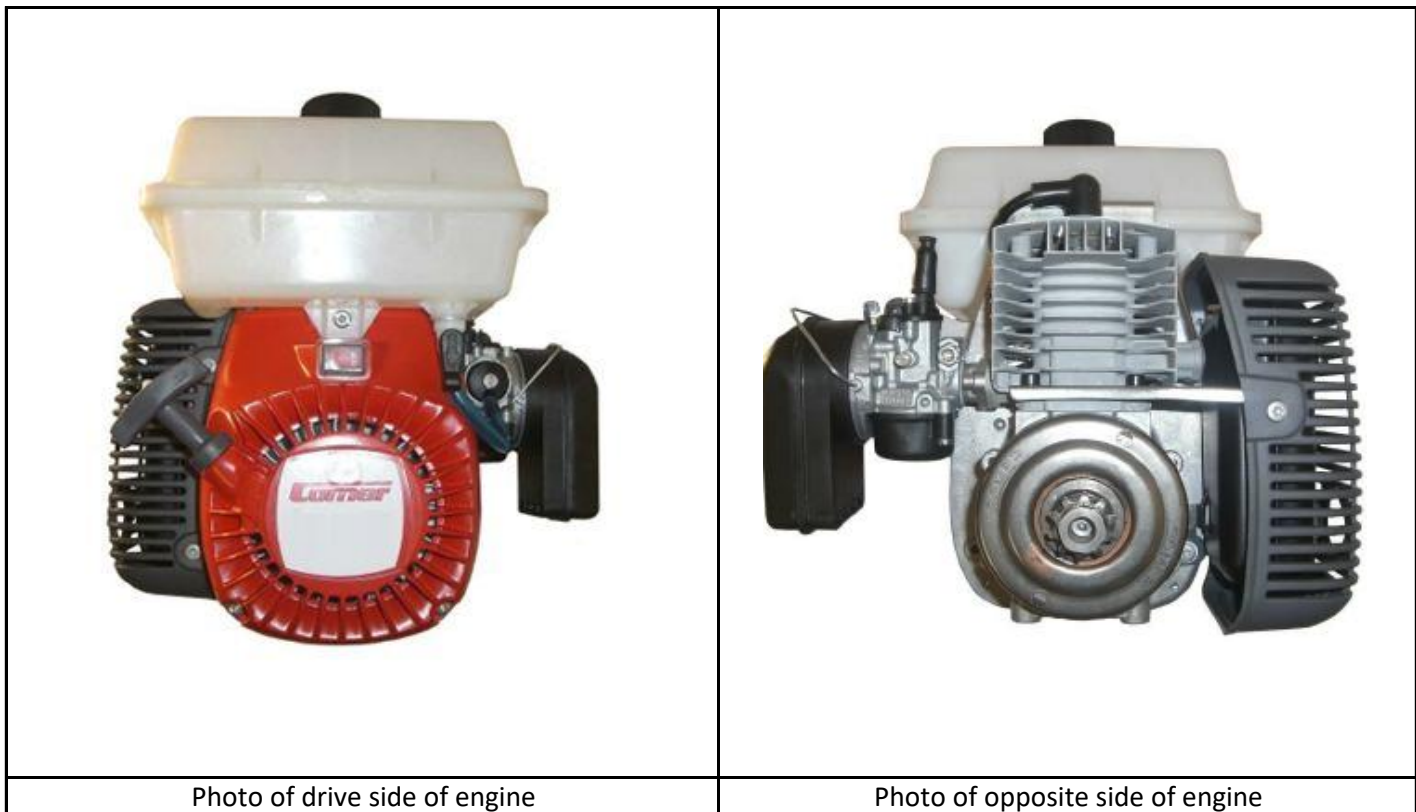


MSA COMER CX52 TECHNICAL REGULATIONS 2025 VERSION 1

<i>Category</i>	Bambino
<i>Manufacturer</i>	Comer Spa / EMR
<i>Model</i>	CX52
<i>Valid from</i>	01 January 2025
<i>Number of pages</i>	9

This Homologation Form reproduces descriptions, illustrations and dimensions of the engine at the moment of the MSA Homologation. This document may be supplemented by official amendment. This document must be read in conjunction with the appropriate Class Regulations.



