

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 electrical system requirements 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 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.
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 to interface with the emergency flasher.
4. The original design of the front directional lights for 1962-1966 was to mount them inside fender mounted turn signal housings. These units used a single filament bulb for turn signals. Running lights were mounted inside the headlight housings and wiring for the running lights is covered in the 510420 Lighting subkit.
5. From the 1967 model year forward, front turn signal lights and running lights shared a double filament bulb inside the turn signal housing. The turn signals used the high (bright) filament of this bulb.
6. From 1962-1974 all rear turn signal were operated by a separate turn signal bulb.
7. 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.
8. The original 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.
9. The main kit instruction sheet identifies the possible emergency light switches that will work with this kit. A downloadable supplement from the technical section of our website identifies several different emergency switches that can be used with this kit. Detailed diagrams are provided in that supplement to identify circuit connections.
10. Again, because of the variety of switches that are compatible with this kit, there are no switches supplied with this kit. We have designed this kit around available switches. Use the list of switches provided in the downloadable supplement as a guideline in determining whether your original switches will work with this kit or it will be necessary to obtain new switches.

Again, there are no switches supplied with this kit. Switch selection is up to the installer.

The following facts pertain to the kit:

- | | |
|---|--|
| <p>1. 1962-1965 Beetle.
a. Emergency Flasher not applicable</p> | <p>5. 1970-1971 Beetle
a. Emergency Flasher Uses one of the switches identified in the following drawings.</p> |
| <p>2. 1966 Beetle
a. Emergency Flasher replaces original switch and separate relay with one of the switches identified in the following list.</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 addresses the use 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>6. 1972-1974 Beetle.
a. Emergency Flasher Uses one of the switches identified in the following drawings.</p> <p>The original system uses an emergency flasher which has the indicator light and all connections in one switch. This switch can be used with this kit. This kit eliminates the use of the original emergency flasher relay.</p> |
| <p>3. 1967 Beetle
a. Emergency Flasher replaces original switch and separate relay with one of the switches identified in the following list.</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 addresses the use 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>4. 1968-1969 Beetle
a. Emergency Flasher Uses one of the switches identified in the following drawings.</p> <p>The original system uses an emergency flasher which has the indicator light and all connections in one switch. This switch can be used with this kit. This kit eliminates the use of the original emergency flasher relay.</p> | |



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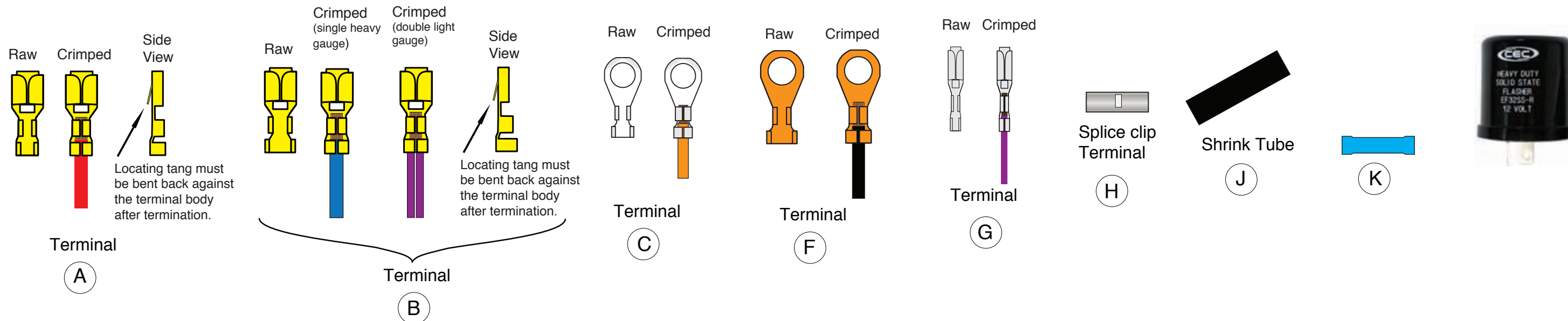
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Terminals used in this installation.

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.



Instrument Cluster turn signal indicator light.

