

4601513

hot street - dirt track

Opel CIH 16v (1.6 > 2.4L)

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



intake

exhaust

camshaft data:

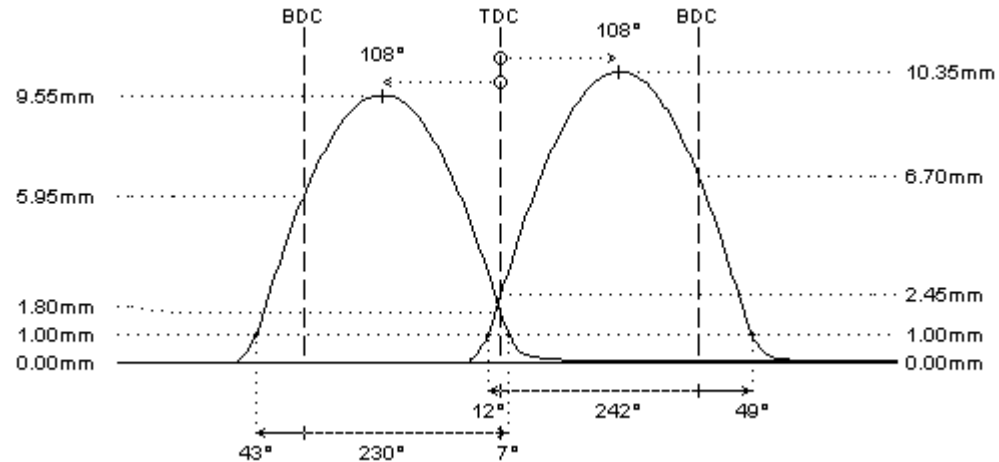
lash ramp	: hydro	hydro
duration @ 0.1mm	: 286°	288°
duration @ 1.0mm	: 241°	230°
valve lift	: 10.35mm	9.55mm
cam lift	:	
lobe angle	: 108°	108°
timing @ 1.0mm	: 12° / 49°	43° / 7°
valve lift @ TDC	: 2.45mm	1.80mm

parts setup:

cam wheels :	:	:
follower	: O.E.M.	: O.E.M.
valve lash	: O.E.M.	: O.E.M.
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	: O.E.M.	: O.E.M.
lower retainer	: O.E.M.	: O.E.M.
exterior spring	: O.E.M.	: O.E.M.
interior spring	:	:

fitted load / length	: 28kg @ 33.8mm	: 28kg @ 33.8mm
max. load / lift	: 72kg @ 10.5mm	: 72kg @ 10.5mm

REMARKS :



REMARKS :

- # - steel billet camshafts
- for use in shortened 6cyl 24v head on 4cyl CIH engine block
- # 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 dirt track applications and pro street use with adjustable engine management or carburetors

4601515

tarmac rally - race

Opel CIH 16v (1.6 > 2.4L)

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



intake

exhaust

camshaft data:

lash ramp	: 0.25mm	0.25mm
duration @ 0.1mm	: 305°	301°
duration @ 1.0mm	: 262°	254°
valve lift	: 13.00mm	12.50mm
cam lift	:	
lobe angle	: 105°	105°
timing @ 1.0mm	: 26° / 56°	52° / 22°
valve lift @ TDC	: 4.55mm	4.05mm

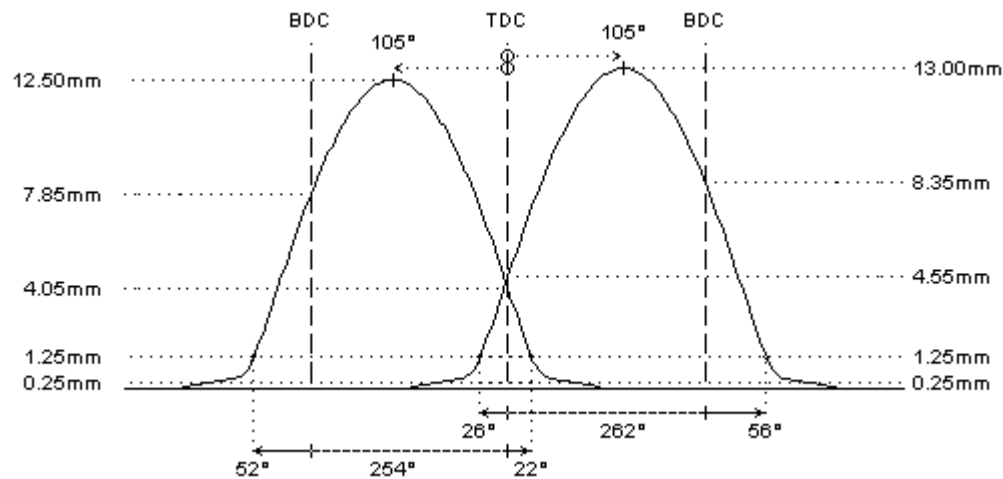
parts setup:

