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NIKS409

**YAMAHA BANSHEE 409cc
PROXCROSS BIG BORE MONO BLOCK CYLINDER
INSTALLATION INSTRUCTIONS**

Thank you for your interest in the **L.A.SLEEVE** and **PROXCROSS** Genuine Racing Parts product. And congratulations on purchasing your new big bore cylinder!

Before beginning any installation procedures, please be sure to inspect your new PROXCROSS cylinder for freight damage.

Parts and supplies required for this kit:

Parts Check List:

- 1 – mono block cylinder w/studs
- 2 – exhaust manifolds w/gaskets already attached to cylinder
- 1 – engine coolant bolt already installed
- 1 – PROXCROSS Banshee head with changeable domes
- 11 – acorn nuts plus copper washers
- 2 – base studs with 4 acorn nuts and copper washers
- 1 – gskt set including 2 inner o-rings, 1 outer o-ring, 1 base gskt, 4 reed gskt
- 2 – reed cages w/12 reed bolts
- 1 – intake manifold
- 2 – carburetor adaptors with (4) 6mm hex head bolts
- 2 – piston kit

Tools Needed

- #2 Phillips screwdriver
- 8mm socket wrench
- 10mm socket wrench
- 12mm socket wrench
- 12mm box end wrench
- Torque wrench w/extension
- Stud removal & installation tool
- Spring hook tool
- 6mm Allen wrench
- Needle nose pliers

Supplies Needed

- Engine coolant
 - 1ft. _" fuel line
 - Zip ties
 - Spark plug BR8EG
- Recommended Parts
- K&N air filter
 - Thumb throttle cable
 - Twist throttle cable
 - _ inch ID fuel line
 - *35PWK Keihin Carb

If any part is missing – Do not install & contact L.A. SLEEVE immediately!

REPLACEMENT PARTS LIST			
Description	Part No.	Description	Part No.
Cylinder	N409	Piston kit 68mm	PX409PS
Head	NH409	Piston kit 68.25mm	PX409P1
Dome 18cc	681218	Piston kit 68.50mm	PX409P2
Dome 20cc	681220	Piston kit 69mm	PX409P4
Top end gasket set	GS409	Ring set 68mm	2648R
Head gasket O-rings	GH409	Ring set 68.25mm	2650R
Base/manifold gaskets	BS409	Ring set 68.50mm	2651R
Keihin 34mm carb	34PJ	Ring set 69mm	2653R
Keihin 35mm carb	35PWK	Circlips	CW16
Air box adaptor	AB409	Wrist pin	1657
		Wrist pin bearing	01201

***The NIKS409 Big Bore Kit requires aftermarket carburetors. Do not use stock carbs!**

The NIKS Big Bore kit is an after market performance product with no express warranties.

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ALL ENGINE WORK SHOULD BE DONE BY A QUALIFIED MECHANIC

Removal Of Old Cylinder:



1. Remove the front cowl/body panel seat and the rear fender.
2. Using a 12mm socket, remove the two bolts that mount the silencers to the frame. Remove both silencers.
3. Using a spring hook tool, remove the pipe mounting springs. Use a 12mm socket wrench to remove the mounting bolt. Remove pipes.
4. Turn off fuel and remove fuel line. Using a #2 Phillips screwdriver and a 10mm socket, remove the gas tank.
5. Using a 10mm socket, remove the mounting bolts for the air box. Use a #2 Phillips screwdriver to loosen the intake boot clamps on the carburetor. Disconnect the loomed wires from the right side of the air box and remove the air box from the frame.
6. Use the #2 Phillips screwdriver and remove the thumb throttle cap. Disconnect the throttle cable.
7. Unplug the yellow and black wires that run to the carburetor. (Do not re-connect.)
8. Use a #2 Phillips screwdriver and loosen the intake manifold clamps. Remove carburetors.
9. Remove the lower radiator line and drain coolant into a drain pan. Remove the upper radiator line that connects to the head.
10. Using a 12mm socket wrench, remove the cylinder base stud nuts. Only four of the nuts will be re-used when installing the PROCROSS Big Bore Mono Block Banshee cylinder.
11. Removing the head from the cylinders is optional. Remove the cylinders through the top of the frame.
12. Remove the piston circlips, slide the wrist pins out and remove pistons.
13. Remove the stock base gasket. The PROCROSS Big Bore Mono Block Banshee cylinder requires the supplied base gasket.



Cylinder Installation:

1. Inspect all parts to be sure they are clean. If necessary, wash your cylinder and head using dish soap and hot water. Scrub with a paper towel and rinse. Immediately after spray liberally with WD-40 or a similar lubricant, let stand.
2. Have a qualified mechanic remove the left and right outermost cylinder base studs (on the intake side). Replace with supplied studs. Place short end down. Replace any worn or broken parts such as wrist pin bearing, reed petals, crankshaft main bearing, case seals, con-rod, etc.
3. Cut bottom radiator hose 3 _ inches from top water spigot.
4. Install piston rings onto pistons with the letters/numbers facing up. Put a couple of drops of oil on wrist pin bearing and install piston to rod. Arrow on the top of the piston goes toward exhaust port.
5. Place the supplied base gasket onto the case. Do not use gasket sealer.
6. With the cylinder head removed, install the PROCROSS Big Bore Mono Block cylinder. (You may need the assistance of a partner.) Make sure exhaust manifolds are attached to cylinder before installation. Do not put any type of oil on the piston or cylinder, the WD-40 that was left in the cylinder is enough lubricant. Look through the reed cage hole as you are sliding the cylinder



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down onto the piston and check to see that ring end gap is centered on the pins, adjust rings now with a small screwdriver if necessary. If the ring end gap is not centered on the pins you may break the rings when sliding the cylinder over the piston.

