



Beta 125 RR-S Big Bore Kit

Part# AB-21253

Fits: Beta 2017+ 125 RR-S & Supermoto

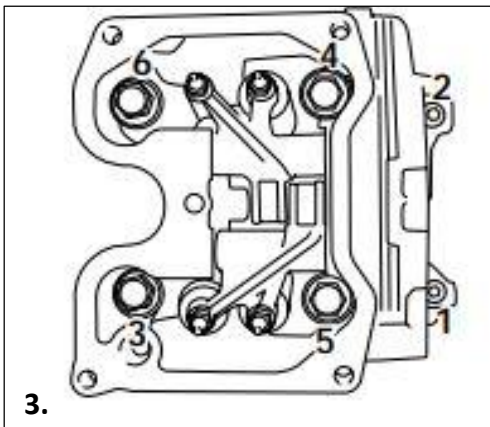
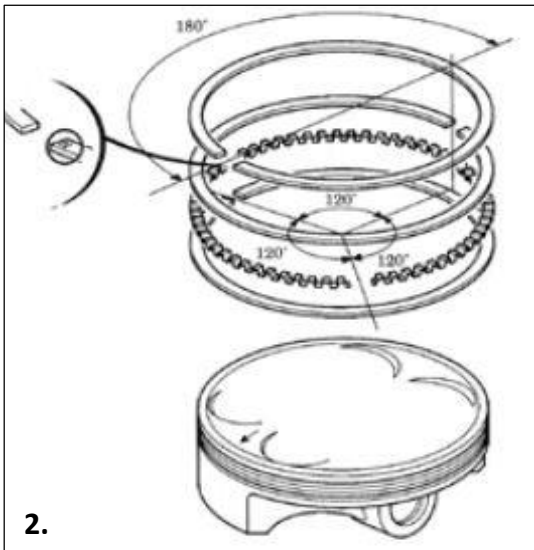
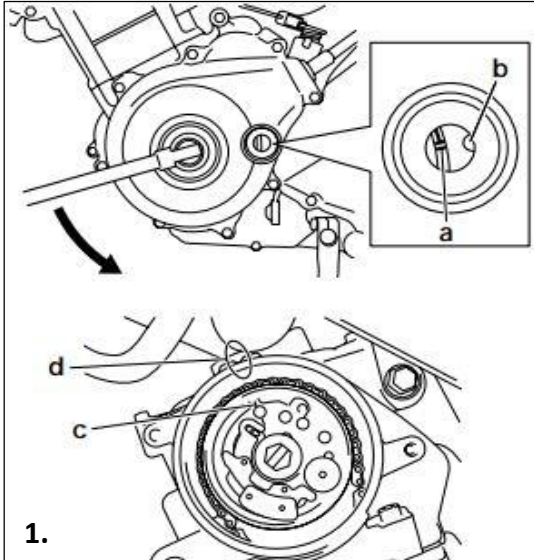
Installation Instructions, read entire instructions before beginning, motorcycle service technician installation is highly recommended:

Beta 183cc Big Bore Kit includes:

- Athena 183cc piston & rings, Euro cam chain tensioner & gasket
- 1 Pilot Jet, 3 Main Jets, 2 Needle Shims, 15T Countershaft Sprocket
- Kit is designed to work with AB-11264 Pro Circuit T6 Stainless USFS slip-on silencer
- ** Carburetor Re-jet Instructions begin at step # 30 ****

Note: 183cc kit is for Closed Course only, with Twin Air filter installed & airbox baffle removed. Refer to the 2017+ 125 RR-S Engine Service & Owner's Manuals at www.betausa.com/support

Tools needed: 14, 10, & 8mm sockets, circlip pliers, feeler gauge, torque wrench, large flat blade screwdriver, oil drain pan, clean used coolant container.



