SMART TURN SYSTEM

Thank you for making the road a safer place!

STS INSTALLATION MANUAL MECHANICAL SWITCH

www.safer-turn.com/manual

STS INSTALLATION MANUAL

USER MANUAL

DISCLAIMER AND WARRANTY

COMPANY INFORMATION

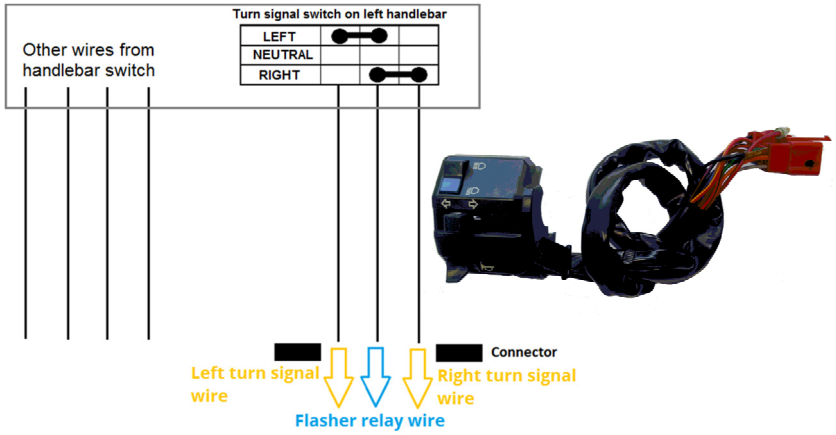
This installation manual is for motorcycles with a mechanical (latching) turn-signal switch.
For Ducati, BMW and other motorcycles with an *electronic* switch, please refer to the electronic version manual.

- Before installation please confirm that your bike has a mechanical turn-signal switch (latching – i.e. It stays on until *manually* cancelled):
  1. Turn off your motorcycle
  2. Press the left or right turn-signal switch
  3. Turn on your motorcycle: if the turn-signal is flashing you have a mechanical switch.
- We strongly advise that the STS system installation is done only by a competent vehicle electrician.
- Please read the installation manual *completely* **before** beginning the installation.
- The pictures in the installation manual are illustrative.
- Power supply must be taken from ACC wire (key-switched ignition 12 V supply), **not** a permanent 12 V from battery.

1. Cabling route and electrical connections <u>before</u> the installation of the STS System

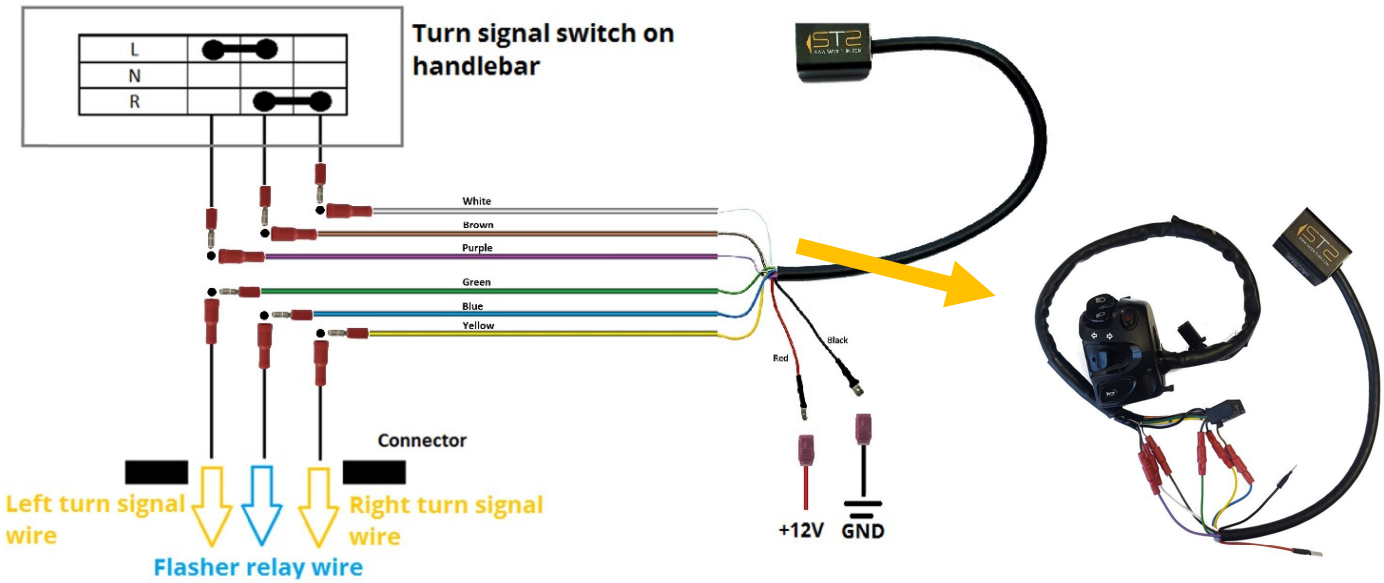
The control (on/off) of the flasher relay is direct from the handlebar switch.





