
1. Introduction and Specifications

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1.1 Introduction

The Service Manual is intended to provide technical information, component specifications, troubleshooting and removal, disassembly and reassembly procedures for most of the major components of the machine.

Certain components such as the engine, felling head, and fire suppression system are covered in individual manuals provided by the respective manufacturers. For specifications, parts listings and servicing procedures these manuals should be obtained to supplement the Service Manual.

When practical the Service Manual lists likely causes of malfunctions, offers test procedures to verify causes and then illustrates the steps for the adjustment or repair procedure(s).

Since it is never possible to anticipate all of the possible failure or malfunction scenarios, a concerted effort has been made to explain the function of, or method of operation, of many complex components. This information can be used to predict other causes of machine malfunction.

Troubleshooting must always be a multi step process. Use the following steps:

1. Know the operation of all machine systems.
2. Ask the operator about symptoms and when they occur.
3. Operate the machine yourself if practical.
4. List all possible causes.
5. Inspect the machine for obvious causes.
6. Eliminate the simple ones by checking oil, changing filters, etc.
7. Carry out diagnostic procedures like pressure, leakage and slippage testing to pinpoint the cause.

1.1 Introduction

When troubleshooting there is no substitute for knowledge of the machine systems. This Service Manual contains both hydraulic and electrical system schematics. They should be used to gain a working knowledge of flow paths.

Both sets of schematics are supported by component location charts or illustrations to assist in locating electrical and hydraulic components on the machine.

Specifications (Section 1.2), provide performance and mode of operation information that can be very useful in troubleshooting.

Disassembly and reassembly procedures are given for many major components. When possible, stacking order, clearance and torques are given. If a manufacturers' service manual is available, it should be given priority.

Reference to special equipment for testing and repair is limited, as most repair shops or local machine shops are well equipped to fabricate on an as-needed basis to reduce downtime.

**CALIFORNIA
Proposition 65 Warning**

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

Battery terminals and posts contain lead or lead compounds, which are known to the State of California to cause cancer and birth defects. Wash hands after handling batteries.

1.2 Foreword

This manual is written for an experienced technician. Essential tools required in performing certain service work are identified in this manual and are recommended for use.

Live with safety: Read the safety messages in Section 2 of this manual and the cautions presented throughout the text of the manual.

