

## 4G63 VCAM SYSTEM STEP Pro

### < Features >

V CAM SYSTEM adds variable valve timing control system to fixed valve timing engine.

It increases torque at low and middle rpm and improves combustion condition that enables clean exhaust gas. It is the ultimate camshaft tuning to evolve to the next generation engine.

V CAM SYSTEM Pro has billet camshafts for further performance. Proofed technology of V CAM SYSTEM Pro for RB26DETT is now for 4G63.

- V CAM SYSTEM adds variable valve timing control system to engines of EVO IV – VIII MR.
- typeA (Variable range 30 ° / Camshaft Duration 264 ° ) fits to stock engine. typeB (Variable range 40 ° / Camshaft Duration 280 ° ) requires forged piston.
- Both typeA and typeB are specially designed billet VCAM.  
With variable valve timing system, the performance will easily exceeds stock engine from low to high rpm range.
- Increased torque at low and middle rpm is a big advantage at any situations.  
Even if gear position is not changed, the vehicle will be easily accelerated.
- Increased torque from vacuum to boost increasing area is like increased engine displacement.
- typeA can be used with stock engine and turbocharger.
- typeB can be used with piston of HKS 4G63 2.3L KIT and recommended for big turbocharger such as GT Special Full Turbine Kit (GT3037S).
- Optimized valve timing will improve combustion condition, which enables better fuel consumption and clean exhaust gas.

Parts in the kit	typeA	typeB
Camshaft	V CAM 264 ° 10.8mm 90-120	V CAM 280 ° 10.8mm 85-125
Variable valve timing unit	Variable angle 30 °	Variable angle 40 °
Head cover	Special head cover (W/O paint)	Special head cover (W/ paint HKS RACING Green)
Valvetiming control	Valve timing controller "VALCON Pro".	
MISC	Oil control solenoid valve	
	Camshaft angle sensor	
	Other parts	
Other required parts/modification	typeA	typeB
Valve spring	Replace with HKS (-EVO7) Stock (EVO8/MR)	
Piston	Stock	HKS 2.3L *1
Oil pump	Stock *2	
Modification of cylinder head	Not required	

\*1 Currently, only HKS 2.3L KIT can be used for typeB.

Other HKS Piston Kit will be redesigned to be applicable.

\*2 At least 2kg/cm<sup>2</sup> of oil pressure is required to activate. (Low viscosity oil cannot be used.)

Side G-Force causes slanting oil in oil sump and when oil pressure is decreased, it may not work. In this case, engine needs to be modified.

#### [ Other required parts ]

typeA Exhaust Camshaft --- Select a proper camshaft for EVO7 or 8.

< Recommendation Stock : 264 ° or 272 ° , GT3037S : 272 ° or 280 ° >

Oil Line (Between Outlet of engine and Cam cover)

For EVO7 or earlier model, HKS Valve Spring

typeB In addition all items required for typeA, HKS 2.3L Piston

#### < Remarks for installation >

- Removal of cylinder head is not required. (Same as replacement of ordinary camshaft)
- Ensure to check valve timing.  
Valcon Pro is pre-programmed. The data is for HKS Pressure sensor [4299-RA008].
- Measure Valve – Piston clearance. If cylinder head is shaved to change compression ratio, stock piston cannot be used.
- Silicon grease, torque wrench, Vernier calipers, dial gauge and tool to check valve timing are required.
- Re-setting of valve timing, fuel and ignition control are required as volume of air compression will be changed when valve timing is changed.

