



**SUZUKI**  
2-Stroke  
**Service Bulletin**

Subject: SPARK PLUGS

Bulletin No: General-5

Date: May 1, 1975

Read and Initial

Manager \_\_\_\_\_

Parts \_\_\_\_\_

Service \_\_\_\_\_

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 manufacturers' 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 \_\_\_\_\_

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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.