



## SwedeTech TM K9 Engine Break-In

### Engine Break-In

Start by increasing the main jet by one to two sizes from what you have determined to be the optimal jetting, taking weather, altitude and track size into consideration. Always warm-up the engine on the stand (in 1<sup>st</sup> gear) and do a walk around of the engine and kart...

- Check for loose nuts and bolts.
- Check the water level and add tape to the front side of the radiator.
- Warm-up engine – Remove the radiator cap, to check for proper water flow.

Check to make sure that the clutch lever has  $\frac{3}{4}$ " to 1" of play and that the clutch lever, cable and actuator arm retract properly. The clutch lever action should have a light and free feel to it (We offer an easy-to-use cable lubrication device, to achieve this).

Break-in water temperature should be 135 to 140 degrees, with the normal running water temperature at around 125 degrees (RC20 recommended additive). You can take the temperature reading anywhere between the cylinder head outlet and the radiator.

Out on the track, run at reduced lap times of 15% to 20% below normal (On a 30 second track, slow the pace by 4 to 5 seconds per lap.). Go through the gears as normal, modulating the throttle and shifting at approximately 13,000 RPMs... Blip the throttle, when going into corners and / or if you are coasting. Towards the end of the break-in, gradually increase the pace by approximately 1 second per lap. Once you're up to speed, you don't have to come in and let it cool down... Just run it!

- New engine break-in – 15 to 20 laps.
- New top end break-in – 8 to 10 laps.

## **Oil**

Please call us for recommendations on 2-stroke oil... Be prepared to advise us what race series that you are participating in and what the "spec oil" is for the series. Note: For most sprint racing applications, we recommend a 20:1 mix ratio.

For the transmission, we recommend that you use 16oz / 450ml of a brand-name 2-stroke gearbox oil if your engine is brand new or freshly rebuilt... Use 50ml less, for routine oil changes.

## **Spark Plugs**

Use any of the following NGK spark plugs...

- NGK BR10EG
- NGK BR10EGV (Discontinued)
- NGK BR10EV
- NGK BR10EIX
- NGK R7376-10

## **Top End**

- TM piston kit - 10087.93
- TM piston kit - 10087.94

## **Jetting – Dellorto VSHH 30 CS**

Normal range of jets for a Dellorto VSHH 30 CS carburetor, when used in conjunction with a SwedeTech blueprinted TM K9...

- 135 - 160 main
- B45 – B50 inner pilot
- 60 outer pilot
- DQ266-268 nozzle
- K22 needle (1<sup>st</sup> or 2<sup>nd</sup> clip position from the top)

Note: Even larger jets may be applicable for road racing.

## **Reeds**

- Carbon-fiber SwedeTech TM

**Cooling System** – Water flows from the bottom of the radiator to the center of the water pump (into the face of the impeller). Water then flows out of the pump to the bottom of the engine case. There is a water hose (u-bend) that connects the top of the engine case to the cylinder. Finally, the water flows out of the cylinder head to the top of the radiator... No other routing is correct.

**Clutch** – It is important to check your clutch plates regularly, as the TM K9 utilizes a dry clutch, which tends to wear much faster than a wet clutch. SwedeTech replaces the heavy steel plates with lighter hard-anodized aluminum plates, for better performance. Make sure to have at least 3/4-inch of play on your clutch lever, at all times, with a light and free-feeling clutch lever action. Note: You may want to consider having a “broken-in” clutch kit, for use only on race days.

**Lower-End Maintenance** – For reliability, SwedeTech, along with TM Italy, recommends that you replace the lower rod bearing and thrust washers, after every 7 – 8 hours or 20 gallons of fuel that is run through the engine (SwedeTech blueprinted ICC TM, using recommended oil).

**Top-End Maintenance** – For optimum performance, we advise replacing top-end parts every 2½ - 3 hours or 5 to 7 gallons of fuel. When doing a top-end rebuild, check the squish between the piston and the cylinder head, using 0.050” solder (optimum desired squish – 0.042” – 0.044”).

**Exhaust** – At this time, the “XXS” marked silencer with the sleeved dual stage u-bend works the best, with a SwedeTech blueprinted TM K9 engine.

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