

3. CANOPY TROLLEY's FOR A FIGHTER AIRCRAFT USING COMPOSITES

Problem Statement:

A OEM approached us on carrying out the design and fabrication of a Canopy Trolley's for a Fighter Aircraft which had to be manufactured using composites. Our deep expertise in Composites, led by Dr. Shamarao, ensured that we executed the project impeccably.

Description of Scope of Work:

Deatiled design and manufacturing had to be carried out for the Canopy Trolley's which had to be light weight & also have long durability.

Challenges:

- Make the trolley light in weight as frequently it needs to be transported in aircraft by the client.
- Composites had to be used for manufacturing the trolley.
- The design had to be optimised accordingly.
- Uniformity of the laminates had to be ensured for the curved structure of the canopy.
- Using Hand lay up technique, right quantity of the resin spread had to be guaranteed at every point.



Manufactured Canopy Trolley's using Composites

Execution Strategy:

- Study was carried out by the team on the composites that could be used effectively for the purpose, which was led by Dr. Shamarao & Mr. Ranga Reddy.
- Discussions were carried out with the client for finalising the resin and the laminates.
- Accordingly, design changes were carried out & finalised by the client prior to manufacturing.
- In-house production facilities were utilised to manufacture the lay up tools required.

Value Added:

- On-time, quality delivery, in spite of significant challenges.
- Due to the induction of the production team from the inception phase, the product iterations were considerably reduced.