Halo Connect
Gateway Install Guide
Trailers
North America

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CONTENTS

DOCUMENT NUMBER & REVISION TABLE

Aperia Document Number: 91-00010796

REV.	DESCRIPTION	DATE
A	Initial Release	July 01, 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.”

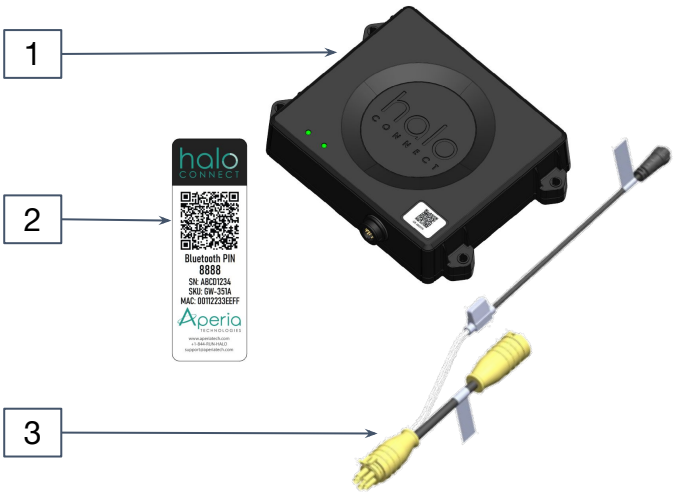
Cet émetteur radio 24637-HCGW3 a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessus, avec le gain maximal autorisé indiqué. Les types d'antenne non inclus dans cette liste et dont le gain est supérieur au gain maximal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

SECTION 1: SYSTEM COMPONENTS

The Aperia hardware consists of a gateway, power harness, and various mounting bracketry to enable mounting in a variety of positions. The hardware used to complete an installation is shown below.

Gateway Components			
ITEM	DESCRIPTION	QTY	Kit SKU
1	Halo Connect i3 Gateway	1	GW-351B
2	Gateway Label	1	GW-351B
3	Power Harness*	1	PH-XXX
4	Valve stem TPMS sensors*	6	SP-906A
5	Mounting Bracket*	1	BR-XXX

*The power harness, bracket and quantity of sensors used will depend on the vehicle type and axle/wheel configuration. Tire positions with Halo Tire Inflators will not require valve stem sensors.



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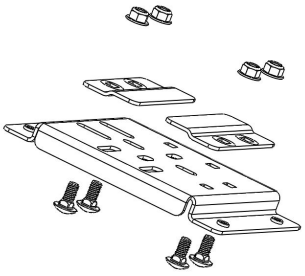
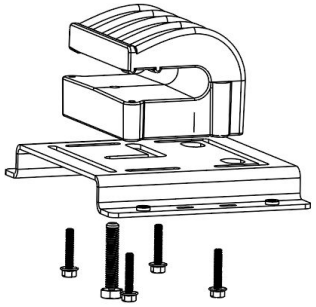


