

A/C Compressor Relay Load Reduction Kits and Auxiliary Radiator Fan Turn-on with Air Conditioning ON

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Porsche 928

A/C Compressor Load Reduction Relay and 1978 – 1986 Auxiliary Fan ON with A/C on

- Three Products Offered:



16 Valve Engines: 1978 – 1984 &
1985 – 1986 Euro: \$225 + shipping



32-Valve 1985 – 1986: \$225 + shipping

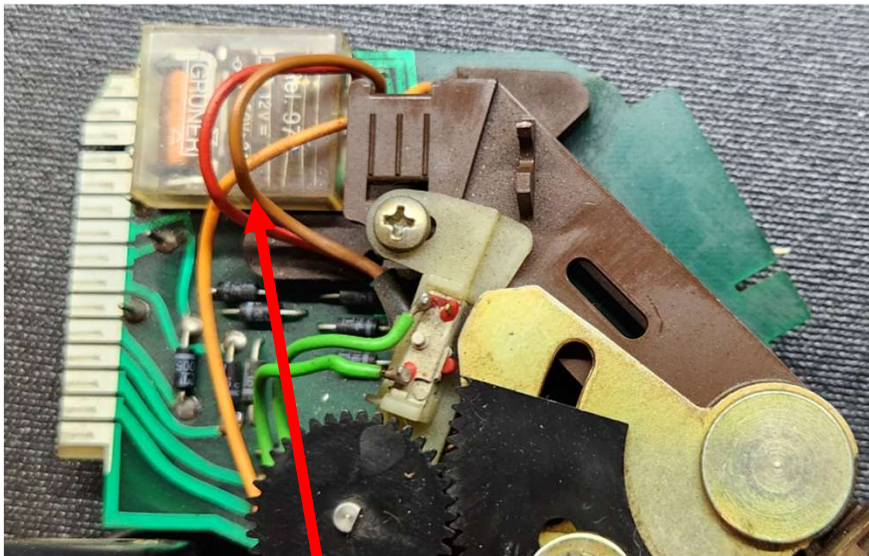


32-valve 1987 S4/GT – 1995 GTS: \$195 + shipping
(A/C Head Relay Load Reduction Only)

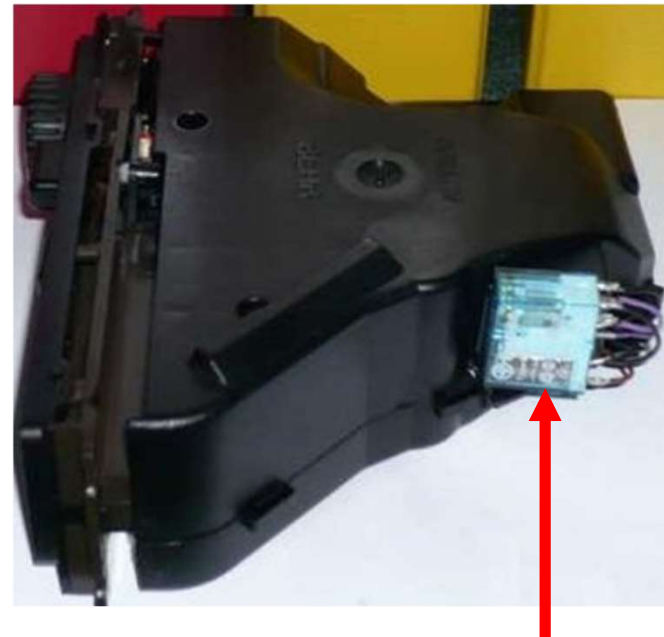
Porsche 928 AC Controller Head



1980 – 1995 928 AC Controller Head
A/C Compressor activation relay is internal



Well known and documented 1980 - 1995
A/C Compressor **Activation Relay**
Failure



One owner's solution was to remove the
failed internal relay and route wires
out to an external relay

1987 – 1995 Model Year Kit Description, Functions and Benefits

- **Compressor Relay Load Reduction = Longer Internal A/C Control Head Relay Life**
 - **Don't wait for the internal relay to fail**
 - Reduced current load (high current flows through kit's external relay)
 - Higher voltage at compressor clutch due to reduced length of circuit wiring (less voltage drop).
- **1987 and newer 928s have dual electric fans electronically controlled to increase cooling capacity as needed for A/C and engine cooling, so no additional features are required.**

1980 - 1986 (US & Euro) Kit Description, Functions and Benefits

- **Longer Internal A/C Control Head Relay Life**
 - Load Reduction: low current through the existing relay, high current flows through external kit relay.
 - Higher voltage at A/C compressor clutch due to reduced length of circuit wiring.
- **928 Auxiliary Cooling Fan activated when A/C is turned on vs. activation only when A/C refrigerant temperature exceeds the set-point***
 - Reduces high-side refrigerant pressure which reduces strain/wear on A/C compressor and hoses.
 - A/C blows cooler quicker and engine coolant temperature is also reduced due to increased airflow across refrigerant condenser and radiator.

* The Aux fan is also activated when engine coolant temperature exceeds a set point, additionally when MY1985 – 1986 intake manifold and A/T fluid temperatures exceed the respective set points

1978 – 1979 Kit Description, Functions and Benefits

- **A/C Relay is no longer available.** Relay has low & high RPM cut-off
- Load reduction relay provides longer A/C Compressor Relay and Internal controller head Compressor Microswitch life



Relay NLA!!

