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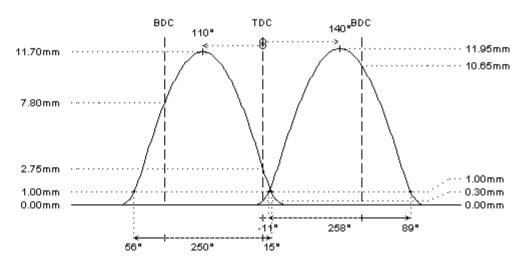
tarmac rally - race

Renault F4R.830 Clio III (VVT in, 197hp) I-4cyl 2.0L 16v DOHC (RPRH/RPRH)



	intake	exhaust	
camshaft data:			
lash ramp	: hydro	hydro	
duration @ 0.1mm	: 293°	285°	
duration @ 1.0mm	: 258°	251°	
valve lift	: 11.95mm	11.70mm	
cam lift	: 6.05mm	5.90mm	
lobe angle	: 140°	110°	
timing @ 1.0mm	: -11° / 89°	56° / 15°	
valve lift @ TDC	: 0.30mm	2.75mm	
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	: NAC-E99862	: NAC-E99862	
interior spring			
fitted load / length	: 31kg @ 34.5mm	: 33kg @ 34.0mm	
max. load / lift		: 85kg @ 12.5mm : 85kg @ 12.0mm	
		&	





REMARKS:

- # camshafts for use with VVT on intake (like original)
 - adjustable sensor ring [ref. 99025] on intake camshaft included
- # The VVT system on the intake camshaft changes the cam timing continuously (and so the lift at TDC):
 - 1st intake valve: 140° (disengaged) // 97° (engaged)
 - 2nd intake valve: 144° (disengaged) // 101° (engaged)
 - 1st exhaust valve: 110° (no VVT)
 - 2nd exhaust valve: 106° (no VVT)

The centerlines are identical to the original camshafts.

Please make sure there is enough distance between valve and piston when the VVT system is engaged.

- # VVT reprogramming, operating range adjustment or even eliminating the VVT system should be considered for camshafts with increased duration
- # FOR COMPETITION APPLICATIONS ONLY. Following details must be verified:
 - the camshafs 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 carburettors