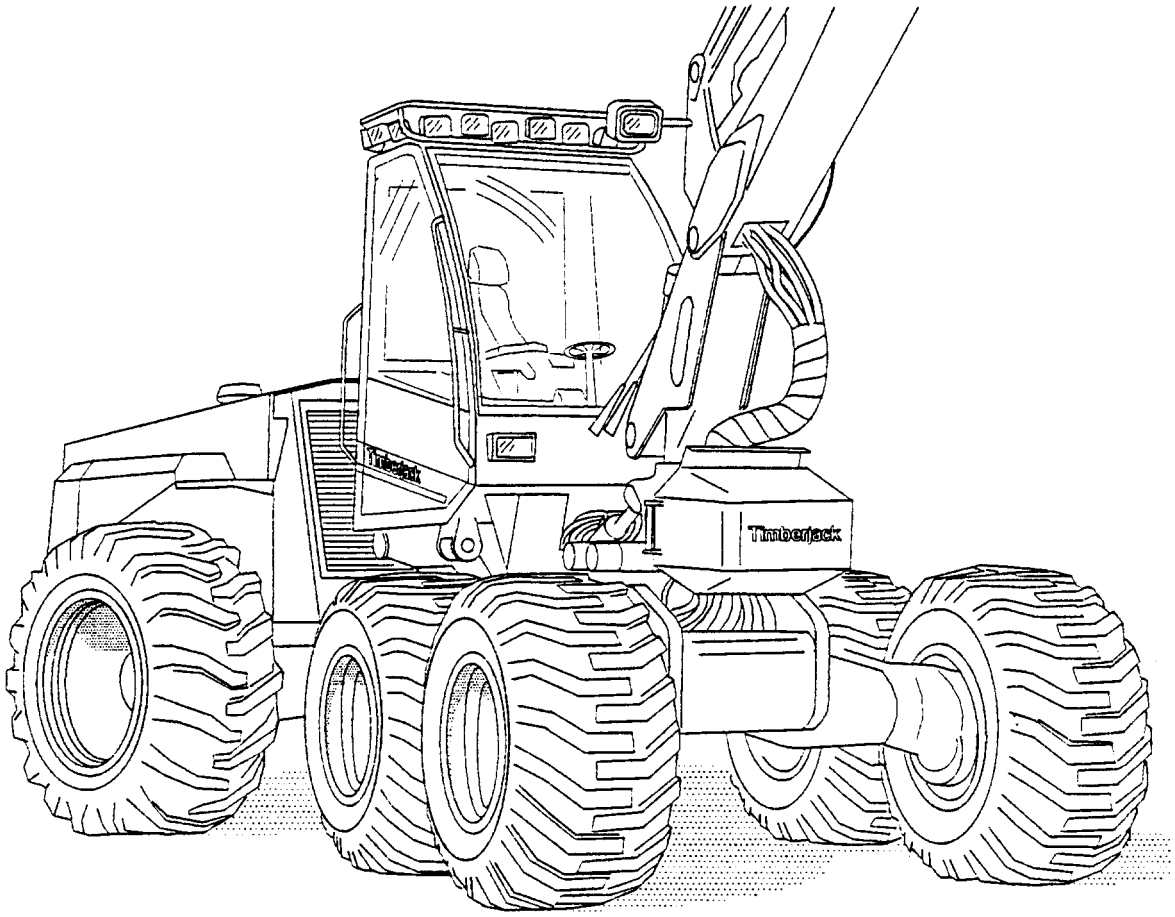
Operator's and Maintenance Manual

Timberjack 1270B

F056649



ENG

Timberjack

1. Introduction

This service manual describes the maintenance procedures of the Timberjack 1270B single grip harvester.

The machine may only be serviced by service personnel who have successfully completed a Timberjack service course for the 1270B.

The service manual provides you with information about the design and operation of the machine, which is necessary in order to look after the machine correctly. It will also serve as guidance for maintenance and certain adjustments.

3.4 General safety instructions

1. The machine may only be used or repaired by personnel who have received training that is approved by Timberjack. The supplier will be able to tell you where such training can be obtained.
2. Always use the seat belt.
3. Before starting, ensure that nobody is near the machine.
4. Never drive with the door open.
5. Check operation of the emergency stop every day.
6. Check the operation of the brakes before each shift.
   - Select low gear.
   - Select the direction of travel.
   - Press the foot-brake.
   - Increase engine speed to about 1500 rpm. The machine must not move.
7. Never leave the machine unattended with the engine running.
8. Never leave the cab without first lowering the head safely to the ground so that it cannot move.
9. When working on the machine, watch out for slippery surfaces, keep the foot step and platforms clean, wear protective clothes and a helmet.

