



**NEW  
RELEASE  
INFORMATION**  
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# TITANIUM RETAINERS

TITANIUM VALVE SPRING RETAINERS



**Lightweight  
High Tensile  
Precision**

## CONTROL & STABILIZE VALVE JUMPS & VALVE BOUNCES!!

An indispensable part for any high powered, high speed engine. The combination of high lift camshafts and these oversized valves will greatly increase the flow rate for fuel mixture to enter the combustion chamber. When upgrading the Valves to cope with the new high lift camshafts it is also a requirement to upgrade the Valve Springs to suit the new setup. High engine speeds and the dynamic movement of the valve trains mass can cause unwanted stress loads. This can cause abnormal movements such as a Valve jump or Valve bounce which can cause engine failure. The Tomei Retainers are made from Titanium alloy for added weight reduction whilst maintaining the high strength properties and precision required for the nature of its use. This will help keeping the Valves under control and secure the Valve in place during extreme race conditions.

### TITANIUM VALVE SPRING RETAINERS FEATURES



#### WEIGHT, MATERIAL

**TITANIUM MATERIAL**  
The strength and weight characteristics of this material showed best results during test conditions of 5,000 revolutions per minute during the load conditions from the valve spring and camshaft.



TOMEI STANDARD

#### PRECISION

The light weight design aids with smoother operations and provides improved dynamic balancing to the valve train. The valve retainer's precision is an absolute must to secure the valve and valve spring in place. The TOMEI precision design guarantees the optimum smooth operation process of opening and closing of the valves.

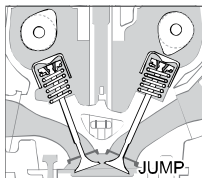
### UNNATURAL VALVE MOTION

#### ACCELERATION

The Camshaft applies load on the Valve.

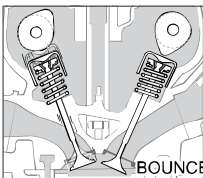
#### DECELERATION

The load from the Valve Spring pushing the Valve up.



#### JUMP

When the cam lobe passes the peak point of the lobe and the valve lifter then returns, there are time when the valve spring is not capable to keep up with the large cam lift design and causes the valve to crash into the cam. This can cause the valve to jump and/or bounce repeatedly. Left unattended it can lead to terminal engine failure.



#### BOUNCE

When the valve closes after contacting and not staying seated the shock can cause the valve to rebound repetitively causing damage.

Due to the phenomenon of the Valves movement following the Camshaft the impact on the Cam and the Valve seat is great enough to cause damage to the Valve and there are times when the abnormal rebound can cause contact with the Piston. The phenomenon easily occurs when the motion of the Valves mass is great so attention to detail of the weight of the dynamic Valve Train is vital.

APPLICATIONS	TOMEI WEIGHT STANDARD WEIGHT	SET PART NO.	INTAKE/EXHAUST SET MSRP	INDIVIDUAL PART NO.	MSRP (EACH)	COMPATIBLE VALVE SPRINGS
RB26DETT BNR32/BCNR33/BNR34	9.8g 14.9g	163200	<b>\$648.00 (USD)</b>	161200	<b>\$27.00 (USD)</b>	TOMEI TYPE A
SR20DET (R)PS13/S14/S15	10.8g 17.3g	163201	<b>\$432.00 (USD)</b>	161201	<b>\$27.00 (USD)</b>	TOMEI TYPE A
4G63 EVO4~9	8.7g 13.7g	163202	<b>\$432.00 (USD)</b>	161202	<b>\$27.00 (USD)</b>	TOMEI
EJ207/EJ255 GC8/GDB	8.5g 12.9g	163203	<b>\$432.00 (USD)</b>	161203	<b>\$27.00 (USD)</b>	TOMEI

### OTHER RELATED PARTS

OVERSIZE VALVES	APPLICATION	IN/EX	VALVE DIA.(mm)	STEM DIA.(mm)	STEM LENGTH(mm)	SET PART NO.	IN & EX SET MSRP	PART NO.(EACH)	MSRP (EACH)
	RB26DETT BNR32/BCNR33/BNR34	IN	35.65	5.97	102.30	163400	<b>\$804.00 (USD)</b>	161400	<b>\$27.00 (USD)</b>
		EX	31.15	6.94	101.60			161401	<b>\$40.00 (USD)</b>
	SR20DET (R)PS13/S14/S15	IN	35.15	5.97	101.40	163401	<b>\$536.00 (USD)</b>	161402	<b>\$27.00 (USD)</b>
		EX	31.15	6.94	102.40			161403	<b>\$40.00 (USD)</b>
4G63 EVO4~9	IN	35.00	6.57	109.60	163402	<b>\$536.00 (USD)</b>	151404	<b>\$27.00 (USD)</b>	
	EX	31.50	6.54	109.60			161405	<b>\$40.00 (USD)</b>	
EJ207/EJ255 GDB C~G	IN	37.00	5.96	103.85	163403	<b>\$536.00 (USD)</b>	161406	<b>\$27.00 (USD)</b>	
	EX	33.00	5.96	104.20			161407	<b>\$40.00 (USD)</b>	

VALVE SPRINGS	APPLICATION	TYPE	LIFT (mm)	PART NO.	MSRP	NOTES
	RB26DETT BNR32/BCNR33/BNR34	A	~10.85	173001	<b>\$360.00 (USD)</b>	
	SR20DET (R)PS13/S14/S15	A	~12.50	173004	<b>\$240.00 (USD)</b>	
	4G63 EVO4~9		~12.00	163034	<b>\$240.00 (USD)</b>	EVO 7 TOMEI OR OEM RETAINERS ARE NEEDED FOR USE ON EVO 7,8 OR 9 MODEL CARS.
	EJ207/EJ255 GDB		~11.00	163027	<b>\$240.00 (USD)</b>	

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Prices are subjected to changes without prior notice The images are for illustration purposes only & the color may differ from the actual product due to printing and publication errors.