

USER INSTRUCTIONS FOR

Dyna TC88-1

Programmable Digital Ignition System

For
Harley-Davidson TwinCam 88 Motorcycles

DESCRIPTION

The DYNA TC88-1 Digital Ignition system for Harley-Davidson motorcycles is a self contained upgrade to the electronic advance ignition found on TwinCam 88 Harleys. This ignition is microcomputer controlled, generating extremely accurate control over the entire ignition process.

In addition to providing precise control over the ignition process, the DYNA TC88-1 allows you to tailor the advance curve and rev limiter to the specific needs of your particular engine. The DYNA TC88-1 has sixteen built in advance curves in three groups, which have been optimized to cover the needs of stock motors to highly modified motors over a variety of operating conditions. There are also eight rev limiter choices from 5750 to 7500 RPM, allowing you to set the exact protection level you need.

INSTALLATION

Locate the stock ignition module and remove it from the bike. Depress the lock tabs on each end of the gray and black connectors to unplug them. Set the Rev Limit and Advance Curve switches on the DYNA TC88-1, plug the gray and black connectors in, and fasten it with the screws that held the stock module.

****IMPORTANT**** On any electronic advance ignition such as the DYNA TC88-1 or the stock Harley ignition, you must use carbon, graphite or spiral core type suppression spark plug wires with a resistance in the range of 300 to 4000 ohms per foot to reduce radio frequency interference. Use of metal core wires may cause malfunction of the ignition due to severe electrical noise generated at the spark plugs. The original wires supplied by Harley-Davidson are acceptable. Suppression wires are also available from DYNATEK.

Recommended Coil: Use any dual coil with a primary resistance of less than 1 ohm, such as the stock Harley coil, or Screamin' Eagle 31704-99 coil. For dual plug heads, use Dyna DC9-2. Do NOT use coils intended for CDI.

CHOOSING AN ADVANCE CURVE

The advance curves are named by the advance at 5000 RPM, and curve group. Which advance curve is most appropriate for your engine will depend on several factors. These may include: level of modification of the engine, weight of bike and rider, type of gasoline used, air temperature, altitude, etc. A good procedure would be to start with curve 36A which is similar to the curve used in the stock ignition module. If you experience any "pinging" at low to midrange RPM, try Group B curves, then Group C if necessary to get rid of the pinging. If your bike runs well on curve 36A, try more advance after several miles and find out if your motor likes more advance.

Generally, you should run the highest number curve in Group A that you can without causing any pinging. Curve Group B is designed to reduce midrange pinging in high torque motors that produce well over 1 ft. lb./cu. in. at about 2000 to 4000 RPM. Group C is designed for turbo and nitrous applications only. The actual curves are shown at the end of these instructions.

CHOOSING THE REV LIMIT

The DYNA TC88-1 ignition offers rev limits from 5750 RPM to 7500 RPM, in 250 RPM steps. The maximum RPM that a motor can be safely revved to depends on many factors, including camshaft design and valve spring selection.

