



# GenPower – Technical Guides

PISTON RINGS – D400, D450 & D500  
CAI MAINWARING

***Revision History:***

***CM – Create document, include details on D450 piston rings – V1.0 – 05/02/21***

## GenPower Technical – Piston Rings

### Introduction:

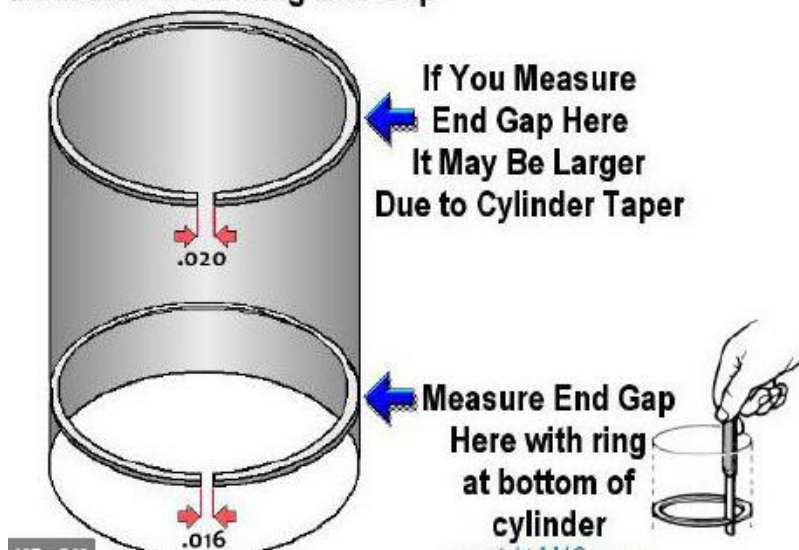
This document will give a terminology overview for piston rings, how and what is ring gap measurement and a more detailed guide on our specific products – this will include the correct way to measure piston rings and the differences between engine variants.

### Terminology Overview:



### How to measure piston ring end gap:

#### Measure Piston Ring End Gap



Should there ever be any discrepancies between the piston rings sizes we have supplied compared to the original, a good way to confirm this is by measuring piston ring end gap. Piston ring end gap is the size of the gap on the piston ring when placed within the cylinder – specifically the bottom of the cylinder as can be seen in the image above.


The tool used to carry out this measurement is a feeler gauge – see image to the right.



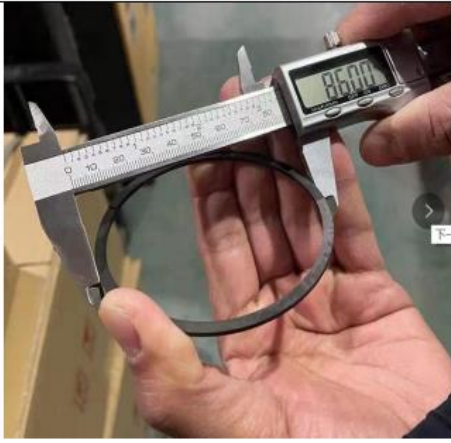


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Breakdown of how to measure the D400, D450 and D500 piston rings

Compress the Piston Ring as shown in photo



Use ruler to measure the ring's outer diameter

D400E 86mm	D450E 88mm	D500E 92mm
		

Because of being pressed manually, the measure data will have tiny difference.

The images above illustrates how to measure the piston rings – as stated in the image, the measurements can vary slightly as the rings are compressed manually.



Image to the left shows an actual D450 piston ring placed within a D450 cylinder ready to be measured for ring gap (as mentioned on the first page).

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### D450 Engine – Piston rings



The image the left shows a D450 piston, piston rings and conrod.

1. Compression Ring
2. Compression Ring (NH marking)
3. Oil Scrapper ring

As stated above, NH marking for piston ring 2 can be seen here.



Overview of piston rings with NH circled in red. Special note, piston ring 1 & 3 have no markings.

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The image above shows the orientation of piston ring 2 (NH). Important Note – As can be seen in the image, piston ring 2 has a ridge cut out on one face (opposing side to NH), it is critical that the faces in the downward position when installed to the piston.

