KELFORD CAMS®

GIVING YOU THE POWER TO WIN

RACING CAMSHAFT SPECIFICATIONS

ENGINE MAKE:	TOYOTA
ENGINE MODEL:	2RZ-3RZ
SUPPLIED TO:	
CAMSHAFT PART NUMBER:	1022079
SPEC CARD NUMBER:	161096

VALVE CLEARANCE:	INTAKE	0.008"	SET	COLD	AT THE	CAM
	EXHAUST	0.010"	SET	COLD	AT THE	CAM
CAM LIFT:	INTAKE	0.390"	EXHAUST	0.373"		
*ROCKER RATIO:	INTAKE	1	EXHAUST	1		
NETT VALVE LIFT:	INTAKE	0.382"	EXHAUST	0.363"		
ADVERTISED DURATION @ 0.008"	INTAKE	256	EXHAUST	252		
DURATION @ .050" VALVE LIFT	INTAKE	224	EXHAUST	218		
TIMING @ .050" VALVE LIFT	IVO	2 BTDC	EVO	39	BBDC	
	IVC	42 ABDC	EVC	1	BTDC	
SUGGESTED CENTRELINES	INTAKE	110 ATDC	EXHAUST	110	BTDC	
VALVE LIFT @ TDC:	INTAKE	0.058"	EXHAUST	0.047"		

RECOMMENDED PRODUCTS:

Valve Springs: KVS180	Closed Height	Pressure	Open Height	Pressure

ADDITIONAL INFORMATION:

Application: Stage 3. 31mm bucket. Shim under conversion.

For additional camshaft installation tips and general technical information visit: **www.kelfordcams.com**

Congratulations on purchasing a new high performance Kelford race cam!

We are a company dedicated to helping our customers win. To help us achieve this we need your feedback. Please take a few minutes to visit our website www.kelfordcams.com to check out our online community where you can post feedback, videos, photos etc.

161096

Please visit our website, www.kelfordcams.com to register your spec number and activate your warranty.

KELFORD CAMS®

HIGH PERFORMANCE CAMSHAFT SPECIALISTS

Installation instructions and warranty information

IMPORTANT INFORMATION PLEASE READ CAREFULLY

1. Kelford camshafts must be installed and 'timed in' by a qualified tradesperson. Follow the vehicle manufacturer's instructions for removal, re-fitting and torque specifications of any part. Follow this specification sheet for valve timing and lash settings as they may have changed from the manufacturers setting.
2. Whilst our company tries to ensure that every item supplied is suitable for the intended application, often this is out of our control and therefore the final responsibility of product suitability rests with the person installing the item.
3. Kelford camshafts are coated with a packaging preservative and therefore must be cleaned and inspected thoroughly prior to installation. Also, check for any possible handling or transit damage prior to installation.
4. When fitting any new camshaft, where applicable, replace the rocker, lifter or roller that runs against the camshaft. For non roller engines, make sure that the contact surface of the lifter or rocker has a fine surface finish (less than 4RA).
5. It is extremely important that the valve spring used has the correct open and closed pressure and has adequate clearance to coil bind. It is important to use the matching Kelford valve spring or ask our advice if unsure .
6. In non roller cam engines, where a heavy dual spring is being used, it is necessary to perform the cam run in procedure using the outer springs only.
7. Time the camshaft to the crankshaft using the correct cam timing method for your engine type. Information on methods of cam timing can be found on our website.
8. Be sure that you check valve to valve, valve to piston, valve to block and all valve train clearances, as these will change with the use of a high performance camshaft.
9. Check the condition of your timing gears and chain or belt. A race quality timing set maybe required. Check any drive gears that mate to the camshaft, such as distributor and oil pump drives. Replace where necessary.
10. In some cases the base circle diameter of your cam may have changed. If so, check things such as hydraulic lifter preload, rocker geometry and cam to rocker wipe pattern.
11. For all direct acting, flat tappet or finger follower engines, lubricate the cam lobes and follower contact face with the camshaft lube supplied. DO NOT use engine oil on the lobes, (only on the journals). Rub the lubricant into the camshaft and the corresponding lifter or rocker thoroughly, dont just drizzle it on.
12. If possible, prime the oiling system (relevant to engines where the oil pump can be turned independently of the engine). Prime the fuel system and pre-set the ignition correctly so that the engine starts instantly. Prolonged low speed cranking can wipe the assembly lube off the cam and cause dry scuff which will result in parts failure.
13. If you are using running in oil to break in the rings and the cam, be sure to take it easy on the engine until you change the running in oil out for premium quality engine oil. Conventional passenger car oils are no longer good enough; you must use either polyester synthetic or high zinc mineral racing oils, depending on your application.
14. On initial start-up do not let the engine run below 1500 rpm. To break in the camshaft run the engine at 1500-2500 rpm for at least 20 minutes (applies to non-roller camshafts).

WARRANTY POLICY

Kelford Technologies Ltd warrants that when our products are properly installed in their correct application by a qualified tradesperson, they will be free from defect in material and workmanship. Warranty will be void on all products that show evidence of improper application or installation, abuse, lack of proper maintenance, alteration from the original configuration or not used in conjunction with the specified matching components and suitable motor oil. Whilst our company tries to ensure that every item supplied is suitable for the intended application, the final responsibility of product suitability rests with the person installing the item. Kelford Technologies Ltd's warranty will not apply to watercraft that are not capable of being transported by trailer and exceed eight meters in length.

If a problem should occur, please contact Kelford Technologies Ltd's technical department to arrange inspection and report.

This Limited Warranty applies only to the original purchaser of the product and only covers the replacement or repair of the product at Kelford's discretion. Due to the unusual stress placed on these racing components and because we have no control over how they are used the company shall not be responsible for any damage caused by defects or failure of parts. The company shall not be responsible for any consequential damage, injury or death arising from any cause whatsoever, nor for labour, transportation or any other related incurred costs due to the replacement or repair of the defective products.

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