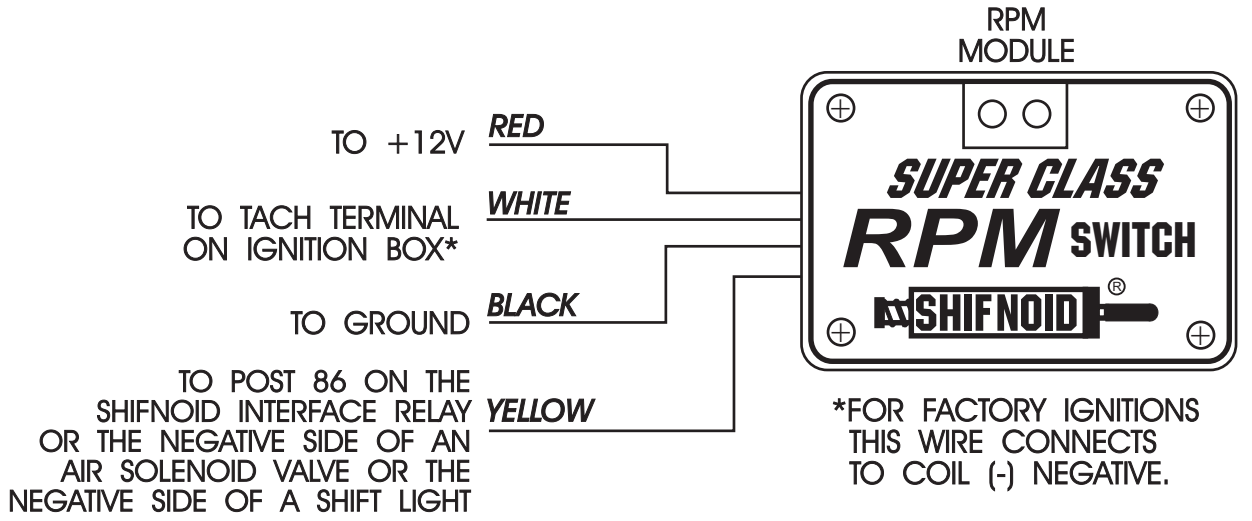
SHIFNOID WIRING DIAGRAM

SHIFNOID NCRPM1000 SUPER CLASS RPM SWITCH



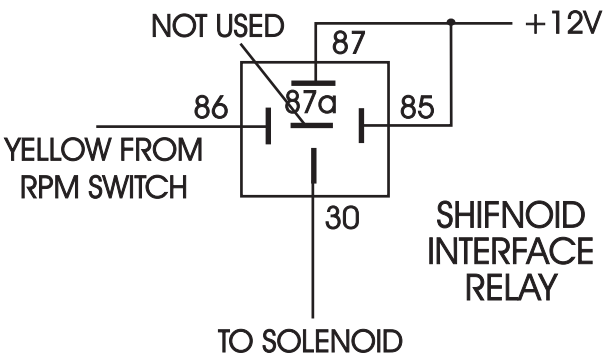


FIGURE A

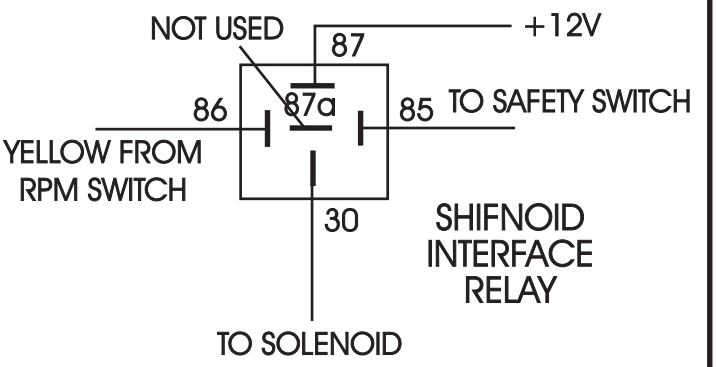


FIGURE B

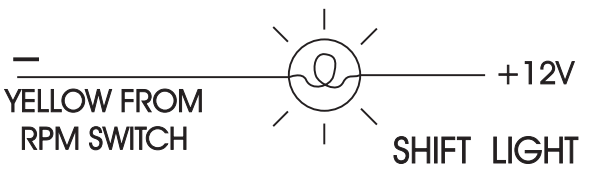


FIGURE E

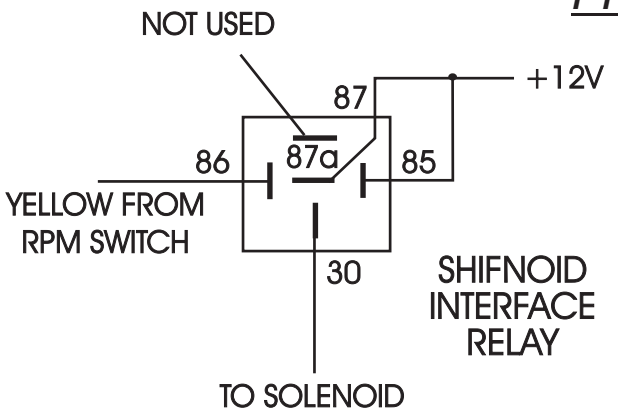


FIGURE C

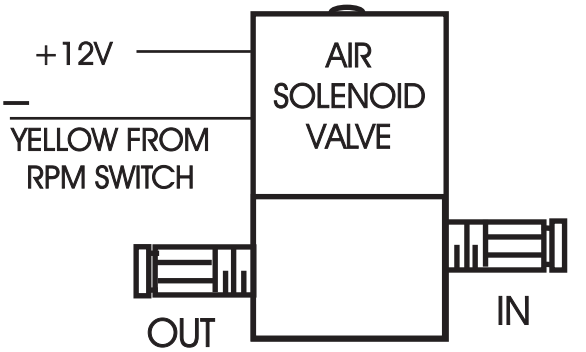


FIGURE D

© SHIFNOID Ltd., 2011

WIRING

Shown are five examples of how to use your RPM switch. Many combinations are possible as this switch can be used to trigger any RPM activated device. It may be necessary to use a relay on any RPM device drawing more than 1.5 amps. When using this switch to activate an air or electric shifter that requires 12/16 volts be applied to activate the solenoid, use FIGURE A. When using this switch to activate an electric shifter that requires 12/16 volts be removed to activate the solenoid, use FIGURE C. When using this switch to activate an air or electric shifter that requires POWER be applied to activate the solenoid only at certain times such as when a shifter is in gear, use FIGURE B. When activating a shift light with a Normally open ground, use FIGURE E. When activating an Air/CO2 solenoid with a Normally open ground, use FIGURE D. **Never apply or allow voltage to be applied to the YELLOW wire. This will destroy the RPM switch instantly.**

COMMON SHIFNOID EXAMPLES

