



WHAT CAM IS RIGHT FOR YOUR ENGINE BUILD?

Important Q&A For Correct Camshaft Selection

- **What application is the vehicle to be used for?**

Kelford Cams ask this as it will usually paint a picture on the operating range of the engine, a tough street car still wants to have a strong mid-range to pull through the gears while a drag car can run a narrow power band high in the rev range around peak power. If it is a daily driver then idle quality and “off-idle” acceleration are important too. This can help determine the “size” of the cams.

- **What horsepower are you hoping to achieve?**

In a similar vein to the application, the horsepower target will help determine the “size” of the cams. It helps narrow the specs down again dependant on specific application. A 2.0lt 300hp turbo street car and a 3.0lt 1700hp turbo drag car have very different requirements, but a 2.0lt 300hp N/A and that same 1700hp turbo drag car may actually have similar cams specs

- **What powerband/rpm are you trying to achieve?**

This helps to determine the duration of the cams, typically shorter duration cams are suited to lower RPM ranges and longer duration cams are suited to higher RPM ranges. Or perhaps a narrow operating band but high torque is required for say a jet boat, or a wider torque band for smoother power delivery in a traction limited race class. This will also help with other parts such as follower and valve spring selection

- **What turbo are you running? (if applicable)**

Of course this is only relevant if you are running a turbo (or Supercharger) and is useful to try and work out with the application and power target are achievable by the turbo frame size. Housing sizes can influence powerband and torque band, so trying to compliment this with cam profiles is important.

- **What fuel are you running?**

This is useful to determine if any extra cam or valve timing is required to compensate for the density of the fuel in the intake charge. Say converting from a petrol based engine to a methanol fuel will

increase how much fuel is physically in the intake charge travelling through the head and in some cases needs to be accounted for. It is also useful for determining power output capability of the combo.

- ***Brief run down on the combo (stroker, head work, intake/exhaust etc...)***

This helps with determining what the combo is capable of and what constraints it may have. It may be a long stroke engine that has a limiting piston speed for RPM, or maybe it's just completely stock from the air filter to the muffler and too much cam would only hurt performance

- ***Brief run down on gearing (stock, H pattern, sequential etc...)***

This is helpful as it can help fine tune the cam timing requirements, a heavier car with less gears or long gearing might want something a little shorter in duration and tighter on lobe separation to maximize torque to move the car, where a light car with tight gearing can make more use of a shorter power band that is more suited to high end power at the expense of mid-range torque. It can also help with valve train recommendations such as dealing with the BANG! from the exhaust on the upshift of a sequential gearbox application

If we are able to get all of this info to begin with we can help you with selecting the best suited set of cams and associated valve train parts to give the best performance for your setup specifically.