

AC MOTOR - GENERAL FAULT FINDING CHART

SL. NO	FAULT	CAUSE	REMEDY
1	Hot bearings - ball or roller	Insufficient grease/deterioration of grease/lubricant contaminated/excess lubrication/from hot motor or external source/over loaded bearings/broken ball or rough races.	Maintain proper quantity of grease in bearings/remove old grease, wash thoroughly using kerosene and replace with new grease/reduce quantity of grease - should not be more than half filled/protect bearing by reducing motor temperature/check alignment side thrust/replace bearing/clean housing thoroughly.
2	Motor stalls	Wrong application/over loaded motor/low motor voltage/open circuit/incorrect resistance of wound rotor/mechanical locking in bearing or at air gap.	Change type or size. Consult manufacturer/reduce load/see that name plate voltage is maintained/fuse blown/check over load relay/starter & push out/check control sequence/replace broken resistors/repair open circuits/dismantle & repair/clean the air gap if checked.
3	Motor does not come up to speed	Not applied properly/voltage too low at motor terminals because of line drop/if wound rotor, improper control operation of secondary resistance/starting load too high/broken rotor bars/open primary circuit.	Consult supplier for proper type/use higher voltage on transformer terminals or reduce load/correct secondary control/check the load the motor is supposed to carry at start/check that all brushes are riding on rings/check secondary connections/leave no leads poorly connected/look for cracks near the rings. A new rotor may be required as repairs are usually temporary/locate fault with testing device & repair.
4	Motor overheats while running under load.	Motor may have one phase open/grounded coil/unbalanced terminal voltage/shorted stator/rotor coil.	Check to make sure that all leads are well connected/locate & repair/check for fault leads/connections/rewind the stator or rotor.
5	Motor vibrates after connections have been made	Motor mis aligned/weak foundation/coupling out of balance/driven equipment unbalanced/defective ball or roller bearings/bearings not in line/balancing weights shifted/wound rotor coils replaced/motor running single phase/excessive end play.	Realign/strengthen base/balance coupling/rebalance driven equipment/replace bearing/line up properly/rebalance rotor/check for open circuit/adjust bearing or add washer.
6	Magnetic noise.	Air gap not uniform/loose bearings/rotor unbalance.	Check & correct bracket fits bearings/correct or renew/rebalance.
7	Motor connected but does not start.	No supply voltage/one phase open/too low/motor may be over loaded/control gear defective/starting torque of load too high/rotor defective/poor stator coil connection/mechanical locking in bearings or at air gap/stator or rotor winding burnt.	Check voltage on each phase/reduce load or try to start decoupled from load/examine each step of the control gear for bad contact or open circuit. Make sure that brushes are making good contact with the rings/if of squirrel cage type and with auto-transformer starting change to a higher tap/if of slipping type, lower the starting resistance/look for broken rings/remove end shields. Check end connections/dismantle & repair/clean air gap if checked/rewind stator or rotor.