INSTALLATION INSTRUCTIONS

7-WAY VEHICLE UNIVERSAL PLUG & PLAY KIT

Approximate Instal Time: 120 minutes

READ THIS FIRST:

Read and follow all vehicle warnings and installation instructions before beginning installation. Wear safety glasses and use all safety precautions during installation.

22551-037 Rev B 06/17

HARDWARE OVERVIEW:


Cable Tie, 8.5" (24)


Cable Tie, 14.5" (1)


Fuse Holder (2)


Wire Tap (6)

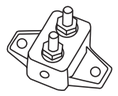

Yellow Butt Connector (7)

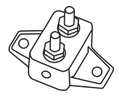

Foam Tape (1)


Ring Terminal (4)


Self-Tapping Screw (1)


25 AMP Fuse (1), 30 AMP Fuse (1)


Circuit Breaker 20 AMP (1)

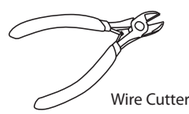

Circuit Breaker 30 AMP (1)


Breaker Boot (1)

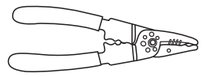

Wire Assembly (2)

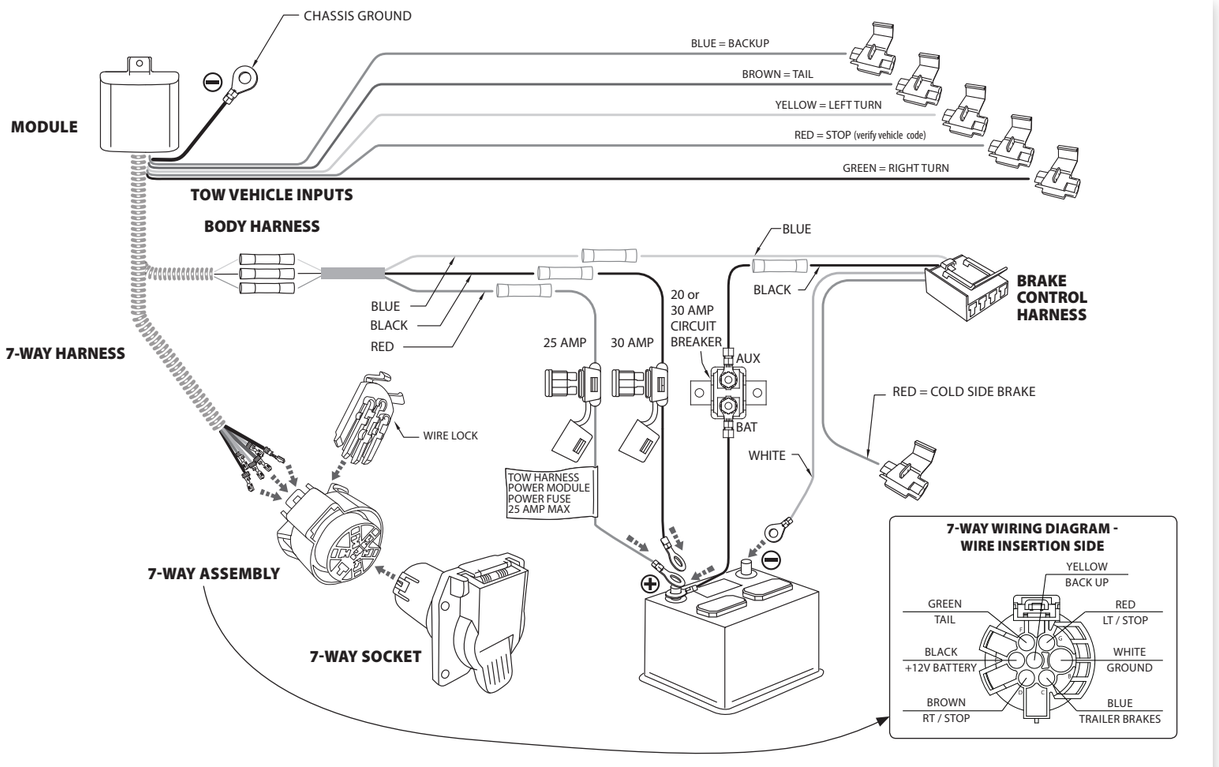
REQUIRED TOOLS:


Phillips Head #2 Screwdriver


Wire Cutters


Tester or Volt Meter


Wire Strippers/ Wire Crimpers



⚠ WARNING

Overloading circuit can cause fires. DO NOT exceed:

- **Max. stop/turn/backup light: 2 per side (4.2 amps)**
- **Max. tail lights: (12 amps)**
- **Max. 7 Way 12 Volt +: (30 amps)**

Read vehicle's owners manual & instruction sheet for additional information.

TESTING:

- When using a volt meter or circuit tester, carefully probe one wire at a time.

⚠ CAUTION Do not probe across two wires or across vehicle structure.

- Determine type of Vehicle wiring system and location of required input functions.
- Determine each of the tow vehicle inputs as shown in the illustration.

