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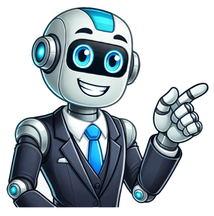

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Unsourced material may be challenged and removed.Find sources: "Detroit Diesel Series 149" – news · newspapers · books · scholar · JSTOR (January 2007) (Learn how and when to remove this message) Reciprocating internal combustion engine Series 149[1][2][3]OverviewManufacturerDetroit Diesel division of General MotorsProduction1967–1999LayoutConfigurationV8, V12, V16, and V20,Displacement12V: 1,792 cu in (29.4 L)[4]16V: 2,389 cu in (39.1 L)[5]149 cu in (2.4 L) (per cylinder)Cylinder bore5.75 in (146 mm)Piston stroke5.75 in (146 mm)ValvetrainOverhead camshaftCompression ratio17.0:1 (N/A & Turbo)[4][5]16.0:1 (Intercooled)[6]CombustionSuperchargerRoots-type (some versions)TurbochargerWith intercoolerFuel typeDieselCooling systemWater-cooledOutputPower output600–2,936 hp (447–2,189 kW)Torque output2,310–7,350 lb·ft (3,132–9,965 N·m)[7][8]DimensionsLength91–109 in (2,311.4–2,768.6 mm)Width54–64 in (1,371.6–1,625.6 mm)Height66–72 in (1,676.4–1,828.8 mm)Dry weight8,600–10,860 lb (3,901–4,926 kg) The Detroit Diesel 149 is a series of two-stroke diesel engines manufactured by Detroit Diesel which were first announced in early 1966. After Detroit Diesel was spun off in 1988 and later acquired by MTU, production of Series 149 engines was discontinued around 2000.[9][10] The first configuration was announced at the 50th anniversary SAE Tractor meeting.[11] It was a naturally aspirated 12V149 rated at about 600 hp (447 kW) soon followed by a naturally aspirated 16V149 rated at about 1,000 hp (746 kW). As manufacturers in the marine, construction, mining, and many other industries required more power output, Detroit added turbocharging and intercooling to the engine. As originally designed, the Oliver Hazard Perry-class frigates were equipped with 16V-149TI diesels for electrical generation, but these were replaced starting in 2000 after the Series 149 went out of production.[12] In 1992, Republic Locomotive announced a new line of locomotives powered by Series 149 engines intended for switching and commuter service.[13] Over a period of time, Detroit Diesel continued to further evolve the design of the engine. They finally brought the engine up to 137.5 hp (102.5 kW) per cylinder and 406 lb·ft (550 N·m) torque per cylinder; needless to say, this is a considerable amount of power coming from 149 cu in (2.4 L) per cylinder. Much of this increase in power could be attributed to DDEC III (the third generation of Detroit Diesel Electronic Controls) electronics, thermal barrier (ceramic) coating of piston domes & fire deck, by-pass valve controlled blowers and Separate Circuit Charge Cooling (SCCC) system. One of the unique features of the 149 engine is its bore and stroke 5.75-by-5.75-inch (146 mm × 146 mm); hence, it is known as a square bore design. It has a relatively high power-to-weight ratio. The 20V149 TIB DDEC III SCCC in stand-by generator spec has an output of 2,936 hp (2,189 kW) from a capacity of 2,980 cu in (48.8 L). All Series 149 engines have overhead camshafts and the cylinder heads fit into the engine block; this is referred to as the "pothead" design. The blowers are also recessed into the block; this section of the block is called the "airbox". Above the blower is a thick piece of steel that covers the blower and seals the top section of the air box. On a turbocharged engine an intercooler and sometimes a by-pass housing is present with the intercooler housing. The engine is available in V-8, V-12, V-16, and V-20 configurations; using the alphanumeric nomenclature utilized by Detroit Diesel, these engines were known as the 8V149, 12V149, 16V149, and 20V149, respectively. The first number indicates the number of cylinders per engine, the "V" indicates a V-type cylinder arrangement, and the last set of numbers indicates the series of the engine. Suffixes are commonplace with Detroit Diesel model designations: "T" means the engine is equipped with turbochargers, "I" for intercoolers, and "B" for by-pass Roots-type blowers. For example, the 20V149 TIB has 20 cylinders in a V-type configuration, is a Series 149 engine, and is turbocharged, intercooled, and has by-pass blowers. Series 149 specifications for selected models Family Model Torque Power Length × Width × Height Weight 12V-149 12V-149[4] 2,310 lb·ft (3,132 N·m)@ 1500 rpm 675 hp (503 kW)@ 1800 rpm 92 in × 57 in × 67 in2,300 mm × 1,400 mm × 1,700 mm 8,880 lb4,030 kg 12V-149T[4] 2,915 lb·ft (3,952 N·m)@ 1500 rpm 1,000 hp (746 kW)@ 1800 rpm 91 in × 63 in × 69 in2,300 mm × 1,600 mm × 1,800 mm 9,095 lb4,125 kg 12V-149TI[6] 3,445 lb·ft (4,671 N·m)@ 1500 rpm 1,200 hp (895 kW)@ 1800 rpm 91 in × 64 in × 69 in2,300 mm × 1,600 mm × 1,800 mm 8,600 lb3,900 kg 16V-149 16V-149[5] 3,080 lb·ft (4,176 