WHEEL SECURITY AND TYRE PRESSURE MANAGEMENT SYSTEM

HEAVY FLEET FITMENT PROCEDURE
IMPORTANT INFORMATION

Please note it is imperative that all staff/personnel are aware that, although the MICHELIN Wheel Security System is an in-motion wheel loss and hub/brake temperature detection system, your normal tyre and wheel removal, maintenance & walk round procedures/policies must still be adhered to. You cannot rely on this system as a means of omitting any undertaking of these activities or responsibilities. It is also the case for the tyre pressure monitoring system that all normal inspection & maintenance procedures are adhered to.

No Liability can be offered by Wheely Safe Ltd for any loss or damages incurred as a result of the devices being fitted.

WORKING TEMPERATURES OF THE SYSTEM
- Solar receiver: -20ºC up to 65ºC
- Solar booster: -20ºC up to 80ºC
- TPMS sensor: -40ºC up to 120ºC
- Wheel loss sensor: -40ºC up to 120ºC

FITMENT INFORMATION

NOTE: It is important that these devices are fitted in the correct locations (as per the enclosed pictures) for ease of identifying.

All sensors are colour coded as per vehicle positions to ease early identification in an alert situation, being Black sensors (front) of vehicle, e.g. in a 2x axle bus, black sensors on the front axle and for a tractor/trailer, the black sensors will be on the tractor unit. The rear sensors will be Blue in colour.

If you are fitting the Tyre Pressure sensors to inner wheels, make sure you have metal extensions fitted (NOT PLASTIC - AS THESE DO NOT EMIT AIR FOR THE SENSOR TO MONITOR THE TYRE)

The metal extensions should be the correct length for the application and can be either solid extensions or flexible.

If flexible extensions are fitted you should ensure that they have metal connection for the TPMS sensor to screw onto and the flexible extension should be clamped onto the wheel rim for a secure installation. When installation is completed the TPMS sensor should not be touching the wheel rim.

AUTO PAIRING

Both wheel loss and tyre pressure management system sensors will auto pair without the need for any programming. The vehicle should be taken on a 10 minute drive to assume that the auto pairing process has taken place.

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FITMENT OF THE WIRED RECEIVER

PLEASE CONNECT THE RED WIRE DIRECTLY TO A VEHICLE 12V/24V IGNITION FED POWER SUPPLY (POSITIVE). THE BLACK WIRE IS CONNECTED TO A GROUND WIRE (NEGATIVE).
Consult manufacturers wiring guidelines where applicable to avoid any warranty issues.

Please connect the RED Wire directly to a vehicle 12V/24V Ignition fed power supply (Positive).
The BLACK Wire is connected to a Ground wire (Negative).
Consult manufacturers wiring guidelines where applicable to avoid any warranty issues.

Switching on the Solar Receiver

Activate the receiver from package mode by holding the pressure checker over the battery icon displayed on the solar receiver screen for 5 seconds. After 5 seconds a white light will flash 6 times which confirms that the solar receiver is now activated.

Removal of the backing from the adhesive pad at the rear of the receiver taking care not to touch the adhesive surface.

Normal Operation Mode

The “Michelin” Logo will be permanently lit WHITE.

Stationary Sleep Mode

When the vehicle is stationary for more than 15 minutes and with the ignition on the receiver will go into Stationary Sleep Mode. No Lights will be on at all in this mode.

No Power

If the receiver has no power during a journey then the “Michelin” Logo will not be lit. This situation must be remedied by reconnecting to the power source.

FITMENT OF THE SOLAR RECEIVER

Switching on the Solar Receiver

Activate the receiver from package mode by holding the pressure checker over the battery icon displayed on the solar receiver screen for 5 seconds. After 5 seconds a white light will flash 6 times which confirms that the solar receiver is now activated.

Remove the backing from the adhesive pad at the rear of the receiver taking care not to touch the adhesive surface.

Normal Operation Mode

The power icon will flash once every 30 seconds when in journey mode.

