

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 which is covered in the 510422 Turn Signal subkit.
4. The original design of the front running lights for 1962-1966 was to mount them 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. From 1967 forward, the front running lights stayed on when the headlights were turned on. Therefore, the headlight switch is different for the 1962-1966 vehicle in that it must have a separate circuit (57 circuit) to control the front running lights.
5. Backup lights did not appear until the 1967 model year.
6. 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.
7. All 1962-1966 Beetles used a single speed wiper motor. 1967 and up used several 2 speed wiper motors. This will be covered in the 510621 Wiper subkit.

We have identified and researched a list of original switches that are applicable to the year of the vehicle and presented that list below. Space considerations surrounding the location of original switches were a major factor in the design of this kit and for the most part have dictated the kit design. There are no switches supplied with this kit as there are many available options including your original switches. We have chosen switches available in the aftermarket to complete the design of this kit. Additional information is available via download from the technical section of our website that identifies other switches that can be used in this installation. We have researched these switches to determine functionality with this kit design and provided connection diagrams applicable for use with this kit. The original wiring nomenclature follows the European DIN standard where circuit numbers are assigned to a function. This becomes very important when trying to match a circuit function to a circuit requirement for that year. Use the switch 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 switches are identified to help complete the wiring installation:**

- | | | | | | | |
|----|-------------------|------------------------|--|-------------------|----------------------------------|--|
| 1. | 1962-1965 Beetle. | | 4. | 1968-1971 Beetle | | |
| | a. | Headlight sw | 311-941-531B, 113-941-531, 113-941-531B, 211-941-531B 113-941-531E | a. | Headlight sw | 113-941-531B, 211-941-531B 113-941-531E |
| | b. | Headlight Dimmer Relay | not applicable | b. | Headlight Dimmer Relay | 111-941-583 (original VW) |
| | c. | Floor Dimmer sw | 111-941-561B | c. | Floor Dimmer sw | not applicable |
| | d. | Brake switch | 113-945-515H original stock 2 prong | d. | Brake switches | 113-945-515G original stock 3 prong (used 2) |
| | e. | Brake warning light | not applicable | e. | Brake warning switch | original stock |
| | f. | Backup light sw | not applicable | f. | Brake warning light w/test | original stock |
| | | | | g. | Backup light sw | 211-941-521 original stock |
| 2. | 1966 Beetle | | 5. | 1972-1974 Beetle. | | |
| | a. | Headlight sw | 311-941-531B, 113-941-531, 113-941-531B, 211-941-531B 113-941-531E | a. | Headlight sw | 113-941-531B, 211-941-531B 113-941-531E |
| | b. | Headlight Dimmer Relay | 111-941-583 (original VW) | b. | Headlight Dimmer Relay | 111-941-583 (original VW) |
| | c. | Floor Dimmer sw | not applicable | c. | Floor Dimmer sw | not applicable |
| | d. | Brake switch | 113-945-515H original stock 2 prong | d. | Brake switches | 113-945-515G original stock 3 prong |
| | e. | Brake warning light | not applicable | e. | Dual circuit Brake warning light | 113-919-233B original stock |
| | f. | Backup light sw | not applicable. | f. | Backup light sw | 211-941-521 original stock |
| 3. | 1967 Beetle | | | | | |
| | a. | Headlight sw | 113-941-531B, 211-941-531B 113-941-531E | | | |
| | b. | Headlight Dimmer Relay | 111-941-583 (original VW) | | | |
| | c. | Floor Dimmer sw | not applicable | | | |
| | d. | Brake switches | 113-945-515G original stock 2 or 3 prong (used 2) | | | |
| | e. | Brake warning light | not applicable | | | |
| | f. | Backup light sw | 211-941-521 original stock | | | |



