

MOD



 **Formula**

MANUALE ISTRUZIONI - OPERATING MANUAL - MANUEL D'INSTRUCTIONS -
BETRIEBSANLEITUNG - MANUAL DE INSTRUCCIONES

- I** Scarica il manuale del prodotto direttamente dal web:
- GB** Pls. download the products' instruction manual from the website:
- F** Merci de bien vouloir telecharger le manuel d'instructions sur la page:
- D** Bitte entladen Sie die Betriesanleitung vom den folgenden website:
- E** Por favor, descárgate el manual de instrucciones de nuestros productos de la web:
- BG** Моля, изтеглете наръчника на потребителя от следния адрес:
- HR** Molimo download-ajte nstrukcijski priručnik sa internetske stranice:
- SLO** Prosimo, da si naložite navodila o uporabi na strani:
- CZ** Stáhněte si prosím návod k použití z této webové stránky:
- DK** Download venligst produktets betjeningsvejledning fra følgende hjemmeside:
- SF** Ole hyvä ja lataa tuotteen käyttöohje seuraavalta sivulta:
- LV** Lūdzu lejupielādējiet instrukciju brošūru no adreses:
- PL** Proszę pobrać instrukcję obsługi produktu ze strony:
- P** Por favor, descargá o manual de instruções dos nossos produtos na web:
- SK** Prosím stiahnite si manuál produktov a inštrukcie z web stránky:
- S** Download venligst produktets betjeningsvejledning fra følgende hjemmeside:
- H** Kérem, tölts le a termék használati utasításait a website-ról:
- N** Last ned instruksjonsmanual for dette produktet på vår webside:
- NL** Aub. Download de product handleiding van de website:
- CN** 请到网页下载产品使用手册:

<http://rideformula.com>

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WARNING! BEFORE INSTALLING AND USING THIS NEW FORMULA S.a.S PRODUCT IT IS CRITICAL TO YOUR SAFETY THAT YOU READ AND STRICTLY ADHERE TO THE INSTRUCTIONS IN THIS MANUAL. FAILURE TO DO SO COULD CAUSE SERIOUS INJURY AND/OR AFFECT YOUR LEGAL RIGHTS.

**KEEP THIS MANUAL IN A SAFE PLACE FOR FUTURE REFERENCE AS IT CONTAINS INFORMATION CRITICAL TO YOUR SAFETY.
WARNING! DO NOT INSTALL OR DISASSEMBLE THIS FORMULA S.a.S PRODUCT ON YOUR OWN!**

Always seek the help of a professional mechanic. If you decide to ignore this important safety warning, keep in mind that you are doing so EXCLUSIVELY at your own risk and strictly follow all Formula installation and disassembly instructions.

Note: AS WITH ANY MANUAL, THIS MAY BE PERIODICALLY UPDATED. CONTACT YOUR FORMULA S.a.S DEALER, OR CHECK OUR WEB SITE, (www.rideformula.com) TO RECEIVE ALL SUCH UPDATES.

This manual contains information for the safe use, proper mounting and maintenance of MOD shock sets. Following the rules contained in this manual will ensure the safest use, best performance

and longest life of your MOD shock and will avoid the most common product use/maintenance inconveniences and problems.

Carefully follow the SAFETY GUIDELINES to assure appropriate use and service of Mod shock guidelines

