

ARCHIVED REPORT

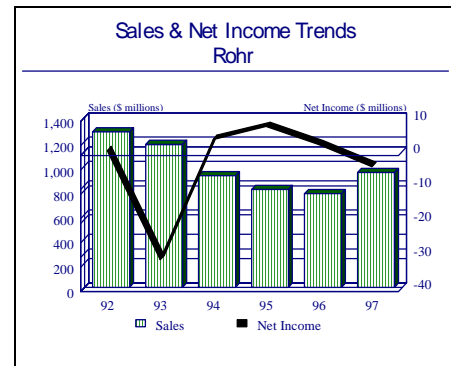
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Rohr - Archived 11/99

Outlook

- Part of BF Goodrich Rohr, will become the fourth operating group within the BF's aerospace unit
- Rohr has a bit of breathing room thanks to financial strength of its new parent
- BF Goodrich seized the opportunity to expand its line of aerospace subsystems and become even more of an integral supplier to aircraft manufacturers



Headquarters

Rohr Incorporated
850 Lagoon Drive
Chula Vista, CA 91910-2098
Telephone: (619) 691-4111
Web Site: <http://www.rohr.com>

The company was founded by Fred H. Rohr with four associates in 1940. They began production at Eighth and J Street in downtown San Diego and in 1941 moved to nearby Chula Vista, the present headquarters. In 1991, the company changed its name from Rohr Industries, Inc, to Rohr, Inc. It is a Delaware corporation that was incorporated in 1969 as the successor to the original Rohr Aircraft Corporation. Although an aerospace company since its inception, Rohr is now an international supplier providing systems

and components for commercial, military and space programs. Following organizational and restructuring changes of the 1980s, Rohr is now focused exclusively on the aerospace market.

Rohr merged with BF Goodrich on December 22, 1997. Rohr is now a subsidiary of The BF Goodrich Company, doing business as BF Goodrich Aerospace/Aerostructures Group. The tax-free stock-for-stock transaction was valued at \$1.3 billion.

The company has about 4,600 employees and in five US states, and in two countries, France and Germany. Rohr's stock is traded on the New York, Pacific and London exchanges under the symbol "RHR." The auditors are Deloitte & Touche. The company's fiscal year is August 1 to July 31.

Structure and Personnel

Wallace Barnes
Chairman of the Board
Robert H. Rau
President and Chief Executive Officer
Daniel Abehsera
President and Director General, Rohr Europe
William Billingslea, Jr.
Corporate Counsel and Assistant Secretary
John S. Burton

Vice President, Engineering & Technology
Laurence Chapman
Senior Vice President and Chief Financial Officer
William H. Frank
Vice President and General Manager, Rohr Aero Services, Asia
Keith D. Gentry
Vice President and General Manager, Government &

Space Products Division
 Robert A. Gustafson
 Vice President, Customer Support
 John R. Johnson
 Senior Vice President, Programs, Technical Resources
 & Quality Assurance
 Richard W. Madsen
 Vice President, General Counsel and Secretary
 Alvin L. Majors
 Vice President, Program Management
 Elaine K. Mills
 Manager, Corporate Stock Records and Assistant
 Secretary
 Greg B. Peters
 Vice President, Manufacturing
 David Ramsay
 Vice President, Human Resources
 Kenneth W. Scholz
 Vice President and Treasurer

David W. Shaw
 Vice President, Material
 Richard J. Warters
 Vice President, Airbus Programs
 David R. Watson
 Senior Vice President, Customer Support and Business
 Development
 Graydon A. Wetzler
 Senior Vice President, Operations

Product Area

Under BF Goodrich, Rohr functions as the Aerostructures group. BF Goodrich's organizations is as follows.

