1977 Puch Maxi Wiring Diagram

- VDO Speedometer
- Chrome Oval Style Switch as viewed flipped upside down
- HT Coil
- European Style Terminal Block
- Metal CEV Headlight Assy
- 6V/21w Headlamp
- Horn
- Chrome Oval Style Switch as viewed flipped upside down
- 6V/1.2w Speedo lamp

Courtesy of Shelly/Mopedgal
**Head Light Circuit**
The headlight circuit receives its voltage from the yellow wire coming out of the magneto, and an empty terminal block. Power is directed to the terminal block and then up to the switch. When the switch is turned on, voltage is then sent up to the headlight via the yellow/black wire. The yellow/black wire is also routed to the terminal block, and sends power to both horn switches. When either switch is activated, power is sent up to the headlight via the yellow/black wire.

**RH Brake Light Switch**
Switch is a NO type (normally on) in its relaxed state. The wire goes directly from the terminal block to the same terminal as the Green W/Black wire. This will bypass the horn circuit to a direct grounding point.

**Brake Light Circuit**
The brake light circuit gets its energy from the gray wire coming out of the magneto, and an empty terminal block. The gray wire splits in two at the terminal block and sends power to both brake light switches. When either switch is activated, power is sent to the brake lamp. The headlight circuit must be energized for the brake light to function. When the brake switch is activated, the tail light will also go off.

**Ignition/Horn Circuit**
Bosch 6 wire magneto
4 coil/armature assy. with externally grounded
Ignition primary coil
Blue wire-ignition
Blue W/Black Wire-ignition (return path/ground)
Green Wire-Brake Light
Yellow Wire-Head Light, Speedo Light and Horn
Gray Wire-Tail Light
Green W/Black Wire-Ground Wire For Brake Light

- The headlight and taillight coils are directly grounded through the stator plate/chassis.
- The Ignition coil is grounded through the Blue W/Black wire.
- The Brake Light coil is grounded through the Green W/Black Wire.
**1977 Puch Maxi Wiring Diagram**

*Courtesy of Shelly/Mopedgal*

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**NOTE ON BLUE W/BLACK IGNITION WIRE:**
The Blue w/Black wire serves as a return path for AC current being generated by the primary coil that it is a part of. Puch uses this 6th wire (Bosch 5 wire magneto don’t use this wire and instead are internally grounded) to supply current to the horn which can cause problems if the horn is faulty. This wire must have an uninterrupted path from a ground source. If you feel that the horn is causing issues with the mobility of your Puch, move the Blue w/Black wire at the terminal block to the same terminal as the Green w/Black wire. This will bypass the horn on to a direct grounding point.

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**Ignition/ Horn Circuit**

*Bosch 6 wire magneto*

4 coil/armature assy. with externally grounded ignition primary coil

- Blue Wire: Ignition
- Blue w/Black: Wire: Ignition (return path/ground)
- Green Wire: Brake Light
- Yellow Wire: Head Light, Speed Light and Horn
- Gray Wire: Tail Light
- Green w/Black: Wire: Ground Wire for Brake Light

- The headlight and taillight coils are directly grounded through the stator plate/chassis.
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RH Brake Light Switch
Switch is a NO type (normally on) in its relaxed state
(Position when brake lever is squeezed)

Brake Light Circuit
The brake light circuit gets its energy from the
green wire coming out of the magneto...away. The green wire
splits in two at the terminal block and sends power to both
brake light switches. When either switch is activated, power
is sent back to the terminal block via the blue/w/green
wires. The two blue/w/green wires connect to a single
blue/w/green wire which is routed to the brake lamp.

LH Brake Light Switch
Switch is a NO type (normally on) in its relaxed state
(Position when brake lever is squeezed)

Chrome Oval Style Switch
as viewed flipped upside down

European Style Terminal Block

Horn

Chrome Oval Style Switch
as viewed flipped upside down

HT Coil
#15 #1
**Head Light Circuit**

The headlight circuit receives its voltage from the yellow wire coming out of the magneto assy. Power is directed to the terminal block and then up to the light switch. When the switch is turned on, voltage is then sent up to the headlight via the yellow/black wire. The yellow/black wire also pigtailed from the headlight connection and sends voltage up to the speedo bulb via a Black/Yellow wire.

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**1977 Puch Maxi Wiring Diagram**

![Wiring Diagram Image]

- **VDO Speedometer**
- **6V/1.2w Speedo lamp**
- **Metal CEV Headlight Assy 6V/21w Headlamp**
- **Horn**
- **Chrome Oval Style Switch as viewed flipped upside down**
- **European Style Terminal Block**
- **Headlight Coil**
- **HT Coil**

*Courtesy of Shelly/Mopedgal*
1977 Puch Maxi Wiring Diagram

Tail Light Circuit

The tail light circuit gets its power from the gray wire coming out of the magneto assembly. This circuit is very simple because the gray wire goes directly from the terminal block to the tail lamp. The headlight circuit must be energized for the tail light coil to function. When the headlight is turned off, the tail light will also go off.