2. Wiring scheme of STS system

The handlebar switch activates the STS unit. The STS unit activates the flasher relay and subsequently cancels it at the end of the manoeuvre. See the common colour chart in Section 6 for wire identification.



Prepare all the cables as shown in the drawing **but**

- **do not** connect the cables FROM the switch (white, brown, purple) yet. This is for testing purposes later in the installation.
- connect **only** the cables FROM the STS device (green, blue, yellow) and the supplies (red, black).

Bear in mind **where** the STS device is to be installed: some wires may need to be extended to the mounting location.

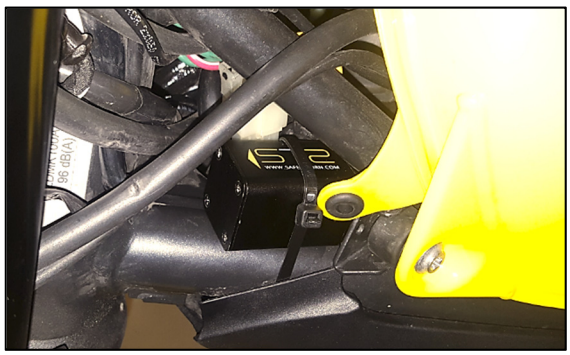
Turn ignition on.

If all cables are connected correctly both left and right indicators should briefly flash.

If not, correct the problem before proceeding with the installation.

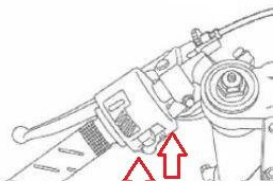
3. Find a mounting point for STS device

- The STS unit has 50cm (20 inch) cables so it must be located near the necessary wires
- If necessary, remove the fairing or other part of motorcycle housing to allow safe access to the cabling
- The mounting location for the STS device should be flat and fairly horizontal
- The STS device has to be fixed to a static section of the chassis (not on a rudder or any other moving part)
- It is usual to fix the STS device with cable ties, so try to find a spot that allows this and attach it firmly
- If necessary use velcro or industrial double-sides tape (not included) to ensure a secure mounting
- Locate the unit away from heat sources such as the engine or exhaust
- **The unit must be installed with the STS logo upwards**
- **The arrow of the STS Logo must point forward/in the driving direction.**



4. Modify the mechanical turn-signal switch from latching (manually cancelled) to momentary (does not stay in the L or R position).

4.1 Loosen the screws that clamp the switch on to the handlebar.



4.2 Four foam spacers are supplied with the package - two large and two small.
The smaller spacers are the most commonly used.



There are two basic types of left handlebar switches (LHS).

Type 1:

Honda, Yamaha, Suzuki, Kawasaki, Triumph.
The switch may vary in visual appearance.



