



**TECHNICAL
INFORMATION**

**DUNCAN RACING
INTERNATIONAL, INC.**

DRI HONDA TRX 450/470/480 NATIONAL KIT ASSEMBLY TIPS

2004-05 and 2006-12 Models

SPECIAL NOTE: DRI does not recommend working on the engine of your Honda TRX 450 without the assistance of the Genuine OEM Honda Service Manual.

ASSEMBLY: It is strongly recommended to follow all instructions in OEM Honda Service Manual, specifically for torque values and cam timing set.

Also consult the DRI Tech Sheet for *4-Stroke Top End Assembly*.

SPECIAL NOTE: It is also advisable to read DRI TECH Sheet *4-Stroke Upgrade Components*

BREAK-IN: Read and follow instructions for DRI TECH Sheet *4-Stroke Engine Break In*.

*NOTE: Engine will run better after it has 3-5 hours on it.

VALVE SETTINGS: Valves should be checked initially every 3-4 hours for first 12-hour period after initial set-up and every 10 hours after that. Consult your camshaft specification card for correct clearances. Stock clearances no longer apply after camshaft has been upgraded to a DRI camshaft.

Incorrect valve settings can have a noticeable effect on your engine's performance. Common side effects from improper tolerances are; hard starting, Hi RPM miss

DRI CAM SETTINGS (Clearances must be set and checked with engine cold)

Cam Profile Number	Intake	Exhaust
108 X11	.006" - .008"	.010" - .012"
108 X33	.010"	.012"
108 X22	.010"	.012"

* All DRI camshafts are made in USA

***NOTE: Valve life is decreased when engine is modified via; high lift cams, high performance valve seat machining, etc. Valve life is also greatly affected by engine over-revving and /or engine use at Hi RPM's, Abrasives (dirt, sand, mud) being ingested into engine will harm and prematurely wear out the valves.*

PISTON RINGS: Piston ring installation is a very delicate procedure and should be performed by a trained professional. All rings **MUST** have gap checked.

*DRI recommends consulting their 4-STROKE PISTON RING ASSEMBLY TIPS install sheet before attempting to install your rings.

COMPRESSION RELEASE: DRI recommends using the factory compression release system that is attached to the camshaft. Install and adjust exactly as per the instructions in the OEM Honda Service Manual



IMPORTANT !!! Check all parts in compression release assembly; slipper, weight, springs, lock tab and bolt, lifter arm. Etc...

These components can fail with the added strain of running additional horsepower through these components. These components should be inspected on a regular basis (at each valve clearance check) At any sign of wear or damage parts should be replaced with now OEM parts immediately.

SPARK PLUG: 2004-05 Models Use NGK IFR9H11 Gap: .039" - .043"
2006-12 Models Use NGK 1FR8H11 Gap: .039"-.043"

AIR INTAKE: DRI recommends using a Pro Flow Air Cleaner kit, with K&N Filter. For best performance it is recommended to use stock air box with lid removed.

EXHAUST: For maximum performance use Fat Boy 4 Complete Stainless Exhaust System. Turndown and or spark arrester are optional

FUEL: : Use VP Racing Fuel type C-12 (www.vpracingfuels.com). Motor Octane 108 or Sonoco Race Fuel type "The Standard" (www.racegas.com) 105 motor Octane
***For extreme Racing performance VP U4.2 Fuel

OIL: Maxima Premium 4 10W40
*Consult Honda OEM Service Manual for oil capacity specifications.
**NOTE: The Honda TRX 450 has a unique oiling system. The motor and transmission are fed by separate oil. They must be checked and changed in separate ways.
Check Oil levels before EVERY ride.

*****Consult OEM Service or Owners Manual for additional details and engine oil capacity .**

CARBURETION:

2004-05 Models

It is recommended when installing these engine kits to upgrade the carburetion. DRI recommends an Edelbrock or Keihin FCR. (Both Carburetors are available from DRI in thumb or twist. Call for additional details)

If stock carburetor must be used, start with the following settings;

Pilot Jet #52-#55 Needle Stock #4 or #5 clip down from top Main Jet #182-#190

*Using the stock carburetor is not a permanent solution.

2006-12 Models

The 06 model comes stock with an FCR carburetor on it. This carburetor requires some upgrades to work properly with a modified engine.

Change air screw to an adjustable screw. Parts # 16016-MEB-671

Change Needle to a OBELR. Part # 16232-MEB-671

(Optional Richer needle OBEKR # 16203-MEB-671)

Adjust stock carburetor to the following settings;

Pilot Jet # 48-# 50 Needle OBELR # 5 Clip down Main Jet # 180-# 185

TOP END SERVICE



For maximum performance top end should be serviced at least every 20 hours. For standard usage top end should be serviced at least every 50 hours.

A top end service includes checking, valves, valve sealing, piston clearance, cam chain and tensioner, lower rod bearing etc.

Piston clearance should be kept between .0015" -.0025" not recommended to exceed .004"

Ring end gap should be kept .015" - .020" not to exceed .020"

Consult DRI or a qualified technician for additional assistance.

CRANKSHAFT: For Standard usage stock rod should be sufficient. Under serious performance conditions an upgraded connecting rod may be required. Contact DRI for additional details.

STROKER ENGINES: '04-'05 505cc and 515cc and '06-'07 525cc engine kits must have the center cases machined for additional connecting rod clearance required by the added stroke from the crankshaft

GEARING:

2004-05 Models: OEM Gearing 14/38, Dune Riding 14/38, Hill Racing 13/38, MX Racing 15/38-40

2006-12 Models: OEM Gearing 13/38, Dune Riding 14/38, Hill Racing 13/38, MX Racing 14/38-39

IGNITION: It is recommended to use a Vortex X10 CDI unit with all DRI engine kits.

CLUTCH: The clutch must be kept in excellent condition for maximum performance to be delivered. Call DR Tech department with any questions regarding clutch performance or upgrades.

NOTES

1. Valve clearance and Deck height must be checked. Valve to Piston clearance should be minimum .040", Piston to Head clearance should be .060".
2. Must use special modified DRI steel head gasket

DRI is not responsible for any engine component (gears, rod, etc.) fatigue or failure due to increased horsepower and torque.