

Noting that the reading of a dial gauge increases when the stylus is pushed into the body, then ---

SIDE VIEW OF VERTICAL PLANE :

- radial runout as sketched

Evidently the motor shaft must be raised by $(60.2 + 19.6) / 2$
 $= 40 \text{ div} \approx 0.40 \text{ mm}$

to negate the misalignment.

- axial runout as sketched.

inclination of motor axis

$$\phi = \frac{29.8 \times 10^{-2}}{400}$$

$$= 0.745 \times 10^{-3} \text{ rad}$$

So, to negate this, the motor axis must be lifted by:

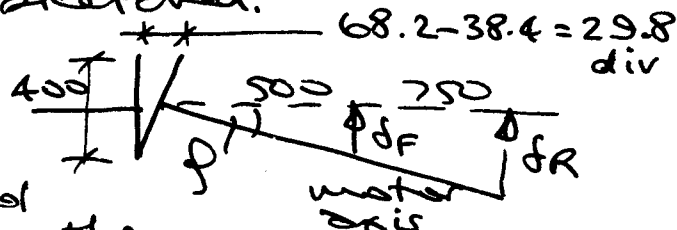
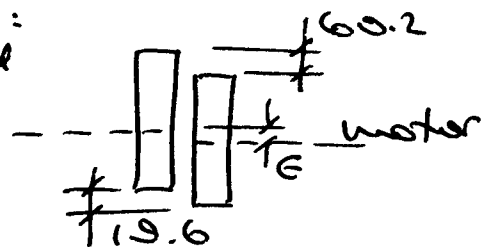
$$\delta_F = 500 \phi = 0.37 \text{ mm at the front}$$

$$\delta_R = 1250 \phi = 0.93 \text{ mm at the rear.}$$

Combining, the corrections for radial and angular misalignments are

front runout : raise by $0.40 + 0.37 = 0.77 \text{ mm}$

rear " : " " " $0.40 + 0.93 = 1.33 \text{ mm}$



PLAN VIEW OF HORIZONTAL PLANE

- radial runout

Evidently the motor shaft must be moved rightwards by

$$(43.0 + 2.4) / 2 = 22.7 \text{ div} \approx 0.23 \text{ mm}$$

to negate misalignment

- axial runout

motor axis inclination, ϕ

$$\phi = \frac{49.4 \times 10^{-2}}{400}$$

$$= 1.235 \times 10^{-3} \text{ rad}$$

To negate this, the rightward displacements needed are

$$\delta_F = 500 \phi = 0.62 \text{ mm at the front}$$

$$\delta_R = 1250 \phi = 1.54 \text{ mm at the rear}$$

Combining, the corrections needed are

front runout : right by $0.23 + 0.62 = 0.85 \text{ mm}$

rear runout : " " " $0.23 + 1.54 = 1.77 \text{ mm}$

