



TIRE PRESSURE SYSTEMS

NM343 EXTERNAL SYSTEM FOR TRUCKS AND BUSES

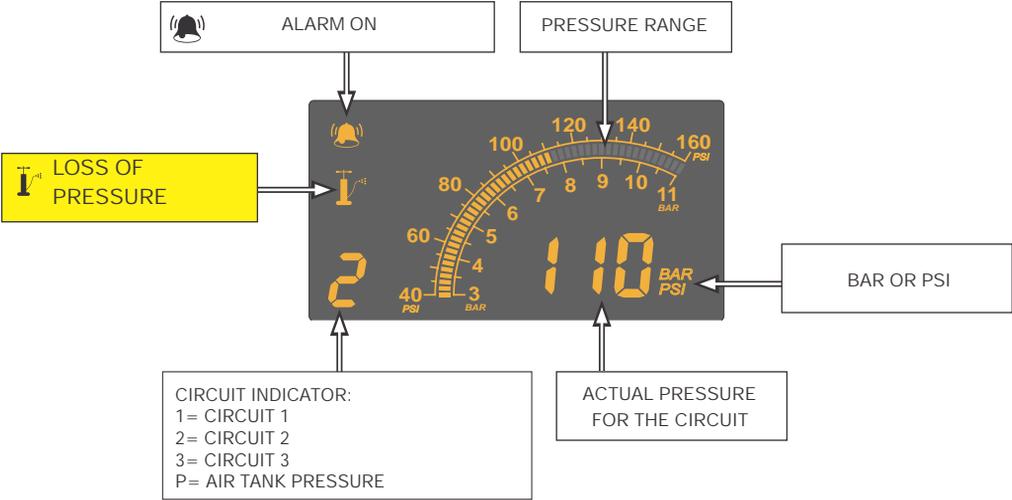
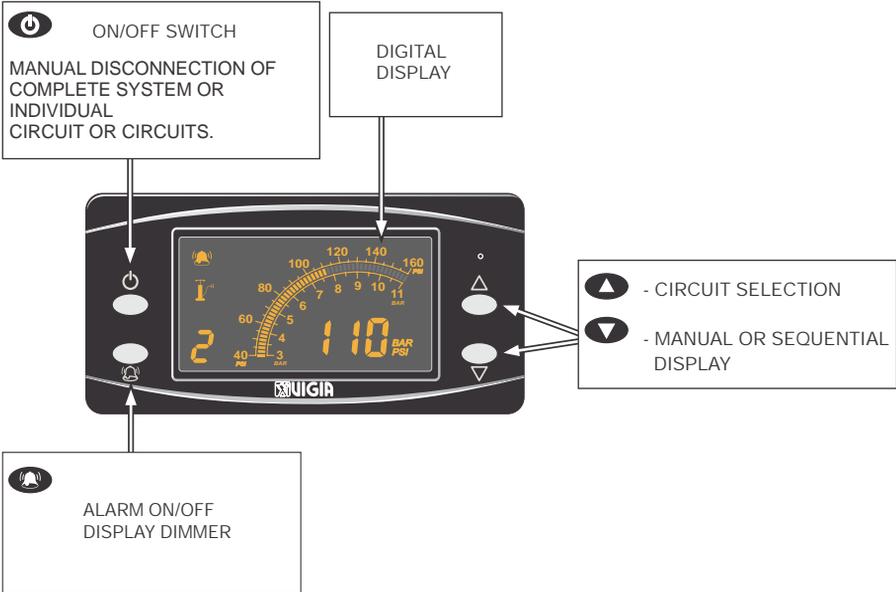
USER'S MANUAL



ORDER ON-LINE

www.vigia.ca / 1-888 438-8444

OPERATION



IMPORTANT

Installation, disassembly, repairs and maintenance of the VIGIA Tire Pressure Systems must be performed only by a certified mechanic with specific knowledge in the installation of VIGIA Systems. Certified mechanic must use proper protective equipment when installing, repairing and maintaining the VIGIA systems.

Improper installation or use of unauthorized parts can cause malfunctions, loss of tire pressure and other consequences which may result in serious injury or death.