VDO Speedometer

Horn

Chrome Oval Style Switch as viewed flipped upside down

European Style Terminal Block

HT Coil

Taillight Coil

Green wire coming out of the magneto assembly.
1977 Puch Maxi Wiring Diagram

Grounding Circuit
Brown wires are used for the chassis grounding circuit.

Chrome Oval Style Switch
as viewed flipped upside down

European Style Terminal Block
Understanding how a Puch horn circuit works

Most Puch mopeds built after the later half of 1977 through the mid 80's used a 6 wire Bosch magneto and generator assembly consisting of 4 coil and armature assemblies to supply AC current to the different circuits on the bike.

If you have an internally grounded primary ignition coil/5 wire magneto, this diagram will NOT apply. The circuits are different. You can identify it because it does not have the Blue w/Black wire coming out of the magneto Assy.)

Why is the magneto and generator putting out AC voltage and not DC
Most generators produce power in raw AC form. Most vintage mopeds do not use a battery so there is not a lot of reasons to have it rectified into a DC form.
In order to charge a battery, energy must flow into it in a single direction(DC), hence the reason for a rectifier.

How come my moped doesn't use a voltage regulator like most motorcycles?
- The two main reasons are that 1st, your stock Puch moped has a very limited RPM range, meaning you usually won't over-supply your generated power at top speed. 2nd, the voltage regulator itself consumes amps and there is not a lot of extra power available at low rpm's like at idle.

Where does the horn get it's voltage from?
- The voltage is supplied to the horn through the Blue w/Black wire which is also the voltage return/ground wire for the ignition coil.

Why does the horn use the ignition coil instead of the headlight coil?
- The coils in the magneto/generator Assy have an output of only so many watts. If you were to hook the horn in parallel with the headlight and speedo bulbs, every time the horn was activated, the lights would dim dramatically, which would be a safety issue. The ignition coil has enough capacity to power both.

How can a ground wire like the Blue w/Black supply voltage?
- Because the ignition coil is externally grounded, meaning the coil is isolated from all other chassis grounds, the 6th wire/Blue with Black will serve first off as a grounding source or return lead to the coil. As long as this wire has an uninterrupted pathway to a chassis ground, the wire will remain energized back to the coil.

How does this supply voltage to the horn?
- Just like the solid Blue wire, the Blue w/Black wire has voltage coming through it but is directed to a ground source.
  - The Blue w/Black wire goes from the magneto coil to the terminal block
  - The Blue w/Black then routes to the horn (see diagram)
  - The horn then has a chassis ground wire attached to the opposite side. (see diagram)
  - If no switch was installed at this point, the engine would run but the horn would be blowing the entire time. That is because the horn is being supplied with voltage (Blue w/Black wire) and the ignition is also being supplied with a ground source through the horn. If you think of the horn as having a light bulb filament inside, the energy flowing through Blue w/Black wire has a pathway through the horn and then to the grounding source with allows the engine to run.

How does the horn button play into the circuit?
- Since the Blue w/Black wire going to the horn is already energized, the horn button will actually serve to shut off the horn rather than feed it voltage. This is done by splitting the Blue w/Black wire at the terminal entrance to the horn and sending an energized lead to the switch.
  - The horn button in it's relaxed state (not being pushed) is actually making contact to a chassis ground. This in turn grounds out the energy flowing through the Blue w/Black wire. This prevents the horn from blowing but allows the engine to still run.
  - When the button is pushed, it releases the ground contact at the switch, which allows energy to flow to the horn making it sound. When the button is pushed, the engine doesn't die because it is now finding it's ground path through the horn (think light filament again) (see diagram)

What is the problem if when I start my moped, the horn also blows continually?
- The problem more than likely resides in the switch itself. The switch is not allowing the circuit to be grounded out.
  - Test this by removing the switch and connect a wire to a good ground on the chassis.
  - Start the engine. The horn will be blowing.
  - Touch the ground wire now to the Blue w/Black wire terminal on the back of the switch.
  - If the horn stops blowing, your switch is faulty

What is the problem if my moped won't run with the horn connected?
- The horn itself is bad. Either replace the horn or do one of the following:
  - Move the Blue w/Black wire form the magneto side of the terminal block and move it to the same terminal as the Green w/Black wire
  - Tape or connect all the wires from the horn terminals together.

Chrome Oval Style Switch as viewed flipped upside down

Chrome Oval Style Switch as viewed flipped upside down

 Courtesy of Shelly/Mopedgal

HT Coil

Primary Coil
Understanding how a Puch horn circuit works

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So how does this supply voltage to the horn?

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