NEW DEPARTURE - HYATT

A Brief History

1888 New Departure is Founded

The New Departure Bell Company was founded in 1888 by two brothers, Albert and Edward Rockwell.

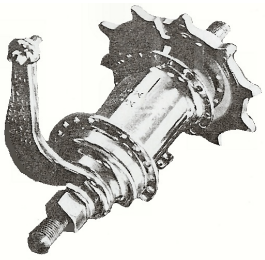
New Departure 1888

They had devised a push-button doorbell which worked without the mess of the old wet-cell batteries, and as their invention was actuated by a clockwork mechanism, they very naturally landed in the New England clock manufacturing town of Bristol, CT. Because Bristol was, at that time, the clock making center of the United States, locating here made good sense. With their new idea they were to give Bristol the Nickname of "The Bell City," which it still carries today although bells are no longer manufactured there. They began operation in a small room at one end of an old clock factory in Bristol. With three to six employees, including the executives, as a start, they began the manufacture of doorbells with a borrowed capital of only $75.00. Contracting locally for the parts they needed, the brothers soon had a bustling business and began accumulating capital equipment and producing parts, other than springs, in house.

The enterprising Rockwells soon developed an assortment of ringing and other devices. There were not only doorbells, but also fire, tea, cable-car, office, rotary call, bicycle and alarm bells. There were oil lamps and trouser guards for bicycle riders, water faucets, medals, cyclometers, terminals for dry-cell batteries, trolley harps, chimes, and a multiple speed-changing device for machinery known as the "Transitorq." At one time New Departure even marketed a proprietary lubricant, packed in tubes, for use on coaster brakes and the hubs of bicycles. Its New England thriftiness cropped up when it disposed of slightly imperfect steel balls, originally destined for bearings, to toy manufacturers for marbles, puzzles and games.

The Creation of the Coaster Brake

The bicycle coaster brake, for which the Division was best known, was invented by New Departure sometime in the 1897-98 period. New Departure's introduction of the bicycle brake, familiar to millions of Americans who rode bicycles for the next 60 years was the second step in the innovation and diversification that would characterize the business for the next 100 years.

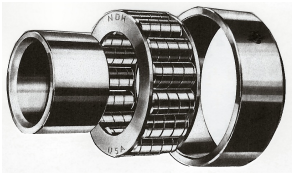


Coaster Brake

In December of 1898 the company, because it didn't have the machinery, contracted with the Corbin-Screw Corporation of New, Britain, Connecticut, to make 5,000 brakes... the first known order. Each concern was to sell the gadget that "brought the bike back" as the Gay Nineties advertisements read. But they were marketed under the name of New Departure. In 1899, however, Corbin-Screw undertook to make its own brakes, and so in 1909 New Departure produced the first at its own plant. Early in 1897, the company created the so-called "controller." This was a device that acted as decelerator and also permitted coasting. The latter version would be forever known as the "Coaster Brake." In 1903 New Departure also began making coaster brakes for belt and chain-driven motorcycles. Front and rear wheel hubs for bicycles were also produced in tremendous quantities.

The Hyatt Roller Bearing Company

In 1892 the Hyatt Roller Bearing Company was founded by John Wesley Hyatt who had also invented one of America's first plastics, celluloid. The business that, ultimately sprung from Hyatt's invention, is the current Celanese Corporation, a major player in the chemical industry.



Wound Roller Bearing

Hyatt also invented unique roller bearing which, instead of solid rollers, had hollow rollers. This line of wound roller bearings was used, primarily in the sugar cane industry.

In 1895 Alfred P. Sloan, fresh out of college at the M. I. T. had joined Hyatt Bearings as an office boy, draftsman, and salesman at a salary of $50. per month.

HY·FLEX·ROL

TRADE MARK REGISTERED U.S. PATENT OFFICE

HYATT

The Hyatt product line expanded to include applications for its wound rollerbearings in traveling cranes, paper mills, mine cars, and other machinery.

In spite of this expansion, Hyatt, in 1898, began the process whereby it would be liquidated. Convincing his father to invest $5000. in the company, Sloane assumed the title of General Manager.

