



**ELECTRONIC
IGNITIONS**

**OWNERS
MANUAL**

HiPoint
Racing USA[®]

1115 Milan Avenue

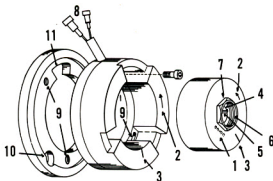
Amherst, Ohio 44001

MOTOPLAT OWNERS MANUAL INDEX

- Section A - **Diagrams**
- I. Internal Units
 - II. External Units
 - III. Coils
- Section B - **Identification of Units**
- I. Flywheel/Rotor
 - II. Stator/Lower Unit
 - III. Coils
- Section C - **Warnings**
- Section D - **Typical Mounting**
- I. Grounding instructions
 - II. Removing the existing ignition system
 - III. Mounting the stator/lower unit
 - IV. Mounting the coil
 - V. Routing the lead wires
 - VI. Accessory lighting wires
 - VII. Connecting a killbutton
 - VIII. Mounting the flywheel/rotor
 - IX. Removing the flywheel/rotor
- Section E - **Timing**
- I. Before you
 - II. External flywheel units
 - III. Internal flywheel units
- Section F - **Trouble Shooting**
- Section G - **Testing and Rebuilding Services**
- page 6 - **Accessories for Motoplat Ignitions**

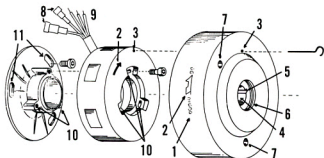
SECTION A

I INTERNAL ROTOR UNIT



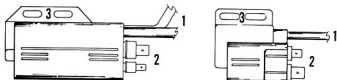
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|------------------|-----------------------|--|
| 1. ID Numbers | 5. Keyway | 9. Stator Mounting Slots |
| 2. Rotation Mark | 6. Threads for Puller | 10. Adapter Plate Mounting Holes/Slots |
| 3. Timing Mark | 7. 32mm Holding Nut | 11. Lead Wire Relief |
| 4. Press Taper | 8. Lead Wires | |

II EXTERNAL ROTOR UNIT



- | | | |
|------------------|-----------------------|----------------------------------|
| 1. ID Numbers | 5. Keyway | 9. Accessory Lighting Wires |
| 2. Rotation Mark | 6. Threads for Puller | 10. Stator Mounting Slots/Holes |
| 3. Timing Hole | 7. Spanner Holes | 11. Adapter Plate Mounting Slots |
| 4. Press Taper | 8. Lead Wires | |

III COIL



1. High Tension (Spark Plug) Lead Wire
2. Lead Wire Terminals
3. Mounting Slots

SECTION B IDENTIFICATION OF UNITS

The Motoplat ignition system is made up of three independent components.

1. The flywheel/rotor
2. The stator/lower unit (red Part)
3. The coil

I. FLYWHEEL/ROTOR

The flywheel/rotor contains the magnets and is mounted on the crankshaft. Both the internal and external flywheel units have a taper fit, press taper mounted. The taper fit holds the flywheel in place by tension, therefore, it is essential that both the crank pin and flywheel have the exact same taper. Both surfaces must be clean and free of foreign substances. NOTE: Most manufacturers use more than one taper. In many cases a manufacturer may change taper size from one year to the next on the same model. Motoplat flywheels are precision machined for each application so be sure to order for the exact make, model and year.

A woodruff keyway is standard on original equipment flywheels. The keyway system is used to align the flywheel for timing purposes. The Motoplat systems may or *may not* utilize the keyway system. For greater flexibility of mounting and timing certain units requires that you remove the key. This does not affect the effectiveness of the taper fit.

The flywheel rotation as marked on the face must be the same as the crankshaft rotation.

The timing mark on the internal flywheel units is designated by a straight groove on the outer circumference of the face. Diagram A.

The external flywheel units have a 2mm hole through the face that is used for timing the unit. A Motoplat timing pin is inserted through the flywheel into a hole in the stator.

