CTL Harvester
1WJ1270E002511-
1WJ1470E001805-

OPERATOR'S INSTRUCTIONS

John Deere 1270E / 1470E T3 build on IT4 platform

Issue 20141128

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(ENGLISH)

Worldwide Construction
And Forestry Division

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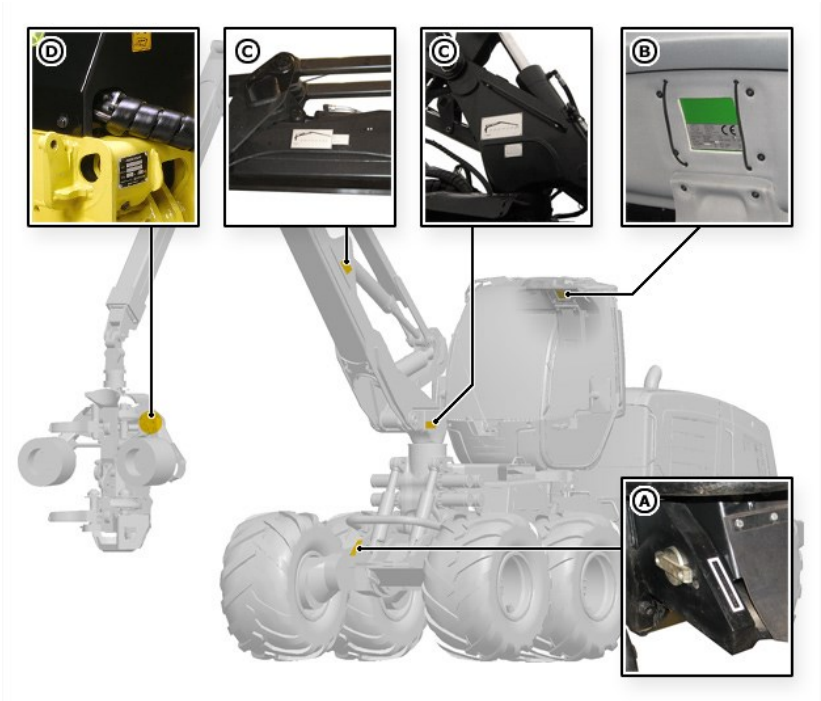
Original Instructions

MACHINE IDENTIFICATION

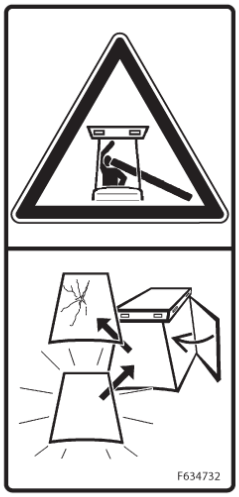
A. The punched serial number is located on the front frame.
B. The machine type plate is located inside the cabin, behind the first aid kit.
C. The boom type plate is located on the left side of the main boom or boom pillar.
D. The harvester head type plate is located on the head frame.

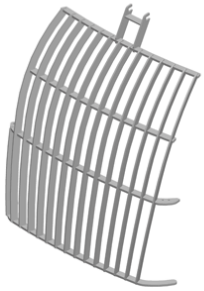
Punched serial number identification, for example 1WJ1470EKBE001803, where:

1	Character placeholder	Always 1
WJ	Factory code	Joensuu
1470E	Model number	1470E wheeled harvester
K	Check letter	
B	Year manufactured	A = 2010, B = 2011, C = 2012, D = 2013, E = 2014, etc.
E	Engine emission level	C = Tier 2, D = Tier 3, E = Interim Tier 4, F = Final Tier 4
00	Character placeholder	Always 00
1803	Serial number	



CABIN PROTECTIVE STRUCTURES





Cabin is tested according to international ROPS, FOPS and OPS standards.

Do not operate the machine with the door open, secondary exit open or any of the safety covers or protective devices removed.

It is important to keep the operator protective structure in place (doors, screens, windows, windshield, etc.) to minimize hazards from whipping or intruding objects.

The protection offered by ROPS, FOPS and OPS will be impaired if cabin

- is subjected to structural damage
- is involved in an overturn incident
- is in any way altered by welding, bending, drilling, or cutting

To maintain ROPS, FOPS and OPS protection, replace damaged cabin parts immediately. A damaged structure should be replaced, not reused. It is forbidden to modify the window fastening.

Following issues must be considered when the machine is used or equipped for other purpose than it is designed for by the manufacturer:

- Overall weight of the machine without load (towed equipment and any load excluded) must not exceed the maximum weight defined for the cabin and mentioned below the machine type plate (ROPS-weight, Roll Over Protection Structure). Contact manufacturer's representative to clarify the demands of the ROPS standard when necessary.
- If the machine's center of gravity is changed due to machine buildup the maneuverability of the machine will also change and does not necessarily correspond to the original demands determined by the manufacturer.

The manufacturer can not guarantee machine safety if the machine has been used contrary to the operator's instructions given or has been equipped with accessories not approved by the manufacturer.

NOTE: *An optional heavy duty window guard is recommended for operations in late thinning and regeneration felling sites.*

HAND-HELD FIRE EXTINGUISHER

The machine is equipped with a hand-held fire extinguisher (1) fastened to the door inside the cabin.

The machine can be equipped with an optional extra extinguisher. The extra extinguisher is located in the bumper box on the left side of the 6-wheel rear frame (2) or in the box next to the cooler package of the 8-wheel rear frame (3).

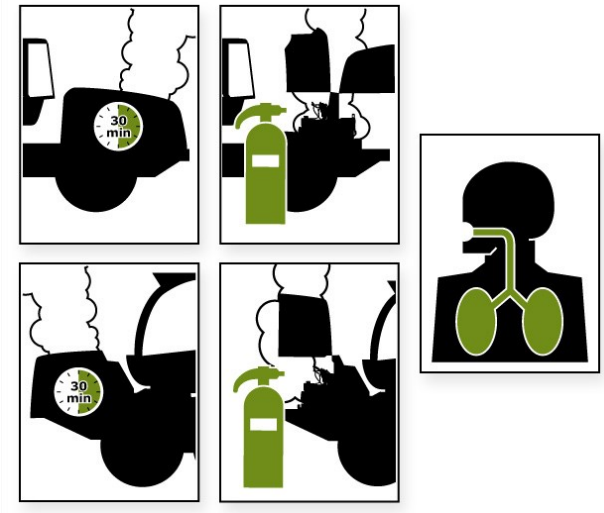
The hand-held extinguishers are intended for minor fires and final extinguishing after the sprinkler system has been triggered.

Hand-held fire extinguishers can be used through the holes that are bordered with the extinguisher decals.

IMPORTANT: *The fire extinguishers must be checked, serviced and stamped by an authorized dealer.*

NOTE: *On certain markets fire insurance terms stipulate that fire extinguishers must be checked after every six months. Contact your insurance company for all the details.*

AFTER A FIRE



The alarm stops when the fire is put out and the detectors have cooled down. Open ventilation hatches so that smoke and fumes can be vented.

NOTE: *Wait at least 30 minutes to let the machine cool down before opening any covers or the engine hood.*

NOTE: *Have a portable fire extinguisher ready when airing the machine.*

NOTE: *Avoid breathing in fumes from the fire.*

Clean the machine with water as soon as possible after a fire.

Restoring the machine after a fire: Contact service personnel to identify the cause of the fire and to restore the fire extinguishing system.

REFUELING AND SERVICING FUEL SYSTEM

Never fill the fuel tank with the engine running. Secure, that there is anybody smoking nearby or there is no an open flame.

Avoid overfilling the tank or spilling fuel. If fuel is spilled, clean it up immediately.

Do not too high pressure to the fuel tank or fuel lines. The fuel system components can be damaged with potential dangerous consequences if pressurized beyond the limits.

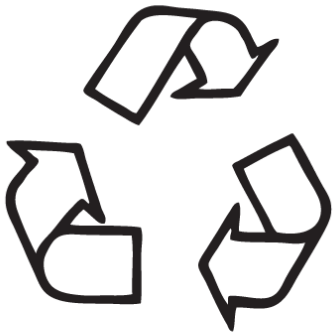
DISPOSE OF WASTE PROPERLY

Improperly disposing of waste can threaten the environment and ecology. Potentially harmful waste used with equipment include such items as oil, fuel, coolant, brake fluid, filters, and batteries.

