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Measuring DW and UW

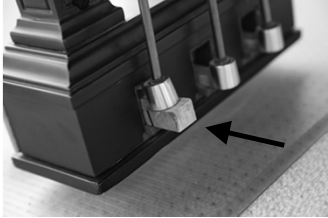
Grand Action: A Balancing Act

Mario Igreg

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Prepare

- First, **prop the pedal up** with a wedge

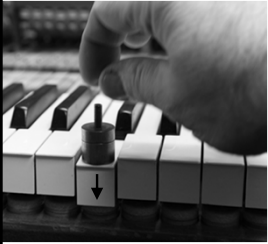


... or place wedge between rod and trapwork lever
... or clamp damper up, away from strings

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Measure Downweight (DW)

Center weight ½" (13 mm) in from key top lip
Pre-depress the key to 4 mm and let go.
The key should sink slowly to about 7 mm.

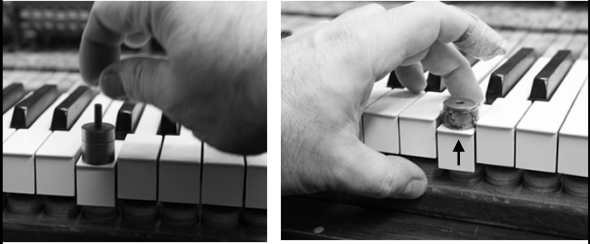


David Stanwood's Standard Measurement Position (SMP)

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Measure Upweight (UW)

Depress key to escapement bump (c. 7 mm) and let go.
The key should lift slowly to c. 4 mm dip.



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Calculate Balance Weight (BW)

BW = average of DW and UW
BW = half point between DW and UW
 $BW = (DW + UW) / 2$

DW = 50 g
UW = 20 g
 $BW = (50 + 20) / 2 = 70 / 2 = 35 \text{ g}$

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Calculate Friction (F)

F = half of difference between DW and UW
 $F = (DW - UW) / 2$

DW = 50 g
UW = 20 g
 $BW = (50 - 20) / 2 = 35 / 2 = 12.5 \text{ g}$

Remove wedge under pedal!