NOTE! ALWAYS put the direction selector in neutral and apply the parking brake before you leave the cab.

10. Keep windows clean and keep the cab floor free from loose articles.
11. Consider the fire hazard, keep the machine clean. Check fire extinguisher equipment as instructed. See chapter 11.
12. It is your responsibility to read and follow carefully the instruction signs on the machine.

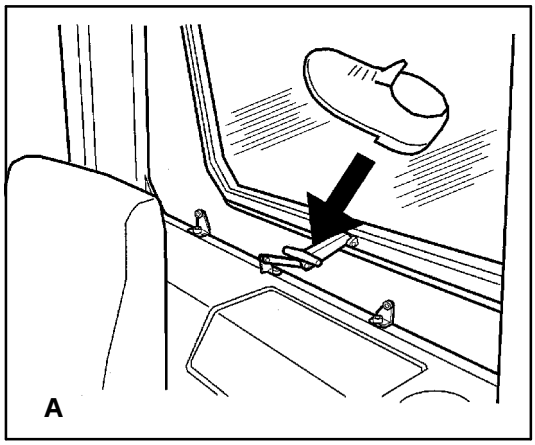
3.9 Emergency exits

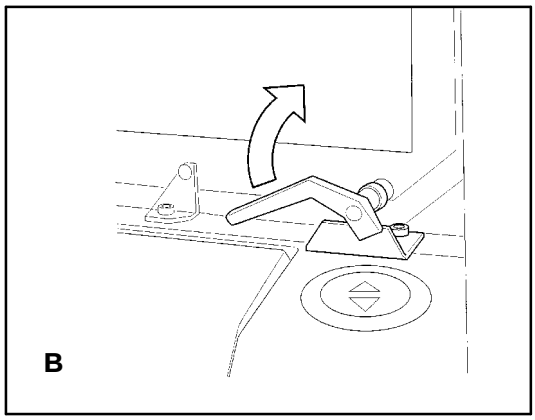
In the event of an accident the rear window can quickly be removed by:

A Releasing the handle at the bottom of the window.

B Open the window with the handles.

The right side door can also be used as an emergency exit if no urea tank is fitted.





DANGER

Always remember to unlock the right side door before you start the machine. Otherwise the door cannot be opened from outside in case of emergency.

3.10 Driving on frozen bodies of water

- Prepare to evacuate the cab quickly before driving on ice-covered water.
- Undo your safety belt and comfort belt*), if fitted.
- Make sure the doors are unlocked.
- Open the rear window.
- Make sure nothing can obstruct your rapid evacuation from the cab.
- Reset everything when you reach firm ground.
- Never park onfrozen lake.

*) optional equipment

14. Turn signal selector
15. Ladder
    Raise and lower ladder using this button. When engine is switched off or hydraulic system loses pressure the ladder is lowered. If the ladder is not raised properly a warning appears on the TMC display and the machine cannot be moved.
16. Screen wiper rear window *)
    Forward setting: Off.
    Rear setting: Press once to wipe
    Rear setting: Press hard (spring loaded) to wash rear window.
17. Warning light
    Water filter, diesel fuel *)
18. Switch TMC, measurement system and loader.
    The engine cannot be started until TMC is switched on. Audible and visual signals indicate when the TMC display is ready. These functions are disengaged when a door is opened. Cannot be started until the doors are closed.
19. Cigarette lighter
20. Horn
21. Vacuum pump
    Turn ignition switch to vacuum pump setting before switching on (21). If the machine is started the vacuum pump will be switched off.
22. All wheel driveOperates at all times when low gear is selected.
    Operates in higher gears if the lock is pulled back and the switch is released.

*) optional equipment

5. Operating instructions

5.1 Check before starting:

- The isolator switch is ON
- Oil and coolant levels
- Hydraulic oil level
- Fuel level
- Firefighting equipment, see chapter 11.
- Parking brake is ON
- Emergency stop button is pulled out
- Direction selector is in neutral
- Put on your safety belt

DANGER

Risk zone 70 m.
Make sure no-one is inside this zone.