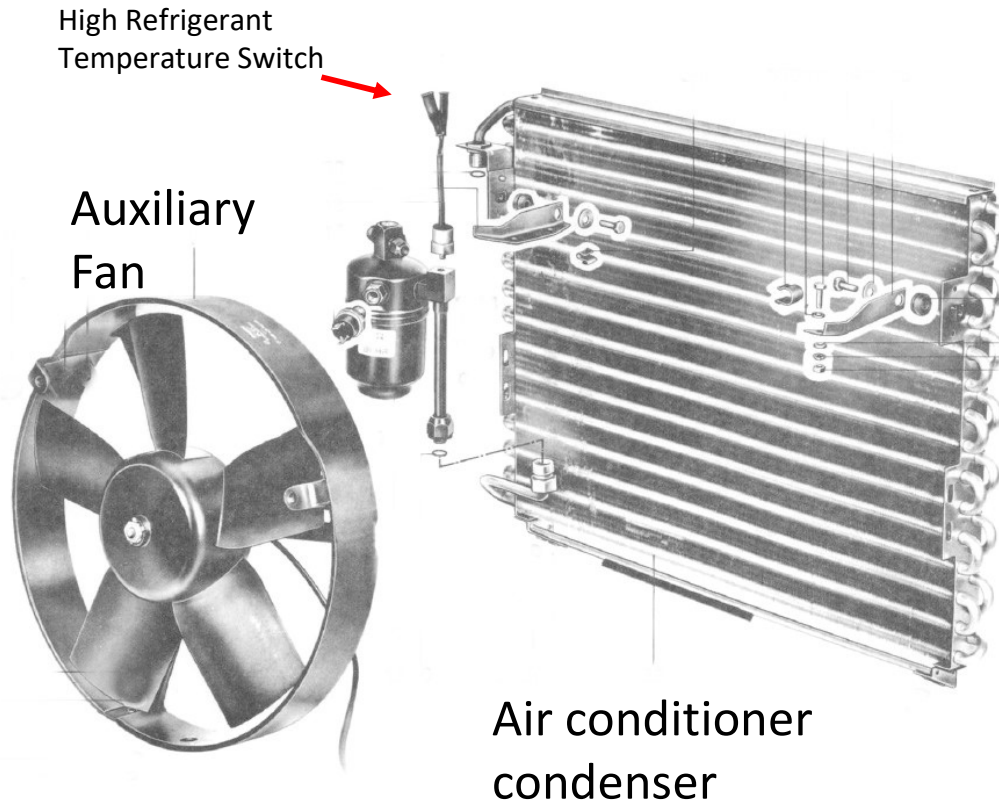


Very Complex Relay

- **928 Auxiliary Cooling Fan activated when A/C is turned on vs. activation only when A/C refrigerant or engine coolant temperature exceeds the set-point**
 - Reduces high-side refrigerant pressure which reduces strain/wear on A/C compressor and hoses.
 - A/C blows cooler quicker and engine coolant temperature is also reduced due to increased airflow across refrigerant condenser and radiator.

1978 – 1986 Porsche 928

Auxiliary Radiator Fan Turn-on with A/C ON



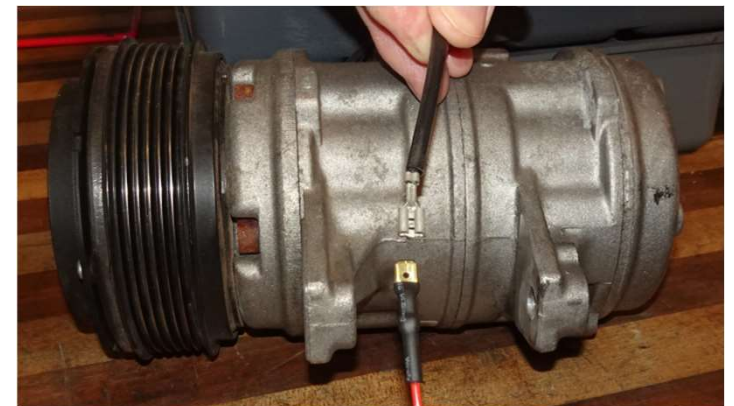
- Auxiliary fan is turned on only by engine coolant temperature (above ~190F/88C) and/or high pressure refrigerant temperature sensor.
 - The engine driven fan isn't as efficient as modern electric motor fans, especially at idle.
 - The A/C condenser & refrigerant high- pressure increases well before the auxiliary fan is activated by engine coolant temperature and refrigerant sensors.
-
- In warm climates, the A/C is much more efficient with the auxiliary fan running at all times when turned on as opposed to original sensor turn on set points.
 - A secondary benefit is the engine coolant temperature is a bit lower too, even at highway speeds.
 - The addition of a standard relay wired into the system can activate this desired operation, see the red & blue lines in the following schematic diagrams. No wiring cutting is necessary, use piggyback spade connectors to tap into existing connection points using off the shelf wiring parts, wire, relay and relay socket.

Relay Kit High Quality Construction

- Military/Aircraft grade wire and sheath
- High quality German connectors
- Bosch relays



- **No cutting of wires, plugs into existing wiring and connectors**
 - Easy installation, no additional parts needed
 - Removal completely reversable if desired



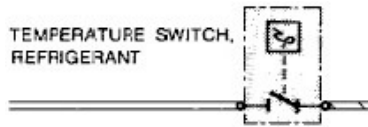
Relay Kit Technical Details

- Product photo and connection descriptions
- Schematic Illustrations of circuit additions
(using original Porsche wiring diagrams)
- Installation Photos

Relay Kit for 16-valve Porsche 928s



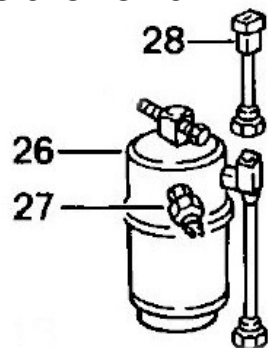
Items Involved in the 1978 – 1986 Auxiliary Radiator Fan Turn-on with Air Conditioning ON and All A/C Compressor Relay Load Reduction



Schematic Symbol

#28 Temperature Switch
Refrigerant

P/N 928 613 131 01



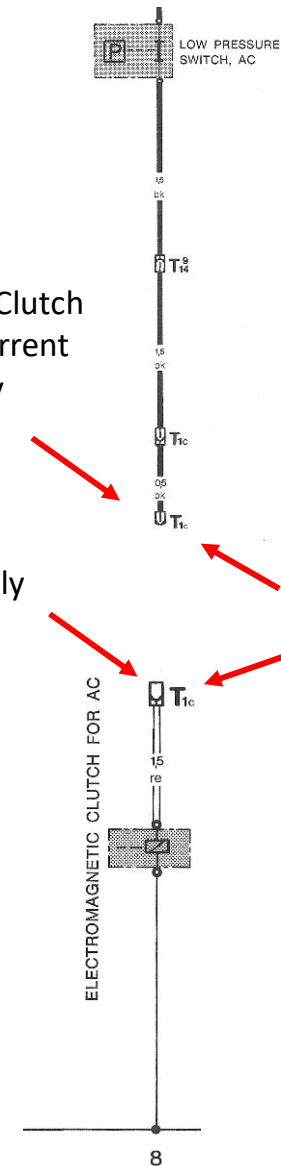
Temperature
Switch Wires
Attach Here
1978 - 1986



