

Aeronautical Engineers Australia

Working together



Development of a New Stretcher System

Andrew Moore Engineering Manager - Perth

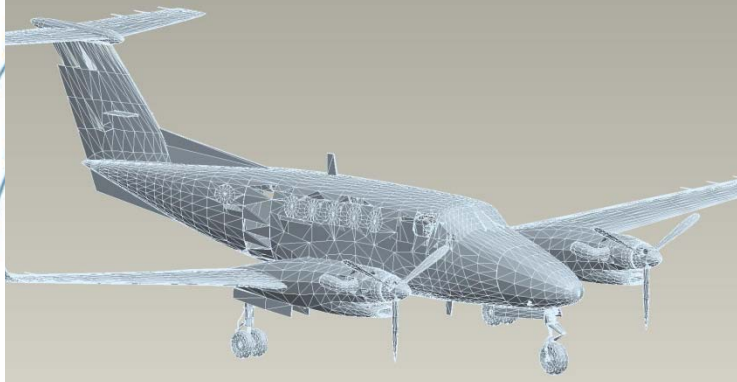
August 2011

Introduction

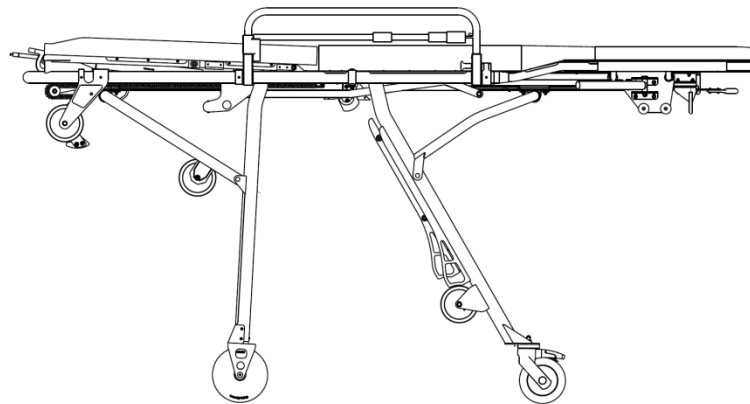
- Background
- Basic Requirement
- Acceptance Criteria
- Design and Development
- Production and Delivery

Background

Ambulance Victoria RFT 1100 Fixed Wing Patient Transport Services – November 2008.

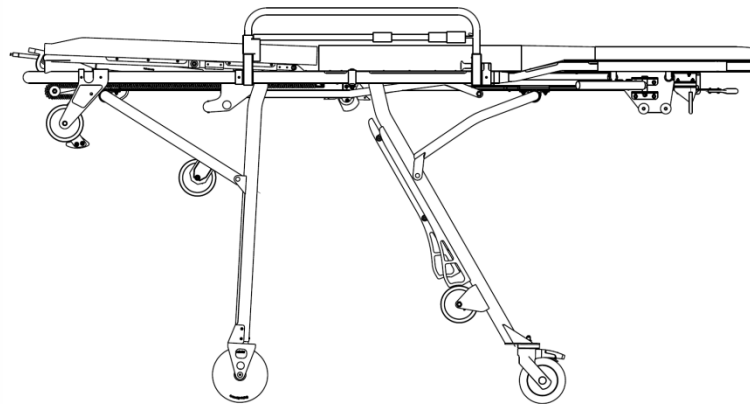
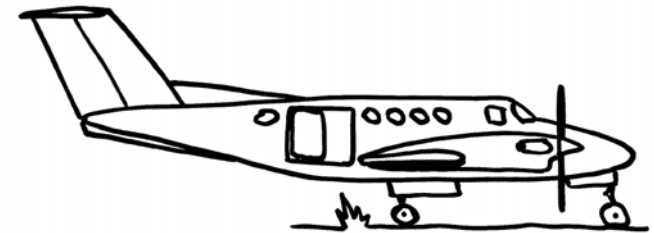


Basic Requirement



**Compatible with a Beechcraft B200C and Ferno 50-E
Compatible Road Ambulance**

Basic Requirement

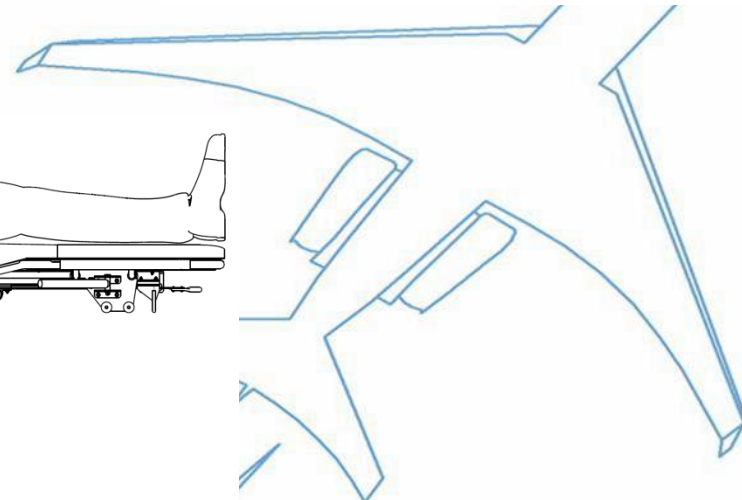
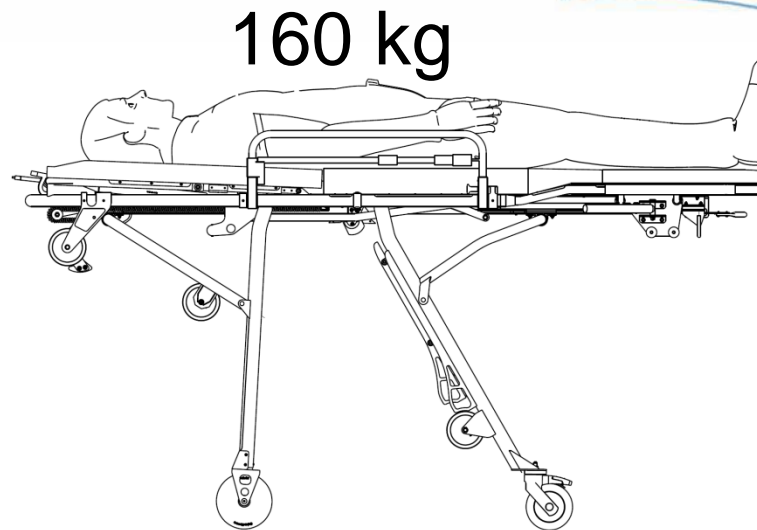


X 2

Aircraft carries two stretchers

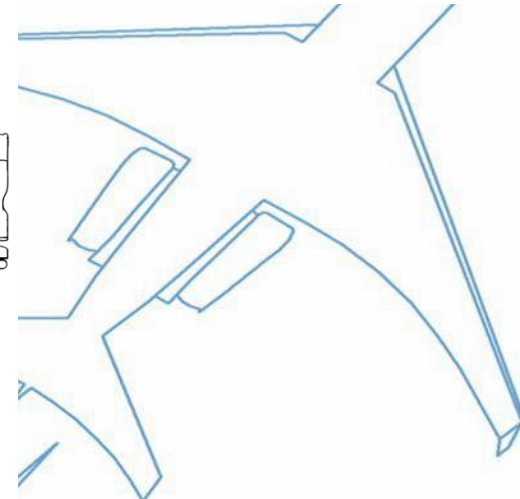
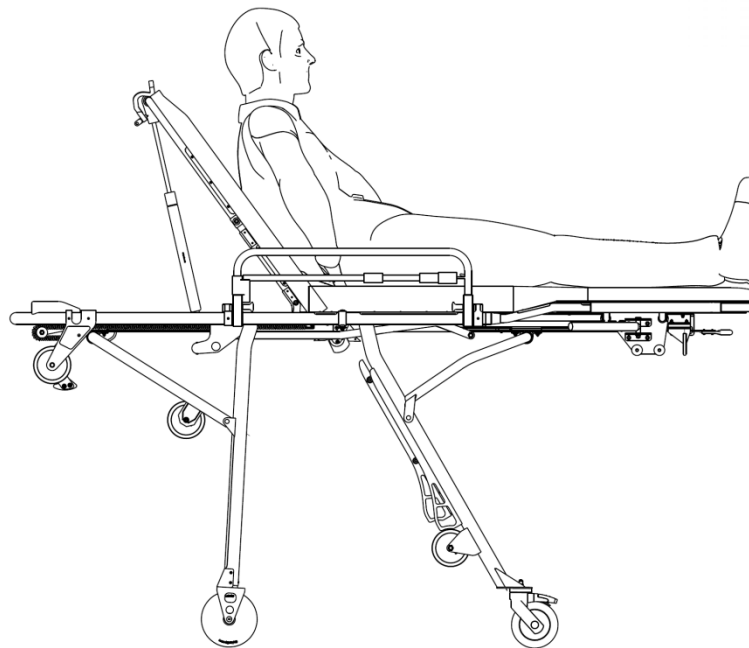
– Each removable independent of the other

