

# Timberjack 810D Forwarder,

(Serial No. WJ810D0001405-- }

## OPERATOR'S MANUAL 810D

OMF064833 Issue 01.12.2003 (ENGLISH)

### 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.

If this product contains a gasoline engine:

### **WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

The State of California requires the above two warnings.

**Worldwide Construction  
And Forestry Division**  
Printed in Finland

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# Warranty

## Standard warranty clauses

The machine is covered by Timberjack's guarantee in compliance with the standard warranty clauses accepted by the Timberjack group.

The manufacturer will not assume responsibility for the machines delivered should the following conditions be violated:

- The forwarder is exclusively operated and maintained by experienced personnel who have been trained by Timberjack or by a dealer authorized by Timberjack.
- The forwarder must be operated and maintained in accordance with the instructions provided in this manual.
- Only fuels and lubricants specified in this manual are used.
- Only genuine spare parts are used

EL62757,000015D -19-19APR02-1/1

## 250 and 1000 Hours Service

The forwarder was checked and test driven before delivery, and it can be put to use immediately. However, to ensure good reliability it is very important to thoroughly service the machine once it has been put to use.

The warranty given by Timberjack will be valid provided that the machine is handed over for after sales maintenance at 250 and 1000 running hours, the service shop being one authorized by Timberjack.

Naturally the validity of warranty requires that during the warranty period all the maintenance procedures have to be performed according to the maintenance intervals detailed in this manual.

EL62757,000015E -19-19APR02-1/1

## Handle Starting Fluid Safely

**CAUTION:** Never use a liquid starting aid, if engine is equipped with the pre-heat device. The use with the pre-heat device will cause an explosion in the intake manifold.

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.



TS1356 -UN-18MAR92

OUTJ003,000068F -19-14MAY01-1/1

## Pay Attention to Bystanders

Keep windows clean and the cab floor free from loose articles.

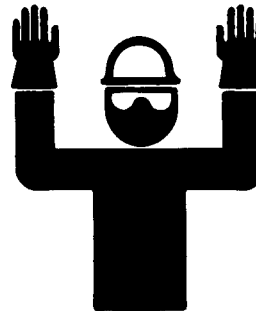
Keep the door closed when driving the machine. Do not operate the machine with any of the safety covers or protective devices removed.

Always keep the reverse warning alarm (if equipped) in working condition.

Use a signal person when moving the machine in congested areas (for example indoor service shop)  
Coordinate hand signals before starting the machine.

The machine must not be operated by anyone under the influence of alcohol or drugs.

Avoid using the machine when you are tired or ill, as there is a greater risk of accident. Take sufficient breaks and observe local regulations on working hours.



T6964AD -UN-20DEC88

TX,05,FF3319 -19-08FEB93-1/1

## Use Proper Tools

Use appropriate and correct size tools. Makeshift tools and procedures can create safety hazards or cause machine damages.

Illuminate your work area and service points adequately. Secure that portable light has a bulb enclosed by a wire cage. The hot filament of an accidentally broken bulb can cause a risk of fire.

Use power tools only to loosen threaded parts and fasteners. DO NOT use U.S. measurement tools on metric fasteners.

Keep tools clean. Avoid bodily injury caused by slipping wrenches.

Repair or replace worn or damaged tools, before initiating repair work on your machine.

Use only service parts meeting manufacturer's specifications.



TS779 -UN-08NOV89

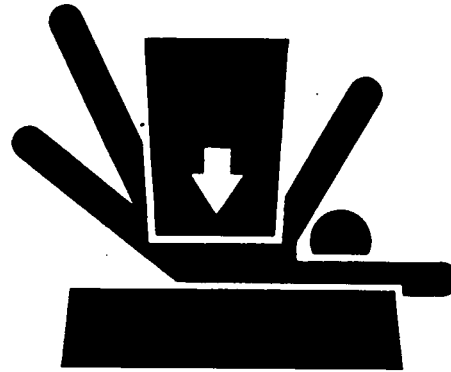
OUTJ003,00005AB -19-09MAY01-1/1

## Support Machine Properly

Use proper lifting equipment. Lifting heavy components incorrectly can cause severe injury or machine damage.

Follow recommended procedure for removal and installation of components in the manual. Make sure that jack stands and lifting equipment are in good condition and of adequate capacity.

Do not work under a machine that is supported solely by a jack. If left in a raised position, hydraulically supported devices can settle or leak down.



TS229 -UN-23AUG88

AK12300,000004F -19-28FEB02-1/1

## Start Key Positions

P—Vacuum pump (opt. eq.)

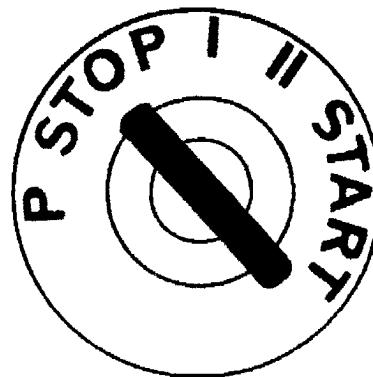
STOP—Engine turn-off

I—Power on

II— Empty

START—Starting.

In positions Start and II the load on the working hydraulic pump is relieved making it easier for the engine to run



T152192 -JUN-05MAR02

EL62757,000016E -19-19APR02-1/1

## Signal Lights

1—Turning signal

2—High beam

3—Work spot lights

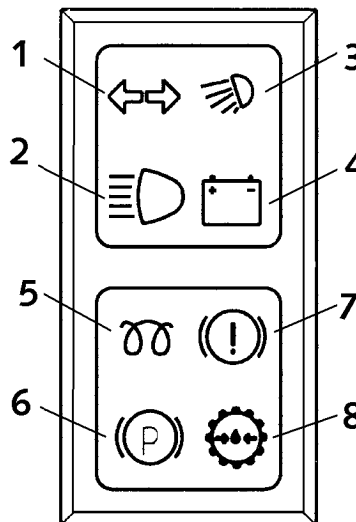
4—Battery charging

5—Glow light

6—Parking brake

7—Brake system charge pressure

8—Supply pressure of driving hydraulics



T164093 -JUN-30JAN03

EL62757,0000170 -19-19APR02-1/1

## **Alarms**

The TMC™ control system is equipped with a condition-monitoring system that greatly facilitates the use and maintenance of the system. The alarms are recorded in the alarm log.

The alarms are registered in ECU but they can be glanced only in TMC.

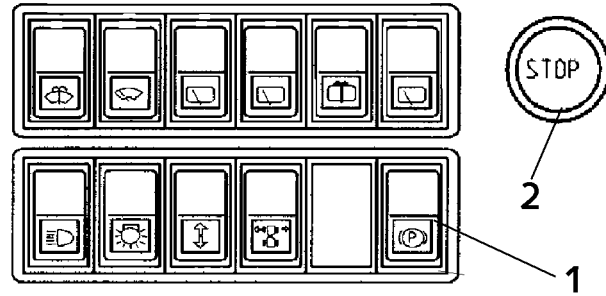
There are two kind of alarms: active and previous active (see the TMC manual<sup>1</sup> attached).