BR-GWA - I beam bracket

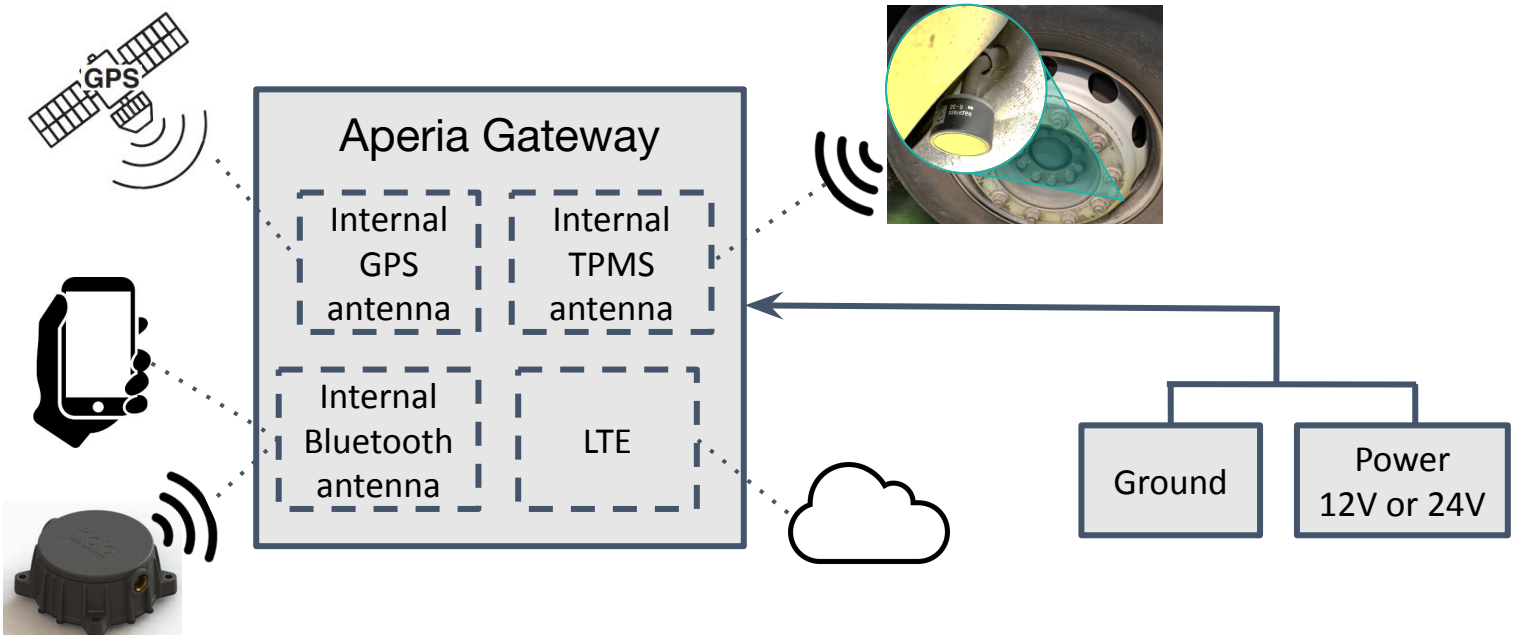
5



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

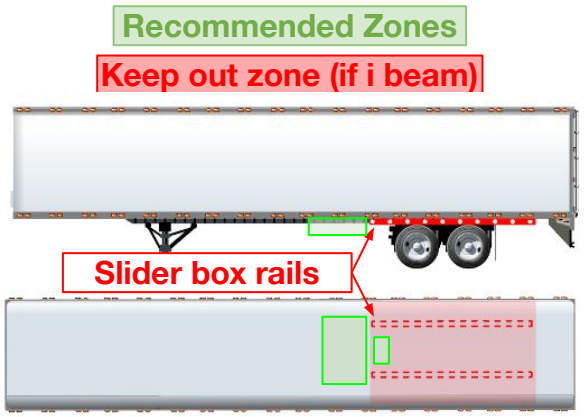
TOOL DESCRIPTION	TOOL PURPOSE
5/16 inch socket	Gateway screws and C clamp screws
1/2 inch wrench (recommended - closed end ratchet wrench)	I beam and C clamp bracket screws
Assorted sockets and ratchet	Removing vehicle panels, ground fasteners etc.
Debur tool	Debur cab access hole
Flush cutters	Cutting 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
Plastic panel tool	Remove panels inside vehicles
Misc. standard tools (Flat/Phillips screwdrivers, pliers etc…)	Gain access to dash and route cables and other needs

SECTION 4: GATEWAY PLACEMENT GUIDANCE

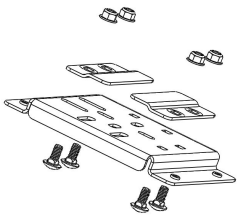
Dry Van/Reefer Trailers

PRIMARY POSITION GUIDELINES

- Attached to I-beam on underside of trailer or trailer bogey on front horizontal cross member
- If on I-beam put in front of or behind slider box rails
- Power harness must reach from power source to gateway
  - 5 PIN ABS harness is 25ft