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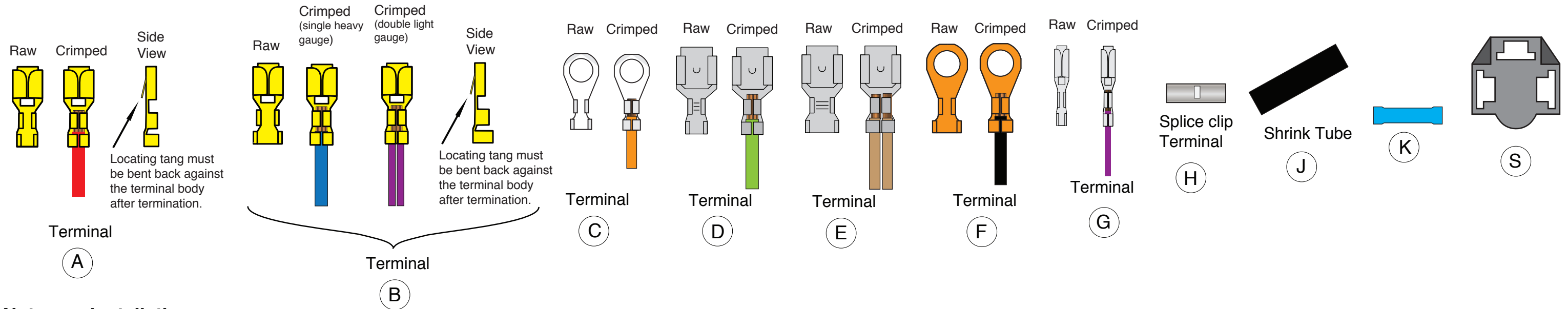
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Volkswagen Headlight and
Running Light Wiring Kit

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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.



Notes on installation

The following drawings 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 for each circuit but do not show the actual printing on each wire. Printed wires will have the same color coding as on the drawings but will also have 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. 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 installation of the shrink tubing. Be sure to install the wires through the shrink tubing before crimping and soldering the splice connection.



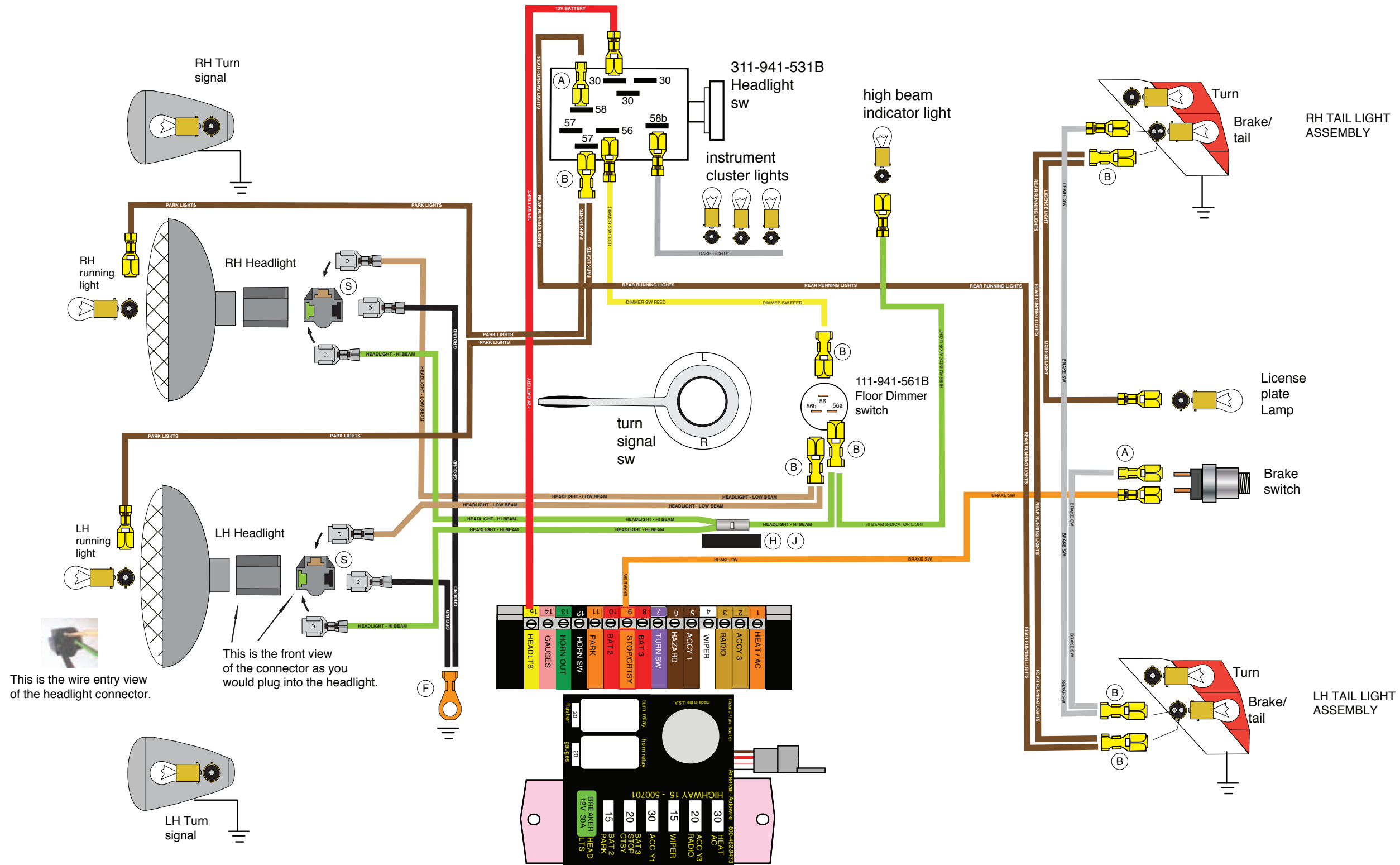
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1962-65 Beetle - Headlights, running lights, and brake lights.