In the original Volkswagen wiring design, there is a single turn signal indicator light in the instrument cluster that flashes in conjunction with either a left or right turn input signal. This indicator light does not distinguish between a left or right signal. It only indicates that either a left or right signal is active. This required a special turn signal flasher with a pilot light ground feed directly to the indicator bulb. The bulb received power via a common power feed terminal on the instrument cluster. This original design turn signal flasher and wiring configuration cannot be used with this kit. Instead, we have chosen to use a special non-metallic light socket that replaces the original metal turn signal indicator socket. The advantages to the use of this new socket are as follows:

1. The new socket is a direct press in fit replacement for the original metal light socket.
2. The original turn signal flasher is not required.
3. LED turn signal lights can be used.
It is common practice to use LED bulbs for turn signals around the vehicle. They run cooler, draw very little current, and generally last longer. However, in order to facilitate the use of LED turn signal bulbs, an LED compatible turn signal flasher must be used. This kit incorporates this type of electronic LED compatible flasher.
4. An LED turn signal indicator bulb can be used.
LED bulbs are one direction bulbs. In the original Volkswagen wiring design, that uses a single turn signal indicator bulb, a single LED bulb would not work.
5. A colored LED bulb can be used.
This is a perfect fix for a cracked or worn indicator lens. The turn signal indicator bulb is green.

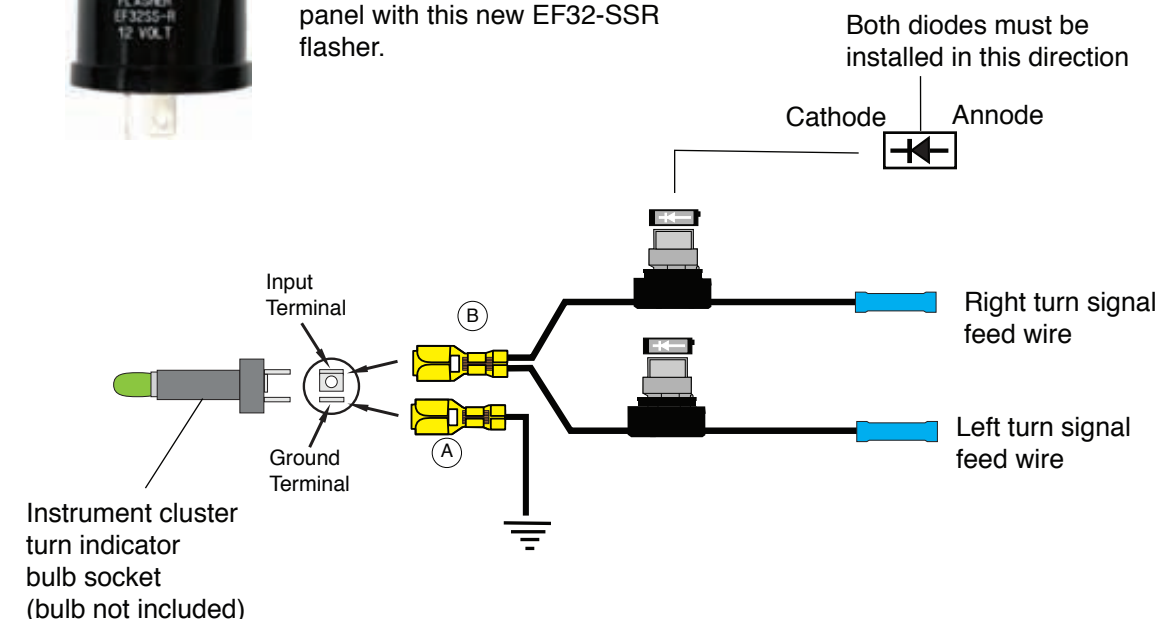
The replacement light socket is insulated from the instrument cluster housing. It has a terminal that accepts the power source and a ground terminal. The diodes are directional and allow the turn signal input from either the left or right side to flow to the bulb's input. There can be no backfeed to the opposite side feed wire because the direction of the diode blocks any backfeed. Current flows from anode to cathode only.



Current is blocked from cathode to anode. Basically, any signal input lights the bulb without affecting the opposite side. LED bulbs are also directional. However, the input (anode) side of the bulb matches the input terminal of the housing. Current flows from the input terminal of the light socket through the bulb to ground.



When using LED bulbs, it will be necessary to replace the flasher mounted on the Highway 15 panel with this new EF32-SSR flasher.



