

## Installation manual for air horns with compressor.

### Warnings before you start

- **Disconnecting the battery:** Before starting the installation, the battery needs to be disconnected. First disconnect the ground (-) terminal and only then disconnect the positive (+) terminal. This minimises the chance of a short-circuit. Make sure that the cables will not accidentally rebound off the terminal posts. A folded towel in between should be sufficient.
- **Suitable for 12 V:** If not mentioned otherwise, the horn is only suitable for 12 volts. In cars or motorbikes built after 1965 this is no problem. Very old cars might have a voltage of 6 volts. Trucks and tractors mostly have a voltage of 24 volts. If the voltage is too low the horn will not work properly, if it's too high the horn will break down.
- **Ground to mass:** The installation manual uses ground to mass, which means that the ground (-) terminal of the battery is connected with the frame of the car or motorbike. Power goes through one wire into the horn and through another wire back to the battery. In cars and motorbikes mostly the chassis is used as ground instead of a back-wire.
- **Right polarity:** As air horns have a compressor it is very important that the positive (+) and ground (-) terminal are connected the right way. If installed in the wrong direction the compressor will work, but won't press air to the outside.
- **Place fuse as near as possible at the battery:** If a wire is directly connected with the positive (+) terminal of the battery, ensure that the wire between fuse and battery will be as short as possible. If the wire between battery and fuse is touching the ground (-) it may become very hot and could possibly inflame.
- **Hearing protection:** Some horns are extremely loud and can cause hearing impairment. Therefore, please wear hearing protection during installation.

### General instructions

- Use a wire of **at least 2.5 mm<sup>2</sup>** to connect the horn.
- If wires need to be extended, use wire of at least the same thickness. If the wire is too thin the performance of the horn will decrease.
- Use fitting, isolated electrical connectors, like Faston connectors. Crimp these onto the wire using the correct tools. The terminals should be fastened in such a way that they cannot be disconnected from the wire by hand.



Faston  
Female



Faston  
male



Faston  
eye

- Make sure that the wires cannot be damaged mechanically. Secure them with cable ties. Pay extra attention to places where they might come into contact with sharp elements of the chassis.
- Always use the **included relay** for installation. The horn uses 18 amperes. A standard horn-switch cannot process this current and will quickly melt.
- **Place the relay with contacts facing down** in a place where water and dirt can reach it as little as possible.
- In the installation manual we use **coloured wires**. Of course, you can use only black wires, but that implicates you will have to be more careful.
- **Choose a good, safe place:** Make sure that the parts are not placed too close to warm objects (near engine block or radiator), or where they cannot be harmed by the influence of weather. Secure the parts tightly and use the right tools.

### Installing a horn with built-in compressor

- Remove the former horn.
- Place the new horn where water and dirt can reach it as little as possible. Place the new horn upright as much as possible, but at an angle of no more than 25 degrees.

