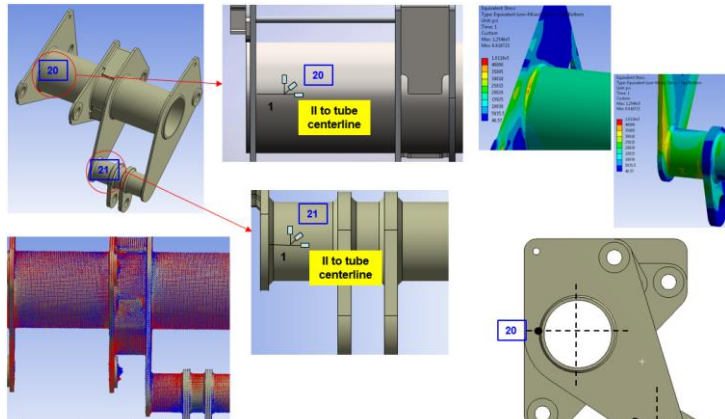
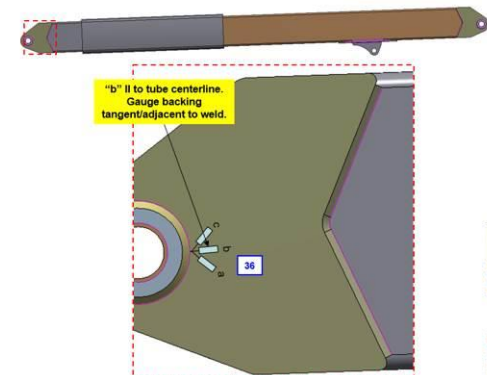
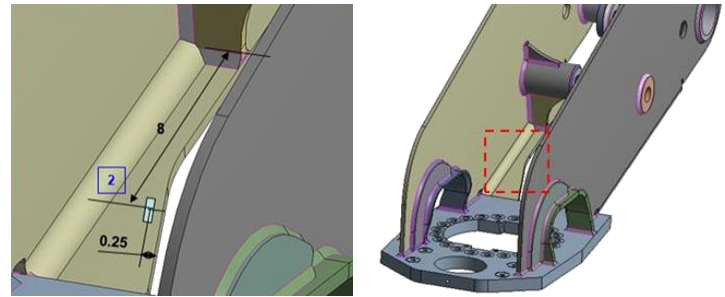


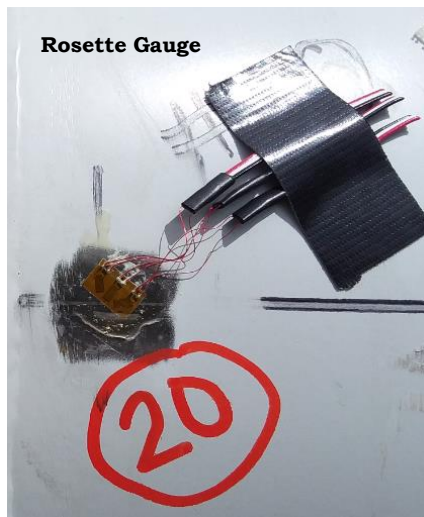
Strain Gauge Correlation



All dimensions are in Inch.
Gauge 20 & 21 are Rosettes.



All dimensions are in Inch.
Gauge 36 is Rosette.
Valid for all LC.



Finite Element Analysis vs Strain Gauge correlation of Utility Boom System:

- Strain gauge locations along with strain values were identified in Finite Element model with required uniaxial and rosette vectors.
- Loading positions are identified to carry out static analysis and physical testing.
- Hand calculations were performed to determine all the pin reactions, cylinder forces.
- Slew Bearing model with all bolts in FEA at their respective locations to simulate the effect of bearing & to account the bolt preloads.
- Static analysis was carried out with friction contact method and evaluated of all forces with respect to hand calculations.
- Participated in strain gauge activity to mount the gauges and capture the strain values.

FEA to physical testing correlation achieved in the range of 75% at weld zones and 85% at away from weld zones