

WKA 2010 MANUFACTURER'S CUP "TAG" SERIES REGULATIONS

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The following regulations are guidelines ONLY.

Please refer to 2010 WKA Technical Manual and 2010 OVKA Rule Book for complete wording, descriptions and details.

609 TAG (TOUCH AND GO) *= 2010 RULE CHANGE # = See OVKA Rule Book

609.1 INTRODUCTION: The following TAG engine specifications and technical inspection procedures apply to the Manufactures Cup TAG classes. They also provide the foundation for the National Road Racing Series Spec 125 sprint class. Differences between TAG and Spec 125 sprint are shown in Section 610. Approved engines for the Manufacturer's Cup TAG class include the BM Jaguar, Cheetah, SQ125, Comer K365, Easykart, Motori Seven, Parrilla Leopard, PRD Fireball, (2005 and 2008), Rotax Max FR 125, Sonic TX 125, Sonic VX 125 (118cc), and Vortex Rok '03 '04 and TT. No additional engines are planned for this class from 2008 through at least 2010.

These Specifications were developed in corporation with the TAG Work Group, an organization made up of the IKF, K.A.R.T, SKUSA, TAG USA and WKA. The work groups objective is to have consistent engine rules across all of the major sanctioning bodies. Where minor discrepancies exist, they will be shown in brackets ([]). WKA has also added more detail and technical inspection information to the basic rules.

609.2 STARTER/BATTERY: In the event that the engine cannot be started on the grid with the onboard starter, an auxiliary may be used. In any case, the onboard starter is subject to post race tech inspection to ensure that all components are present and correctly installed. The battery must be sealed or dry cell and be securely mounted.

609.3 AIR BOX: Must be equipped with either a WKA approved air box, any CIK (or FIK) Registered 22 mm TWO TUBE air box, or any CIK Homologated (2005 or later) air box. (See Section 551.2.2). Air box adapter must conform to the general design and dimensions shown in Section 551.6 and Figure 551.2b. Exception: Rotax Max FR 125 must use the stock air box. Air box adapter must conform to the general design and dimensions shown in Section 551.6 Figure 551.2b.

609.4 CARBURETOR: OEM as supplied from the manufacturer; Open jetting. Must use OEM needle jets, but washers may be added for the purpose of tuning. How the throttle cable connects to the arm and the bracket that holds the cable are non-tech. The manifold and carburetor may not be modified. The arm, throttle shaft and butterfly are OEM with no modifications. The slide assembly is included in jetting but must retain OEM replacement parts.

TAG Work Group Rules: Must use button head screws in butterfly. **[WKA adds:** Fuel may only pass through stock metering orifices. Any means taken to bypass fuel to the engine in any other manner is not allowed. Any components not specified herein must be stock. Surface finish of venturi and bore must remain as manufactured. Engine must be equipped with carburetor as specified by engine manufacturer. Carburetor must be mounted to the engine as manufacturer specifies.] (See carburetor dimensions as listed on specification chart) All fasteners in carburetor are open.

609 TAG (TOUCH AND GO) *= 2010 RULE CHANGE # = See OVKA Rule Book. (CONTINUED)

609.4.1 BUTTERFLY CARBURETORS: Inlet springs are a non-tech item. Machine work to the throttle shaft is not allowed. All pumper style carburetors are single-pumpers with plastic fuel cap. Fuel adjustment needles must be stock from the needle top to the "O" ring step. Needles may be modified beyond the "O" ring step to attach needle extensions.

No remote carb adjusters or triggers allowed. (Remote carb adjusters are approved for TAG engines run in laydown, road racing karts.)

Tillotson 334 AB carburetors must be cast in air horn and venturi area. Machined bore in the throttle shaft area must be straight from the shaft to the flange surface and carburetor must meet all other dimensions submitted.

Tillotson 334 A and AA have a machined air horn and venturi area. Air horn must be one continuous plane from the front of the carburetor to the intersection of the straight venturi bore. The two planes must intersect forward of the dump tube. The venturi shall be straight except for a radius/break at the forward and rearward blend area.

The machined bore in the throttle shaft area must be straight from shaft to rear flange surface and meet all other dimensions submitted.

