

THE COMPLETE RANGE

MORE THAN 400 MODELS TO FIT
APRILIA TO YAMAHA



- ▶ SHOCK ABSORBERS
- ▶ CARTRIDGE KITS
- ▶ FORK SPRINGS
- ▶ STEERING DAMPERS
- ▶ REPLACEMENT SPRINGS



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► SHOCK ABSORBERS



► CARTRIDGE KITS



► FORK SPRINGS



► STEERING DAMPERS



► REPLACEMENT SPRINGS



TOURATECH SUSPENSION – FOR THESE REASONS

A suspension upgrade is one of the most important and effective measures when it comes to noticeably improving the performance of a motorcycle.

Regardless of whether you want to replace worn original components or adapt the suspension to your individual range of use, Touratech Suspension has the perfect components.

Whereas standard equipment always represents a broad compromise, the parts from Touratech Suspension are tuned to suit specific areas of use. A routine, individual suspension check before buying ensures that every rider acquires the right setup.

Products from Touratech Suspension are manufactured in Europe using the highest quality components. They are much more solidly designed than mass-produced stuff. Improved riding precision, finer response and higher reserves in extreme situations are the tangible results.

Touratech Suspension offers a specially designed series for every area of use. The portfolio ranges from perfectly matched parts for the proverbial bread-and-butter motorcycle, through solutions specially developed for cruisers and new heritage bikes, to extra-robust components for adventure bikes.

The development of Touratech Suspension parts is based on decades of experience in the field of motorcycle expeditions as well as know-how gained in some of the toughest rallies in the world.

All suspension elements from Touratech Suspension are fully serviceable, which guarantees consistent performance over a long service life. The option of Service Centre repairs underlines the value of the products.

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FOR EVERY PURPOSE THE PERFECT SUSPENSION

Touratech Suspension has significantly expanded its portfolio once again. In addition to the tried-and-tested Travel and Black-T product lines, the E1 series complements the product range as a third pillar. With the E1 products, high-quality suspension elements become available at reasonable prices for an enormous range of different motorcycles. An overview

Dedicated do-it-yourselfers know this just as well as professional customisers: Optimising the suspension is almost always the first step when it comes to effectively improving the performance of a motorcycle. And there are plenty of reasons for replacing suspension elements. Be it the original parts that are worn out or the rider that wants additional adjustment options. Very often, however, it is also a matter of tuning the suspension of your machine to perfectly match your personal requirements. Touratech Suspension has developed a broad portfolio of high-end

suspension for the most diverse purposes. The Travel line, with its large reserves and multiple tuning options, is specifically designed to meet the requirements of adventure riders. The Black-T line combines the latest suspension technology with a classically cool look and was designed specifically for use in Custom and New Heritage Bikes. A huge spectrum of many hundreds of motorcycle models in all categories is covered by the new E1 line. It offers high-quality replacements for the series elements at a fair price.



„E1“ series shock absorbers are available for motorcycles of the most diverse categories and years of construction. They are a high-quality replacement for worn series components.

E1 - THE INTRODUCTION TO THE WORLD OF TOURATECH SUSPENSION

With the completely new E1 product range, Touratech Suspension offers the perfect introduction to professional suspension optimisation. And this for an incredibly wide range of motorcycles. Cutting-edge Street Bikes and Adventure Bikes are catered for as well as the Evergreens. Owners of a K 100 will find what they are looking for here, as will friends of Ducatis from the 1980s or riders of Japanese models from the past five decades.

When it comes to Touratech Suspension, E1 stands for robust and well thought-out products at a fair price. Pursuing a slim design, the very solidly designed emulsion shock absorbers do without piggy back reservoir. Rebound damping can be adjusted very finely over the wide range of 50 clicks. Thanks to the progressive spring, the E1 series shocks offer a smooth response with high reserves against bottoming out at the same time. The preload of the spring can be adjusted manually, a hydraulic spring preload is available on request. Due to the wide range of motorcycles covered, the E1 series includes mono shocks as well as twin shocks.



TRAVEL – PERFORMANCE FOR ADVENTURE RIDERS

Touratech has developed more expertise in adventure travel over the past three decades than any other company. This wealth of experience has been incorporated into the development of the Travel product line.

The basic construction of the Travel suspension components is particularly robust. For example, the piston rods and all seals are larger in size than is usual in large-scale production or other high-quality retrofit products. The suspension components also provide an unusually wide range of adjustment so that they can be finely tuned to the rider's intended use.

Springs with different degrees of hardness can be installed depending on the rider's weight and the load. In addition, the Touratech Suspension technicians have developed specific setups for each intended use, enabling perfect interaction between suspension and damping.

In the Travel segment, the four product lines Level 1 | Explore, Level 2 | Explore HP, High End | Expedition and Extreme are available for numerous motorcycle models. Their design covers the entire range of adventure travel.



The Touratech Suspension Cartridge Kit Extreme simply replaces the original internal parts of the fork.

Hydraulic spring preload as well as separate adjustment of compression damping for low and high speed on „Expedition“ and „Extreme“ shock absorbers



CLOSED-CARTRIDGE INSERTS FOR THE FORK

The shock absorber is not the only part that can be tuned to the highest demands with components from Touratech Suspension. The Cartridge Kit Extreme was developed for adventure bike riders who want an extremely responsive and durable fork that is proof against bottoming out. This kit consists of a closed cartridge insert with which the original internal parts of the fork can easily be replaced.

The closed cartridge principle was developed for the forks of sports motorcycles, which often operate under extreme loads. With this technology, the damper oil is housed in a closed cartridge. This means that the amount of oil can be precisely dosed and that much less damper oil is required; this enables a much finer response. The oil in the fork tubes serves only as a lubricant.

With the Cartridge Kit Extreme, the performance of the fork remains constant even at very high damping frequencies on rough track sections. The hydraulic end stop also protects the fork from bottoming out.

The kit is supplied with a motorcycle-specific setup. On the basis of this, spring preload, compression and rebound damping can be adjusted by riders to exactly meet their requirements. For installation, neither triple clamp, handlebar mount, brakes nor fork tubes need to be modified.

Just like all other suspension systems from Touratech Suspension, the Cartridge Kit Extreme is also completely service-enabled. The Cartridge Kit Extreme is already available for a large number of adventure bikes.

REPLACEMENT SPRINGS FOR FORK AND SHOCK

While the combination of Cartridge Kit Extreme and a Touratech Suspension shock absorber is the best possible solution, there are also effective solutions for customers with a smaller budget when it comes to optimising the suspension in the wide Touratech range.

A huge improvement in suspension characteristics can be achieved simply by replacing the springs of forks and shock absorbers with progressive versions.

PLUG & TRAVEL: ESA AND DDA

Touratech Suspension DDA/
Plug & Travel shock absorber



BMW effectively introduced the ESA (Electronic Suspension Adjustment) system as a forerunner of an electronic suspension. With ESA, the damping can be adjusted in a few moments at the touch of a button. The spring preload is still adjusted in the conventional way with a hand wheel.

Touratech Suspension offers suspension components as replacements for worn ESA components or as modifications for demanding use. They provide all the functions of the original parts, but meet the high Touratech quality standards as well. This gives the customer a ready-to-install solution with a pre-configured setup that uses all the standard switches and connectors, but is far superior to the original in terms of response and load capacity.

