DNM Shock Absorbers

Owner's Manual

Available for:

MTG-RC MT-RC MT-AR MT-BAG

MK-BAG MK-AR DHL

SAFETY SIGNAL

Important information concerning safety is distinguished in this manual by the following notations：

The safety alert symbol means: Caution! Your safety is involved.

Failure to follow warning instructions could result in severe or fatal injury to anyone working with inspecting or using the suspension or to bystanders.

CAUTION!

Caution indicates that special precautions must be taken to avoid damage to the suspension.

NOTE!

This indicates information that is of importance with regard to procedures.

NOTE！

DNM *Products are subject to continual improvement and development .Consequently although these instructions include the most up-to-date information available at the time of printing , there may be minor differences between your suspension and this manual. Please consult your* **DNM** *dealer if you have any questions with regard to the contents of the manual.*

INTRODUCTION

All of **DNM** advanced suspension products are adapted to the brand and

model, This means that length, travel spring action and damping characteristics, are tested individually just for the motorcycle that you have decided to fit with **DNM** suspension.

BEFORE INSTALLATION

DNM Racing AB can not be held responsible for any damage whatsoever to shock absorber or vehicle， or injury to persons, if the instructions for fitting and maintenance are not followed exactly.
Similarly, the warranty will become null and void if the instructions are not adhered to.

CONTENTS

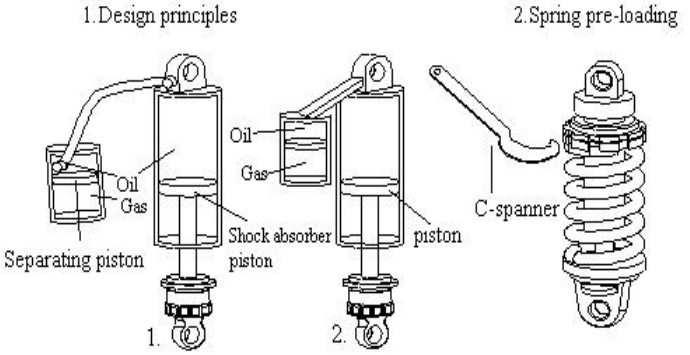
WARNING!

1. *Installing a shock absorber is not approved by the vehicle manufacturer, which may affect the stability of your vehicle.* DNM *Racing AB cannot be held responsible for any personal injury or*

damage whatsoever that may occur after fitting the shock absorber. Contact a DNM *dealer or other qualified person for advice.*

2. *Please study and make certain that you fully understand all the mounting instructions and the owner manuals before handling this shock absorber kit. If you have any questions regarding proper installation procedures, contact a* DNM *dealer or other qualified person.*

3. *The vehicle service manual must be referred to when installing the* DNM *shock absorber.*



Tuning the suspension

Motorcycle road holding qualities

All motorcycles are designed with a suspension geometry that includes height and fork angle. The changing of components can affect this and it is there for essential that both the rear and the front ends match each other.

Changing to **DNM** suspension gives optimum performance only when both the front fork and the rear suspension interact properly. It is of the greatest importance that the front and rear loaded heights are within the specified values.
In the Mounting instruction, see section: Setting the spring preload.

Design

Most of the **DNM** shock absorbers are of the De Carbon type (Fig.1).The fluid is put under gas pressure and the fluid are kept apart by a separating piston. The separating piston is often fitted in a separate fluid chamber, connected by hose (Fig.1:1),or fixed directly on top of the shock absorber (piggyback) (Fig.1:2).
Pressurization of the fluid is made with nitrogen. The pressurization prevents cavitation of the fluid and the shock absorbing action is therefore more even. The external fluid chambers also contribute to better cooling of the fluid, giving longer service life for both the fluid and components.
DNM shock absorbers have integrated temperature compensation. As the temperature increases and the fluid flows more easily the flow is controlled accordingly. The shock absorbing effect is therefore independent of the temperature. The more advanced models permit individual adjustment of compression damping and rebound damping**.**
DNM shock absorbers provide the possibility for adjustment, making them adaptable to most motorcycles, riders and ranges of use. All of the shock absorbers have adjustable preloading of the spring action (Fig.2).