MOD SHOCK SAFETY GUIDELINES

- MOD shocks sets produced by FORMULA S.a.S are designed exclusively for use on two wheels bicycles. Any other use is to be considered hazardous. FORMULA S.a.S shall not be held liable for any consequences from improper usage.
- The lifespan of MOD shock depends on many factors, such as rider size and weight, spring and frame used and normal wear and tear on the bicycles.
- Check the condition of the spring regularly and replace it when necessary.
- Impact, falls, excessive, improper or harsh use of the bicycle may compromise the structural integrity of the shocks, significantly reducing their lifespan. Short life-wheel components need to be replaced more often.
- Have the shock regularly inspected by a qualified mechanic for any cracks, deformation, signs of fatigue or wear.
- If inspection reveals any deformation, cracks, signs of impact or stress, no matter how slight, immediately replace (not repair) the component. Excessively worn components also require immediate replacement.
- The frequency at which inspection is required depends on many factors. Ask a FORMULA S.a.S dealer to recommend an inspection and service schedule that is right for you.
- Use of the product by individuals who weigh more than 120kg/265lbs is not recommended. If you weigh more than 120kg/265lbs be especially careful and have the bike inspected more frequently.
- Parts which have been bent or damaged in an accident or as the result of impact, must be immediately replaced with genuine FORMULA S.a.S replacement parts.
- Check with a qualified mechanic to ensure that the selected MOD shock is suitable for the required type of use and to establish an inspection and service schedule that is right for you.
- Tools supplied by other manufacturers for wheels similar to MOD shock may not be

compatible with MOD shock. Likewise, tools provided by FORMULA S.a.S may not be compatible with components/wheels supplied by other manufacturers. Check with a qualified mechanic or 5 tool manufacturer to ensure compatibility before using tools supplied by one manufacturer on components/wheels supplied by another manufacturer.

- Failure to verify compatibility of the tools may cause the component to work incorrectly or break, resulting in an accident, personal injury or death.
- The user of MOD shock expressly recognizes that there are risks inherent in bicycle riding, including but not limited to failure of a bike component, resulting in an accident, personal injury or death.
- By purchasing and using these MOD shock, the user expressly, voluntarily and knowingly accepts and/or assumes these risks, including but not limited to the risk of passive negligence on the part of FORMULA S.a.S, i.e. for hidden, latent or obvious defects and exempts FORMULA S.a.S from liability to the fullest extent permitted by law against any resulting damage.
- Ensure there are no damaged or loose hardware.
- Always make sure that the shock is marked "MOD".
- Make sure the shock is true before use.
- Carefully read the FORMULA MOD shocks instructions before use.
- Fully follow the scheduled maintenance program as indicated in the relative paragraph.
- Always use genuine FORMULA S.a.S replacement parts.

ENVIRONMENTAL NOTES


In order to protect the environment, please follow these simple instructions to correctly dispose of FORMULA S.a.S products:

- 1) The packaging does not require special disposal because it is not dangerous in any way; we suggest recycling paper and plastic.
- 2) It is also recommended to recycle the metal parts after use. For both points mentioned above, it is recommended to dispose of the waste following national regulations through the appropriate specialized waste disposal companies.

CHECK BEFORE EVERY RIDE:

In order to guarantee your health and maximum enjoyment, check before every ride that FORMULA MOD shock absorber is ready.

- Make sure the shock absorber is clean: using water and neutral soap, clean the outside of the suspension by hand. Subsequently, after a splash of water, act with a dry and soft cloth to remove the residues;

 **ATTENTION: do not use solvents or degreasers. They can damage external surfaces. Do not use high pressure water sprayers directly on the shock absorber joints, in particular near the hydraulic seals which could be seriously damaged and compromise the functioning of the suspension.**

- Inspect the outside of the shock absorber. Check if there are no breakages and / or damages. If present, contact the FORMULA dealer immediately for inspection or repair. Do not use the shock absorber in this case.
- Make sure that the frame coupling screws are tightened to the correct tightening torque as recommended by the frame manufacturer. The hardware does not play with the coupling screws. If yes, immediately replace them, see manual at paragraph "b".
- Also make sure that the coil spring is properly preloaded as recommended by paragraph "e".



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1.1 Formula hardware installation:

Formula hardware kit may differ depending on the customer's request regarding its frame. The bushings (DU) are already installed on the rear shock absorber.

For STANDARD attack shocks, the kit includes (figure A):

- a) n.2 assembly pins;
- b) n.4 spacers;
- c) n.4 Orings;

For TRUNNION shocks:

- a) n.1 mounting pin;
- b) n.2 spacers;
- c) n.2 Orings.