The semi-active DDA elements from Touratech Suspension can also be easily used to replace the standard equipment, thanks to the „Plug & Travel“ principle. These dampers replace the original parts in the BMW R 1200 GS, R 1250 GS, F 800 GS, F 850 GS and in the corresponding Adventure models equipped with electronic ESA or DDA suspension. These premium suspension components also combine high-quality Touratech technology, such as the patented electronic damper valve and additional adjustment options, all designed to be fully compatible with the vehicle's electronics.

BLACK-T: HIGH-END SHOCKS FOR CUSTOM BIKES



Black-T shock absorber „Stage4“ with external reservoir and hydraulic spring preload

In a unique synthesis, the Black-T series suspension elements combine state-of-the-art technology with a classic look. Whether twin shock or mono shock, Black-T is the perfect solution for true Classics, Heritage Bikes and Custom Creations.

The product range covers Youngtimers, such as the popular two-valve BMW up to the /5 and /7 models, as well as no less than 210 Harley models from the 1970s to the present time. The Modern Classics from Triumph are provided with first-class Black-T suspension products, as are the trendy Scramblers from Ducati. Even the Mega Boxer BMW R18 benefits from the superior technology of the Black-T components.

And what is hardly surprising in view of these casually styled parts: more and more professional tuners are discovering Black-T as the perfect suspension solution for their conversions. For example, custom icon Markus Walz consistently equips the casual BMW concept bikes of the Schizzo series with components from Niedereschach. <<

CONVENTIONAL AND ELECTRONIC SUSPENSION COMPONENTS FROM TOURATECH SUSPENSION

	E1	BLACK-T	TRAVEL	ESA	PLUG & TRAVEL
Concept	Conventional shock absorbers without piggy back reservoirs. Settings for spring preload and rebound	Conventional shock absorbers, with or without piggy back reservoirs, depending on the version. Adjustments for spring preload and rebound; on some versions also compression damping	Conventional shock absorbers, with or without piggy back reservoirs, depending on the version. Adjustments for spring preload and rebound; on some versions also compression damping	Shock absorbers as replacement or conversion for BMW F 800 GS or R 1200 GS with BMW ESA. Original functions are retained, the connection is made via the original plugs.	Semi-active suspension with pre-selection of BMW riding modes. Can only be operated via the original BMW switches on the handlebars; settings can be made while riding.
Riding modes	–	–	–	–	BMW riding modes such as Rain, Road, Dynamic, Enduro and Enduro Pro are supported.
Setting the spring preload	Manual	Manual	Manual	F 800 GS: Manual R 1200 GS: Using the original handlebar switches	Indirectly by selecting the riding mode with the original handlebar switches
Setting the damping	Manual	Manual	Manual	Using the original handlebar switches	Indirectly by selecting the riding mode with the original handlebar switches
Sensor system	–	–	–	–	Original BMW sensors
Procedure	The compression and extension movement is damped according to the manually preselected setting. The balance of the vehicle is set via the spring preload.	The compression and extension movement is damped according to the manually preselected setting. The balance of the vehicle is set via the spring preload.	The compression and extension movement is damped according to the manually preselected setting. The balance of the vehicle is set via the spring preload.	The balance of the vehicle is set via the hydraulic spring preload. Damping is electronically adjusted according to the selected characteristic.	The data provided by the DDC sensors (ESA system) (braking, acceleration, cornering, surface conditions, etc.) form the basis for adjusting the damping in real time, taking into account the selected riding mode.
Available for	Numerous models	Numerous models	Numerous models	BMW F 800 GS (from 2013), F 800 GS Adventure (from 2014), BMW R 1200 GS (from 2007), R 1200 GS Adventure (from 2010) with BMW ESA	BMW R 1200 GS / Adventure (from 2013), F 850 GS/ Adventure, R 1250 GS/Adventure with DDC Fahrwerk
Remark	E1 is the introduction to the world of Touratech Suspension. Available for hundreds of motorcycle models from more than four decades.	Shock absorbers especially for Youngtimers, Scramblers and Heritage Bikes	Touratech shock absorbers from the Travel range are available in four different versions: Level 1, Level 2, High End and Extreme. All versions are extremely robust. The range of functions and settings vary, depending on the area of use - from "normal" touring use (Level 1) to expedition-like trips (Extreme).	For the R 1200 GS, the "Expedition" version with piggy back reservoir is also available. A lowering version is available for the F 800 GS.	Plug & Travel uses the DDC sensors and control units. Simple and quick replacement of the shock absorbers by using the original connectors. All functions (riding modes) are retained. The semi-active suspension elements are designed to be particularly robust. Lowered versions are also available.

SUSPENSION COMPONENTS

SERIES E1

GATEWAY TO ADDITION

Touratech Suspension E1 - that's the high end alternative to standard parts, whether it's a suspension upgrade or the replacement of worn components. And it is available for many hundreds of motorcycle models, from Sports Bikes through Naked Bikes to Neo-Classics.



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The performance of the standard suspension on every motorcycle deteriorates after a few years. At first barely noticeable, minor malfunctions start making themselves felt. When braking hard, the machine dips low, high-speed stability decreases and load changes during sporty corner-

ing become more noticeable. High time for a suspension upgrade.

With the E1 product range, Touratech Suspension has what it takes for used motorcycles to regain excellent suspension performance. And this for an incredibly wide range of ma-

BENEFITS TOURATECH SUSPENSION E1

- ▶ Ample dimensioned damper tube
- ▶ Base parts milled from a single piece
- ▶ Damper rod made of 16 millimetre thick chrome molybdenum steel
- ▶ high-quality finish
- ▶ Progressive spring
- ▶ Hydraulic spring preload as an option
- ▶ 50 click adjustable rebound damping
- ▶ With GOP



E1 shock absorber: High-quality components, high-class finish.



Full range: E1 suspension components are available for volume models of all years of construction up to Youngtimers.

Photos: Honda, Touratech, Yamaha

chines. Cutting-edge Street Bikes and Adventure Bikes are just as well catered for as Youngtimers and Classic Bikes.

To accommodate this wide range of motorcycles, the E1 series includes mono shocks as well as twin shocks. But Touratech Suspension E1 is much more than just a replacement. These high-quality suspension elements are the introduction to the world of professional suspension optimisation and feature very convincing performance data far above the series standard.

Base parts milled from the solid and a generously dimensioned damper rod made of 16 millimetre thick chrome-molybdenum steel form the basis for top performance. An amply designed damper tube ensures optimum heat dissipation so that the temperature balance of the damper remains stable even under heavy use.

Rebound damping of the shock absorbers can be adjusted very finely over the wide range of 50 clicks. Thanks to the progressive spring, the E1 series shocks offer a smooth response coupled with stable riding characteristics. The preload of the spring can be adjusted manually.

All components of the E1 suspension elements are given a high-quality surface treatment, which not only guarantees safe function and exceptional durability, but also gives the products a high-class look.

The E1 series high-quality suspension components are manufactured in Europe and come with a two-year "worry-free" warranty. All products are tested according to the strict guidelines of the Kraftfahrtbundesamt (KBA—German Federal Motor Transport Authority) and have a GOP. ◀◀



Progressive replacement springs are available for both original and lowered height.

