Halo Connect Gateway Install Guide Tractors and Trucks North America

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DOCUMENT NUMBER & REVISION TABLE

Aperia Document Number: 91-00011005

REV.	DESCRIPTION	DATE
A	Initial Release	Aug. 28, 2025

CUSTOMER SUPPORT

If any product issues arise please follow the troubleshooting steps found in the Halo Tech mobile app and/or contact Aperia customer support.

SUPPORT PHONE +1 (844) RUN-HALO

SUPPORT EMAIL support@aperiatech.com

WEBSITE www.aperiatech.com

SALES sales@aperiatech.com

IMPORTANT SAFETY INFORMATION

The Halo Connect Gateway and its components should be installed in accordance with the instructions in this manual. Proper installation of the Halo Connect system is critical to ensure safe use of the device. Failure to do so may result in injury or death, damage to equipment, material or property. Carefully read, understand and follow all safety related information within this manual.

⚠ WARNING: Exercise caution when working with the vehicle power sources to avoid injury.

SAFETY WORDS AND SYMBOLS

Please pay attention to special symbols used through this manual to convey important information. Hazard signal words such as WARNING, CAUTION, or NOTICE are used throughout this manual. Information accented by these words indicates a point of emphasis and importance. The following definitions comply with ANSI Z535.6 and indicate the use of signal words as they appear within this manual.

	This is the safety alert symbol. It is used to alert you of potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ WARNING	WARNING indicates a hazardous situation that, if not avoided, could result in serious injury or death.
⚠ CAUTION	CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injuries.
NOTICE	NOTICE is used to address practices which could result in damage to equipment or property.

RF EXPOSURE

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme aux limites d'exposition aux radiations de la FCC et de l'IC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimale de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisé ou fonctionner en conjonction avec une autre antenne ou un autre émetteur.

This device complies with part 15 of the FCC rules and RSS-247 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC Part 15.21 Warning: You are cautioned that changes or modifications not expressly approved by the part responsible for complicance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

The unit is compatible with optional external antennas for enhanced TPMS, GPS & BLE reception, if needed based on the installation location/configuration, with the following maximum specified antenna gain:

Optional External Antenna	Maximum Gain Specification
TPMS	2 dBi (N.B. This antenna is receive only.)
GPS	30 dBi (N.B. This antenna is receive only.)
Bluetooth	Peak Gain (bent): 5.89 dBi Average Gain (bent): -0.8 dBi Peak Gain (straight): 4.22 dBi Average Gain (straight): -1.05 dBi

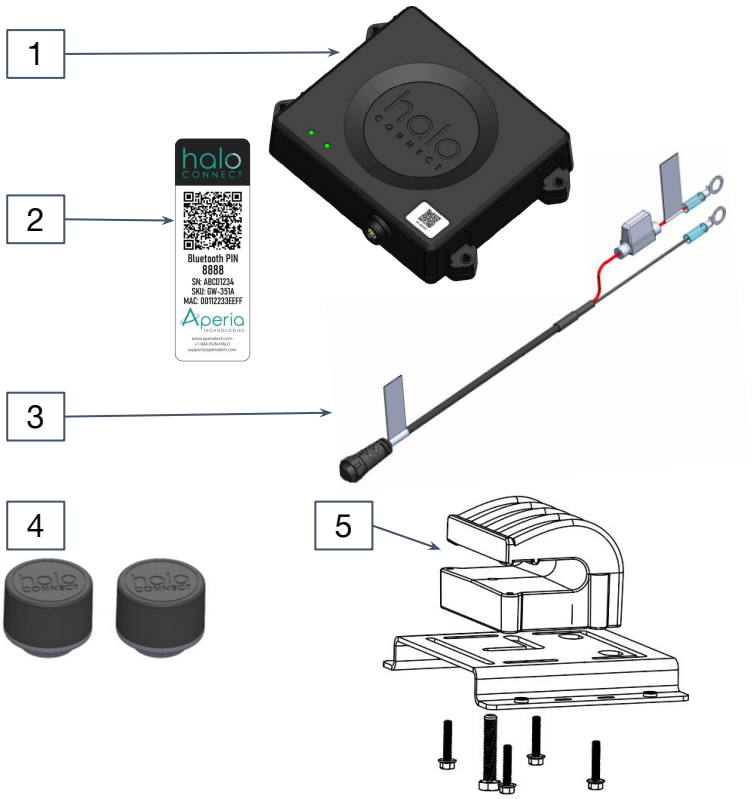
“This radio transmitter 24637-HCGW3 has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed above, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.”

Cet émetteur radio 24637-HCGW3 a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessus, avec le gain maximal autorisé indiqué. Les types d'antenne non inclus dans cette liste et dont le gain est supérieur au gain maximal indiqué pour l'un des types répertoriés ne sont strictement pas autorisés pour une utilisation avec cet appareil.

SECTION 1: SYSTEM COMPONENTS

The Aperia Halo Connect kit consists of a gateway, power harness, valve stem sensors, and miscellaneous hardware.