Type 2:

Scooters, Mopeds

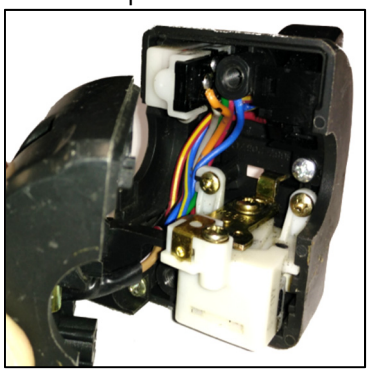


Type 1 LHS

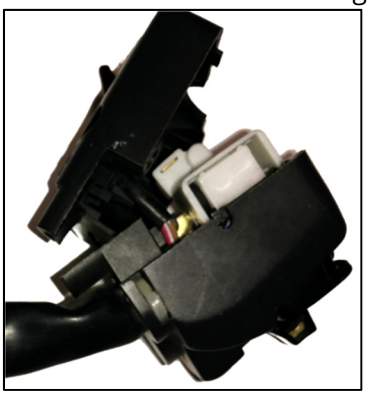
There are two basic variations of Type 1 LHS: **Open LHS** or **Covered LHS.**

- **Open LHS:**

Open switch

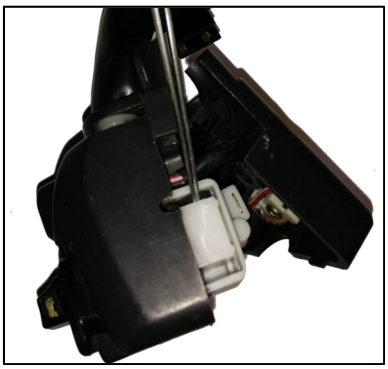


Same switch from different angle

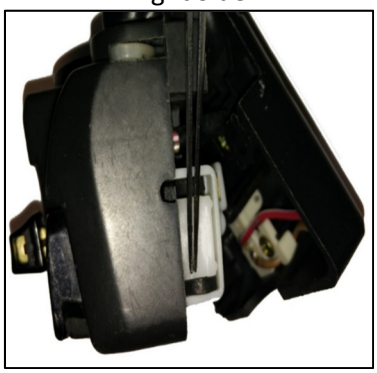


Insert the smaller spacer into the cavities with tweezers.
As you move the lever from side to side, the plastic slider moves from one side to another.
The spacers stop the lever from latching on.

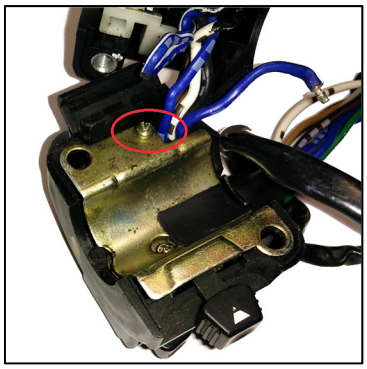
Left Side

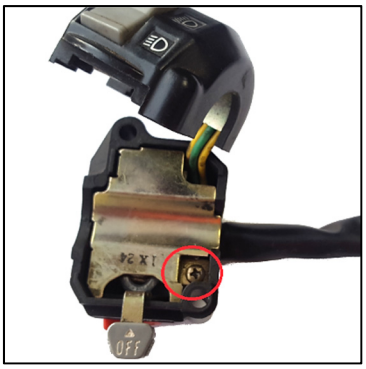


Right Side



- **Covered LHS:**
  Switches may vary in visual appearance.

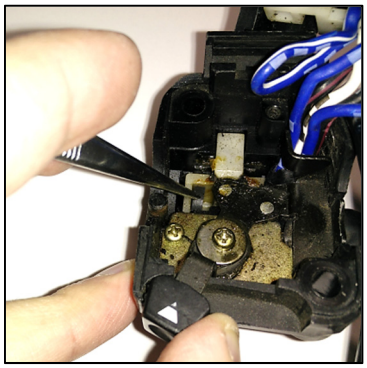




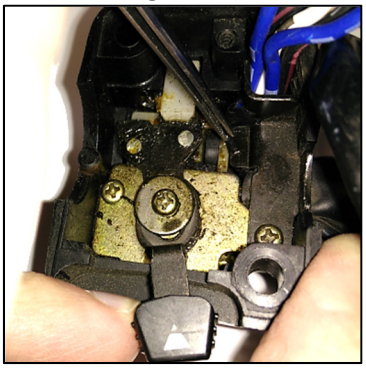
Loosen the screw(s) (highlighted with the red circle), remove the cover to access the two cavities where the spacers have to be inserted.
Insert the smaller spacers into the spacers with tweezers.

