

Technical Support – Rotating Machines

Brush Spacing

Brush spacing round the collector is important on all commutator machines whether AC or DC It should be checked after any disturbance of the brush gear.

The normal method of checking is outlined by the following procedure:

Take a length of paper tape longer than the circumference of the commutator and wrap the tape tightly round the commutator under one row of the brush holders and overlap. Draw a pencil line across the tape at the overlapping part – this will indicate the exact circumference of the commutator when the tape is later removed from the machine.

Rub a flat face on one side of the point of a pencil so that when this flat is held against the support face of a brush box it will indicate the point at which the leaving edge of the brush meets the commutator. Clearance between holders and commutator and alignment of the brush holders with the commutator segment edges will, of course, have already been checked and adjusted. Using the pencil as described, mark the position of the leaving edge for each holder round the commutator. Remove the paper tape from the commutator and measure the spacing between the marks.

In general these distances should be equal within 1.5mm implying that spacing accuracy is within ± 0.75 mm. If they are unequal, the cause should be traced and corrected.

Although the measurement is commonly referred to as brush arm spacing it is, of course, brush spacing round the periphery of the commutator.