Low Power

When the solar receiver has less than 15% power the power icon will flash red every 10 seconds.
To charge the solar receiver plug the charger into the side of the receiver and connect to a power source.
The power icon will stay permanently white when fully charged. The battery icon displayed on the receiver is only a screen print and does not display actual battery level.

Stationary Sleep Mode

When the vehicle is stationary for more than 15 minutes the receiver will go into Stationary Sleep Mode.
No Lights will be on at all in this mode.

Find the ideal position for the receiver on the windscreen (ideally towards the top of the windscreen) ensuring that it is outside the wiper sweep. Ensure the solar panel is not blocked by the black border that exists around many windscreen.
The area of the windscreen where the receiver is to be fitted should be clean and free from dust or grease.
Place the receiver in the correct position and push firmly against the windscreen, holding and pushing for up to 10 seconds.

Normal Operation Mode

The power icon will flash once every 30 seconds when in journey mode.

Low Power

When the solar receiver has less than 15% power the power icon will flash red every 10 seconds.
To charge the solar receiver plug the charger into the side of the receiver and connect to a power source.
The power icon will stay permanently white when fully charged. The battery icon displayed on the receiver is only a screen print and does not display actual battery level.

Stationary Sleep Mode

When the vehicle is stationary for more than 15 minutes the receiver will go into Stationary Sleep Mode.
No Lights will be on at all in this mode.

The receiver should be mounted on a clean even flat surface so that it does not obscure the view of the road or any instrumentation but is clearly visible to the driver from a normal driving position.
ENSURE THAT THERE ARE NO TRAILING WIRES AFTER INSTALLATION.

NORMAL OPERATION MODE

The “Michelin” Logo will be permanently lit WHITE.

STATIONARY SLEEP MODE

When the vehicle is stationary for more than 15 minutes and with the ignition on the receiver will go into Stationary Sleep Mode. No Lights will be on at all in this mode.

NO POWER

If the receiver has no power during a journey then the “Michelin” Logo will not be lit. This situation must be remedied by reconnecting to the power source.
FITMENT OF WHEEL LOSS SENSOR AND BRACKET

PREPARING & PLANNING TO FIT THE WHEEL LOSS SENSORS & BRACKETS

GET 2 SENSORS AND BRACKETS FOR EACH OUTER WHEEL READY TO FIT

Note:
If the wheel fixing has a conical or spherical stud fixing, please contact Wheely-Safe prior to installing the system, for guidance.

The black sensors are fitted on the front (tractor) wheels and blue sensors fitted to rear (trailer) wheels.

Different coloured sensors make it easier to identify the fault when an alert occurs on the receiver and to assist the driver/engineer in locating where the fault may lie on the vehicle. This is in addition to the sensor also flashing for 3 minutes.

For rigid vehicles, coaches & buses: Black at front, Blue at rear

The top of the sensor is identified by a Michelin logo.

SENSORS: BLACK FOR FRONT - BLUE FOR REAR
The wheel that requires the wheel loss system to be fitted must be jacked up so that the tyre is off the ground.

**IMPORTANT** Failure to release the clamping force of ALL the wheel nuts and only releasing the clamping force of the nuts required to fit the brackets could result in a torque imbalance. Any torque imbalance then has the potential to result in nuts coming loose in a very short journey time.

Both the mating face of the wheel rim and bracket should be clean and free from dirt, paint, rust and grease.

Remove all nuts and the wheel.

**IMPORTANT** Failure to release the clamping force of ALL the wheel nuts and only releasing the clamping force of the nuts required to fit the brackets could result in a torque imbalance. Any torque imbalance then has the potential to result in nuts coming loose in a very short journey time.

Put the wheel back on to the hub.
**FITMENT OF WHEEL LOSS SENSOR AND BRACKET - CONTINUED**

Position the sensor and brackets diagonally opposite each other.

When fitting and tightening the wheel nuts, and in its clamped position, the sensor LED will flash 7 times for 18 seconds. This is the indication that the sensor is activated and the user can have the confidence that the Michelin Wheel Security System is working.

