

Dyna FS Ignition

2004-06 Honda TRX450R

DFS1-13P, DFS1-15P

Congratulations on your purchase of a Dyna ignition. Please take a moment to read these instructions completely before installing the ignition. The installation will only take a few minutes, but proper setup for your specific quad will take longer.

The Dyna FS ignition was designed to work best with stock coils, coil wires, plug caps, and spark plugs. The increase in spark energy from using the Dyna FS ignition is enough so that adding any of these will not improve performance, and can cause problems. Use resistor type spark plugs ONLY. Use the stock resistor style spark plug cap.

This kit includes: Dyna FS ignition, Curve Selector Switch, and instruction sheet. This is a complete kit, and includes everything needed to install the ignition.

Installation

- 1) Locate the stock ignition box, it is under the top cover plastic bodywork, between the headlight and handlebars. With the top cover removed the ignition is visible just behind the headlight. For both connectors on the ignition, press the locking tab in, and remove the connector. Remove the ignition and rubber sleeve from the mounting bracket by sliding it back towards the handle bars.
- 2) Pull the stock ignition out of the rubber sleeve. Keep the stock ignition in a safe place - it may be required for troubleshooting.
- 3) Feed the wires from the Dyna ignition through the rubber sleeve, and bring them out of the hole in the end of the sleeve. Once these are through, slide the Dyna ignition into the sleeve.
- 4) Slide the Dyna ignition over the mounting bracket. The 2006 models will require that the bracket be tweaked to fit the smaller Dyna ignition. Use the supplied zip ties to secure the ignition in the rubber sleeve.
- 5) Plug the 8 and 6 pin ignition connectors into the Dyna ignition. Plug the curve switch into the connector on the Dyna ignition. On the 2006 models, there is a 4 pin adapter that needs to be plugged into the 4 pin connector from the stock wiring harness, and then connected to the 4 pin programming connector on the Dyna ignition. The wiring on this harness is bidirectional, so you can plug it in either way, and it will work.
- 6) Mount curve switch in desired location and reinstall the top cover. The wire length is long enough so that you can feed it up to the handlebars. You may want to mount it so that it is easily accessible for initial tuning. Do not cut or lengthen the wires!

Calibration

The TRX450R Dyna FS ignition is preprogrammed with 4 timing curves. The curves are selected by the curve selector switch. Removing the switch will cause the ignition to default to the curve in position 4 (labeled stock on the curve switch) which is the stock 2004-05 timing curve.

Curve 4 is identical to the curve that came with the stock 2004-05 ignition module, which will provide more advance than the stock 2006 timing curve. It will have slightly increased spark energy over stock at lower RPMs, and slightly less advance at kick speeds for easier starting. Other than that, it should behave exactly the same as stock. This curve also has the rev limit set at 9800RPM, the same as the stock ignition box.

Curves 1-3 all have the rev limit set higher. See the attached diagram for the exact details of each curve.

Use of this ignition may require rejetting of the carburetor to supply more fuel to maximize performance gains. If you are unsure of this tuning process, the services of a competent mechanic should be employed. Using the ignition without properly jetting the carburetor may result in a lean misfire condition when operating at RPMs above the stock RPM limit. Do not operate the engine in a lean condition for extended periods or damage may result.

This ignition allows the engine to rev to a higher RPM than what it has before. At these high RPMs, the performance limits of other engine parts(exhausts or valve train for example) may be found. It may be necessary to replace these parts for best engine performance. Consult with an engine builder for what works best for your engine and application.

Programming

Programmable versions require a separately purchased programming kit to reprogram them. If the programmable ignition was not purchased directly from Dynatek, the dealer may have programmed a custom set of ignition curves. The dealer should be consulted with any questions regarding the curves that are programmed into the ignition. On the 2006 models, to program the ignition, you will need to unplug the adapter from the ignition, and plug the programming cable into the ignition.

