



PLEASE FOLLOW ALL OF THE INSTRUCTIONS CAREFULLY
ADDING A 4MM STROKER CRANK

Things you need to consider when installing a 4mm Banshee Stroker Crank.

This is not an installation guide

Note: Rod length is irrelevant for the most part here.

Problem: **** Proper Cylinder Deck Height ****

Solution: A. Add a spacer plate under cylinders, this will give you a proper piston to head clearance, (.040 to .045) But, port timing will suffer and greatly effect performance.

B. Change piston pin height, this will give you a proper piston to head clearance, (.040 to .045) But, port timing will suffer and greatly effect performance.

C. Add a spacer to the top of the cylinder; this will give you a proper piston to head clearance, (.040 to .045) But, port timing will suffer and greatly effect performance.

Problem: **** correcting port timing ****

Solution: Set cylinder deck height and report cylinders to achieve the proper port timing for individual performance needs.

Explanation:

When you add stroke to an engine the piston travels a greater distance up and down the cylinder.

Example:

Adding 4mm to our stroke will make the piston travel 2mm higher and 2mm lower in the cylinder. This will affect our Porting in our cylinder in different ways depending on what method we use to get our deck height right. (if you where to measure your ports you will find that from the top of your cylinder to the bottom of your Transfer and Exhaust ports is the stroke of the engine "plus" any deck height difference, Meaning: On most engines the piston does not go all the way to the top of the cylinder deck at TDC (top dead center) so this will be added to out total number from the top of the cylinder to the bottom of our ports)

Example; ***** 54mm stock stroke= 54.5mm from deck to bottom of ports *****

All of our examples above; spacer plate under; piston pin height; or spacer on top; will need to have different things done to the porting to make them work properly. Some of these ways of getting the deck height right will never allow for the proper port timing.

Example: 2mm spacer under the cylinder, this will raise the cylinder so much in relation to the porting that you will never be able to get the transfer ports correct. By raising the cylinders 2mm you just raised all of the ports too high to get them into a proper area were they can be adjusted, without resleeving the cylinder, (you can't add material where there is none) I will try to explain further, by raising the cylinder up 2mm to get the pistons back to a proper deck, you made the piston at BDC go 4mm lower in relation to the porting. This means you would have to lower the transfers and exhaust ports 4mm to get them at BDC, the problem is that now the ports are way too high to have any kind of good transfer port timing. OK, let's cut to the chase here.... To get the proper port timing that will work GREAT you really need to have a qualified person set your Porting and deck height up. This means setting the cylinders, head, and porting according to what kind of performance is needed, Motocross, Drag Racing, whatever. This will give you the results that you are striving for. A 4mm Stroker Crank is an awesome way of getting HP but you need to get all of the important stuff right to get there. Good luck, Harry McDermott, Trinity Racing

If you need more information on this or any other subject please contact us at (909 373 3117)