



WARNING:

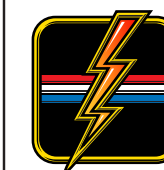
Validate the kit contents with the component list before proceeding. This kit is intended to be used in a modified vehicle. Please read this sheet thoroughly and be sure that you understand everything explained on it prior to opening any of the enclosed packages, or before attempting to install any of the components. Once this kit has been opened or a component installed, the kit is not returnable.

1. This kit should typically be used in a MODIFIED application only.
2. This kit and all accessories that connect to this kit must be rated at 12 volts. The kit will not support 6 volt accessories.
3. This kit supports the use of a high current self-exciting 1-wire alternator or other style internally regulated alternators. An adapter may be necessary in some applications.
4. This kit **WILL NOT** support the wiring for:
 - a. the optional automatic stick shift.
 - b. the optional rear window defogger.
 - c. The ignition key warning buzzer from 1970-1974.
5. This kit **DOES NOT INCLUDE** battery cables.

This kit contains the following components:

<u>Part Number</u>	<u>Description</u>	<u>Quantity</u>
500701	Highway 15 fuse panel	1
92971328	510419 Volkswagen Beetle Kit instructions	1
510420	Volkswagen Headlight, running light kit	1
92971330	510420 Headlight / Running light kit instructions	1
510421	Volkswagen Starter, Ignition, Engine kit	1
92971336	510421 Starter, Ignition, Engine kit instructions	1
510422	Volkswagen Turn Signal / Emergency Flasher kit	1
92971332	510422 Turn Signal / Emergency Flasher kit instructions	1
510423	Volkswagen Gauge Connection kit	1
92971334	510423 Gauge Connection kit instructions	1
510424	Volkswagen Accessory kit	1
92971338	510424 Accessory kit instructions	1
510425	Volkswagen Wiper motor kit	1
92971340	510425 Wiper Motor kit instructions	1
510429	1962-74 Volkswagen Loose Piece Terminal Kit	1

Validate the kit contents with this component list. If there are any discrepancies with incorrect or missing parts, stop your installation and notify the supplier you purchased the kit from before proceeding.



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510419

1962-74 Volkswagen Beetle
12 volt Wiring Kit

92971328 Rev 1.0 3/21/2016

START HERE !

PLEASE READ THIS BEFORE STARTING INSTALLATION !

This wiring kit is designed for ease of installation. Please read the guidelines below, BEFORE STARTING your installation, to guarantee a successful job. Use an appropriate crimping tool, which folds the wings of the open barrel terminals down into the wire, as shown on this page. If you use our crimping tools and correctly crimp the included terminals, soldering is not necessary. If you are unsure about a particular crimp, soldering is recommended. Our factory crimped terminations are installed by GM approved five ton presses, and soldering these terminations is not necessary.



AAW offers a great terminal crimping video entitled "Proper Crimping Video". It can be viewed by visiting YouTube.

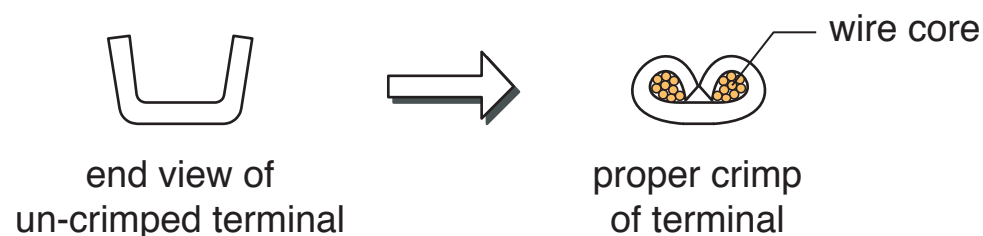
Type the following address into your web browser, to go directly to the video:
<https://www.youtube.com/watch?v=JAgEDoVI-co>

Youtube Channel:
www.youtube.com/user/WiringHarness



If you have any questions concerning this or any of our products, please feel free to call us at 1-856-933-0801.

