

## Rohr in Chula Vista

by Steve Schoenherr

- [1940s](#)
- [1950s](#)
- [1960s](#)
- [1970s](#)
- [1980s](#)
- [1990s](#)
- [2000s](#)
- [Sources](#)



The Rohr Aircraft factory in July 1941 had three buildings, the original Building 1 on the right, the larger Building 2 in the center, and the two-story administration building on the left.

Frederick Hilmer Rohr was born May 10, 1896 in Hoboken, N.J., the son of Henry Gustav Rohr, a German immigrant who arrived in the United States eight years earlier. Rohr learned engineering and mathematics in night school and by extension courses, served aboard a Navy tanker in World War I, and returned to the business at war's end. By then, his family had moved to Fresno where Rohr, now interested in aviation, learned to fly and received a primary glider license. (*Chula Vista Star-News* Nov. 11, 1965)

1920 Aug. 28 Fred Rohr married his wife Shirley Blade. (*They Made Chula Vista History*, 2011)

1924 Fred Rohr established the Standard Sheet Metal Works in San Diego. (*Chula Vista Star*, Mar. 14, 1957)

1925 In the fall, Fred Rohr won a contract from William Hawley Bowlus, plant superintendent for the Ryan Aeronautical Company. According to Daniel B. Burnett, Jr., "I believe it was then that Fred Rohr originated his firm's present slogan to 'build it better, faster and cheaper,' for he got the contract after talking to Bowlus. An association was formed between those two that lasted for many years and the young sheet metal expert did all that type work for Ryan, which included the manufacturing plant and the flying school." (Ryan Airlines was a partnership founded Apr. 19, 1925, by T. Claude Ryan and Frank Mahoney. The M-1 monoplane was the first airplane built by Ryan Airlines in the fall of 1925 and first flown in Feb. 1926. The M-2 monoplane had a lighter wing and was faster than the M-1. The Bluebird monoplane was a closed-cabin version of the M-2 and could carry four passengers.)

1926 Fred Rohr moved his Metal Works shop to Ryan Airlines to build the M-1 monoplane. According to Daniel B. Burnett, Jr., "After Ryan moved into the cannery building at the foot of Juniper Street, Fred Rohr moved his entire sheet metal shop, machinery and all equipment, into the Ryan plant." (Frank Mahoney bought out T. Claude Ryan on Nov. 23 to take full ownership of Ryan Airlines in 1926 but kept the name of the company and Ryan stayed on as general manager. According to Joseph Tekulsky, it was Mahoney who was the "mystery man" who made the deal with Lindbergh in Feb. 1927 to build the Spirit of St. Louis at the shop of Ryan Airlines. In July 1927 Mahoney formed his own company and stopped using the name of Ryan Airlines. T. Claude Ryan incorporated his Ryan Company of Aeronautics in 1931 and built his headquarters and manufacturing plant at the new Lindbergh Field airport in 1932. The name changed to the Ryan Aeronautical Company in 1934.)

1927 "The 'Spirit of St. Louis' was assembled in the old hangar at the Dutch Flats Airport by Fred Rohr, sheet metal foreman; O. R. MacNeal, final assembly foreman; Fred Ayres, doping and finishing foreman, and Lon Wheeler, welder. This quartet was nicknamed 'The Nighthawks' and they worked night and day to complete the flight." (*Chula Vista Star-News*, Dec. 11, 1927)

job against time." (Burnett, 1952)

1928 "Fred Rohr was later made superintendent of the former Mahoney Aircraft Corporation. Following sale of the firm to a St. Louis group, Rohr joined G Prudden, now Solar Aircraft Company, then became associated with Boeing in Seattle and finally returned to San Diego as plant manager of the new Ryan Aeronautical company." (Burnett, 1952) "The Solar Aircraft Company, San Diego, CA, began as the Prudden-San Diego Airplane Co., incorporated November 1927 in California. On August 28, 1928 the company name was changed to Prudden Aircraft Corporation. On April 9, 1929 the name was changed to Solar Company. It had 'Ltd.' added to the name on August 9, 1929 and incorporated in Delaware. On July 21, 1936 the company was reincorporated in California 'Ltd.'" (Solar Aircraft Company)

1928 "It was at about this time that Fred Rohr joined up with the old Prudden Aircraft Company. Being production minded, he used his ingenuity and past experience in metal working, and designed the first drop hammer to be used in the aircraft industry. Today all the aircraft companies have drop hammers forming a part of stampings which go into today's aircraft. Mr. Rohr has designed the equipment and organized the Hammer Department in four aircraft companies." (Ken Matlack, *The AeroRocrafter*, June, 1951, p.4)

1932 Fred Rohr was employed by Boeing in Seattle to install his drop hammers. (Austin, p. 41).

1935 "Boeing's company chairperson, Claire Egtvedt, suggested to Rohr that he become a subcontractor, going into business for himself and sell the whole enterprise as a power package. Fred Rohr went back to work in San Diego for T. Claude Ryan, previous owner of Ryan Aircraft Company, who had established another company, Ryan Aeronautical Company." (Rohr Aircraft Memories)

Crises of 1935-40:

- Reuben Fleet built Consair in SD 1935, began making PBV
- Mussolini invaded and bombed Ethiopia Oct. 2, 1935 - occupied by May 1936
- Hitler occupied Rhineland March 1936
- Guernica bombed Apr. 26, 1937
- FDR signed 1937 Neutrality Act May 1, 1937 - allowed cash-and-carry
- terror bombing of Shanghai Aug. 13, 1937 - Quarantine speech Oct. 5
- Panay Dec. 12 and fall of Nanking Dec. 13, 1937
- maiden flight of B-24 from Lindbergh Field Dec 29, 1939; built in only 9 months

1937 July. letter sent by the Chula Vista Chamber of Commerce to get aircraft plant. (*Chula Vista Star*, July 2, 1937)

1938 July. The first flight of the Consolidated XPB2Y-1 with the dual-tail configuration designed by Reuben Fleet himself. (Wagner, p. 200)

1938 In December Major Fleet dispatched two trusted aides, Mac Laddon and C. A. Van Dusen, to Seattle to confer with Boeing executives. The Army had Type Specification C-212 spelling out details of a new bomber requirement, 3000 mile range, 35,000 foot ceiling, maximum speed of 300 m.p.h. and the ability to carry four tons of bombs. With what Consolidated had already demonstrated with the efficient Davis Wing airfoil in the Model 31 flying boat, Laddon's engineers could design a new four-engine bomber which could carry the same load as the B-17 but at greater speeds and far longer range. (Wagner, p. 208)

1939 When Congress reconvened in January 1939 one of the first messages President Roosevelt sent up to the Hill outlined the need for more planes. By the end of the month, Mac Laddon and David Fleet, the Major's 28-year-old son, were at Wright Field with specifications and preliminary data for Consolidated's proposed Model 32 bomber. The key design feature of Consolidated Model 32 was use of the extremely narrow, highly efficient Davis Wing which assured meeting the long cruising range required by Air Corps specifications. The 110-foot wing and hydraulic flaps were lifted virtually intact from the Model 31 flying boat. Four Pratt and Whitney Twin Wasp engines powered the Model 32 (later B-24). Borrowing again from features proven in the Model 31 seaplane, and earlier in the Model 1 four engine boat, the tail featured the same twin fin and rudder. (Wagner, pp. 207-208)

1939 Mar. The first production order for the four-engine Consolidated flying boat came on March 31, 1939 when the Navy contracted for six model PB2Y-2 hulled patrol bombers with engines upgraded to 1200 h.p. The first of the new 'Coronado' boats was delivered December 31, 1940. (Wagner, p. 201)

1939 Sept. Reuben Fleet was in Washington just as Hitler launched his attack on Poland, igniting World War II. Two days later, as England declared war against Germany, Reuben ran into Admiral John Towers. "If we double the size of our factory, I can give you 500 PBVs in two years." The PBV-5 order was the largest contract for military aircraft yet awarded. (Wagner, p. 213)

1939 Sept. As war came to Europe in the Fall of 1939, Consolidated was deluged with a flood of orders for PBVs. Newer, more advanced patrol plane designs under development by Major Fleet's competitors, and Consolidated itself had two new designs in test, the four engine XPB2Y-1 and the high-performance Model 34 flying boat with its 2000 h.p. engines and radical Davis wing. But the urgent need of the U.S. Navy and the Allies was for a proven long-range patrol bomber that was available only in the PBV. (Wagner, p. 219)

1939 Dec. Consolidated's construction of the new 441,000 square foot plant addition, doubling plant capacity, got promptly under way. Including new machinery and other equipment required for expanded PBV construction, the cost was estimated at \$2.2 million (Wagner, p. 214)

## 1940s

1940 May 16 FDR Asks Billion For National Defense And 50,000 Planes in Address to the Congress. "Washington, DC: Pres. Roosevelt tells Congress that we must prepare to turn out a vast air fleet to safeguard America from hostile invasion. He requests an additional Billion Dollars for defense! Heads of the aviation industry are urged to cooperate in the effort." (Wagner, p. 214)

industry meet under Government auspices to discuss means of meeting the 50,000-plane figure. A spokesman for the group says it can be done!" (Universal May 20, 1940)

1940 Aug. Consolidated depended heavily on Rohr as a subcontractor and as Reuben Fleet explained, "Fred was a cracker-jack of a man. We helped Rohr A Corporation get out its first stock issue. Out of the authorized 150,000 shares we took 25,000 shares and Fred took 37,500 bonus shares placed in escrow for compensation for starting the company." Other friends and business acquaintances subscribed for 74,000 shares, 12,500 were reserved for purchase by key e and 1,000 went to attorneys in lieu of fees for legal services. We gave him \$18 million worth of work right off the reel, principally for development of the re install 'power packages' which included installation of all the plumbing, electrical harness, motor mounts, and cowlings around the bare engine for flying bo later the B-24s." (Wagner, p. 233)

1940 Aug. Rohr Aircraft Incorporation by 5 men, Fred Rohr and four partners. J.E. Rheim and E.M. Lacey were two engineers from Ryan, and two lawyers Nottsbusch and Frank H. Nottsbusch, Jr., using the garage in Fred Rohr's backyard as their first workplace; "Eighth and J Gang" moved to downtown 3-story building, first home of Rohr; On Aug. 6, California Secretary of State approved articles of incorporation for Rohr and four associates. (Rohr Aircraft Memo

1940 Rohr's first payroll totaled \$1104.74. That was the entire month-end payroll as of August 31, 1940, when the Company started in business in a rented v at Eighth and J. It included six men: F. H. Rohr, founder of the Company, who drew check No. 1; E. M. Lacey; J. E. Rheim, now president and general man; Rohr who worked hard for that first \$180; E. P. Campbell, deceased, K. W. Maynard; and F. E. McCreery whose name the bookkeeper spelled wrong. (Rohr Aug. 16, 1960)

1940 by October, Rohr's 64 employees were working 18 and 24 hour shifts making Sperry bomb sights for Consolidated. (Rohr Aircraft Memories)

1940 On Nov. 5, a Chula Vista special election approved a bond issue of \$15,000 to purchase 10 acres on the bayfront for Rohr Aircraft. (Chula Vista City C Minutes, Nov. 12, 1940)

1941 by Jan., Rohr had 422 employees. (Austin 1969)

1941 Rohr's first building on the Chula Vista bayfront was finished Feb. 1; second building on June 15. (Webster 1986)

1941 "Lockheed was Rohr's first customer, a contract covering the manufacture of cowling for the Hudson Bomber." (*The AeROHrcrafter*, Aug. 1952) The Lockheed Hudson was first built for the British Royal Air Force in 1938 and was based on the twin-tail Electra Model 14 made by Lockheed in 1937 and the Electra Model 10 in 1934. Lockheed made a modified Electra 10E for Amelia Earhart in 1936 for her attempt to circumnavigate the globe but she was lost a 2, 1937.

1941 by July 1, Rohr had 752 employees; by July 31, had 865 employees. (Austin 1969)

1941 The financial institution at 279 F Street, was initially founded in 1941 to serve the employees of Rohr Aircraft. In 1986, "Employees" was eliminated f name to become Rohr Federal Credit Union. In 1995, the name was changed again to Pacific Trust Federal Credit Union. By 2000, the Charter was changed mutually-owned federal savings bank<Pacific Trust Bank. (Rohr Historical Posters)

1941 Burt Raynes moved to Chula Vista and bought the home at 299 Hilltop that was built in 1929 for banker W.C. Stephens. Raynes lived in the house for 30 years. When Raynes served a president of the Rohr company 1963-1970 it was known as the "Rohr house." (Kruegel, 2011)

1941 in Oct., Rohr signed a union contract with the International Association of Machinist and Aerospace Workers. (Dean, p. 5)

1941 Dec. 7 Japan attacked Pearl Harbor; on Dec. 13, Rohr painted its factory windows black as a precaution against attack. (Rohr Aircraft Memories)

1942 Rohr was 1 of 4 aircraft plants in San Diego area, with Consolidated, Ryan, Solar. (Austin, p. 22)

1942 Jan. At the second annual shareholders meeting Jan. 13, Rohr announced it had 1700 employees, planning for 4000 by June. (Austin, p. 19 )

1942 Feb. "By working under pressure, the assembly line completed the first ship set of four B-24 power packages three hours before the delivery deadline, was midnight, February 14, 1942. But they still had to be transported to the Consolidated plant, about ten miles away. To facilitate the delivery, and celebrat too, Fred Rohr, Joe Rheim, Burt Raynes, Frank McCreery, Bud Maynard, and others, loaded the units onto a huge trailer truck, jumped aboard and personall the delivery a few minutes before midnight." (Austin, pp. 13-14)

1942 Feb. "After the Company moved to its new location, it began the manufacture of power packages for the B-24, which was being made by Consolidatec Corporation. This was the first time a sub-contractor had been entrusted with the manufacture of a power package, but the idea was so successful that by 194 had delivered 31,760 units for the B-24, 5,607 for the PB4Y2, and 520 for the PB2Y3, for a total of 37,887." (*ROHR Magazine*, August 1960. p. 4)

1942 In May, Rohr hired its first female employee; by 1944, 55% of Rohr employees were women. (Rohr Historical Posters)

1942 June construction began on the Hilltop Village and Vista Square federal housing projects. (Schoenherr, 2011)

1942 July issue of *Ladies Home Journal* featured the Lang Brown family of Rohr. (*Chula Vista Star*, June 26, 1942.)

1942 Aug. 3 Monday bond rally at Rohr achieved 100% war bond sales. (*Chula Vista Star*, Aug. 7, 1942)

1942 Sept. A new Yellow taxi began from Guillbert's, the first taxi service in Chula Vista. (*Chula Vista Star*, Sept. 4, 1942.)

