



DRI YAMAHA RAPTOR 700/715/727 NATIONAL KIT ASSEMBLY TIPS

2006-2008 Models

SPECIAL NOTE: DRI does not recommend working on the engine of your Yamaha Raptor 700 without the assistance of the Genuine OEM Yamaha Service Manual.

ASSEMBLY: It is strongly recommended to follow all instructions in OEM Yamaha 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 20 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.

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

Cam Profile Number	Intake	Exhaust
294 X1	.005"	.008"
294 X2	.005"	.008"

NOTE #1: Both X1 and X2 cams require heavy duty valve springs

NOTE #2: X2 camshaft requires shortened valve guides for proper valve spring retainer clearance.

NOTE #3: X2 cam requires head and rocker arm modifications.

ROCKER ARM MODIFICATION: When installing a #294 X2 camshaft the rocker arms **MUST** be modified for cam lobe clearance. This modification **MUST** be performed by a trained professional with the proper equipment. Cylinder head must also be notched to accept the X2 camshaft.

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.

**Improper ring gap settings can cause damage to piston and Nikasil coating on cylinder bore.

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 Yamaha Service Manual. Call DRI Technical support if questions arise.

SPARK PLUG: Use NGK CR8E Gap: .028" - .031".

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.

Current as of 7/13/2009



EXHAUST: For maximum performance use Fat Boy 4 Complete Stainless Exhaust System. Turndown and /or spark arrestor screen are optional. Always install using new exhaust gaskets.

FUEL: Use VP C-12 Fuel. Motor Octane 108 or Sonoco Standard (105 motor Octane)

OIL: Maxima Premium 4 10W40*Consult Yamaha OEM Service Manual for oil capacity specifications.

****BEFORE INSTALLING FRESH OIL IS STRONGLY RECOMMENDED TO REMOVE OIL COOLER AND OIL TANK FROM MACHINE AND FLUSH THOROUGHLY OUT INTERNALS WITH CLEAN PARTS CLEANING SOLVENT**

CARBURETION: This machine is not carbureted. It is equipped with electronic fuel injection.

AIR/FUEL MIXTURE: The air fuel mixture **MUST** be adjusted when your engine is modified. DRI recommends using the VORTEX EFI Interceptor. The plug in device has a revamped fuel map that corrects the air/fuel mixture for modified engines. The Interceptor is also adjustable for fine tuning in 2% increments too both richen and lean the mixture.

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 .003" -.0035" not recommended to exceed .005"

Ring end gap should be kept .015" - .020" not to exceed .025"

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 is required. Contact DRI for additional details.

GEARING: OEM Gearing 14 x 38. Sand Riding (20" paddles) 14 x 38, MX (18" Tires 15 x 38). Trail Riding (20" Tire) Low Speed 14x38 -Medium Speed 15x38- High Speed 16 x 38

IGNITION: It is recommended to use the stock ignition at this time.

*Available in the future from Vortex will be programmable ECU units.

CLUTCH: The clutch must be kept in excellent condition for maximum performance to be delivered. DRI recommends installing a Hinson Billet Outer Clutch Basket. Call DR Tech department with any questions regarding clutch performance or upgrades.

TRANSMISSION: DRI recommends staying with the stock oem transmission assembly.



RADIATOR: Stock radiator works OK for stock engines. A High capacity radiator is strongly recommended for modified/hi compression 700 engines and all big bore engines. Heating issues will result if radiator is not upgraded

HOUR METER: It is recommended to install an hour meter on your machine. This device can come in very handy keeping track of packing life, valve adjustments, oil changes, top end service, etc. A number of manufactures offer them for under \$ 50.00. Installation is simple

NOTES

1. Valve clearance and Deck height must be checked. Valve to Piston clearance should be minimum .060", Piston to Head clearance should be .040" minimum.
2. Must use special modified DRI steel head gasket for 105.00mm piston and larger.

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