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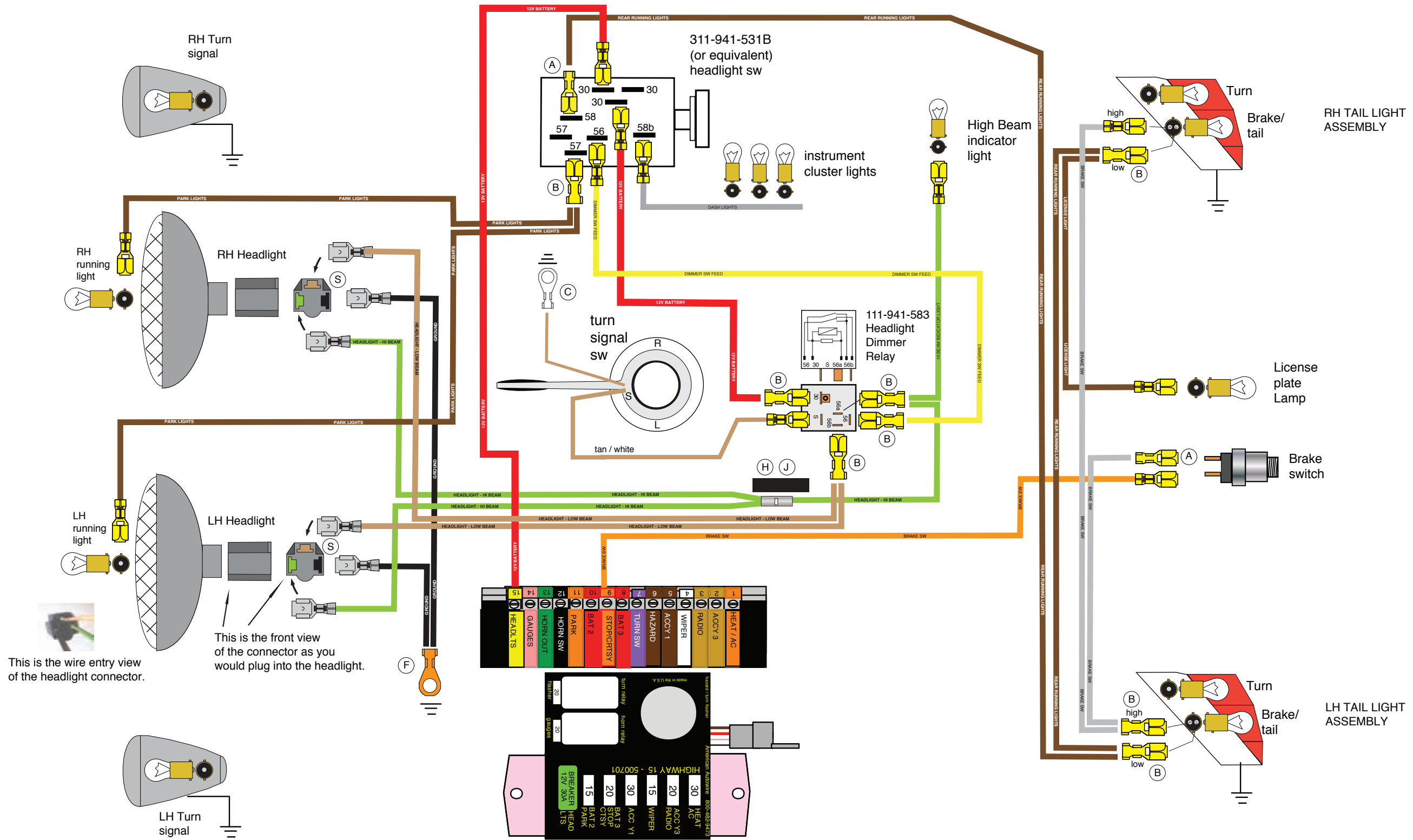
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1966 Beetle - Headlights, running lights, and brake lights.



