

TIMELINE (#7A) EMPLOYMENT RESUMES

BACKGROUND INFORMATION

Each time I applied for a new job, I prepared an employment resume summarizing my education, work experience and accomplishments. Although I prepared numerous resumes throughout my professional career, the following 3 (included verbatim) reflect key times:

- A. BEGINNING (JANUARY, 1959) RESUME - Prepared at the time of my layoff from Chrysler Corp./Missile Division, my first job following college graduation. Subsequently, I joined North American Aviation Inc. in Columbus, Ohio.

 - B. MID-POINT (JULY, 1966) RESUME - Prepared at the time I resigned from International Harvester Co./Solar Division following numerous aerospace engineering jobs. Subsequently, I joined General Dynamics Corp. in San Diego, California.

 - C. ENDING (APRIL, 1994) RESUME - Prepared at the time of my retirement from General Dynamics Corp./Convair Division. In anticipation of closing all San Diego facilities, the company required all employees to take a special class on how to prepare a successful resume.
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A. BEGINNING (JANUARY, 1959) RESUME:

RESUME OF EDUCATIONAL AND EMPLOYMENT EXPERIENCE

PERSONAL DATA

Name:	Thomas John Boyer
Permanent Address:	19369 Spencer Street, Detroit 34, Michigan
Date of Birth:	February 9, 1936
Health:	Excellent
Height:	5' - 10"
Weight:	180 lbs
Marital Status:	Single
Security Clearance:	Secret

EDUCATION

June, 1958

B.S. - Mechanical Engineering, University of Michigan, Ann Arbor, Michigan
4 1/2 Years Mechanical Engineering, 1/2 Year Business Administration
Graduated with 2.9 average - 4 point system

Field of specialization: Machine Design with particular interest in stress and strain analysis and in design of structural members.

Honors: Regents-Alumni Scholarship; Donald Joel Brown Memorial Scholarship; Member of Pi Tau Sigma (National Mechanical Engineering Honorary)

EXPERIENCE

1955 - 1958; Part-time while attending University of Michigan

Assistant in Research on various new fluid couplings. My job was to determine the operating characteristics of these fluid couplings by running tests on them, calculating and plotting their "K vs % Slip" characteristic curves.

Assistant in Research in the university's low speed wind tunnel on smoke pollution problems. This consisted of building the model, running the tests by varying wind direction and by varying the relative velocity of the smoke to the velocity of the wind. The necessary data was obtained, processed and used to plot several types of curves which were analyzed and the results sent to the customer.

Student Assistant for Professor Shigley in Machine Design. Professor Shigley taught several classes in the field of Machine Design including Stress and Strength of Materials. As his assistant, it was my job to correct the problems and bluebooks handed in by the students and to check and correct, when necessary, the manuscript for the new Machine Design book he was writing.

1954 - 1957; (summers); General Conveyors Corp., Pleasant Ridge, Michigan

Conveyor Designer. In this capacity I had complete responsibility for my conveyor systems. This included the layout, design, and detailing of the systems. I had to follow the jobs to completion in the field by making design changes whenever necessary.

June 1958 - Present; Chrysler Missile Division, Warren, Michigan

Structural Design Engineer responsible for structural design and development of missile components. This includes investigation of structural deficiencies in the missile airframe components resulting from design problems and recommendation of modifications as required. This also involves the preparation of engineering reports relating to development, design and analysis of missile system components and structure.

-(Signed) *Thomas J. Boyer*

B. MID-POINT (JULY, 1966) RESUME:

RESUME OF EDUCATIONAL BACKGROUND AND EMPLOYMENT EXPERIENCE

PERSONAL DATA

Name: Thomas John Boyer
Address & Telephone No. 4192 Avati Drive, San Diego, California, 92117; 273-5480
Date of Birth: February 9, 1936
Health: Excellent
Height and Weight: 5' - 10"; 180 lbs
Security Clearance: D.O.D. Secret; A.E.C. Secret

EDUCATIONAL BACKGROUND

September 1953 - June, 1958; University of Michigan, Ann Arbor, Michigan

Bachelor of Science Degree in Engineering
Mechanical Engineering, 4 1/2 years; Business Administration, 1/2 year
Graduated with 2.9 average (4 point system)

Field of specialization: Machine Design with particular interest in stress and strain analysis and in design of structural members.