SN5000FC, SN5000RC, SN5200 SN5250, SN5275, SN5055, SN4200 SN5057, SN7000, SN7600	USE FIGURE A
SN5070, SN5072, SA4070, SA4075	USE FIGURE B
SA4000, SA4055, SA4080, SA4080M, SA5400	USE FIGURE D
SN6000, (Spring Loaded Solenoid)	USE FIGURE C

CAUTION: This method leaves the solenoid on at all times your RPMs are below your shift point. Then turns unit off, allowing the spring to shift your shifter.

RF INTERFERENCE

RPM switches can be sensitive to RF interference. This problem can cause your RPM activated device to trigger at the wrong RPM, be inconsistent, or not work at all. This problem is normally most noticeable at high RPMs. If you are experiencing these types of problems, please read the included information on Radio Frequency Interference.
Always monitor and be prepared to shift manually and always protect your engine with a Over Rev device in case the RPM switch does not activate your Air or Electric shifter. See the included information on Radio Frequency Interference.

CAUTION

When charging your batteries, be aware that some types of battery chargers create the potential for sending excessively high voltage through your electrical system. To prevent the possibility of component damage to this switch, as well as other parts of your car, it is necessary to turn off your vehicle master switch whenever charging. A unit damaged by excessive voltage will NOT be covered under warranty.