SIGNATURE AND STAMP OF MSA

	<p>Date: 18 November 2024</p> <p>Signed by: Allison Vogelsang</p>
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Genuine Comer components only that are specifically designed and supplied for the Comer CX52 engine are legal, unless otherwise specified. ANYTHING WHICH IS NOT EXPRESSLY ALLOWED IN THE TECHNICAL REGULATIONS IS FORBIDDEN.



Photo of rear of engine



Photo of front of engine



Photo of top of engine

TECHNICAL FICHE

Manufacturer: COMER SpA



Engine Type: CX52

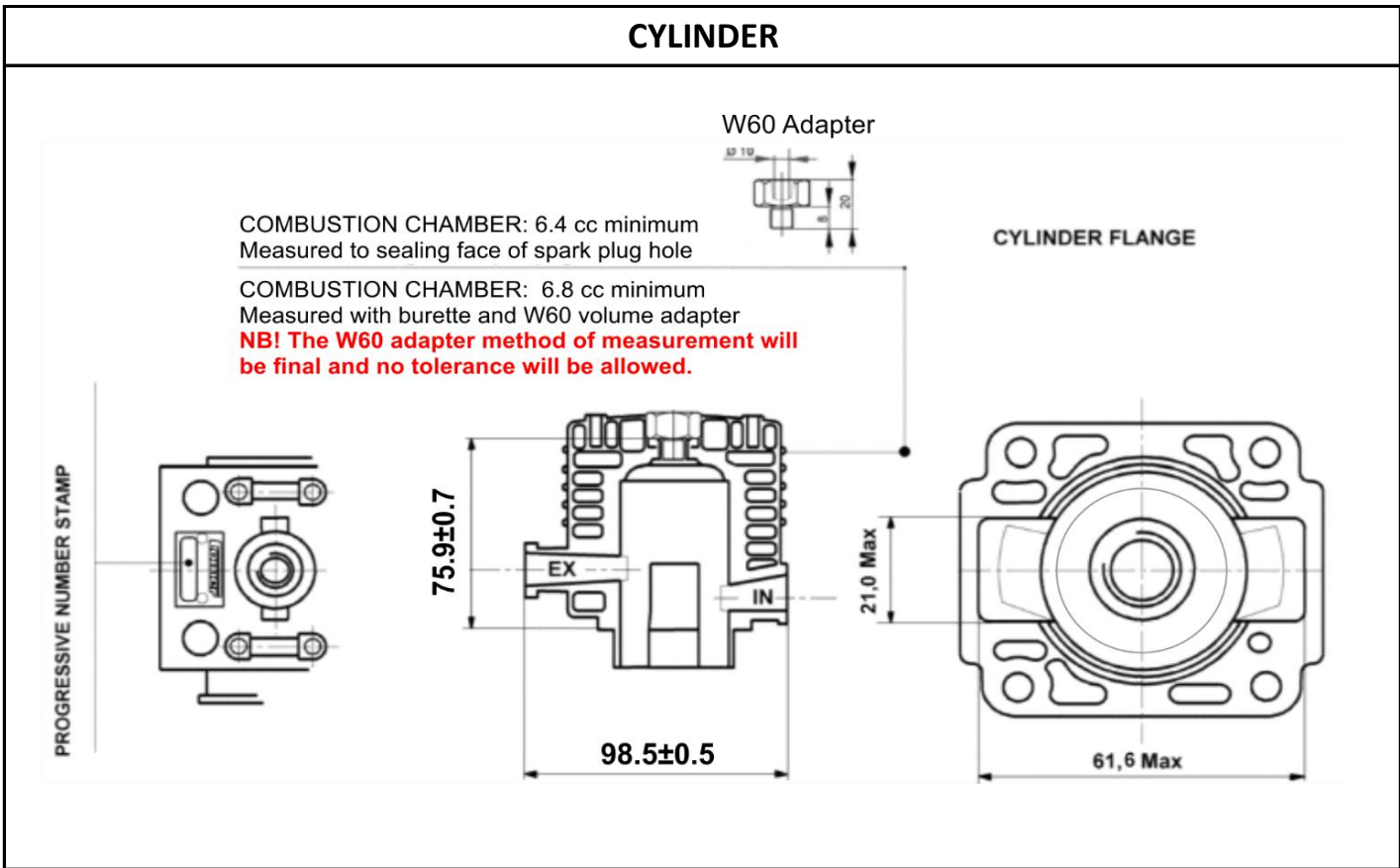


TECHNICAL INFORMATION

Bore	40 mm
Stroke	40 mm
Displacement	50.2 cc
Fuel / Oil	25:1 (95 Octane mixed with specified oil)
