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Regular Checking List for Control Panel of VS Motor

Adjustment of VS control panel:

Please open the top lid of control panel, there are 5 adjustable resistors.
Please adjust them in order by a mini screwdriver and turn them slowly.

Code	Function	Adjustment
VR1 (STB)	Stability Adjustment (tie in with a loading time constant)	Increasing time constant by clockwise Decreasing time constant by counterclockwise.
VR2 (GAIN)	Gain adjustment (tie in with a loading time constant)	Increasing gain by clockwise, but It will cause hunting result from too much gain.
VR3 (TRL)	Output voltage limit (limit the maximum output torque of ED motor)	Increasing rated torque by clockwise Decreasing rated torque by counterclockwise.
VR4 (SFS)	Buffer adjustment (the rotational speed rising rate when Motor switch on)	Increasing buffer time by clockwise Decreasing buffer time by counterclockwise.
VR5 (NFB)	The rotational speed adjustment (limit the maximum rational speed of the motor)	Increasing speed rating by clockwise Decreasing speed rating by counterclockwise

Failure analyses of VS motor and control panel

Failure	Cause Analysis
Start the induction motor without exciting, but the current coupling turns around.	(1) Wrong wiring, please refer to drawing instruction and double check. (2) VS motor has no loading. The drive induction motor can make VS .current coupling speed up gradually. (3) There is a clog between inductor and rolling drum, or inductor is rubbing against rolling drum. (4) The governor rheostat (1kΩ) by wrong wiring. The negative pole of voltmeter connect with terminal ⑨, then the positive pole connect with terminal ⑧,Now place the governor rheostat on the 0 position, the voltage scale on voltmeter is 0, then rotate the governor rheostat gently, voltmeter scale is increasing, the maximum is DC10V.
Electrify exciting current to the induction motor, but VS coupling immovably.	(1) The voltage of wiring terminal RS is abnormal. (2) The fuse blows. (3) RPM voltage has no output, the positive pole of ammeter connect with terminal ⑦, then the negative pole connect with terminal ⑨, the voltage scale on voltmeter should be around DC10V. (4) Exciting coil is off or on, take apart the wiring terminal JK of control panel; use an ohmmeter to measure the magnetizing coil resistance of ED coupling to see if it is off or on or winding fault. (5) There is no D.C. output voltage. The governor rheostat is rotating by clockwise; the control plate output terminal J K should output D.C. voltage 0-80V.
The RPM of VS motor is rising gradually, can not drop down	(1) VS motor has no loading or slight loading (2) The RPM dynamo can't produce enough voltage, during 1500rpm, the voltage between terminal ⑤ and ⑥ should be AC30V. (3) VS Motor was driven by loading.
The RPM of coupling is unstable	(1) Loading has a cycle variation. Rotate gain adjusting screw by counterclockwise makes GAIN lower.

	After GAIN lower, it still has same problem as before, please add a big pulley on loading side. (2) Either the sliding arm of governor rheostat or the other parts have bad connections, using ohmmeter to measure the resistance on wiring terminal ⑨ and ⑧, rotating the governor rheostat, it means there is bad connection if the indicator show unstable.
Vs coupling can't speed up	(1) VS motor is over loading. Measure exciting current and coil current of drive induction motor in the VS coupling, then compare with nominal current on the plate. (2) The exciting coil of VS coupling is short- circuited; compare the current of drive induction motor with the current of exciting coil. (3) The loading of VS motor should be restrained, caused it can't speed up.
The fuse in the control panel blows often.	(1) Either ISCR or FD is short-circuited. (2) Control panel is grounding. Check the insulation between synthetic control panel and wiring by voltmeter.
The adjustment of control panel character	(1) Make induction motor motionless, connect the terminal J K of control panel with voltmeter, then rotate the switch of the governor rheostat by clockwise. The output voltage will increase smoothly, it is normal range by DC0~80V.