As you move the lever from side to side, the plastic slider moves from one side to another.

Left turn



Right turn



After inserting the foam plugs, ensure that the switch still has the full range of movement but does not latch in the on position for either turn signal
Install the LHS back onto the handlebar.

Type 2 LHS

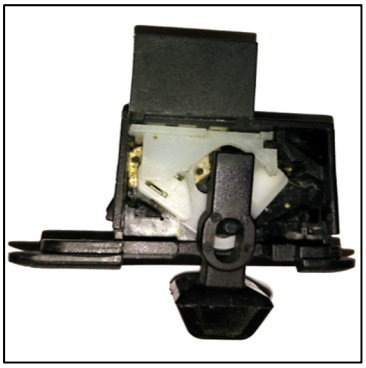
These kinds of switches are mostly used on smaller bikes (scooters, mopeds).

Disassemble the switch from the handlebar.

Remove top plastic cover with a screwdriver



Your switch should look like this

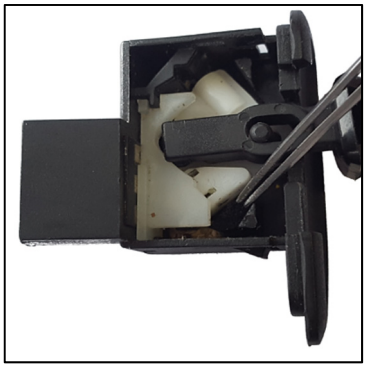


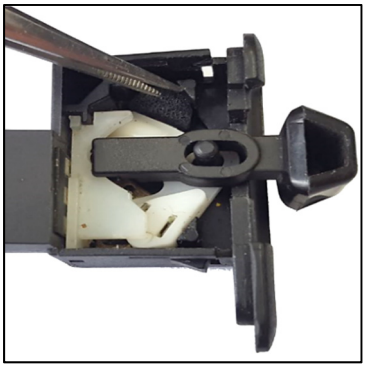
Take one of the larger spacers and slice it into two unequal pieces as shown.



Original large spacer Larger section Smaller section

Insert the smaller piece of foam into the smaller cavity and the larger piece into the other cavity.





After inserting the foam spacers, ensure the switch still has the complete movement but does not latch in either (L-R) position.
Reassemble the cover and LHS back to the handlebar.

5. Test STS unit

5.1 First try

- Connect the yellow, green, blue, black and red wires **only**.
  The white, brown and purple FROM the switch are NOT to be connected yet.
- The STS device/vehicle has to be completely static/secured.
- Turn the ignition on (or start the motorcycle): watch carefully the turn-signals
- After approximately 1 second you should see the indicators flash for a short time.
  If that does not happen, please repeat 2 or 3 times to be *sure* they do not flash.
  - First check that the power supply connections are good and supply voltage with the ignition.
  - Check the other wiring or see the troubleshooting section.

5.2. If the initial test was successful, connect the remaining purple, white and brown wires.

5.3 Testing procedure

- Start your vehicle engine and wait for a few seconds
- Activate the left indicator switch and wait for 30 seconds
- Activate the left indicator switch again to cancel the left turn-signal
- Repeat the procedure for the right turn-signal

