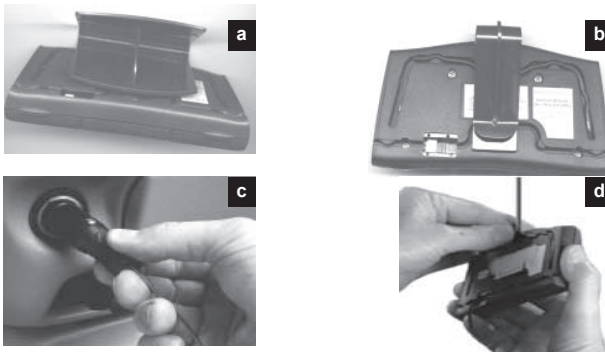


SmarTire™

Installation Instalación Installazione



Mounting the Display Module

The Display Module can be positioned in any convenient location within sight and reach of the vehicle operator using the mounting stand, visor clip or velcro (a,b).

For universal vehicle installations, the Display Module can be plugged into a utility power outlet or cigarette lighter socket using the supplied power cable (c). For permanent connection to vehicle's power supply the Display Module should be hard-wired to a keyed power circuit. Only personnel trained in adapting wiring systems should attempt this installation.

The antenna embedded into the back of the receiver may be extended for improved reception (d).

Fixation du module d'affichage

Le module d'affichage peut être placé à n'importe quel endroit où le conducteur du véhicule peut le voir et l'atteindre facilement en le fixant à l'aide du support de rétroviseur, de la pince du pare-soleil ou d'une bande velcro (a,b).

Pour les installations universelles dans les véhicules, le module d'affichage peut être branché dans une prise de courant ou dans l'allume-cigare avec le câble fourni (c). Pour les connexions permanentes à l'alimentation du véhicule, le module d'affichage doit être connecté à un circuit d'alimentation verrouillable. Seul le personnel qualifié dans l'adaptation des réseaux de fils peut entreprendre cette installation.

L'antenne intégrée au dos du récepteur peut être allongée pour améliorer la réception (d).

Einbau des Anzeigemoduls

Das Anzeigemodul kann mit Hilfe der Einbauhalterung, der Sonnenblendenklemme oder mit Klettband an einer geeigneten Stelle angebracht werden, die in Sicht- und Reichweite des Fahrers liegt (a,b).

Bei der Installation in üblichen Fahrzeugtypen kann das Stromversorgungskabel des Anzeigemoduls an eine Steckdose oder den Zigarettenzünder angeschlossen werden (c). Um einen dauerhaften Anschluß an die Stromversorgung des Fahrzeugs vorzunehmen, muß das Anzeigemodul mit einer getasteten Schaltung festverdrahtet werden. Diese Installation sollte nur von qualifizierten Fachleuten, die in der Änderung von Schaltkreisen ausgebildet sind, vorgenommen werden.

Die im hinteren Teil des Empfängers befindliche Antenne kann herausgezogen werden und liefert so einen besseren Empfang (d).

Montaje del Módulo de Presentación

El Módulo de Presentación puede ser ubicado en cualquier lugar conveniente dentro de la visión y el alcance del operador del vehículo utilizando el bastidor de montaje, el clip del visor o Velcro (a,b).

Para instalaciones universales en vehículos, el Módulo de Presentación

puede ser enchufado a la toma utilitaria de alimentación o la toma del encendedor utilizando el cable de alimentación provisto (c). Para una conexión permanente a la fuente de alimentación del vehículo se deberá conectar el módulo de presentación mediante cables conectados a un circuito controlado por la llave de encendido. Solamente personal capacitado en la adaptación de sistemas de cableado deben realizar este tipo de instalación.

La antena incorporada en la parte trasera del receptor puede ser extendida para mejorar la recepción (d).

Montaggio del modulo visualizzatore

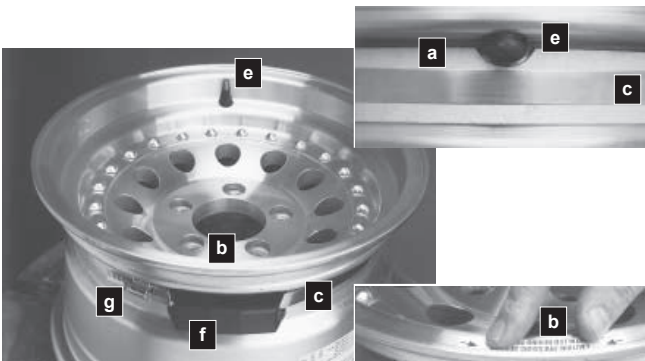
Usando il supporto di montaggio, il clip per l'aletta parasole o del velcro, si può installare il modulo visualizzatore in qualunque posto che sia comodo, purché visibile e facilmente raggiungibile dal conducente (a,b).