6. Maintenance

Lubrication and maintenance routines are divided into regular intervals:

- Daily maintenance or after every 10 hours.
- Weekly maintenance or after every 50 hours.
- After every 250 running hours.
- After every 450 running hours.
- After every 900 running hours.
- After every 1800 running hours.

NOTE! For information on lubricating and maintaining the single grip harvester head see the separate manual. This section deals only with the base machine and loader.

6.1 Working with oils

Work that involves contact with oils may lead to skin problems.

Strict hygiene should therefore ALWAYS be observed.

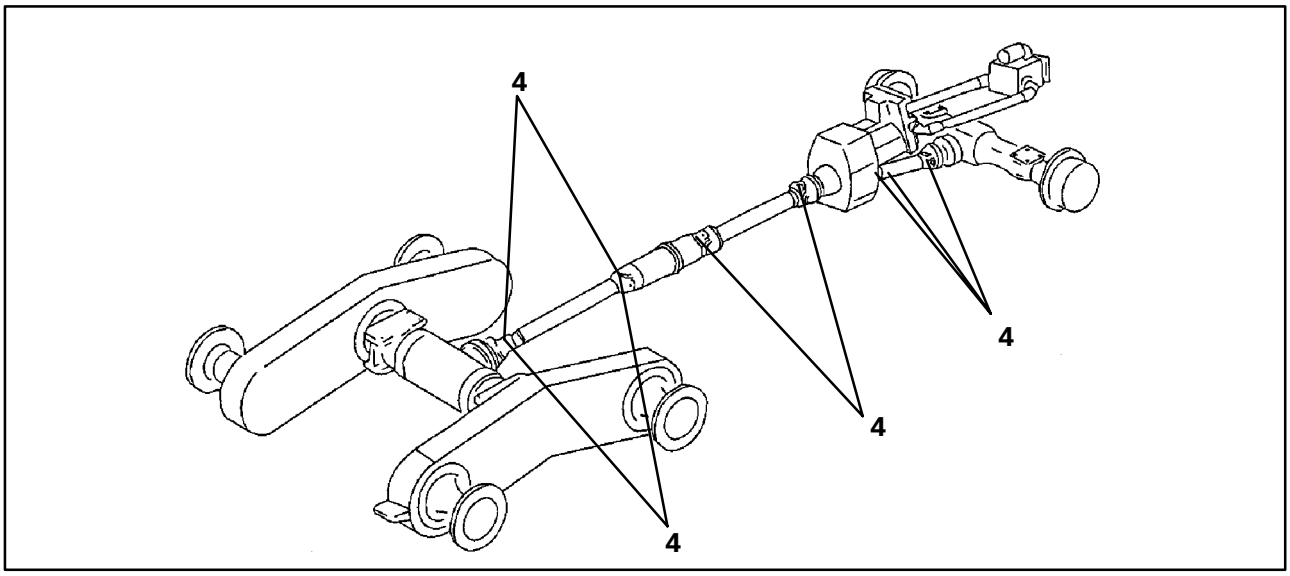
Some advice to remember:

- If possible avoid contact with oil, especially hot oil!
- Skin that has been exposed to oil should be washed immediately.
- Wear protective gloves!
- Avoid breathing in oil fumes!

Daily or every 10 hours	Weekly, or every 50 hours	Every 250 hours	Every 450 hours	Every 900 hours	Every 1,800 hours	Annually	SERVICE POINTS
			x				Check wear on banking lock
			x				Change engine oil and oil filter
			x				Change fuel filter
			x				Lubricate all propeller shafts and joints
			x				Clean water separator for fuel tank
				x			Check air–tightness of inlet and exhaust pipes
				x			Change coolant filter
				x			Change fuel filter
				x			Change hydraulic oil
				x			Change return filter in hydraulic tank
				x			Change transmission filter
				x			Change venting filter on hydraulic oil tank
					x		Check fire–fighting equipment
					x		Check diesel engine valve clearance, nozzles, starter motor and alternator
					x		Change oil in front and rear axles, hub gearing and gearbox
					x		Change oil in loader slew housing
					x		Change oil in bogie casing, see manual
						x	Change coolant

Lubricate:

4. **All propeller shafts and joints**

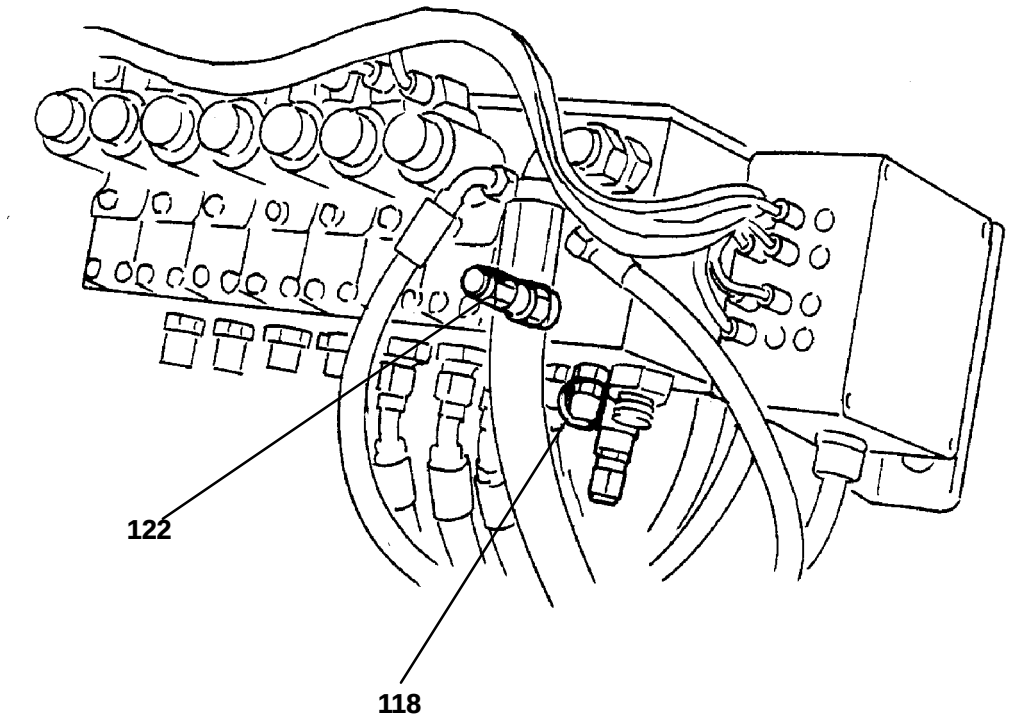


Clean:

5. **Water separator for fuel tank**
   If there is any water, drain the fuel tank.
6. **Head**
   See separate manual.

6.12.6 Checking and adjusting backfill valve (122)

1. Connect a 6.0 MPa manometer to the measuring output (118), on the SMX valve.
2. Start the diesel engine.
3. Read the pressure from the manometer. It should be between 0.5 and 0.6 MPa.
4. Tighten valve (122) until a hissing sound can be heard from the non-return valve (119) as it opens.
5. Then loosen valve (122) until the noise stops. The backfill valve is now set to 0.6 MPa.



7.4 Loader hydraulics

101. Hydraulic ram, frame brake
102. Hydraulic ram, tilting
103. Rotating ram, grane swing
104. Rotator
105. Extension ram
106. Hydraulic ram, main boom lifting
107. Parallel ram
108. Hydraulic ram, steering
109. Valve, frame brake
110. Safety valve 25 MPa
111. Electrical valve, frame brake
112. Non–return valve
113. Pressure measuring nipple
114. Pressure measuring nipple
117. Directional valve, loader, Vicker CMX 100
118. Pressure output
119. Non–return valve, opening pressure 0.7 MPa
120. Shuttle valve
121. Servo pressure valve 3.0 – 3.5 MPa
122. Backfill valve 0.5 – 0.6 MPa
123. Electrical valve, starting pressure refucer
124. Electrical valve, lifting booster

8. Electrical system

8.1 Batteries

- The machine has a negative earth electrical system. It is equipped with two 12 volt batteries connected in series to provide 24 volts and a capacity of 140 Ah.
- The batteries are located on the left side of the engine.
- The following equipment is connected directly to the batteries:
  Fire fighting equipment *) and engine/ cab heater *).
  All other equipment is supplied via the isolator switch.
- If auxiliary batteries are required for starting, see 8–6.