7. Place the four supplied washers and acorn nuts on the four rear studs (use needle nose pliers to drop washer and cap nut on stud). **IMPORTANT: The copper washers must be used to prevent leakage.** Then place four of the stock base stud nuts on the forward studs. First tighten by hand as much as possible. If box end wrench does not fit over cap nut or does not clear cylinder, lift cylinder up by hand so that the bottom of the cap nut is touching the surface of the cylinder. Now the wrench should fit. (This should only be necessary for the two inner nuts, not the outer.) Continue doing so until cylinder is properly torqued down. Connect hose – do not tighten hose until cylinder is completely torqued down. Torque base nuts to 25 ft. lbs.
8. Once cylinder is torqued, assemble head to cylinder using o-ring head gaskets. Place copper washers under cap nuts. Torque down head according to standard Banshee procedures (start from inside and work outward). Recommended torque- 18 foot pounds. Connect clutch cable.
9. Install reeds, gaskets and intake manifold. Once installed, attach carburetor adaptors to manifold. **When installing carburetor, you must tilt the left carburetor inward so that choke knob does not hit pipe & silencer.**
10. Attach all radiator hoses. Plug up stock radiator breather hose and place out of way. It is NOT USED. Then refill radiator.
11. Install carburetors and tighten intake manifold clamps.
12. Install throttle cables. Inspect slides after cable installation to ensure proper and even operation. **Be sure that the throttle open and closes freely.**
13. Install air filters. When using cylindrical air filters, an impression in the air filters will need to be made to clear the frame.
14. The black and yellow wires that previously went to the carburetors will no longer be used. Zip tie to the frame in an out of the way location.
15. Reroute overflow catch tank hose due to the use of the K&N air filters.
16. When installing fuel line, make sure it is clear of the left pipe and silencer. If necessary, make longer and zip tie to frame.
17. Install exhaust pipes. Set the pipes in position with the pipe spring and then install the pipe mounting bolts. If pipe rubs against cylinder, use a block of wood and rubber mallet to tap a flat indentation into the pipe so that the pipe will clear the cylinder. Re-install all of the plastics. Follow all proper break-in procedures.



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**YAMAHA BANSHEE 409cc
PRO CROSS BIG BORE MONO BLOCK CYLINDER
BREAK-IN and WARM-UP PROCEDURE**

Suggested Break-In Jetting Specifications:

Carb	Jetting
34mm PJ	162/CGK/50
35mm PWK	160/CGK/50

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Break-In Procedure:

Start your engine, let idle, occasionally blipping throttle. Let warm four (4) to five (5) minutes, then allow to cool completely. Repeat process three to five times.

Warm engine again and ride for five (5) to seven (7) minutes at a very easy pace, do not exceed _ throttle or _ RPM. Let engine cool completely. This is very important. Now ride seven (7) to ten (10) minutes in the same manner.

Inspect nuts and bolts for looseness, check for leaks and listen for unusual noises. Recheck radiator coolant. Re-torque head nuts. Ride five (5) to ten (10) minutes at a moderate pace not exceeding _ engine RPM. **Be patient!** Let engine cool completely, and repeat twice.

Replace the spark plug with a new one, ride at an easy pace as before for five (5) minutes. Now make your jetting pass. Starting in second gear, ride full throttle shifting through fourth gear, fully revving out fourth gear, hit kill button, pulling clutch and stop. Remove spark plug. Porcelain part of spark plug should be dark chocolate brown; light brown or tan indicates lean condition. Richen jetting and repeat. Remember we have break-in jetting, so the plug should read dark.

Ride for ten minutes at an aggressive pace, but not allowing more than _ RPM (short shift). Let it cool! Warm engine and recheck jetting. If jetting is OK, repeat aggressive pace two to four more times.

Now warm engine and re-check jetting in sixth gear. If your jetting is still dark chocolate brown, lean one jet size at a time until you get a light chocolate brown. Look for this color deep down the porcelain. If your plug is tan, richen your jetting. If your plug is white, this indicates a serious problem. Don't run your motor until you correct the problem or call L.A. SLEEVE.

Ride for ten minutes at full race speed, kill engine at full throttle in fourth gear, full rev and re-check jetting. Re-torque head nuts.

If you're not racing or just practicing, run your jetting a little on the rich side. Your motor will last longer, and there's more margin for error.

If you are changing your gas mixture from straight race gas to a 50/50 mixture, re-check your jetting. This change would probably require one or two larger on the main jet.

Warm-Up Procedure:

This cylinder has 100% more cooling capacity than a stock cylinder. It is critical that proper time is allotted to warm-up of the engine to operating temperature before riding. If the engine is run hard before proper warm-up a cold seizure may occur.