

Part number 805058803



Electronic replacement regulator for original 6-volt motorcycle dynamo systems, voltage regulating, for negative ground (minus to chassis)

- ATTENTION: There are probably copies manufactured in China with the same designation R81 on the market that do not originate from VAPE. All our regulators are marked with both the VAPE and the VAPE logo. If this is missing, it is a copy.

! **The main problem with using this regulator is the need to remove (disconnect) the resistor on the alternator.** Almost all problems (overvoltage or even no charging function at all, up to and including the regulator burning out) are due to resistors that have not been removed! Unfortunately, on many alternators, the resistor is not as clearly visible as a single component as it is on the later MZ 60W alternators, and the customer believes that the resistor has already been removed! If the alternator worked with the original regulator, a resistor was definitely installed! If in doubt, keep your hands off the component!

LED charging indicator lights **do not** always work with the regulator, and it cannot be ruled out that they may cause the regulator to malfunction.

- Intended use:

Replacement regulator for 6-volt motorcycle dynamos with

- **negative ground** (connecting to positive ground will immediately destroy the regulator!)
- at least 4 field coils (coil packs in the dynamo housing)
- at least 2.5 ohms wire resistance of the field
- maximum 16A power (~100Watt)
- for ambient temperatures from -20 to +80 °C
- The regulator provides 7.0 to 7.2V regulated voltage when a consumer is connected (light switched on)
- It can be used for dynamos with both negative and positive field excitation

(Positive field excitation is NOT positive ground!)

For further information, see the VAPE website.

- A 6V lead/acid battery is required; the device will not function without a battery or if the battery is dead (see also notes).
- You must switch off the resistor for field excitation (present in every original dynamo system, even if you cannot see it as a separate component!), which can sometimes be complicated because the resistor is often very well hidden.

- If you cannot see a resistor, this does not mean that it has been removed; it is often hidden as a simple piece of wire on a winding!**



- **Notes:**
 - Even the best regulator cannot regulate what does not exist. Remember that the cause of your lighting problems may be a defective dynamo. You cannot use the regulator without a battery (it will not work).
 - The regulator (like all our regulators) is **designed for use with lead/acid batteries** (whether fleece, gel, or flooded). Nickel/cadmium, NiMH, or lithium are not suitable. **Under no circumstances** should real dry batteries (alkaline manganese, zinc-carbon) be used. These can even cause fires.
 - This regulator is a replacement regulator, electrically speaking a substitute. **Physically, it has different dimensions and mounting points** than the respective original mechanical regulator.

- It is essential to observe the information on the control resistor and the approval list!!! Failure to comply will void the warranty!