609.4.2 SLIDE CARBURETORS: Must remain stock as supplied by the manufacturer.

For those competitors running Rotax Max FR 125 engine any stock Dell'Orto jets, metering rods, and emulsion tubes; these parts may not be modified in any way and must use as supplied by the carburetor manufacturer. (Rotax Max FR 125 engines must continue to use only the stock #40 slide.)

609.5 FUEL PUMPS: Must be of diaphragm pulse type. Manufacturer and location are open.

609.6 IGNITION SYSTEMS: Must be OEM as supplied with pre factory settings. The flywheel key must be in place. No modifications allowed. Spark plug is open. The ignition system must be used as supplied in its entirety.

609.7 PISTON AND RINGS: Must be OEM with no modifications. [WKA adds: Piston must be of original engine manufacturer. No interchanging is allowed. Stock piston coating is allowed. Wrist pin must be made of ferrous material.]

609.8 BEARINGS: Must be of original type as per engine manufacturer's specifications; i.e. 6205. No dual-row ceramic ball or other exotic bearing allowed. [WKA adds: Replacement bearings must be standard type, conventional bearings with steel or plastic retainers. They must be of the same width and outside diameter as original bearings. Ceramic or angular contact bearings are not allowed.]

609.9 HEADER AND PIPE: Must be used as supplied by manufacturer. No plating or ceramic coatings permitted. [WKA adds: No interchange allowed. Pipe and header must be of original manufacturer with no modifications. Exhaust must start and complete race intact as intended for use by the manufacturer. Connector pipe, where applicable, must be round and of proper O.D. and is to connect pipe to header as supplied by manufacturer. Solid connector pipe, in lieu of flex, is permissible providing O.D. is the same as flex connector supplied by manufacturer. Connector pipe length is non-tech unless otherwise specified. Addition of exhaust gas temperature lead is legal, but hole must be plugged if exhaust temp lead is not used.]

609.10 CLUTCH: OEM, as supplied with engine from manufacturer and as per factory specifications. It must be non-adjustable with either single disk or shoe type only. Clutch engagement not to exceed 6000 RPM.

609.11 COOLING SYSTEM: Radiator OPEN. It must be mounted to the right or left of the driver. Coolant may not contain any Glycol based material. Water wetter or other surfactants may be added. [WKA adds: After market thermostat is allowed. Pressurized system and/or electric water pumps are not allowed.]

609.12 INTERNAL MODIFICATIONS: No internal engine modifications including addition or deletion of parts.

609 TAG (TOUCH AND GO) *= 2010 RULE CHANGE # = See OVKA Rule Book. (CONTINUED)

609.13 REED CAGE, REEDS: Reeds are open but must be stock thickness + or – 0.002” [TAG Work Groups Rules require stock reeds and stock screws in reed cage.] [WKA adds: No polishing or grinding of reed cage allowed. Resurfacing of rubber contact surface area to reeds and gasket surface area is allowed. Removal of excess loose rubber at manufacturer parting lines is allowed. No machine work, polishing, or metal removal or addition to manifold is allowed. Deburring is allowed to remove production burrs. Reed attachment screws are non-tech. Minor grinding is allowed at reed attachment screws. Manifold must remain of original shape and design as manufacturer intended.

609.14 EXHAUST CONNECTOR PIPE: Exhaust connector pipe may be flex or solid tubing. Connector pipe length is non-tech. (See 609.9.)

609.15 SEALS: Must be of original type and size as per manufacturer’s specifications with no modifications. No trimming or spring removal. Must be installed as manufacturer intended. (i.e. not reversed)

609.16 GASKETS: Open. [TAG Work Group Rules require gaskets as specified in engine manufacturer’s specifications.]

609.17 PORTS: The intent is that the ports remain as manufactured.

NOTE: Research has shown that all manufacturer’s use some hand grinding to remove casting imperfections as part of their manufacturing process. However, every effort will be made to distinguish between factory grinding and that done to improve performance by the engine builder or owner.