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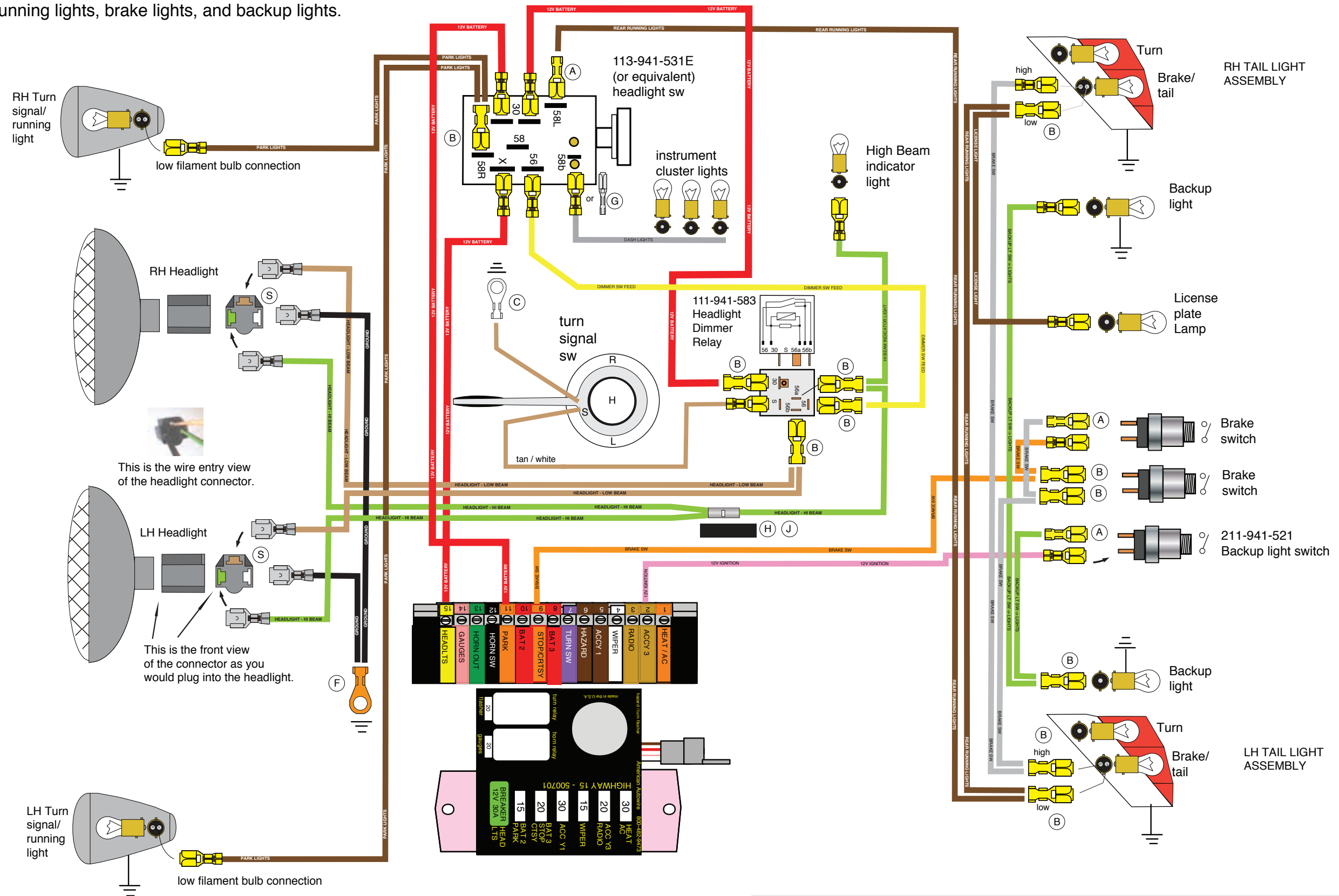
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1967 Beetle - Headlights, running lights, brake lights, and backup lights.