- **Connections:** 4 plug contacts 6.3 mm with the following labeling
 

DF+, D+/61, 51 and DF-

- and a ground contact on the side

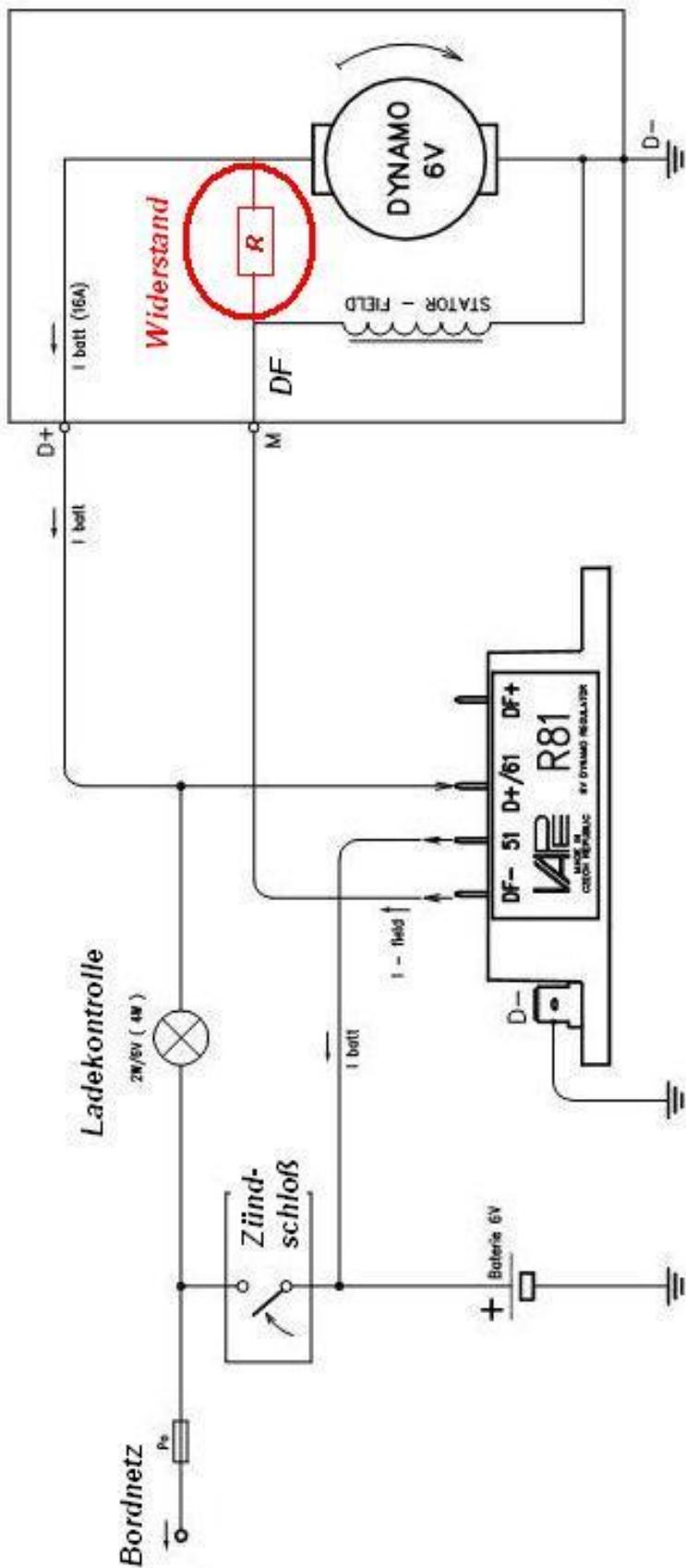
- DF- is the field connection terminal for field coils connected to the negative pole (negative excitation)
- DF+ is the field connection terminal for field coils connected to the positive pole (positive excitation)

- **Dimensions:** 90x40x30 (with contacts)

- **General installation information:**
 - Remove the original regulator. Make a note of the original wiring.
 - Attach the new regulator to the motorcycle. Please attach it correctly; do not lay it loosely to avoid short circuits later. The regulator can be connected directly to ground, but this is not necessary as it has a ground contact.
 - Terminal DF- is for connecting a negatively excited field, terminal DF+ is for connecting a positively excited field. If you mix up the DF- and DF+ terminals, nothing will be damaged, but the dynamo will not supply any power. However, NEVER connect the two terminals, as this will immediately destroy the regulator!
 - For the regulator to function correctly, you must remove the regulator resistor from the dynamo.
- Specific installation depends on your motorcycle
 - (If you do not see any resistance, this does not mean that it has been removed; it is often hidden as a simple piece of wire on a winding!) and have a working 6V battery in the system.

