



Göbler-Hirthmotoren KG

Service manual



Engine

3202/03

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Chapter 1

Description of the Engine, Its Systems, and Essential Technical Data

1.1 Overview

1.1.1 Model 3202/03

The Hirth 3202 and 3203 engine (Illus. 1.1.1-1), from Göbler-Hirth Engines Ltd., is a fan-cooled, side-regulated, two cylinder inline, two stroke engine.

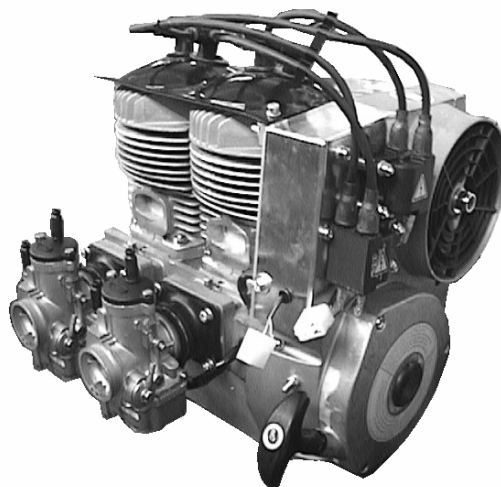
The cylinders consist of an aluminum alloy coated with an abrasion-resistant surface. The cylinders are attached to the crankcase with bolts, washers and hexagonal nuts. The cylinder heads consist of a special non-melting aluminum alloy, which resists high temperature with an even hardness. They are fastened to the cylinder without any sealant, using cylinder bolts and washers .

The pistons consist of an aluminum alloy and are packed with two piston rings against the cylinder surface. The piston is connected to a piston rod with a gudgeon pin and needle roller bearing.

The crankshaft is made of Chromoly steel (42CrMo4) and is positioned in five grooved ball bearings. It is a constructed crankshaft in which the individual parts are pressed together to form the complete crankshaft. Two grooved ball bearings are attached on the power take off side, two more between the crank control handle, and one on the ignition side. The power take off is cone-shaped and has a centric coil in order to wind a connecting cone onto the power take off side. The piston rods are connected to the crankshaft with crank pins and needle roller bearings.

The crankcase consists of an aluminum alloy. It is constructed as an axial divided case and consists of a lower and an upper part. It is held together by seven cylinder bolts with safety washers, and in addition by the eight fastening bolts of the cylinders. On the ignition side, it includes the statorplate of the ignition and is constructed so the the fan housing can be mounted over it.

Illustration 1.1.1-1 (Engine 3203V)



1.1.2 Description of the Carburetion System

The fuel mixture system (Illus. 1.1.2-1) of the 3202 and 3203 engine consists of two Dell'Orto sliding carburetors. The carburetors are mounted with rubber flanges on the left side of the crankcase by means of diaphragm valves. On the intake side of the carburetors are two dry-airfilters, which are mounted on the carburetors with hose clamps.

The carburetor is thermally insulated by a piece of insulation. The hot cool air stream exiting from the intake socket is kept apart from the carburetor by shield in the intake socket.

Illustration 1.1.2-1 (Fuel Mixture [or Carburetion] System)



1.1.3 Description of the Ignition System

The ignition system (Illus. 1.1.3-1, 1.1.3-2) consists of an armature plate, a magneto, an E-Box, two ignition coils and the ignition cables with spark plug caps. The ignition is entirely electronic and has an E-PROM (?) for a free programmable electro-dynamo-magnetic ignition. There is generator power for electric uses during operation and for charging the battery. The ignition system is operational with single as well as double ignition. The armature is fastened to the crankcase on the ignition side. The magneto is situated on the crankshaft and encloses the armature plate. The fan housing shields the magneto wheel of the ignition. On the fan housing is the E-Box and the ignition coils on an ignition coil fastener.