

# User's manual

## LIFAN 2-cylinder Petrol Engine 92453

# wiltec



Illustration similar, may vary depending on model

Please read and follow the operating instructions and safety information prior to initial operation.

Technical changes reserved!

Illustrations, functional steps, and technical data may deviate insignificantly due to continuous further developments.



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## Introduction

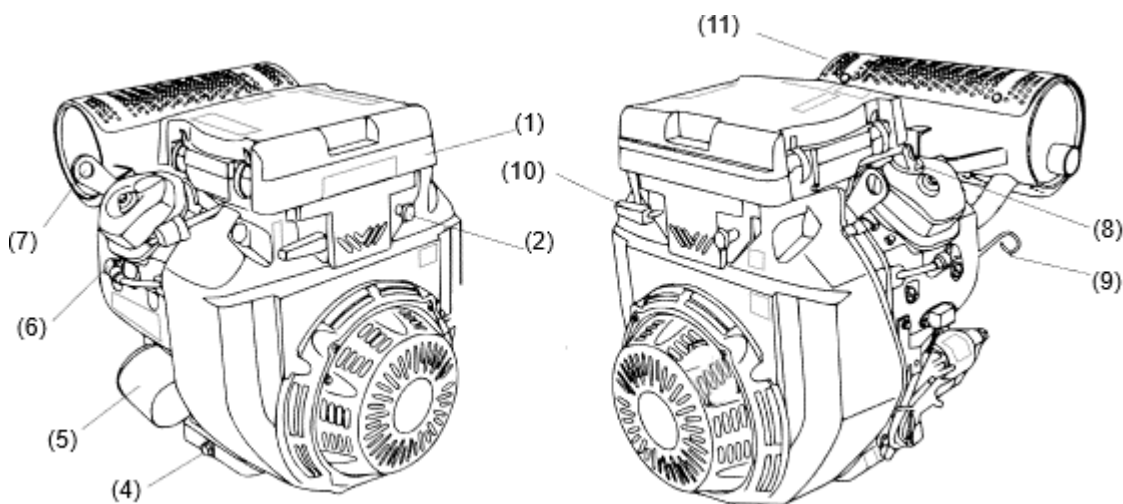
Thank you for choosing to purchase this quality product. To minimise the risk of injury, we ask you to always take some basic safety precautions when using this product. Please read this operating manual carefully and make sure that you understand it.

Keep these operation instructions in a safe place.

The leading point in the development of our series of air-cooled 4-stroke petrol engines has been protection of material and saving of energy. By their compact design, the devices are easy to transport to every location and comfortable to handle. They offer the user a broad range of application, including artisanry, industry, horticulture, agriculture, and household.

This user's manual will assist you in optimally using the engine. Read it thoroughly **before** putting the device into operation. This will increase the life time of your device considerably.

Do not hesitate to contact us if you have any question or proposal concerning this user's manual. In some cases, the equipment of the device might vary from that described in the user's manual present.



No	Name	No	Name
1	Air filter	7	Attachment element
2	Choke	8	Oil screw
3	-	9	Oil level gauge
4	Drain screw	10	Throttle lever
5	Oil filter	11	Exhaust
6	Spark plug		

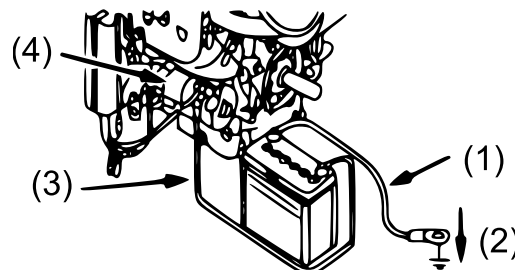
## Safety instructions

For your own safety, obey the following instructions, for otherwise material damage and/or personal injuries might result.

