

SUZUKI

2-Stroke
Service Bulletin
Index

GEN.

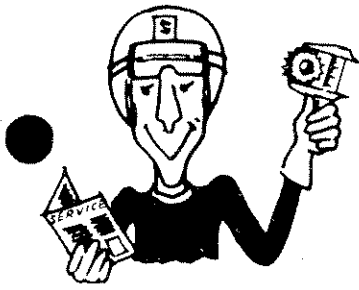
GENERAL

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Service Bulletin

Subject: SIMPLE IGNITION SYSTEM CHECK

Bulletin No: General - 1

Date: May 1, 1975

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The purpose of this Service Bulletin is to present a simple method to check ignition spark when it is not possible to use the Suzuki Electrotester (which has a coil tester, condenser tester, etc.).

The method is as follows:

1. Take a standard NGK spark plug and remove the side electrode altogether. The remaining gap will be 1/8 inch. This is from the center electrode to the body of the spark plug. The idea is to present a wide gap for the ignition system to jump across.
2. You will be able to judge the quality of ignition spark by the color. A good ignition system will have a hot blue spark, while a poor ignition system will have a weak yellow spark. A very poor ignition system will not fire the gap at all, whereas it may fire a standard spark plug.

This type of check is meant to be used only as a preliminary to more extensive diagnosis. As always, the Suzuki Electrotester is the absolute best way to go when checking the motorcycle ignition system.





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2-Stroke

Service Bulletin

Bulletin No: General -2

Date: May 1, 1975

Read and Initial

Manager _____

Parts _____

Service _____

Subject: IGNITION COIL FAILURES

PROBLEM:

There have been some instances of coil failure on the twins. Sometimes there is a defect in the internal insulation for the windings of the coil. An internal short develops over a period of operation, and causes the coil to fail.

INSPECTION:

There are two methods of inspection:

- A. Check each coil on the Electrotester. The coil should fire an 8mm gap steadily and draw no more than 1.0 amp current.
- B. When checking the coil in the motorcycle with the Electrotester:
 1. Use a new spark plug.
 2. Don't open the tester gap more than 8.0mm or you will overload and ruin the coil.
 3. Set the gap at zero when starting the engine.
 4. The tester should show a hot blue spark at 6mm gap for 5 minutes. Check the spark at 5000-6000 RPM.
- C. Operate the motorcycle for a short period and feel each coil underneath the fuel tank. If one is appreciably hotter than the other, this indicates an internal short.
- D. Visually inspect the coil for evidence of external shorting, melted insulation, or arcing. Note whether any of the primary wires are being pinched between the coil body and the bracket.
- E. Check the nylon plug module which connects the coil to the main wiring harness. The female connector has been the cause of some electrical problems.

CORRECTION:

If the coil is internally shorted, it will be necessary to replace it.





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Service Bulletin

Subject: CONTACT BREAKER STICKING OPEN

Bulletin No: General -3

Date: May 1, 1975

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PROBLEM: Engine stops running after the motorcycle is driven 5-10 miles, i.e. after engine has warmed up. Spark plug appears to be wet-fouled.

CAUSE: The contact breaker is binding on its pivot shaft on the stator plate. This is caused by lack of lubrication on the pivot shaft or by interference between the pivot shaft and the movable breaker arm. This binding does not occur until the crankcases and stator plate heat up from engine operation, and then the shaft expands from this heat.

INSPECTION: Check the axial play and radial play of the contact point arm on the shaft:

AXIAL PLAY

CONTACT	NEW	SERVICE
BREAKER POINT ARM	.008-.010"	If less than .008", take out shim. If more than .014", insert shim.

RADIAL PLAY

CONTACT	NEW	SERVICE
BREAKER POINT ARM	.0005-.0016"	If less than .0005", sand breaker shaft. If more than .003", replace points.