Manufacturer or Distributor will not be responsible for injuries resulting from misuse of equipment, use contrary to operating instructions or installation by any person other than an Authorized Installer.

Information contained in this manual is subject to change. Col-Ven S.A. reserves the right, without notice, to make changes in equipment design or components as progress in engineering, manufacturing or technology may warrant.

World-wide Patents

VIGIA is a trademark of Col-Ven S.A.

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VIGIA AUTOMATIC TIRE PRESSURE SYSTEM

VIGIA constantly checks and maintains tire pressures at a constant, pre-set level while providing instant, ongoing feedback to the driver. VIGIA delivers increased tire mileage, less down time, better fuel economy and increased safety.

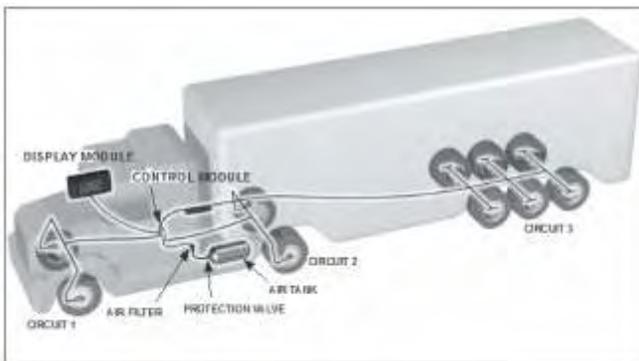
The VIGIA NM343 display module generates digital information on the status of tire pressures and system that is transmitted via its interface to the existing vehicle's satellite module and ultimately to the user's telematics software.

Operation

In the event of a drop in pressure in one or more tires due to punctures or other causes, the system automatically generates signals that inform the driver of the problem and its location. At the same time, the system begins pumping air, keeping tire pressures calibrated at the pre-set levels.

If the loss of air is substantial, as in the case of a blow-out, and the equipment is not able to compensate for this loss, a signal advises the driver. At the same time, an electronic security valve blocks any air to the tires, thus ensuring the normal operation of the other air-operated systems (i.e. brakes, suspension, etc.).

Model NM343 can be installed in all vehicles equipped with an air compressor.





PARTS



DISPLAY MODULE NM 343



ROTOR



HOSE AND TIRE VALVES



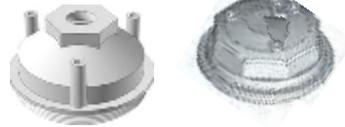
END HOSE CONNECTOR TO ROTOR



CONTROL MODULE NM 343



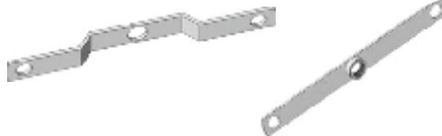
STARS



ROTOR MOUNTING KITS



DISK
215 MM.



ROTOR MOUNTING KITS



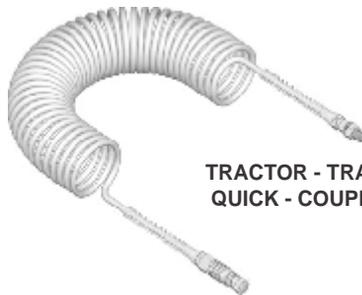
AIR
FILTER



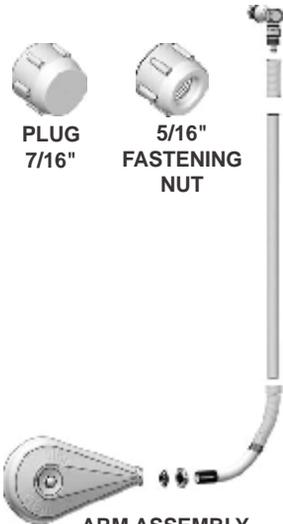
PLUG
7/16"



5/16"
FASTENING
NUT



TRACTOR - TRAILER
QUICK - COUPLING SET



ARM ASSEMBLY



DOUBLE OUTLET
BODY COUPLING



STANDARD
BODY COUPLING



QUICK CONNECT
BODY COUPLING

DISPLAY MODULE

The digital Display Module NM343 shows tire pressure for each circuit connected to it to a maximum of nine. Each circuit can be monitored sequentially or on demand.