1943 Jan. Rohr created the Fresno division.

1943 Jan. A successful bond campaign caused B-24 bomber to be named "Chula Vista."

1943 Feb. Food trailers by Dick Wilson served Rohr workers from parking lots. (*Chula Vista Star*; Feb. 19, 1943)

1943 May Rohr signed contract with Lockheed to make power packages for the Model 18 Lodestar. (Austin, p. 30)

1943 May 4 ceremony for Army-Navy E award and raised E flag. (*Chula Vista Star*; May 7, 1943.)

1943 June. "world heavyweight boxing champion Joe Louis toured Rohr's Chula Vista facility (including this machine shop area), calling the working condition best I've ever seen!" (Rohr Historical Posters)

1943 General William Knudsen, head of War Production Board, was a frequent visitor to the Rohr plant. (Austin, p. 30)

1943 July. Rohr leased the San Diego Country Club for employee recreation. (*Chula Vista Star*; July 2, 1943.)

1943 Oct. Rohr took 41 PB2Y3 airframes on consignment to be completed as PB2Y3R long range transports; Rohr built a new seaplane repair base, new ca

1943 Oct. Big brother of the twin-engine 'Catalina' was the four-engine Consolidated PB2Y-3 'Coronado,' of which 210 had been produced through October its combat role, such as the bombing of the Marshall Islands, the PB2Y-3 carried six tons of bombs or various combinations of depth charges, torpedos and r was manned by a crew of ten. Rohr Aircraft modified 31 of the model PB2Y-3R to carry 44 passengers and a crew of five. Two other versions were designat 4 and -5, indicating different engine installations. The PB2Y-5H variant was equipped as an ambulance plane; others served in air-sea rescue work. On two during the first fierce assault on the beaches, the sea-borne plane was used to evacuate wounded before a landing strip could be built. All -5 models were eq with JATO (jet assisted take-off) so advantage could be taken of the additional thrust under heavy overload conditions. (Wagner p. 264)

1943 Nov. won 2nd Army-Navy E award.

1944 July. won 3rd Army-Navy E award.

1944 Sept. 24 was first Family Day Open House. (*Chula Vista Star*; Sept. 29, 1944)

1945 "Through the war, the new company established several records. For one, it was the first industrial plant in the United States to sign up 100 percent of employees in the War Bond drive. This was accomplished in less than 24 hours, which also set a record. It produced 31,761 power packages for the B-24, at reaching a peak rate of 56 units a day, and became the world's largest producer of airplane propulsion units, a distinction it still holds." (*ROHR Magazine*, St 1965. p. 7)

1945 Jan. Rohr employment peaked at 9800 in 1944, then dropped to 6355 by Jan 1945. (Austin, p. 33)

1945 May 17 First flight of the Lockheed P2V Neptune, a twin engine patrol craft, with engine pods built by Rohr. (*ROHR Magazine*, May 1961)

1945 "During this period Rohr started construction on power packages for the Wright turbo-compounds used in the Navy's P2V-5, 6 and 7 patrol bombers. S construction as spares and Q.E.C. units on the Chula Vista engine line these Neptune power packs have helped pile up an unusual record of reliability and er The Neptune still holds the record for the longest unrefueled flight and this Lockheed-built work-horse, with turbojet pods added to the turbo-compounds, is employed operationally as an anti-submarine craft and in several other capacities. Rohr's Q.E.C. units received an unsolicited testimonial during the recent International Geophysical Year activities when one of the assemblies was installed on a downed plane at the South Pole." (*ROHR Magazine*, August 1960. p

1945 July. Rohr Aircraft Corp. through an exchange of stock, became a subsidiary of International Detrola Corp. that was headquartered in Detroit. Detrola consumer products organization with divisions that made machine tools, radios and refrigeration compressors. For a short period of time, Rohr engineers ma consumer products such as a toy boat powered by dry ice, vacuum cleaners, washing machines and radio cabinets. (Austin pp. 34-39)

1945 Sept. 2. VJ Day (surrender was Aug. 15); vacated bldgs south of H Street (until Boeing contract in 1947).

1946 America's production of military aircraft was only 437 in 1934. In 1940 production was 6,028, then 19,445 in 1941, 47, 675 in 1942, 85,433 in 1943, 9 1944. But then production declined, to 46,865 in 1945, and only 1,417 in 1946. "Workers were laid off by thousands, whole sections of plants were closed, a two companies in the industry, Rohr was one of them, continued to show a profit." (Rohr 25th Anniversary, pp. 18-19)

1946 "Each year since 1942, Rohr employees had received a year-end bonus, a pension plan for employees also was in effect, and substantial contributions t community organizations were the rule. But, on Feldmann's order, the pension plan and the year-end bonus were discontinued, and the local Red Cross cont which, a year before the merger was \$5,000, was cut to \$1,000." (Austin p. 43)

1946 Jan. Cordrey constructed 4 buildings at F Street and Walnut.

1946 July, four bldgs along G St sold to Johnson and Tavares; cafeteria to become Brevitype factory (at 777 H Street).

1947 Five year pins given.

1947 - C. Rusel Feldman, President of Detrola, changed the name of his company to Newport Steel Company, and tried to enter the steel manufacturing bus purchasing a mill in Newport, Kentucky. (Austin p. 45)

1947 Sales had dropped to a postwar low of \$6,069,100 in 1946, but began moving up in 1947 with new orders from Boeing and Douglas and Lockheed. "C Boeing and Lockheed, all of whom were creating and manufacturing new transports turned to Rohr for power packages and other assemblies, such as exha systems, and oil and fuel tanks. The Boeing Stratocruiser, the Convair Liner, the Lockheed Constellation series and, later on, the Douglas DC-7 went into pr

and Rohr became so busy with orders that the Company had neither time nor space to consider other commercial products. Employment moved up and sales had dropped to \$6,069,100 in 1946, from a high of \$70,658,893 in 1944, began moving up and in 1949 hit \$24,674,488." (*ROHR Magazine*, August 1960. p

1947 "The C-49, a military transport, and 649 commercial liner power pack contracts started a long string of participation in Lockheed multi-engine program series advanced through the 649, 749, 1049 and 1649, the famous Constellation and Super Constellation series. This series of "Connies" accounted for some production power packs and spares." (*ROHR Magazine*, August 1960. p. 17)

1947 "The giant Boeing B-50 long range bomber employed huge Rohr-built power packs weighing some 6,000 pounds each. More than 1,600 of these units built in the late 1940s" (*ROHR Magazine*, August 1960. p. 17)

1947 Feb. Rohr began to supply engine pods for the first ConvairLiner model 240. (*ROHR Magazine*, March 1958)

1947 Nov. to build largest punch press in West for Boeing B-50 contract. (*Chula Vista Star*, Nov. 21, 1947.)

1947 Nov. Convair's flying auto crash-landed Gunpowder Point. (*Chula Vista Star*, Nov. 21, 1947.)

1949 Dec. 7 A new Rohr company was organized, after first leaving Detrola as the Harbor Aircraft Corporation on Oct. 18, then changing its name again to Aircraft Corporation on Dec. 7. "During the war, production had been the main objective but now it was found that the experience gained during those early could be employed to advantage in the design of components required by major customers. Consequently, there began a steady and consistent expansion of the Engineering Department, with the result that design responsibility was included in an increasing number of contracts. The laboratories also were expanded, and testing and research became of increasing importance as aircraft moved swiftly into a more complex era and the turbojet began replacing the old piston engine. As an example of this, the Company realized that with the coming of the jet transport the problem of noise would be a major factor confronting airlines, particularly in the vicinity of airports. Research began on sound suppression, along with studies of thrust reversal systems which would slow down the jet aircraft to a speed that would enable them to land on existing runways. Rohr engineers came up with a combination sound suppressor/thrust reverser. The principles in this design were incorporated in the thrust reverser now being manufactured for and used on the Lockheed JetStar. Boeing came up with its own ss/tr designs for use on the 747 and because, among other reasons, of Rohr's experience in this field of research, awarded the contract for their manufacture to this Company. The Company designed and manufactured prototype thrust reversers for military airplanes, and these, too, have met the needs for better control of these high speed aircraft on a landing approach. Research in the use of titanium was one of the Company's "firsts," with the result that today Rohr is one of the largest users of titanium in the aircraft industry. This temperamental metal, is was discovered, must be formed at elevated temperatures and to accomplish this Rohr engineers and technicians created special tools for this purpose. Brazed stainless steel honeycomb was another product in which the Company pioneered. Its lightweight, high strength and numerous other advantages of this type of structural panel quickly proved it to be the answer to many aerodynamic problems that confronted designers and engineers. It is extensively used in supersonic military airplanes and the Company has expanded its facilities to meet growing demands as aircraft speeds increase. In part to meet the increasing use of honeycomb materials the Company, under the personal direction of Fred Rohr, designed and built several core making machines. Now now are turning out quantities of this material, the production of which has heretofore been limited. These newly designed machines are regarded as an important breakthrough in a field that will permit the Company to keep pace with the demand which surveys indicate will continue to increase as the age of supersonic aircraft develops. The Company also has made rapid strides in the use of numerical controlled machine tools and production methods. In addition to operating nine numerically controlled machines, the Company also has installed an E.C.S. Digimatic Director, and is installing a Univac Solid State 80 computer, which will enable Rohr not only to produce more economically tools and production parts, but to offer flexible and effective programming and numerical control production systems for users of numerically controlled machine tools. (*ROHR Magazine*, August 1960. pp. 5-7)

## 1950s

1950 May 19 Gov Earl Warren visit. (*Chula Vista Star*, May 25, 1950.)

1951 Feb.12 aerial photo when new city hall dedicated.

1951 June. Rohr hired 85 high school kids for summer work, at \$1.05 wage for minors (also was the starting pay for factory workers). (*Chula Vista Star*, Aug. 1951.)

1951 June 25. Korean War began.

1951 Aug. old cafeteria bldg (Brevitype) reacquired for Rohr expansion.

1951 Oct. Riverside plant built for B-50 power plant, and for Boeing KC-97.

1951 Development of aerial refueling within SAC was accelerated in 1951 with delivery of the first B-47s and KC-97 tankers, as well as the Boeing-developed transfer "flying" boom. This new boom, which pumped 600 gallons of fuel a minute, was greatly superior to the flexible hose used previously. The Boeing KC-97 with its Rohr-built piston engine power packs, proved a highly serviceable workhorse, compiling a long record of refueling hookups under all conditions in every corner of the globe. (*ROHR Magazine*, Mar. 1961)

1952 May. Big expansion to CV plant. "Employment at the Chula Vista plant now stands at 6,000, as compared to 5,000 a year ago." (Annual Report, 1952,

1952 "The year 1952 brought the Company into the jet era with an order to build engine pods and major airframe components for the Boeing B-52 Stratofortress" (*Rohr News*, Aug. 15, 1960.)

1952 Rohr Aircraft purchases and occupies the Eagle's Hall building in Chula Vista. The building's interior space is modified to accommodate small offices and partitions. The west facade is covered with heavy stucco and wrought iron light fixtures are added. (Rohr Aircraft Memories).

