



TIRE PRESSURE SYSTEMS

**NM249-NM248
INTERNAL SYSTEMS FOR TRAILERS**

USER'S MANUAL



ORDER ON-LINE

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

OPERATION MODEL NM249

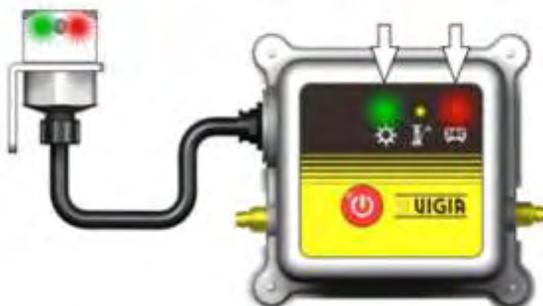
SYSTEM ON - TIRES AT SET PRESSURE



LOSS OF AIR PRESSURE IN TIRES OR SYSTEM NETWORK. - AUTOMATIC START OF INFLATION DRIVER CAN CONTINUE TRIP



LOW AIR TANK PRESSURE
AUTOMATIC SYSTEM SHUT-OFF



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.

Axles must be prepared for the Vigia system according to axle's manufacturer approved procedures.

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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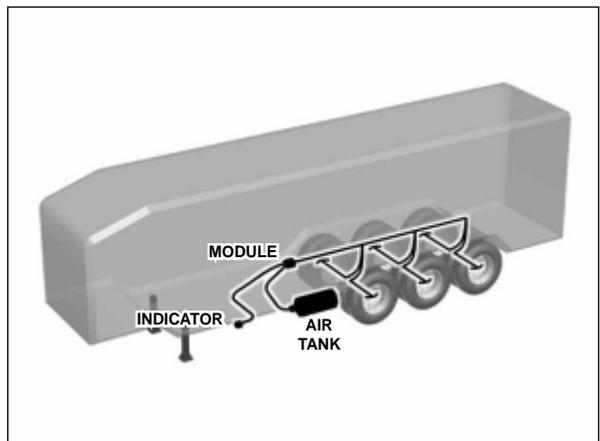
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VIGIA AUTOMATIC TIRE PRESSURE SYSTEM

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.

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 NM249 is a stand-alone internal system for trailers.

Model NM248 is a dedicated internal system for trailers and requires a tractor equipped with VIGIA System.



