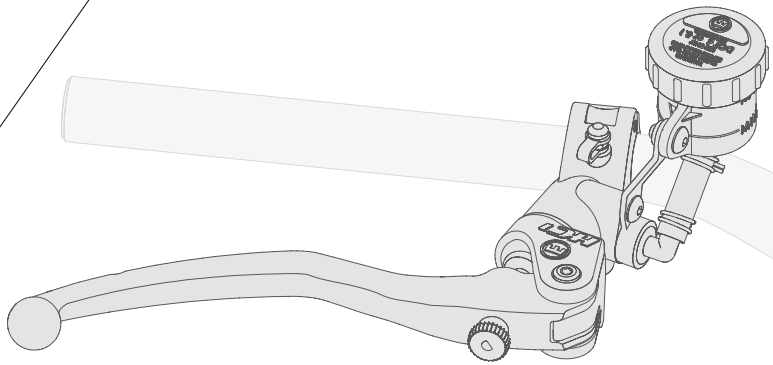
POWERSPORTS
HC

OWNER'S MANUAL



MAGURA

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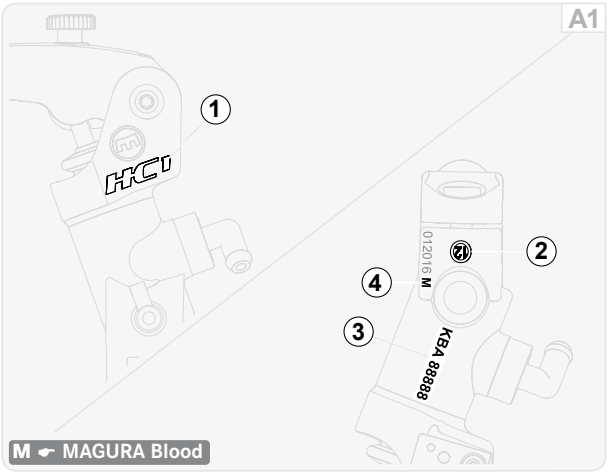
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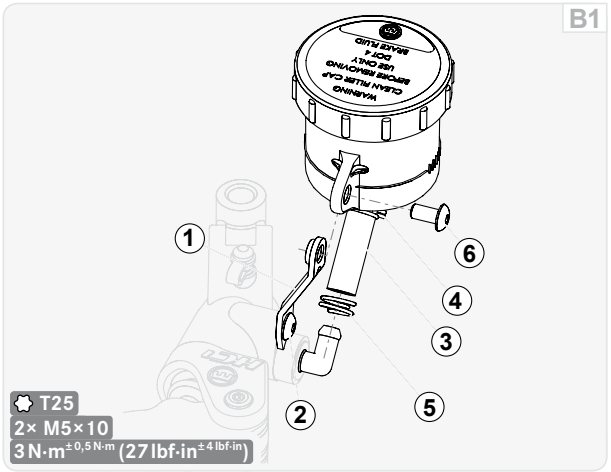
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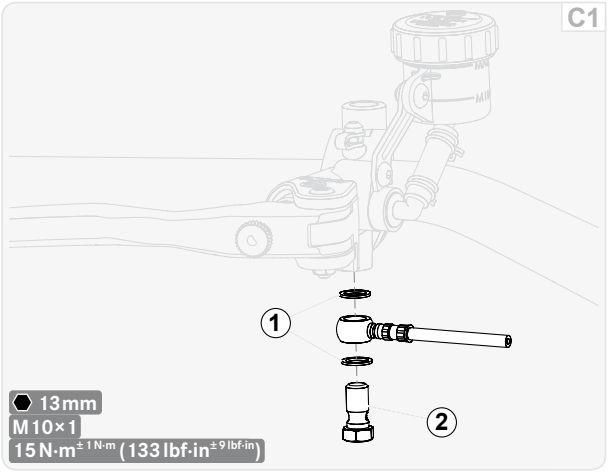
A1



