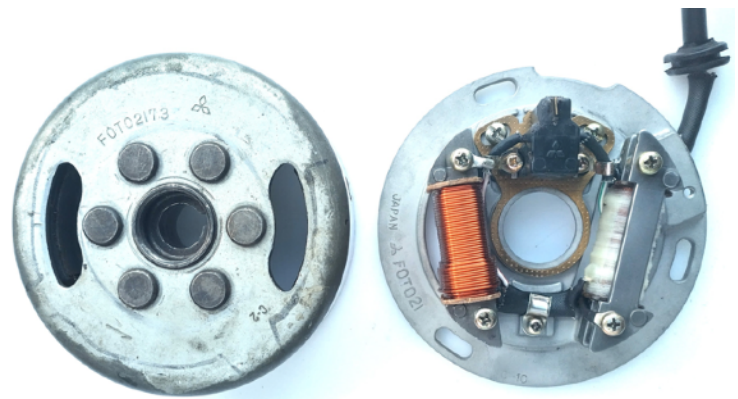


**Rex's Speed Shop**  
**Guide Y-3: CDi Ignition/Generator Trouble Shooting**  
**Yamaha DT360A, DT400B & C 1974-76**  
MX400B - External Flywheel Generator Only  
IT400C 1976, YZ400C 1976



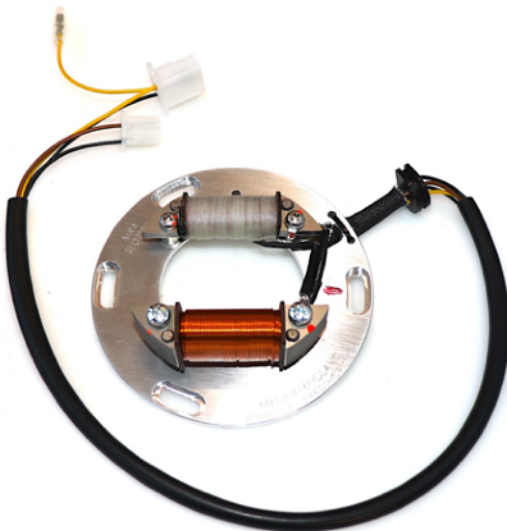
The ignition system fitted to these early models represents one of the very first CDI generator systems of this type developed by Mitsubishi Electric. It features windings mounted in a 'V' rather than parallel to each other and uses a trigger pick-up mounted beneath the flywheel, firing twice per revolution. This design formed the foundation of a series of Yamaha CDI systems that went on to become extremely successful and, in it's evolved form, remained in use well into the 1990s. The development stages can clearly be seen between this early system, used up until 1976, the revised DT400D system introduced for 1977, and the much more refined 1978 version which finally became a genuinely reliable package.

Unfortunately this first-generation design quickly developed a reputation for persistent running problems even during the motorcycle's original production life. The largest issue was the plastic-bodied trigger pick-up assembly (shown right), which became well known for causing misfiring, erratic running and persistent four-stroking faults. As a result, genuine replacement pick-ups are now virtually unobtainable. It should be remembered that any surviving "new old stock" components may themselves have originally been removed from motorcycles as faulty warranty parts decades ago, often placed in to the box the replacement came in.



The charging and lighting system used on these early models was also still in its infancy and owners complained of problems with poor lighting and blowing bulbs. Numerous revisions and changes were issued in an attempt to improve reliability and charging performance. For 1977 Yamaha introduced a major redesign. The troublesome plastic pick-up was replaced with a far more robust all-metal version, the lighting coil arrangement was also revised, a voltage regulator fitted at the factory, plus a new larger 6 amp/hour battery provided to assist the regulator in stabilising the system. By 1978 the system had evolved again into the format most owners now recognise as the reliable and mature version of the design, featuring substantial reliability improvements from another pick-up and source winding design change, together with a further refinement to the lighting coil arrangement.

We have found through previous experience that rebuilding the original 1974-76 system is not a viable solution. Even after considerable time and expense has been invested in repairs, the original running and charging complaints soon return, highlighting underlying issues associated with this system. In addition, the scare availability of components has led to artificially high prices for parts that, despite their cost, prove to be no better than those already fitted. This is not a satisfactory situation for the owner who then faces an expensive repair, yet still suffers from ongoing issues with reliability and running faults. For these reasons, we have created a more cost effective and reliable alternative solution: a new and reliable ignition with 12V lighting, completely replacing the original system.



The RMK8-12V stator (left) replaces both ignition and up-grades to 12V electrics removing all the problems.

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We provide technical information on the original Mitsubishi system for reference purposes only. This is not a system we recommend you attempt to repair and are not able to give any more advice than that contained here in this help guide. As always, we remind owners that if the motorcycle is more than 20 years old, both the ignition and charging systems are already well beyond their intended design life. Equipment of this age often requires a more holistic approach to restore it to full operational condition, something that is rarely achieved by replacing a single component.

Measure Resistance:	Standard reading @ 20°C	DT Lighting @ 20°C. From black to:
Low Speed ~ Brown ~ Black	127Ω IT400 (only): 120Ω	Yellow ~ 0.23Ω
Pick-up ~ White/red ~ Black	100Ω IT400 (only) 90Ω	Green ~ 1.73Ω
HT Coil PRI / SEC	1Ω / 5.9KΩ	Green/red ~0.54Ω

The factory manual is one of the better examples, as it specifies a tolerance of 10% for measured coil resistance values. However, this overly-wide tolerance can still be misleading, especially if interpreted without considering temperature. The precise resistance figures given confirm that these windings are precision components, and the manual clearly states that the specified values apply only at 20°C and must therefore be corrected for measurements taken at any other temperature.

These models use a three-rate charging system controlled by several interacting components. Correct operation depends on the lighting bulbs being of the specified wattage, the natural impedance of the lighting coil limiting current as engine RPM increases, and an additional manual switch linked to the lighting switch which selects either the daytime or nighttime charging rate.

This arrangement may vary depending on the market the motorcycle was originally intended for with some versions incorporating additional auxiliary windings. Factory service bulletins may also have introduced modifications during the motorcycle's working life. In addition, previous owners or repairers may have altered the wiring in an attempt to improve the system. As a result, it is common to find modified wiring, non-standard connectors, or components differing from the original specification.

The **RMK8-12V Stator Kit**, a modern ignition & charging system up-grade.

- **Brand new ignition & 12V billet stator plate**
- **Fully regulated 12V AC lighting**
- **New HT Coil**
- **New electronic ignition - does away with the original pick-up.**

12 volt bulbs etc available in pre assembled kits,  
 note that headlamp options vary country to country.