<sup>1</sup>See alarms -section in TMC manual.

## Normal Start

**NOTE:** Make sure that there are no people within the danger zone around the forwarder.

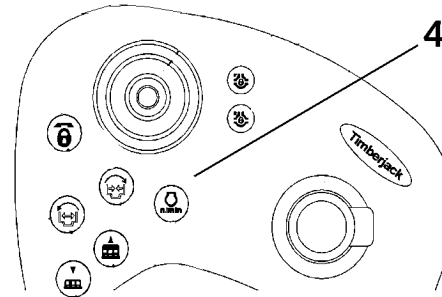
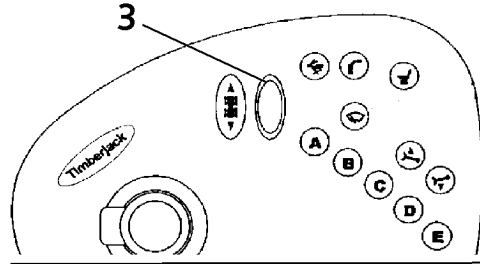
1. Engage the parking brake (1) (the forwarder will start only if the parking brake is on).
2. Check that the switch for driving direction (3) is in the middle position and the emergency stopper (2) in the upper position.



T160198 -UN-07OCT02

**IMPORTANT:** Do not start the engine when the preheater is on.

3. Make sure that working RPMs (4) is disengaged.
4. Turn the start key to the I position. Check that the warning lights function properly.
5. Wait until you hear the TMC signal and the basic menu appears in the display module.
6. Turn the ignition key to start (position START).
7. Release the ignition key immediately when the engine fires.
8. See that the oil pressure signal light disappears from the TMC display.



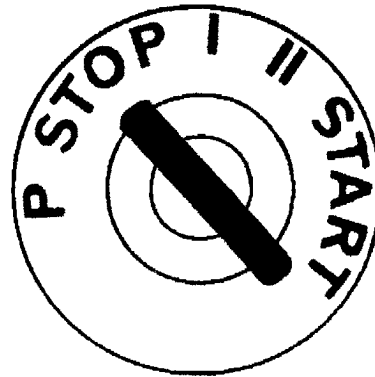
T160197 -UN-16OCT02

**IMPORTANT:** Don't operate the starting motor longer than 30 seconds at the time. The starter may overheat.

Allow the starter motor to cool down for appr.2 minutes. After that, try again. Should the engine still refuse to start after four tries, find out what is wrong.

**NOTE:** The engine and starter motor must be at a complete standstill before you try to start again.

9. Check that all gauges function correctly.



T152192 -UN-05MAR02

# Towing the Machine

## Towing

As a result of a machine failure it may be necessary to tow the machine when it comes to a halt on a public road or if you have to transfer the machine to proper repair facilities.

The machine cannot be towed unless some or all of the following actions are taken:

1. Release the parking brake.
2. Release the driving power transmission system
3. Release the work brake.
4. Release the steering.

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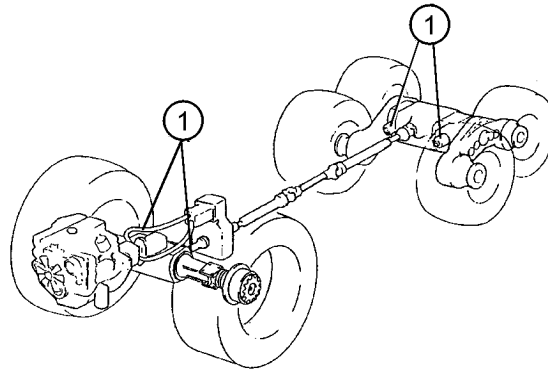
**CAUTION:** Once the above steps have been taken, the machine cannot be properly controlled anymore. Therefore, it is of utmost importance to ensure that nobody is placed in jeopardy during the towing process or during installation work. Make sure that no outsider enters the risk zone around the machine.

**NOTE:** We strongly recommend you use a rigid towing linkage for towing. Make sure that the machine is adequately supported before anybody embarks on repairing the machine.

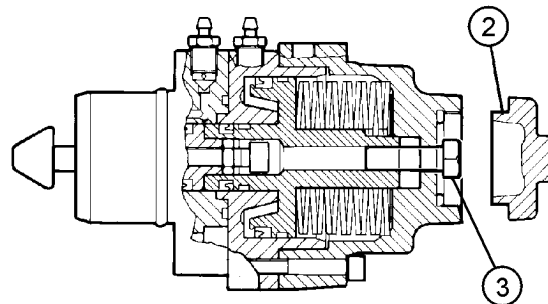
### How to Release the Parking Brake

- Open the underpan.
- Remove the cover at the end of the brake cylinder.
- Screw down the release screw (under the cover) to release the brake.
- Repeat the procedure for each brake cylinder.
- After towing, the release screws must be removed.

There are four brake cylinders in all. Two of these are for the front axle and two for the rear axle.



T144065 -UN-18JUL01



T142813 -UN-13JUN01

- 1—Brake cylinders
- 2—Brake cylinder cover
- 3—Release screw of the brakes

Continued on next page

EL62757,0000194 -19-21APR02-2/5

## Handling And Storing Diesel Fuel

**CAUTION:** Handle fuel carefully. Do not fill the fuel tank when engine is running.

**DO NOT** smoke while you fill the fuel tank or service the fuel system.

- Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.
- Keep all storage tanks as full as practicable to minimize condensation..
- Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering.
- Monitor water content of the fuel regularly.
- Fuel filter may require more frequent replacement due to premature plugging.
- When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel and prevent water condensation. Contact your fuel supplier for recommendations.

### Monitoring the quality of the fuel

DIESELSCAN™ is a John Deere fuel sampling program help you monitor the quality of your fuel source.

It verifies fuel type, cleanliness, water content, suitability for cold weather operation, and if fuel is within ASTM specifications.

Check with your John Deere dealer for availability of DIESELSCAN kits.

### Minimizing the Effect of Cold Weather on Diesel Engines

- Use Grade No. 1-D Fuel When temperatures fall below 5°C (40°F),
- Coolant Heaters Engine block heaters (coolant) if equipped.
- Use Seasonal Viscosity Oil and Proper Coolant Concentration



TSS202 -JUN-23AUG88

## Cleaning the Cab Windows

### 1. General cleaning

Wash the windows with lukewarm water and a mild, neutral, liquid detergent. Rinse well with clean water. Dry thoroughly to avoid water marks, using a soft and clean cloth

### 2. Cleaning vehicle windows during operation

Always spray the window before wiping. Thoroughly spray the window so that the wipers do not run dry. Ensure that the window washer bottle is topped up frequently with a mixture of water and window wash fluid.

### 3. Removing stains

Remove stains of resin, paint, grease, oil, etc, before the stain has time to dry.

Use a soft cloth moistened with one of the following approved solvents.