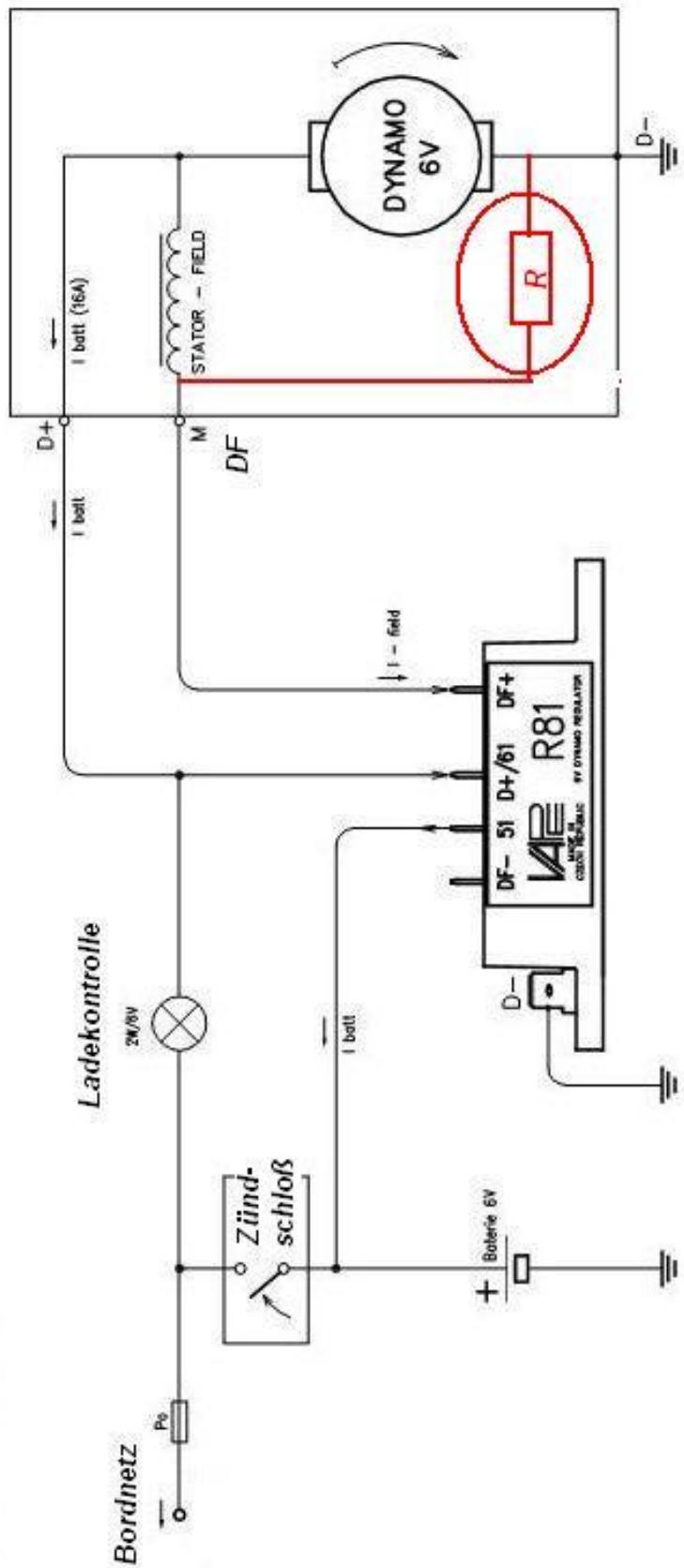
Circuit diagram for negative field excitation

The resistor to be removed is marked in red!



Circuit diagram for positive field excitation

The resistor to be removed is marked in red!