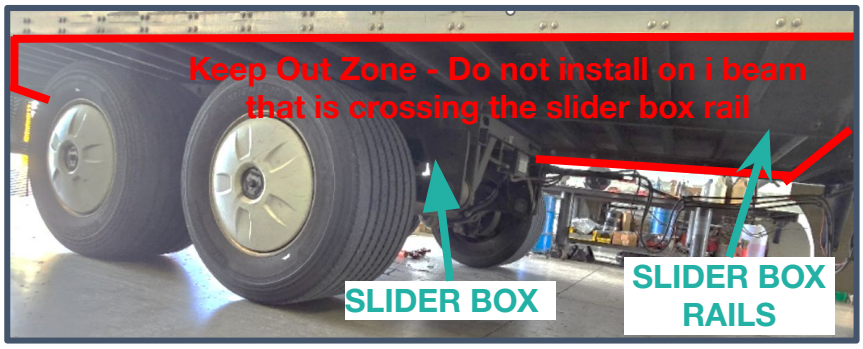


Recommended Bracket
I-beam bracket
Aperia Part Number: BR-GWA



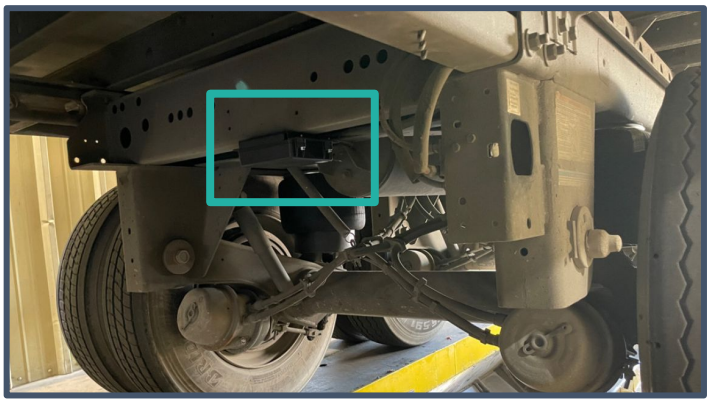
I-beam Install Position Example

I-beam install keep out zones



⚠ **WARNING:** Installing the gateway on an I-beam in keep out zones may result in contact when axles are moved. This may result in device detachment during driving and impact the trailer ABS power supply.

Slider Box Install Example



Attaching the gateway to the front cross member of the slider box is the exception to the keep out zones shown above.

THINGS TO AVOID

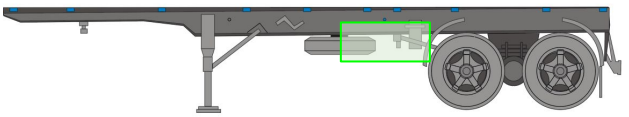
- DO NOT install gateway where it might be contacted when the axles are moved.
- DO NOT install gateway in spot where it will be immediately above the tires, paying attention to the entire range of positions for the slider box.
- DO NOT install gateway behind side skirt

SECTION 4: GATEWAY PLACEMENT GUIDANCE

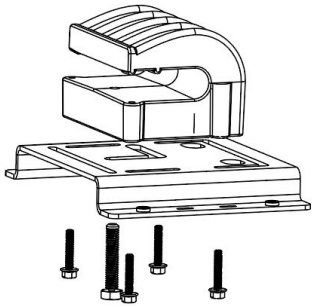
Trailers with main frame rails (Flat Bed, Chassis, Dump and more)

PRIMARY POSITION GUIDELINES
- Attached to frame rail on underside of trailer
- Not hidden behind wheels on frame rail
- Power harness must reach from power source to gateway
    - 5 PIN ABS harness is 10 or 25ft