Basic Requirement



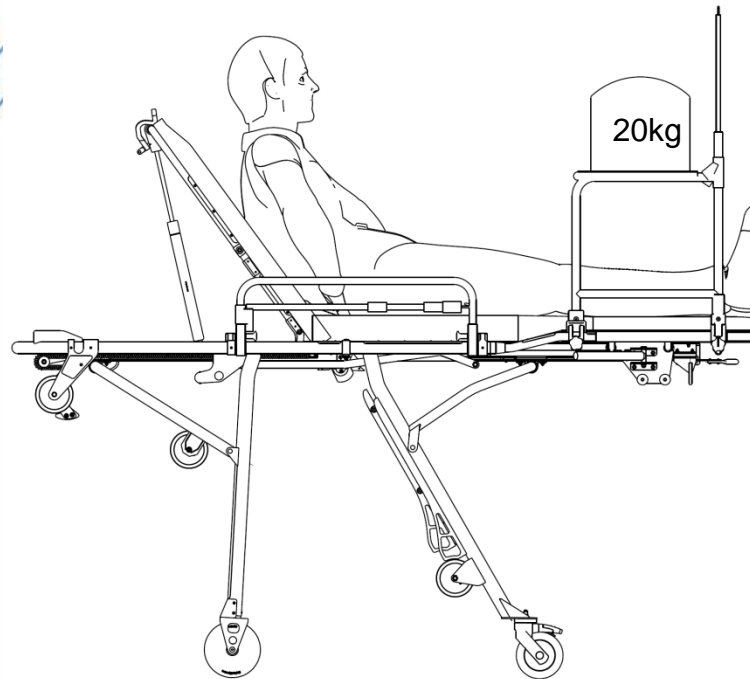
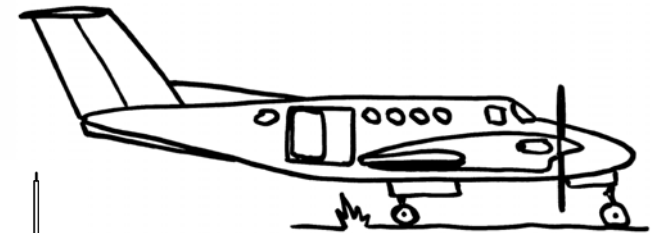
Standard stretcher to carry a 160kg Patient

Basic Requirement



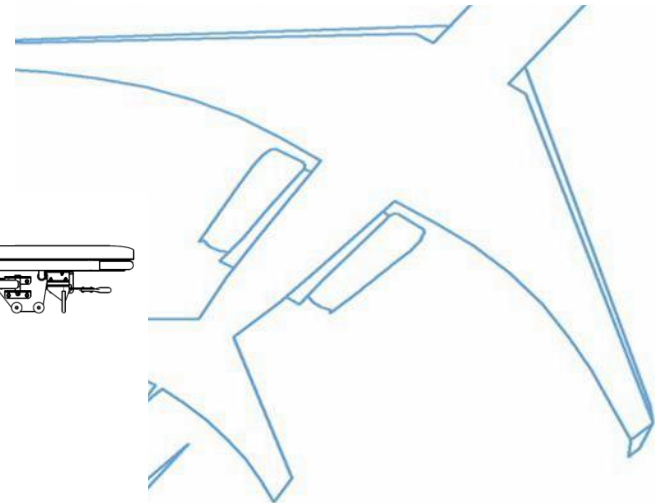
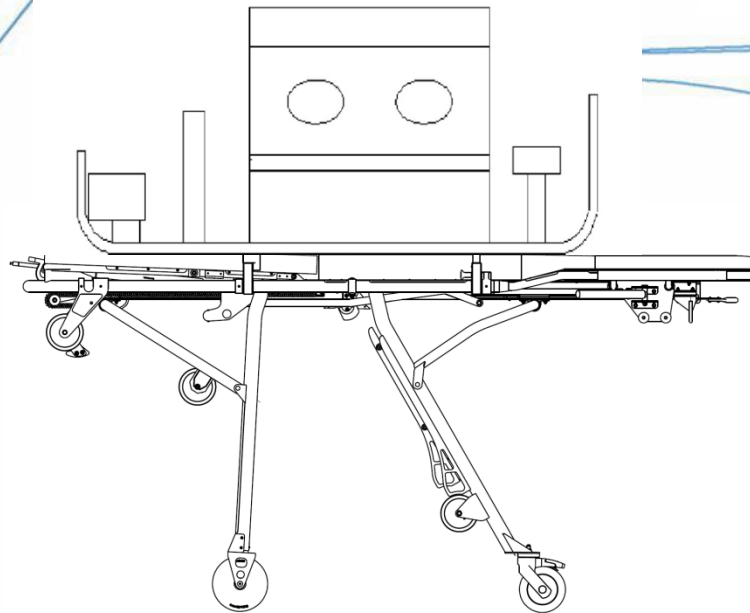
Adjustable Backrest

Basic Requirement



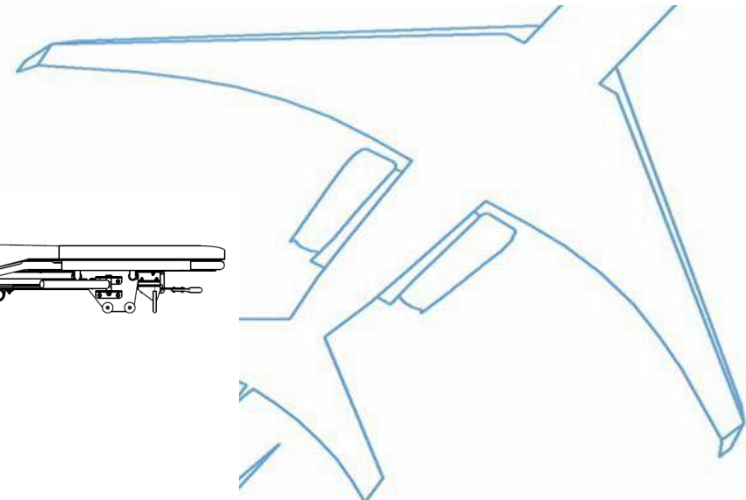
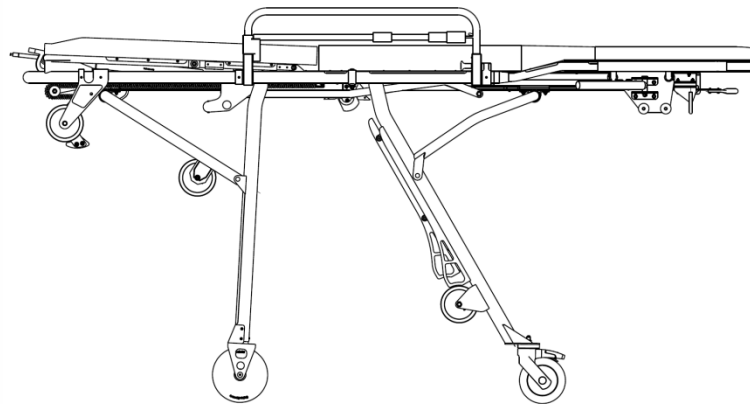
Removable Bridge with 20kg Payload

Basic Requirement



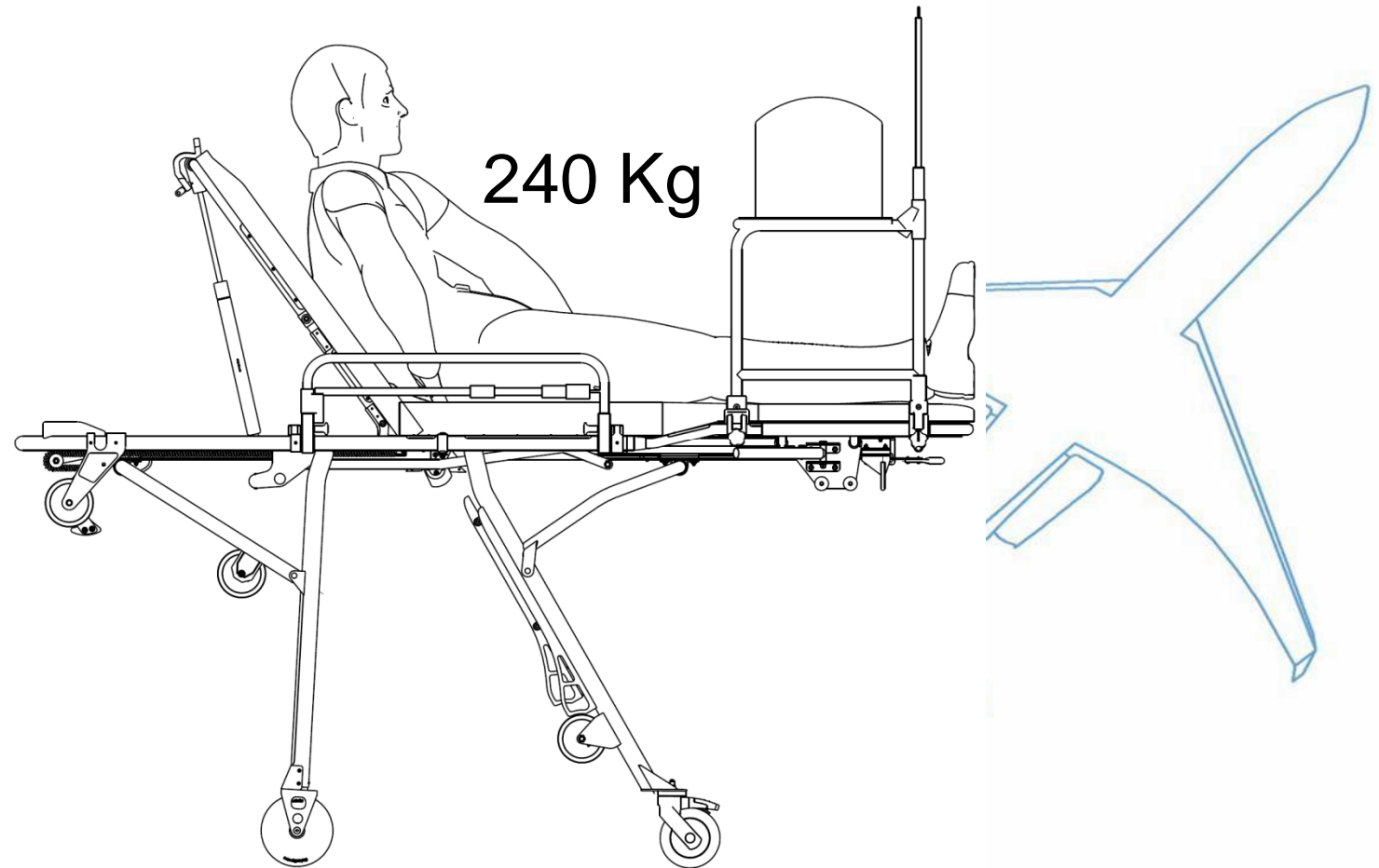
Stretcher with Deck to Carry Mansell Neocot