II. STATOR/LOWER UNIT

The stator/lower unit contains the pick-up coils, trigger and lead wires. As the magnets in the flywheel pass by the coils in the stator, electricity is produced. The stator converts the electricity into a signal and with the help of the trigger, sends a timed signal to the high tension coil through the lead wires. In most applications, the stator is mounted to the engine case over the crankshaft.

An adapter plate may be used to mount the stator. In this case, a specific set of instructions will explain the mounting procedure.

The internal flywheel Motoplat does not have coils to provide power for lighting. The blue and the black wires coming from the stator carry the power to the high tension coil.

III. HIGH TENSION COIL

The coil is the third and final component in the Motoplat ignition system. The coil converts the electronic signals from the stator into high tension voltage. The voltage is then sent to the spark plug through the high tension lead wire.

Certain motoplat applications use dual lead coils. This type of coil fires both leads simultaneously. For single cylinder engines with a two spark plug head.

Motoplat makes a mini-max coil as a replacement for single cylinder engines with breaker point ignitions. The mini-max high performance coil is a single component replacement.

SECTION C WARNINGS



The following rules are for your safety and the protection of the Motoplat. Please do not mount or use your Motoplat ignition until you read and understand these warnings.

WARNING: Do not in any way alter the dimensions of the flywheel/rotor.

WARNING: Interchanging flywheels and stators on the external rotor Motoplat units can result in an improperly timed unit. The flywheel and stator are matched and timed as a unit at the factory.

WARNING: Faulty grounding of the stator or coil can cause damage to the ignition system.

Do not disconnect the spark plug wire while the engine is running.
Do not turn the engine over without grounding the spark plug wire.
Connect the kill button **only** to the blue lead wire from the stator.

WARNING: The Motoplat ignition systems are designed for maximum performance and do not contain a rev limiter. The ignition will allow the engine to continue building RPM's beyond the factory specifications.

WARNING: The ignitions are designed to resist moisture and dirt. It is not recommended that the equipment be submitted to unnecessary or continuous tests of this sort. A good waterproof seal on the side cover and regular service and cleaning of the lower unit is recommended.

WARNING: Worn, burned or pinched lead wires can cause failure of the ignition. Special attention should be taken in routing and fastening the lead wires from the stator to the coil and the coil to the spark plug.

WARNING: Rubberized silicone type sealants should not be used to seal any component or electrical connection on the Motoplat system. These sealants contain a corrosive agent. In time, the sealants can cause loss of positive connection. If you wish to use a sealant, Petroleum Jelly is recommended.

WARNING: Do not use spark plug caps which have built-in resistors. Commonly found on 4-stroke motorcycles.

SECTION D PROCEDURES MOUNTING

Motoplat manufactures a variety of ignitions for specific applications. The following instructions apply to the large majority of original equipment and replacement application. In all cases, these instructions are superceded by any special mounting and timing instructions enclosed in the packaging from Hi-Point.

I. GROUNDING THE IGNITION

The Motoplat ignition will produce a proper ignition spark only if the coil and lower unit are grounded to the engine. The ground is accomplished on the lower unit between the [back of the stator to the engine case]. There must be a metal to metal connection between the two points. A non-metallic adapter plate cannot be used. Care should be taken to assure the mating surfaces are clean and corrosion free. The coil is grounded to the engine by way of the [frame to engine] contact and the [frame to coil] mount. Again, the coil must have a metal to metal connection with the frame. The paint must be removed at this connection. The ground between the frame and engine cases cannot be overlooked. Although most engines are mounted with a number of bolts, the possibility exists that a positive ground is not accomplished. It may be necessary to remove the paint from the frame at the engine mounting points. Rubber mounted engines must be grounded by a ground strap.

NOTE: Improper grounding causes the vast majority of ignition failures. Please check the grounding points carefully.

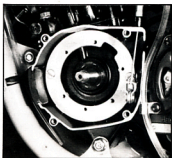
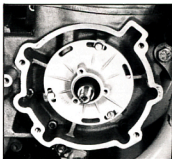
II. REMOVAL OF THE EXISTING IGNITION SYSTEM

If the ignition system being replaced is a Motoplat, simply remove the components being replaced.