- Make sure that the engine is only operated in well-ventilated conditions; otherwise, the exhaust gases might be harmful to your health.
- Near other persons, only operate the engine with greatest care. Make sure that the exhaust pipe is free; it must not be covered, obstructed, or blocked.
- Before filling fuel into the tank, make sure to cut the engine off.
- The tank must not be filled to overflowing.
- In case fuel is spilled onto the casing of the device during filling fuel in, absolutely remove it before starting the engine.
- When exchanging the oil, make sure that the tank cover is closed lest oil get into the tank.
- Do not operate the device near open flames, flammable or explosive materials or gases, and flying sparks.
- There should be a minimum distance of 1 m between the engine and the wall of a house or another permanent installation.
- Make sure that all moving and rotating parts are safely covered.
- During operation, certain components of the device (e.g., exhaust pipe) will heat up. When you touch these components, there is a risk of burns.
- Only operate the device in safe conditions and keep children away during operation.
- Only operate the engine on a level, solid surface. If inclined, fuel might leak.
- A major inclination (the device standing aslope) might impair the lubrication of the gearing mechanism even with full oil level.
- When transporting the engine, make sure that no fuel can escape. It is advisable to empty the tank and to close the fuel supply cock.

### Connecting a battery (optional)

Only use 12 V batteries with a minimum of 45 Ah. Connect them to the positive cable of the relay and the negative cable to the housing of the engine. Make sure that there is no corrosion on the cable. Should there be corrosion on the cable, remove it first.



Nº	Name	Nº	Name
1	Negative cable (-)	3	Positive cable (+)
2	To housing	4	Starting relay

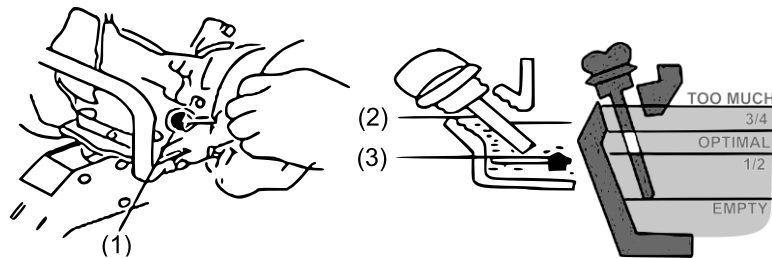
### Attention!

- Only operate the engine in a well-ventilated area – with or without battery.
- Avoid any kind of flying sparks, open flames, or the like. **Explosion hazard!**
- Batteries contain sulphuric acid (electrolyte). Any contact with your skin or eyes can cause serious injuries. Wear suitable protection clothing. Contact the furnisher of the battery used to read up on suitable measures.

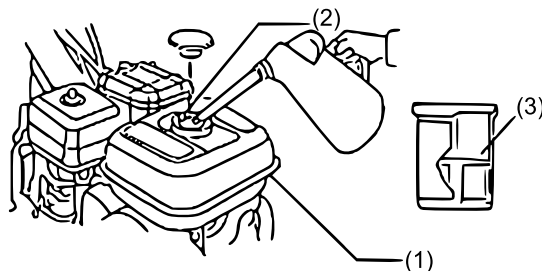


**Before operating the device**

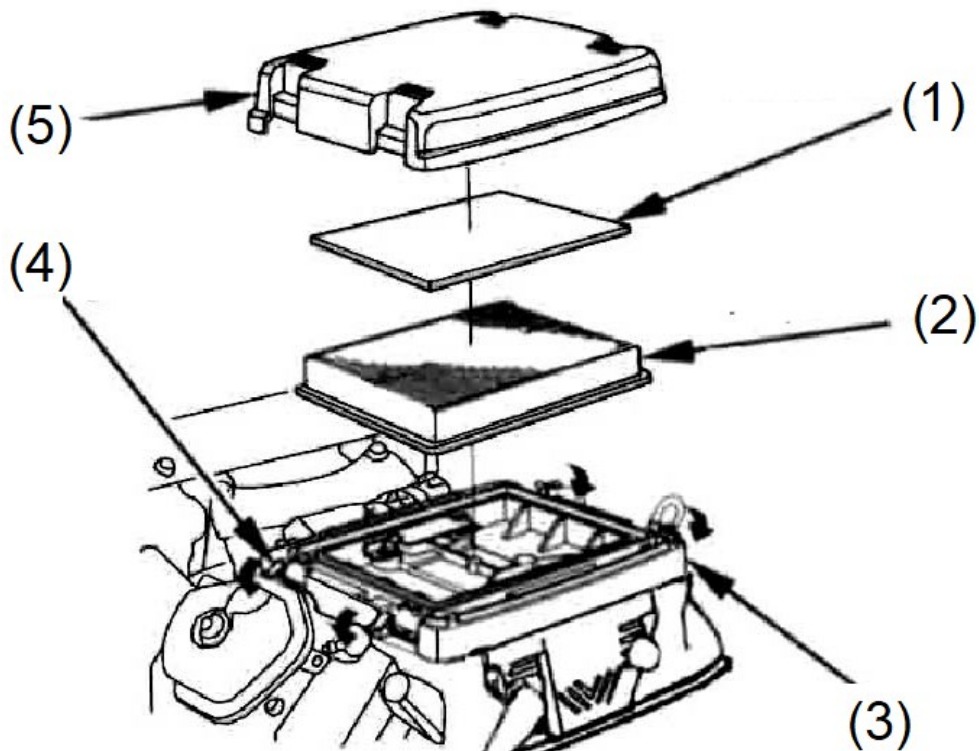
1. Make sure that all fuel lines are properly connected and safely fixed lest there be a fuel leak.
2. Make sure that all fixing screws and nuts are well tightened.
3. Check the fuel and oil levels and top up oil or fuel if necessary.