Settings

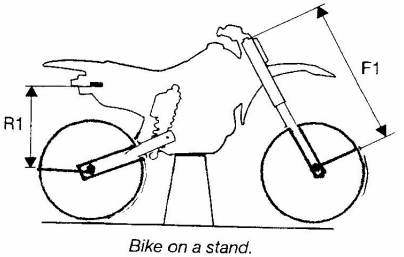
Basic settings

Always ensure that the basic setting made by **DNM** is correct. It is adapted to the make and model (in its original state) and for a rider of average weight

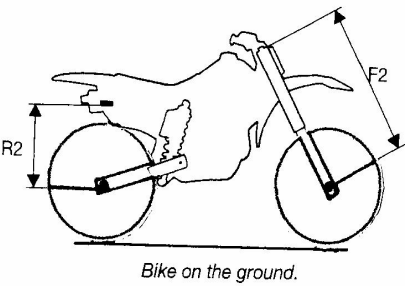
WARNING!

Incorrect spring action may produce a fork angle that is too steep or too float. This in turn will give a tendency for over-steering or under-steering, which could seriously affect the handing characteristics of the motorcycle.

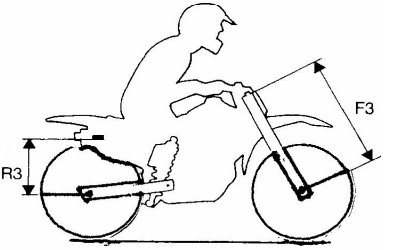
The original settings of the shock absorber, when delivered from **DNM** , should always be a base when the settings are changed by use of the adjustment devices.



Bike on a stand.



Bike on the ground.



Bike with rider on.

Setting the spring preload

Step 1 Measuring

Preload on the spring/springs is very important，because it affects the height of the motorcycle and the fork angle. Consequently, handling characteristics can be changed, even negatively. Proceed as follows (it will be much easier if done by two persons):

- Place the motorcycle on a stand, so the front fork and the rear end are in fully extended position.
- Measure the distance, e.g., from the lower edge of the rear mudguard or from a point marked by a piece of tape, immediately above the rear wheel axle, to the wheel axle (R1).
- Make a similar measurement on the front axle, e.g., from the bottom of the upper fork crown to the front wheel axle (F1).
- Allow the motorcycle (without rider) to apply load on the springs and repeat the measuring procedure (R2, F2).
- Then take the same measurements with the rider and equipment on the motorcycle (R3,F3). It is important that the rider has a correct riding posture, so that the weight is balanced on the front and rear wheel in the same way as when riding.

Recommendations

The difference should not deviate from the following sizes, if no other recommended settings are given in the Mounting instructions:

Free sag: (R1-R2), (F1-F2)

Rear: MX/Off-Road 30±5 mm

Front: MX/Off-Road 30±5 mm

Ride height: (R1-R3), (F1-F3)

Rear: MX 100±5 mm

Off-Road 30% of the total stroke

Front: MX/Off-Road 80±5 mm

Step.2 Adjusting

Adjust the pre-load with the rings on the shock absorber.

Hold the upper ring and adjust the lower one to the desired position (Fig.2).Then lock with the upper ring.

NOTE!

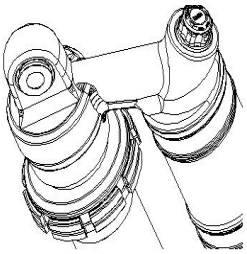
If ride height is higher than recommended, softer spring/springs must be used.

If ride height is lower than recommended, harder spring/springs must be used.