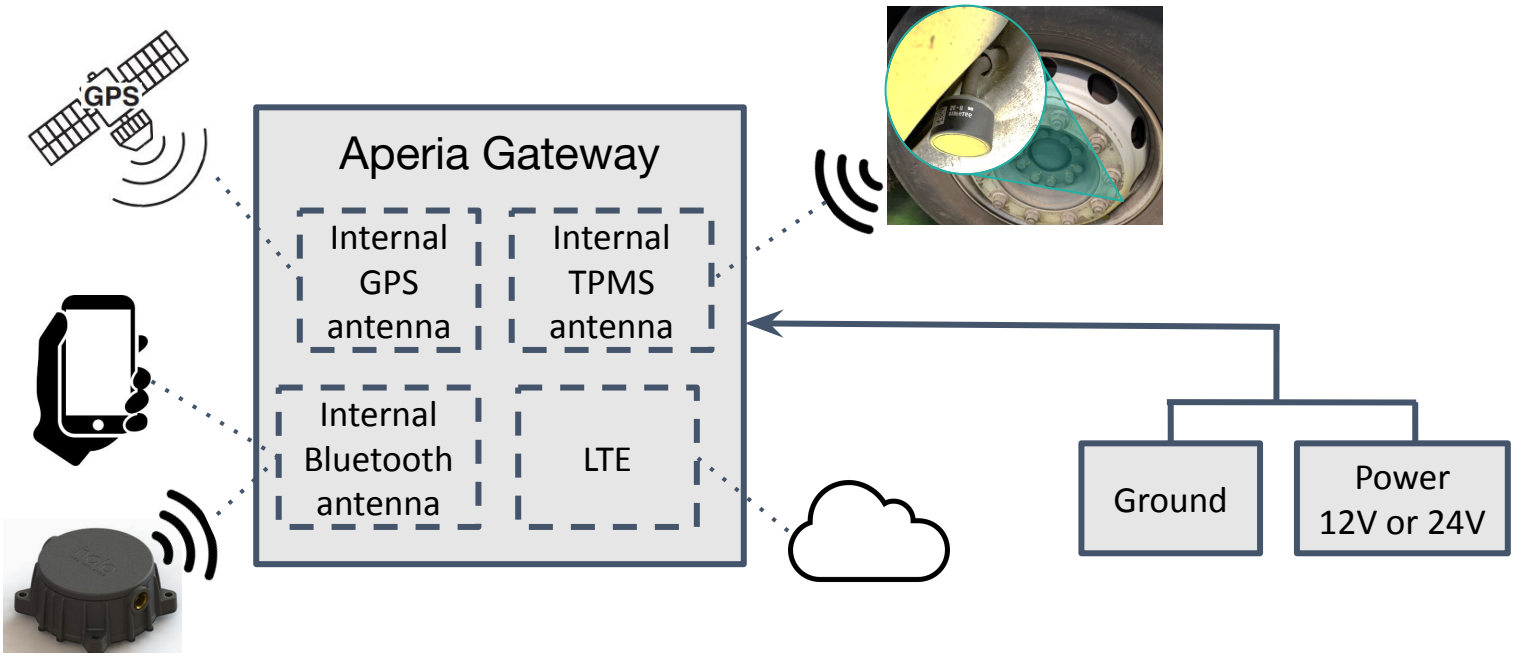
Gateway Components			
ITEM	DESCRIPTION	QTY	Kit SKU
1	Halo Connect Gateway	1	GW-351B
2	Gateway Label	1	GW-351B
3	Power Harness	1	PH-DC16A
4	Valve stem TPMS sensors	2	SP-702A
5	Gateway Mounting Bracket	1	BR-GTKCA



BR-GTKCA: C-clamp bracket

SECTION 2: SYSTEM OVERVIEW

The Aperia gateway is connected to a 12V or 24V vehicle power and has a variety of internal antennas to enable GPS and tire pressure monitoring and send data to the cloud for remote tire monitoring.



SECTION 3: TOOLS & CONSUMABLES

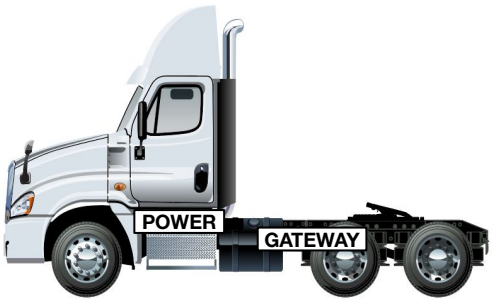
TOOL DESCRIPTION	TOOL PURPOSE
5/16” or 8mm socket	Gateway screws and C clamp screws
½” or 13mm Ratchet wrench or socket wrench	Clamp bolt for C-clamp bracket
Assorted sockets and ratchet	Ground fasteners etc.
Flush cutters	Cutting zip-ties
NFC enabled mobile device (iOS 16.6 or Android 8.0 or later)	Activate Gateway and Gen2 Halo
Multimeter	Check power-source voltage