TOW VEHICLE INPUTS – DETERMINATION:

Vehicle Wiring Code & Description	Description of Vehicle's Electrical System	Input Wires Used	Input Wires Exceptions
A - 2 wire system	The vehicle's Turn & Brake functions are combined on one wire and the Tail light function is on a separate wire. The vehicle's Reverse function is on a separate wire.	Yellow to vehicle Left Turn/Brake wire, Green to vehicle Right Turn/Brake wire, Brown to vehicle Tail wire, and Blue to vehicle Reverse wire.	Brake wire (Red) is not used.
B - 3 wire system	The vehicle's Turn, Brake, Reverse and Tail light functions are on separate wires.	Yellow to vehicle Left Turn wire, Green to vehicle Right Turn wire, Brown to vehicle Tail wire, Red to vehicle Brake wire, and Blue to vehicle Reverse wire.	NONE - use all wires.
BT - Brake/Tail multiplexed wiring system	The vehicle's Brake & Tail functions are combined on one wire and the Turn functions are on separate wires. The vehicle's Reverse function is on a separate wire.	Yellow to vehicle Left Turn wire, Green to vehicle Right Turn wire, Red to vehicle Brake/Tail wire, and Blue to vehicle Reverse wire.	Tail wire (Brown) is not used.
BTT - Brake/Tail/Turn multiplexed wiring system*	The vehicle's Brake, Tail & Turn functions, are combined on one wire. The vehicle's Reverse function is on a separate wire.	Yellow to vehicle Brake/Tail/Left Turn wire, Green to vehicle Brake/Tail/Right turn wire, and Blue to vehicle Reverse wire.	Tail wire (Brown) & Brake wire (Red) are not used.

*Module may not work with some BTT wiring systems. To alleviate, you may need to route Tail wire to rear license plate illumination circuit and/or Brake to center high stop light

TOW VEHICLE INPUTS - INSTALLATION:

- Disconnect and isolate the vehicle's negative battery terminal.
- Splice the tow harness input wires to the vehicle as shown in the illustration.

⚠ CAUTION When splicing use appropriate gauge wire splices. Provided blue taps are for 16-18 gauge wire only.

- On the Driver's side, mount the module using the double-sided tape provided.

⚠ CAUTION Make sure module is mounted so that the epoxy side of the module is pointed towards the ground to prevent any water buildup.

- Locate a suitable grounding point near the adapter such as the vehicle frame or crossmember. (Do not drill into vehicle floor or bed.) Clean dirt and rustproofing from area. Drill a 3/32" hole and secure white wire using eyelet and screw provided.

7-WAY HARNESS:

- Determine 7-Way mounting location.
- Route the 7-Way Harness containing the 7 wires towards the Mounting location.
- Pin housing per 7-Way diagram.
- Connect 7-Way harness and 7-Way socket. Mount 7-Way (Bracket not included).

ENGLISH

BODY HARNESS:

- Beginning at the module, start routing the body harness vehicle forward.
- Use butt connectors to connect body harness (jacketed wire) to converter body harness wire ends.
- Route body harness' Black wire (7 Way B+) to vehicle's positive side of battery. Using 30 amp fuse holder, butt connector, and ring terminal, connect to battery.
- Route Red wire (Module B+) to vehicle's positive side of battery. Using 25 amp fuse holder, butt connector and ring terminal, connect to battery.
- Route body harness' Blue wire (Electric Brake Output) towards brake control harness mounting location. Using a butt connector, connect to the Blue wire from the included brake control harness.

⚠CAUTION Route the wire being careful to avoid any hot pipes, heat shields, the fuel tank or any other points that may pinch or break the wire.

BRAKE CONTROL HARNESS:

- Determine a suitable mounting point on the tow vehicle for the Electric Brake Control Harness.

  Note: Brake Control not included. Brake Control Harness designed to work with Tekonsha Brake Controls such as: 90195, 90885 or 90160.
- Secure the brake harness near desired Brake control mounting location.
- Route the Brake Control Harness' white wire to an existing common ground or direct to the vehicle battery negative side.
- Route the Brake Control Harness' Black wire to vehicle's positive side of battery. Using 30 amp circuit breaker, breaker boot, wire assembly, butt connector, and ring terminal, connect to battery.

⚠CAUTION When towing trailers with one to three axels, use the included 20 amp circuit breaker.

- Route the red wire to the cold side switch of the brake pedal. Connect using supplied wire tap or the best suited alternative.

⚠CAUTION When splicing use appropriate gauge wire splices. Provided blue taps are for 16-18 gauge wire only.

COMPLETION:

- Secure harness with the cable ties provided, to prevent damage or rattling. Be careful to avoid any areas that would pinch, cut or melt the wire.
- Reconnect the vehicle's Negative (-) battery cable.
- Test and verify installation with a test light or trailer once installed.

TROUBLE SHOOTING GUIDE:

Outputs Not Functioning Properly	Ensure input wires are installed per the Tow Vehicle Inputs - Determination findings. Remove 25 amp fuse for 10 seconds and repeat test.	Ensure blue taps are installed correctly. Using a tester or volt meter check for voltage on each input wire, near the module. Remove 25 amp fuse for 10 seconds and repeat test.		
No Power to Outputs	Check chassis ground. Ensure ring terminal is in full contact with bare metal of the vehicle's chassis. Remove 25 amp fuse for 10 seconds and repeat test.	Installation may have activated circuit protection. Remove 25 amp fuse for 10 seconds and repeat test.	Ensure 25 amp fuse is fully inserted into fuse holder. Fuse should have no breaks. Fuse holder connected properly to positive post of battery. Remove 25 amp fuse for 10 seconds and repeat test.	Ensure module is connected to B+. Using a tester or volt meter check for voltage on either side of the yellow butt connector near the module. Remove 25 amp fuse for 10 seconds and repeat test.