LEESON

ELECTRIC MOTORS
GEARMOTORS AND DRIVES

DC Motor Trouble-Shooting Chart

Caution:
1. Disconnect power to the motor before performing service or maintenance.
2. Discharge all capacitors before servicing motor.
3. Always keep hands and clothing away from moving parts.
4. Be sure required safety guards are in place before starting equipment.

Problem:	Like Causes:	What To Do:
Motor fails to start upon initial installation.	Motor is miswired.	Verify that the motor is wired correctly.
	No output power from controller.	Measure voltage coming from the controller.
	Motor damaged and the fan guard is contacting the cooling fan.	Replace fan guard.
	Motor is damaged and the armature is rubbing against the magnets.	Disassemble motor and see if the armature can be realigned by reassembly. Motor may have to be replaced.
Motor has been running, then fails to start.	Fuse or circuit breaker is tripped.	Replace the fuse or reset the breaker.
	Armature is shorted or went to ground. Motor may make a humming noise and the circuit breaker or fuse will trip.	Disassemble motor and inspect the armature for a burnt coil. Inspect the commutator for burnt bars. If this condition exists, the motor needs to be replaced. To test, set your OHM meter to the RX1 scale, touch probes to bars 180 degrees apart all around the commutator. The reading should be equal.
	The brushes may be worn down too far and no longer make contract with the commutator.	Inspect the brushes to make sure that they are still making contact with the commutator. Refer to manufacturer's recommended brush length chart.
	Controller may be defective.	Verify voltage is coming out of the controller.
Motor runs but loses power.	Load had increased.	Verify the load has not changed. Measure the amp draw of motor against the full load amp rating of the motor. If the amp draw is higher then rating, motor is undersized for application.
	Motor controller not properly set.	Check controller manual for adjustments. The torque and/or IR compensation settings may need adjustment.
	Motor may have an open connection.	Inspect the armature for an open connection.
	Brushes may not be seated properly or worn beyond their useful length.	Verify that the brushes are properly seated and measure their length against the recommended brush length chart.
Motor takes too long to accelerate.	Motor controller not properly set.	The accel trim pot of the controller should be adjusted.
	Brushes are worn.	Verify brush length.
	Bearings may be defective.	Inspect bearings for proper service. Noisy or rough bearings should be replaced.
Motor runs in the wrong direction.	Incorrect wiring.	Interchange the two motor leads.
Motor runs ok but has a clicking noise.	Suspect a burr on the commutator.	Stone the armature commutator with a commutator stone to remove burr.

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