PARTS



**CONTROL MODULE
NM249**



**HOSE AND TIRE
VALVES**



**END HOSE
CONNECTOR TO
ROTOR**



NM249 LED HOUSING



ROTOR



ROTOR COVER



**PLUG
7/16"**



**5/16"
FASTENING
NUT**



PROTECTION VALVE



**AIR
FILTER**



**ROTOR HOUSING
STEMCO STAR**



**ROTOR HOUSING
BLIND CAP**

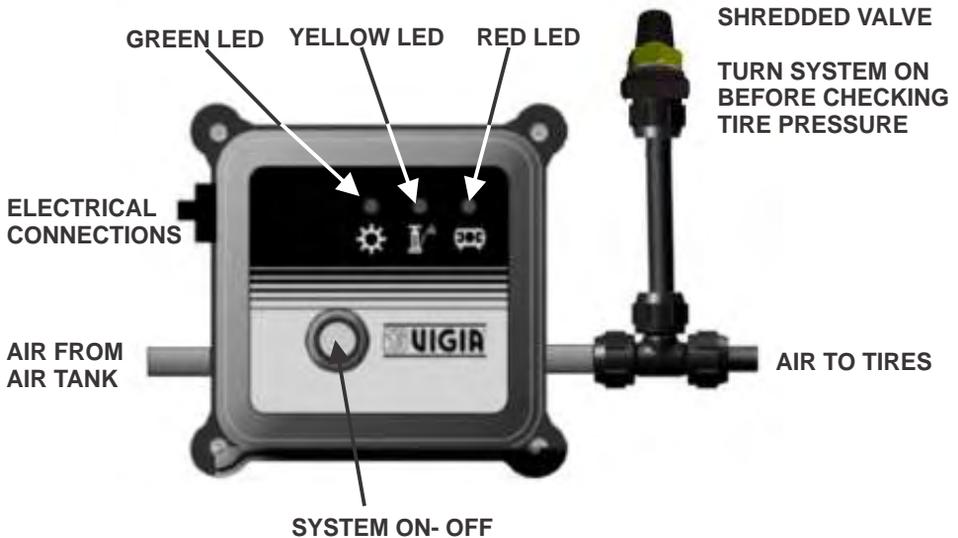


QUICK - COUPLING SET

CONTROL MODULE - NM249 ONLY

Operation for Model NM248 is explained in Vigia NM143 for Trucks and Buses User's Manual.

Location of Parts and Components



Operation

Green L.E.D. Only :

Normal Operation.

Tires are calibrated.

Yellow L.E.D. (flashing): Tire punctured or air leak. The system is recuperating the air loss and driver can continue the trip.



Yellow L.E.D. (solid): The system is unable to maintain the set pressure. Stop the vehicle and with the engine running allow the system to recuperate pressure. Check the problem.

Red and Yellow L.E.D.s (alternating): Excessive air loss and low air tank pressure. Automatic system disconnection (system will reconnect automatically when air tank reaches its normal pressure). Driver to safely stop the vehicle and check the problem.

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

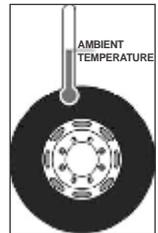
- a) If the gauge reading falls quickly, the leak is located in the system network between the VIGIA tire valve and the control module.
- b) If the gauge reading falls very slowly, the leak is located in the tire (puncture) or a VIGIA tire valve is defective or loosely attached to the tire stem.

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

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.
When checking tire pressure through the shredded valve, it will show the pressure of the least inflated tire in the trailer.

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.

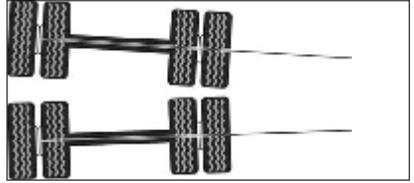


D- Different or mix-matched tires on the same axle.





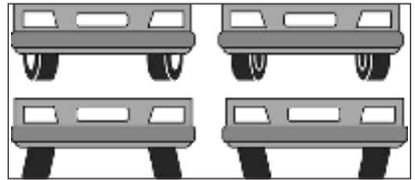
E- Axles are out of alignment.



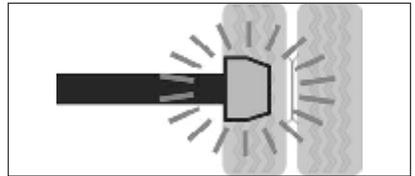
F- Different tire sizes in duals.



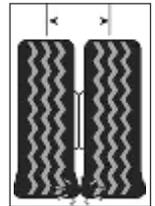
G- Problems in the vehicle suspension, steering or alignment.



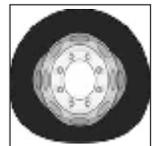
H- Problems in the brakes.



I- Incorrect separation among dual tires.



J- Bad or oval wheels.