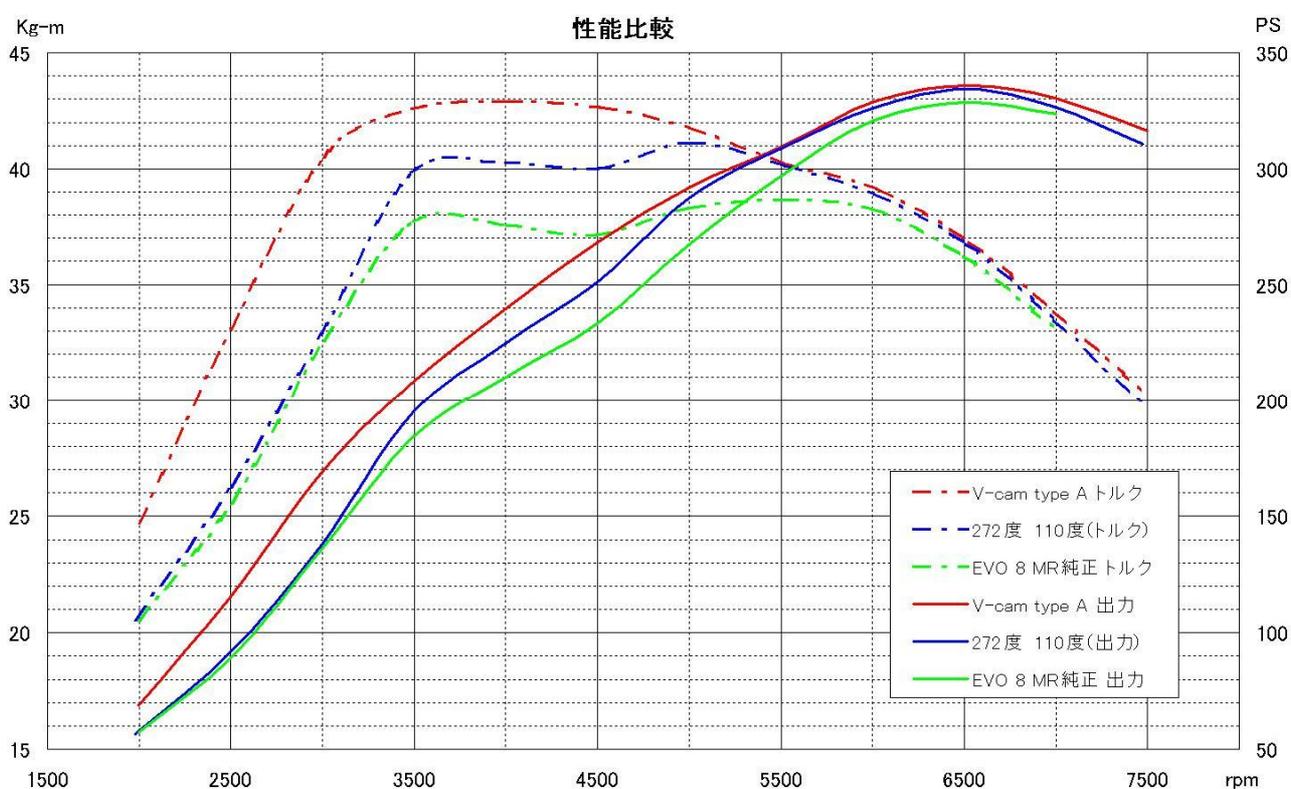
#### < Remarks for operation >

- Maximum rpm : 7600rpm (Stock revolution limitation)