No	Name	No	Name
1	Oil level gauge	3	Min. oil level
2	Max. oil level		

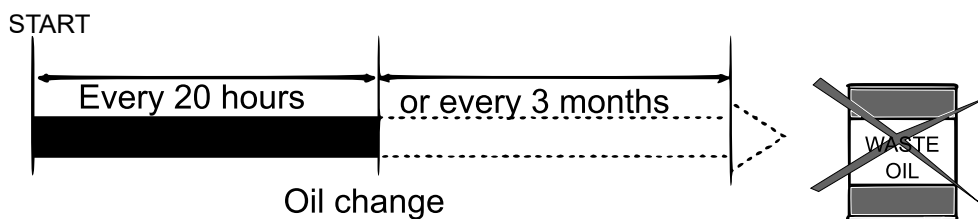


No	Name	No	Name
1	Fuel tank	3	Red marking for max. fuel level
2	Tank opening		



No	Name	No	Name
1	Foam filter	4	Hinge
2	Paper filter	5	Air filter cover
3	Air filter housing		

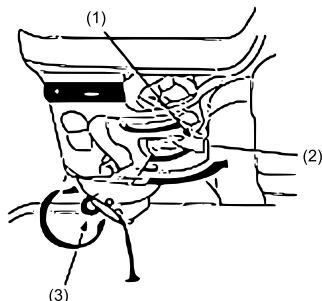
The air filter is to be checked and, if necessary, to be cleaned or replaced regularly.



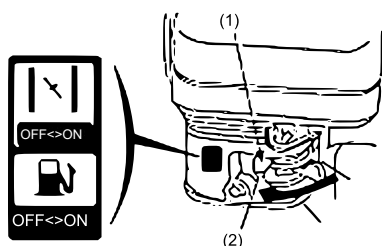
<b>Inclination of output shaft</b>		
<b>Allowable inclination</b>	≤20°	
<b>Inclination of engine</b>		
<b>Allowable inclination</b>	≤20°	

### Starting and stopping the engine

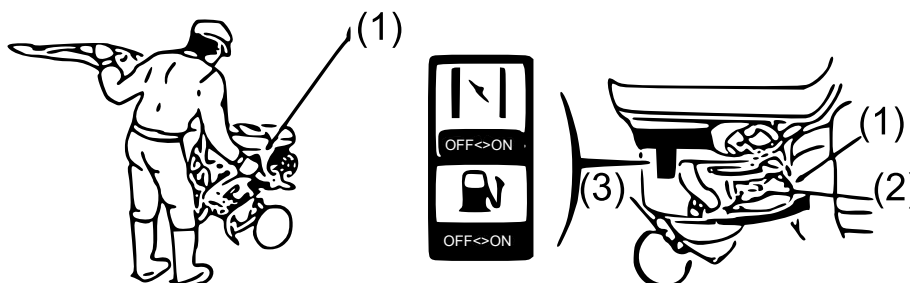
Open the choke (1) and untighten the drain screw (3) of the carburettor. As soon as fuel flows out, the drain screw (3) must be retightened. Afterwards, you can start the motor as usual.



