

COMER SW80

TECHNICAL SPECIFICATIONS

Preamble:

The following are the Technical Specifications for the COMER SW80 engine, as approved by the Australian Karting Association.

This engine is approved for use in the MIDGET class only.

Unless otherwise specified, the engines must be original in all their components according to the Comer drawings. Any removal, addition or polishing of material is strictly forbidden.

This includes sandblasting, bead or fiberglass blasting, spark eroding, acid etching, grinding etc.

ANY ALTERATIONS / MODIFICATIONS ARE STRICTLY PROHIBITED EXCEPT AS SPECIFICALLY AUTHORISED WITHIN THESE SPECIFICATIONS.

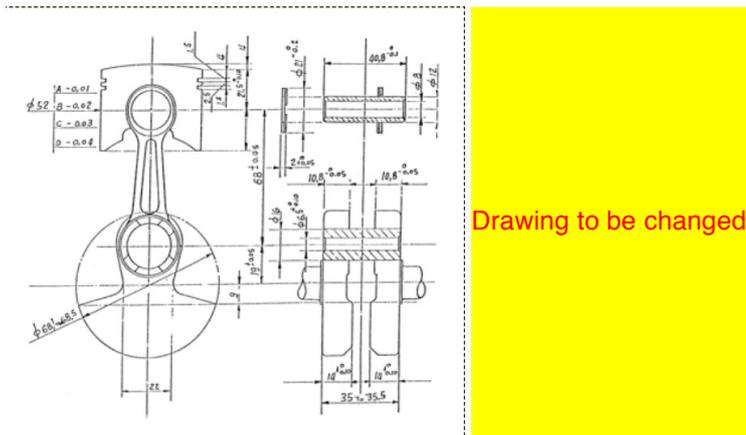
IF THESE SPECIFICATIONS DO NOT SAY YOU CAN MAKE A MODIFICATION, THEN YOU CANNOT.

SW 1.01 Engine:

CHROME BORE	Bore	Stroke
No re-chroming or re-plating allowed	52.1 mm.	38.1 mm. Maximum.

SW 1.02 Crankshaft, Conrod, Piston, Piston Rings, Piston Pin and Piston Pin Bearing: Specifications and Tolerances:

1. The piston skirt will carry a maximum chamfer of 0.5mm
Note: skirt length must be equal distance on both sides.
2. Piston pin bore is 8.0mm +/- 0.1mm
3. Cast surfaces to have a tolerance of +/- 0.3mm
4. Compliance checks: Refer to chapter 26 of the AKA Manual for procedure steps 1,2,3 and 5
5. The second piston ring must be freely removable from its groove and must be able to support its own weight when fitted to the cylinder that is held in a vertical position. The piston and ring must not be modified in any way that could possibly prevent the ring from moving freely in its groove.



WEIGHTS IN GRAMS

Vertex (USA) piston (SW80)	93 to 98		
Piston ring T.C.	2.75 to 2.85	Complete crankshaft + piston	845 to 861
Piston ring	0.2 to 0.3	Flwwheel complete	645 - 665
Piston pin	19 to 23	Cage	INA KZK 12x17x13
Piston pin needle bearing	7	HEAD CAGE	INA KZK 16x22x12
BEARING	RIV 6202		

SW1.03 Engine Additions:

Motor Mount, Cylinder/Head Temperature Probe (cover cooling slot may be modified for fitting), Tachometer. Carburettor jet needle extensions. Carburettor return springs and fasteners, Engine must be run with supplied clutch (Part No. S080 089).

Either 11 or 12 tooth Comer clutch drum can be used.

Clutch retaining nut/adaptor nut is non tech

Fasteners securing clutch drum are free to facilitate the use of an external starter as long as components are no bigger than 19mm hexagon.

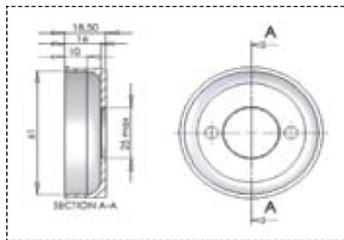
All components must be as supplied with engine and are all subject to technical specifications.

SW1.04 Cylinder Head:

1. Must be an original Comer casting.
2. The welding and re-machining of the combustion area, gasket face and spark plug surface is allowable. Any additions/repairs must be non-adjustable and of aluminium material.
3. The combustion chamber style is required to have a squish band and chamber that are visually concentric to the spark plug.
4. Comer SW80 Cylinder head volume measurement to be 11.0cc using the AKA Comer SW80 cc plug gauge (Type 4). Refer to Rule 26.01 of the AKA Manual for the correct usage procedure.
5. The combustion chamber/squish area shall not protrude beyond the gasket sealing face of the cylinder head.
6. The spark plug thread may be repaired and shall retain its original position in relation to crankshaft axis. Helicoils and similar are permitted.
7. Spark plug must have a maximum engagement length of 12.70 mm (without the washer)
8. Maximum distance from sealing surface of spark plug to combustion chamber sealing face shall be 23.00 mm.
9. The cylinder head 'O Ring' must be retained.

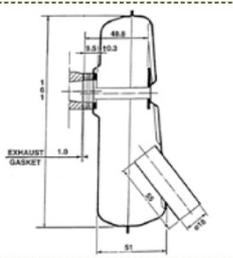
SW1.05 Carburettor:

1. Tillotson HL 326A or HL 166B with a Venturi of 15.87 mm. maximum. Carburettor to be stock as supplied by COMER and the choke is to remain attached. The back edge of the choke butterfly may be bent to allow the leading front edge to be in the fully open position. No additional machining or polishing of any cast surface. This includes throat, venturi, etc. of carburettor. All screws, etc. to remain as supplied by Manufacturer. Gasket & Diaphragm kits are free.
2. The airbox adaptor shall be stock as supplied by COMER, or a replica manufactured to original Comer specifications. Refer Diagram below
3. Maximum airflow opening is 25mm .All other dimensions have a +/- 1mm tolerance.

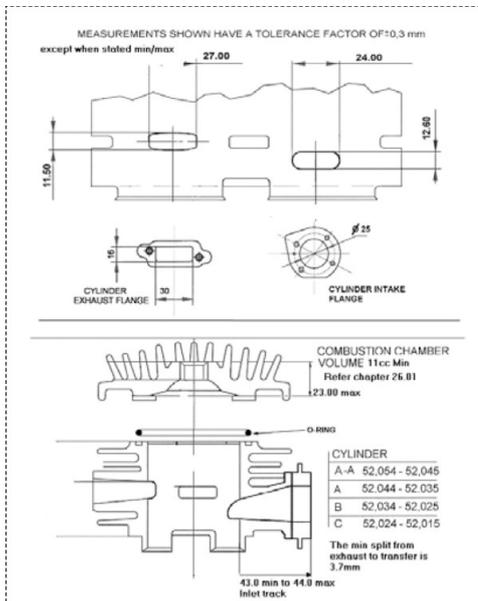


SW1.06 Pressurised Fuel Systems:

Fuel pump or pressurised fuel systems are forbidden.
Squeeze type pump between fuel tank and carburettor is permitted.



SW1.07 Exhaust Gasket and Inlet Manifold Gasket:



Specifications and Tolerances. As per diagram otherwise where no tolerance specified then +/- 0.15mm applies.

