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Problem & Introduction:

- With the John Deere 600FD grain header there is no integrated transport system due to the complex structure that allows for the grain header to contour to changing surfaces.
- Other solutions require the use of header carts that can cause congestion in-field and are not as time efficient, especially in large multi-combine operations

Background:

- John Deere 600D rigid draper offers an integrated transport system that is very popular out West in wheat country and on flatter terrain.
- If an integrated transport system could be implemented on the 600FD, we feel that it could become very popular in geographies that support soybean production.

Constraints:

- Combine must support weight of flex draper head and integrated transport system
- An operator must be able to handle the weight of deployment
- Safe deployment
- Does not affect the process of cutting when not in use
- Need 14" tire to suffice the weight of the 600FD (8,047 lbs. 40' model)
- Max trailing speed of 26 MPH
- Must meet ASAE standard S360, Load carrying ability for Farm Materials Transport

Impacts & Sustainability:

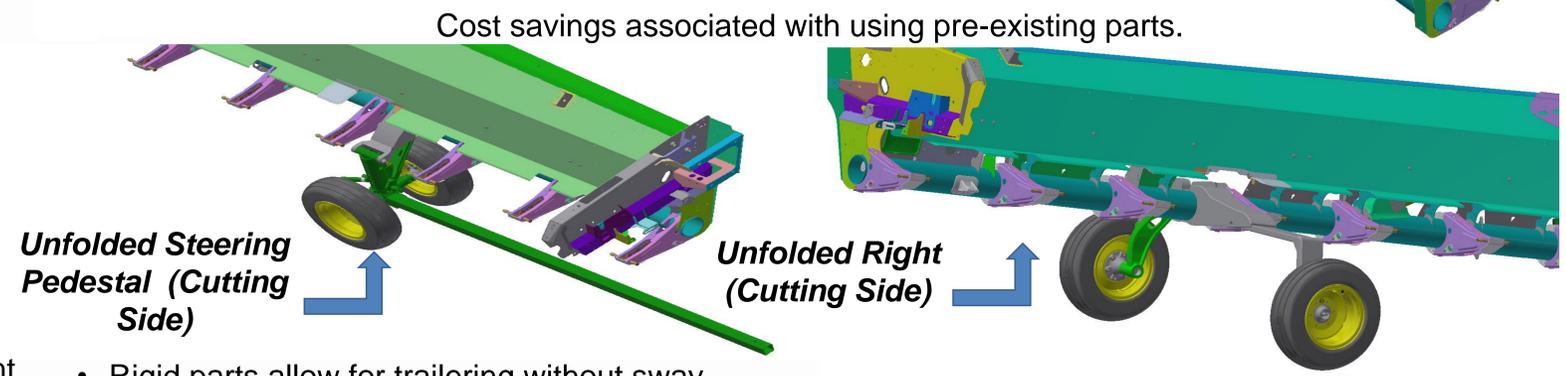
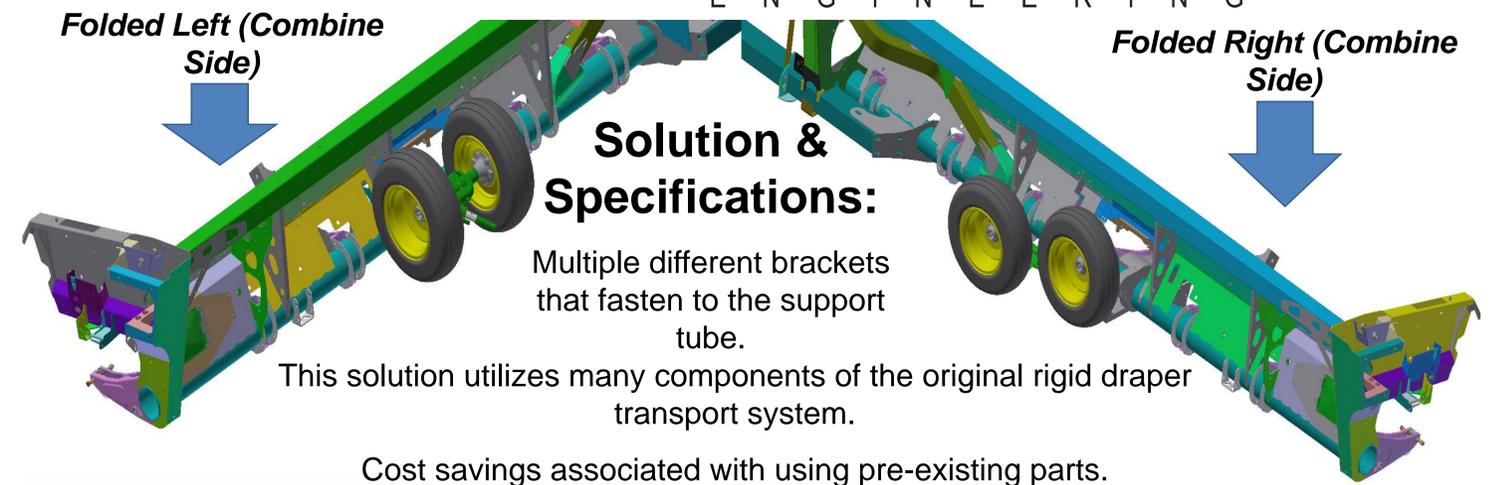
- Having the ability to transport grain header without header cart and separate transport vehicle.
- Less time needed to transport 600FD & less manpower which creates an all around more efficient operation
- Less materials needed to create this system unlike that of a traditional header cart

