

Kart Works Cylinder Head Instructions:

Precision machined valve seats:

Please do not ruin the fine machining finish by lapping the valves to the seats. We use Dykem blue to check the seat seal to the valve. Dykem blue is available from KBC, part number: 1-442-203. KBC is available on line at www.kbctools.com. This product has more dye than the Permatex Prussian Blue product.

To check valve seal to seat:

Place a very small amount of blueing on the valve face. Lower the valve into the guide and spin the valve with fingers to spread the blueing evenly onto the seat. Remove the valve and wipe the blueing off of the valve face. Lower the valve into the guide again and bounce the valve up and down a couple of times and then carefully remove the valve without touching the valve face. Examine the valve face and there should be a very thin layer of blueing where the seat contacts the valve face. The blueing line should be all the way out to the very edge of the valve. We do not use 'margins' in racing valve jobs, the valve seat is maximized to the very edge of the valve.

If you insist on lapping in the valve to the seat please use a 600 grit or finer compound. DO NOT USE compounds any coarser as the grooves cut by the compound will ruin the valve and seat. You can feel these grooves with a finger nail. The lapping process puts tiny scratches on the seat and valve and as the engine runs it tears at these grooves resulting in rapid seat wear until these grooves are pounded out. During this process valve seal is compromised. Upon tear down and inspection the valve face will have a groove worn into it which is caused by the valve lapping and break-in process this is why we do not recommend lapping.

Extremely fine lapping compounds are available on line at www.goodson.com.

Assembly check:

Install both valves and install just the valve spring retainer and lock(s), no valve springs. Check the top of the guide to bottom of the valve spring retainer to make sure that at full valve lift that there is a minimum of 0.75mm/0.030" clearance. We use a paper clip to measure this clearance. If there is not enough clearance machine top of guide flat with an end mill, do not use a drill bit.

Final assembly:

Clean head thoroughly with hot water and dish washer soap. Dry and lube the valve stem and guide with 5W20 Mobile 1 engine oil. No fancy lubricants please!

Assemble valve system and check for coil bind at full valve lift. There should be at least 0.5mm/0.020" coil clearance.

Installing Cylinder Head:

Clean head and block surfaces with lacquer thinners or equivalent. Clean the cylinder head gasket and install over dowel locators. Install cylinder head, the head should seat all the way to the gasket without force. Oil threads with 5W20 Mobile 1 engine oil and torque to specifications evenly and incrementally. We number the head bolts so they

always go into the same bolt hole during rebuilding. This saves the threads from having to reseal themselves in a different bolt hole.

Go Racing:

Check the valve lash setting after warm-up. Check valve lash again after first race day. Valve lash should not change for several race days. If valve lash changes inspect parts for wear.

We hope you like our product and please tell others. If you don't like our product please tell us!

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