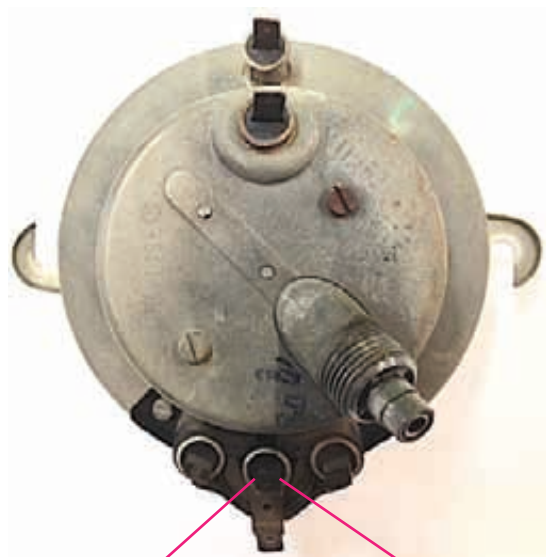
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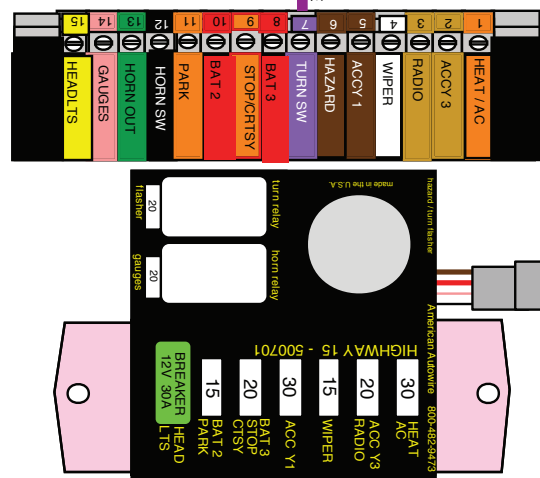
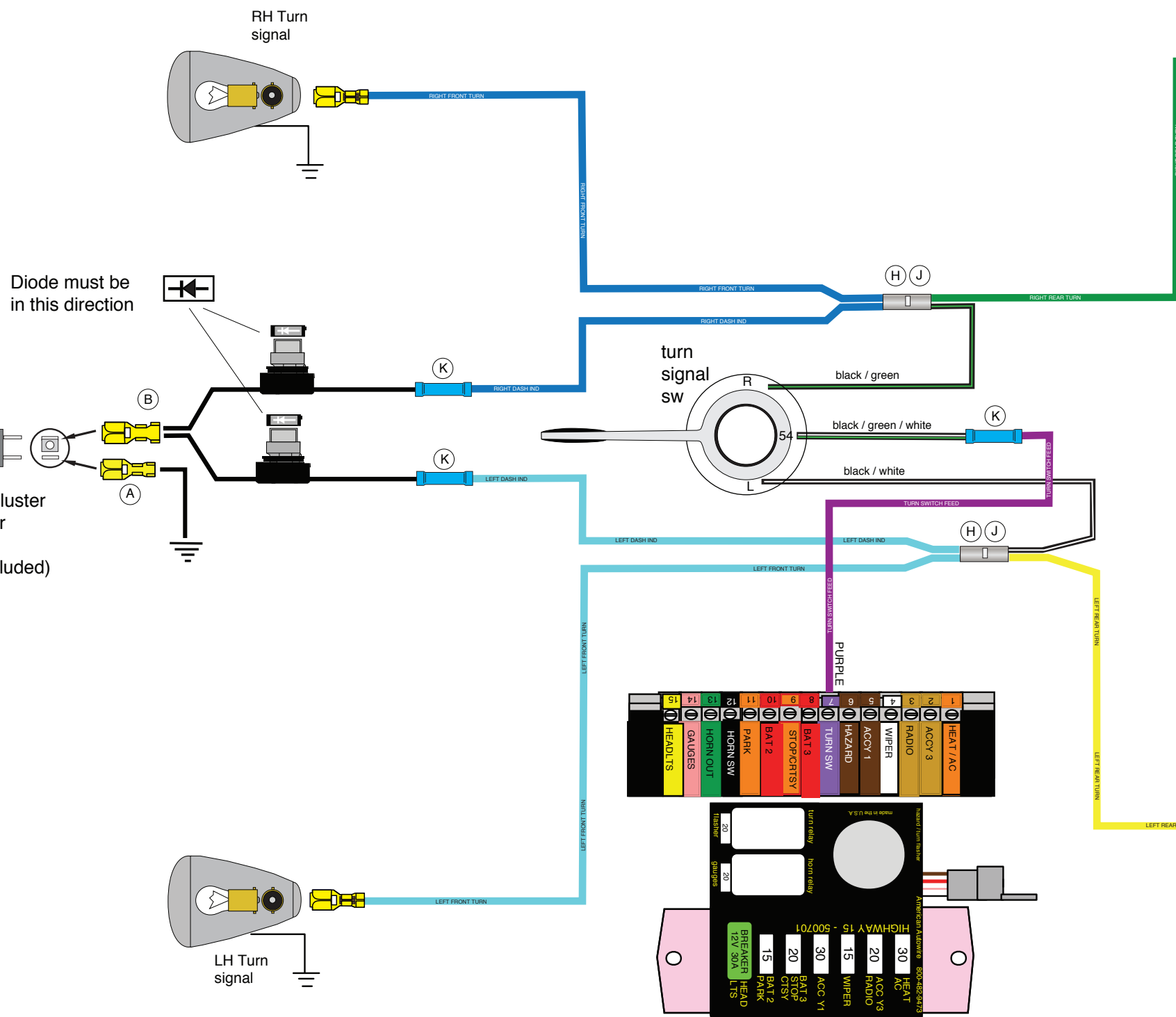
