R2800 R3600 ADVISORY

ADVISORY LEVEL: Recommended
DESCRIPTION: Ignition Wiring Alternator Voltage Spike
ENGINE TYPE: R2800 / R3600
INSPECTION: On engines received prior to April 2009
RECTIFICATION: Re-wire and or modify use of Master switch use

IGNITION WARNING FOR ENGINES USING OLD WIRING SCHEMATIC (prior to 16-April-2009)

The battery and or the master switch must NEVER be disconnected while the engine is running!

The engine ignition must always be switched OFF before the master is opened.

Failure to follow this advisory may cause ignition module and Hall sensor failure

Reasons For The Problem Occurring:

If a battery is disconnected at either the terminal or the master switch then the regulator inside the alternator looses its ability to sense battery voltage which in turn results in it attempting to rectify the lack of voltage by what is known as a “load dump”, which is effectively a voltage spike. It is this spike that can result in damage to the Hall sensor or ignition module(s)

For this reason it is advisable that the main power supply to the alternator NOT be connected to the switched side of the master switch.

A Guide To Rectification:

Instead the alternator should be configured with positive power supplied directly from the battery with a 50-80 Amp fuse in between for protection (as would occur in a car).

In this configuration the alternator would always be connected to the battery even if the master is accidentally opened while the engine is running, thus avoiding the potentially damaging alternator spike

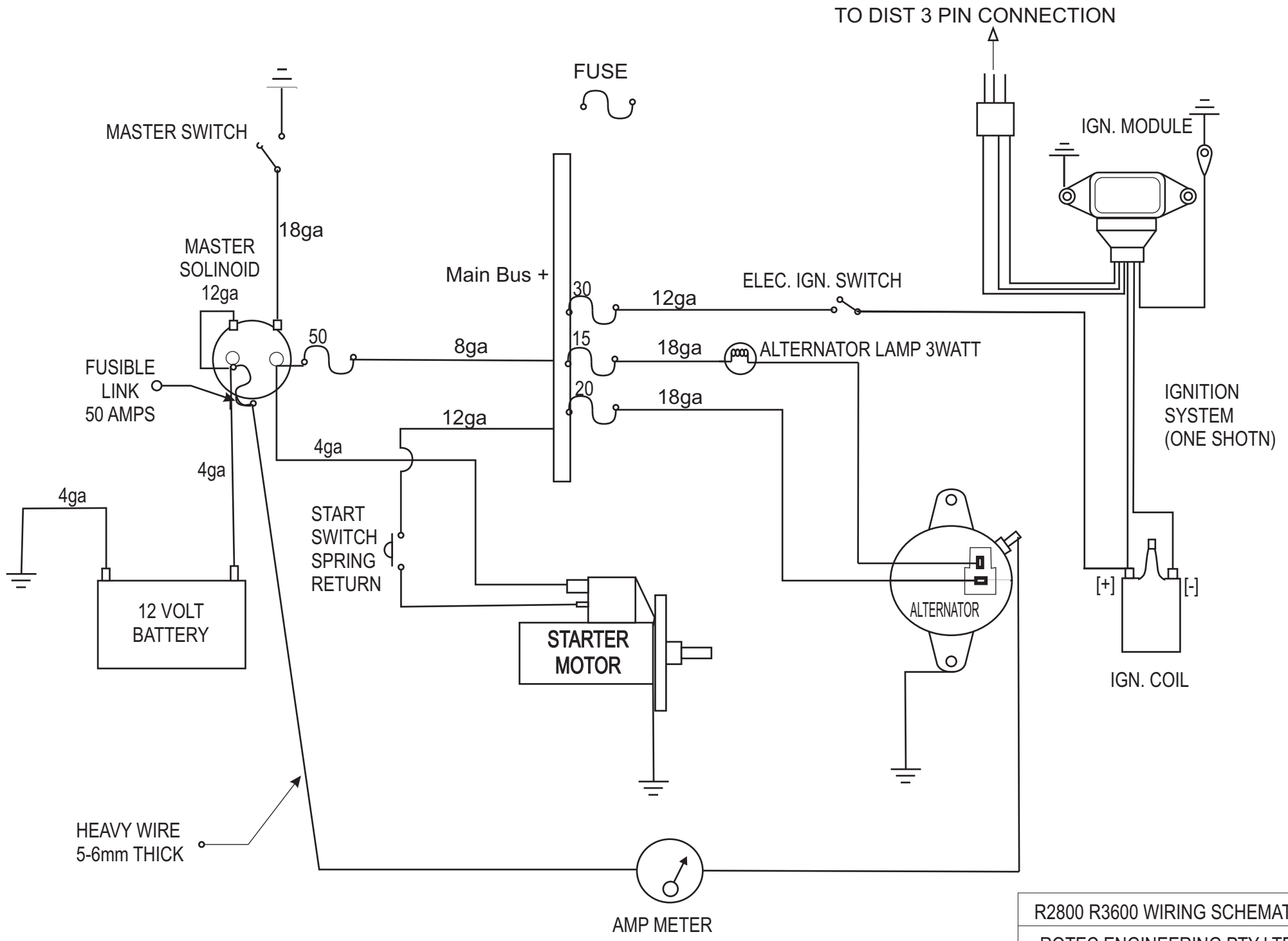
R3600/R2800 REVISED IGNITION WIRING SCHEMATIC 16-April-2009:

In the earlier wiring schematic it shows the alternator battery connection being fed from the power bus which supplied power from the cold side of the master switch. In this configuration “load dumps” would occur if one were to accidently switch off the master switch before shutting down the engine. At disconnection the alternator would spike to a high voltage as it attempts to compensate for the lack of battery voltage.

Please refer to the revised schematic in which the alternator power supply is always connected to the battery being located on the HOT side of the battery and the master switch. A fusible link near the source is provided as this wire will be alive all times.

Employing the schematic the alternator cannot spike because it's directly connected to the battery; thereby, an open master switch while the engine is running has no effect on the alternator. However, the master switch will still serve to isolate all the remaining electrical circuits; as a result, with the master off the engine will shut down because the ignition coils and modules are fed power from this bus.

Please Note: ***Only technical information released by Rotec should be considered sound. Many third party opinions found on the internet are grossly inaccurate.***



R2800 R3600 WIRING SCHEMATIC

ROTEC ENGINEERING PTY LTD

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