DKS Cams "Degree-in" Tip Sheet

FULLY READ BEFORE STARTING PROCEDURE

So it's time to degree-in those DKS cams of yours, eh? Well, this tip sheet will help you get started.

Since DKS cam lobe profiles mimic those of HKS's, the valve events are going to be the same for optimum results across the board. Of course this is a baseline…a place to start as all cams will need adjustment in the valve opening and closing events for the highest amount of power in the band that you need it most in. A dyno is the only place to accurately dial that in.

Tips are listed in the order of which they should be completed.

DID YOU FOLLOW OUR CAM INSTALLATION INSTRUCTIONS?

These instructions also assume that you already have your cams installed properly. If you have any questions about the installation procedure of our cams, we're sure that they can be answered on our site within the "Knowledge Base" page. Just click on the "DKS Cams Install Instructions" link to open a pdf file for viewing/printing. Those very same instructions are also included with every DKS purchase, but perhaps you lost them…or you bought your cams second-hand. Life happens. Either way, that's where you can find the installation instructions of our camshafts.

PISTON-TO-VALVE CLEARANCING

You will need to pay attention to what your piston-to-valve clearances are BEFORE ANY sort of degreeing-in is to be done. You absolutely NEED to know how much range of motion you have on your cam gears before bad things can happen between your valve and piston.

We check this at 15 degrees ATDC on the intake side and 15 degrees BTDC on the exhaust side. Turn your cam gear to either "Advance" or "Retard" from the "zero" mark (depending on which cam you are doing) with a dial indicator set at the tip of the valve and see how many degree marks you can get at the cam gear before the valve kisses the piston…then back off to what you want your piston-to-valve clearance to be on that particular side. Make note on the cam gear to what that number is…write it down. Don't lose it. That is your maximum degrees you can go at the cam gear. Then move on to the other side.

We shoot for a minimum of.080" of piston-to-valve clearance on the intake side and .100" of piston-to-valve clearance on the exhaust side. You can run a bit tighter if you're confident with your measurements, but we don't recommend it.

If using aluminum rods, you also need to account for .010" of stretch. If using OUR aluminum rods, this stretch is already accounted for as we design our rods .010" shorter than factory. Genius!

You might be one of the lucky ones where your pistons are flycut deep enough and wide enough to not have ANY interference at full range (Advance and Retard) of the cam gears. If so, then great! You have nothing to worry about on the dyno when twirling those cam gears around to tweak your power band.

Without knowing these vital little tidbits, you're going in "blind". Don't be an ignoramus. Get those numbers. THEN degree-in. Knowledge is power.

DEGREE TIME

The most practical method that we have found when degreeing the DKS's is to simply shoot for the valve opening number instead of using the "lobe centerline method" of cam degreeing. We feel that when the valve opens in relation to the crank's position is where adjustments are to be made to net the fullest gain of what the cams can do. It is a reliable, easy method to use. You can't change the duration of the cams…you merely "move it around".

1. *Remember…valve opening is at .040"…not the most commonly used measurement of ".050".*

2. *Degree-in cams using solid lifters. Hydraulics bleed and will not give you an accurate reading. You will only need two of them. One for an intake valve and the second for an exhaust valve when degreeing-in. It is not necessary to have 16 solid lifters in order to do this job.*

- **DKS2 Camshafts Cam Card**

272 Intake

Max Valve Lift: .4055"
Centerline at 0mm valve lift 105 deg
Intake Valve timing at .040"
Valve opens at 6 deg BTDC
Valve closes at 32 deg ABDC
Lobe Centerline 103 deg
Duration: 218

272 Exhaust

Max Valve Lift: .3858"
Centerline at 0mm valve lift 111 deg
Exhaust Valve timing at .040"
Valve opens at 36 deg BBDC
Valve closes at 2 deg ATDC
Lobe Centerline 107 deg
Duration: 218

- **DKS3 Camshafts Cam Card**

280 Intake

Max Valve Lift: .4055"
Centerline at 0mm valve lift 105 deg
Exhaust Valve timing at .040"
Valve opens at 10 deg BTDC
Valve closes at 36 deg ABDC
Lobe Centerline 103
Duration: 226

280 Exhaust

Max Valve Lift: .3858"
Centerline at 0mm valve lift 111 deg
Exhaust Valve timing at .040”
Valve opens at 40 deg BBDC
Valve closes at 6 deg ATDC
Lobe Centerline 107 degrees
Duration: 226

Lock the gears down when happy. Done.

DYNO TIPS: Closing up your lobe separation will usually give you more low to mid-range power. Increasing lobe separation will usually give you more mid to top end power.

BREAK-IN PROCEDURE

Once everything is all degreed, buttoned up, and you’re ready to start the car, it would be a good idea to “prime” the head by disconnecting the coil pack and having a buddy crank the motor over till you see oil squirting from the rockers. You will be able to see this with the filler cap removed and looking in that way. Once you see fresh oil being pumped up over the rockers, then she’s ready to put the fire to it. In fact, if you’re degreeing in cams, chances are, you will be priming the entire motor for “new start” anyway. So theoretically, priming should go without mentioning in this particular case.

Run car at 2000-2200 RPM for 15-20 minutes for the break-in period. Bump the throttle every minute or so up to 3000-3400 RPM. Avoid excessive cranking when starting or else all the lube will be squeezed off of the cam's lobes and hinder the break-in procedure!

If you have ANY DOUBT AT ALL with these instructions, then please contact us for help! Seriously!
darren@ffwdconnection.com

Thank You for your support and happy boosting!

Warranty Disclaimer: Due to the intended use, there is NO warranty stated or implied to Racing Components, as we have no control over their installation or use.