CONSUMABLES	VEHICLE TYPE	CONSUMABLE PURPOSE
1/4 inch loom (HK-100LM or HK-15LM)	All	Protect cable routed on exterior of vehicle

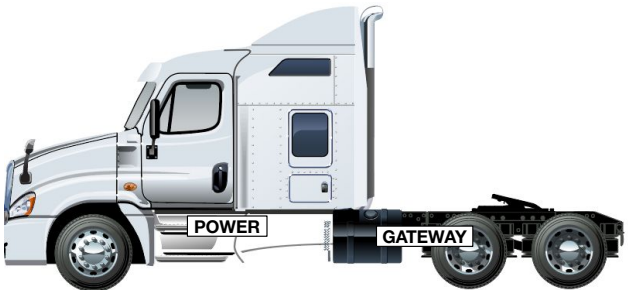
SECTION 4: PLAN THE INSTALLATION

RECOMMENDED INSTALLATION LAYOUT

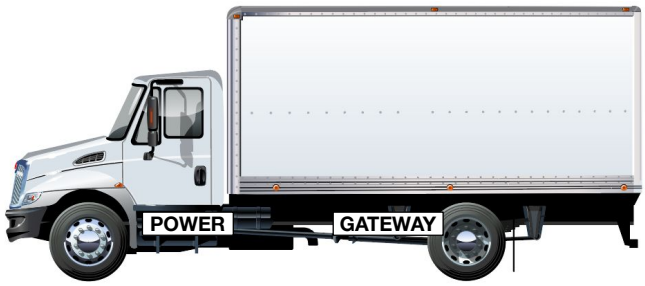
Day Cab Tractor



Sleeper Cab Tractor



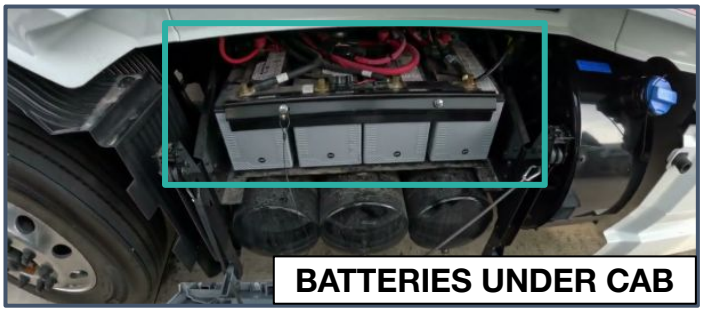
Straight Truck



POWER SOURCE

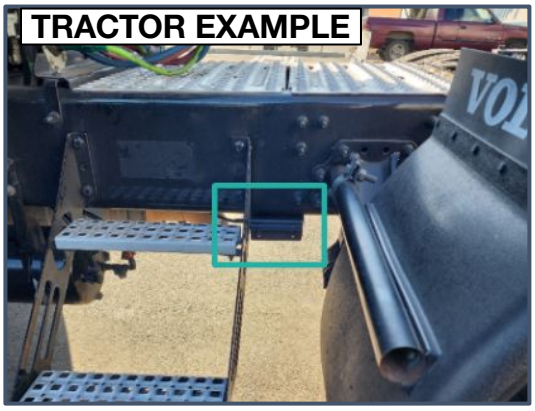
Preferred Source: Direct to battery
Gateway power source

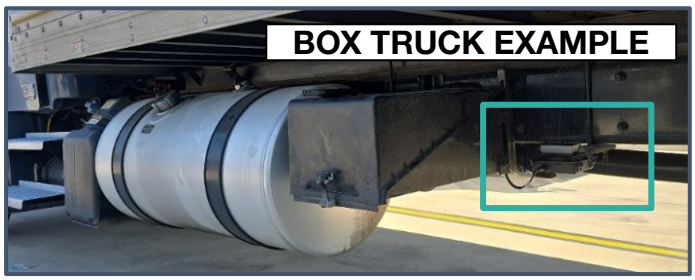
- May be 12V or 24V continuous or ignition source
- Must be grounded



GATEWAY LOCATION

Exterior of cab
Forward of axles on main frame rail
Driver or passenger side





NOTES ON POWER SOURCES

The Halo Connect Gateway has intelligent battery protection to prevent batteries from draining below 24V or 12V. Below 24V or 12V the gateway goes into low power mode checking and transmitting tire pressure and GPS position every 4 hours. The average amperage is 90mA on a 12V system and 45mA on a 24V system.

SECTION 5: CONNECT TO VEHICLE POWER SOURCE

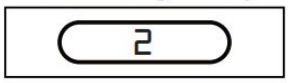
Power Harness: PH-DC16A - Direct to Battery

Step 5.1: Connect power harness to vehicle

> ⚠ **WARNING:** The positive wire of the power cable must be fused near the power source. An unfused power cable may overheat and lead to a vehicle fire.

