

IMPORTANT INFORMATION FOR STREET VEHICLE OWNERS ABOUT THESE MAGNECOR RACE WIRES

INSTALLERS: please make sure vehicle owner receives this sheet.

The ignition wire set enclosed is designed and constructed to provide a full race engine with the **FULL OUTPUT** from the ignition system, as well as suppression for EMI and RFI (also needed by production engines). This feature also benefits your production or modified street engine, as the full output from your vehicle's ignition system will always be available to the engine. However, race engines are meticulously maintained, and never subjected to conditions encountered by street engines over an extended period of time. Therefore, if you want these wires to last, you need take the following into account:

Although the ignition cable used for Magnecor Race Wires will not deteriorate with age or use, the same can't be said about the **spark plug connectors** needed for some engines. In recent years, almost every vehicle manufacturer has become obsessed with using overly complicated (and often poorly designed) spark plug connectors on the wires they originally fit to their engines.

Because you won't ever be replacing Magnecor Race Wires for conductor deterioration, constant vigilance will be needed if you want the spark plug connectors to last, particularly with some engines that cause spark plug connectors to fail because of the engine design and/or the hostile environment in which the spark plugs are situated. Stock wires need regular replacement because of conductor deterioration — usually before most connectors fail.

The same goes for **spark plugs**. Manufacturers produce spark plugs with an assortment of different porcelain insulator shapes and sizes, as well as differently shaped tops (nuts, ferrules) made from different metals that suit the terminals used in some spark plug connectors, but not those used in others.

Spark plugs don't last forever, and occasionally they fail prematurely. Some used in supercharged stock engines develop cracks in the porcelain, and more often than not the wires are initially blamed for problems caused by failing spark plugs. Sometimes, inevitable failure of spark plugs can be disguised and postponed by fitting stock wires, which provide suppression by reducing spark energy to the plugs, and sometimes spark plug problems can be made worse by Magnecor Race wires designed to provide suppression without reducing spark energy. Unfortunately, all engines lose power if any one or all spark plugs are not performing satisfactorily, no matter which type or brand of spark plug wires are used.

Combustion gases leaking past spark plug gaskets and spark plug porcelain seals (and cracks) can cause spark plug connectors to pop off spark plugs. Also, the opposite can occur if, over time, a small amount of corrosive combustion gas continues to leak from around the very top of a spark plug porcelain to cause a galvanic action, which binds the spark plug connector's metal terminal to the spark plug top, and if enough force is used, the cable can be wrenched out of the terminal in an endeavor to remove the spark plug connector from the spark plug.

Extreme care should always be exercised when removing the wires' spark plug connectors, particularly when the wires have been connected to spark plugs for extended periods. On engines with extended spark plug connectors, always remove each wire from retainer/dividers before pulling on spark plug connector to avoid retained cable pulling the connector to one side which causes the inside metal terminal to lock on to spark plug top.

WARNING:

AVOID REMOVING SPARK PLUG WIRES UNTIL ENGINE IS COLD. HOT SPARK PLUG TOPS WILL EXPAND INTO THE METAL TERMINALS INSIDE THE SPARK PLUG CONNECTORS FITTED TO THE WIRES, AND MUCH MORE FORCE WILL BE NEEDED TO REMOVE THE CONNECTORS FROM THE SPARK PLUGS

Spark plug wires used on some recent street engines which feature **extended connectors** to reach spark plugs situated in deep un-drained holes will need more attention than wires that don't use extended connectors. **Race wires** conducting **full coil current** will be more affected by moisture accumulation in deep spark plug holes than the original wires which were designed to reduce spark current (for suppression) — more so, if the plug gaps have widened as a result of high-mileage tip erosion in a rarely tuned street vehicle. A turbo or supercharged engine can exacerbate this problem. The majority of the cost for ignition wires with extended connectors is in the connectors themselves, so attention to conditions which cause connectors to fail will ultimately save you money.

Before fitting Magnecor Race Wires to spark plugs situated in deep holes, always ensure that the holes are free of moisture and oil. It is not always easy to see moisture — oil is very obvious. Use compressed air if available (with safety glasses) or a shop vacuum to clean out holes. Unless spark plugs are double platinum, replace them if they have run in excess of 30,000 miles — sooner if you see signs of gas leakage from the metal body or top on the porcelain insulator, or see microscopic cracks in the porcelain. Do not attempt to alter worn spark plug electrodes on spark plugs used in recent engines. If the engine in your vehicle is prone to accumulating water and/or oil in the spark plug holes, you should be prepared to periodically clean out the spark plug holes to avoid damage to the spark plug connectors. See our web site www.magnecor.com for vehicles with known problems which affect ignition wires.