Honors: Regents-Alumni Scholarship; Donald Joel Brown Memorial Scholarship; Pi Tau Sigma (National Mechanical Engineering Honorary)

EMPLOYMENT EXPERIENCE

October 1965 - Present; International Harvester Co., Solar Division, San Diego, California

Design Engineer 1:

I am responsible for the design of a 24-inch diameter poppet relief valve. This valve, mounted in the exhaust ducting of a gas turbine, protects the turbine from nuclear blast pressures. The work involves stress analysis of structural members and various springs as well as design of functional components such as seals, gaskets, filters and insulation. I also provide the design layout and furnish all liaison required between design, drafting, manufacturing and project groups

Accredited Course: Advanced Mathematics for Engineers

Non-Credit Course: Value Engineer Seminar

December 1964 - October 1965; Douglas Aircraft Corporation, Aircraft Division, Long Beach, California
(On loan from North American Aviation, Inc.)

Senior Design Engineer:

(1) Working in the Structures Department on the elongated versions of the DC-8 aircraft, my job was to design and detail various cargo and access doors. I analyzed these designs for strength, performance, producibility and cost.

(2) I worked in the C-5A Structures Department and prepared the wing scope drawings as well as other drawings included in the proposal for this cargo plane. Simulating this preliminary design, I also provided the drawings necessary to fabricate the full-scale mock-up cargo floor and troop deck.

September 1961 - December 1964; North American Aviation Inc., Atomics International Division,
Canoga Park, California

Senior Design Engineer:

As the responsible engineer for the detail and fabrication of S.N.A.P. 10A and 2 radiation shields, I originated the designs and provided all drawings, including design layouts, necessary for the fabrication of the lithium hydride shields. The design work involved preliminary stress analysis as well as producibility and production method analysis. I issued all engineering orders and furnished all liaison and follow-up necessary to accomplish shield fabrication and assembly. In conjunction with this, I was responsible for providing the required tool design and fabrication. I investigated design and fabrication deficiencies, their effect on system performance and recommended the corrective action to be taken. I also prepared various progress reports, budgets, schedules, manpower and material estimates, and P.E.R.T. analysis.

Accredited Course: Engineering Aspects of Nuclear Processes

December 1959 - September 1961; General Dynamics Corporation, Pomona Division, Pomona, California

Design Engineer:

I worked in the Systems Engineering Group on the Terrier and Tartar ship-to-air missiles. The major function of this group was to prepare and maintain parameters documents which established system requirements, acceptance test requirements, procedures and tolerances for all levels of missile testing. My area of responsibility was the electro-mechanical instruments (gyros, accelerometers, program timer, etc.). To insure that the instrument parameters were compatible with missile system functional requirements, I performed analysis and synthesis of the various guidance and control groups. In conjunction with this, I reviewed and approved component specifications and test procedures.

Accredited Courses: Advanced Electronics, Engineering Statistics I, Feedback Control Systems I

Non-Credit Courses: Tartar Circuit Analysis, Product Familiarization, Redeye Familiarization

February 1959 - October 1959; North American Aviation, Inc., Columbus Division, Columbus, Ohio

Engineer - Design, Structures:

Working on the B-70 Intercontinental Bomber, I originated designs of primary structural components utilizing stainless steel honeycomb. I had to analyze my designs with regard to their strength, performance and producibility.

June 1958 - February 1959; Chrysler Corporation, Missile Division, Detroit, Michigan

Structural Design Engineer:

I worked on the structural design of the Jupiter I.R.B.M. airframe components. This included investigation of structural deficiencies resulting from design problems and recommendation of modifications as required. Preparation of engineering reports concerning these deficiencies and corrective action was also required.

Summers 1954 - 1957; General Conveyors Corporation, Pleasant Ridge, Michigan

Conveyor Designer:

In this capacity I was responsible for various types of conveyor systems. The work included the layout, design, and detailing of the systems. I followed the jobs to completion in the field and made design changes as required.

April 1955 - June 1958; Part-time while attending University of Michigan, Ann Arbor, Michigan

Student Assistant:

Professor Shigley taught several Stress and Strength of Materials classes. As his assistant, I corrected and graded problems and bluebooks submitted by his students. I also proofread, checked and corrected, when necessary, the manuscript for the new Machine Design book he was writing.

Assistant in Research:

(1) My job was to determine the operating characteristics of various new fluid couplings by running tests on them, calculating, and plotting their "K vs % Slip" characteristic curves.

(2) Working in the university's low speed wind tunnel on smoke pollution problems, we built various models and ran tests on them. The necessary data were obtained, processed, and plotted. The curves were analyzed and submitted to the customer.