Additional two connections at the
Temperature Switch Refrigerant

Original compressor Clutch
current drives low current
Load Reduction Relay

Compressor Clutch
current sourced directly
from 12V Jumper Post

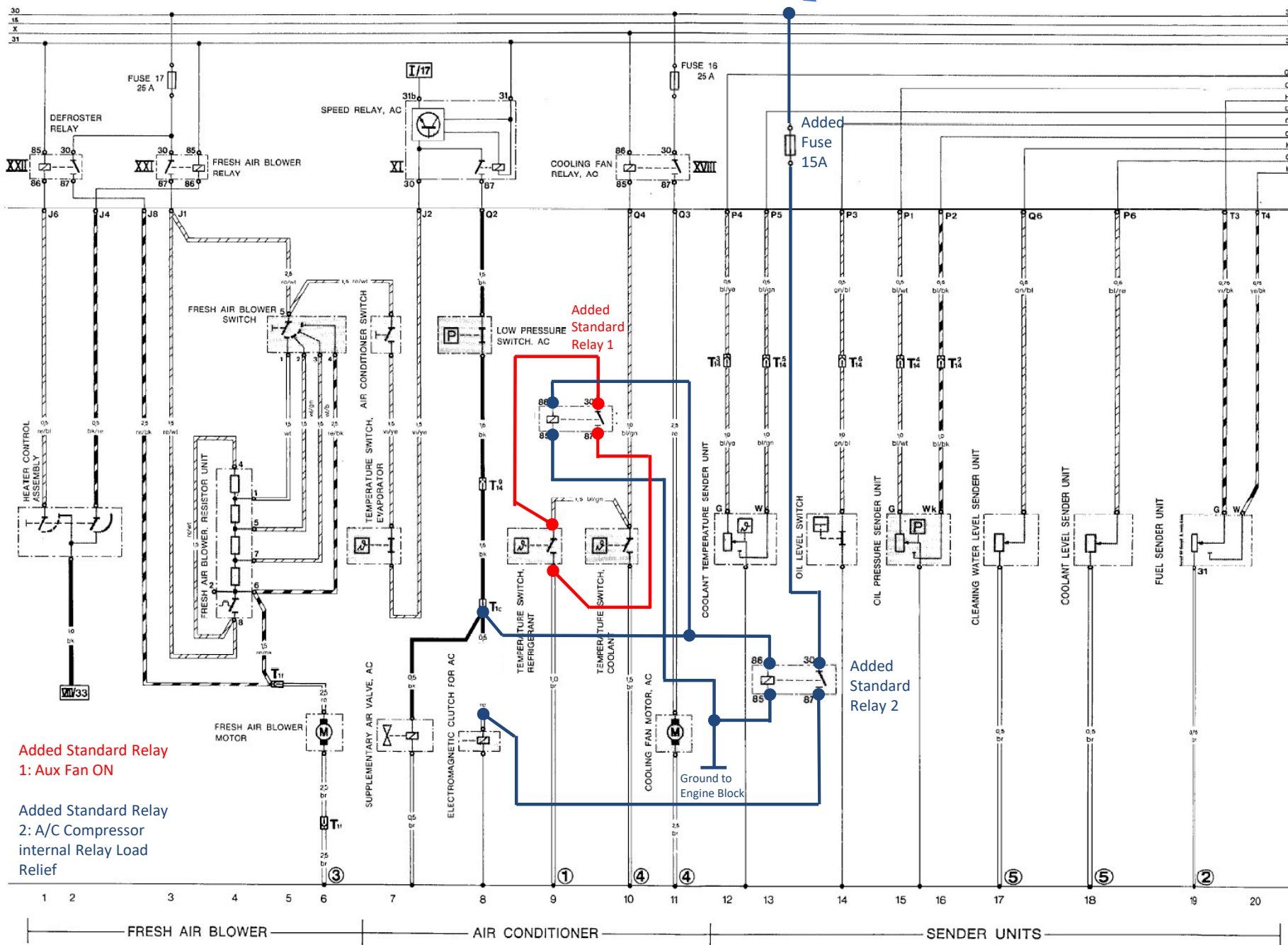


- A/C Compressor Load Reduction Relay Inserted between these Two points
- Connector located near smog pump

