

# 4602532

tarmac rally - race

Opel X16XEL small block ecotec (1.4L-1.6L-X18XE1-Z18XE)

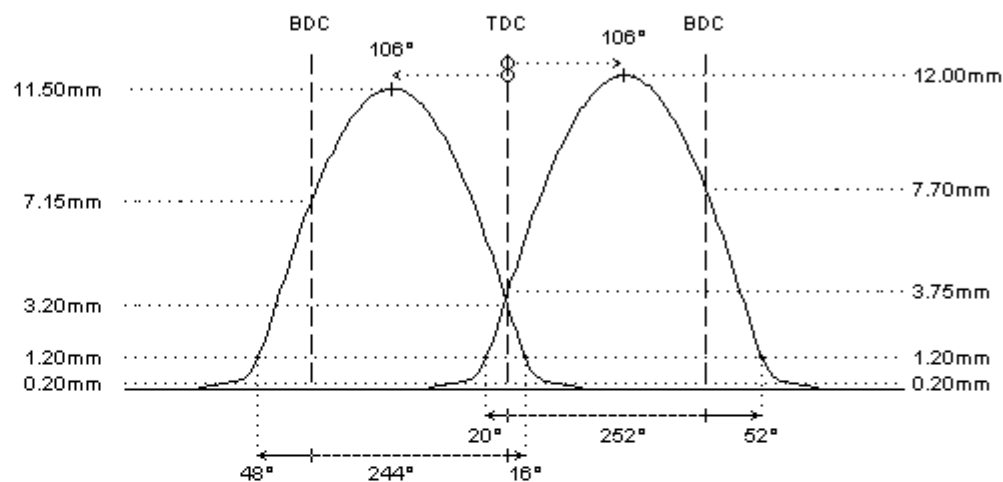
I-4cyl 1.6L 16v DOHC (DTH/DTH)



	intake	exhaust
<b>camshaft data:</b>		
lash ramp	: 0.20mm	0.20mm
duration @ 0.1mm	: 290°	282°
duration @ 1.0mm	: 252°	244°
valve lift	: 12.00mm	11.50mm
cam lift	:	
lobe angle	: 106°	106°
timing @ 1.0mm	: 20° / 52°	48° / 16°
valve lift @ TDC	: 3.75mm	3.20mm
<b>parts setup:</b>		
cam wheels :	CTOP015	CTOP015
follower	CC004	CC004
valve lash	TS101	TS101
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	99245/s	99245/s
lower retainer	remove	remove
exterior spring	PAC-E92009	PAC-E92009
interior spring	PAC-I92009	PAC-I92009
fitted load / length	: 33kg @ 34.0mm	: 33kg @ 34.0mm
max. load / lift	: 92kg @ 12.5mm	: 92kg @ 12.5mm

### REMARKS :

- # if required, machine cylinder head and / or use solid shims to adjust spring load
- # for engines with 6mm valves (not adapted for X18XE1, Z18XE: 5mm valves!)



### REMARKS :

- # - camshafts for use in 1.4L-1.6L-X18XE1-Z18XE short block 'ecotec' engines
- CAUTION: Opel has fitted different types of sprockets and camshafts with different dowel pin positions and cam lobes. Therefore it is required to check the std camshafts before ordering for sports applications!
- # - 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