

ELR Employment Projects - Confidential

Date:

1979-1984

Org:

BAe-Systems

Sector:

Aerospace

Project:

BAe 146, Hawk, Sea Harrier, Alarm, Buccaneer

Detail:

Wings & Fuselage

Activity:

Design Analysis

Role:

Stress Engineer

Resources:

Loading data from fea, hand calculations, company standards, programs

Description:

BAe 146 Wing Main Box. detail stress work to optimise scantlings of members, plate thicknesses and connections for design loading conditions and according to specified design criteria. the project design philosophy included fail-safe criteria. Hand drawn load diagrams were used to provide local load distributions from the wing finite element analysis.

BAe 146 Wing Tabs. Detail stress work to optimise scantlings of members, plate thicknesses and connections for design loading conditions and according to specified design criteria. The project design philosophy included fail-safe criteria.

BAe 146 Flap Drive Mechanism. Detail stress work to optimise scantlings of members, plate thicknesses and connections for design loading conditions and according to specified design criteria. The project design philosophy included fail-safe criteria. Hand drawn load diagrams were used to provide local load distributions.

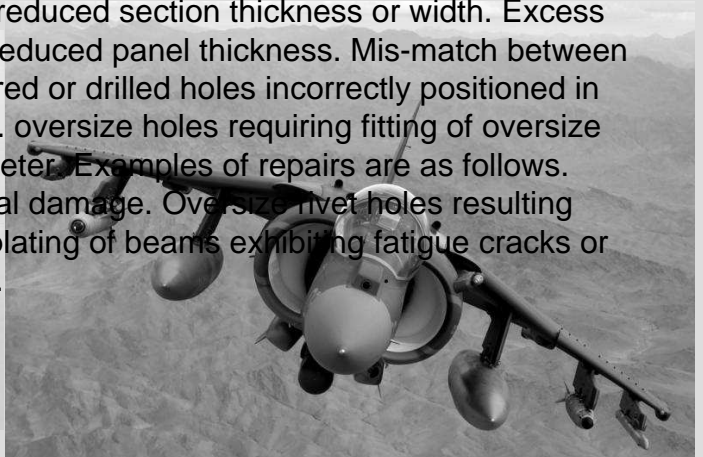
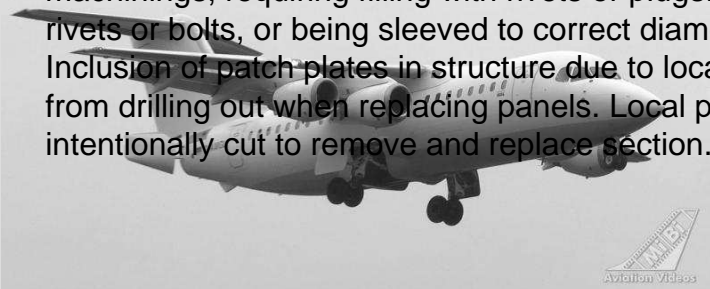
Hawk rudder hinge assembly

Sea Harrier wing/fuselage fixings

Alarm primary & equipment support structures



Design Concessions & Repairs. These included. Edge distance for rivet holes. Excess metal removal in machined stiffeners, causing reduced section thickness or width. Excess metal removal by chem-etch process causing reduced panel thickness. Mis-match between components necessitating the use of shims. bored or drilled holes incorrectly positioned in machinings, requiring filling with rivets or plugs. oversize holes requiring fitting of oversize rivets or bolts, or being sleeved to correct diameter. Examples of repairs are as follows. Inclusion of patch plates in structure due to local damage. Over-size rivet holes resulting from drilling out when replacing panels. Local plating of beams exhibiting fatigue cracks or intentionally cut to remove and replace section.



ELR Employment Projects - Confidential

Date:

1982-1983

Org:

Marconi Avionics

Sector:

Aerospace

Project:

AEW Nimrod

Detail:

Avionics Equipment

Activity:

Design Analysis

Role:

Stress Engineer

Resources:

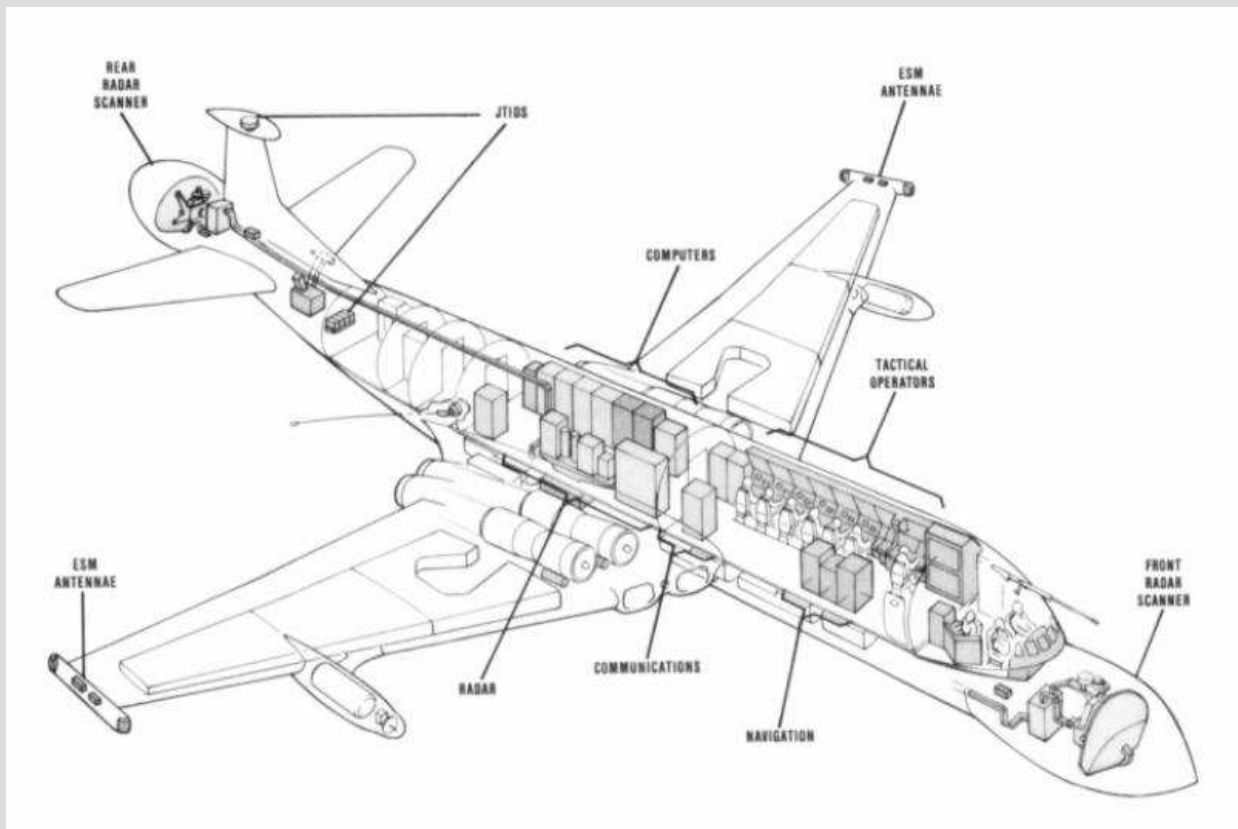
Hand calculations, Programs, MoD & Company Standards

Description:

Electronic Module Racks

Radome Support

Aircraft Structural Integration



ELR Employment Projects - Confidential

Date:

1983-1984, 1987

Org:

Marshall's Engineering

Sector:

Aerospace

Project:

Tristar Tanker Conversion

Detail:

Fuselage

Activity:

Design Analysis

Role:

Stress Engineer

Resources:

Hand calculations, MoD & Lockheed Standards

Description:

Fuselage Frames

Cargo Door Aperture

Refuelling Probe Pressure Box

Meteor avionics refit required reassessment of local supporting structures



ELR Employment Projects - Confidential

Date:

1984-1985

Org:

CBSButler

Sector:

Aerospace

Project:

Fighter A/C

Detail:

Fuselage

Activity:

Design Analysis

Role:

Stress Engineer

Resources:

Hand Calculations, MIL & Company Standards

Description:

Chem-Etched Skin Panels, Frames & Beams



ELR Employment Projects - Confidential

Date:

1999

Org:

BAe-Systems

Sector:

Aerospace

Project:

Eurofighter

Detail:

Front Fuselage

Activity:

Design Analysis

Role:

Stress Engineer (Aircraft Structures)

Resources:

Hand calculations, spreadsheets & Mathcad

Description:

Avionics Trays & Floors

Cockpit Equipment

ECS Pipes & Gimbals