Use leak proof containers when draining fluids. Do not pour waste onto the ground or down a drain.

Government regulations may require a certified air conditioning service center to recover and recycle used air conditioning refrigerants.

Inquire on the proper way to recycle or dispose of waste from your local environmental or recycling center, or from your authorized dealer.



SAFETY DECAL LOCATIONS

The safety decals are attached to the machine. When you see these symbols on your machine, be aware to avoid personal injury.

Follow recommended precautions and safe operating practices.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

IMPORTANT: *Keep safety decals clear and visible on the machine and replace missing or damaged safety decals. See Parts Catalogue for the correct safety decals placement on your machine.*

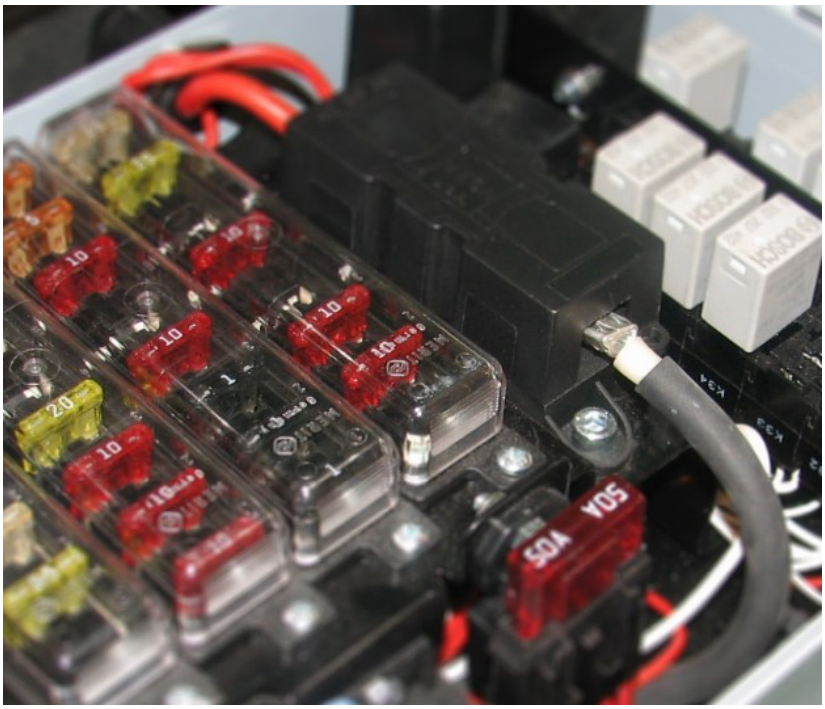
FUSES AND RELAYS

The electrical system of an E-model harvester contains dozens of fuses and relays. They are mainly located on circuit boards in the front carriage fuse box and in the cabin. There are also some on the rear switch panel and in the wiring harnesses.

The current from the battery to all equipment in the front and rear carriages is supplied through main fuses located on the main switch panel.

Fuses protect the system against the effects of short-circuits or other kinds of overloads. In case of overload, a fuse breaks the electric circuit preventing the components from overheating, melting or burning.

Relays are electromechanical switches. The function of a relay is based on an electromagnet. With relays it is possible to control higher currents and voltages with lower control voltage, and they are used to control various functions in harvesters.



WIRING HARNESS FUSES AND RELAYS

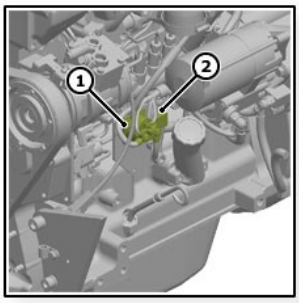
Some fuses and relays of special equipment are located near each equipment.

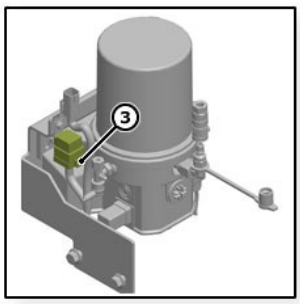
Glow relay and fuse, K49 (1) and F49 (2), are only on the 4.5 liter and 6.0 liter engines.

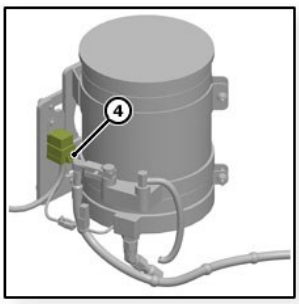
Centralized lubrication system relay K55 (3) is located next to the lubrication pump.

Puradyn filter relay K56 (4) is located next to the puradyn filter.

Position	Relay number	Object
1.	K49	Glow relay
2.	F49	Glow fuse (50A)
3.	K55	Centralized lubrication system relay
4.	K56	Puradyn filter relay



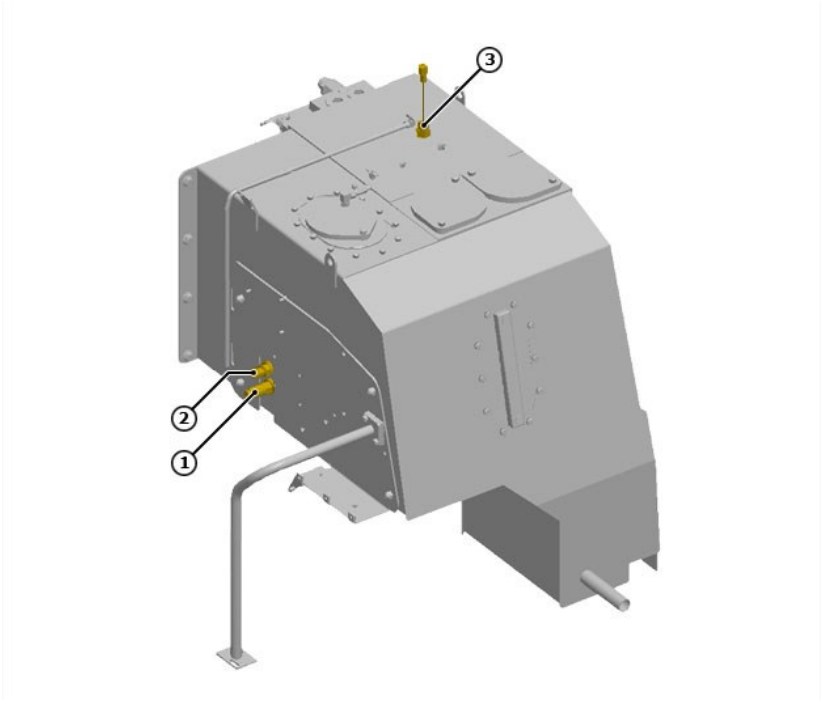




SENSORS, HYDRAULIC OIL TANK

The following sensors are connected to the transmission controller:

1. Oil level sensor (B25)
   - The sensor triggers an alarm if the hydraulic oil level drops below the acceptable limit.
2. Temperature sensor (B19)
   - The sensor triggers an alarm if the hydraulic oil temperature exceeds the acceptable limit.
3. Return filter pressure switch (B18)
   - The sensor triggers an alarm if the hydraulic oil filter is clogged.
4. Fluid property sensor (B49)
   - The oil condition monitoring sensor is located to the thermostat manifold. The sensor monitors viscosity and density of hydraulic oil.