Per un'installazione generale, il modulo visualizzatore può essere collegato ad una presa di servizio o all'accendisigari utilizzando il cavo fornito (c). Per un collegamento permanente al circuito elettrico del veicolo, il modulo visualizzatore deve essere collegato ad un circuito che si disconnette togliendo la chiave dal quadro. Solo personale qualificato alla modifica di sistemi elettrici può effettuare questo tipo d'installazione.

L'antenna incorporata nel retro del ricevitore può essere allungata per migliorare la ricezione (d).

Installing Sensor Modules on a Wheel

- 1 Shorten the mounting bands (c) by cutting to the appropriate length for the wheel diameter used. Remove burrs from band ends.
- 2 Select Sensor Module (f) for a corresponding wheel location (check the default location and tire ID number on label). Pass band through counterweight and then Sensor Module as shown (h). The colored label and counterweight notch should face the same direction.



3 Position Sensor Module in the lowest area of drop center well (d) and attach band end into clamp by advancing wormgear with a screwdriver/socketdriver. The base of drop center well of the wheel must be flat and wide enough to allow the Sensor Module to contact rim over its complete width.

4 Position counterweight (a) with its notch fitting around the valve stem (e) as shown.

5 Position Sensor Module exactly 180° opposite the counterweight to minimize imbalance. Tighten clamp (g) until counter weight is completely pulled down against the surface of the rim and the Sensor Module is secure (to 3.4 N-m).

6 Cutoff excess band length to approximately 3 cm. from wormgear assembly.

7 Clean the rim surface and remove any rust, dirt, oil or lubricating fluid. Affix the appropriate locator ID label (b) near the Sensor Module as shown (b,f). The label is used to identify the position of the sensor for subsequent servicing of the tires or SmarTire™ system.

Installation du module de détection sur la roue

1 Raccourcissez la languette de fixation (c) en la coupant à la longueur correspondant au diamètre de roue utilisé. Retirez les bavures de l'extrémité de la languette.

2 Choisissez le module de détection (f) pour une position de roue correspondante (vérifiez la position par défaut et le numéro d'identification du pneu sur l'étiquette). Faites passer la languette à travers le contrepoids et ensuite le module de détection tel qu'illustré (a). L'étiquette de couleur et l'entaille du contrepoids devrait être orientées dans la même direction.

3 Placez le module de détection dans le centre surbaissé de la roue (d) et attachez l'extrémité de la languette dans le collier de serrage en faisant avancer la vis sans fin à l'aide d'un tournevis ou d'une clef à douilles. Le fond de la cuvette à base creuse de la roue doit être suffisamment plat et large pour permettre au module de détection d'entrer en contact sur toute sa largeur de la jante.

4 Placez le contrepoids de façon (a) à ce que son entaille entoure la tige de la soupape (e) tel qu'illustré.

5 Placez le module de détection à exactement 180° en face du contrepoids pour minimiser le déséquilibre. Serrez le collier (g) à 3,4N-m jusqu'à ce que le contrepoids soit complètement rabaisé contre la surface de la jante et que le module de détection soit fixé solidement.

6 Coupez la longueur superflue de la languette à environ 3 cm de la vis sans fin.

7 Nettoyez la surface de la jante et retirez la rouille, la saleté, l'huile ou le liquide lubrifiant qui pourrait s'y trouver. Apposez l'étiquette d'identification (b) correspondante près du module de détection tel qu'illustré (b,f). L'étiquette sert à identifier l'emplacement du module de détection lors de l'entretien ultérieur des pneus ou du système SmarTire™.

Installation des Sensormoduls an einem Rad

1 Die Befestigungsbänder durch Zuschneiden auf die dem Reifendurchmesser entsprechende Länge kürzen (c). Die Bandenden entgraten.

2 Das Sensormodul (f) entsprechend der Radanordnung auswählen (die standardmäßige Radposition und die ID-Nummer auf dem Etikett beachten). Das Band wie in der Abbildung durch das Gegengewicht und dann durch das Sensormodul führen (h). Das farbige Etikett und die Kerbe des Gegengewichts sollten in die selbe Richtung weisen.

3 Das Sensormodul in der Vertiefung der Felge anbringen und das Bandende durch Verschieben des Schneckentriebs mit einem Schraubendreher oder Steckschlüssel in der Klemme befestigen (d). Die Fläche der Tiefbettfelge muß flach und breit genug sein, so daß das Sensormodul über seine ganze Breite auf dem Felgenbett aufliegt.

4 Das Gegengewicht wie abgebildet (a) mit der Kerbe am Ventilschaft anliegend anbringen.

5 Das Sensormodul dem Gegengewicht genau gegenüberliegend anbringen, um das Ungleichgewicht auszugleichen. Die Klemme anziehen (g), bis das Gegengewicht ganz auf der Oberfläche der Felge aufliegt und das Sensormodul gesichert ist (bis zu 3.4 N-m).

