DYNATEK

DYNA DRL-300 RPM LIMITER

Introduction

The DRL-300 RPM Limiter is designed to work with conventional inductive ignitions found on most street bikes and automobiles. It will work with single or multi-coil systems having up to 4 coils operating in wasted or non-wasted spark mode. The DRL-300 may also be used on uneven firing angle motors.

CDI (Capacitive Discharge Ignition) equipped vehicles should use the DRL-300CDI RPM Limiter.

Installation

Black- This is the ground wire, and should be connected to a good ground point on the engine.

Red- This is connected to switched +12 volts.

White / Blue / Yellow / Violet - These connect to the coil negative terminals. This is the same terminal the ignition connects to. Since they are "functionally" tied together inside the box, it doesn't matter which wire goes to what coil. For systems that have fewer than 4 coils, the unused wires should be taped up to insulate the terminals and placed inside the box.

Brown – This wire will manually activate the RPM limiter when connected to +12 volts. This feature allows the limiter to be used as a shift kill.

Orange - Cut this jumper for single coil triggering. See section at end of instructions.

Setup and Operation

For most single cylinder applications, the RPM limiter is already configured properly for a range of 6000-12000 RPM. If this is how you will use it, you can skip the rest of the Setup section, and proceed to the testing section.

Before using the RPM limiter, the switches must be set to match your application. To do this, you must calculate the number of coil firings (pulses) the limiter will see in two complete engine revolutions. For example: a 4-cylinder engine with 2 coils will fire 4 times in two revolutions.

Using this number, find the appropriate switch setting on the following table. In this example, switch 1 would be set to OFF, switches 2 and 3 would be set to ON.

Switch # 1	2	3	Pulses Per 2 Crankshaft Revs
Off	Off	Off	1
Off	Off	On	2
Off	On	Off	3
Off	On	On	4
On	Off	Off	5
On	Off	On	6
On	On	Off	7
On	On	On	8

With this setting, the RPM limiter will function from 6000 to 12,000 RPM. The RPM limit is set by turning the dial on the end of the box.

If an RPM limit is required that does not fall within the 6000 to 12,000 rpm range, the entire range can be shifted up or down by changing the switch settings.

For example, a single cylinder engine with one pickup on the crankshaft will generate two coil firings every two crankshaft revolutions. If the switches are set for one pulse every 2 revs, the limiter will "think" the engine is turning twice as fast it really is, and limit at half the RPM. The adjustment range will then become 3000 to 6000 RPM.

Using the same example, if the switches are set for 3 pulses per rev, the limiter will think the engine is only turning two thirds (2/3) as fast as it actually is. The adjustment range will then become 9000 to 18,000 RPM.

To determine the new RPM range, as well as all the values in between, divide the new setting you selected by the actual number of pulses per 2 revolutions for your engine. This is the the adjustment factor. Now multiply the setting on the dial by this adjustment factor to get the new RPM limit.

Example: New switch setting = 1
---- X 6000 rpm = 3000 rpm
Actual number of pulses = 2

Example: New switch setting = 3
---- X 6000 rpm = 9000 rpm
Actual number of pulses = 2

