

Volkswagen Cabriolet

K-Jetronic Fuel Pump Relay Guide

Factory-installed relays	Page 2
Aftermarket relays, 1983-1993	Page 3
Aftermarket relays, 1979-1982	Page 6
KAE relay warning, 1983-1993	Page 7
Example of a burned-up relay	Page 8

Rev Limiters

Factory Relays:

- A. Relays 059D, E, F are functionally all the same; each letter simply superseded the previous version, with E appearing to have been a North America-only relay.
- B. There is conflicting information about whether relays 059D, E, F are high rev or no rev limit. Considering rev limit is a safety feature, and many (if not all) of those without a relay rev limiter had rev limit distributor rotors (which no fuel injected Cabriolet came with), this guide is erring on the side of all of these relays having a rev limiter, which ranges from around 6300 to 8000 rpm, depending on the relay.
- C. Relays 059G and H have lower rev limits than their predecessors, which coincides with the introduction of hydraulic lifter cylinder heads.
- D. You will find that the 059G and 059H relays (in aftermarket form) are what most parts stores are selling as replacements for D, E, F, because Volkswagen itself superseded F with G, potentially out of safety concerns.

Aftermarket Relays:

- A. Rev limits are manufacturer-specific and are listed where available. If rev limits are not listed, the presumed rev limit would be between 6000 and 7000 RPM.

Notes

1. **All K-Jetronic fuel pump relays for 1983-1993 are interchangeable.** For example, if your original relay is 321906059D, you can replace it with 321906059G and vice versa. Therefore, replacement relays listed and shown on pages 3-4 are not year-specific. The VW suffix is listed under some aftermarket relays for cross-reference purposes only.
2. Factory relays on page 2 may differ slightly in their manufacturer markings from what your car has/had. All will have the white number stamped on top, from 1983-1993.
3. Equivalent Audi numbers: 443907385A, 443907385G, 443907385H
4. Discontinued aftermarket relays:
 - a. JP Group #1199207600
 - b. Topran #107259015 / Hella #4RP 008 189-061 (059H)
5. "Inrush current of a fuel pump is 5x - 7x the run current." This means that a Cabriolet's inrush current can be upwards of 50 amps. Given that Kracker has a published inrush max load of 70 amps, it is recommended that you find one of the Kracker relays listed below. The other relays do not specify whether their max amp rating is for inductive line load or inrush load.
 - a. An inductive load needs a flyback diode.
6. Relay terminal designations:
 - a. 1, 31b = Ignition coil, ignition distributor – low voltage RPM signal
 - b. 15 = Switched (+) downstream of battery (output of ignition switch)
 - c. 30 = Input from (+) battery terminal
 - d. 31 = Battery (-) terminal or ground
 - e. 87 = Output of (+)

Factory-installed Relays







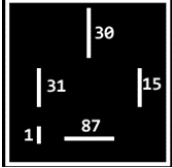




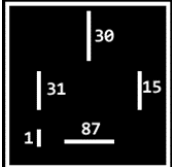




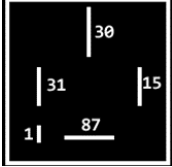



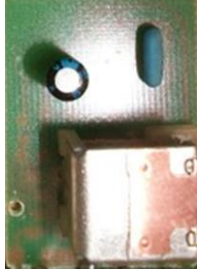
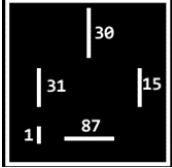



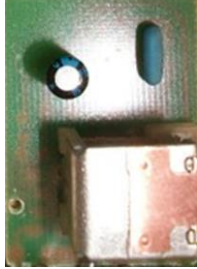
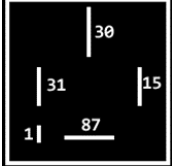

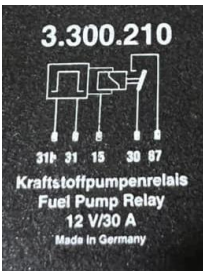

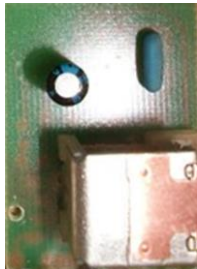
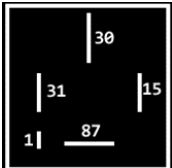
Engines	Volkswagen Part Number	Cover Side	Circuit Board		Cover Top	Pin Layout
1979 - 1982						
1.6L EG 1.6L EJ 1.7L EN	321-906-059C Rev limit: 7000+ Line load: 10A inductive		 Image Unavailable	 Image Unavailable		
1983 - 1985						
1.7L EN 1.8L DX 1.8L JH 1.8L JJ 1.8L KT	321-906-059D Rev limit: 7000+ Line load: 10A inductive		 Image Unavailable	 Image Unavailable		
1986 - 1987						
1.8L JH	321-906-059E Rev limit: 7000+					
1.8L DX 1.8L JH 1.8L KT	321-906-059F Rev limit: 7000+					
1988 - 1993						
1.8L DX 1.8L JH 1.8L KT	321-906-059G Rev limit: 6300			 Image Unavailable		
1.8L JH	321-906-059H Scirocco Rev limit: 6500		 Image Unavailable	 Image Unavailable		