6 Das überstehende Band etwa 3 cm nach der Schneckentriebverbindung abschneiden.

- Die Felgenoberfläche säubern und jeglichen Rost, Schmutz, Öl oder Schmiermittel entfernen. Das der Radposition entsprechende ID-Etikett wie abgebildet (b) in der Nähe des Sensormoduls anbringen (b,f). Das Etikett dient der Identifizierung der Sensorposition bei späteren Wartungsarbeiten an den Reifen oder des SmarTire™-Systems.

Instalando los Módulos Sensores en las ruedas

- Acorte las bandas de montaje (c) cortando a la longitud apropiada para el diámetro de rueda utilizada. Retire rebabas de los extremos de la banda.

- Seleccione un módulo sensor (f) para cada posición correspondiente de rueda (verifique la posición por defecto y el número de identificación de neumático en la etiqueta). Pase la banda a través del contrapeso y luego el módulo sensor como se ilustra (h). La etiqueta de color y la muesca del contrapeso deben apuntar en la misma dirección.

- Posicione el módulo sensor en el área más baja del centro deprimido (d) y fije el extremo de la banda a la prensa avanzando la cremallera con un destornillador o llave. La base del centro deprimido de la rueda debe ser plano y lo suficientemente ancho como para permitir que el módulo sensor entre en contacto con el borde en todo su ancho.

- Posicione el contrapeso (a) con sus muescas abrazando el vástago de la válvula (e) como se ilustra.

- Posicione el módulo sensor exactamente a 180° opuesto al contrapeso para minimizar el desbalanceo. Ajuste la grampa (g) a 3.4N-m hasta que el contrapeso esté completamente asentado contra la superficie del aro y el módulo sensor este asegurado.

- Corte el exceso de la longitud de banda hasta aproximadamente 3 cm del ensamble de la cremallera.

- Limpie la superficie del aro y retire cualquier óxido, tierra, aceite o líquido lubricante. Fije la etiqueta identificatoria apropiada (b) al aro cerca del módulo sensor como se ilustra en (b,f). La etiqueta es utilizada para identificar la posición del sensor en reparaciones subsecuentes de los neumáticos o del sistema SmarTire™R.

Installazione dei moduli sensori su un cerchione

- Accorciare le fasce di montaggio (c) tagliandole alla lunghezza appropriata per il diametro del cerchione. Pulire le sbavature dalle estremità delle fasce.

- Selezionare il modulo sensore (f) relativo al cerchione in questione (controllare la posizione standard e il numero ID dello pneumatico sull'etichetta). Far passare la fascia prima nel contrappeso e poi nel modulo sensore come mostrato (h). L'etichetta colorata e l'intaglio nel contrappeso devono essere orientate nella stessa direzione.

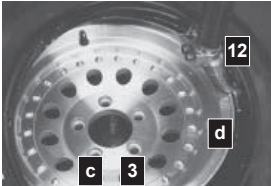
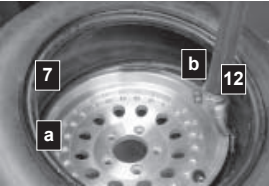
- Posizionare il modulo sensore nell'incavo centrale del cerchione (d) e fissare l'estremità della fascia al morsetto, avvitando con un cacciaviti o una chiave a bussola. La base dell'incavo centrale del cerchione deve essere piatta e abbastanza larga per permettere al modulo sensore di essere in contatto con il cerchione per tutta la sua larghezza.

- Posizionare il contrappeso con l'intaglio attorno allo stelo della valvola come mostrato (a,e).

- Posizionare il modulo sensore esattamente a 180° dal contrappeso per minimizzare lo sbilanciamento. Stringere il morsetto ad un valore di 3,4 Nm fino a che il contrappeso sia completamente a contatto con la superficie del cerchione e il modulo sensore sia ben fissato.

- Tagliare la fascia in eccesso fino a circa 3 cm dal morsetto.

- Pulire la superficie del cerchione e rimuovere ogni traccia di ruggine, sporcizia, olio o fluido lubrificante. Applicare la corretta etichetta ID (b) vicino al modulo sensore come mostrato (b,f). L'etichetta serve a identificare la posizione del sensore nei successivi servizi allo pneumatico o al sistema SmarTire.



Mounting Tyre with Sensor Module on Wheel

- To avoid damaging the Sensor Module during tyre mounting, position the wheel with Sensor Module located at 7 o'clock in relation to the mount head (b) at 12 o'clock.

- Set the lubricated tyre on the wheel with its traction point (a) 8 cm. before the Sensor Module. Use the mount head (b) to guide the rest of the bottom bead over the flange and onto the rim.

- With the bottom bead in place, you will be able to position the wheel with the Sensor Module at 7 o'clock for most tyres.

Depress the bead into the drop centre so that the traction point is 8 cm. before the Sensor Module (a). Some stiff wall tyres require setting the Sensor Module between 3 and 6 o'clock (c). Start the top bead in front of the mount head (d) assisting with the mounting bar to prevent slippage.