SUSPENSION COMPONENTS

TRAVEL

FIRST CHOICE FOR ADVENTURERS

Travel series suspension elements from Touratech Suspension are specially designed for Adventure Bikes and touring motorcycles. This particularly high-quality technology, in conjunction with the special Touratech setup, ensures significantly improved ride comfort and finer responsiveness compared with the standard suspensions - even when fully loaded or off-road.

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BENEFITS TOURATECH SUSPENSION TRAVEL

- ▶ Special Touratech setup
- ▶ Adjustable rebound damping at the component's base
- ▶ Strong 16 mm piston rod made of chrome-molybdenum steel
- ▶ Separating piston design prevents mixing of damper oil and nitrogen
- ▶ Low-friction special seals with integrated Teflon backup ring
- ▶ High strength stainless steel bushings in the suspension spacer
- ▶ Fully service-enabled
- ▶ Available in different degrees of spring hardness
- ▶ With GOP



suspensions are well able to withstand the particularly high stresses of off-road riding with a full load. Low-friction, special seals with integrated Teflon backup ring ensure the low wear and long service life of the shock absorbers. High strength stainless steel bushings in the suspension spacer guarantee a backlash-free fit of the shock absorbers even after riding thousands of kilometres of trails.

To ensure consistently high performance over many years, the suspension components from Touratech Suspension are fully service-enabled. During regular checks at the Service Center, the nitrogen and oil are renewed and all components carefully checked. If, despite the robust construction, a component should ever become worn, it can be easily replaced.

Customers receive individually configured Travel suspension components based on a detailed suspension check. The spring hardness is specially adjusted to their weight and the intended use. Should conditions change, a spring of the appropriate hardness can be requested.

More than 30 years of experience with motorcycles on expeditions, at international rallies such as the legendary Dakar and Extreme Adventure Bike competitions have gone into the development of the "Travel" series.

The separating piston design, which prevents the mixing of damper oil and nitrogen, is the prerequisite for a fine response of the shock absorber.

Thanks to an extra-thick chrome molybdenum steel piston rod with a diameter of 16 millimetres, Travel series sus-



High-quality stainless steel spacer and rebound damping adjustment at the shock absorber base.



From the "Level 2" version onwards, Travel series shock absorbers have a hydraulic spring preload.



Travel "High End" and Travel "Extreme" series shock absorbers provide adjustment options for compression damping.



LEVEL 1 - EXPLORE	LEVEL 2 - EXPLORE HP	HIGH END - EXPEDITION	EXTREME
<ul style="list-style-type: none">▶ Fully service-enabled. The result being highest precision at all times and long service life▶ Adjustable rebound damping at the base of the damper with special Travel setup▶ Available with other spring rates to compensate for a higher or lower rider weight or load▶ Special Touratech setup of balance and damping	<p>as in LEVEL 1 plus</p> <ul style="list-style-type: none">▶ Solid hydraulic spring preload with 50% greater adjustment range - from weekend tours to long distance trips with luggage	<p>as in LEVEL 1 plus</p> <ul style="list-style-type: none">▶ Solid hydraulic spring preload with 50% greater adjustment range - from weekend tours to long-distance trips with luggage▶ Separately adjustable high and low speed damping for precise damping adjustment at very high damping frequencies and high loads▶ Piggyback reservoir on the damper for better cooling of the damper oil and improved damping performance during heavy use	<p>as in LEVEL 1 plus</p> <ul style="list-style-type: none">▶ Solid hydraulic spring preload with 50% greater adjustment range - from weekend tours to long distance trips with luggage▶ Separately adjustable high and low speed damping for precise damping adjustment at very high damping frequencies and high loads▶ Piggyback reservoir on the damper for better cooling of the damper oil and improved damping performance during heavy use▶ PDS - Progressive Damping System that uses a second damping piston to provide hydraulic protection against bottoming out

FOUR VERSIONS: LEVEL 1 TO EXTREME

Travel suspensions from Touratech Suspension are available in four different versions: Level 1, Level 2, High End and Extreme.

From Level 2 onwards, in addition to the basic features mentioned, Travel shock absorbers have a hydraulic spring preload with 50 percent more adjustment range to allow the balance of the vehicle to be adapted to particularly high additional loads.

From the High End version onwards, all shock absorbers from Touratech Suspension also have separately adjustable

high and low speed damping for precise adjustments at very high damping frequencies and high loads (poor roads / tracks with luggage). In addition, there is an piggyback reservoir that provides better cooling of the damper oil during heavy use.

In addition to the above features, Extreme shock absorbers are equipped with a PDS. The abbreviation stands for Progressive Damping System and describes a path-dependent damper piston that functions as a hydraulic bottoming out protection. ◀◀

SUSPENSION GLOSSARY

Balance Distribution of weight between front and rear wheel. Setting via adjustment of the ► *sag*.

Closed cartridge Design principle for front forks. The structure is similar to that of the shock absorber. The suspension is still provided by the fork springs, the damping takes place in a closed system - the cartridge. Damper oil and nitrogen cushion are separated by a piston. Advantages: finer response, extensive adjustment possibilities, high resistance against bottoming out .

Damper, emulsion Simplest form of shock absorber. Oil and nitrogen are not separated and form an emulsion. Advantages: Simple in design, slim form.

Damper, separating piston Damper oil and nitrogen are separated by a piston, which prevents foaming under high loads. Advantages: Constant performance even under extreme loads.

Damping, compression Damping of the compression movement. The flow resistance of oil forced through holes or valves slows down the axial movement of the suspension component. Adjustment only of shock absorbers with piggyback reservoirs.

Damping, rebound damping Damping of the rebound movement. The flow resistance of oil forced through holes or valves slows down the axial movement of the suspension component. Adjustment of all shock absorbers from Touratech Suspension.

DDA Dynamic Damping Adaptation. Sensor-controlled adjustment of the damping characteristics for electronic suspensions, determined by the road condition in real time.

ESA Electronic Suspension Adjustment. Setting of the damping characteristics of shock absorbers by electric remote control on BMW motorbikes

High Speed / Low Speed Adjustment possibilities of the ► *compression damping* for differing spring compression speeds, such as those caused by short hard hits versus long drawn-out undulations.

Mono Shock Single shock absorber. Usually installed centrally in the machine near the swing arm bearing. Often with linkage via a ► *progressive lever system*. Lateral mounting, similar to ► *twin shocks* also possible.

PDS Progressive Damping System. With appropriately equipped shock absorbers, two shock absorber pistons connected in series provide compression damping that increases with the ► *compression stroke*. While the first piston still produces relatively weak damping, the second piston,

which is actuated when a certain point of the maximum travel is reached, produces stronger damping. Advantages: The shock absorber can respond gently, but it is protected against bottoming out.

Piggyback reservoir External reservoir for additional damper oil. The larger quantity of oil increases stability under high constant load.

Plug & Travel Describes the easy installation of electronic suspension systems from Touratech Suspension, using all the original plugs and switches.

Progressive spring Spring with progressive ► *spring rate*. The spring force increases with progressive spring compression. Advantages: The suspension component responds gently, but has reserves to prevent bottoming out under extreme loads.