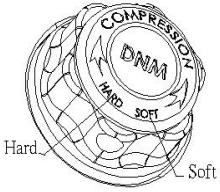
Contact your DNM dealer or other qualified person for advice.

3. Adjustment of rebound damping

4. Adjustment of compression damping



5. Hard and soft compression damping adjusters



Setting the damping

The adjusting possibilities of **DNM** shock absorbers facilitate fine setting. You can optimize adjustments to suit your own weight and equipment, your individual way of riding and the condition of the road. To be able to improve the road holding qualities it is of the utmost importance that you fully understand the function of the shock absorbers. From there you can learn by trial and error how they affect the motorcycle.

Depending on the model there are adjustments for rebound damping, compression damping and adjustment of the length of the shock absorber. Damping is set with knobs and screws with a normal right-hand thread. By turning you can increase the damping action or reduce it. It is easy to count to the right setting.

Rebound damping action affects the characteristics of the motorcycle most. The setting knob is located at the bottom on the piston rod (Fig.3). It can be

adjusted in about 14 steps.

Setting your motorcycle

NOTE!

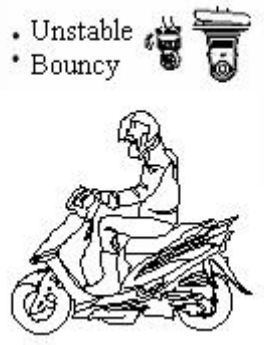
Always begin with the basic settings recommended by DNM. Always make notes, adjust in small steps at a time. Adjustments should not be more than six steps/2 turns from the basic setting

How to prepare the settings

By utilizing the adjustment possibilities you can test by trial and error, and learn how they affect your motorcycle.

Always begin by test riding the motorcycle with all adjustments at their basic setting. Choose a short run of varying character, i.e., long and sharp bands, hard and soft bumps. Keep to the same run and adjust only one setting at a time.

6.Rebound damping



7. Compression damping

Start with the rebound damping (Fig.6)

If the motorcycle feels unstable, loose and rather bouncy then the rebound damping should be increased. Begin by turning the adjusting knob 2 steps .Test run again and adjust one step back if it felt too hard and bumpy.

If the motorcycle is hard and bumpy, especially over a series of bumps,

then the rebound damping should be reduced. Turn 2 steps, test run and make any necessary correction. For original rebound setting see Mounting Instructions.

Compression damping (Fig.7)

If the motorcycle feels soft, has low riding position and a tendency to bottom easily in long dips then the compression damping should be increased.

If the motorcycle feels harsh and has hard resilience, e.g., during changes in the road paving, then the compression damping must be reduced.

Normally changes are made by high speed compression adjuster only.

Turn 1/2 turn at a time. Test run and make necessary corrections.

When you have sufficient feel of the motorcycle you can make further fine adjustments. It is feeling and experience that counts.

NOTE!

Ensure that the springs are properly preloaded before attempting to make any adjustments. A simple rule is that increased preload of the spring should be follow by an increase of rebound damping by two steps.

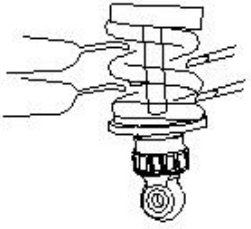
When you, feel that you have achieved an improvement, go back to where you started and check once more. Be observant of other relevant factors such as tires, temperature, etc. Test run to make sure whether further fine adjustment should be made.

Inspection and maintenance

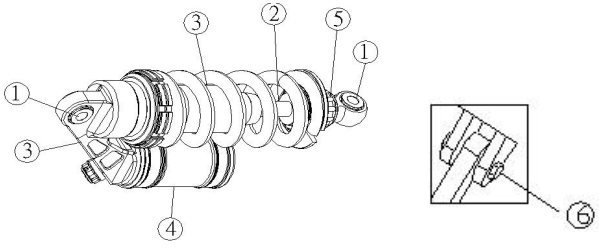
Clean the shock absorbers externally with a soft detergent. Use compressed air. Be careful that all dirt and debris is removed.