- Inflate the tyre to seat the bead, deflate completely and then inflate the tyre to manufacturer’s recommended cold inflation pressure.

NOTE: When mounting larger 15° bead seat tires, ensure that tire mounting is done in such a way that the Sensor Module does not prevent the tire bead from completely entering the drop centre well.

Installation du pneu avec le module de détection sur la roue

- Pour éviter d'endommager le module de détection pendant l'installation du pneu, placez la roue avec le module de détection orientée à 7 heures relativement à la tête de montage (b) à 12 heures.

- Posez le pneu graissé sur la roue avec son point de traction (a) à 8 cm avant le module de détection. Utilisez la tête de montage (b) pour guider le reste du talon inférieur au-dessus du rebord pour aboutir sur la jante.

- Une fois le talon inférieur en place, vous serez capable d'orienter la roue avec le module de détection à 7 heures pour la plupart des pneus.

Abaissez le talon dans la base creuse de sorte que le point de traction soit 8 cm avant le module de détection (a). Certains pneus à paroi latérale rigide exigent que le module de détection soit réglé entre 3 heures et 6 heures (c). Commencez par le talon supérieur devant la tête de montage (d) en vous aidant de la barre de montage pour éviter les glissements.

- Gonflez le pneu pour bien faire pénétrer le talon, dégonflez-le complètement puis gonflez-le en respectant la pression de gonflage à froid recommandée par le fabricant du pneu.

REMARQUE : Lorsque vous installez des pneus à repos de talon de 15°, assurez-vous que le montage du pneu soit effectué sans que le module de détection n'empêche le talon du pneu d'entrer complètement dans la base creuse.

Montieren des Reifens mit Sensormodul am Rad

- Das Sensormodul während der Reifenmontage schützen, indem das Rad so positioniert wird, daß sich das Sensormodul im Verhältnis zu dem in der 12-Uhr-Position (a) befindlichen Montagekopf in der 7-Uhr-Position befindet.

- Den eingeschmierten Reifen so auf das Rad setzen, daß sich der Traktionspunkt (a) 8 cm vor dem Sensormodul befindet. (a) Mit dem Montagekopf den Rest der unteren Wulst über den Spurkanz und auf die Felge ziehen.

- Jetzt, wo die untere Wulst richtig sitzt, kann das Rad mit dem Sensormodul bei den meisten Reifen in der 7-Uhr-Position ausgerichtet werden.

Die Wulst in die Tiefbettfelge drücken, so daß sich der Traktionspunkt 8 cm vor dem Sensormodul befindet (a). Bei manchen Reifen mit steifen

Wänden muß das Sensormodul so ausgerichtet werden, daß es sich zwischen der 3-Uhr-Position und der 6-Uhr-Position befindet (c). Mit der oberen Wulst hinter dem Montagekopf beginnen und dabei die Montagestange zu Hilfe nehmen (d), um ein Wegrutschen zu verhindern.

- Den Reifen aufblasen, damit sich die Wülste setzen, die Luft ablassen, und den Reifen dann aufblasen, bis der Reifendruck (kalt) den vom Hersteller empfohlenen Wert erreicht.

HINWEIS: Bei der Montage von Reifen mit größerem Wulstszit darauf achten, daß der Reifen so aufgezogen wird, daß das Sensormodul die Reifenwulst nicht daran hindert, vollkommen in die Tiefbettfelge zu gleiten.

Montaje del neumático con un Módulo Sensor en la rueda

- A fin de evitar daños al módulo sensor durante el montaje del neumático, posicione la rueda con el módulo sensor en la posición de las siete horas en relación con el cabezal de montaje (b) en la posición de las doce horas.

- Coloque el neumático lubricado sobre la llanta con su punto de tracción (a) a 8 centímetros antes del módulo sensor. Utilice el cabezal de montaje para guiar el resto del talón inferior sobre la llanta y el aro.

- Con el talón inferior en su lugar, podrá colocar el módulo sensor en la posición de las 7 horas en la mayoría de los neumáticos.

Deprima el talón dentro del centro deprimido para que la posición de tracción quede a 8 centímetros antes del módulo sensor (a). Algunos neumáticos de pared rígida requieren que el módulos sensor se ubique entre la posición de las 3 horas y las 6 horas (c). Comience el talón superior en frente del cabezal de montaje ayudando con la barra de montaje para prevenir deslizamientos.

- Infle el neumático para asentar el talón, desinfle completamente y luego infle el neumático a la presión recomendada en frío dado por el fabricante.

Nota: Cuando monte neumáticos de mayor tamaño con asientos de talón de 15°, verifique que el montaje del neumático se realice de tal forma que el módulo sensor no impida que el talón del neumático penetre completamente el centro deprimido de la rueda.

