Motor of the week – Rare Earth 25mm brushed DC

Two DC motor and gearhead customer deliveries this week that showcase the size reductions of new technology in motors and gearheads.

Pictured here are two examples of the maxon DC brushed motor fitted with a planetary gearbox. For comparison we have shown both the new and old version of a gearbox and the new and old version of a DC motor. Figure 1. depicts the older model 42mm gearhead in combination with a 35mm DC motor and beside is the new gearhead with the same reduction ratio. It is easy to see just how much shorter the new planetary gearhead is, in fact it represents a length reduction in this case of 45.4mm. On top of this the new gearbox is 260g lighter and also stronger. Figure 2. Showcases the old and new version of the 25mm Rare Earth brushed DC motor, the RE25. The new RE25 motor is fitted with a 32mm ceramic planetary gearbox and the old RE25 motor is shown by itself. Both the old and new DC motor are rated at 20W, however the new motor is 11.5mm shorter. New materials including ceramics, high grade magnets and winding technologies are to thank. For planetary gearheads in particular, ceramic materials have greatly improved the wear characteristics of the moving parts allowing higher speeds, higher torque transmissions and improved lifespan. For brushed DC motors it is the combination if high grade NdFeB magnets and the ironless rhombic winding structure that give a DC motor with no magnetic detent cogging and very dynamic performance. Winding angles, sintering methods, magnetic return material and brush composition are just some of the many constantly improving aspects of maxon DC motors. Over 8% of maxon motor revenue is funnelled into motor, gearbox and controller research and development. The motor and gearbox improvements shown here are clear example of maxon motor innovation and why they continue to release smaller and stronger DC mini and micro motors every year.

Contact maxon motor Australia in our Sydney office for further assistance Ph:+61 2 9476 4777

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The media release is available on the internet at: www.maxonmotor.com.au

Figure 1. 42mm gearbox and motor old v’s new. © 2013 maxon motor Australia.
Figure 2. 25mm diameter DC motor and gearhead old v's new © 2013 maxon motor Australia.