Driver is alerted of low pressure conditions via audio and visual warnings.

Operation

1 - System Activation

The system turns on automatically when the vehicle's contact key is on.

With contact key off and pressing  for 4 seconds, the system will turn on the display and show tire pressures but the system will not be operational i.e. it will not inflate tires if needed.

2 - Display

Tire pressures can be displayed in sequential or manual mode.

Sequential Mode (default setting): Each circuit pressure is displayed for 10 second sequentially.



Manual Mode: In Manual Mode circuit pressure and air tank pressure (P) can be displayed pressing  or .

To turn Manual Mode on or off press the key  or  for 3 seconds.



Important: The display goes into sequential mode automatically when loss of pressure is detected and it will show the circuit being inflated.



3 - Air Leaks

The Vigia System, if activated, will automatically start inflation to a circuit with 3 or more PSI differential between actual and set tire pressure.

Depending on the magnitude of the air loss, the system will warn the driver differently:

a) 3 PSI drop takes more than 1.5 minutes to generate: System will automatically compensate the air loss but no alarm or warning will be produced.

b) 3 PSI drop takes 1.5 minutes or less to generate: Automatic inflation,  turns on intermittently and one beep every 9 seconds.

c) 3 PSI drop takes 30 seconds or less to generate: Automatic inflation,  turns on intermittently and two beeps every 5 seconds.



d) 3 PSI drop takes 2 seconds or less to generate: Automatic inflation,  turns on permanently and three beeps every 2 seconds.

Note: *If there are air leaks in two or more circuits, only those circuit pressures will be displayed and in sequential order.*

In Manual Mode when an air leak is detected the system automatically turns to Sequential Mode and displays the circuit/s being pressurized.

To quickly trace an air leak (yellow LED on), turn the system off and:

a) If the gauge reading falls quickly, the leak is located in the system network between the VIGIA tire valve and the display module.

b) If the gauge reading falls very slowly, the leak is located in the tire (puncture) or a VIGIA tire valve is defective or loosely attached to the tire stem.

IMPORTANT: Tire punctures and air leaks must be repaired as soon as possible.

4 - Excessive Loss of Pressure

If the air leak is too big and the vehicle's air compressor cannot compensate for it, the system will turn off automatically and will display the air tank pressure (P) warning the driver with 3 beeps every 2 seconds.

5 - Alarm OFF

Press  to turn the alarm off. If turning the alarm off when the system is inflating one or more circuits, the alarm will automatically reconnect after 20 minutes.

6 - Individual Circuit Deactivation

To temporarily deactivate a circuit proceed as follows:

- Turn display to Manual Mode pressing  or  for 3 seconds.
- Select the circuit to deactivate using  or .
- Press  to confirm. A beep and the circuit number blinking is confirmation that the circuit has been deactivated.

To cancel deactivation turn contact key off and on.



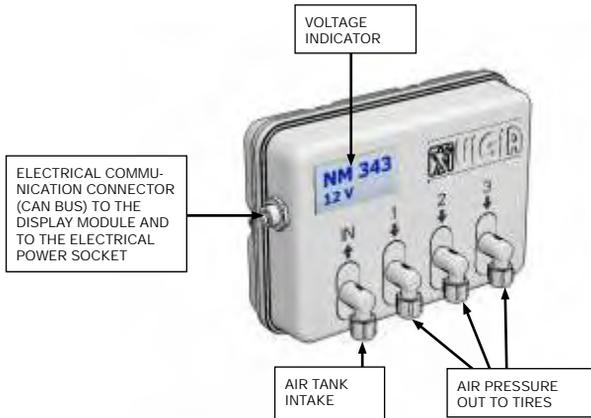
7 - Dimming Display

To decrease/increase display luminosity keep pressed the  key until desired level.

CONTROL MODULE

The control module permanently controls and adjusts tire pressures in the tires and sends the information to the display module.

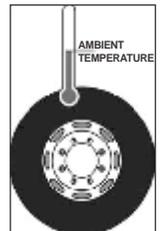
VIGIA offers control modules for 2 or 3 independent pressures.