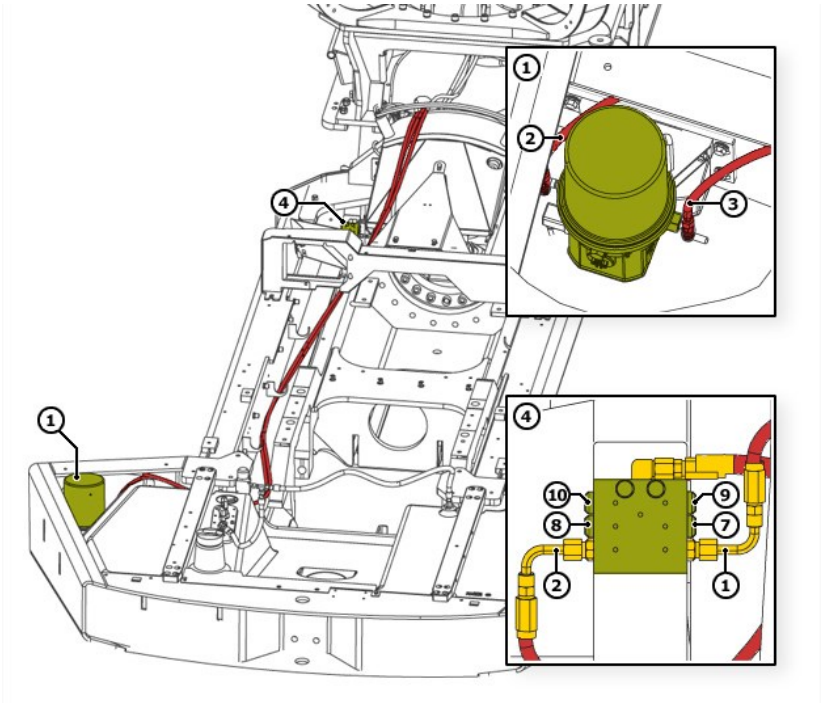


Light	Bulb type	
	Xenon	**Other**
Working lights	D4S / 35W	24V / 70W H3
Three top lights	D1S / 35W	24V / 70W H3
Cabin inside light	-	24V / 18W BA15S
Engine room light	-	24V / 18W BA15S
Front frame service light	-	24V / 18W BA15S
Cabin alarm light	-	24V / 5W W2.1X9.5D
Driving lights, front	-	24V / 70W/75W H4 24V / 21W BA15S 24V / 4W T4W
Driving lights, rear	-	24V / 21W BA15S 24V / 10W BA15S
Revese light	D4S / 35W	24V / 70W H3

REAR FRAME

The following components of the central greasing system are located on the rear frame:

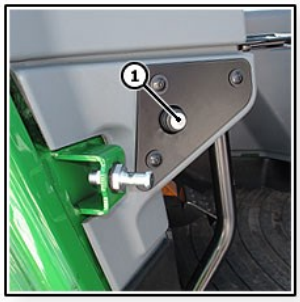
1. Grease pump and reservoir
2. Supply to main dispenser SSV6-K under the cabin
3. Boom supply
4. SSV6 dispenser on rear frame
5. Port 1, left greasing point of the frame bearing
6. Port 2, right greasing point of the frame bearing
7. Port 3, -
8. Port 4, -
9. Port 5, -
10. Port 6, -

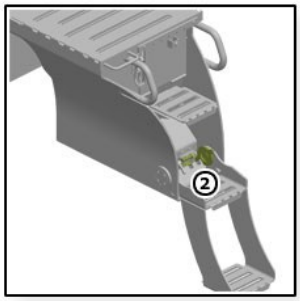


SAFETY SWITCHES AND EMERGENCY STOP

1. Cabin door is equipped with a door switch. The switch has two different operating principles:
   - When the machine is moving and the door is opened the machine keeps moving normally. Once the acceleration pedal is lifted up, a new pedal press will have no effect. The machine will not accelerate and will therefore stop. If the drive pedal is held down and the door is closed the pedal and machine will operate normally.
   - The machine cannot be driven if the cabin door is opened while the machine is stationary. The parking brake is engaged and the machine's functions disabled. When the door is open the steering, transmission, boom and cabin rotating and levelling are disabled. After the door is closed driving is not permitted until the driving direction has been set to neutral and the acceleration pedal has been released.
2. If the stairs do not extend fully, a warning will appear on the display and the machine cannot be moved. Before raising or lowering the stairs, check that they are able to move freely.
3. If the emergency stop is activated the engine will stop, all functions of the machine will terminate, and the parking brake will be engaged. The emergency stop can be released by turning the knob.
4. On-road driving switch. The switch must be on to activate on-road driving equipment. When the switch is on the cabin can not be rotated or boom can not be activated.

   NOTE: *When a new software version of the Timbermatic is installed to the machine's PC the on-road driving safety mode is automatically on. To reset the on-road mode contact authorized service personnel.*





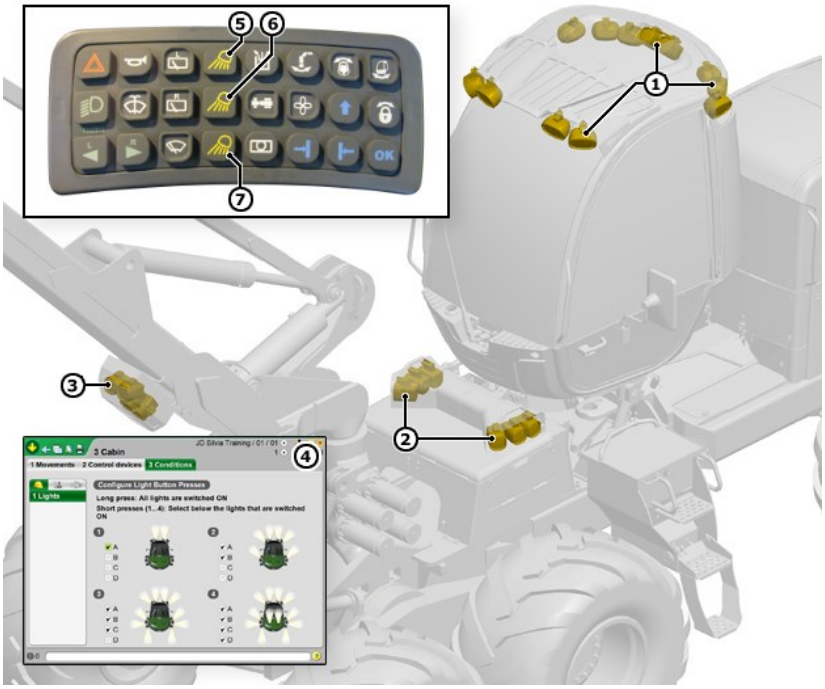
WORK LIGHTS

The harvester's work lights include the front, rear and tree top lights on the cabin (1), the thinning lights (2) on the front carriage and the boom lights (3).

Different combinations for which work lights of the cabin are on at the same time can be configured in the cabin conditions menu (4) in TimberMatic H-09™. It is possible to make four different light combinations, which are utilized with the upper light button (5) on the right arm rest panel.

The boom lights are controlled using the middle light button (6) on the arm rest panel. The boom lights can be utilized only when the boom is activated in TimberMatic H-09™.

The thinning lights are operated using the bottom light button (7) of the arm rest panel.



DEFROST MODE

This mode is used to de-ice, defrost, or defog the windows by pressing the key with the defrost icon. A panel indicator light indicates when this mode is active.

In certain cold or humid conditions, more heat and airflow is required to clear the windows. The set point temperature and the blower speed should be adjusted as necessary to maintain a clear windshield at all times. For maximum defrost, set the temperature control to 90°F (32°C) as indicated by “HI” on the control panel display, and turn the blower fan speed to maximum fan.

The air conditioner is enabled when in a defrost mode. The A/C is used to dehumidify the air entering the cab to remove the fog from the windshield.

The fresh/recirc door is forced to a 50% fresh position in defrost mode unless the fresh/recirc door is already set in the fresh position, then the fresh/recirc door will not be affected. Fresh air is used to help remove the fog from the windshield.

The fan speed is set to be at least 50% while in defrost mode. If the fan speed is higher than 50%, then it will not be affected. If manual fan speed mode is used, the system will remain at 50% fan speed after the defrost mode is de-activated.

NOTE: *Selecting defrost may override previous settings for A/C or RECIRC. When the defrost mode is de-selected, the system will return to previously selected modes.*

IMPORTANT: *If the key switch is released before the engine starts, turn key to stop position, wait until the starter and the engine stop turning before trying again. This will prevent possible damage to the starter and/or flywheel.*

NOTE: *Some machines may require a computer reset prior to operation (after engine ignition).*

COLD WEATHER STARTING

NOTE: *When the temperature drops below 5°C (41°F) we strongly recommend that you use the pre-heating (if equipped) of the engine coolant 1/2 — 1 hour before starting the engine.*

When the temperature is below 0°C (32°F) the engine is basically started as normally but once started you may, where necessary, press the accelerator pedal slightly to assure that the engine remains running. Do not exceed 1200 rpm.