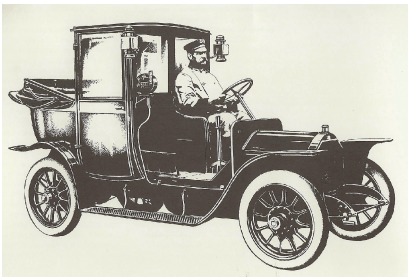
Over the next five years the business grew and reached profitability. Meanwhile, the fledgling automotive business was in need of component manufacturers and Hyatt secured a niche as a provider of roller bearings, both wound and solid. By 1915 Hyatt was suppling a significant number of manufacturers, obtaining 100% of the requirements of the bourgeoning Ford Motor Company.

New Departure and Hyatt Join General Motors

In 1916 William C. Durant, president of General Motors decided to acquire a number of critical component manufacturers and put them in a new, wholly owned GM company called the United Motors Corporation. Of interest to us, two of the major acquisitions were The New Departure Manufacturing Company and The Hyatt Roller Bearing Company. Alfred Sloane was chosen to run United Motors as president. In 1918 the assets of United Motors were acquired by General Motors and Sloane became a GM vice-president, in charge of the same accessory companies he had operated in United Motors.

The Rockwell's Automobiles

In 1904 the Rockwell brothers produced an "auto car" with a 15-horsepower engine. This motor was later used in the Rockwell Taxi.

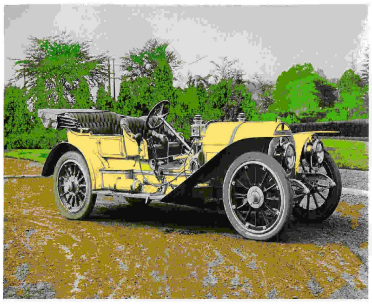


Rockwell Taxi

This innovative motor was installed in the 1907 Rockwell Taxi Cab. This became the first yellow cab in the world. Originally it was black. When it was decided to change the color, Mrs. A. F. Rockwell suggested yellow and yellow it became.

Although automobile manufacturing had ceased in 1911, in 1912 Albert, Rockwell organized the Yellow Taxi Cab Co. with a capitalization of $5 million and the same board of directors as the New Departure Manufacturing Company. This subsidiary of New Departure later operated a fleet of these first Yellow Cabs in New York City, and at one time controlled a majority of the taxis operating in Manhattan. The taxi company survived until 1913 when price competition forced it into receivership. Albert Rockwell's resulting financial problems caused him to relinquish the presidency of New Departure in favor of his brother-in-law De Witt Page.

In 1907 Albert Rockwell had organized the Bristol Engineering Company, to assume the manufacture of taxi's and automobiles, using his, earlier mentioned, as cast-en-bloc motor. In addition to the taxi, production consisted in a small number of "Rockwell" autos. In 1908, Bristol Engineering had taken over the Allen-Kingston Motor Car Company of Kingston, New York and in 1910, Bristol Engineering acquired the Harry S. Haupt Manufacturing company of New York City and merged its operations and designs with their own Allen-Kingston designs into the Haupt-Rockwell touring cars. These touring cars, added to the taxis were the first American vehicles to use a ball bearing crankshaft, which boasted three double row bearings, each weighing 45 pounds. The automotive venture was short lived, due to the high cost of manufacture and competition from the Midwest. New Departure, along with many other fledgling manufacturers, ceased the manufacture of automobiles in 1911

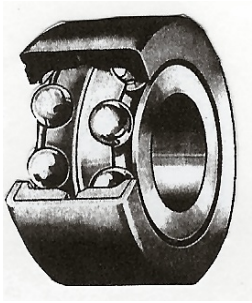


Haupt-Rockwell Touring Car

New Departure Focuses on the Bearing Business

The exit from automobile manufacturing allowed the company to focus its resources on the manufacture of ball bearings.

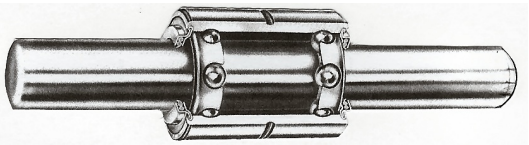
In 1910, New Departure engineers invented the first angular contact ball bearing. Since then, this bearing type, designed to accept thrust loads, has been a critical component in all machine tools as well as automotive front wheels and later, integral front wheel spindles.



