

**workshop
manual for
3.152 series
diesel engines
3.152 D3.152
3.1522 3.1524
T3.1524 and
D3.152M, 3HD46
marine engines.**

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PACE

This Publication is written for world wide use. In countries where legislation controls engine smoke emission, noise, safety factors, etc., then all instructions, data and dimensions given must be applied so that, after service (preventive maintenance) or repair, the engine operation is correct to the local regulations.

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* Operating and maintenance information can be found in section 3 of the multi-lingual 3.152 Series Users handbook

SECTION A

General Information

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GENERAL INFORMATION—A.2

Introduction

This manual has been written to give assistance to all personnel engaged in the maintenance and overhaul of Perkins 3.152 Series engines.

Most of the general information which is included in the multi-lingual 3.152 series Users Handbooks has not been repeated in this workshop manual and the two publications should be used together.

| There are five engine types in the 3.152 Series for agricultural and industrial applications. These are the 3.152,
| D3.152, 3.1522, 3.1524 and T3.1524 engines. Information on two marine versions of the D3.152 engine, the
| D3.152(M) and the 3HD46 are also included in section W of this manual. The information applies to all engine
| types unless indicated. Where specific information is given for Massey Ferguson engines, A3.152 and AD3.152
| etc. reference is made in the text.

Overhaul of the engine or components must only be done by personnel who have had the correct training.

When setscrews or studs are fitted into holes which are tapped through into the inside of the engine, a suitable sealant must be used on the threads. Some setscrews already have sealant coated threads. These can be identified by the colour of the threads which will be red or blue etc.

The left and right side of the engine are as seen from the rear.

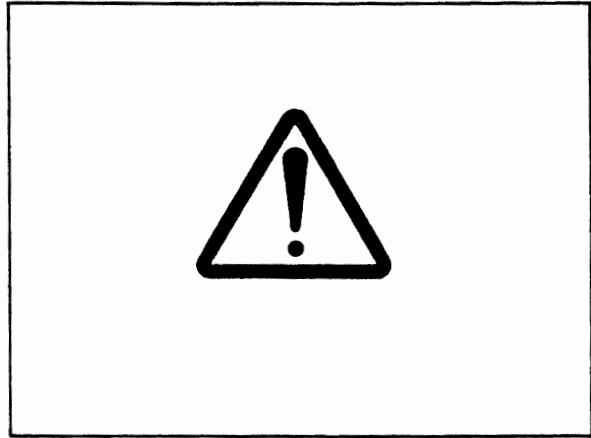
Parts and other services are available from your Perkins distributor.

Read and remember the Safety Precautions. These are given for your protection and must be used at all times.

Safety precautions

These safety precautions are important. You must refer also to the local regulations in the country of use. Some items only apply to specific applications.

- Only use these engines in the type of application for which they have been designed.
- Do not change the specification of the engine.
- Do not smoke when you put fuel in the tank.
- Clean away fuel which has been spilt. Material which has been contaminated by fuel must be moved to a safe place.
- Do not put fuel in the tank while the engine runs (unless it is absolutely necessary).
- Do not clean, add lubricating oil, or adjust the engine while it runs (unless you have had the correct training; even then extreme caution must be used to prevent injury).
- Do not make adjustments that you do not understand.
- Ensure that the engine does not run in a location where it can cause a concentration of toxic emissions.
- Other persons must be kept at a safe distance while the engine, or equipment, is in operation.
- Do not permit loose clothing or long hair near moving parts.
- Keep away from moving parts during engine operation. **Attention:** Some moving parts cannot be seen clearly while the engine runs.
- Do not operate the engine if a safety guard has been removed.
- Do not remove the filler cap of the cooling system while the engine is hot and while the coolant is under pressure, because dangerous hot coolant can be discharged.
- Do not use salt water or any other coolant which can cause corrosion in the closed coolant circuit.
- Do not allow sparks or fire near the batteries (especially when the batteries are on charge) because the gases from the electrolyte are highly flammable. The battery fluid is dangerous to the skin and especially to the eyes.
- Disconnect the battery terminals before a repair is made to the electrical system.
- Only one person must control the engine.
- Ensure that the engine is operated only from the control panel or from the operator's position.
- If your skin comes into contact with high-pressure fuel, obtain medical assistance immediately.
- Diesel fuel and lubricating oil (especially used lubricating oil) can damage the skin of certain persons. Protect your hands with gloves or a special solution to protect the skin.
- Do not wear clothing which is contaminated by lubricating oil. Do not put material which is contaminated with oil into the pockets.
- Discard used lubricating oil in a safe place to prevent contamination.
- Do not move mobile equipment if the brakes are not in good condition.



- Ensure that the control lever of the transmission drive is in the "out-of-drive" position before the engine is started.
- Use extreme care if emergency repairs must be made at sea or in adverse conditions.
- The combustible material of some components of the engine (for example certain seals) can become extremely dangerous if it is burned. Never allow this burnt material to come into contact with the skin or with the eyes.
- Read and use the instructions relevant to asbestos joints given on this page.
- Fit only genuine Perkins parts.

Asbestos joints

Some joints and gaskets contain compressed asbestos fibres in a rubber compound or in a metal outer cover. The "white" asbestos (Chrysotile) which is used is a safer type of asbestos and the risk of damage to health is extremely small.

The risk of asbestos from joints occurs at their edges or if a joint is damaged when a component is removed or if a joint is removed by abrasion.

To ensure that the risk is kept to a minimum, the procedures given below must be applied when an engine which has asbestos joints is dismantled or assembled.

- Work in an area with good ventilation.
- Do not smoke.
- Use a hand scraper to remove the joints - do not use a rotary wire brush.
- Ensure that the joint to be removed is wet with oil or water to contain loose particles.
- Spray all loose asbestos debris with water and put it in a closed container which can be sealed for safe disposal.

GENERAL INFORMATION—A.4

Engine identification

The first two letters of the engine number give an indication of the engine type as shown below.

CD	3.152 engine
CE	D3.152, D3.152(M) and 3HD46 engines
CJ	3.1522 engine
CM	3.1524 engine
CN	T3.1524 engine

The engine number is stamped on a machined pad on the right side of the cylinder block forward of the fuel lift pump (see fig. A1). A typical engine number is CJ30060U510251 F.

If you need any parts, service or information for your engine, you must give the complete engine number to your Perkins distributor.

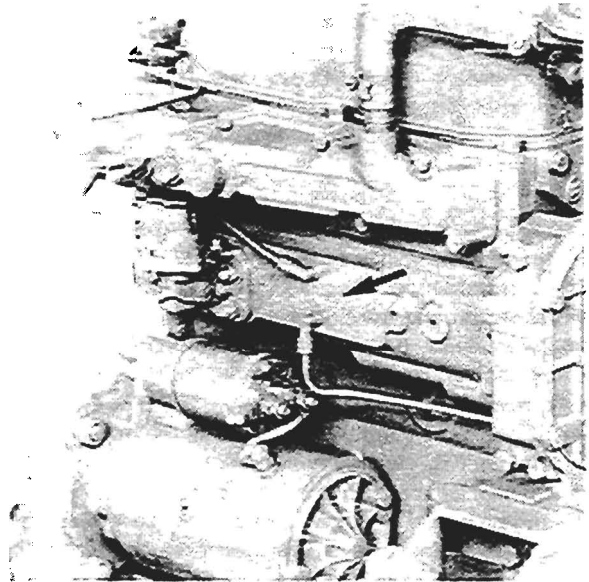


Fig. A1

SECTION B

Engine views

Perkins engines are made for specific applications and the views which follow are not necessarily correct for your engine specification.



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