CAUTION: *Do not use starting fluid near fire, sparks, or flames. Do not incinerate or puncture a starting fluid container.*

AFTER STARTING

After starting, operate the engine for 2 - 4 minutes at approximately 1200 rpm before full loads are applied. Extend this period 2 - 4 minutes when operating at temperatures below freezing.

Avoid any unnecessary strain on the hydrostatic power transmission. Therefore, do not operate the engine at speeds beyond 1400 rpm before the hydraulic oil has warmed up. When the hydraulic oil is still cold, too high an engine speed results, among other things, in excessive pressure in the pumps and motors. This may inflict damage on shaft packing etc.

Do not idle engine more than 5 minutes (during brake-in period more than 2 minutes). Carbon deposits will appear in the engine and the lubrication of various components will not be efficient.

NOTE: *The engine meets emission standards with an exhaust gas recirculation system and a variable geometry turbocharger. Turbocharger rpm varies for an instant after starting, as the variable geometry turbocharger recycles. Also, the exhaust gas recirculation valve will cycle periodically with a momentary loss of engine rpm.*

NOTE: *When coolant temperature is above 111°C (231°F) engine will reduce power automatically.*

Stop engine immediately if there are any following signs of engine part failure:

- Sudden drop in oil pressure
- Abnormal coolant temperatures
- Unusual noise or vibration
- Sudden loss of power
- Excessive black exhaust
- Excessive fuel consumption
- Excessive oil consumption
- Fluid leaks

NOTE: *Never turn off the main switch while the engine is running (with the exception of a potential emergency).*

AFTER USING THE BOOM

Carry out the last movements unloaded.

When you drive the machine make sure that the boom does not make any sudden movements. Move the harvester head close to the machine when driving.

Never leave the boom unsupported by relying on the hydraulic system only. Secure the harvester head by means of a chain for long drives to other working sites. Lock the harvester head tilt if needed. Bring the booms down and position the harvester head on the ground even for short breaks, and always before leaving the cab.

AT THE END OF THE WORK DAY

1. Clean the machine. Inspect all covered compartments, including engine bay, belly plates etc. It is particularly important to clean the machine in the winter because snow and debris easily gets stuck to the machine.
2. Inspect the cabin protective structure including doors, windows, windshield, etc. It is important to replace broken or cracked windows immediately to minimize hazards from whipping or intruding objects.
3. Make sure that there are no defects or leaks. Check the machine in daylight. Repair any defects found or contact the service personnel.
4. Renew oils and grease (if necessary) the machine while it is still warm.
5. Check the tightness and mounting of the possible chains.
6. Lock the cab door.
7. Turn off the main switch. If the machine is equipped with an automatic fire extinguishing system, the system will be engaged when the main switch is turned off.
8. If the machine is intended to leave for extended period of time (e.g. longer transportation or service interval) read instructions Preparing machine for storage.

IMPORTANT: *Do not use cooling system sealing additives or antifreeze that contains sealing additives.*

IMPORTANT: *Do not mix ethylene glycol and propylene glycol base coolants.*

NOTE: *Do not use coolants that contain nitrites.*

WATER QUALITY

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate. Water used in the cooling system should meet the following minimum specifications for quality:

- chlorides < 40 mg/l
- sulfates < 100 mg/l
- total dissolved solids < 340 mg/l
- total hardness < 170 mg/l
- pH 5.5 to 9.0

SUPPLEMENTAL COOLANT ADDITIVES

Some coolant additives will gradually deplete during engine operation. For John Deere COOL-GARD™ Premix, COOL-GARD™ Concentrate, or COOL-GARD™ PG Premix, replenish coolant additives between drain intervals by adding supplemental coolant additive as determined necessary by coolant testing. John Deere LIQUID COOLANT CONDITIONER is recommended as supplemental coolant additive. John Deere LIQUID COOLANT CONDITIONER is an additive system designed to reduce corrosion, erosion, and pitting when used with nitrite-containing diesel engine coolants such as all John Deere COOL-GARD™ products. Maintaining John DeereCOOL-GARD™ coolants with John Deere LIQUID COOLANT CONDITIONER provides optimum protection for up to 5 years or 5000 hours of operation.

NOTE: *John Deere LIQUID COOLANT CONDITIONER is not designed for use with COOL-GARD™ 2 Premix or COOL-GARD™ 2 Concentrate.*

IMPORTANT: *Do not add a supplemental coolant additive when the cooling system is drained and refilled.*

If other coolants are used, consult the coolant supplier and follow the manufacturer’s recommendation for use of supplemental coolant additives. Add the supplemental coolant additive according to the manufacturer’s recommendation. Do not add more than the recommended amount.

Use of non-recommended supplemental coolant additives may result in additive drop-out and gelation of the coolant.

OPERATION IN EXTREMELY WARM TEMPERATURE CLIMATES

John Deere engines are designed to operate using glycol base engine coolants.

IMPORTANT: *Always use a recommended glycol base engine coolant, even when operating in geographical areas where freeze protection is not required.*

John Deere COOL-GARD™ 2 Premix is available in concentration of 50% ethylene glycol. However, there are situations in warm temperature climates where a coolant with lower glycol concentration (approx. 20% ethylene glycol) has been approved. In these cases, the low glycol formulation has been modified to provide the same level of corrosion inhibitor as COOL-GARD™ 2 Premix.

⚠ CAUTION

Water may be used as coolant in EMERGENCY SITUATIONS only. Foaming, hot surface aluminum, iron corrosion, scaling and cavitation will occur when water is used as the coolant, even when coolant conditioners are added. Drain cooling system and refill with recommended glycol base engine coolant as soon as possible.

A11 MAIN PRESSURE RELIEF VALVE

Check the correct pressure setting from the table below:

1270E 6W	35 MPa ± 1 MPa (5076 ± 145 psi)
1270E 8W	37 MPa ± 1 MPa (5336 ± 145 psi)
1470E CH8 with 36 MPa drive pressure relief valves	35 MPa ± 1 MPa (5076 ± 145 psi)
1470E CH8 with 38 MPa drive pressure relief valves	37 MPa ± 1 MPa (5366 ± 145 psi)
1470E CH9	35 MPa ± 1 MPa (5076 ± 145 psi)

IMPORTANT: *The drive pressure relief valves in the drive valve block are factory-adjusted to 36 MPa or 38 MPa. The pressure setting is stamped to the drive pressure relief valve. Do not to adjust these valves.*

The purpose of the main pressure relief valve (286) is to eliminate pressure peaks from the system.

1. Connect a 40 MPa pressure gauge to the measuring point (344/MP) on the LS valve block.
2. Start the diesel engine.
3. Open the cabin door so that the door switch is in open position during the test. This ensures that the harvester head pressure lines stay closed.
4. Open the Timbermatic service lock.
5. Go to page 4.5.C.2.
6. Choose A11 pump.
7. Set the current to proportional valve to maximum.
8. Start the test and then increase work pressure by turning the adjustment screw (1) of the A11 pump LS-pressure relief valve clockwise, until the diesel engine sound changes because of the load. Check that the pressure is correct according to the table above.
9. Close the test.
10. If the pressure relief setting is not correct:
    - Open the locknut of the pressure relief valve adjustment screw (286) located in the main valve block and tighten the screw one full turn.
    - Start the test again and adjust the work pressure to the value on the table above by using the adjustment screw (1) of the LS-pressure relief valve.
    - Continue the test and loosen the main pressure relief adjustment screw (286), until hissing sound can be heard from the valve.
    - Tighten the adjustment screw (286) until the hissing sound stops. The valve is now set to the same value as LS-pressure relief valve. Tighten the locknut and close the test.

    NOTE: *If the harvester head pressure relief valve needs to be checked, it is convenient to do now when the TimberMatic settings have been temporarily increased.*

11. Maximum drive pressures must now be adjusted in order to return the adjustment screw (1) to correct position. See instruction for setting maximum drive pressure.

NOTE: *Work pressure can also been seen in the Timbermatic page 2.1.C.1. Pressure A = forward drive and pressure B = reverse drive. If the pressure is checked from here, the test must be started again after every adjustment made, because the Timbermatic does not monitor the pressure changes.*

DRIVE AND WORK BRAKE PRESSURES

Attach a 15 MPa gauge to the measuring point of the axle being measured on the brake valve (414/B2) or (415/B1) and start the diesel engine.

The brake pressures of each axle must be equal.