If the Motoplat system is to replace any other type of ignition, it is necessary to disconnect all the original ignition components. These original components will not be used in conjunction with the Motoplat system. Removal of the complete original ignition system is recommended. Removal of the lighting circuits is optional.

III. MOUNTING THE STATOR

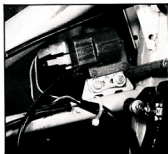
1. If an adapter plate is used, align the mounting holes in the adapter plate over the corresponding mount holes in the engine case. Insert and tighten mount screws. NOTE: When the lead wires come out the back of internal flywheel stator, place the wires through the center of the adapter plate BEFORE mounting the plate to the engine case. The lead wire must be positioned over the cut-out relief in the adapter plate.
2. Position the stator mounting slots over the corresponding mount holes in either the engine case or backing plate (if needed.)
3. Carefully check the clearance of the lead wires when the stator is squarely seated on the mounts. The lead wires must not be pinched at any point.
4. Insert the screws and tighten until the stator is squarely seated on the mounts. Loosen the screws until the stator can be rotated.



IV. MOUNTING THE COIL

The coil can be mounted to any bracket that is directly welded to the frame. An adapter bracket can be used to reposition the coil on an existing mount. A new bracket can be welded directly to the frame in a location of your choice. Follow these basic guidelines when selecting a location for mounting the coil.

1. The coil must be in reach of the spark plug by the high tension lead wire.
2. Do not mount the coil in contact with any surrounding object. Only the coil mounting plate with elongated holes should be used for mounting. External wear of the protective potting, (red coating) can eventually damage the coil.
3. Do not mount the coil too close or in contact to a heat source such as the exhaust pipe or cylinder.
4. Read and follow the instructions for proper grounding.
5. Use a bracket with sufficient strength to support the weight of the coil. Some stock coil mounts are designed to support much lighter coils and may need reinforcement to hold the Motoplat coil.



V. ROUTING THE LEAD WIRES

The lead wires from the stator must be connected to the terminals on the high tension coil. The route these wires take should be chosen carefully. Route the wires away from areas where they can be burnt, worn, pinched or snagged.

1. Do not route the wires too near or in contact with a heat source.
2. Fasten the wires to a secure surface such as a frame tube at regular intervals.
3. Do not leave loops or loose wire. Secure the excess wire at the coil end with tape or wire ties.
4. Special care should be taken to make sure the lead wires cannot contact the flywheel. If the wires come in contact with the rotating flywheel, they will certainly wear through causing an ignition failure.

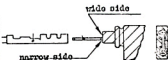


The same precautions should be taken for the high tension lead from the coil to the spark plug.

5. Clean the lead wire connectors and the bayonet terminals on the coil with contact cleaner.
6. Connect the blue wire connector to the larger terminal on the coil. Connect the black wire connector to the smaller terminal on the coil.

NOTE: Certain coils have a third terminal that is much smaller than the lead terminals. This is the tachometer supply terminal. Use this terminal **only** for an electronic tachometer supply.

The lead wire terminals on the coil are set off center in the bosses to allow proper positioning of the terminal shields. The open side of the connectors faces the wide side of the base. Slide the shields completely over the terminal boss.



7. If additional waterproofing is desired, petroleum jelly (vasoline) may be applied liberally to the terminal and connector before the shield is slid in place.

NOTE: DO NOT USE SILICONE BASE SEALANTS ON THE LEAD WIRE CONNECTIONS.

Silicone sealants contain an acidic carrier that promotes corrosion. This type of sealant also makes removal and remounting difficult.

VI. ACCESSORY LIGHTING WIRES

Certain external rotor units contain lighting coils. The combinations of lighting coils differ from one unit to another. Some units have only one yellow wire while others contain three lighting wires. Distribution of accessory power is up to your discretion. Following is a description and recommended use for the lighting wires.