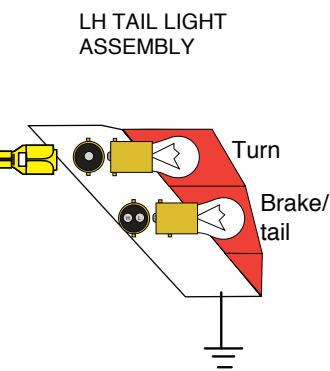
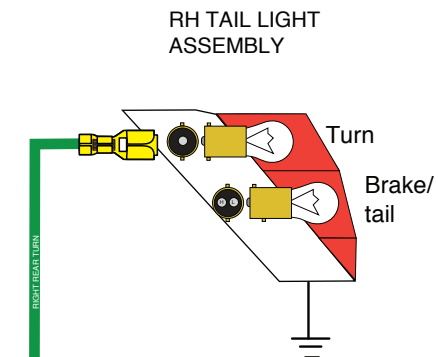
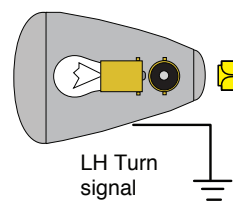
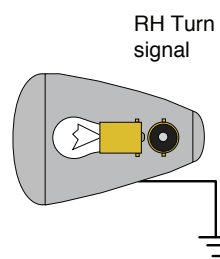
1962-65 Beetle - Turn signal lights



