Tune Up Factors

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Here are the 4 basic requirements to make an engine run properly.

#1 - Fuel #2 - Spark #3 - Compression #4 - Timing

Fuel:

Always run 91 octane, use the clear fuel filters and check them often, if you have ethanol in your fuel … use Star Tron to help with the known issues ethanol produces, reduce heat at the carborator with a heat shield. The ultimate way to reduce heat is to install a “Shorty Header”.

Spark:

Use quality spark plugs and check them twice a year. Spark plugs can show you if you have your fuel and air mixture set correctly, condition of your engine, and if you are experiencing oil fouling ... please check the following condition chart.

Spark Plugs

	Champion	AutoLite	NGK	Bosch Platinum
1968 - 1970	#6040	#6130	#6163	#6077
1971 - 1975	#6040	#6130	#6163	#6077
Gap / Torque	.030" / 30 lb. ft.	.030" / 30 lb. ft.	.030" / 30 lb. ft.	.030" / 30 lb. ft.

Good Spark Saves Money & Improves Performance

Spark Plug Condition Chart

Electrode gap check – use a wire type gauge for best results

Electrode gap adjustment – bend the side electrode using the correct tool

Normal condition – A brown, tan or grey firing end indicates that the engine is in good condition and that the plug type is correct

Ash deposits – Light brown deposits encrusted on the electrodes and insulator, leading to misfire and hesitation. Caused by excessive amounts of oil in the combustion chamber or poor quality fuel/oil

Carbon fouling – Dry, black sooty deposits leading to misfire and weak spark. Caused by an over-rich fuel/air mixture, faulty choke operation or blocked air filter

Oil fouling – Wet oily deposits leading to misfire and weak spark. Caused by oil leakage past piston rings or valve guides (4-stroke engine), or excess lubricant (2-stroke engine)

Overheating – A blistered white insulator and glazed electrodes. Caused by ignition system fault, incorrect fuel, or cooling system fault

Worn plug – Worn electrodes will cause poor starting in damp or cold weather and will also waste fuel

Additional Tune-Up Parts:

Quality Componets From OGTS

Year	Condensor	Points	Cap	Rotor	Coil	Wire Set
1968 - 69	6043	6042	XXX	XXX	5051	6071
1970 - 72	6043	6042	XXX	XXX	5051	6071
1973 - 74	6043	6042	XXX	XXX	5051	6071
1975	6043	6042	XXX	XXX	5051	6071
Part #	#6043	#6042	XXX	XXX	#5051	#6071

Upgrade to an electronic ignition system

#6165

6165

6166

#6166

Compression:

Start with a good working / accurate compression gauge. The test should be performed with all 4 spark plugs removed, your battery fully charged, and the throttle fully opened. Use the 5th reading from the number of times the engine is cranked over per cylinder under test.

Compression:

Test Readings In PSI

Year	Excellent	Good	Acceptable	Rebuild Time	Won't Start
1968 - 1970	180	150	136	119 or less	70 or less
1971 - 1975	150	140	136	119 or less	70 or less

Typical failure that causes low readings on the 1.9L engine is a broken top compression ring. Other factors include: worn or cracked valves, flat camshaft lobes, failed head gasket, rings, cracked cylinder head, broken pistons (s), improper cam timing or improper valve adjustment.

Compression:

Years	Compression Ratio	Dwell	Point Gap	TDC Adjustment
1968 - 1970	9.0:1	50 deg. +/- 2 deg.	.018”	.012” int/exh hot solid lifter
1971 - 1972	7.6:1	50 deg. +/- 2 deg.	.018”	“0” lash @ TDC + ¾ turn CW
1973 - 1975	7.6:1	50 deg. +/- 3 deg.	.018”	“0” lash @ TDC + ¾ turn CW

CW = Clockwise TDC = Top Dead Center (firing position)

* Lash is measured between top of valve stem and bottom of rocker arm tip.

Note 1: See our tech tip for distributor lubrication points.

Note 2: See our tech tip that shows the oil deflector need for adjusting hydrolic lifters.

Note 3: Large dwell number indicates point gap is too small. Small dwell number means point gap is too big.