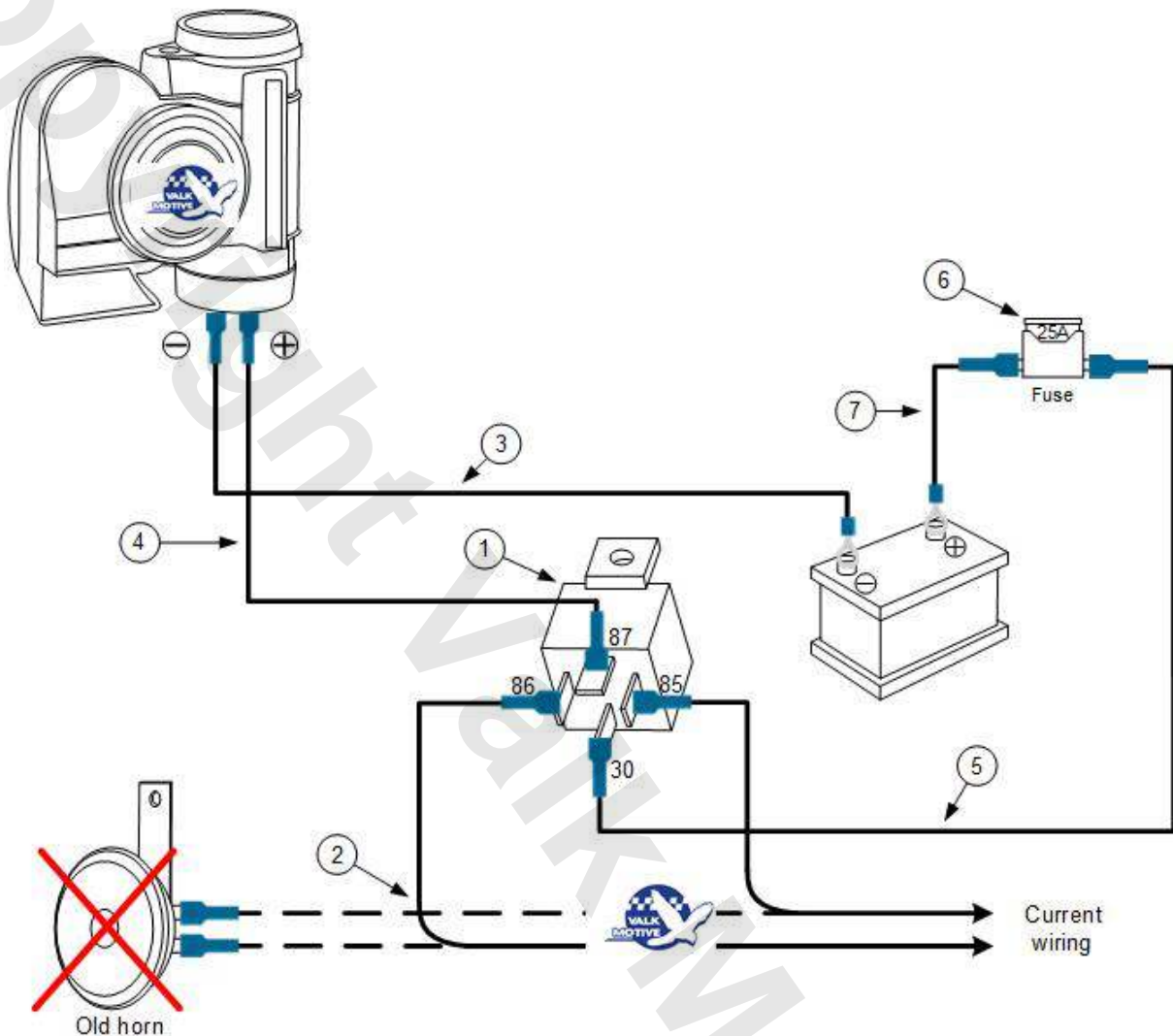
### Installing a horn with separate compressor

- Remove the former horn.
- Install the air horns horizontally or with the opening pointing slightly downward.
- Find a place for the compressor in the immediate vicinity of the air horns. Install the compressor upright as much as possible. Place the compressor where water and dirt can reach it as little as possible.
- Connect the air horns to the compressor by using the included hoses. Keep the hoses short and prevent sharp curves. Subsequently make the connections as indicated on the packaging.
- Make sure that the parts are not placed too close to warm objects, such as the radiator.

### Electrical connection (see installation scheme)

- 1) Find a place to install the relay. The place of the former horn is probably fine, as long as the relay cannot be damaged by water and dirt.
- 2) Move or extend the 2 wires that went to the old horn and connect these to the connections 85 and 86 of the relay (order does not matter). In order to extend the wires, make two pieces of wire with Faston males on one side and Faston females on the other.  
Remark: If the former horn only has 1 connecting wire, it uses the chassis as ground. In this case, the wire should be connected to connection 86 of the relay. Subsequently connect a short piece of wire to one side with a Faston female and to the other side with a Faston eye. Move the Faston female to connection 85 of the relay. Screw the Faston eye onto a spot on the chassis (ground). The place of the former horn is a good spot. Use a knurled ring to ensure a good electrical contact. Such a ring has probably turned up when removing the former horn.
- 3) Draw a (black) wire from the minus (-) terminal of the compressor of the new horn to a suitable ground (-) connection. This should preferably be the ground (-) terminal of the battery. Crimp a Faston eye to the battery side and a Faston female to the other end of the wire.
- 4) Draw a (red) wire from the positive (+) terminal of the compressor of the new horn to connection 87 of the relay. Crimp Faston females on both ends of the wire.
- 5) Draw a (red) wire from connection 30 of the relay to a place near the positive (+) terminal of the battery. Crimp a Faston female on both ends of the wire.
- 6) Connect the wire to the fuse holder of the floating fuse to the battery side. You can stick the fuse holder to the side of the battery with double-sided tape. Place a 25A fuse in the fuse holder.
- 7) Place a (red) wire between the positive (+) terminal of the battery and the floating fuse. Make sure that this wire is as short as possible and is mechanically well protected. Crimp a Faston female on the fuse side and a Faston eye on the battery side.
- 8) Reconnect the battery, including the new wires. It is safest to first connect the positive (+) and then the ground (-) terminal. Put back the protective caps onto the battery terminals.
- 9) Now, the horn can be used. Some horns only work with the ignition in "ACC".