Basic Requirement



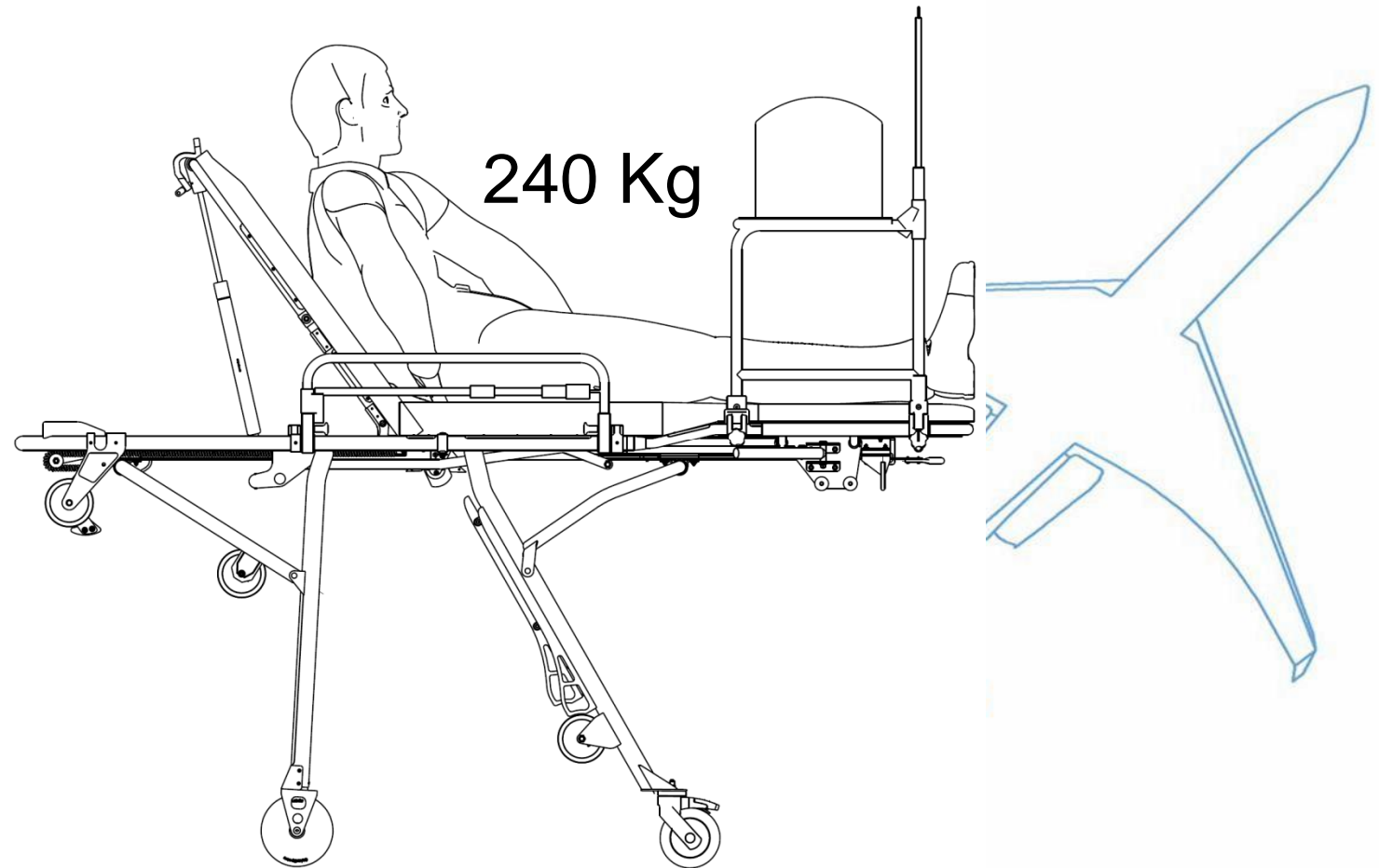
Adaptable to fit NSW Ambulance

Basic Requirement



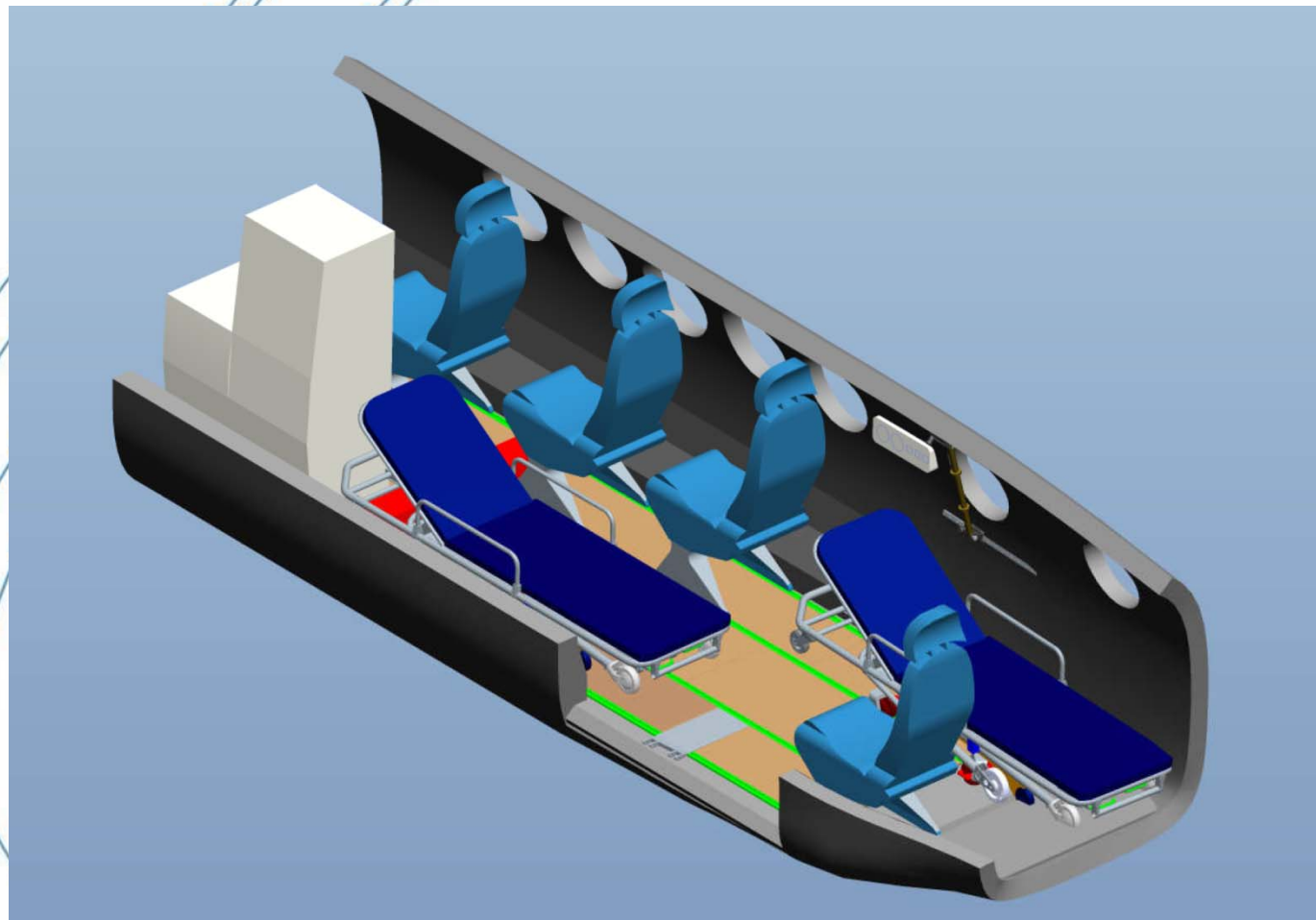
Larger Bariatric Stretcher to carry 240kg Patient

