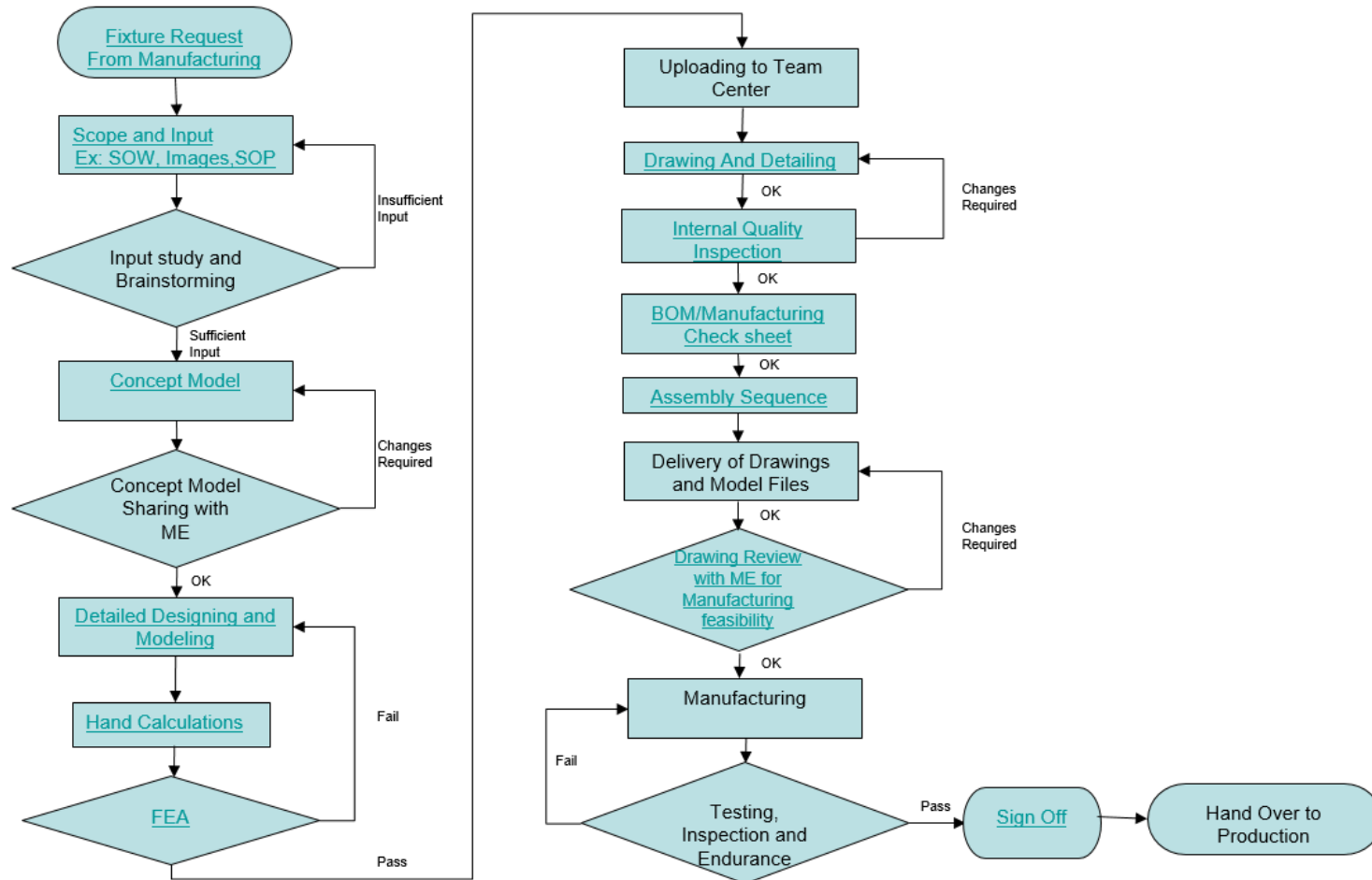


Summary

Project Name: Tooling: Assembly Handling, Welding & Testing Devices

Scope: Conceptualization & Detail Design of Assembly Handling, Welding & Testing Devices

Software: UG NX, Solid works, Ansys



Summary

Project Name: Tooling: Production Carts (for material movement & transport)

Scope: Conceptualization & Detail Design of Production Carts (for material movement & transport)

Software: UG NX, Ansys

RT Hydraulic Tank Installation Cart:

- OH Cranes or Forklifts were used to align and install hydraulic tanks on all frames in RT line.
- This created a safety concerns, inconsistencies and inefficiencies in the assembly process.
- Designed and developed a universal assembly fixture mounted on a scissor cart to hold tanks for all RT models.