The Halo Connect Gateway may be connected to a 24V or 12V continuous or ignition power source.

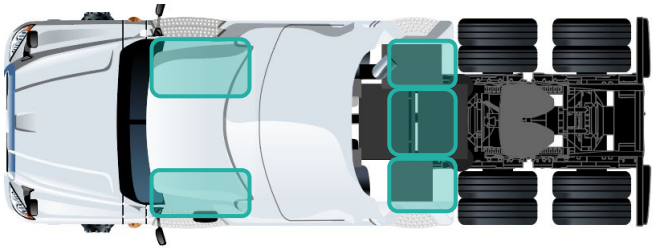
Fuse Rating: 2 Amp

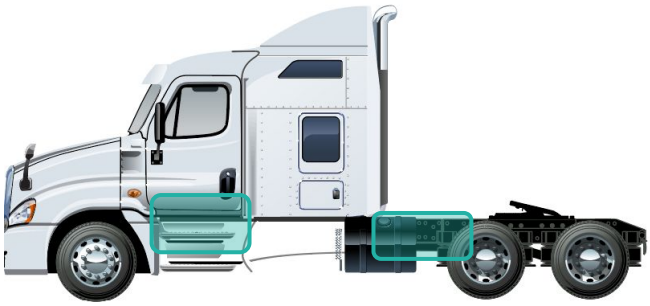


PREFERRED POWER SOURCE 1: Direct to battery

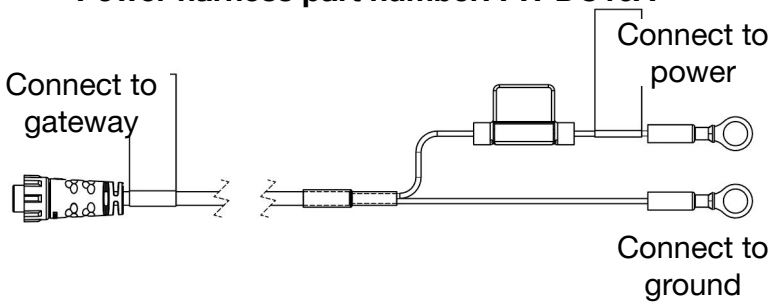
A. Attach 3/8” ring terminals directly to battery posts and secure with existing fasteners

Common locations for battery banks





Power harness part number: PH-DC16A

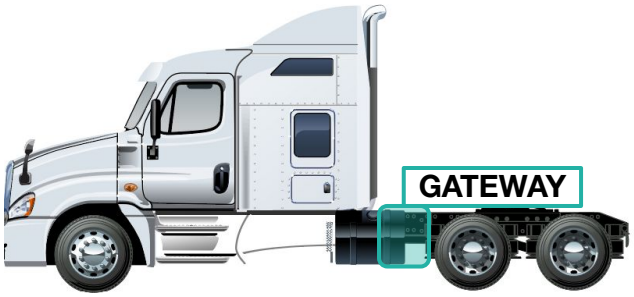


The Halo Connect Gateway has intelligent battery protection to prevent batteries from draining below 24V or 12V. Below 24V or 12V the gateway goes into low power mode checking and transmitting tire pressure and GPS position every 4 hours. The average amperage is 90mA on a 12V system and 45mA on a 24V system.

SECTION 6: MOUNT THE GATEWAY

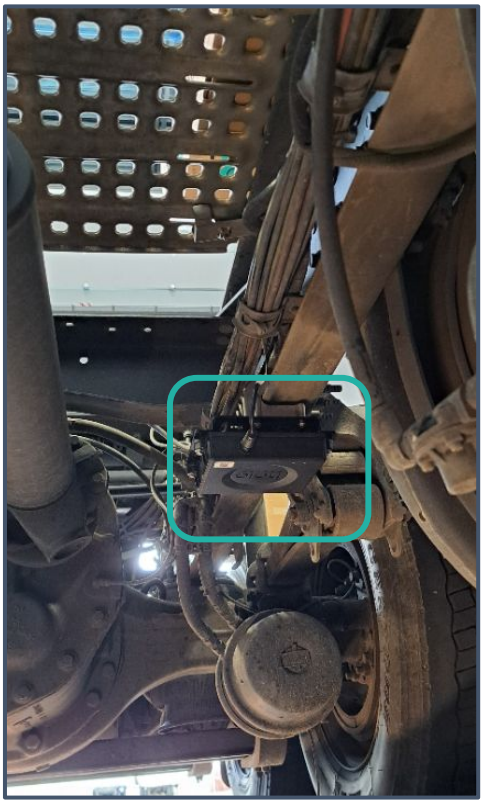
Step 6.1: Mount the gateway on main frame rail

- Mount the gateway in the previously selected location on the main frame rail. See section 7 for details on how to install C-clamp bracket.
- If possible, avoid obstructions on the frame rail that may reduce GPS and/or TPMS signal (e.g. Fuel tanks, cat walk)



Primary Install: Main frame rail on exterior of vehicle

Attach gateway to frame rail using BR-GTKCA C-clamp bracket.