Current Flow Diagram Type 928 USA Model 79, Part VII

Wiring

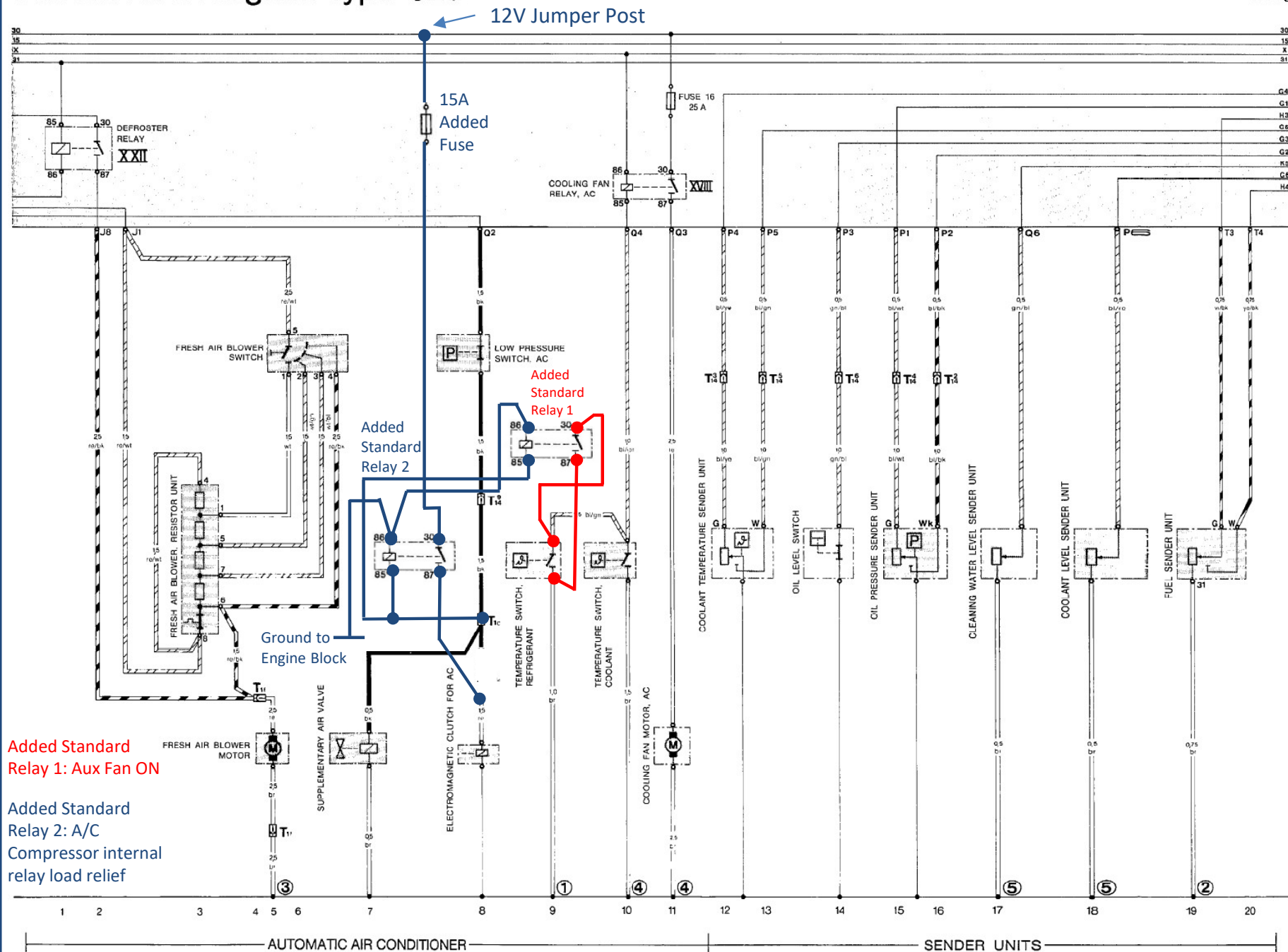
97



Current Flow Diagram Type 928

Wiring

97



Printed in Germany-VII, 1983

Current Flow Diagram

97-173

Schematic for Model Years 1980 - 1984

Relay Kit Installation Photos 16-Valve Porsche 928



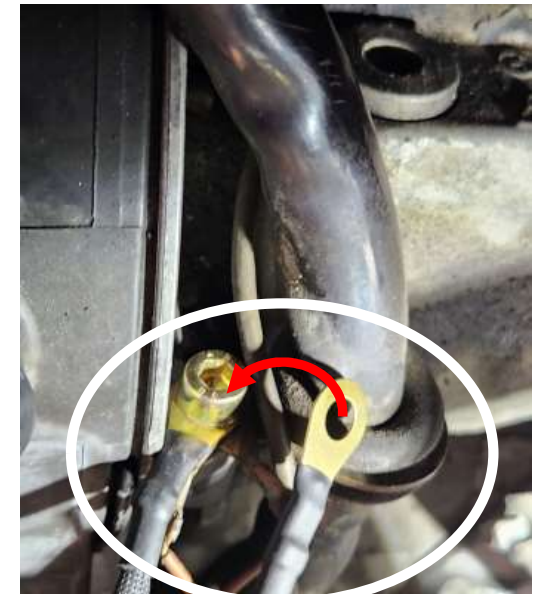
Relay Kit shown in installation area at front under-hood side near jump post



Freon Temperature sensor attach points (no wiring polarity)



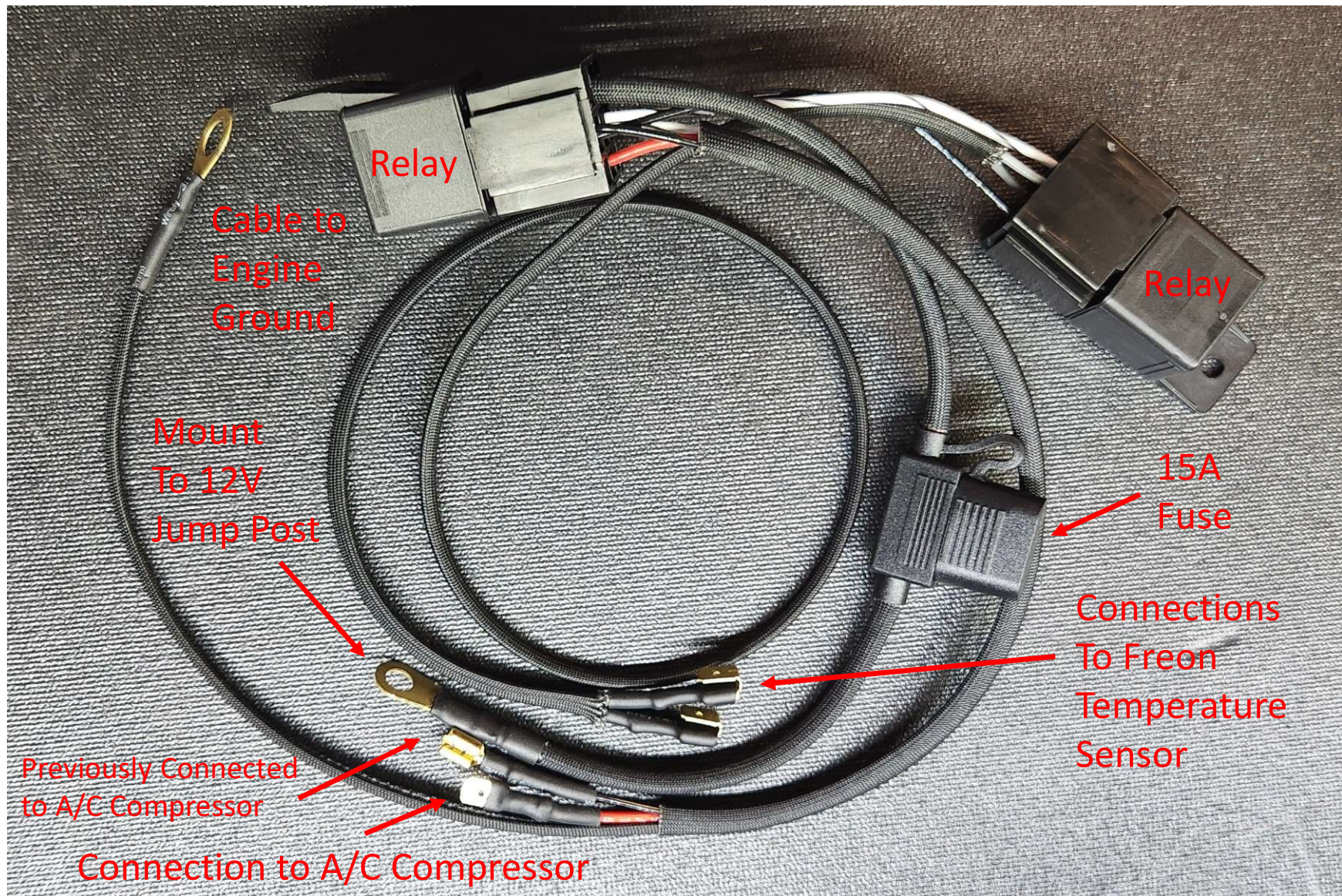
Piggyback wires attached above freon temp switch above receiver/drier. No polarity.



