Title: Incident during lifting of crane boom on a semi-submersible rig.

Location: Starboard Crane

Activity Type: Raising of crane boom to its rest position after transferring tools.

Result / Outcome: Crane Boom Damage.

What happened?

Starboard crane was engaged in transferring tools on the rig floor for the well completion activities. After completing the lifting operation, the crane operator lifted the boom to put back on rest position. During boom up, it was noticed by the crane operator that the limit switch was not activated. Alarm was also not sounded and boom crossed over its control limit and collided with the boom stopper resulting boom damage.

What caused it?

While booming up, crane operator noticed that boom angle was around 7.0 degrees and was beyond the cut off limit of 9.2 degrees. He immediately stopped the crane and noticed that the boom is damaged. The crane was equipped with boom proximity alarm and boom limit switch. However, both did not function. In the initial investigation it was found that crane boom proximity sensor was not installed properly and crane boom limit switch cylinder shaft was damaged. Crane control screen was in Portuguese language for some items. However, there was also a red visual alarm.

Due to this incident the rig was out of operation for a fortnight since crane is a critical equipment for carrying out rig operations.

Corrective actions:

1. Crane operator should observe boom angle during boom up.
2. Crane control screen should be in local / English language.
3. Frequency of inspection of crane boom limit switch and proximity alarm sensor needs to be re-visited.

It is provided for information purpose. This information should be evaluated to determine if it is applicable in your operation, to avoid reoccurrence of such incidents.