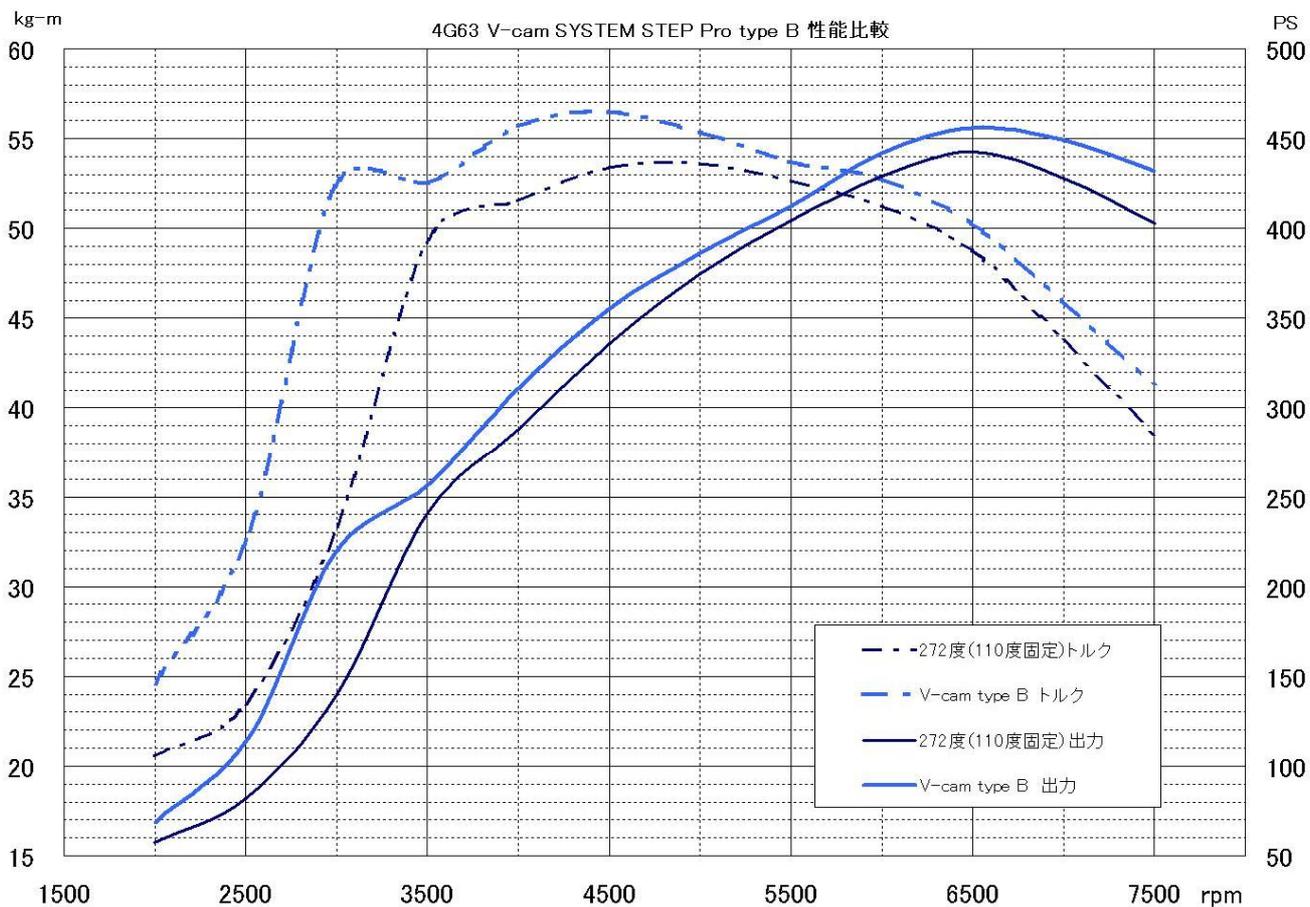
- Oil pressure : When oil viscosity is decreased, oil pressure will not be enough and valve timing cannot be the target value.
- Water temperature : Valve timing is not advanced at below 20 .
- Specified oil : HKS SUPER Premium RACING, HKS Premium PRO, HKS SUPER TURBO RACING, HKS SUPER TURBO RACING PRO.
- Timing Belt : Check wear and tension every 10,000km.

< Performance > Stock turbine

Comparison : VCAM SYSTEM type A, HKS 272 ° , EVO8MR Stock



Comparison : VCAM SYSTEM typeB and HKS 272 °



Vehicle	Model	Engine	Model Year	Remarks
LANCER EVOLUTION IV-VIII MR	CN9A CP9A CT9A	4G63		

Product	Specification	Code No.	Price	Remarks
4G63 VCAM SYSTEM STEP Pro typeA	Variable angle 30 ° (90 ° - 120 °) Billet camshaft 264 °	22007-AM002	¥500,000	Applicable for stock piston.
4G63 VCAM SYSTEM STEP Pro typeB	Variable angle 40 ° (85 ° - 125 °) Billet camshaft 280 °	22007-AM003	¥600,000	Only for HKS 2.3L Kit.

HKS CO., LTD.