

Curriculum Vitae: Gary W. Johnson, PhD, PE

1-15-06

Contact Data:

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Academic Degrees:

BS Aerospace Engineering 1972 “with honors”
University of Texas at Austin
Dept of Aerospace Engineering & Engineering Mechanics
specialty area: aerothermodynamics and propulsion
(fluid flow 5 mph to Mach 3; piston, turbine, rocket, and ramjet engines)

MS Aerospace Engineering 1974
University of Texas at Austin
Dept of Aerospace Engineering & Engineering Mechanics
specialty area: high speed aerodynamics
(high subsonic, transonic, supersonic, and hypersonic to Mach 25)
minor: mathematics
(partial differential equations, numerical solutions, special functions)
thesis title:
Development and Evaluation of a Wake-Probing System for Shuttle-Like Vehicles at Angle-of-Attack
(experimental wind tunnel work at Mach 5)

PhD General Engineering 2000
Kennedy-Western University
specialty area: manufacturing and production
(production control, engineering economics, quality assurance, engineering management, environmental technology, and environmental law)
dissertation title:
Effects of Flame Sooting and Intake Charge Cooling on Spark Ignition Aircraft Engine Performance
(comparative testing of piston engines in a dynamometer, and flight testing of aircraft, with aviation gasoline, ethanol, and ethyl tertiary butyl ether as neat fuels)

Other Professional Credentials and Continuing Education:

Professional Engineer	State of Texas # 46233	1979
Fire Sprinkler RME	State of Texas # 0649	1999-02
Scramjet Propulsion Short Course	AIAA-sponsored at UCLA	1987
NIASE Certified Mechanic	engine diagnosis and engine performance	1996-01
Beech B-90 systems training	Worldwide Aviation Training	1998
Fire sprinkler training	National Fire Protection Association	2000
State of Texas Certified Educator	SBEC, Secondary (8-12) Math	2003
course in laser technology	TSTC, Waco, Texas	1978

Work History:

1991 to Present: Private consultant in aerospace, automotive, mechanical, energy, and manufacturing as the Expert Technical Services consulting firm, providing both technical services and education.

Offering assistance with prickly-pear cactus control by means of the sale of a cactus-eradication implement invented, developed, patented (US 6,722,446), and manufactured from a shop at rural place-of-residence.

Offering services in vehicle design and modification, including both surface vehicles and aircraft, and for both standard and alternate fuels. This includes precision coast-down drag testing of automobiles that is capable of detecting windows-up vs. windows-down configuration differences. This includes experience at aircraft and automobile engine upgrades and alternate fuel conversions; including alcohols and ethers in spark ignition, and biodiesel blends in turbines. This includes experience with custom propeller design and performance prediction. Also offering services in space vehicle crew escape concepts, both for retrofits, and for new designs.

Offering experience at aircraft supplemental type certificate (STC) and general certification work with FAA. This includes obtaining an STC for an ethanol-or-avgas fuel-injected form of the O-540-B2B5 engine, and an STC for this engine with suitable propeller and flight limitations in PA-25-235 or -260 aircraft. This also includes putting a Beech King-Air B-90 temporarily into "experimental" category for non-specification fuels testing with biodiesel blends, and then rapidly implement an FAA-approved plan to fully re-certify the aircraft for public use afterwards. The biodiesel testing effort included the invention of a simple and effective method of cold testing fuels to -100F, and fuel systems to about -50 F, without the use of refrigeration equipment; to support high altitude flight test safety with blended fuels.

Offering experience with military flight test of equipment items in jet aircraft. This includes design, analysis, test, and evaluation of some very unique hardware items, including towed, free-flight, and forward-fired aircraft stores, and their separation mechanics, including supersonic flight conditions.