The terminals that we supply in our kits, utilize what is known as an "F" crimp. The "F" crimp, in a cross section, will look like the illustration below, when done correctly.



We carry the following crimping hand tools, to help with your terminal crimping. These hand tools are available, for purchase or rental.

AAW p/n 510585
OEM small terminal crimping
tool (18-14 gauge)



AAW p/n 510586
OEM large terminal crimping
tool (12-8 gauge)



AAW p/n 510609
Weather Pack/Metri Pack
crimping tool (18-12 gauge)



STEP 1: DISCONNECT YOUR BATTERY:

Disconnect the battery, before installing the wiring kit, to prevent any accidental shorting caused by loose bare wire ends.



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1962-74 Volkswagen Beetle
12 volt Wiring Kit

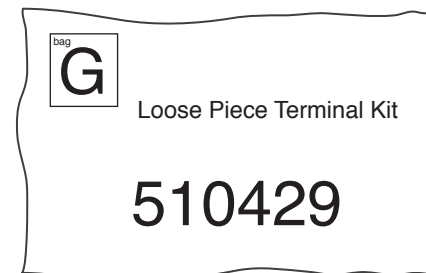
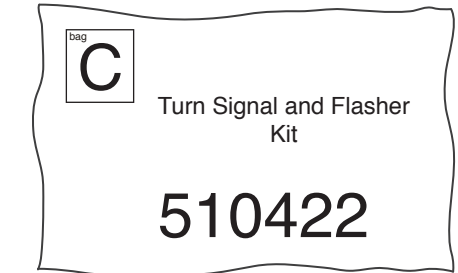
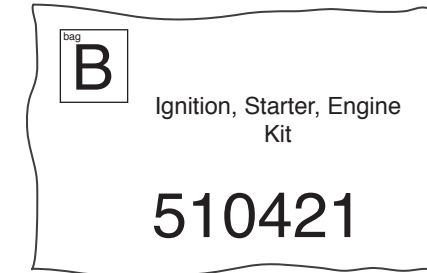
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STEP 2: START INSTALLING KIT:

This kit is broken down into individual sections, that are identified by a letter printed on the enclosed sheets, visible through each bag. The order of installation is shown below. Instruction sheets for each individual subkit are separate from the subkit and are matched by the subkit number. The 92971491 Loose Piece Terminal subkit contains the terminals used by all the subkits.

Table of Contents

<u>Bag</u>	<u>Kit #</u>	<u>Sub-Kit Function</u>
A	510420	Headlight and Running Light Subkit - Contains connections for: - Headlights and Headlight switch. - Front and rear running lights. - Brake and Backup Lights. - Brake and Backup Light switches. - License light . - Headlight Dimmer switches
B	510421	Ignition, Starter, Engine Subkit - Contains connections for: - Ignition switch. - Starter, Generator and Regulator. - Automatic Choke. - Electro-Magnetic Pilot Jet. - Distributor and Coil - Generator Warning iLight
C	510422	Turn Signal and Flasher Subkit - Contains connections for: - Speedometer Cluster Directional Light. - Turn Signal Switch - Front Turn Signal Lights - Rear Turn Signal Lights - Emergency Flasher - Emergency Hazard Lights
D	510423	Gauge Connection Subkit - Contains connections for: - Speedometer Cluster Lights - Oil Pressure Light - Generator Warning Light - Fuel Gauge Sender - High Beam Indicator Light - Speedometer Cluster Ignition Power
E	510424	Accessory Subkit - Contains connections for: - Horn - Radio - Courtesy Lights - Optional Fresh Air Fan and Switch
F	510425	Windshield Wiper Subkit - Contains connections for: - Wiper switch - Wiper Motor
G	510429	Loose Piece Terminal Kit - Contains terminals for all subkits.