When fitted correctly the top of the sensor will protrude slightly above the bracket.
**FITMENT OF WHEEL LOSS SENSOR AND BRACKET - CONTINUED**

**REFER TO A RECOGNISED INDUSTRY STANDARD WHEEL SECURITY BEST PRACTICE GUIDELINE FOR NUT TIGHTENING SEQUENCE.**

*IMPORTANT* Failure to release the clamping force of **ALL** the wheel nuts and only releasing the clamping force of the nuts required to fit the brackets could result in a torque imbalance. Any torque imbalance then has the potential to result in nuts coming loose in a very short journey time.

**Note:** **On Completion of fitting the Bracket & Sensor**

All wheels changed/disturbed must be rechecked for tightness before entering service and a torque wrench must be used for checking wheel nut tightness to manufacturer’s guidelines. Then your own company Wheel removal Maintenance & Walk round procedures/policies must be adopted for ongoing checks thereafter.

Then follow your own proven wheel security procedure.


FITMENT OF TYRE PRESSURE MONITORING SENSORS (TPMS)

PLEASE ENSURE THAT ONLY METAL EXTENSIONS ARE USED FOR INNER WHEELS WHEN FITTING SENSORS. IF USING A FLEXIBLE EXTENSION ENSURE THAT IT IS METAL TIPPED AND CLAMPED TO THE RIM (NOT PLASTIC AS THESE DO NOT EMIT AIR FOR THE SENSOR TO MONITOR).

FITMENT INFORMATION – WHEN FITTING THE TPMS SENSOR YOU SHOULD ENSURE THAT IT IS NOT TOUCHING THE WHEEL RIM.

The black sensors are fitted on the front (tractor) wheels and blue sensors fitted to rear (trailer) wheels.

For rigid vehicles, coaches & buses: Black at front, Blue at rear

Different coloured sensors make it easier to identify the fault when an alert occurs on the receiver and to assist the driver/engineer in locating where the fault may lie on the vehicle. This is in addition to the sensor also flashing for 3 minutes.

Remove the dust cap

Check the tyre pressure is correct before fitting the TPMS sensor. The target pressure is for the normal COLD operating temperature recommended by the vehicle manufacturer.
**FITMENT OF TYRE PRESSURE MONITORING SENSORS (TPMS) CONTINUED**

**Twist on the sensor (finger tight)**
Check for the red LED flashing while the clever sensor self-calibrates to the current tyre pressure.

**OPTIONAL:**
If using anti-theft nuts attach these to the tyre valve by screwing the nut onto the valve ensuring you leave enough thread so that the TPMS sensor can be fully screwed onto the tyre valve. Screw the TPMS sensor onto the valve and then using the lock nut tool tighten the nut back towards the TPMS sensor until tight. During the tightening process it is imperative that you hold the TPMS sensor in place to stop it.

**SENSOR GASKET REPLACEMENT**

For your information, if the gasket is damaged or perished during the 12-month warranty period the customer needs to replace it with the spare one that will be provided when they first purchase the product.
**FITMENT OF FUSED SIGNAL BOOSTER (WIRED)**

**FUNCTION:**
TO BOOST THE SIGNAL FROM THE REAR WHEEL SENSORS TO RECEIVER.

**NOTE:** FIT ONE BOOSTER TO EITHER SIDE OF THE VEHICLE. 2 X BOOSTERS FOR TRAILERS AND RIGID CHASSIS. NONE REQUIRED FOR TRACTOR UNITS.

The signal booster is fitted as close to the rear most sensor (wheel loss or TPMS) as possible. This area will normally be the rear most axle. You are not required to fit a booster on the tractor unit.

RED Wire: connect to vehicle 12V/24V power supply directly (12~24V)
Black Wire: connect to Ground wire.

On rigid vehicles, where possible, connect to a permanent power source so that the booster is powered when the ignition is off. For trailer fitment please wire into a positive feed and test by connecting to a suitable tractor unit.