BF Goodrich

1. Aerospace
 - 1.1 Aerostructures (Rohr)
 - 1.2 Sensors and Integrated Systems
 - 1.3 Maintenance, Repair, and Overhaul
 - 1.4 Landing Systems
2. Specialty Chemicals
 - 2.1 Specialty Additives
 - 2.2 Specialty Plastics

Aerostructures. Formerly Rohr, this unit's core products are nacelle systems (the aerodynamic structures that surround jet engines) and pylons (the structures that attach the full-propulsion system to the aircraft). Thrust reversers and noise suppression systems are part of the nacelle system. Other parts of the nacelle system include the inlets, the fan cowlings, and the exhaust cone and nozzle. In addition, the company has advanced-technology capabilities in high-temperature aerostructures using advanced materials and alloys, as well as in the field of composites for existing future aircraft. The unit also precision-machines and drills solid rocket motor casings for the Space Shuttle and Titan boosters.

Landing Systems. This group manufactures aircraft landing gear; aircraft wheels and brakes; high-temperature composites and manufactures aircraft

evacuation slides and rafts for commercial, military, regional and business aviation customers, and space programs.

Sensors and Integrated Systems. Products sensors and sensor-based systems; fuel measurement and management systems; electromechanical actuators; aircraft windshield wiper systems; health and usage management systems, electronic test equipment; ice protection systems; specialty heated products; collision warning systems; weather detection systems; standby attitude indicators; aircraft lighting components; and polymer and composite products for commercial, military, regional, business and general aviation customers, and for aircraft engine and space programs.

Maintenance, Repair and Overhaul. The MRO group provides maintenance, repair and overhaul of commercial airframes, components, wheels and brakes, landing gear, instruments and avionics for commercial, regional, business and general aviation customers.

Specialty Additives. This unit manufactures synthetic thickeners and emulsifiers; controlled release and suspension agents; polymer emulsions; rubber and lubricant additives and plastic and adhesive modifiers.

Specialty Plastics. This group manufactures thermoplastic polyurethane and alloys; high-heat-resistant and low-combustibility plastics; static-dissipating polymers; and reaction-injection molding resins.

Facilities

Central Region

BF Goodrich, Corporate Headquarters, 4020 Kinross Lakes Parkway, Richfield, OH 44286. Telephone (330) 659-7600. Web site: <http://www.bfgoodrich.com/> The BF Goodrich Company provides aircraft systems and services and manufactures performance materials. The BF Goodrich Company no longer makes or sells tires. That business was sold to another company in 1986.

BF Goodrich Aerospace, 250 N Cleveland-Massillon Rd, PO Box 5501, Akron, OH 44333. Telephone (330) 374-2200. Web Site: <http://www.bfgaerospace.com/> This is the headquarters for BF Goodrich Aerospace.

Rohr Foley, 1300 W. Fern Ave, Foley, AL, 36535. This facility concentrates on final assembly of pylons and thrust reversers for both military and commercial requirements.

Rohr Sheridan, 2686 Highway 270 East, Sheridan, AK 72150. This facility assembles inlet cowls and exhaust nozzles for commercial programs.

Rohr Heber Springs, 424 Industrial Park Rd, Heber Springs, AK 72543. This facility, specializes in final assembly of thrust reversers and inlet cowls for both commercial and military programs.

Western Region

Rohr Incorporated, 2005 Technology Way, San Marcos, TX 78666. This operation specializes in high-

temperature diffusion bonding, inconel brazing, and exhaust nozzle/plug assembly for commercial and military programs.

Rohr Incorporated, 850 Lagoon Dr, Chula Vista, CA, 92012. In addition to being corporate headquarters, Chula Vista is Rohr's primary metal forming and fabrication operation as well as the center for the company's research and development and customer support activities. This facility also performs propulsion system integration, primarily for McDonnell Douglas.

Rohr Riverside, 8200 Arlington Ave, Riverside, CA, 92503. This is Rohr's primary metal and composite bonding center.

Other

Rohr France, S.A. Established in Toulouse, France, in 1972 to support Airbus Industrie Rohr France does final assembly, propulsion system integration and is a certificated repair station and distribution center for Rohr's customer support network.

BF Goodrich Aerospace GmbH, PO Box 950351 Hein-Sass-Weg 17, D-2103 Hamburg 95, Germany. This operation assembles components and provides engine buildup and complete nacelle painting for Airbus Industrie narrow body aircraft. The facility also provides support services to Airbus for all final assembly line and flight line needs.