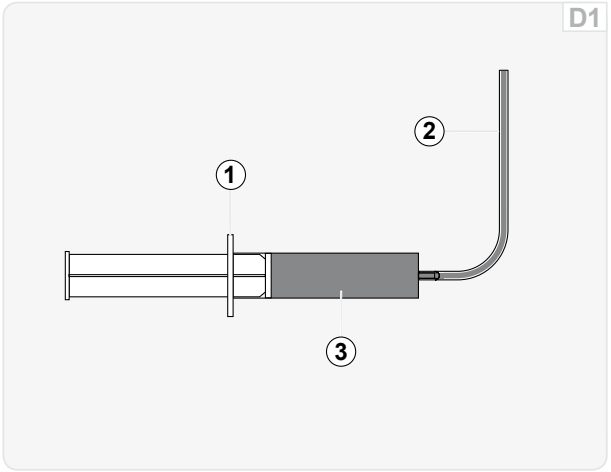
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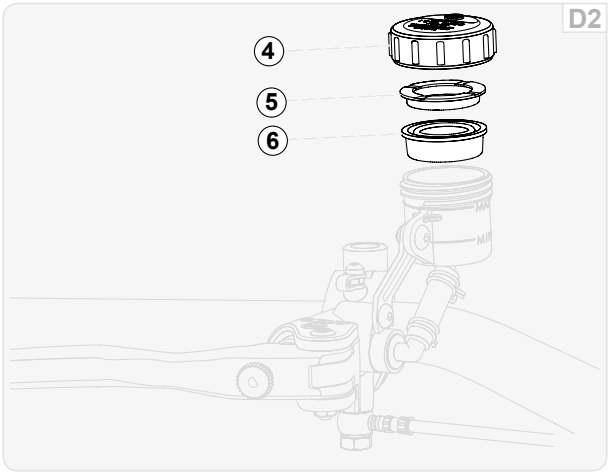


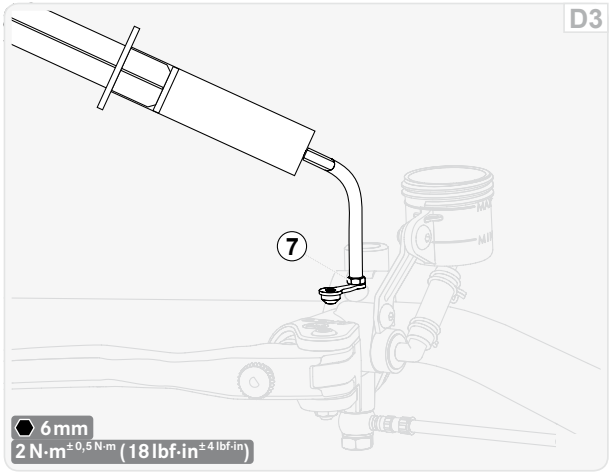
C1

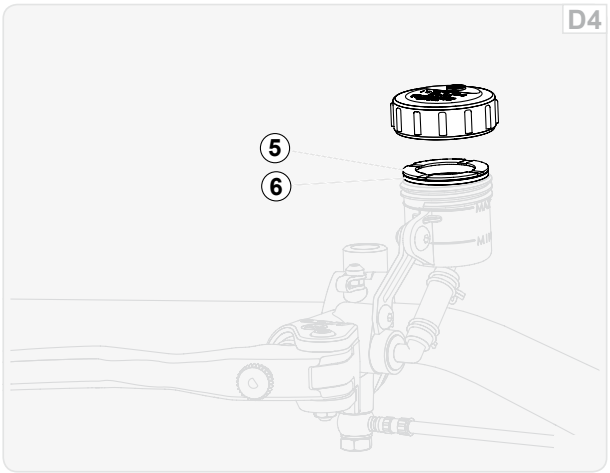


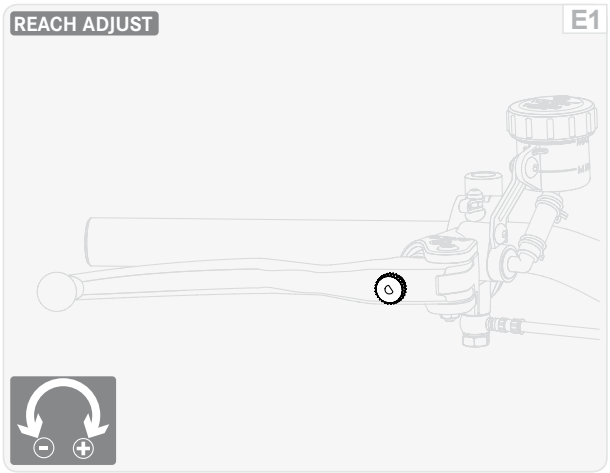
D1




D2
4
5
6


D3
7
6 mm
2 N·m ±0,5 N·m (18 lbf·in ±4 lbf·in)


D4
5
6


REACH ADJUST
E1

PREFACE

Thank you for your selection of a MAGURA product – Made in Germany.