- 92971330 - Instruction Sheet for 510420
- 92971336 - Instruction Sheet for 510421
- 92971332 - Instruction Sheet for 510422
- 92971334 - Instruction Sheet for 510423
- 92971338 - Instruction Sheet for 510424
- 92971340 - Instruction Sheet for 510425



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12 volt Wiring Kit

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Read these notes before beginning installation.

This kit covers the Beetle wiring systems from 1962-1974. During those years there were many changes to the electrical systems that affected switches and subsequent wiring. While this kit is a 12 volt conversion, it is still necessary to consider the systems in those individual years to be sure the kit will accommodate the vehicle design of the year in question. We have researched the system designs and will provide detailed instructions that will enable you to wire this subkit to your vehicle. The original VW wiring nomenclature follows the European DIN standard. Therefore, circuit numbers are assigned to a function. This becomes very important when we try to fit a switch into the design for a specific year by enabling us to match a circuit function to a circuit requirement for that year. The design of this kit does not always follow the original wiring design in relation to original schematics and wire color coding. We have chosen a design process that takes into consideration the fact that many original switches are no longer available and that if new old stock parts are available, they are quite expensive. Our philosophy was to design around commercially available components with serviceability being a major consideration. With this in mind, we can discuss the major components that affect the design of this kit.

1. The entire electrical system was originally a 6 volt system through the 1966 model year. The 1967 model was the first year of the 12 volt system.
As this is a 12 volt conversion, all 6 volt equipment on vehicles prior to 1967 will have to be replaced with the 12 volt equivalent.
2. All Beetles used a floor mounted headlight dimmer switch through the 1965 model year. The 1966 model was the first year of the momentary headlight dimmer incorporated into the turn signal switch.
3. The emergency flasher first appeared in the 1966 model year. This modified the front and rear turn signal wiring which is covered in the Turn Signal subkit.
4. Front running lights for 1962-1966 were mounted inside the headlight bucket. From the 1967 model year forward the running lights were separate lights in the housings mounted on the front fenders. The 1962-66 vehicles turn off those front running lights when the headlights are turned on and used a separate circuit (57 circuit) in the headlight switch to control the front running lights. From 1967 forward, the front running lights stayed on when the headlights were turned on.
6. From 1962-1974 all rear turn signal were operated by a separate turn signal bulb.
6. Backup lights did not appear until the 1967 model year.
7. All 1962-1966 Beetles used a single brake switch. 1967 used a dual brake switch configuration. From 1968 forward a dual brake switch system was combined with a brake warning light.
8. All 1962-1966 Beetles used a single speed 6 volt wiper motor. This 6 volt motor cannot be used with this kit.
This kit does not support the use of the 6 volt wiper motors or any current reducing components to use the 6 volt wiper motor.
In order to use this kit, all wiper motors must be 12 volt motors.
1967 and up used several 12 volt two speed wiper motors. The 1967-69 12 volt two speed motor and switch can be used with this kit for 1962-66 vehicles.
Starting in 1972, the wipers were controlled by a steering column mounted switch.
9. There are several speedometer designs used throughout the years as follows:
 - a. 1954-1960 Beetle. 0-80 mph.
 - b. 1961-1967 Beetle. 0-90 mph.
 - c. 1968-1971 Beetle . 0-90 mph. (including 1971 Super Beetle).
 - d. 1972-1977 Beetle. 0-100 mph. (including 1972 Super Beetle).
 - e. 1973-1979 Super Beetle.The faceplate designs of the speedometers do differ by year, however, the important connections are the light and power leads on the rear of the speedometer unit.
10. The fuel gauge was a separate mechanical unit through 1967. This unit only contained an instrument light lead.
11. The fuel gauge was moved into the speedometer housing starting in 1968 and incorporated an electric sender unit located in the fuel tank. The fuel gauge required a vibrator unit (12 to 6 volt) mounted on the back of the speedometer mounted fuel gauge.
12. Several years did include warning lights for optional equipment. The rear window defogger light and the ATF temperature warning light circuits are not supported in this kit.
13. This kit is supplied with a lead wire for an engine temperature gauge. This is a common aftermarket gauge update.
14. An original bulb specification supplement can be download from the technical section of our website. This supplement identifies the original specification bulbs as well as replacement bulbs necessary for this 12 volt conversion. Acceptable alternative bulbs are also identified. All bulbs in vehicles prior to 1967 will be 6 volt and must be replaced with 12 volt equivalent bulbs for this kit.
15. All Beetles used a dash mounted ignition switch through the 1967 model year. Connections are made directly to the switch.
From 1968 on, the ignition switch was mounted in the steering column. Connections were made to jumper wires that were hard wired to the switch.
16. A supplemental switch chart is available for download from our technical section on our website. This provides a cross reference of original switches to help determine applicability to your installation.
17. Rear window defogger did not appear until 1970. This kit does not include or address the wiring for the rear window defogger or the rear window defogger switch.
18. Fresh air fan did not appear until 1971. This kit does include the wiring for the fresh air fan.
19. Automatic Stick Shift first appeared in 1970. This kit does not include the wiring for the Automatic Stick Shift.
20. The original Robert Bentley Official Service Manuals are an excellent source for original wiring diagrams and accessories such as the Automatic Stick Shift, Rear Window Defogger, and Fresh Air Fan. We strongly recommend these manuals as an addition to the research library for your vehicle.
21. The ignition key warning buzzer did not appear until 1970. This kit does not include or address the wiring for the key warning buzzer.
22. Beginning in 1972, the factory incorporated extra wiring to facilitate a "TEST NETWORK" throughout the vehicle. This kit does not include or address the wiring for the "TEST NETWORK".
23. Battery cables are not included in this kit