CHECK ENGINE LIGHT FUNCTION

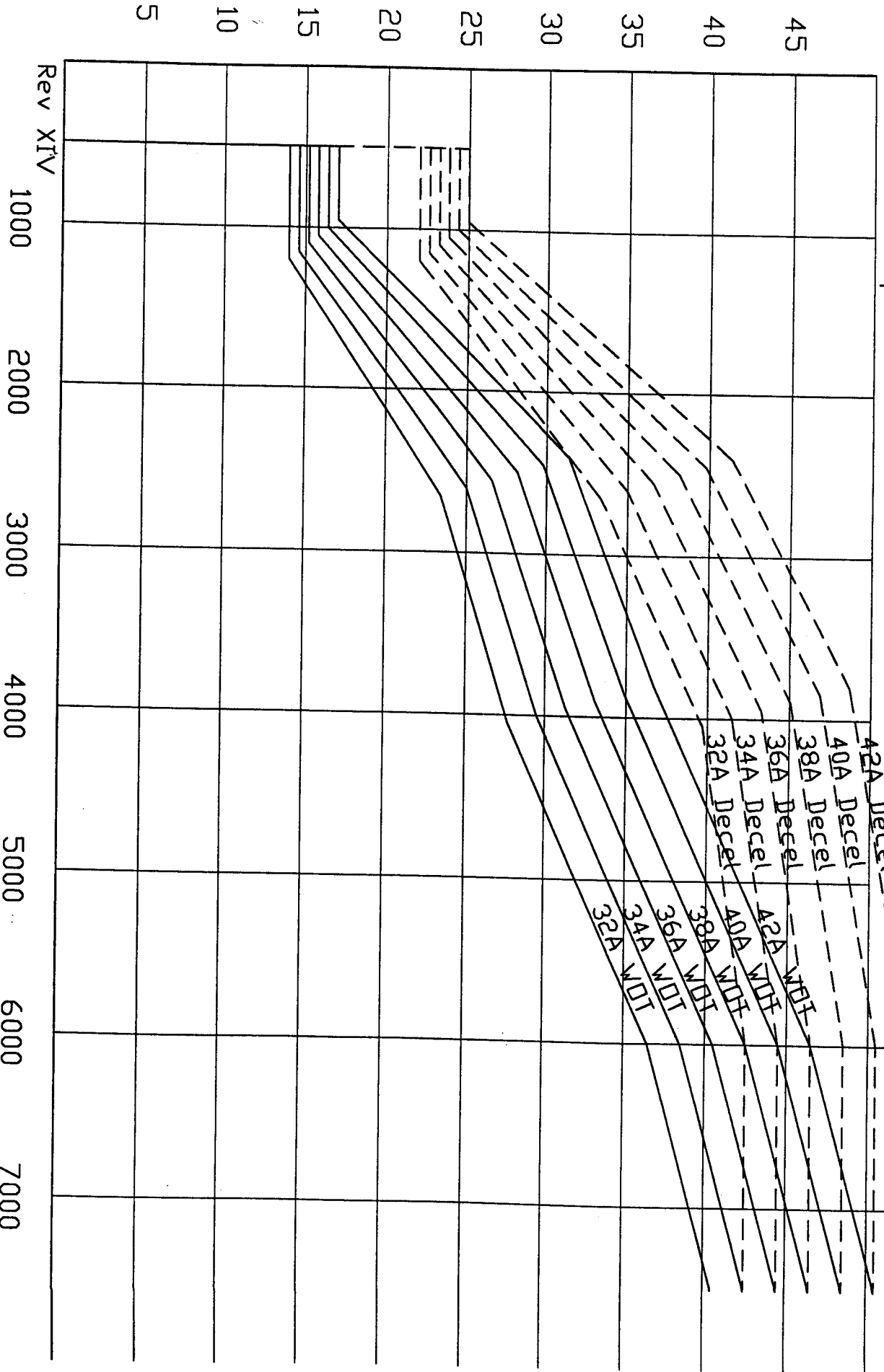
The DYNA TC88-1 ignition operates the check engine light differently than the stock ignition module. When the ignition switch is turned on, the DYNA TC88-1 ignition illuminates the check light after completion of self-diagnostics. The light remains on until a valid signal from the crank position sensor is received when the engine is started.

Note: It is not unusual for high compression engines to blink the check engine light on the first compression stroke when the starter motor stalls.