This owner's manual is an integral part of your MAGURA product and gives you details of the required tools, correct installation, safe use, maintenance and setup options.

Please read this manual carefully before you install or use your MAGURA product. Observe and follow all instructions for assembly, operation and maintenance in this manual – and also in the user instructions for your motorcycle.

⚠ WARNING

Failure to observe the instructions in this manual can lead to serious or fatal accidents.

Remember that the mechanic who installs your MAGURA product is responsible for the suitability and compatibility of all the components technically linked to your MAGURA product.

You will find the illustrations referred to below in the graphic area – **FIGURES** page 4 ff.

The illustrations in this manual may differ slightly from your MAGURA product, however, the required steps are the same for all types and variants – if not stated to the contrary.

Due to the many different models of motorcycles, it is unfortunately not possible to cover every variant in this manual.

See **www.magura.com** for specific mounting instructions for various models of motorcycles – you can find assistance with specific questions in SERVICE, FAQs, DOWNLOADS or CONTACT.

During the first few rides using your new MAGURA product, familiarise yourself with characteristics that may have changed (lever paths, pressure points etc.) on your motorcycle.

LEGEND

☞ The pointing finger prompts you to perform an action.

➔ The arrow shows results or requirements.

ⓘ This notice gives you additional information or tips.

(3) refers to an item number in the graphic area – e. g. Pos. ③.

[B2] refers to an illustration in the graphic section – e. g. Fig. B2.

HC This symbol means that notices or illustrations exclusively apply to the corresponding type or variant.

This symbol refers to a specific mounting instruction – download from **www.magura.com**.

⚠ WARNING

This notice warns you about a dangerous situation which can lead to serious or fatal injury if not avoided.

⚠ CAUTION

This notice warns you about a dangerous situation which can lead to minor or slight injury if not avoided.

NOTICE ***NOTICE – ENVIRONMENT***

This notice warns you about the risk of material or environmental damage.

Keep this manual and the associated documentation (ABE etc.) for other users of your MAGURA product. Make sure that each user reads, understands and observes this manual.

If you sell or give away your MAGURA product, be sure to hand over this manual and the association documentation (ABE etc.) to the new owner.

We wish you many miles of motoring pleasure with your MAGURA *HC*.

Your MAGURA Team

ⓘ Some of the features detailed are optional variants. Your hydraulic MAGURA *HC* motorcycle front brake master cylinder or clutch control is designed exactly as if it had been specified by you or your dealer.

Type	(1) [A1]		HC[1]	
			Front brake master cylinder	Clutch control
Hydraulic fluid			DOT 4 / DOT 5.1	DOT 4 / DOT 5.1 • MAGURA *Blood*[1]
Design			radial	
ABS			compatible[2]	–
Lever			short lever • long lever	long lever
Grip width adjustment – Reach Adjust			tools not required	
Clamp		Ø, mm 22.2	standard clamp • mirror clamp (M10×1.25)	
Hydraulic connection			M10×1	
Banjo bolt			M10×1 (for 10×10 mm ring piece)	
Brake light switch			mechanical	–
Starter switch			–	mechanical
Piston size[3]	(2) [A1]	Ø, mm	12 • 15 • 18	12 • 13 • 16
Expansion reservoir			DOT 4 / DOT 5.1	DOT 4 / DOT 5.1 • MAGURA *Blood*[1]
		ml (fl oz)	36 (1.2)	9 (0.3)
Bleeding			Easy Bleed	
Type code	(3) [A1]		KBA 61376	
ABE number			61376	

[1] Mineral oil.
[2] Edition 02-2016.
[3] Depending on the make and model of motorcycle and brake.

ⓘ See the current MAGURA Powersports catalog at **www.magura.com** for much more information on options, variants, accessories and extras.

INTENDED USE

⚠ WARNING

Any use other than the intended use can lead to accidents that cause serious or fatal injury.

The hydraulic MAGURA *HC* motorcycle front brake master cylinder is designed and intended exclusively for

- replacement of a motorcycle hydraulic front brake control.
- combination with a hydraulic motorcycle disc brake system in original manufacturer's condition.
- operation with DOT brake fluid.
- installation on conventional motorcycle handlebars.

The hydraulic MAGURA *HC* motorcycle clutch control is designed and intended exclusively for

- replacement of a hydraulic clutch control.
- combination with a hydraulic motorcycle clutch actuation system in original manufacturer's condition.
- operation with DOT brake fluid **or** MAGURA *Blood* (mineral oil) – in accordance with the label (4) [A1].
- installation on conventional motorcycle handlebars.