Tire Pressure and Temperature

Calibrate with “COOL” tires

Tires should be calibrated when they are cool (at ambient temperature) according to the “inflation table” supplied by the tire manufacturer.



Never bleed tires to reduce increased air pressure due to rolling resistance

It is normal and expected that tires increase up to 12% psi over the set pressure when the tires warm up after rolling. This situation is normal and will be shown by the VIGIA Automatic Tire Pressure System.

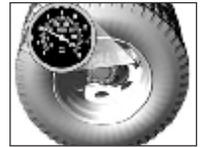
Do not deflate the tires to compensate for this increase.

Note: Air pressures may not be the same in all the tires of a particular air circuit or axle. The gauge monitoring that circuit/axle will indicate the air pressure of the least inflated tire in that circuit/axle.

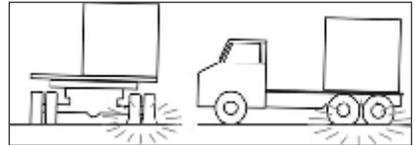
If during operation tire pressures increase more than 18% over the set pressure, the cause should be inspected. Possible causes:

A- Tire over-inflated at the time of installation.

Note: The VIGIA system will not deflate tires.



B- Bad load distribution.



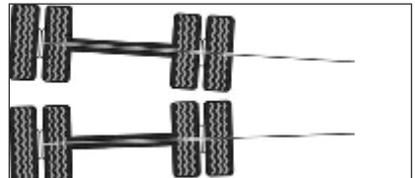
C- Wrong selection of tire size.



D- Different or mix-matched tires on the Same axle.



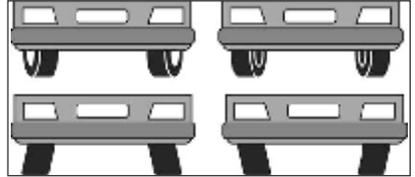
E- Axles are out of alignment.



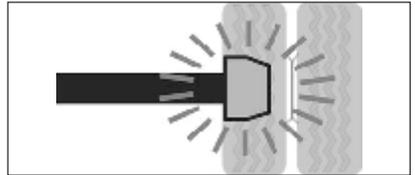
F- Different tire sizes in duals.



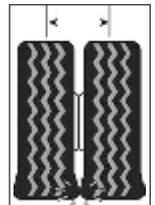
G- Problems in the vehicle suspension, steering or alignment.



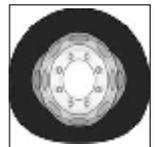
H- Problems in the brakes.



I- Incorrect separation among dual tires.



J- Bad or oval wheels.

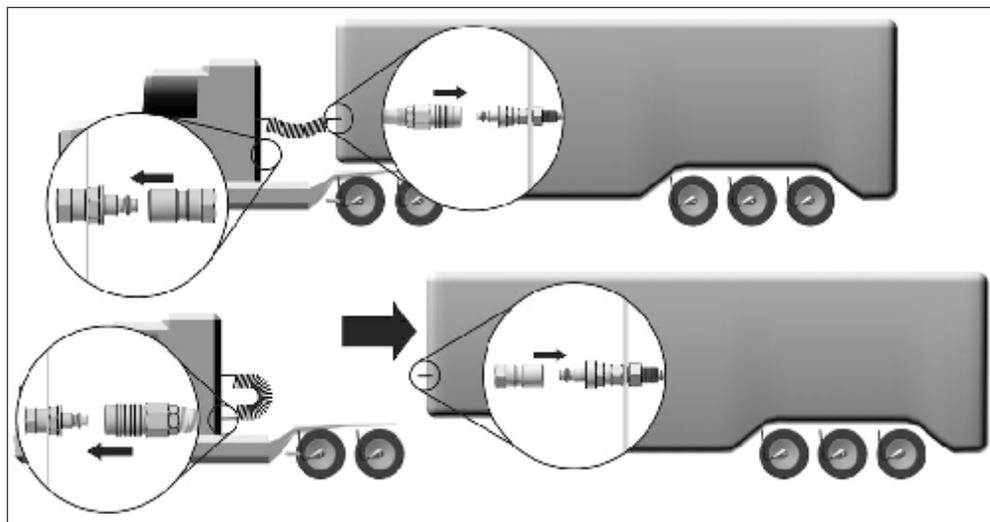


VIGIA allows you to monitor over-inflation. While the system does not contribute to over-inflation, it will alert the driver of problems that would otherwise go unnoticed.

