



EDGE PERFORMANCE AS

Performance Camshaft for Rotax 912/914

(Normally Aspirated and Turbo versions)

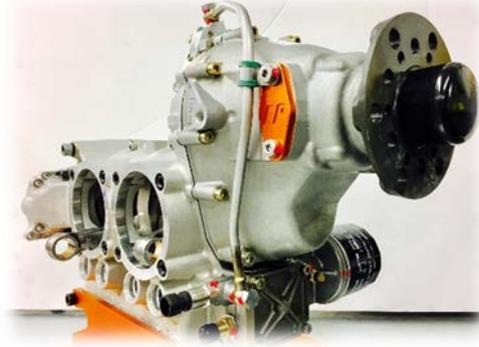
Installation manual



EDGE PERFORMANCE.NO

Introduction

- First of all, thank you for choosing EdgePerformance As as your performance supplier. We know there are other companies making such parts, but we are pleased to know that our devotement, quality and highly modern components and kits made you choose us as your supplier.
- The warranty from Rotax will be voided once the engine is modified. Any 12 months old engine is out of warranty.
- This installation manual covers the basic details on how to install the camshaft to complete a conversion. Pictures are for illustration purpose only. Always refer to the Rotax heavy maintenance manual or the Rotax overhaul manual for additional details. Do not proceed if you are in any doubt. Consult with your local dealer or with EdgePerformance As immediately.
- Common sense and good workmanship practice must be used throughout the conversion.
- Before starting the engine for the first time, use either a suitable break-in oil like Joe Gibbs, Royal Purple etc. or any other mineral grade motorcycle oil.
- IF IN DOUBT AT ANY STAGE OF THIS INSTALLATION, PLEASE ASK!



1. With the engine on the workbench, remove cylinder heads, cylinders, pistons, gearbox, water pump cover, flywheel, ignition housing and finally split the engine case half's. Ensure to take note if there are "C" or "D" bearing half shelves or a combination of both in each of the three crankshaft journals. This is handy to know when putting the engine back together, and ensures you do not have to measure all bearing cradles during re-assembly. Make sure to bag and tag all screws etc. to make the re-assembly as easy as possible.



2. With the stock camshaft out of the crankcase, you see that the camshaft drive gear and the water pump gear must be pulled off, and installed onto the performance camshaft.



3. Securely fix the camshaft in a vise with soft aluminum or plastic jaws. Use a 3-legged puller to pull off the water pump gear. Using a M10 socket head screw with a solid steel washer comes handy when pulling off the gears. Slip the bolt in at the end as shown on the picture in section 5. Slowly pull off the gear. If you are unable to pull it off, apply some gentle heat by a heating gun or a propane torch.



4. Make sure the puller “legs” are all the way in mating with the flange on the lower part of the gear.



5. Here you can see the M10 socket screw and washer in place.



6. Now with the water pump gear pulled off, the camshaft drive gear is next.



7. Pulling of the camshaft driver gear with the same 3-legged puller.



8. Ensure that the puller legs are all the way inwards to the camshaft.



9. With the drive gear off, use a pair of cutting pliers etc., to gently remove the woodruff key.



10. Both gears and the woodruff key, are now removed from the stock camshaft and is ready to be installed onto the performance camshaft.



11. Always measure the camshafts 3 bearing areas and gear sections before installing the gears and the camshaft into the engine.

Description	Code	Reading new		Wear limit	Wear limit	Readings
		min.	max.	100%	50%	
Camshaft Overhaul Manual chapter 12.4						
Diameter of bearing journal	(N1) CA01					actual
	(N2) CA02	29,957	29,970	29,920	29,939	actual
	(N3) CA03	1,1794	1,1799	1,1779	1,1787	actual
Camshaft out of round supported on the outer bearings CA01 and CA03	(N2) CA12	0,00	0,05	0,08	0,07	actual
		0,0000	0,0020	0,0031	0,0026	renewed

12. Camshaft tolerances. (29.957-29.970mm) CA01-CA02-CA03



13. Gently tap the woodruff key into the new camshaft with a small hammer. Preferably, with a copper or brass hammer. Ensure it sits centered and with slightly nose down to make sure it enters the groove cut into the gear smoothly.



14. When installing the drive gear, ensure that the chamfered end of the gear faces down towards the camshaft.



15. Use a suitable socket or make a sleeve on the lathe, and press the drive gear all the way down toward the mating flange on the camshaft using a hydraulic press. It may be good practice to slightly heat the gear with a propane torch and putting the camshaft into the freezer for 10-15 minutes. Ensure to slightly lubricate the gear and camshaft with engine oil before pressing the gear onto the camshaft.



16. Be careful and ensure the woodruff key aligns with the woodruff cutout on the driver gear.



17. The gear shall slide all the way down to the mating surface on the camshaft.



18. Next, install the water pump cam gear. Be sure that the gear enters straight. Slightly lube the cam and gear before pressing it onto the camshaft. Slight heat may be applied.



19. Water pump gear is now properly installed.



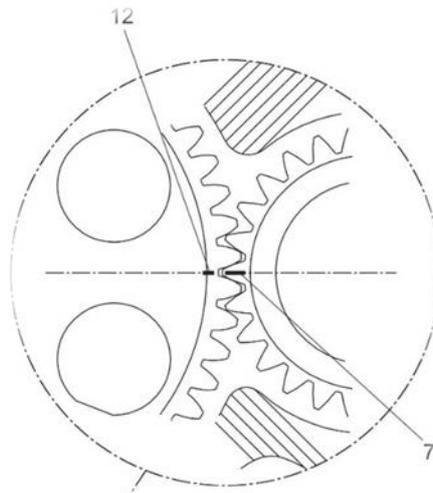
20. The gear face and the camshaft should be leveled.



21. When installing the camshaft back into the case half 1/3, make sure to align the timing marks on the camshaft and crankshaft.



22. Apply “Liqui Moly LM48 Assembly lube” or other similar camshaft lubrication to the three cam bearings.



23. Timing marks.

- 24. Once the engine is ready to be put back into operation, add break-in oil or mineral grade motorcycle oil.
- 25. Install a new oil filter and clean the magnetic plug.
- 26. Run the engine on the ground for 30 minutes at various engine rpm`s before performing the first test-flight.
- 27. Carefully monitor oil pressure and oil temperature during the first hours of operation.
- 28. After 25-hours, removed and inspect oil filter and magnetic plug. Open the oil filter and inspect the paper insert for metal debris or chips. Inspect the magnetic plug as well.
- 29. Unless anything abnormal is found at the 25-hour inspection, return to the 50 or 100-hour service intervals.