Yellow wire — 6 volt 35 watt

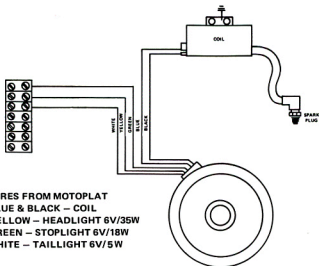
Headlight or — headlight and tail light; (if this is the only accessory wire) connect direct or through on-off switch

Green wire — 6 volt 18 watt

Stop light — connect to brake activated switch

Red or White wire — 6 volt 5 watt

Tail light — connect direct or through on-off switch



MOTOPLAT ACCESSORIES

- 30900 Universal/Reversible Flywheel Puller
Fine Threads/Coarse Threads
Internal Units/External Units
- 30914 Flywheel Puller
Husky 360E, all 8 speed engines, early model 400
- 30991 Bayonet Type Terminal Connectors - large (blue lead wire)
- 30992 Bayonet Type Terminal Connectors - small (black lead wire)
- 30993 Bayonet Connector Plastic Shields - large
- 30994 Bayonet Connector Plastic Shields - small
- 30920 Timing Pin 2mm, for external flywheel units

VII. CONNECTING A KILL BUTTON

Some Motoplat units come with a kill button wire installed. The kill button wire can only be connected to the blue wire coming from the stator. The factory kill button wire is blue.

If your Motoplat does not have a factory installed kill button wire,

1. Push the terminal shield down the wire and out of the way.
2. Remove the large terminal connector on the BLUE wire coming from the stator.
3. Strip the shielding approximately $\frac{1}{4}$ " back on the blue wire leaving the bare wire exposed. Prepare a length of stranded #14 wire in the same manner. Make sure this wire will reach the kill button.
4. Place the bare end of the blue lead wire and the kill button wire in the new terminal connector.
5. Crimp the wires securely in the connector.
6. Push the kill button wire through the terminal shield.
7. Route the kill button wire to the kill button.



Diagram of Terminal with Kill Button Wire

NOTE: The kill button grounds the ignition spark to the engine through the frame. You must have clean metal to metal contacts at all grounding points.

Most kill buttons ground directly at the mount. If the handlebars are rubber mounted, you must run a ground strap from the bar mount to the triple clamp.

VIII. MOUNTING THE FLYWHEEL/ROTOR

1. Clean the taper on the crankshaft and the flywheel with solvent.
2. Check the taper on the crankshaft for imperfections. Check the taper in the flywheel for imperfections and fracture cracks.

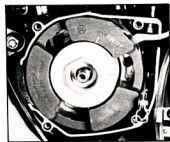
If fractures are visible in the flywheel taper, do NOT mount the flywheel. This condition usually appears on used units that have been over tightened. This is also caused by mounting a flywheel on a crankshaft with a different taper.

3. When utilizing the keyway system, place the woodruff key in the keyway slot on the crankshaft taper. Align the key and slot in the flywheel taper and slide the flywheel over the shaft.

IMPORTANT NOTE: If the application calls for no key, refer to timing section (E), for timing of internal units without key.

NOTE: Applications that do not use the key system may come with specific timing instructions.

4. Inspect the crankshaft protruding beyond the taper of the flywheel. If the threads do not go all the way to the flywheel, it is necessary to use a spacer. The crankshaft nut must thread all the way on without resistance.
- 5a. The external flywheel has two holes in the face that are for holding the flywheel. With a spanner wrench, hold the flywheel and tighten the crank nut or bolt to factory specifications. Use caution when inserting pin type spanner in face of flywheel. The timing coil pin protrudes into a groove in the flywheel and if the spanner is allowed to rest against or is forced against the pin, damage can result.
- 5b. The internal flywheel has a 32mm nut on the face for holding the flywheel. Hold the flywheel in place with a 32mm wrench and tighten the crank nut or bolt to factory specifications.

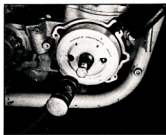
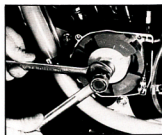
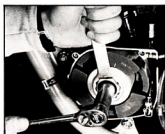


IX. REMOVING THE FLYWHEEL

1. Determine the direction of the threads on the crankshaft.
2. Hold the flywheel with a spanner or wrench and loosen the crankshaft nut or bolt.

NOTE: Before using a flywheel puller, determine if the tip of the puller bolt can damage the end of the crankshaft. A blunt end puller bolt is the best situation.