- Pure isopropyl alcohol, IPA
- White spirit
- Heptane
- Light petroleum
- Butyl ethyl glycol
- Methanol
- Hexane
- Butanol

After removing stains, wash the window as described above

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## Check Engine Oil Level

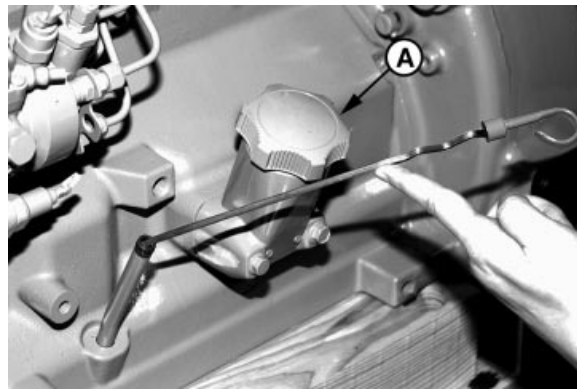
Do the following BEFORE STARTING THE ENGINE for the first time each day:

**IMPORTANT: DO NOT** add makeup oil until the oil level is **BELOW** the add mark.

- The oil dipstick is located on the left-hand side of the engine.
- If required, add oil through the oil filler hole (A).

**IMPORTANT: Do not fill above the top mark on the dipstick.**

**Oil levels anywhere within crosshatch are considered in the acceptable operating range.**



RG8028 -UN-15JAN99

RG8009A -UN-16JUN00



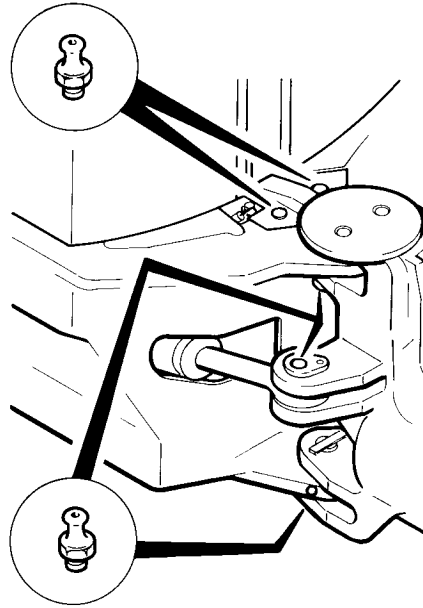
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# Maintenance - Every 50 hours or Weekly

Grease the center hinge bearings and steering cylinder bearings.

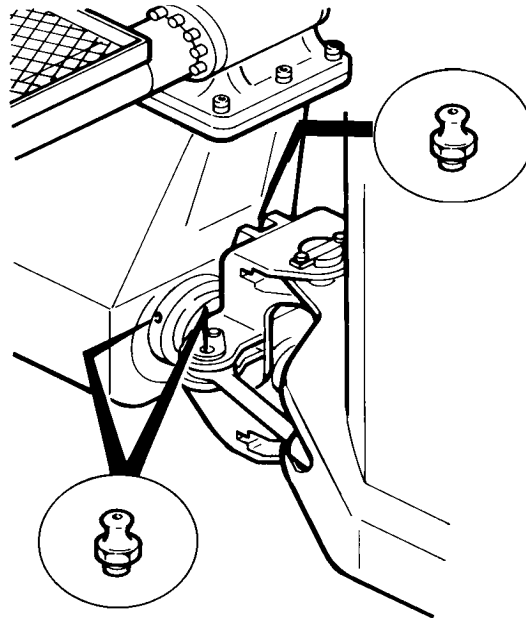
**CAUTION:** Crushing injury may result to persons in the hinge area if machine is turned. Install frame locking bar before working in this area.

There are five greasing points at the hinge pivot and four at the steering cylinders. When greasing the hinge pivot, also check visually the hinge pivot clearances.



T164073 -UN-16JAN03

Center hinge bearing, left



T164074 -UN-16JAN03

Center hinge bearing, right

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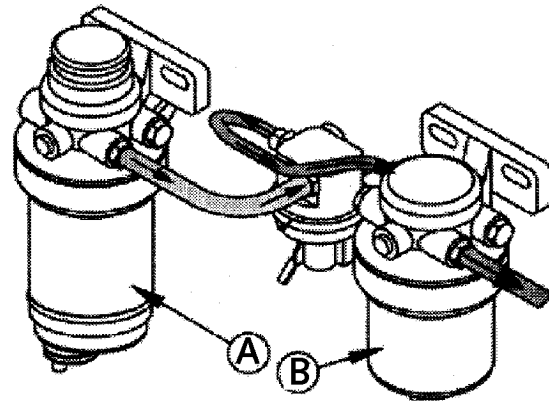
## Change the fuel filters

1. Clean dirt and debris from and around the fuel filter assembly
2. Open drain plug (1) in the bottom of the filter and vent screw (2) on the filter. Drain the fuel into a container.

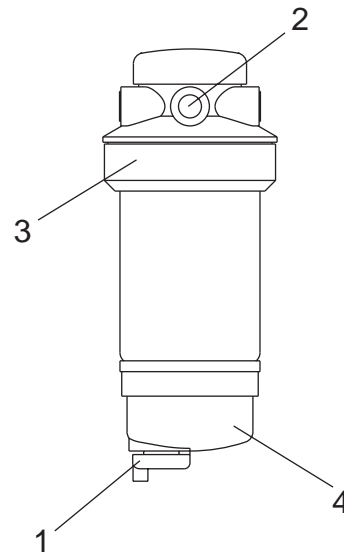
*NOTE: Lifting up on retaining ring as it is rotated helps to get it past raised locators.*

3. Firmly grasp the retaining ring (3) and rotate it counterclockwise 1/4 turn. Remove ring with filter element.
4. Inspect filter mounting base for cleanliness. Clean as required.
5. Remove filter element from water separator bowl (4). Drain and clean separator bowl. Dry with compressed air. Check also O-ring; change if needed. Install water separator bowl onto new element. Tighten securely.
6. Fill the new filters with clean fuel. Fit the filters back.
7. Install retaining ring onto mounting base making certain dust seal is in place on filter base. Hand tighten ring (about 1/3 turn) until it "snaps" into the detent. DO NOT overtighten retaining ring.
8. Bleed the fuel system. See chapter: Maintenance as required.

- A—Primary Fuel Filter
- B—Final Fuel Filter
- 1—Drain plug
- 2—Vent screw
- 3—Retaining ring
- 4—Water bowl



T162349 -UN-02DEC02



T160019 -UN-01OCT02

EL62757,0000060 -67-16OCT02-1/1

**Twist the filter element clockwise and check that it is locked inside the canister! You maybe need to press the filter while twisting it.**

7. Place the filter assembly in the tank together with the spring (8). Screw the cover (10) on.
8. Start the engine and run for 5 minutes. Stop the engine
9. Check for any leakage at filter cover.
10. Close the vent screw.
11. Check oil level in tank. Add oil if necessary.

The filters are equipped with a pressure sensor. If the pressure sensor sets off an alarm, renew the filter. Otherwise, stick to maintenance periods.

