

## Comparison Test between Super Tiger S45 and OS 46 AXii

### NOTES:

1. Used 15% Cool Power – I use this synthetic blend in Non-ringed engines to get maximum horsepower.
2. Use Omega 15% in engines with rings...you get a little better seal and more compression.
3. Same Master Airscrew 10 X 6 propeller used on both engines.
4. Test performed on same day within one hour.
5. ABC = Aluminum piston with Brass Chrome plated sleeve.
6. ABN = Aluminum piston with Brass Nickel plated sleeve.
7. SE = Side Exhaust

	<b>Super Tiger .45 ABC SE</b>	<b>OS .46 AXii ABC SE</b>
With Factory Muffler RPM	<b>15,940</b>	<b>15,384</b>
With OS Muffler Internal Cone Removed	-----	<b>15,802</b>

Below is the comparison of the engines internal timing in degrees of rotation.

<u>Super Tiger .45 ABC SE</u>	<u>O.S. .46 AXii ABN SE</u>
168 Exhaust	146 Exhaust
130 Boost	120 Boost
196 Crankshaft	202 Crankshaft
146 BEFORE TDC	152 BEFORE TDC
50 AFTER TDC	50 AFTER TDC

### Comments:

An interesting comparison, in my opinion, of both engines.

The Super Tiger .45 has an exhaust timing of 168 degrees, 10 degrees more boost timing, yet less crankshaft timing than the OS which makes the Super Tiger timed for a tuned pipe application. The OS engine “gulps” more air and its muffler adds only 23 RPM compared to open exhaust, therefore a “Zero Boost” muffler. The OS 46 muffler actually decreased the RPM by 273 RPM over open exhaust. This is typical when you put an expansion chamber muffler on an engine. The design of both the Super Tiger and OS mufflers actually help them breathe better. Now take out the internal cone at the intersection of the front and back half of the OS muffler you actually see the tuning take place with an increase of 418 RPM! Removing the internal cone creates a misalignment between the halves of the muffler and messes up the O-ring. A racer would mod the internal cone by opening up or installing a washer with same size Outside Diameter (OD) and Inside Diameter (ID) as the muffler.

This is a comparison of these two engines that performed as documented above. It is very possible that comparing two other OS .46 AXii and Super Tiger .45 ABC engines could result in different results. Weather can also play a part in getting maximum performance out of an engine. Propellers can also give greatly different results.

Bottom line...The engines are closely matched for Four Star 40 racing, and you still have to FLY the course!