Double Row Bearing

Bearings, ultimately New Departure's principal product, date from the automobile experimenting days. The coaster brake relied upon an integral ball bearing assembly at each end. This bearing system was designed to accept both a radial and a thrust (axial) load at each end. In less than 20 years the Rockwells had moved from doorbells, to coaster brakes requiring steel balls, to ball bearings, first for bicycles, and later for automobiles. Before 1908 the world was happy to have a single-row bearing (that is, a bearing with a single row of balls) but this could support only a radial or vertical load. In 1908 New Departure developed the well-known double row, angular contact type which sustained not only radial, but also thrust loads from either direction. Albert Rockwell, using the principles developed in the coaster brake bearing system, worked on and developed, an independent double row bearing, capable of handling both radial and thrust loads. In 1909, he was granted a patent for this, first double row ball bearing.

Then, in 1910, the company devised the angular contact or Radax single-row bearing, an improvement over the early single-row design in that it took radial loads, as well as thrust loads from one direction. From that day forward the company made new departures in the bearing field. In 1927, New Departure introduced two significant new products: the firstintegrally sealed single row ball bearings, used in automotive rear wheels and prop shafts, and the first integral, shaft fan and water pump bearing, a key component in automotive water pumps until this day.



Fan and Waterpump Bearing

New Departure and Hyatt Become General Motors Divisions

In 1916, New Departure and Hyatt, among other component manufacturers, became part of the United Motors Corporation, headed by William Durant, then President of Chevrolet. United Motors chose Alfred E. Sloan of Hyatt as president. In 1918, United Motors was purchased, out right by General Motors, and in 1923 Alfred Sloan was named President of GM. In the ensuing years, other Alumni of New Departure and Hyatt would command leading positions in General Motors. Interestingly, until the 1940's, De Witt Page of New Departure was the largest singe shareholder of General Motors stock.

During the period from 1919 to 1933 a second plant, established in Elmwood (Hartford, CT), was abandoned and moved into a new facility in Meriden, CT, a lively industrial town of some 40,000 situated about 15 miles from Bristol. The Elmwood property, acquired in 1912, and idle from 1932, was finally sold late in December of 1940.

New Departure in World War Two

During World War II the Connecticut plants, (Bristol, Meriden and Guilford) employed more than 10,000 people, working seven days, three shifts. In 1941 New Departure acquired a plant in Guilford, CT, which was used primarily for the production of ultra-precision bearings. These bearings constituted one of the most significant innovations of this period. New Departure provided the bulk of the high precision instrument bearings that made the Norden Bomb Sight one of the Air Force's most powerful weapons. Additionally the Integral Shaft Gyroscope Bearing provided significant precision for a whole list of advanced weaponry. This bearing was the precursor of designs which were the heart of the inertial guidance system on the Apollo Missile that delivered Americans to the moon in1969. The Lunar Lander used on this mission also was equipped with New Departure-Hyatt bearings. New Departure employees in war, numbered 4912 which was more than 100% of the plant's population in normal time. Unfortunately, that number included 64 employees who died serving our nation.

New Departure Expands Into the Automotive Component Business

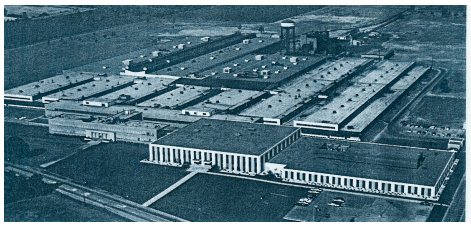
In the mid 1950's, as automatic transmissions became increasingly popular, New Departure invented the Roller Clutch which allowed a smoother shifting, less costly system. This clutch design provided over-running and torque transfer capabilities at a price well below sprag clutch designs. Ford Motor Company was the first production customer, releasing the 930612 Roller Clutch for their 1959 model. General Motors followed within the year, using the same clutch in a Hydramatic transmission. New designs and applications of the New Departure Roller Clutch continued to increase in General Motors, with the evolution of the Turbo-Hydramatic and CBC 300 Transmission. Eventually all General Motors automatic transmissions would use New Departure Roller Clutches. This penetration expanded to include over half of all Ford and Chrysler automatic transmissions.

Both New Departure and Hyatt continued to grow, respectively, into the leading suppliers of ball and roller bearings to the automotive industry. The history of innovation continued with the introduction of Integral Wheel Spindle bearings in the 1970's and bearing systems contained in Integral Water Pumps in the 1980's.