If any of the following adverse conditions exist, or develop in the future, you will most likely experience trouble with the **spark plug connectors** on your wires. Any one connector with a problem will cause the engine to misfire:

1. **Wires not fitted correctly** — see fitting instructions enclosed;
2. **Moisture and/or oil has accumulated in un-drained spark plug holes** — all extended connectors are vented, therefore moisture will always accumulate if vehicle is used in areas where condensation forms over the engine or the engine is washed. Some vehicles suffer more than others. The problem gets worse as vehicles age;
3. **Spark plug gaps have become excessive or plugs are failing** — causing coil output to find it easier to arc down spark plug insulators or from cracks in insulators, or through the side of any wire connector covered in moisture (a pin hole will be burnt). Indication of arcing (white tracks) usually will be evident around bottom connector seals. A pin hole can be detected by closely inspecting the outside of a connector, usually in the area where the metal terminal (inside) ends.

Magnecor makes every effort to overcome difficulties caused by poor production engine and original spark plug connector design. Wherever possible, longer-lasting substitute spark plug connectors (to help alleviate known problems caused by the original connectors) will be fitted to Magnecor Race Wires, although substitute connectors may not be available for every engine.

However, Magnecor can't fully overcome the problems attributed to poor engine design, failing spark plugs, and/or lack of maintenance or care in fitting and removing the wires. Vehicle owners need to accept that moisture needs to be removed from some deep un-drained spark plug holes from time to time, oil leaks need fixing, spark plugs need to be checked periodically and replaced before they fail and possibly damage spark plug connectors, and care needs to be taken whenever wires are fitted or removed.

Increasingly, as engine running problems become more difficult to diagnose and engine designs make it more difficult and time consuming to fit ignition wires, many wires are unnecessarily replaced during the search for a solution to problems caused by spark plug and other component failures or adjustments without being re-fitted to the engine after the true cause is found and rectified, and for this reason, because an installer tells you the wires were replaced because they were also "defective," we can't accept a warranty claim unless the wires are first tested by us to establish whether or not the wires are in fact "defective."

Always retain your old wires. If at any time in the future you discover a spark plug connector is damaged by any of the above causes, you can send it to us for repair or replacement, and use an old wire in place of a wire sent for repair or replacement. Alternatively, fully assembled single wires for all vehicles are available separately for immediate delivery at a special low price for existing wire set owners.

If you think the wire set you receive does not fit or has a problem, please notify us immediately.

MAGNECOR LIMITED WARRANTY

Magnecor Ignition Wires will be replaced or repaired free of charge if the product should fail for any reason other than abuse, accident, negligence, improper installation, alteration or failure attributed to original engine design, engine maintenance (or lack thereof) or engine modification. Warranty applies only to the original purchaser and is limited to replacement or repair of the suspected failed wire and does not include labor charges for removal or replacement. Wire should be returned together with proof of purchase to any authorized Magnecor distributor or dealer or Magnecor itself for authorization for replacement or repair.

Important Note: Magnecor Spark Plug Connectors

The spark plug connectors used for this Magnecor spark plug wire set probably look different to your current spark plug wires. For this wire set we have replaced solid plastic extension tubes (that connect over your spark plugs) with more flexible silicone rubber extensions and heavy duty stainless steel terminals. The silicone rubber extensions perform the same purpose as solid plastic extensions, and provide **increased** reliability, temperature resistance, dielectric strength and will not burn out due to age or exposure to moisture.

The engine in your car is particularly prone to moisture and oil accumulating over spark plugs and the bottom of spark plug connectors. This problem can cause sparks to track (inside the connector) from the metal spark plug top, down the outside of the spark plug's porcelain insulator (under the connector's bottom seal) to eventually ground out into the moisture. This problem is exacerbated by the spark finding it easier to track down the outside of a wet spark plug in preference to firing the spark plug gap - usually because of an excessive spark plug gap or high combustion pressure. The problem is mostly noticed by the engine hesitating when under load (particularly at low speeds). Usually diagnosed by a dealer or mechanic as "bad wires," the problem can be solved (after cleaning moisture out from around the spark plugs) by simply applying silicone grease to the inside of the bottom seal or, at worst, replacing the seal if car has been driven for some time with the problem. Generally, the chance of the problem occurring can be reduced by applying silicone grease to the inside of the bottom connector seal (or preferably directly to the outside of the spark plug insulator itself) at regular intervals.

To fit the Magnecor spark plug connectors in this set:

x Lower the spark plug connector into the spark plug hole, making sure it fits over the top of the spark plug.

x Push down on the very top of the spark plug connector to ensure the spark plug terminal (inside connector) properly engages the spark plug top. Proper engagement will be indicated by the connector's top sealing boot fitting completely into and over the spark plug hole in the valve cover. Even though the silicone rubber extension and the top sealing boot feels much more flexible, the heavy duty metal terminal (inside) will lock properly onto the spark plug top- although the click may not be as pronounced as with the original connector.

When removing a spark plug connector, it's best to pull it straight up and off the spark plug - not at an angle (a precaution you should take with any spark plug wire). To facilitate this method, we recommend you first remove the wires from the wire looms and possibly the distributor cap before removing connectors from the spark plugs.

Please contact Magnecor or your dealer if you have any questions.