609.18 CONNECTING ROD: Rod must be of original manufacturer with no modifications or metal removal allowed.

609.19 CYLINDER HEAD: Cylinder head must be a stock, as manufactured part. Cylinder head must be stock appearing in combustion area. (i.e. if head with step at gasket surface to squish area the step must remain visible.) Each engine will have a specific minimum squish area to be checked parallel to the wrist pin with approximately 1/16” solder, checked one side at a time. Should an engine check on one side less then the minimum allowed, the other side is to be checked and the average of the two dimensions will determine the actual squish number. To check the squish, insert the solder and rotate the engine one revolution in the direction that the engine runs. Do not use electric starter. Each engine has its own specific cylinder head combustion chamber volume specification. (Refer to the specifications chart.) Engine combustion chamber volume will be checked with head installed and as raced. Fluid level to the top of spark plug hole. No modifications to circumvent engine cc requirements. (See spark plug.) Outside of water cooled cylinder head may be painted or anodized for appearance purposes only.

609.20 BORE AND STROKE: Measurements are taken from engine as raced and will be plus or minus 0.2 mm (0.008). Refer to chart for all bore and stroke measurements.

609.21 CRANKSHAFT: Must be of original manufacturer. No counterweight plugging is allowed. No metal removing, shot peening or polishing is allowed. Any rod bearing is permitted. Crankshaft stiffing material may be aluminum or plastic as supplied by manufacturer. Crankshaft must be of the same manufacturer as the engine brand as approved by WKA. No interchange between engine brands is permitted. Crankshaft stuffers must be used as approved by WKA (See stroke chart.)

609.22 CRANKCASE: Must be as manufactured no polishing or metal removal, other then a break at engine junctions for purpose of Deburring.

609.23 ROTAX MAX FR 125: Rotax Max FR 125 engines are allowed to run with or without a seal, but it will be subject to the same post race technical inspection as all other TAG engines. It is the competitor’s responsibility to have Rotax engine resealed if the seal is cut during technical inspection.

