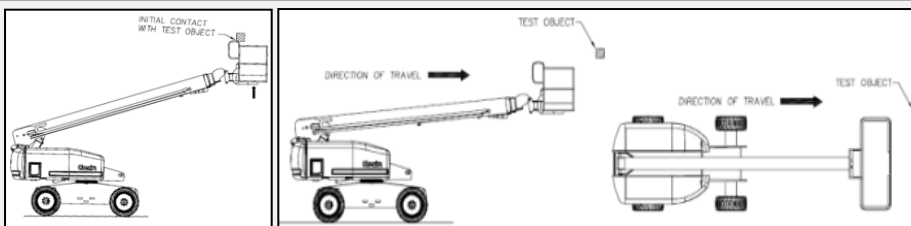


Summary

Project Name: : Impact analysis of basket

Software: ANSYS Explicit Dynamics

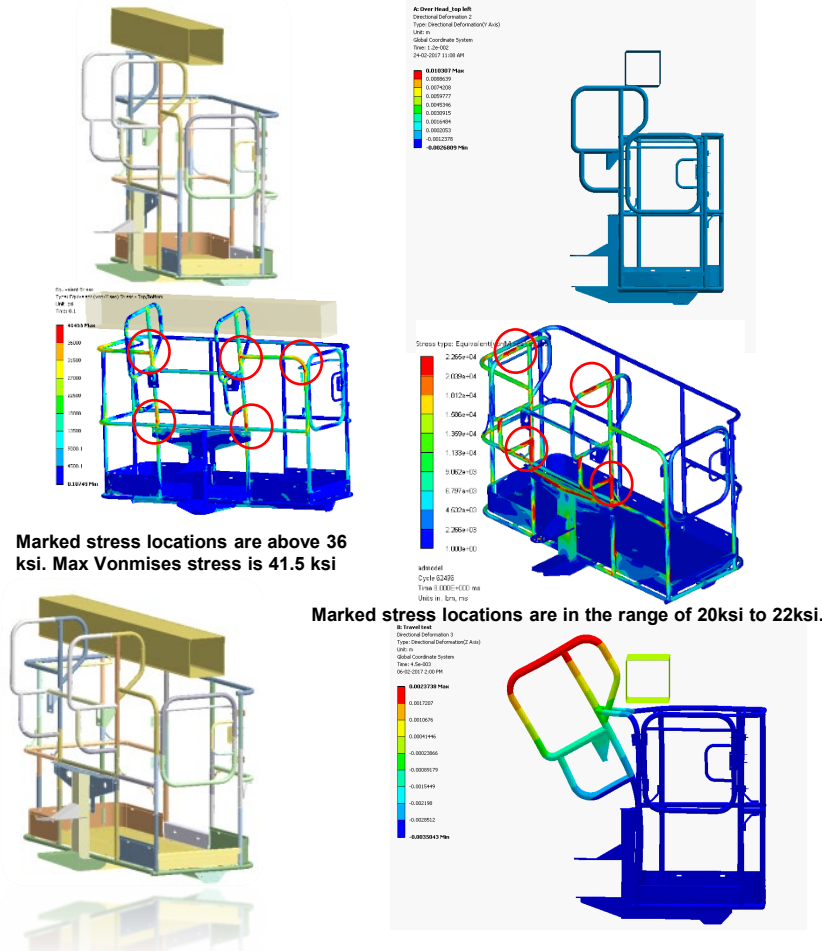
Scope: Impact analysis of Operator's Protective Structure using FEA simulation



Over head test

Travel test

- Developing virtual evaluation procedure is intended to provide the operators with reasonable protection from obstructions while operating MEWPs
- The basket was purely driven by the initial velocity influenced by lifting cylinder operations and vehicle maximum driving speed.
- Different obstruction positions are considered for the impact to study deformation and high stress zones
- Bending of top basket structure predominates over crushing in all test object positions.

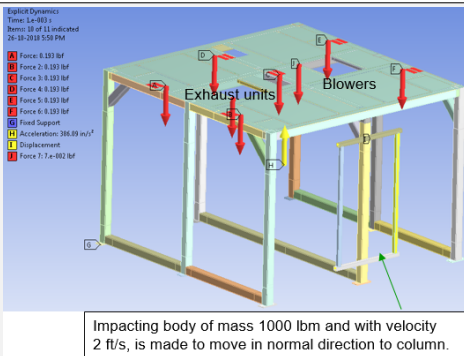


Summary

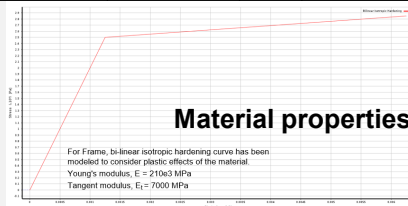
Project Name: : Impact analysis of cool down tunnel structure

Software: ANSYS Explicit Dynamics

Scope: To study the strength of the cool down tunnel when moving cart impacted at the columns



Weights (lbs)	Unit weight (lbs)	Qty	Total Weight (lbs)
Blower	193	6	1158
Exhaust Unit	70	2	140



Analysis type	Load case	Hitting column
Dynamic	1g + 1v with Straight hit	* Middle column
		* Extreme column
	1g + 1v with 45° hit	* Middle column
		* Extreme column
	3g + 3v with Straight hit	* Middle column
		* Extreme column
	3g + 3v with 45° hit	* Middle column
		* Extreme column

- The cool down tunnel structure is analyzed for the paint cart impact with 2 ft/sec speed.
- Columns are supported on ground with bolt-on arrangement.
- Different load cases are analyzed to predict the deformation and stress ranges.
- 3g+3v loading condition, the stress and strain limits are exceeding the allowable limit of 36,000 psi and 0.2% strain.

