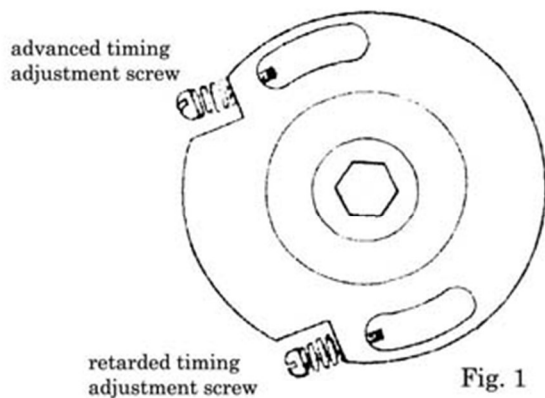


## MM3 Instructions, Flatheads & XL to '70

Telephone 973-540-9171 Fax 973-605-8910



Set your engine on the correct stroke & position for installation, as follows:

motor not completely assembled, use conventional 'front valves closed' method;

motor fully assembled, you may find the following method easier:

- Remove your **rear** spark plug only.
- Kick until you feel **front** cylinder compression; rear piston will be on the way up.
- Continue turning the motor until the rear piston gets to the top. At this point, the correct front cylinder advanced timing mark will be appearing in the inspection hole. Temporarily install the drive unit in your engine without damaging o-ring.

Remove magneto cap (unless it is clear). Set magneto rotor so narrow cam lobe is located counter-clockwise from cam follower as in Picture 2, and breaker points are just opening. This is your correct advanced timing position. On the bottom of the magneto, note position of hex socket in relation to mounting studs. Hex on drive unit will need to line up to engage with the socket (may vary from picture). If hex position on drive is not similar to socket, position can be changed 12° by removing drive, turning hex one flat+, and reinstalling. Repeat if necessary. Position is correct when magneto has enough movement in slots to set advanced and retard timings. Securely fasten drive unit to your engine using loctite.

Apply grease to hex drive and magneto base plate. Install magneto with washers, lockwashers, and stopnuts. Tighten nuts until lockwashers begin to compress. Install timing adjustment screws and pieces of the small spring (cut as required), using blue loctite. Attach the large spring between front (retarded) adjusting screw and rear magneto mount stud. Set advanced timing (rear adjusting screw) visually as outlined and shown above.

Although static timing is all that is required, timing can be dialed in exactly by using Morris Magneto p/n **KATT**, timing and testing tool. Re-install cap if off (make sure coil springs line up), tighten 1/8 turn past hand-tight. Retard timing adjusting screw should be set so that end of magneto moves approximately 3/4" from advanced timing position. Retard timing is used for starting and can also be used for idling. When riding, magneto must be advanced, or you could overheat engine.

With the proper mounting nuts tension, magneto will stay retarded for starting and idling. As the throttle is opened, vibration from the engine permits the spring to pull the magneto advanced automatically. For racing applications, we recommend a stronger advanced spring and/or greater hold-down nuts tension. Stud on side of magneto is used to "kill" magneto with a grounding toggle switch or lever (p/n **KSL**). Do not connect to your 12-volt system!

**Stuff to know:** The long-lasting OEM-type points in your magneto have been set at .015, and will require no attention for years. When replacement is necessary, use Morris p/n **P5** points and **P6** condenser (or **P6R** for racing high RPM only). Use only original type cap (**P2** black, **P2T** clear polycarbonate), gasket, points and condenser. Initial spark plug gap, .020 -.025". Due to the hot spark, you can expect the gap to burn larger somewhat faster than with a battery ignition. Use of a single-fire module, Morris p/n **MSF**, may help prolong plug life. We recommend Autolite 4275, 4316, or 996 spark plugs. Use copper or stainless steel solid core (non-suppression) spark plug wires (Morris p/n **MWS**). **US Patents 4191157; D375509**

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