Montaggio dello pneumatico con il modulo sensore sul cerchione

- Per evitare di danneggiare il modulo sensore durante il montaggio dello pneumatico, mettere il cerchione con il modulo sensore posizionato alle ore 7 in relazione alla testa di montaggio (b) che si trova alle ore 12.

- Porre lo pneumatico lubrificato sul cerchione con il punto di trazione (a) 8 cm prima del modulo sensore. Usare la testa di montaggio per guidare il resto del cordolo inferiore sopra la flangia e dentro il bordo.

- Con il cordolo inferiore a posto, si può posizionare il cerchione con il modulo sensore alle ore 7 per la maggior parte degli pneumatici.

Premere il cordolo nell'incavo centrale in modo che il punto di trazione sia 8 cm prima del modulo sensore (a). Nel caso di alcuni pneumatici con pareti rigide è necessario posizionare il modulo sensore tra le ore 3 e le ore 6 (c). Mettere il cordolo superiore davanti alla testa di montaggio (d), aiutando con la barra di montaggio per evitare slittamento.

- Gonfiare lo pneumatico per posizionare il cordolo, sgonfiare completamente e poi rigonfiare lo pneumatico alla pressione a freddo raccomandata dal fabbricante.

NOTA: Nel montare pneumatici con alloggiamenti di cordolo più grandi, da 15°, assicurarsi che il montaggio sia fatto in modo che il modulo sensore non impedisca al cordolo dello pneumatico di entrare completamente nell'incavo centrale.

De-mounting Tyre with Sensor Module Installed

- Remove tyre/wheel assemblies from vehicle and deflate completely.

- Loosen both beads with bead loosener shoe near valve stem (e) (away from Sensor Module which is mounted on the opposite side). Verify Sensor Module position.

- Orient wheel to place Sensor Module (f) 8 cm to the

left of bead guiding shoe (g) so that mounting bar will clear the Sensor Module. When lifting the top bead the tire must be clear of Sensor Module. Remove top bead.

- Set wheel once more with Sensor Module 8 cm. to the left of bead guiding shoe and remove bottom bead. This will expose Sensor Module, which should be checked for correct positioning and a properly snug fit.

Retrait du pneu portant le module de détection

- Retirez le pneu et la roue du véhicule et dégonflez complètement le pneu.

- Desserrez les deux talons à l'aide d'un décolleur de talon près de la tige de la soupape (e) (en vous éloignant du module de détection attaché au côté opposé).Vérifiez la position du module de détection.

- Orientez la roue de façon à placer le module de détection (f) à 8 cm du guide de talon gauche de sorte que la barre de montage (g) passe au-dessus du module de détection sans le toucher. Lorsque vous soulevez le talon supérieur le pneu ne doit pas toucher le module de détection. Retirez le talon supérieur.

- Placez la roue encore une fois avec le module de détection à 8 cm du guide de talon gauche et retirez le talon inférieur. Cela exposera le module de détection, qui doit être vérifié : il doit être placé dans la bonne position et avoir un ajustement serré.

Abmontieren des Reifens mit installiertem Sensormodul

- Die Räder mitsamt der Reifen vom Fahrzeug abmontieren und die Luft ganz ablassen.

- Beide Wulstränder mit dem Gleitschuh des Wulstrandlösers in der Nähe des Ventilschafts lösen (e) (auf der dem Sensormodul gegenüberliegenden Seite). Die Anordnung des Sensormoduls überprüfen.

- Das Rad so ausrichten, daß das Sensormodul (f) 8 cm links vom Wulstführungsschuh liegt (g), so daß die Montagestange das Sensormodul nicht berührt. Wenn der obere Wulstrand angehoben wird, darf der Reifen das Sensormodul nicht berühren. Den oberen Wulst abheben.

- Das Rad nochmals so ausrichten, daß sich das Sensormodul 8 cm links vom Wulstführungsschuh befindet, und den unteren Wulst abheben. Das Sensormodul ist dann zugänglich. Überprüfen, ob es sich in der richtigen Lage befindet und satt anliegt.

Desmontaje del neumático con un Módulo Sensor instalado

- Retire el ensamble de neumático y rueda del vehículo y desínflelo completamente.

- Afloje ambos talones con la zapata de guía del talón cerca del vástago de la válvula (e) (alejado del módulo sensor que está montado en el lado opuesto). Verifique la posición del módulo sensor.

- Oriente la rueda para colocar el módulo sensor (f) a 8 cm. a la izquierda de la zapata de guía del talón (g) a fin de que la barra de montaje no toque el módulo sensor. Al levantar el talón superior el neumático debe quedar libre del módulo sensor. Retire el talón superior.

- Ubique la rueda una vez más con el módulo sensor a 8 centímetros a la izquierda de la zapata de guía del talón y retire el talón inferior. Esto expondrá el módulo sensor cuya posición y ajuste debe ser verificado.