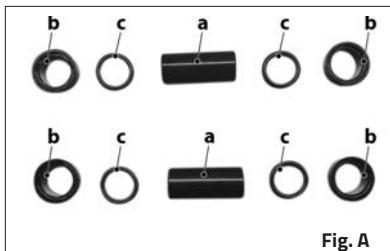


Fig. A



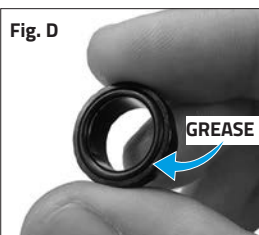
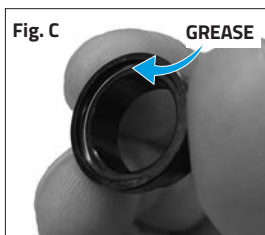
ATTENTION: The screws for the TRUNNION connection are supplied by the frame manufacturer. FORMULA assumes no responsibility for damage or malfunctions due to the condition of these screws.

INSTALLATION PROCEDURE (do the same also for the opposite part of the shock):

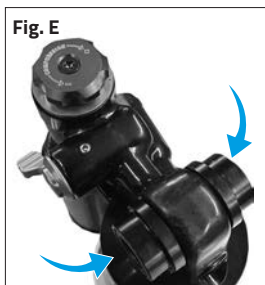
- 1) Insert the pin into the eye of the shock (figure B);



- 2) Insert Orings in the seats of the spacers: apply Formula grease on the OR seat (figure C), then insert and check the homogeneous adhesion to the surface of the groove. Then apply Formula grease on the OR too (figure D);



- 3) Inserting spacers on mounted pin (figure E);



End procedure

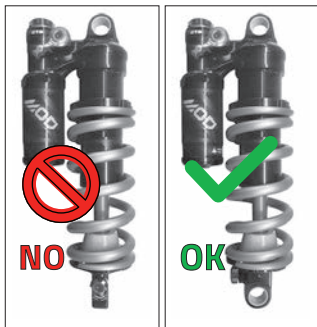
1.2 Installing shock on a MTB frame:

⚠ ATTENTION: Suspension setting should be different between different bicycle manufacturer. All maintenance operations must be carried out solely by personnel authorized by FORMULA S.a.S.

FORMULA assumes no responsibility for breakages and damage to people and / or things due to this non-compatibility. The result of such non-compliance can lead to DEATH. Contact the FORMULA Dealer and don't use the shock.

⚠ WARNING: FORMULA recommend **DO NOT INSTALL THE SHOCK** on frame with the eyelets as showed in figure on the left. The axes of the eyelets **MUST BE** perpendicular to the same plane as showed in figure on the right.

FORMULA assumes no responsibility for breakages and damage to people and / or things due to non-compliance. This is valid until further notice.



If MOD shock is not already supplied on the bicycle, it's necessary check the frame compatibility:

- 1) Remove the spring from the shock as written in paragraph "e";
- 2) Install the Formula hardware on the shock as written in paragraph "b" according to the specific measures of the frame;
- 3) Insert MOD shock into the frame and tighten the screws of it (figure F).
- 4) Slowly Compress and extend the rear part of the frame making the whole stroke. Inspect if there is interference with the frame (figure G);
- 5) Remove the shock from the frame;
- 6) Install the spring with the correct preload as showed in paragraph "e" and install MOD shock.