3. Thread the puller into the flywheel until all of the thread in the flywheel are used.
4. Hold the puller body stationery with a wrench and tighten the puller bolt. The flywheel may release very quickly. Be prepared for the wrenches to release and move quickly.
5. You should not have to use extraordinary torque to remove the flywheel. If the flywheel has not released at 50 lbs. torque, strike the puller bolt with a sharp hammer blow. This will usually release the flywheel.



SECTION E TIMING OF MOTOPLAT IGNITIONS

I. Before you get started

The Motoplat ignition discharges the ignition spark at precisely the moment when the timing marks or holes in the flywheel and stator line up. The spark must come before the piston reaches the top of its stroke. The top of the stroke is known as top dead center (T.D.C.).

The piston's location must be measured in order for the timing to be set. The most convenient and accurate gauge is a dial indicator with an adapter that screws into the spark plug hole. You will find that most timing specifications are given in millimeters before top dead center (B.T.D.C.). If you have a dial indicator that reads in inch increments, simply convert the metric specs as follows: multiply metric spec by 0.039.

Example: 2.2mm BTDC x 0.039 = 0.0858 of an inch BTDC



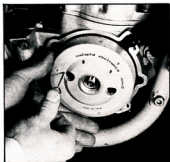
How to determine TOP DEAD CENTER and set your indicator.

1. Determine the rotation of the crankshaft by turning the engine over slowly with the kickstarter and watch the shaft.

2. Insert the gauge adapter and dial indicator.
3. Turn the engine over and watch the timing gauge; as the piston contacts the gauge, the measurement will increase; as the piston passes T.D.C., the gauge will reverse and the measurements will decrease. At the exact location of the largest measurement, rotate the dial face placing the zero directly over the needle on the gauge. All measurements will now represent the distance before or after TOP DEAD CENTER.

II. EXTERNAL FLYWHEEL UNITS

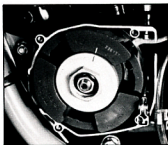
1. Check to make sure the stator will rotate slightly on the engine case.
2. Remove the spark plug and insert the timing gauge.
3. Determine T.D.C. and adjust the gauge to zero.
4. Insert the 2mm timing pin into the timing hole in the flywheel.
5. Apply light pressure to the timing pin as you rotate the flywheel. The pin will slide into the stator timing hole as the flywheel becomes aligned.
6. With the stator and flywheel locked together by the timing pin, rotate the flywheel until the required timing measurement appears on the gauge.
7. Remove the timing pin. Remove the flywheel.
8. Tighten the stator mounting screws.
9. Remount the flywheel and check the timing by placing the pin through the flywheel into the stator.
10. If you wish to adjust the timing, loosen stator mount screws and repeat steps 4 thru 10.
11. When you have the timing set at the desired measurement and the stator mount screws are tight, refer to Section C-VI and tighten the flywheel as described in section D-VII.



III. INTERNAL FLYWHEEL

PROCEDURE 1 WITH KEYWAY SYSTEM

1. Check to make sure the stator will move slightly in the engine case.
2. Remove the spark plug and insert the timing gauge.
3. Determine T.D.C. and adjust the gauge to zero.
4. Tighten the flywheel to factory specs as described in section D-VII (mounting procedures).
5. Rotate the flywheel until the required timing measurement appears on the gauge.
6. Rotate the stator until the timing marks on the flywheel and stator are perfectly aligned.
7. Tighten the stator mounting screws.
8. Turn the engine over one full revolution and stop at the desired timing measurement. Check the timing marks for alignment. If the marks are not perfectly aligned, loosen the stator and repeat steps 1, 5, 6, 7.



PROCEDURE 2 WITHOUT KEYWAY SYSTEM

1. Remove the spark plug and insert the timing gauge.
2. Determine T.D.C. and adjust the gauge to zero.
3. Tighten the stator mounting screws.
4. Turn the engine over until the required timing measurement appears on the gauge.
5. Align the timing marks on the flywheel and stator and gently push the flywheel on the crankshaft. "Set" the flywheel. Place a socket on the face of the flywheel and tap the socket with a brass hammer to seat the taper and keep the flywheel from rotating on the shaft.
6. Tighten the flywheel to factory specs as described in Section D-VII (mounting procedures).
7. Turn the engine over one full revolution and stop at the desired timing measurement. Check the timing marks for alignment. If the marks are not perfectly aligned, fine adjustments can be made by loosening the stator mounting screws and rotating the stator as described in procedure 1.



