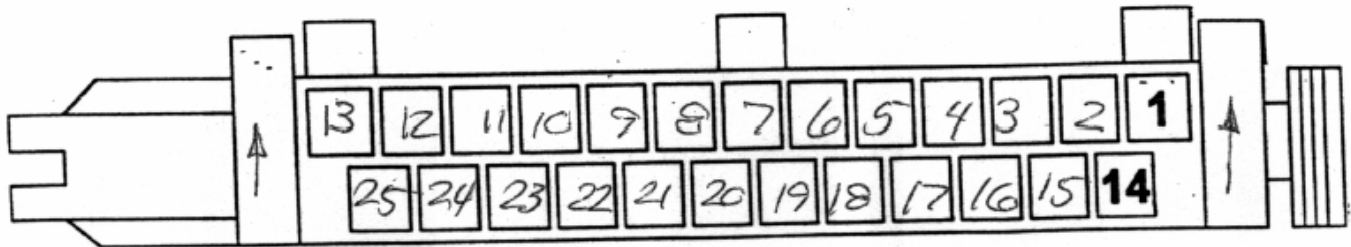




PLEASE READ BEFORE INSTALLING

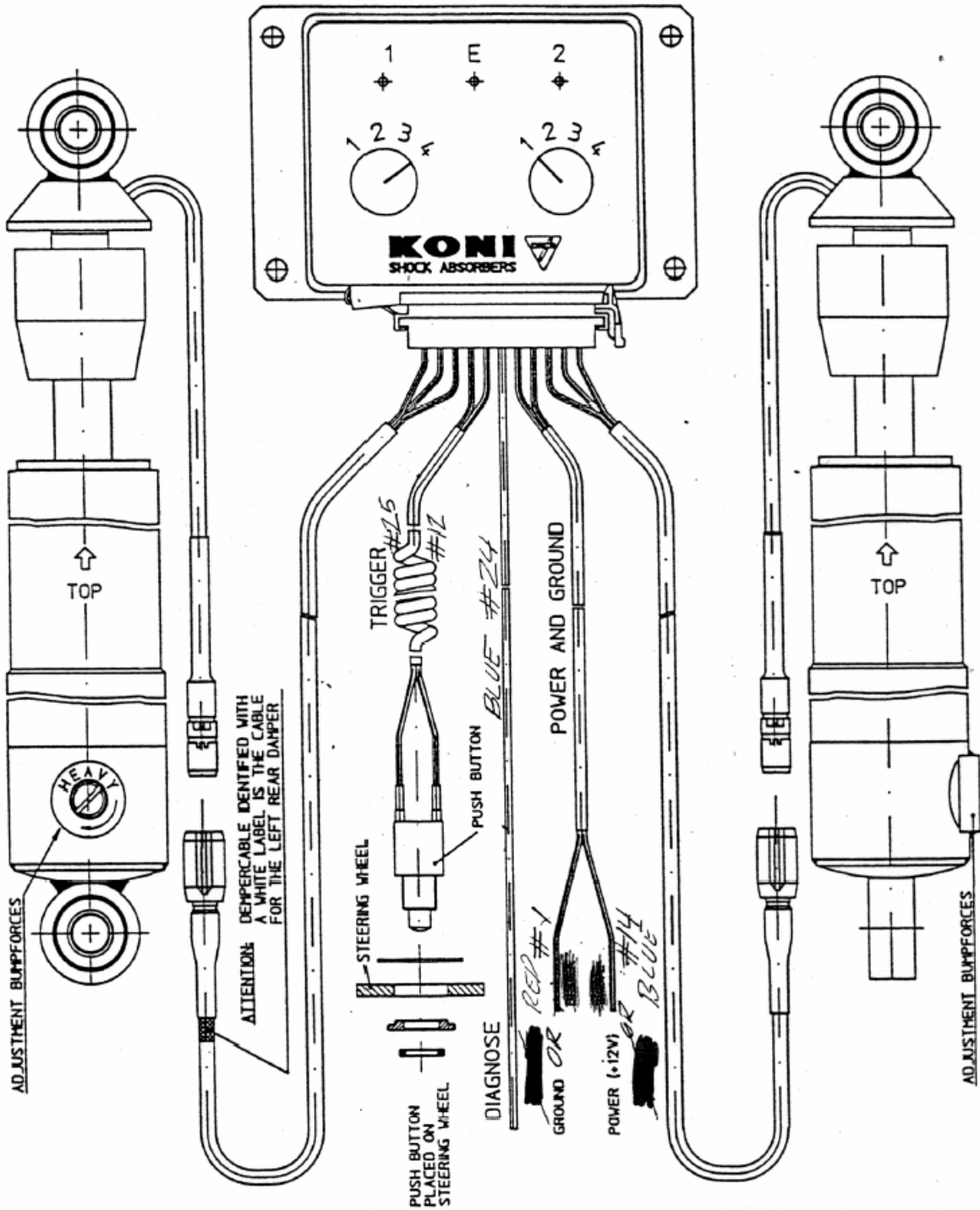
To prevent damage to the KONI control box, it is important to properly identify the power and ground wires. The color code used for the power and ground wires used in the KONI wiring harness can vary depending upon date of manufacture. It is recommended to trace these wires to the AMP plug that connects to the control box. The respective pin numbers are **14** for 12V power and **1** for ground.