Corporate Overview

As part of BF Goodrich's Aerospace group, Rohr's future growth is expected to come primarily from the commercial market. The merger has joined Rohr with a financial strong company that already has an established presence in the aerospace industry.

New Products and Services

MD-95 Nacelle System. In February 1996, Rohr was elected by BMW Rolls-Royce Aero Engines to provide the nacelle systems for the new MD-95 twinjet. Delivery of hardware began in 1997, with aircraft service entry slated for 1999.

Thermoplastic Composites. Rohr has introduced thermoplastic composites into production in the International Aero Engines V2500 engine nacelle and has built several other prototype thermoplastic parts for potential use in other nacelle systems. The company has produced several test panels and prototype parts

from advanced metallic compounds, alloys, and matrix systems. These materials should prove useful for high-velocity, high-altitude vehicles such as the National Aerospace Plane. First prototype carbon-carbon components have been delivered by the company for evaluation. These components can withstand temperatures well above 2,500 degrees F. The parts have applications for advanced nozzles, engine components and other high-temperature structures. The company expects delivery of these items by the mid-1990s.

Plant Expansion/Organization Update

C-5 Contract Settled. During the third quarter of CFY92, Rohr filed a notice of breach of contract with the US government on the C-5 spare pylon contract and the USAF filed a termination notice for alleged default. These disputes and the subsequent termination of the contract reduced CFY92's sales by over 3 percent.

Rohr considers the termination to be without merit; efforts are under way to have this changed to a termination for convenience of the government.

In August 1994 this dispute was settled, and as part of the settlement the USAF allowed Rohr to retain \$27.3 million in unliquidated payments made by the Air Force. Rohr will also retain most of the C-5 work in progress and will provide a warranty on certain C-5 pylon panels.

Mergers/Acquisitions/Divestitures

BF Goodrich Completes Merger. In December 1997, shareholders of The BF Goodrich Company and Rohr, Inc. approved the \$1.3 billion merger of the two companies. Following the signing, Rohr common will no longer be traded on the New York Stock Exchange.

The BF Goodrich Board elected three new directors, effective upon the merger with Rohr, all of whom previously served as directors of Rohr, Inc. elected as directors of the BF Goodrich Company were: **Robert H. Rau** is president of the Aerostructures Group, BF Goodrich Aerospace. Prior to the merger, he was president and chief executive officer of Rohr. **Diane C. Creel** chief executive officer and president of Earth Tech, an international consulting engineering firm headquartered in Long Beach, Calif. **James R. Wilson** is chairman, president and chief executive officer of Thiokol Corporation.

With the addition of Rohr, BF Goodrich has about 18,000 employees and annual sales in excess of \$3 billion.

BF Goodrich To Acquire Rohr. In September 1997, the BF Goodrich Company and Rohr jointly announced plans for Rohr to merge with BF Goodrich in a tax-free stock-for-stock transaction. Under terms of the agreement, Rohr shareholders will receive 0.7 shares of BF Goodrich common stock for each share of Rohr common stock. Based on the closing price of BF Goodrich common stock (\$44.56 a share) on September 22, 1997, the value of the merger is estimated at approximately \$1.3 billion, including the assumption of Rohr debt by BF Goodrich. The merger is subject to shareholder approval of both companies and review by certain regulatory agencies. It is expected to be completed in late 1997 or early 1998. Following the completion of the merger, Robert H. Rau, the current president and chief executive officer of Rohr, will continue as president of Rohr reporting to Marshall O. Larsen, executive vice president of the BF Goodrich Company and president of BF Goodrich Aerospace.

Business Jet Operations Sold. In June 1994, Rohr sold its business jet line of business. The purchase

agreement required Rohr to manufacture and deliver certain components and transfer program engineering and tooling for a total consideration of \$32.5 million.

Teaming/Competition/Joint Ventures

Singapore Aerospace. In 1995 Rohr formed a joint venture with two Singapore companies led by Singapore Aerospace to own and operate its business jet nacelle operation. Under the agreement, Rohr and the Singapore companies will each own 50 percent of Rohr Aero Services-Asia. The move, according to Rohr officials, should allow each side to more successfully compete in the jet nacelle market. To further bolster this new unit's operation, a new 44,000-square-foot facility has been constructed adjacent to Changi Airport in Singapore.