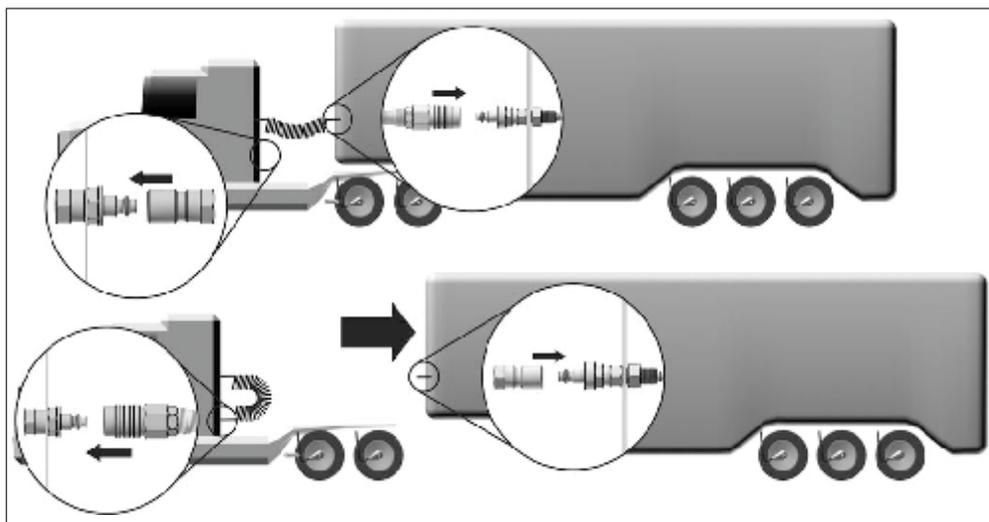


VIGIA allows you to monitor over-inflation. While the system does not contribute to over-inflation, it will alert the driver of problems that would otherwise go unnoticed.

TRACTOR - TRAILER CONNECTION NM248 ONLY

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.





SYSTEM MAINTENANCE

Air Tanks and Air Filter - NM249 ONLY

- 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. Purge the air filter at least once a year.



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:

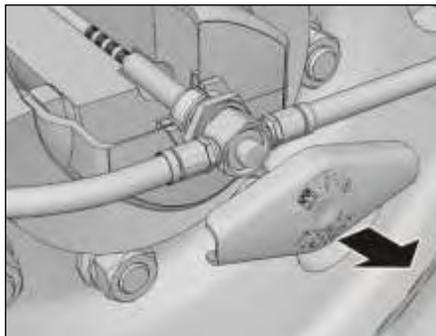
- A- Remove the hose and tire valve.
- B- Spray the tire valve end with soapy water and make sure that the valve's O-ring is intact.
- C- Reinstall the hose and tire valve, tightening lightly with a wrench. Verify that the hose and tire valve does not rub against wheel rim, rotor support or hub.
- D-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



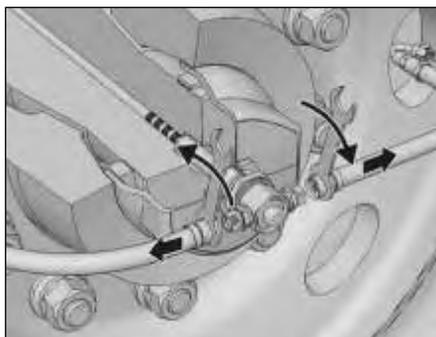
Rotor Replacement

With the system turned off, proceed to:

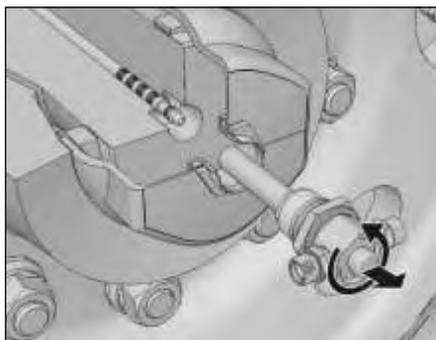
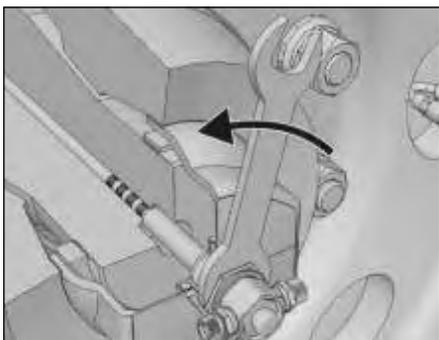
A- Take the rotor cover out.



B- Remove the hoses at the rotor.