Basic Requirement



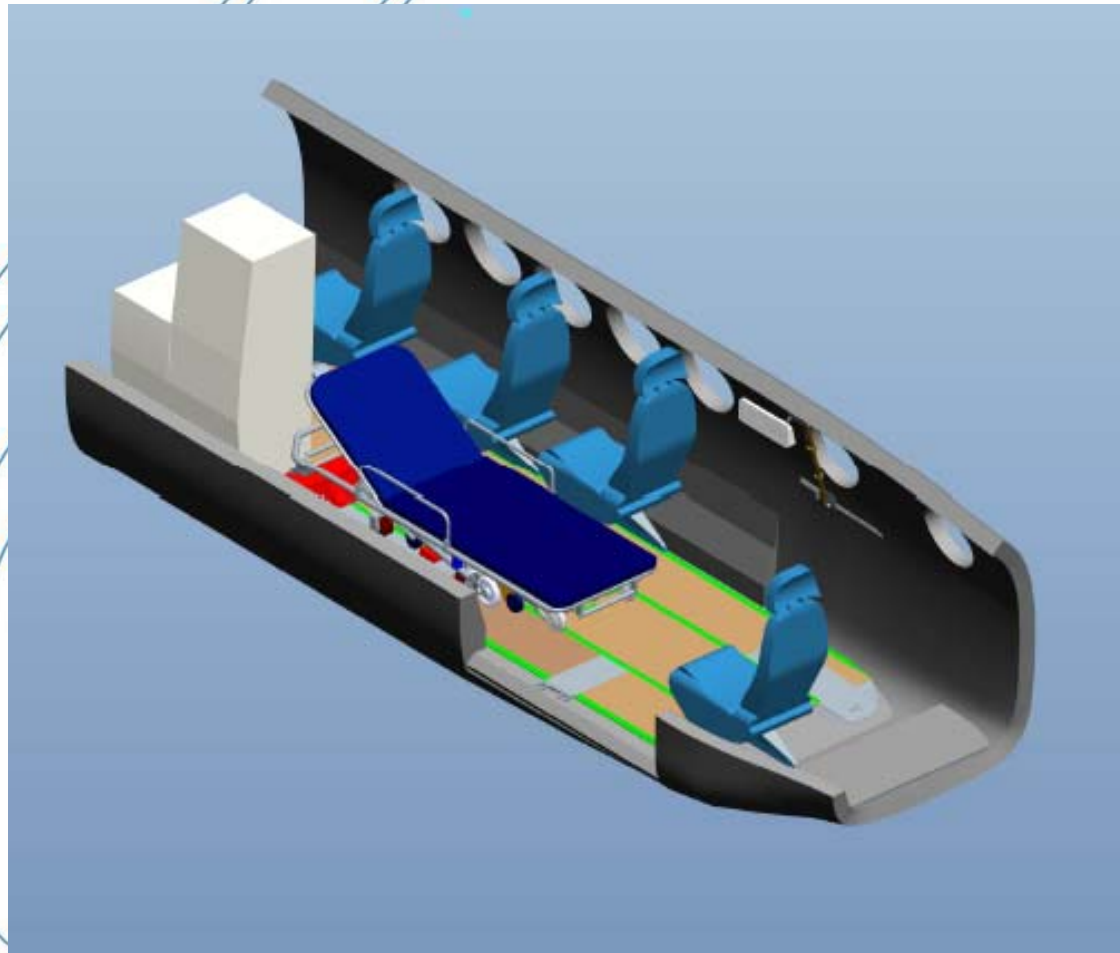
Larger Bariatric Stretcher to carry 240kg Patient

Basic Requirement



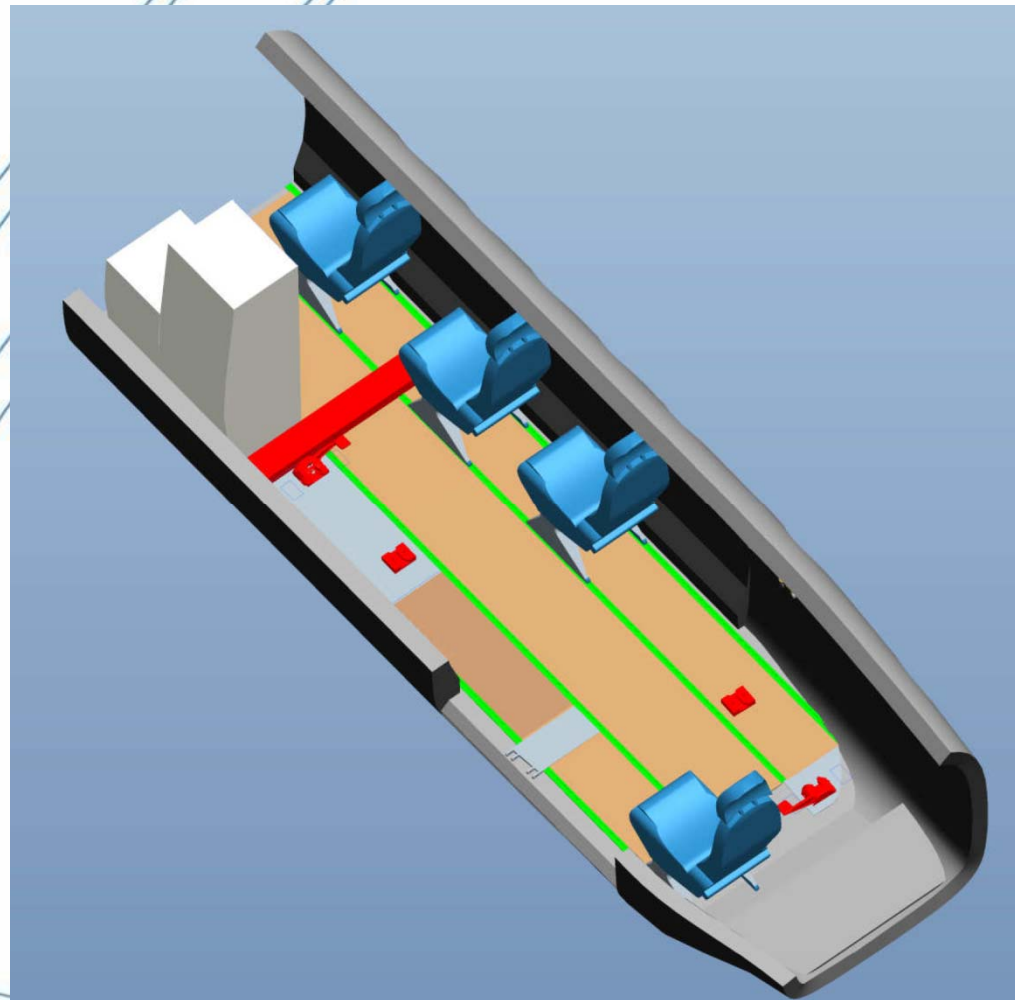
2 x Stretchers, 4 x Medic seats

Basic Requirement



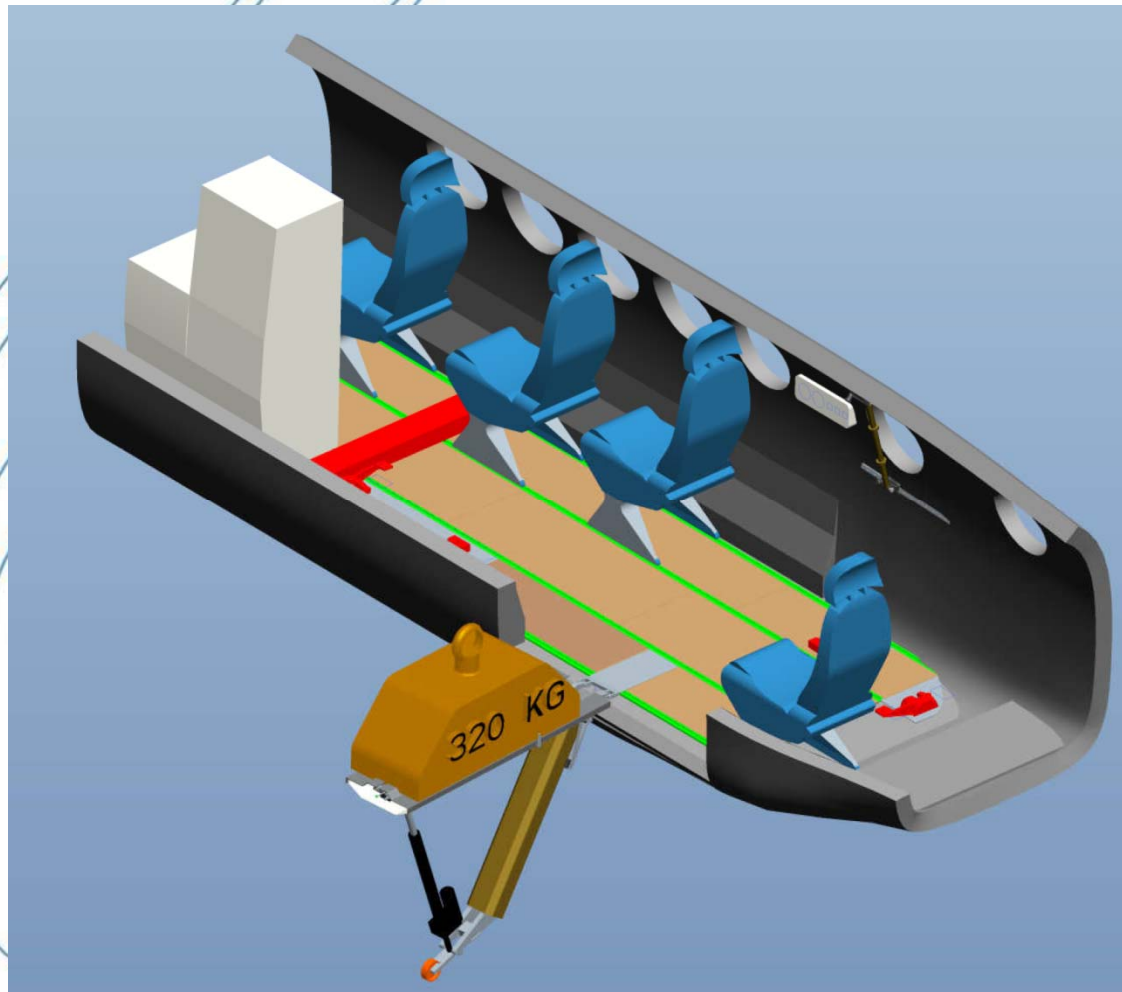
1 x Bariatric Stretcher, 4 x Medic seats