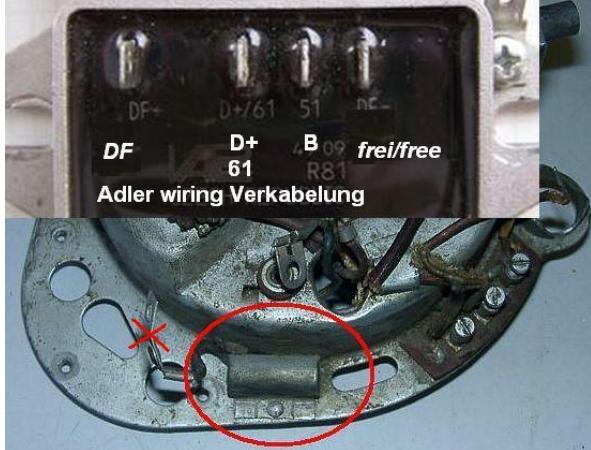
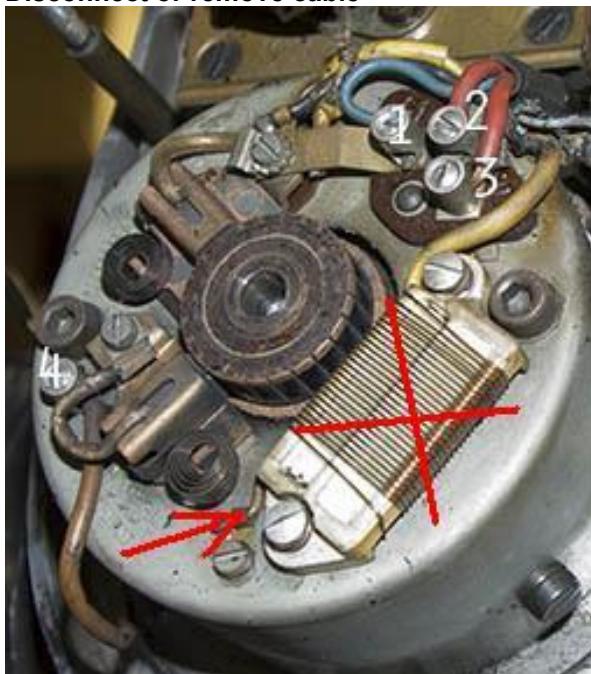




- Approval list and connection instructions for the VAPE controller **805058803**

- The resistor must be removed or disconnected in all cases (see info below)

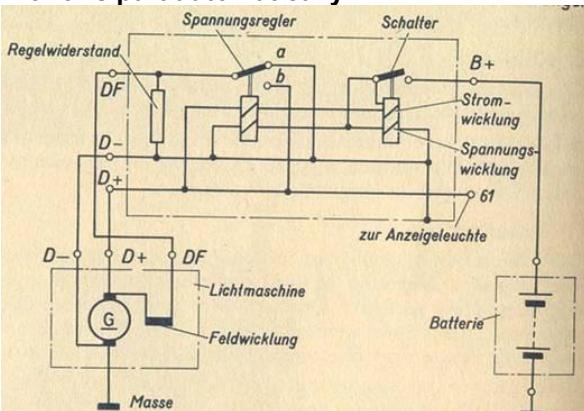
- **Use in other applications is not intended and therefore not covered by the warranty!**

Motorcycle type	DF connection	Information about resistance (more information available online via links)
AWO	Not approved , as there are too many possibilities for incorrect connection (hidden resistance and countless modifications)	
Adler	DF Minus	<p>- Disconnect cable</p> 
BMW 6-volt boxer models	DF Plus	<p>Disconnect or remove cable</p> 

DKW RT post-war models
(125 W ??)

