

ELECTRICIAN - RESPONSIBILITIES

Daily:

1. Take gravity readings and temperatures of all batteries (except radios).
2. Check battery room ventilation.
3. Check charging rate of batteries.
4. Check oil level and condition of oil rings in all oil ring lubricated bearings, (on electrical equipment).
5. Inspect areas surrounding motors and electrical equipment for dripping water, oil, steam and excessive dirt, dust, chips and any loose gear that might interfere with the ventilation or jamming of parts and take action required.
6. Observe all running motors for vibration, unusual or excessive noise and operating temperatures. Examine all commutators and brushes for proper commutation. Examine all running equipment motors and controllers for loose or missing parts.
7. Use canvas buffer daily to clean commutators or generators and large motors.
8. Make visual inspection behind main switchboard and of all large controllers, observing for loose parts or unusual conditions, take appropriate action.
9. Inspect all passenger laundry machines and crew laundry machines for proper operation.
10. Inspect and test operate all deck electrical machinery prior to arrival.
11. Inspect all exterior deck electrical equipment for water tightness prior to departure for sea, use heaters as required.

Weekly:

- *1. Test operate all safety devices on elevators or dumb waiters.
- *2. Test run degaussing coils for four hours, in conjunction with the second officer.
3. Remove plugs from all watertight electrical fittings and test for condensation or moisture. Take appropriate action.
4. Inspect all paint lockers, battery rooms and pump rooms, observe that fixtures are explosion proof.
5. Check height of electrolyte in all batteries.
6. Check battery circuits for grounds.
7. Clean batteries and grease terminals with petrolatum.
- *8. Change over all duplicate machinery.
- *9. Change over main generators. (end of each voyage leg for electric drive.)
10. Clean all machines secured during weekly change-over, by blowing out with dry air and wiping with lintless cloth.

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11. Test all electrical interlocks and safety devices as practicable.
 - *12. Test operate diesel generator under load for at least 30 minutes. Test change over relays.
 - *13. Test ship's whistle from all stations and also from automatic time signal station.
 - *14. Inspect all lifeboat limit switches and electrical equipment (Chapter 82, this manual). Observe test of all fire screen and W.T. ports.
 - *15. Test operate master unit, switches on bridge and outside engine casing.
 16. Megger test main generators (and main propulsion unit if T.E. ship) or when operation permits.
 17. Inspect all motors for oil or grease leaking from bearings to findings.
 - *18. Operate unused equipment 30 minutes, observe bearings, conditions of commutators and commutation.
 19. At every opportunity and whenever practicable, clean interiors and exteriors of motors, generators and controllers and keep them dust free.
- Monthly: Measure insulation resistance whenever practical of the ship's service and emergency generators and exciters and enter on megger cards.
- Quarterly:
1. Give all batteries an equalizing charge.
 2. Inspect pulleys, bells, guards and brush rigging for tightness and soundness.
 - *3. Check all motors for end play.
 4. Check all sleeve bearings for clearance.
 5. Check brush alignment and correct if necessary.
 6. Check distance of brush holder from commutator (not more than 8" or less than 1/16").
 7. Check brush pressure all motors (should be 1½ to 2½ lbs. per in. of contact surface.)
 8. Make sure brushes move freely in holders and are clean.
 9. Blow out all motors and clean thoroughly.
 10. Check all electrical meters against standards.

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Semi-annually:

1. Drain, flush out and renew oil in sleeve bearings where fitted. Add grease to ball bearings if required.
2. Record on history cards.
3. Inspect all housing gaskets and bearing seals. Replace as required.
4. Measure insulation resistance of all motors, circuits and motor generator sets, except fractional horsepower motors. Insulation resistance of fractional horsepower motors to be measured as frequently as service conditions require.
5. Inspect armature banding, slot wedges, connections of armature coils to commutator risers, tighten electrical connections, inspect commutator clamping rings, clean slots in commutator.