Basic Requirement



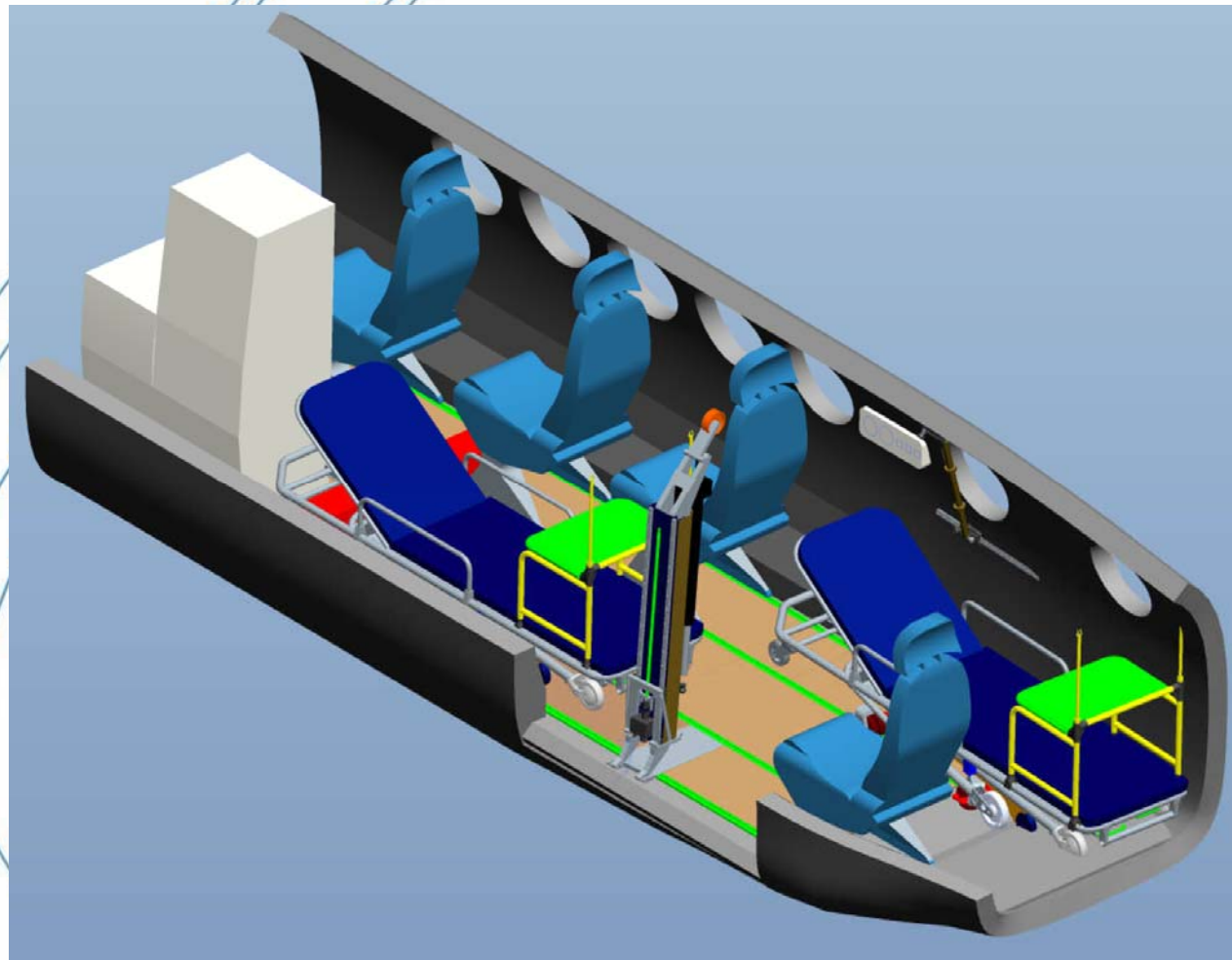
Floor Mounted Automatic Stretcher Locks

Basic Requirement



Loader to Lift 320kg with ease



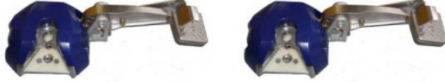

Basic Requirement



Loader to occupy minimum space when stowed

Basic Requirement

Minimum Weight – Maximum Payload

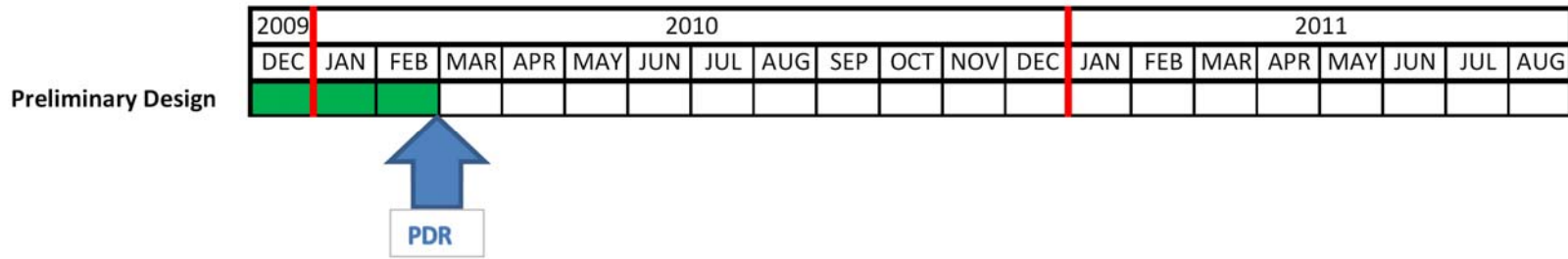
STRETCHER – Medic-Air Qty 2 per A/C 45kg each		90kg
LOADER AND PLATFORM Qty 1 per A/C 45kg		45 kg
FLOOR LOCKS Qty 2 per A/C 5 kg each		10 kg
COMPUTER LRU Qty 1 per A/C 5kg		5 kg

Total Installed weight = 175kg

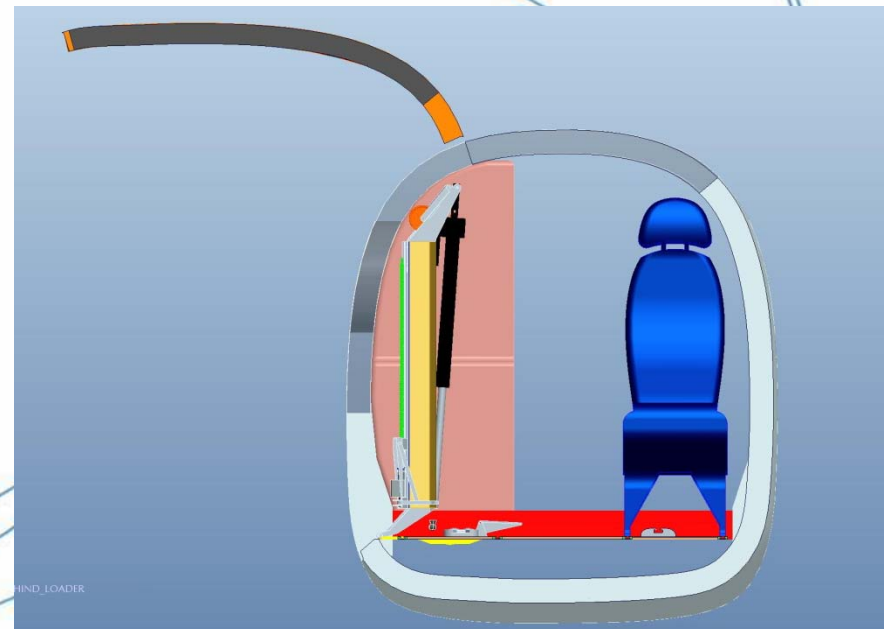
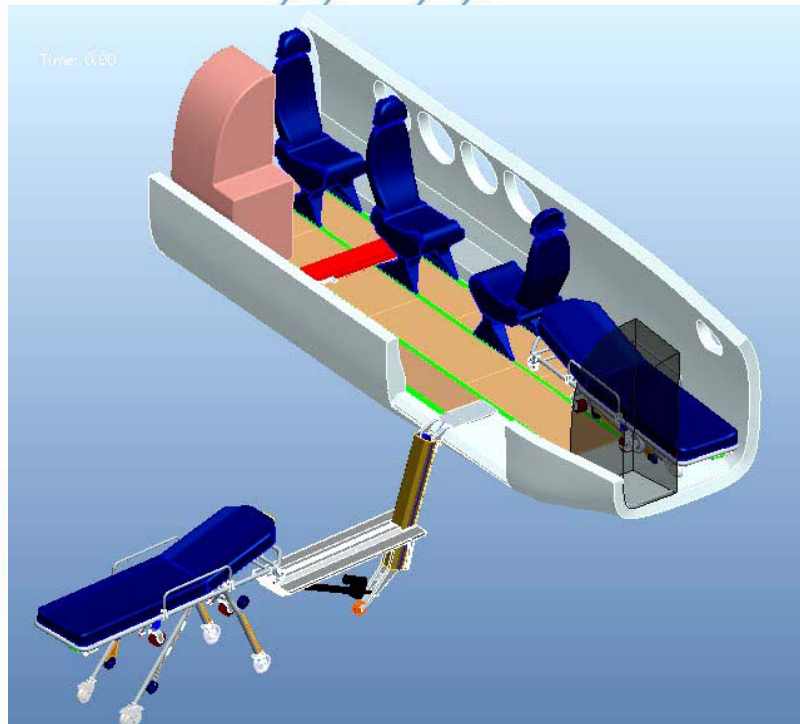
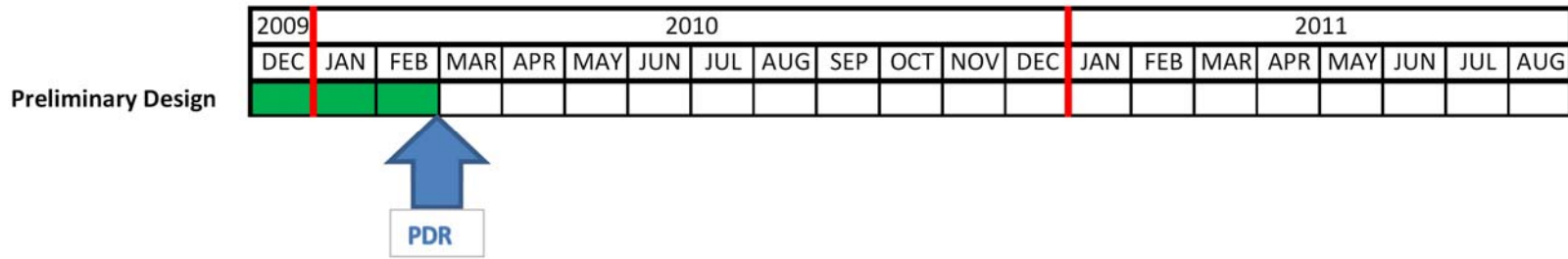
Acceptance Criteria

- Approved on the aircraft under a CASA STC using actual maximum patient weight not 77 kg as permitted by the regulations.
- Carriage of the Stretcher in the ambulance to comply with AS4535:1999 (Crash Test)
 - 20g Forward
 - 10g Side
- System to meet Victorian Occupational Health and Safety regulations.