CFM International. In 1989, Rohr Industries signed a contract with the engine manufacturer CFM International for Rohr to provide nacelle systems for the CFM56-5C2 engine for the new Airbus Industrie A340 airliner. CFM International is a joint venture of General Electric Aircraft Engines of the USA and SNECMA of France. Rohr, which leads an international team, including associate contractor Hispano Suiza of France, is responsible for overall nacelle program management, including design, manufacturing and direct support to the airlines once the A340 enters service. The four-engine, 260- to 300-passenger A340 is scheduled to enter flight testing in May 1991 and passenger service in May 1992.

GE. On March 16, 1989, Rohr announced that it had formed a joint venture with GE to develop, market and manufacture advanced composite technology engine components. (Composites are nonmetallic, fiber materials used increasingly in aerospace and other industries to replace metals because composites reduce weight without sacrificing strength.) Named CTEC, the new company will be equally owned by Rohr and GE and directed by a four-member board with two members from each company. Dr. James W. Davidson, CTEC's president, said the components will include such items as ducts, fan cases and fan frames. Present components operate at temperatures up to 550 degrees Fahrenheit, but the joint venture hopes to expand applications up to 825 degrees Fahrenheit. The new company will be making its high-technology products available to all engine manufacturers; GE Aircraft Engines will be one of CTEC's first customers. Located in new facilities in San Marcos, TX, CTEC began limited production in early 1990.

Hercules. Rohr and Hercules have formed a joint venture to develop and manufacture ultra-high-temperature components for advanced fighters, rockets

and hypersonic vehicles. The program is called RTAC (Refractory Technology Aerospace Components).

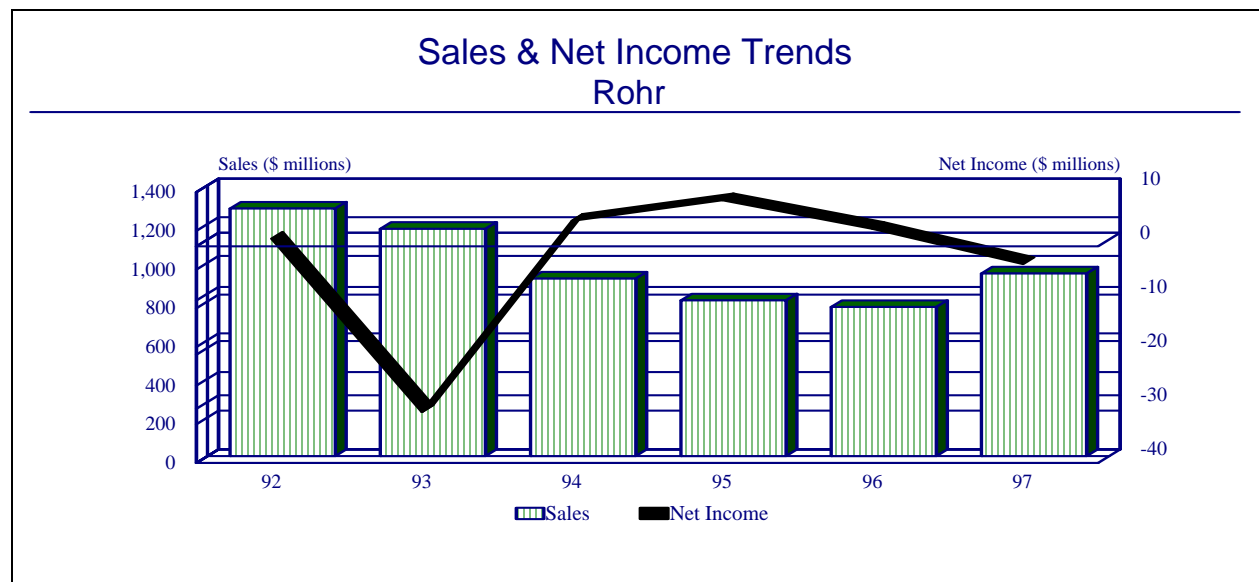
Rohr is also involved, or has been involved, in the following joint research programs:

- Rohr/Air Force Superplastic Forming Tooling Development
- Rohr/Rolls-Royce Nacelle Technology Development
- Rohr/General Electric Composite Engine Frame Development
- Rohr/NASA Multi-Wall Thermal Protection System
- Rohr/Boeing/Rolls-Royce High-Temperature Composites Applications
- Rohr/Rolls-Royce/Fokker Fan Blade Acoustic Test Program
- Rohr/Nikkiso Composite Component Development
- Rohr/Boeing/DynaRohr Application Expansion

Financial Results/Corporate Statistics

Rohr's sales for CFY97 rose to \$944.3 million from \$770.8 million in CFY96. The company posted a loss of \$3.3 million compared to net income of \$3.2 million in CFY96. The loss in CFY97 was attributed to an \$84.5 million loss on the MD-90 production contract. The loss in CFY93 was due to the adoption of certain accounting principles related to long-term programs and contracts. The net result of this accounting change was a charge of \$219.7 million. The reduced income in 1992 was attributed to approximately \$50 million in special charges recorded in the company's third quarter. The special provision included charges for the termination of the C-5 spare pylon program; the Valsan 727 re-engine program; an investigation by government agencies concerning production of parts, information recording and testing practices; and a provision for closing the Auburn plant. Total financial statistics for the past six years are given below.

Y/E July 31	1992	1993	1994	1995	1996	1997
(\$ millions)						
Sales	1279.6	1175.1	918.1	805.0	770.8	944.3
Percent Govt	14.0	14.0	14.0	12.0	8.0	3.0
Net Income	1.4	-30.6	4.7	8.5	3.2	-3.3
Backlog	1900.0	1400.0	1200.0	1000.0	1200.0	1500.0



Industry Segments

A breakdown of the firm's sales by major customer for the past five years is given below. Figures are percent of total sales.

Y/E July 31	1993	1994	1995	1996	1997
Boeing Company	18%	15%	17%	19%	15%
International Aero Eng	9%	16%	14%	22%	23%
Rolls Royce	8%	10%	13%	7%	8%
CFM International	8%	9%	11%	12%	17%
Pratt & Whitney	17%	14%	10%	8%	7%
McDonnell Douglas	11%	7%	8%	7%	6%
General Electric	7%	9%	7%	7%	6%
Airbus	6%	3%	6%	6%	9%
Lockheed Martin	3%	6%	5%	3%	0%
United Technology	6%	4%	4%	1%	1%
Other	7%	7%	5%	8%	8%

Strategic Outlook

The echoes of the major consolidations of the past few years are beginning to manifest themselves among lower tier aerospace suppliers. The acquisition of Rohr by BF Goodrich is just one of numerous smaller transactions that are occurring on an almost weekly basis - yet most of them are ignored by the media due to their size.

Due to the cyclic nature of the commercial aerospace industry and reductions in Rohr's military and space programs, the company revenues dropped more than 40 percent since 1991. In response to the number of deferrals and cancellations brought on by this slow market, airframe and engine manufacturers have rescheduled future production levels, laying off workers, shortening employee work periods, and passing production slowdowns on to their suppliers, including Rohr.

In this environment Rohr was finding it increasingly difficult to thrive. The company had aggressively cut back its own work force from a peak of 12,100 in 1989

to the current 4,800 employed today. In addition, the company sold its Auburn, Washington, plant and had continued to reduce capital expenditures. But despite these and other moves Rohr remained financially strapped.

Now, under the auspices of BF Goodrich the company has a bit of breathing room thanks to financial strength of its new parent. As part of BF Goodrich Rohr, will become the fourth operating group within the BF's aerospace unit.

