FORMULA



MANUALE ISTRUZION

OPERATING MANUAL
MANUEL D'INSTRUCTIONS
BETRIEBSANLEITUNG
MANUAL DE INSTRUCCIONES

LIMITED WARRANTY

Congratulations on your purchase of this genuine Formula product. If any component of the this new Formula product (hereinafter referred to as "warranted item") is found to be defective in materials or workmanship within the terms and conditions of this Limited Warranty (the "Agreement"), the defective component will be repaired or replaced, at the option of Formula (hereinafter referred to as "Formula"), free of charge, within thirty (30) days after receipt of the product by Formula.

- 1. NOT COVERED. This warranty does not cover damage resulting from accidents, alteration, neglect, misuse or abuse, contamination, lack of reasonable or proper maintenance, corrosion, improper assembly, repairs improperly performed or replacement parts improperly installed, use of replacement parts or accessories not conforming to Formula 's specifications, use of component parts not manufactured or supplied by Formula, modifications not recommended or approved in writing by Formula, or normal wear and deterioration occasioned by the use of the product. This warranty also does not cover any expenses related to the transportation of the warranted item to or from an authorized Formula Service Center, risk of loss of the item while in transit, labor costs to remove the product, or compensation for inconvenience or loss of use or profits while the product in not in service.
- PURCHASER. This warranty is made only with the original purchaser of the product and does not extend to any third parties. The rights of the Purchaser under this warranty may not be assigned.
- 3. TERM. This limited warranty shall apply only in those instances where the defect in material or workmanship appears within twelve (12) months of the date of purchase of the warranted items by the original Purchaser. This term shall not be extended for any items repaired or replaced under warranty.
- 4. ENTIRE AGREEMENT. This warranty supersedes any and all oral, express, implied or written warranties, statements or undertakings that may previously have been made, and contains the entire agreement of the parties with respect to the warranty of this product. Any and all warranties not contained in this Agreement are specifically excluded.
- 5. DAMAGES. Except as expressly provided by this warranty, Formula Formula SHALL NOT BE RESPONSIBLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ASSOCIATED WITH THE USE OF THE WARRANTED ITEM OR A CLAIM UNDER THIS AGREEMENT, WHETHER THE CLAIM IS BASED ON CONTRACT, TORT OR OTHERWISE. The foregoing statements of warranty are exclusive and in lieu of all other remedies. Some states do not allow the exclusion or limitation of incidental or consequential damages, so thus limitation or exclusion may not apply to you.

6. DISCLAIMER. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL IMPLIED WARRANTIES ARISING FORM A COURSE OF DEALING, USAGE OF TRADE, BY STATUTE OR OTHERWISE, IS HEREBY STRICTLY LIMITED TO THE TERM OF THIS WRITTEN WARRANTY. This Agreement shall be the sole and exclusive remedy available to the Purchaser with respect to this purchase. In the event of any alleged breach of any warranty or any legal action brought by the purchaser based on alleged negligence or other tortuous conduct by Formula , the Purchaser's sole and exclusive remedy will be repair or replacement of defective materials as stated above. No dealer and no other agent or employee of Formula is authorized to modify, extend or enlarge this warranty. The performance of any warranty service under this Agreement is not an admission or agreement that the design or manufacture of a product is defective.

 PROCEDURE. In the event of a defect covered by this warranty, the purchaser should contact an authorized Formula Service Center or:

chaser should contact an authorized normfula service Center or:
To be honored, claims must be submitted within the twelve (12) month
warranty period and within thirty (30) days of discovery of the defect or
nonconformity. The determination whether the defect is covered by this
warranty is within the sole discretion of Formula. Formula reserves the
right to discontinue products and to change specifications for existing products at any time without notice and shall not be obligated to incorporate
new features into products previously sold, even if those products are
returned under a warranty claim. Formula may replace defective parts with
similar parts of similar quality in the event that identical parts are unavaila-

The purchaser must obtain advance authorization in writing before returning any product to a Formula Service Center for warranty inspection. A return authorization number will be issued and must conspicuously appear on the outside of the product's packaging. The issuance of an authorization number does not constitute acceptance of the claim, which will be evaluated by the Service Center upon its inspection of the product.

The product should be securely packed to prevent damage during shipment and must be accompanied by a letter specifying or including the following items of information:

- a. dated receipt or other proof of date of retail purchase;
- a copy of this warranty;
- c. Formula part number;
- d. detailed description of the problem experienced with the product, including a chronology of efforts made to correct the problem;
- e. identification of the components used in conjunction with the product;
- f. estimate of product usage: (i.e. accumulated time in service); and
- g. your name, address, and written authorization to ship the repaired product back to you freight collect ("C.O.D.").
- OTHER RIGHTS. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.
- APPLICABLE LAW. Any disputes arising out of this Agreement or the use of this product will be governed by the laws of the country of Italy and will be decided by the Courts of Prato Italy.