New Departure and Hyatt Divisions GM Combine

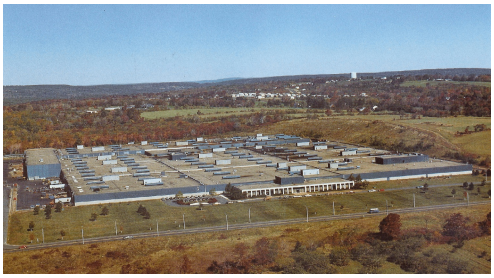
NDH

In1965, General Motors merged the two divisions into New Departure-Hyatt Bearings Division. This combined the ant–friction bearing expertise of the two division into a single engineering and manufacturing capability. Between 1965 and 1970 the combining of the two divisions resulted in significant changes in plants and the distribution of product



NDH Headquarters - Sandusky

manufacturing locations. New Departure and Hyatt's main administrative headquarters and the related manufacturing plants in Bristol, CT and Harrison, NJ were closed. The combined divisional administrative headquarters were moved into a newly built facility at the New Departure Division plant in Sandusky, OH. A new plant was built in Bristol, CT, combining the operations of New Departure's old Bristol plant and it's Meriden, CT plant into one facility. This plant when finished, consisted of more than 27 acres of manufacturing space under one roof, the largest manufacturing facility in all of New England. The operations of the old Hyatt plant in Harrison, NJ were relocated to Sandusky, OH and the existing Hyatt plant in Clark Township, NJ.



Bristol Plant 1970

The Era of Ball Bearing Ends (Almost)

In 1986, New Departure-Hyatt made the decision to exit the Commercial Ball Bearing business, an industry that it had virtually begun in 1908.The Division's focus turned to its automotive components business which, by that time, had come to constitute over half of the dollar volume and all of the profits. The only bearing business retained was the manufacture of ultra-precision aircraft engine bearings.

In 1989, General Motors merged Delco Moraine Division, Dayton, OH and New Departure-Hyatt Division, into the newly created Delco Moraine NDH Division, combining world class expertise in both friction (brakes) and anti-friction (bearings) products into one center of resource.

DM/NDH

No history would be complete without a mention of people. Delco Moraine- NDH in both Bristol and Meriden had always been a family business. For the first 50 years, the business was managed by the founders or their relations. During this period, being Bristol's largest employer, the company commonly employed fathers and sons, brothers and sisters in the workforce. This tradition continued, with people who proclaimed with pride that they were the fifth generation to work in the plants, dedicated New England craftsmen proud of their heritage of innovation.

Epilogue

The above was excerpted and expanded from text written in 1989 for the "Presentation Book" used as a basis for Delco Moraine NDH's qualification for the prestigious Ford Motor Company "Q1" award. One of the first GM divisions to attain this, highly coveted, award. The following is a short chronicle of the plant's last five years.

Ford Q1 paid huge dividends, resulting in increased sales as Ford phased out sprag clutches in their automatic transmissions and replaced them with DM-NDH roller clutches manufactured in the Bristol plant. The number of Ford high volume roller clutches increased from two to seven by 1994. Continuing evolution of GM-Powertrain (Hydramatic) transmissions added more roller clutches to the product line and began to designing the roller clutch into an integral (DM-NDH) assemblies for direct insertion in the transmission. The first of these began production in 1991. During this period, increased sizes of integral strut bearings for GM front wheel drive vehicles, resulted in expansion from two items to five struts, and their derivatives.

Delco Chassis

In 1992, the division merged with Delco Products division resulting in another name change to: Delco Chassis Division. The resulting division now consisted of a combination of New Departure, Hyatt Bearings, Tonawanda Forge, Delco Moraine and Delco Products.

In 1993 the Aircraft Bearing operation in Bristol was phased out, ending the era of all bearing manufacture which began with Hyatt (roller bearings) in 1892 and New Departure (ball bearings) in 1897.
In January 1994 the decision was made to phase out the Bristol plant and move all retained product to the division's plant in Sandusky, Ohio.
On December 23, 1994, the last roller cutches and struts were produced ending the operations in Bristol which had begun in 1888.
In 1995 GM announced that the entire Automotive Components Group, which all of he above divisions had been a part, was renamed Delphi Automotive Group. In 1999 Delphi Automotive Group became Delphi Automotive Systems a fully independent, publicly traded company.