



2006 AKA MANUAL

ADDENDUM No.15

Issued: 23 February 2006

To be implemented immediately

At the NKC Meeting held on 18 & 19 February 2006, approval was given for the following amendments to Chapter 35 – Tyres and reference to point 8.2 altered and points 12.8, 12.9, 12.10 & 12.11 have been removed.

Please the attached for amendments.

Pam Arnett
National Secretary/National Events Coordinator
Australian Karting Association



Amended Text - Chapter 35

1.4. Tyres: The only tyres allowed are:

Dry weather tires: MG Red

Wet weather tires: Dunlop, Type KT6SWL1
 Front: 4.0 x 10.0 -5 Rear: 6.5 x 11.0 -5

COMPONENT	SPECIFICATION	ITEM	CHECKED
SQUISH GAP:	1,20 mm – 1,80 mm	1.1	
COMBUSTION CHAMBER INSERT:	<u>Identification code has to be 223 389 (4) or 223 389 1 or 223 389 2 (4A)</u>	2.1	
	<u>ROTAX (5) or “MADE IN AUSTRIA” (5A) has to be cast.</u>	2.2	
	Heights of combustion chamber insert have to be 27,55 mm with a tolerance of +0,0/-0,1 mm (6) and 28,80 mm with a tolerance of +/-0,2 mm (8), see illustration 1.	2.3	
	The profile of the combustion chamber insert has to be checked with the combustion chamber insert template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile.	2.4	
PISTON:	Original, coated or uncoated, aluminum, cast piston only with one, original, magnetic, 1mm-rectangular-piston ring, with ‘E CRY K’ marked on the ring. The piston has to show on the inside the words ‘ELKO’ and ‘MADE IN AUSTRIA’ in casting.”	3.1	
	Machined areas are: Top end of piston, outside diameter, groove for the piston ring, bore for piston pin, inside diameter at bottom end of piston. All other surfaces are not machined and have cast surface.	3.2	

GUDGEON PIN	<p>Gudgeon pin has to be made out of magnetic steel.</p> <p>Must be as per illustration 4.1</p>	<p>4.1</p> <p>4.2</p>	
CYLINDER:	<p>Light-alloy-cylinder with GILNISIL-plating, configuration with one main exhaust port Any re-plating is not allowed.</p> <p>Maximum bore: 54,035 mm (measured 10 mm above the exhaust port).</p> <p>Cylinder has to be marked with ROTAX-Logo (1), see illustration 2 or <u>2.1</u>.</p> <p>125 Junior MAX: Cylinder has to be marked with identification code. 223 999 (2), see illustration 2 or <u>2.1</u>.</p> <p>Height of cylinder has to be 87 mm with a tolerance of $-0,05/+0,1$ mm (3), see illustration 3.</p> <p>All transfer ports and passages are cast finish except some pre-existing, factory removal of flashing from inlet and exhaust port and passages. All ports have chamfered edges to prevent ring snagging. Any additional machining is not permitted.”</p> <p>The “exhaust port timing” (distance from the top of the cylinder to the top of the exhaust port) has to be checked by means of a template (ROTAX part no. 277 395). Insert the template into the cylinder bore (until it stops at the top of the cylinder). Align the template in centreline from inlet to exhaust port and move the template towards the exhaust port until it stops at the cylinder wall. ATTENTION: Take care to use the corresponding side of the template to check the exhaust port timing of a MAX or Junior/Mini MAX cylinder. The groove in the template must align with the groove for the o-ring in the cylinder.</p> <p>The official Formula Rotax Australia stamp must be present on the reed block face.</p>	<p>5.1</p> <p>5.2</p> <p>5.3</p> <p>5.4</p> <p>5.5</p> <p>5.6</p> <p>5.7</p> <p>5.8</p>	<p> </p> <p> </p>
INLET SYSTEM:	<p>Intake manifold is marked with the name ROTAX and the identification code 267 915. Some factory flash removal may be present at the junction of the inside contour and the carburetor stop mounting face. This is a manual trimming operation consisting of a small corner break of less than 1 mm in width. No additional grinding or machining is permitted.</p>	<p>6.1</p>	

	<p>The reed valve assy is equipped with 2 petal stops and 2 reeds, each having 3 petals.</p> <p>The thickness of the reeds is 0,6 mm, +/- 0,08 mm.</p> <p>The addition of one Rotax reed block gasket, maximum thickness 1.0mm between the carburetor manifold and the reed block is permitted.</p>	<p>6.2</p> <p>6.3</p> <p>6.4</p>	
CRANKSHAFT:	<p>Stroke: 54,5mm +/- 0,1 mm</p> <p>Con rod (7) has to show forged number "213", "365" or "367" on shaft (see ill. no. 4)</p> <p>Shaft of con rod is not machined (copper plated). Grinding or polishing of shaft of con rod is not permitted.</p>	<p>8.1</p> <p>8.2</p> <p>8.3</p>	
BALANCE SHAFT	<p>Balance shaft must be installed and operational.</p> <p>Different configurations of part no. 237 945 and 237 949 are legal (see ill. no. 4.2)</p> <p>Surface (1) is not machined and must be cast surface (see ill. no. 4.2).</p> <p>Measurement from centre of balance shaft to outer diameter of flyweight of balance shaft at a defined length must not be lower than specified (see ill. no. 4.2).</p> <p>The minimum weight of the dry balance shaft must not be lower than 355 grams for balance shaft ROTAX part no. 237 945 and 255 grams for balance shaft ROTAX part no. 237 949</p>	<p>9.1</p> <p>9.2</p> <p>9.3</p> <p>9.4</p> <p>9.5</p>	
CRANKCASE	<p>As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages.</p> <p>The official Formula Rotax Australia stamp must be present on the crankcase.</p>	<p>10.1</p> <p>10.2</p>	
IGNITION UNIT:	<p>DENSO digital battery ignition, variable ignition timing, no adjustment necessary and possible.</p> <p>Race officials may request at any time that the competitor replace the ignition coil with a new unit, provided by race administration.</p>	<p>11.1</p> <p>11.2</p>	