Offering general engineering design, analysis, evaluation, and test services (specialties as listed separately). General fluid flow analysis and wind tunnel testing experience from 5 mph to Mach 25, heat transfer analysis from simple environmental exposures to orbital re-entry conditions, structural designs and analyses for both vehicles and fixed structures of all types, and designs and analyses for general production and process equipment. Structural design, analysis, and in-situ evaluation of buildings and foundations are included.

Offering management and project control. Experience at technical project management in diverse areas, and experience at program management including multi-year and million-dollar-class programs. 5 years experience at combined technical project and program control management of a research and development effort comprised of 10 to 20 projects and investigators, worth 1 to 2 million dollars annually.

Recent clients include Free-Flight Systems of Waco, Texas (for building and foundation structural evaluation), McNamara Custom Services in fire protection work (a former employer), and Baylor University Department of Aviation Sciences in aircraft alternate fuel work (also a former employer). The Baylor work included the invention and verification of a simple field test to detect and prevent moisture-induced in-tank phase separation of ethanol-gasoline fuel blends. Presented paper on alternate fuels in aircraft at the SAE General Aviation Technology Conference, Wichita, KS, April, 2002.

8-03 to present: adjunct instructor in the math and science department of McLennan Community College, Waco, TX. Courses taught to date include Introduction to Engineering (which required added content in remedial practical math and physics), Engineering Graphics (with lab), Engineering Statics, Engineering Dynamics, and Basic Circuits. Capable for mechanical physics, and any level of mathematics up through differential equations. Teaching notebooks were developed for each course as a pre-programmed course of instruction tool.

8-03 to present: staff math instructor at Bosqueville ISD, Bosqueville, TX, certified in "secondary math" by the Texas SBEC. Classes taught to date include Algebra 1, Algebra 2, 7th Grade Math, and Pre-Calculus/Trigonometry, plus site facilitating instructor for college dual credit courses in Pre-Calculus/Trigonometry and Calculus/Statistics. Also certified for other courses such as Geometry, 8th Grade Math, and Math Models/Math-of-Money. Teaching notebooks developed for all classes taught,

plus curriculum planning and lesson plans development for the school database of such items. After-school and special-programs tutoring as required.

2-02 to 4-03: Brazos Environmental and Engineering Services, Waco, Texas (a local engineering consulting firm). Title "Associate Engineer", doing mechanical and structural engineering design for residential and commercial buildings and selected types of septic waste disposal systems, plus one hydraulics / fluids delivery system. Considerable experience at air, water, and wastewater permitting with the state's responsible agency (TCEQ). Considerable experience at residential structural and foundation inspections. Experience at hazardous materials identification, classification, shipping, and disposal. Successfully used a nontraditional approach to neutralize and more easily clean up spilled battery acid by the use of dilute ammonia solutions. This avoids the mess incurred by the use of (traditional) lime powder.

6-99 to 8-01: McNamara Custom Services, Inc., Waco, Texas (a mechanical contractor in the construction industry). Considerable experience at the design-to-code and installation supervision of aboveground and underground fire protection equipment, including obtaining approval from local authorities per state law. This included fire sprinklers, fire pumps, and water supplies including underground mains, plus hand-held fire hose systems and equipment. Experience covers the design and installation-to-code of water based protection, and of closed-head foam-water systems. Duties included some service in general mechanical / structural and equipment design and analysis.

