

# 4603023

full race

Opel X20XE big block ecotec (X18XE-2.0L-2.2L)

I-4cyl 2.0L 16v DOHC (DTH/DTH)



**intake**                      **exhaust**

**camshaft data:**

lash ramp	: 0.20mm	0.20mm
duration @ 0.1mm	: 307°	298°
duration @ 1.0mm	: 268°	260°
valve lift	: 13.00mm	12.50mm
cam lift	:	
lobe angle	: 104°	104°
timing @ 1.0mm	: 30° / 58°	54° / 26°
valve lift @ TDC	: 5.10mm	4.50mm

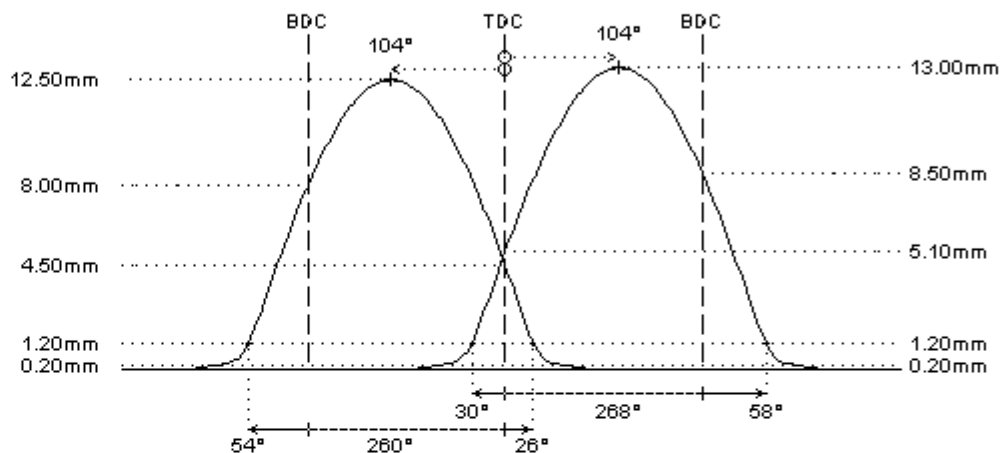
**parts setup:**

cam wheels :	:  CTOPK01	:  CTOPK01
follower	:  CC004	:  CC004
valve lash	:  TS101	:  TS101
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	:  99145/H	:  99145/H
lower retainer	:  remove	:  remove
exterior spring	:  PAC-E92009	:  PAC-E92009
interior spring	:  PAC-I92009	:  PAC-I92009

fitted load / length	: 35kg @ 33.0mm	: 35kg @ 33.0mm
max. load / lift	: 97kg @ 12.5mm	: 97kg @ 12.5mm

**REMARKS :**

# replace OEM lower retainer to obtain a correct installation / fitted length (currently not available)



**REMARKS :**

- # - camshafts for use in X18XE-2.0L-2.2L long block 'ecotec' engines
- # - valve clearance is to be adjusted using mechanical lash caps  
- please make sure that the lash cap does not touch the valve locks !
- # FOR COMPETITION APPLICATIONS ONLY. Following details must be verified:
  - the camshafts must turn smooth in the cylinderhead, provide free travel by machining where needed
  - distance between valve seal and retainer at full lift must be 0.6mm at least
  - minimum valve spring travel of 1.0mm at full lift must be provided
  - distance between valve and piston 1.0mm (pref. 1.5mm). check 5-15° before TDC on exhaust, and after TDC on intake
- # ONLY for use in competition engines with independent engine management (throttle position sensor) or carburetors