The TRX450R Dyna ignition comes with 2 extra wires: a green wire, and a blue wire. These are unused with the stock ignition. The blue wire can be set up to function as a switch that turns on and off at certain RPMs to control additional electronics, such as powerjets or nitrous systems. It is rated at 2Amps max output. For anything more than that, use a relay. See the attached digram for how to wire a relay. The use of these is covered in the instructions for the programming kit. The green wire is a tach output that produces a 12V square wave 2 pulse per engine revolution tach signal that is compatible with most 4 cylinder auto/motorcycle tachs. See the attached wiring diagrams.

Troubleshooting

Troubleshooting the Dyna ignition is simple. If the bike will not start or run at all, reinstall the stock ignition. If this fixes the problem, then the Dyna ignition should be returned to Dynatek for testing. If switching to the stock module does not fix the problem, then the problem is somewhere else on the bike. Follow the troubleshooting procedures outlined in your owners manual.

If the bike runs, but poorly, put the stock ignition back on the bike. If this fixes the problem, reinstall the Dyna ignition. If you are using non stock plug wires, plug cap, ignition coil, spark plug, or stator, replace them with OEM units. Then follow the procedures in the calibration section to set the Dyna ignition up to work with your bike. If calibration doesn't fix the problem, the ignition should be returned for testing. If the problem persists when using the stock ignition then the problem is external to the Dyna ignition. Follow the test procedures outlined in your bike owners manual to pinpoint the problem.

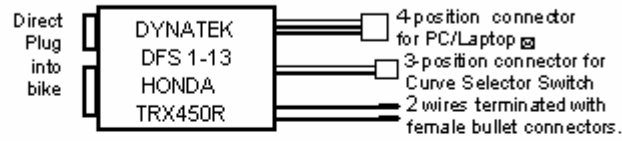
WARNING:

Installation of a grounded tether kill switch to the ignition coil signal will damage the CDI and void the warranty.

Magneto-CDI (Banshee/TRX250R/400EX/450R/etc.): Use a normally open tether kill switch connected in parallel with the stock kill switch input to the ignition. When the tether is removed, it should ground the input to the ignition.

TRX450R KILL INPUT – BLACK/WHITE at the ignition module. The KEY SWITCH uses this same circuit.

DFS1-13 for HONDA TRX450R



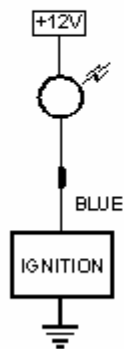
Green = Tach output, 2 pulse per rev, 12V

Blue = Programmable Speed Switch, 2 amp MAX
(referenced as PV Solenoid in software)

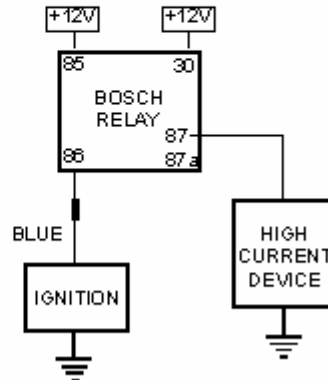
NOTE1: Blue power switch can be used to turn on a shift light, activate a small solenoid, or switch a Bosch style relay for even higher loads.

NOTE2: The ignition will ground the White or Blue wire inside the box when the pre-programmed RPM is achieved.

