

INSTALLATION INSTRUCTIONS

Toyota Highlander

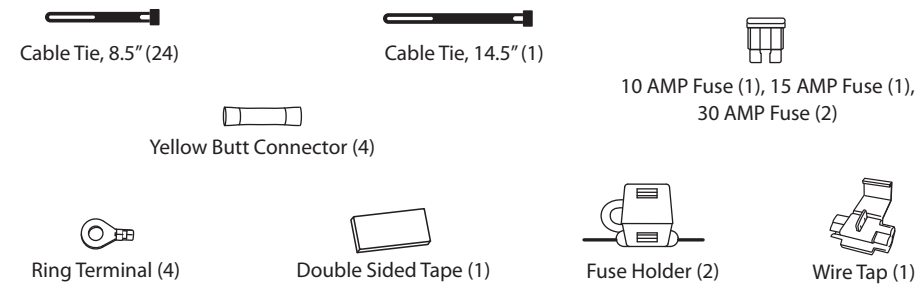
7-WAY VEHICLE PREP KIT

Approximate Install Time: 120 minutes

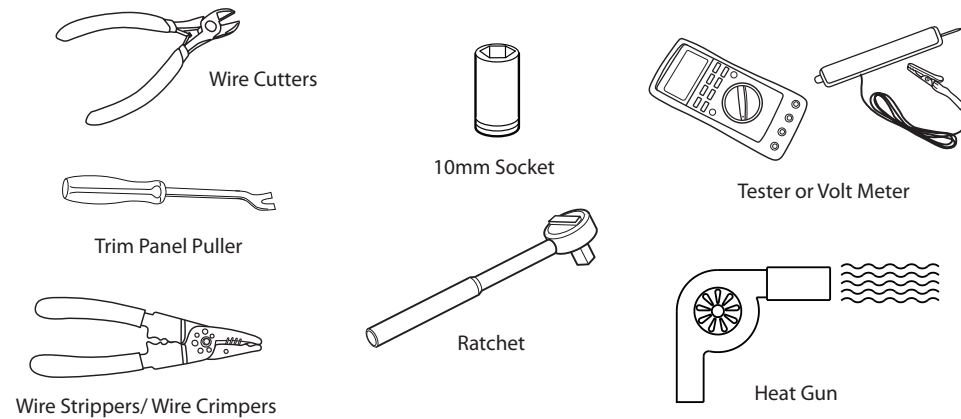
READ THIS FIRST:

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

HARDWARE OVERVIEW:



REQUIRED TOOLS :



WARNING

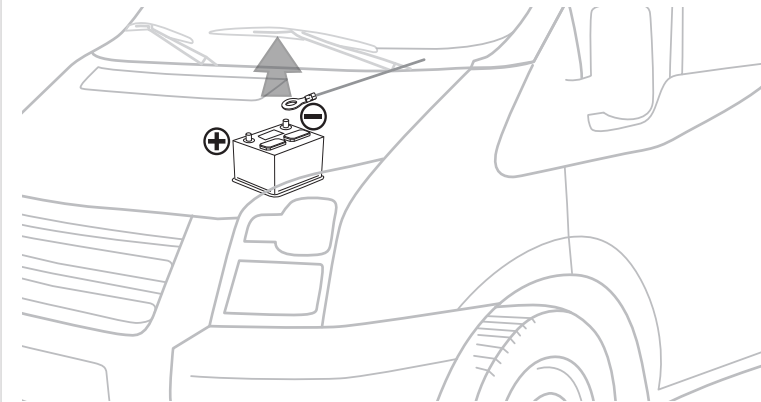
Overloading circuit can cause fires. DO NOT exceed:

- Max. stop/turn/backup light: 2 per side (4.2 amps)
- Max. tail lights: (7.5 amps)
- Max. 7 Way 12 Volt +/- (30 amps)

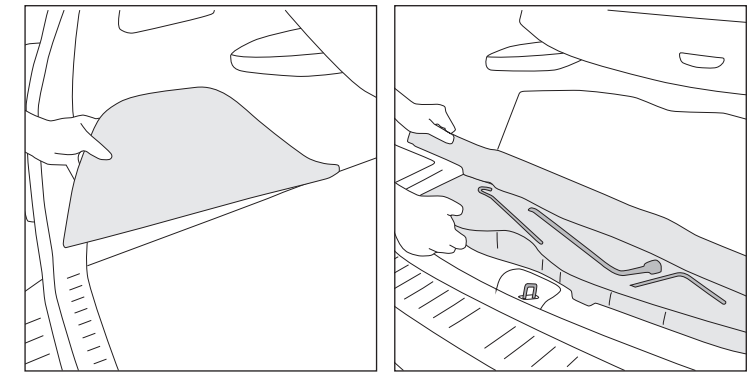
Read vehicle's owners manual & instruction sheet for additional information.