6-97 to 5-99: Baylor University Dept of Aviation Sciences, Waco, Texas. Half-load teaching in aviation aerodynamics, aircraft systems and technology, airport management, aviation safety, and fill-in support with mathematical preparation through Calculus III. Developed new curricula and teaching notebooks (pre-programmed instruction plans) for all classes taught. Incorporated field demonstrations into selected courses as a teaching tool. Technically-oriented courses required added content in remedial practical math and physics, which was developed and incorporated into the appropriate curricula. Presented papers at 1998 alternative fuels conference and flight demonstration meeting in Galveston, Texas, and at an FAA-DER conference in Arlington, Texas. Co-author of paper at 1998 ISAF XII conference in China. Half-load sponsored-program researcher in alternative fuels, fuel modifications, testing (including flight testing), and FAA-certification of aircraft and engines (piston and turbine). Authored for the department final reports on sponsored programs in the testing of piston and turbine engines on alternative fuels, and on the flight testing of a turbine aircraft on alternative fuels. Obtained for the department FAA STC's for dual fuel (ethanol and aviation gasoline) operation of a Piper Pawnee aircraft and its 0-540 engine, including all test plans, test reports, drawings, specifications, and documentation. Obtained for the department experimental type certificate for flight testing alternative fuels in a Beech B-90, with a successful plan, test program, and documentation to bring the aircraft back to normal category at the conclusion of the experimental testing, which was something the FAA had never before allowed. Designed much of the facility and developed all the testing methods and procedures for the department's truck-mobile turbine engine / fuel test rig. Developed a simple field test for screening ethanol-aviation gasoline fuel blends to prevent water-induced phase separation. Developed simple screening tests for cold-fuel soak effects prior to risking experimental fuels at high altitude.

1-96 to 5-97: Minnesota State University Dept of Automotive and Manufacturing Engineering, Mankato, Minnesota. Assistant professor hired as a sabbatical replacement, teaching full load plus labs in basic automotive technology, engineering statics, strength of materials, composite materials, fluid power systems, and a course in transportation technology and alternative energy. Served on the curriculum-change committee for quarter-to-semester conversion. Adviser to student SAE chapter, including trip adviser for the student group at the SAE Midwest Mini-Baja competition. Unofficial adviser to student groups working on solar car race projects. Developed new curricula and teaching notebooks (pre-programmed instruction plans) for all courses taught. Full load teaching of 3-to-4 courses plus simultaneous oversight and teaching of 2-to-3 labs each session, plus oversight, advising, and teaching duties in the automotive-repair teaching shop, as needed. Student academic advising as required. Grant and proposal activities as required. Development of a math and measurement short course for shop employees at a local manufacturing concern. Participation in the design and development of a new dynamometer test facility. Automotive diagnostic services as occasioned by walk-in members of the public

at the auto shop lab, and for the students therein. Presented paper at 1997 Society of Manufacturing Engineers meeting, Orlando, Florida.

1987-1994 and 1975-1983: former Hercules Aerospace plant (now closed), McGregor, Texas, also earlier known under the names Rockwell, Rocketdyne, Astrodyne, and Phillips, a missile propulsion contractor-operated defense industrial reserve plant in the aerospace / defense industry. Served variously as Project Engineer, Program Manager, R&D Manager, Senior Staff Engineer, and Principal Investigator, for many projects and programs in rocket, ramjet, and combined-cycle / exotic propulsion. This included 5 years' service managing the entire plant IR&D program, comprising 10 to 20 projects and investigators, worth \$1-2 million, annually. Work areas included product and component development, engineering design and analysis, performance and test evaluation, the design and operation of special test facilities, and the development of special test methods. Selected specialties include exterior and interior ballistics, insensitive-munitions technology, flight vehicle trajectory analysis, air warfare engagement analysis, weapons and tactics effectiveness analysis, external and internal high-speed and low-speed aerodynamics, heat transfer and thermal protection, specialty fuels and propellant formulations, specialty fuel throttle controls, structural analysis and design, vehicle and subsystem configuration design and selection, trade-off studies, feasibility analysis and demonstration, and the flameholding and combustion of fuels and propellants under extreme conditions. Participated in the initial design, and led the expansion effort, of a unique clean-air airbreathing test facility for ramjet and exotic-propulsion work. Developed all of the test methods and techniques for this facility, some of which became the new industry standard. While demonstrating a throttle for solid fuel propellants that had no moving parts, also demonstrated high-efficiency combustion of both boron and stealthy ramjet solid fuel propellants, culminating in a paper published at the 1993 JANNAF propulsion meeting. Author of numerous in-company R&D and contract research reports, many still security-classified.