- 1 – Main Ground (White)
- 2 – Shock #1 Power (Red)
- 3 – Shock #2 Power (Red)
- 8 – Shock #2 Wire (Blue)
- 12 – Trigger Wire (Red)
- 14 – 12V Power (Black)
- 16 – Shock Ground #2 (Black)
- 17 – Shock Ground #1 (Black)
- 21 – Shock #1 Wire (Blue)
- 24 – Diagnostic Wire (Blue)
- 25 – Trigger Wire (Black)

Please Note that the wire colors given may vary from your harness. The pin locations will be correct though.

INSTRUCTION
1027-05-15-82



1. Control unit features

- fast switching between two out of four possible shock absorber-characteristics by pushing a button which can be mounted on the steering wheel
- two preset knobs for preselecting the two desired characteristics
- microprocessor controlled
- diagnostics built in for testing and servicing
- extra control functions built in for:
 - * short circuit protection for shock absorber power outputs
 - * overvoltage protection
 - * power supply polarity failures
 - * shock absorber functioning (only electrical part)
- light weight aluminium housing

2. Normal operating functions

With the two preset knobs on the control-unit the driver can pre-select two out of four possible shock absorber-characteristics (marked 1 to 4, 1 is the lightest and 4 the heaviest setting). By pushing the pushbutton (which can be mounted on the steering wheel) the driver can toggle between these two presets. Above each preset knob a green light is mounted. These two green lights marked 1 and 2, indicate which preset is active.

The red light on the control unit indicates if there is a failure in the system. The functions will be explained in chapter 3.

NOTE

When power is applied to the system (ignition on), the system will initialize itself during which the error-light will be lit for 1.5 seconds. When the error-light goes out, the system is ready. When the light remains on, a failure is detected.

3. Control functions

To ensure good working of the system some control functions are built in, which continuously monitor the functioning of the system. When an error has been detected, a warning will be given to the driver. All errors are indicated by the error light on the control unit.

The following control functions/protections are built in:

3.1 Shock absorber failure

When one or more of the shock absorbers are not functioning properly due to malfunction of the shock absorber switching mechanism or problems in the wiring to the shock absorbers, the error light will be switched on.

The control unit will detect:

- * broken wire or bad contact in one of the wires to the shock absorbers.
- * a shock absorber that will not react when a command to change position has been given.
- * stuck shock absorber motor due to a mechanical or electrical defect in the shock absorber.

3.2 Short circuit

When one of the power outputs to the shock absorber is shorted to ground, the control unit will directly switch off the power to the shock absorbers and the error light will be switched on. If the short circuit has been removed, the power will be switched on again, but the error light remains on.

3.3 Overvoltage protection

If the input voltage to the control unit is higher than 20 Volts, the power to the shock absorbers will be switched off until the voltage is normal again. Sometimes an error indication is given, because the shock absorbers can change position. This protection is built in because sometimes a very high voltage can occur on the power system of the car (for example when the battery is disconnected if the engine is running, or in case of a so called 'jump-start', when a 24 Volt battery is used to start the car). These high voltages might destroy the shock absorber electronics, and are therefore switched off.

NOTE: All error messages remain until the power is turned off

4. Diagnostics

On behalf of service purposes and system installation a special diagnostics program is built in. This program can be operated from the control unit. The diagnostics function is initiated by connecting +12 Volt to the diagnostics input of the control unit. On normal operating, the diagnostic input can be left open, or connected to ground.

The procedure is as follows:

4.1 Initiate diagnosis function

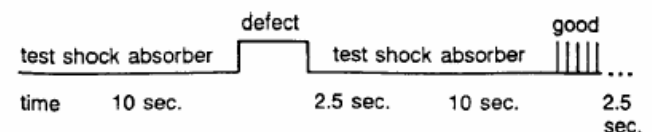
- 4.2 The shock absorber diagnostics are automatically started. One test cycle lasts about 12 seconds. Only the green lamp marked '1' will be on. Operating of the diagnostics mode is done through the left preset knob. The other knob has no effect, neither has the push button on the steering wheel. When the preset knob is in position 1, the shock absorber 1 is tested. Turning the preset knob to position 2, shock absorber 2 is tested. When the preset knob is in position 3 or 4, the red lamp will blink fast, to indicate that no shock absorber 3 and 4 exist.

During the test the red error light is off. After the test cycle the error light will indicate if the shock absorber or shock absorber wiring is good or defective. When 'good' the error light will flash fast during 2.5 seconds. When 'defective' the error light will lite up continuously during 2.5 seconds. After this the test will start again on the same shock absorber. This is very usefull during repairs, because repairs can be made while testing, so the result is directly visible. The same shock absorber will be tested over and over again until the preset knob is put in another position.

- 4.3 Test another shock absorber by putting the preset knob in another position. The same procedure as in 2. will be followed.