Replace the hydraulic tank breather (3) every 1000 hours.

**Check and tighten the bolts for the joints  
between axles and frame**

Item	Measurement	Specification
Horizontal and Vertical bolts	Torque	950 Nm

Check and tighten the bolts for the joints between axles and frame every 2000 h.

EL62757,0000123 -19-10APR02-1/1

# Hydraulic System: General

## Working hydraulic system

The working hydraulics system includes all other hydraulic functions except driving hydrostatics.

The hydraulic system is load sensing, i.e., it senses how much pressure is required when a particular function is activated.

The pump supplies only the amount of fluid required in each situation, and no fluid is circulated by the pump when all functions are at rest.

EL62757\_0000196 -19-21APR02-1/1

## Hydrostatic system

The hydraulic part is a hydrostatic link between the engine and gearbox, consisting of a hydraulic pump and a hydraulic motor. Infinitely variable speed control and gear shifting between forward and reverse is achieved.

See also Section 9.

EL62757\_0000197 -19-21APR02-1/1

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11. When the pressure at (214) reaches 36 MPa (5221 psi) the pressure at (216) should then be  $14 \pm 2$  MPa ( $2030 \pm 290$  psi).

- a. If (214) reaches 36 MPa (5221 psi) and the value at (216) is **higher** than  $14 \pm 2$  MPa ( $2030 \pm 290$  psi) , turn the adjusting screw (217) counterclockwise in small increments and repeat the test.
- b. If (214) reaches 36 MPa (5221 psi) and the value at (216) is **lower** than  $14 \pm 2$  MPa ( $2030 \pm 290$  psi), turn the adjusting screw (217) clockwise in small increments and repeat the test.



1—Main switch  
2—Power outlet

12. Disconnect the cable between the power outlet and the position C
13. Connect back the connector of the motor steering (pos. C) .
14. After making the adjustment, fit the solenoid into the valve and tighten the lockscrew hand tight

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## Brake Charging Pressure

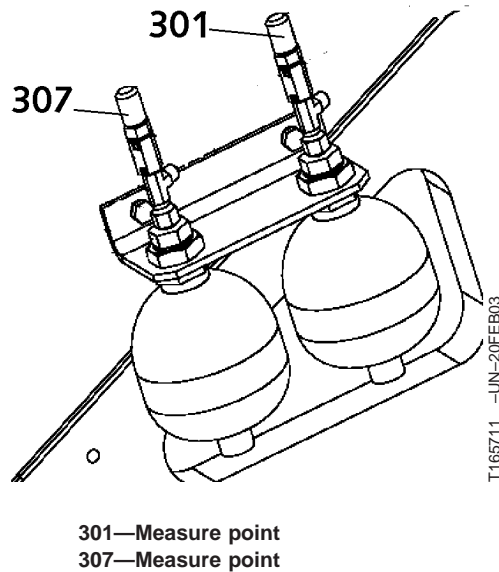
**CAUTION:** Do not ever disconnect any brake system hose joints before all pressure has been eliminated from pressure accumulators.

Connect a pressure sensor (0...30 MPa) (0...4351 psi) to pressure measuring points (307) and (301).

*NOTE: The pressure is the same with that of the pressure accumulators*

1. Turn the start key to I position and wait until you hear the TMC signal. Start the engine.
2. Disengage the parking brake and wait until the pressure has risen to 15,0...16,0 MPa (2175...2320 psi).
3. Engage and disengage the parking brake a number of times.  
The pressure reading measured from measuring points (307) and (301) should drop

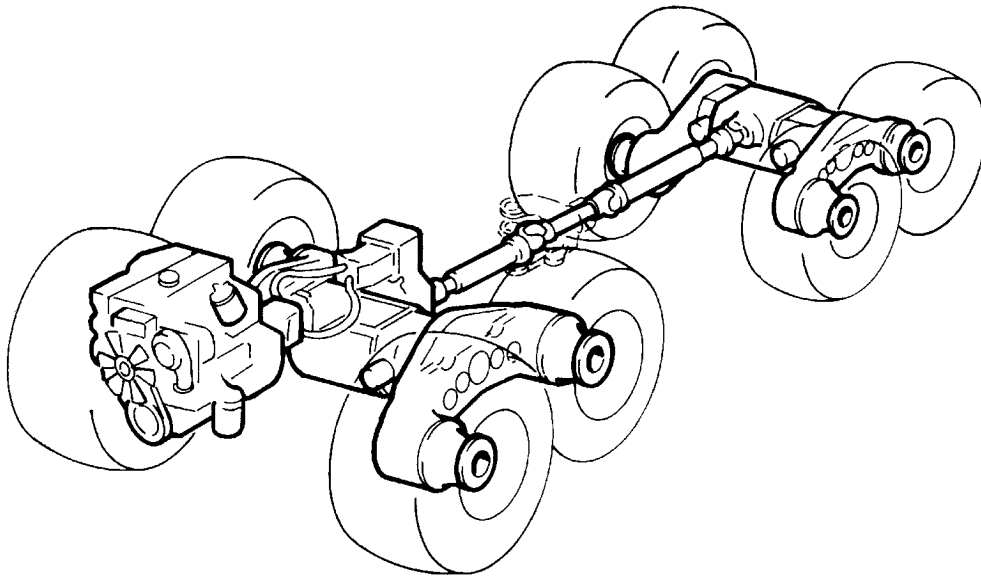
The charging system of the pressure accumulators should be activated as soon as the pressure drops to 13,0 ... 14,5 MPa (1885...2103 psi), and disengaged when the pressure has risen to 16,0 MPa (2320 psi).



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# Transmission

## Operating Power Transmission



T152540 -JUN-07FEB03

The hydrostatic-mechanical power transmission can be divided into three main parts: mechanical, hydraulic, and electrical part.

The hydraulic section consists of a hydraulic motor connected to the high/low transfer case and of a hydraulic pump connected to the diesel engine.

The mechanical part consists of the high/low transfer case, drive shafts, differentials, and bogies.

EL62757,00001B7 -19-21APR02-1/1

## High/Low Gear

The high/low transfer case is located at the back of the front frame. The power generated by the hydraulic motor is distributed by the high/low transfer case (through the drive shafts) to the front differential and rear differential.

The gear is shifted with the switch on the right-hand-side control panel (see Section 4). The switch controls a hydraulic cylinder via an electrical valve.

EL62757,00001C3 -19-22APR02-1/1

**Maintenance every 50 hours**

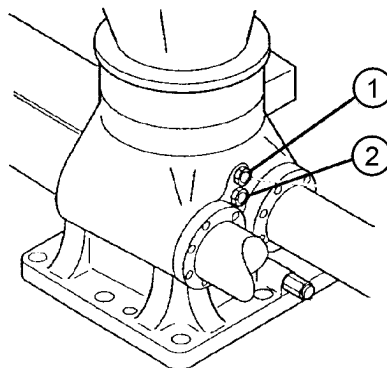
**Check the boom slewing housing oil level**

The boom slew system and the lower bearing of the tower are immersed in oil.