cam wheels :	:	:
follower	: CC004	: CC004
valve lash	: TS102	: TS102
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	: 99341	: 99341
lower retainer	: remove	: remove
exterior spring	: PAC-E92009	: PAC-E92009
interior spring	: PAC-I92009	: PAC-I92009

fitted load / length	: 30kg @ 34.0mm	: 30kg @ 34.0mm
max. load / lift	: 92kg @ 12.5mm	: 92kg @ 12.5mm

REMARKS :

remove std lower retainer and use solid shims to adjust spring load (1.5mm approx.)



REMARKS :

- # - steel billet camshafts
- for use in shortened 6cyl 24v head on 4cyl CIH engine block
- # valve clearance is to be adjusted using mechanical lash caps. these can have different shapes according the application:
 - plates available in different diameters and thickness
 - cups for different valve stem diameters. these center on either tappet or valve stem
 - other specific shapes available on request
- # 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

4601521

full race

Opel CIH 16v (1.6 > 2.4L)

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



intake

exhaust

camshaft data:

lash ramp	: 0.25mm	0.25mm
duration @ 0.1mm	: 317°	305°
duration @ 1.0mm	: 270°	262°
valve lift	: 13.50mm	13.00mm
cam lift	:	
lobe angle	: 105°	105°
timing @ 1.0mm	: 30° / 60°	56° / 26°
valve lift @ TDC	: 5.10mm	4.55mm

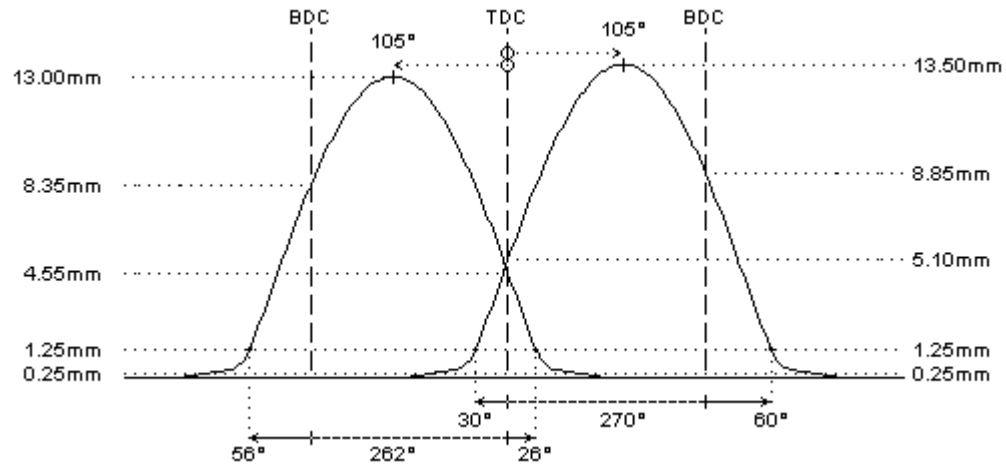
parts setup:

cam wheels :	:	:
follower	: CC004	: CC004
valve lash	: TS102	: TS102
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	: 99341	: 99341
lower retainer	: remove	: remove
exterior spring	: PAC-E92009	: PAC-E92009
interior spring	: PAC-I92009	: PAC-I92009

fitted load / length	: 30kg @ 34.0mm	: 30kg @ 34.0mm
max. load / lift	: 92kg @ 12.5mm	: 92kg @ 12.5mm

REMARKS :

remove std lower retainer and use solid shims to adjust spring load (1.5mm approx.)



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 - 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
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4601525

hot street - dirt track

Opel CIH 16v (1.6 > 2.4L)

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



intake

exhaust

camshaft data:

lash ramp	: 0.25mm	0.25mm
duration @ 0.1mm	: 301°	293°
duration @ 1.0mm	: 254°	246°
valve lift	: 12.50mm	12.00mm
cam lift	:	
lobe angle	: 105°	105°
timing @ 1.0mm	: 22° / 52°	48° / 18°
valve lift @ TDC	: 4.05mm	3.50mm