Drive brake

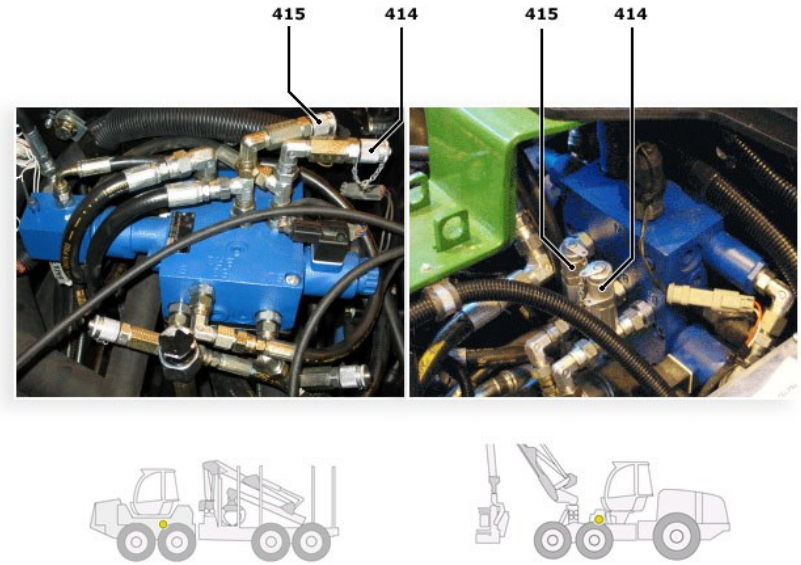
- Depress the brake pedal and read the pressure on the gauge.
- The pressure should increase from 0 MPa to maximum.
- The pressure should return to 0 MPa when the pedal is released.

Work brake

- Switch off the parking brake. The work brake is now on.
- Reading of the gauge should be the maximum brake pressure.
- Switch on the parking brake. The pressure should fall to 0 MPa.

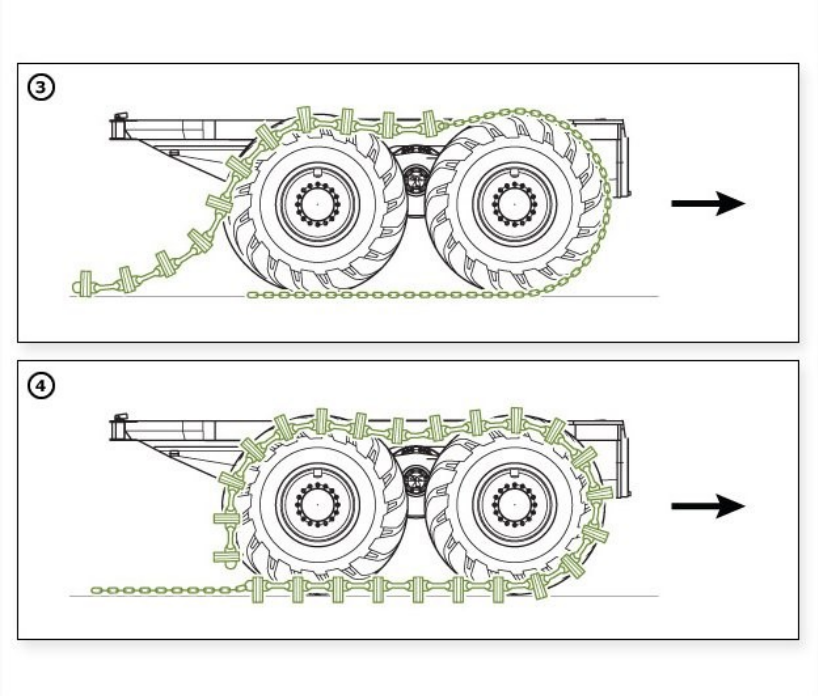
Maximum brake pressure values for different models:

- 1070E; 7 MPa
- 1170E; 7 MPa
- 1270E, 10 MPa
- 1470E, 10 MPa
- 810E, 7 MPa
- 1010E, 7 MPa
- 1110E, 7 MPa
- 1210E, 7 MPa
- 1510E, 7 MPa
- 1910E, 10 MPa



TRACKS FITTING 2/4

- Reverse the machine slowly, watching the chain all the time to make sure it stays in the centre of the wheel and does not slide off (fig 3).
- Reverse until one track plate lies free in the front of the front bogie wheel (fig 4).



1. Switch pre-heater off and then on again (but not more than twice)
2. Check the main fuse
3. Ensure that the flow of air is unrestricted
4. Contact an authorized service agent.

Service code descriptions

Code	Description
000	No faults
005	Warning short circuit in “Burglar Alarm” output
009	ADR / ADR99 shutdown
010	Overvoltage cutoff
011	Undervoltage cutoff
012	Overheating
014	Difference between the overheating and temperature sensor is too large
017	Overheating, Hardware threshold exceeded Control box is locked
019	Glow plug 1, Ignition energy too low
020	Glow plug 1, interruption
021	Glow plug 1, overload / short circuit downstream of earth
022	Glow plug 1, short circuit downstream of +Ub
023	Glow plug 2, interruption
024	Glow plug 2, overload / short circuit downstream of earth
025	JE-K line fault - Heater remains ready for operation
026	Glow plug 2, short circuit downstream of +Ub
029	Glow plug 2, Ignition energy too low
031	Burner motor, interruption
032	Burner motor, overload
033	Burner motor, speed error / blocked
034	Burner motor short circuit downstream of +Ub or earth
037	Water pump not working
041	Water pump, interruption
042	Water pump, Overload short circuit
043	Water pump, Overload downstream of +Ub
047	Metering pump, Overload short circuit
048	Metering pump interruption
049	Metering pump, Overload downstream of +Ub
052	Exceeding of safety time
053	Flame cutout in "POWER" control stage
054	Flame cutout in "HIGH" control stage
055	Flame cutout in "Medium 1" control stage
056	Flame cutout in "Medium 2" control stage
057	Flame cutout in "Medium 3" control stage
058	Flame cutout in "LOW" control stage
059	Too rapid rise in water temperature
060	Temperature sensor interruption

CHECK HYDRAULIC OIL LEVEL

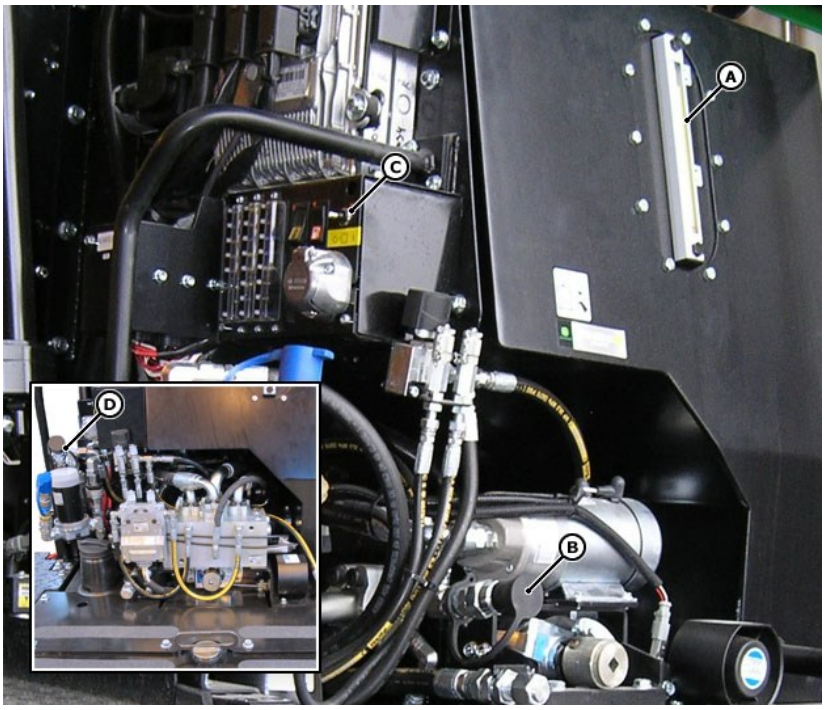
Check the hydraulic oil level in the sight glass of the tank. When you do this, the main and outer boom cylinders have to be in the innermost position.

When needed add oil through the quick coupler with the pump.