Part of the documentation package identifies a list of switches that are applicable to the year of the vehicle. There are no switches supplied with this kit as there are many available options including your original switches. We have researched these switches to determine availability and functionality with this kit design. A supplemental switch instruction set is available for download from our site under the technical wiring section. This supplement defines the function of the switches and the circuit connections. Use this supplement as a guideline in determining whether your original switches will work with this kit or it will be necessary to obtain new switches.



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1962-74 Volkswagen Beetle
12 volt Wiring Kit

92971328 Rev 1.0 3/21/2016

Read these notes before beginning installation (continued).

There are no switches supplied with this kit. Switch selection is up to the installer. While some 6 volt headlight, floor dimmer, brake, and backup light switches may be able to be used in this 12 volt conversion kit, it is recommended that all 6 volt switches, light bulbs, wiper motors, starters, generators, regulators, etc. be 12 volt. American Autowire has selected available 12 volt switches to help complete the wiring installation as follows:

- | | | |
|--|---|--|
| <p>1. 1962-1965 Beetle.</p> <p>a. Headlight sw 311-941-531B, 113-941-531, 113-941-531B, 211-941-531B, 113-941-531E</p> <p>b. Headlight Dimmer Relay not applicable</p> <p>c. Emergency Flasher not applicable</p> <p>d. Floor Dimmer sw 111-941-561B</p> <p>e. Brake switch 113-945-515H or original stock 2 prong</p> <p>f. Brake warning light not applicable</p> <p>g. Backup light sw not applicable</p> <p>h. Wiper switch 111-955-517A or original single speed wiper switch</p> <p>i. Ignition switch 111-905-803D or original switch</p> | <p>3. 1967 Beetle</p> <p>a. Headlight sw 113-941-531B, 211-941-531B, 113-941-531E</p> <p>b. Headlight Dimmer Relay 111-941-583 (original VW)</p> <p>c. Emergency Flasher 111-953-233 2 EMPI, 111-953-235G, 111-953-235 1, 113-911-627 2, 211-953-235A, 111-953-235D, 211-953-235A, 111-953-235F, 411-953-235B</p> <p>d. Floor Dimmer sw not applicable</p> <p>e. Brake switches 113-945-515G, or original stock 2 or 3 prong (used 2)</p> <p>f. Brake warning light not applicable</p> <p>g. Backup light sw 211-941-521, or original stock</p> <p>h. Wiper switch 141-955-517, 141-955-517A (2 speed wiper switch)</p> <p>i. Ignition switch 111-905-803D or original switch</p> | <p>5. 1972-1974 Beetle.</p> <p>a. Headlight sw 113-941-531B, 211-941-531B, 113-941-531E</p> <p>b. Headlight Dimmer Relay 111-941-583 (original VW)</p> <p>c. Emergency Flasher 111-953-233 2 EMPI, 111-953-235G, 111-953-235 1, 113-911-627 2, 211-953-235A, 111-953-235D, 211-953-235A, 111-953-235F, 411-953-235B</p> |