Before installing your hydraulic MAGURA *HC* motorcycle brake master cylinder or clutch control make sure that it is suitable for your disc brake system or clutch actuation system.
For information see the current MAGURA Powersports catalogue and **www.magura.com**.

Observe the German regulations governing registration for road use (see enclosed ABE), and the applicable national registration regulations in other countries!

BASIC SAFETY INSTRUCTIONS

Always remember that riding a motorcycle entails risk both for the rider and other road users, and for the motorcycle and its components. Despite the use of safety gear and complete safety equipment, accidents that cause serious or fatal injury can occur.

Always use your common sense and avoid any unreasonable actions!

Installation & Maintenance

⚠ WARNING

Danger of accident due to system failure caused by incorrect or impermissible installation work.

- In many disc brake systems or clutch actuation systems work steps that are only schematically shown in this manual are demanding and may in many cases only be possible with specialised manufacturer's tools and new parts (gaskets, brake hose etc.).
  Do not overestimate your technical skills. Have installation and maintenance work carried out by a qualified mechanic in a motorcycle repair workshop. This is the only way to ensure that work is conducted in a professional manner.
- Never carry out any work or make any changes (e. g. disassembly, grinding/painting etc.) to your MAGURA product that are not specifically permitted and described in the owner's manual.
- For assembly steps that require a specific tightening torque for a screw union, always use a torque wrench set up for the required torque.
- Always make sure that your motorcycle is securely supported (main stand, workshop stands) before starting installation or maintenance work.
- Always disconnect the earth wire from your motorcycle battery before starting installation or maintenance work.
- Always take the specified precautions and care when working

with hydraulic fluids (DOT brake fluid, mineral oil etc.).
- Always maintain your motorcycle in technically perfect working order.
- Check that brakes and clutch operate correctly at regular intervals.

Danger of accident due to improper accessories.
- Exclusively use genuine MAGURA screws and spare parts.
- Use only the correct hydraulic fluid as specified on the expansion reservoir – brake fluid DOT 4 / DOT 5.1 **or** MAGURA *Blood* (mineral oil, **M** (4) [A1] on cylinder housing).
- Use only fresh, clean hydraulic fluid from tightly closed containers.

On the Road

⚠ WARNING

Danger of accident due to component failure.
- Check that brakes and clutch operate correctly before every ride.
- After each crash, check your brake and clutch for damage and make sure they operate correctly.
- Never use your brake or clutch if damage (e. g. leaks, cracks, etc.) is visible, you can hear unusual noises or if you have any doubts about their integrity. In this case, have your brake or clutch checked in a specialist motorcycle workshop.

⚠ WARNING

Danger of accident due to improper behaviour or improper equipment during riding.
- Always match your speed to the current road, weather conditions and the total weight.
  Particularly in wet conditions and a high gross weight (e.g. luggage), your braking distance will be significantly increased – always ride cautiously and be ready to brake.
- Always use the front and rear wheel brakes simultaneously.
- Always observe the traffic regulations in the country where you are riding with your motorcycle (lighting, reflectors, etc.).
- When riding, always wear a high quality (e.g. ECE standard 22/05), undamaged motorcycle helmet and clothing that fits snugly but does not impair your actions.
- Only ride your motorcycle if you are in good physical condition and your motorcycle and all of its components are in perfect working order.

Transport & Storage

⚠ WARNING

Danger of accident due to damaged components.
- Do not store your MAGURA control at ambient temperatures below -15 °C (5 °F) or above 55 °C (131 °F).

Protection of the environment

NOTICE – ENVIRONMENT

Dispose of used hydraulic fluid, lubricants and oil correctly and in accordance with the legal requirements – never discard them in the sewage system or in the ground.

INSTALLING THE CONTROL

⚠ WARNING

Danger of accident due to system failure caused by faulty installation.

- Make sure that the piston size (2) [A1] of your MAGURA control matches the previous piston diameter or is no more than 1 mm larger.

Before installing your hydraulic MAGURA *HC* motorcycle brake master cylinder or clutch control make sure that it is suitable for your disc brake system or clutch actuation system.
For information see the current MAGURA Powersports catalogue and **www.magura.com**.

☞ See 🔧📖 if applicable.

ⓘ The following assembly steps always refer to the front brake master cylinder positioned on the right of the handlebar, but they are identical for all *HC* controls – unless otherwise specified.

