STROMBECKER®

IMPORTANT! Carefully read the following notes and all winding instructions before actually starting the winding procedure. It is extremely important that all steps are thoroughly understood before winding is begun.

NOTE:
The exact number of wire turns per armature pole is specified in the following instructions, however more or fewer turns may be used to vary performance. Generally, within narrow limits, more turns than those specified produce greater torque and lower r.p.m.; fewer turns than specified will result in higher r.p.m. and lower torque.

I. Preparatory Notes:

1. Use a clean and properly tinned soldering iron of approximately 37-watts and allow it to reach full heat before applying it to the connections to be soldered.

2. Before soldering, the enamel insulation must be removed from the wire. Gently scrape away the insulation with a sharp knife being careful not to nick the wire. USE ONLY RESIN CORE SOLDER!

3. When winding the wire around the armature poles, wind as tight as possible without unduly stretching it. Be extremely careful not to nick the insulation on the pole pieces while winding as this could result in shorted turns or a direct short to the armature.

4. When winding the wire around the poles keep an accurate count and make sure that each pole is wound with the same number of turns. Wind the wires parallel to each other and as close together and neatly as possible. This will assure better armature balance and will also assure that the full number of turns will fit on to the pole pieces.

5. When soldering connections to the commutator, do not apply heat any longer than is necessary as this may loosen commutator segments. Make sure that each soldered connection is neat and bright, and use just enough solder to make a good connection.

II. Winding Instructions — (Refer to Figure 1 for all winding steps)

1. Use 80 turns of wire on each pole for the Hemi 300 motor kit.

Use 70 turns of wire on each pole for the Hemi 400 motor kit.

2. Solder the end of the wire to commutator segment "A". Start winding the wire around pole #1 in a **counter-clockwise** direction.

3. When the required number of turns have been wound on pole #1, wrap the wire once around commutator segment "B" and solder. **Do not cut the wire.**

4. Now continue winding the wire in a counter-clockwise direction around pole #2 and wind on an equal number of turns. When pole #2 is complete, wrap the wire once around commutator segment "C" and solder. **Do not cut the wire.**

WINDING INSTRUCTIONS FOR HEMI 300 AND 400 HIGH PERFORMANCE SLOT RACING MOTORS

5. Similarly wind pole #3 with the same number of turns in the same direction (counter-clockwise) and after this pole is fully wound wrap the wire once around commutator segment "A" which was the starting commutator segment. Solder this connection and now cut off the excess wire.

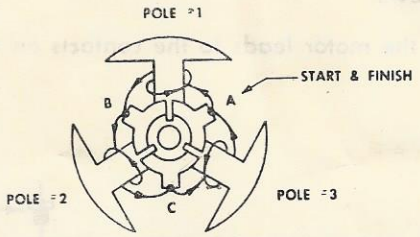

FIG. 1 - WINDING DIAGRAM

6. The winding of the armature is now completed. When the motor is properly assembled, with the armature wound as just described, the motor will run at a speed in the area of 40,000 to 50,000 RPM at 12V DC with no load. This extremely high speed will cause tremendous centrifugal force to be exerted on the armature windings and commutator segments. For this reason and to ensure top performance with maximum reliability, we suggest that the armature windings and commutator connections be epoxy-coated. Any good grade of epoxy cement (generally a two tube kit type epoxy cement will do) is acceptable. Follow the mixing instructions exactly as specified on the package. Figure 2 shows those areas on the commutator which should be epoxy-coated and this illustration should be followed exactly. Use a small stiff brush to force the epoxy into th windings so that all windings will be bound tightly together as one solid mass. Be extremely careful not to get epoxy on the armature shaft, commutator segments or outer surfaces of the armature poles. Allow several hours for the epoxy to dry thoroughly before running the motor.

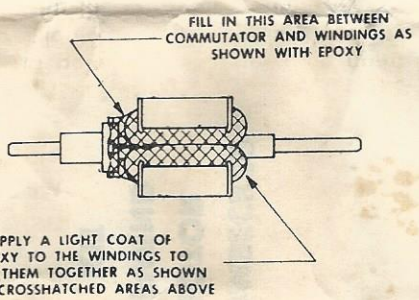

FIG. 2 - EPOXIED ARMATURE DIAGRAM

STROMBECKER RACEWAYS A DIVISION OF STROMBECKER CORPORATION, 4646 W. LAKE STREET, CHICAGO, ILL. 60644

PART NO. 36734

III. Motor Assembly – (Refer to Figure 3)

1. Slip a small fiber washer on the armature shaft opposite the commutator end. Apply a drop of oil to the front motor bearing in the chrome housing and slip the armature into the housing.