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Fitting position - Rigid

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Fitting position - Rigid twin axle

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Fitting position - Trailer (2x axle)

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Fitting position - Trailer (3x axle)
FITMENT OF SIGNAL BOOSTER (SOLAR)

The solar booster should be fitted externally in an area that is close to the rear most sensors and is visible to daylight. Because of the vast variance in trailers and rigid vehicles a degree of common sense needs to be applied. Fit 2 x boosters, one each side of a rigid vehicle or trailer (note, boosters are not required for tractor units) Fit in an area that is close to the rear most sensors which can be above them, in-front of or behind them. The roof can be considered as an option. The rear of the vehicle should also be considered as an option if there is no other obvious area available. Metallic or glass surfaces are acceptable as a fitting surface, with a none metallic surface being preferred.

Note:
Fit one booster, externally, to either side OR TO THE REAR of the vehicle.

The signal booster should be fitted as close to the rear TPMS/Wheel loss sensor as possible.

The fitting area should be cleaned and free from rust/dirt/grease.

Switching on the Solar Powered Booster.
Hold the pressure checker directly above the battery icon for 5 seconds. The power light will flash and the solar powered booster is now active.

The booster should be positioned so that the solar panel is facing up-wards. Having the solar panel facing sideways is acceptable, but the booster solar panel facing down is not recommended.

Switching on the Solar Powered Booster.
Hold the pressure checker directly above the battery icon for 5 seconds. The power light will flash and the solar powered booster is now active.
**TELEMATICS RECEIVER MODULES (WIRED)**

Note that the TRM looks similar to the booster, please refer to the typical id number RP03 on the back of the TRM

**WIRED VERSION**

There are 4 wires for this type of TRM - connect as below:
- TX (green wire)
- RX (yellow wire)
- Power supply + (red wire)
- Power supply - (black wire)

**TELEMATICS RECEIVER MODULES (BLUETOOTH)**

The solar powered receiver has Bluetooth built in allowing data transmission to telematic systems.

**BLUETOOTH VERSION**
**PRESSURE CHECKER**

**TURN ON**
Insert 2 AAA batteries in the Pressure Checker. Press down the Power button for 3 seconds and the Pressure Checker will Power up with a bleep sound. The battery indicator in the bottom right of the screen shows the remaining power level of the AAA batteries.

**CHANGE UNITS**
Factory setting is in psi. To change to display pressures to bar, press the Power button five times quickly, and to return the setting to psi, press 5 times again.

**RECENT HUB TEMPERATURE**
Place the MICHELIN man logo of the pressure checker over the wheel loss sensor and the highest hub temperature in ºC within the last 24 hours will be displayed on the pressure checker.

**NOTE**
Access to a pressure checker is required to read the remaining battery life of both the wheel loss and tyre pressure management sensors. The battery life will be displayed on the battery indicator when the checker is presented to the sensor.

**PRESSURE CHECKER WARNING SIGNALS**
When checking a tyre pressure prior to the start of the journey if the tyre pressure has fallen below 15% of the calibrated pressure the pressure checker will flash.

If the calibrated pressure has fallen below 24% the pressure checker will flash and bleep.
**CARE AND MAINTENANCE**

Regular checks should be made to ensure that the solar cells on the booster are not covered and should be kept clean using a pH neutral cleaner. All sensors should also be kept clean so that any flashing LED warning will be visible.

**PRODUCT DISCLAIMER AND WARRANTY**

The Wheely-Safe safety system is designed as a driver assistance device and should not be used as a substitute for regular manual wheel & tyre safety checks. Neither the seller nor the manufacturer will be liable for any loss damage or injury directly or indirectly arising from the use or inability to determine the use of this product. Before using, the user shall determine the suitability of the product for its intended use, and the user shall assume all responsibility and risk in connection herewith.