1953 "Another long production run started in 1953 when the Douglas DC-7 series power packs were phased into the Rohr engine lines. The last of the "Seven Seas" power packs was delivered in 1958 and in all Rohr built 1,858 production units and spares for the series. The last of the Lockheed Super Constellation power packs also phased out in 1958 as production started shifting over to the propjets and turbojets. Rohr built some 3,000 power packages for the Connies. With the ph the DC-78, the Connies and the KC- 97, the venerable P2V remained the only piston engine power package job in the Rohr plants. The transition to jets and by commercial airlines followed several years behind the military shift. Rohr was producing the huge twin pods for Boeing B-52 turbojet engines as early as (ROHR Magazine, August 1960. p. 17)

1953 "It is a pleasure to report that 1953 was one of the most successful years in your company's history. It saw the fulfillment of most of the expansion program which we began a year and a half ago, with a corresponding increase in sales and earnings even though many of our new facilities just now are coming into production for the year were \$63,005,624, an increase of approximately 52 percent over the year before. . . . At the end of the fiscal year 6,767 workers were employed at Vista. . . . Expansion of Chula Vista facilities continued through the year also. More than 50,000 square feet of manufacturing space was added; an office building containing 18,000 square feet was purchased in downtown San Diego last November and is utilized by the Purchasing and Material Control departments; another building, with 176,000 square feet of space, was leased and is being used for warehousing purposes. This structure also may be used, if the need arises, for other types of manufacturing. The total floor space now occupied by the corporation, at both Riverside and Chula Vista, totals 1,250,000 square feet, or twice the space occupied three years ago. . . . In addition to power packages, we also are making wing tip tanks (external fuel tanks) for the Lockheed P2V Patrol Bomber and Boeing B-52 Stratofortress Bomber; fuselage sections for the Boeing B-52; augmentors for the Convair 340 and T-29; several types of exhaust systems; and smaller subassemblies and assemblies which require the manufacture of more than 25,000 different parts. During last year our shears and presses turned out ten million parts for use in our products." (Annual Report, 1953, p. 3-5)

1953 Mar. Rohr began making power packages for the DC-7, until replaced by DC-8 in 1958. When it began commercial service in December, 1953, the DC-7 was the world's fastest piston-powered transport. It was the first commercial airliner to fly non-stop between Los Angeles and New York in both directions. The "Seven Seas" model carried 105 passengers and had a range of more than 5,000 miles at 365 miles an hour. (Rohr Magazine, Nov. 1958)

1953 Rohr boat "Aurora" in Coast Guard Auxiliary. (Chula Vista Star, Mar. 5, 1953.)

1954 Rohr is awarded a large contract for the Lockheed C-130 Hercules transport. (Rohr Aircraft Memories).

1954 "It was the best year in the company's history; a continuation of the program of growth and expansion that was launched three years ago. Sales amount \$101,604,447, as compared to \$63,005,623 for 1953." (Annual Report, 1954, p. 3)

1954 "For more than two years we have been one of the leaders in the field of research and development of manufacturing techniques in the forming of titanium, a new "wonder metal" of the aircraft industry." (Annual Report, 1954, p. 7)

1954 "Three years ago the aircraft industry in the San Diego area and the San Diego Junior College organized the Aircraft Technical Institute. Students of the Institute can obtain the Associate of Science or the Associate of Arts degree if they met established requirements. Our employees consistently have led in the number of enrolled students and several of our people are on the teaching staff." (Annual Report, 1954, p. 8)

1954 Sept. Fred Rohr bought the Manor and Old Adobe built 1938 by Ruben Harrison. The city built Rohr Park 1966. (Austin p. 41)

1954 Dec. workers paid in silver dollars. (Chula Vista Star-News, Dec. 16, 23, 1954.)

1955 Winder GA plant for Lockheed's Hercules C-130. "An assembly plant was opened at Winder, Georgia, in April after the Company leased a hangar building adjoining the Winder Airport. There the power packages for the Lockheed C-130 turboprop Hercules are assembled. The Rohr-built packages are shipped from Chula Vista, and the engines from the Allison plant at Indianapolis. After assembly they are trucked to the Lockheed plant at Marietta, about 40 miles away, where Hercules is in production. The Winder operation is important from the standpoint of freight economy." (Annual Report, 1955, p. 5)

1955 "Recently we were awarded the contract to build the power packages for Lockheed's new Electra, the first turbo-prop commercial airliner to be built in the United States which will go into production late next year." (Annual Report, 1955, p. 5)

1955 Jan. strike is called but the plant remains open during picketing. Strike lasts 6 weeks. (Austin, pg. 60).

1956 Feb. announced "33,595,00 in New Orders at Rohr." Lockheed's Electras were to be built in Chula Vista. (The AeroROHRCrafter, February 1956, pg. 3).

1956 Auburn WA plant for B-52 parts.

1956 "Employee Recruitment Car" driven by Personnel Manager Jim Hobel.

1956 Fred Rohr selected as "Mr. San Diego."

1956 In July Joe Rheim replaced Fred Rohr as president.

1956 Aug. The old 3-story brick bldg in downtown San Diego razed and departments were moved to Chula Vista.

1956 Oct. A new building north of Hangar was built for B-52 components.

1956 Nov. 11 was the first flight of the Mach 2 Convair B-58 bomber that used honeycomb skin. (ROHR Magazine, Mar. 1960)

1950s half of Rohr business for Boeing 707; Rohr's engineers designed 707's distinctive-looking exhaust nozzle.

1957 Rohr began a research and development program to develop a sound suppressor-thrust reverser for jet engines. (Rohr Magazine, Jan. 1959)

1957 Chula Vista plant installs its first computer. (Austin, 1969, p. 83).

1957 Boeing KC-135 aerial refueling tanker began service as the Air Force's first jet-powered refueling tanker.

1957 Feb new 2-story cafeteria opened, built on site of old cafeteria. (*Chula Vista Star-News*, Aug. 9, 1956.)

1957 March - Rohr Appreciation Days - whole issue of *Star-News* Mar. 14.

1957 Aug. 8 announced Rohr won contract to produce sec. 46 of the Boeing 707, 43 feet long, 14 feet diameter (*The AeROHRCrafter*; Oct. 1957, p. 3)

1957 Sept. The first flight of the Lockheed JetStar prototype with engine pods made by Rohr in Chula Vista. (*ROHR Magazine*, July 1959)

1957 Oct. 3 Rohr Halloween Carnival (*The AeROHRCrafter*; Oct. 1957, p. 42)

1957 Nov. First engine mounted on the Electra photo, and C-130 Hercules engine photo (*The AeROHRCrafter*; Dec. 1957, p. 14)

1957 Nov. Rohr patented the Tilting Arc to handle engines. (*The AeROHRCrafter*; Nov. 1957, p. 14)

1957 Dec. 23 North American was awarded the contract for the B-70 Valkerie Mach 3 supersonic bomber. Rohr began research to develop its stainless steel honeycomb wing. (*ROHR Magazine*, Mar. 1959)

1958 Jan. Front cover shows the Boeing 707 section 46 fuselage. (*The AeROHRCrafter*; Jan. 1958, p. 1)

1958 Jan. Production crew of the first C130B power package (Rohr currently making the C130A packages). (*The AeROHRCrafter*; Jan. 1958, p. 6)

1958 Jan. Construction of new Building 29. (*The AeROHRCrafter*; Jan. 1958, p. 10)

1958 Jan. 31 was the first flight of the Lockheed Electra, propjet in production for last 32 months. (*The AeROHRCrafter*; Oct. 1957, p. 15)

1958 Mar. Rohr Appreciation Days - whole issue of *Star-News* Mar. 13.

1958 May. Rohr employment is at "an all time high" with 10,028 employees at the Chula Vista plant, 4,106 in Riverside, and 144 in Auburn, Washington and Georgia plants. (*ROHR Magazine*, May-June 1958).

1958 June. "Rohr won contract to make the airframe support pylon for the "Hound Dog" missile manufactured by North American Aviation. They will attach underwing surfaces of the Boeing B-52G jet Stratofortress." (*ROHR Magazine*, July 1958)

1958 Aug. "Rohr Aircraft Corporation in August will observe its 18th anniversary, and some of the highlights of its accomplishments during the last year include: Contract for the manufacture of prototype support pylons for the Hound Dog air-to-surface missile, to be made by North American Aviation, and to be carried on the wing of the B-52G. Addition of 194,016 square feet to plant areas, bringing Company total to 1,995,449 square feet, distributed as follows: Chula Vista 1,353,200; Riverside, 560,055; Winder, Georgia, 24,923; Auburn, Washington, 44,271, and Los Angeles (warehouse), 13,000." (*ROHR Magazine*, July 1958)

May. Rohr Appreciation Days - whole issue of *Star-News* May 14.

1959 The fill of 9 acres of bay front tidelands to be leased to Rohr; city planning to fill another 75 acres. (*Chula Vista Star-News*, Sept. 3, 1959.)

1959 May Rohr expansion through next 6 months to demolish old clockhouse, and extend administrative bldg by 140 feet.

1959 "New military orders include wing components for the North American B-70, Mach 3 bomber." (Annual Report, 1959, p. 3)

1959 "In the commercial field we are manufacturing jet pods, horizontal stabilizers and elevators, a 43-foot fuselage section, sound suppressors and thrust reversers for the Boeing 707 jet airliner, which has been in service for almost a year." (Annual Report, 1959, p. 6)

1959 "Rohr has an order for propjet power packages and other components for the Navy's new P3V-1, submarine hunter version of the Lockheed Electra." (*ROHR Magazine*, Nov. 1959)

1959 "Brazed Stainless Steel Honeycomb Sandwich Structural Panels are manufactured for the Convair B-58 medium bomber, and the McDonnell F4H Navy fighter." (Annual Report, 1959, p. 6)

1959 "Research and development activities have covered a broad field during the year, with substantial advances recorded in jet engine thrust reversal, brazed stainless steel honeycomb structures, adhesive bonding of metals, high strength weldments of conventional and exotic metals and numerical control of machines." (Annual Report, 1959, p. 7)

1959 - Rohr designed a machine to make honeycomb cores "A machine was designed which formed six cells at a single stroke and also made complete core of any desired size instead of 'tacking,' or welding the strips together. The machine was built by Rohr technicians and became so successful that others were added. There are 17 of these machines in the Chula Vista plant making core not only for the Company, but for others as well." (Rohr 25th Anniversary, p. 12)

1959 "As it has done for the last eight years, your company again sponsored two high school Junior Achievement companies. This activity is designed to give students practical training in the organization and operation of a corporation. Rohr employees have been assigned to guide the students in the actual manufacture of a product. . . . In the past year 135 employees have received tuition refunds for approved college and correspondence courses enabling them to increase their skills through course related to work performed by the company. Your company presented eight scholarships during the year to deserving students who were employees of Rohr employees and who wished to earn college degrees in engineering, science or related subjects." (Annual Report, 1959, p. 10)

1959 "Two other projects

entirely different nature than those heretofore mentioned illustrate the versatility of the skills and facilities available at your company's plants. One was the manufacture of a series of reactor tubes for one of the Atomic Energy Commission's generating plants, and the other was the rehabilitation of used gun barrel Army. The reactor tubes required the utmost in skillful welding, an area in which we consistently have maintained leadership. We were selected by the Army to rehabilitate the gun barrels because our salt bath tanks were the only ones in the country deep enough to suspend these 15-foot long weapons in a vertical position which was necessary to prevent warping. The first barrels treated were completely successful and another shipment has been sent for processing." (Annual Report, 1959, p. 3)

1959 "Manufactured between 1959 and 1972 with Rohr nacelles and thrust reversers, the DC-8 became the first civilian jet to make a supersonic flight, break the sound barrier during a 1961 flight designed to collect data on a new leading-edge design for the wing." (Rohr Historical Posters, Goodrich Corp.)

1959 "Net sales for the year ended July 31, 1959 reached a record total of \$191,272,128, up 29.6 per cent over the \$147,538,056 for the preceding year." (Annual Report, 1959, p. 4)

## 1960s

1960 diversification began; Modular homes in 1960; 60-foot diameter tracking antenna for Alaska in 1960; built the 210-foot Goldstone antenna in 1963; 10 microwave antennas for GE.

1960 Rohr has grown to 41 buildings on 156 acres. (*Chula Vista Star-News*, Aug. 18, 1960.)

1960 Due to interest in space exploration the company bids on and receives "a contract to build and erect a 60-foot diameter tracking antenna" for installation in Alaska. (Austin, 1969, p. 89).

1960 "The Company's first major venture beyond the aircraft field was the creation of a department to build large tracking antennas. The first antenna, a tracking antenna 60 feet in diameter, was erected in Alaska, and was successful. Then followed other contracts for various types of 85-foot tracking and communications antennas. The engineering department was further expanded to include outstanding experts in the antenna field, with the result that in less than five years the Company has become one of the nation's largest antenna builders." (Rohr 25th Anniversary, p. 11)

1960 "We are continuing to manufacture power packages for the piston engine P2V7 Neptune, a Navy submarine hunter. This is the only piston engine contract we have, and it has been in continuous production since 1951." (Annual Report, 1960, p. 3)

1960 "The 10-passenger JetStar will carry Rohr engine pods on its aft fuselage, with Rohr designed and built thrust reversers. The unusual pod mounting has engines mounted in "Siamese twin" pods on either side of the aft fuselage." (*ROHR Magazine*, Jan. 1960)

1960 "We also have done considerable development work and are preparing to manufacture brazed stainless steel honeycomb sandwich panels for the B-70, developed by North American. This program has recently been restored to a production status and it is expected to materially increase our backlog in this line." (Annual Report, 1960, p. 10)

1960 "In addition to components for the Iris, the Hound Dog and the Argus missiles, we are manufacturing an electrical harness for the Mercury 'man in space' project, and an umbilical cord junction box for the Atlas missile. We also manufacture reactor tubes for the Atomic Energy Commission's Hanford plant." (Annual Report, 1960, p. 12)

1960 "The company has been particularly active in the operation of numerically controlled machine tools, our interest in this field pre-dating delivery of the machine by several years. When the Aerospace Industries Association, the Massachusetts Institute of Technology and the Air Materiel Command united in a cooperative effort in this area of development more than ten years ago, from our machine shops participated in the studies. Our first numerically controlled machine tool was received late in 1957 and since then eight others have been installed. With the recent installation of new programming equipment, including a Univac SR-80, the company now is offering a wide variety of programming services to other companies." (Annual Report, 1960, p. 12)

1960 "The company occupies a total floor area, in its four plants, of 2,081,570 square feet. Of this area Chula Vista has 1,338,620 square feet on 105 acres. Our manufacturing plants, Chula Vista and Riverside, are equipped with more than 3,000 major pieces of production machinery representing an investment of \$26,998,000, including equipment to the value of \$8,652,000 furnished by the Air Force. Both Auburn and Winder are assembly plants, situated to enable us to serve two of our major customers, Boeing at Seattle and Renton, Washington, and Lockheed at Marietta, Georgia." (Annual Report, 1960, p. 14)

1960 "The stainless steel honeycomb sandwich structures Rohr builds for America's newest operational bomber, the Convair B-58 Hustler, must withstand the friction temperatures generated by speeds in excess of Mach 2. Today many schoolboys could explain that Mach 2 would be 1,324 miles an hour at the 35,000 operational altitude of the Hustler." (*ROHR Magazine*, August 1960. p. 11)

1960 "Power packages have changed in many ways since the days of the B-24. There were 1,486 Rohr-built parts in the B-24 power package. More complicated reciprocating engines like those for the Boeing B-50 or the French SE-2010 called for more than 3,000 Rohr-built parts in the engine buildup and nacelle structure. Today Rohr builds some 5,000 parts for the average jet engine pod." (*ROHR Magazine*, August 1960. p. 16)