1983-1987: former Tracor Aerospace (now British Aerospace) plant in Austin, Texas (a contractor supplying countermeasure and deception equipment in the defense industry). Served as engineer, analyst, and special-projects lead designer in airborne, ship-borne, and re-entry countermeasures: quick-reaction advanced product feasibility, demonstration, test, and development. Design, ground test, and flight test on jet aircraft of advanced towed airborne decoys, including very high speed deployment. These products included ribbon and hard-body radar towed decoys to replace chaff, hard-body airbreathing combustion towed decoys to replace flares, and ship-borne rocket/parachute packages to replace the RBOC chaff rounds. Other special projects included infrared plume augmentors for military drone aircraft, and deceptive optical emulators of shoulder-launched anti-aircraft weapons. Engineering work specialties similar to those in the Hercules listing above, but with greater emphasis on engagement analysis, effectiveness analysis, and weapons and tactics, plus the addition of extensive stealth / signature work. These last capabilities include infrared signature generation and deception, optical / smoke signature, and some general knowledge of shape, material, and frequency effects on radar signature generation and deception. Developed and operated a special test facility for infrared decoys, including the equipment and all the techniques and methods. Developed a low density ceramic insulation from hobby-store materials, similar to NASA's space shuttle tile, but capable of higher temperatures and structurally far stronger. Author of numerous in-company research reports and contract-program reports, most still security-classified.

1974: former LTV (now Northrop-Grumman) plant in Grand Prairie, Texas (contractor / subcontractor for military and civil aircraft, missiles, and launch vehicles in the aerospace / defense industry). After obtaining a Master's degree in aerospace engineering, and while working on an uncompleted PhD in aerospace engineering at the University of Texas, spent one summer at the LTV facility as a professional engineering design analyst. Duties included trajectory performance-based evaluation of advanced and alternative configurations for the Scout satellite launch vehicle, and customer support for operational launches in the form of achieved orbit analysis. Developed a special Scout configuration selection for a dual-launch ICBM-chase mission that later flew.

Selected Areas of Expertise (for consulting purposes):

Eradication of prickly pear cactus from farm and ranch pastures by mechanical processes.

Building and foundation structural inspection and evaluation.
 Drag determination of road vehicles by coast-down drag testing.
 Fire protection equipment design and installation-to-code: sprinklers, pumps, hose, underground, etc.
 Mechanical / structural design of components and equipment, including unusual or harsh environments.
 Combustion, fuels, and propellants: high-intensity flameholding and ignition; analysis, design, and test.
 Design and test experience with many different fuels, propellants, explosives, and hazardous materials.
 Strength of materials: steel, aluminum, titanium, organic and metal composites, low-density ceramics.
 Signature production, detection, reduction, and deception: infrared, optical, and some radar.
 Flight test experience with equipment in military jet aircraft, and with alternative fuels in civil aircraft.
 Aerodynamics and heat transfer: analysis and experiment from 5 mph to Mach 5, analysis to Mach 25.
 Propulsion systems: propellers, jets, piston, turbine, rocket, ramjet, combined-cycle, and exotics.
 Vehicle configuration, motion, and performance: analysis, design, and test; land/sea/air applications.
 Space vehicle crew escape concepts, for retrofits or new designs

Professional Memberships and Related Activities:

member	American Association for the Advancement of Science
senior member	American Institute for Aeronautics and Astronautics
member	Society of Automotive Engineers
member	Texas & National Societies for Professional Engineers
former member	New York Academy of Sciences
member	National Space Society
member	The Planetary Society
member (by employer)	National Fire Protection Association
member (1988-1990)	Univ. of Texas Dept of Aerospace university-industry visiting committee
as a student	Tau Beta Pi, Sigma Gamma Tau, National Honor Society

Other Memberships:

member and past master, McGregor Lodge 376 AF&AM
 member, Waco Karem Shrine, and its Patrol unit
 member, McGregor Post 273, American Legion