Sag Relative position of the spring to the vehicle. Determines the ► *negative spring travel* the ► *balance* of the vehicle.

Semi-active suspension Suspension whose shock absorbers adjust their damping characteristics in real time to the prevailing road conditions ► *DDA*. Sensors measure the axial acceleration in the damper and control an electronic valve that regulates the flow of the damper oil. Valve wide open: soft damping, valve more closed: hard damping.

Spring characteristic Describes the amount of spring force in relation to the spring travel. Linear: Spring force remains the same over the entire spring travel. Progressive: Spring force increases with increasing compression.

Spring preload Through adjusting the ► *sag*, the spring is compressed or released. Vehicle is raised or lowered as a result ► *Balance*.

Spring rate (= spring hardness) Describes the force required to compress a spring by a certain amount.

Spring travel, negative Spring travel that is "used up" by the deflection of the machine under its own weight (plus load).

Spring travel, positive Spring travel that is available after deducting the negative spring travel.

Twin Shocks Rear suspension with two shock absorbers mounted on the side of the swing arm.

SUSPENSION COMPONENTS

BLACK-T

CUSTOM SHOCK

Black-T suspension components are just the right material for suspension upgrades in the Urban, New Heritage, Scrambler and Custom ranges. These high-quality products combine the advantages of the latest technology with a cool custom look.



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Black-T was founded in 2015 by a group of petrol heads. Since then, exclusive custom parts have been created under the motto "It's not a brand, it's an attitude". The core of the product range is a selection of high-quality suspension components for Custom Bikes, Scramblers, Choppers and Cruisers as well as New Heritage Bikes.

The product line includes replacement springs for shock absorbers and forks, Closed-Cartridge-Kits and a wide range of suspension components. In addition to mono shocks, twin

shocks are also available for numerous models in line with the Heritage concept.

The Black-T springs and shock absorbers are available in different versions. The first tuning level, Black-T Stage1, comprises replacement springs for the fork or shock absorber.

The next stage, Black-T Stage2, includes shock absorbers or twin shocks in emulsion design. Rebound damping is adjustable in each case. Customers who opt for Black-T Stage3 receive suspension components with a piggyback reservoir.

BENEFITS BLACK-T SUSPENSION

- ▶ State-of-the-art technology
- ▶ Robust construction
- ▶ Enormous range of models
- ▶ Mono and twin shocks
- ▶ Cool custom look in black
- ▶ With GOP

Black-T Stage4 adds a hydraulic spring preload. Complementing this, the "High End" version, which also has separate adjustment options for high and low speed damping, is available for selected models.

Regardless of which version is suitable for your bike, all Black-T shock absorbers share a few key features. These include the solid piston rod made of chrome molybdenum steel for maxi-

mum load capacity and the low-friction special seals for low wear. A properly dimensioned damper piston is just as much a matter of course as the high strength stainless steel bushings in the suspension spacer.

Not only is an increasing number of end users, looking

for high-quality suspension components with a cool look, turning to Black-T components, but also numerous internationally renowned customisers use these

high end parts for their sensational builds. Partners include WalzWerk Motorcycles - who equip the entire Schizzo range, among many other models, with Black-T parts as standard - and Hollister's MotorCycles, a forge specialising in Indian and Harley-Davidson. ◀



Cartridge Kit for fork tuning

Top class: Black-T High End shock absorber with high/low setting and hydraulic preload.



Black-T Level2 type mono shock for Harley-Davidson



Indian conversion by Hollister's MotorCycles with Black-T Stage3



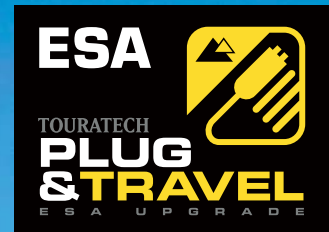
Black-T Level2 twin shocks in a Schizzo by WalzWerk



Black-T Level2 twin shocks for numerous Harley models

SUSPENSION COMPONENTS

ESA / DDA



ENERGIZED

Touratech Suspension offers high-quality replacements for BMW models with the ESA or DDA electronic suspension. Not only do these electronic suspension components have the robustness and ride comfort of the Travel series, they can also be used without any modifications to your motorcycle.



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“Plug & Travel” is the slogan for the electronic suspensions from Touratech Suspension. And this catchy claim really does stand for everything that defines these unique suspension components. Installation is carried out simply using the existing plugs, and operation is as usual via the switches on the handlebars.

The big difference, when compared to the standard parts, lies in the fact that these suspension components are con-

sequently designed for travelling. “Our Plug & travel ESA is a system that is consequently designed for long-distance travel with large amounts of luggage, and it is able to defy almost any road condition,” explains Touratech Suspension Product Manager Jo Glaser. This means that these shock absorbers display the proven quality features of the “Travel” series.

This includes the separating piston damper design as well

BENEFITS**TOURATECH SUSPENSION ESA / DDA**

- ▶ Easy replacement thanks to Plug & Travel: existing plugs and the switches are used as usual
- ▶ All riding modes and configurations are retained
- ▶ Patented DDA valve
- ▶ Touratech EPA (Electric-Preload Adjuster) with 15 mm additional adjustment range
- ▶ Same quality as Travel series shock absorbers
- ▶ Special Touratech basic setup of balance and damping
- ▶ Fully service-enabled
- ▶ Also available as lowering version
- ▶ Available with different spring rates
- ▶ With GOP

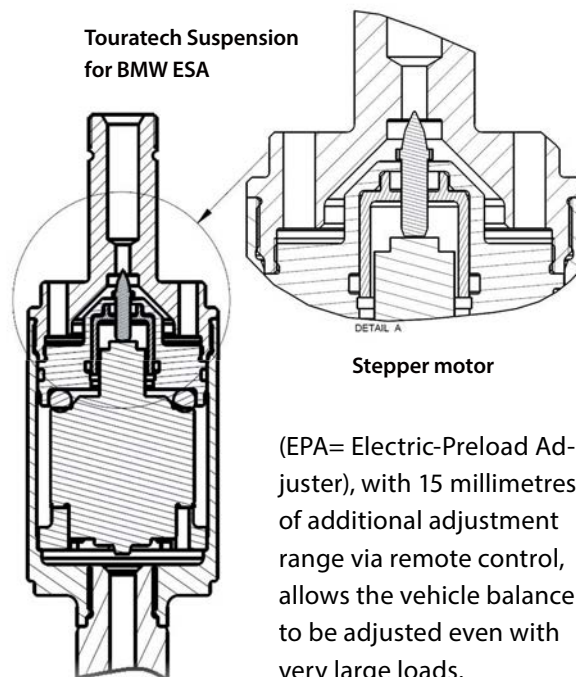
as the extra-thick damper rod, the high strength stainless steel bushings in the suspension spacer, and the low-friction special seals with integrated Teflon back-up ring. The electronic suspension is of course fully service-enabled

Depending on the model year, the electronic damping adjustment is carried out via our patented DDA valve or the Touratech Suspension stepper motor. The Touratech EPA



One of the many advantages of the Touratech Suspension ESA is the Plug & Play functionality, meaning that the original controls can still be used.

Touratech Suspension
for BMW ESA



(EPA= Electric-Preload Adjuster), with 15 millimetres of additional adjustment range via remote control, allows the vehicle balance to be adjusted even with very large loads.