	<p>The casing of the ignition coil has to show following castings "129000 -" and "DENSO". Ignition coil must show 3 pins at the terminal.</p>	11.3	
	<p>The ignition coil has to be fixed by means of 2 original silent blocks to the gearbox cover. Only in cases of chassis component interference with the original mounting location of the ignition coil, a supplemental extension bracket, rigidly constructed and fabricated of solid metal, of minimum dimensions and attached to the original case mounting holes, is permitted for mounting of the coil.</p>	11.4	
	<p>Spark plug: Maximum spark plug thread length shall be 20mm.</p>	11.5	
	<p>Spark plug cap must be marked with "NGK TB05EMA".</p>	11.6	
CARBURETOR:	<p>DELL'ORTO carburetor</p>	12.1	
	<p>"VHSB 34" cast in the housing of the carburetor.</p>	12.2	
	<p>"QD" or "QS" stamped in the housing of the carburetor.</p>	12.3	
	<p>The complete inlet bore in the casing of the carburetor must show cast surface</p>	12.4	
	<p>Needle jet stamped with "FN 266"</p>	12.5	
	<p>The carburetor slide must show with size "40" in casting and the bottom end of the slide must show cast surface.</p>	12.6	
	<p>Jet needle stamped with "K27" or "K98"</p>	12.7	
	<p>The size of any hole in any of the following is unregulated. Main jet, needle and seat, pilot jet, pilot jet emulsion insert, choke jet. The position of the float/float arms and the weight of the floats are unregulated. All items (jets, needles etc) referred to above must be present and operational.</p>		
	<p>Settings of the carburetor adjustment screws are free.</p>	12.12	
	<p>Main jets smaller than size 160 or bigger than 200 are not recommended by ROTAX</p>	12.13	
	<p>Main jets smaller than size 160 and bigger than size 200 are legal also if they are not available from ROTAX.</p>	12.14	

	A minimum required size of main jet maybe determined for each race event by a “Supplementary Regulation”.	12.15	
FUEL PUMP:	MIKUNI diaphragm pump, must be placed on bottom of support bracket for intake silencer	13.1	
RADIATOR:	Single aluminium radiator as shown in illustration 5.	14.1	
	Cooling area: Height = 290 mm, width = 133 mm	14.2	
	Thickness of radiator = 32 mm	14.3	
	Place of fixing the radiator is on right side of engine.	14.4	
	Radiator must be mounted with all components shown either like in illustration 5 or like in illustration 5.1	14.5	
	No additional cooling device is allowed. Tape applied to the face of the radiator only is allowed as an air flow control means. All other means of air flow control through the radiator are prohibited.	14.6	
RADIATOR COOLANT	Refer to rules 25.18 B and 25.18 C of the 2006 AKA Karting Manual.	15.1	
CLUTCH:	Dry centrifugal clutch, engagement r.p.m. maximum at 3.000 r.p.m. That means, that the kart (with driver in kart) has to start to move when the engine speed reaches 3.000 r.p.m. or less	16.1	
	The use of the Rotax clutch pin support plate is permitted.	16.2	
INTAKE SILENCER:	Intake silencer with integrated, washable air cleaner <u>has to be used</u> with all parts as shown at illustration 6 and <u>has to be mounted</u> on the support bracket <u>with two screws (in dry and wet race condition)</u> .	17.1	
	Air filter must be installed as shown in illustration 6.	17.2	
	It is permissible to drill a 5mm hole in the airbox to allow the draining of water in wet conditions	17.3	
EXHAUST SYSTEM:	Must be as supplied by ROTAX and cannot be modified except for the replacement of the silencer absorption material and the use of threaded fasteners in place of the rivets for securing the silencer end cap.	18.1	

	Standard exhaust socket must be used.	18.2	
	Exhaust pipe with after muffler as shown in illustration 7:	18.3	
	length of inlet cone: 592mm +/-5 mm (measured on outside from beginning of exhaust pipe until beginning of cylindrical part).	18.4	
	length of cylindrical part of exhaust pipe: 125 mm +/- 5 mm.	18.5	
	length of end cone: 225 mm, +/-5 mm (measurement, see illustration 8).	18.6	
	outside diameter of 180° bent tube: 41mm +1,5 mm/-1,0 mm (measured at beginning and end of bend).	18.7	
	Diameter of hole of end cap of (illustration 7, pos. 3 or 6): 21 mm +/-0,2 mm.	18.8	
	The expansion chamber and silencer supplied with the engine may not be modified, except for the addition of extra elements to further reduce noise levels.	18.9	
	<u>A welded on socket (for exhaust temperature measurement) on top of the exhaust in the position 50 mm from the flange of the exhaust is allowed.</u>	18.10	
	<u>The use of maximum 4 pieces of original ROTAX exhaust springs to fix the exhaust to the cylinder is allowed.</u>	18.11	
NOISE EMISSIONS:	Noise isolating mat (illustration 7, pos. 5) has to be replaced by the original ROTAX spare part. Refer Rule 24.2.1 2006 AKA Karting Manual for noise limit.	19.1	