

# Teledyne Continental Motors

<b>Type</b>	Operating Division
<b>Founded</b>	1905
<b>Headquarters</b>	Mobile, Alabama
<b>Industry</b>	General Aviation, Commercial Aviation, and Defense Industry
<b>Products</b>	O-200, IO-240
<b>Parent</b>	Teledyne Technologies
<b>Website</b>	tcmlink.com

**Continental Motors** is a corporation in Mobile, Alabama, USA, that produces aircraft engines. They are currently part of the Teledyne conglomerate, and properly known as **Teledyne Continental**.

The company produced engines for various independent manufacturers of automobiles, tractors, and stationary equipment (i.e. pumps, generators, machinery drives) from the 1920s through the 1960s.

The company had two major production plants located in Michigan, in the cities of Muskegon and Detroit. The Detroit plant closed in 1965.

Continental Motors also produced Continental branded automobiles in 1932/1933 based upon the 1931 De Vaux, a product of the De Vaux Motors Corporations of Oakland, California, which had been using body dies left over from the former Durant produced by Durant Motors until 1930.

Although Continental is most well known for its light aviation engines, they were also contracted to produce the air-cooled V12 AV-1790-5B gasoline engine for the U.S. Army's M47 Patton tank and the diesel AVDS-1790-2A and its derivatives for the M48 Patton and M60 series main battle tanks.

## **PROPULSION**

Engine	Teledyne Continental AVDS-1790-2D 1,790-cu in (29.3-liter) air-cooled, V-12 diesel
Power	750 HP at 2,400 RPM



Restored Continental AV-1790-5B tank engine.

## Company history

1905 Continental Motors is born with the introduction of a four-cylinder, four stroke cycle L-head engine operated by a single camshaft.

1906 Type "O" 45 hp (34 kW) engine is developed to power aircraft.

1929 A-70 radial, seven-cylinder engine is introduced.

1930 A-40 four-cylinder engine is introduced.

1938 A-50 is added to the lineup to power the Piper Cub and Taylorcraft.

1939 Continental builds aircraft engines for use in British and American tanks.

1945 Six-cylinder E-185 developed for Beechcraft Bonanza.

1950s A-65 developed into the more powerful C-90 and eventually to the 100 hp (75 kW) O-200. The latter powered a very important airplane design milestone: the Cessna 150.

1960s Turbocharging and fuel injection are brought to general aviation. A turbocharger allows the engine to power the aircraft to a higher altitude where the air is thinner. This can occasionally allow the aircraft to fly above a storm, which is a major safety benefit. Fuel injection allows the aircraft to perform aggressive maneuvers without suffering the fuel starvation that a carburetor may incur. The IO-520's applications expand to dominate the market.

1972 6-285 Tiara 285hp@4000 (4.875x4.625 = 406cuin) and 6-320 320hp high output engines dropped after 1978.

1984 TSIO-520-BE for the Piper Malibu. It sets new efficiency standards for light aircraft piston engines.

1986 Powered by a liquid cooled version of the IO-240, the Voyager is the first piston-powered aircraft to circumnavigate the world without refueling.

1997 NASA selects Continental to develop and produce GAP, a new 200-hp piston engine that operates on Jet-A fuel. This is in response to 100-octane aviation gasoline becoming less available in the face of decreased demand, as a result of smaller turboprop engines becoming more prevalent due to their long service life.

1999 Continental develops and tests its first FADEC-equipped engine.

2008 Teledyne Continental's new president, Rhett Ross announced that the company is very concerned about future availability of 100LL avgas and as a result will develop a diesel engine in the 300 hp range for certification in 2009 or 2010.

## **The M46 – The First Patton Tank**

The limited use of the M26 'Pershing' at the end of WWII, led the U.S. forces to believe they had the basis for a successful tank design. However, it did not meet the requirements laid forth by the Ground Forces Equipment Review Board in 1945. The key complaint with the tank, was that it was underpowered. The M26 used the same drive train as the M4 series. With its added weight, it was an inevitable conclusion that a new power plant was needed.

A new engine, the Continental Motors AV-1790-1 V-form, 12-cylinder, water-cooled, gasoline engine was combined with a new design General Motors CD-850-1 cross-drive transmission. This power plant developed 740 hp, a somewhat limited increase in power. The novel design of this unit, was that it acted as a transmission, braking system, and steering system all in one unit. In addition to this modification, a bore evacuator was added to the M3A1 90mm tank gun, along with a single baffle muzzle brake. Certain other changes were made, including an M83 telescopic fire control system, and round transmission access covers.

So in essence, the 'Patton' was basically a modernized 'Pershing'. Originally designated the M26E2, the tank was accepted into service as the Medium Tank M46. It was given the nickname "Patton" in honor of the great WWII general George S. Patton Jr.

From the inception of the M46 program, it was known that the tank would merely be a stop-gap measure, to be filled at a later date by the T42 medium tank class design. However, with the outbreak of the Korean War, the tank was rushed into action to combat the North Korean T-34/85s alongside its M26 cousin. The first M46 entered US service in late 1949. The famous Tiger faced tanks of the 6<sup>th</sup> Tank Bn. in Korea in 1951 were M46. The tank saw action in the Korean War 1950-1953 where it proved superior to Russian T34/85, About 200 M46 were used by the US forces in Korea. The M46 was retired from US service in 1957. It was exported in comparatively small numbers to Belgium only.