SECTION F TROUBLE SHOOTING

The ignition can be checked for the production of spark by grounding the spark plug to the cylinder head and turning the engine over at a minimum of 500 R.P.M. As you proceed through the following check list, it will be necessary to check for the production of spark after each step.

1. Remove the spark plug and check for spark. If the spark is weak or no spark is present, replace the spark plug.
Note: If the ignition produces a sufficient spark but the engine will not run properly, check for air flow blockages in the intake and exhaust tracks. Low engine compression caused by worn, damaged or leaking top end parts will also cause engine malfunction.
2. Trace the high tension lead wire from the plug cap to coil. Check for burnt or severed wire. If you find a damaged section of lead wire, cut the damaged piece off. If the lead wire will no longer reach the spark plug, you must replace the coil. *Do not attempt to splice the high tension lead wire.
3. Check the coil terminal connections for loose fit or corrosion. Pull gently on clips to see that wires are not broken inside insulation where you can't see.
4. Trace the lead wires from the stator to the coil, checking for burnt, worn or severed wires. Check closely in the area of the flywheel for worn wires. Repair wires if necessary.
5. Disconnect the kill button. This will indicate if the kill button is malfunctioning.
6. Remove the spark plug cap. Position the bare wire of the coil high tension lead approximately 5 to 6 millimeters from a grounding point. The cylinder head is a good grounding point. Turn the engine over and check for spark. If a good spark is present, replace the spark plug and plug cap with new ones and again check for spark.
7. Check all grounding points described in Section F. Check for cracked or broken frame mounts. Paint, rust and other foreign substances can also cause a faulty ground.
8. Check the ignition timing. If the timing is not the same as you originally set, the flywheel has moved on the crankshaft. Remove the flywheel nut. Insufficient torque can allow the flywheel to slip on the crankshaft. Remove the flywheel and inspect the taper for improper fit or fractures in the taper. If either of these problems are present, the complete lower unit,

stator and flywheel, must be replaced with the proper parts. If the crankshaft and flywheel tapers were bonded together, the surfaces may be damaged. With much care the tapers can be cleaned and refitted.

9. Execution of the above steps will only assure that your Motoplat is properly mounted and free of external damage. If the Motoplat is mounted and timed properly and free of damage but does not produce a sufficient spark, the ignition must be tested for internal malfunction. The stator and coil cannot be disassembled and reconstructed. If these parts are faulty, they must be replaced.

SECTION G MOTOPLAT TESTING AND REBUILDING SERVICE

Hi-Point Racing Products maintains a complete testing facility for all Motoplat ignitions and is the only factory authorized service center for Motoplat ignitions in the U.S. The Hi-Point Service Center performs the ignition testing on equipment, supplied by Motoplat of Spain, which simulates the actual conditions of the ignition mounted on an engine. Tests and checks are made of the internal functions.

Description of Services Available from Hi-Point.

1. Testing only -
 - a. Inspection of parts for external damage.
 - b. Remagnetizing of flywheel/rotor.
 - c. Simulator testing for internal malfunction.
2. Testing and Rebuilding -
 - a. Testing service.
 - b. Replacement of coil if necessary.
 - c. Recondition and remagnetize flywheel.
 - d. Replacement of stator unit if necessary which includes:
precision timing flywheel to the replacement stator on the ignition simulation test machine.

Procedures for Obtaining Motoplat Testing and Rebuilding Services.

1. Check the flywheel for damage. An ignition cannot be tested or rebuilt if the flywheel taper is fractured or damaged.
2. Package the complete ignition system which consists of the coil, stator and flywheel. *It is not possible to test or rebuild a stator/lower unit without the flywheel. A coil can be tested alone.
3. Enclose a note with the following information:
 - a. Your name and complete shipping address.
 - b. List the components returned for service.
 - c. List the type of service desired for each component.