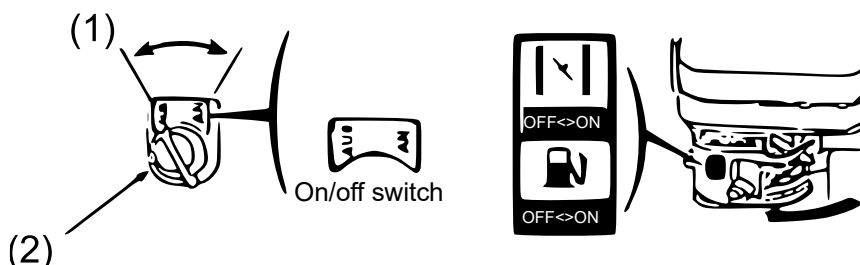
No	Name	No	Name
1	Throttle control lever	3	Drain screw
2	Throttle valve open		



The motor may only be operated within the range of the rated performance and speed. Should you detect any abnormal operation behaviour, immediately stop the engine and start remedial measures. The motor should not be charged within the first 1–3 min after starting.



No	Name	No	Name
1	Choke	3	Carburettor drain screw
2	Choke not activated		

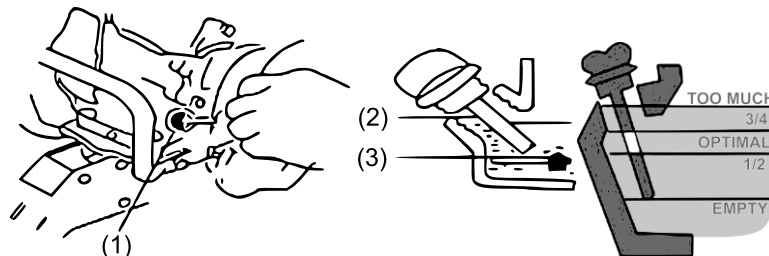


No	Name	No	Name
1	Ignition to off position	2	Ignition switch

If you wish to stop the engine, reduce the speed to its minimum, then turn the choke to off and the on/off switch to off. The motor will stop immediately. The switch is on the right side of the crankshaft gear housing.

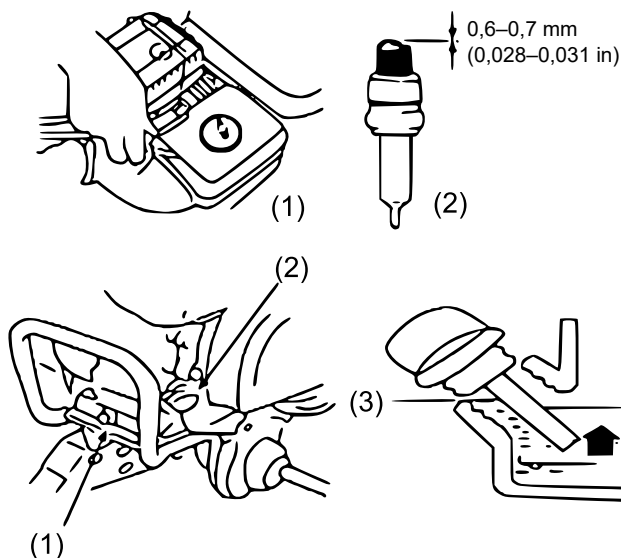
**Regular maintenance**

- Regularly clean the air filter or replace it, should you not be able to clean it any longer. It should be cleaned after approx. 25 operation hours.
- Check all fixing screws for tightness and re-tighten them if necessary.
- Regularly check the motor oil level.



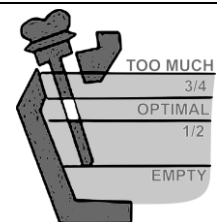
No	Name	No	Name
1	Oil level gauge	3	Min. oil level
2	Max. oil level		

The spark plug should be cleaned, checked, replaced, after 50 operation hours, or re-adjusted following instructions if necessary. If the earth electrode is too heavily burnt or the spark plug too heavily worn, the plug should be replaced by a new one of identical type. **Only remove and install the spark plug with the engine being cold! ONLY use ORIGINAL spark plugs!**



No	Instruction/name
1	Dismount spark plug.
2	Adjust electrode.

1	Oil drain screw
2	Oil filler
3	Max. oil level



Clean the fuel tank after 100 operation hours. To do this, remove the tank and rinse its inside. The fuel pre-filter should be cleaned regularly.