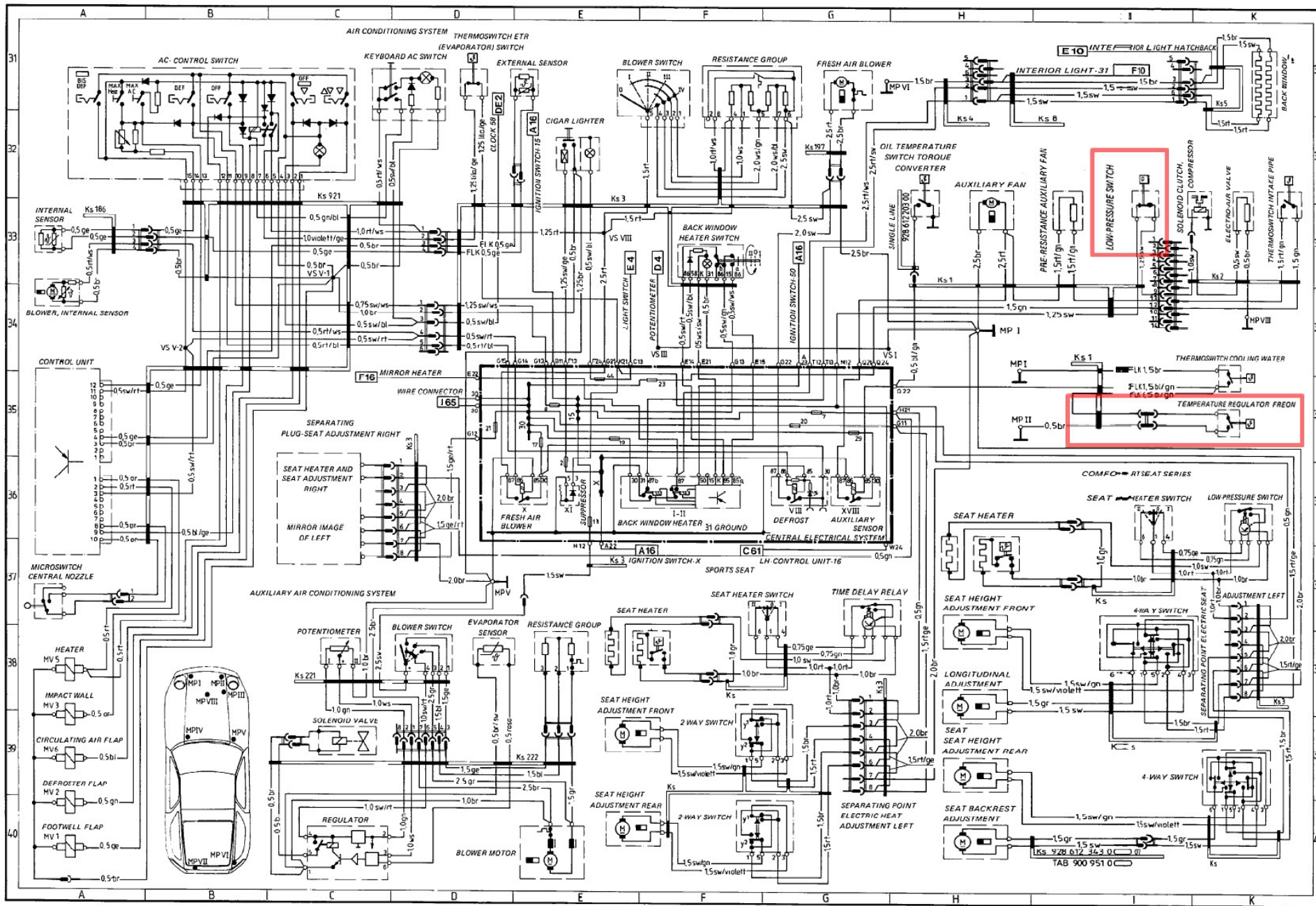
Ground to existing engine block location just behind cam belt Cover

12V high current tap for A/C compressor at Jump Post (unscrew to attach)