Ignition	Electronic
Clutch	Centrifugal 3 pieces
Front Sprocket	10 Z
Rear Sprocket	74 Z
Carburettor	DELL'ORTO SHA - 14-12L
Cylinder	Aluminium / Nicasil or chromed - Replating forbidden
Spark Plug	CHAMPION RCJ7Y or NGK BPMR7A or BOSCH WS5F

Locking devices and fixtures may be replaced with non original parts. Helicoils may be used. A metal plate maximum 3mm thick may be added to aid engine alignment. An aluminium engine mount with under clamps may also be used to afix the engine to the chassis.

CYLINDER

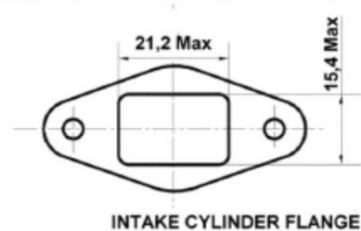
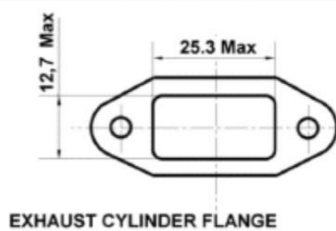
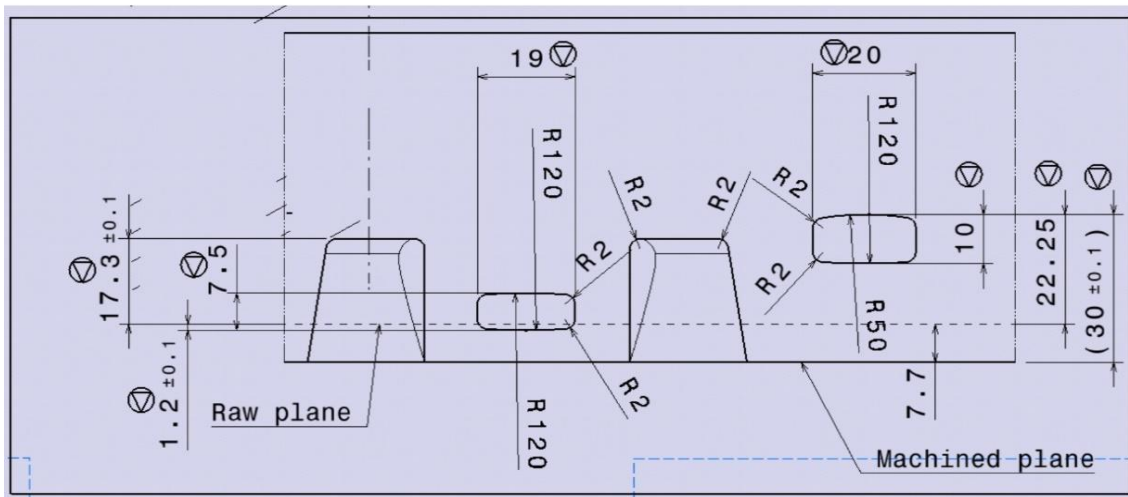


