

SERVO STABILIZER

MCB TRIPS ON SWITCHING

A possible short in Servo. Replace the unit.

GIVES NO OUTPUT

IF THE STABILIZER IS PROVIDED WITH H/L TRIP

1. Check the output voltage. If it is beyond (200-240 V) i.e. 220 +/- 10%. The H/L Trip has worked i.e. the stabilizer is okay. Normal operation shall resume once the voltage comes within range.
2. If the above condition does not exist then check:
 - (a) The Auto/Manual Switch should be put on "Auto".
 - (b) The voltmeter switch on "Output". The Servo should show the rated voltage. If not, the control is defective.
3. Put the switch on "Manual" and change the output voltage by the two push buttons. If voltage changes as per "Raise" or "Lower", the motor is okay. If not check the motor capacitor.
4. Change capacitor and again repeat the third step. If motor does not rotate, the motor is defective. (though this is rare)

IF NOT PROVIDED WITH H/L TRIP

1. Output socket is broken.
2. There may be a snapped wire in the socket.
3. The carbon is broken and is not making a contact.
4. In case of Point 3, the Servo will show Input Voltage but no Output Voltage.
5. The Voltmeter is defective. Check by putting the switch to input. If it shows the reading, it is okay.

FUNCTIONS PERFECTLY

1. Gives Correct Output.
2. Light is on.
3. Voltmeter indicates input/output voltage as per switch positions.
4. Manual operation okay, i.e., raise voltage with raise button and the same with lower.
5. Fine adjustment working okay in Auto mode.

GIVES OUTPUT BUT CHATTERING SOUND IS HEARD AND/OR OUTPUT VOLTAGE FLUCTUATING CONSTANTLY

Input may be fluctuating constantly. Observe this by putting the Input/Output Switch to Input and check the Voltmeter needle fluctuation. If so, there is no fault with the Servo. Connect the Servo to some other socket because it may be due to loose connection in the socket. This fault may also occur on Generator Voltage. Do not change any setting in Servo if such a fault occurs on Generator Voltage. Preferably work the servo on Manual Mode.

1. Adjust P3 clockwise on Servo Control till fluctuations stop. This can be done only on Auto mode.
2. The Carbon may be worn out and is causing sparking on the track during movement. Change the Carbon.
3. Carbon may be okay but the Carbon Spring may be damaged. Change the Carbon Spring.
4. There may be Carbon/Dust deposit on the Variac track. Clean the track with a dry cloth and blower.
5. A loose connection on the input or output points. There can be a loose connection on the Control Transformer, Motor Capacitor assembly or any other Soldered connection. Correct the same. (This fault is rare)

NOTHING HAPPENS WHEN CONNECTED TO INPUT

1. MCB may be off or defective. Do as required.
2. Check the socket as there may not be supply in there.
3. Check the plug of the Servo. Some wire may be loose in the plug or the wire is not connected properly, i.e. Phase, Neutral or Earth.

5. Assuming motor is okay and is operating in "Manual" mode but does not operate in "Auto" mode. Check the control circuit. Follow as per control circuit description: The control circuit consists of a control card and 2 Nos. Control Transformers. The two transformers are identical and their voltage rating is 240/12-0-12 rating 10 VA. Both these transformers are connected the output of the Servo. Their connections are shown as per diagram.

Check the following: (1) Input to the control transformer in Auto mode should be 220 V. (2) The output should be 20V on one of them and 10-0-10 on the second transformer. These voltages appear at terminal 1-2 (20V) 3-4-5 (10-0-10). (3) The fine adjustment PGT is connected at 5 & 6 terminals. In case the pot is defective and the above two conditions are OK, the two relays R-1 and R-2 shall not function. Short 5 & 6 and see the operation. In case the Servo functions change fine adjustment pot and remove the short between 5 & 6. (4) The card may be okay but the motor does not run. This is a rare fault that relay contacts may be burned. Change the card.