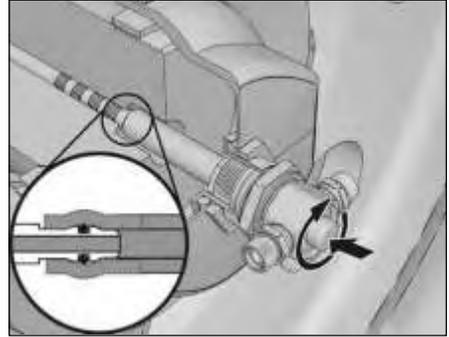
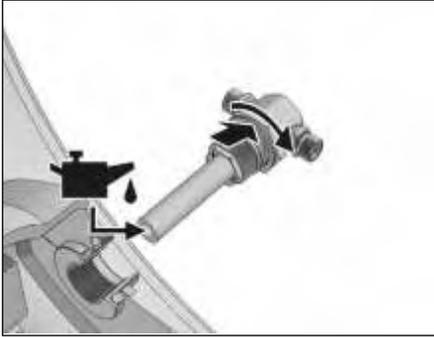


C- Loosen the rotor's locknut and then take it out.

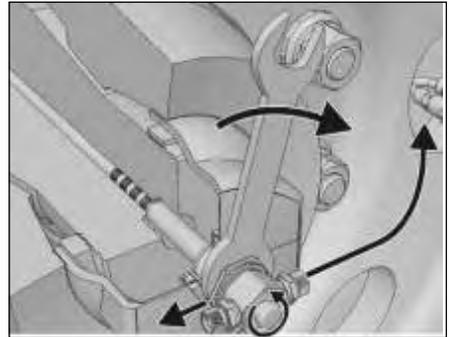


D - Insert the new rotor taking into account that the output terminals must remain oriented towards the tire valves.

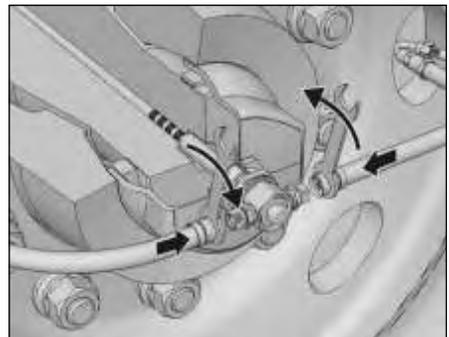
Important: Make sure that the rotor's blue hose is inserted into the inside rod's nipple.



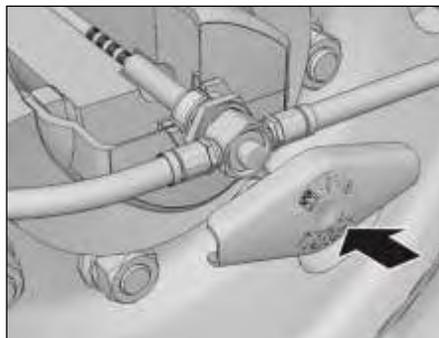
E- Tighten the locknut.



F- Reconnect the end hose connectors to the rotor.

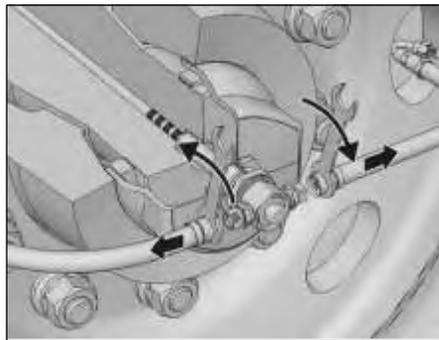
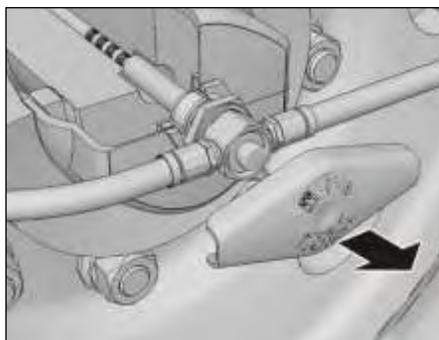


G - Put back the rotor cover.