TRACTOR - TRAILER CONNECTION

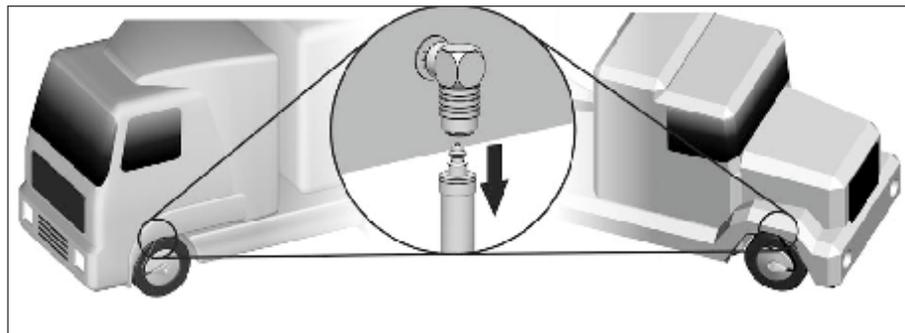
Connect the valve located at the end of the spiral hose to the fixed valve located in the trailer.

To unhook, disconnect the spiral hose and protect both valve ends using the cap and support.



Quick Connect Body Coupling

Disconnect Body Couplings before tilting cab or opening hood.





SYSTEM MAINTENANCE

Air Tanks and Air Filter

- A- The air filter will only retain solid impurities. To avoid water or other liquids in the system, drain air tanks periodically.
- B- The air filter must be kept clean for proper system operation. Clean the air filter at least once a year.
- C- When disassembling/assembling the air filter for cleaning, pay attention to the order of the components.
- D- Lubricate the O-ring to avoid air leaks.
- E- Maximum air pressure: 200 PSI **(14 BAR)**.