1. Wash & dry bike thoroughly before beginning, taking careful note of components assembled positions.
2. Remove seat, tank, side panels, head pipe, silencer.
3. Disconnect emissions components & hoses, remove carburetor, intake manifold from the head, spark plug, valve vent hose, engine to frame upper-mount plates.
4. Drain engine coolant, remove engine head coolant pipe, water pump cover, valve head cover.
5. Remove both timing mark inspection screw & crankshaft access screw from the left ignition cover.
6. Align "I" mark of point "a" on generator rotor with stationary pointer "b" on generator cover, Fig 1.
7. Turn crankshaft counterclockwise. When piston is at TDC on the compression stroke, the "I" mark on camshaft sprocket will align with the stationary pointer "d" on the cylinder head.
8. To remove camshaft sprocket, hold generator rotor nut & loosen the sprocket bolt. Secure timing chain with a piece of wire so it doesn't fall into the crankcase. Remove the cam chain tensioner.
9. To remove cylinder head, loosen mounting bolts in phases in a cross-sequence, 1/4 turn at a time.
10. Before removing piston, cover crankcase with a rag to prevent debris entry or losing piston clips.
11. Remove piston clips, deburr clip grooves & the pin bore area, remove piston pin, & the piston.
12. Install piston rings with proper ring gap placement, upper ring with its mark facing upwards, Fig 2.
13. Position the piston with its top arrow mark facing front towards the exhaust header side.
14. Lubricate piston pin & insert it into the piston, ensure its retainer rings are seated correctly.
15. Install new cylinder base gasket along with its centering pins into the crankcase.
16. Coat cylinder, rod, piston, & piston rings with oil, & compress rings to install piston in the cylinder.
17. Install cam chain tensioner guide, aligning tabs in the cylinder, install head gasket & locating pins.
18. Install cylinder head, washers, tighten bolts **3, 4, 5, 6** in multiple cross patterns & torque to 22 nm.
19. Tighten head bolts **1 & 2** in phases & torque to 10 nm, check that camshaft rotates freely.
20. Install camshaft sprocket, lightly tighten sprocket bolt & remove holding wire from the timing chain.
21. Turn crankshaft counterclockwise, align "I" mark "a" on generator rotor with stationary pointer "b".
22. Check TDC valve clearance with a feeler gauge; Intake: 0.10 - 0.14 mm, Exhaust: 0.20 - 0.24 mm.
23. Install new cam chain tensioner & gasket, pull the CCT tensioner tab to release pawl & auto-tighten.
24. Turn crankshaft several turns counterclockwise & align "I" mark "a" with mark "b" on cover.
25. Check "I" mark on the camshaft sprocket also aligns with stationary pointer "d" on cylinder head.
26. Torque camshaft sprocket nut to 30 nm & re-check valve clearances & all fasteners.
27. Install water pump cover with gasket & hose, install valve cover, torque all cover bolts to 10 nm.
28. Install spark plug, plug cap, valve vent hose, crankshaft & timing inspection caps, torque to 10 nm.
29. Install L & R engine mount plates to the frame, torque upper nut to 67 nm, lower nut to 30nm.
30. To re-jet carburetor, remove float bowl & install 38 pilot jet, & 162 main jet (sea level to < 5K').
31. If bike is mainly ridden over 4K-5K' elevation, install leaner 160 MJ, or 158 MJ if mainly over 7K-8K'.
32. Remove carb top cover, remove jet needle, install two 0.5 mm shims between needle clip & spacer.
33. Record stock idle mixture screw setting, then set idle mixture screw @ 1.5 turns out from closed.
34. Reinstall carburetor intake manifold, reinstall carburetor, carb cables, housing & throttle cables.
35. Ensure foam air filter is installed (without stock extension pin), & airbox silencer baffle is removed.
36. Install Stock exhaust header with Pro Circuit T6 silencer. Install remaining body panels, tank, & seat.
37. Fill radiators with coolant, remove upper radiator bleed screw, start engine & bleed cooling system.
38. Follow manufacturers break-in procedures, varying engine revs & load to properly seat piston rings.
39. Final idle mixture setting is achieved with engine fully hot & carb at normal operating temp; set idle @ 1,500-1,900 rpm, adjust idle mixture screw inwards until just before the engine idle speed slows.
40. Engine break-in takes approx. 200-300 miles; during this period avoid high speeds or opening the throttle more than 3/4, while changing speed & engine load often so that piston rings seat uniformly.
41. It's optional to change the engine oil after big bore kit installation to remove any new parts debris.