Design and Development



Design and Development



Design and Development

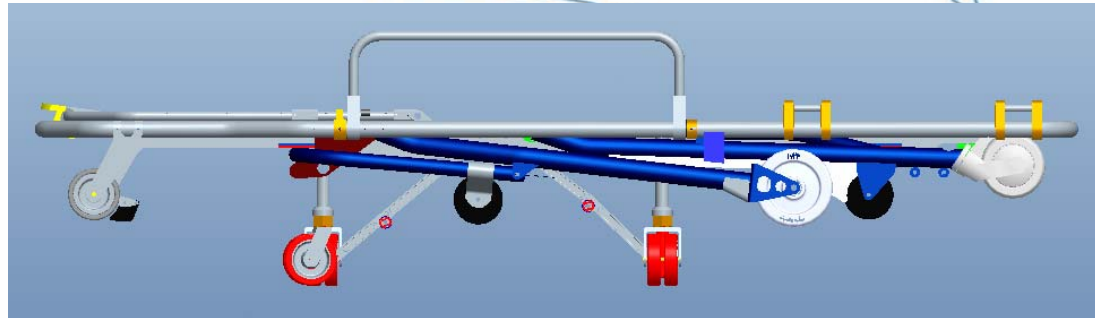
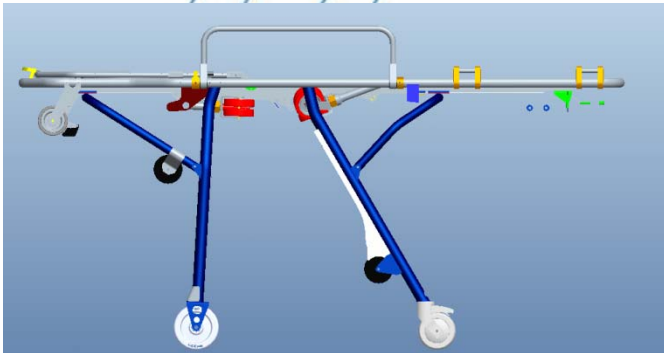


Preliminary Design
Detail Design

2009		2010											2011							
DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG



CDR



Design and Development

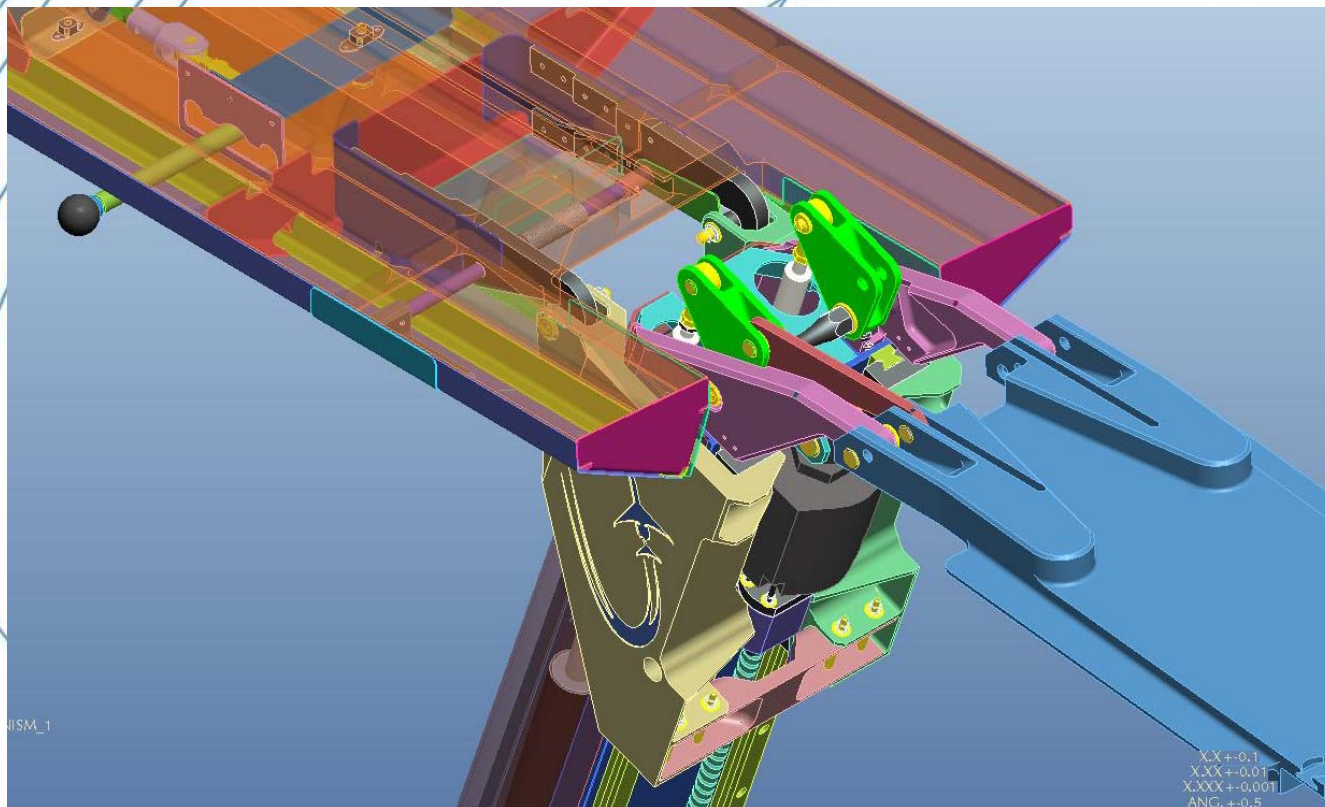


Preliminary Design
Detail Design

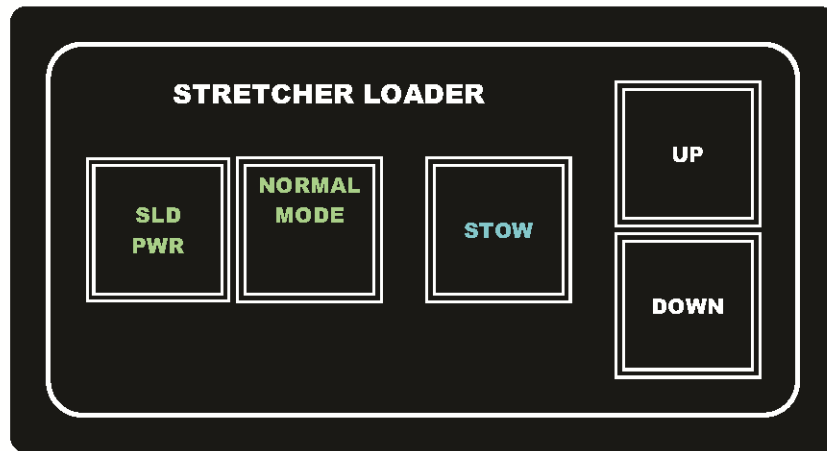
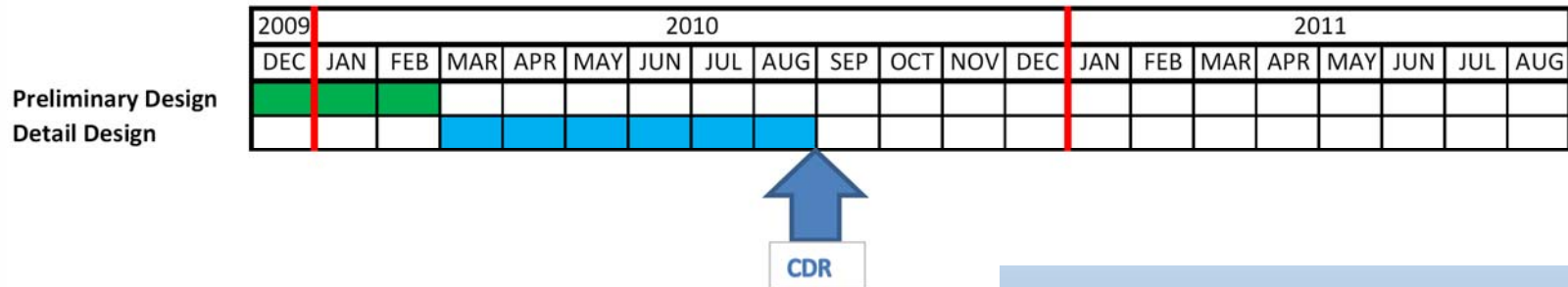
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CDR