NOTE: *Use John Deere HYDRAU-GARD™. Do not mix different type of oils.*

A. Sight glass
B. Quick coupler
C. Filling pump operating switch

NOTE: *In the 8-wheel machines the quick coupler (D) is located to the left side.*



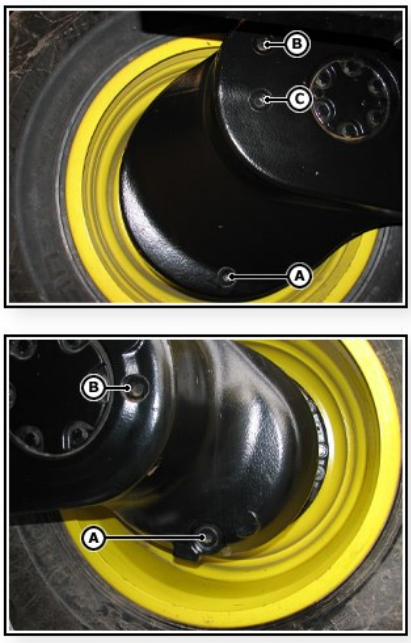
CHECK BOGIE CASING FOR LEAKS

Check oil leaks in both bogie casings as follows:

1. Check visually the surrounding area of the bogie casing for oil leaks.
2. If the surrounding is wet and oily, locate and repair the leak.
3. If refill is required, clean the surrounding area of the bogie casing level, drain and filling plugs.
4. Refill from the filling port (plug) with new oil to the level of the level port to compensate the leaked oil.
5. Carry out the same procedure at both ends of the bogie casing.

A. Bogie casing drain plug
B. Bogie casing filling plug
C. Bogie casing level plug

Purpose	Tool	Size
Bogie casing drain, filling and level plugs	Allen key	17 mm



CHECK BOGIE CASING OIL QUALITY AND LEVEL

NOTE: *Must be done only at first 250 hours maintenance.*

Check oil in both bogie casings as follows:

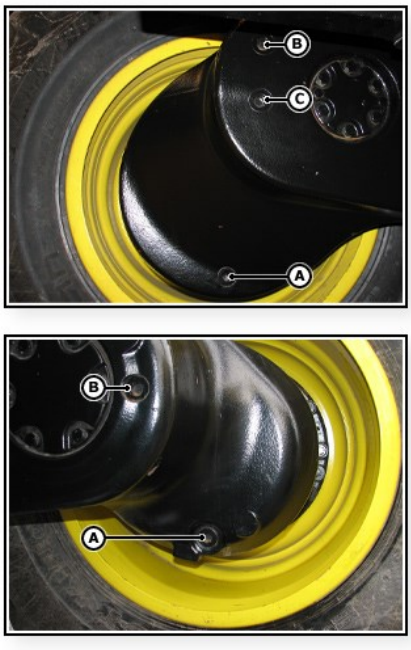
1. Clean the surrounding area of the bogie casing drain and filling plugs.
2. Open the drain plug and drain about 1 liters (0.3 gal) oil into a clean barrel and close the plug.

   IMPORTANT: *This oil is not reusable.*

3. Carry out the same procedure at both ends of the bogie casing.
4. Check the oil quality:
   a. If the oil is clear, add oil.
   b. If the oil is cloudy, change the bogie casing oil.
5. Tighten the drain plugs and refill the bogie casing with new oil to compensate the required oil level:
   a. 1070E and 1170E: Fill oil up to the level of the level port (plug) in both bogie casings.
   b. 1270E and 1470E: Fill oil up to the level of the filling port (plug) in both bogie casings.

A. Bogie casing drain plug
B. Bogie casing filling plug
C. Bogie casing level plug

Usage	Tool	Size
Bogie casing drain, filling and level plugs	Allen key	17 mm

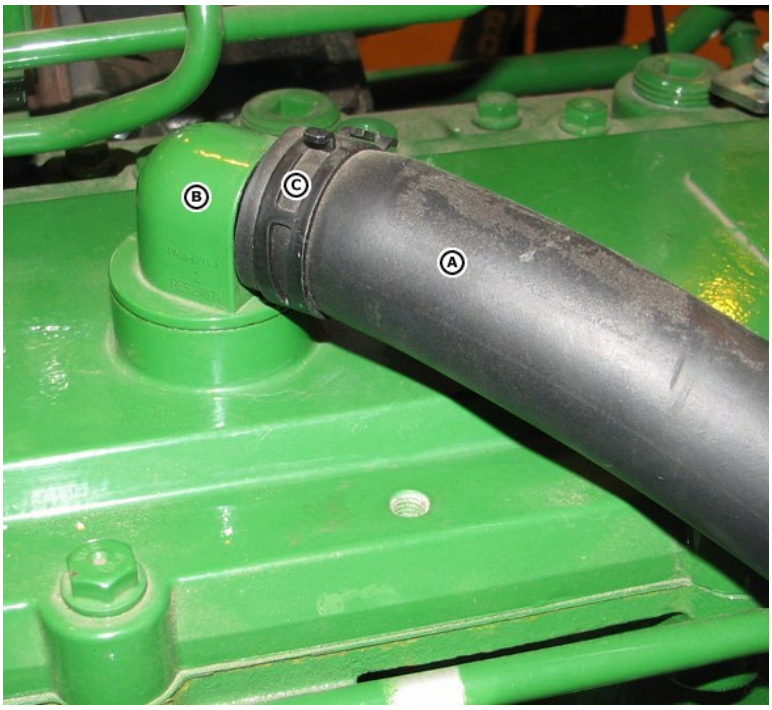


CHECK CRANKCASE VENT TUBE

Visually check that crankcase vent tube lower end is free of dirt. Remove and clean the tube if necessary.

While installing the tube be sure the O-ring fits correctly in the rocker arm cover adapter. Tighten the clamp securely.

A. Crankcase vent tube
B. Rocker arm cover adapter
C. Vent tube clamp



CHANGE HYDRAULIC OIL

NOTE: *Before changing hydraulic oil, the main and outer boom cylinders have to be in the innermost position.*

CAUTION: *Air must be removed from the return casing of the hydraulic oil after changing the oil and filters.*

IMPORTANT: *Replace return filters, off-line filter and breather while hydraulic tank is empty. When replacing filters make sure that no dirt enters the hydraulic system.*

IMPORTANT: *Use John Deere HYDRAU-GARD™. Do not mix different type of oils.*

NOTE: *Always refill the hydraulic oil tank through the quick coupler. This ensures that the new oil enters the system through the filter.*

Draining the hydraulic oil

1. Open the plug at the end of the drain hose and drain the oil into a container. The drain hose is located underneath the engine, on the left side of the rear belly plate opening.
2. After draining, clean the hydraulic tank and change the breather and hydraulic filters. Fit the plug back into the drain hose.

Hydraulic oil filling

1. Remove the protective plug of the quick coupler. Clean the filling hose and connect it to a vessel containing fresh hydraulic oil.
2. Start the filling pump with the operating switch located on the switch panel. Do not exceed the ’MAX’ level. There always has to be enough air space in the hydraulic oil tank, because the oil level goes up and down during the operation. The machine must stand level to ensure correct level reading.
3. Detach the filling hose from the quick coupler before starting the engine. Over-pressure generated in the return casing can eject the hydraulic oil through the filling pump and filling hose.

A. Drain hose
B. Quick coupler
C. Filling pump operating switch
D. Sight glass

NOTE: *In the 8-wheel machines the quick coupler (E) is located to the left side.*

Usage	Tool	Size
Hydraulic oil drain hose plug	Socket wrench	32 mm

CHECK AIR CONDITIONER

Do the following inspections for the air conditioning system components:

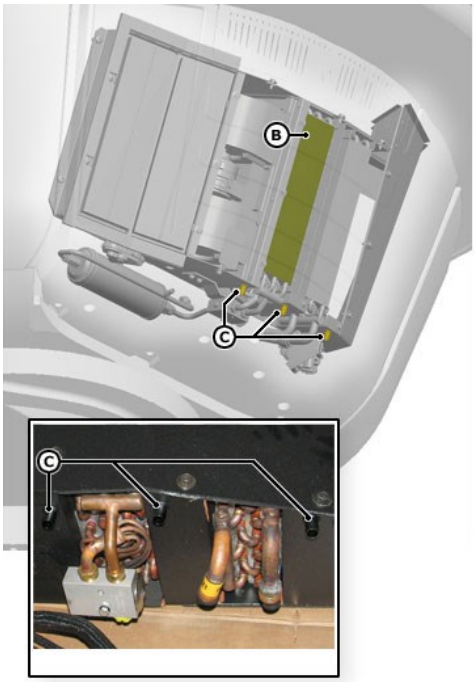
1. Check the condenser element (A). The condenser element must be cleaned carefully using a weak jet of compressed air in the opposite direction to the normal flow of air through the element. Condenser air intake and exhaust must be unobstructed. Check the fastening of the condenser to prevent damage by vibration.