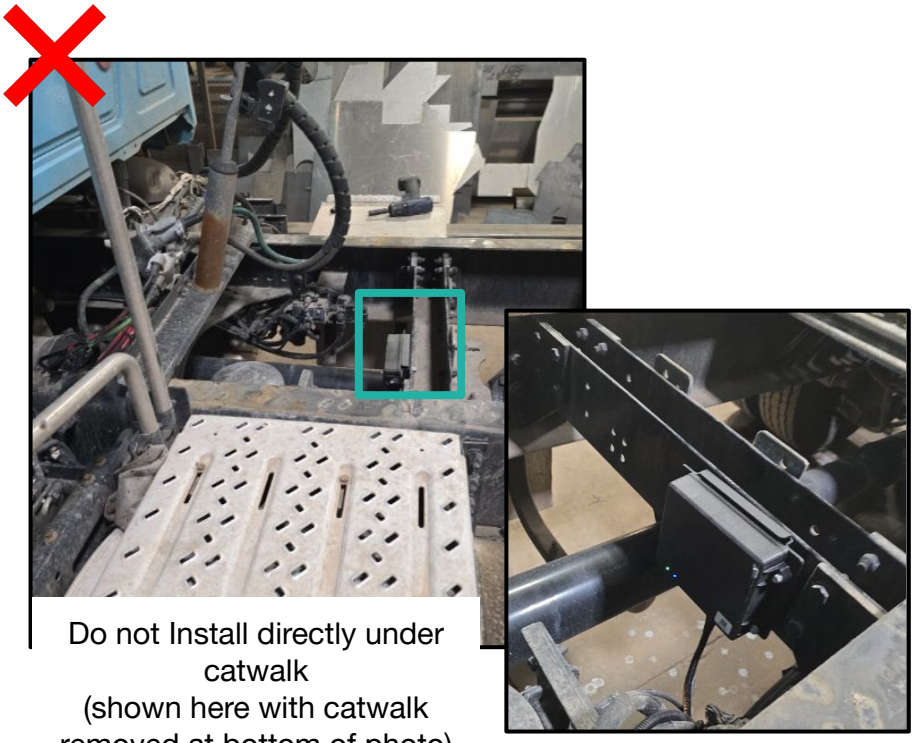
GATEWAY LOCATION GUIDELINES

- Mount the gateway in a location where the power harness can reach.
- DO NOT install gateway enclosed in metal box. This will result in poor TPMS or GPS reception.
- Gateway must not interfere with normal operation of the vehicle.
- Gateway should be accessible by maintenance techs.

SECTION 6: MOUNT THE GATEWAY

THINGS TO AVOID

- Gateway must not be installed facing downward or on bottom of frame rail
- Gateway must not be placed under the catwalk. This will degrade GPS reception.
- Gateway must not completely encased in metal. This will degrade TPMS sensor and LTE reception.
- Gateway must be placed in a location where it will not be damaged during typical vehicle use.
  - Example: Drivers walking on catwalk, storing equipment on rear of vehicle
- Gateway must not be in a spot where it will be crushed when vehicle airbags are completely deflated.
- Gateway must be more than 6” away from heat sources
  - Example: Engine or exhaust components



Do not Install directly under catwalk
(shown here with catwalk removed at bottom of photo)

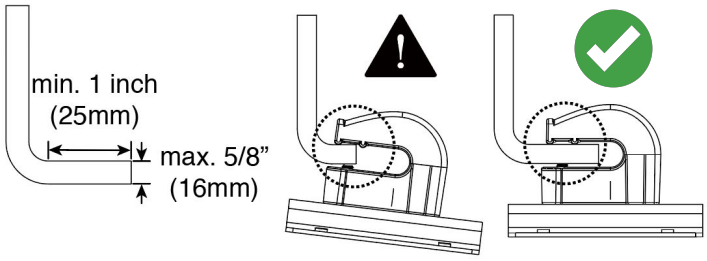
Do not install with gateway directly next to frame rail. This will obstruct TPMS reception.

SECTION 7: C-CLAMP BRACKET INSTRUCTIONS

APERIA SKU: BR-GTKCA

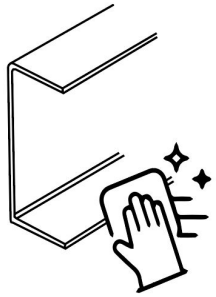
The c clamp bracket can be used to attach the gateway to a flat piece of metal on the vehicle.

Step 7.1: Confirm the beam is sized correctly to allow full attachment of clamp.



⚠ **WARNING:** Both clamp teeth must be fully engaged with the beam or product may detach during driving.

Step 7.2: Ensure top and bottom of beam are clean where the clamp is applied

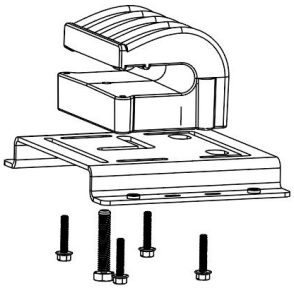


⚠ **WARNING:** Debris, dirt, or oil may compromise clamping ability and lead to device detachment.