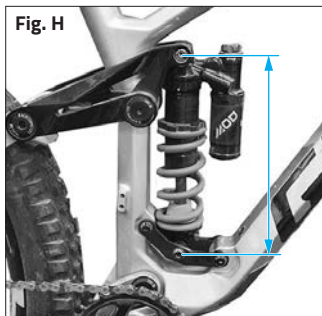
End procedure

1.3 SAG and adjustments:

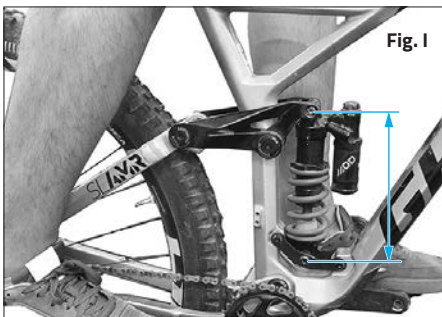
Detecting the SAG can be useful to have an initial idea of the response of the shock absorber (complete with spring) with respect to our weight and the cycling discipline that you want to practice.

Here is the measurement procedure:

- a) Measure the distance between the two eyelets of the shock absorber (eye-to-eye, in mm) of the rear shock absorber mounted on the bike (figure H).



- b) Wearing your own complete equipment for MTB output and with the help of a person, position yourself on the bike in a normal riding position and measure the distance between the two eyelets which will necessarily be decreased (figure I).



- c) Taking these two measurements, calculate the SAG;

Example: MOD shock, Length x Stroke: 230x65 mm.

1° measure: 230 mm;

2° measure: 210,5 mm;

Difference between the measures: 19,5 mm.

Use this formula: $SAG(\%) = \frac{(230 - 210,5)}{(\text{Shock stroke})} \times 100$

The result is 30% of SAG. Here below is a reference table for measurement:

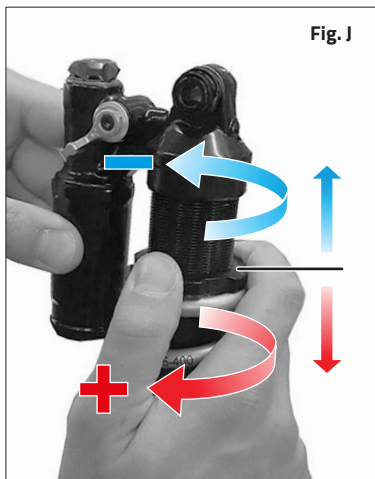
STROKE	15%SAG	20%SAG	25%SAG	30%SAG	35%SAG	40%SAG
55 mm	8,25 mm	11 mm	13,75 mm	16,5 mm	19,25 mm	22 mm
65 mm	9,75 mm	13 mm	16,25 mm	19,5 mm	22,75 mm	26 mm
75 mm	11,25 mm	15 mm	18,75 mm	22,5 mm	26,75 mm	30 mm

FORMULA recommends 30% of SAG for the Enduro / Gravity discipline. For the trunnion attack, it will have a different length but the calculation formula remains the same.

ADJUSTMENTS:

If the SAG is not the desired one, here's how we can operate (figure J):

- To increase the value of SAG, need to decrease the preload: rotate with the RIGHT hand the preload nut COUNTERCLOCKWISE (blue arrow), taking care not to drop below the minimum preload value (2 mm). If this does not allow the desired value to be obtained, a lower stiffness spring (lbs/in) must be used.
- To decrease it instead, rotate the threaded ring CLOCKWISE (orange arrow) making sure not to exceed with the preload in addition to the maximum allowable (5 mm). Here too, if we fail to obtain the target value, it will be necessary to change the spring with a higher stiffness.



For the coil replacement consult paragraph "e".

1.4 HYDRAULIC REGULATION:



ATTENTION:

Shock setup may vary between different bicycle manufacturers.

1.4.1 REBOUND:

The extension adjustment is provided on the head of the shock absorber, acting on the appropriate RED color register (figure K). This adjustment concerns the second phase of the shock cycle, which occurs following a compression.

The extension range is intrinsically connected to the stiffness (lbs/in) of the coil spring used: a spring with a higher stiffness value corresponds to a higher elastic response than it and consequently a higher hydraulic force in extension will be required for the shock absorber. To increase this force, turn the RED knob CLOCKWISE.