   NOTE: *Blowing with compressed air at high pressure will damage the condenser.*

2. Check the evaporator element (B). The evaporator must be cleaned from dirt. The outlet tubes for condensation water (C) from the air conditioning unit must be unobstructed to prevent water from staying inside the unit.
3. Check hoses, wires and connections. Refrigerant hoses and connections from AC-unit (in cabin), condenser and compressor (in engine room) must be inspected. The presence of oil on connections may indicate leakage. Check all hoses of the system and make sure they are protected against chafing and against overheating by engine components.
   CAUTION: *Do not open hose connections. There is pressure in the cooling system. Incorrect procedures may result in personal injury.*

A. Condenser element
B. Evaporator element
C. Outlet tubes for condensation water

Usage	Tool	Size
AC unit outer cover	Allen key	6 mm
AC unit cover plate	Ring spanner	10 mm



CHANGE COOLANT

CAUTION: *Explosive release of fluids from pressurized cooling system can cause serious burns. Shut off engine and let the cooling system pressure even for a while. Slowly loosen the expansion tank to relieve pressure before removing completely.*

CAUTION: *When flushing the system do not run engine longer than 10 minutes. Doing so may cause engine to overheat which may cause burns when draining the water.*

IMPORTANT: *Never pour cold liquid into a hot engine, as it may crack cylinder head or block.*

NOTE: *Drain the initial factory fill engine coolant after the first 2000 hours or 2 years of operation. Subsequent drain intervals are determined by the coolant used for service.*

NOTE: *Using John Deere COOL-GARD™ 2 – the drain interval is 4000 hours or 4 years of operation. This drain interval may be extended to 6000 hours or 6 years of operation provided that the coolant is tested annually AND additives are replenished as needed (John Deere COOL-GARD™ 2 COOLANT EXTENDER).*

NOTE: *Using John Deere COOL-GARD™ – the drain interval is 3000 hours or 3 years of operation. This drain interval may be extended to 5000 hours or 5 years of operation provided that the coolant is tested annually AND additives are replenished as needed (John Deere LIQUID COOLANT CONDITIONER).*

NOTE: *If COOL-GARD™ 2 or COOL-GARD™ is not used, the drain interval is reduced to 2000 hours or 2 years of operation.*

Change the coolant and flush the engine as follows:

1. Make sure that the machine is standing horizontally. Set the cabin heating control to its maximum open position.
2. Carefully open the expansion tank cap (A) to relieve pressure and to allow coolant drain faster. .
3. Open coolant pump drain valve (B) and engine block drain valve (C) on left side of engine. Drain all coolant from engine block.
4. Remove thermostats (E). Install cover (D) and tighten cap screws to 45 Nm (33 lb-ft).
5. Close all drain valves and fill the cooling system with clean water. Run the engine about 10 minutes to stir up possible rust or sediment.
6. Stop engine and immediately drain the water from system before rust and sediment settle.
7. After draining water, close drain valves and fill the cooling system with clean water and a heavy duty cooling system cleaner such as FLEETGUARD®, RESTORE™ or RESTORE PLUS™. Follow manufacturer's directions on label.
8. After cleaning the cooling system, drain cleaner and fill with water to flush the system. Run the engine about 10 minutes, and then drain out flushing water.
9. Close all drain valves on engine and radiator. Install thermostats and tighten cover cap screws to 45 Nm (33 lb-ft).
10. When adding coolant to the system, use the appropriate coolant solution. First fill up the expansion tank so that level stays between the "MIN" and "MAX" marks. Air must be expelled from cooling system when system is refilled. Loosen temperature sending unit fitting in cylinder head or plug in thermostat housing to allow air to escape when filling system. Retighten fitting or plug when all the air has been expelled.
11. Run engine until it reaches operating temperature 82°- 94°C (180°- 202°F) mixes the solution uniformly and circulates it through the entire system.
12. After running the engine, check coolant level and entire cooling system for leaks.

CLEAN THE MACHINE

High-pressure washers are very effective means of cleaning the machine. Remove dirt and debris from covered compartments, including engine bay and belly plates.

To avoid damage to the machine, do not spray surfaces closer than from 80 cm (32 in.). Maximum pressure must not exceed 12000 kPa (120 bar; 1740 psi). Do not use rotary nozzles or water at temperatures over 50°C (122°F).

CAUTION: *Do not, under any circumstances, spray or wash components (e.g. the engine) with cold water when the component is hot.*

CAUTION: *When cleaning sealing surfaces, seals and decals, spray at an angle between 45 and 90 degrees.*

CAUTION: *Cooling units, hitch jaw, bearings, wiring harnesses, connectors, electric boxes or other electronic/electrical equipment can not be cleaned with high-pressure washers. This may cause malfunction in electric and hydraulic systems and thus increase the risk of injury.*

NOTE: *Avoid directing the stream of water at the point where the boom pillar and base meets when washing the machine with high-pressure washers.*

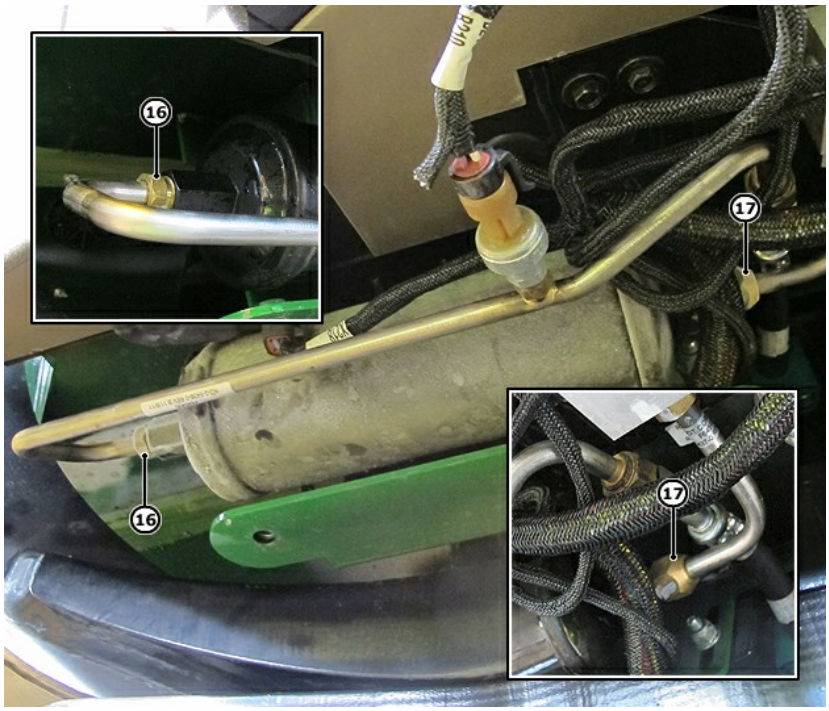
CAUTION: *Use mild cleaning agent mixture, typically less than 1.5%, and do not exceed the recommendations given by the agent manufacturer. Increasing the cleaning agent content in the mixture may dramatically increase its electric conductivity. This would mean higher risk for malfunction.*

IMPORTANT: *Make sure to follow the instructions in the high-pressure washer operator's manual and manuals of attached equipment.*

Step 7

Remove the pipes (16) and (17) from the dryer.