DF Minus

- is inside stock regulator and gets removed
with this part automatically



EMW R35

DF Plus

- disconnect wire

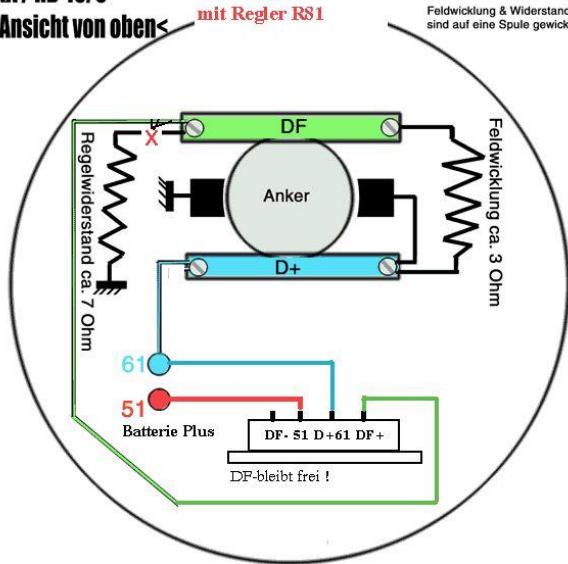
IKA / RD 45/6

>Ansicht von oben<

EMW Lima

mit Regler R81

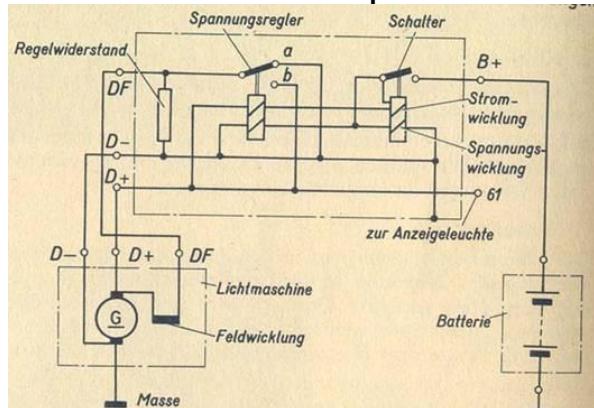
Feldwicklung & Widerstand
sind auf eine Spule gewickelt