Lift the bump rubber and clean the area below (Fig.8).

8.Lift the bump rubber and clean the area below



9.Inspection points



Inspection points (Fig.9).

1. Check ball joints for possible excessive play.
2. Check the piston shaft for leakage and damage.
3. Check the shock absorber body and for external damage.
4. Check the external reservoir for damages that can restrict the floating piston from moving freely.
5. Check for excessive wear of rubber components.
6. Check the fastening to the vehicle.

7. Check the hose equipped models for leaks in hose and inlet plugs.

Keep the shock absorbers clean and always spray them with oil (QS 1,WR40 or CRC 5-56) after washing the motorcycle.
Preventive maintenance and regular inspection reduces the risk of functional disturbance. If there is any need for additional services, please get in touch with an authorized DNM service workshop.
There they have the necessary tools and know how for whatever you need.

NOTE!

Make certain that your shock absorbers are always filled With DNM High Performance Shock Absorber Oil.

NOTE!

Regular maintenance and inspection contribute to the prevention of functional disturbances.

Recommended service intervals:

The first time： Ride 1000kms
The second time： Every 1000kms maintain one time

⚠ WARNING!

Never alter the gas pressure. Special purpose charging equipment and access to nitrogen is required. The gas pressure should normally never be altered.

NOTE!

Discarded DNM products should be handled over to an authorized work shop or distributor for proper disposal.

CONTACT INFORMATION

If you have any question ,please contact: D I S T R I B U T O R

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DNM 避震器
使用手册

适合于：

MTG-RC　MT-RC　MT-AR　MT-BAG

MK-BAG　　MK-AR　DHL

安全信息

有关安全方面的重要信息，在这本手册里标记得很清楚。

 安全警示标志：注意，这里与你的安全有关。

警告！

不遵循安全指示会对避震器的检查者、使用者及旁观者造成严重或致命的伤害。

小心！

小心表示必须采取特殊的预防措施避免避震器受损。

注意！

这些指示是程序方面的重要信息。

注意！

DNM 产品是持续不断进步和发展的。因此，尽管这些指示包含了印刷时获得的最新资料，但这手册有可能与您的避震器存在微小的差别。如果对手册内容存在任何疑问，请咨询您的 **DNM** 制造商。

介 绍

DNM 所有先进的减震产品都适合商标和样式。这就意味着，只为要安装 DNM 避震器的摩托车,分别进行长度,行程弹簧作用及减震性能进行测试。

安装前

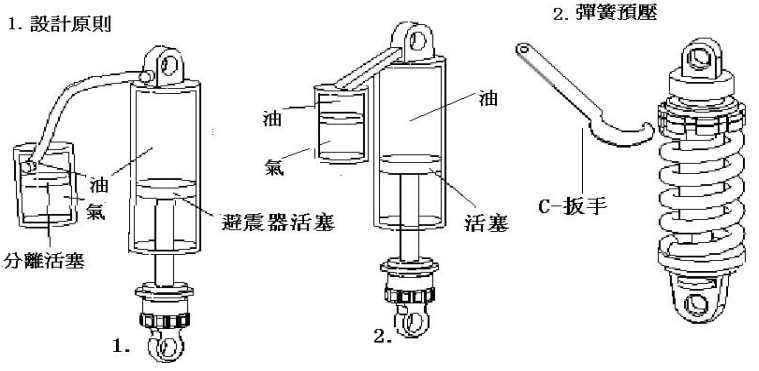
如果不严格遵循安装和维修指示，**DNM** 竞赛用的避震器造成的任何损

失，无论是避震器，车辆还是对人的伤害都不予负责。同样，如果不遵循指示，保修也变为无效。

内 容

警告！

1. 车辆制造商不批准安装避震器 ，因为这有可能会影响到车辆的稳定性。若安装了避震器，**DNM** 竞赛用避震器所造成的任何个人受伤或损害都不予负责。
   请联系 **DNM** 制造商或其它代理商获取建议。
2. 在你操作成套避震器前，请学习并确定你已经完全了解了所有的安装指导及使用手册。
   如果你对正确的安装程序存在任何疑问，请与 DNM 制造商和其它代理商联系。
3. 安装 **DNM** 避震器必须涉及到车辆服务手册。