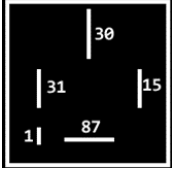

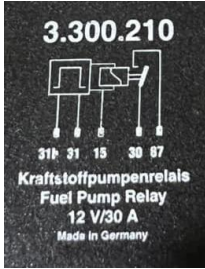

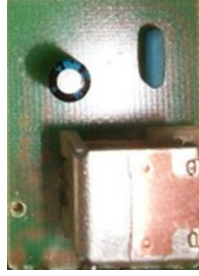
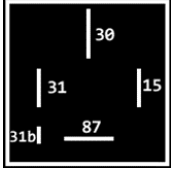




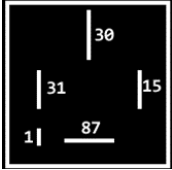



Aftermarket Relays

1983-1993

Brand	Part Number	Cover Side	Circuit Board		Pin Layout
	24.1400.20 (059D, E, F) RECOMMENDED Rev limit: 8220 Line load: 15A inductive Max inrush load: 70A				
	24.1400.30 (059G, H) RECOMMENDED Rev limit: 6540 Line load: 15A inductive Max inrush load: 70A				
	24.1400.40 (059G, H) RECOMMENDED Rev limit: 6300 Line load: 15A inductive Max inrush load: 70A				
	4634 or 321906059F, 321906059H Rev limit: ? Max load: ?				
 Also sold under Intermotor, BWD, NAPA & Carquest brands	RY197 RY-197 RECOMMENDED Rev limit: ? Max load: 30A				
 Repackaged Standard Motors relay	19204 RLYA634 RECOMMENDED Rev limit: ? Max load: 30A				

1983-1993 continued

Brand	Part Number	Cover Side	Circuit Board		Pin Layout
	4RP 008 189-081 (059D, E, F) Rev limit: ? Max load: 30A				
	4RP 008 189-091 (059G) Rev limit: ? Max load: 40A				
 Manufactured by Hella	103420755 (059D, E, F) Rev limit: ? Max load: 30A				
	3.300.230 (059H) NOT RECOMMENDED See page 7 Rev limit: 6600 Max load: 30A				
	3.300.220 (059G) NOT RECOMMENDED See page 7 Rev limit: ? Max load: 30A				
	3.300.210 (059D, E, F) NOT RECOMMENDED See page 7 Rev limit: ? Max load: 30A				

1983-1993 continued					
Brand	Part Number	Cover Side	Circuit Board		Pin Layout
 Manufactured by Hitachi	132022 or 132023 Rev limit: ? Max load: ?		 Image Unavailable	 Image Unavailable	
 Also sold under Airtex brand	1R1003 (repackaged KAE) (059D, E, F) NOT RECOMMENDED See page 7 Rev limit: ? Max load: 30A				
 Also sold under Airtex brand	1R1243 (stamped with 65) (059H) Rev limit: ? Max load: 30A		 Image Unavailable	 Image Unavailable	
	935VG0090	<i>Repackaged Hella relay</i>			
	V15-71-0014	<i>Repackaged KAE and Kracker relays; which one you get depends on supplier</i>			
	75614033	<i>Repackaged Kracker relay</i>			

Relay 059G & Hella 091 circuit board images courtesy of Jon C.

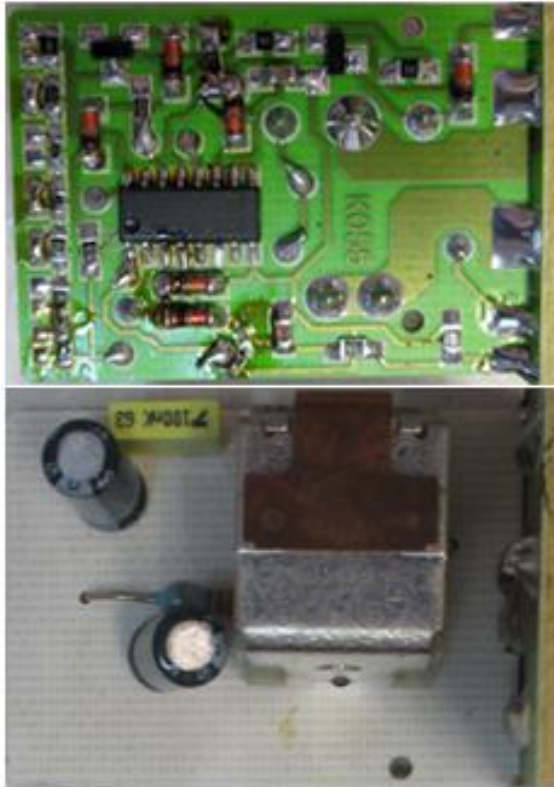
Aftermarket Relays

1979 - 1982

Brand	Part Number	Details	Image
	<p>3.300.100 (059C)</p>	<p>Rev limit: ? Inductive load: 10A</p>	
	<p>JP Group 89 6321 000 (059C)</p>	<p>Rev limit: ? Inductive load: 10A</p>	
	<p>4RP 009 118-011 (059C)</p>	<p>Rev limit: ? Inductive load: ?</p>	

WARNING

All KAE (Kaehler) relays for 1983-1993 K-Jetronic cars are being manufactured with the incorrect circuit board. **For North American owners, it is highly recommended that you not waste your money and time buying KAE relays. If you bought and/or recently installed a KAE relay and your car doesn't start, or will not stay running after start-up, or has issues at speed, remove your KAE relay and check the circuit board:**



K055



K056

If the car is having running issues, also closely check the circuit board for damage: cracked solder, melted solder, burn marks, broken copper tracks, etc., all of which can be seen on the next page.

