Problem description
Baum Pneumatics Cleanouts were analyzed under various loading conditions to:
- Reduce the total deflection
- Minimize stress level on different components

Loading conditions were a combination of assembly weight, wind force (100 miles/hr), and extra weight in water filled condition.

The distance between supports was considered to be 61 ft.

Results
Results showed an improvements in modified design with reduction in pipe-Cleanout deflection (Figure 2) and decreased stress level (Figure 3).

According to the results grade 2 bolts have higher chance of failure in high stress situations and are not recommended for safety reasons, grades 5 or 8 bolts are recommended to be used for higher safety.

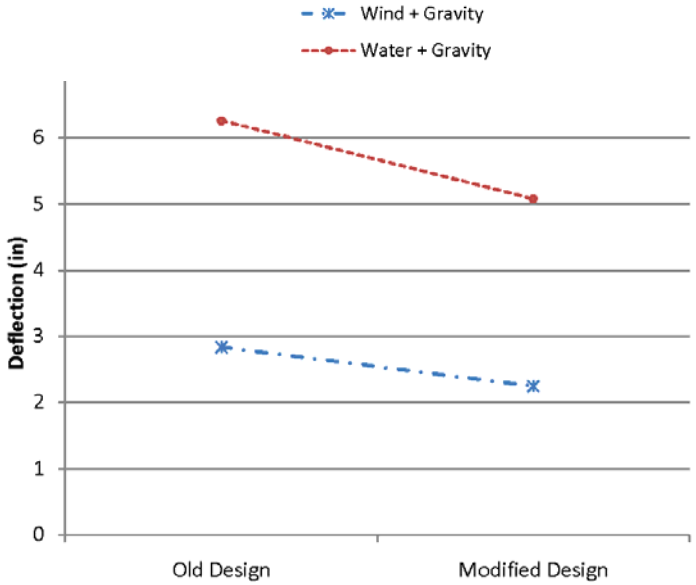
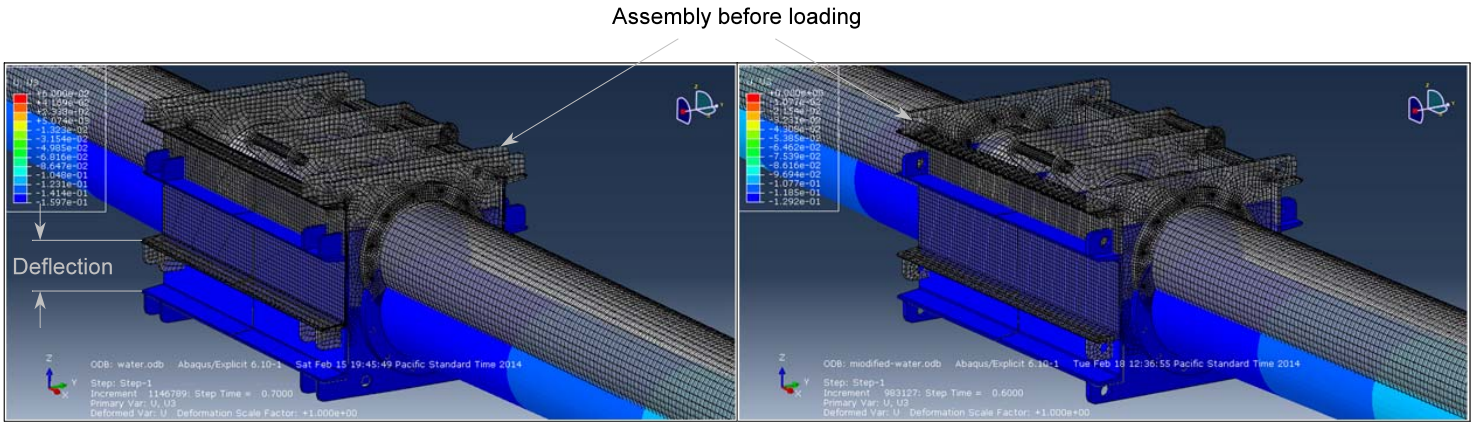
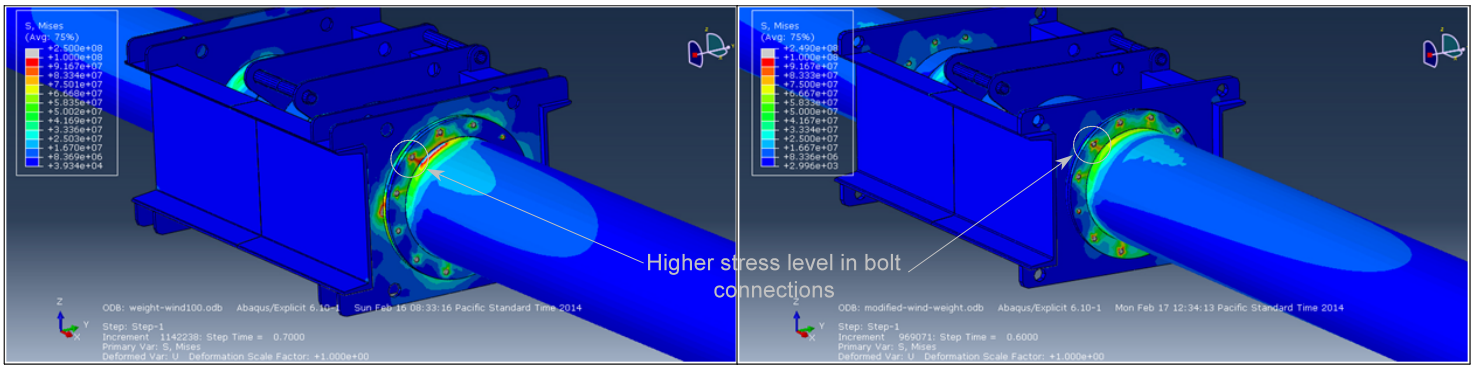


Figure 1. Deflection due to various loading conditions for old and modified designs.



Old design Modified design

Figure 2. Deflection under water + gravity load.



Old design Modified design

Figure 3. Stress contour wind (100miles/hr) + gravity load.

For Clean Out dimensions see A-9260