Operation	Tool	Size
Left-hand side pipe	Ring spanner	16 mm
Right-hand side pipe	Ring spanner	19 mm



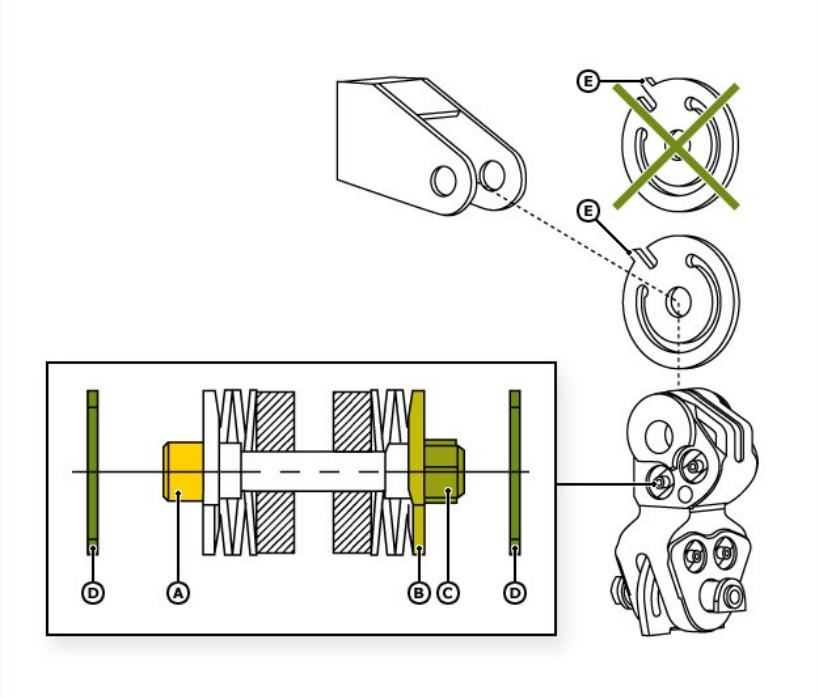
ADJUST ROTATOR LINK BRAKES

The bolted joint of the link brake pads is tightened through screw (A) while securely holding flanged nut (B). The maximum tightening torque of the bolted joint is 30 Nm (22 lb-ft). As soon as the adjustment has been made the bolt joint is secured with locknut (C).

When the bolted joint is opened for the replacement or check of the brake pads, tension washers (D) must not be removed before loosening the bolted joint.

NOTE: *For safety reasons the tension washers must be in place before the bolted joint is tightened.*

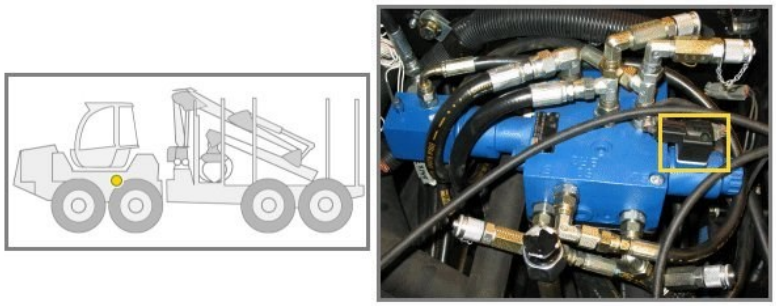
NOTE: *The upper brake disk has to be installed with the mark (E) downwards.*

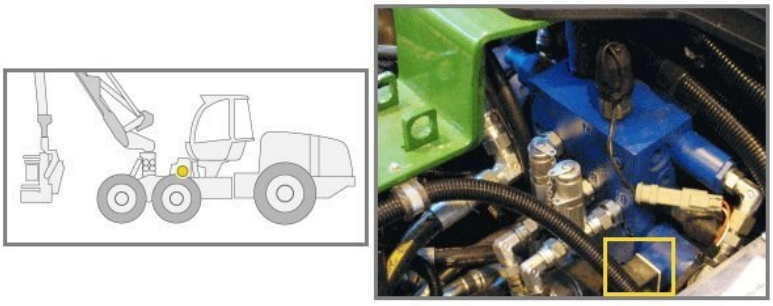


RELEASING THE WORK BRAKE

The brake valve is located under the cabin in forwarder and in the instrument compartment in front of the cabin in harvester.

1. Disconnect the solenoid valve (Y41W) connector of the work brake.
2. Re-connect the connector after towing.





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MEASUREMENTS*	1270E	1470E
Length [A]	7695 mm (303 in.)	7845 mm (309 in.)
Front Axle — Middle Joint [B]	2150 mm (85 in.)	2150 mm (85 in.)
Rear Axle — Middle Joint [C]	2050 mm (81 in.)	2050 mm (81 in.)
Wheelbase [B+C]	4200 mm (165 in.)	4200 mm (165 in.)
Tires, Front	26,5–20	26,5–20
Tires, Rear	34–14	34–16
Width — 600 Series Tires [D]	2750 mm (108 in.)	—
Width — 650 Series Tires [D]	—	2990 mm (118 in.)
Width — 710 Series Tires [D]	2960 mm (117 in.)	—
Width — 750 Series Tires [D]	—	2990 mm (118 in.)
Outer Turning Radius — 710 Tires	6675 mm (263 in.)	—
Outer Turning Radius — 750 Tires	—	6825 mm (269 in.)
Inner Turning Radius — 710 Tires	3805 mm (150 in.)	—
Inner Turning Radius — 750 Tires	—	3680 mm (145 in.)
Transport Height	3985 mm (157 in.)	3930 mm (155 in.)
Ground Clearance, Middle Joint [E]	640 mm (25 in.)	750 mm (30 in.)
Min. Machine Weight with H480C Harvester Head	20 250 kg (44,640 lb.)	21 250 (46,848 lb.)

*Please note: Measurements may vary depending on production tolerances.

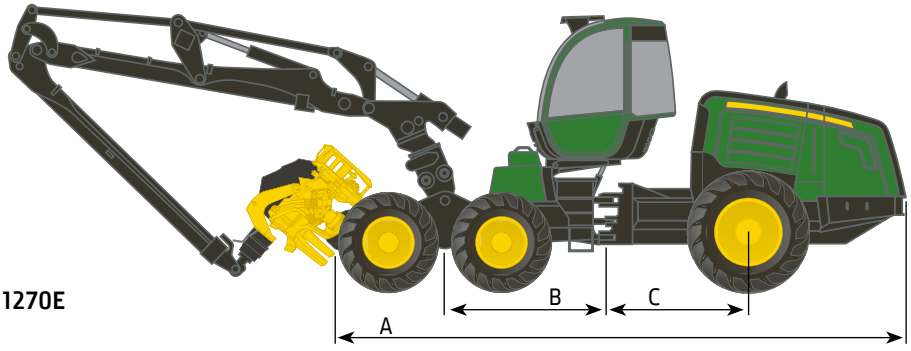
Examples of standard equipment (depending on country specifications)

Leveling and rotating cabin
TimberMatic H-12 control system
TimberLink Overview window
JDLink Ultimate
Hydraulic reversing cooling fan
Hydraulic stairs
Air-suspended seat
Halogen lights
Heavy-duty Duraxle bogie axles (1270E)
Frame brake
Hydraulic system bypass filter
Engine air filter with pre-cleaner element

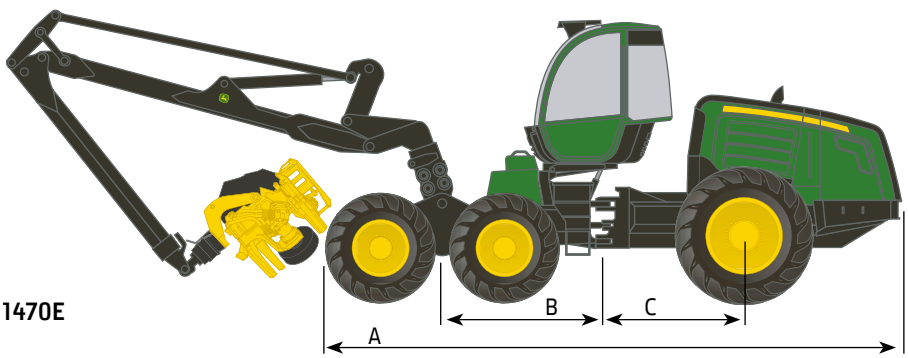
Examples of optional equipment (depending on country specifications)

Fixed cabin
GPS device and software
TimberLink software license
Rearview camera
LED lights
Preheater for engine and cabin
Electric fuel-refill pump
Electric hydraulics-refill pump
Biodegradable hydraulic oil
Hydraulic vacuum pump
Automatic fire-extinguishing system
Central greasing system
Tool kits
Tracks and chains

For more information, please contact your nearest dealer.



1270E



1470E

FRONT