

## IMPORTANT NOTICE

Supercharged General Motors 3.8 liter V6 engines and spark plugs (dated 11/1999)

**Installer: please make sure your customer receives this notice**

**Supercharged engines** are much harder on spark plugs than normally-aspirated engines - particularly late model street engines delivered with spark plugs overly-gapped to help control exhaust emissions. Supercharging an engine raises the cylinder pressures, and for this reason, it's critical the correct spark plug heat range is maintained, the spark plugs are gapped appropriately (not necessarily the factory recommended gap) and the spark plugs are replaced regularly.

Spark plug manufacturers suggest reducing the factory recommended spark plug gaps on supercharged engines because using a too wide gap can result in misfires, loss of power, poor fuel economy, premature spark plug failure, uncontrolled exhaust emissions and possible engine damage. If you use your supercharged street engine for commuting, keep in mind (unlike in a race engine where special racing spark plugs are regularly replaced) the spark plug gaps progressively erode and widen with everyday use.

**Magnecor KV85 and R-100 Race Wires** are primarily designed for race engines requiring EMI suppression, but unlike other "performance" wires, Magnecor wires can also be used on any street engine. On any race engine, appropriate spark plug type, heat range and gaps are selected so as not to overstrain the ignition system and the spark plugs' ability to provide an efficient spark to ensure the engine produces maximum horsepower.

If fitted correctly, Magnecor Race Wires will not reduce spark current like factory carbon conductor wires, therefore a spark plug problem not immediately apparent with current-reducing carbon wires quickly becomes noticeable with Magnecor wires conducting full current to the spark plugs. If you fit a set of Magnecor Race Wires and notice a miss or hesitation not previously apparent, you may have a spark plug related problem. Usually, a spark is arcing (inside a wire's spark plug connector/boot) from microscopic cracks that have developed in the spark plug's porcelain to the spark plug's metal base.

Both Magnecor and specialist performance tuners have discovered that many recent US stock vehicles are delivered to consumers with spark plug gaps set overly wide (to improve exhaust emissions). Unfortunately for consumers, by nature of the design, overly wide spark plug gaps erode even quicker with everyday use, resulting in premature spark plug failure which either appears as a loss of power (when used with factory carbon conductor wires) or an engine miss (with wires designed for a race engine).

Supercharged engines are particularly prone to this problem, and if the spark plugs are not replaced and properly gapped at regular intervals, or immediately after a problem become obvious, heat damage to a wire's spark plug boot can result from boosted combustion gas passing through cracks which develop in a spark plug's porcelain body inside the boot. Usually, the first spark plug to fail will noticeably affect engine performance.

Another problem area is wiring looms into which the spark plug wires are fitted. Depending on the engine, some wires will touch either or both the engine and other wires in some spots. Because an ignition spark always takes the easiest path to ground, a failing spark plug (due to too wide gaps) can cause the spark traveling in a wire to find it easier to induce itself into an adjacent wire (cross-fire) or to ground on the engine. On any engine, it's never a good idea to allow spark plug wires to touch each other, or rest against metal parts of the engine.

**It's important to remember that, even though your vehicle is manufactured by a large automobile manufacturer for the mass market, it contains a very high performance supercharged engine which requires regular preventative maintenance and additional care to overcome the problems associated with using such an engine in a street vehicle. Even more care will be required if the supercharger's drive ratio is changed, as this method used to boost horsepower places an even greater load on spark plugs not designed for racing.**

### RECOMMENDATION:

Unless you have already done so, always replace the spark plugs before fitting Magnecor Race Wires. Use a smaller plug gap — if necessary, seek advice as to the best gap for your engine. Replace your spark plugs regularly — more often if you have changed the supercharger's drive ratio. Ensure all spark plug wires are separated, with at least a 1/8" (4mm) gap between each wire, to avoid cross-firing when a spark plug is about to fail — you may need extra wire separators.

Please understand ignition wires are nothing other than conductors of spark energy, and while it is possible bad installation and failing or improperly gapped spark plugs can eventually damage ignition wires, the wires themselves cannot damage the spark plugs. Although fitting carbon conductor wires can seemingly postpone a spark plug problem, these wires will not miraculously cure such driveability problems for very long, and the engine will lose power.

Magnecor's warranty **DOES NOT** cover ignition component failure problems caused by a poor choice of spark plug gaps and/or heat range, lack of separation between wires or allowing spark plugs to deteriorate to a condition where damage to a wire's spark plug boot could occur. If you do not want to use spark plugs with smaller gaps, do not separate the spark plug wires and are not prepared to replace the spark plugs regularly, we cannot warranty wires damaged for reasons beyond our control.

Magnecor provides the above information for your benefit, to ensure your vehicle's ignition system functions as efficiently as possible and to save you future unnecessary repair costs. We are happy to help you further, so please contact us or our dealers/distributors if you have any questions.

Thank you for choosing Magnecor ignition wires.