MAP SENSOR FUNCTION

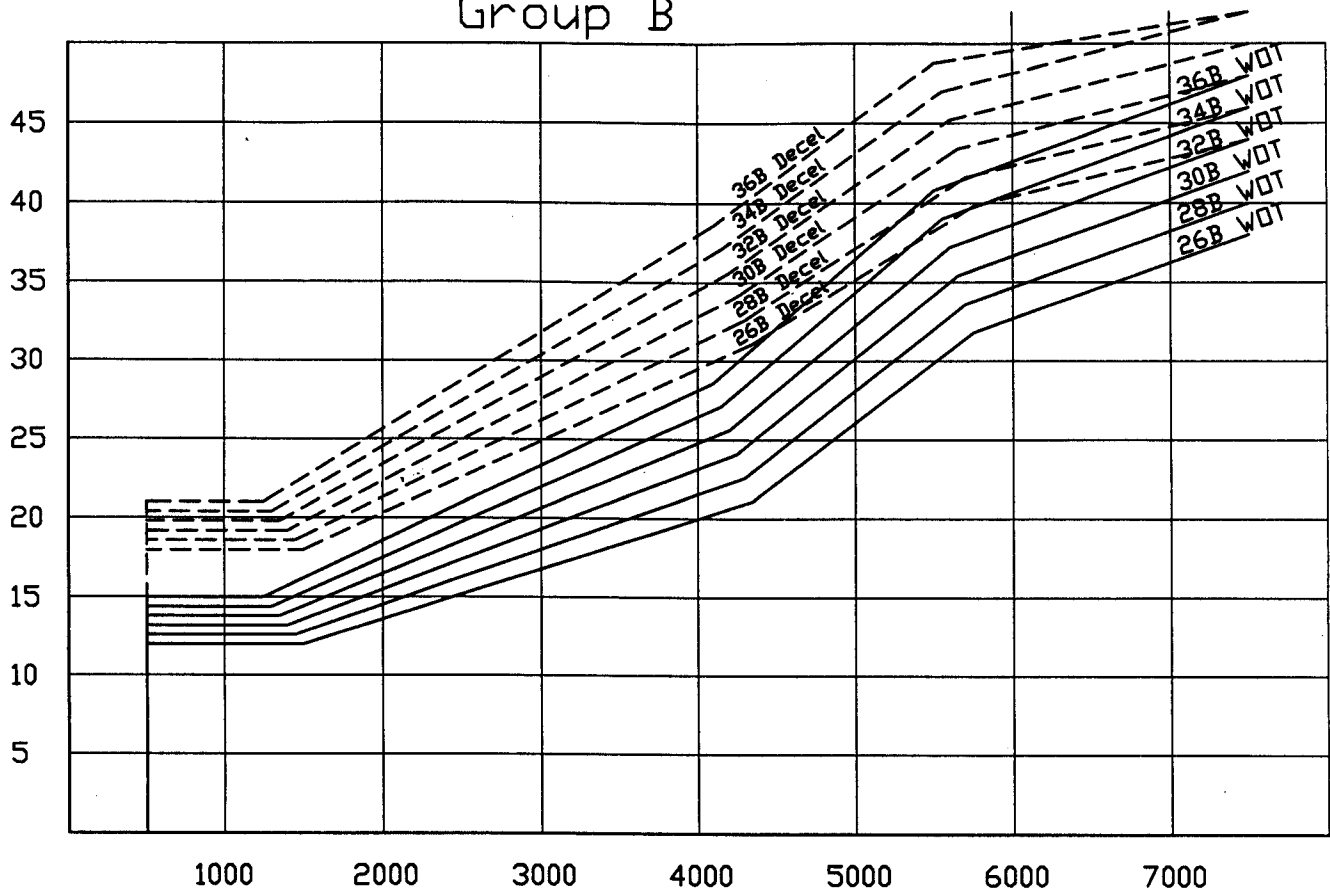
The DYNA TC88-1 module reads the stock Manifold Air Pressure sensor at the bottom of each intake stroke, and smoothly varies the advance between the Wide Open Throttle and Decel curves. Using this advance scheme, the DYNA TC88-1 always provides advance that is optimized for both part and full throttle operation. The actual advance curves are shown at the end of these instructions.