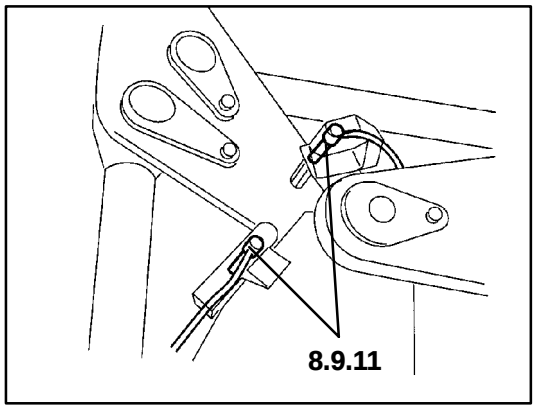
CAUTION

The manufacturer cannot accept responsibility for modifications to the electrical system of the machine. Such modifications could disable the safety system of the machine.

*) optional equipment

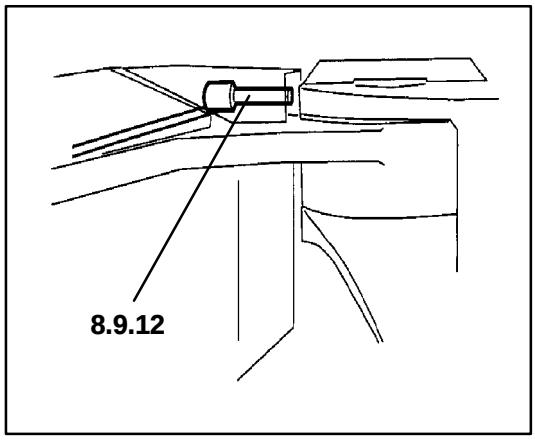
8.9.11 Position sensor, loader arm

Function speed is slowed when the sensor is activated. The slowing of function speed can be adjusted in TMC.



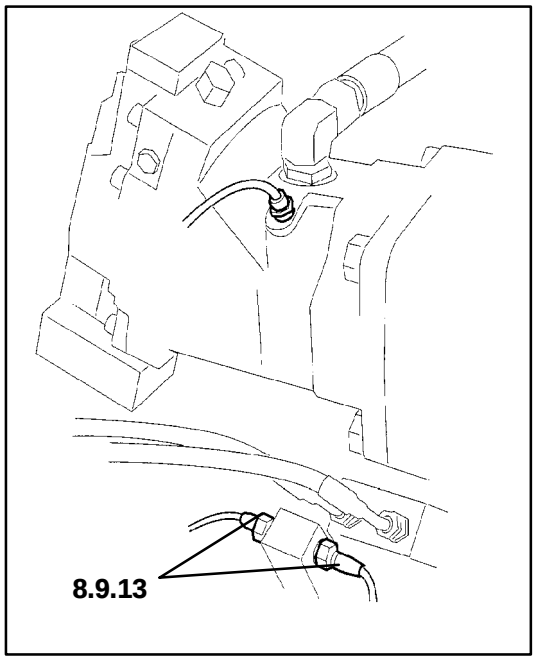
8.9.12 Position sensor, center

Function speed is slowed when the sensor is activated. The slowing of function speed can be adjusted in TMC.



8.9.13 Gearbox sensor

Indicates which gear is selected. This is displayed on the TMC screen.



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No.	Name	Diagram	Location
A4	Radio	415G	Cab
A5	L,R loudspeaker	415L	Cab
A10	Seat module, TMC	403P	Cab
B29	24/12 V converter	415N	Cab roof
B40	Sensor, stage up	402F	Stage
B41	Sensor, wheel driving position	403H	Orbitrol
C2	37 pole connection	409M	Cab floor
C7	4 pole connection	411I	Cab roof
C41	37 pole connection	402I	Cab floor
C42	2 pole output, 12 V, radio	415J	Cab roof
C43	2 pole output, 12 V	417L	Cab roof
C44	2 pole output, 12 V, printer	417N	Cab roof
C45	2 pole output, 24 V, seat heater	418P	Seat
C51	2 pole output, 24 V	419P	Cab, right wall
E3	Inside lights	411K	Cab
F1-2	Fuse, inside lights	411G	Central electr. unit, F1
F1-7	Fuse, 24 V output	418G	Central electr. unit, F1
F2-2	Fuse, seat heater	417G	Central electr. unit, F2
F2-3	Fuse, emergency stop	408G	Central electr. unit, F2
F2-8	Fuse, sensor stage/wheel	404G	Central electr. unit, F2
F1-E3	Relay, TMC	405K	Central electr. unit, F1
F1-E4	Relay, TMC	406K	Central electr. unit, F1
R6	Resistor, 1 kohm	401M	Seat module
R7	Resistor, 1 kohm	404M	Seat module
S24	Switch, door	410Q	Door
S24.A	Door switch, central electr. unit	410V	Central electr. unit
S55	Switch, working revs	407U	Instrument panel
S56	Emergency stop	408L	Instrument panel
S62	Changeover high/low gear	405U	Instrument panel
S78	Switch, banking lock	401K	Instrument panel
S81	Switch, stage up/down	403U	Instrument panel
S82	Start button, TMC	409J	Instrument panel
V2	Diode	406I	Central electr. unit, F2-14
V22	Overvoltage protection	415N	Converter