Preparing the motorcycle

Important – see **Basic safety instructions**, page 8!

NOTICE

Loss of hydraulic fluid. Corrosion damage.

- Do not actuate the control lever if the hydraulic hose is disconnected.
- Handle the open hydraulic hose carefully – do not shake it, knock it or hit it.
- Have clean, absorbent and lint-free cloths ready – wipe any leaking hydraulic fluid away immediately.
  Rinse areas touched by DOT brake fluid with water and dry with compressed air.

☞ Remove panels (cowlings etc.) if necessary – handle, clean and store gaskets, fasteners, buffers etc. carefully.

☞ Disconnect cables for brake light and starting switch.

☞ Remove rear-view mirror if necessary.

☞ Disconnect the hydraulic line on the control that is being replaced.

☞ Remove the control.

Installing the expansion reservoir

ⓘ Observe the applicable regulations of the country in which your motorcycle is registered regarding the approved volume of the expansion reservoir and also the specifications of the manufacturer of your brake or clutch actuator.

☞ Mount the holder (1) on the control – install the retainer screw (M5×10) (2). [B1]

☞ Connect the hose (3) to the reservoir nozzle and secure with a spring clip (4).

☞ Connect hose to control nozzle and secure with a spring clip (5).

☞ Mount reservoir on holder – use retaining screw (M5×10) (6).

☞ Align reservoir as required.

☞ Tighten the two retaining screws to a tightening torque of **3 N·m ± 0.5 N·m (27 lbf·in ± 4 lbf·in)**.

Installing the control

⚠ WARNING

Danger of accident due to restricted or blocked steering and riding movements because hydraulic hose is too short or too long.

- Make sure that there is full steering movement in both directions.
- Make sure that all springs can function freely.
- Keep the length of the hydraulic hose as short as possible and as long as necessary.

Danger of accident due to system failure caused by faulty installation.

- Make sure that the hydraulic hose cannot be crushed, jammed or stretched in any position (steering, suspension).
- Make sure that the hydraulic hose remains at least 30 mm from the hot exhaust or engine parts and 20 mm from the disc brake rotors and cowlings in all positions (steering, suspension).

ⓘ It is possible that your existing hydraulic hose will be unsuitable for your new MAGURA control (design of ring pieces, design or length of the hose etc.) and will need to be replaced.

ⓘ You can find the right type of double banjo bolt for connecting 2 hydraulic hoses in the current MAGURA Powersports catalogue and at **www.magura.com**.

☞ Make sure that the connection and length of your hydraulic hose fits your control or the banjo bolt.

☞ Make sure that the size of your handlebar fits your control – see **TECHNICAL SPECIFICATIONS – OVERVIEW**, page 7.

☞ Make sure that your control does not interfere with the operation of other controls (switches, levers etc.).

☞ Install and align the control on the handlebar.

☞ Tighten the clamping screw with a tightening torque of **6 N·m ± 0.5 N·m (53 lbf·in ± 4 lbf·in)**.

ⓘ Controls can be rotated by hand when forced. It is advantageous if the control can rotate in the event of a fall. This reduces the danger of irreparable damage to the handlebar or control.

☞ Connect the brake light or starter switch.

☞ Install the rear view mirror if it was removed and tighten with a tightening torque of **15 N·m ± 1 N·m (133 lbf·in ± 9 lbf·in)**.

☞ Connect the hydraulic hose to the control – use new gaskets (1). [C1]

☞ Tighten the banjo bolt (2) with a tightening torque of **15 N·m ± 1 N·m (133 lbf·in ± 9 lbf·in)**.

Bleeding and filling the control

⚠ WARNING

Danger of accident due to system failure caused by incorrect or impermissible installation work.

- Always take the specified precautions and care when working with hydraulic fluids (DOT brake fluid, mineral oil etc.).
- Use only the correct hydraulic fluid as specified on the expansion reservoir – brake fluid DOT 4 / DOT 5.1 **or** MAGURA *Blood* (mineral oil, **M** (4) [A1] on the control housing).
- Use only fresh, clean hydraulic fluid from tightly closed containers.

ⓘ Fill a completely empty system as specified by the manufacturer of your disc brake system or your clutch actuation system.
The procedure for filling and bleeding an empty control and hydraulic hose is described below – with a previously filled and bled brake caliper or clutch actuator.