10.WARNING. This warranty is subject to the Italian laws.

GENERAL INDEX

- S.1 General rules
 - S.2 General safety rules
- S.3 Braking system safety rules
- 1.0 Installation
- 1.1 Mounting the brake disc
- 1.2 Mounting the front/rear caliper
- 1.3 Mounting the cable1.4 Mounting the wheel
- 2.0 Operation instructions
- 2.1 Preliminary adjustments
- 3.0 Maintenance



S.1 GENERAL RULES

This manual provides information for a safe and proper mounting and use of the braking system and for its rational maintenance.

The strict respect of its rules assures the braking system the best performances, a duty economy and a longer lifetime and allows to avoid the commonest causes of accidents which may occur during operation and maintenance.

 WARNING: Read the SAFETY RULES with care and inform the charged staff adequately to grant a proper use of the braking system.

In this handbook, within each paragraph, there are the following safety notices:

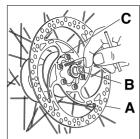
- CAUTION: directs your attention to unsafe practices which could result in damages to the equipment.
- WARNING: directs your attention to unsafe practices which could result in personal injury or damages to the equipment.

S.2 GENERAL SAFETY RULES

- FORMULA's brakes have been designed to be exclusively used on two-wheel vehicles driven by human propulsion. Any other application may result in personal injury and voids the warranty by raising the manufacturer FORMULA from any and all responsibilities for possible damages.
- The operator charged with the installation shall be skilled, know well the braking system and have read both this operating manual and the relevant enclosed documents from front to back.
- Do not introduce your hands close to or within moving parts; always use strong five-fingered gloves ensuring sensitivity and a powerful grip.
- Do not change the parameters of the braking system to obtain other performances than those established by the manufacturer.
- Before starting any mounting operations, carefully check for dangerous conditions of the working site. When the site is darken, use all available light sources and make sure they are efficient before starting working.
- Concentrate and take the due precautions before using components which could cause damages.
- When using the bike, it is advisable to wear an helmet and to drive with care and sense of responsibility.

S.3 BRAKING SYSTEM SAFETY RULES

- The brake disc shall be assembled on wheels suitable for the use type. A wheel with spokes of insufficient section or with radial coupled spokes may collapse under the action exterted by the braking system and result in serious personal injury or accidents.
- Frequently check the spoke tension and condition. A damaged spoke may break suddenly, interfere with the braking system and result in serious personal injury or accidents.
- The bike frame or fork shall be suitable for mounting the braking system. Only in this case, the correct dimensioning of the supports and the suitable positioning of the elements which form it is assured.
- Do not install the braking system by using adapters or supports supplied by other manufacturers. This will void the braking system warranty immediately. Use only parts manufactured or recommended by FORMULA.
- FOR THE MAXIMUM EFFICIENCY OF THE BREAKING SYSTEM, ALLOW IT TO SET SUITABLY.
- THE BRAKING SYSTEM HAS BEEN DESIGNED AND MUST BE USED ONLY WITH HANDLEBAR LEVERS OF V-BRAKE TYPE.
- SHIMANO STX/RC LEVERS SHALL BE ADJUSTED TO POSITION
 "HI"



Fia. 1

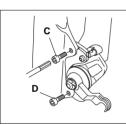


Fig. 2

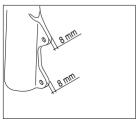


Fig. 3

1.0 INSTALLATION

1.1 Mounting the brake disc

WARNING: read the safety rules
Place the disk brake A (fig. 1) on the
hub B of a pre-assembled wheel, minding the rotation sense given by the
arrow C stamped on the disk flange,
and lock it with the specific M5 screws
supplied which you shall have care to
tighten crosswise with a torque of 5,75
Nm ± 5%. Accurately clean the disk
from any trace of grease or oil with

1.2 Mounting the front/rear caliper

alcohol (Isopropyl alcohol).

WARNING: read the safety rules
Fit the front and/or rear pincers on the
relevant attachments as shown on the
figure and secure them with the M6
screws C – D applying a torque of 9.85
Nm ±5%; use a light anti-loosening
rule if none is applied.

Warning: When the thickness of the attachment placed on the fork is smaller and/or greater than 8 mm (fig. 3), replace the supplied fixing screws with new ones having a length equal to the difference.

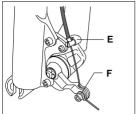
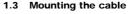
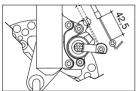


Fig. 4



WARNING: read the safety rules Insert the complete cable into the V-BRAKE type lever according to the instructions of the lever manufacturer. Remark: Shimano STX/RC levers shall be adjusted to position "HI". Both cable and sheath shall have a lenoth which suits the movements of

the different hike elements



Warning: Too short cables or sheathes may reduce the driveability of the bike and result in serious accidents.

