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SUGGESTIONS FOR TEST PROGRAMME OF PROTOTYPE STRIKE J CNC CYLINDERS

As a result of the NKC meeting of 22 December, 2012, I believe that the decision was made to have further testing in addition to that supplied in the recent submission (24 October, 2011) by STRIKE. Pursuant to this, we would like to make the following suggestions:

To actually conduct the testing we suggest a couple of engine builders from the following:

- Stones Brothers. NSW
- J & A Tuning. VIC
- Gyrotune. Tas
- Flatout Karts. WA

The reason for nominating the above is that they are all well known engine builders with dynos who do a lot of J engines and as such would have a good database of engine performances and be able to assess the relative performance of the cylinder. One of these certainly does have a reference “bottom end engine” that is dedicated for cylinder comparison purposes. There are obviously others to choose from and it is clearly the NKC’s choice as to who to use. None of the above could be regarded as having an interest in either way as to the introduction of the cylinder, although it is conceded that Flatout might be regarded as being “local”. As there are 2 prototype cylinders available, it is suggested that the chosen engine builders run both of these during their test programme.

As to the actual testing, we have drafted a set of potential rules (see directly below) that would need to be conformed to.

“KTJ 1.02 Cylinder Machining:
All machined surfaces may be re-machined as long as engine is within any other specifications or any specific rules in Rule KTJ 1.03.

KTJ 1.03 Cylinder Ports:

Approved aftermarket cylinder is by STRIKE

KTJ 1.03.1. The following applies to the original Yamaha cylinder:
1. All cylinder ports and passages must be in as cast conditions. No grinding is permitted at the junction of the cast iron liner and the aluminium passages. The only exception being the

local grinding of the ejection pin protrusion in the inlet passage adjacent to the external cylinder face.
2. No chamfer on port edges is permitted.
3. Maximum diameter of inlet passage at the external cylinder face is 19.2mm.
4. Inlet tract length including gaskets from cylinder wall to carburettor gasket face to be 53.00mm

KTJ 10.3.2. The following applies to the STRIKE cylinder.
1. All cylinder ports and passages in the aluminium barrel must be in as cast conditions. No grinding, polishing, filing etc is permitted anywhere.
2. The only machining of the cast iron liner permitted is to the combustion chamber sealing face
3. No chamfer on port edges is permitted.
4. Maximum diameter of inlet passage at the external cylinder face is 19.2mm.
5. Inlet tract length including gaskets from cylinder wall to carburettor gasket face to be 53.00mm minimum to 56.00mm maximum including gaskets in front and behind phenolic spacer.
6. No material (ie, spacers, gaskets, shims or any material) may be added or removed to the interface under the shoulder of the flange of the cast iron liner in any attempt to move the liner."

It is suggested that the following procedure be used as a guide for the testing. At all times the same carburettor, exhaust, cylinder head, ignition etc be used to eliminate these as variables:

- Run the" very best J" engine available to the builder
- Fit the first Strike cylinder in a "low" position & test run
- Reset to the " very best J" cylinder timings & test run
- Reset to a "high" position & test run
- Repeat the above with the second J cylinder
- Write a simple report including the power curve graphs and any relevant comments

The engine builder would be under no obligations to disclose their "timings".

STRIKE would be willing to handle the transport etc of the cylinders to the chosen tester.

It is probably timely to reflect on the AKA decision in 2001 in Tasmania, where it was decided to only accept future engines with CNC machined cast iron liners. Obviously there has been a lot of history since that time, but there a lot of reasons to still support that decision.

Two current examples of issues arising from cast port edges can be seen from these two pictures:

The first shows a Comer cylinder where the roof of the exhaust port has been "peened" in an attempt to raise the port. With a layer of carbon over this, it would be difficult to detect this illegal modification.

The second shows a KT100S cylinder that has had some excessive (illegal) grinding, on the base of the inlet port, presumably to clean up some surface imperfections.

The STRIKE cylinder liner has CNC machined ports, which have been shown in other engines (eg Leopard) to eliminate all issues associated with port tampering.

We look forward to any feedback from the NKC to allow this project to go forward.

Yours Faithfully

Ken Seeber

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