

# SERVICE MANUAL

LOADALL (ROUGH TERRAIN  
VARIABLE REACH TRUCK)  
**530-110, 530-70**

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This manual contains original instructions, verified by the manufacturer (or their authorized representative).

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## Foreword

### The Operator's Manual

**⚠**  
You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

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## Introduction

The cylinder head is located above the cylinders on top of the crankcase. It closes in the top of the cylinder, forming the combustion chamber. This joint is sealed by a cylinder head gasket.

The cylinder head also provides the space for the passages that feed air and fuel to the cylinder and allow the exhaust to escape. The cylinder head is also used to mount the valves (PIL 15-30) and fuel injectors (PIL 18-18).

## Technical Data

**Table 70. Cylinder Head Data**

Cylinder head distortion (maximum permissible) <sup>(1)</sup>	
- End to end	0.05mm
- Side to side	0.03mm
Valve recess depth	
- Inlet	0.85mm
- Exhaust	0.85mm
Valve seat angle	
- Inlet	120(inclusive)
- Exhaust	90(inclusive)
Cylinder head bolts torque <sup>(2)</sup>	
- First stage	40
- Second stage	75
- Third stage	Repeat75
- Fourth stage	Torque angle + 90
- Final stage	Torque angle + 180
Surface finish for cylinder head joint	Rz < 15 Rmax < 20
Permissible wave profile	wt < 10m 2.5 distance

(1) The block to cylinder head surface may be skimmed and restored using the oversize gaskets (0.25mm and 0.5mm).

(2) Torque information **MUST** be used in conjunction with the recommended procedures contained in this manual. Failure to use the appropriate and correct remove, install, disassemble and assemble procedure may result in an engine failure in service. Refer also to the procedures for the correct bolt tightening sequence.

## Remove and Install

### Special Tools

Description	Part No.	Qty.
Torque Wrench (10-100Nm)	993/70111	1

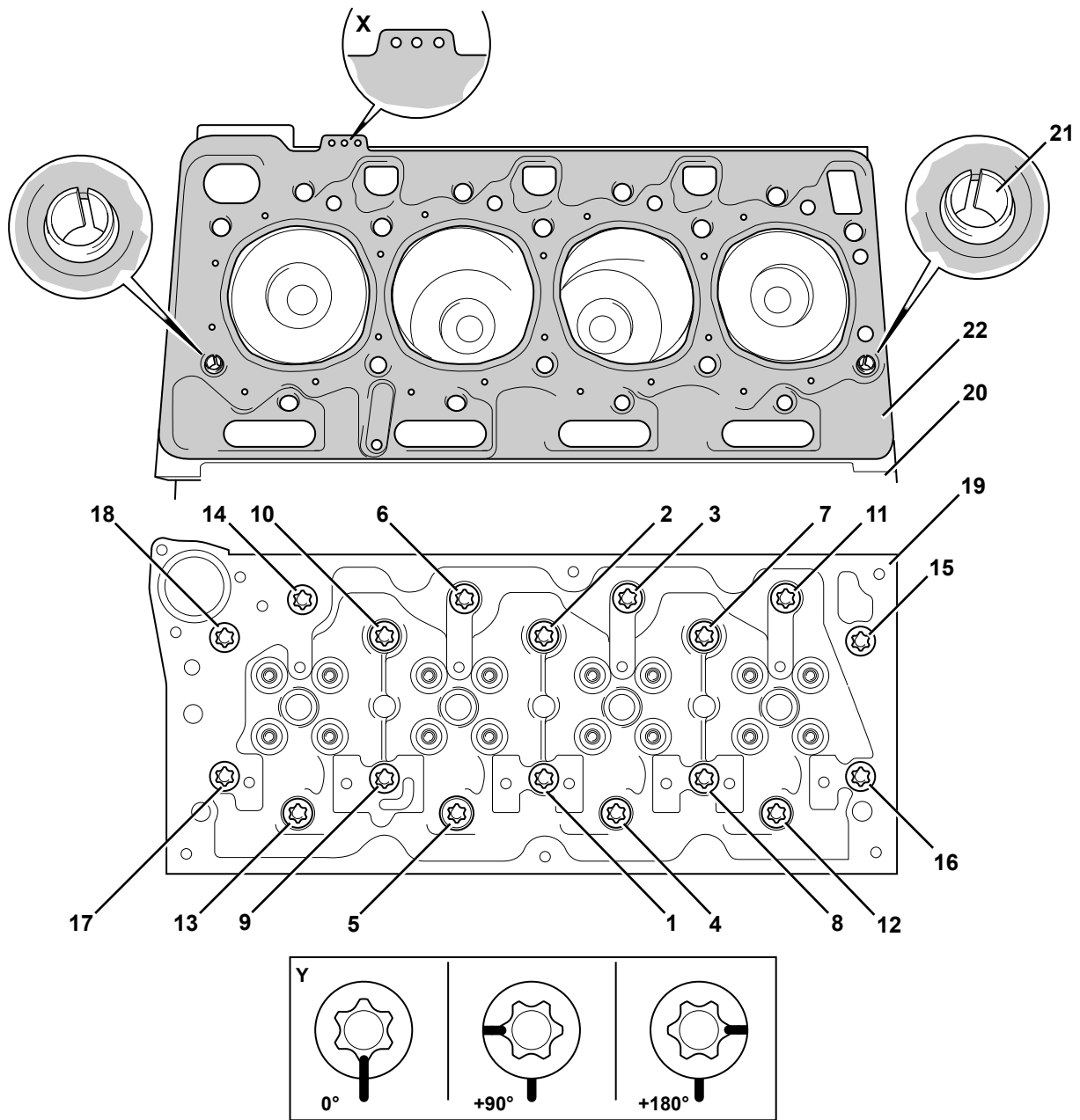
### Consumables

Description	Part No.	Size
Cleaner/Degreaser - General purpose solvent based parts cleaner	4104/1557	0.4L

### Before Removal

1. This procedure requires service parts. Make sure you have obtained the correct parts before you start, refer to Parts Catalogue.
2. Make sure that the engine is safe to work on. If the engine has been running, let it cool before you start the service work.
3. Get access to the engine.
4. Remove the thermostat, refer to (PIL 21-12).
5. Remove the fuel pipes, refer to (PIL 18-96).
6. Remove the rocker cover, refer to (PIL 15-42).
7. Remove the fuel injectors, refer to (PIL 18-18).
8. Remove the rocker assembly, refer to (PIL 15-42).
9. Remove the exhaust manifold, refer to (PIL 18-24).
10. Remove the inlet manifold, refer to (PIL 18-24).

**Figure 130.**



- 1-18 Cylinder head fixing bolts (x18)
- 20 Crankcase
- 22 Cylinder head gasket

- 19 Cylinder head
- 21 Location dowels (x2)

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