Higher the stiffness value of the spring, the faster the rebound will be for the same click. Going for example from 400 lbs/in to 450 lbs/in to obtain the same rebound we will have to turn the knob clockwise one or two clicks. Vice versa for a spring of lower stiffness.

FORMULA recommends with initial configuration, to close the whole register clockwise and to unscrew anticlockwise by 6 clicks.



Fig. K

1.4.2 COMPRESSION:

The compression adjustment is provided on the shock absorber body, acting on the appropriate on the CTS with BLUE register (figure L).

The compression phase is the first that occurs following, for example, an impact with the ground.

The compression range here too can be influenced by the spring. Turn the knob CLOCKWISE to increase the hydraulic force that the shock absorber performs when it is compressed; this allows for higher hydraulic support in the rear of the bicycle.

Conversely, by opening the register, for example, you will have less support.

FORMULA recommends as an initial configuration, to close the whole register in a CLOCKWISE direction and to unscrew in an anticlockwise direction by 9 clicks.

If you are not satisfied with the range available, FORMULA offers the possibility of intervening on compression thanks to CTS (Compression Tuning System) technology. For more information, visit the FORMULA website.



Fig. L

1.4.3 LOCKOUT:

The lockout adjustment allows for greater support from the shock absorber to decrease energy dissipation during the pedaling phase and consequently increase efficiency. It is positioned on the shock body, acting on the GOLD-colored lever. There is the possibility of having 2 positions:

- OPEN position is obtained by turning anticlockwise: we recommend using this configuration during the descent or technical climbs (figure M).

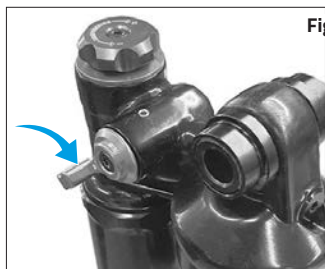
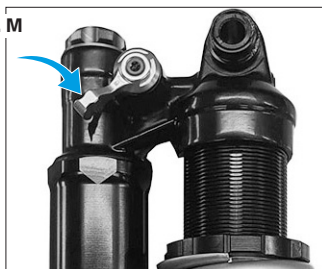


Fig. M



- CLOSED position is obtained by turning clockwise: we recommend using this configuration while pedaling.



Fig. N



The hydraulic system designed for the MOD rear shock absorber also includes the THRESHOLD (or lockout force) function: it acts when the lockout is active; exceeding a pressure value designated inside the shock absorber, a passage opens allowing the reduction of this avoiding breakage of the suspension.

⚠ ATTENTION: If anomalies are found on the adjustments (eg. Knob does not turn) contact a FORMULA dealer who will inspect it and / or carry out maintenance.

1.5 CTS (COMPRESSION TUNING SYSTEM) REPLACEMENT:

⚠ ATTENTION: FORMULA is not responsible for any damage to parts of the shock absorber due to this operation and/or to people. Contact a specialized mechanic. Strictly follow this procedure. Failure to comply can cause suspension malfunctions and cause **DAMAGE AND DEATH**.

⚠ ATTENTION: Use the **ONLY FORMULA** suspension pump for this operation.

Follow the entire procedure shows on the Formula website or Formula's Youtube channel.

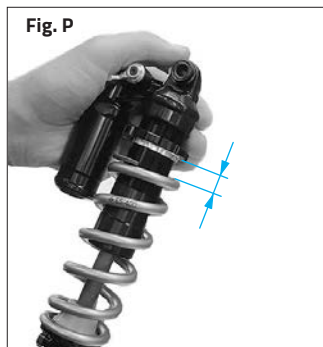


1.6 SPRING REPLACEMENT:

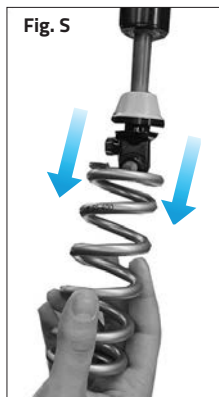
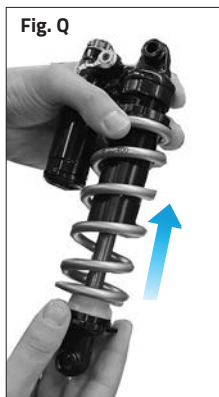
⚠ ATTENTION: FORMULA declines all responsibility for the use of a different spring to the FORMULA one, suitably designed and tested with our products.