609.24 OTHER: Motor mounts are non-tech. Third bearing are optional.

Figure 609

TAG ENGINE SPECIFICATIONS

ENGINE NAME	STROKE	MAXIMUM BORE	ROD LENGTH	PISTON TYPE	PORT HEIGHT, LIGHT CHECK	PORT HEIGHT, LAD TOOL	CYLINDER HEAD VOLUME	MINIMUM SQUISH	REED THICKNESS	IGNITION	TIMING	CLUTCH	CARBURETOR
BM JAGUAR	52.1 MM NO STUFFERS	54.20 MM	102 MM	SINGLE DYKE RING	1.115"	1.240"	9.5CC	0.028"	0.012"	SELLETRA 4 POLE	FIXED	3 SHOE NO SPRINGS	TILLOTSON 334A, AB OR AA
CHEETA SQ125	54.0MM	54.28 MM	102.0	SINGLE DYKE RING	1.290"	1.410"	10.0CC	0.028"	0.009"	CHEETA 4 POLE	FIXED	3 SHOE NO SPRINGS	TILLOTSON 334A, AB OR AA
COMER K365	54.0 MM	54.30 MM	102 MM	SINGLE DYKE RING	1.210"	1.335"	11.5CC	0.032"	0.027"	SELLETRA 3356	0.070" TO 0.085" BTDC	3 SHOES NO SPRINGS	MIK 01103 3 JET
EASYKART	54.0 MM	54.30 MM	102 MM	SINGLE DYKE RING	1.280"	1.405"	11.5CC	0.031"	0.012"	SELLETRA 4 POLE	FIXED	3 SHOE NO SPRINGS	TILLOTSON 384B
MOTORI SEVEN TAG L4	54.4	54.08 MM	110 MM	SINGLE RAIL RING	1.215"	1.350"	9.5CC	0.025"	0.016"	SELLETRA OR PVL	0.060" TO 0.075" BTDC	3 SHOE WITH SPRINGS	DELL'ORTO VHSH30CS
PARILLA LEOPARD '03	54.0 MM	54.30 MM	102 MM	SINGLE DYKE RING	1.265"	1.380"	9.5CC	0.026"	0.012"	SELLETRA 4 POLE OR DIGITAL K	FIXED	3 SHOE NO SPRINGS	TILLOTSON 334A, AB OR AA
PARILLA LEOPARD RR	54.0 MM	54.30 MM	102 MM	SINGLE DYKE RING	1.215"	1.340"	9.5CC	0.026"	0.012"	SELLETRA 4 POLE OR DIGITAL K	FIXED	3 SHOE NO SPRINGS	TILLOTSON 334A, AB OR AA
PRD FIRE BALL 2005	54.0 MM	54.30 MM	100 MM	SINGLE RAIL RING	1.230"	1.355"	10.0CC	0.028"	0.011"	OPPMA OR PVL	0.075" TO 0.090" BTDC	3 SHOES WITH SPRINGS	TILLOTSON 360A
*PRD FIRE BALL 2008	54.0 MM	54.30 MM	100 MM	SINGLE DYKE RING	1.260"	1.385"	10.0CC	0.028"	0.011"	OPPMA OR PVL	0.075" TO 0.090" BTDC	3 SHOE NO SPRINGS	TILLOTSON 360A
ROTA MAX FR 125	54.50 MM	54.35 MM	100 MM	SINGLE RAIL RING	N/A	**1.340"	10.8CC	0.035"	0.024"	DENSO	FIXED	3 SHOES WITH SPRINGS	DELL'ORTO VHSB 34
SONIK TX125	54.1 MM	54.30 MM	102 MM	SINGLE DYKE RING	1.210"	1.335"	10.5CC	0.038"	0.0094"	SELLETRA 3356	.070" TO .085" BTDC	SINGLE DISK OR SHOE NON ADJUSTABLE	TRYTON VAMECM1
SONIK VY125 (118)	50.6 MM	54.55 MM	100 MM	SINGLE DYKE RING	1.130"	1.255"	11.0CC	0.038"	0.0083"	SELLETRA 3356	.070" TO .085" BTDC	(SEE NOTE BELOW)	TRYTON VAMECM1
VORTEK ROK '03	54.0 MM NO STUFFERS	54.30 MM	102 MM	SINGLE DYKE RING	1.255"	1.280"	10.0CC	0.032"	0.008"	PVL	.070" TO .085" BTDC	3 SHOE WITH SPRINGS	DELL'ORTO VHSH30CS
VORTEK ROK '04	54.1 MM NO STUFFERS	54.30 MM	102 MM	SINGLE RAIL RING	1.165"	1.290"	10.0CC	0.037"	0.008"	PVL	.070" TO .085" BTDC	3 SHOES WITH SPRINGS	DELL'ORTO VHSH30CS
VORTEK ROK TT	54.0MM	54.28 MM	102.0	SINGLE RAIL RING	1.245"	1.370"	10.8CC	0.038"	0.008"	SELLETRA	.070" TO .085" BTDC	3 SHOE NO SPRINGS	TILLOTSON 360A

*2008 PRD Fireball identified by black anodized head and machined ports. Carburetor is to be run with diaphragms up. Crankcases may have relief ground slightly to align with carburetor pulse hole. Local options: (1) HL 166 A, B, or C carburetors may run as a way to restrict performance, (2) Air cooled version of PRD Fireball is not legal at Divisional or National events, but may be run as local option. Specifications above apply.

**Rotax Max FR 125 exhaust port height to be measured using special tool inserted in exhaust port. See Section 506.4. Combustion chamber volume to be checked to top of spark plug hole with head on engine as raced without LAD tool. In Road Racing, Sonik VY 125 (118 cc) must use 3 shoe clutch with no springs. In Sprint Racing, single disk non adjustable or shoe clutch allowed. Carburetor venturi diameter checked at narrowest point of venturi. Easykart has a fixed high-speed jet, no polishing of carburetor allowed. Butterfly stop in bore must be in place.