Group A

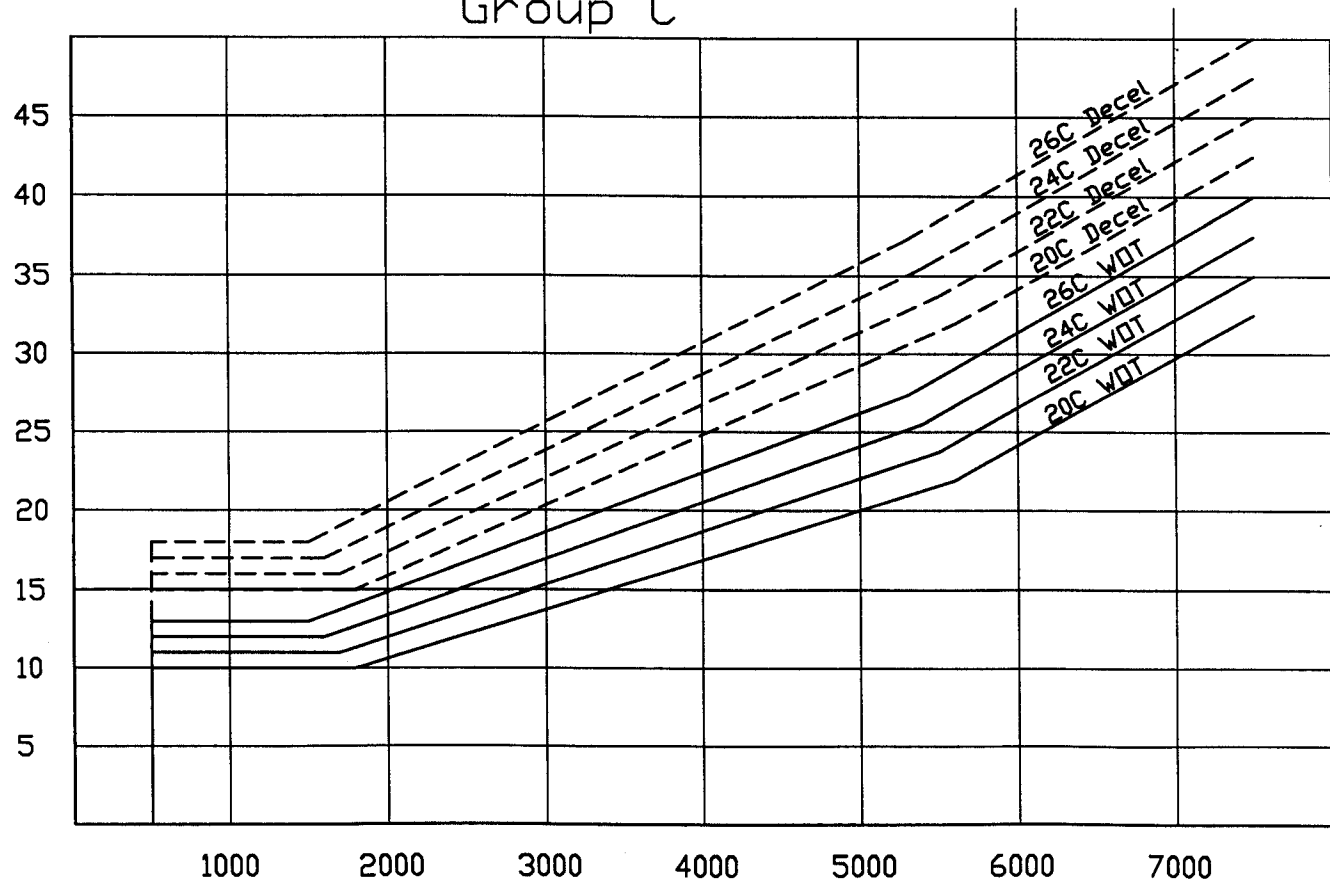


Advance varies smoothly between WDT and Decel, based on MAP sensor.
 Decel = more than 24" Hg vacuum

Group B



Group C



Advance varies smoothly between WOT and Decel, based on MAP sensor.
 Decel = more than 24" Hg vacuum