PREP VEHICLE:

- Disconnect and isolate the vehicle's negative battery terminal.
- Locate positive post underneath hood, on drivers side.



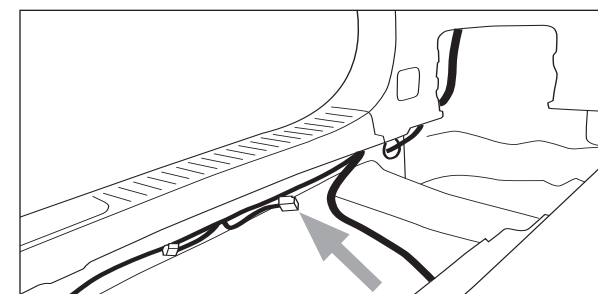
- Open the vehicle's rear tailgate. On the driver's side, remove access panels and trays. Set aside all items removed, being careful not to damage parts.
- Partially remove driver's side cargo side panel. Remove trim panel, exposing access above head liner in the rear of the vehicle near rubber cover protecting the tailgate harness.



T-ONE® T-CONNECTOR ENDS AND MODULITE®:

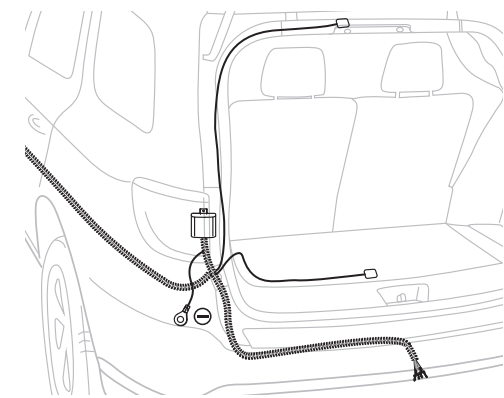
- Locate the vehicle's 10-pin connector located behind the rear interior trim panel. Insert the 10-pin Tow-Plug adapter and lock into place. Be care not to damage the locking tabs and be sure that connector is fully inserted with locking tabs in place.
- Locate a suitable grounding point near the connector. Clean dirt and rustproofing from the area. Drill a 3/32" hole and secure the white wire using the eyelet and screw provided.

CAUTION Verify what is behind any surface prior to drilling to avoid damage to the vehicle and/or personal injury. Do not drill into any exposed surfaces.



- Secure loose wires near Modulite and mount Modulite box with supplied double sided tape and/or cable tie.
- Locate grommet plug on floor of vehicle near the connection point. Remove grommet plug and route the wires with the taped end out and underneath the vehicle. Seat grommet taped to the harness.

- Route 18 gauge blue wire behind side cargo trim panels and up above head liner. Locate the group of wires going through the grommet into the cargo door. Locate the red wire in the rear cargo door electrical harness. Connect using supplied wire tap or the best suited alternative.