1960 Rohr joined other San Diego County Boy Scout leaders in sponsoring construction of a Boy Scout camp in 1960.

1960 Sept. Rohr installed new computer, the Remington Rand Solid State 80 Univac. (*ROHR Magazine*, Sept. 1960) 1960 "Sale amounted to \$193,249,182, with \$191,703,998 last year." (Annual Report, 1960, p. 2)

1961 Rohr drops the word 'Aircraft' from its corporate name and the company becomes Rohr Corporation (Austin, p. 13).



1961 Rohr receives "patent for a proprietary sound suppressor-thrust reverser design." (Rohr Aircraft Memories).

1961 The first production P3V-1 rolled off the assembly line at Lockheed's Burbank, California plant late in February. Flight testing is scheduled for late March. (*ROHR Magazine*, Mar. 1961)

1961 McDonnell's F4H-1 Phantom Mach II fighter-interceptor became operational on Navy carriers. (*ROHR Magazine*, Mar. 1961)

1961 - First of Convair's second generation jet airliners, the 990, rolled onto Lindbergh Field at San Diego for the first time. Rohr is participating in the manufacture of the 990 to a limited degree, forming large fuselage skins on the company's huge presses. (*ROHR Magazine*, Feb. 1961) 1961 "In the last few months we have obtained two major jet engine pod contracts - one for the Lockheed C-141 military cargo airplane, the other for the Boeing 727 three-engine commercial jet of which 117 have been sold, and the potential market of which is expected to reach 500." (Annual Report, 1961, p. 3)

1961 "With numerically controlled machines, we began experimenting in this field eight years ago. Some aircraft parts were becoming so complex that it was that it would be difficult if not impossible to form them by conventional methods. We installed a computer and began translating drawings into tape for the control of some of our milling machines. Today, we have ten machines operated by numerical tape control, the latest being a filament winding machine which we designed, the first in the industry." (Annual Report, 1961, p. 3)

1961 "The revival of the B-70 has created an increased demand for brazed stainless steel honeycomb panels. In anticipation of this and a greater requirement for this material by other customers. Rohr more than two years ago began the development of a core-making machine." (Annual Report, 1961, p. 11)

1961 - "With the North American B-70 program back on a production basis, the demand for stainless honeycomb sandwich structure rapidly is reaching an all-time high. As a subcontractor producing this high strength, light weight material for the Mach III B-70, Rohr is expanding its stainless steel honeycomb facilities to meet the demand. Rohr has produced stainless honeycomb structure for several years for such high performance military aircraft as the Mach II Convair B-58 medium bomber and the Mach II McDonnell Phantom, a Navy fighter-interceptor." (*ROHR Magazine*, Feb. 1961)

1961 "The Berlin Airlift so much discussed today in the light of current conditions in the troubled city, the airlift in support of the Lebanon government and current Congo crisis have illustrated the effectiveness of rapid transit of troops and supplies. Such operations can keep a crisis from becoming a calamity. In this year the Air Force announced that Lockheed had been selected as the winner in the design competition for the C-141 jet transport. This initial contract was called for production of engine pods and pylons for the first five C-141s. In the airlift buildup program Rohr has received follow-on orders in recent months for components for the Lockheed C-130 Hercules and the Boeing C-135, both of which have been ordered to provide immediate modernization of military airlift. Other major military production programs include the Boeing KC-135 jet tanker and the Boeing B-52H "missile platform" bomber, both vital ingredients of the Strategic Air Command's deterrent force." (*ROHR Magazine*, Sept. 1961)

1961 "Several new missile projects were inaugurated during the year. We now are manufacturing components for the Polaris, the Arcas, the Iris, and pylons for the Hound Dog, as well as heat shields for the Agena, some of which are in orbit. An important component for the Ranger interstage structure, designed for eventual moon landing, also is one of our newer products." (Annual Report, 1961, p. 14)

1961 "Significant progress also has been made by the company in filament winding, and we now have the first numerically controlled filament winding machine in the industry. This machine, developed by Rohr technicians, and now in production, is capable of winding light, strong liquid or solid fuel rocket engine case and rocket engine nozzles for larger and more advanced ballistic missiles. In this relatively new manufacturing technique, fine strands of tough fiberglass are spun into vessels of the desired shape on a mandrel. When the fiberglass is impregnated with resins, cured in an oven, and separated from the mandrel, the resulting structure offers a strength-weight ratio superior to that of steel." (Annual Report, 1961, p. 14)

1961 "In the few years since Sputnik I started the race into outer space, Rohr's participation in missile, rocket and space exploration programs has grown ever more varied. The latest, and perhaps most spectacular, Rohr contribution to the nation's space efforts is a heat shield of specially developed metal now orbiting earth as a vital component in the Lockheed Agent B satellite used with Discoverer XVII." (*ROHR Magazine*, Feb. 1961)

1961 NASA's Ranger spacecraft had a Rohr-built interstage structure. (*ROHR Magazine*, Sept. 1961)

1961 "Another field in which Rohr has taken a major step is the manufacture of large tracking and communications antennas. We have established an engineering staff with proved proficiencies to integrate experienced antenna design talent with the precision light weight structural capabilities of the aircraft industry. Recent Air Force final acceptance tests have indicated that the Rohr designed and produced 60-foot antenna reflector is the most precise and accurate structure of its kind in existence today. During the past year we have provided design services for National Radio Astronomy Observatory, General Electric and the National Aeronautics and Space Administration, while modification of the cassegranian feed assembly on Cal Tech's Jet Propulsion Laboratory's Goldstone [Goldstone] assembly is nearing completion." (Annual Report, 1961, p. 16)

1961 "Complete, ready-to-install bathroom units have been on display at two conventions in the last two months. The product is produced by Modular Components Corporation, a wholly owned subsidiary of Rohr, created more than a year ago. The unit is a molded plastic, complete bathroom with integrally molded tub and toilet, integrally attached studs, and above ground plumbing attachment system. In addition to the bathroom unit, Modular Components Corporation also is developing mobile houses to be manufactured with wall panels of polystyrene foam plastic, the interior surfaced with a variety of hardboard finishes, and the exterior finished with asbestos cement. The frame is of steel, and the entire house can be erected in two or three days, ready for occupancy. Under present schedules initial units are being erected and ready for inspection about February 1." (*ROHR Magazine*, Dec. 1961)

1961 "Anticipating further growth the company during the year leased ten acres of tidelands from the City of Chula Vista, and plans to add another 25 acres of recently filled area. Also an 18,000 square foot processing center now is under construction at Chula Vista." (Annual Report, 1961, p. 17)

1962 John Becerra home in middle of Rohr parking lot, at 521 Walnut, since 1922. (*Chula Vista Star-News*, Mar. 18, 1962.)

1962 "Significant progress has been made in the antenna field. In a little more than a year, since the installation of our first 60-foot tracking antenna in Alaska, we have received orders for, and now are manufacturing, six 85-foot automatic tracking antennas, four for NASA and two for Radiation, Inc., a 30-foot diameter antenna for Jet Propulsion Laboratory at Goldstone, California. We also are working on a design project for a 320-foot parabolic cylinder reflector for astronomic observations." (Annual Report, 1962, p. 18)

studies at Stanford University." (Annual Report, 1962, p. 3)

1962 "The company's first antenna contract was for a 60-foot tracking unit, erected in Alaska in 1961, and this was followed by design and manufacture of c including: A 30-foot diameter AZ-EL X-band automatic tracking antenna for the Jet Propulsion Laboratory at Goldstone, California. Four 85-foot diameter : data acquisition telemetry automatic tracking antennas of x-y configuration for the National Aeronautic and Space Administration's Goddard Space Flight C Two 85-foot diameter AZ-EL automatic tracking telemetry antennas for Radiation Inc., for installation along the Pacific and Atlantic missile ranges." (Annu 1962, p. 6)

1962 "An area of 85,000 square feet, mentioned earlier in this report, adjoining the Chula Vista plant has been paved for use by the antenna systems departr (Annual Report, 1962, p. 15)

1962 Rohr gets order for new fiberglass bathrooms from Stafford Gardner and John B. Morgan. First units will be for Rancho Cerro subdivision on Division Harbison, of 180 homes. (*Chula Vista Star-News*, Feb. 8, 1962.)

1962 "The first Modubilt house, a four-bedroom model, was erected in June at Riverside." (Annual Report, 1962, p. 16)

1962 "The Rohr plant at Chula Vista is in the process of manufacturing a welded aluminum hull as a study vehicle. This 33-foot hull is a half-scale model of foot yacht visualized as the possible ultimate product of the development program. The project is being conducted, purely as a developmental program, und direct supervision of Fred H. Rohr, President and General Manager. The hull now under construction results from a number of design theories developed by and several of the company's engineers after long years of boating experience." (*ROHR Magazine*, Jan. 1962)

1962 "DASH is a drone helicopter, one of the Navy's newest sub killers, designed to operate by remote control from a destroyer. DASH is powered by the B 50 two-shaft gas turbine engine, for which Rohr fabricates a number of sheet metal parts by explosive forming." (*ROHR Magazine*, Mar. 1962)

1962 "NASA's Ranger, a moon landing space craft, required an ultra-light unit to support its vital retro rocket and instrumentation package. Rohr developed bonded units weighing 1-1/2 pounds to hold the 300 pound payload. And, despite weight limitations and curvilinear configuration, Rohr built, tested and del first unit within 30 days." (*ROHR Magazine*, May 1962)

1962 - A large, concrete antenna assembly "pad" was built on the western edge of Rohr's Chula Vista plant. (*ROHR Magazine*, May 1962)

1962 "The 25 scholarship winners returning to school this fall after a summer of job experience with Rohr represent scholarship awards dating back to 1959 company awards up to nine scholarships each year to qualified Rohr employes or children of Rohr employes. Two "winner's choice" scholarships are awardd year to top high school graduates who are children of Rohr employes." (*ROHR Magazine*, Fall 1962)

1963 "Two new programs went into production in the last quarter of the 1963 fiscal year when the first units for the Lockheed C-141 Starlifter, military logi: transport, and the Boeing 727 three-engine short-to-medium range commercial transport were delivered. The C-141 program includes jet engine pods and p landing gear pods and doors, thrust reversers, wing to body panels, and large bonded cargo (petal) doors. The latter, each 28 feet in length, are the largest me bonded components ever produced. The Rohr-designed and manufactured thrust reversers, also, are the largest yet manufactured. In this connection we were the first companies in the aerospace industry to study devices for shortening the landing roll of the big jet airplanes. A proprietary Rohr-designed thrust reve service on the Lockheed JetStar military-executive transport, and hundreds of Robr-built units are in service on such airplanes as the Boeing 707 series." (A Report, 1963, p. 6)

1963 "Another contract, amounting to \$28,000,000 for engine pods for the Douglas DC-9, short haul commercial transport has been received and now is in t engineering development stage. Production is scheduled to start in mid-summer of 1964 and this, too, is expected to be a long production program. Douglas DC-9 as a likely successor to hundreds of DC-3s, -4s, -6s, and -7s." (Annual Report, 1963, p. 6)

1963 "In just three years since entering this new field the company has become one of the world's leading antenna manufacturers. The largest single antenna so far received is for a 210-foot precision spacecraft tracking antenna, to be Rohr designed, manufactured, installed and tested for the National Aeronautic an Administration's station at Goldstone, California. This is a \$12,000,000 program, work on which already has begun at Rohr." (Annual Report, 1963, p. 8)

1963 "One of the world's largest space-craft tracking antennas will be built by the Rohr Corporation under a \$12,000,000 contract announced recently by the Aeronautics and Space Administration. NASA selected Rohr to design, manufacture, install and test this advanced antenna system, which is to be located at Goldstone Deep Space Station in the Mojave Desert. The antenna, which is to be 210 feet in diameter, will be one of the largest precision antennas in the wc represents the culmination of three years of study and design effort. . . . The completion of the antenna system, expected in 36 months, will represent a scien improvement over the deep space network (DSN) which was so successfully used and set a communications distance record in the recent MARINER II flyb Venus. The new system will improve the communications capability of the DSN by a factor of 10 over the existing network. This improvement can be used increase communication distanceortoacquirelargeramounts of data from shorter distance. When used with future spacecraft of the Voyager type, communica distances to die edge of the solar system will be possible with the antenna. The Goldstone 210 ft. antenna will be similar in appearance to the Parks, New So Wales, Australian Antenna. It will, however, have major improvements that will permit operations in adverse wind conditions." (*ROHR Magazine*, Spring 1963)

1963 "Erection of a new building at Chula Vista plant is under way, where additional X-ray facilities will be installed. The need for this facility was created increasing use of stainless steel honeycomb and a requirement that it be checked in motion by X-ray. One of the largest derricks in the industry has been pur the antenna systems department, to be used initially in erection of the 210-foot antenna at Goldstone, California. It will lift a 200-ton load 310 feet into the a essential in the erection of the large antennas. It also will be used in handling materials for construction of the base or foundation upon which the huge instru stand. Another facility installed during the year was the conveyerized production and assembly line for the Western Electric microwave relay hom antennas, employing numerically controlled machines. This facility has attracted widespread industry attention." (Annual Report, 1963, p. 10)

1963 "Installation of machinery and equipment in our new Modular Components Corporation plant at Fullerton, California, has been completed. The first or 148 houses to be erected in Borrego Springs Park, California, is scheduled for completion by January, 1964. . . . Further production of a unitized fiberglass b which Modular Components made at Chula Vista, has been deferred indefinitely because of the attitude of the plumbers' union and plumbing contractors. A 572 units were sold and instalied in San Diego county, however. before the decision was made to defer production pending a change in the obstructionist atti

union plumbers and plumbing contractors." (Annual Report, 1963, p. 11)