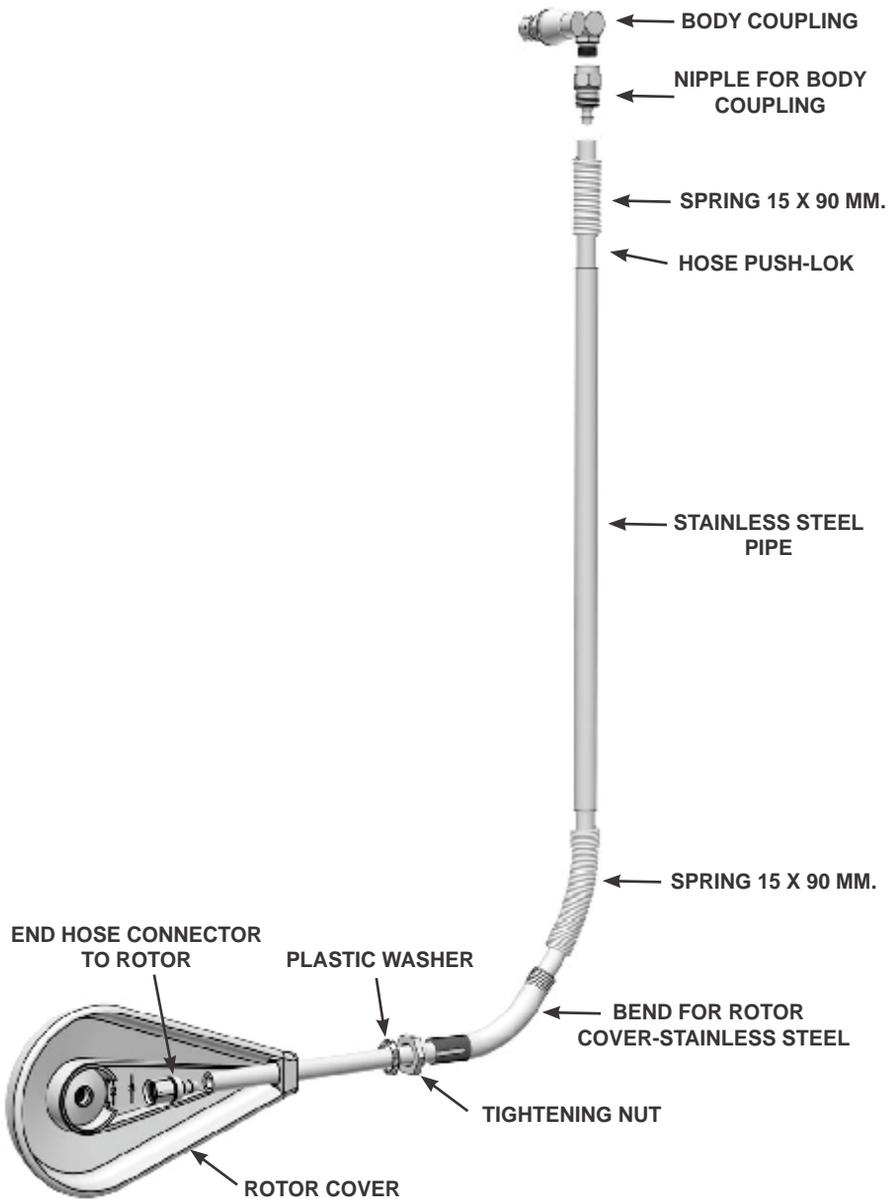
VIGIA Tire Valves

VIGIA's tire valves incorporate check valves that replace the original tire valve cores. If air leaks from the tire upon disconnecting a VIGIA tire valve from the rotor, proceed as follows:

- A- Remove the hose and tire valve.
- B- Spray the tire valve end with soapy water and make sure that the valve's O-ring is intact.
- C- Reinstall the hose and tire valve, tightening lightly with a wrench. Verify that the hose and tire valve does not rub against wheel rim, rotor support or hub.
- D- If air leak persists, replace hose and tire valve.

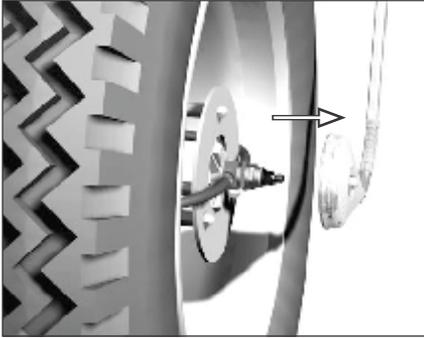


Connection Body Coupling to Rotor



Tire Changes

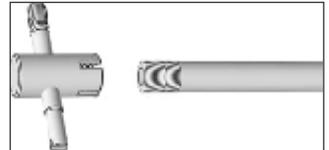
A- Remove the rotor cover. Disconnect the hose/s at the rotor.



B- Remove the tire taking care of not damaging the rotor.

C- Remove the VIGIA hoses and tire valves and install them in the new tire according to the following instructions:

- *Thoroughly clean the external thread of the original tire stem with a brush.*



- *Remove the valve core.*

- *Screw the VIGIA tire valve, lightly tightening it with a wrench. Verify that the VIGIA hose and tire valve does not rub against the wheel rim, hub or rotor support. Modify the valve position if necessary.*

D- Ensure that the tire pressure is lower than the desired tire pressure. The system will calibrate it to the pre-set value.

E- Install the new tire.

F- Reconnect the end hose connectors to the rotor.

G- Reinstall the rotor cover and tighten its nut.



System Disconnection

Partial

In case of air loss in the VIGIA system, where no repair is possible at the moment, the damaged line can be annulated with the plug provided.



Total

If the air loss is in a place that does not allow for the partial disconnection explained before, disconnect the complete VIGIA system pressing

 for 4 seconds. **Contact your authorized Vigia service.**



MAINTENANCE SCHEDULE

At P.M. Intervals

1. Check for air leaks in the system.
2. Check condition and fastening of parts on wheel assembly.
3. Check operation of system.

Annually or at each 300,000 Km.