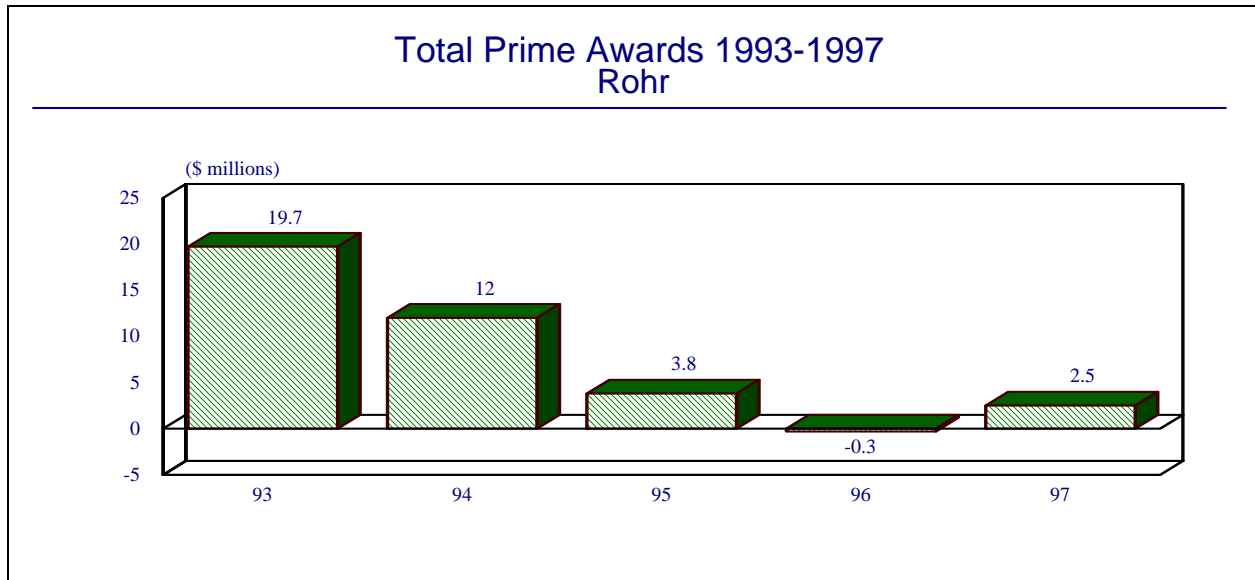
For BF Goodrich the move was particularly savvy, providing the company an opportunity to expand its line of aerospace subsystems and become even more of key supplier to aircraft manufacturers. With Both landing gear and nacelle systems included in the front-end design of new aircraft, BF Goodrich becomes an even more important player in the industry.

This report will be replaced in 1999 with full report on BF Goodrich.

Prime Award Summary

Rohr's five-year summary of awards by customer is given below. Awards, if any, less than \$50,000 are indicated by a zero. Almost all of Rohr's prime awards are received at Chula Vista, California.

(\$ millions)	1993	1994	1995	1996	1997
AIR FORCE	2.6	8.6	2.7	0.5	0.9
ARMY	0.1	0.0	0.0	0.0	0.0
DEF LOGISTICS AGENCY	0.1	0.5	0.4	1.0	1.5
NAVY	16.9	2.9	0.7	-1.8	0.1
TOTALS	19.7	12.0	3.8	-0.3	2.5



Program Activity

Some important aerospace and government programs currently under way at Rohr are listed below. The briefs are intended to provide a listing of programs that are of major importance to the company. For detailed information or analysis of specific aerospace and defense programs or equipment, please refer to the appropriate FORECAST INTERNATIONAL binder (for example AIRCRAFT, MILITARY VEHICLES, WARSHIPS, MISSILES, ELECTRONICS, and GAS TURBINES). The following is an outline of the company's business interests:

- Aircraft Nacelles and Components
- Civil and Military Fixed-Wing Aircraft
- Space Systems
- Systems Integration

Aircraft Programs

Commercial Aircraft

Commercial aircraft programs continue to make strong contributions to Rohr's sales. Key programs were the

CFM-56 nacelles and Pratt & Whitney PW4000 nacelles and pylons for the MD-11. The firm also manufactures nacelle systems, including thrust reversers, for all Pratt & Whitney engine options for the Airbus A310 and A300-600, and all engine options for the Airbus A320. Rohr also manufactures the thrust reverser and fan cowl for Rolls-Royce engine options for the Boeing 757; the nacelle without thrust reverser for the CF6-80, which is the GE engine option for the Airbus A310 and A300-600 and the McDonnell Douglas MD-11 commercial aircraft; and nacelle components, including the nose cowl, fan cowl, and extension ring, for the Boeing 737-300, 737-400 and 737-500. Major components produced by the firm for the GE CF6-80 nacelle are also used on the Boeing 747 and 767. In May 1989, Rohr announced that it had signed a contract with engine manufacturer CFM International for Rohr to provide nacelle systems for the CFM56-5C2 engine for the Airbus Industrie A340 airliner.