CYLINDER DIAGRAM - Port sizes and timing using "as supplied" components

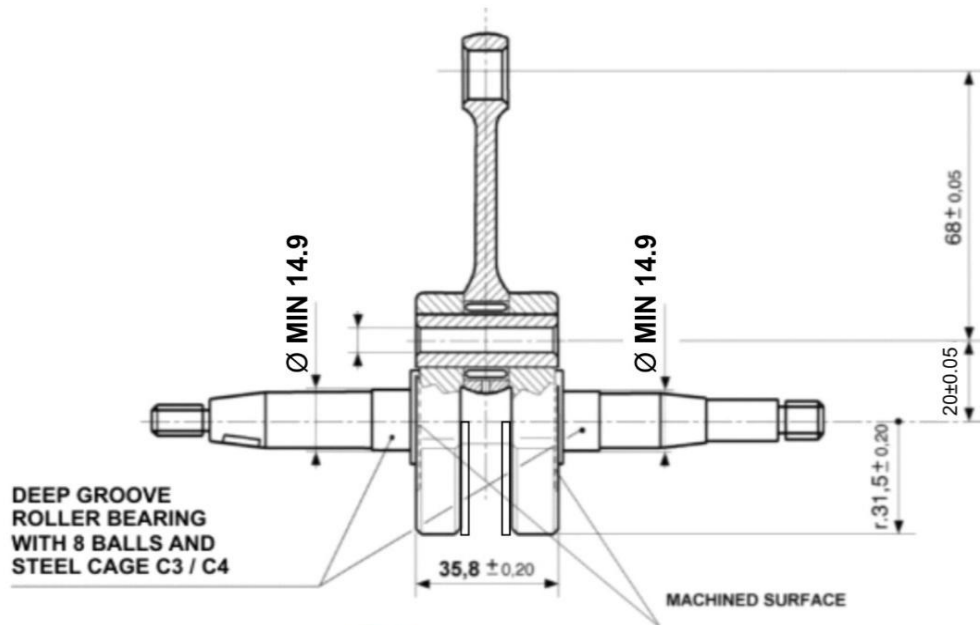
NO MACHING OR GRINDING ALLOWED

DURATIONS MEASURED WITH FEELER GAUGE
WIDTH 8mm THICKNESS 0.2 mm

INTAKE 125° Max
EXHAUST 150° Max



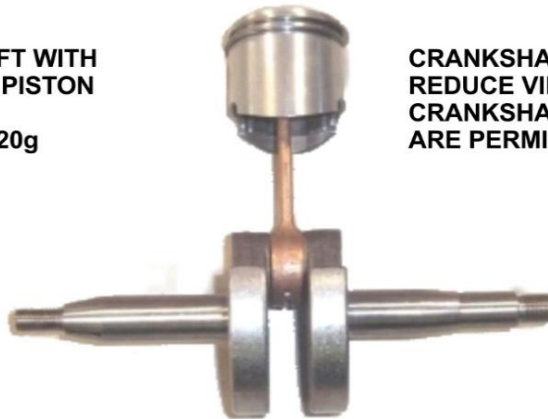
COMPLETE CRANKSHAFT



CRANKSHAFT WITH COMPLETE PISTON

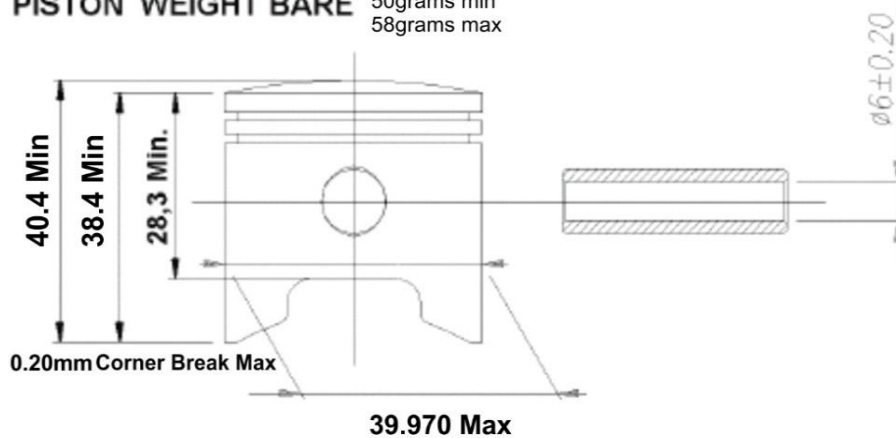
658g ± 20g

CRANKSHAFT IS MODIFIED TO REDUCE VIBRATION AND ONLY CX52 CRANKSHAFTS SUPPLIED BY EMR ARE PERMITTED