- 4.4 Terminate the diagnostic program by removing +12 Volt from the diagnostic input. The system will initiate itself as in a power-up situation.

Schematically for one shock absorber: (red light)



5. Installation

The system must be installed according to the drawing. In the +12 Volt power line should be a 4 Amp. fuse.

(A suggestion for the diagnostics option is to use a second fuseholder in the fusebox. This fuse should be connected to +12 Volt and the diagnostic input on the control unit.

When no fuse is installed, the system works in normal mode.

When a fuse is installed, the diagnostics program is running.

In this way the service people can always put the system in diagnostics, and it is always visible in what mode the system works.)

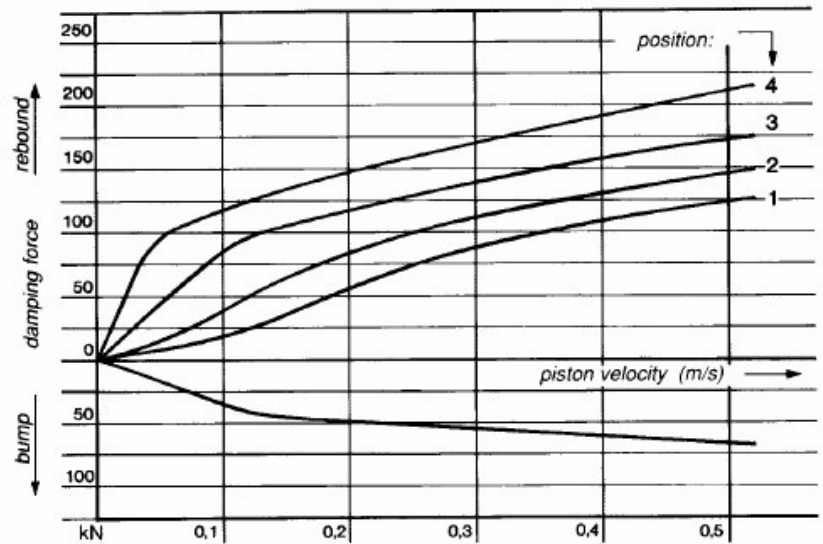
NOTE:

IN CASE OF WELDING ON THE CAR, IT IS ADVISABLE TO DISCONNECT THE POWER SUPPLY AND GROUND OF THE CONTROL UNIT IN ORDER TO AVOID DAMAGE TO THE ELECTRONICS.

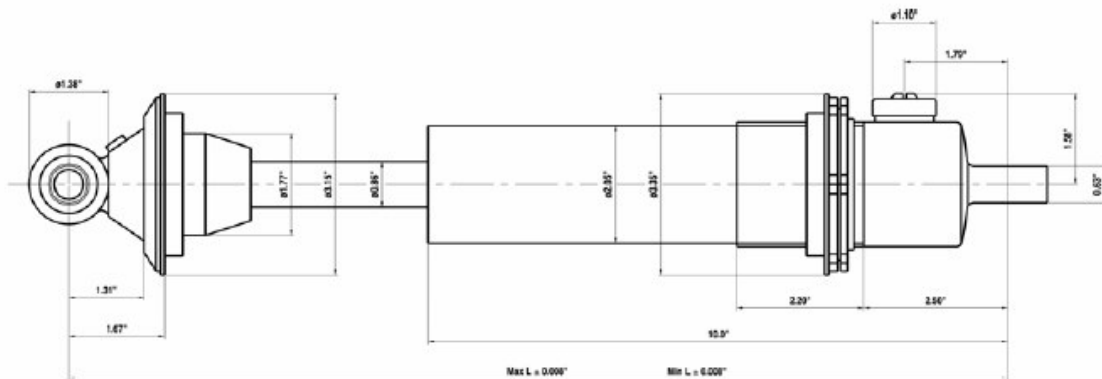


Electric Drag

The 12-2021 electric drag racing dampers offer the ultimate in adjustable drag race suspension. Rebound damping forces are adjusted by an electric servo motor located inside the piston rod that can be adjusted with the touch of a button. This allows the driver to launch the car with high rebound forces to hold the car down for better bite and then change to a softer setting by a remote switch to offer more compliance to optimize traction. Compression damping is also adjustable manually to one of twelve settings via a screw adjustment at the bottom of the damper. The spring seats accept a 2.25" I.D. spring or a 2.5" ID spring when used with the included nylon adapters and are installed with 1/2" I.D. spherical bearings. These are complete kits that include the wiring harness and the control box. The SPA11 "Gorilla" valving is available as well which offers higher rebound forces for applications using higher spring rates.



Part Number	Stroke	Max Length	Min Length	Spring Length	Ride Height
12 2021	6.57"	19.25"	12.68"	14"	15.96"
12 2021 SPA11	6.57"	19.25"	12.68"	14"	15.96"



Parts Available

70.29.01.288.0	Upper Spring Seat
71.29.11.048.0	Lower Spring Seat
71.29.13.008.0	Locking Ring
15.29.04.003.0	Nylon 2.25" to 2.5" spring seat adapter
71.80.40.048.0	Electronic Control Box
71.80.10.034.0	Wiring Harness