IWL Pitty and SR56 Wiesel

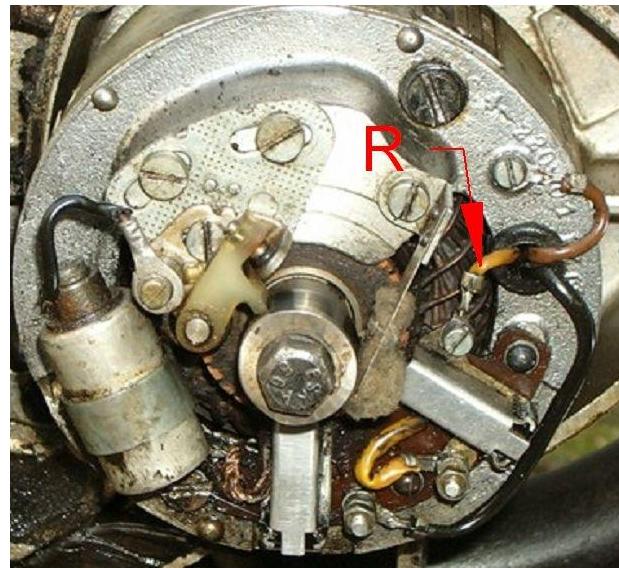
DF Minus

- disconnect wire or remove part



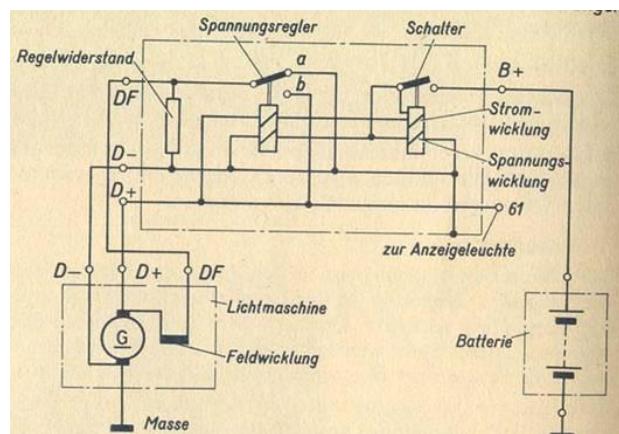
Early MZ RT/3 and IWL SR59
Berlin

DF
Minus



IFA/MZ RT /1/2

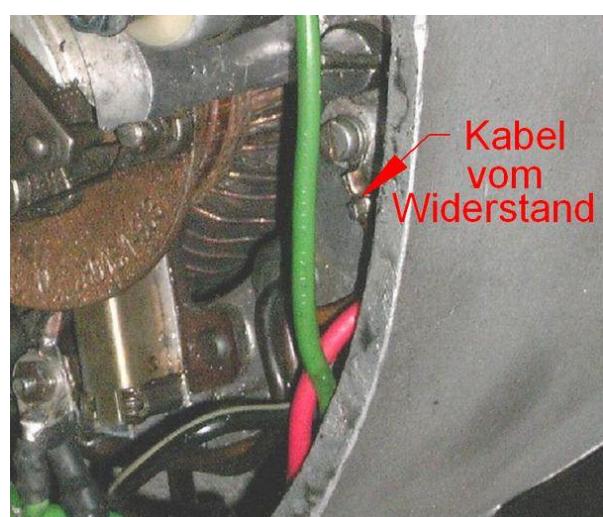
DF
Minus



- but can also be in the field!!! (analogous to BK)

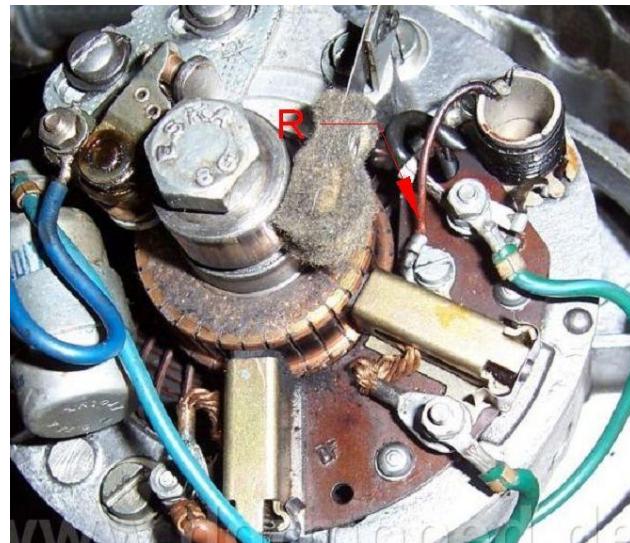
IFA/MZ BK 350

DF Plus



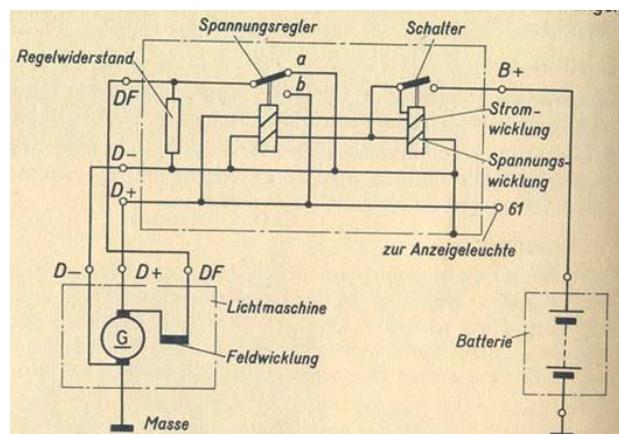
later MZ RT/3 and 60W MZ, Troll
1

DF
Minus

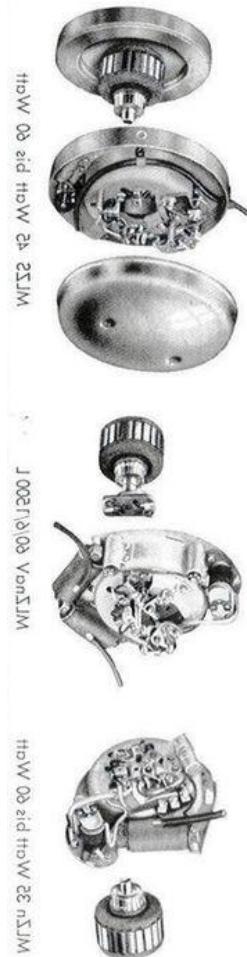


2-stroke JAWA from 360 (those with minus already grounded)