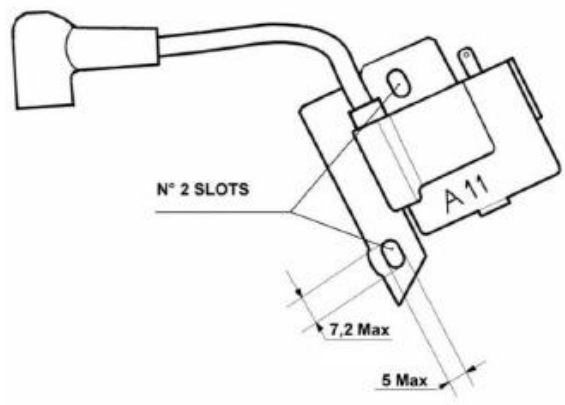
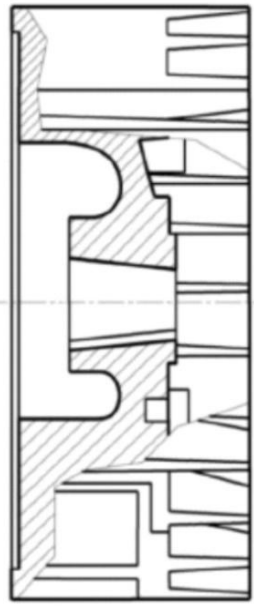
PISTON

PISTON WEIGHT BARE 50grams min
58grams max

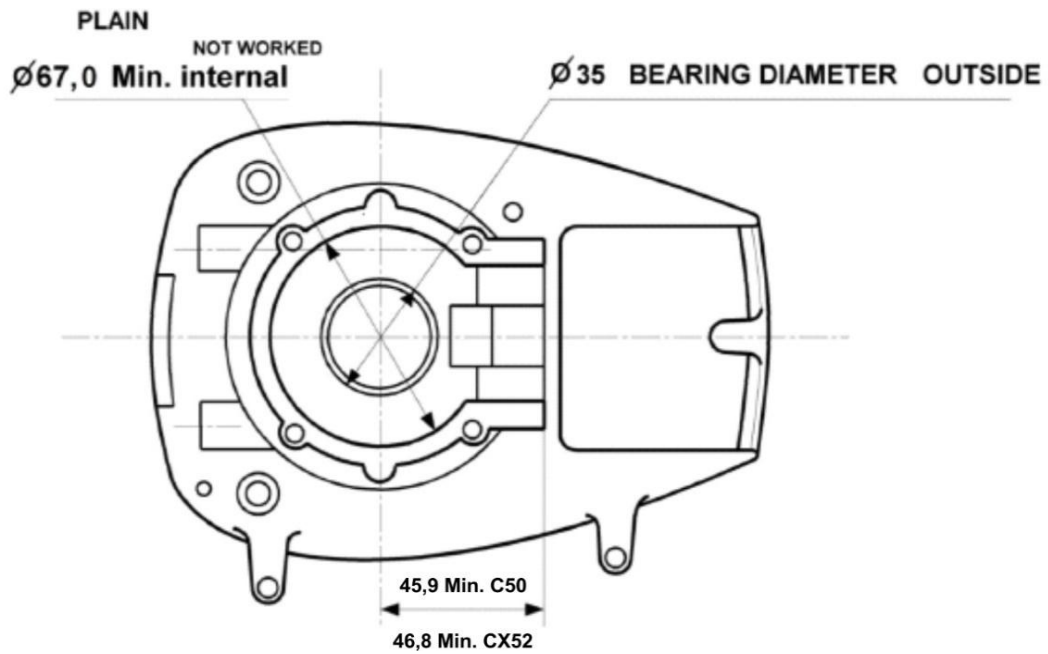


N° 2 Piston rings 1.45 ± 0.05

It is permitted to remove material from the piston skirt to achieve the minimum dimension. NB! The cutouts below the small end pin are not considered part of the skirt and no material removal is allowed here.