CORRECTION: Pull the circlip and shims from the breaker point pivot shaft. Check the moving contact arm for freeness on the shaft. Wipe the shaft and hole with solvent. Use fine emery cloth to remove any burrs from the shaft. Lubricate the shaft and hole with white grease. When assembling, check the contact point alignment and place shim on either side of the contact arm to center the movable point face on the stationary point face.





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Bulletin No: General -4

Date: May 1, 1975

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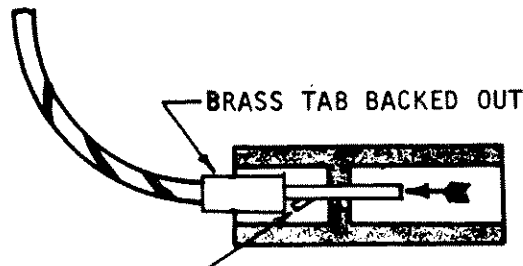
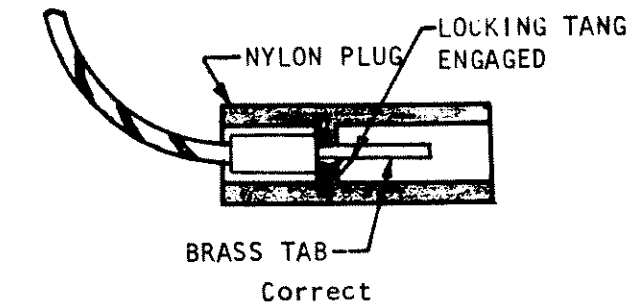
Service _____

Subject: NYLON PLUG MODULES

PROBLEM: Mysterious electrical open circuit. These are some of the symptoms of this problem -

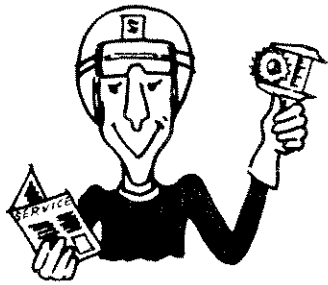
- A. Battery does not charge
- B. Spark plug fouling.
- C. Engine misfiring.
- D. Lights flicker.

CAUSE: Certain Suzuki models are fitted with quick disconnect electrical plug modules. There are four or five such plugs in the wiring harness, depending on model. The female half of the module incorporates individual brass tabs. When the two plug halves are pressed together, one brass tab may back out of the plug, breaking the circuit.



CORRECTION: Inspect the plastic plugs in the wiring harness. The brass tabs have locking tangs which secure them in the plug body. Press any loose tab back into the plug body until the locking tang is engaged. After assembling the plug halves, check the back side of the female half to ensure the tab has not backed out.





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Subject: SPARK PLUGS

Bulletin No: General-5

Date: May 1, 1975

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1. Suzuki has specified NGK or ND spark plugs of a certain heat range to be used in each of its standard models. There is excellent reason for this. We have found the NGK and ND spark plugs to perform over a wider heat range with each engine, and they are in ready supply at the factory in Japan. We discourage the use of other manufactures' spark plugs for these reasons:
 - A. HEAT RANGE: We have no control over the heat range which is used. This can result in either one of two problems depending on the non-standard spark plugs characteristics:
 1. Excessive spark plug fouling - this is an indication of too cold a heat range.
 2. Piston seizure or hole in the top of piston - this is the result of too hot a heat range.
 - B. REACH: Spark plug reach is another area where we have had difficulty with other manufacturers' spark plugs.
 1. If the spark plug reach is too short, the exposed threads in the cylinder head will carbon up over a short period of time. Consequently, when a spark plug of the correct reach is installed, the cylinder threads are stripped or damaged.
 2. If the spark plug reach is too long, the exposed thread of the spark plug will carbon up. When the spark plug is removed the extra 1/8" of the spark plug will tear up the cylinder head spark plug threads.
2. Thus, it is in your own best interest to strongly encourage the Suzuki owner to use only NGK or ND spark plugs of the specified type. It may be necessary in some cases to vary the heat range to suit the usage a motorcycle is getting. A good rule of thumb is: Use as cold a spark plug as possible without fouling. This will give you the best performance.
3. If you feel that you can obtain better performance and longer spark plug life through the use of nonstandard spark plugs, proceed with caution. You should run extensive tests on the type of spark plug you intend to try before you use it in the customer's machine. Don't ask your _____

customers to do your test riding for you. Additionally, we would like reports on any improvement you may find with nonstandard spark plugs.