Design and Development



Design and Development

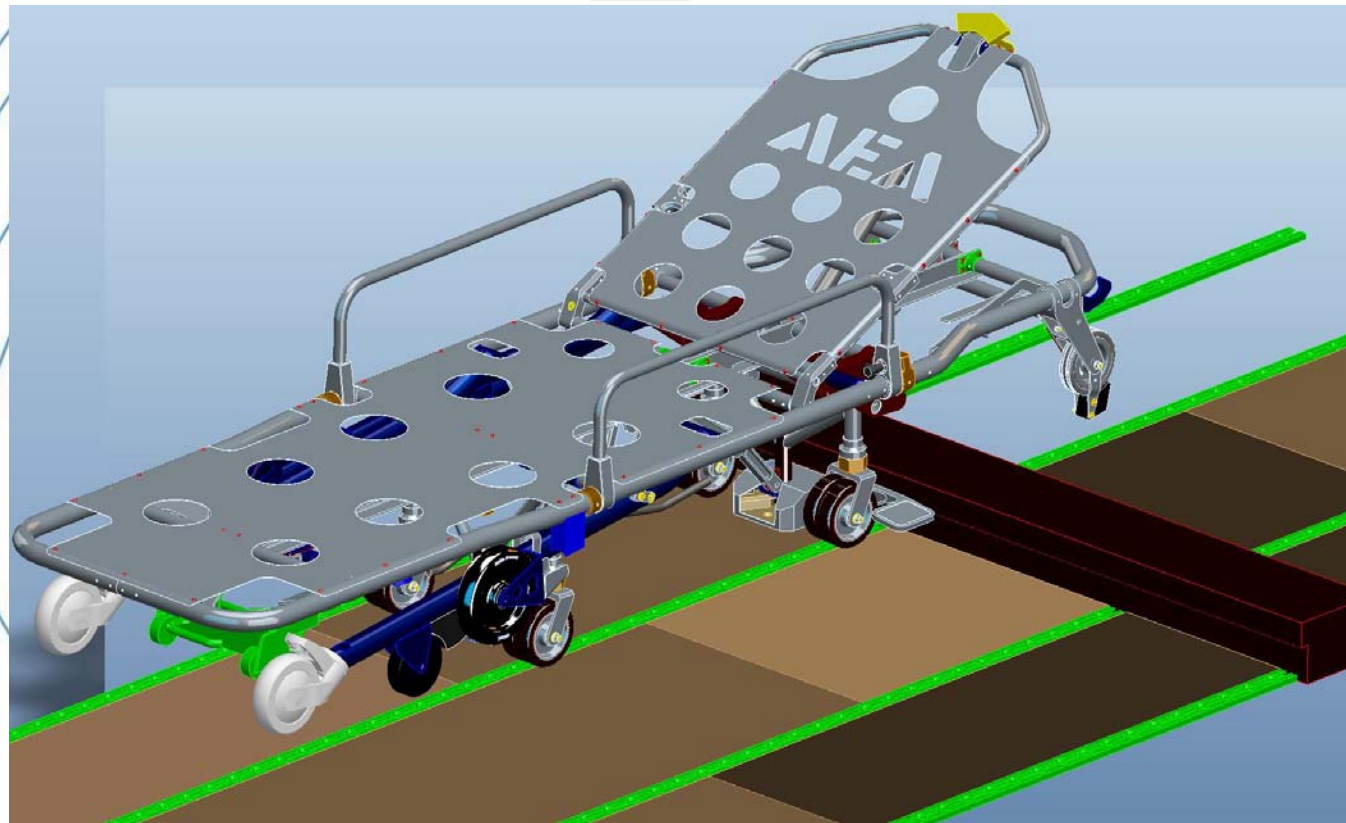


Preliminary Design
Detail Design

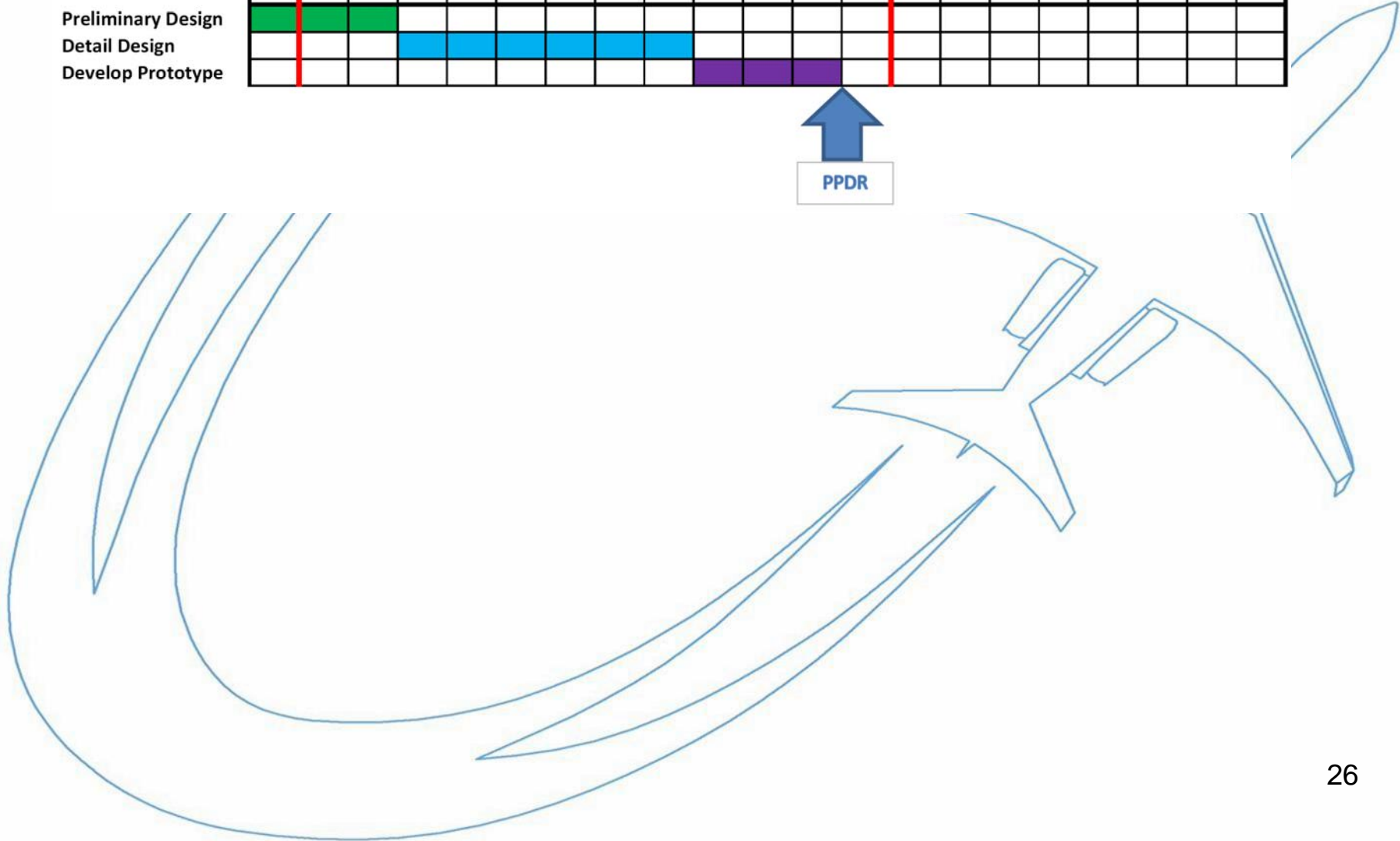
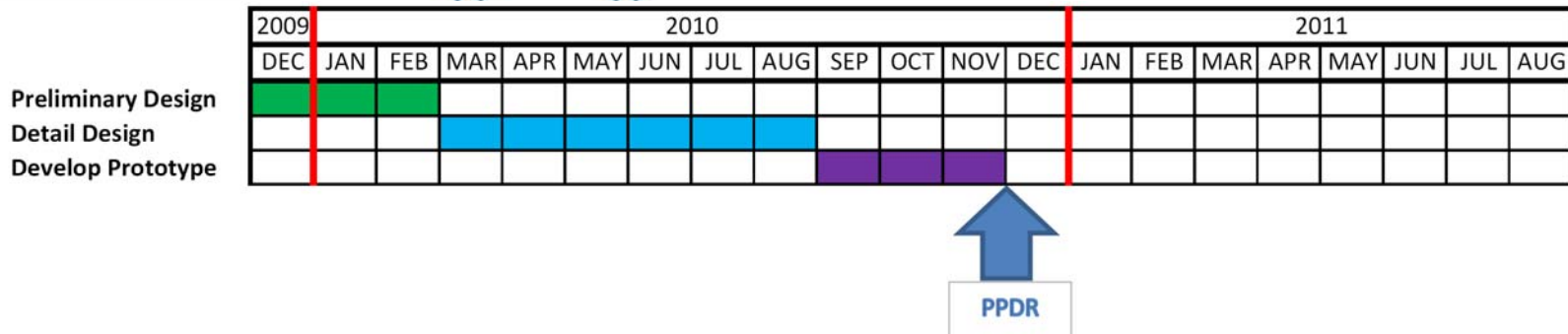
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CDR



Design and Development



Design and Development



Preliminary Design
Detail Design
Develop Prototype

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Design and Development



Preliminary Design
Detail Design
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Testing

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Design and Development



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Preliminary Design		Green																				
Detail Design		Blue																				
Develop Prototype		Purple																				
Testing		Pink																				

Preliminary Design
Detail Design
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Testing



Design and Development



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Design and Development



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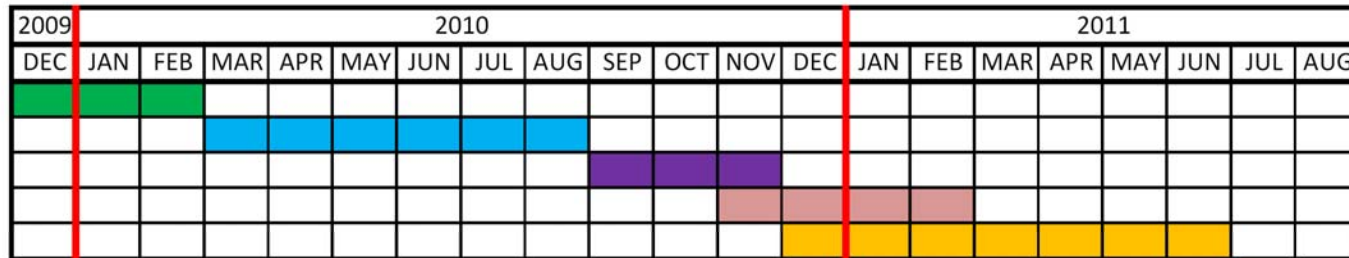
350kg



