

Instructions for Cooling and Lubrication Upgrade



Description:

The upgrade consists of a combined oil and water container. The water bottle is equipped with a solenoid valve, and on the tube there is a balancing valve that enables you to adjust the water flow.

By dripping water on the cutting equipment the temperature is significantly lowered. Due to this, the chain stays sharp longer, and the wear on the guide bar is reduced. When sawing dry timber the dust emission can also be somewhat reduced.



Read these instructions before starting to use this equipment.



This manual contains safety instructions.



Warning! Failure to follow these instructions can cause serious injury.

The cooling and lubrication upgrade must only be connected to Logosol's electric saw unit, bandsaw, or stack cutter. These machines are called *saw units* in these instructions. When the upgrade is used on the bandsaw the bottles are coupled together with a tube, so that both can be used for water cooling.



Be aware that accidents with dangerous machines happen most frequently when the operator e.g. is removing sawdust or chips, or is trying to correct a small disturbance. Whenever an operational disturbance occurs, turn the machine off immediately. Such a stop can seldom be seen on the finished product. Always disconnect the power to the machine before carrying out any form of servicing or maintenance on the equipment.



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Safety Instructions



“ WARNING! “. Pay extra attention when this symbol appears in the text. Failure to follow the instructions can cause life-threatening injuries.



For your own safety, do not begin working with the machine before having read and understood the entire manual. Also read and follow the manual and safety instructions for the saw unit.



Warning! Cutting tools. Always keep both your hands on the cutting unit's control panel, crank or control lever during operation.



This symbol means: “PAY ATTENTION“, and is always followed by an admonition or warning. Pay extra attention whenever this symbol appears in the text.

ⓘ Before applying power to the equipment, always ensure that:

- the solenoid valve is correctly fitted and connected.
- the saw unit is correctly mounted on the guide rail of the Logosol Sawmill.
- the cutting equipment on the unit is correctly fitted: the chain is turned in the correct direction, is correctly tensioned, and the bar is fitted correctly in the bar attachment. / the saw blade is correctly fitted on the wheels, and the safety cover is fastened.
- the tubes and cables of the upgrade are fixed to the saw unit, so that they cannot catch in the log or the sawmill.

ⓘ Before starting, always check that:

- there is water and oil in the respective bottle.
- no other person than the operator is within the stipulated safety distance.

⚠ Risk of electric shock.

- ⓘ Electrical installation must be carried out by authorized electricians.

⚠ Risk of serious injury. Risk of damaging the oil pump, the guide bar and the sprocket.

- ⓘ Make sure that the guide bar does not touch the sprocket when the saw runs without chain.
- ⓘ Never start the chainsaw without the bar and the cover plate mounted. Read the safety instructions for the saw unit before start.

ⓘ After each work shift:

- Disconnect the power by pulling out the plug, and ensure that no unauthorized user can connect the power to the saw unit.
- When the temperature is below 0°C or when there is risk for temperatures below 0°C: Empty the water bottle to prevent the solenoid valve from freezing. Alternatively, fill the water system with a glycol mixture.

ⓘ When storing the saw unit for a longer period:

The vegetable chain oil can harden if the saw unit is not being used for a longer period of time.

- Empty the vegetable oil out, and pour a small amount of mineral oil, e.g. motor oil or mineral chain oil, into the oil tank. Run the saw for half a minute, so that the new oil is drawn into the pump.
- Do not let the saw unit stand in direct contact with the soil

Electric motors should be stored in a temperate room to avoid variations in temperature causing condensation in the motor cover.

- If the motor is stored in a cold room, you should make sure that there is no water in the motor before connecting it. Enclosed electric motors have a drainage screw on the underside, which, when it is loosened, enables you to check if there is any water in the motor.

Assembly

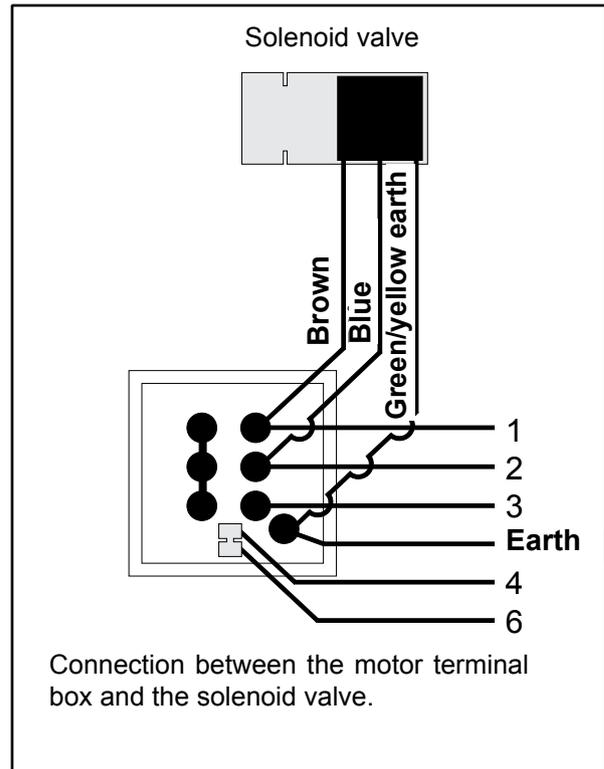
- ❗ Read the entire instructions before beginning the installation.
 - ❗ Ensure that the power is disconnected, i.e. the power cable is pulled out, before starting the installation.
1. Remove the original oil container and oil tube. If the bottle holder is riveted, carefully drill in the centre of the rivet using a 5 mm drill bit, until the rivet comes loose.