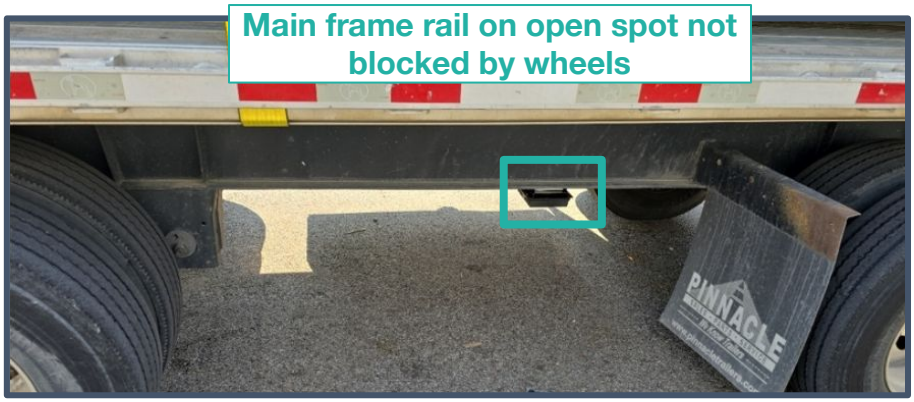
Recommended Zones



Install using C clamp bracket
Aperia Part Number: BR-GTKCA



Main frame rail beam Install



THINGS TO AVOID
- DO NOT install gateway where it might be contacted when the axles are moved.
- DO NOT install gateway in spot where it will be immediately above or behind the tires.
- DO NOT install gateway behind side skirt

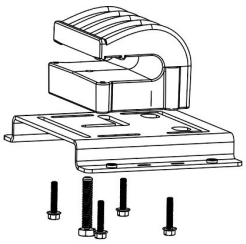
SECTION 4: GATEWAY PLACEMENT GUIDANCE

Tanker Trailers

PRIMARY POSITION GUIDELINES

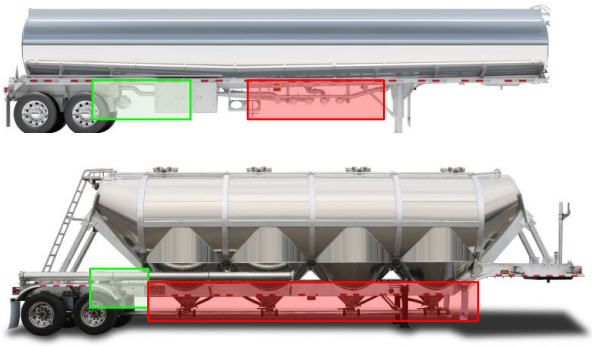
- Attached to flat piece of metal, i-beam or c-beam near axles
- Power harness must reach from power source to gateway
  - 5 PIN ABS harness is 10 or 25ft

Recommended Bracket
C clamp bracket
Aperia Part Number: BR-GTKCA

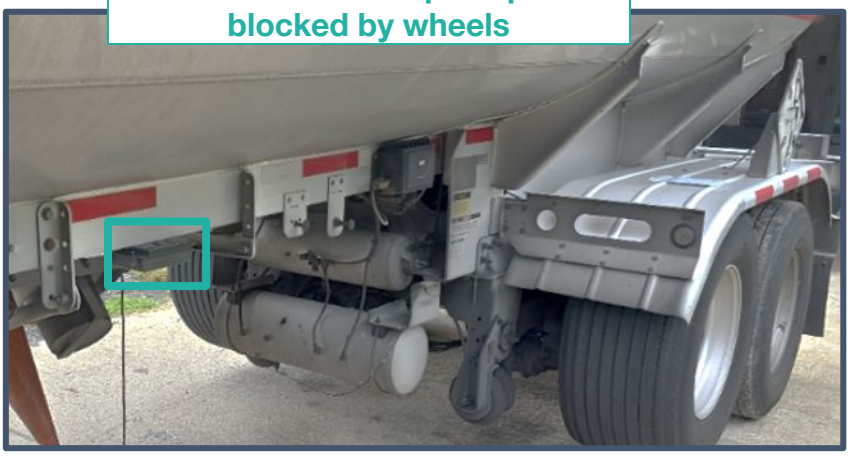


Recommended Zones

Keep out zone



Main frame rail on open spot not blocked by wheels



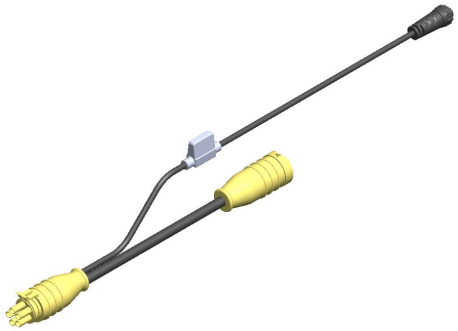
Horizontal rail on open spot not blocked by wheels