The oil level is checked in the measuring glass.

If the boom stands still for a long period of time, the oil level must exceed the upper mark on the measuring glass. This is to ensure that the slewing cylinder pipes will not corrode.

As necessary fill in oil through the plug (1)



Boom slewing housing

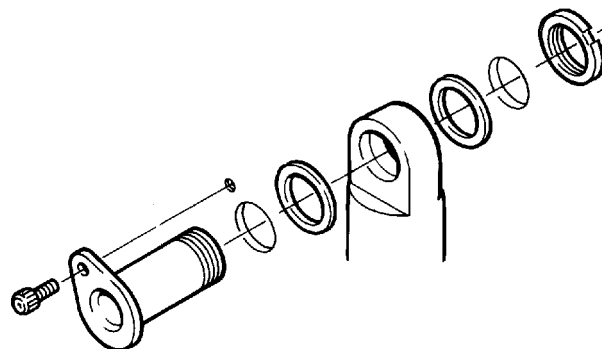
- 1—Max oil level
- 2—Min oil level

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**Check that the joint pins of the boom are secured.**

The joint pins must be well lubricated.

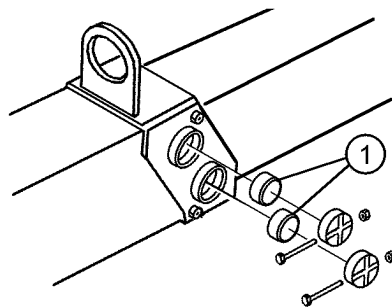


T142876 -UN-13JUN01

EL62757,00003C3 -22-06APR03-2/7

**Check the sideways clearance of the extension booms.**

If necessary, make the adjustment by simultaneously tightening the opposite slide piece covers (1) until there is no clearance at all and then back them off 1/4 turn.



T142877 -UN-13JUN01

Continued on next page

EL62757,00003C3 -22-06APR03-3/7

## Boom, Technical Data

	<b>TJ 51 F 65</b>	<b>TJ 51 F 87</b>	<b>TJ 51 F 96</b>
Gross lifting moment	64 kNm (47204 lbf-ft)	64 kNm (47204 lbf-ft)	64 kNm (47204 lbf-ft)
Net lifting moment	49 kNm (36140 lbf-ft)	43 kNm (31715 lbf-ft)	41 kNm (30240 lbf-ft)
Maximum reach	6500 mm (256 in)	8680 mm (342 in)	9560 mm (376 in)
Stroke of extension boom	1170 mm (46 in)	3000 mm (118 in)	3900 mm (154 in)
Gross slewing moment of booms	17,5 kNm (12907 lbf-ft)	17,5 kNm (12907 lbf-ft)	17,5 kNm (12907 lbf-ft)
Slewing angle of booms	380°	380°	380°
Weight without oil	880 kg (1940 lb)	1040 kg (2293 lb)	1050kg (2315 lb)

## Rotator and Grapple

	<b>GV 11-2</b>
Slewing angle	unlimited
Slewing moment (21,5 MPa)	2,4 kNm (1770 lbf-ft)
Weight	58 kg (128 lb)

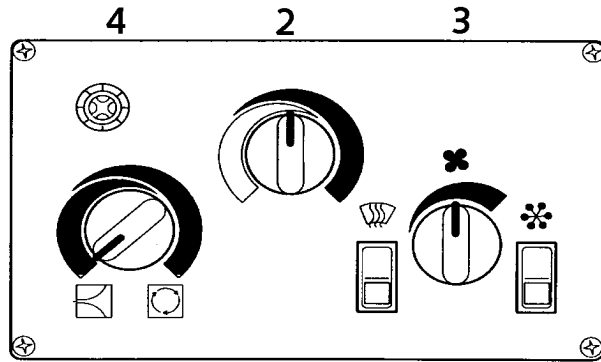
	<b>SG260</b>	<b>SG360</b>	<b>FX25</b>	<b>FX35</b>
Grip area	0,26 m2 (2,8 f2)	0,36 m2 (3,9 f2)	0,25 m2 (2,7 f2)	0,35 m2 (3,8 f2)
Grapple closing pressure / 21,5 MPa (3118psi)	13 kN (2923 lbf)	16,5 kN (3709 lbf)	12 kN (2698 lbf)	11 kN (2473 lbf)
Weight	235 kg (518 lb)	310 kg (683 lb)	230 kg (507 lb)	240 kg (529 lb)

Continued on next page

EL62757.00003C5 -22-06APR03-1/4

**D) In the winter, when the weather is cold:**

1. Turn recirculated air (4) to maximum or to position you wish.
2. Set the temperature you wish (2).
3. Select the desired blower speed (3).  
Fresh air can be added when humidity has reduced.



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**E) In the winter, when the weather is extremely cold and the humidity low:**

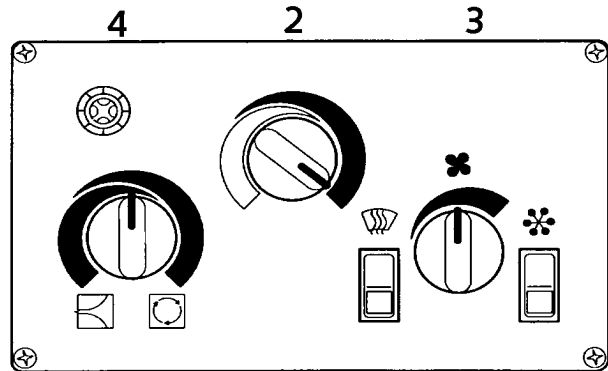
1. Set Fresh air / Recirculated air (4) to (50/50) position.
2. Set temperature (2) to maximum heat or to the temperature you wish.
3. Select the desired blower speed (3)

**F) In the winter, when the weather is cold and dry; when the system has been little used or not used at all.**

The air conditioner should be operated for a few minutes every week by pressing the defrost switch (5). This is enough to ensure that the drive shaft seal of the compressor, other packings, joints, and rubber hoses are lubricated.

**Defroster mode** is activated by switch (5). Defroster mode is used when there is moisture or ice on windscreen. The system has fixed settings that cannot be changed.

The system is equipped with **automatic temperature control**, which keeps desired cabin temperature independant of the surrounding environment. The automatic will be overridden at the end positions of the temperature control (2), (maximum cold or maximum heat).



T164089 -UN-16JAN03

EL62757.00001DC -19-22APR02-6/6

## Timer for engine and cabin preheater

The preheater is started with the timer, i.e., either directly or at preset time.

All signals in the display will flash when electric power supply is connected. The heater cannot be switched on in this mode, i.e., the heater timer must first be properly set.

### 1. Setting the timer

- Press and hold down (1) until the time flashes (basic setting for the first time: press (1) briefly)
- Set the current time using (4) and (5).  
When the time display stops flashing, the time has been stored.  
The weekday begins to flash.
- Set the current weekday using (4) and (5)

When the display stops flashing, the setting has been stored. Acceptable setting can also be skipped by pressing (1). When the ignition switch of the machine is turned on, the current time is displayed in the timer.