⚠ Risk of electric shock.

- ❗ Electrical installation may only be carried out by a qualified electrician.
2. Open the cover of the motor terminal box.
 3. Make a hole in the side of the terminal box, if there is not one already (diameter: 19 mm).
 4. Put the gland on the cable of the solenoid valve (not the gland nut).
 5. Fit the gland in the side of the terminal box with the gland nut on the inside of the box.
 6. On the connection block of the motor: Connect the brown wire to incoming wire no. 1, the blue wire to incoming wire no. 2. By this, the valve is connected between two phases. The green and yellow wire is earth, and is firmly connected to the earth screw in the bottom of the terminal box. The earth wire should be slacker than the other two wires, so that it is the last one to come loose if the cable is pulled out unintentionally.
 7. Fit the bottle holder on the motor. The bottles can be fitted on the back of the motor or on the side facing the operator (but not over the bar attachment as the original oil container) so that it is highly visible and not in the way when you e.g. are replacing the chain on the saw. Use the screws that hold the fan cowl on the motor (see p.5).

Fitted on the operator's side: A nicer placement, but the bottles can be in the way if you want to lower the protective yoke. Not suitable if the bar nose steering is to be used.

Fitted on the back of the motor: Not as nice-looking as when fitted on the operator's side. The electric saw becomes a bit harder to lift for one person. The bottles can be placed somewhat higher, which is of advantage for the water cooling. The bottles are not in the way of the protective yoke.



The water should be applied between the bar edge and the chain on its outgoing side to create a water mist around the cutting equipment.

8. Remove the bar's cover plate. The oil pump can stay on the saw. Drill a 5 mm hole in the cover plate according to the picture to the right.
9. Put back the cover plate and connect the new oil tube to the pump.
10. Make sure the gaskets in the screw tops of the bottles are removed to allow air inflow.

⚠ Risk of electric shock.

- ❗ Fit the cable to the valve, so that it cannot get caught in something while you are sawing. Fill water in the bottle with the solenoid valve and blue screw top, and chain oil in the bottle with a black screw top. Push the saw onto the sawmill guide rail and make a test run with the bar mounted, **but without the chain**.

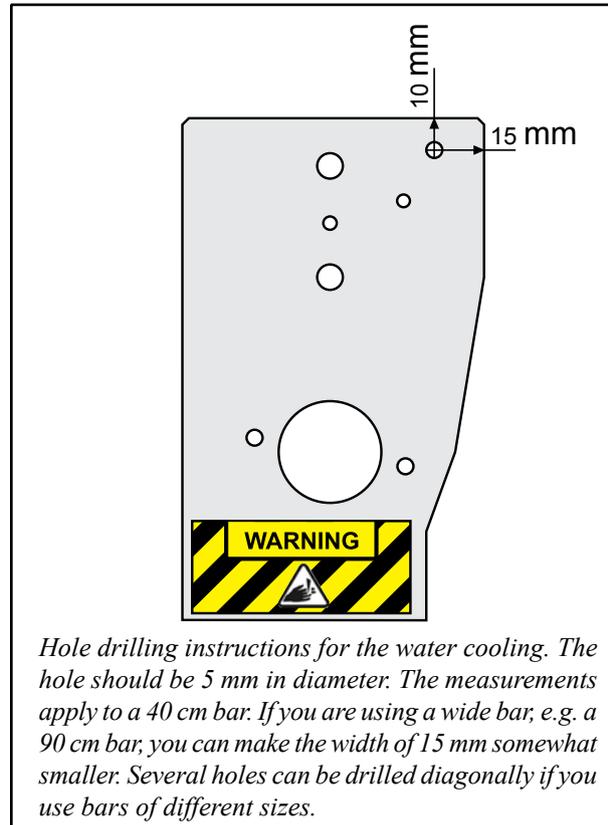
⚠ Risk of serious injury. Risk of damaging the oil pump, the bar and the sprocket.

- ❗ Never start the chainsaw without the bar and cover plate mounted. Read the safety instructions of the saw unit before starting it.
- ❗ Make sure that the bar does not touch the sprocket when the saw is run without a chain.

11. Start the electric saw so that the solenoid valve opens and the oil pump starts. Make sure that oil is fed to the pump. Adjust the water flow by turning the handle of the balancing valve on the water tube. Normal setting is approx. 4 drops per second. This flow can be increased when sawing oversized or dry timber.