Before the engine is stored for a long time, the fuel tank should be emptied entirely and the carburettor emptied via its drain screw (3). The motor oil should be drained in operation-warm condition (with the engine stopped!) and replaced with new oil. The exterior of the engine should be cleaned of dirt entirely. The air filter and spark plug should be re-checked and replaced, if necessary, or cleaned/re-adjusted. With the spark plug removed, the combustion chamber should be filled with a small quantity of oil to prevent oxidation. After these steps, the engine can be stored in a dry room.





Maintenance schedule

Type of intervention		Frequency				
		Every time	During the 1 <sup>st</sup> month or after 20 hours	Every time or after 50 hours	After 6 months or 100 hours	Every year or after 300 hours
Motor oil	Check oil level.	x				
	Replace.		x		x	
Air filter	Check.	x				
	Clean.			x		
	Replace.					x
Spark plug	Clean, adjust.				x	
	Replace.					x
Ignition sensor	Clean.				x	
Idling	Check, adjust.					x
Play of valves	Check, adjust.					x
Oil filter	Replace.					x
Petrol filter	Clean.					x
Fuel supply line	Check.	After 2 years (replace if necessary)				



### Synopsis of torques

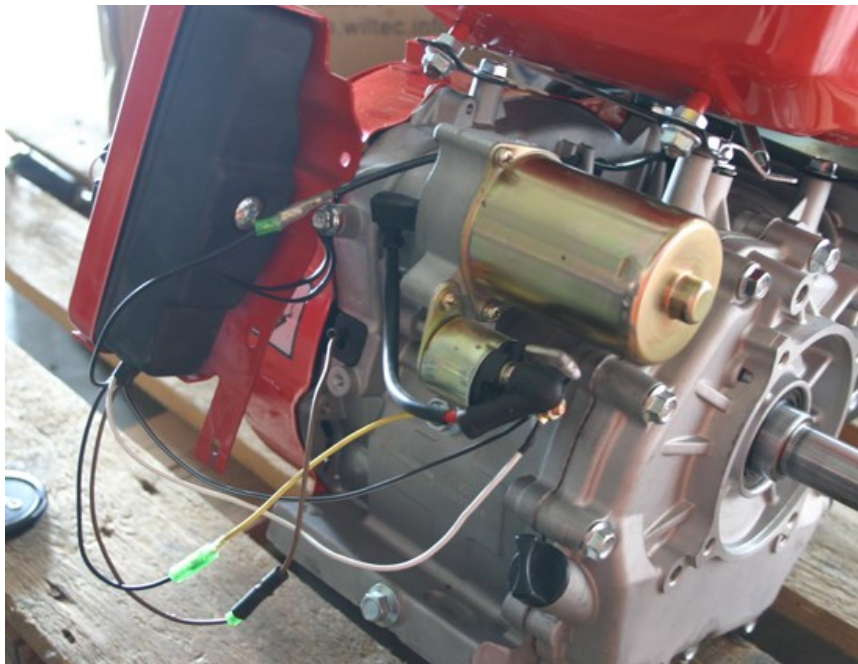
Component	Frame data	Torque value	
		N·m	kg·m
Tension anchor bolts	M8×1.25 (special)	14	1.4
Cylinder-head screws	M8×1.25	34	3.5
Fly-wheel screws	M20×1.5 (special)	113	11.5
Counter-nut of rocker arm shaft	M6×0.75	10	1.0
Fly-wheel bolt	M8×1.25 (special)	24	2.4
Crankcase screw	M8×1.25	24	2.4
Spark plug	20		
Distance of spark-plug electrodes	0.6–0.7 mm (0.024–0.028 in)		
Play of valves	IN: 0.15 ±0.02 mm EX: 0.20 ±0.02 mm		