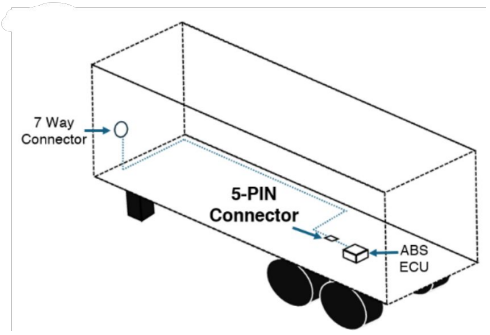
THINGS TO AVOID

- DO NOT install gateway in an area where it is likely to be splashed or covered by the contents of trailer during loading or unloading. This is especially important for chemical and fuel loads.
- DO NOT install gateway inside of metal box as this will block TPMS and GPS signal.
- DO NOT install gateway in spot where it will be immediately above or behind the tires.

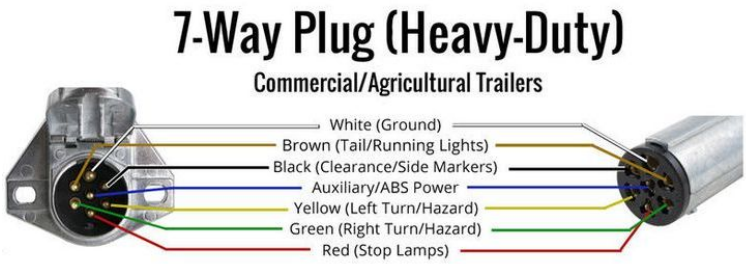
SECTION 5: POWER SOURCES

Primary Install: 5 Pin ABS Harness (Aperia SKU: PH-5PIN25A)
The standard power choice for North American Trailer is the 5 pin ABS connector. To find this connector locate the ABS ECU, typically near the rear axles, and follow the power cable to an intermediate connection, usually no more than 5 feet from the ECU.



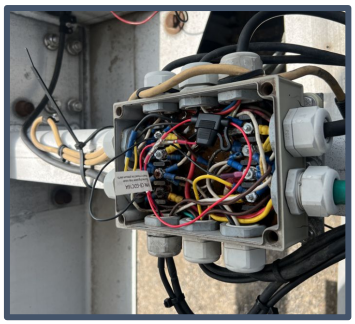


CONFIRM! Check that the trailer wiring is functional by connecting a known good power source to the trailer 7 way connector to measure the voltage at the 5 pin connector connector. The 5 pin power harness uses the BLUE auxiliary/ABS power line for power.



Alternate Install: Flying lead to a junction box (Aperia SKU: PH-FL40A)
If there is not an ABS unit or a 5 Pin harness use a flying lead power harness to connect to a power source that is 12V constant when the truck is connected to the trailer. The blue wire on trailers is typically 12V constant when the truck is powered. The 7 way plug can be used to confirm you have connected to the blue wire.

If connecting to a junction box, confirm the selected power source is connected to the BLUE ABS/Auxiliary power pin at the 7 way connector that the tractor connects to.

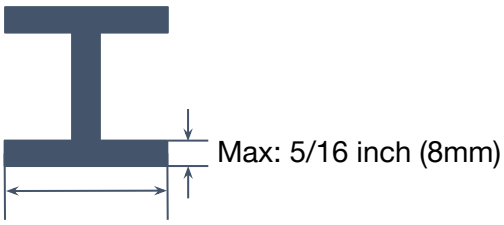


SECTION 6: I-BEAM BRACKET INSTRUCTIONS

APERIA SKU: BR-GWA

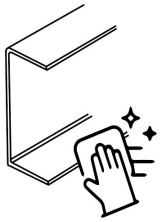
The I-beam bracket can be used to attach the gateway to an i beam on the vehicle.