Specific Teaching Experience:

Bosqueville ISD, Bosqueville, TX, 2003-present: mathematics instructor. Teacher-of-record for multiple sections of Algebra 1 and Algebra 2, one section of 7th grade math and a section of Pre-Calculus / Trigonometry. Certified by the State of Texas for all math courses from 8th to 12th grade. Site-facilitating instructor for college dual-credit courses televised to multiple campuses, in PreCalculus / Trigonometry and in Calculus/Statistics. Served as Instructor for 9th and 12th grade homerooms, and a freshman class sponsor for activities. Also served on the 'campus improvement team'.

McLennan Community College, Waco, TX, 2003-present: adjunct professor in the math and science department. Courses include Introduction to Engineering, Engineering Graphics (with lab), Engineering Statics, Engineering Dynamics, and Basic Circuits (with lab). Capable for mechanical physics and math up through differential equations. The program is designed for maximum compatibility and credit transferability with the Texas A&M system.

Baylor University, Waco, Texas, 1997-1999: half load in Aviation Sciences department; aerodynamics, aircraft systems, aviation safety, and airport management; plus fill-in on short notice in calculus I, II, or III. Teaching includes field trips and demonstrations, up to teaching the operation of an aircraft gas turbine engine / propeller combination in a ground test facility. Scheduled teaching load was 2 courses any one session, plus fill-in work. Substantial informal open-office tutoring in math, aerodynamics, and aircraft systems analysis. This program was a fully accredited science program, intended to provide a 4-year BS degree with 2 years of professional pilot training.

Minnesota State at Mankato, Minnesota, 1996-1997: full teaching load plus miscellaneous departmental duties in the Automotive and Manufacturing Engineering Technology department; statics, strength of materials (including a graduate-level section), fluid power, composite materials, basic automotive technology, and an energy-and-transportation course. Taught labs in basic auto, fluid power, composite materials, and the energy-and-transportation course. Supervised student projects, students in independent study, and students doing senior design projects. Substantial informal open-office tutoring in math and design analysis. Took student SAE section to Midwest Mini-Baja for their first-ever entry in competition. This was a fully ABET-accredited program in engineering technology, designed to produce BS degrees in automotive and manufacturing engineering technology, and MS degrees in manufacturing technology.

At McNamara Custom Services: taught a draftsman the special art of rapidly designing and detailing fire sprinkler systems to meet the fire codes, with some instruction on computer-based hydraulic analysis for estimating very closely the performance of these systems. This was one-on-one teaching in the field.

At Hercules and at Tracor: provided on-the-job training and instruction for new young engineers in specialties not included in most degree plans: ramjet and exotic-engine technology, ramjet cycle analysis as actually done in industry, special test analysis techniques for high data yield from ramjet ground testing, in-the-field combustion diagnostics, post-firing forensics in rockets and ramjets, high-speed in-flight stores separation mechanics, and the interior ballistics of rockets and gas generators as actually done in industry. Much of this was security-classified work, about 10-20 years ahead of the open literature. This was one-on-one teaching in the field.

As a Boy Scout Leader 1991-1995: taught basic scout skills, camping, knots, water sports, boating, safety, and field medic skills to youth. This is a unique type of specialty teaching.

At church: part-time / occasional Sunday-school teacher. This is also unique specialty teaching.

Selected Publications:

Johnson, US patent 6,722,446, "Apparatus for Mechanically Controlling and Eradicating Cactus and Other Succulent Plants from Farm and Ranch Pastures and Other Lands", April 2004, all rights to the author. Simple drag-type farm implement will eradicate prickly pear cactus if used correctly, by mechanical action only, and without requiring any pickup and disposal of the debris. Mr. Johnson builds these on weekends in the shop at his rural home, where the device was developed and tested.