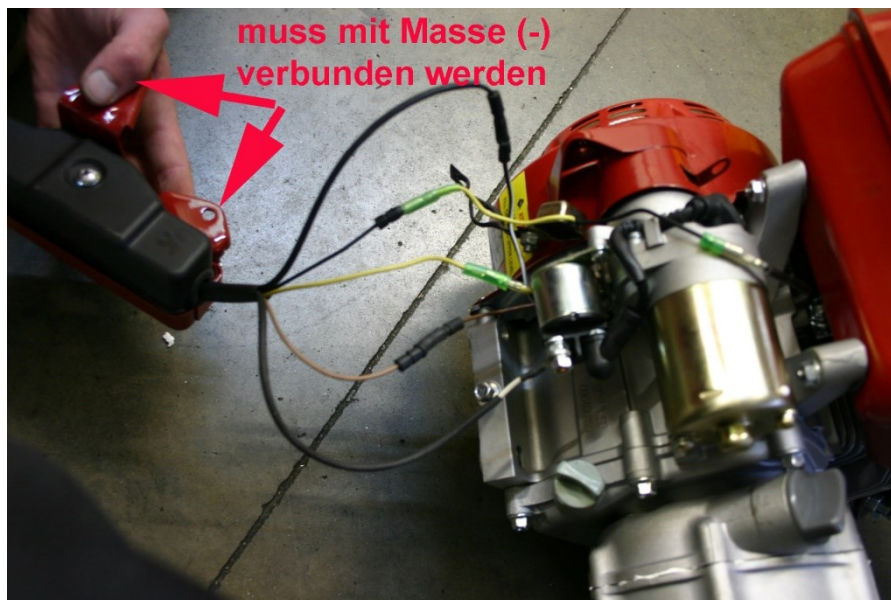
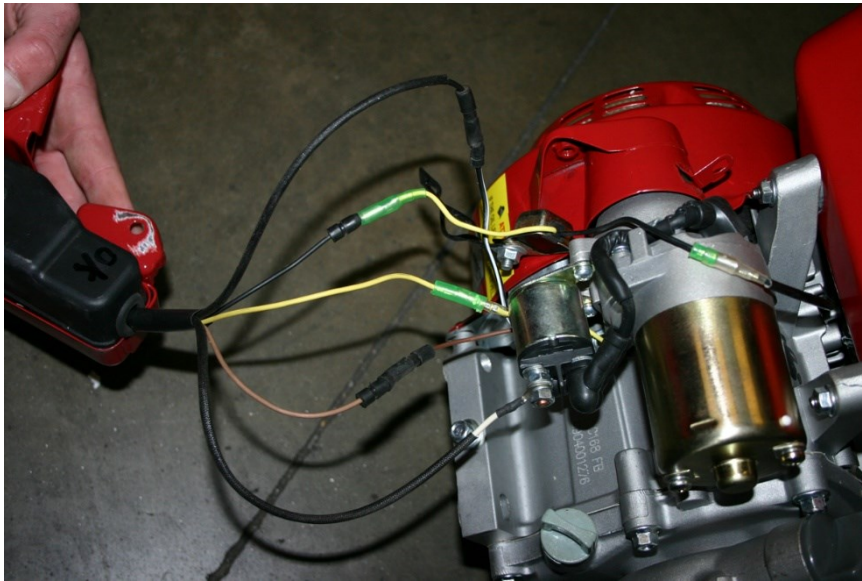
### Technical specifications

<b>Model</b>	2 V78F-3
<b>Engine design</b>	4-stroke, 2-cylinder, OHV petrol engine
<b>Engine bore × upstroke (mm)</b>	78×72
<b>Cylinder capacity (mℓ)</b>	690
<b>Compression ratio</b>	8.5:1
<b>Max. initial power</b>	20.4 hp / 15 kW / 3600 1/min
<b>Recommended power</b>	18.4 hp / 13.5 kW / 3600 1/min
<b>Max. torque</b>	43.5 Nm / 2500 1/min
<b>Ignition system</b>	Transistor/magneto ignition (TCI)
<b>Fuel consumption (9/kWh)</b>	≤370
<b>Engine oil capacity (ℓ)</b>	1.5
<b>Weight (kg)</b>	46