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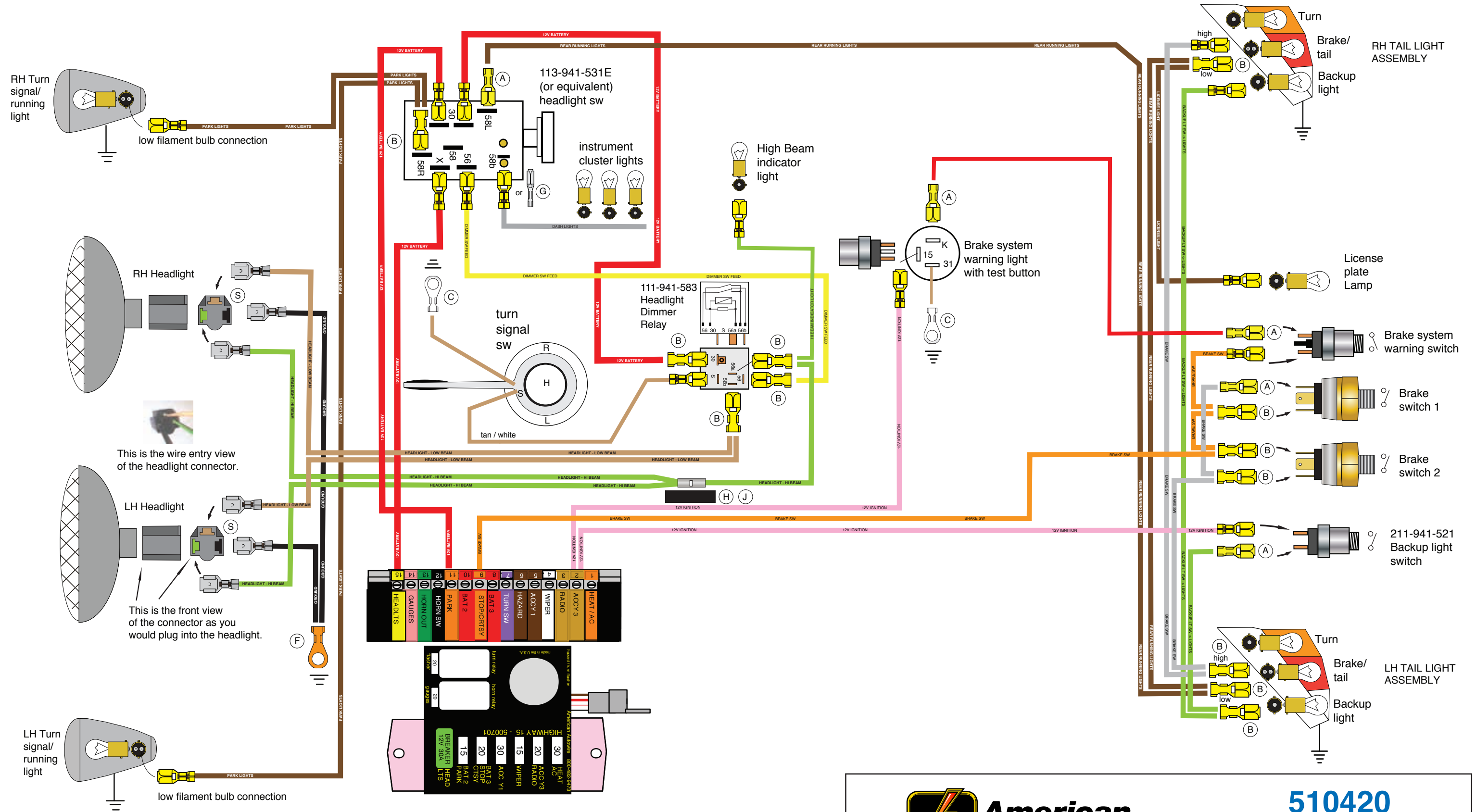
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