Criteria:

- Priced Comparable to other manufactures
- Reliable on road when in use
- Must be comparable time of deployment to putting the grain header on a header cart

Alternate Solutions & Design Process

- Retrofit existing parts off the 600D grain header
- Hydraulic lifting capabilities
- Completely removable transport system
- Original design wasn't capable due to problems associated with the center of gravity creating a design that was not safe to trailer



- Rigid parts allow for trailering without sway or stability problems (Max Speed 26MPH)
- This solution meets all regulations listed by previous standards of trailered implements

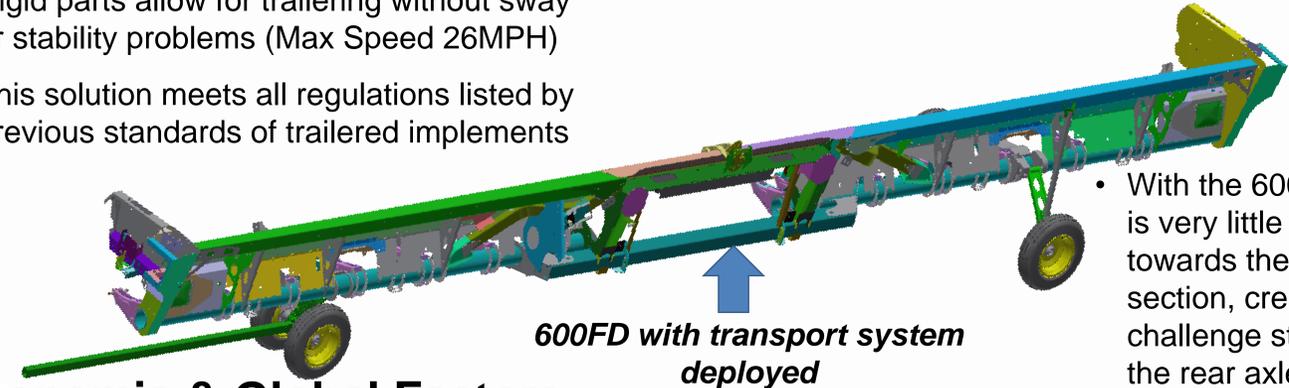
Economic & Global Factors:

We looked at multiple different factors across the Global/Social/ Cultural/Economic/ Environmental Factors and found the following the most important.

- This can ultimately save the operator time and money
- Ability to tap into global markets like that of South America
- Large soybean operations in South America create opportunities for this system

Conclusion & Recommendations:

- Retrofitting John Deere's current design on the 600D series draper is ideal to solve this problem
- This will yield the least amount of changes from the current product, use technology already owned by the company, and have a familiar application for the user
- With further modeling this problem is feasible using current John Deere parts alongside new parts



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