1963 "Another aircraft first was the application of bonded honeycomb to jet pod cowling panels. This application, reducing cost yet improving quality, was made possible through research and development of design data for high temperature long exposure adhesives. Successful bonding of cargo doors for the C-141 is a Rohr producer of the largest bonded honeycomb assemblies yet manufactured. Each cargo door measures 9 by 28 feet." (Annual Report, 1963, p. 12)

1963 "Rohr will design and build jet engine pods and thrust reversers for the Douglas Aircraft Company's DC-9 compact jet transport, a newer, smaller jet to provide the speed and comfort of jet transportation to communities now served only by propeller aircraft. A \$28,300,000 contract was signed by the two companies late in May covering Rohr's participation in this new program. Deliveries of components to Douglas will begin in August, 1964, and the first flight of the new jet is scheduled for the spring of 1965. Douglas expects to begin deliveries to the airlines early in 1966." (*ROHR Magazine*, Summer 1963)

1963 "When President Kennedy pressed a golden key in Washington on August 22 and opened the door on a large hangar building at Marietta, Georgia, he opened the first jet aircraft designed and built from the start specifically as a military airlifter. The StarLifter, as Lockheed's new logistics transport has been named, answers to a problem that became dangerously apparent in the days of the Berlin Airlift, and turmoil in Lebanon, the Congo and the Indian border. The Air Force, the Army, the Pentagon and Congress have been concerned over the vital need for faster, more capacious airlift as an instrument of national policy and world peace. The President called the StarLifter the "fastest cargo-carrying airplane in the world" and pointed out that this new aircraft means that, "The power of the United States will be felt on behalf of the cause of freedom all over the world." . . . The roll-out of the C-141 StarLifter and its first flight later this year constitute major milestones in one of the most rapid development programs of such scope ever accomplished. The Air Force called for bids on December 20, 1960, for the design and manufacture of an aircraft then identified only as "Logistics Transport System 476L." A month later the Lockheed-Georgia Company, which had been doing preliminary design work in preparation for the competition since 1957, submitted its proposal. On March 31, 1961, the White House announced the selection of Lockheed as winner in the design competition and on April 7, 1961, authorized Lockheed to proceed with the program. From that point on the program rolled rapidly and efficiently toward the completion of the Number 1 aircraft rolled out on August 22, 1963." (*ROHR Magazine*, Fall 1963)

1963 "Rohr has been given an order by the Boeing Company's Aerospace Division at New Orleans to build three brazed stainless steel honeycomb heat shields for the first stage engine of the Saturn vehicle. These flat, circular shields, to be fabricated at Rohr's Chula Vista plant, will be built in two layers to form fixed bulkheads within the base of the first stage booster." (*ROHR Magazine*, Fall 1963)

1963 Burt Raynes became president.

1964 "The United States Chamber of Commerce a year ago said Rohr was the nation's outstanding user of numerically controlled machines." (Rohr 25th Annual Report, p. 13)

1964 "Work on the 210-foot space tracking antenna for NASA is proceeding on schedule, with completion of this \$12,000,000 project set for November, 1964." (Annual Report, 1964, p. 3)

1964 "As far back as 1961 the United States Chamber of Commerce named Rohr Corporation as the nation's outstanding user of computer assisted numerically controlled machines, and last year Product Magazine awarded the company the same recognition." (Annual Report, 1964, p. 6)

1964 "A significant advancement recently was made when the tooling for the Douglas DC-9 nacelle was defined mathematically and machined numerically. Douglas personnel, working together, wrote special definitions of the nacelle for computer processing. The lines boards, which define the primary contours of the nacelle, were scribed on a numerically controlled drafting machine. From these basic computer programs, Rohr personnel developed additional computer programs which were used to define and machine all header templates and longitudinal bars for all master tooling containing airplane contours." (Annual Report, 1964)

1964 "A new service, known as Dataphone, the first of its kind, now links Rohr computers by direct telephone lines with the Computer Services Corporation in Segundo, California, 100 miles away. The system extends the capacity, flexibility and output speed of Rohr's Univac 1004 by linking it with the larger Computer Services' Univac, with its larger memory banks, circuitry, and output capacity." (Annual Report, 1964, p. 7)

1964 "Rohr-built antennas are spotted in the Far North, in arid deserts, on the seacoasts and overseas in several exotic regions. But now the first Rohr Antenna Division products are going to sea. Under a contract from the Gilfillan Corporation of Los Angeles, Rohr is now building the structure for a shipboard three-dimensional frequency scanning radar antenna to be employed on naval vessels. The Rohr-built structure is a part of the AN/SPS-48 Shipboard Missile Detection and Air Control Radar System, which is the result of four years of development work by Gilfillan for the U.S. Navy. Rohr's initial order calls for fabrication of the structures, which measure 12 by 15 feet and are built up of aluminum sheet in the cone section and aluminum extrusions in the backup structure." (*ROHR Magazine*, Summer 1964)

1964 "Long one of the leaders in the development and use of numerical control equipment and techniques, Rohr earlier this year took a significant step toward such a system. With installation of the new "Dataphone" system, the Remington Rand Univac 1004 at Rohr-Chula Vista converses directly with the large-capacity Univac 1107 at Computer Sciences Corporation in El Segundo, California, about 100 miles away. In effect the Univac 1004 at Rohr becomes a control console for the larger computer during the time Rohr is using the CSC unit under terms of a time-charge lease. The system, worked out by the Bell System and Sperry Rand Corporation, gives Rohr immediate and economical access to the larger memory banks, circuitry and output capacity of the larger computer. This new system replaces a time-consuming "hand-carry" computer service previously leased by Rohr from another aerospace firm. "Conversations" between the two computers are carried in the form of audible pulse tones, in which the encoded information "bits" move back and forth over the wires. Handling speed is at the rate of 175-190 punch cards per minute, or 2,000 character pulses per second. Keypunched cards are fed into Rohr's 1004 and transmitted directly into the 1107's memory banks, where they are processed and the resulting data returned to the 1004 for punch or print-out." (*ROHR Magazine*, Fall 1964)

1964 "One of the most difficult and exacting manufacturing processes in the aerospace industry is the production of high strength, light weight stainless steel honeycomb sandwich structure. Probably the most significant single "break-through" in the production of such structure came with the development at Rohr years ago of an automatic machine to replace the laborious hand welding operations previously required in the production of stainless steel honeycomb core. Developed under the personal direction of Fred H. Rohr, board chairman and chief executive officer, the "core machine" introduced new standards of core quality and uniformity, as well as substantial economies. Further refinements in these machines allowed programming of varying foil thicknesses into a single honeycomb core to give added strength in specific areas without over-all weight sacrifice. Rohr now has 12 core machines in operation at the Chula Vista plant turning out for three major programs, as well as a variety of specialty jobs. Rohr currently is producing brazed stainless steel honeycomb structure for the Lockheed C-141

the Boeing 727 and the Saturn V. The unique qualities of brazed stainless steel honeycomb structure are well illustrated by these current programs. On the structure is used in the jet exhaust as thrust reverser doors on the 727 and in the exhaust tubes for the C141 engine. Large Rohr-built honeycomb panels built for the Saturn under contract from the Boeing Company. Because of its inherent heat resistance and favorable strength-to-weight ratio, stainless steel frequently offers designers solutions to otherwise impossible problems. Rohr's proficiency in this field has resulted in a number of contracts over the past decade ranging from such long-run production programs as those mentioned above down to the "one-shot" experimental or prototype jobs. Through the years Rohr-stainless honeycomb structure has been employed on many of the most advanced aircraft programs, such as the Convair B-58 Hustler, the McDonnell F4H I and the North American RS 70. Along with the development of the core machine, Rohr has also made advances in brazing techniques and equipment and has developed techniques whereby many of the more advanced, heat resistant alloys may be fabricated into honeycomb structure." (*ROHR Magazine*, Fall 1964)

1964 "Since the first order for 140 homes in Borrego Springs, California many of which have been erected the division has also completed 60 homes for the Steel Corporation at its Eagle Mountain mining development near Indio, California. Another major program is under way in North Las Vegas, Nevada, where the division is supplying an initial unit of 73 homes for a development planned to include 476 moderately priced, single-family dwellings. Many of the homes in construction, already have been sold. Through builder-dealers, the division has spotted other homes in various areas of Southern California. Such homes have been built or are under construction in Victorville, Escondido and San Diego and more are expected. (photo) Rohr homes in the Borrego Springs Park development, California desert." (*ROHR Magazine*, Fall 1964)

1964 Oct. bankruptcy of Tyce Engineering, the company founded in 1943 by Roland Tyce.

1964 "Sales for fiscal 1964 amounted to \$128,537,039, compared with \$104,164,095 the year before" (Annual Report, 1964, p. 2)

1964 "Population at the five plants, as of July 31, 1964, was: Chula Vista, 5,122; Riverside, 2,056; Fullerton, 108; Winder, 201; Auburn, 157, for a total of 7,644" (Annual Report, 1964, p. 12)

1965 Many of the machines we now use were undreamed of 25 years ago. Such machines as those operated by numerical, or tape, control; large forming press autoclaves, hydroclaves, filament winding machines, all have become commonplace in this rapidly changing industry. (Bernie Houser in the Rohr 25th Anniversary Book, p. 17)

1965 July 1 "At the close of fiscal 1965, we had designed and produced more than 5,000 thrust reversers, more than any other company in the world. Of the 4,656 in service and 656 on order for the free world's 102 commercial airlines, 75 percent are, and will be, equipped with Rohr-built power pods and thrust reversers. On United States airlines alone, the figure rises to 92 percent." (Annual Report, 1965, p. 2)

1965 "In August of this year we completed our 25th year and observed the occasion with an Open House at each of our four plants. About 25,000 visitors to our facilities." (Annual Report, 1965, p. 2)

1965 "Four years ago in the summer of 1961, we erected the first Rohr-built tracking antenna in Alaska. It was 60 feet in diameter, and with it we began a new phase in our program of diversification. Since then, we have built and erected 17 large antennas, including millimeter wave telescopes, 85-foot diameter tracking antennas and we now are completing erection of a 210-foot diameter tracking antenna at Goldstone, California. This \$12,000,000 giant, as tall as a 21-story building, scheduled for completion in November 1965. It will be operated by Jet Propulsion Laboratory for the National Aeronautic and Space Administration." (Annual Report, 1965, p. 8)

1965 "The division's largest single program continues to be the 210-foot reflector diameter steerable antenna being erected at the Goldstone Deep Space Instrumentation Facility in the Mojave Desert for NASA and the Jet Propulsion Laboratory. Designed to be the largest and most precise antenna system of its kind ever developed. . . . (p. 16) The "210" is scheduled to go into operation in the DSIF later this year, after completion by Rohr in November. Rohr received the \$12,000,000 contract to design, fabricate and erect the giant antenna in January, 1963. Site preparation commenced almost immediately and work has progressed on schedule throughout the program. Fabrication of components for the antenna is centered at the Chula Vista plant, with assembly on site by a Rohr erecting crew. The huge components are trucked from Chula Vista to the Goldstone site near Barstow, California. The antenna will stand 15 stories high when completed and will weigh a total of 20 million pounds. The movable reflector and its supporting members will weigh 5 million pounds and will be driven by motors with a combined maximum capability of 1300 horsepower. The rotating weight of the dish antenna will be carried on a pressurized film of oil to form a friction-free bearing for rapid, precise rotation. The dish will move in the vertical plane from looking at the horizon to straight up in three minutes. An all-weather instrument, the antenna is designed for 24-hour operation 365 days of the year and can survive in 120 mph winds. The concrete pedestal supporting the antenna will provide space for electronic and data handling facilities and maintenance shops." (*ROHR Magazine*, First Quarter 1965)

1965 "In the field of oceanography, the Division has fabricated several research buoys, a 40-foot diameter deep ocean weather station capable of telemetering information on weather and sea conditions back to land. We also have fabricated a deep submersible buoy for the Woods Hole Oceanographic Institution, for connection with the Polaris program. We also are manufacturing a series of extremely accurate, highly polished orbiting spheres, to be put into orbit around the earth to provide targets for the calibration of some of the nation's most powerful radar and radio systems. The first sphere was sent into orbit last May. Carrying the Division's diversification a step further, we are building a 65-foot aluminum hulled high speed boat for the California Fish and Game Commission. (Annual Report, 1965, p. 8)

1965 "In its three years of operation the Space Products Division has established an impressive record of accomplishments. Its products, including rocket motor and rocket engine insulation, and other space vehicle components, have undergone 20 successful test firings without a failure. During the year the Division delivered Thiokol Chemical Corporation the world's largest solid fuel rocket nozzle, which was successfully fired in February. The engine to which the nozzle was attached generated 3,200,000 pounds of thrust. Manufactured in the Division's new facility at Riverside, California, the nozzle was 19 feet high, 14 feet in diameter at the exit cone, and weighed 20,000 pounds. The exit cone alone weighed four tons and contained 21 miles of ablative tape. After the firing, the nozzle showed little evidence of the terrific heat and pressure to which it had been subjected. Currently the Division is manufacturing the world's largest submerged, liquid injected thrust vector control nozzle for a 156-inch motor which will deliver 3,000,000 pounds thrust. It also is producing a 156-inch monolithic maraging steel case for a 1,300,000 pound thrust booster. On the Titan III-C program, we are providing rubber insulation for 10-foot cylindrical center sections, and the aft closure for the strap-on boosters. The insulation for the center section employs both the pre-cured and cured-in-place techniques." (Annual Report, 1965, p. 11)

1965 "the existing computer facilities have become severely taxed. This condition, along with a desire for more sophisticated systems capability, has resulted in an order for several new IBM large-scale, mass storage computers, to be installed in early 1966." (Annual Report, 1965, p. 12)