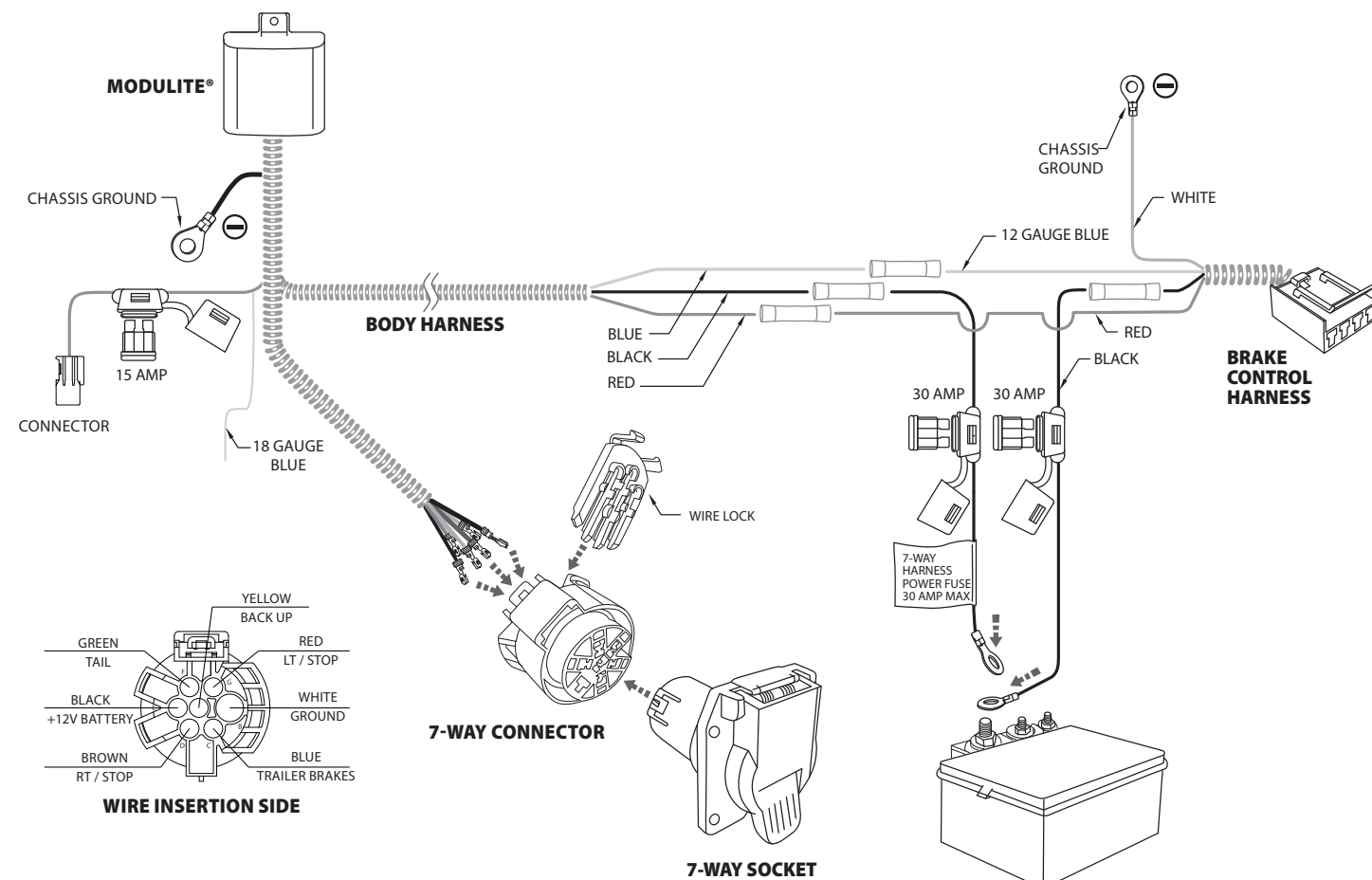
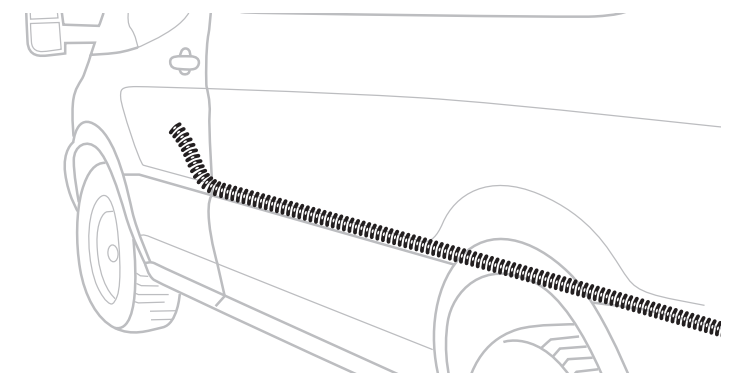


BODY HARNESS:

- From inside the vehicle, on the driver's side, route the body harness with red/black/blue wires to the engine compartment. Route the wires following the existing wiring along the thresholds into the engine compartment up to the battery.

WARNING 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.

- Route body harness' Black wire to vehicle's positive post underneath hood. Using 30 amp fuse holder (7-Way), butt connector, and ring terminal, connect to battery.