C. ENDING (APRIL, 1994) RESUME:

THOMAS J. BOYER
4192 Avati Drive
San Diego, CA 92117
(619) 273-5480

SUMMARY

A cost and engineering specialist with 36 years experience in the aerospace industry, including aircraft, missiles and space vehicles. Major strengths in cost estimating and in the cost-related disciplines of Design-to-Cost, Value Engineering, and Producibility. Additional skills in structural (including stress and weights analyses) and mechanical design. A thorough, well-organized, and self-motivated individual capable of preparing cost proposals and customer reports; identifying and implementing trade studies; and leading/training personnel.

PROFESSIONAL EXPERIENCE

GENERAL DYNAMICS CORPORATION, Convair Division, San Diego, California 1966 - 1994

Senior Estimating Specialist 1986 - 1994

Principal Estimator in Contracts and Estimating on developing government programs and the MD-11 commercial program. Responsible for control and coordination of all estimating activity from estimating task description through proposal negotiations.

- Prepared "Learning Curve Fundamentals" text currently used in U.S.D. certificate course.
- Prepared "Engineering Drawing Fundamentals" text and taught course course to peers.
- Served as mentor in engineering, estimating, and manufacturing methods.

Senior Design Specialist 1980 -1986

Lead Producibility team Engineer on Tomahawk and Advanced Cruise Missiles, directing the activities of as many as nine engineers. Identified,conducted, implemented, and documented producibility trade studies to reduce production hardware cost. Responsible for budget control, schedule, and other administrative activities. Interfaced with engineering, estimating, contracts, management, suppliers, and customers.

- Prepared and submitted quarterly status reports to the government.
- Trained inexperienced personnel in producibility skills and activities.

Design Specialist 1973 - 1980

Lead Design-to-Cost Engineer on Space Shuttle Mid-Fuselage and Tomahawk Cruise Missile. Developed cost traceability system, established cost targets, and maintained predicted costs current with operational configuration at the detail drawing level. Motivated engineers to design within their targets.

- Provided cost visibility through reports and presentations to customers and management.

Senior Engineer 1967 - 1973

Value Engineer on DC-10 fuselage, C-5A empennage and F-111 inlet ducts. Identified cost improvement projects, performed functional analysis, evaluated costs and obtained proposal implementation. Remained abreast of aerospace manufacturing state-of-the-art by attending seminars and visiting specialty vendors. Disseminated technical and cost information.

Senior Engineer 1966 - 1967

Laid-out, designed, and detailed structural components on F-111 and C-5A military aircraft.

OTHER AEROSPACE COMPANIES 1958 -1966

International Harvester Co. *Senior Design Engineer*
Solar Division Responsible for design of a large gas turbine exhaust relief valve.

Douglas Aircraft Co. *Senior Design Engineer*
Aircraft Division Prepared structural scope and detail drawings of C-5A mockup and DC-8 variants.

North American Aviation Atomics International Division	<i>Senior Design Engineer</i> Responsible for design and fabrication of SNAP 10A and 2 satellite nuclear radiation shields.
General Dynamics Corp. Pomona Division	<i>Systems Engineer</i> Maintained acceptance test requirements of Terrier and Tartar Ship-to-Air missiles.
North American Aviation Columbus Division	<i>Design Engineer</i> Designed and stress-analyzed structural stainless steel components of B-70 Intercontinental Bomber.
Chrysler Corporation Missile Division	<i>Design Engineer</i> Investigated structural deficiencies of Jupiter I.R.B.M. airframe and recommended modifications.

EDUCATION

University of San Diego San Diego, California	Certificate - Cost Analysis
San Diego State University San Diego, California	Degree - Master of Science in Mechanical Engineering
University of Michigan Ann Arbor, Michigan	Degree - Bachelor of Science in Mechanical Engineering Scholarships – Regents/Alumni, Donald Joel Brown Memorial, Pi Tau Sigma (National Mechanical Honorary)
Job-Related Courses and Seminars (Examples)	Successful Negotiations, Contract Types, Uniform Commercial Code, Harvard Graphics, Lotus 1-2-3, Word Perfect, Fortran Programming, Computervision C.A.D., Advanced Mathematics, Feedback Control Systems, Engineering Aspects of Nuclear Systems, Tomorrow's Technology, Forging Techniques, Titanium Fabrication, Cost Analysis for Engineers
