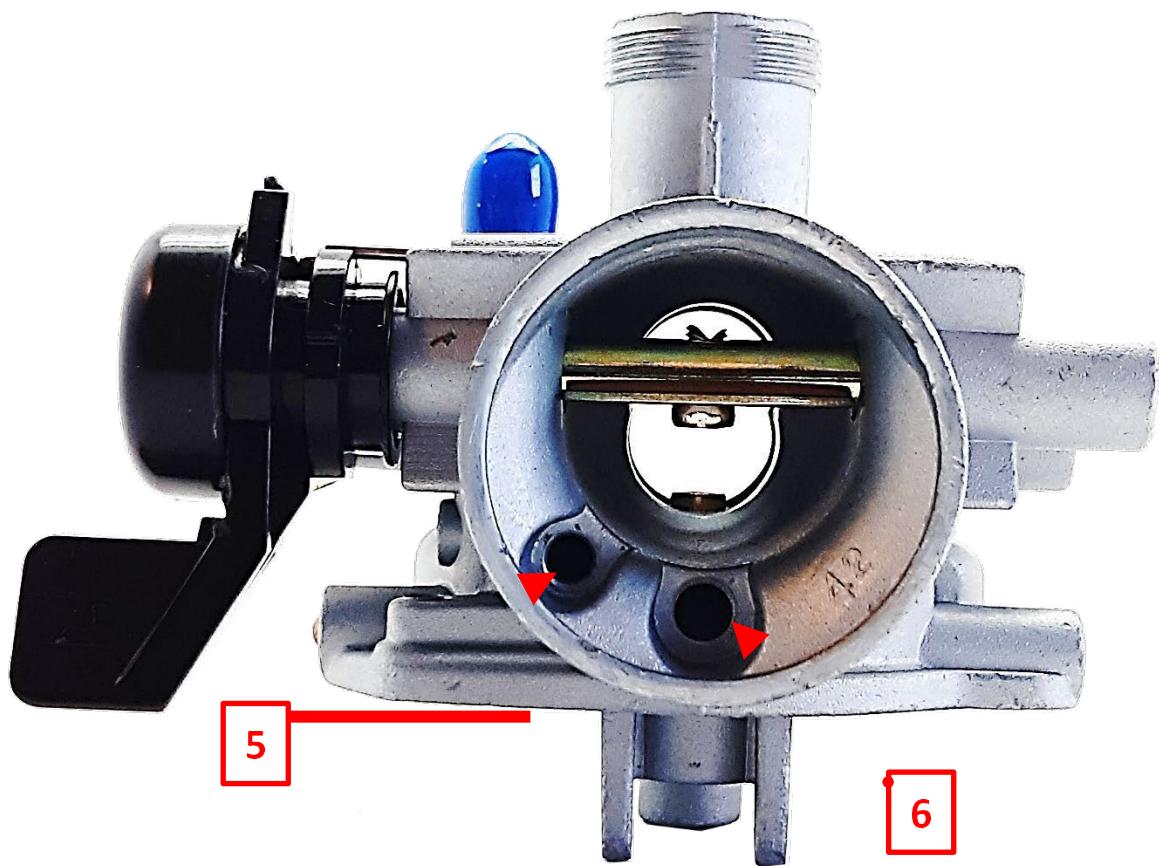
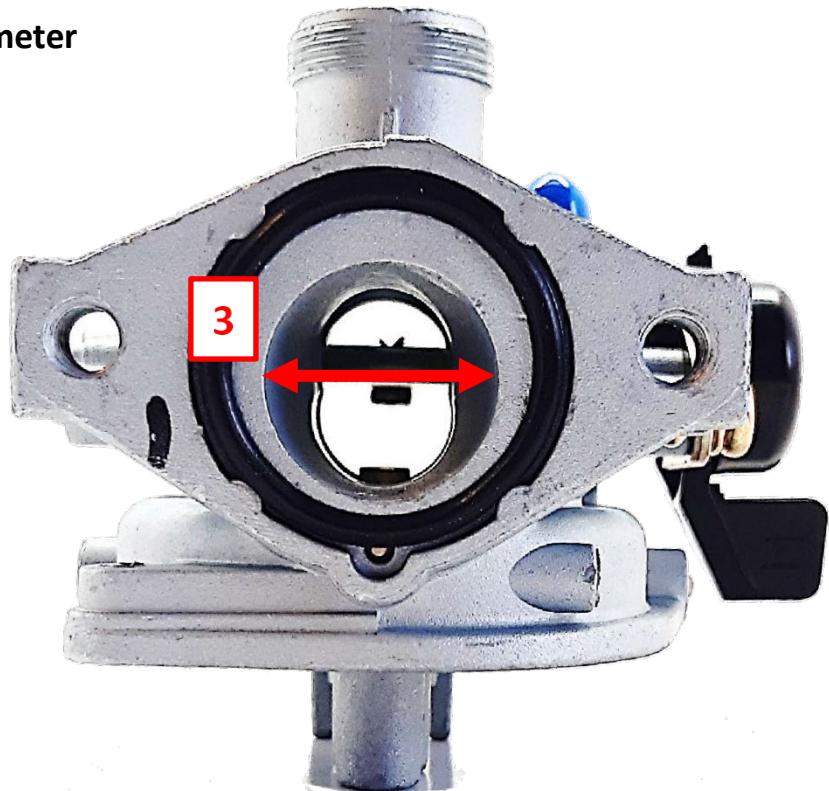
1. Venturi Horizontal Measurement Centre