12. Fit the bar and chain. Press the white tube into the drilled hole until it stops against the bar edge. It is vital that the tube touches the bar and chain, or else the tube will be clogged with sawdust. Eventually, the tube will be worn down and has to be replaced when it has become too short.

13. Connect the power when all necessary safety checks have been carried out.



Hole drilling instructions for the water cooling. The hole should be 5 mm in diameter. The measurements apply to a 40 cm bar. If you are using a wide bar, e.g. a 90 cm bar, you can make the width of 15 mm somewhat smaller. Several holes can be drilled diagonally if you use bars of different sizes.

- ❗ Avoid getting sawdust in the water and oil bottles.

TIP: When you have made a couple of cuts: Set the proper water flow by using an **IR thermometer**, Logosol art. no. 9999-000-0015. Never measure the temperature during operation. Use the laser sight and aim at the centre of the bar from a distance of 20 cm. The temperature of the bar should be below 80 degrees Celsius after you have made a cut. Make sure the temperature of the bar does not exceed 100 degrees Celsius. Increase the water flow in that case. If too much water is applied, the sawdust ejection will be impaired and the bar attachment can be clogged up. Due to this, you should be economical with the water.

TIP: Keep a water container nearby the sawmill so that you can easily refill the water bottle. The water bottle, which holds 1 litre, is normally sufficient for 1-2 logs.

TIP: Preferably, use Logosol's chain oil (10 litres: 0718-000-1010) to ensure a long life of the cutting equipment.

When it comes to the placement of the water and oil bottle, there are two alternatives.

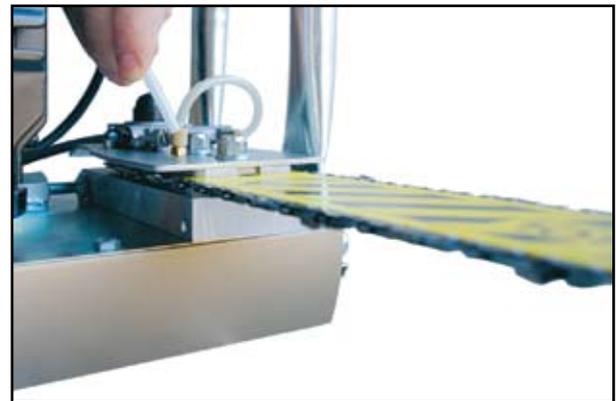
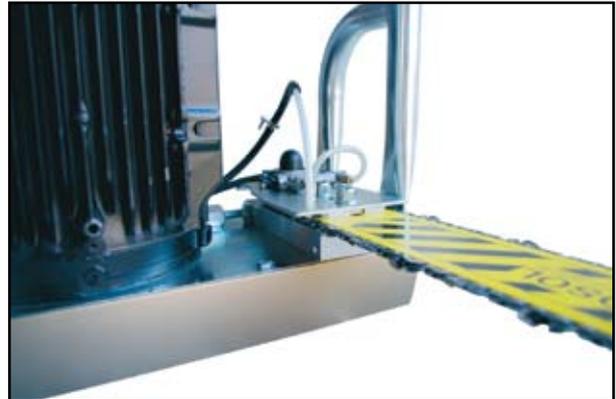


Above: The bottles are fitted on the side of the motor; highly visible to the operator. The water bottle, with a solenoid valve and blue screw top, is to the right.

Below: Easily accessible placement of the bottles behind the motor.



! Fit the cable to the valve using the cable clamp supplied with the upgrade and cable ties, so that it does not run the risk of getting caught in something during operation.



The white plastic tube is pressed down into the drilled hole, and stays there due to the hole being narrow for the tube.



The bar attachment seen from the back. Ensure that tubes and cables are fitted so that they do not run the risk of getting caught in something during operation. Also consider that the tubes should be of a length that does not make it difficult to replace the chain. A good solution is to fasten the tubes together using cable ties, as on the picture above.

Parts List

Pos:	Component:	Quantity:	Art. no:
1	Bottle holder	1	6605-001-0025
	Pop rivet	2	9099-022-0410
2	Plastic bottle 1 litre	2	6605-001-0010
3	Black screw top	1	6605-001-0015
4	Blue screw top	1	6605-001-0020
5	Tube nipple	1	6605-001-0045
6	Coupling nut	1	6605-001-0050
7	Double nipple	1	6605-001-0055
8	Balancing valve	1	6605-001-0040
9	Tube, black 1000 mm	1	6605-001-0060
10	Tube, transp. 100 mm	1	9999-000-6036
11	Solenoid valve, compl.	1	6605-001-0065
	Cable contact PG09	1	6605-001-0030
	Electric cable 0.5m RDO	1	6605-001-0035
12	Gland	1	6605-001-0070
13	Gland nut	1	6605-001-0075
14	Cable clamp D10	1	6605-001-0080
15	Cable ties 100 mm	3	6605-001-0085

