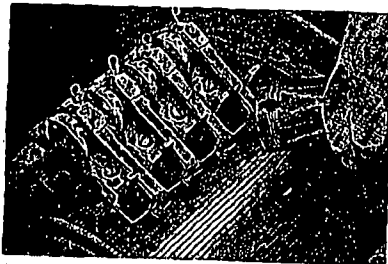
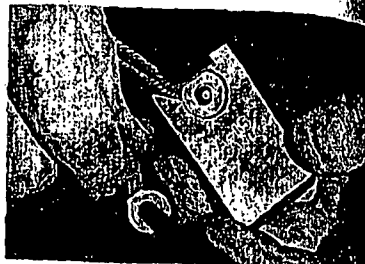


PLANT PROBLEMS . . . put your know-how to work

What Causes These Burn Spots on Bars?



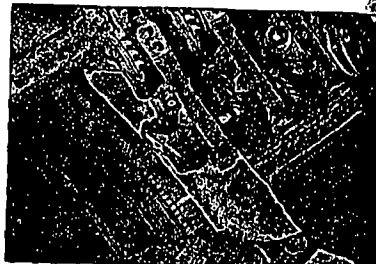
1 Inspect the brush holders inside and out for burned spots that may have been caused by flashing at the commutator



2 Be sure shunts are properly secured to the brushes in the holders. Poor connections cause burning, wear,



3 When installing the brushes, make sure they can move freely in the holders. But watch out for excessive side play



4 Fit the brushes to the commutator one at a time with a strip of sandpaper, first using coarse paper, then fine

Here Is the Question

THE FACTS FROM JUNE POWER: Commutator on 25-hp 6-pole 70-rpm dc shunt-wound elevator motor has six equally distributed burn spots, corresponding to the brush spacing. Each burn covers an area of four commutator bars, and begins to appear a few days after the commutator is resurfaced.

We've had this trouble since we replaced a few coils several years ago. Believing the coils caused it, I checked them repeatedly without results.

When elevator ascends, no sparks occur, but slight sparking appears when it descends. There is somewhat more sparking during starting and stopping. We have several other machines, and though they spark there are no burns. How can we cure this trouble?—VN

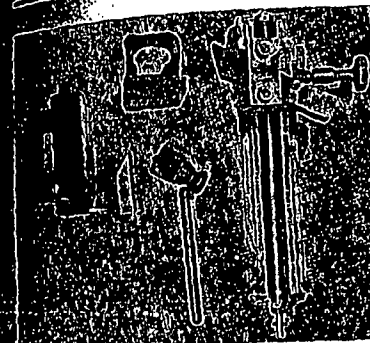
Now Read the Answers

FOR TOPNOTCH commutation, brushes must be correctly installed. Photos above, show procedure that works on most of my jobs. Before inserting your new brushes, be sure inside of holders are smooth. If rough, sand with a piece of fine sandpaper glued to a flat piece of wood.

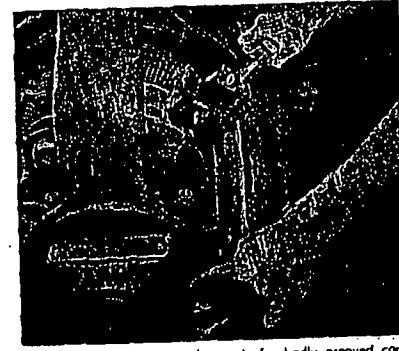
Make sure shunts are properly secured to the brushes and holders. If connections of the shunts are defective, current will flow from sides of brushes

Help the other guy cure his headaches

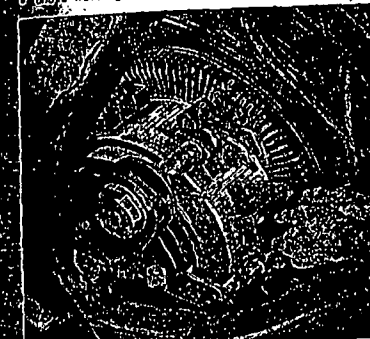
TYLER HICKS, Associate Editor



1 Tools for commutator stoning consist of several hand stones and a travelling steady-rest. Small stone is for close job



2 Stone mounted on steady-rest is for badly grooved commutators. Set the steady-rest with a 1/32 in.-to-ft taper



3 When commutator needs only a small amount of stoning and you don't have a steady-rest, use a hand stone as shown



4 Small stones with knob and removable handle for small commutators or for use where the accessibility is limited

into the holders and cause side-burning, wear, overheating and poor brush operation.

Don't have brushes so loose in holders that there is appreciable side play. Allow enough clearance for brushes to expand without sticking at their operating temperature.

Fit brushes to commutator, one at a time, with a strip of sandpaper, first using a coarse grade, and then a fine one, with the sand side turned to the brush face. Thoroughly clean brushes and holders before running motor. Adjust tension springs to about 2 psi to

hold brushes on motor commutator.

Second set of photos, above, shows how you stone a commutator that is burned, grooved or roughened from sparking or abrasive action. Stoning often saves removing the armature and turning commutator in a lathe.

When stoning, lift all brushes away from commutator. Use an external power source to turn motor. Be sure to remove all traces of oil or grease from commutator before stoning. Work the hand stone back and forth several times to insure a smooth, true surface. Move steady-rest stone across surface several

times to avoid tapering commutator from stone wear.

After stoning, smooth commutator with 2/0 or 3/0 sandpaper, then polish with back of paper. Be sure commutator and armature are clean before starting the motor. Remove all traces of copper, carbon and abrasive dust with a vacuum cleaner.

JIM SPARKS Spokane, Wash.

TRUE COMMUTATOR, without high or low bars and correct mica clearance, will spark if coil leads run to wrong (Continued on page 132)