A-50 Aircraft 20mm Gun System

presented by: Gordon Cromack
Agenda

- T/A-50 Aircraft
- Gun System Evolution
- System Description
- Test Program Summary
- Future Plans
T/A-50  Golden Eagle

- Advanced Trainer & Light Attack Aircraft for ROKAF & International Markets
- KAI-LM Aero Co-Development Program (Technical Support by LM Aero)
- T-50 International (TFI) for International Marketing
- Performance: Hawk / F-5 < T-50 < F-16
- Major Milestones
  - FSD Go-Ahead  Oct 1997  Done
  - OML Freeze    Aug 1998  Done
  - Air Vehicle CDR Aug 2000  Done
  - Mate-Through-Delivery Jan 2001  Done
  - Roll-Out      Oct 2001  Done
  - First Flight  May 2002
  - IPA          Aug 2003
T/A-50 Characteristics

- MTOGW: 26,400 lb
- Empty Weight: 14,200 lb
- Power Plant: 17,700 lb, F404-GE-102

Performance:
- Max Mach: Mach 1.4
- Service Ceiling: 48,000 ft
- Max RoC: 37 Kft/min (S.L.)
- g-Limit: -3/+8 g

Dimensions:
- Length: 30.1 ft
- Width: 43.1 ft
- Height: 16.1 ft
T-50 Rollout Configuration
# FSD Program Schedule

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<th>A-50 Gun System Program Element</th>
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<td>System Deliveries (2)</td>
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- **4/17** FSD Hardware Fab
- **6/24** Engineering Test
- **9/30, 11/15** System Deliveries (2)
System Description

- Ammunition Container
- Loading Access
- Interface Unit
- Main Drive Gearbox
- Hydraulic Drive
- Ammunition Chutes
- Transfer Unit
- 3-Barrel 20mm Gun

System includes Elec. Gun Control Unit (GCU)
Subsystem Commonality

A-50

- Hydraulic Drive
- Gun Control
- Chute Ends
- Rnds Limit Sw.
- Last Rnd Sw.
- Mag. Pick-up

F-16

- Barrels
- Gun Housing
- End Plate
- Rotor Body
- Fwd Rotor Cstg
- Brng Retainer
- Clr Solenoid
- Clr Sector

F-15

- Chute Frames
- Conveyor Belt
- Ammo Carriers
- Sprockets
- Interface Unit
- Drive Shafts

NEW:
- Feeder Assy
- Muzzle Clamp
- Recoil Spindles
- Container Assy
- Loading Access

M61A2

M197

- Mid-Bbl Clamp
- Rotor Tracks

GENERAL DYNAMICS
Armament Systems

KAI
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<td><strong>System Weight (Empty)</strong></td>
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Gun System Test Program

- Engineering Development Test
  - 8,963 Rounds, 1 Stoppage
  - Completed 1/18/02
- Endurance Qual (30,000 Rounds)
  - 15,051 Rounds to Date – No Stoppages
  - High & Low Temp Completed 3/02
  - Scheduled Completion 5/3/02
- Vibration 5/14 – 6/11/02
- Functional Shock 6/11 – 6/19/02
Firing Test Installation
The Future

- Complete Gun System Qual – 6/28/02
- Aircraft Fit Check – 7/02
- Localization & Indirect Offset Agreements
- FSD System Deliveries – 4thQ 02
- Ground & Flight Test – 2003
- Production RFP & Proposal
- Initial Production
  - Expected Aircraft IPA 8/03
  - 44 A-50 & Spares
- Follow-on Production & International Sales
Questions?