Accomplishment:

- Quick and consistent installation process for hydraulic tanks onto the frame without safety concerns and waiting delays associated with OH cranes and forklifts.
- Elimination of Forklifts.
- Consistency & Repeatability.
- Ease and speed of Installation process.



Summary

Project Name: Tooling: Production Carts (for material movement & transport)

Scope: Conceptualization & Detail Design of Production Carts (for material movement & transport)

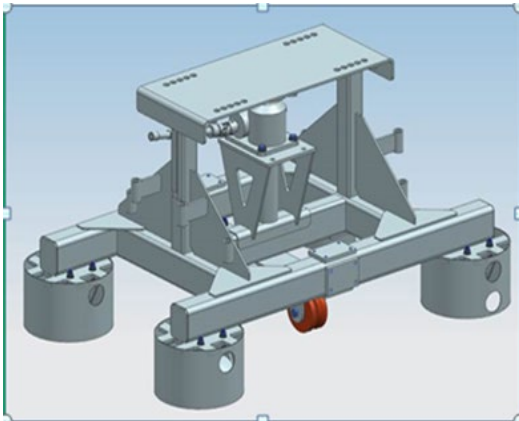
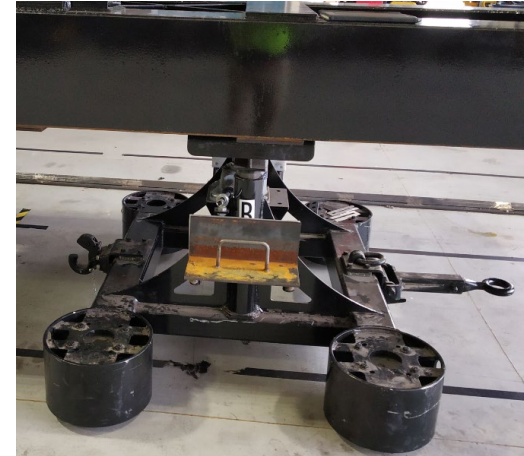
Software: UG NX, Ansys

Boom Transport Cart:

- Carts for transporting booms to the booms line, holding them during prep stage, sliding them while the booms are being assembled (stuffed), and transporting assembled booms to the test fixture and yard.
- Track for running the carts in a straight line
- Motion actuation system

Accomplishment:

- Improved Productivity,
- Improve Safety(Rigging).



Summary

Project Name: Tooling: Production Carts (for material movement & transport)

Scope: Conceptualization & Detail Design of Production Carts (for material movement & transport)

Software: UG NX, Ansys

RT- Crane Hook Block Cart:

- Hook Block is setting on the floor -- Using crane, bring it below the crane tip -- Connect with the Wire rope and lift it up by crane motion actuation system
- This cart can hold all the variants of Hook Blocks in desired orientation for reeving and attaching it to the Crane(Boom Head)
- It is also equipped to safety transport the hook blocks from the materials area to the assembly line

Accomplishment:

- Safety: Handling of the Hook Block is safer.
- Quality: Improved working height on Hook block
- Productivity: Improved process.



Summary

Project Name: Tooling: Production Carts (for material movement & transport)

Scope: Conceptualization & Detail Design of Production Carts (for material movement & transport)

Software: Solidworks, Ansys

20T Transport Cart:

- Suitable for 2 different Upper carriages & 3 different under carriages
- 4 main wheels suitable for moving on ground & 4 additional wheels suitable for paint shop rails.
- Same cart from Receiving area -> Paint shop -> Production floor