Figure 610

TAG CARBURETOR SPECIFICATIONS

ENGINE NAME	Carburetor	Venturi	Bore
BM Jaguar	Tillotson 334A, AB or AA		0.905"
Cheeta SQ125	Tillotson 334A, AB or AA		0.905"
Comer K365	MIK 01103 3 jet		0.950"
Easykart	Tillotson 384B		1.185"
Motori Seven TAG L4	DEll'Orto VHSH30CS		1.190"
Parilla Leopard '03	Tillotson 334A, AB or AA		0.905"
Parilla Leopard RR	Tillotson 334A, AB or AA		0.905"
PRD Fire Ball 2005	Tillotson 360A		0.950"
*PRD Fire Ball 2008	Tillotson 360A		0.950"
Rotax Max FR 125	DEll'Orto VHSB 34		0.943"
Sonik TX 125	Tryton VAMECM1		0.943"
Sonik VY125 (118)	Tryton VAMECM1		0.943"
Vortek Rok '03	DEll'Orto VHSH30CS		1.185"
Vortek Rok '04	DEll'Orto VHSH30CS		1.185"
Vortek ROK TT	Tillotson 360A		0.950"

Carburetor venturi diameter checked at narrowest point of venturi. Easykart has a fixed high-speed jet, no polishing of carburetor allowed. Butterfly stop in bore must be in place. Note: No specs are available for the DEll'Orto VHSB 34 on the Rotax Max FR 125 or the Tillotson 384B on the Easykart.

0.200". Exhaust gaskets are subject to be compared to known stock for I.D., O.D., and gasket material. (See Figure 554.1 for Specifications).

554.2 RLV-SBX MUFFLER: The SBX Muffler and the RLV 26S header shall be used as manufactured by RLV. This is a restricted muffler and shall not be modified in any way. Exception: Hole for exhaust gas temperature sensor allowed. If hole exists in header, EGT sensor must be in place or hole must be plugged. The SBX Muffler is to be used only with RLV 26S header. Tube protruding through flange must be intact. The overall length of connector pipe from face of piston to connector tube end is 11.0" minimum and 12.0" maximum. Connector tube shall be rigid pipe 1.780" maximum diameter with a 0.100" maximum wall thickness. The 0.875" RLV exhaust restrictor as supplied "unaltered" to be used in Jr. Road Racing and is to be added to muffler end of connector tube and is not part of the 11" to 12" length requirements. Any attempt to modify or bypass muffler/header is not allowed. One exhaust gasket only must be used with a maximum thickness of 0.200". Exhaust gaskets are subject to be compared to known stock for I.D., O.D., and gasket material. (See Figure 554.1 for specifications).

554.3 RLV-SSX/SSX-V MUFFLER: The SSX Muffler shall be used as manufactured by RLV. This is a restricted muffler and shall not be modified in any way. Exception: Hole for exhaust gas temperature sensor allowed. If hole exists in header, EGT sensor must be in place or hole must be plugged. SSX muffler must be installed so that the top of the can is approximately parallel with the top of the cylinder. The header flange and end cap must be securely fastened with no leakage. End cap fastening holes (3-only) must have solid type screws in place i.e., body (can) and end cap. Check of exhaust gas leakage to be made by a gas leak detector. End cap must be removed for inspection of baffle for number of holes (14) and size (0.380" no-go). The holes in the body of can are (0.500" no-go). Exhaust gas temperature probe allowed one hole only. EGT sensor probe must be located between header flange and front-end cap. If hole exists in header, EGT sensor must be in place or hole must be plugged. Any attempt to modify or bypass muffler is not allowed. One exhaust gasket only must be used with a maximum thickness of 0.200". Exhaust gaskets are subject to be compared to known stock for I.D., O.D., and gasket material. (See Figure 554.1 For specifications). The four exhaust holes in SSX-V muffler are spaced approximately 90 degrees apart. The orientation of these holes is not a tech item.

554.6 RLV IR1 AND IR2 PIPES: The overall length of connector tube from face of piston to connector tube end on the IR1 Pipe is 9.0" minimum and on the IR2 Pipe is 8.75" with no maximum length on either pipe. The connector tube shall be rigid pipe with a maximum O.D. of 1.780". The IR1 and IR2 pipes shall be used as manufactured by RLV. No modifications allowed. (See Figure 554.6 for specifications.)