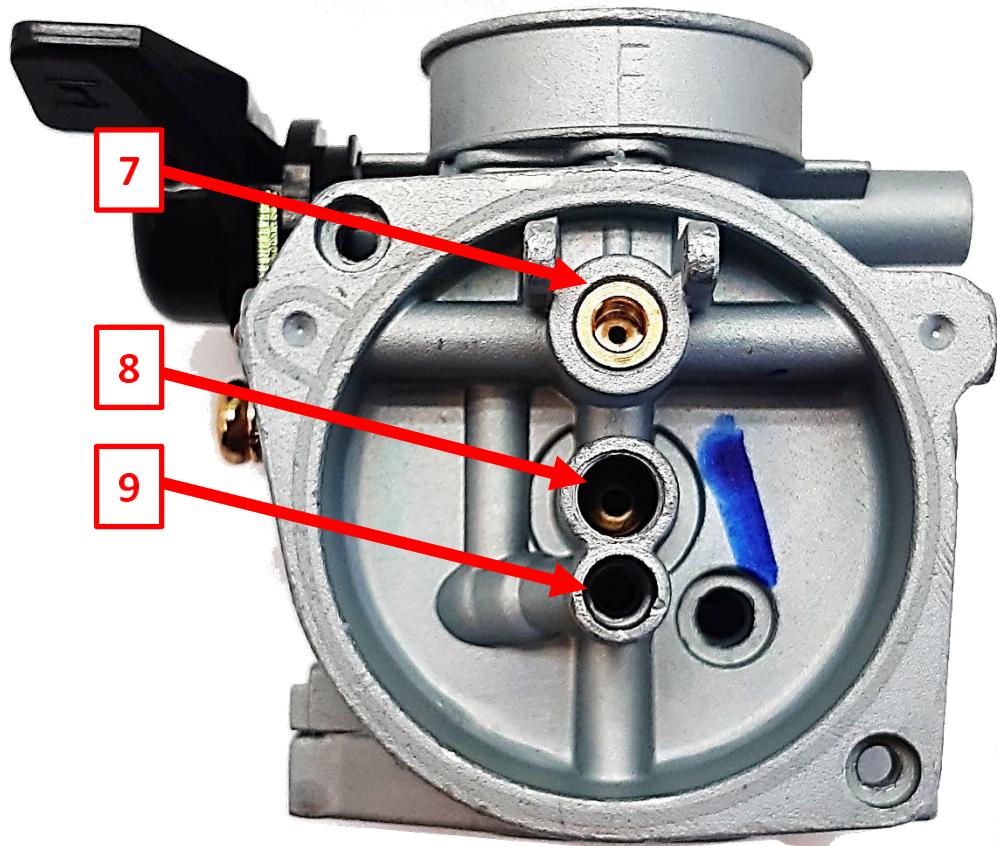
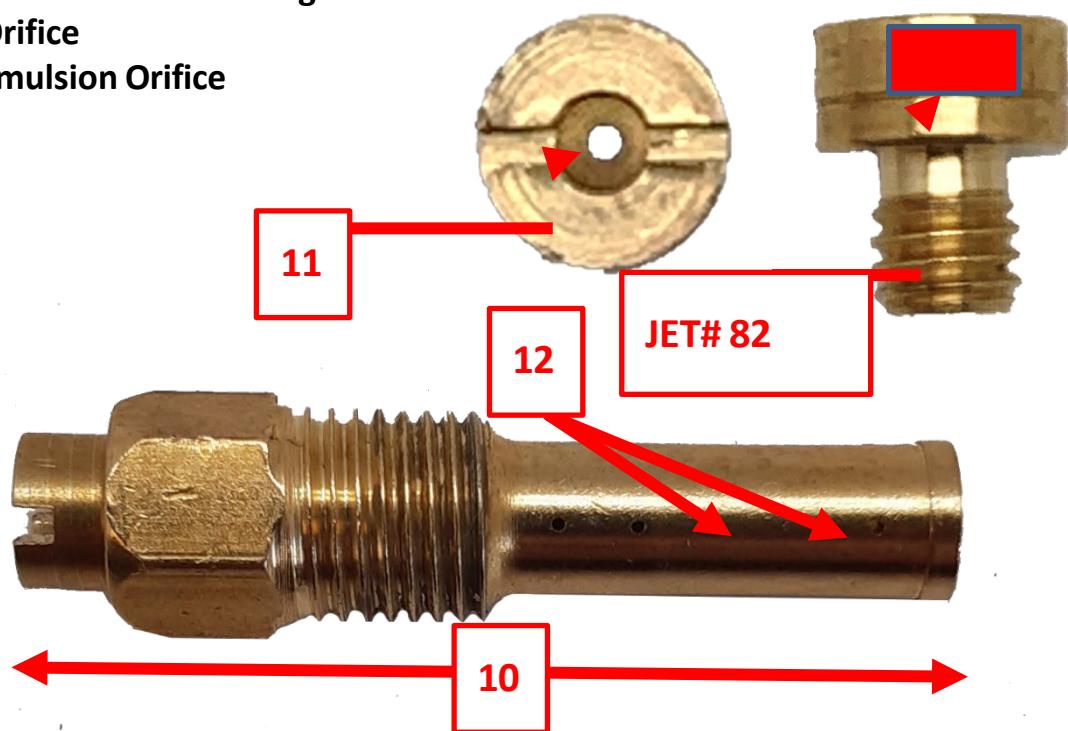
2. Venturi Horizontal Measurement Max