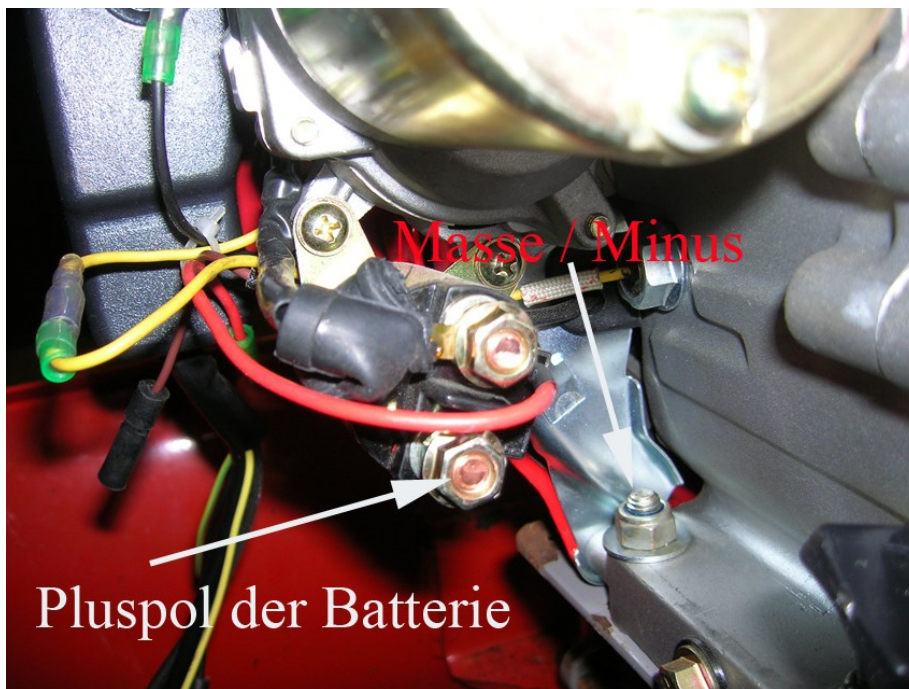
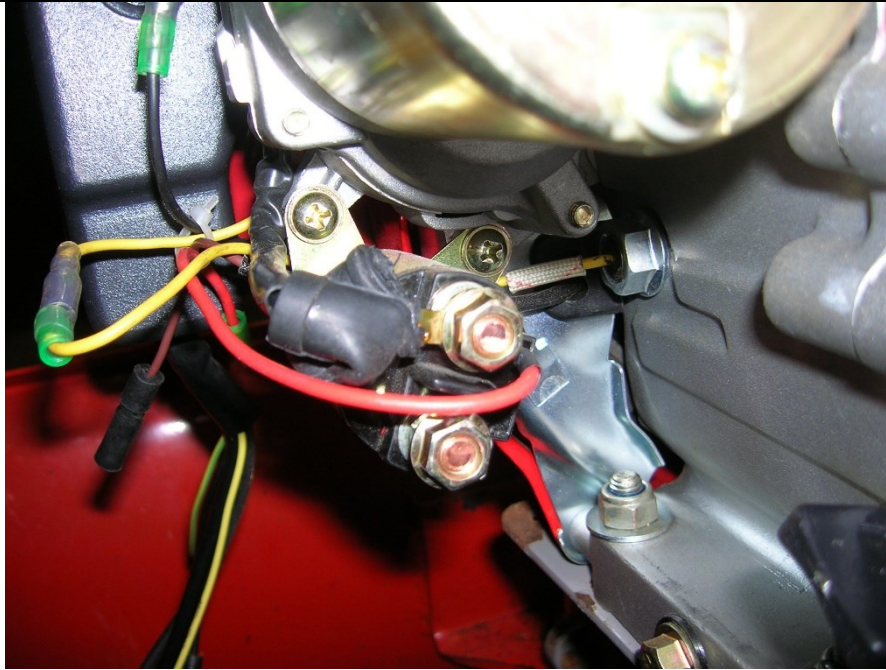
## Installation of e-starter (optional)

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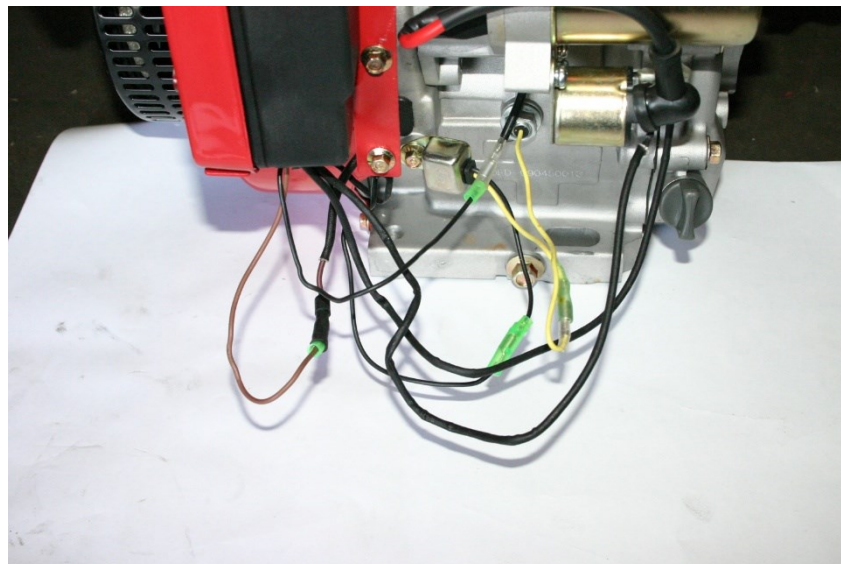
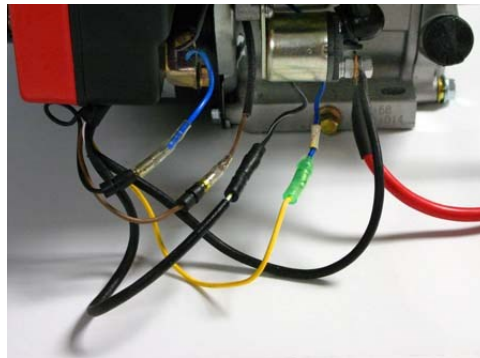