Step 9.1: Confirm the beam is sized correctly for secure attachment of clamp arms.



Max: 3 inches (75mm)
Min: 1 3/4 inch (45mm)

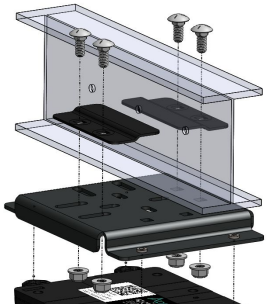
Step 9.2: Ensure top and bottom of beam are clean where the clamp is applied



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

Step 9.3: Attach base bracket to I-beam

A. Tighten four carriage bolts and lock nuts until snug.



Step 9.4: Attach gateway to base bracket

A. Tighten four gateway screws until snug.

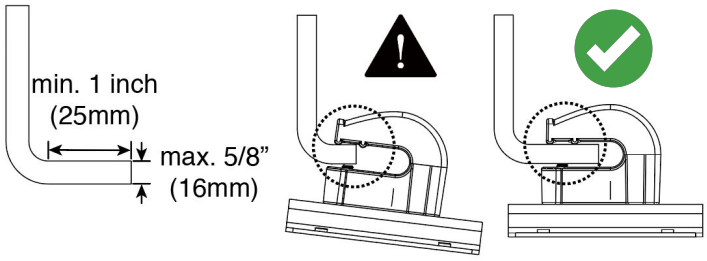
TIPS
The included hardware can also be used to attach the bracket to existing holes on the vehicle frame.

SECTION 7: C-CLAMP BRACKET INSTRUCTIONS

APERIA SKU: BR-GTKCA

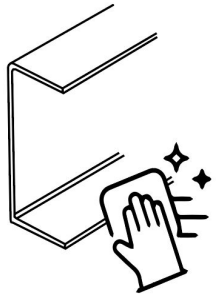
The c clamp bracket can be used to attach the gateway to a flat piece of metal on the vehicle.

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

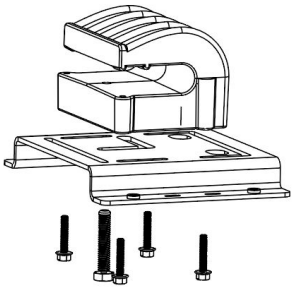


⚠ **WARNING:** Debris, dirt, or oil may compromise clamping ability and lead to device detachment.

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.



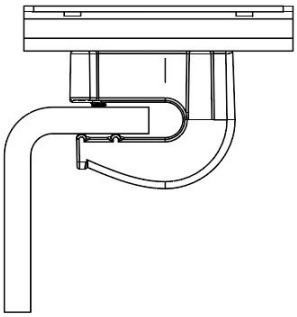
Step 7.4: Attach Gateway to base bracket.

A. Tighten four gateway screws until snug.

Step 7.5: Attach clamp to beam

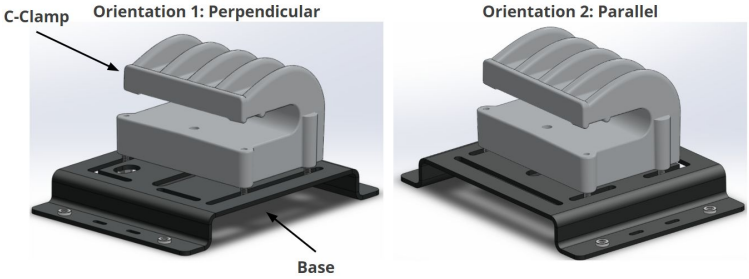
A. Tighten clamp bolt until snug + 1/2 rotation