The procedure for replacing the coil spring on the rear shock absorber is as follows:

- 1) Remove the shock from the frame;
- 2) Unscrew the spring preload ring nut **COUNTERCLOCKWISE** (figure O) until the spring is free to move (figure P);



- 3) Push up and keep the spring (figure Q) while removing the spring locking ring nut (figure R) by sliding it off the rod and remove the spring from the shock absorber. If the hardware is too wide, it need to remove it before the spring;



⚠ ATTENTION: during this operation do not scratch the stem. This could compromise the suspension and damage it.

- 4) Insert the spring to be installed (figure T) and keep it up and reinsert the locking ring (figure U);



- 5) Screw the threaded ring in a **CLOCKWISE** direction (figure V), following the **FORMULA** directive: preload min. Permissible 2 mm, preload max. Allowable 5 mm. Each turn is 1,25 mm preload.

For control the preload measure the distance between the body and the thread ring before and after applying the preload (the difference must be in the range written above);

- 6) If necessary, put the cup containing the end stroke bumper in correct position.

End procedure



1.7 Maintenance interval:

To guarantee and maintain the characteristics and behavior of the rear shock absorber during normal conditions of use, **FORMULA** recommends following a product maintenance interval.

⚠ ATTENTION: to use the rear shock absorber in extreme conditions frequently, maintenance operations must be repeated more frequently. Furthermore, using spare parts, high pressure washing methods, solvents and lubricants that are **NOT RECOMMENDED BY FORMULA** also drastically reduces the maintenance interval and also the suspension life. **FORMULA** therefore **RECOMMENDS ONLY ORIGINAL** spare parts and **FORMULA** lubricating products. **FORMULA** recommends contacting a mechanic specialized in the **FORMULA** technical service, in agreement with **FORMULA** with all the specifications for maintenance.

Here are the service intervals below, to ensure a minimum of maintenance:

Procedure	Every ride	Every 30 hrs/ 3 months	Every 200 hrs/ 1 year
External cleaning with water and neutral soap and visual inspection	●		
SAG, spring preload and damper setting controls		●	
full shock service			●

⚠ CAUTION: FORMULA strongly recommend for extreme condition of usage, as Bikepark, DH and Freeride and in worst environmental conditions as extremely dry, dusty or wet muddy, to perform maintenance earlier than the intervals listed above. For more information on the types of interventions to be performed, consult the FORMULA website.

1.8 PROBLEMS - CAUSES – REMEDIES:

This paragraph reports some problems that may occur when using the shock, their possible causes and remedy.

⚠ ATTENTION: The operations listed below and accompanied by this symbol must be performed exclusively by Authorized Service Centers.

Following a jump, the rear hurls me forward	Rebound too excessive	Turn CLOCKWISE the rebound adjuster by 1 or 2 clicks
The spring is free to rotate axially around the shock	Preload below the minimum allowed	Turn CLOCKWISE the threaded ring
The shock absorber has little sensitivity and is very supported on the back, the bike is too unbalanced on the front	Spring too preloaded or compression too high	Turn the threaded ring counterclockwise. Or turn the CTS compression register counterclockwise by 1 or 2 clicks