4. SPARK PLUG GAP: Our spark plug gap specifications range from .018 inch to .032 inch. We have found that with a narrow spark plug gap, especially during the break-in period, we have more fouling. Rather than install a hotter spark plug than standard, open the spark plug gap to reduce fouling. These are your basic guidelines for spark plug gap:
 - A. Narrow spark plug gap (.018-.022 inch). This spark plug gap is best for high RPM operation. In other words a customer who rides the highway quite often or one who accelerates through the gears taching the engine out before each shift. In other words, he wrings the engine out. This type of driving keeps the spark plug electrodes and insulator very clean and reduces the chance of electrode bridging or spark plug fouling. If fouling is experienced due to the narrow gap, it is recommended to open the spark plug gap up to .022-.024 inch.
 - B. Wide spark plug gap - The wider spark plug gap is better for the type of customer who shifts the engine at 4,000 to 5,000 RPM all the time, and who rides the motorcycle on city streets, rarely venturing out on the freeway and making little demand on the engine's maximum output. Low engine speeds mean less turbulence, poor fuel/air distribution and homogenization, and rich fuel/air mixtures. For this reason a wider spark plug gap should be used to clean the insulator and electrodes of possible bridging or fouling compounds. If it is found that high RPM performance suffers, the spark plug gap may be closed to .018-.022 inch to improve high RPM engine performance.
 - C. SPARK PLUG CAPS: We have found that when the nonstandard spark plug caps are used in a mechanic's effort to get better high RPM performance, there is a tendency for the spark plug to foul more so than with the standard Suzuki spark plug caps. This is because the resistor in the Suzuki spark plug caps increases the required voltage to fire across the spark plug. Further, radio and TV interference is very poor public relations. A motorcycle with two cylinders and "straight" spark plug caps will wreak havoc with nearby television set and radio reception. Since we have so much legislation afoot these days, isn't it good practice to prevent further "protection" by using a standard Suzuki cap? There is very little performance to be gained, except when a Suzuki cap is faulty; then, replacement with the standard item is recommended. You can check the Suzuki spark plug caps with an ohmeter to see if they are resisting too much. Maximum resistance through the spark plug cap is no more than 10-20 Kilohms.



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Service Bulletin

Bulletin No: General-6

Date: May 1, 1975

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Subject: BATTERY MAINTENANCE
REFERENCE: Construction and Works of
Electrical Equipment pgs. 21 - 24

PROBLEM:

It has become increasingly apparent that many dealers are running into electrical service problems which are a direct cause or result of poor battery service.

CAUSE:

The construction of the lead storage battery is such that its efficiency can be severely reduced for the lifetime of the battery if it is not correctly serviced and maintained.

The initial charging process is the single most important factor determining battery life and dependability. Charging the battery at the time the electrolyte solution is first added determines the ability of the plates to accept and retain current throughout the lifetime of the battery. Subsequent charging, regardless of how often or what charging rate is used, will never restore the current-retaining properties that were lost due to this failure to charge the battery during initial set-up,

SOLUTION:

It is extremely important that each Suzuki dealer realize the advantages in both time and money savings to be realized by eliminating this troublesome service problem.

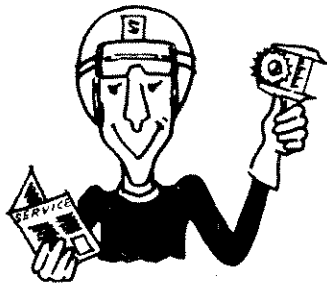
Special care should be taken to service each battery in the following manner at the time the motorcycle is set-up.

