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The generator originally had ball bearings which were very noisy electrically due to eddy currents flowing in shaft.

In Dec 1952 the ball bearings were changed to oilite bronze with out external lubrication. These were quiet but wore rapidly due to lack of lubrication. Good contact between shaft and bearings allowed eddy currents to flow without interruption.

In June 1953 the oilite bearings were changed to bronze bushing bearings plus oil well and oil rings. These were taken from an old motor and adapted to this use. These bearings were noisy due to intermittent contact between shaft and bearing when oil film broke down occasionally. Mechanically these bearings were good.

In July 1953 the bronze bushings were removed and replaced by lignum-vital wood bushings. The oil rings were changed to bakelite. This combination quiet electrically but soon wore out.

August 1953 put bronze bushings back but turned down gear one and inserted insulating gasket between bushing and housing. This combination is a good mechanical bearing but still has

some electrical noise. This is because one slip ring is grounded on ground side of battery charger system. Eddy currents can still flow in circuit from shaft thru front bearing to frame and back thru grounded slip ring to shaft. The arrangement is just passable and was used from here onward.

A significant improvement would probably be found at low frequencies if the front bearing were insulated or grounded slip ring were insulated or both. Perhaps all the original generator needed was to have the ball bearing housings turned slightly larger and have insulating gaskets installed between ball bearings and frame.

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