2. Put the large fiber washer followed by a small fiber washer on the commutator end of the armature shaft. Apply a drop of oil to the rear motor bearing in the plastic brush cap and slip the brush cap into position.

3. Bend the four locking tabs on the motor housing down into the recesses on the plastic brush cap. Make sure they are bent down tightly to hold the motor housing securely in place. Check the armature to make sure that it spins freely.

4. Insert the brushes, followed by the brush springs (with the formed end of the spring in the brush holder slot). Slide the brush spring retainer in the slots provided in back of the brush cap while depressing the spring. Insert the brush retaining screws.

5. Solder the motor leads to the contacts on the brush cap.

6. The motor is now complete and ready to run. The motor should be broken in by letting it run for at least an hour on low voltage (2 to 3 volts D.C.). This will seat the brushes and properly wear in the bearings which will greatly improve the performance of the motor. After the motor is broken in it can be tested for the maximum no load speed by applying 12 volts and measuring the speed with a suitable strobotach.

NEVER RUN THE MOTOR UNDER NO LOAD CONDITIONS AT FULL VOLTAGE FOR ANY EXTENDED PERIOD OF TIME AS THIS WILL GREATLY REDUCE THE LIFE OF THE MOTOR. REMEMBER, WHEN A MOTOR IS INSTALLED IN A RACE CAR AND UNDER ACTUAL OPERATING CONDITIONS THE MOTOR VERY SELDOM IS ALLOWED TO RUN AT THESE MAXIMUM NO LOAD SPEEDS.

Strombecker guarantees that the parts in this kit are of the highest quality and workmanship available. However, since Strombecker has no control over the assembly of the finished motor, the manufacturer cannot accept responsibility for the performance of the product

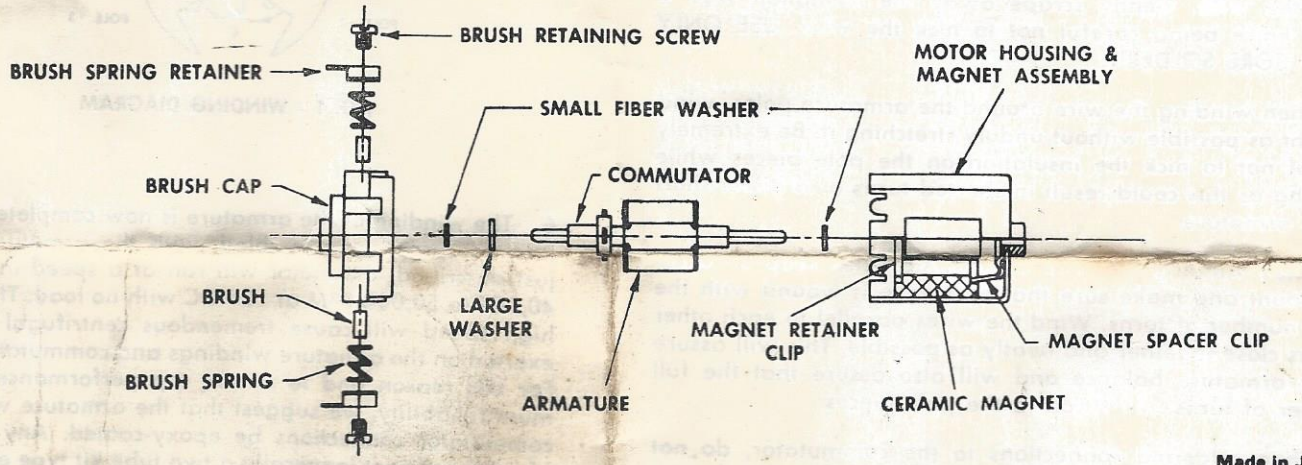

FIG. 3 - MOTOR ASSEMBLY

STROMBECKER MOTOR REWIND KIT