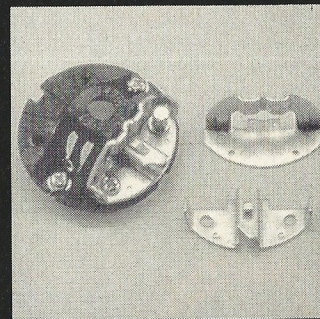


TRINITY

SLOT MACHINE

by FRANK MASI



To ensure proper alignment, the brush hoods are actually keyed into the endbell's heat sinks. To allow easy removal and replacement, the spring posts are threaded into the endbell.



Vents in the sides and bottom of the endbell's heat sinks allow cooling air to circulate.

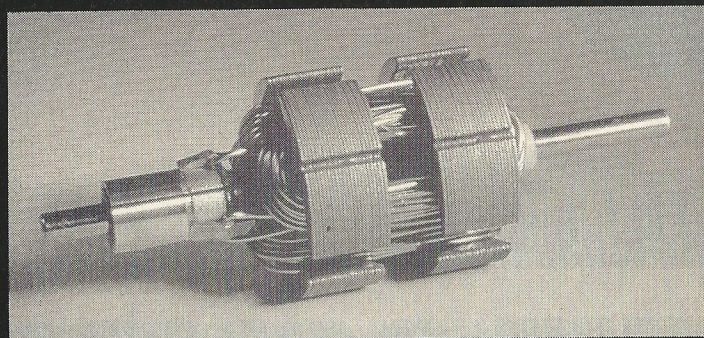
LET'S GET REAL for a moment. How much faster can they make stock motors go? When Trinity* started doing funky things to its stock-motor armatures—such as removing the center portion of the laminations to reduce rotating mass and to increase cooling—I thought I had seen it all. How far are these guys going to take this thing? After all, it's only stock-class racing, right? Most manufacturers are so busy designing and building their hot modifieds that stock-motor development seems to get tossed into the back seat along with the dirty socks and the empties. (I'm talking about soda cans, you buffoons! Followers of the Ayatollah of Radio Controlla *never* drink and drive.)

Trinity puts the same effort into its stock motors as it puts into its mods; the success of their Slot Machine slotted-armature stock motor and their more recent Green Machine short-stack slotted-armature stocker prove this. These are very quick motors!

The phrase "tough act to follow" aptly describes the Slot Machine and Green Machine stock motors. What else could be done within the constraints of the current ROAR stock-motor parameters to improve their performance? Nothing, I thought, until I was shown the prototype of the latest incarnation of Trinity's 27-turn terror—the Slot Machine II (hey, so they used up their originality on the motor's design and had none left for the label).

The Slot Machine II actually came about accidentally. When Neal McCurdy and the Trinity motor-design team were working on a new modified motor, they thought that some of their ideas might improve stock-motor performance. They tried these designs, and guess what, boys and girls? They worked!

According to Trinity, the Slot Machine II is the first all-new motor design since the current Yokomo motor, which was introduced back in '82.



The heart of the Slot Machine II is this 27-turn, short-stack slotted armature. The slots milled into the sides of the armature poles allow air circulation and act as drill-bit guides for the balancing drill.

ENDBELL

The S.M. II's most significant features are found on its endbell. The brush hoods have been laid down to gain more brush wraparound on the comm, which generates more power through increased conductivity. With this brush arrangement, you can use timed brushes, and they'll have as much contact area as full brushes would in a conventional arrangement.

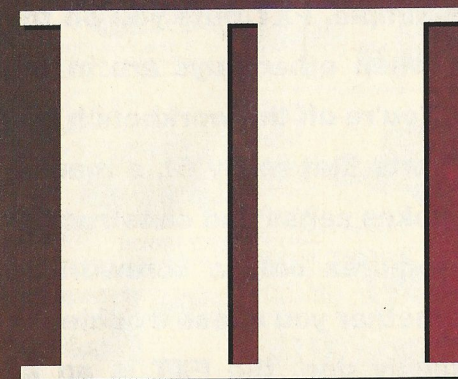
In addition, the brush hoods themselves are keyed into the molded endbell to maintain proper hood alignment with the armature—even if you have to remove the brush mounting screws, or remove the hoods entirely to use a stock-motor comm lathe. Small vents channel air under the brush hoods to help keep them cool. Also, the sides of the hoods are vented, as is the molded portion of the endbell.

Trinity will offer several brush configurations—full and

timed, and in a variety of compounds—for their new motor designs. The brush hardware is attached with screws, and a thread-in spring post is included so that all current brush springs will work without modifications.

MOTOR CAN

Even the can on the Slot Machine II is different. To allow cooling air to circulate around the armature, vents have been



stamped in between the magnets in the can. Other motors have this design, but the Slot Machine II's vents are different: they aren't just punched out. The material is still attached to the can, but it's bent toward the armature so that it acts as an air scoop to help cool the motor. In addition, the bottom can vents are teardrop-shaped to assist airflow through the can. Of course, the new motor uses Trinity's 5.0mm wet magnets for a super-strong field and long motor life.

ARMATURE

The armature is made of a dual-rotor, short-stack blank—just like the Green Machine—but the new armature has a few interesting changes. A small slot that runs along the length of each pole increases airflow and also serves as a drill-bit-centering device when you balance the armature. With the slot, the balancing drill will always be centered. A redesigned comm lock keys into each armature pole to prevent tampering.

PERFORMANCE

Trinity R&D predicts that the Slot Machine II will develop more power, run cooler and have more versatility than current stock motors because of its laid-down brushes. By running cooler, it will last longer and perform more consistently, which means that it will maintain the same speed throughout a race. The new Slot Machine II is definitely a breakthrough in R/C motor technology!

*Here's the address of the company that's featured in this article:
Trinity Products Inc., 1901 E. Linden Ave.
#8, Linden, NJ 07036. ■



The motor can's sides are vented, and the "punched" material helps to remove warm air from around the armature, keeping it cool and prolonging motor life.

One-Armature Bandit