调节避震器

摩托车道路制约质量

所有的摩托车是同避震器几何结构一起设计的，避震器几何结构包括高度和避震器的倾斜度。这受零件改换的影响，并且前后避震器也必须相匹配。只有当前后避震器相互正确作用时,**DNM** 避震器才能调到最佳性能. 最重要的是,前后载入高度要在规定值内。

见安装指导里的设置弹簧预压。

设计

大部分 **DNM** 避震器是属于 De Carbon 型的(图 1),气压的下面填充着液体，并有一个隔离活塞把两者分离开。隔离活塞通常安装在一个流体分离室,它通过油管或是直接固定在避震器(机载)的顶端(图 1:2)。用氮气给液体加压。加压可防止液体中有气泡产生,而使的减震器的作用效果更加均匀。外部气流室有利于流体的更好冷却,增长流体和机件的使用寿命.

DNM 避震器集成了温度补偿.当温度增加,流体更易流动,流程相应地得到控制，因此,避震作用不依赖于温度.更先进的样式可单独进行压缩和反弹阻尼调节。

DNM 避震器为调节提供可能性，使他们能适应于多数的摩托车，骑士及使用范围。所有的避震器都有可调预压的弹簧装置（图 2）

设置

基本设置

确保 DNM 做的基本设置总是正确的。基本设置适合原始的商标，样式及平均体重的骑士。

警告！

不正确的弹簧作用可能会使避震器的倾斜角太陡或太浮，这样反过来导致过度或过轻操作，会严重影响摩托车的控制性能。

使用调节装置改变设置，是以在送货到 DNM 时对避震器进行的原始设置为基础的。

设置弹簧预压

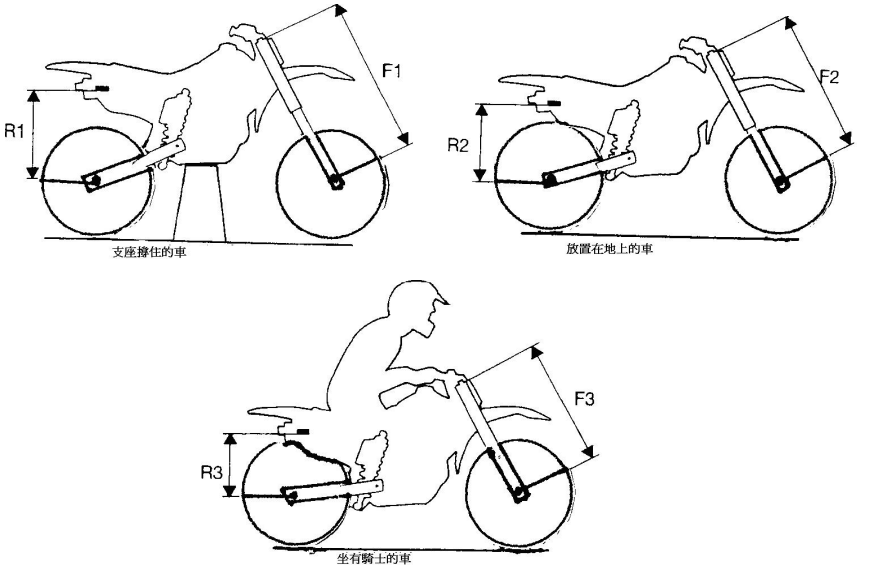
第一步：测量

弹簧预压十分重要，因为这影响到摩托车和减的倾斜度的高度，到最后，可能改变甚至否定控制性能。

测预压过程如下（两个人做更为容易）。

- 用支座撑住摩托车，以使前后避震器处在完全延伸的位置。
- 测量距离。即从后面挡板的下边沿或是从皮带标记处，经过后轮轨的上面到轮轴（R1）。
- 在前面的轴心作相似的测量。即从前避震器上连板到前轮轴（F1）。