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

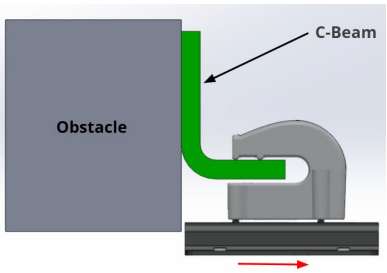


TIPS

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

All vehicles

CABLE ROUTING GUIDELINES

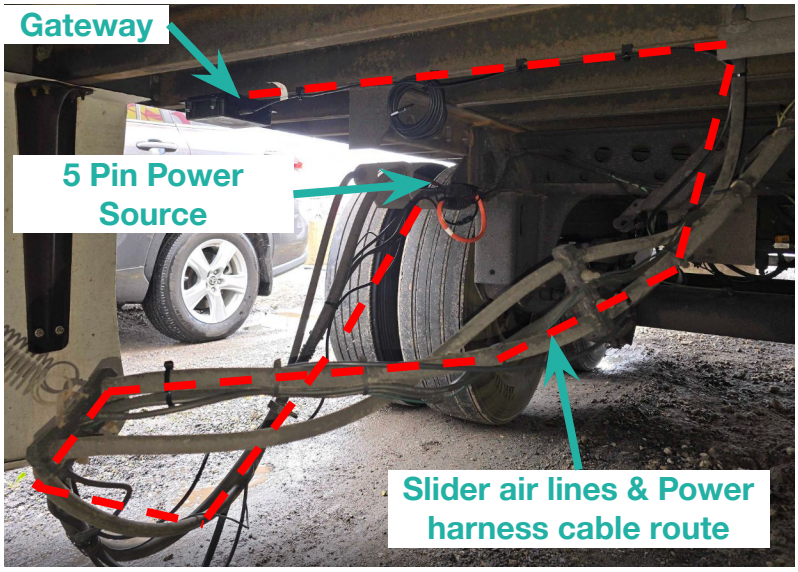
- All externally routed cables should be loomed
- UV rated 50 lb or greater tensile strength zip ties should be used to secure cabling every 12-18 inches.
- Cable should be secured no further than 6 inches from connectors.
- Connectors must be clean and dry when connected.
- Cable routing should make every attempt to follow existing vehicle cable routes.
- 3-5 inch drip/service loop should be utilized within 6 inches of gateway connector
- Minimum of 6-8 inches should be maintained between wires and heated components
- Wire routing should avoid any-and-all rough edges to prevent abrasion.
- Confirm cable routing accounts for moving parts of vehicle (e.g. axle slider).
- 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.

THINGS TO AVOID

- Avoid tight bends near connectors. Allow cables to follow natural path with free straight run of at least one connector length (approx 1 inch).
- There should be no tensile stress or static load on the cables or connectors.

⚠ WARNING: TRAILER POWER HARNESSES

If the power harness is routed between the movable axle slider and trailer body the cables must follow the spring supported slider air lines to prevent cable damage when slider moves. Cable damage may impact vehicle ABS function.



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 Trailer Location: On nose of trailer near other labels

SECTION 10: INSTALL TPMS SENSORS

TPMS sensors must be installed for the tire pressures to be monitored. This guide provides guidance for attaching the valve stem mounted TPMS sensors. The i3 Halo Tire Inflators have built in TPMS sensors that are activated after the Halo is installed on the vehicle.

Step 10.1: Install valve stem sensors directly onto valve stems, bent valve stem extenders, or flexible hoses with valve stems. These sensors will not be installed on wheel ends that have i3 Halo Tire Inflators installed.

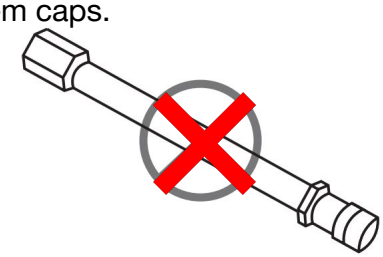
Tighten sensors until hand tight and leak test with soapy water

✓ 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

halo TECH

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.

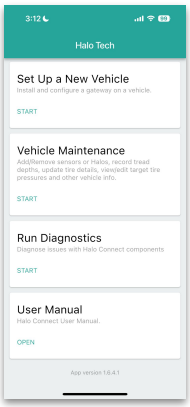
The activation voltage must not exceed 21.5V if the gateway is being installed on a 12V vehicle system.

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 12: GATEWAY ACTIVATION WORKFLOW

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

1

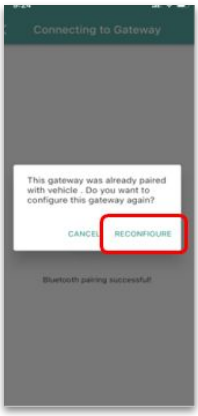


Open the Halo Tech App and choose: “Set Up a New Vehicle”

2

Scan the QR code on the door label.