When the ignition switch is turned off the display disappears after 15 seconds. When there is no display the current time appears by pressing (1) .

**NOTE:** Before starting the heater or before pre-programming the heating sequence, set the cabin heating control to its maximum open position and the fan speed to position

**NOTE:** If a fault occurs when you switch the heater on (or if the heater is on), the operating display shows "F" and a fault code (two numbers) in 15 seconds. See Malfunction codes later on this section.

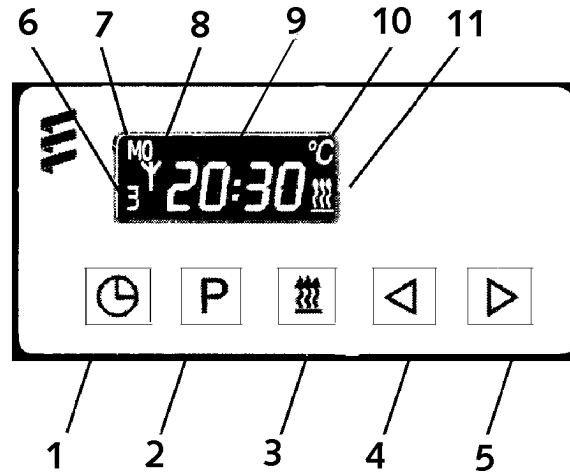
### 2. Direct starting of heater without preselection (ignition of the base machine is off)

- Press (3), start of heating.

Heating symbol (3) and the heating duration is displayed. The heating duration is factory-preset to 120 min.

### 3. Changing the heating duration

- Temporarily:

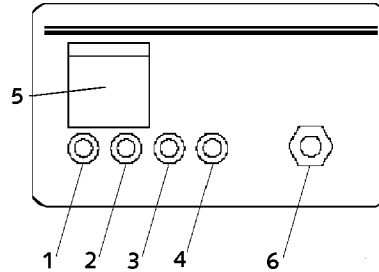


- 1—Time indication/setting
- 2—Preselection
- 3—Heating on
- 4—Adjust backward
- 5—Adjust forward
- 6—Stored memory indication
- 7—Day of week
- 8—Symbol for remote control (opt. eq.)
- 9—Current time / program time
- 10—Temperature indication (opt. eq.)
- 11—Operating display

T153141 -JUN-03OCT02

## Control unit

1. Green light emitting diode, indicating that the system is operative.  
Goes out if the power supply is broken.
2. Yellow light emitting diode, supervising the detector circuit.  
Lights up if the circuit is broken or if the end resistor is removed.
3. Yellow light emitting diode, supervising the circuit to the gas generator in the mechanical / electrical triggering unit.  
Lights up if the circuit is broken or when the gas generator is triggered
4. Yellow light emitting diode.  
Lights up when the system is in the manual mode = Battery master switch is ON.
5. Triggering button for the system.  
Issues a pulsating light when the fire alarm is given and a steady light when the system is triggered electrically.
6. Toggle switch for alarm and error testing.
  - a. **Upper position, testing the alarm.**  
The alarm 5 of the installation shall be activated, push-button (5) flashes and diode (1) and (3) will show a steady light.
  - b. **Middle position: Simulating break of the detector circuit and the detonator loop.**  
Diodes 1, 2 and 3 should light. Diode 4 should also light if the battery master switch is ON. The steady light for the electrically triggered system will also be reset when the toggle switch is moved to the middle position.
  - c. **Lower position, operating mode:**  
Diode 1 should light, and also 4 if the battery master switch is ON.



Control unit of the fire extinguisher system

- 1—Green
- 2—Yellow
- 3—Yellow
- 4—Yellow
- 5—Triggering button for the system
- 6—Toggle switch for alarm and error testing

T152354 -UN-06MAR02

### Check every day:

- That diode 1 lights up, and also 4 if the battery master switch is ON, when switch 6 is in the operation mode.

Symptom	Problem	Solution
<b>High fuel consumption</b>	Improper type of fuel.	Use proper type of fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load.
	Improper valve clearance.	See your Timberjack dealer.
	Injection nozzles dirty.	See your Timberjack dealer.
	Engine out of time.	See your Timberjack dealer.
	Defective turbocharger.	See your Timberjack dealer.
	Low engine temperature.	Check thermostat.
<b>Undercharged system</b>	Excessive electrical load from added accessories.	Remove accessories.
	Excessive engine idling.	Increase engine rpm when heavy electrical load is used.
	Poor electrical connections on battery, ground strap, starter, or alternator.	Inspect and clean as necessary.
	Defective battery.	Test battery.
	Defective alternator.	Test charging system.
<b>Battery uses too much water</b>	Cracked battery case.	Check for moisture and replace as necessary.
	Defective battery.	Test battery.
	Battery charging rate too high.	Test charging system.
<b>Batteries will not charge</b>	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out batteries.	See your Timberjack dealer.
	Stretched poly-vee belt or defective belt tensioner.	Adjust belt tension or replace belts.

Continued on next page

RG, RG34710, 5608 -19-20MAY96-5/6

## Diagnose Loader

Symptom	Problem	Solution
<b>Loader does not lift rated maximum load</b>	Defective valve spool port reliefs at loader control valve.	See authorized dealer.
	Defective main relief valve at Loader Control Valve.	See authorized dealer.
	Defective cylinder seals.	See authorized dealer.
	Cylinder piston sticking in barrel or loose on rod.	See authorized dealer.
	Improper work pump output .	See authorized dealer.
	Defective or worn work pump.	See authorized dealer.
<b>Loader does not keep load up</b>	Control spool or port relief in Loader Control Valve by-passing oil.	See authorized dealer.
	Dirt causing control spool in Loader Control Valve to stick.	See authorized dealer.
	Defective cylinder seals.	See authorized dealer.
	Cylinder piston sticking in barrel or loose on rod.	See authorized dealer.
<b>Improper main pressure</b>	Defective main relief valve at Loader Control Valve.	See authorized dealer.
	Improper work pump output .	See authorized dealer.
<b>High free circulation pressure in hoses</b>	Improper work pump output. Excessive oil flow.	See authorized dealer.
	Blocked hoses or filter.	See authorized dealer.
<b>Extension boom extends on its own</b>	Defective control spool in loader control valve.	See authorized dealer.
	Defective cylinder seals.	See authorized dealer.
	Cylinder piston sticking in barrel or loose on rod.	See authorized dealer.