Place the sheath end onto the sheath stop E (fig.4), fit clamp F at the distance shown in fig.5-6, then tighten the clamp screw at a torque of 2.91Nm±5%.

Fig. 5

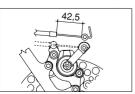


Fig. 6

Note: The cable shall be longer than the holdfast F of about 2 cm; fold the part overstepping the holdfast at 90°

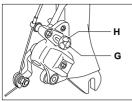
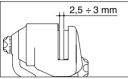


Fig. 7



Fia. 8

1.4 Mounting the wheel

WARNING: read the safety rules

Before assembling the wheel already equipped with the braking disk, make sure a circlip is duly fitted on the locking screw **G** (Fig. 7) after knob **H** locking device.

Additionally, make sure the distance between the pads is 2÷2.5 mm as shown in figure 8. Otherwise, exert a slight pressure on the external pad until it rests on the stop.

Mount the front/rear wheel according to the instructions of the wheel manufacturer

2.0 OPERATION INSTRUCTIONS 2.1 Preliminary adjustments

and the breaking

WARNING: read the safety rules
Before using the braking system, carry
out the following preliminary adjustments

Move the internal pad so that it touches the disc slightly.

By screwing knob H (fig. 9) the pad nears to the disc; by loosening the knob, it moves away.

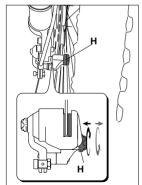


Fig. 9

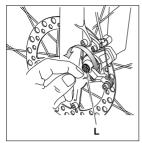


Fig. 10

To adjust the stroke as desired act on knob L (Fig. 10) and move the external pad to the right distance from the brake disk.

Will you turn knob **L** clockwise, the pad moves towards the disk.

Will you rotate it anticlockwise, the distance between pad and disk increases.

Should the lever stroke then result too long, it is essential to repeat the whole adjustment procedure so to obtain the desired value.

You can readjust the brake as described above as many times as necessary until the pads are completely worn out, then it is necessary to replace them

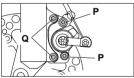


Fig. 11

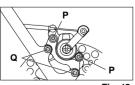


Fig. 12

Warning: After about 50 km using the braking system, then make further adjustments and check the screws P-Q for tightness (Fig. 11-12).

Warning: Failure to perform the above operations may cause serious injury or damage.



Fig. 13

3.0 MAINTENANCE

WARNING: read the safety rules
Periodically clean the caliper in relation
to the bike use, the route length, and
the weather conditions using a
biodegradable degreaser suitable for
the caliper.

Carefully clean all moving parts.

WARNING: while lubricating, cover both disc and pads with a rag to prevent any contact with the lubricant, this might result in an alterattion of the friction functions between pads and disc.

CAUTION: Use only ISOPROPYL ALCOHOL to clean the disk brakes. The use of any other product may cause the user a very hazardous situation.

CAUTION:

under no circumstances demount the caliper lever using tools.



brake right after it was operated. The non-observance of this rule might cause you severe injury.

CAUTION: Do never touch the disk

Fig. 14

CERTIFICATO DI GARANZIA

WARRANTY CERTIFICATE

da spedire in busta chiusa a to be returned with closed envelope to :



59100 Prato (ITALY) Via Erbosa n°63

CERTIFICATO DI GARANZIA

WARRANTY CERTIFICATE

Condizioni di Garanzia / Warranty Conditions

SI approvano espressamente le clausule, delle condizioni di garanzia,9) Foro competente, 10) Scetta della legislazione in deroga degli art.1341-1342 cod. civ. The point 7 and 8 are exspressly, according to Art. 1341-1342 civil code.

Timbro del rivenditore/Retailer's stamp

				Numero di serie/Seriel number		
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	Nome e Cognome/Name	Indirizzo/Address	Citt# /City		Tel./Phone	Data di acquisto/Date Purchased

Conservare compilato/Coupon to be kept fillet-in

CERTIFICATO DI GARANZIA

WARRANTY CERTIFICATE

Si approvano espressamente le clausule, delle condizioni di garanzia,9) Foro competente, 10) Scetta della legislazione in deroga degli art.1341-1342 cod. civ.

Timbro del rivenditore/Retailer's stamp

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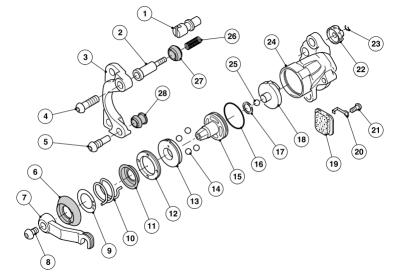
Data di acquisto/Date Purchased

Tel./Phone

Citt # / City

Da compilare e spedire/To be filled in and sent

Firma/Signature



Note: Note Note Note:			





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