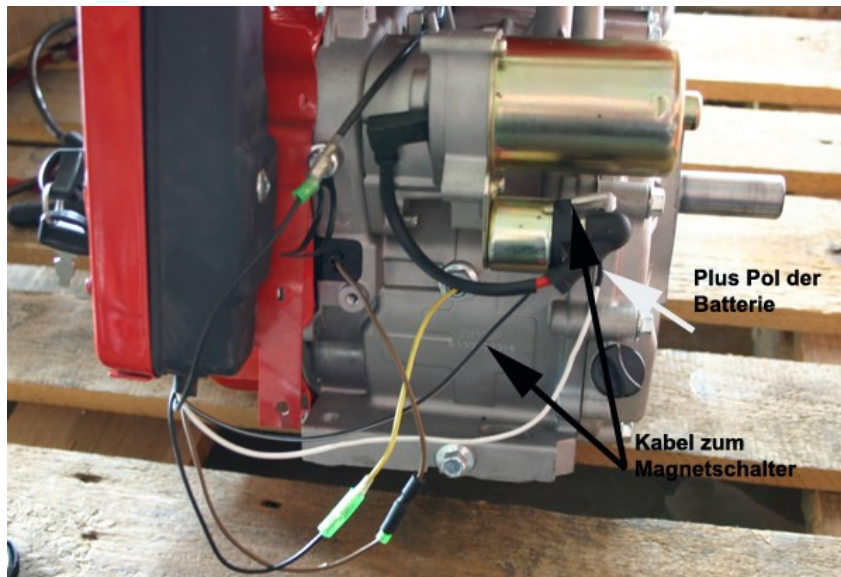
**TO BE CONNECTED TO EARTH (-)!**



**EARTH / NEGATIVE**

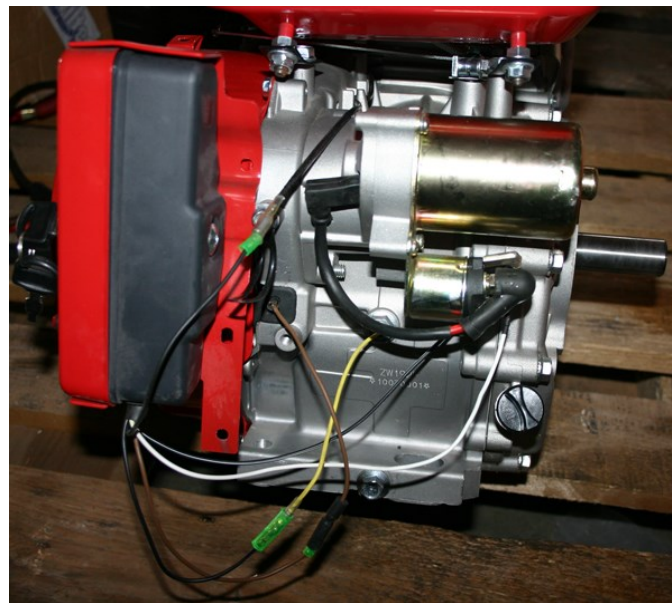
**POSITIVE POLE OF BATTERY**





← POSITIVE POLE OF BATTERY

← CABLE TO MAGNETO SWITCH



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