Perkins engines

handbook

for marine diesel engines



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Introduction

All Perkins Marine Diesel engines operate on the four stroke cycle. The first stroke is the induction stroke (1). The inlet valve is open and the piston is travelling downwards drawing air into the cylinder. The second stroke is the compression stroke (2). Both valves are closed and the piston is moving upwards compressing the air in the cylinder. As the piston reaches the top of its stroke, the compressed air creates such a heat as to ignite the fuel injected through the atomiser. The burning of the fuel forces the piston downwards on the combustion or power stroke (3). The fourth stroke comprises the exhaust stroke (4). The piston is travelling upwards, thus ejecting all the burnt gases from the cylinder through the open exhaust valve.

With turbocharged engines, the exhaust outlet pressure is utilised by the turbocharger to boost the air at the induction intake which assists in increasing the power output of the engine.

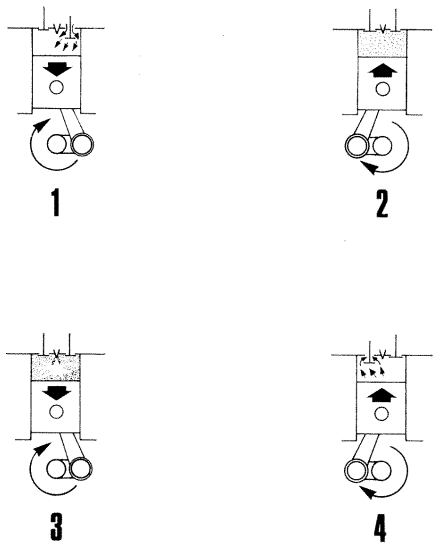


Fig. 1

engine identification

The engine types with which this marine operator's handbook is associated, are designated 4.107(M), 4.108(M), P3.152(M), 4.236(M), 6.354(M), H6.354(M), T6.354(M), HT6.354(M), V8.510(M) and TV8.510(M).

The first figure in the engine designation, signifies the number of cylinders, whilst the second group of figures, denotes the engine capacity in cubic inches. The letter "H" preceding the engine type denotes a horizontally inclined engine; the letter "T" signifies that the engine is turbocharged; the letter "V" signifies that there are two banks of cylinders in "V" formation.

The letter "M" in parenthesis following the engine type shows that the engine has been especially built for marine use.

Apart from their physical differences, engines can be identified by the engine number stamped on the cylinder block. The number consists of a combination of figures and letters, a typical example being 354U251. In this instance, the engine type would be a 6.354 as the first group of figures represents the cubic capacity: the letter "U" signifies that the engine was built in the U.K. The second group of figures comprises the serial number of the engine. Further letters can be included in the combination — a letter "H" indicates a horizontal engine — a letter "T" indicates a turbocharged engine — a letter "X" indicates a contra-rotating engine.

Fig. 2 shows engine number locations.

Where information, spare parts or assistance is required, this engine number should always be quoted in full.

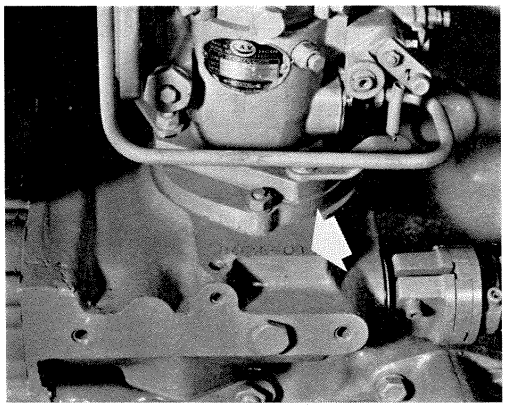


Fig. 2(a)
Engine No. Location 6.354, H6.354, T6.354 and HT6.354

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