Lead-acid battery explosion

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A lead-acid battery blew up when an engine was started.

IOGP Life Saving Rules:

- Bypassing safety controls
- Line of fire

What happened?

The incident occurred when, after conducting pre-start checks on a generator, the 2nd Engineer attempted to start the engine.

As the lube oil pressure reached start pressure and the starter motor engaged, there was a loud bang from behind the engine in the vicinity of the port side battery box.

The 2nd Engineer on investigating, found that one of the batteries in the bank for the generator had suffered a critical failure resulting in the top of the battery case being destroyed.

He left the space immediately in case of release of hydrogen gas and woke the Chief Engineer to inform him of the incident.

What was the cause?

- The battery tie connection on the negative terminal had formed a hot joint. This would have ignited any excess hydrogen built up inside the battery box when the generator started.
- The manufacturer's instructions stated that the battery should not be used in hot environments (such as engine rooms).

Actions

- Consider replacing lead acid batteries with a type that does not release hydrogen when being charged, such as Absorbent Glass Mat (AGM) batteries.
- Check all battery terminals and connections.
- Follow manufacturer's instructions when installing batteries.

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