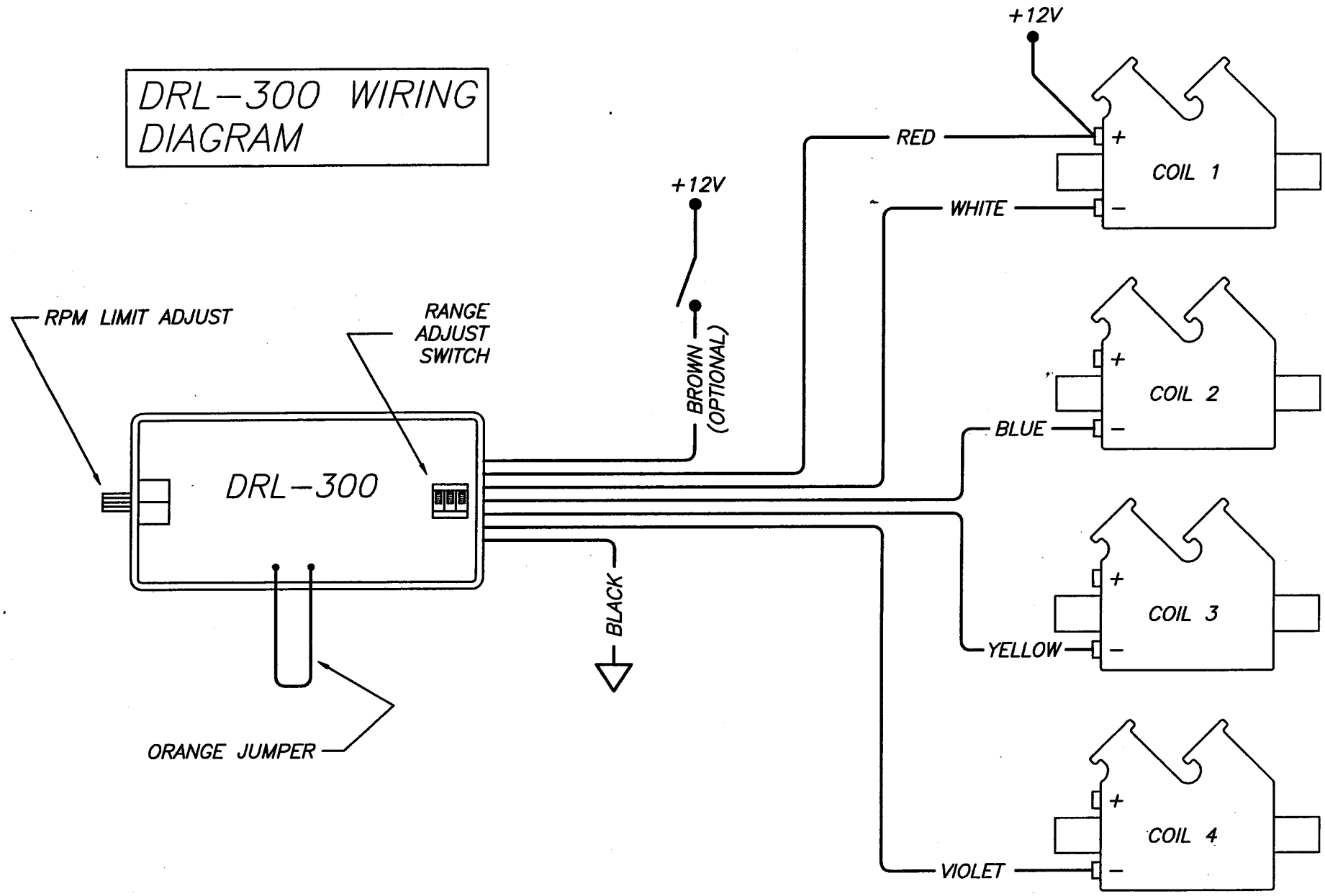
Testing

In order to safely test the installation of the rev limiter, set the knob to the lowest RPM. Test the limiter in first gear by slowly revving the engine until it begins to limit. If the limiter appears to work properly, increase limiting RPM by turning the knob clockwise in small increments until you reach the desired RPM.

Single Coil Triggering

Some engines with uneven firing angles may not properly trigger the DRL-300. Cutting the orange jumper will cause the limiter to only receive trigger pulses on the white wire. The switches should then be set for the number of pulses sensed by the white wire only.

The DRL-300 will still limit coils attached to the Blue, Yellow, and Voilet wires.


DRL-300 WIRING DIAGRAM
+12V
RED
WHITE
COIL 1
+12V
BROWN (OPTIONAL)
RPM LIMIT ADJUST
RANGE ADJUST SWITCH
DRL-300
COIL 2
BLUE
BLACK
COIL 3
YELLOW
ORANGE JUMPER
COIL 4
VIOLET