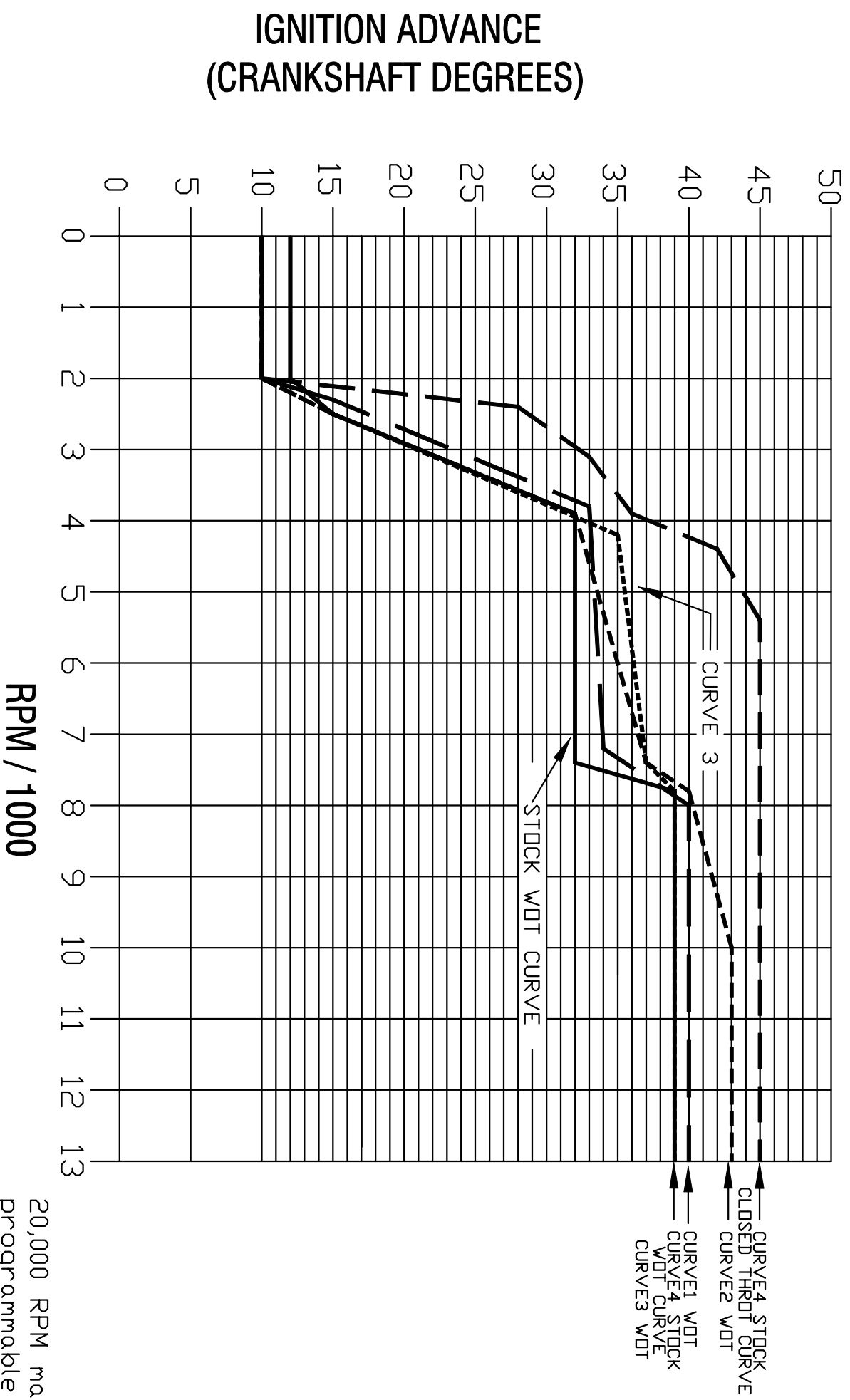
SHIFT LIGHT or SMALL SOLENOID



USING A BOSCH STYLE RELAY TO SWITCH HEAVY LOADS



DYNA FS / HONDA TRX450R ATV IGNITION CURVES



Programmed with the following rev limits
 Curves 1-3 11,200 RPM
 Curve 4(stock) 9,800 RPM(same as stock)

CURVE4 = STOCK ADVANCE
 (Assumes stock base timing)

20,000 RPM max
 programmable

Note: Advance varies between WOT and Closed Throttle Curves based on TPS

DYNATEK		164 S. VALENCIA ST., GLENDBRA, CA 91741 (626)963-1669	
TITLE HONDA TRX450R ADV. CURVES			
DATE 10-13-04	MODEL HONDA TRX450R	REV B	