1965 "The company observed its 25th anniversary on August 20, 1965, with a dinner for 44 employees who have been with us since the first few weeks of our existence. They were presented with 25-year service pins, and the program consisted of reminiscences recalling the early days when the company occupied a single, 15,000 square foot, three-story building, as compared with today's total of 67 buildings with 2,300,421 square feet. On Sunday, August 22, all four plants were open to the public. About 25,000 visitors and about 25,000 persons toured the facilities." (Annual Report, 1965, p. 12)

1965 "The year marks the 25th anniversary of Rohr Corporation's founding, and although there hasn't been much time around here to stop and look into the quarter century milestone is an occasion that merits a backward glance. Rohr Corporation came into existence at a time when the aircraft industry needed a company that could and would produce a variety of components, the manufacture of which required specialized skills and facilities. In other words, a "feeder" plant to the aircraft industry on a broad scale. The idea, developed by Fred H. Rohr during his years of building aircraft for other companies, took hold. In less than five years Rohr Corporation became the world's largest producer of piston-engine power packages for airplanes, the Company's first specialized product, and it still leads the field even though piston engines long since have replaced the pistons, and scores of other products have been added to Rohr's ever growing volume of parts and assemblies for the aerospace industry. One of Rohr Corporation's major policies always has been to look ahead, anticipate what the industry will need in two, five, or ten years and be prepared to produce it. This policy made easy the transition from piston engine power packs to jet engine pods. Then, when missiles and rockets became important in the military and space exploration fields, Rohr was ready with the know-how and facilities, in its Space Products Division, to produce the needed hardware. In January, for example, it delivered the world's largest rocket nozzle to Thiokol Chemical Corporation and the Air Force Space Systems Division. Other nozzle and various space components are in production." (*ROHR Magazine*, First Quarter 1965)

1965 Sept. "Rohr Corp., the aerospace industry's largest subcontractor, yesterday disclosed it will broaden its product diversification by building a patrol boat contract. In open bidding, Rohr Corp. won a contract, worth some \$188,000, to construct, equip and test a 65-foot-long coastal vessel for the California Department of Fish & Game. It is Rohr Corp.'s first boat contract although the company in recent years has been studying the marine potential and has developed and built an experimental 33-foot speedboat, the X-1, capable of doing a dazzling 42 knots. Powered by 340-horsepower twin diesels, the patrol boat expected to cruise at 25 knots, about the same speed that the vessel it will replace could do in its prime. Hull, bulkheads and structural members of the craft will be fabricated welded to 5083 aluminum, a special alloy developed for saltwater service." (*San Diego Union*, Sept. 5, 1965)

1965 Sept. "An industry and a community can pool their assets of talent for long-range mutual benefit. A case in point was proved by Rohr Corporation and San Diego County's Southwestern Junior College, a neighbor of the company's corporate headquarters. Southwestern was confronted with the problem of registering a growing student body for the fall semester. More than 2,400 students were involved. Students with a complex mosaic of educational goals, what courses to take, instructor preferences; how to fit a part-time job into schooling; what course is available at what time of day. Rohr had the technical skill and facilities to help solve the problem in its data processing department, with such third-generation equipment as the new IBM 360-50 large scale, mass storage computer. So the computer 360-50 was made available to Carl Black, the school's data processing supervisor. Technical skill also was provided to assist Black in computer programming registration." (*ROHR Magazine*, Summer 1966)

1965 Nov. Rohr awarded contract for Boeing 737. (*Star-News*, Nov. 11, 1966)

1965 Nov. 8 Fred Rohr died at age 69.

1965 "Sales of \$158,719,237, compared with sales of \$128,537,039 the previous year." (Annual Report, 1965, p. 2)

1966 Apr. "A \$250 million order for jet engine pods and pylons for the new 490-passenger Boeing 747 jumbo jet liner has been received by Rohr Corp. To date, Rohr has delivered some 15,000 power plant assemblies for Boeing military and commercial aircraft. The Boeing 747 is the largest aircraft ever designed for commercial use. Deliveries are scheduled to begin late in 1969." (*Chula Vista Star-News*, Apr. 28, 1966)

1966 "Rohr Corporation received a \$12 million contract to design and erect the 210 for JPL and NASA. In June, 1963. Today, the instrument is operational. It was officially turned over to JPL after dedication ceremonies April 29. Resembling a gigantic metal flower in the heart of the desert, the antenna is a functioning instrument of man's great effort to extend the sphere of his existence through knowledge. The 210 is the largest and most precise instrument of its kind in the world. With its immense capabilities, it will track and communicate with spacecraft to the very edge of our solar system. The antenna stands as high as a 21-story building and weighs 20 million pounds. (p. 4) . . . Fabrication of components for the massive antenna was carried out at Rohr's 578-foot-long open-air manufacturing area at the west end of the company's main plant bordering San Diego Bay. Parts were then trucked to the Goldstone site, where erection crews accomplished the complex task of assembling the delicately precise instrument. Officials from NASA and the federal government were at the site during the April 29 dedication ceremonies. Rohr Corporation officially turned the antenna over to California Institute of Technology's Jet Propulsion Laboratory." (*ROHR Magazine*, Spring 1966)

1966 "The prototype engine for the Gulfstream II business aircraft arrived at Rohr's Chula Vista plant in mid-February for the hardware fitting. Initial engine testing is scheduled for July. Grumman announced production plans on the successor to the popular Gulfstream I in May, 1965. Rohr, as a subcontractor, is designing and producing the turbofan engine pods and thrust reversers. The contract is expected to reach \$15 million during the course of the program." (*ROHR Magazine*, Summer 1966)

1966 June. Construction under way on two large warehouses west of Rohr Corporation on La Vista Tidelands. First Chula Vista development under Unified Industrial District. (*Chula Vista Star News*, June 12, 1966)

1966 June. "The Douglas Aircraft Company's new DC-8 Super 62, which made its public debut in Long Beach June 28, signifies the growing concept of greater distance and higher speed in airborne commerce. . . . The most obvious design change in this newest of the Super Sixty Series DC-8s is in the engine pods and pylons. The pods, built by Rohr Corporation, are tapered cylinders with external lines unbroken from inlet to nozzle. They house Pratt & Whitney Aircraft JT8D turbofan engines fitted with Douglas-developed long ducts which expel by-passed air at the nozzle instead of through side outlets. Constructed of adhesive bonded metal, the duct system is fabricated by Rohr's Metal Bond Department at Riverside, with special tooling for the complex configurations. Rohr also will produce the thrust reversers at its main plant in Chula Vista." (*ROHR Magazine*, Summer 1966)

1966 Aug. "A sleek, 65-foot all-aluminum boat built by Rohr Corporation's Antenna Division is now patrolling coastal waters for the California Department of Fish and Game. Completion of the boat represents expanding capabilities of the company and a technical stride in the field of marine construction. The vessel, financed jointly by the state and federal government under the Accelerated Public Works Program, was christened "Bluefin" by Mrs. Edmund G. Brown, wife of California governor, on August 2 at San Diego's Shelter Island. The specially-designed \$190,000 craft is constructed of alloy 5086, developed by Kaiser Aluminum for

sea water. Aluminum alloy was selected for construction because of its durability, light weight and easy low-cost maintenance." (*ROHR Magazine*, Summer

1966 Sep. 30 At the invitation of Rohr's non-partisan Active Citizen Campaign led by chairman Si Oberg, actor Ronald Reagan spoke in the Rohr cafeteria (Sept. 30. This was Reagan's first political appearance in the South Bay as Republican candidate for governor. Music was provided by the Southwestern College band. Reagan praised the band, saying "I'm a sucker for band music myself." Gov. Pat Brown spoke on Oct. 21. (*Chula Vista Star News*, Oct. 2, 23, 1966)

1967 Mar. "Since October, 1965, Rohr has had 653 job trainees under the Manpower Development Training Act of 1962; The act provides funds through shop to train or retrain unskilled workers. Rohr had been especially cooperative in accepting disadvantaged trainees some through the YMCA, others from school some who meet normal standards." (*San Diego Union*, Mar. 25, 1967)

1967 April. The DC-8 "Super 63" made its maiden flight with Rohr nacelles and thrust reversers. (Rohr Historical Posters, Goodrich Corp)

1967 May. Rohr gets contract to build engine pods for SST prototype. (*Chula Vista Star News*, May 4, 1967.)

1967 June. "Rohr Corp., the hub of the city's industrial past, present and future, is undergoing a tremendous expansion program. Employment at this plant is 9,000, but expected to rise as more facilities are completed, as more work comes the Rohr way. Rohr has already been awarded a \$15 million contract for production of the pods, to contain the huge engines of the U.S. supersonic transport, prototypes of which are being manufactured by Boeing Co. in Seattle. This is only the experimental phase. Eventually, the SST program could mean more than \$500 million worth of business to Rohr, said Burt F. Raynes, president. Getting ready for the future. Rohr is spending \$8.5 million this year in expansion atop a \$4.5 million capital outlay in fiscal 1966. When the current building expansion now in progress is completed, Rohr will have added nearly 450,000 square feet to the Chula Vista and Riverside plants, most of it in Chula Vista." (*The San Diego Union*, June 1967)

1967 June. "The new automated warehouse under construction boosted the total square footage of plant area under roof at Chula Vista to 1,764,923. In addition to increasing storage area at Chula Vista, the expansion has added more than 179,000 square feet of production space, plus 56,000 square feet of automated warehouse that will provide a smooth, efficient flow of raw materials to manufacturing areas." (*ROHR Magazine*, Summer 1967)

1967 Oct. "Rohr Corporation's capabilities in the field of marine construction were demonstrated in October with rollout of the first of 19 Navy workboat hulls. The 35-foot welded aluminum hull, with a 10-foot beam, was completed by the company's Antenna Division, serving as a subcontractor to Kettenburg Marine of San Diego. The Kettenburg firm, prime contractor for the 19 utility boats, is outfitting the craft with engines and other equipment and conducting sea trials. The company, with Kettenburg is Rohr's first order for a quantity production of marine craft. The company, a year ago, built the 65-foot patrol craft, "Bluefin," which is now in service with the California Department of Fish and Game. In other marine work, the Antenna Division is fabricating five rudders for U.S. Navy destroyer escorts under a contract not to exceed \$212,000. The rudders, of steel construction, stand about 18 feet high and measure 14 feet, 7 inches across the top and about 14 feet across the bottom. Rohr's customer for the rudders is the Lockheed Ship Building and Construction Company of Seattle, Washington." (*ROHR Magazine*, Fall 1967)

1967 "Rohr's manufacturing complex at Chula Vista and Riverside has been enhanced with such femininity. She's affectionately called "Mabel." "Mabel" not only knows the answers, she knows her way around the plant, figuratively speaking. Dial her from any one of the plant's 144 data-phone stations and she'll quickly provide the figures requested. . . "Mabel" is an important component of the new Rohr Automated Data Acquisition and Retrieval system, called RADAR. Other terminology which has come into common usage is "touch tone." Essentially, it boils down to a tracking system which keeps up-to-the-minute tabs on the movement of parts and materials to assure a smooth flow of the stock required for efficient, economical manufacturing and customer service. The system, new and unique in the industry, was developed in a joint effort by Rohr, IBM and Pacific Telephone." (*ROHR Magazine*, Fall 1967)

1968 "Rohr's Brown Field engine test facility, situated about 10 miles from the Chula Vista plant and ideally suited for acquiring engine noise data, was established in 1968 to support the development testing of thrust reversers." (Rohr Historical Posters, Goodrich Corp.)

1968 Jan. Automove, an automated warehousing system, which is connected to RADAR, goes into operation at Rohr. It provided "controlled storage and flow of work-in-progress parts and tools." RADAR (Rohr Automated Data Acquisition and Retrieval) was developed in 1966 by Rohr, IBM and Pacific Telephone (a system that was unique to the aerospace industry. (Austin, pp. 85-86)

1968 May "It was early in May during a state dinner in Washington, D.C, when President Johnson made the following remarks as part of a toast honoring Prime Minister Thanom Kittikachorn of Thailand: "Your visit today is historic and pleasing. Right after this dinner, the prime minister and I will go upstairs. We will have a telephone call to Bangkok. Together we will talk to the acting prime minister, and we will inaugurate a new telephone service between our two countries." The telephone call was made, the first telecast across the Pacific from an American satellite orbiting over the ocean. The President went on to say: "It is our space technology that has given us the miracles of satellite and worldwide telecast that draws all men closer in understanding and the partnership that comes of it." Thailand telephone call was of interest to Rohr, for it was relayed via satellite communications earth stations equipped with Rohr-built antennas. The earth stations involved are at Thailand, where a Rohr-built antenna was put into service this year, and at Brewster Flat, Washington. In all, there are 12 earth stations equipped with Rohr-built communications satellite antennas. Another station with a Rohr antenna will go into service in Morocco later this year. And still another Rohr antenna nearing completion in Chile." (*ROHR Magazine*, Summer 1968)

1968 Oct. "Rohr Corporation is playing a vital role in the Production Training Corporation program that has 2 goals: 1. Providing adequate housing for migrant laborers. 2. Training these workers in factory techniques so they may find jobs in industry. Rohr has donated advanced prefabricated housing manufacturing equipment to Production Training Corporation, along with technical assistance in the concept of mass production of housing components. Rohr research in housing dating back to 1957, has resulted in modular construction techniques, with design flexibility ranging from modern, spacious dwellings to small vacation type units with easy, economical maintenance. The manufacture of components for such buildings is on a factory assembly-line basis, cutting costs. Since PTC began operations in October, 1968, 65 graduates have been placed in jobs in industry. There are 40 students enrolled in the school at all times, alternating their days between classroom sessions and in the shop, learning factory skills while they manufacture housing components. Governor Ronald Reagan, who recently toured the Williams housing plant with Burt F. Raynes, Rohr president called the concept a "creative approach" to the problems of training a segment of the unskilled and providing adequate housing for those migrants who will remain on the road. He said the cooperation of government and industry represents "total community involvement" in problem solving. Rohr Corporation's role demonstrates how industry can meet a social obligation and how aerospace manufacturing can be diverted to earthbound problems." (*ROHR Magazine*, Spring 1970)