3

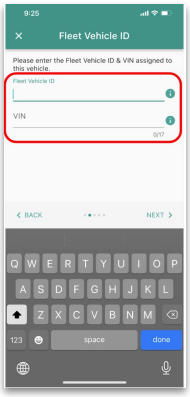


If prompted, choose “reconfigure”

4

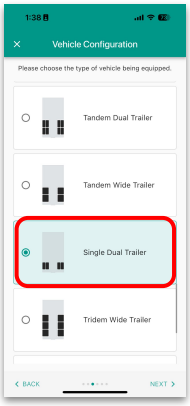
Scan QR code on Connect kit or type Fleet Activation Code

5



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

6

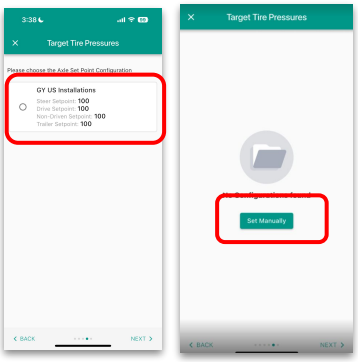


Select the vehicle axle configuration and Choose “NEXT”

7

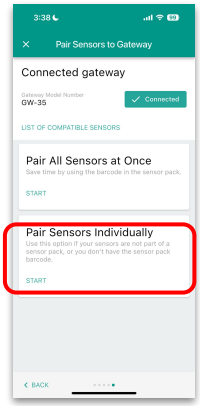
Select HA-5

8



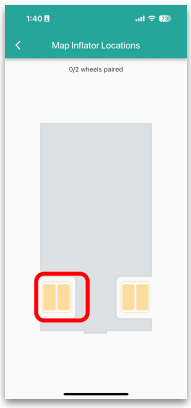
Select or manually set the correct tire pressure configuration for the application

9



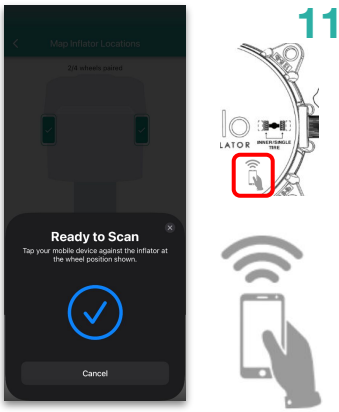
Select “Pair All Sensors Individually”

10



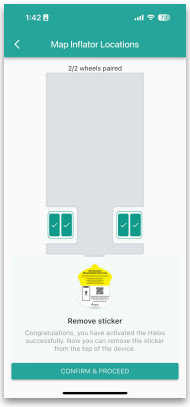
Tap tire position to pair a Halo

11



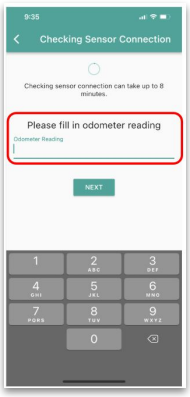
Place the NFC enabled mobile device near the NFC logo on the Halo

12



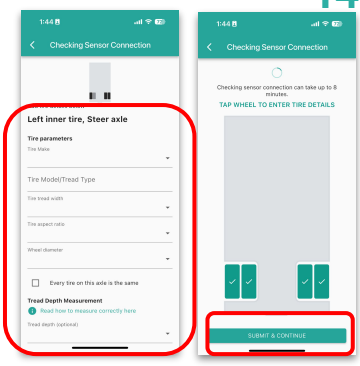
After all Halos are paired select “CONFIRM & PROCEED”

13



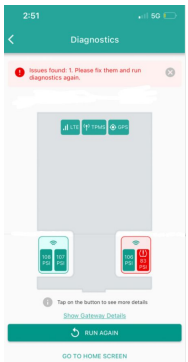
Enter the vehicle odometer reading and Choose “NEXT”

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.