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No.	Name	Diagram	Location
B3	Horn	808R	Under cab
C2	37 pole connection	812P	Cab floor
C37	Trailer output	805P	Cab wall, front
C38	Trailer output	806P	Cab wall, front
C39	2-pole connection	810R	Engine hood
C41	37 pole connection	807M	Cab floor
E11	Head light, left	814V	Front chassis
E12	Tail light, left	812V	Rear chassis
E13	Head light, right	815V	Front chassis
E14	Tail light, right	812V	Rear chassis
E15	Full/half beam, left	817T	Cab, front
E16	Full/half beam, right	818T	Cab, front
E37	Service light	810T	Engine hood
F1-6	Fuse, flashers, brake light	801F	Central electrical unit, F1
F2-9	Fuse, light, timed heater	811G	Central electrical unit, F2
F2-10	Fuse, tail light left	811G	Central electrical unit, F2
F2-11	Fuse, tail light right	812G	Central electrical unit, F2
F2-12	Fuse, head light left	813G	Central electrical unit, F2
F2-13	Fuse, head light right	814G	Central electrical unit, F2
F2-25	Fuse, half beam	817G	Central electrical unit, F2
F2-26	Fuse, head lights	818G	Central electrical unit, F2
H6	Flasher light, front left	805V	Front chassis
H7	Flasher light, back left	803V	Rear chassis
H8	Flasher light, front right	806V	Front chassis
H9	Flasher light, back right	804V	Rear chassis
H10	Brake light, left	807V	Rear chassis
H11	Brake light, right	808Y	Rear chassis
K4	Flasher relay	801J	Central electrical unit
S13	Switch, horn	808J	Instrument panel
S14	Switch, hazard lights	802O	Instrument panel
S15	Changeover, direction	805K	Instrument panel
S16	Switch, brake light	807K	Brake block
S18	Switch, lights	815M	Instrument panel
S86	Switch, service light	810O	Central electrical unit
V27	Diode	802L	S14
V28	Diode	802L	S14
X1	Trailer output	807R	Rear chassis

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No.	Name	Diagram	Location
A12	MCM, Tj3000	1308M	Central electrical unit
A20	RS-232 Contact device, to optional equipment	1303D	Cab
A21	RS-232 Contact device, to optional equipment	1302V	Cab
A22	Adapter	1311R	Cab roof
A23	Printer	1311X	Cab roof
A24	RS-232 Contact device, to optional equipment	1314X	Cab
B8	Sensor, machine time	1306E	Central electrical unit
C2	37 pole connection	1318Q	Cab floor
C10	2 pole connection	1316E	Cab floor
C12	3 pole connection	1313I	Central electrical unit
C41	37 pole connection	1316I	Cab floor
F1-24	Fuse (Saw lubrication)	1308D	Central electrical unit, FI
K5	Relay	1311H	Central electrical unit
K7	Control circuit (Saw lubrication)	1309D	Cab
M1	25 pole connection, D sub	1313O	MCM
M2	9 pole connection, D sub	1302O	MCM
M3	15 pole connection, D sub	1302K	MCM
M4	9 pole connection, D sub	1311O	MCM
M6	9 pole connection, D sub	1308O	MCM
M7	9 pole connection, D sub	1312K	MCM
M8	7 pole connection	1305O	MCM
M9	4 pole connection	1316K	MCM
M10	4 pole connection	1314K	MCM
M11	4 pole connection	1310K	MCM
V7	Diode	1314H	In cable
V8	Diode	1314H	In cable
Y85	Valve, operating pressure, head	1317U	Under cab
Y159	Valve	1312E	Side of the cab
Y549	Valve Urea	1318F	Harvester head