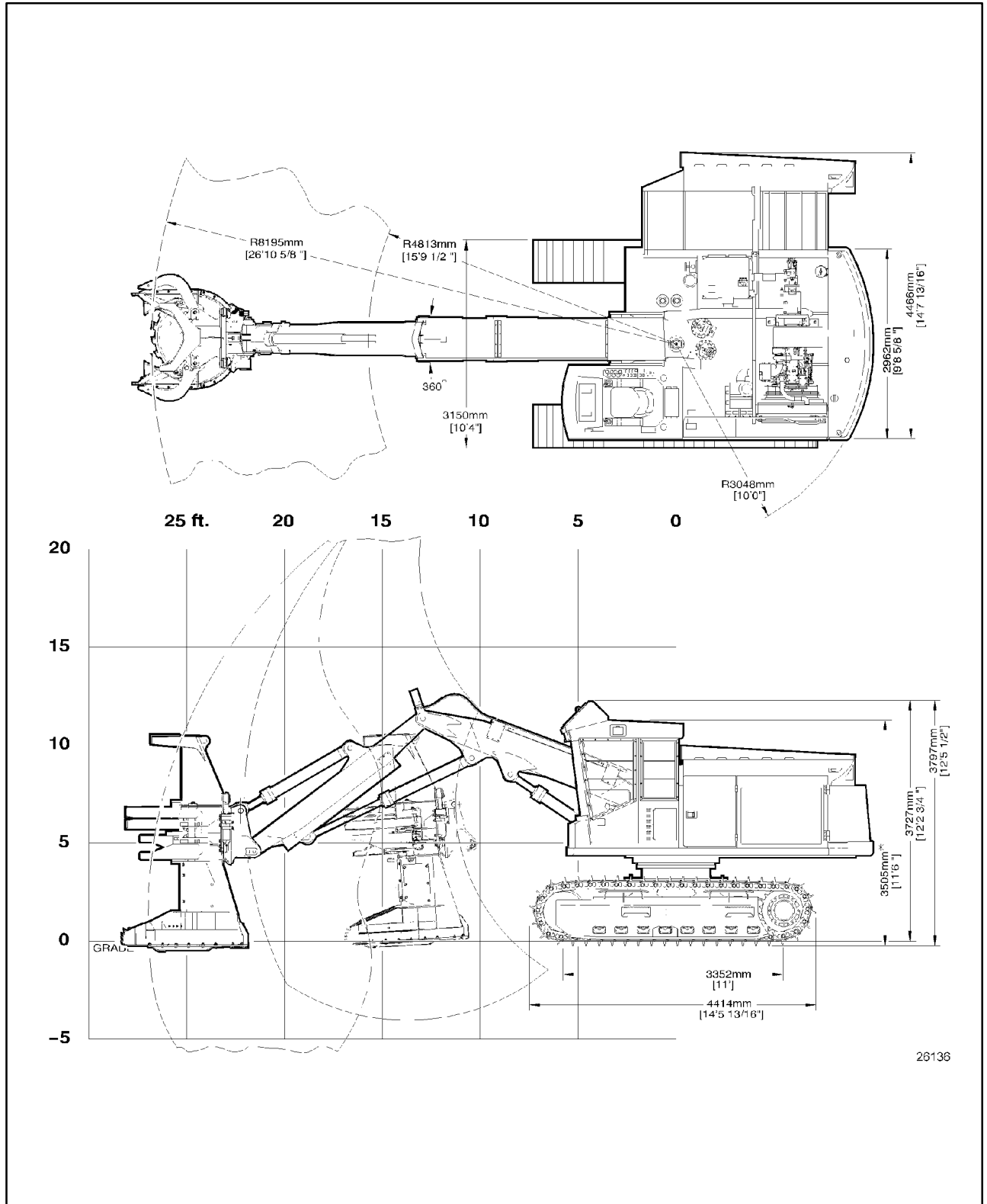


This is the safety-alert symbol. When you see this symbol on the machine or in this manual, be alert to the potential for personal injury.

Technical Manuals are concise guides for specific machines. They are on-the-job guides containing only the vital information needed for diagnosis, analysis, testing, and repair.

Fundamental service information is available from other sources covering basic theory of operation, fundamentals of troubleshooting, general maintenance, and basic type of failures and their causes.

1.3 Machine Dimensions



26136

1.4 Specifications

ENGINE:

Model	Cummins 6CTA8.3
No. of cylinders	6
Displacement	504 cu. in. (8.3 litres)
Bore/Stroke	4.49 x 5.32 in. (114 x 135 mm)
Rated Power	230 hp (174 kW) 2000 rpm
Rated Maximum Torque	720 lb ft (976 Nm) 1500 rpm
High Idle	2275 +/- 45 rpm
Low Idle	950 +/- 45 rpm

SWING DRIVE GEARBOX (2):

Type	Double Reduction Planetary
Ratio	31.0:1
Pinion	12 Tooth
Brake	Integral with swing gear
Brake Type	Wet - Spring Applied Hydraulic Released (SAHR)
Brake Release Pressure	507 - 550 psi (3.5 - 3.8 MPa)

FLEXIBLE COUPLING:

Type	Flex Drive	Must not put end thrust on engine crankshaft
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AIR CLEANER:

Type	Dry, Two Stage Aspirated
Inlet	6 in. (153 mm)
Outlet	5 in. (127 mm)
Size	13 in. O.D. (355 mm)
Pre-cleaner	Aspirated

1.4 Specifications

ENGINE OIL FILTER:

Type Spin - on cartridge

RADIATOR:

Core Type 7.0 fins/in. (178 fins/mm)
System Capacity 13.7 U.S. Gal. (52 litres)
System Pressure 15 psi (103 kPa)

SURGE TANK:

Capacity Rating 15 psi (103 KPa)
System Capacity 2.25 U.S. gal (8.5 litres)

FAN:

Type 6 blade (suction)
Diameter 30 in. (762 mm)
Projected Width 2.83 in.(72 mm)
Drive Ratio 1.00:1 - Direct drive off engine crankshaft

HYDRAULIC OIL COOLER:

Type 6 fins/in.(0.24 fins/mm) - 4 rows
Location In front of engine radiator
Thermal Bypass Below 120° - 140 °F (49° - 60 °C)
Full Oil Flow 140 °F (60 °C)
Pressure Bypass 50 psi (350 kPa)

1.4 Specifications

BRAKES:

Type Multi disc, wet
Activated (Integral) Spring Applied Hydraulic Release (SAHR)

EXHAUST:

Type Silencer With spark arrestor
Inlet Diameter 4 in. (102 mm)

FUEL TANK:

Capacity 295 U.S. gal (1117 litres)
Fill Opening 3.5 in. (89mm) Strainer in opening
Level Sender Variable Resistor Full - 30 ohms
Empty - 240 ohms

FUEL/WATER SEPARATOR:

Type Replaceable Element - at fuel tank

FUEL FILTERS:

Type Spin - on cartridge

HYDRAULIC FILL PUMP:

Type Hand Operated Piston

ENCLOSURE OPEN PUMP:

Type Piston-Hand operated
Selector Valve Built in, Open-Neutral-Close
Pressure Relief 3045 psi (21 MPa)



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for your reading.
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to get more information.