| <p>2. 1966 Beetle</p> <p>a. Headlight sw 311-941-531B, 113-941-531, 113-941-531B, 211-941-531B, 113-941-531E</p> <p>b. Headlight Dimmer Relay 111-941-583 (original VW)</p> <p>c. Emergency Flasher 111-953-233 2 EMPI, 111-953-235G, 111-953-235 1, 113-911-627 2, 211-953-235A, 111-953-235D, 211-953-235A, 111-953-235F, 411-953-235B</p> <p>The original system used a separate switch and indicator light assembly to a separate flasher relay. This kit does not use this design. This kit uses of the later 1968 and up emergency flasher which has the indicator light and all connections in one switch. The kit also eliminates the use of the original emergency flasher relay.</p> <p>d. Floor Dimmer sw not applicable</p> <p>e. Brake switch 113-945-515H, or original stock 2 prong</p> <p>f. Brake warning light not applicable</p> <p>g. Backup light sw not applicable.</p> <p>h. Wiper switch 111-955-517 or original single speed wiper switch</p> <p>i. Ignition switch 111-905-803D or original switch</p> | <p>4. 1968-1971 Beetle</p> <p>a. Headlight sw 113-941-531B, 211-941-531B, 113-941-531E</p> <p>b. Headlight Dimmer Relay 111-941-583 (original VW)</p> <p>c. Emergency Flasher 111-953-233 2 EMPI, 111-953-235G, 111-953-235 1, 113-911-627 2, 211-953-235A, 111-953-235D, 211-953-235A, 111-953-235F, 411-953-235B</p> <p>The original system used a separate switch and indicator light assembly to a separate flasher relay. This kit does not use this design. This kit uses of the later 1968 and up emergency flasher which has the indicator light and all connections in one switch. The kit also eliminates the use of the original emergency flasher relay.</p> <p>d. Floor Dimmer sw not applicable</p> <p>e. Brake switches 113-945-515G, or original stock 3 prong (used 2)</p> <p>f. Brake warning switch original stock</p> <p>g. Brake warning light w/test original stock</p> <p>h. Backup light sw 211-941-521, or original stock</p> <p>i. Wiper switch 141-955-517, 141-955-517A (2 speed wiper switch)</p> <p>j. Ignition switch (1968-70) 311-905-865A or original switch</p> <p>j. Ignition switch (1971) 111-905-865F or original switch</p> | <p>The original system used a separate switch and indicator light assembly to a separate flasher relay. This kit does not use this design. This kit uses of the later 1968 and up emergency flasher which has the indicator light and all connections in one switch. The kit also eliminates the use of the original emergency flasher relay.</p> <p>d. Floor Dimmer sw not applicable</p> <p>e. Brake switches 113-945-515G, or original stock 3 prong</p> <p>f. Dual circuit Brake warning light 113-919-233B, or original stock</p> <p>g. Backup light sw 211-941-521, or original stock</p> <p>h. Wiper switch original steering column mounted switch</p> <p>i. Ignition switch 111-905-865F or original switch</p> |