9. Transmission

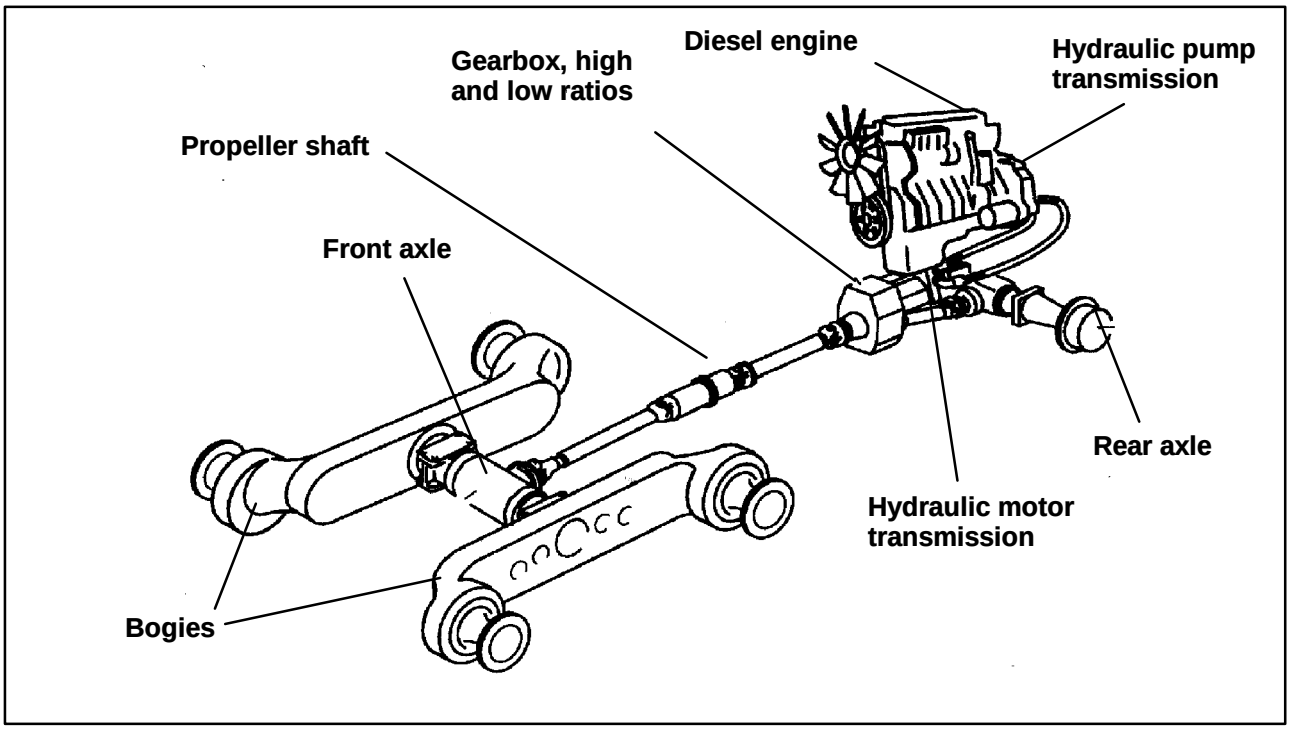
Power is transmitted between the engine and wheels by a hydro-mechanical system.

The hydraulic section comprises a hydrostatic link between the engine and gearbox, consisting of an hydraulic pump and hydraulic motor. This provides continuously variable speed control and gearchange between forward and reverse.

The hydraulic motor, which is mounted on the input drive shaft of the gearbox, transmits power to the ring gear transmission of the gearbox, high and low ratios. Power is transmitted through the propeller shafts to the front and rear differentials, and finally to the driving wheels.

9.1 Brakes

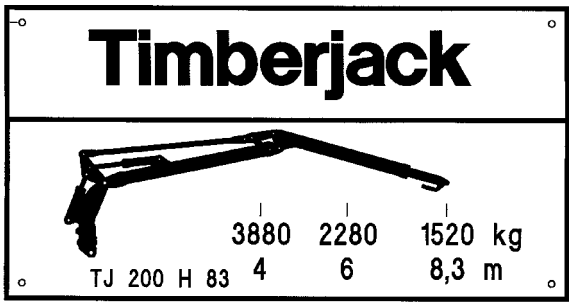
Multi-disc brakes (4) on both axles. Emergency brake, road brakes and parking brake.