Aircraft Program Tally

Rohr's continuing involvement in the aerospace industry is detailed in the following table.

Aircraft	Engine	Nacelle System
737-3/4/500	CFM56-3	Inlet & Fan Cowl, Extension Ring
737-6/7/800	CFM56-7	Inlet & Fan Cowl
757	RB211-5535	Fan Cowl, Nozzle & Cone, Thrust Reverser, Pylon
	PW2037	Pylon
MD-80	JT8D-200	Inlet & Fan Cowl, EBU, Thrust Reverser
MD-90	V2500	Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser

Aircraft	Engine	Nacelle System
A319/320/321	CFM56-5 V2500	Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser Nozzle & Cone, Thrust Reverser
747	CF6-80C RB211-524H	Inlet & Fan Cowl, Core Cowl Nozzle & Cone
767	CF6-80C RB211-524H	Inlet & Fan Cowl, Core Cowl Nozzle & Cone
777	GE90	Nozzle & Cone
A300	CF6-80C PW4000	Inlet & Fan Cowl, Core Cowl, EBU Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser
A310	CF6-80C PW4000	Inlet & Fan Cowl, Core Cowl, EBU Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser
A330	CF6-80E PW4168 Trent 700	Inlet & Fan Cowl, Core Cowl, EBU Engine podding Nozzle & Cone
A340	CFM56-5C2	Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser
MD-11	CF6-80C2 PW4000	Inlet & Fan Cowl, Core Cowl, EBU, Pylon Inlet & Fan Cowl, Nozzle & Cone, EBU, Thrust Reverser, Pylon
MD-95	BR715	Inlet & Fan Cowl, EBU, Thrust Reverser, Apron

Military Aircraft

For military aircraft, Rohr manufactures nacelles without thrust reversers for the McDonnell Douglas KC-10 (which is completed), the Lockheed P-3 propjet ASW submarine aircraft (which is nearing completion), the Lockheed C-130 propjet transport aircraft, and the Grumman F-14 US Navy fighter. The firm also manufactures nacelle components for re-engining of existing Boeing KC-135 military fuel tankers. Rohr manufactures pylons and nacelles without thrust reversers for the Lockheed C-5 military transport. Recently, the company signed an agreement with Boeing to provide technical support in designing the engine bay doors for the F-22 tactical fighter.

Propfan Technology

Rohr is participating in several propfan programs. Propfan systems use multiple curved blades and yield substantially increased fuel economy over turbofan engines. Rohr's efforts in other new jet engine nacelle technologies are related to increasing the fuel efficiency of turbofan engines and decreasing the noise associated

with such engines. The successful development of propfan and other new jet engine nacelle programs and the ultimate award of production contracts cannot, however, be predicted.

Space Systems Programs

Space Solid Rocket Boosters

For the US space program, Rohr has made initial deliveries of solid fuel rocket motor nozzles and insulated casings for boosters that are used on the Titan Space Launch Vehicle, including commercial launch derivatives thereof. Rohr also machines the reusable solid propellant rocket casings for the Space Shuttle.

Titan IV

The company received a contract to build motor cases and nozzle assemblies in April 1991. The contract was from United Technologies' Chemical System Division and was valued at \$206 million. Deliveries occurred through 1993.

US Contract Awards

BF Goodrich's most recent contracts are detailed below. Most of the company's work is as subcontractor to major airframe providers.

<u>Date</u>	<u>Award (\$ millions)</u>	<u>Contract #</u>	<u>Description</u>
5/21/98	\$19.2	F42630-98-D-0163	1200 heat stack assemblies applicable to the brake on the C-5 aircraft.

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