Depending on the vehicle, the electronic shock absorbers are available with or without piggyback reservoir. For some models, separately adjustable high and low speed damping is available to ensure particularly precise damping adjustment at very high damping frequencies and high loads.

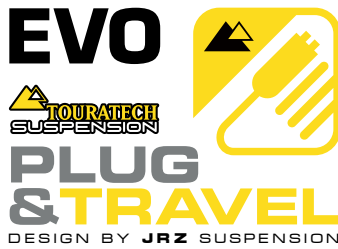
Last but not least, these electronic shock absorbers are also available as vehicle lowering versions. Without sacrificing the GS's off-road capability, this allows the seat height to be effectively lowered by up to 50 millimetres, so that smaller riders can also safely reach the ground with their feet.

For whom is this conversion worthwhile? "Our ESA suspension is of interest to anyone who wants electronic suspension for their GS when they are off touring" recommends Jo Glaser. When it comes to updating an older machine with worn original material to a completely new level, these high-quality components are the measure of all things. ◀◀





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SUSPENSION ELEMENTS

PLUG & TRAVEL EVO

THE SUSPENSION (R)EVOLUTION

In 2013, Touratech launched the Plug & Travel suspension system as a high-quality replacement for the electronic suspension elements on the Boxer-GS. The experience gained from millions of kilometres ridden has now been incorporated into the completely redesigned high-end Plug & Travel EVO series, which comes up with some revolutionary technical innovations.

The joy of innovation and the pursuit of perfection are in Touratech's DNA. Resting on one's laurels is therefore not an option for its busy developers. No wonder that, after almost 10 years, the question of a successor system for the Plug & Travel electronic suspension system, which has been tried and tested thousands of times, also arose with regard to the Boxer-GS.

"Touratech Suspension's service staff have meticulously documented customer feedback over the years, providing a broad database based on millions of kilometres ridden," says Jo Glaser, Product Manager at Touratech Suspension. "Our development team has unearthed this wealth of data and identified the potential for further development."

Conceptually, the Plug & Travel EVO electronic suspension system, like its predecessor, is tailored precisely to the requirements of adventure riders who demand a finely responsive suspension system with large reserves for trips with a high payload also on unpaved roads. Technically, however, Generation EVO is a completely new design.

STRONG PARTNERS FOR A PERFECT PRODUCT

Equipped with almost a decade of experience in the development and distribution of high-end electronic suspension systems as well as the feedback from millions of kilometres ridden, Touratech has teamed up with two technology companies, leaders in their respective segments, to develop the Plug & Travel EVO. "We were faced with the challenging task of redesigning an excellently functioning electronic suspension system while retaining its proven strengths and opening up new benefits for our customers," explains Glaser, an experienced Africa traveller and Touratech veteran, who has been product manager for Touratech Suspension for ten years.

"Eibach was our chosen partner for the development and production of our springs. And for good reason: the company, based in Fennentrop in the Sauerland region, has not only made a name for itself as a supplier to the automotive industry in its 70-year history; Eibach is also the number one manufacturer of performance suspension systems in high-end tuning.



The "inner workings" of the completely redesigned Plug & Travel EVO rely on the most advanced technologies.

"The electronically controlled valve is the heart of every semi-active suspension element," the Product Manager explains. "In JRZ Suspension Engineering, we found the perfect partner for this area," Glaser continues. "The Dutch specialists look back on almost three decades of suspension system development for top-level racing and have internationally unique expertise when it comes to electronic suspension systems".

JRZ is also the partner for series production. Located in Uden, halfway between the Ruhr and Rotterdam, this company boasts state-of-the-art machinery and quality assurance. From design to series production, JRZ combines all steps under one roof.

WORLDWIDE PATENTED ELECTRONIC VALVE

The Plug & Travel EVO semi-active suspension system adjusts the damping in real time to the current conditions of the ground. For this purpose, the path and speed of the compression and extension movements are recorded by sensors. Based on this data, the electromagnetic valve regulates the oil flow. In the case of fast, vigorous movements, resistance is increased to firm the damping, whereas if movements are slow, the valve opens to allow the suspension system to respond smoothly to the ground conditions.

The result is not only a smooth response with maximum reserves against botto-

ming out. The permanent adjustment of the damping also ensures the best possible contact between wheel and road, which is essential for riding safety in extreme situations.

The electronic valve used in the new Plug & Travel EVO suspension system line is patented worldwide. It reacts to the electronic control with unprecedented precision. And even when subjected to extreme damping pressures during tough offroad use, the flow, and therefore the damping, remains absolutely constant.

NEW HYPER FLOW DAMPER PISTON

The Hyper Flow shock absorber piston in the spring elements of the Plug & Travel EVO series has been completely redesigned. The oil flow is optimised in such a way that foam formation at very high damper speeds is effectively suppressed. Cavitation damage caused by collapsing oil bubbles is now a thing of the past.



Uniball bearing for highest loads



Super light: Aluminium alloy bushes





UNIQUE LOW FRICTION SEAL

To ensure maximum sealing of the damper with the lowest possible friction, the seal on the piston rod has also been redesigned. Due to the modified shape of the ring and effective support of the sealing lip, the sealing surface and therefore the friction remain constant at all times, regardless of the load. This guarantees the low breakaway torque required for sensitive response and prevents the unpleasant slip-stick (backsliding) effect.

SLIM DESIGN, MAXIMUM FUNCTIONALITY

The slimmer damper design also contributes to the sensitive response. "We rely on a one-piece, milled bottom part for the new Plug & Travel EVO line," Jo Glaser explains. "Compared to the two-piece constructions that are often used, this solution not only gives us a good deal of additional strength, but we are also able to save a lot of material thanks to the elaborate shaping that is precisely matched to the load," the expert says. "This has allowed us to noticeably re-

BENEFITS TOURATECH SUSPENSION PLUG & TRAVEL EVO

- ▶ The one-piece milled bottom part offers maximum stiffness with low weight
- ▶ Convenient pressure stage adjuster Simple setup in 15 steps with only one controller
- ▶ The Hyper Flow damper piston optimises oil flow and suppresses foam formation
- ▶ Low-friction seal for low breakaway torque and sensitive response
- ▶ The newly developed electromagnetic valve guarantees fine response and highest control quality even under extreme continuous load
- ▶ End stop with progressive buffer
- ▶ Robust electric preload adjuster for faster adjustment with improved durability
- ▶ Maximum possible spring travel
- ▶ A new, lighter design ensures lower unsprung masses with increased strength
- ▶ High-quality Uniball bearings ensure minimum tolerances and highest wear resistance
- ▶ With GOP



Noticeably improved operating comfort thanks to the pressure stage adjuster with easy-to-read scale and the extremely powerful electric preload adjuster.

MERCILESS TEST BENCH TESTING

Before the new suspension elements went into field testing, a comprehensive test procedure was carried out on the test bench. A test device was specially developed for internal durability tests. Even lateral loads were simulated with weights, and the cooling of the damper was carried out using a fan to replace the airstream. To obtain the most realistic environment possible, the electronic valve of the damper was connected to a complete motorcycle electronic system. On the test bench, the dampers had to withstand one million strokes at full compression and an additional 30 kilograms of lateral force.