10. Crane

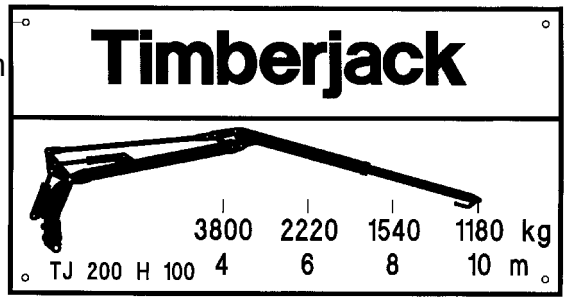
10.1 TJ 200 H 83

Liftingmoment,	gross	168 kNm
Outreach,	max	8380 mm
Stroke of boom extension.		800 mm
Slewing torque,	gross	43,6 kNm
Slewing angle,		195/236°
Weight,	without oil	2450 kg



10.2 TJ 200 H 100

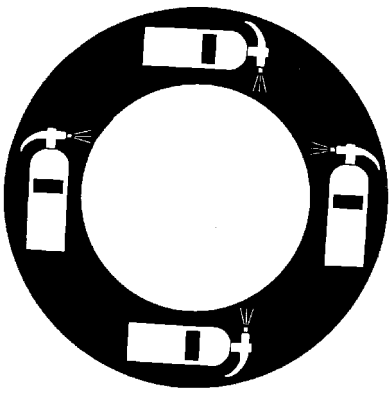
Liftingmoment,	gross	168 kNm
Outreach,	max	10030 mm
Stroke of boom extension.		2500 mm
Slewing torque,	gross	43,6 kNm
Slewing angle,		195/236°
Weight,	without oil	2540 kg



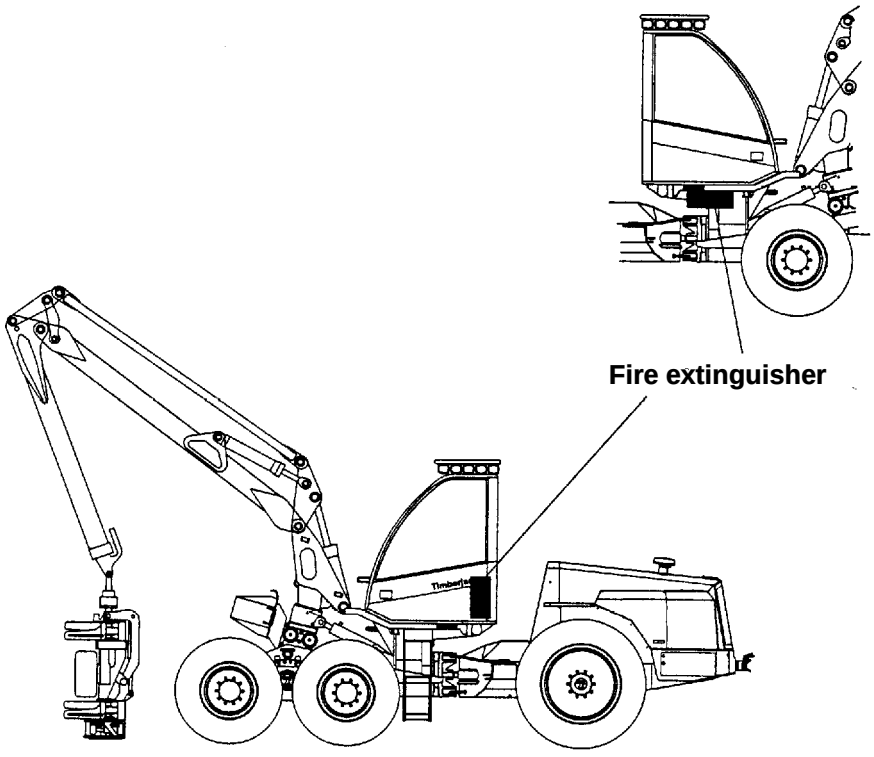
11.2 Portable fire extinguishers

The machine is equipped with 2 portable fire extinguishers. One is located in the cab at the rear of the left door. The other is located under the right side platform near the cab.

The portable fire extinguishers should be used for fighting fires and for ensuring that a fire is out after the sprinkler system *) has been activated.



This decal marks the hole through which to fight a fire with a portable extinguisher.



*)optional equipment