Step 7.3: Attach base plate to clamp and begin threading clamp bolt.

A. Tighten four base plate screws until snug.

A. Finger tighten clamp screw, leaving space to slide clamp onto beam.



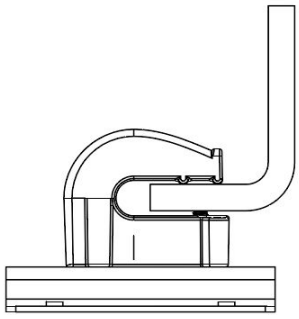
Step 7.4: Attach Gateway to base bracket.

A. Tighten four gateway screws until snug.

Step 7.5: Attach clamp to beam

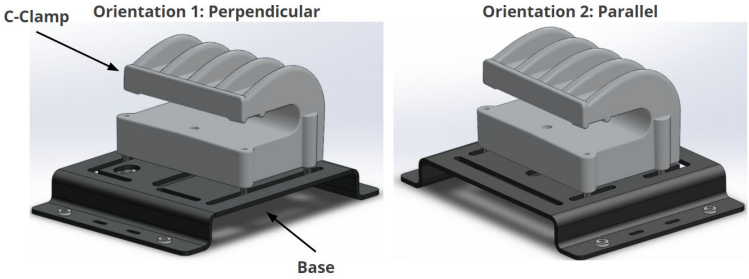
A. Tighten clamp bolt until snug + 1/2 rotation

A. Confirm bracket is securely attached by pulling on it by hand.

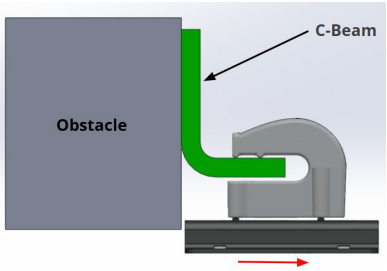


TIPS

The c clamp can be installed in two orientations on the bracket to optimize fit and cable routing.



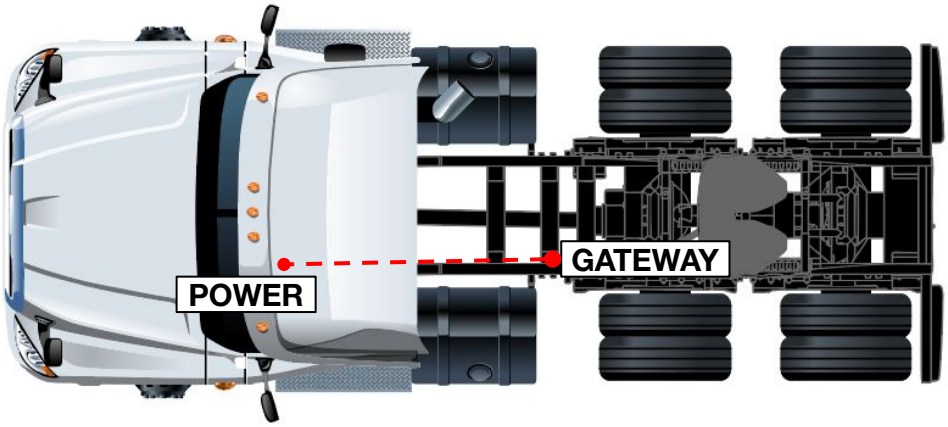
The clamp can be slid in the slots on the base bracket to avoid obstacles.



SECTION 8: CABLE ROUTING GUIDELINES

CABLE ROUTING GUIDELINES

- All externally routed cables should be loomed
- UV rated 50 lb or greater tensile strength zip ties should be used to secure cabling every 12-18 inches.
- Cable should be secured no further than 6 inches from connectors.
- Connectors must be clean and dry when connected.
- Cable routing should make every attempt to follow existing vehicle cable routes.
- Minimum of 5 inches should be maintained between wires and high heat components.
- Wire routing should avoid any-and-all rough or sharp edges to prevent abrasion.
- There should be no tensile stress or static load on the cables or connectors
- Confirm cable routing accounts for moving parts of vehicle
- If connecting two wires with butt connector or adding a new wire terminal, adhesive lined heat shrink tube should be used.
- Any holes should be deburred and grommeted if wire is passed through.
- Avoid tight bends near connectors. Allow cables to follow natural path with free straight run of at least one connector length (approx 1 inch).