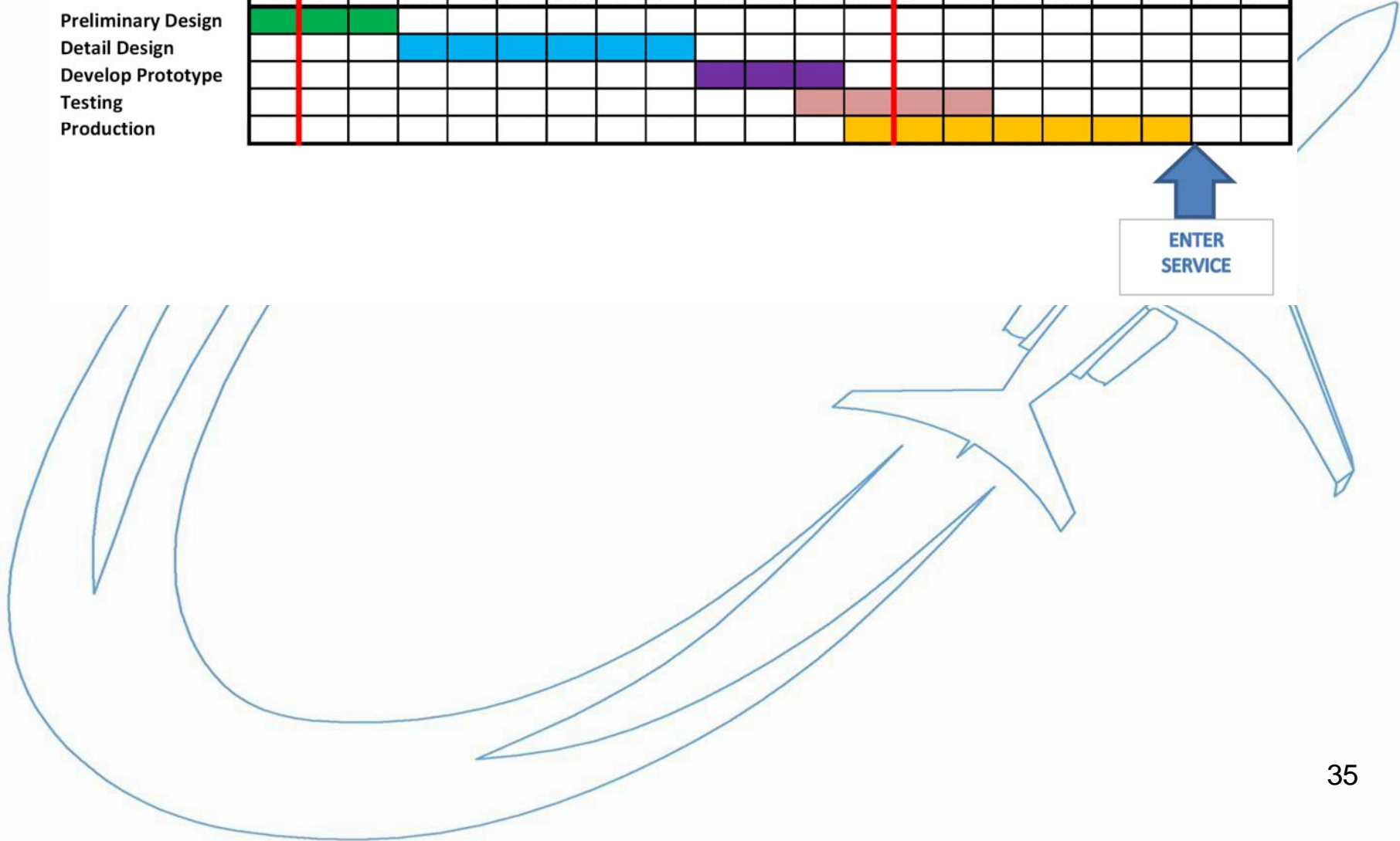
Production and Delivery



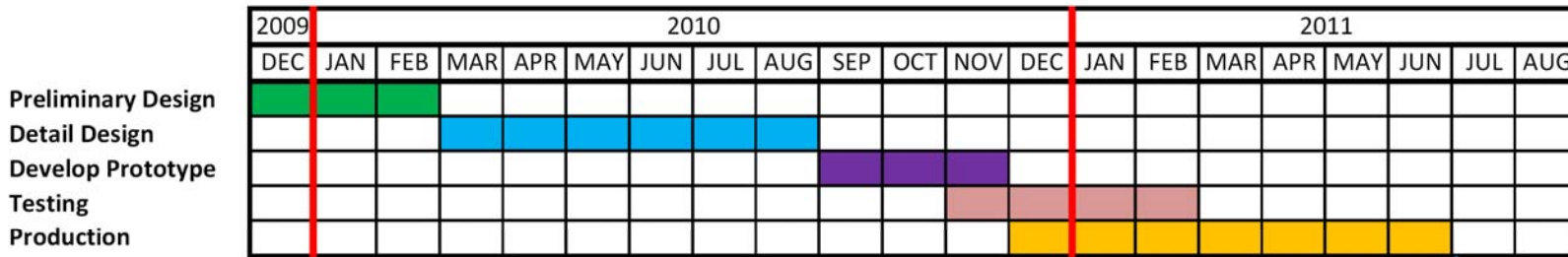
Preliminary Design
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Testing
Production



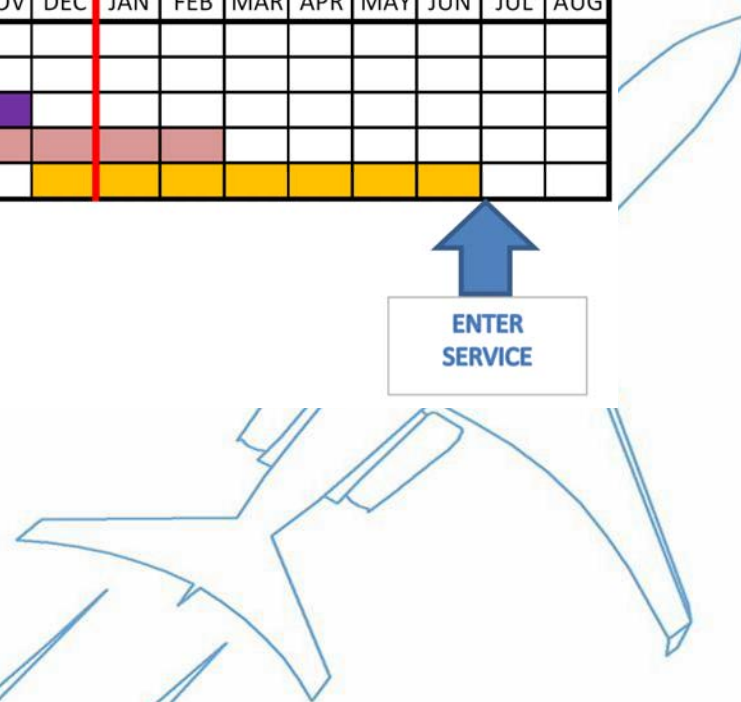
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ENTER SERVICE



Production and Delivery



- 12 Standard Stretchers
- 3 Neocot Stretchers
- 2 Bariatric Stretchers
- 8 Sets Floor Locks
- 5 Loaders



Production and Delivery



Preliminary Design
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Production

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Production and Delivery



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Production and Delivery



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Preliminary Design
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Production

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Production and Delivery



Preliminary Design
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Production and Delivery



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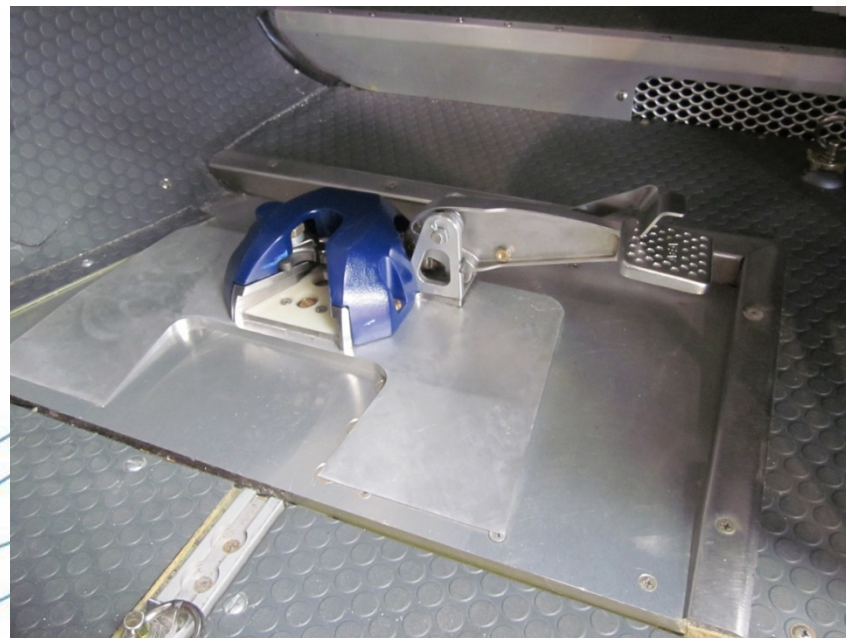
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Production												Yellow									

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Production and Delivery



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Any Questions ?