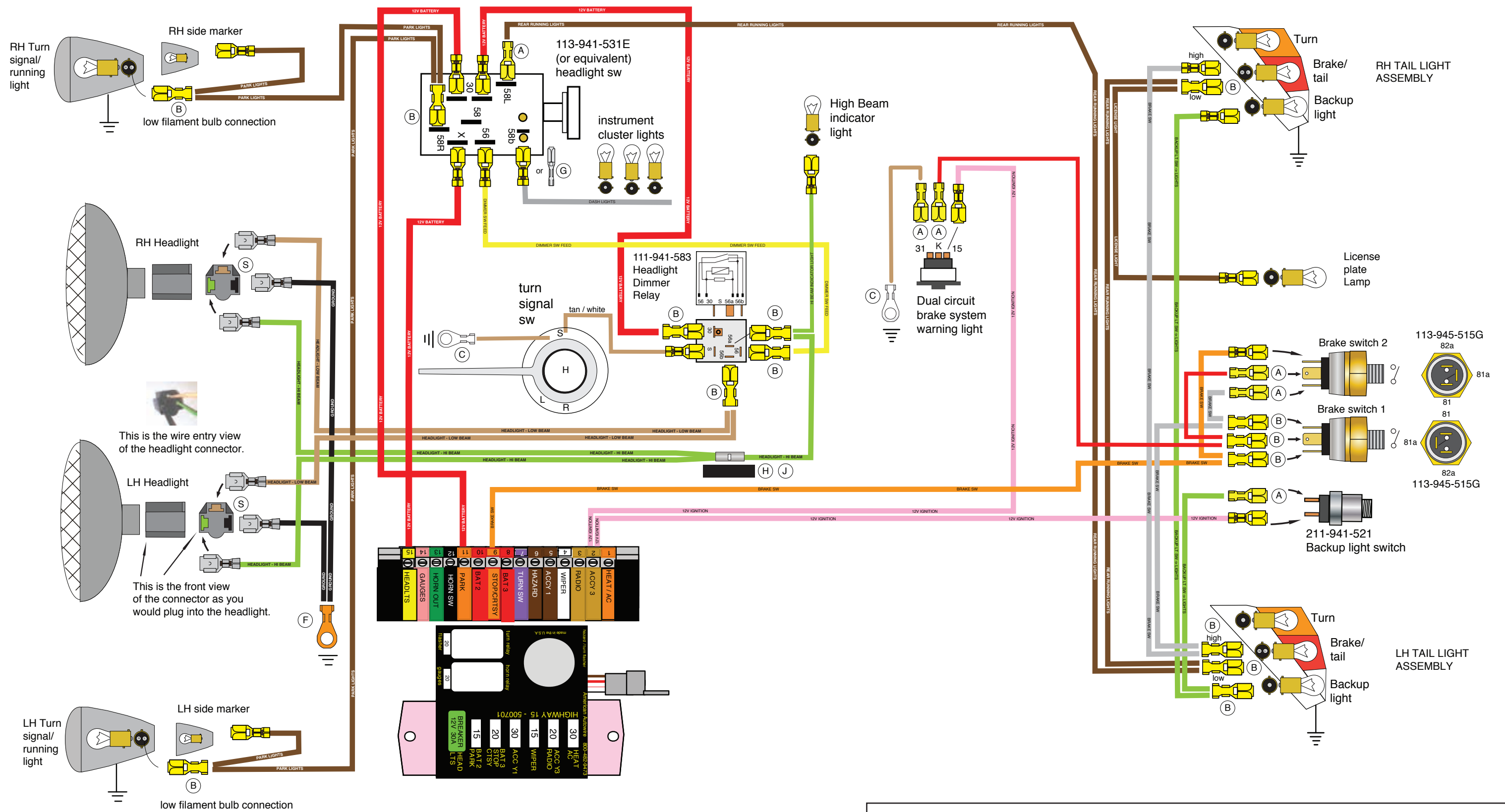
1968-69 Beetle - Headlights, running lights, brake lights, and backup lights.