SEND TO: 1115 Milan Avenue, Amherst, Ohio 44001 (216) 988-4474

Policies for Service -

1. Prices for service work will be quoted upon request.
2. All ignitions will be shipped by U.P.S. on a C.O.D. basis unless prior arrangements have been made. *Return address must be a street address. U.P.S. cannot deliver to a Post Office Box.
3. The customer is responsible for all shipping charges.
4. Testing and rebuilding services normally take 5 to 6 days from the day received to the day return shipped. If you need service in a shorter time, specify special handling and shipping instructions with your request for service and return address.
5. Replaced parts will be returned only upon request.

HI-POINT RACING PRODUCTS

Sales & Service

(East) 1115 Milan Avenue, Amherst, Ohio
44001 (216) 988-4474

Sales Only

(West) 11249 Sunco Avenue, Rancho
Cordova, CA 956707 (916)
635-2141

Importer, Distributor, and Service Center for Motoplat Ignitions

TROUBLESHOOTING GUIDE

The Motoplat Ignition system consists of an AC generator that charges and fires a capacitor discharge system. The stator (lower unit) contains the pick-up coils, trigger, and lead wires. As the magnets in the external flywheel or internal rotor pass by the coils in the stator, electricity is produced. The stator converts the electricity into a signal, and with the help of the trigger, sends a timed signal to the high tension coil through the lead wires. The blue and the black wires coming from the stator carry the power to the high tension coil. The upper coil converts the electronic signals from the stator into high tension voltage. The voltage is then sent to the spark plug through the high tension lead wire.

As you can see from this brief description of the Motoplat electrical circuit, there is no mention of any ground wires. The Motoplat Ignition will produce a proper ignition spark only if the coil and lower unit are grounded to the engine. That is, that all grounds are conducted through the mechanical connections that mount the system to the machine. It is for this reason that certain parts must be kept free of rust and corrosion in order to prevent a break in the circuit. The most commonly thought of points to check when a poor ground is suggested are the coil to frame, and stator to engine mountings. These are only two of the things that must be checked when analyzing the ground circuit. The other two major sources of problems are the circuit from the base of the spark plug to the stator and the engine to frame ground. Both of these areas are commonly overlooked and both can be very much the problem. Very often one or both of these areas have rust and corrosion that can break or weaken a ground circuit to the point that damage to the system will result.

If you think about it, the ground path from the spark plug to the stator is very complex and leaves a lot of room for troubles. The current must travel from the base of the plug, to the head, through the head nuts and studs to the cylinder, from the cylinder through the base nuts and studs to the engine cases. In any or all of these mechanical connections, rust and corrosion can cause a loss of continuity that effectively breaks the ignition circuit. Keep in mind that the head and cylinder base gaskets are poor if not completely ineffective conductors.

In the case of engines that are equipped with a cylinder head support, the problem isn't quite as bad because in this case, you have a direct connection from the cylinder head and the frame. As long as there is no paint, rust, or corrosion interfering with the connection, the ground should be sufficient. This can also act as a good engine to frame ground, which is equally as important as the plug to the stator ground. The engine to frame ground is one that people find hard to believe. It is quite possible for the paint on the engine or frame or both to act as an insulator to the ground circuit. There have been known cases where brand new motorcycles would not run correctly until the paint between the frame and the engine was removed to allow a sufficient ground to be formed.

In cases of machines that are taken apart frequently, the chances of these points being a problem are rare, but they still exist. If you haven't checked these things recently, give them a good sanding, wire brushing, or whatever. It will eliminate any future problems. It may have been too late to save the last ignition, but at least the new one won't be harmed.

A poor ground can destroy an ignition by not allowing the system to completely discharge each time it cycles. This causes a loading of the system which in time will destroy one or more of the components.

If you go through all this and the machine miraculously heals itself, then the ground was suspect. If you have changed the coil and all seems well, the ground may still have been the problem. Sometimes a brand new coil will be just good enough to get you going again-for a while. Then again the problem may still have been the ground. When you changed the coil, you renewed one of the ground points-coil to frame.

We hope this information has been of some use. While it may seem like a lot of trouble to go through to solve a problem that may or may not be the problem, it is definitely the cheapest.