ZPN 233755 1/2

DYNATEK

INSTALLATION INSTRUCTIONS
FOR MODEL DRL-400-HD
TWO STAGE REV LIMITER
FOR HARLEY-DAVIDSON ENGINES

The Dyna DRL-400-HD Two Stage Rev Limiter provides a low (launch) rpm limiter to assist the rider in making clean consistent launches for drag racing. The DRL-400-HD also has an upper rpm limiter function to provide over-rev protection. The DRL-400-HD is designed to operate with most inductive electronic ignition on Harley-Davidson 2 cylinder engines. It cannot be used with capacitive discharge (CDI) ignitions or points.

INSTALLATION:
IMPORTANT With any microprocessor based system such as the DRL-400-HD, you must use carbon core type suppression spark plug wires with a resistance of at least 3000 ohms per foot to reduce radio frequency interference caused by ignition sparks. Use of copper or spiral core wires may cause malfunction of this rev limiter due to severe electrical noise.

1) Mount the DRL-400-HD on the vehicle as far away from the coils and spark plug wires as the wire lengths will allow.

2) Connect the red wire on the DRL-400-HD to the +12 volt primary terminal of one coil or any reliable source of switched +12 volts.

IMPORTANT If you are using an ignition kill, as with an air shifter, check that power to the DRL-400-HD is not interrupted during the shift kill.

3) Connect the black wire on the DRL-400 to ground, preferably an engine case bolt or battery negative terminal. TIP: For best performance with all electronics on the bike, connect a ground strap to the engine and another to the frame and run both of these back to the battery. 10 gauge wire is recommended - braided straps (available at most auto parts stores) are best. Never rely on engine mounting bolts to electrically connect the frame and engine.

4) Connect the white wire on the DRL-400-HD to the ignitor (minus) side of one coil and the blue wire on the DRL-400-HD to the ignitor (minus) side of the other coil. For dual fire (one coil), connect the white wire on the DRL-400-HD to the ignitor (minus) side of the coil. The blue wire is not used in single coil installations.

5) Plug the two conductor, red and purple extension cable into the mating 2 pin connector on the DRL-400-HD. Connect the other end of this cable to a normally open clutch switch (closed contacts with clutch in, open contacts with clutch out). If a delay box is being used to activate the launch limit, the clutch input may need to be isolated with a relay (see diagram).

ADJUSTMENT:
Both the low limit (launch) and the high limit (over-rev) are adjusted with the 16 position rotary switches on the top of the DRL-400-HD. The low limit range is from 2,500 to 6,250 rpm. The high limit range is 5,500 to 9,250 rpm. Both range switches are adjustable in 250 rpm increments..

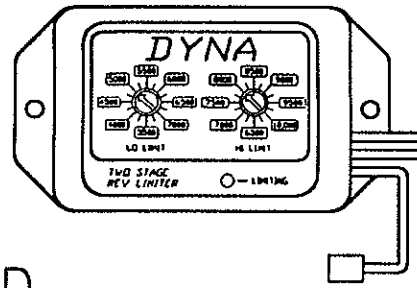
LED INDICATOR:
A red LED is located on the top of the DRL-400-HD. This LED has two functions. First, with the power on and the engine NOT running the LED functions as a clutch lever position indicator. The LED should come on when the clutch lever is pulled in (clutch switch closed). This feature can help diagnose faulty or intermittent clutch switch wiring and aid in clutch switch adjustment. Second, with the engine running the LED indicates when the unit is limiting ignition pulses. In this mode the LED should only come on at the rpm indicated by the switch settings. If the led comes on at any other rpm, the unit is being false triggered and may cause the engine to miss. The most common cause of false triggering is excessive electrical noise. Be sure that carbon core suppression spark plug wires are used.

USING YOUR DRL-400-HD:
When the clutch lever is pulled in, the launch limit if the DRL-400-HD should be active. When the clutch lever is released, the high limit should be active. Clean, consistent launches can be attained by using the launch limit to hold the engine rpm at a consistent level while holding the throttle wide open at the staring line. When the clutch lever is released the engine will be allowed to rev freely while the clutch is engaging. This will allow you to launch the same way every time. Experience will help to determine the correct launch rpm for a particular vehicle

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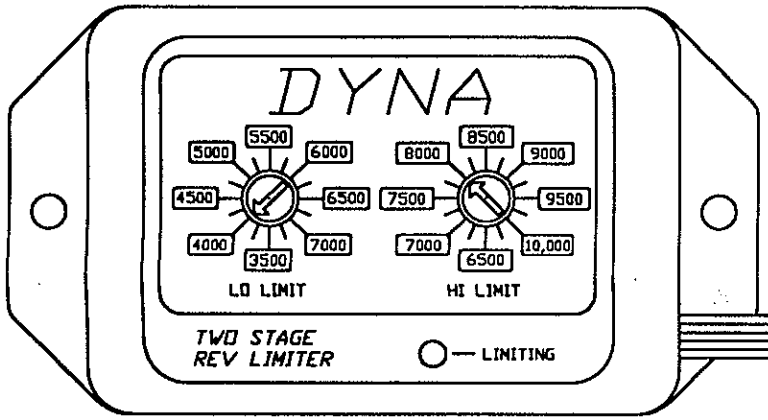
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DRL-400-HD WIRING DIAGRAM



RED
WHITE
BLUE (NOT USED)
BLACK
+12V
TO IGNITION MODULE

CONNECTION WITH DUAL FIRE IGNITION



TO IGNITION MODULE
TO +12 VOLTS
WHITE
RED
BLUE
BLACK
ENGINE CASE GROUND
TO IGNITION MODULE

CONNECTION WITH SINGLE FIRE IGNITION

PURPLE
RED
CLUTCH LEVER SWITCH

– OR –

TO +12 VOLT TRIGGER SIGNAL
PURPLE
RED (NOT USED)

PURPLE
RED

NOTE

The low side (launch) limit can be activated 2 ways:

1. Connect the red and purple wires together with a switch (clutch switch, relay, etc).

   – OR –

2. Feed +12 volts to the purple wire. This can be from a line lock soleniod, delay box, etc. The red wire should be taped up.