

# FRANZ AND GRUBB ENGINE

VINTAGE TRIUMPH MOTORCYCLE  
PARTS 1946-1970

TRIUMPH ENGINE SPECIALISTS

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## Triumph 650 Hastings piston ring installation notes

This USA made piston rings set is suitable for OEM A/E Hepolite Triumph 650 pistons, and are a perfect compliment to the JCC 650 pistons currently available. Please read the following to insure proper seating of your new rings. This set is comprised of a one piece cast oil ring, and two cast compression rings. The compression rings have an inner bevel which must be installed toward the top of the piston. There is a dot on these rings indicating which is top. The oil ring does not have a direction. The purpose of piston rings is to seal the combustion chamber, remove heat from the piston itself, and control oil from entering the combustion chamber. Great care must be used during installation to insure success.

### RING GAP MUST BE CHECKED BEFORE INSTALLATION

To check ring gap insert ring on bore and square it accurately in the cylinder. Check the end gap with a feeler gauge. Adjust gap squarely with a file or ring filing tool. Since these cast rings are somewhat soft, be sure to deburr the end of the ring gap after file fitting so no sharp edges are present. Suggested ring gaps are .0045" to .006" **per inch of bore** for top and oil ring, .0055" to .0070" **per inch of bore** for the second ring gap. We recommend that the second ring gap be larger than the top to allow for combustion pressure to equalize between rings, and to help prevent ring flutter. We have been gapping rings like this for years and it seems to work well with the Triumph twins. If re-ringing without boring it is important that you check the ring gap in the least worn part of the cylinder.

### RINGS MUST NEVER BE SPIRALED ONTO THE PISTON

To install the rings on the piston open the gap only enough to get it over the piston, while keeping the ring perfectly flat. Never twist or spiral a ring as it will damage the ring, increasing blow-by and reducing oil control. All of our rings have been checked on a surface plate for flatness, bent rings will not be returned as defective.

### CYLINDER FINISH IS IMPORTANT

Cylinder finish is extremely important to the seating of your rings. A 220 grit finish is optimum for this ring set, which can be obtained by using Sunnen M27-J55 (AN 300) stones. If using a chrome top ring use 280 grit M27-J65 stones (AN 500).

Make sure your cylinder is absolutely clean before installation, and the rings are not damaged while installing the cylinder. We prefer to lightly lubricate the rings and ring lands with non detergent 30w oil and lightly coat the cylinder bore so it won't rust. Stagger the ring gaps so they are not lined up.

When compressing rings during final assembly it is imperative that the rings are not scratched, bent, or distorted. Oil on the rings will not harm ring seating, as internet folklore suggests.

### BREAKING IN A NEW SET OF RINGS

There are as many opinions about breaking in rings as there are religions. We don't have problems with seating rings mostly due our level of detail in preparing cylinders, and correct ring installation. DO NOT use synthetic oil for break in. Use a conventional oil with no friction modifiers. We use Brad Penn Grade 1 SAE 30w for break in. DO NOT idle the bike any more than necessary on start up. This will do nothing but create heat, which will not be dissipated by the new rings until seated. Rings need compression and a load on them to seat. Do not lug the engine, ride in abnormally hot weather, or in congested traffic. Vary the engine RPM while keeping between 1500-5000, and go for a short ride. Let the engine cool and check your base nuts, head bolts, and valve adjustment in that order.

### TAKE YOUR TIME AND DO IT RIGHT

If you are uncertain about any of these above procedures, there is a wealth of information about piston rings on the internet. We suggest that you look at different piston ring manufacturers websites for additional information. With the right cylinder preparation, correct end gaps, and proper installation techniques, your rings should break in quickly and provide you with a long service life.

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