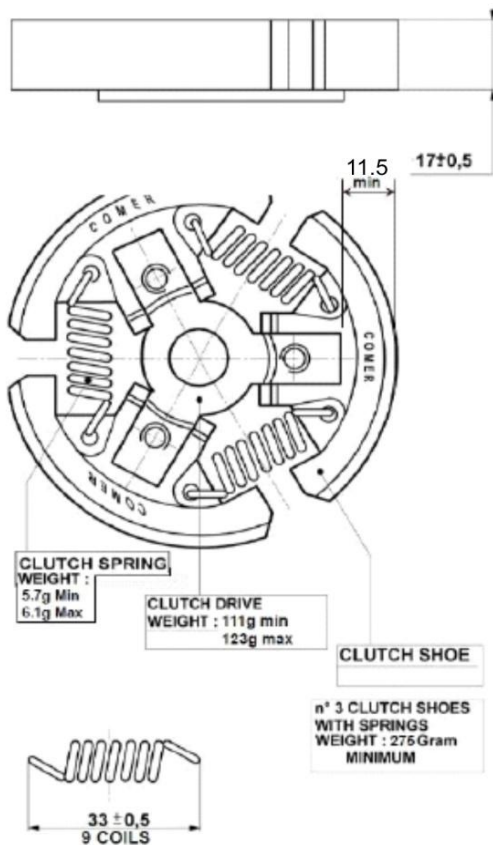
IGNITION	
FLYWHEEL	COIL
FJ MODEL	FJ MODEL A11 - Code FJ A11 20-07
	 <p style="text-align: center;">It is permitted to extend the ignition lead to A maximum length of 180 mm between the coil and the start of the plug cap and alternate plug cap may be used. SPARE PART CODE: C050-452-02</p>
Code FJ 20-07	IGNITION TIMING
 <p style="margin-top: 20px;">Weight= 378 min without key 402 max</p>	<p>It is permitted to omit the woodruff key.</p> <p>It is recommended that the timing be set at 4.00 mm btdc using the leading edge of the trailing magnet (second magnet) lined up with the left hand side of the long lamination leg as reference.</p> <p>The maximum advance allowed is 4.20 mm btdc with no tolerance.</p> <p>It is recommended that that the nut is torqued to 25Nm.</p> <p>No removal of metal whatsoever.</p>
SPARE PART CODE: C050-453-02	

CRANKCASE

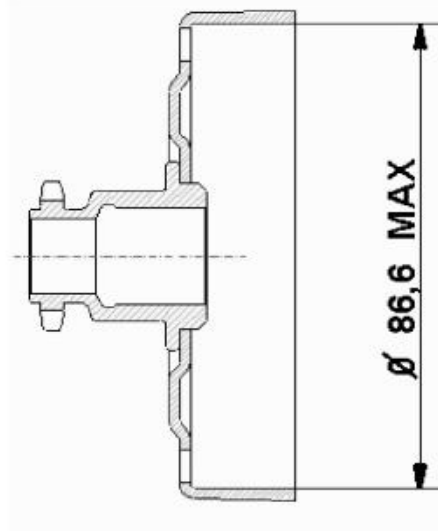


Original C50 Crankcases may be used in conjunction with any type of cylinder base gasket. NB! A metal gasket is preferable when a thick gasket is required to meet the minimum head volume specification.