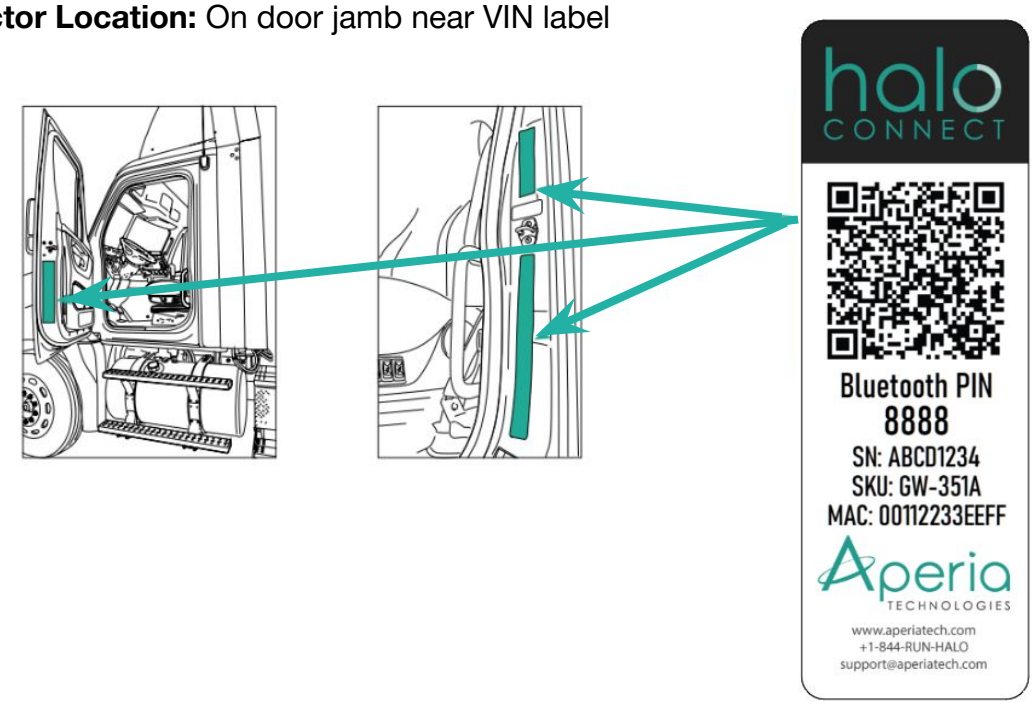


SECTION 9: ATTACHING GATEWAY ID LABEL

A gateway ID label is included with each gateway. The QR code on this label is scanned using a mobile device in order to connect the device to the gateway via bluetooth.

STEP 9.1: Attach the gateway ID label to the vehicle in an inconspicuous location that is accessible by technicians.

Preferred Tractor Location: On door jamb near VIN label



SECTION 10: INSTALL TPMS SENSORS

External valve stem mounted TPMS sensors must be installed for the tire pressure to be monitored on tire positions that do not have Halos installed.

Step 10.1: Install valve stem sensors directly onto valve stems, bent valve stem extenders, or flexible hoses with valve stems.

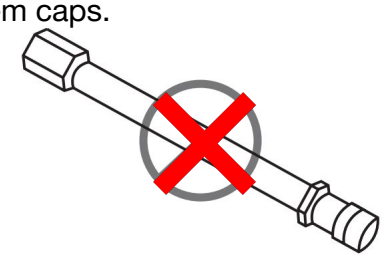
Tighten sensors until hand tight and leak test with soapy water

Directly on valve stem

Bent valve stem extenders

Flexible valve stem extenders

DO NOT install valve stem mounted sensors onto straight valve stem extenders or on top of pass through-valve stem caps.



⚠ **WARNING:** Valve stem sensors should not be installed onto rigid, straight valve stem extenders or pass-through valve stem caps as these greatly increase the risk of a tire leak.

SECTION 11: PREPARE FOR GATEWAY ACTIVATION

Step 11.1: Download Halo Connect App using an NFC-enabled mobile device with iOS 16.6 or Android 8.0 or later. Search for “Halo Connect Halo Tech” in the app store or scan the QR code below.

App Link:
http://aperiatech.com/halo-connect-application

GET IT ON Google Play

Download on App Store

Step 11.2: Power the gateway with continuous voltage source between **12V-21V for 12V systems** or between **24V-28V for 24V systems.**

The green light on the gateway will turn on if correct voltage is applied.

IMPORTANT: A new gateway will arrive in shipping mode and may require a minimum of 12.2V to wake up.

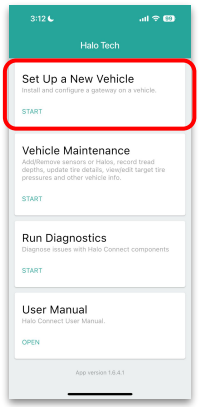
The activation voltage must not exceed 21.5V if the gateway is being installed on a 12V vehicle system.

If the power source drops outside of the 12V-21V or 24V-28V ranges the gateway will go into a low power state during activation and disrupt the activation process.

SECTION 13: GATEWAY ACTIVATION WORKFLOW

If installing 2nd Generation (HA-5 Model) Halo Tire Inflators

1



Open the Halo Tech App and choose: “Set Up a New Vehicle”

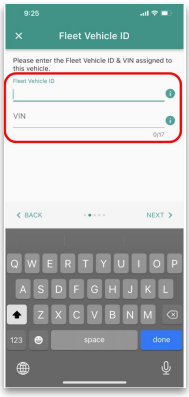
2

Scan the QR code on the door label.