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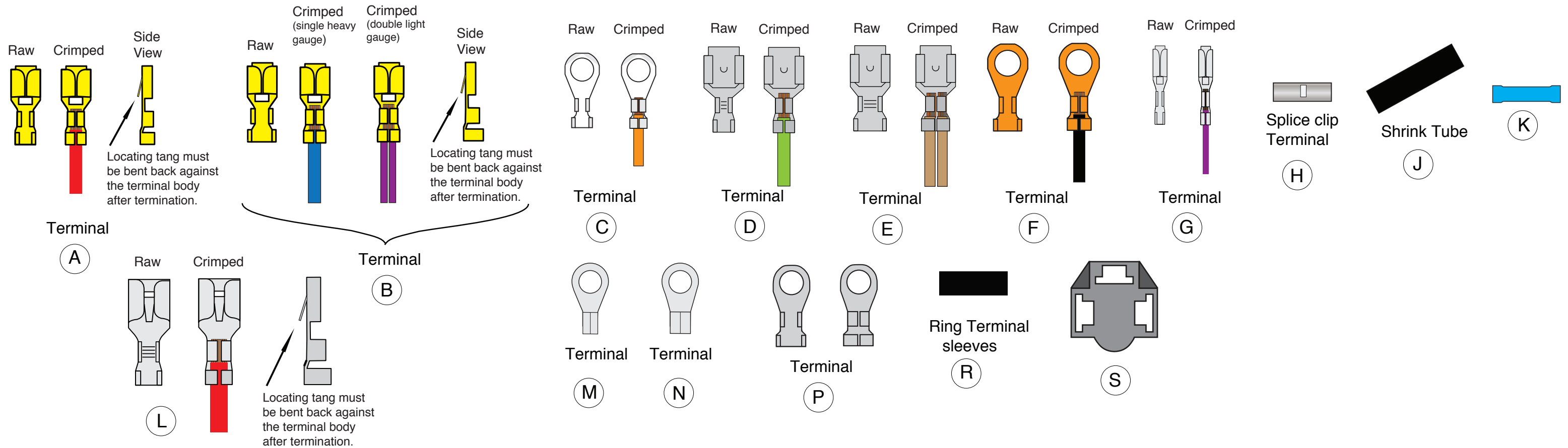
510419

1962-74 Volkswagen Beetle
12 volt Wiring Kit

92971328 Rev 0.0 9/1/2015

Terminals used in this installation.

This kit contains a supply of terminals to complete the connections to the required switches and light assemblies. We have supplied additional terminals in the event that extra terminals are necessary. Each connection on the following diagrams identifies a specific terminal by a letter code that will correspond to the letter code on the terminals identified below. The terminals below are shown in actual size to help you identify the terminal required for each connection. Many of the terminals on the following drawings are already installed on the wires. These terminals will be shown in the crimped configuration and will not have a letter code next to the terminal.



Notes on installation

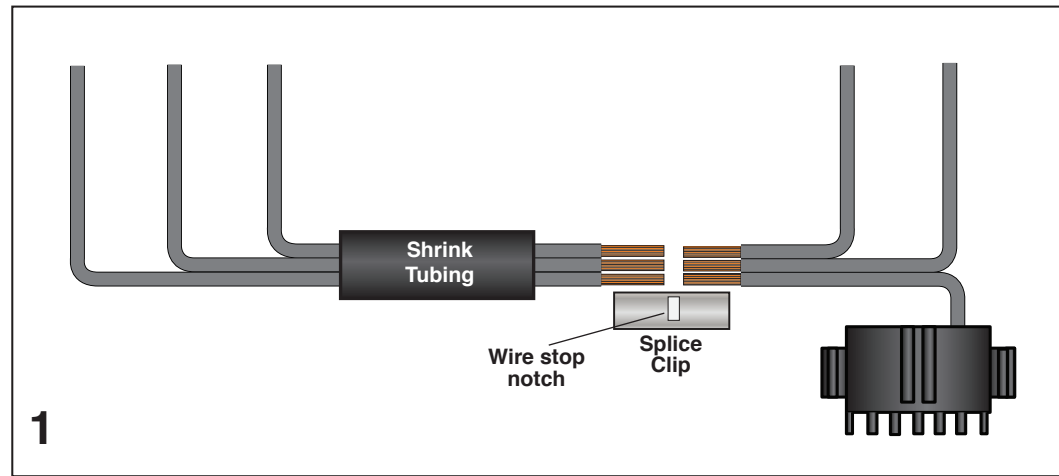
The enclosed instruction sheets show the connections to the appropriate switches. Before beginning, it is important to consider the following facts:

1. There is no set pattern on how the wire is routed to each switch.
2. Wire routing is an individual preference and therefore it is the responsibility of the installer to design the wire routing scheme for the specific vehicle. The important thing about wire routing is to consider the neatest bundle and the shortest distance. Extra wire should be eliminated once the desired routing has been measured. Excess wire should never be coiled and bundled out of the way.
3. In many cases, it would be desirable to follow the original factory routing scheme as there may be grommet and tube assemblies in place to protect the wiring as it passes through specific inner panels in the car.
4. There is more wire than required for the circuits in question. We have provided the extra wire to accommodate any wire routing scheme developed by the installer. With this in mind, each wired circuit should be routed and measured before the wire is cut and terminated to fit the routing scheme.
5. The drawings show the wire colors with the actual printing on each wire. Printed wires will have the same color coding as on the drawings and a circuit description printed on the wire every 3 inches.
6. When specific color coded and printed wire is not used for a circuit, every effort is made to utilize the original color coding and striping for the original Volkswagen circuit.
7. Each wire requiring termination is identified with the terminal letter code. These wires will be depicted in the "Raw" view with the required Terminal letter code. The wires are shown approaching the terminal as it would appear before termination.
8. In many cases, a wire will already be terminated on one end and will be shown on the drawing according to the "Crimped" view of the terminal and will not have a terminal letter designation code.
9. It is recommended that the proper crimp tool be used for the terminal installations. With the correct crimp tool, soldering the termination would not be necessary. When in doubt about the strength of the termination, it is recommended that the connection be soldered.
10. There are connections within some circuits that are best handled with an "in line splice". The physical location of the splice is up to the installer as it is dependent on the wire routing scheme. Closed barrel splice connectors are supplied for this connection as well as sealing shrink tubing to protect the completed splice. It is strongly recommended that the in line splice connection be soldered before sealing the connection with the shrink tubing. Be sure to install the wires through the shrink tubing before crimping and soldering the splice connection.

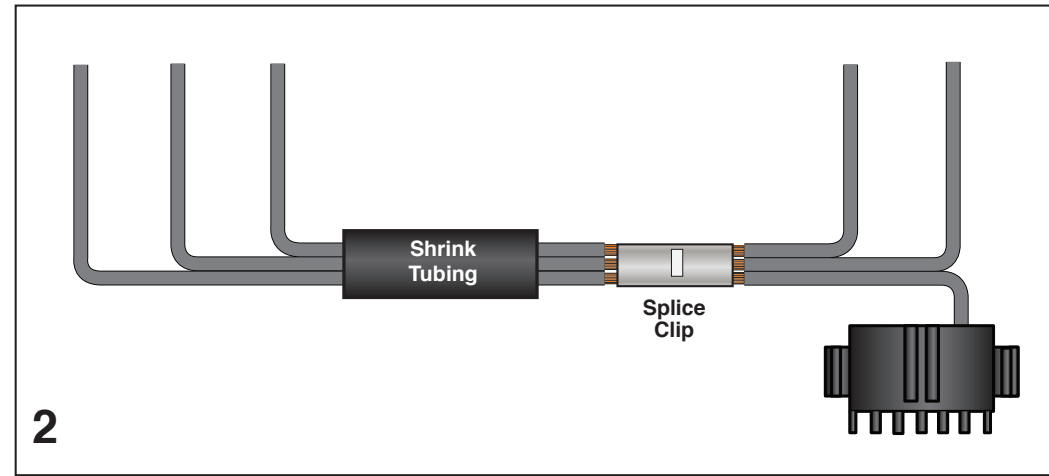


In line wire splicing.