Figure 504.6 - CC Measuring Plug

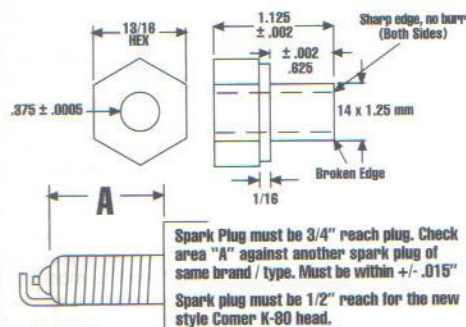


Figure 505.1 - Inlet Port Check

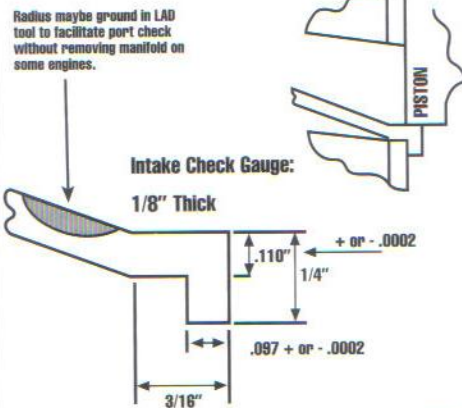
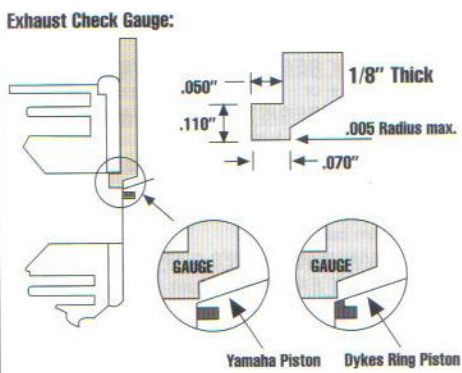
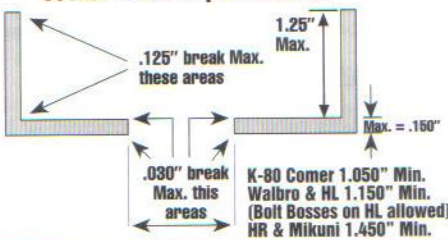


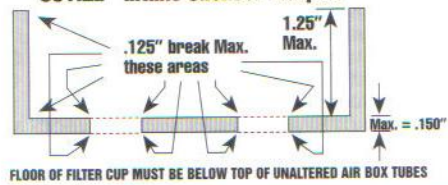
Figure 506.1 - Exhaust Port Check



551.2a - Filter Cup Dimensions



551.2b - Intake Silencer Adaptor



551.2c - 80cc Shifter Filter Cup Dimensions

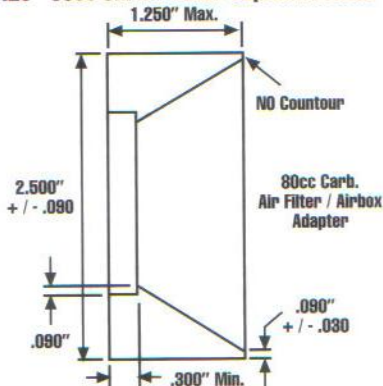
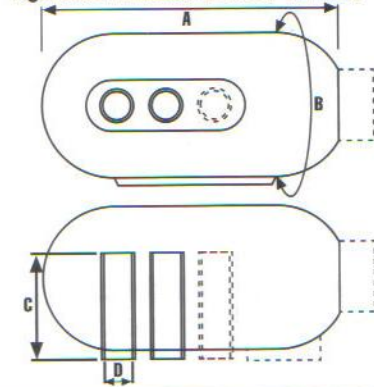


Figure 551.3 Intake Silencer (Airbox)



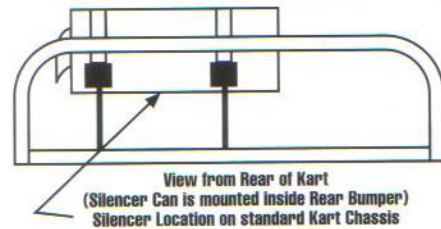
552.1 Silencing Can



D = 3.5" minimum
Expansion chamber must discharge (1) into the rearward half of the silencing can (A).
Exhaust gas outlet hole to atmosphere (2) may not exceed .7854 square inches or the equivalent of a 1" diameter hole (up to 125cc).

Figure 552.2

80cc and 125 Exhaust Installation



553.1 - Header Connector Tube