Relay Kit for 32-valve 1985 – 1986 Porsche 928s



VENTILATION AND HEATING



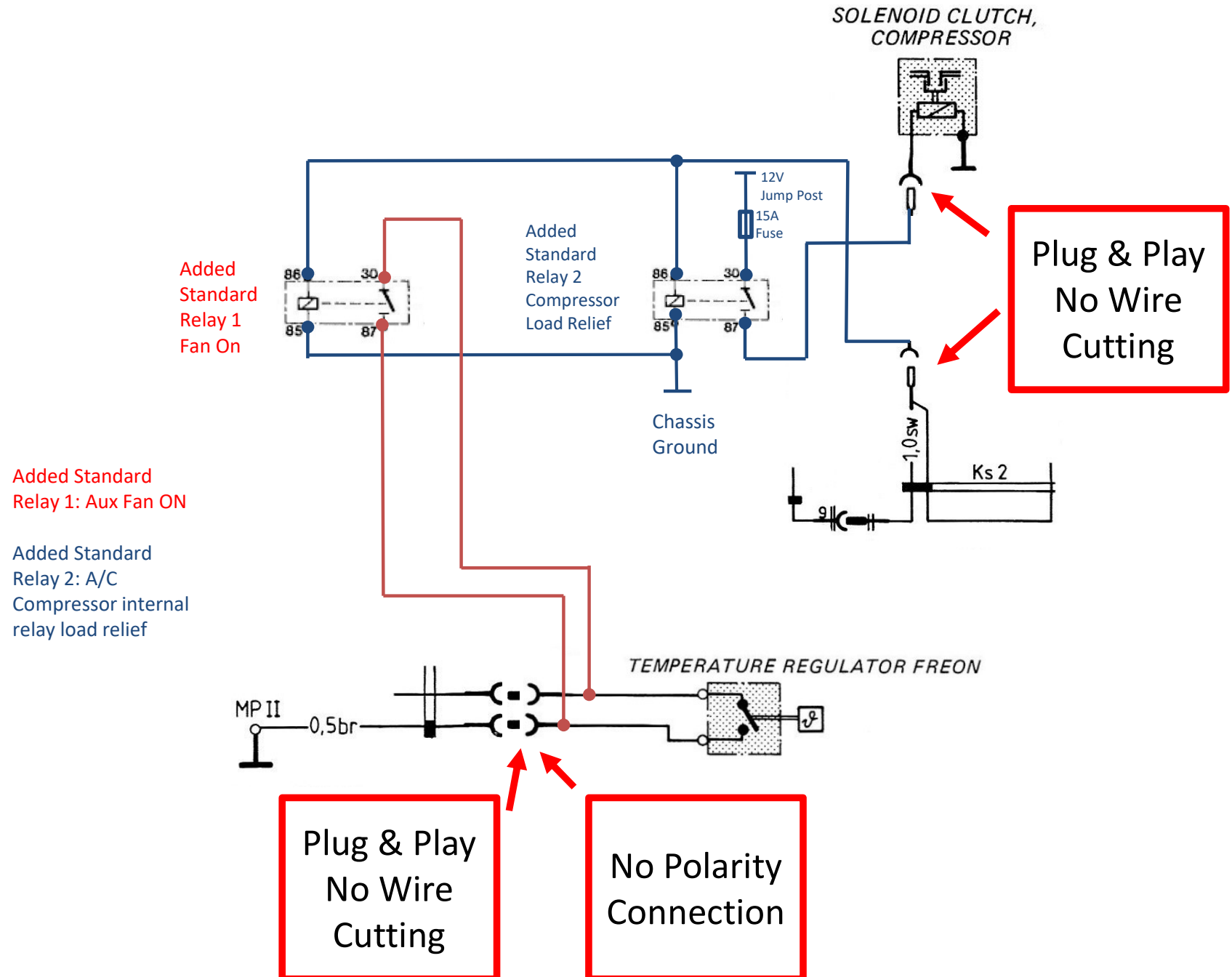
Printed in Germany - X, 1984

SW - BLACK WS - WHITE RT - RED GN - GREEN GE - YELLOW GR - GREY BR - BROWN BL - BLUE LI - VIOLET

Current Flow Diagram 97-221

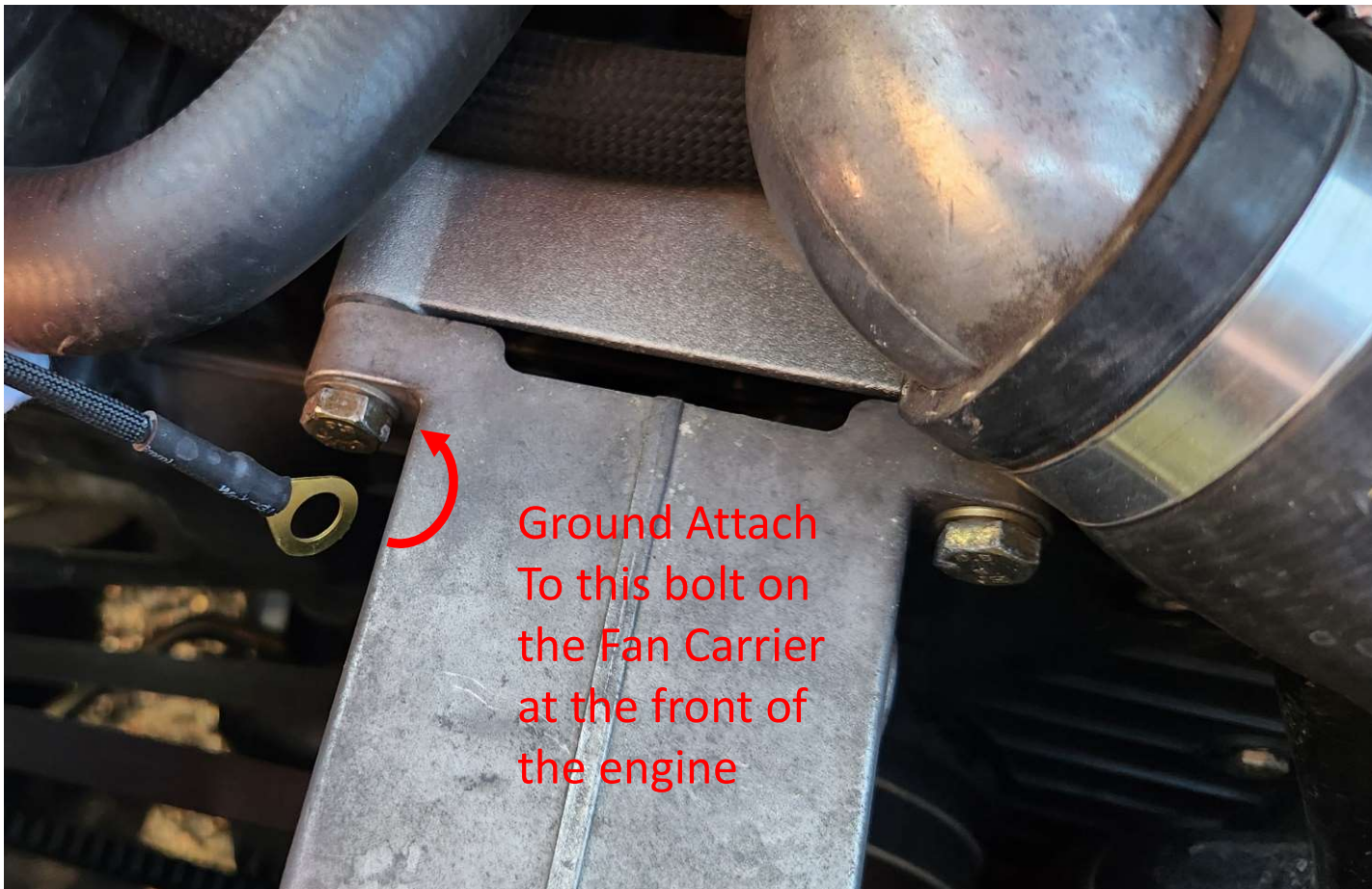
Schematic for Model Years 1985 - 1986 Red Boxes Over Modified Switches