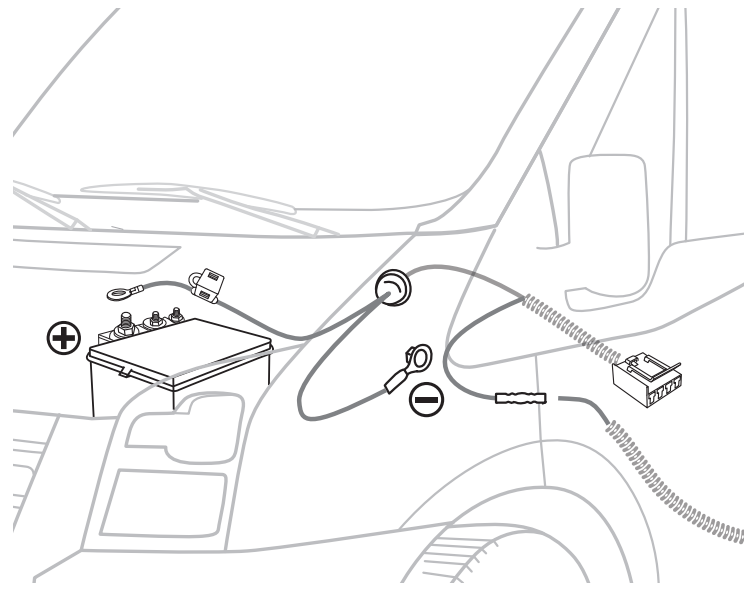


BRAKE CONTROL HARNESS:

- 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. Go to www.tekonsha.com for more details or where to buy.

- Route the Brake Control Harness' White/Blue/Black wires through an existing grommet on the fire wall and into the engine compartment. Route wires through grommet by creating a small hole in the grommet to pass the wires through.
- Route the Brake Control Harness' white wire to existing vehicle chassis ground point. Using provided ring terminal, mount.
- Route the Brake Control Harness' Black wire to vehicle's positive post underneath hood. Using 30 amp fuse holder (Brake Control), butt connector, and ring terminal, connect.
- Route Blue wire (Electric Brake Output) to Body Harness Blue wire. Using butt connector, connect blue wires.
- Route the Red wire (Cold Side Input) to the Body Harness Red wire. Using butt connector, connect blue wires.
- Using the supplied convoluted tubing, cover the Blue/Black/Red (and partially cover the white) wires from the grommet to the fuse holder.
- Secure the brake harness connector near desired Brake control mounting location.



7-WAY HARNESS:

- Determine 7-Way mounting location.
- Route the 7-Way Harness containing the 7 wires behind rear bumper fascia and over bumper support bracket, towards the Mounting location.

- Using wire insertion detail, pin 7-Way Connector.
- Connect 7-Way connector and 7-Way socket. Mount 7-Way (Bracket not included).

COMPLETION:

- Open the hood and locate the vehicle fuse panel on Driver's side. Consulting your owner's manual, locate the Towing Fuse location and insert the 10 Amp fuse (provided).
- ⚠ **WARNING** Do not replace with any fuse that exceeds 10 amps.
- 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.
- Apply heat directly to butt connectors, working from the center out to the edges, using a hot air gun or other source, until the tubing recovers and the adhesive flows. Allow to cool before inspecting splice and checking integrity.
- Replace all coverings, grommets or any other components that were removed for ease of installation. Some grommets will need to be altered to allow wires to pass through. Seal altered grommets with silicone.
- Reconnect the vehicle's Negative (-) battery cable.
- Test and verify installation with a test light or trailer once installed.

TROUBLE SHOOTING GUIDE:

7-Way not functioning properly	Ensure T-One® T-Connector ends are fully inserted and locked in place. Remove Tow Harness power Module 15 amp fuse for 10 seconds and repeat test.	Check chassis grounds. Ensure ring terminals are in full contact with vehicle's chassis. Remove Tow Harness power Module 15 amp fuse for 10 seconds and repeat test.
No Power to 7-Way	Installation may have activated circuit protection. Start vehicle and turn all functions off: Tail (head lights), brake and turns. Remove Tow Harness power Module 15 amp fuse for 10 seconds and repeat test.	Ensure 15 amp fuse is fully inserted into fuse holder. Fuse should have no breaks. Fuse holder connected properly to positive post of battery. Remove 15 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 Tow Harness power Module 15 amp fuse for 10 seconds and repeat test.

