



## The OMC-4 A Four Pulse Revolving Armature Engine

Based on original designs of the 1840's and working on just 4.5 volts dc, this fully working electro-magnetic engine kit represents the developments that were made following the invention by Paul Gustave Froment of the revolving armature engine.



He found that by placing the armatures of an electric engine onto the flywheel much greater efficiency could be achieved over reciprocating designs where components had to be constantly accelerated.

In the years following Froment's discovery various configurations of parts were tried and the OMC-4 Revolving Armature Engine is an example of one of the more successful of these many designs and is true to the historical time line.

By arranging the coils in a more horizontal plane and by using a smaller flywheel the designers of the day achieved a more compact engine than Froment's original design.

With over 120 parts to assemble and no machining or soldering necessary this kit provides a satisfying experience for model makers of all ages.

With the armatures mounted on the flywheel, a cam operated switching system ensures that the coil rods are energised as an armature approaches and switches off as it passes.

The "break piece" or contact points are mounted in a contact housing and operated by a cam fitted to the shaft. This housing is fitted to a moveable bracket within a fixed slide. This arrangement makes it possible to achieve minimum mechanical resistance at the cam with further fine tuning possible with the timing plate screw that establishes how long the timing blades are in contact. Power is taken off by a pulley.

The timing blades are constructed of nickel silver and fitted with high quality silver nickel contacts to ensure long lasting and trouble free operation.

The model is fitted with a fully working on/off switch of period design that incorporates a spring and ball. This switch makes demonstrating the engine much easier.

Great attention to detail has been taken to ensure that all the parts are made in the style of

the period. The A-Frame chassis, detailing of the elegant flywheel and the authentic terminal connectors are all true to the times.

Produced from high quality brass, silver steel and zinc coated steel with copper windings on iron cores the model is mounted on a classic hardwood base that also conceals the battery box and other necessary modern considerations such as the diode that prevents sparking at the timing blades.

A detailed and illustrated instruction manual is provided and the components are packed in numbered packages that correspond to sections in this manual.

The outer packing converts to an assembly jig to support the model while working on the underside.

A “spares packet” is supplied containing the smaller parts most commonly “lost” during the assembly

## Technical Specification

The kit contains over 120 parts that need to be assembled. These parts are supplied in numbered packages that relate to corresponding numbers in the instruction manual.

A very detailed and illustrated instruction manual is provided that also becomes a record of construction.

No machining or soldering is necessary. Only hand tools are required. A BA spanner tool is provided in the kit.

The packing converts to an assembly jig to support the model while working on the underside. This packing box measures 30cm (12in) x 30cm x 5cm (2in) approximately.

The hardwood base is unfinished and will need drilling (template provided). It will also need polishing or varnishing. The base measures 16cm (6,1/4in) x 14cm (5,1/2in).

The finished model stands 10cm (4in) high. The flywheel had a diameter of 6cm (2, 3/8in).

The timing system is adjustable with a moving bracket within a fixed slide with further fine adjustment possible with the timing plate screw which acts upon one of the timing blades.

The model operates on voltages between 3 and 6 volts dc and is supplied with a battery box that accepts 3 x AA batteries (not supplied).

This model is not a toy and because of the number of small components this kit is not

suitable for youngsters under the age of 12 years unless supervised by an adult.

A “spares packet” is supplied containing the smaller parts most commonly “lost” during the assembly

*The Old Model Company reserves the right to change the specification at any time without notice.*