Schematic Details for Model Years 1985 - 1986

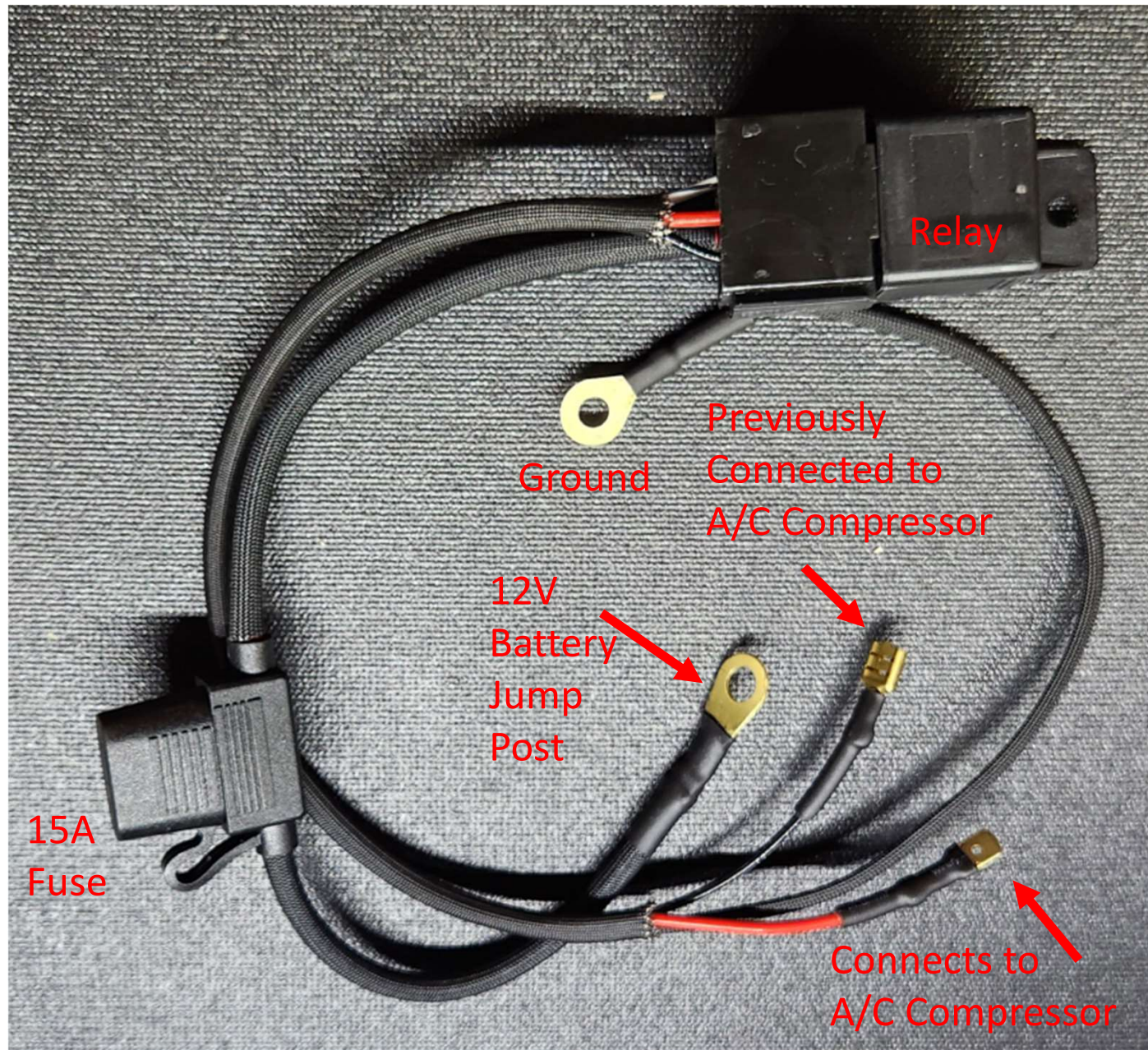


Relay Kit Installation Photos 32-Valve 1985 – 1986 Porsche 928

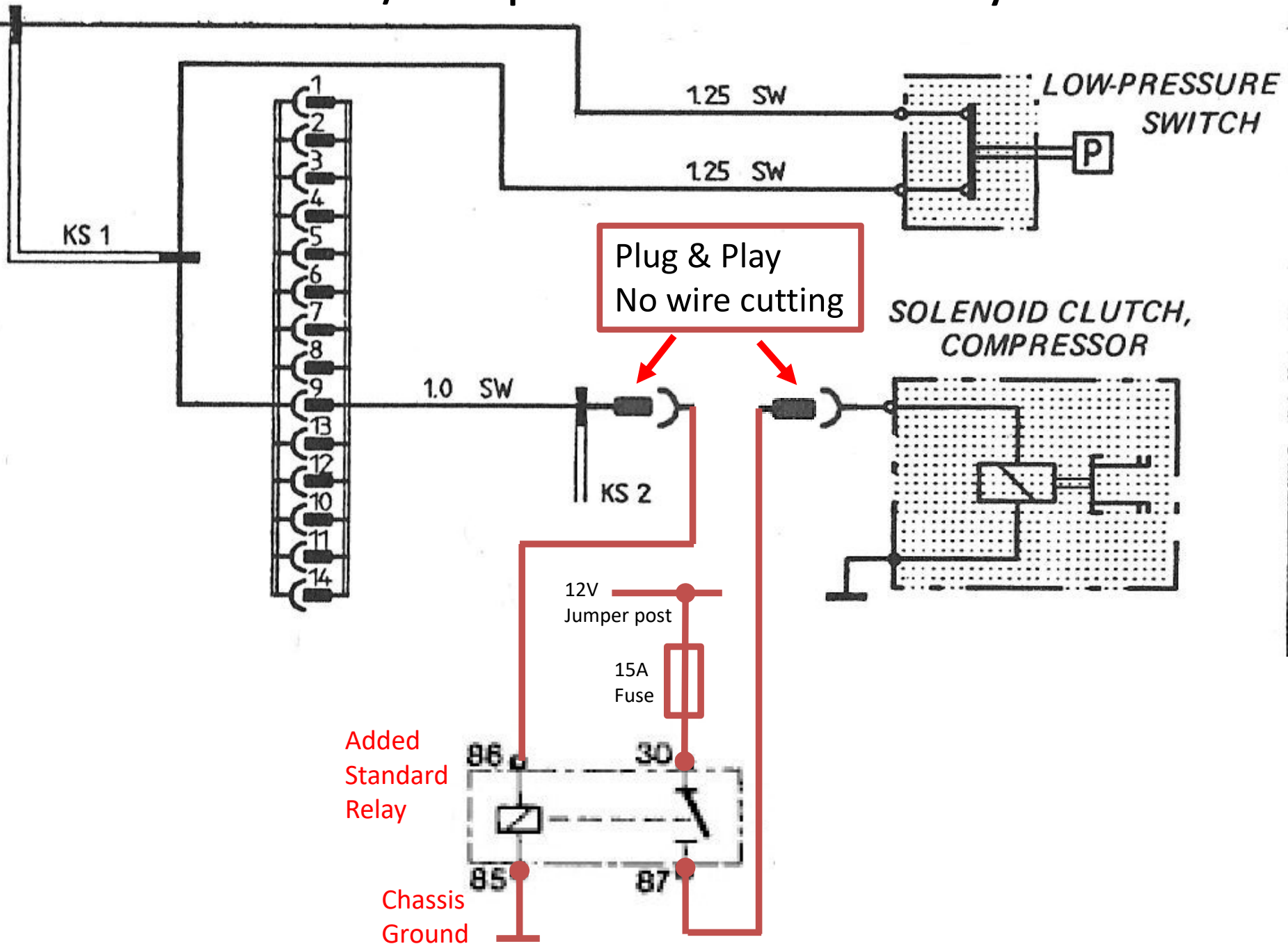
The 32-Valve 1985 – 1986 Porsche 928 Kit attachment points is the same
As the 1978 – 1984 16 Valve kit with the exception of the ground point



Relay Kit for 32-valve S4 - GTS Porsche 928s

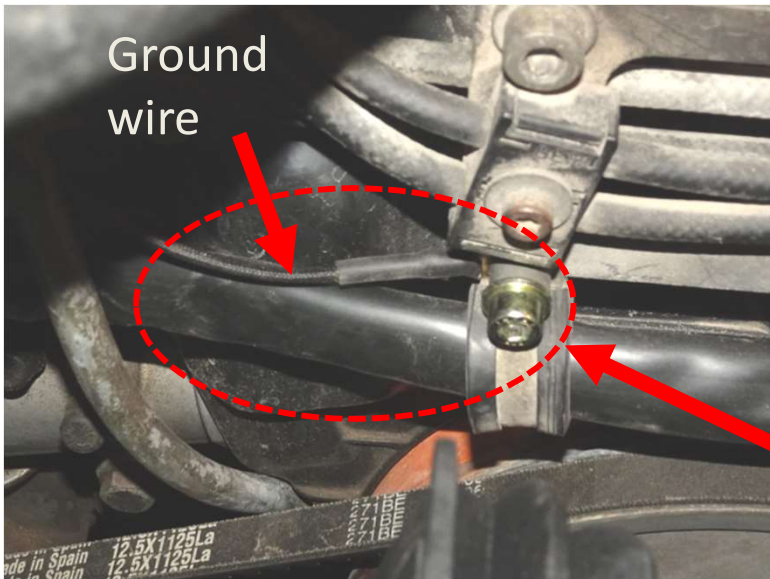


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Load Reduction Relay Installation Photos 32 Valve Porsche 928S4 and Newer Models

These are photos of the installation
in my 1993 928 GTS



Ground
Attach

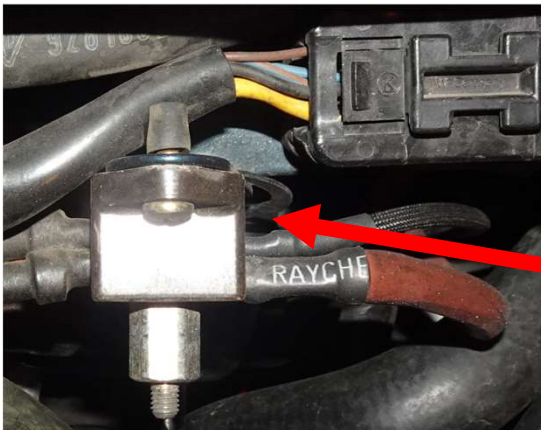
Point above
belt pully at
harmonic balancer

Attachment to 12V Battery
Jumper post



Relay
tucked away

Relay Socket
tucked away



Kits Sold by Rich Andrade of Elektronik Repair

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**Load Reduction and A/C On Relay Kit Designer
and Fabricator Dan Warner of Exotic Motorwerks, Scottsdale Arizona**