N·m)@ 1500 rpm 1,060 hp (790 kW)@ 1800 rpm 108 in × 54 in × 68 in2,700 mm × 1,400 mm × 1,700 mm 10,540 lb4,780 kg 16V-149T[5] 3,880 lb·ft (5,261 N·m)@ 1400 rpm 1,325 hp (988 kW)@ 1900 rpm 109 in × 64 in × 72 in2,800 mm × 1,600 mm × 1,800 mm 10,840 lb4,920 kg 16V-149TI[6] 4,595 lb·ft (6,230 N·m)@ 1500 rpm 1,600 hp (1,193 kW)@ 1800 rpm 104 in × 64 in × 66 in2,600 mm × 1,600 mm × 1,700 mm 10,860 lb4,930 kg The 12V and 16V configurations have two blocks, two crankshafts bolted together, two blowers, and four turbos. The 16V149 has dual 10-inch (250 mm) exhaust outlets with eight bolt flanges. The 20V configuration was mainly designed for haul trucks. Detroit could push the envelope of the 16V (in the marine version it could produce 2,400 hp (1,790 kW) @ 2100 RPM) but it would require special parts. They wanted 2,500 hp (1,864 kW) with standard production parts, so the 20V149 was born. It has 3 engine blocks, 3 crankshafts bolted together. The unique set up of the 20V has a 6V block on either end of a special 8V block with 6 turbos, 3 blowers and intercoolers.[14] Production of Series 149 engines was phased out by mid-1999[15] and MTU Friedrichshafen's 4000 series of four-stroke diesel engines was proposed as helping to fill the void left by the cessation of the 149 Series production.[16] Detroit Diesel and MTU jointly developed the 2000 and 4000 series, with Detroit Diesel leading development of the 2000 and MTU leading the 4000, each of which are named for the per-cylinder displacement in cm3.[17] Like the Series 149, the 4000 comes in 8V-, 12V-, 16V-, and 20V- configurations. Remanufactured Series 149 long blocks are available for off-highway use.[18] ^ [bare URL PDF] ^ "Archived copy" (PDF). Archived from the original (PDF) on 2021-10-31. Retrieved 2021-10-31.{{cite web}}: CS1 maint: archived copy as title (link) ^ [bare URL PDF] ^ a b c d "fan-to-flywheel models: 12V-149 & 12V-149T" (PDF). Detroit Diesel Engines. 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For Later100%100% found this document useful, undefined Compare Model: 16V-149 The Detroit Diesel 16V-149 marine engine is a high-performance, reliable power unit designed for demanding marine applications. With a notable output of 1060.3 horsepower, this engine is tailored for commercial and recreational vessels requiring robust power and efficiency. Detroit Diesel's 16V-149 series ensures exceptional durability and top-tier performance thanks to its advanced engineering and high-quality construction, making it a prime choice for marine operators worldwide. Price: Price: Contact for Pricing (varies with specifications and dealer) Key Features: Powerful Performance: Sturdy 16-cylinder engine with an impressive 1060.3 horsepower output. High Efficiency: Designed for optimal fuel efficiency without compromising on power. Durability: Built using high-quality materials to withstand harsh marine environments. Low Maintenance: Engineered for ease of maintenance, reducing downtime and operational costs. Versatile Applications: Suitable for a wide range of marine vessels including commercial, fishing, and recreational boats. Technical Specifications: Engine Model: 16V-149 Horsepower: 1060.3 HP Configuration: V16 Bore x Stroke: 5.75" x 5.75" (146mm x 146mm) Displacement: 24.14 Liters (1472 cubic inches) Fuel System: Direct Fuel Injection Aspiration: Turbocharged and Aftercooled Compression Ratio: 16.7:1 Cooling System: Heat Exchanger – Seawater cooled Governor: Electronic or Mechanical options Rotation: Counterclockwise (viewed from flywheel end) Dry Weight: Approx. 6,800 lbs (3084 kg) Dimensions: (LxWxH) 132"x 48"x 77" (3353mm x 1219mm x 1956mm) Oil Capacity: 75.5 Liters Marine Applications: The Detroit Diesel 16V-149 marine engine is ideal for a broad spectrum of marine vessels, including: Commercial Fishing Vessels: Highly suitable for large commercial trawlers and fishing boats that require dependable power for long durations at sea. Workboats and Tugboats: Provides the necessary torque and power for towing, pushing, and performing heavy-duty tasks. Passenger Ferries and Large Yachts: Ensures a smooth, powerful, and efficient ride for ferry services and luxury yachting. Offshore Supply Vessels (OSVs): Delivers reliable propulsion for OSVs supporting offshore oil and gas operations. Pilot and Patrol Boats: Perfect for high-speed, agile operations needed by coast guard and pilot services. The Detroit Diesel 16V-149 1060.3HP marine engine leverages decades of engineering excellence and experience, ensuring you get a powerhouse designed to meet the rigors of marine usage with superior reliability and efficiency. Power 1060.3 HP (790.56kw) MAK 6M331AK 1013.8HP Compare VOLVO PENTA D34A MT 1150.6HP Compare LUGGER L6170A 900HP Compare YANMAR 6N21A-SV 1184.1HP Compare WÄRTSILÄ 5L20 1106.3HP Compare ABC 6DZC-750-150 1206.9HP Compare