## Installation scheme



### Maintenance

Usually maintenance of the horn is not necessary. It is important that the horn is used regularly. This prevents moisture in the compressor. Shortly sounding the horn each time you drive will keep the compressor in good condition.

**Maintenance of the built-in compressor:** Use WD40 or other Teflon spray only if the horn begins to sound husky. Put the horn on and at the same time spray the Teflon spray into the inlet of the compressor.

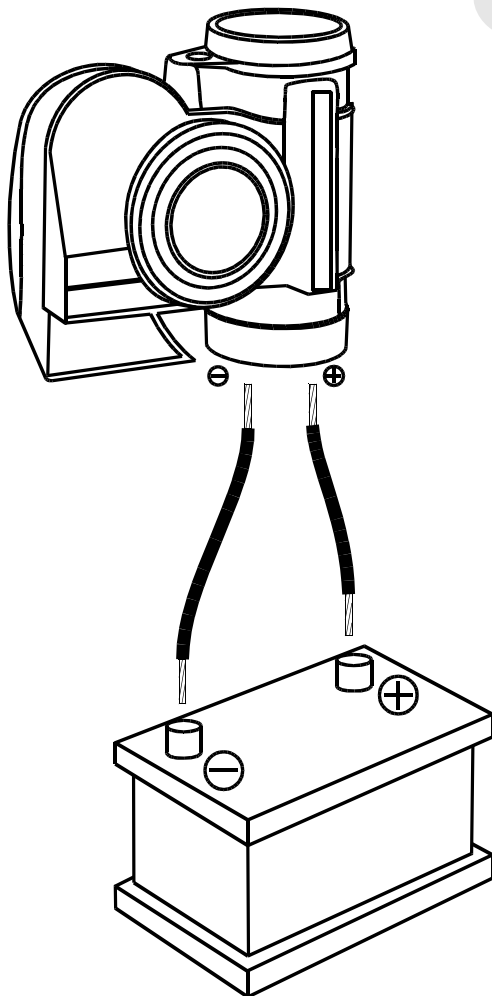
### Maintenance of the separate installed compressor if starting to sound husky:

- 1) Remove the compressor hose.
- 2) Put some drops of thin (sewing machine) oil into the air duct.
- 3) Wait a few minutes.
- 4) Turn on the compressor for a little while to remove redundant oil.
- 5) Connect the hose to the compressor.

## Troubleshooting

In case the horn is not working properly check the following things:

- 1) **Contact switch:** Make sure that the contact switch is in the right position.
- 2) **Fuses:** Make sure that all fuses are intact (also in the fuse holder of the car or motorbike).
- 3) **Relay:** Check whether you can hear a “click” when turning on the horn. If not, the wiring is not correct. The relay has to be installed on the wiring of the former horn. When using the relay provided by Valk Motive polarity does not matter. In that case it does not matter which one of the wires is connected to connections 85 and 86 in the installation scheme. With relays from a different supplier it can matter! Follow step 2 of the electrical connection once more.
- 4) **Wiring:** Make sure that all wires are connected as described in the installation scheme. Pay special attention to the correct connection of the positive (+) and ground (-) terminals of the compressor.
- 5) **Faston connectors:** Check that all Faston connectors are connected properly and that they are crimped onto the stripped wire and not onto the insulation.
- 6) **Ground to mass:** Make sure that the horn is connected properly with the chassis when using the chassis of the car or motorbike as ground (-) terminal. Eventually remove rust and use knurled rings to improve the contact.
- 7) **Try if the horn is working:** In case the horn is not working you can perform the test shown below to find out if the horn is possibly broken.



### Test:

- Connect two wires to the terminals of the horn.
- Connect the ground(-) wire from the horn to the ground(-) terminal of the battery.
- Move the wire of the positive(+) terminal of the horn along the positive(+) terminal of the battery.
- The horn should give a tone now. If you only hear a buzz, the compressor is working in the wrong direction. This implicates that the positive(+) and ground(-) wires of the horn are connected wrongly. Change the wiring at the side of the battery and perform the test again.
- If the horn gives no tone in both cases, it's possibly broken. In that case contact Valk Motive.