1. Cut the closed-end of the battery vent tube.
 This is very important!!
2. Fill each cell carefully to the top level-line, using electrolyte having a Specific Gravity of 1.260 to 1.280.
3. Charge the battery using a charging rate limited to 1/10 the current-capacity of the battery. Since most motorcycle batteries use a 10 hour rate, a 6 Amp battery should be charged at 0.6 Amps current continuously for 10 hours. It is good practice to leave the cell caps off while this is being done.
4. Replenish the battery solution to the top level-line using distilled water.
5. Never add electrolyte solution after the initial set-up in an attempt to "rejuvenate" the battery.

PARTS:

A Hydrometer for measuring Specific Gravity is available from our Parts Department (part # 09900-28401).





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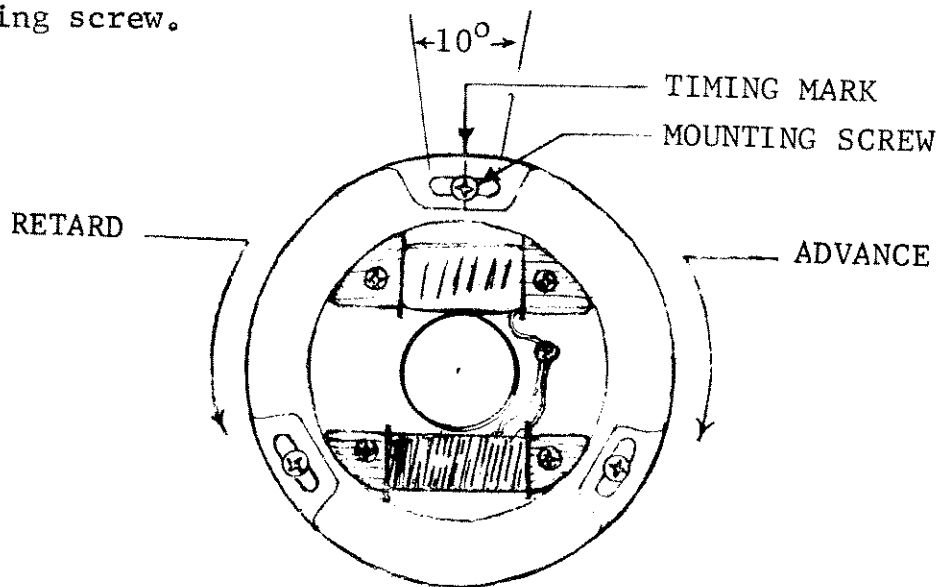
Manager _____

Parts _____

Service _____

Subject: CHECKING PEI IGNITION TIMING

Some Suzuki dealers have expressed confusion regarding the proper method of adjusting the ignition timing on models equipped with the new Pointless Electronic Ignition system. The timing setting is pre-set at the factory. As a precaution, this setting should be checked by the dealer during initial set-up of the unit. An electronic eng. tach. Part #09900-26001 is available from the Parts Dept. The timing setting is correct when the timing mark stamped on the Stator Plate is aligned with the center of the top mounting screw.



The adjustment slots in the Stator Plate allow for 10 degrees movement overall.

Thus, moving the Stator Plate clockwise will advance ignition timing. Moving the Stator Plate counter-clockwise will retard ignition timing.

NOTE: Positioning of the timing mark on the Stator Plate may vary from unit to unit. Thus, some marks may be off center in the slot. Regardless of this, proper timing is still attained by aligning the mark with the mounting screw.

Automatic advance of ignition timing is built into the circuitry of the PEI "black box". Therefore, any adjustment at the Stator Plate will affect timing throughout the RPM range. The timing specifications given for each bike, such as the TS185R....16° @ 1000 RPM, 24° @ 6000 RPM, refer to timing light settings which indicate whether the black box automatic advance circuitry is functioning properly.