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1970-71 Beetle - Headlights, running lights, brake lights, and backup lights.





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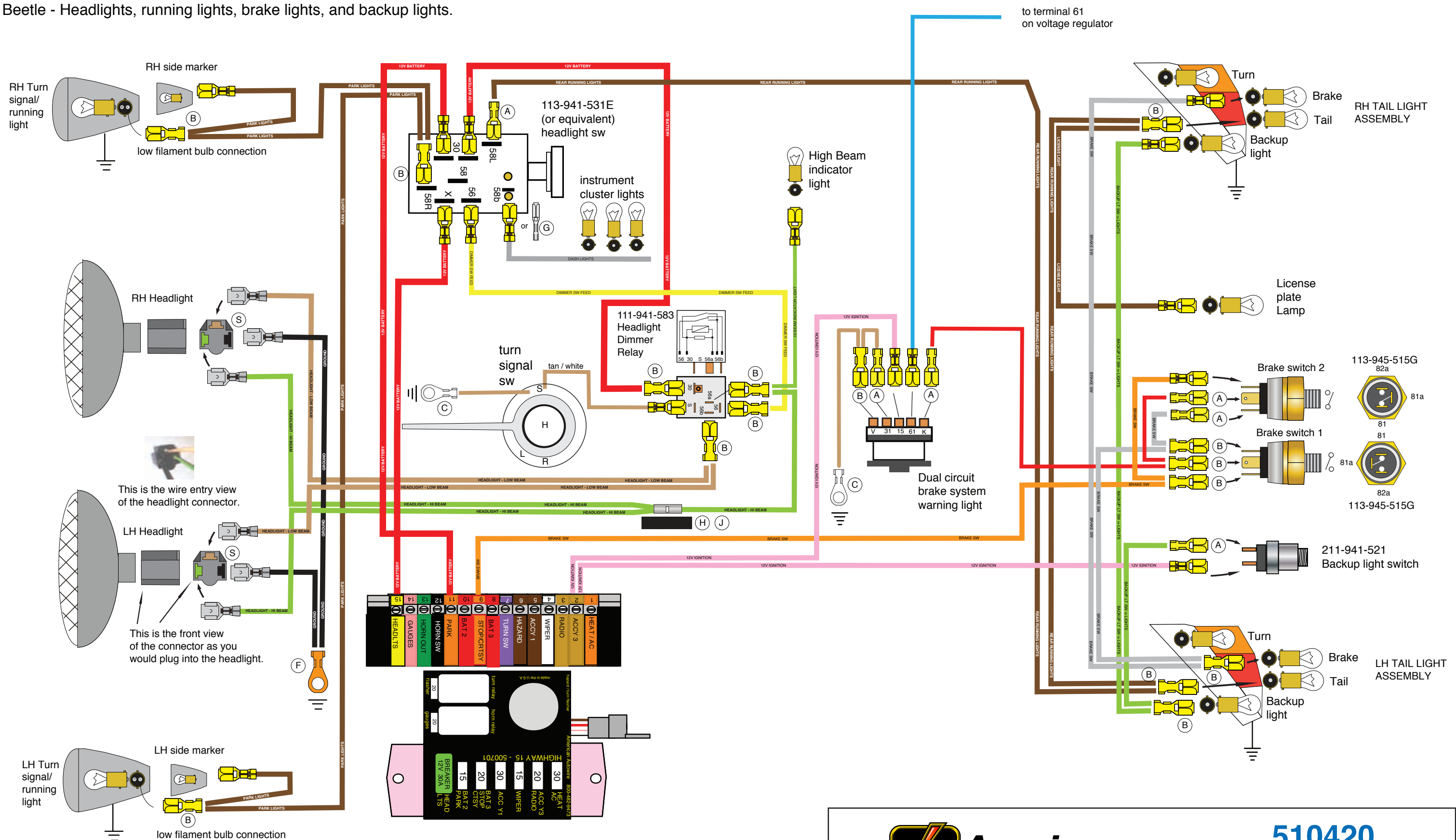
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1974 Beetle - Headlights, running lights, brake lights, and backup lights.



