

TORCMAN BRUSHLESS MOTORS



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TORCMAN enters new segment and creates the „*Superman*“

Since 2001 the company **Torcman GmbH** located in Blaustein/Germany (near Ulm) designs, manufactures and sells high performance Brushless Outrunner Motors „*Made in Germany*“. **TORCMAN** is one of the companies, which caused a tremendous change in the area of electric aircraft models and scared the established Brushless Motor manufacturers– at least until they added such motors to their product range. The objective – to replace the loud, expensive and maintenance intensive gears in a wide application range – is now accepted and impemented worldwide. The number of manufacturers of Brushless Outrunner Motors has dramatically increased and the wave of cheap competition from near and far east does the rest. The power range between 50 and 2500Watts is somehow standard now, but the limits are permanently pushed up to higher power and efficiency. A big part in this game play the increasing capabilities of the new battery technologies which now allow to move to electric drives with most applications.

For a short time, a new trend seems to come up, which also cannot be ignored by the established companies. This is the combination of Brushless Outrunner Motors with high quality planet gears. Until now, this area was reserved for the Brushless Inrunners due to the required high rpm's, which outrunners couldn't achieve, mostly limited by the controllers. But in the meantime, the modern brushless controllers are able to drive outrunners at more than 30000rpm and allow this new combination. Again, the outrunners beat the inrunners in many applications – especially when big props need to be driven at higher voltages. The result is a multiplication of the max. power throughput by factor 3 to 4 at the same motor size. Props which had been too large for a direct drive application with outrunners can now be handled at very low motor weight and high efficiency with this combination.

Therefore **Torcman** decided to redesign the established **TM350-20** (and **TM350-12**) and offer a special edition combined with one of the best available planet gears, the **Reisenauer Superchief**.

The proven motor has been completely reengineered and provided with a direct adaption to the gear (no additional flange required). Additionally the heat conduction and convection has been improved and active cooling been implemented with a cyclon fan in the backplate of the rotor.

Der range of application for these drive sets reaches from 4 to 12 Lipo cells, props between 15 and 24“ diameter and power between 1200 and 2000Watts, short time 2500Watts (800 – 1400Watt for the TM350-12)



Because of its relatively small dimensions (min. rib diameter 38mm), a total weight of ~300g (250g for the TM350-12) combined with the high power values and efficiency between 80 and 90%, this new driveset has been named „*Superman*“. After extensive testing the first production run will start in August 2007.

To optimize the drive set for the customers applications, a big variety of Winding-Numbers will be available - as usual for all TORCMAN motors. A table with possible combinations is in work and will help to select the best fitting combination.

Also design and test for the other motor sizes are currently under investigation and are planed to be introduced by end of the year.

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