SHIFNOID WARRANTY

SHIFNOID warrants this product to be free from defects in material and workmanship under normal use if properly installed for a period of 90 days from the date of purchase. If found to be defective it will be repaired or replaced if returned prepaid along with proof of purchase. This shall constitute the sole remedy of purchaser and the sole liability of SHIFNOID. To the extent permitted by law, the forgoing is exclusive and in lieu of all other warranties or representations, whether expressed or implied, including any implied warranty of merchantability or fitness. In no event shall SHIFNOID be liable for special or consequential damages.
Contact your SHIFNOID retailer or CONTENDER PERFORMANCE PRODUCTS, INC.
PH: 740-927-0060 for warranty service and technical support or questions.

PLEASE READ THIS

RADIO FREQUENCY INTERFERENCE AS IT RELATES TO RPM SWITCHES

HOW TO DEAL WITH A POTENTIAL PROBLEM

Radio Frequency Interference (RFI) is a problem that is becoming more common as technology changes and electrical components are used more frequently in the average race car. RFI can occur wherever electric is being used or generated. RFI is a complex problem, so we will only deal with how it applies to the average race car. Our purpose is to help eliminate problems that tend to effect RFI switches and timers common in the automotive racing industry.

HOW DO YOU KNOW IF YOU HAVE AN RFI PROBLEM?

An RFI problem, as it relates to RPM switches and timers, will commonly cause activation of the units to be unreliable. It may result in activating early, late, or not at all, and generally without a pattern. The appliance being triggered with the switch will consequently be effected. As an example, if the RPM switch is activating an air or electric shifter, it may not shift at the correct RPM setting or may not shift at all. This problem tends to worsen as the RPM increases. The problem may only be detected at high RPM, even after the unit tested properly at low RPM. Be aware that high energy ignition components tend to be the worst offenders. Solid core spark plug wires and old or damaged plug wires are a major contributor and are rarely compatible. Coils mounted inside cars may have to be moved to the outside of the firewall. While any electrical device can cause trouble, coils, distributors, ignition boxes, etc, all tend to cause the most problems. RFI travels through the air. Metal to metal contact is not necessary for this signal to jump from wire to wire or unit to unit. While most timer and RPM switch manufacturers try to filter their units from this interference, no one can guarantee this.

HOW TO AVOID INTERFERENCE. PLEASE READ THIS BEFORE YOU INSTALL ANY BRAND OR MODEL OF RPM SWITCH

The best way to deal with RFI is to avoid it in the first place. If possible, mount the unit in a location physically away from the other ignition components and any electric appliances. It is not uncommon to have to be two or three feet away from some parts. When wiring the unit, the wires running to and from it can pick up the RFI signal as easily as the unit itself. Some of the best ways to avoid this, is to run the (black) ground wire from the RPM switch or timer directly and independently to the Negative side of the battery. Do not connect this wire to the same place on the chassis where anything else is grounded. When routing this wire to it's ground, do not run the wire in a wrap or under wire ties that will force this wire to have contact with any other wires, especially wires that feed or come from other ignition components. Likewise, the (red) power or 12 volt wire that feeds the RPM switch should come directly from the main disconnect or master switch and should not have contact with other wires. Although any wire can pick up distortion or interference, these two wires are the main ones to protect. Another solution in addition to the one above, is to put a commercially available RF Filter or Noise filter on the power or 12 volt line that feeds your ignition system. This is a common part used to filter noise out of a car stereo. Ask for the type that dumps the interference signal to ground. They are inexpensive, readily available, and easily installed. MSD makes one designed for their ignitions. In addition to RFI, most units are voltage sensitive and therefore a battery charger should not be turned on with the vehicle master switch on. Allowing this amount of excess voltage to hit the unit could cause damage. Turn the vehicle master switch off, turn the battery charger on, then, if needed, turn the master switch back on.

WARNING!

Be prepared! As the driver of the car, you must be aware that any time RFI could stop the RPM switch or timer from activation. This, in turn, could cause the automatic shifter to not activate and you will need to shift manually. Always pay attention to the car and be prepared to manually shift or lift off of the accelerator to prevent the over acceleration of the engine. One of the best ways to protect the engine under these conditions is to also install some type of over rev control so that the engine cannot reach an RPM beyond it's safe limits.