to terminal 61 on voltage regulator

This is the wire entry view of the headlight connector.

This is the front view of the connector as you would plug into the headlight.



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WIRE FUNCTION CHART

VW CIRCUIT	AAW CIRCUIT	WIRE GAUGE	WIRE COLOR	WIRE PRINTING	CIRCUIT FUNCTION
58B	8	18	Gray	DASH LIGHTS	Dash light feed wire from headlight switch
30	2A	12	Red	12V BATTERY	Main power from Panel connection 15 (HEADLTS) to the headlight switch
30	2B	12	Red	12V BATTERY	Main power from Panel connection 11 (PARK) to the headlight switch
30	2C	12	Red	12V BATTERY	Headlight switch power terminal (30) to Dimmer relay power terminal (30)
30	2D	18	Red	no printing	Brake warning light "K" terminal to brake switch
58	9A	16	Brown	REAR RUNNING LIGHTS	Rear running light lead from Headlight switch to rear running lights
58	9B	16	Brown	REAR RUNNING LIGHTS	Right rear to Left rear running light jumper
58	9C	16	Brown	LICENSE LIGHT	License plate light lead wire
57	9D	16	Brown	PARK LIGHTS	Front running light lead from Headlight switch to left front running lights and side markers
57	9E	16	Brown	PARK LIGHTS	Front running light lead from Headlight switch to right front running lights and side markers
56	10	14	Yellow	DIMMER SW FEED	Power output from the headlight switch to the floor dimmer or Dimmer relay
56B	11A	14	Light Green	HEADLIGHT - HIGH BEAM	High beam headlight lead from the Headlight switch to left headlight
56B	11B	14	Light Green	HEADLIGHT - HIGH BEAM	High beam headlight lead from the Headlight switch to right headlight
	11C	18	Light Green	HI BEAM INDICATOR LIGHT	High beam indicator light in instrument cluster
56A	12A	14	Tan	HEADLIGHT - LOW BEAM	Low beam headlight lead from the Headlight switch to left headlight
56A	12B	14	Tan	HEADLIGHT - LOW BEAM	Low beam headlight lead from the Headlight switch to right headlight
	150A	14	Black	GROUND	Headlight ground wire
	150B	14	Black	GROUND	Headlight ground wire
	24	18	Light Green	BACK UP LT SW --> LIGHTS	Backup lights lead wire from backup light switch
15	39A	18	Pink	12V IGNITION	Main power from Panel connection 2 (ACCY 3) to the backup light switch
15	39B	18	Pink	12V IGNITION	Main power from Panel connection 2 (ACCY 3) to the brake warning light power in terminal (15)
31S	7	18	Tan / white stripe	no printing	Turn signal switch "S" terminal to headlight dimmer relay for momentary ground
	140	16	Orange	BRAKE SW	Main power from Panel connection 9 (STOP/CRTSY) to the brake switch
	17	16	White	BRAKE SW	Power lead wire from brake switch to brake lights
61	61	18	Light blue	no printing	Brake warning light terminal "61" to voltage regulator terminal "61"
31	31	18	Tan	no printing	Brake warning light ground wire(s)



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