Johnson, "Use of Alternate Fuels in Light Aircraft", SAE Paper 2002-01-1539, presented by the author at the SAE General Aviation Technology Conference April 2002 in Wichita, Kansas. Ground test performance and emissions plus flight test data, for ethanol fuel in IO-360 and IO-540 engines, and in a Piper "Pawnee" aircraft.

Johnson, Shauck, and Zanin, "Performance and Emissions Comparison Between Avgas, Ethanol, and ETBE in an Aircraft Engine", presented by Shauck at ISAF XII conference September 1998, Beijing, China. Ground test performance and emission results for three fuels run comparatively in a modified IO-360 engine, as tested in a dynamometer facility.

Johnson, "Alternate Aviation Fuels", invited paper presented by the author at the June 1998 FAA Rotorcraft Directorate Designee Conference, Arlington, Texas. Reports results of comparative testing of ethanol, ethyl tertiary butyl ether, and aviation gasoline as neat fuels in aircraft engines and whole aircraft. Scope includes O-235, IO-360, O-540, and IO-540 engines, and Cessna-152, Piper Pawnee, and Pitts S2B aircraft.

Johnson (principal and presenter) and Sartor, "FAA Certification Procedures: Description and Status", January 1998 alternate fuels conference at Scholes airport, Galveston, Texas. Describes the process by which aircraft modifications are certified with the FAA by the STC process, and reports status on STC's for IO-540/O-540 and O-235 engines, and for Cessna 152 and Piper Pawnee aircraft. Subject modifications are for ethanol or dual-fuel operation (ethanol or aviation gasoline) of these items.

Fruwirth, Johnson, and Petersen, "Life Cycle Cost Analysis", paper presented by Johnson at Society of Manufacturing Engineers meeting, September 1996, Orlando, FL. Topics covered include life cycle costs, maintenance, life cycle planning, and recovery from mishap. Aerospace examples (Space Shuttle, DC-3, B-17) provided a unique perspective in a forum not usually exposed to this industry.

Johnson (principal and presenter) and Kocurek, "Evaluation of Unchoked-Generator Ducted Rocket Ramjets", JANNAF propulsion meeting, November 1993, Monterey, CA. Unclassified paper given at a classified session. Company-sponsored R&D project. Successful computer simulation and full-scale engine hardware test of a unique ducted rocket ramjet fuel control with a no-moving-parts throttle. Cycle analysis, test, and test hardware design, full-scale ground test demonstration, results applied to flight prediction and missile-aircraft engagement analysis. Complementary to French flight test work, but with significantly better fuel propellants that included stable operation with burning rate exponents far above unity, high-efficiency airbreathing combustion with boron, and achieving NATO minimum smoke criteria with an AP-bearing fuel propellant.

Johnson, "White Paper for Towed IR Decoy", unclassified but proprietary Tracor proposal document T85-AE-9279-U, September 1985. Combined analytical and experimental feasibility demonstration for a family of aircraft towed infrared decoys powered by fuel-air combustion. Results used in a variety of studies and proposals for specific applications. Radically-different, more effective, technology than that in traditional flares. Intrinsically capable of defeating counter-countermeasures with two-color seekers.

Johnson, US Patent 4,416,112 "Fuel Injector for Ducted Rocket Motor", November 1983, assigned to employer Hercules Aerospace. Redesign and adaptation of an existing fixed-flow injector concept for the radically-different environment of a mechanically-throttled, solid gas generator-fed motor. Design, analysis, and subscale and fullscale prototype testing. Later adopted as baseline for a USAF program.

Miller, et al (Johnson as a co-author), "Evaluation of an Operational Ducted Rocket", JANNAF propulsion meeting, 1980, classified. Report on contract program for foreign integral rocket-ramjet technology exploitation conducted at Hercules. Propellant composition and process duplication, propulsion component construction and performance evaluation, evaluation of unique combined-cycle effects on the cycle analysis of the engine, and missile system performance estimates.