- 可在没有骑士的摩托车上对弹簧加载，然后重复测量过程。
- 再在有骑士和装备的摩托车上进行相同的测量（R3，F3）。骑士保

持正确的骑车姿势很重要，以使重量在前后轮上能如同骑车时一样达到平衡。



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的上面到轮轴（R1）。

- 在前面的轴心作相似的测量。即从前避震器上连板到前轮轴（F1）。
- 可在没有骑士的摩托车上对弹簧加载，然后重复测量过程。
- 再在有骑士和装备的摩托车上进行相同的测量（R3，F3）。骑士保持正确的骑车姿势很重要，以使重量在前后轮上能如同骑车时一样达到平衡。

忠告

安装指示里若没有其它的设置建议，差别不应偏离下面尺寸。

自由下垂：（R1-R2），（F1-F2）

后： MX/越野 30±5mm

前： MX/越野 30±5mm

乘车高度 ：（ R1-R3 ），（ F1-F3 ）

后： MX 100±5mm

越野: 总冲程的 30%

前： MX/越野 80±5mm

第二步：调节

用避震器环调节预压。先握住环的上端，调节环的下端到所需位置（图2），最后用上端锁住。

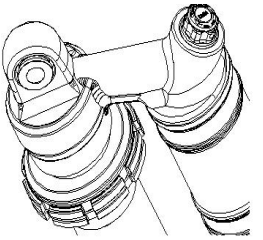
注意！

如果驾驶高度高于建议高度，必须使用更软的弹簧。如果驾驶高度低于建议高度，必须使用更为坚硬的弹簧。

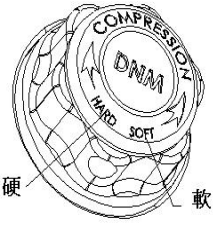
请联系 DNM 制造商或经销商来获取

3. 反弹阻尼调整

4. 压缩阻尼调整



5. 软/硬压缩阻尼调整

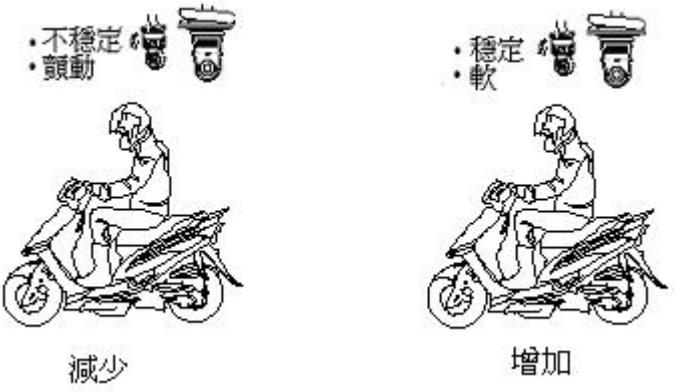


设置阻尼

DNM 避震器的可调性促使好的设置。您可以优化调节来协调体重和装备，以及使之能适应您个人的骑车方式和道路状况。完全了解避震器的功能对改善道路制约质量是极度重要的。从那您可通过反复测试验法了解它们是如何影响摩托车的。依据模型有反弹和压缩阻尼调节以及避震器的长度调节。