1968 Oct. "The outer-hull components Rohr will fabricate for the second of six Deep Submergence Rescue Vehicles (DSRV) will be shipped in October to Lockheed Sunnyvale Plant, where they will be bonded and fitted to the rescue vehicle's trisphere steel inner pressure hull. The Rohr-built outer hull will be Epoxy pre-

impregnated fiberglass. The segments will include the forward thruster unit, the forward equipment unit, the center or mid-body unit and aft equipment unit. thruster ducts with bell-shaped openings will be bonded into the skin sections." (*ROHR Magazine*, Spring 1968)

1968 "Rohr's Antenna Division is completing a design study for a replacement reflector surface for the Arecibo Ionospheric Observatory antenna in Puerto Rico, the world's largest radio-radar telescope." (*ROHR Magazine*, Spring 1968)

1969 Jan. "The F-14 program was launched in June of 1968 when the Navy released its request for proposal. Signing of the contract by Grumman and the Navy on February 4 followed the Navy's announcement on January 14, that Grumman had been selected as prime contractor for the advanced, carrier-based fighter. The F-14 is scheduled to fly in 1971 and to become operational in 1973. The engine inlets Rohr will manufacture for the F-14 will extend outboard at the top to be flush with the leading edge of the stub wings. They also include interior ramps for variable mass air flow. Each aft nacelle has six access panels for ease of engine maintenance. The aft nacelles, load-carrying structures, also provide support for the vertical and horizontal stabilizers." (*ROHR Magazine*, Winter 1969)

1969 Feb. 19 announced "Rohr Corp get F-14A subcontract" (*New York Times*, Feb. 19, 1969).

1969 Feb. "Another major accomplishment of the past year was our association with the Grumman Corporation in the Navy's F-14 program. The contract to power plant assemblies for this advanced air superiority fighter is our first substantial participation in a fighter program and provides another opportunity for us in a new area. This is one of the programs in which your Company is an associate contractor with design responsibility for some of the major structures we will build. The F-14 is scheduled to become operational on the Navy's aircraft carriers in 1973 and is expected to be a major production program during the next few years. As an associate contractor on the F-14 program, Rohr will build the 14-foot long engine inlet ducts and design and build the aft nacelle structures, which are 14 feet long. The first shipment of components for the twinjet will be delivered to Grumman in May, 1970, for flight testing. The nacelles will be constructed of titanium panels over aluminum honeycomb core and the inlets will be largely aluminum honeycomb structure." (Annual Report, 1969, p. 3)

1969 Mar. "The sleek British-French Concorde, a member of the new breed of supersonic transports, made its maiden flight March 2 from Blagnac Airport, France placing man on the threshold of commercial supersonic air travel. The flight of Concorde 001, assembled at Sud Aviation in Toulouse, was limited to subsonic speed because early test objectives are geared to low-speed handling characteristics. Then, on March 8, the first of the new breed made her second flight lasting 61 minutes. Rohr produced all movable aerodynamic surfaces for the planes, the 12 elevons and four sections of the rudder. Rohr also furnished the engine inlets and engine bay enclosures for the supersonic airplane's four 33,000-pound thrust engines. The Rohr-produced brazed steel honeycomb structures comprising the elevons and rudder sections provided a timely solution to the problem of achieving a strong lightweight structure suitable for the supersonic environment in Concorde prototype development." (*ROHR Magazine*, Spring 1969)

1969 Apr. Seven students win Rohr Scholarships. (*Chula Vista Star-News*, April 24, 1969)

1969 Apr. "The new arm of the company, approved by the Board of Directors, has been named the Automove Systems Division, the word "Automove" denoting automatic computer control of materials handling and storage. The new division is an outgrowth of a capability developed within the company—an industrial creativity which resulted in the design and installation of the Chula Vista Plant's Automove Warehouse. Rohr's Automove Warehouse utilizes high-density cubic storage on an automated basis. Linked with the high-rise warehouse is Rohr's Automated Data Acquisition and Retrieval System (called RADAR), in which a computer controls and keeps up-to-the-minute tabs on all parts movements, notifying shop production areas by pre-recorded voice drum." (*ROHR Magazine*, Spring 1969)

1969 Apr. "The Company's decision to set up an Automove Systems Division and to enter the automated materials handling market evolved from the excellent results obtained from the Automove storage facility which has been in operation at Rohr's Chula Vista plant since 1967. Automove is an automated system of materials handling, storage and control of parts and tools. It is controlled by a real-time peripheral computer which is interfaced with a larger IBM System 360 computer. Automove continues to generate a great deal of interest on the part of many people in government, industry and defense. The company recently received its contract to build an automated, computer-controlled storage facility. The installation, at the Navy's Norfolk, Virginia Air Station, will use three computer-controlled stacker cranes to move stock in and out of 6,240 storage locations." (Annual Report, 1969, p. 10)

1969 July. "Rohr wins contract to build BART cars. The Bay Area Rapid Transit District has ordered cars in two lengths, 70 and 75 feet, with a 10-foot, 6-inch width and interior height of 6 feet, 9 inches. Most of the visible, external structure of the cars will be built up of aluminum extrusions, some of them the full length of the cars. This will result in a smooth, durable surface with no exposed rivets or fasteners of any kind." (*ROHR Magazine*, Summer 1969)

1969 July "The construction activity, at the north end of the plant, is for a new manufacturing building which will be ready for use in January. The facility will be 137,000 square feet to the 2,345,000 square feet the company now has under roof at Chula Vista. The new building will be big, with a crane hook height of 100 feet. Dimensions are large to accommodate the handling of massive assemblies. Components scheduled to roll out of the production facility next year will include marine products and antenna structures. The largest section of the building, however, will be for the manufacture of sleek, modern transit cars for the San Francisco Bay Area Rapid Transit District. Rohr is under contract to build 250 of the cars, ranging in length from 70 to 75 feet. The BART contract widens the company's product spectrum as a manufacturer of products for air, land and sea transportation. The photos on these pages depict progress into a widening of manufacturing capability for future programs." (*ROHR Magazine*, Fall 1969)

1969 Nov. "A guided air-cushion vehicle with speeds in excess of 200 miles an hour, pollution-free and virtually noiseless, the Aerotrain now being developed by Rohr's subsidiary, Aerotrain Systems Inc., appears to be an excellent solution to ground transportation needs on high-density intercity corridors and for airports. Rohr acquired an exclusive manufacturing license and the basic air cushion vehicle technology in the fall of 1969 with the purchase of a majority interest in the States subsidiary of two French companies." (Annual Report, 1970, p. 13)

1969 Nov. "The Aerotrain system involves a vehicle which rides an air cushion on a guideway. The guideway is a concrete beam in the shape of an inverted T which can be constructed above ground, at ground level or underground, to blend with different environmental requirements. The air cushion eliminates conventional wheels and steel rails. The Aerotrain is proven technology, well beyond the stage of a drawing board concept. A demonstration model now in operation near Paris, France has a capacity for 80 passengers, operating on an 11-mile guideway. Rohr Corporation, realizing the technology could be used to help solve transport problems in America, acquired 60 per cent interest in Aerotrain Systems, Inc., a United States subsidiary of the two French companies. Aerotrain Systems, Inc.'s main plant in Chula Vista, was established to market the system in the United States and Mexico." (*ROHR Magazine*, Spring 1970)

1969 Dec. Rohr named as member of four-group team to pioneer new type construction of houses. Program called Operation Breakthrough is headed by DuPont Chemical Company. (*Chula Vista Star-News*, Dec. 18, 1969.)

1969 Dec. Rohr leased 4.7 acres on Tidelands near J Street Marina for parking lot. Port district commissioners object and want master plan. (*Chula Vista Sta* Dec. 21, 1969)

1969 "The 1959 annual report showed sales of \$191,700,000; property, plant and equipment with a net book value of \$8,600,000; an order backlog of \$222, an average of 16,200 employees and net annual sales per employee of \$11,900. . . . This annual report shows sales of \$266,138,000; property, plant and equi with a net book value of \$29,239,000; an order backlog of \$645,600,000; an average employment of 1 ,937 and net annual sales per employee of \$22,400." ( Report, 1969, p. 2)

1969 "Since 1940, Rohr has delivered more than 79,000 powerplant assemblies for both piston and turbine aircraft. Today, Rohr-built engine pods furnish pe more than 2600 airliners that are currently in service throughout the world. In addition, thousands of the Company's pods are in service on military aircraft." Report, 1969, p. 6)

1969 "Good progress is being made in meeting the power plant schedule on the McDonnell Douglas DC-10, a three-engine jetliner that will enter airline ser 1971. In excess of 70 percent of the design work has been completed and basic tooling is under way." (Annual Report, 1969, p. 8)

1969 "The Boeing 747 program has moved from the development stage into full production. Boeing has announced orders for more than 190 aircraft, with tl delivery to an airline scheduled for early 1970. More than 100 of the superjets will be in airline service within two years. The 747 could generate as much as million in sales for Rohr during the life of the program. As a subcontractor to Lockheed on the C-5 Galaxy , Rohr is supplying powerplant pods and pylons. rollout and first flight of the C-5 last year met a schedule that had been set three years earlier. In June of this year a C-5 set a world weight record by lifting r 760,000lbs. Because of a delay in the go-ahead decision from the federal government, the first flight of the Boeing supersonic transport is not expected befo A full-scale engineering mockup of the General Electric GE4 engine which will power the SST has been delivered to Boeing for installation on an SST wing. Rohr will build powerplant assemblies for the two SST prototypes and later for the production aircraft." (Annual Report, 1969, p. 9)

1969 "The air transport industry is now entering a transitional stage. The aircraft programs which opened the jet age in the late 1950s and early 1960s will be out of production in the early 1970s. Replacing them are second generation jetliners such as the Boeing 747 and McDonnell Douglas DC-10. While the first of the jet age witnessed spectacular progress in air transportation there will be even greater growth ahead." (Annual Report, 1969, p. 10)

1969 "Rohr Corporation's diversification into marine products has taken another significant advance with an order for design and construction of a 104-foot commercial sports vessel. The aluminum craft will be the largest boat built by Rohr to date. The contract, which exceeds a half million dollars, was awarded Barnes, partner in a commercial sports fishing business in San Diego. The vessel is being designed by Rohr's Advanced Systems Engineering Department and fabricated by the Antenna Division, which added marine construction to its capabilities in 1965. Sea trials and delivery to the customer are scheduled for sur 1970. The boat will have a beam of 28 feet and will weigh approximately 210,000 pounds. It will be powered by three diesel engines producing a total of 1, horsepower and will be capable of cruising at 20 knots. The vessel will have a large galley, a luxurious lounge and 15 air-conditioned staterooms, providing with both comfort and privacy. The contract broadens Rohr's base as a manufacturer of products for air, sea and land transportation. To date, Rohr has delive vessels ranging from 35-foot Navy work boats to an 85 foot warping tug for the Navy under a Campbell Machine Corporation contract. A second warping tu under construction. The company also is designing and building three patrol boats for the California Fish & Game Department. One will be a 65-foot craft and them 40-foot vessels. Under construction is the second of two 65-foot welded aluminum air-sea rescue boats for the Navy, under subcontract to Kettenburg I San Diego." (*ROHR Magazine*, Fall 1969)

1969 "At Chula Vista, facilities were completed for the welding, machining, cleaning, heat treat- ing and grit blasting of cases and domes for the Titan III pr (Annual Report, 1969, p. 28)

1969 Two-page chart "A Decade of Growth" (sales, income, etc) since 1959. (Annual Report, 1969, p. 22)

## 1970s

1970 large bldg replaced both Tyce Engineering long bldgs.

1970s "Common Nacelle System" concept for Boeing and Airbus.

1970 Jan. "Rohr Corporation, with its mechanical and data processing capabilities, has entered this new market area with formation of a post office systems department. In January the new department received its first order, a \$97,000 contract to modify the mail handling system at the Omaha, Nebraska sub-regio office. Rohr will install additional conveyors and electrical controls and modify existing conveyors in the postal facility, all with the objective of speeding m (*ROHR Magazine*, Winter 1970)

1970 Jan. Rohr signed three postal mechanization contracts during the year totalling more than one and a quarter million dollars. "These projects involve ins of mechanized systems to modernize postal operations in Cincinnati, Ohio and Seattle, Washington. A similar project was completed at Omaha, Nebraska." Report, 1970, p. 15)

1970 Jan. 21 "The latest and largest addition to the Boeing family, the 747 superjet, was delivered to Pan American World Airways and made its first commu flight from New York to Paris on January 21." (*ROHR Magazine*, Winter 1970)

1970 Feb. TeleMart is shopping by telephone. But the shopper's order is placed with a talking computer. And the computer fills the order, then dispatches a c truck to the household. The voice response computer is where Rohr Corporation's computer technology enters the picture. Rohr has been awarded a \$ 167,00 contract to provide computer systems and programming for the new food marketing concept developed by TeleMart Enterprises Incorporated, a San Diego b The systems developed for TeleMart provide computer audio response to a basic part of the telephone shopping concept. The TeleMart shopping method will launched in the greater San Diego area in July. (p. 16) (*ROHR Magazine*, Winter 1970)



1970 June. Regarding the 1800-mile-per-hour SST program, "The Boeing Company continued its design and testing efforts and on June 5 unveiled a structural mockup developed to verify design of the prototype configuration. Rohr will build the 44-foot engine nacelles, landing gear doors and other components under contracts totaling approximately \$20 million for the two-aircraft prototype program." (Annual Report, 1970, p. 8)