The driver/operator is always responsible for the condition of the wheels/tyres on their vehicle and regular pre-use visual checks are essential to stay Wheel & tyre safe. All wheels and tyre pressures should be checked before any journey, when the tyres are in their cold state, using an accurate Tyre pressure gauge. Whilst checking pressures it is also recommended to give the tyres a thorough inspection for any tyre damage, tread depth or uneven wear and the wheel nuts, studs and rims are damage free and in a suitable and sound for purpose condition prior to commencing the journey.

Published product details, specifications and suitability information is the best available at the time. Wheely-Safe Ltd shall not be held responsible for the accuracy of any advice given regarding the suitability (or otherwise) of any part(s).

We encourage you to ensure all parts are fitted by a competent person in accordance with manufacturer specifications. Wheely-Safe Ltd cannot be held liable for any damage caused by the fitting of a part.

Please ensure that you have read your warranty conditions before attempting to install a part or otherwise repair an item. Wheely-Safe Ltd cannot be held responsible if the item is damaged or your warranty is voided. Some manufacturer guarantees may be on condition that you use a qualified technician.
# Wheel Security and Tyre Pressure Management System Heavy Fleet

## WARNINGS ALARMS

<table>
<thead>
<tr>
<th>RECEIVER ICONS</th>
<th>INITIAL ALARM</th>
<th>FINAL ALARM</th>
<th>SENSOR ALERT TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Early Low / Early High Tyre Pressure Alert" /></td>
<td>Pressure icon flashes <strong>RED</strong> with front/rear position icon and a bleep sound and then alternately all icons flash <strong>RED</strong>. This sequence continues every 10 seconds for 2 mins.</td>
<td>Pressure icon flashes <strong>RED</strong> every 20 seconds until the journey ends.</td>
<td>2 mins</td>
</tr>
<tr>
<td><img src="image" alt="Critical Low Pressure/Blow Out/Fast Leakage. Leakage Alert" /></td>
<td>Pressure icon flashes <strong>RED</strong> with front/rear position icon and a bleep sound and then alternately all icons flash <strong>RED</strong>. This sequence continues every 5 seconds for 3 mins.</td>
<td>Pressure Icon flashes <strong>RED</strong> with a bleep every 10 seconds until the journey ends.</td>
<td>3 mins</td>
</tr>
<tr>
<td><img src="image" alt="High Temperature (pressure monitor)" /></td>
<td>All icons flash with a bleep sound and temperature icon flashes red alternately every 10 seconds for 60 seconds.</td>
<td>Temperature Icon flashes <strong>RED</strong> with a bleep every 20 seconds until the journey ends.</td>
<td>As long as temp. is exceeded.</td>
</tr>
<tr>
<td><img src="image" alt="Wheel Loose On set of wheel loss detected" /></td>
<td>All icons flash with a bleep sound and wheel loss icon flashes red alternately every 4 seconds for 60 seconds.</td>
<td>Wheel loss Icon flashes <strong>RED</strong> with a bleep every 2 seconds until the journey ends.</td>
<td>3 mins</td>
</tr>
<tr>
<td><img src="image" alt="High Temperature (Wheel Loss Sensor)" /></td>
<td>All icons flash with a bleep sound whilst Temperature &amp; Brake Icons flash red with a bleep alternately every 10 seconds for 60 seconds.</td>
<td>Temperature &amp; Brake Icons flashes <strong>RED</strong> with a bleep every 20 seconds until the journey ends.</td>
<td>As long as temp. is exceeded.</td>
</tr>
</tbody>
</table>

- Front or Rear Icons remain on to indicate the location of the problem

**AFTER LOOKING AT THE RECEIVER FOR INFORMATION THE DRIVER IS ADVISED TO STOP THE VEHICLE SAFELY AND THEN, WHEN SAFE TO DO SO, WALK ROUND THE VEHICLE. THE RED FLASHING LEDS ON EITHER THE SENSOR ON THE TYRE VALVE OR THE WHEEL LOSS SENSOR WILL SHOW WHICH WHEEL/TYRE HAS THE PROBLEM.**

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Customer Enquiries

We are at your service.
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