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Date: May 1, 1975

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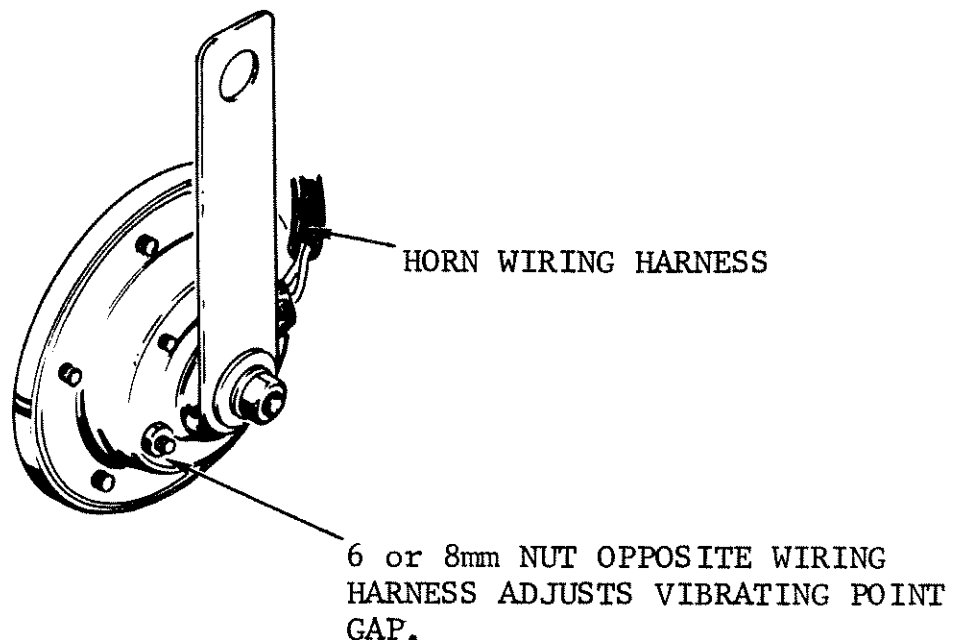
Service _____

Subject: ADJUSTING HORNS

PROBLEM: The horn won't operate.

- CAUSES:**
- A. On all units, the horn is battery-operated. Make sure the battery is fully charged.
 - B. Check the horn button by disconnecting the green wire at the horn and grounding it. The horn should honk. NOTE: Turn the main switch on.
 - C. The horn is out of adjustment.

CORRECTION: To adjust the horn, turn the small nut on the back or front with a 6 or 8mm wrench. Push the horn button while adjusting for greatest volume.



NOTE: Turn the nut clockwise to narrow the vibrating point gap.
Turn the nut counterclockwise to widen the vibrating point gap.





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Bulletin No: GENERAL-9

Date: May 1, 1975

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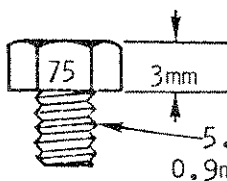
Service: _____

Subject: CARBURETOR MAIN JET TYPES

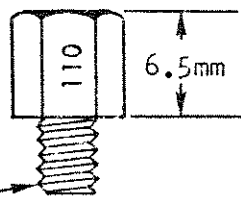
Suzuki carburetors use four different main jet types. The shape, thread, and metering characteristics of the main jet depend on which type it is.

1. The MIKUNI main jet is the short hex type. The number stamped on it indicates the number of cc's which will flow through it from the hex end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Because the direction of flow in calibration is the same as when the jet is installed in the carburetor, the actual flow rate is directly proportional to the main jet marking.
2. The AMAL main jet is the long hex type. The number stamped on it indicates the number of cc's which will flow through it from the threaded end when gasoline is poured for one minute at a height of 50cm (19.7") above the jet. Since the direction of flow in calibration is opposite to the flow when installed in the carburetor, the actual flow rate does not correspond with the main jet marking.
3. The REVERSE main jet has a round head. It is called "reverse" because the metering and flow characteristics are the same in either direction. Therefore, this type permits much more flexibility in the design of a carburetor because the flow rate will be the same whether the fuel is entering from the threaded end or the slotted end.
4. The T125 main jet is similar to the reverse type, but incorporates an integral tube because it is used in the downdraft carburetors.

