

Cols BSA A10 Crank Balance Measurements.

15-Aug-19

Description	Weight Grams	Comment
<u>Old Hepolite Pistons</u>		
		All Weights in Grams +/- 1 gram
Piston, Rings, Circlip - LHS	261	
LHS Gudgeon Pin	64	New Gudgeons Priory
Piston, Rings, Circlip - RHS	262	
RHS Gudgeon Pin	64	New Gudgeons Priory
<u>New IMD Pistons - 7.25:1</u>		
Piston, Rings, Circlip - LHS	246	
LHS Gudgeon Pin	73	
Piston, Rings, Circlip - RHS	247	
RHS Gudgeon Pin	73	
Old Conrod LHS	428	With Slippers -- 3 gms error OK
Old Conrod RHS	427	With Slippers -- 2 gms error OK
Old Conrod LHS Bigend	320	Total LHS Old Conrod 425
Old Conrod LHS Little end	105	
Old Conrod RHS Bigend	321	Total RHS Old Conrod 425
Old Conrod RHS Little end	104	

Counterweight Measurement - Static Balance Method

I placed the crank on two levelled rods

I hung a hook on the Drive Side Journal, to which I hung a bottle of water.

The hook was located in one of the oil holes in the journal.

This eliminated the "jerkiness" of an object in contact with the journal surface.
such as my Hook or a conrod.

The quantity of water was increased to balance the Counterweight.

The Total weight of Hooks + Bottle + Water was then weighed on new Digital Scales.

Note: For Large Journal, BSA SS 712X specifies 19oz 8 drams for the 1958 Road Rocket and 19oz 8 Drams = 552.8157 grams. Two Journals = 1105.63 grams.

Hence should also apply to the large Journal Golden Flash

Measured CW Added **1142** Includes Sludge Trap oil
Nett CW 1142.0

Static Balance Factor - IMD Pistons

2 x IMD Pistons, Rings, Circlips	493	
2 x IMD Gudgeons	146	
2 x Old Conrods Small Ends	209	both assumed at 102gm
Total RCW	<u>848</u>	

Rotating Weight (ROW) = 641 Old conrods
Counterweight (CW) = 1142.0
and RCW 848

BF = $100 \times (CW - ROW) / RCW$ 59.08

OR 59.1 Balance Factor

Eddie Dow - 54% standard, 65% for Racing (by Trevinoz)

- <https://www.a7a10.net/forum/index.php?topic=1228.0>

I later had the crank Dynamically Balanced to 60%