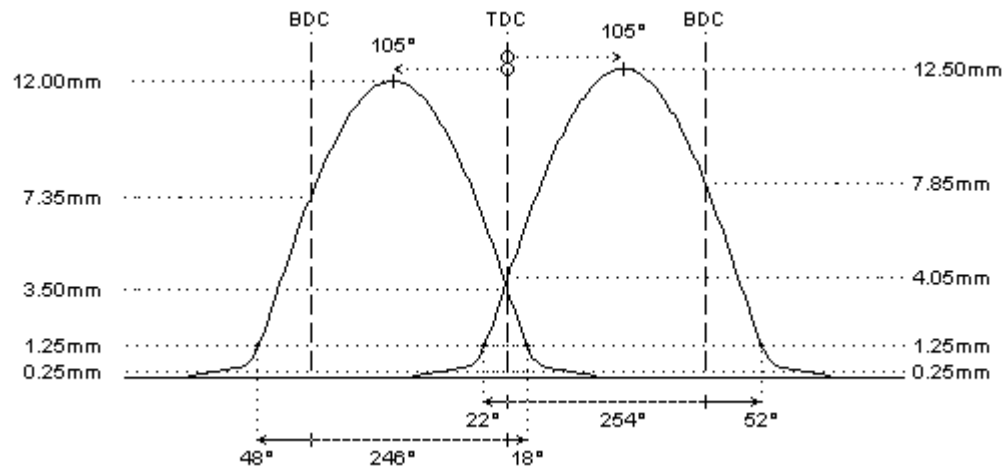
parts setup:

cam wheels :	:	:
follower	: CC004	: CC004
valve lash	: TS102	: TS102
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	: 99341	: 99341
lower retainer	: remove	: remove
exterior spring	: PAC-E92009	: PAC-E92009
interior spring	: PAC-I92009	: PAC-I92009

fitted load / length	: 30kg @ 34.0mm	: 30kg @ 34.0mm
max. load / lift	: 92kg @ 12.5mm	: 92kg @ 12.5mm

REMARKS :

remove std lower retainer and use solid shims to adjust spring load (1.5mm approx.)



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 - 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
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4601526

hot street - dirt track

Opel CIH 16v (1.6 > 2.4L)

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



intake

exhaust

camshaft data:

lash ramp	: 0.25mm	0.25mm
duration @ 0.1mm	: 293°	284°
duration @ 1.0mm	: 246°	238°
valve lift	: 12.00mm	11.50mm
cam lift	:	
lobe angle	: 105°	105°
timing @ 1.0mm	: 18° / 48°	44° / 14°
valve lift @ TDC	: 3.55mm	3.00mm

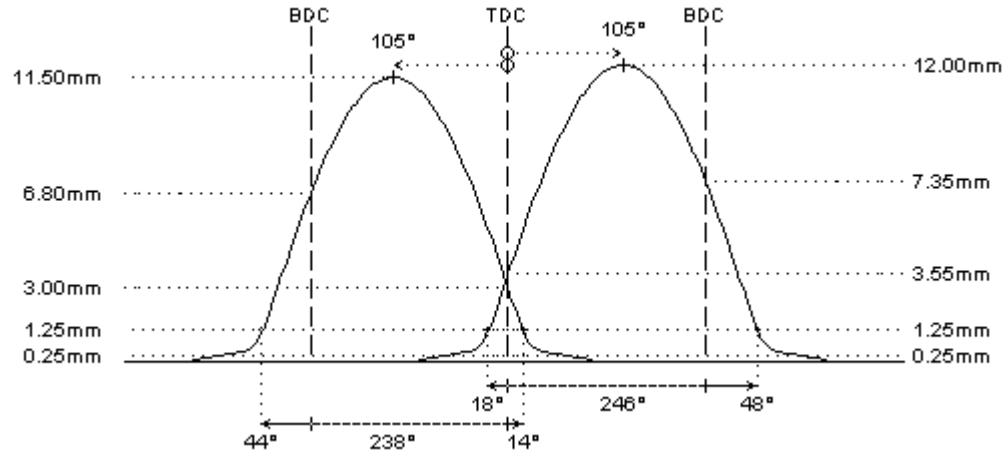
parts setup:

cam wheels :	:	:
follower	: CC004	: CC004
valve lash	: TS102	: TS102
valve	: O.E.M.	: O.E.M.
valve locks	: O.E.M.	: O.E.M.
upper retainer	: 99341	: 99341
lower retainer	: remove	: remove
exterior spring	: PAC-E92009	: PAC-E92009
interior spring	: PAC-I92009	: PAC-I92009

fitted load / length	: 30kg @ 34.0mm	: 30kg @ 34.0mm
max. load / lift	: 92kg @ 12.5mm	: 92kg @ 12.5mm

REMARKS :

remove std lower retainer and use solid shims to adjust spring load (1.5mm approx.)



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