The new plastic bulb socket will replace this metal socket in the speedometer cluster

Instrument cluster turn indicator bulb socket (bulb not included)

Diode must be in this direction



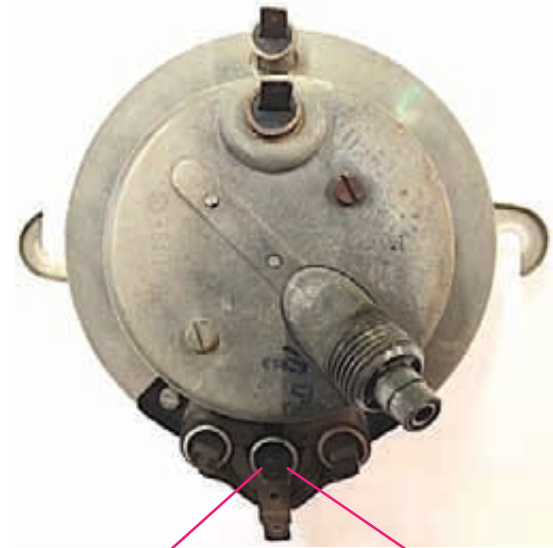
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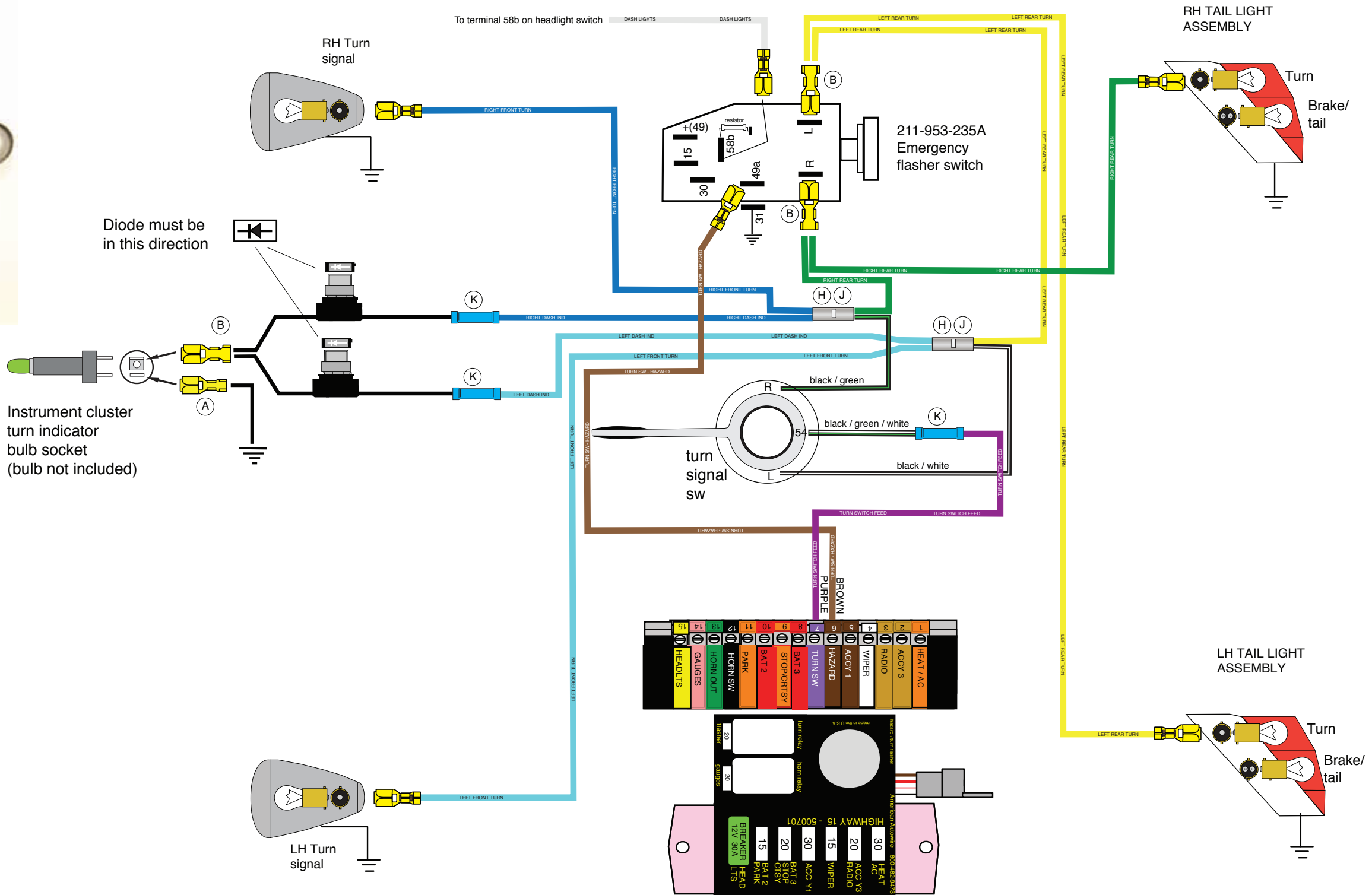
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1966 Beetle - Turn signal, hazard, and brake lights



The new plastic bulb socket will replace this metal socket in the speedometer cluster



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WIRE FUNCTION CHART

<u>VW CIRCUIT</u>	<u>AAW CIRCUIT</u>	<u>WIRE GAUGE</u>	<u>WIRE COLOR</u>	<u>WIRE PRINTING</u>	<u>CIRCUIT FUNCTION</u>
58B	8	18	Gray	DASH LIGHTS	Emergency flasher terminal 58B to instrument panel light lead from headlight switch
L	14A	18	Light blue	LEFT FRONT TURN	In Line splice to left front directional light
L	14B	18	Light blue	LEFT DASH IND	In Line splice to left dash indicator light
R	15A	18	Dark blue	RIGHT FRONT TURN	In Line splice to right front directional light
R	15B	18	Dark blue	RIGHT DASH IND	In Line splice to right dash indicator light
54	16	16	Purple	TURN SWITCH FEED	Main power from panel connection 7 (TURN SW) to turn signal switch 54 feed wire
49A	27	14	Brown	TURN SWITCH FEED	Main power from panel connection 6 (HAZARD) to emergency flasher switch 49A terminal
L	18A	16	Yellow	LEFT REAR TURN	Turn signal switch to left rear directional
L	18B	16	Yellow	LEFT REAR TURN	In Line splice to emergency flasher terminal "L" for left rear turn
R	19A	16	Dark Green	RIGHT REAR TURN	Turn signal switch to right rear directional
R	19B	16	Dark Green	RIGHT REAR TURN	In Line splice to emergency flasher terminal "R" for right rear turn
	150	18	Black	GROUND	Ground lead for new directional indicator bulb socket



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