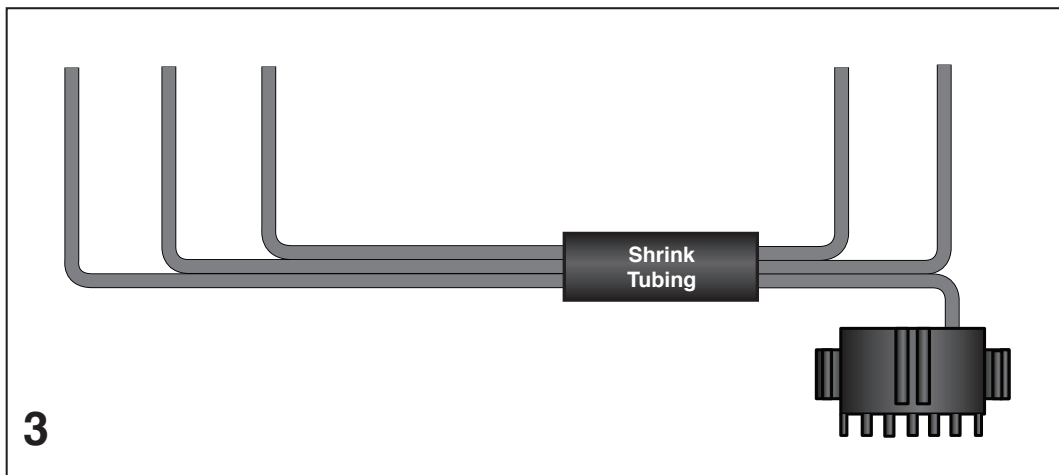
This kit uses in line splices in several of the subkits. This example shows the correct way to execute this splice.



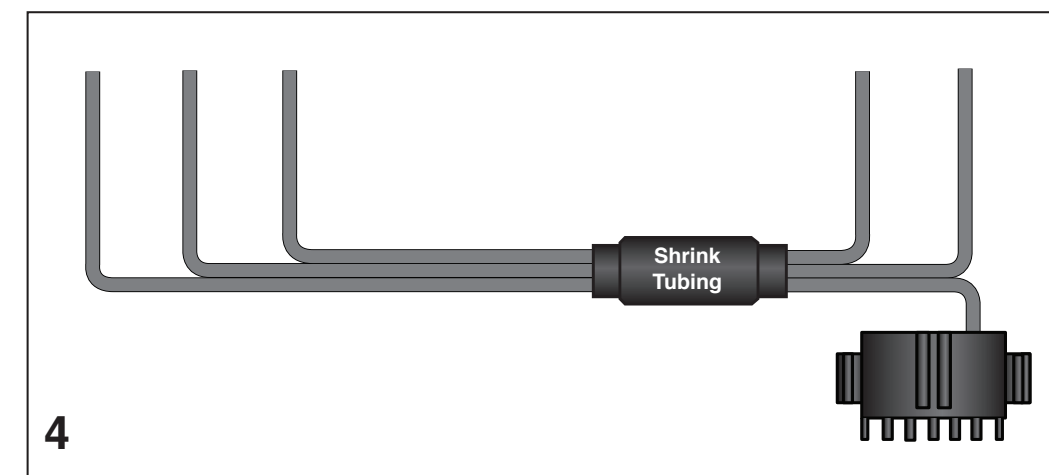
1
After routing wires to be spliced, strip the wires long enough to reach the wire stop in the splice clip. Slide the heat shrink tube over all the wires **BEFORE** installing the splice clip. Be sure the heat shrink tube is of adequate length to completely cover the splice.



2
Once the wires are installed into the splice clip, the splice clip can be crimped or compressed to tightly retain the wires. This connection can then be soldered.



3
Slide the shrink tube over the completed splice. Be sure to center the shrink tube so that none of the splice is exposed.



4
Heat the shrink tube to allow the sealant to form around the splice. The shrink tube will conform to the contours of the splice. This is the correct way to seal the splice.



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