

**OPERATION AND
MAINTENANCE
INSTRUCTIONS**

FE033142-07

CATERPILLAR

**D311
ENGINE**

SERIAL NUMBERS
51B1-UP

Foreword

Caterpillar products are a result of advanced engineering, skilled manufacturing, and the finest materials metallurgical science can select. Thousands of satisfying, economical working hours are built into each machine.

Whether or not the owner derives the maximum service from his machine depends largely on the care exercised in its operation and maintenance. This book is written to give the operator essential information regarding the day-to-day operation, lubrication and adjustment of the machine. Careful adherence to these instructions will result in assured economy.

More and more Caterpillar owners are depending upon their dealer for service other than the care and adjustments described in this book. This practice is recommended because Caterpillar dealers have stocks of genuine Caterpillar parts and are equipped with tools designed and built by Caterpillar. Their servicemen are factory-trained and are kept closely informed by the factory regarding advanced methods of servicing Caterpillar products — thus, in all ways they are equipped to render the best of service.

Inspection Service for Engines

Caterpillar Engines, installed in Original Equipment Manufacturers' (OEM) machines, are entitled to two free inspections. The inspections are made by the nearest Caterpillar dealer, only at request of the OEM or the user.

Inspections consist of thorough operational and procedural checks for which this Operation and Maintenance Instruction book is the guide. The Inspection Service Report, reprinted here, indicates the details covered in each inspection.

7737-10349 CATERPILLAR TRACTOR CO. Peoria, Illinois, U.S.A.

INSPECTION SERVICE REPORT (ENGINES)

Model	Serial No.	Makeup or Service Motor Reading	Dealer's Order No.	Bill of Material No. and Item No.
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USER: _____
 Name and Mailing Address _____
 PURCHASED FROM: _____
 Name _____ Address _____
 PLACE OF ENGINE DELIVERY: _____ DATE OF ENGINE DELIVERY: _____
 TYPE OF APPLICATION: _____
 DELIVERED BY: _____
 Dealer's Name and Address _____

Upon delivery the following checks are to be performed and thoroughly discussed with the user. (Indicate by a check mark (✓) or other entry when each operation has been completed). Use diagrams included with the engine as a guide. These checks apply only to Caterpillar engines with standard accessories and attachments as shown in the Caterpillar Engine price list.

INSPECTION No. 1 <input type="checkbox"/> Checked (in Operator's Presence) <input type="checkbox"/> Coolant Level, Filling <input type="checkbox"/> Coolant Oil Level <input type="checkbox"/> Oil Levels (Other Compartments) <input type="checkbox"/> Lubrication Points <input type="checkbox"/> All Control Linkage <input type="checkbox"/> Clutch Adjustment <input type="checkbox"/> Checked (Engine Running) <input type="checkbox"/> Engine High Idle - 2500 <input type="checkbox"/> Engine Low Idle - 750 <input type="checkbox"/> Normal Gas Engine Carburetor and Regulator Adjustment <input type="checkbox"/> Fuel or Water Leaks <input type="checkbox"/> DEMONSTRATED <input type="checkbox"/> Starting Procedure <input type="checkbox"/> Operation of Alarm and Shutdown Equipment <input type="checkbox"/> Stopping Procedure	INSPECTION No. 2 <input type="checkbox"/> Checked (Engine Stopped) <input type="checkbox"/> Manifold Bolt Torque <input type="checkbox"/> Pipe Connections (Including Exhaust) <input type="checkbox"/> Ignition System (Wet, Gas Engines) <input type="checkbox"/> Reproduction and Glow Plug (Dry - Gas Eng.) <input type="checkbox"/> External Appearance and Connections EXPLAINED <input type="checkbox"/> Lubricating Oil and Fuel Requirements <input type="checkbox"/> Lubrication <input type="checkbox"/> Use of Parts Book <input type="checkbox"/> Safety Precautions <input type="checkbox"/> Importance of Air Cleaner Care <input type="checkbox"/> Largest oil components of air induction system for condition and setting of joints
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Place here the Inspection Service tab from the engine information plate.

User's Signature _____ Date _____
 Serviceman's Signature _____ Date _____

ENGINE APPLICATION

Tractor Transmission make and model _____ Transmission ratio _____ Auxiliary transmission make and model _____ Auxiliary transmission ratio _____ Rear axle make and model _____ Rear axle ratio _____ Tire size _____ Motor Type of boat _____ Length _____ Beam _____ Draft _____ Propeller diameter _____ Pitch _____ R.P.M. _____ Boat speed in knots _____ Motor gear ratio _____ Motor gear ratio _____ Motor gear serial no. _____ REMARKS _____	Industrial <input type="checkbox"/> Chain drive <input type="checkbox"/> Flat belt <input type="checkbox"/> V-belt <input type="checkbox"/> Direct connected <input type="checkbox"/> Gear connected <input type="checkbox"/> Diesel electric <input type="checkbox"/> Hydraulic Electric Set <input type="checkbox"/> Parallel Operation <input type="checkbox"/> Non Parallel Operation Kilowatt hours per month _____ H.P. - Total connected motor load _____ Watts - Total connected lighting and heating load _____ H.P. of largest motor started _____ Generator Serial No. _____
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INSPECTION SERVICE REPORT

The **first** inspection normally should be requested so it can be performed when the machine is ready to be started by the initial user. However, it may be requested by the OEM or his dealer at anytime during construction, testing or running of the equipment.

The **second** inspection should be made after the first thirty (30) days of operation but not later than six (6) months after initial use.

Both inspections are provided free. Any unusual costs, such as travel to an operating location extremely remote from the store of the dealer performing the inspection, however, are subject to charge. These unusual costs, as determined by the Caterpillar Dealer, shall be paid by the party requesting the service.