

DAVID IRWIN

ASSOCIATE, DAYTON AEROSPACE, INC.

PROFILE

Over 35 years of experience serving in various capacities in the US Air Force (USAF) propulsion engineering career field across the Department of Defense (DOD) acquisition life cycle. Provided engineering leadership, including technology transition, design, development, acquisition, production, and sustainment, of USAF jet engine propulsion systems for a broad range of aircraft, including F-16, F-15, B-1B, B-2, B-52, ALCM, A-10, T-6, C-130, YF-22, YF-23, F-22, and F-35. Former director of engineering for the Air Force Life Cycle Management Center, Propulsion Directorate (AFLCMC/LP). NH-04 (GS-15), Department of the Air Force (DAF) (Retired).

PRINCIPAL AREAS OF EXPERTISE

Engineering Management

Led propulsion engineering activities across the entire portfolio of engines in AFLCMC/LP at Wright Patterson Air Force Base (WPAFB) and Tinker AFB. Ensured consistent and effective development and implementation of propulsion systems engineering requirements, policies, and Propulsion Center of Excellence (PCOE) best practices. Co-authored MIL-STD-3024, *Propulsion System Integrity Program*, and Airworthiness Bulletin (AWB-330), *Propulsion System Type Certification*. Partnered with industry to assess the health of engine products, develop field risk management strategies, and resolve technical issues across the USAF propulsion portfolio.

Propulsion Systems Development

Led and supported multiple propulsion systems technology transition/maturation road-mapping efforts, engineering and manufacturing development (EMD) programs, and Component Improvement Program (CIP) efforts across fourth, fifth and sixth generation engines over a 35-year career. Examples include F-16/F110, F-22/F119, F-35/F135, and the latest generation XA100 and XA101 adaptive engines. Collaborated with sister service leadership, government/industry senior executives, retired graybeards, and industry colleagues to accomplish numerous design reviews, engine initial flight release (IFR) and initial service release (ISR) qualification milestones, and executive independent review teams (EIRTs).

Propulsion Subsystems Development & Integration

Over 15 years of propulsion controls and subsystems development and integration expertise. Led YF-22/YF-23/F-22/YF119/F119 engine controls and subsystems advanced technology development, flight clearance, and qualification efforts. Guided F-22/F119 integrated flight/propulsion control system and thermal management system development and test activities. Led F-16/F110 controls and subsystems development from critical design review (CDR) through ISR qualification milestone, production, deployment, engine life management planning, and initial sustainment acquisition phases.



DAYTON AEROSPACE

4141 Colonel Glenn Hwy.
Suite 252
Dayton, Ohio 45431

P: (937) 426.4300

EDUCATION

MS, Aerospace Engineering
University of Dayton

BS, Mechanical Engineering
Pennsylvania State University

Air War College

MIL-HDBK-516 Aircraft Design
Airworthiness Certification Course

KEY POSITIONS

Director of Engineering, Propulsion Directorate
AFLCMC/LP

Chief Engineer, Development Engines
ASC/LP

Development Division Chief
ASC/ACS/PRSS

Analysis & Integration Chief
ASC/LPY

F-22/F119 Control Systems Lead Engineer
ASC/YF

CERTIFICATIONS

Acquisition Professional Development Program (APDP)

Engineering – Level III
Program Management – Level III

WORK HISTORY

Associate | Dayton Aerospace, Inc.

2018-present, Dayton, OH

Provide Propulsion systems and subsystems engineering consulting to government and industry customers across all program phases including technology transition, design, development, acquisition, production, and sustainment.