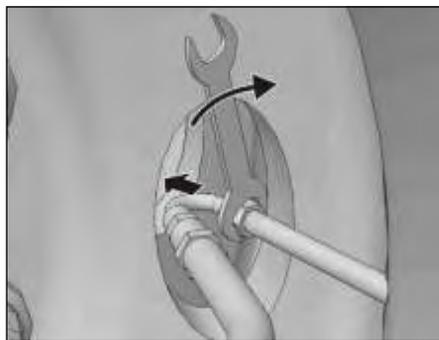


Tire Changes

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

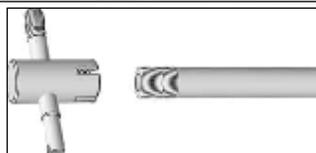


B - Remove the tire taking care of not damaging the rotor.



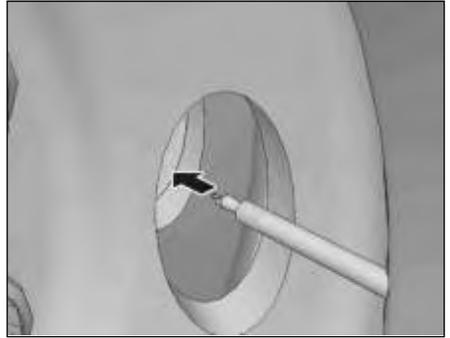
C- Remove the VIGIA hoses and tire valves and install them in the new tire according to the following instructions:

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

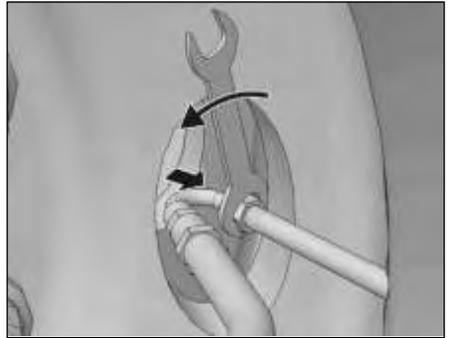




- Remove the valve core.



- 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, etc. Modify the valve position if necessary.

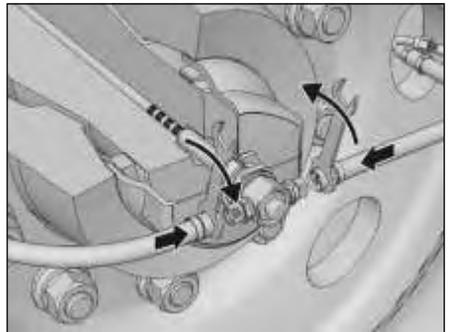


D- Ensure that the tire pressure is lower than the desired tire pressure. The system will calibrate it to the pre-set value.



E- Install the new tire.

F- Reconnect the end hose connectors to the rotor.

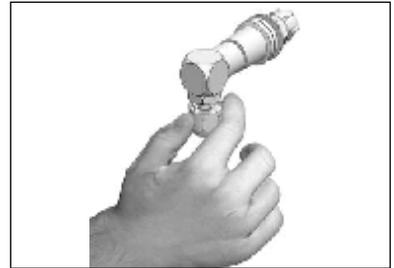


G - Put back the rotor cover.

System Disconnection

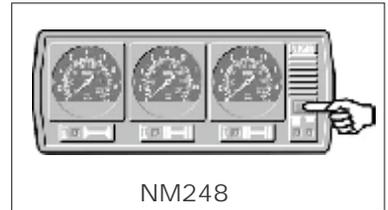
Partial

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 using the ON-OFF switch. **Contact your authorized Vigia service.**



NM248



NM249

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. Purge 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 control panel's gauges. 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 NM249 - NM248

1-2012



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