3

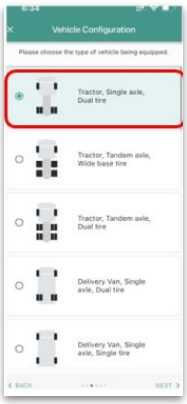
Scan QR code on Connect kit or type Fleet Activation Code

4



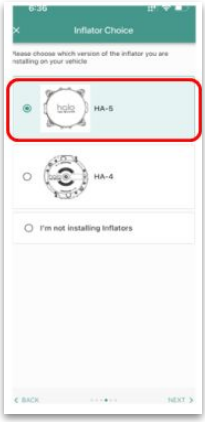
Enter the Fleet Vehicle ID and full 17-digit VIN, then choose “NEXT”

5



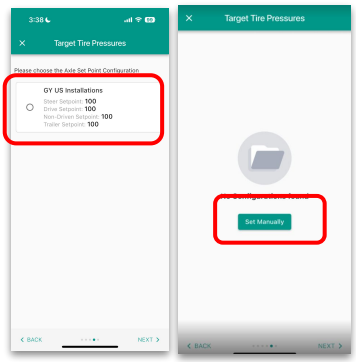
Select the vehicle axle configuration and Choose “NEXT”

6



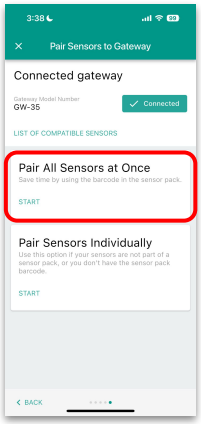
Select HA-5

7



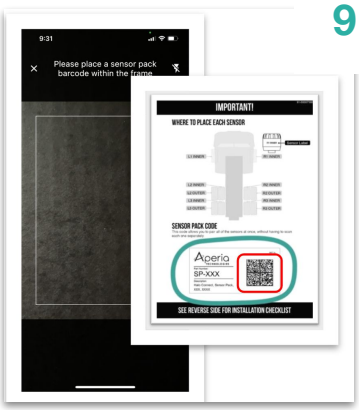
Select or manually set the correct tire pressure configuration for the application

8



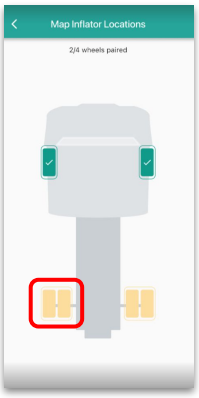
Select “Pair All Sensors at Once”

9



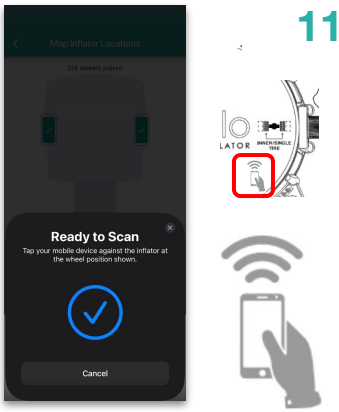
Scan the QR code on the sensor pack label

10



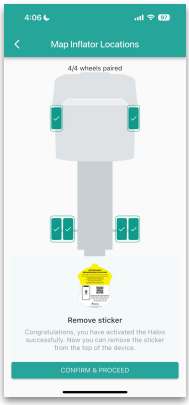
Tap tire position to pair a Halo

11



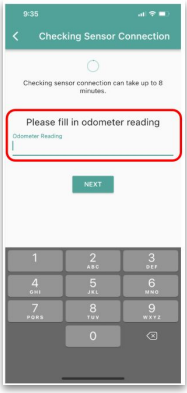
Place the NFC enabled mobile device near the NFC logo on the Halo

12



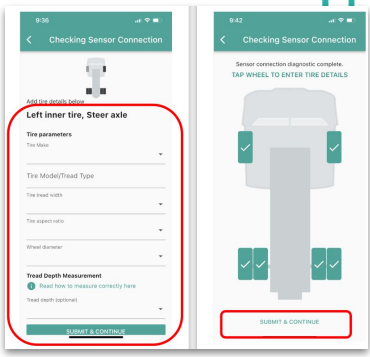
After all sensors are paired select “CONFIRM & PROCEED”

13



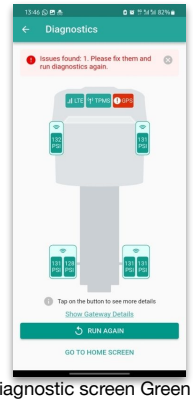
Enter the vehicle odometer reading and Choose “NEXT”

14



Enter required tire details for each tire, then tap “Submit & Continue”

15



Review diagnostic screen Green is good, Red needs attention. Tap on the red to get troubleshooting information.