The result:
not a single one leaked!

duce the weight of the suspension elements, which reduces the unsprung masses and has a positive effect on the riding characteristics."

And the new design of the electronic shock absorbers offers yet another fundamental advantage. Despite the smaller dimensions, the EVO elements realise the maximum possible stroke. In other words: more spring travel than that is not possible with the standard suspension geometry of the BMW R 1250 GS.

SEAMLESS INTEGRATION INTO YOUR VEHICLE

In line with Touratech Suspension's Plug & Travel philosophy, superior functionality is complemented by seamless integration into your vehicle. This means that the electronic suspension elements from Touratech Suspension can simply replace the standard Dynamic ESA shock absorbers on the BMW R 1250 GS.

Installation is now even easier due to the slimmer layout. All standard plug connections are retained and operated as usual via the GS's standard switches. In line with this philosophy, the new EVO line does without an intermediate control

unit and now processes the data from the central function unit (CFU) directly. Time-consuming teaching of the electronics is therefore not necessary. In addition, the integrated control system is able to immediately take into account all software updates installed via the BMW service, so that no additional suspension element update is required.

ELECTRIC PRELOAD ADJUSTER WITH MORE POWER

The electric preload adjuster for electronic adjustment of the spring preload has also been completely redesigned. The engineers have succeeded in achieving a higher torque for rapid compression of the spring at a lower operating pressure. This puts less stress on the seals, which results in even longer durability.

COMFORTABLE SUSPENSION SYSTEM SET-UP

The pre-setting of the compression damping on the new PLUG & TRAVEL EVO line is intuitive, using a single element.



In addition to testing carried out on the series vehicle, pre-series variants of the new Plug & Travel EVO were subjected to extreme tests in the Touratech R 1250 GS Rallye.

Adjustment is carried out in 15 steps with an easy-to-use rotary knob, equipped with an easily readable scale. This also enables less experienced users to reliably implement individual suspension system setups.

END STOP FOR THE TOUGHEST APPLICATIONS

To meet the demands of the most extreme trails, the suspension elements of the Plug & Travel EVO series have an innovative end stop made of a foam-like plastic. This material deforms progressively under pressure, so that a gentle braking of extreme compression movement at the end of the working stroke can be achieved.

HIGH-QUALITY UNIBALL BEARINGS

The high-quality Uniball bearings are distinguished by minimal tolerances. The surface-treated steel used for the robust and smooth-running swivel bearings also guarantees

maximum durability. The new rubber seals are particularly pressure-resistant, so that they effectively keep out dirt and water, preventing premature wear.

The bushes for bolting them to the vehicle are made of a special aluminium alloy, providing an additional contribution to the reduction of weight.

"With the Touratech Suspension Plug & Travel EVO, we can offer demanding GS riders an electronic suspension system that retains all the advantages of the predecessor model," Product Manager Joe Glaser says with satisfaction. "In this new design, however, we've taken all the experience gained over the past ten years into account, meaning that our customers receive a product with unprecedented performance whose advantages they will love on every trip."

TOUGH PRACTICAL TESTING

Parallel to the endurance tests on the test benches, extensive riding tests were also carried out. This is why ready-to-ride pre-production samples were created at the beginning of the development process, allowing the new Plug & Travel EVO to be put through its paces using a wide variety of basic set-ups over thousands of kilometres.

Rally crack Dirk von Zitzewitz was always present during the field tests in the toughest terrain. After months of intensive testing, Dirk came to the conclusion:

"For me, the absolute best suspension for the GS!"



Dirk von Zitzewitz: German Enduro champion 15 times, 5th and 7th place in the motorcycle classification of the Dakar Rally and winner of the Hellas Rally in the two-cylinder class.



SUSPENSION COMPONENTS

CARTRIDGE KIT EXTREME

THE FINER THINGS

The performance of a motorcycle fork is drastically improved with the Cartridge Kit Extreme. Response, damping performance and bottoming out resistance are raised to a whole new level. And best of all: this kit replaces the original interior of the fork without the need for any conversion measures.

MODEL LIST
on page 42

Until recently, optimisation of the standard fork was only possible within very narrow limits. By installing progressive fork springs and changing over to a special oil, the overall performance of the fork could be significantly improved, but adjustment possibilities for adapting to different conditions of use were still limited by the configuration of the standard fork.

Touratech Suspension has therefore gone the decisive further step with the development of the "Cartridge Kit Extreme". This system, designed as a "closed cartridge", combines spring and damping components in one unit and thus replaces the complete interior of the original fork. "Strictly speaking, this system is a shock absorber for the fork," says Touratech Suspension Product Manager Jo Glaser, summing up the functional principle.

Regardless of its original equipment, the fork receives completely new functions through the installation of the Cartridge Kit Extreme. The spring preload in both rods can be pre-loaded by 20 millimetres with 12 clicks to adjust the balance of the motorcycle to different loading conditions.

Rebound and compression damping are adjusted separately on each fork rod. The adjustment option range extends over 20 clicks. "One absolute plus is the fine response and the damping performance that can be reproduced at any time, even under the most extreme demands," says suspension expert Glaser, explaining the advantages of the unit compared to a standard fork. In addition, the "hydraulic endstop" prevents the fork from bottoming out even over extreme terrain.

BENEFITS CARTRIDGE KIT EXTREME

- ▶ Adjustable preload, as well as rebound and compression damping
- ▶ Fine response
- ▶ Highest protection against bottoming out
- ▶ Stability under high loads
- ▶ Simple exchange
- ▶ Fully service-enabled
- ▶ With GOP

What sounds good on paper is amazing in practice. After extensive testing, this is something the product manager is well able to promise. "A cartridge unit like this can even cope with extremely high damping frequencies, such as those that occur on tracks with corrugated surfaces. The Touratech Suspension Closed Cartridge was specially designed by us for the high demands of long-distance travel with large loads", explains Jo Glaser.

To ensure that the damping remains stable even under high loads, particularly robust components such as a 10 millimetre thick piston rod and a 35 millimetre diameter piston are



sively for lubrication. Even if a fork oil seal should leak while travelling, this means that the function of the fork is fully maintained.

The Cartridge Kit Extreme is delivered completely ready for installation with the matching spring and a special "Touratech Setup" for each particular motorcycle. The setup is designed to be used for adventure and touring trips. Fork rods, bridges and handlebar mounts remain untouched during the conversion, which is why the geometry of the motorcycle does not change in the slightest.

"With the Cartridge Kit Extreme, our customers acquire the perfect counterpart to our shock absorbers. This system offers all the adjustment possibilities that you know from

a rear shock absorber," Jo Glaser summarises. This means that conversion is the method of choice when it comes to improving riding safety and performance, especially for motorcycles that have no adjustment options on the fork as standard.

Just like all suspension components from Touratech Suspension, the "Cartridge Kit Extreme" is also completely service-enabled. Lowering variants are also available for certain motorcycle models. ◀



at work inside the cartridge.