6. Reassemble all removed components

Wiring Colour scheme chart for common manufacturers

STS	Colour	Honda	Yamaha	Kawasaki	Suzuki	Vespa	Triumph
ACC	Red						
Rout	Yellow	Light Blue	Dark Green	Grey	Light Green	White / Blue (Bi-Bl)	Grey (S)
PWMout	Blue	Grey	Brown/White	Orange	Light Blue	Blue / Black (Bl-Ne)	Orange (O)
Lout	Green	Orange	Chocolate	Green	Black	Pink (Ro)	Green (G)
Rin	White	Light Blue	Dark Green	Grey	Light Green	White / Blue (Bi-Bl)	Grey (S)
PWMin	Brown	Grey	Brown/White	Orange	Light Blue	Blue / Black (Bl-Ne)	Orange (O)
Lin	Purple	Orange	Chocolate	Green	Black	Pink (Ro)	Green (G)
GND	Black						

IMPORTANT! The colours listed may not be same on your motorcycle. Please check your service manual or ask your dealer.

7. Use

- When you activate the left or right turn-signal lever, the turn-signal will start flashing
- If you want to cancel the turn-signal, push the lever to the same side again
- After each manoeuvre the STS cancels the turn-signal automatically
- STS recognizes and differentiates between:
    - Left or right turn
    - Changing lane
    - Roundabout
    - Overtaking
- STS recognizes when the vehicle is stationary and will not cancel the turn-signal
- If STS does not cancel the turn-signal after the actual manoeuvre, the in-built timer will cancel the turn-signal after 15 seconds of driving
- Operating voltage: 12 V (DC)
- Power consumption: 250 mW

8. Disclaimer

To the maximum extent permitted by applicable law neither ABCS sistem d.o.o. nor its suppliers, its subcontractors, its affiliates, officers, directors, employees, dealers or agents shall be liable to you or to any third party for any incidental damage including personal injury or any other damages, whether direct, special, incidental, indirect or consequential arising out of or related to:

- Smart Turn System not working correctly due to improper calibration of the system and/or any other usage that is not in compliance to Smart Turn System user manual.
- Damage made on motorcycle due to improper installation and/or improper use of Smart Turn System.
- Turn-signals not flashing due to improper installation or calibration.
- Smart Turn System not cancelling turn-signals after the end of the manoeuvre or turn-signals cancelling prematurely (while driving/before the manoeuver is completed).

Smart Turn System is a device that assists the motorcyclist in cancelling a turn-signal after a manoeuver. Smart Turn System can detect a manoeuvre and cancels turn-signal after the manoeuvre is completed. Due to the infinite nature of driving styles and motorcycle types, the company ABCS sistem d.o.o. can take no responsibility if Smart Turn System does not detect a manoeuver/does not cancel a turn-signal after a manoeuvre. Furthermore ABCS sistem d.o.o. can take no responsibility if turn-signals are cancelled prematurely. Correct turn-signal usage is the responsibility of the motorcyclist. The STS device is meant only to *assist* riders with turn-signal cancellation.

Smart Turn System device must be installed in accordance with the ABCS sistem installation manual. If you are not sure about **any** part of the installation or/and your motorcycle wiring scheme please contact ABCS sistem d.o.o. at support@safer-turn.com.

9. Warranty

Limited Warranty applies to physical goods, and only for physical goods, purchased from ABCS Sistem d.o.o. (the "Physical Goods"). Limited Warranty covers any defects in material or workmanship under normal use during the Warranty Period. During the Warranty Period, ABCS Sistem d.o.o. will repair or replace, at no charge, products or parts of a product that proves defective because of improper material or workmanship, under normal use and maintenance. ABCS Sistem d.o.o. will either repair the Product at no charge, using new or refurbished replacement parts. The Warranty Period for Physical Goods purchased from ABCS Sistem d.o.o. is 365 days from the date that the product was shipped.

A replacement Physical Good or part assumes the remaining warranty of the original Physical Good or 180 days from the date of replacement or repair, whichever is longer. This Limited Warranty does not cover any problem that is caused by: conditions; malfunctions or damage not resulting from defects in material or workmanship. To obtain warranty service, you must first contact our support@safer-turn.com to determine the problem and the most appropriate solution for you.

ABCS Sistem d.o.o.
Vojkova cesta 63
1000 Ljubljana
Slovenia - EU

support@safer-turn.com