1970 Aug. "The first prototype car was delivered to BART on August 28, 1970." (Annual Report, 1970, p. 12)

1970 Sept. 24 Gov. Reagan visited Rohr's Chula Vista plant.

1970 "Marine construction showed increased activity during the year. The most significant development was receipt of a \$9.5 million contract from the Navy for production of 61 landing craft. The 73-foot steel vessels will be built at the Chula Vista plant. This contract from the Naval Ships Systems Command is the largest marine products award your company has received to date. During the year we delivered to the California Department of Fish and Game four welded aluminum boats, three of them 40 feet long and one 65 feet. We also delivered two 85-foot warping tugs to the Navy. Other projects during the year included a 105-foot commercial sportfishing boat, a 75-foot private yacht and a fire boat for the City of Portland, Oregon." (Annual Report, 1970, p. 14)

1970 "While activity has slowed to some degree in the market for large steerable antenna structures, we completed one 97-foot communications satellite ground station antenna in Thailand and a 100-foot diameter antenna was nearing completion in Greece at the end of the year. New orders continue to come in for microwave relay antennas used for telephone and television transmission. We are manufacturing these "horn" antennas for the Northern Electric Company of Montreal." (Annual Report, 1970, p. 14)

1970 "The major addition was a 137,000 square foot building completed in early 1970 on the north end of the Chula Vista plant for production of transit cars, antennas and boats. Nearby on San Diego Bay construction was completed on the first phase of a boat yard, significantly expanding the company's capabilities in the marine vehicles market. A high-temperature furnace was installed at Chula Vista to braze high temperature titanium and inconel structures widely used in the generation of jet aircraft. Facilities are under construction for an additional furnace which will be one of the largest of its type in the world." (Annual Report 1970, p. 28)

1970 "Sales of \$288,301,912 represented the fifth consecutive record year. Agreement was reached on the acquisition of the Flexible Company, an Ohio-based manufacturer of transit buses (second largest in the United States) truck vans and other industrial products. Rohr acquired a controlling interest in a United States subsidiary of two French firms and the attendant rights to use the French technology in the development in this country of high speed guided air-cushion vehicles. This year 1970 is Rohr's 30th anniversary. (Annual Report, 1970, p. 1)

1971 "Our associate contractor position on the F-14 is particularly significant, since it gives us a major role on a fighter aircraft program for the first time. We are building the 14-foot long engine inlet ducts and have both the design and manufacturing responsibility on the 16-foot aft nacelles. These structures are unusually complex and advanced, involving bonded honeycomb sandwich structures and highly intricate machined components. Our effort during fiscal 1970 was largely devoted to design and tooling but some articles were delivered prior to the end of the year." (Annual Report, 1970) "The first 12 shipsets of inlets and aft nacelles for the Grumman F-14 naval air superiority fighter were delivered during the year." (Annual Report, 1971)

1971 Apr. "Frank E. McCreery and Arthur S. Johnson, president of San Diego Prestressed Concrete Company, have announced acquisition of the concrete pipe manufacturer by Rohr. Under the agreement, San Diego Prestressed Concrete Company has become a wholly-owned subsidiary of Rohr with its operating management unchanged. McCreery said the acquisition was a further step toward strengthening Rohr's leading position in the transportation field and that precast concrete is used extensively for support structures and guideways for rail transit systems, air-cushion vehicles and "people mover" systems. San Diego Prestressed Concrete Company currently markets precast and prestressed architectural panels and prestressed structural slabs, beams, columns and piles to the construction industry." (*ROHR Magazine*, Spring 1971)

1971 June - Rohr President Burt Raynes called the June 1971 demonstration of its "ROMAG" technology, a vehicle that levitated off a guideway and was propelled forward in a controlled fashion by electromagnetic force, the company's greatest single achievement in its first 50 years. (Rohr Historical Posters, Goodrich Corp)

1971 Sept. "The Flexible Company of Loudonville, Ohio, a manufacturer of buses, vans and industrial products, has become a wholly-owned subsidiary of Rohr Corporation. Shareholders of The Flexible Company approved the merger at a special meeting at Loudonville headquarters on September 2." (*ROHR Magazine*, 1971, p. 9)

1971 Nov. Rohr Corporation's directors elected Burt F. Raynes as chairman and chief executive of the company and named Frank McCreery to the post of president. The action was taken November 18, following the annual meeting of stockholders. McCreery, 53, succeeds to the presidency held by Raynes since 1963. He was executive vice president of the company and a director since 1965." (*ROHR Magazine*, Winter 1971)

1971 Nov. Rohr becomes Rohr Industries, Inc. (Rohr Aircraft Memories)

1971 Nov. 28 The biggest strike in South Bay history lasted 63 days at Rohr.

1972 order from the U.S. Air Force for AWACS based on the 707 airframe. (Rohr Historical Posters, Goodrich Corp)

1972 AF Titan missile at CV Shopping Center Mar. 25-30.

1972 Rohr Monocab PRT system exhibit at Transpo72 in DC. (*Chula Vista Star-News*, Apr. 27, 1972)

1974 Mar. 20 Prince Charles visit. (*Star-News* Mar. 21, 1974)

1974 June. Fred Garry became president.

1974 June. "Rohr Industries, Inc. is one of two firms selected to continue work on a highspeed, 2,200-ton air-cushion ship, the Surface Effect Ship (SES). Rohr will receive \$30 million to build a prototype of a cross between a patrol boat and destroyer that is capable of 90-mile-an-hour speeds." (*San Diego Union*, June 25, 1974)

1975 May. Rohr's massive BART car contract runs out in early August; Washington Metro contract cancelled. (*Chula Vista Star-News*, May 18, 1974)

1975 May. "Fred Garry, Rohr president, announced this week the firm will begin work in September on a \$30.3 million contract for seven five-car turbine-passenger trains for Amtrak. The plant at the foot of H St. will begin modifying its assembly lines for the "turboliners" when the last of 450 BART cars rolls summer. Plans for the 125-mile per hour turboliners were originally drawn in France. Rohr has modified the designs to make them more comfortable on the Rohr spokesman said. The Chula Vista firm has exclusive license agreement with ANF-Frangeco, developer of the French turbine train. Turboliners consist cars - two power cars and three passenger coaches. Those built at Rohr will be used by Amtrak on the heavily traveled New York-Boston corridor." (*Chula Vista News*, May 18, 1975.)

1975 Dec. "new \$430,000 credit union building received its building permit last week. The credit union will be built in a parking lot at 510 Bay Blvd." (*Chula Vista Star-News*, Dec. 11, 1975.)

1976 Jan. new bldg at 610 Bay blvd for Rohr Employees Federal Credit union (moved to 678 Third Ave in 1984).

1976 Jan. "Rohr delivered 450 cars to BART and still faces a \$41.5-million suit filed in 1974. BART claims Rohr supplied rail cars that did not meet specifications." (*San Diego Evening Tribune*, Jan. 1, 1976)

1976 Jan. "Rohr's subsidiary, the Flxible Bus Co. in Ohio, has a new management team. The company in 1975 delivered 1,420 transit buses, or 40 per cent of buses manufactured in the U.S. During the first three months of Rohr's fiscal year, which began Aug. 1, Flxible has received contracts for nearly 1,000 buses, an indication that our No. 2 position in the bus market (General Motors is No. 1) will remain strong and might even improve." (*San Diego Evening Tribune*, Jan. 1, 1976)

1976 incorporation of Rohr Marine, Inc., to build Navy boats.

1977 May Rohr Marine Inc has moved from Kearny Mesa to Chula Vista to make Surface Effect Ship for Navy the \$139m contract was awarded Dec. 1976." (*San Diego Union*, May 7, 1977)

1979 Surface Effect Ship cut from Pentagon budget in Dec.

## **1980s**

1980s Rohr contracts for Boeing 747 and 757 and KC-135 tanker; for MD-80 and MD-11 widebody; for Airbus A320 and A340; for F-14 fighter; F-100 engine; many fighter planes.

1980 Rohr's 40th anniversary.

1980 Derived from the DC-9, the MD-80, or "Super 80," entered service in 1980. (Rohr Historical Posters, Goodrich Corp)

1982 Shuttle solid rocket engines.

1983 plant built in Hamburg, Germany.

1984 plant built in Foley, Alabama.

1984 Aug. "Rohr Industries said yesterday it has received a contract worth \$400 million over the coming years for engine housing systems for a new 150-seat medium-range passenger transport being built by a European consortium, the Airbus A320, the third and smallest of the Airbus line of passenger transports. Rohr's spokesman for Rohr said the A320 was similar in some ways to the Boeing 737-300 and the McDonnell-Douglas MD-80. Rohr's contract calls for design and production of nacelles for 200 planes, which incorporate DynaRohr, a linear noise absorbing material developed by Rohr and used previously in the Airbus A300-600 (a 240-seater)." (*San Diego Union*, Aug. 23, 1984.)

1985 Oct. "Rohr Industries Inc., riding record earnings and a stock price that has surged dramatically over the past 18 months, plans a stock split that will double the number of common shares outstanding and allow stock to be traded more easily. About two-thirds of the Chula Vista-based company's work is for commercial airlines, with military and government accounting for the remaining workload. Rohr currently has an order backlog totaling more than \$1 billion." (*San Diego Evening Tribune*, Oct. 5, 1985)

1986 Jan. "Recognizing carbon's potential as a heat-resistant material, Rohr officially dedicated a laboratory devoted exclusively to the development of carbon composites in Chula Vista in January 1986." (Rohr Historical Posters, Goodrich Corp)

1986 contract for C-5 Galaxy at Foley.

1986 carbon composite lab.

1987 Feb. two week machinists strike. (Annual Report 1987, p. 47).

1989 plant built at Heber Springs, Arkansas.

1989 Apr. "Rohr delivered its first nacelles for the MD-11 aircraft to General Electric in April 1989." (Rohr Historical Posters, Goodrich Corp)

1989 May. "Rohr signed an agreement with CFM International in May 1989 to provide nacelles for the Airbus A340 four-engine, long-range jetliner." (Rohr Historical Posters, Goodrich Corp)

## 1990s

1990 plant built at San Marcos, Texas, and used to build titanium engine bay doors for the F-22 Raptor fighter.

1990 MD-11 pylon program transferred to Hagerstown, MD.

1990 Aug. 6 celebration of Rohr's 50th anniversary.

1990 Oct. "About 20,000 employees, retirees and family members attended an Open House in Chula Vista in October 1990 commemorating Rohr's 50th anniversary and many stopped to see the drop hammer display." (Rohr Historical Posters, Goodrich Corp)

1991 Sept. 18 Rohr receives the 1991 Congressional Hispanic Aerospace Award. (Hulewicz, 1991)

1992 Rohr becomes Rohr, Inc.

1992 Building 107 3-story built in Chula Vista.

1993 Bob Rau became president.

1996 Jan. "Rohr was selected to supply nacelles and thrust reversers for the Boeing 717 which was launched as the McDonnell Douglas MD-95 in January 1996." (Rohr Historical Posters, Goodrich Corp)

1996 plant built in Prestwick, Scotland.

1997 BFGoodrich bought Rohr, became Goodrich Aerostructures. "The purchase by BFGoodrich was not expected to affect Rohr's operations in Chula Vista. More than 2,200 workers are employed. The takeover also marks the end of an era for the San Diego region, which once was home to companies like Ryan Aeronautical Co. and Convair that dominated the aerospace industry. After years of convulsive consolidations, takeovers and downsizing, Rohr was the last aerospace manufacturer here not owned by an outside company." (*San Diego Union-Tribune*, Sept. 23, 1997)

1999 "In 1999, a deal was established and the Port acquired the South Campus through a land exchange with Goodrich Aerostructures Group. Goodrich continues its operations north of H Street and is still active there." (Bamberger, "A Historic Perspective: Chula Vista Bayfront Planning and Development," 2008.)

## 2000s

2005 buildings south of H Street were demolished.

2008 Mar. 27 dedication of historic Drop Hammer.

2012 July 26 United Technologies Corporation bought Goodrich and the Chula Vista plant became part of UTC Aerospace Systems.

## SOURCES:

- Annual Reports, Rohr Aircraft Corporation, 1952-93.
- Austin, Edward T. *Rohr: the Story of a Corporation*. Chula Vista CA: Rohr Corporation, 1969.
- Burnett, Jr., Daniel B. "The Lone Eagle and the Nighthawks," *The AeROHRcrafter*, June 1952, p. 4.
- Dean, Ada. *Fred H. Rohr: A Man and His Corporation*. Chula Vista Heritage Museum, 2007. [doc479](#)
- Kruegel, Howard and Barbara, interview Jan. 24, 2011.
- Rohr Aircraft Memories, <http://www.rohrmemories.20megsfree.com/timeline.html>
- "Rohr 20th Anniversary," *Rohr Magazine*, August 1960. [doc802](#)
- "Rohr 25th Anniversary," *Rohr Magazine*, Summer 1965. [doc799](#)
- Rohr Historical Posters, Goodrich Corporation, Chula Vista, CA, 2009.
- Schoenherr, Steven. *Chula Vista Centennial, A Century of People and Progress*. Chula Vista, CA: City of Chula Vista, 2011.
- Solar Aircraft Company, [cloverfield.org](http://cloverfield.org)
- Tekulsky, Joseph D. "B.F. Mahoney was the 'mystery man' behind the Ryan company that built Lindbergh's Spirit of St. Louis." [Historynet, May 1996](#)
- *They Made Chula Vista History: Fred Rohr*. Altrusa Club of Chula Vista, 2011. [Online Booklet](#)
- "Twenty Years of Progress," *Chula Vista Star-News*, Aug. 18, 1960. [doc798](#)
- Webster, Karna. *Chula Vista Heritage 1911-1986*. City of Chula Vista, 1986.

---

[Home](#) • [About Us](#) • [Next Meeting](#) • [Latest News](#) • [Resources](#) • [Organizations](#) • [Exhibits](#) • [Bulletins](#) [Contact](#)

---

This web page was created Nov. 24, 2016, and revised Dec. 10, 2016, by Steve Schoenherr for the [South Bay Historical Society](#) | Copyright © 2016

---