4. Venturi Vertical Measurement

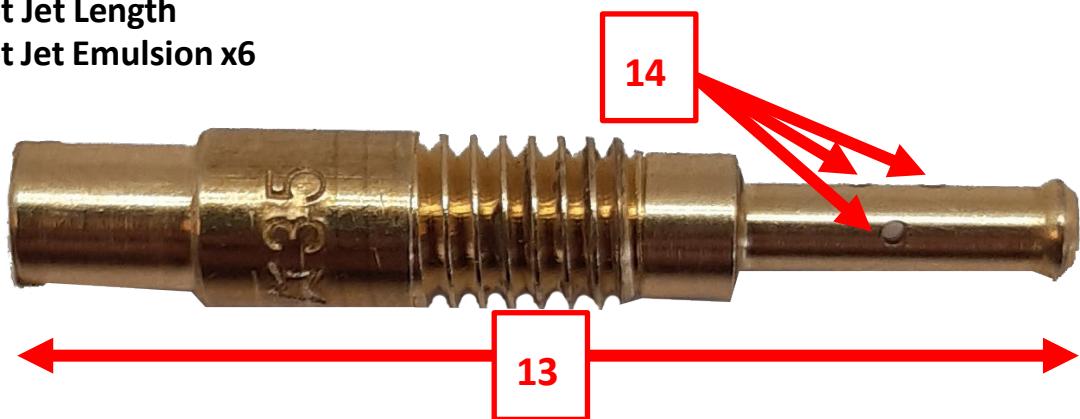


3. Throttle Bore Diameter

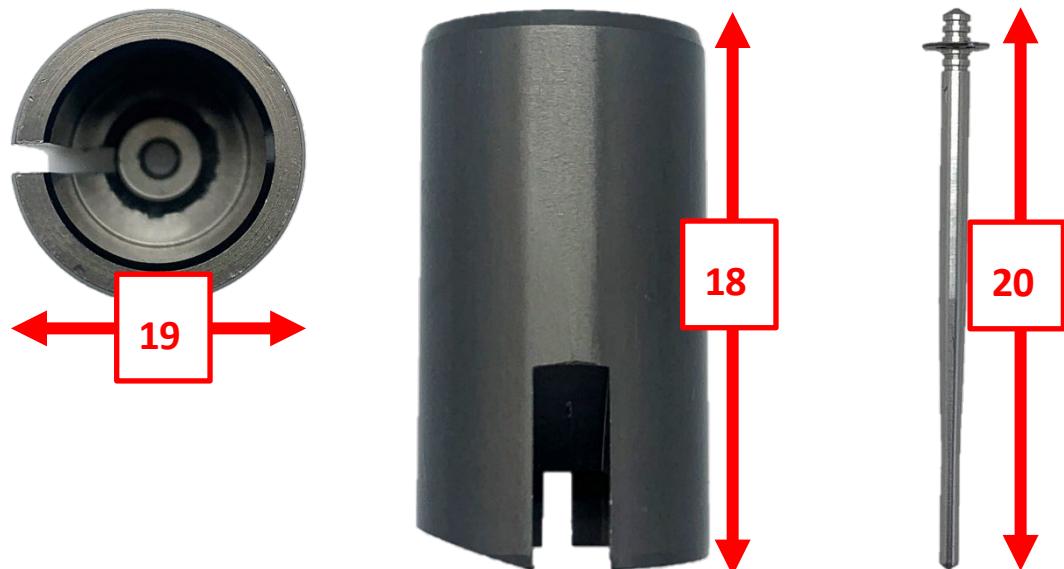


7. Fuel In**8. Main Feed Hole****9. Pilot Hole****10. Emulsion Tube & Main Jet Length****11. Main Jet Orifice****12. Main Jet Emulsion Orifice**

13. Pilot Jet Length
14. Pilot Jet Emulsion x6



15. Slide Length Max
16. Slide Diameter
17. Needle Length



Contact Information and Resources

Email: sales@tillotson.ie

Website: www.tillotson.ie

YouTube Page: <https://youtube.com/channel/UCZgldHZI8EBj93WnvcKFRHA>