The damping oil is contained in a Closed Cartridge and the nitrogen is in a bladder at the base of the cartridge. This is what makes the very fine response possible in the first place, along with the extremely high sturdiness and stability of the fork. Due to the separation of oil and nitrogen, there is no foam in the fork, and no sign of the notorious stick-slip effect, as the unpleasant, stick-slip phenomenon is called. In contrast to a standard fork, the oil in the fork rods has no damping function and is used exclu-

The Cartridge Kit Extreme simply replaces the original interior of the fork.

PERFORMANCE PARTS

STEERING DAMPERS

SETTLE DOWN

Whether you are riding on trails with a full load or off on a sporty country road trip, the Touratech Suspension CSC steering damper effectively optimises your riding stability.



Numerous factors can negatively influence the riding stability of a motorcycle. These factors consist not only

of the effects of unevenly worn tyres or overloading at the rear. If circumstances are unfavourable, turbulence caused by lorries or ruts in the road can also create havoc with your suspension.

The Touratech Suspension CSC steering damper provides a safe remedy with guaranteed optimal riding stability at all times. The abbreviation stands for Constant Safety Control and describes the unobtrusive and constant effect of the damper. Handlebar kick-back is reliably suppressed, as is oversteering when cornering slowly.

CNC-milled from high quality 7075 aircraft aluminium, this product meets the highest standards of stability. The stroke of the linear, finely responsive damper is tuned to the specific

BENEFITS CSC STEERING DAMPER

- ▶ Effective suppression of suspension unrest
- ▶ Sensitive response
- ▶ Finely adjustable damping
- ▶ Model-specific stroke
- ▶ Vehicle-specific mounting kit
- ▶ With GOP

vehicle, and the damping effect can be precisely adjusted via 24 clicks.

Delivery includes a model-specific mounting kit. Thanks to the Allgemeiner Betriebserlaubnis (German general operating permit - GOP), no registration is required.

Touratech Suspension CSC steering dampers enable riding characteristics on a completely new level - even under the most difficult conditions. ◀◀

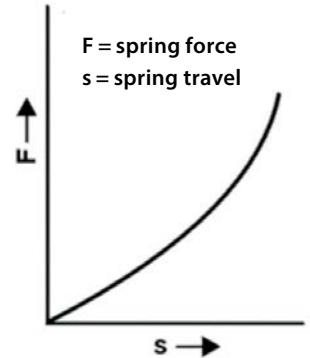


All steering dampers are supplied with a model-specific mounting kit.

MODEL LIST
from page 41



Characteristic curve of a progressive spring: the spring force increases with increasing compression.



SMALL EFFORT, BIG EFFECT

Even without completely replacing a suspension component, a significant improvement in riding characteristics can be achieved by installing higher quality springs.

SUSPENSION COMPONENTS REPLACEMENT SPRINGS

It is often small measures that have a big impact. This is also the case when replacing standard springs with products from Touratech Suspension. Specially designed for the respective motorcycle model, these replacement springs not only offer improved suspension comfort but also more reserves when riding in pairs or with a heavy load.

The fork springs are also “continuously progressive” along their entire length. This means that the springs gradually harden with increasing compression. This allows for a very sensitive response with no sacrifice

of maximum protection against bottoming out in extreme situations.

Replacement springs from Touratech Suspension are available as an inexpensive and effective upgrade for numerous motorcycle models. All replacement springs have GOP. These are available individually for the fork or as a set for fork and shock absorber. Oil of the appropriate viscosity is always supplied for both sets and fork springs. ◀◀



BENEFITS REPLACEMENT SPRINGS

- ▶ Fine response
- ▶ Damping reserves for heavy loads
- ▶ Improved wheel control
- ▶ Ideal for riding with a partner and / or with luggage
- ▶ With GOP

SUSPENSION COMPONENTS

LOWERING

GROUNDING

With their long spring travel, Adventure Bikes present a challenge to many a rider and even more to women riders. Safe ground contact with both feet is not possible in many situations. The remedy lies in the lowering kits from Touratech Suspension, which reduce the seat height while maintaining off-road capability.

Long spring travel makes you fast - this age-old Adventure Bike wisdom still holds true today. The longer the travel, the more sensitively the suspension components can be designed to effectively "eliminate" uneven ground. But for many people, an Adventure Bike - and we're not just talking about the tough Sports Bikes, but also the popular Dual and Adventure Bikes - is simply too high. After all, not everyone has the riding skills of little big Gaston Rahier, who casually swung himself onto his Dakar Racer from the foot peg. The majority of Adventure riders want their feet to be in contact with the ground at all times.

Even if smaller riders can balance an Adventure Bike to some extent by standing on the tips of their toes when they stop at traffic lights, critical situations can suddenly occur off-road, even leading to painful falls. If you are travelling off-road with luggage, the problem is increased.



LOWERING OPTIONS MANY WAYS TO ACHIEVE THE GOAL

From replacing the original springs to using high end shock absorbers with reduced travel - Touratech Suspension offers vehicle lowering solutions to meet different budgets. But no matter which solution the customer chooses, Touratech Suspension stands for premium quality.



Touratech has developed lowering kits for numerous motorcycle models. The simplest solution, which is often quite sufficient, is to replace the suspension springs in the fork and shock absorber. For the front suspension, springs with progressive characteristics are used.

Even better performance of the lowered suspension can be achieved by using high quality shock absorbers in combination with appropriately adapted fork springs. Closed cartridge kits are also available for lowering.



For the Boxer-GS, we recommend the combination of two shock absorbers with reduced travel - these are available both in conventional design and as an electronic DDA / Plug & Travel suspension set.

Regardless of which solution the customer decides on, every conversion is preceded by extensive personal consultation to ensure a comprehensive, individual solution.



CAREFUL ANALYSIS OF THE PROBLEM

“When customers approach us with this problem, we check various options for reducing the seat height,” explains Felix Knop, responsible for suspensions from Touratech Suspension. “The first and often most inexpensive step is a flatter seat. We have correspondingly upholstered versions in our product range for a large variety of Adventure Bikes,” says the expert. Only if we fail to achieve a satisfactory result with that do we get down to the nitty-gritty, i.e. the suspension.”

This was also the case with Renata’s BMW R 1250 GS. Renata is known to a wider public due to her motorcycle adventures alongside her husband Dieter, which the two publish on social media under the label Duo 93 Adventure. With a height of 164 centimetres, Renata is certainly not one of the

smallest motorcyclists but, for her, safe ground contact with both feet was hardly possible on her GS. “For our world tour, I wanted a motorcycle that combined maximum safety with the best performance and comfort,” Renata describes the initial situation.

Her 1250 was factory-equipped with the BMW ESA, which had also served her well up until then. “Even though the ESA offers good performance and we were basically satisfied, it is still clear that a large-series suspension can only be designed for an “average person” and an average additional load. Along with this wish for an individual set-up, there was also the wish for a reduced seat height.

With the DDA / Plug & Travel suspension lowering set, Touratech Suspension had the perfect product on the shelf for this purpose. “As with all our suspension components, the first thing we do when converting to this electronic suspension is a suspension check” explains Knop. “We use a particular system to record impor-

Thanks to the lowering kit from Touratech Suspension, even a lady with a height of 164 centimetres can safely reach the ground with both feet.



tant parameters such as rider weight, planned additional load, riding style and area of use. On this basis, we select the suspension components and tune them individually."