Biographical Sketch:

Dr. Johnson was born 14 July 1950, to Charles and Allene Johnson, in Henderson, Texas, USA. He attended public schools in Grand Prairie, Texas, graduating 10th in his class of 474, in May 1968. He was a member of the National Honor Society, and earned a National Merit Scholarship to the University of Texas at Austin. During junior high and high school, he played trombone in the marching, concert, and stage bands. He earned the Eagle Scout and the God and Country awards as a scout with Troop 592 and later Post 592 in Grand Prairie. He became an accomplished camper and canoeist, served in several youth leadership positions in the scouts, and learned to construct fiberglass canoes with his father, in support of scouting activities.

Except for brief service at the US Naval Academy, Annapolis, MD, Dr. Johnson spent most of his undergraduate years, and much of his graduate years, at the University of Texas at Austin, in Aerospace Engineering. He earned a BS in 1972 "with honors", and an MS in 1974. He also studied there at the PhD level, but did not complete that particular degree. He began working professionally in industry while still an undergraduate student. Also while an undergraduate, he became a scuba diver and an accomplished auto mechanic. During his service with the Navy, he learned sailing in vessels up to 2 masts and 12 tons displacement, and twin-screw ship-handling in vessels up to 80 feet waterline length, while at Annapolis. He also earned Navy marksmanship ratings of "expert" with the service 45 caliber pistol, and "marksman" with the M-1 garand rifle. He is an honorably-discharged Vietnam-era veteran.

Dr. Johnson spent most of his more than 20-year industrial career in the defense industry, until the draw-down of the mid-1990's. After that, he taught at the university level, first a year and a half at Minnesota

State in Mankato, then two years at Baylor University in Waco, Texas. Following that, he re-entered the practice of engineering in industry, starting in commercial construction, then continuing in private and commercial consulting. While a university teacher, he began anew his studies for a terminal engineering degree, this time in general engineering to round out and broaden his education. Thus he earned a PhD in general engineering from Kennedy-Western University, in the summer of 2000, with a study-area concentration in manufacturing and production control, but with a dissertation on the effects of alternate fuels in piston aircraft engines.

Dr. Johnson re-entered the education field as a math instructor in public education, and as an adjunct professor of engineering at a local community college. He also continues to operate his consulting practice as a small business, and through that business has entered into the private manufacture and sale of farm implements that eradicate prickly pear cactus from farm and ranch pastures.

From 1991 to 1995, Dr. Johnson was the scoutmaster of Waco's Troop 301, and was certified as a lifeguard by the Boy Scouts at age 45, after physically rigorous training, for his troop's water activities. One of his scouts subsequently earned the Eagle award.

Dr. Johnson has been married to wife Ellen since 1976, and they have one son, James, who has completed a degree in computer animation and 3-D modeling at the Art Institute of Dallas, and is now a veteran of the US Navy. Dr. Johnson and his wife live on a small farm near McGregor, Texas, named "The Idea Farm". Mrs. Johnson, a former RN, was for several years the Executive Secretary for McGregor's Chamber of Commerce. Dr. Johnson enjoys farm activities, working in his shop, sailing, occasional flying with his father, and maintaining his working antique farm tractor. He maintains his own family's fleet of road vehicles. He also has, in deep storage on the farm, a fleet of aging but otherwise functional Volkswagens, awaiting restoration. Dr. and Mrs. Johnson are members of the First United Methodist Church of McGregor.

References (feel free to contact any or all of these at any time; other references are also available upon request):

Walker R. "Buddy" Young (colleague at McNamara's)
1412 Guthrie Dr.
Waco, TX 76710
254-776-4926

Matt Tilghman (colleague at Baylor)
2227 Speegleville Rd.
Waco, TX 76712
254-848-9226

Harry Petersen (colleague and now dept. chair at Minnesota State)
221 Viking Dr.
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Les Gabrysch (colleague at Hercules)
301 Apperson Dr.
Blacksburg, VA 24060
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Byron Hinderer (colleague at Tracor)
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