Smontaggio dello pneumatico con il modulo sensore installato

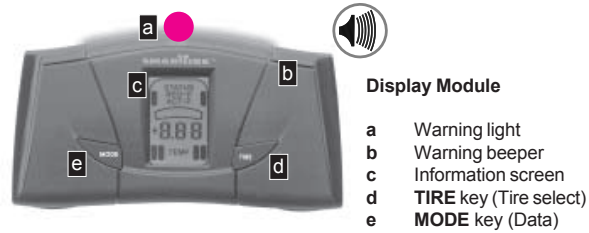
- Rimuovere la ruota dal veicolo e sgonfiare completamente.

- Allentare entrambi i cordoli con un pattino allentatore nell'area vicina allo stelo della valvola (e) (lontano dal modulo sensore che è montato al lato opposto). Controllare il posizionamento del modulo sensore.

- Orientare il cerchione in modo che il modulo sensore si trovi (f) 8 cm alla sinistra del pattino di guida del cordolo (g) per evitare che la barra di montaggio lo tocchi. Al sollevare il cordolo superiore, lo pneumatico non deve toccare il modulo sensore. Rimuovere il cordolo superiore.

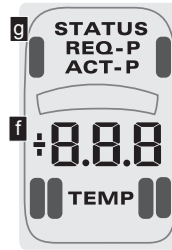
- Posizionare di nuovo il cerchione con il modulo sensore 8 cm alla sinistra del pattino di guida del cordolo e rimuovere il cordolo inferiore. Questo esporrà il modulo sensore di cui si devono controllare il corretto posizionamento e la perfetta aderenza.

The SmarTire™ System



Display Module

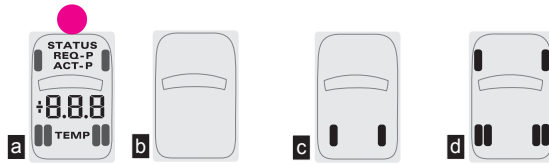
- a Warning light
- b Warning beeper
- c Information screen
- d **TIRE** key (Tire select)
- e **MODE** key (Data)



Information Screen

- STATUS** Displays tyre pressure status
- REQ-P** Displays required pressure
- ACT-P** Displays actual pressure
- TEMP** Displays tyre air temperature
- f** + Overinflation - Underinflation
- g** Tyre indicator

Startup from Power on to Standby



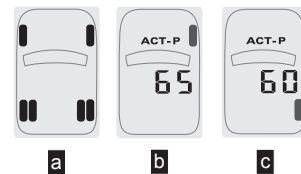
Self-test when power is applied (a).

Standby mode, waiting for tire data (b).

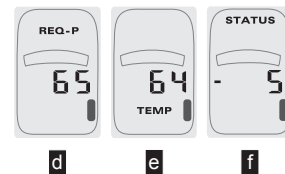
Standby mode, tire data received from installed transmitters at 16 kph (10 mph) (c,d).

The tire indicators displayed depend on number of installed transmitters. In (c) transmitters 5 and 6 are installed and in (d) the full set, 1-6 is installed.. The default locations shown here can be changed during tire rotation with function **tr** (programming section)

View Tire Data



From standby mode (a) press either **MODE** or **TIRE** key to view the actual pressure for the right front tire (b). Press the **TIRE** key to view the pressure of other tires (c).



Press the **MODE** key to view required pressure - **REQ-P** (d), temperature - **TEMP** (e) or **STATUS** (f) of the selected tire.

NOTE: **TEMP** data takes up to 1 min. to come in and both **REQ-P** and **STATUS** data will display only after **TEMP** comes in.

Warnings

The SmarTire™ System and Tire Maintenance

This system is a sensing device designed to identify and display tire operating data and activate an alert or warning when pressure or temperature irregularities are detected. It is the responsibility of the driver to react promptly and with discretion to alerts and warnings. Abnormal tire inflation pressures should be corrected at the earliest opportunity. As a part of regular tire maintenance, ensure that tire inflation is the same as set on the Required Pressure (REQ-P) level shown on the Display Module (applies only to systems where the temperature feature is enabled).

System Installation and Usage

Use of the SmarTire™ system requires that it has been properly installed and programmed by qualified personnel according to SmarTire Systems Inc. documentation. This includes the Owner's Manual and any supplementary installation instructions included with system components.

THIS SYSTEM IS SUITABLE FOR USE IN PASSENGER CAR AND LIGHT TRUCK TIRES UP TO MAXIMUM COLD INFLATION PRESSURE 127 PSI

Use of Chemicals

Temporary resealing or re-inflation products containing internal sealers or propellants in any tire/wheel assembly may adversely affect the operation of Sensor Modules. Use of these chemicals can damage the pressure sensor and will nullify any manufacturer's warranty, express or implied.

