

## Angle at which Brush meets collector

Care should be taken to set the brush holders at the angle for which they are designed.

## There are different types of spring arrangements

### Spring Pressure

Measurement of Brush Pressure

The pressure on all the brushes of a set should be the same. Periodically brushes and holders should be cleaned and the pressure checked by means of a spring balance (see figure 6) or a Morgan electronic.

Attach a spring balance to the tip of the finger and pull in a direction at right angles to the brush top until the finger just lifts from the top of the brush. The lifting point can be confirmed by just being able to slide the paper from beneath the brush face.

The applied pressure of most brush grades on industrial machines is generally between  $180\text{gcm}^{-2}$  ( $2.5\text{lb}\text{in}^{-2}$ ) and  $210\text{gcm}^{-2}$  ( $3\text{lb}\text{in}^{-2}$ ).

Certain (treated) grades can best run at slightly higher pressures  $>210\text{gcm}^{-2}$  ( $3\text{lb}\text{in}^{-2}$ ) With small brushes or on machines subject to vibration or with out of round collectors, it is advisable to use pressures up to 50% higher in the range of  $210\text{-}280\text{gcm}^{-2}$  ( $3\text{-}4\text{lb}\text{in}^{-2}$ ). The higher pressure enables improved contact and reduced electrical wear of the brushes.

On traction motors, and on some fractional horsepower machines, higher pressures of  $280\text{-}490\text{gcm}^{-2}$  ( $4\text{-}7\text{ lb}\text{in}^{-2}$ )

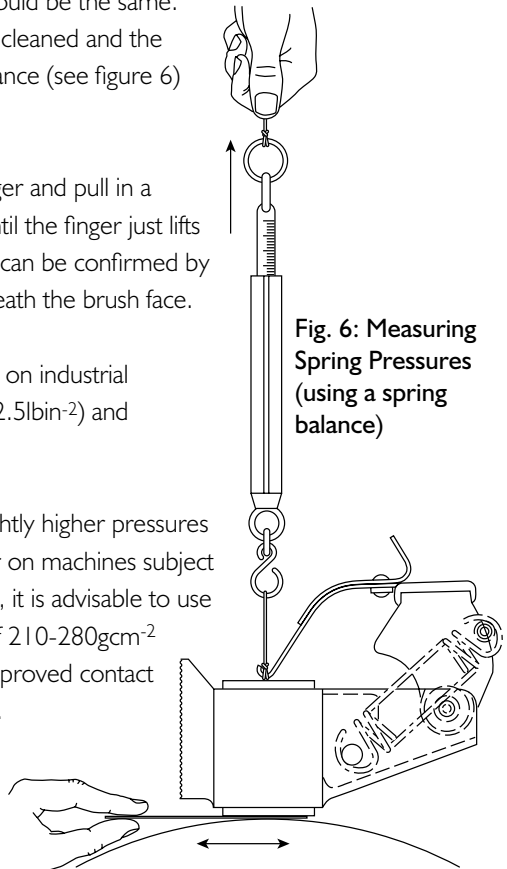


Fig. 6: Measuring Spring Pressures (using a spring balance)