ⓘ To fill and bleed your MAGURA control you will require a filling syringe (1), an appropriate filling line (2) and the correct hydraulic fluid (3). [D1]

☞ Fill the filling syringe and hose with hydraulic fluid.
☞ Make sure that there is no air in the filling syringe and filling line.
☞ Remove the lid (4), ring (5) and bellows (6) from the expansion reservoir. [D2]
☞ Connect the filling syringe with hose tightly to the bleed valve of the slave cylinder (brake caliper or clutch actuator).
☞ Open the bleed valve of the slave cylinder.
☞ Press hydraulic fluid slowly through the system from the filling syringe.
☞ Make sure that the expansion reservoir does not overflow.
☞ Tighten the bleed valve with the correct tightening torque (manufacturer's specification).
☞ Repeat the procedure at the second slave cylinder if necessary.
☞ Make sure that there is sufficient hydraulic fluid in the expansion reservoir – add fluid if necessary.
☞ Carefully actuate the control lever (pump).
➔ Air bubbles will rise in the expansion reservoir.
☞ Continue the process until you cannot see any more air bubbles.
☞ Connect the empty filling syringe with hose to the bleed valve (7) on the control. [D3]
☞ Pull and hold control lever.
☞ Carefully open the control bleed valve.
➔ Hydraulic fluid and bubble rise in the filling syringe.
☞ Close bleed valve.
☞ Release control lever.
☞ Continue the process until you cannot see any more air bubbles.
☞ Tighten the bleed valve with a tightening torque of **2 N·m** ± 0.5 N·m **(18 lbf·in** ± 4 lbf·in**)**.
☞ Disconnect filling syringe with hose.
☞ Remove any hydraulic fluid residues thoroughly.
☞ Pull and hold the control lever several times and check:
that hydraulic fluid is not leaking from any part of the system.
The pressure point of the disc brake is clearly noticeable and does not change.
The pressure in the clutch actuation system is immediate, the clutch is actuated correctly.
☞ Repeat the filling and bleeding process if necessary.
☞ Bleed the slave cylinder (brake caliper or clutch actuator) if necessary (manufacturer's specification).
☞ Make sure that the level of hydraulic fluid in the expansion reservoir is between the MIN and MAX marks.
☞ Add or remove hydraulic fluid as required.
☞ Insert bellows (6) and ring (5) in the expansion reservoir. [D4]
☞ Close the expansion reservoir with the lid.

⚠ WARNING

Danger of accident due to brake failure.

- Make sure that the brake lever when tightened is at least 20–30 mm from the handlebar.

ⓘ If the distance of the tightened brake lever to the handlebar is too high or too low, it is possible that the piston size of your MAGURA control was not correctly selected. in this case, replace your MAGURA control.

ⓘ If the pressure point of your disc brake feels spongy or soft, a hydraulic hose with low resistance to pressure may be the problem. In this case replace your hydraulic hose.

Adjusting the control lever

ⓘ You can adjust the position of the lever (Reach Adjust – grip width) of your MAGURA control as required.

☞ Screw the rotating dial out (-) or in (+). [E1]

➔ Brake lever moves closer to or further away from the handlebar.

HC SERVICE

The special HCT piston and sealing design of your hydraulic MAGURA *HC* motorcycle front brake master cylinder or clutch control mean that the gaskets should be replaced exclusively by MAGURA factory service in Bad Urach.

This is the only way to guarantee the full performance and safety of the system.

If you have used your MAGURA *HC* control for 100,000 km or 10 years, we offer the option of sending it to MAGURA and having it overhauled at the factory.

This offer is also available for racing riders and teams that want to have their MAGURA *HC* control overhauled during the off-season.

To find out more about this service offer, please send an email to **returns@magura.de** – you will receive detailed information on the process of factory overhaul.

The staff at MAGURA work continuously on improving our products in the context of ongoing technical development. For this reason, we reserve the right to make changes compared to the figures and descriptions in this User Manual. This does not entitle you to claim for changes to products that we have already delivered. For up-to-date information, visit www.magura.com
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Deutschland
MAGURA Bike Parts
GmbH & Co. KG
Eckisstraße 6
D-72574 Bad Urach
phone +49 7125 9694 6-0
fax +49 7125 9694 6-17
info@magura.de

Asia
MAGURA Asia Limited Co.
No. 9, Industrial Park, 10th Road
Taichung City
40755 Taichung City, Taiwan
phone +886 4 2359 8555
fax +886 4 2359 9910
info@magura.com.tw

USA
MAGURA USA
724 West Clem
62450 Olney, Illinois

phone +1 618 395-2200
fax +1 618 395-4711
magura@magurausa.com

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