DF Plus

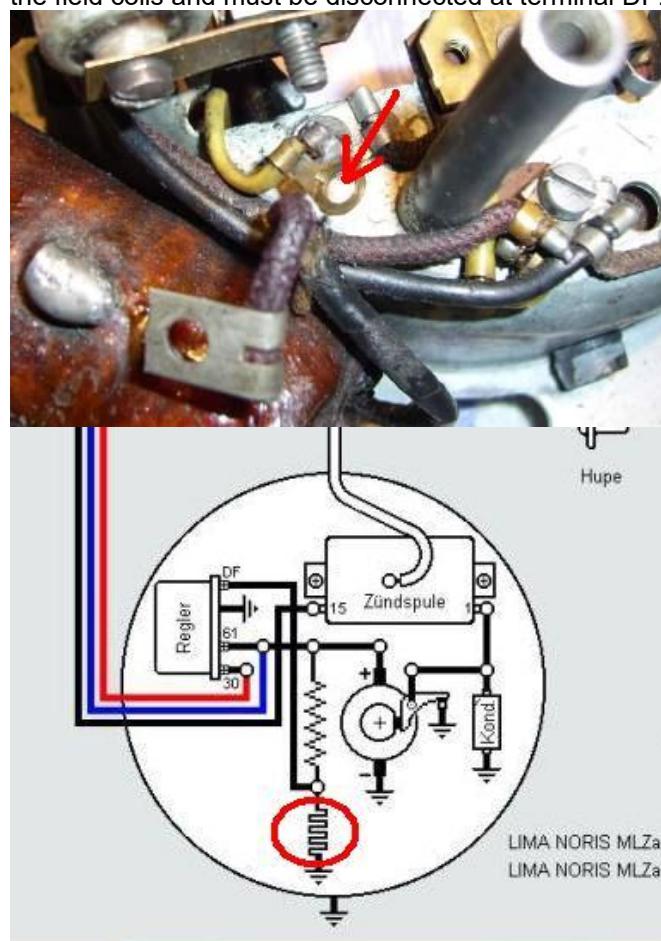


Motorcycles with original
e.g., Puch with dynamo, Horex,
Zündapp, ILO,



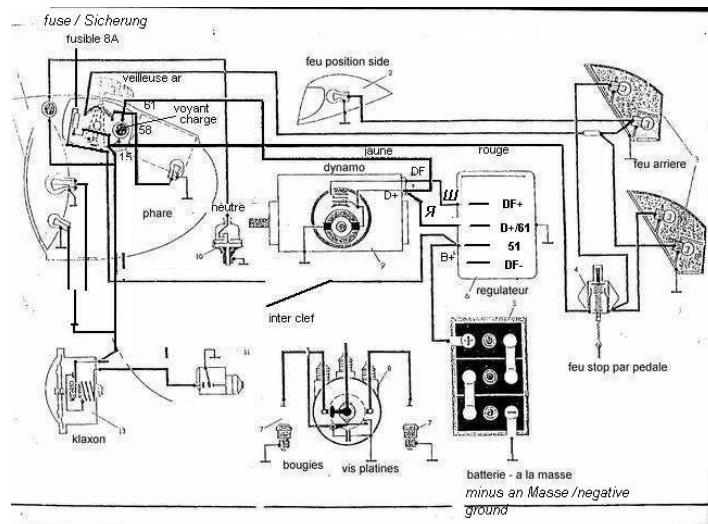
DF
Minus

is a piece of wire with approx. 6 ohms wound on one of
the field coils and must be disconnected at terminal DF.



see also (circled in red)

Dnepr/Ural/M72 6 volts with PP302 regulator (negative
ground!)



DF Plus

- is in the controller, so it
is automatically omitted
The connection
originally marked with Я
corresponds to D+, the
connection Ш
corresponds to DF +
Б is terminal 51 (battery)