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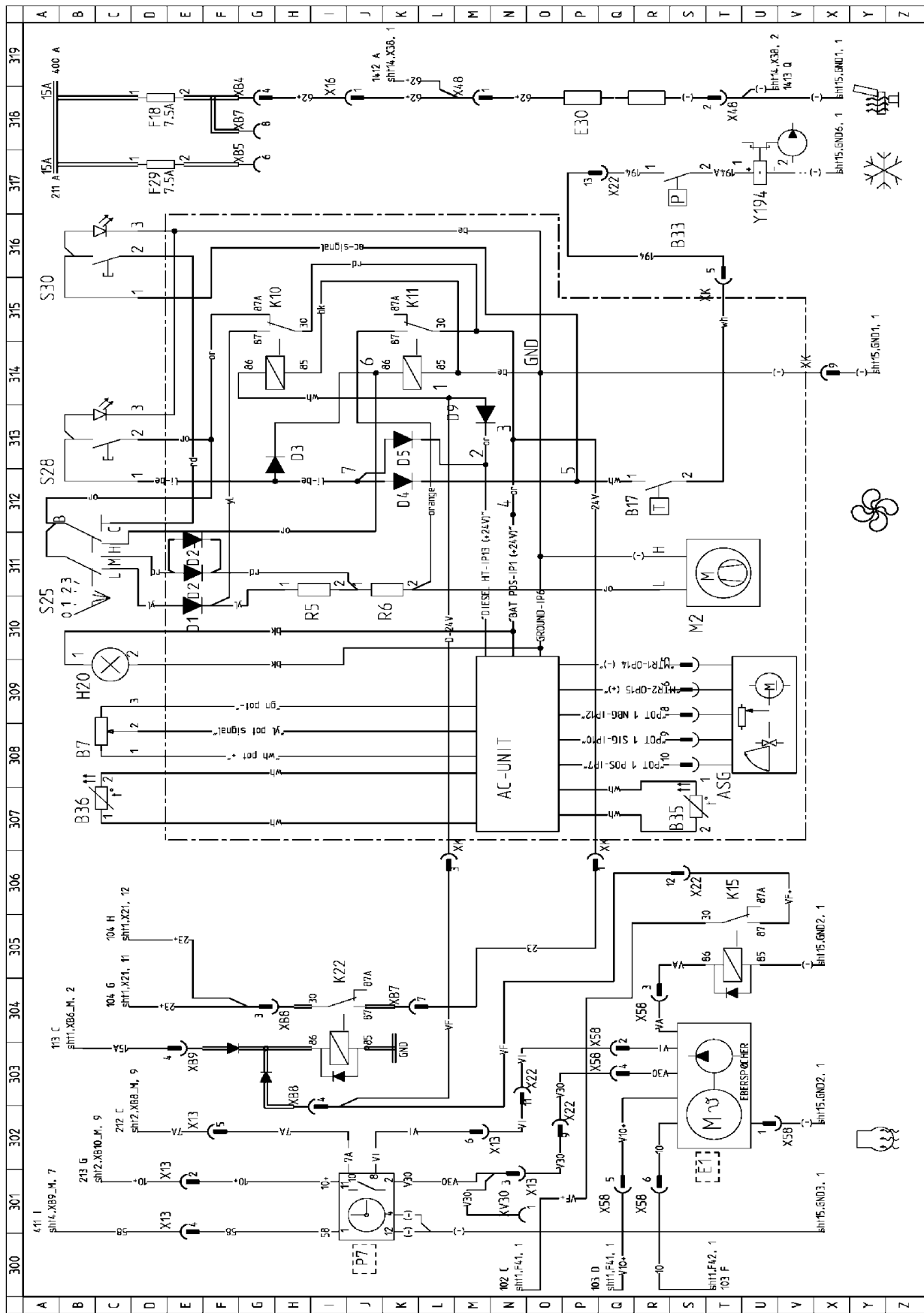
# Hydraulic Diagrams, F624229