通过转动调整旋钮您可增加或减少阻尼作用，很方便进行正确的设置。反弹阻尼作用对摩托车的性能影响最大。设置按钮在活塞杆底部（图 3），约可调 14 段。

6. 反弹阻尼



7. 压缩阻尼

设置您的摩托车

注意！

从 DNM 建议的基本设置开始。每次调整小段调整旋钮并始终做好记

录。调整不应该超出六段或是基本设置的 2 个旋转。

如何准备设置

通过运用调整的可能性，您可经过反复试验法来测试并了解它们是如何影响摩托车的。

始终都从当所有调整处在基本设置时的测骑开始。选取可变性的短奔，即长且陡的地带，硬软颠簸，保持相同的运行，并且一次只调整一个设置。

开始设置反弹阻尼（图 6）

如果摩托车感到不稳定、松弛并相当颤动，那么就应该增加反弹阻尼。这首先转动 2 段调整旋钮，再测试运行，若您觉得太硬或颠簸，就往回调整一段。

如果摩托车是硬并颠簸，尤其是经过一系列颠簸之后就应该降低反弹阻尼。先旋转 2 段，再测试运行并做必要的修正。最初的反弹设置见安装指导。

压缩阻尼（图 7）

如果感觉摩托车软、位于低骑位置，并且有容易下沉到底部的趋势，就应该增加压缩阻尼。

如果感觉摩托车粗糙并有坚硬性，例如，处在不同的道路铺设间，就应降低压缩阻尼。

通常在正常状况下，只要改变高速压缩调整器。每次调 1/2 个旋转，再测试运行，然后做适当的修正。

当您对摩托车有充分地感觉时，就能做进一步的精密调整，这感觉和经验是不断积累起来的。

注意！

在做调整前要确保弹簧预压适当。一个简单规则是增加弹簧预压，反弹阻尼跟着有两步增量。

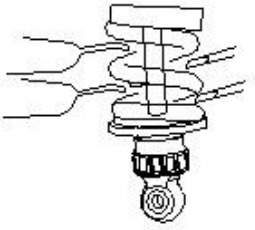
当您觉得已经达到了改善，那就返回到您开始的地方，再检查一次。

必须留心轮胎，温度等其它相关要素，测试运行来确定是否需要作进一步精密调整。

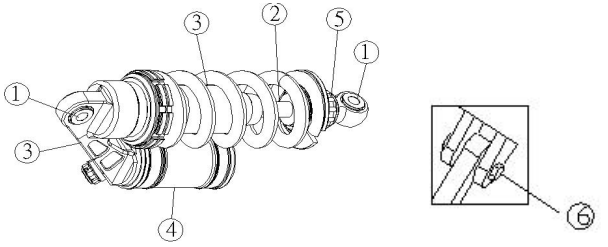
检查与维修

常用温和的清洁剂清理避震器外部，小心地移出污垢和碎片，提升防碰橡胶并清洁下面区域（图 8）。

8．提升防碰橡胶并清洁下面区域



9.检查点



检查点（图 9）

1．检查鱼眼轴承可能过度工作
2．检查轴心的漏出和损坏
3．检查避震器躯体和外部损坏
4．检查气室内损坏情况，这会制约自由移动的浮动活塞
5．检查橡胶组件过度磨损

6. 检查车辆的连接状况

7. 检查胶管和入口塞处的胶管装置

保持避震器干净，并总在清洗摩托车后喷上油（QS1，WR40 或 CRC5-56）。预防性的维修和定期检查可减少功能失调的风险。如果需要任何其它服务，请与 DNM 授权服务商联系，他们有必要的工具并知道任何满足您的要求。

注意！

确保您的避震器总是满装 DNM 高性能的避震器油。

注意！

定期维修与检查有利于预防功能失调.

建议服务间隔时间:

第一次：约骑乘 1000 公里；　　第二次：　每 1000 公里维修 1 次

警告!

不要改变气压。需用专用输气装置通氮气或高压帮浦打起,通常状况下不应该改变气压。

注意!

废弃的 DNM 产品应交由授权服务商或经销商进行适当处理.

联系资料

如果你存在任何疑问,请联系:　***经销商***

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