I can't get the sag I wanted	Spring too smooth or too hard	Change spring
Play on the compression adjuster	The screw has come loose	Tighten the screw with a TORX T10 play on the rebound adjuster
Play on the rebound adjuster	The screw has come loose	Tighten the screw with a TORX T10 play on the rebound adjuster
Play on the lockout lever	The screw has come loose	Tighten the screw with a TORX T10 play on the rebound adjuster
Lockout locks less or no longer works	Pressure loss inside the suspension	Do not use the shock absorber. Contact a specialized FORMULA center for inspection and maintenance
CTS does not satisfy my desired range of settings	Make sure to perform a descending test and check	Change the CTS, see the website: www.rideformula.com . FORMULA recommends contacting a specialized center for this operation.
Oil leak	Leakage from the seals	Do not use the shock absorber. Contact a specialized FORMULA center for inspection and maintenance
Ribbed rod	Debris or contacts have carved the anodized surface	Do not use the shock absorber. Contact a specialized FORMULA center for inspection and maintenance
The shock seems too soft or deflated, causing me to make too many stops	Check and reset the pressure of 95 psi in the tank with the exclusive help of the FORMULA suspension pump.	If the problem persists do not use the shock absorber. Contact a specialized FORMULA center for inspection and maintenance

READ CAREFULLY!

FORMULA S.a.S provides the original purchaser of its wheels with a limited warranty that the wheels are free of defects in material and/or workmanship for a period of two years from date of purchase.

WHAT PROTECTION DO I RECEIVE FROM THE WARRANTY?

FORMULA S.a.S will, at its discretion, repair or replace the defective product under warranty

WARRANTY CONDITIONS AND LIMITATIONS

1. FORMULA S.a.S guarantees its new products to be free from defects in materials or workmanship for 24 months from the date of purchase. You must establish proof of purchase with an original sales document (sales receipt or invoice) showing the date and place of retail purchase of the product in order to obtain warranty service. FORMULA S.a.S gives no guarantee of whatever nature for non-new products.
2. The validity of this warranty is subject to the following:
 - (a)-The claim must be notified within eight (8) days of discovery of the potential defect;
 - (b)-Every claim must be submitted to the FORMULA S.a.S Dealer from which the product was purchased, with the understanding, however, that the discretion as to the acceptability of the claim is exclusively FORMULA's; Warranty claims for products purchased directly from Formula shall be processed by FORMULA S.a.S.
 - (c)-Only a FORMULA S.a.S Dealer can ship the allegedly defective product to the manufacturer, with the accompanying documentation.

Failure to comply with these procedures will invalidate the claim; in which case the product will be made available to the owner for thirty (30) days and then destroyed.

3. This warranty does not cover damages resulting from:
 - a. Incorrect transport and installation. Incorrect installation refers to failure to follow the safety guidelines and instructions outlined in these instructions manual and or on the web-site www.rideformula.com.**
 - b. Unintended and inappropriate use of the product. Unintended and inappropriate use refers to use of the product for purposes different from those for**

which it was specifically designed and manufactured having regard to reasonably foreseeable use. Unintended purposes include, but are not limited to, cross country UCI sanctioned downhill races.

- c. Use of materials or spare parts that do not carry the Formula trademark for LINEA wheels. FORMULA S.a.S shall not guarantee conformity, safety, service life and performance of Formula LINEA wheels if materials and spare parts that do not carry the Formula trademark and/or are non-compatible and/or are not suitable and/or are not expressly authorized are used.**
- d. Lack of appropriate or reasonable maintenance or storage, washing with harsh materials, use of corrosive agents, prolonged exposure to solvents.**
- e. Products on which the serial number and/or production code have been altered, damaged and/or removed.**
- f. Modifications made by persons not duly authorized by Formula without being approved by Formula.**
- g. Normal wear and tear or deterioration due to the use of the product.**

- 4. Retailers, wholesalers, importers or anyone else apart from FORMULA S.a.S may not modify this warranty in any way.
- 5. This warranty does not affect the statutory rights of the consumer or any rights the purchaser may have against the dealer pursuant to the sales contract.
- 6. The laws of Italy govern all matters arising out of or relating to this warranty. Any disputes or legal actions by purchaser arising out of or relating to this warranty shall be brought exclusively before the court of Prato, Italy.



www.rideformula.com

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