1. Replace rotors.
2. Clean Vigia air filter.

IMPORTANCE OF TIRE PRESSURE

Proper inflation is the most important requirement for maximum tire safety and tire mileage

Low Tire Pressure:

Under inflation increases flexing of the casing which generates excessive heat causing fatigue, premature shoulder wear, cap separation and ultimately tire failure .



Excessive Tire Pressure:

Over inflation weakens the tire by preventing the tire to absorb impacts, generating irregular wear, reducing resistance to punctures and ultimately producing tire failure. Over inflation reduces the area of the tire in contact with the ground reducing traction and making the tire skid .



Important: According to tire manufacturers' specifications, tire pressure must be calibrated when tires are COLD (allow the tires to cool for 3-4 hours after use). Tire pressure may increase up to 12 % over the "cold" pressure due to rolling resistance when in use. VIGIA will show this pressure increase in the display module. DO NOT BLEED THE TIRES.

RECOMMENDATIONS FROM VIGIA

- A- Each time a tire is replaced, make sure that its pressure is lower than the system's set pressure. **The system only supplies air to the tires; VIGIA will not reduce tire pressure.**
- B- Check that rotors are centered in respect to the wheel every time a wheel or hub is dismantled.
- C- Verify that hose and tire valves do not rub against wheel rims, rotor supports or hub. Tighten valves securely with a wrench.
- D- Replace or repair damaged tires as soon as possible.

LIMITED WARRANTY

This limited warranty is provided to the original buyer only and covers the VIGIA AUTOMATIC TIRE PRESSURE SYSTEM (the "Product") manufactured by Col-Ven S.A. (the "Manufacturer") and distributed by RCR Systems Limited (the "Distributor").

The warranty period is one year from date of original purchase by the buyer. During this period, if the product is found to be defective in mechanical or electrical materials or workmanship during normal use, it will be repaired or replaced at no charge to the buyer. The buyer will be required to show date and proof of purchase and to return the Product pre-paid to the Distributor.

THIS LIMITED WARRANTY DOES NOT COVER, AND MANUFACTURER OR DISTRIBUTOR WILL NOT BE RESPONSIBLE FOR, THE FOLLOWING:

- Normal wear of parts;
- Failures or defects due to negligent use, misuse, neglect, abuse, use on improper voltage or current, use contrary to operating instructions, accidents, alterations, disassembly, installation, repair or alteration by any person other than an Authorized Dealer, fire, floods or acts of God.
- Products or accessory equipment not manufactured by the Manufacturer.
- Performance of Product when used in combination with other products or equipment not manufactured by the Manufacturer.
- Payments for labour or service to unauthorized representatives or service agents.

Manufacturer or Distributor will not be responsible for loss of time, inconvenience, loss of use of the Product, injury to buyer or other persons or damage to vehicle, tires or property caused by the Product or by its failure to work or for any other incidental, punitive or consequential damages.

The Manufacturer reserves the right to make the final decision on any warranty claim that may be questionable.

This warranty is not transferable.

EXCEPT AS PROVIDED HEREIN, THIS WARRANTY EXPRESSLY EXCLUDES:

- (i) all warranties and conditions, whether express, implied or statutory, including but not limited to warranties and conditions of merchantability for a particular purpose; and
- (ii) any agreements, representations, affirmations, warranties or conditions, whether oral or written, made by any agent, employee or representative of seller.

Manufacturer and Distributor make no claims, guarantees or assurances that blowouts or other tire failures will not occur and are not responsible for damages or injuries resulting from such occurrences.

This warranty sets forth the entire responsibility of Manufacturer and Distributor with respect to the Product. The buyer's exclusive remedy is repair or replacement as stated herein. In no event shall Manufacturer or Distributor's liability exceed the cost of correcting defects as provided herein and any such liabilities will terminate upon expiration of the one year warranty period.

USER'S MANUAL VIGIA NM343

1-2012



P.O.Box 1352 – 1500 Avenue Road
Toronto, Ontario M5M 0A1
CANADA

COLVEN

Ruta 11 Km.814 - Guadalupe Norte
Prov. de Santa Fe (S3574XAB)
ARGENTINA

ORDER ON-LINE

www.vigia.ca / 1-888 438-8444