Director of Engineering | Air Force Life Cycle Management Center Propulsion Directorate (AFLCMC/LP)

2012-2017, WPAFB, OH

Led, organized, and oversaw engineering activities for the Propulsion Directorate across 38 engine models for 20 aircraft types. Chaired recurring safety and technical reviews with three major engine original equipment manufacturers (OEMs), assessed operational safety, suitability and effectiveness (OSS&E) and airworthiness metrics, evaluated over 460 complex technical issues and ensured USAF/industry propulsion enterprise teams established effective risk management and problem resolution plans. Led engineering team strategic planning and technical assessments of next generation adaptive engine designs and multi-billion-dollar technology maturation programs. Co-authored first-ever USAF propulsion system type certification airworthiness bulletin, AWB-330, *Propulsion System Type Certification*. Represented USAF at tri-service Joint Propulsion Coordinating Committee (JPCC) meetings with Navy, Army, and Defense Contract Management Agency (DCMA) senior leadership. Collaborated with Senior Executive Service (SES) principles and associates on cross-cutter policies, projects, and processes. Supervised over 150 engineering personnel across the Propulsion Acquisition and Sustainment Divisions at both WPAFB, OH and Tinker AFB, OK.

Chief Engineer, Development Engines | Aeronautical Systems Center, Agile Combat Support

Directorate, Propulsion Division (ASC/LP)

2005-2012, WPAFB, OH

Instilled USAF propulsion systems lessons learned and safety rigor for the F-35/F135 and F136 engine designs. Collaborated with NAVAIR on F135 propulsion first flight readiness review team. Established USAF propulsion leadership participation on F-35/F135 Propulsion Senior Leadership Council and partnered with NAVAIR and F-35 Joint Program Office (JPO) to devise and implement F135 Component Improvement Program (CIP). Teamed with industry to lead root cause and corrective action (RCCA) investigations and to resolve T-6 Joint Primary Aircrew Training System (JPATS) propulsion flight safety issues. Established a dedicated USAF propulsion engineering team for full-time T-6 propulsion system support. Collaborated with the Air Force Research Laboratory (AFRL) to develop Adaptive Versatile Engine Technology (ADVENT) program technical requirements and transition roadmaps.

Propulsion Systems Capability Development Division Chief | ASC, ACS Wing, Propulsion Systems Squadron (ASC/ACS/PRSS)

2003-2005, WPAFB, OH

Devised plans to synchronize technology development, CIP, and engine life management planning to advance USAF propulsion system capability. Authored *Future of Propulsion* paper and briefed the National Research Council (NRC) on derivative engine development gap. Launched industry partnership to execute pre-milestone B phase of A-10/TF34 propulsion upgrade. Crafted joint ASC, AFRL, and industry technology roadmaps and orchestrated USAF Propulsion Product Group Technology Summit. Led ASC technical evaluation of AFRL Versatile Affordable Advanced Turbine Engines (VAATE) program technology plans. Led Air Force Materiel Command (AFMC) commander-directed F-15 and F-16 re-engine study technical assessments.

Analysis & Integration Division Chief | ASC, Propulsion SPO (ASC/LPY)

2000-2003, WPAFB, OH

Partnered with industry to accomplish commercially-funded F-16 Block 60/F110-GE-132 flight clearance and specification qualification that complied with USAF standards. Completed F-22/F119 engine initial service release (ISR) specification verification activities. Reconciled production deficiencies to achieve F119 on-time deliveries. Evaluated, prioritized, and launched F119 CIP tasks. Developed first-ever F119 OSS&E plan and tailored airworthiness certification criteria (TACC).

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www.daytonaero.com

Prior to 2000

- F-22/F119 Propulsion Lead Engineer, ASC, Propulsion SPO, *WPAFB, OH*
- F-22 Propulsion Control Systems EMD Work Breakdown Structure (WBS) Manager, ASC, F-22 SPO, *WPAFB, OH*
- YF-22/YF-23/YF119/YF120 Engine Controls & Subsystems Lead Engineer, ASC, Advanced Tactical Fighter (ATF) SPO, *WPAFB, OH*
- F-16/F110 Alternate Fighter Engine and Joint Advanced Fighter Engine (JAFE) C&A Group Leader, ASC, Engineering Directorate, *WPAFB, OH*
- F-16/F110 Engine C&A Technical Specialist, ASD, Engineering Directorate, Propulsion Division, *WPAFB, OH*