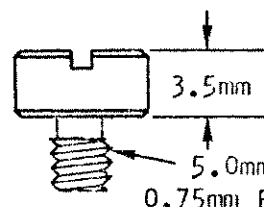
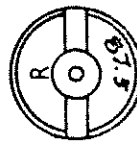
MIKUNI STYLE
Short hexagon



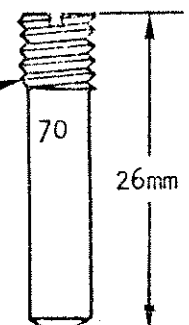
AMAL STYLE
Long hexagon



REVERSE

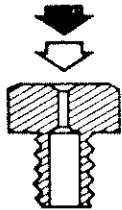


T125

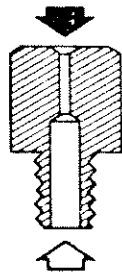


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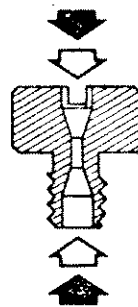
MIKUNI



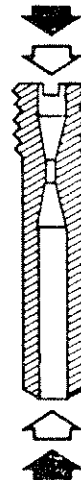
AMAL



REVERSE



T125



⬇ : FUEL FLOW DURING CALIBRATION
 ⬆ : FUEL FLOW IN THE CARBURETOR

MIKUNI MAIN JET

<u>SIZE</u>	<u>PART NUMBER</u>
#65	09491-65001
#70	-70001
#75	-75001
#80	-80001
#85	-85001
#90	-90001
#95	-95001
#100	-20001
#105	-21002
#110	-22001
#115	-23005
#120	-24001
#130	-26002
#140	-28001
#150	-30001
#160	-32001
#170	-34001
#180	-36002
#190	-38001
#200	-40005

REVERSE MAIN JET

<u>SIZE</u>	<u>PART NUMBER</u>
#62.5	09491-62002
#65	-65003
#67.5	-67001
#70	-70005
#72.5	-72005
#75	-75005
#77.5	-77001
#80	-80005
#82.5	-82002
#85	-85004
#87.5	-87001
#90	-90003
#92.5	-92001
#95	-95003
#97.5	-97001
#100	-20003
#102.5	-20004
#105	-21003
#107.5	-21006
#110	-22004

(cont.)

REVERSE MAIN JET CONT.

<u>SIZE</u>	<u>PART NUMBER</u>
#112.5	09491-22005
#115	-23002
#125	-25001
#127.5	-25003
#130	-26004
#132.5	-26005
#135	-27002
#140	-28005
#142.5	-28006
#145	-29001
#147.5	-28004
#150	-30004

T125 MAIN JET

<u>SIZE</u>	<u>PART NUMBER</u>
#70	09491-70007
#72.5	-72007
#75	-75007

AMAL MAIN JET

<u>SIZE</u>	<u>PART NUMBER</u>
#55	09491-55002
#60	-60002
#65	-65002
#70	-70002
#75	-75002
#80	-80003
#85	-85002
#90	-90002
#95	-95002
#100	-20002
#110	-22003
#115	-23008
#120	-24002
#125	-25004
#130	-26003
#140	-28002
#145	-29002
#150	-30003

AMAL MAIN JET CONT.

<u>SIZE</u>	<u>PART NUMBER</u>
#160	09491-32002
#170	-34002
#180	-36003
#190	N/A
#200	N/A
#210	-42001
#220	-44001
#230	-46001
#240	-48001
#250	-50003
#260	-52001
#270	-54001
#280	-56001
#290	-58001
#300	-60003
#310	-62001
#320	-64001
#330	-66001
#340	-68001
#350	-70001
#360	-72001
#370	-74001
#380	-76001
#390	-78001
#400	-80004
#410	-82001
#420	-84001
#430	-86001
#440	-88001
#450	-90005
#460	-92002
#470	-94001
#480	-96001
#490	-98001
#500	-10001
#530	-16001