Power Connection

If your Display Module is connected to an unkeyed cigarette lighter socket unplug it before you park the vehicle for extended periods of time (more than three days) to avoid draining the battery (on a keyed circuit you will see the key lights turn off and the information screen clear when the ignition switch is turned off).

Pressure Status Alert



This alert activates when the actual pressure drops below the required pressure by the amount set for this alert (**Pd**). (Temperature data must be received first.)

The factory default for this alert is switched off. To program a pressure level to use this alert, follow the programming guide (**Pd**) in this manual.

Low Pressure Alert



This warning activates when the actual pressure drops to the setting for this alert (**PA**).

Low Pressure Warning



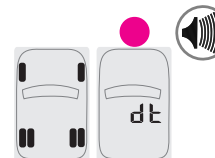
This warning activates when the actual pressure drops to the programmed setting (**LP**).

High Temperature Warning



An air temperature higher than the programmed setting (**tA**) will activate this warning.

Display Module Diagnostic



This alert activates when no data has been received from any sensor module for 8 ignition cycles.

Warranty

This Warranty covers substantial manufacturer's defects in workmanship and materials. It does not cover any unit that is damaged beyond normal usage, was not properly installed, was subjected to chemical contact, or other acts or omissions not sanctioned by the Owner's Manual. All components are covered for three (3) years and 50,000 miles following the date of installation or five (5) years from date of manufacture, whichever comes first. The SmarTire™ Warranty will be honored by any authorized SmarTire™ dealer. The owner is required to provide dated proof of purchase. The authorized dealer will determine if there is a warrantable condition associated with materials and/or manufacturing workmanship. If a warrantable condition exists, the component will be replaced free of charge, shipping prepaid. The owner is responsible for any labor and installation charges.

Please ship defective unit, postage prepaid, to: SmarTire USA Inc., PMB 309, 1700 W. Market Street, Akron, OH, 44313, Phone 604-276-9884.

The Warranty does not include any further obligation whatsoever, including but not limited to actual installation of the replacement unit on the customer's vehicle. All other Warranties, express or implied, are disclaimed. All collateral agreements, which purport to modify this Limited Warranty are of no effect. The absolute limit of liability is the purchase price of the unit. SmarTire Systems Inc. is not liable for any direct, consequential, indirect or punitive damages of any kind.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE VALIDITY OR LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

FCC Notice

This device complies with Part 15 of the FCC Rules. 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.

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.

Caution When the alert light turns on (no beeper), reduce vehicle speed to an appropriate safe level and proceed to a safe stopping location or facility where the tire can be inspected and serviced.

The **pressure status alert** indicates that the pressure has dropped a set amount below the required pressure.

The **low pressure alert** occurring shortly after a pressure status alert indicates that a rapid pressure loss is taking place.

Warning When the warning beeper turns on and alert light flashes, reduce vehicle speed to an appropriate safe level and proceed to a safe stopping location or facility where the tire can be inspected and serviced.

The **low pressure warning** indicates that the pressure has dropped to a level considered critical to the tire's ability to support and/or provide directional control to the vehicle.

The **high temperature warning** indicates that the contained air temperature has exceeded the selected maximum. A tire temperature buildup can be caused by a number of factors including severe under inflation, hard sustained braking, vehicle overload and sustained high speeds.

Technical Specifications

Display Module

Power Consumption	4 watts max. during alert
Normal Operating Temperature Range	-20° F to 185° F
Normal Storage Temperature Range	-40° F to 185° F
Operating Humidity	100% non-condensing
Weight	4 oz.
Size	3" H x .75" D x 5.5" W
Frequency	433.92 MHz

Sensor Modules

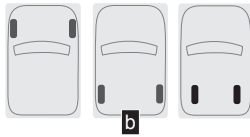
Battery Life (projected)	7 years
Normal Operating Temperature Range	-40° F to 185° F
Normal Storage Temperature Range	-40° F to 185° F
Operating Humidity	100%
Data Transmission Rate	Every 30 seconds when vehicle is in motion
Weight	2.1 oz
Size	0.75" x 1.25" x 4.55"
Frequency	433.92 MHz
Accuracy	+/- 1 PSI
Pressure Sensing Range	Up to 127 PSI (8.75 BAR)

Component Parts List

Display Module	200.0054.NT	Counterweight	264.0085
Sensor Modules	200.0056.01	Wheel Band	264.0070
	200.0056.02	Power Cable	210.0113
	200.0056.03	Mounting Stand	264.0075
	200.0056.04	Visor Clip	264.0074
	200.0056.05	ID Rim label	269.0067 (1-4)
	200.0056.06		269.0108 (5-6)
Door jamb label	268.0108	Power Cover	264.0073
Velcro® Strip	264.0077		

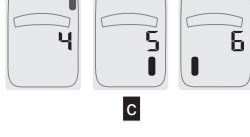
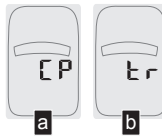
Programming the Display Module

CP Set Cold Inflation Pressure



- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Toggle **TIRE** key to select a pair of tyres (b).
- Press **MODE** key to display current value (c).
- Press **TIRE** key to increase and **MODE** key to decrease the value.
- Press both **MODE** and **TIRE** keys to save this value.
- Press **TIRE** key to select another tyre pair (b) to set and save its **CP** value as above.
- Press both **MODE** and **TIRE** keys *again* to exit.

tr Tire Rotation



- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **tr** (b).
- Select a tyre location with **TIRE** key (c).
- Press **MODE** key to select ID. Repeat for all locations.
- Press both **MODE** and **TIRE** keys to save.
- Press both **MODE** and **TIRE** keys again to exit.