CLUTCH

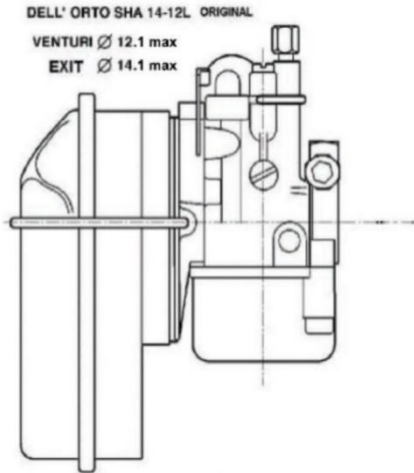


SPROCKET



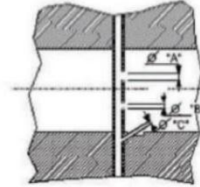
SPROCKET "COMER" 10 TEETH PITCH 219

CARBURETTOR



Emulsion Tube ID 1.80 max
Slide No:7 (6108)
Float 3.5gr
Needle Seat ID 1.5max
Main Jet FREE

\varnothing "A" = 1,25 mm
 \varnothing "B" = 0,80 mm
 \varnothing "C" = 0,80 mm



AIR BOX WITH 1 FILTER MIN
AIR BOX ORIENTATION FREE

VERIFY CARBURETTOR NOZZLE WITH
NO GO GAUGE 0.01 MM LARGER THAN
NOMINAL SIZE

No additional fixation, brackets, etc. allowed. **NB!** Superglue plastic cutout into airbox to avoid losing this piece.

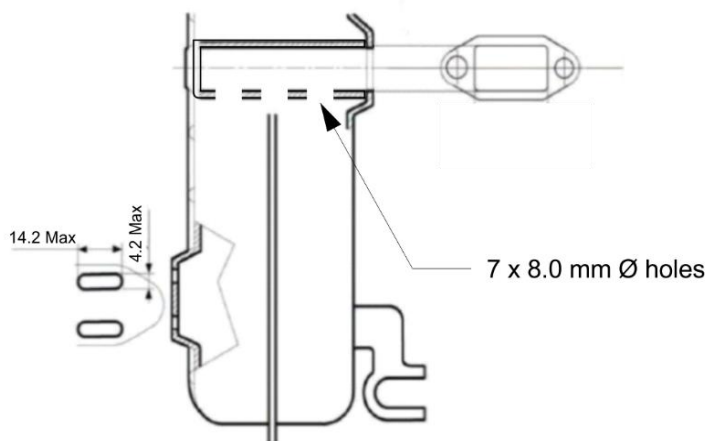
INLET MANIFOLD



EMR CX52 Manifold Assembly is the only permitted manifold. No modifications allowed.

MUFFLER

ORIGINAL EXHAUST ONLY



* Original Comer gasket to be fitted

* All exhaust gasses must exit via the two outlet slots ie, any additional holes / loose exhaust will lead to exclusion

* Outlet slots may be filed to the maximum dimensions corners may be radiused or square.

* Original part and no other alterations permitted

* Plastic heat shield may be removed.

*** It is permitted to remove the rectangular inlet pipe or if it breaks out for it to lie loose in the bottom of the silencer**

PORT TIMINGS

Port timing measurements will be done with either a digital degree wheel or a graduated disc of minimum 280mm diameter and a pointer that is sharpened to a knife edge. To avoid arguments over parallax errors the pointer should be less than 3mm from face of the degree wheel where the reading is taken. The sharp point must clearly be on the line defining the maximum measurement. The measurement will be taken with all the slack in the system taken up i.e. the crankshaft will be rotated until it gently stops against the feeler gauge.

The feeler gauge will be 0.2mm thick and 8.0mm wide. The feeler gauge will follow the angle on top of the piston for exhaust port measurement and be held flat on the bottom of the inlet port.

Inlet Port duration maximum **125** degrees no tolerance

Exhaust Port duration maximum **150** degrees no tolerance

GENERAL

Fuel system: It is permitted to remove the sieve in the fuel tank and enlarge the hole. An inline fuel filter is permitted. It is permitted to use an o-ring or cable ties as an additional fixation for the fuel tank.

Clutch: The engine may not exceed 4 500 rpm before the kart starts to move forward.