## Hydraulic Diagrams, F624229

1. Boom Hydraulics
2. Transmission Hydraulics
3. Brake Hydraulics
4. Extra Equipment Hydraulics
5. Options Hydraulics

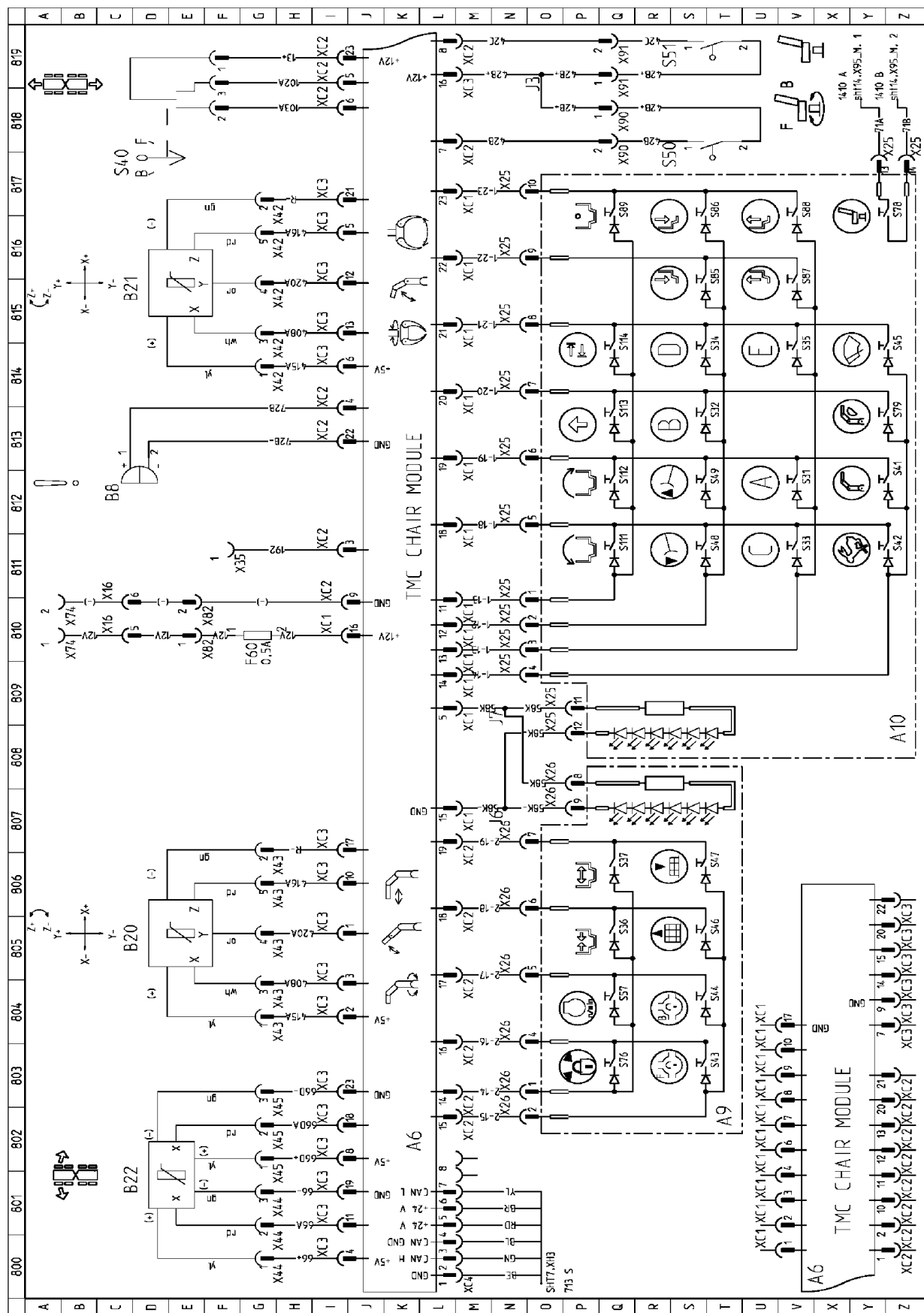
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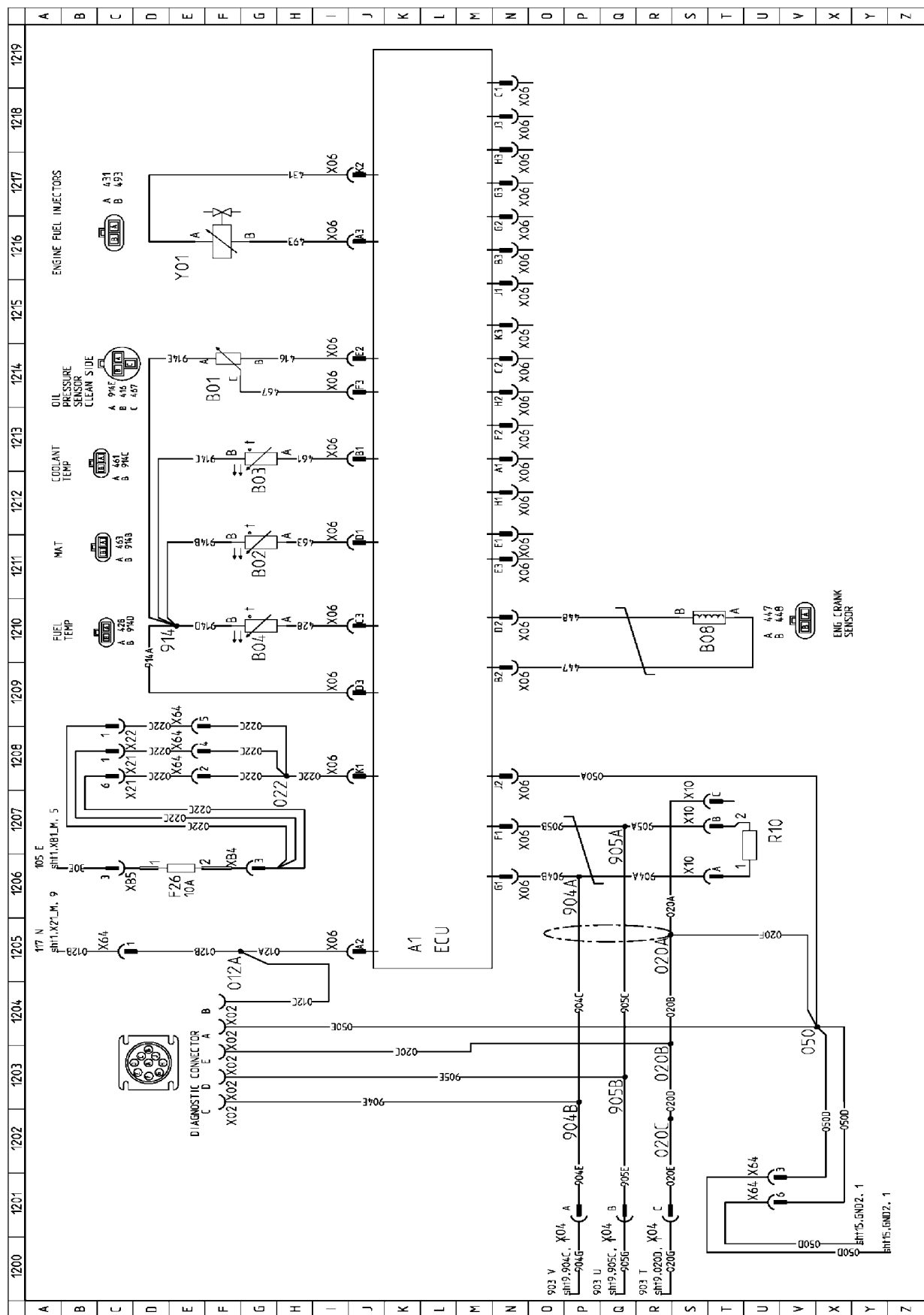
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REVISION: C 0						
SHEET: 3/15						

TITLE: WIRING DIAGRAM 8100  
 EFFECTIVE FROM: W 208100/L01...  
 DRAWN BY: TR  
 DATE: 2002-12-20  
 CHECKED BY: TR  
 DATE: 2003-03-20  
 CHANGED BY: TR  
 DATE: 2003-04-09  
 T189408 -UN-09APR03



REV	DATE	BY	CHKD	APP'D	DATE	BY	CHKD	APP'D	DATE
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T189413 -UN-09APR03

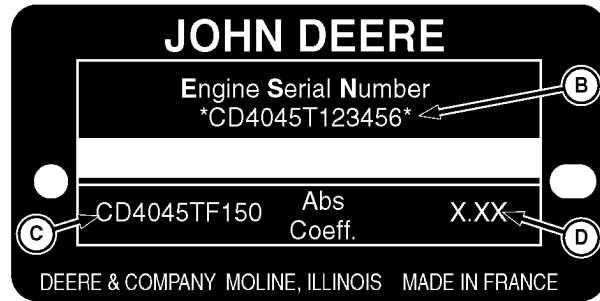
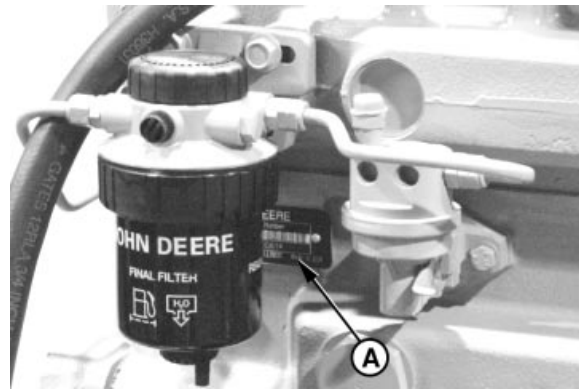


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TITLE				DRAWING NUMBER			
WIRING DIAGRAM 6100				F626571 C 0			
SHEET				REVISION			
12/15				12/15			

T189417 -UN-09APR03

## Engine

John Deere, JD4045 HTJ76 water-cooled and turbocharged 4-cylinder diesel engine with intercooler.



*Saran Engine Serial Number Plate*

- A—Serial Number Plate
- B—Engine Serial Number
- C—Engine Application Data
- D—Coefficient of Absorption (Saran Engines Only)

Item	Measurement	Specification
Engine John Deere JD4045 HTJ76	Max. output Torsional moment	85 kW (114 hp)/ 1500 r/min 498 Nm (367 lbt-ft)/ 1400 r/min

EL62757,0000003 -19-06FEB02-1/1

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