Notes:

1. To prevent incorrect programming, the display will show **ER** if two positions are programmed with the same ID number, and will not allow these settings to be stored.
2. A wheel label (d) is attached during installation to identify the sensor ID number on that wheel. A door jamb label (e) is supplied to identify the location of the sensor when tyres are rotated.

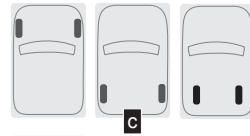
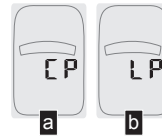
d



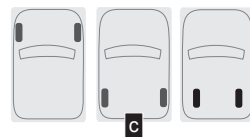
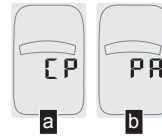
e



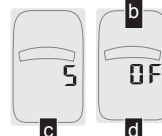
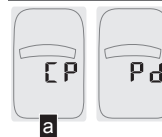
LP Set Low Pressure Warning



PA Set Low Pressure Alert



Pd Set Pressure Status Alert

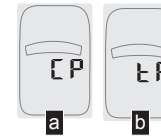


- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **LP** (b).
- Press **TIRE** key to select a tire pair (c).
- Press **MODE** key to display the current value (d).
- Press **TIRE** key to increase and **MODE** key to decrease the value.
- Press both **MODE** and **TIRE** keys to save.
- Press **TIRE** key to select another tyre pair and set its **LP** value as above.
- Press both **MODE** and **TIRE** keys *again* to exit.

- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **PA** (b).
- Press **TIRE** key to select a tire pair (c).
- Press **TIRE** key to display the current value (d).
- Press **TIRE** key to increase and **MODE** key to decrease the value.
- Press both **MODE** and **TIRE** keys to save.
- Press **TIRE** key to select another tire pair and set its **PA** value as above.
- Press both **MODE** and **TIRE** keys again to exit.

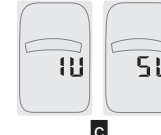
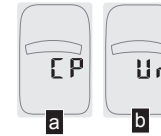
- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **Pd** (b).
- Press **TIRE** key to display the current value (c).
- Press **TIRE** key to increase and **MODE** key to decrease the value; decrease to **OF** to turn **Pd** off (d).
- Press both **MODE** and **TIRE** keys to save.
- Press both **MODE** and **TIRE** keys *again* to exit.

tA Set High Temperature Warning



- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **tA** (b).
- Press **TIRE** key to display the current value (c).
- Press **TIRE** key to increase and **MODE** key to decrease the value.
- Press both **MODE** and **TIRE** keys to save.
- Press both **MODE** and **TIRE** keys *again* to exit.

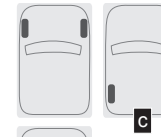
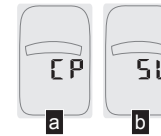
Un Set Units (SI - Metric or IU - Imperial)



- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **Un** (b).
- Press **TIRE** key to select **IU** - imperial, or **SI** - metric (c).
- Press both **MODE** and **TIRE** keys to save.
- Press both **MODE** and **TIRE** keys *again* to exit.

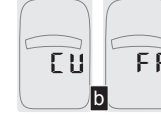
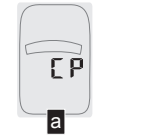
Imperial units: PSI/°F Metric units: BAR/°C

SL Set Pressure / Temperature Correlation



- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press **MODE** key to select **SL** (b).
- Press **TIRE** key to select a tire pair (c).
- Press **MODE** key to display the current value (d).
- Press **TIRE** key to increase and **MODE** key to decrease the value.
- Press both **MODE** and **TIRE** keys to save.
- Press **TIRE** key to select another tire pair and set its **SL** value as above.
- Press both **MODE** and **TIRE** keys *again* to exit.

CU - FA Restore Factory Settings



- Press **TIRE** key.
- Press and hold both **TIRE** and **MODE** keys to display **CP** (a).
- Press and hold both **TIRE** and **MODE** for 5 seconds.
- Toggle **MODE** key to select **FA** - factory, or **CU** - custom (b).
- Press both **MODE** and **TIRE** keys to save.
- Press both **MODE** and **TIRE** keys *again* to exit.