

1. Introduction

This service manual contains detailed descriptions of all typical repair and servicing procedures for models FS 45, 46, 55, FC 55, HL 45 and KM 55, which are based on the series 4140 powerhead.

If there is no specific reference to individual machines, the procedure is the same for all machines. The illustrations may differ depending on the machine, but the methods used and the sequence of operations are identical.

You will find detailed descriptions of procedures for servicing and repairing engine components and associated CombiTools in the service manual for the "Series 4140 Powerhead".

You should make use of the illustrated parts lists while carrying out repair work. They show the installed positions of the individual components and assemblies.

Refer to the latest edition of the relevant parts list to check the part numbers of any replacement parts.

A fault on the machine may have several causes. To help locate the fault, consult the chapter on "Troubleshooting" in this manual and the "STIHL Service Training System" for all assemblies.

Refer to the "Technical Information" bulletins for engineering changes which have been introduced since publication of this service manual. Technical information bulletins also supplement the parts list until a revised edition is issued.

The special servicing tools mentioned in the descriptions are listed in the chapter "Special Servicing Tools" of this manual. Use the part numbers to identify the tools in the "STIHL Special Tools" manual. The manual lists all special servicing tools currently available from STIHL.

Symbols are included in the text and pictures for greater clarity. The meanings are as follows:

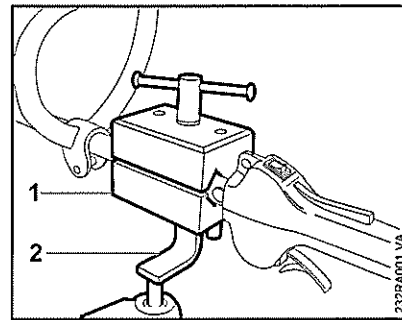
In the descriptions:

- = Action to be taken as shown in the illustration (above the text)
- = Action to be taken that is not shown in the illustration (above the text)
- = Situation applies from serial number
- = Situation applies up to serial number
- 4.2
Reference to another chapter, i.e. chapter 4.2 in this example.

In the illustrations:

- Pointer
- Direction of movement

Service manuals and technical information bulletins are intended exclusively for the use of properly equipped repair shops. They must not be passed to third parties.



Servicing and repairs are made considerably easier if the machine is mounted on assembly stand (2) 5910 890 3100 with the aid of clamping fixture (1) 5910 890 3100.

Mount the clamping fixture to the assembly stand with two washers and two M8 nuts. The powerhead can then be swivelled to the best position for the ongoing repair. This leaves both hands free.

Always use original STIHL replacement parts.

They can be identified by the STIHL part number, the **STIHL** logo and the STIHL parts symbol **G**. This symbol may appear alone on small parts.

Contents

1.	Introduction	1
2.	Safety precautions	2
3.	Specifications	3
3.1	Engine	3
3.2	Ignition system	3
3.3	Tightening torques	4
4.	Cylinder and piston	5
4.1	Removal	5
4.2	Installation	6
4.3	Piston rings	7
5.	Crankshaft / ball bearings	7
5.1	Oil seals	9
6	Leakage test	10
6.1	Preparations	10
6.2	Pressure test	11
6.3	Vacuum test	12
7.	Ignition system	12
7.1	Ignition module	13
7.1.1	Ignition timing	13
7.1.2	Removal and installation	13
7.2	Flywheel / fan wheel	14

1. Introduction

8.	Rewind starter	15
8.1	General	15
8.2	Starter cup	15
9.	Special servicing tools	16
10.	Service aids	17
11.	Special accessories for the user	17

The "basic engine 4140" is used to drive a number of power tools:
FS 45, 46, 55; FC 55;
BG 45, 55, 65, 85; SH 55, 85;
HS 45; HL 45.

Servicing procedures for specific machine components are described in the handbook "Machine components 4140".

There are separate handbooks for servicing procedures for standardized parts and assemblies that are installed in several STIHL power tool models ("Standard Repairs, Troubleshooting", "Carburetors"). Reference is made to these handbooks in the appropriate chapters in this manual.

You should make use of the illustrated parts lists while carrying out repair work. They show the installed positions of the individual components and assemblies.

Refer to the latest edition of the relevant parts list to check the part numbers of any replacement parts needed. Parts lists on microfiche and CD-ROM are always more up to date than printed lists.

A fault in the machine may have several causes. To help locate the fault, consult the troubleshooting charts for all assemblies in the "Standard Repairs, Troubleshooting" handbook.