

CAMSHAFT STEP2+VALVE SPRING SET

for VR38DETT/R35GT-R

This product was designed for high performance without a loss in power at all engine RPM range and with a well-balanced power curve. Using the valve spring specifically designed for the VR35DETT engine and this newly designed high lift camshaft can dramatically improve the performance.

Furthermore, once this product is combined with the HKS STEP2 Engine and GT800 Full Turbine Kit, the boost pressure can be increased much more smoothly and quickly, and the engine output can exceed more than 850ps.



■ FEATURES

POINT① HKS Original Materials

- Chill camshaft material exclusively for HKS is used.

POINT② Must be used with the special Valve Spring.

- Duration and valve lift were both designed larger than a stock.
- The valve spring included in this set must be used with this high lift camshaft.

POINT③ Optimized Camshaft Profile

- Lift volume was decided after the cylinder head measurement and flow test.
- Duration was decided to be well-balanced with a selected lift volume on the power curve at all range.
- The camshaft profile was optimized to clear points of the valve jump and/or cam nose friction.

POINT④ Same Valve Timing as a Stock.

- The knock pin phase to position the cam pulley is the same as a stock.
- so the valve timing can be same as a stock.
- The cam sensor trigger position is the same as a stock so the malfunction of the stock ECU won't be led.

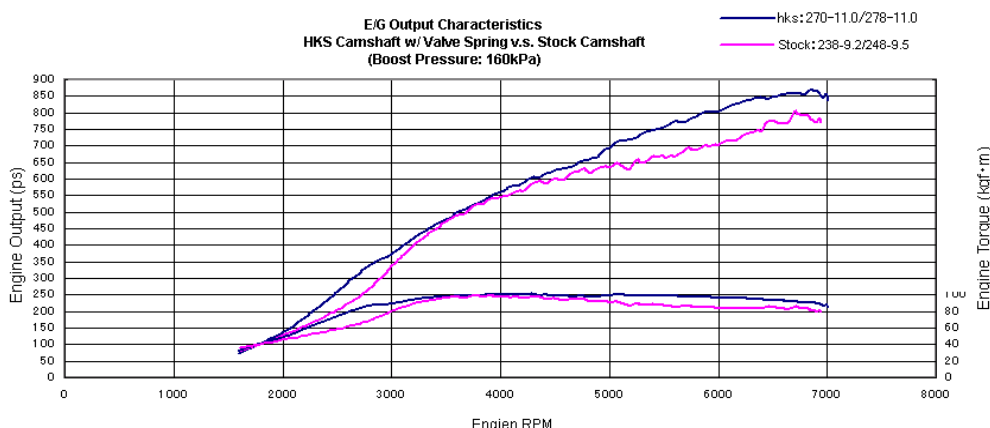
POINT⑤ Higher Reliability by In-house Design & Production

- HKS controls from the production, inspection, package, and

■ SPECIFICATIONS

	STOCK	HKS
Valve Lift - IN (mm)	9.2	11.0
Valve Lift - EX (mm)	9.5	11.0
Valve Operation Angle- IN	238°	270°
Valve Operation Angle- EX	248°	278°
Base Size (mm)	35.5	35.5
IN-VP(mm)	-	2.6
EX-VP(mm)	-	8.7

■ PERFORMANCE (STEP2 E/G OUTPUT CHARACTERISTICS)



TEST CAR SPEC.

GT800FULL TURBINE
FORGED PISTON+CONROD STEP
FUEL UPGRADE KIT
FULL CONTROL SYSTEM
SUPERIOR SPEC-R
EVC for R35
INTERCOOLER KIT
SUPER FIRE RACING M45HL

ENGINE	INTAKE SIDE			EXHAUST SIDE			CODE No.	PRICE	RAMARKS
	DURATION	VALVE LIFT (mm)	VALVE TIMING SETTING	DURATION	VALVE LIFT (mm)	VALVE TIMING SETTING			
VR38DETT	270°	11.0	79°~124°	278°	11.0	115°	22002-AN038		STEP2 IN/EX Camshaft & IN/EX Valve Springs are included.

Installation of HKS Camshaft Step 2 + Valve Spring Set

○ To install on the vehicle with the factory pistons

- The piston may come in contact with the valve at the most advanced angle due to insufficient V-P.
- The factory connecting rods may not be durable enough if the boost pressure is increased or other engine upgrade parts were installed on the vehicle for higher performance. In this case, it is recommended to use the HKS Piston + Connecting Rod Set.

○ To install on the vehicle with the HKS STEP1 Piston Con'rod Set

- If the lot number of the piston is AM 1 or 2, the piston may come in contact with the valve at the most advanced angle due to insufficient V-P. In this case, recess modification may be required. (Refer to the diagram on next page for modification.)
- If the lot number of the piston is AM3 or later (lot number on the package is LOT.090311(D.M.Y) or later), recess modification won't be required.



○ To install with the HKS STEP2 Piston + Con'rod Set

- No modification is required.

○ Specification of Piston

Left: Old Specification

Right: New Specification (Deeper recess)

(Lot AM3 or later, shown on the back of the piston.)



○ Specification of Connecting Rod

Stock (Approx. 75kgf-m)

Left: STEP1 (Approx. 115kgf-m)

Right: STEP2 (Approx. 130kgf-m)

Select an appropriate type for the target engine output.



It is not recommended to adjust the valve timing's most advanced angle without recess modification since it may cause damage and/or trouble to the vehicle. (Ref.: 0.7mm V-P change at 5°. 1.8mm must be kept.)

●Reference for Piston Recess Modification to add 1mm recess for VR38DETT

- Modify the piston referring to the size shown below.

(The sizes before modification are shown at the bottom of this diagram.)

