THE ULTRALIGHT PLACE

Power In Motion ROTAX.

A lot can be learned about your Rotax engine condition as well as what it sees by properly reading and "understanding" your spark plugs. This page will show you pictures as well as explanations on cause and effect of what you see when viewing your spark plugs. Look at the spark plug porcelin for the color and condition of it. Plug colors can tell you how the engine is running and can be very important. Plugs change colors and the different colors can explain such things as if the engine is running too hot or if the engine is worn. The color should be read by looking at the porcelin insulator and compared to the plugs shown on the next few pictures.

	**A tan colored plug means that the engine is running normal and the air/fuel mixture is correct. This is the correct color a spark plug should be and it tells you everything is fine with the engine. You would install a new properly gapped plug. When installing a new plug, replace the old one with the same heat range. This plug shows normal wear in the center electrode. A new plug would have square edges that helps the plug fire better.**
	**This plug is worn out from being used for a long period of time. Notice how the center electrode is round and worn from use. A spark plug that is worn takes a lot more voltage to fire and can cause poor engine running.**
	**This plug shows what can happen when something hits the spark plug. Something from inside the engine has hit the plug and this problem must be repaired before running the engine further. Make sure the spark plug is the correct length for the engine.**
	**Excessive detonation has caused the porcelin on this plug to break away. If this engine is allowed to run, engine damage can occur. Make sure the fuel octane is high enough for the engines requirements.**
	**A white colored plug is caused by engine overheating. Failure to repair this engine will result in severe engine damage. Common causes for this are:** **Incorrect spark plug (too hot heat range).** **Low octane fuel.** **Timing is not set properly.** **Cooling problems, (dirty cylinder fins, no or low water if water cooled, low or no engine oil).** **Carburetor air/fuel mixture is too lean (too much**

	air). **Leaking crankshaft seals, no oil, base or head gasket leaks, or crankcase leaks on two stroke engines.**
	**This plug has ash deposits which are light brownish deposits that are encrusted to the ground and/or center electrode. This situation is caused by the type of oil used and adding a fuel additive. This condition will cause a misfire. This can be also caused by changing oils in midstream.**
	**This plug is oiled fouled, caused by poor oil control.**
	**Pre-ignition, which will usually look as a melted center electrode and/or ground electrode. Check for incorrect heat range plug, over advanced timing, lean fuel mixtures or even hot spots or deposit accumulation inside the combustion chamber.**
	**Sustained Pre-ignition, which will usually look as a melted or missing center electrode and/or ground electrode as well as a destroyed insulator. Check for incorrect heat range plug, over advanced timing, lean fuel mixtures or even hot spots or deposit accumulation inside the combustion chamber.**
	**Splashed deposits look as if they are small islands of contaminants on the insulator. This is usually caused by dirty carburetor bores or air intake.**

	**A black dry fluffy colored plug is caused by deposits from a carburetor that is running too rich (too much gas), or excessive idling on some engines. Black smoke coming from the exhaust is a sign of a rich air/fuel mixture. The rich air/fuel mixture must be repaired before installing a new spark plug. Common causes for a rich air/fuel mixture are:** **dirty air filter.** **air mixture screw or carburetor needs adjusting.** **choke is sticking.** **carburetor float height is out of adjustment or float is sticking open.**

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