Instructions for
High Speed Limit Switches
Type A-HS, Class 15-085
600 Volts, 10 Amps. A-C, 250 Watts D-C.

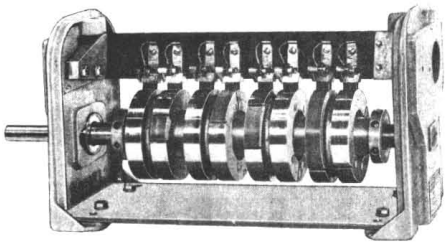

Fig. 1 High Speed Limit Switch with Cover Removed

High Speed Limit Switches are of the commutator type, designed for continuous high speed rotation in either direction. They are available in 2 frame sizes; A-3HS and A-4HS having a maximum of 3 and 4 circuits respectively. Maximum speed of rotation is 600 RPM.

DESCRIPTION

The switch uses carbon brushes on collector ring type contacts. They are suitable for reels, flying shears or other high speed applications in steel mills and other industries, and are available in two frame sizes having three and four circuit combinations. Standard, weatherproof and watertight enclosures are available.

The standard switch in Fig. 1 consists of two end castings which form the bearings for the rotating shaft and the support for the insulated base upon which is mounted the brush holder supports. A sheet steel bottom is securely bolted to the end castings, and a removable sheet steel cover is provided, facilitating inspection, repairs and adjustment.

ADJUSTMENT

Each circuit consists of two contact rings and two carbon brushes. The contact ring is made up of copper and fibre composition. The contact ring has a round hole thru it to permit turning on shaft when it is not clamped in place. These rings can easily and independently be adjusted and positively clamped in any desired position. The insulating spacers or contact holders on each side of each pair of contacts have a round hole with pin in them that slides in a groove on the shaft.

Therefore, these spacers cannot turn. Double contact rings being provided for each circuit permitting one contact ring to slide past the other for changing degree opening or closing the circuit. For instance, if you have a pair of contact rings with 180 degree copper section, then you can get a circuit closing from 0 to 180 degrees. Movement or adjustment of any one pair of contact rings will not effect the setting of

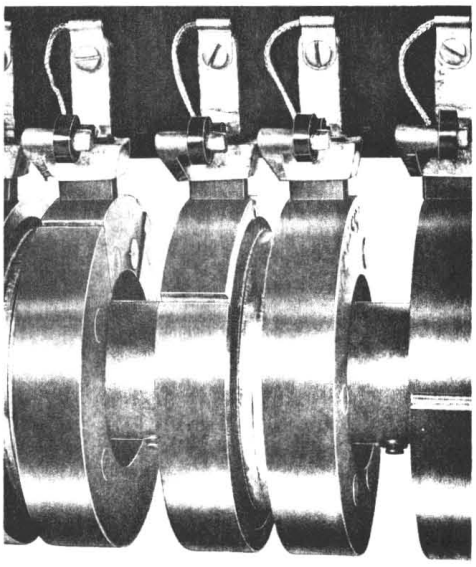

Fig. 2 Brushes and Contact Rings

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any other contact. To adjust the contact, we loosen the special nut at the end of the switch next to the bearing to permit turning of the contact ring to the desired setting. Then tighten the two nuts securely. A special wrench is included with each switch for use in adjusting the contacts.

If it is necessary to change or replace contact rings or other rotating parts, remove the shaft assembly and take it apart, after removing the clamping nut at one end of the shaft. When reassembling, back off all lock nuts until they are loose enough to permit the shaft insulators to be clamped solidly together.

MAINTENANCE

Note the following important points:

1. Inspect the limit switch often enough to see that parts are in good operating condition and clean.
2. Keep all current carrying connections tight.
3. Do not dress contacts unless they are badly pitted. Use sandpaper or fine file for the purpose.
4. Keep covers in place.
5. Bearings are pre-lubricated and sealed.

The following Parts are most subject to wear in ordinary operation:

Name of Part	Identification Number	Number Per Unit	
		A3-HS	A4-HS
Contact Ring	Reference Shop Order	6	8
Insulation Spacer 1-3/8" long	998159	2	3
Insulation Spacer 15/16" long	998160	1	1
Insulation Spacer 13/16" long	1018551	1	1
Spanner Nut	Dwg. 400-206	1	1
Bearing	374P643G01	2	2
Brush with Shunt	593202	6	8
Brush Spring	490065	6	8
Brushholder	998161	6	8
Brushholder Support Bar	998155	1	
Brushholder Support Bar	1B2031H12		1

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