Like the version with standard spring travel, the Touratech Suspension lowering component is integrated into the motorcycle via the original BMW control unit. According to the motto "Plug & Travel", the existing plug connections can simply be used. The configuration options for the various riding modes and the additional load adjustments remain the same.

PRECISION COMPONENTS FOR SENSITIVE RESPONSE

This electronic suspension is manufactured with the same precision components as the conventional parts from Touratech Suspension, plus the patented DDA high performance valve. This adjusts the damping to any riding situation in a fraction of a second. The electronic suspension components are also fully service-enabled.

In the case of lowering, the shock absorbers offer an additional adjustment of the damping characteristics to achieve optimum performance in both on-road and off-road use, despite reduced spring travel. By installing the DDA / Plug & Travel suspension lowering set, Renata's GS ended up with a seat height reduced by 40 millimetres in addition to a setup specially adapted to her needs.

This adventure rider has already covered more than 20,000 kilometres with her new suspension on a wide variety of tracks. "We rode ACT Italia - at times with full luggage load - and completed a five-week Iceland trip, 60 to 70 per cent of which was off-road on gravel roads, grit, and tracks with corrugated surfaces. Especially under these conditions, the Touratech suspension proved to be outstanding and we were grateful for it every day," Renata describes her experience with the conversion so far.

Touratech regularly receives similar feedback from customers who have lowered their motorcycles. "Of course, you lose some spring travel by lowering the bike, which initially doesn't seem desirable for an Adventure Bike," Felix explains. "But the safety gained by having your feet on the ground at all times easily compensates for the few centimetres of lost spring travel," Knop continues.



These lowering kits are manufactured using the same high quality components as the standard DDA Plug & Travel type.

THE MODEL-SPECIFIC TUNING MAINTAINS THE OFF-ROAD CAPABILITY

Touratech has developed lowering sets for a wide range of motorcycle models. The careful tuning of spring hardness and damping characteristics compensates for the loss of spring travel as far as is possible, and in return the customer receives a motorcycle that perfectly suits their individual stature - for safe and certain off-road fun. ◀

Touratech Suspension suspension set Plug & Travel, lowering by 40 Millimetre, for BMW R 1200 GS / R 1250 GS Adventure from 2017. Item no.: 045-5867, price EUR 2999

SUSPENSION WORKSHOP

ADJUSTING THE SUSPENSION

If the load on a motorcycle is increased, the balance of the vehicle changes. To maintain comfort and riding stability the suspension elements must be adjusted accordingly. The damping can also be adapted to suit different riding conditions. We'll show you how it's done.

Thanks to the Touratech Set-up, the shock absorbers from Touratech Suspension are "out of the box" for 90 percent of ground surfaces and uses. However, it is important to adjust the spring preload as the load increases, because a motorcycle has a structurally desired distribution of weight between the front and rear wheels - the "balance".

Adjusting the vehicle balance

The weight of the motorcycle itself already compresses the springs of the suspension. This is the static sag. It should be around 10 percent of the total spring travel. If a rider and pillion passenger sit on the motorcycle, or luggage is loaded, the bike sinks further into its springs. This condition is called the rider sag or ride height. Optimally, 30 percent of the total spring travel is "used up" with this.

To determine the values of the zero position, a fixed reference point on the vehicle must be determined and measurement taken of the distance between the axle and this point.

To ensure that the riding characteristics change as little as possible despite the changed load, the motorcycle must be brought back into balance under load. To do this, raise the rear by adjusting the sag. This preloads the spring.

Adjusting the damping

The damping must also be adapted to suit changing conditions. All shock absorbers from Touratech Suspension allow adjustment of the rebound damping. Shock absorbers from the High End and Extreme series also allow adjustment of the compression damping. The "Highspeed" setting option adjusts the compression damping for short (fast) compression movements, such as those that occur on stony tracks. The "Lowspeed" function influences the damping during slow compression, experienced over long bumps. «



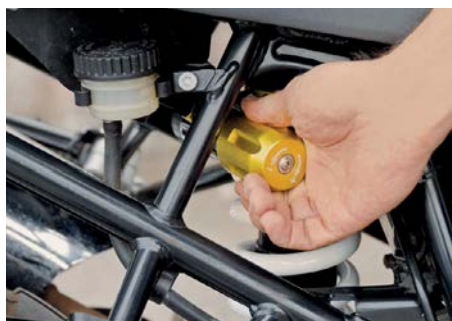
Set the reference point on the vehicle and determine the distance from the axle to the reference point. **Measurement 1** with unloaded suspension (e.g. motorcycle on centre stand).



Measurement 2 when loaded with the vehicle's own weight. Difference to measurement 1 gives the static sag. This should be 10 % of the total spring travel.



Measurement 3 under full load for the desired area of use. Difference to measurement 2 approx. 30 % of the total spring travel. If this is not the case, adjust the spring preload.



The **preload of the spring** adjusts the balance of the motorcycle.



The **rebound damping** can be adjusted on all shock absorbers from Touratech Suspension.



The **compression** in the high and low speed range can be adjusted on shock absorbers with a piggyback reservoir.

ADJUSTING THE SPRING PRELOAD AND DAMPING

► **Asphalt: with pillion passenger and luggage** To keep the motorcycle in the right balance despite the greater weight, the preload of the shock absorber spring must be increased until the ratio between positive and negative spring travel is reached again. The damping should be set a little firmer to prevent any annoying bouncing of the motorcycle.

Spring preload: increase slightly at the front, more at the rear **Compression damping:** slightly firmer at the front, firmer at the rear **Rebound damping:** slightly firmer at the front, firmer at the rear (be careful not to tighten too much, so that the shock absorber can still rebound quickly enough)

► **Off-road solo with luggage:** The additional load has a particular effect on the rear end, so increase the preload there. To stop the rear swinging, the damping must also be set firmer. However, if you dampen the rebound damping too much, the shock absorber cannot rebound during a quick succession of impacts. As a result, the positive spring travel decreases more and more.

Soft ground: **Spring preload:** increase slightly at the front, more at the rear **Compression damping:** slightly firmer at the front, firmer at the rear **Rebound damping:** slightly firmer at the front, firmer at the rear (be careful not to tighten too much, so that the shock absorber can still rebound quickly enough)

Hard ground: **Spring preload:** slightly increased at the front, more at the rear **Compression damping:** slightly softer at the front and rear **Rebound damping:** slightly softer at the front and rear

ADJUSTING THE HEIGHT OF THE MOTORCYCLE

► **Determining the total spring travel** Raise the motorcycle on the centre stand or assembly stand - the suspension elements are fully extended. Measure the distance between a defined point on the motorcycle and the axle on both wheels. A common mistake is to choose the point on the vehicle vertically above the rear axle. Since the axle describes a circular arc movement when the swing arm is compressed, the ideal reference point is slightly in front of the vertical through the rear axle.

► **Static sag** Stand the motorcycle on both wheels. Again, measure the distance between the defined point and the axle. The motorcycle should compress the spring by about 10 percent of the total spring travel.

► **Dynamic sag** Stand the motorcycle, fully fuelled and with a typical load (e.g. with rider, pillion passenger in riding clothes, and luggage), on both wheels. Again, measure the distance between the defined point and the axle. The motorcycle should compress the spring by about 30 percent of the total spring travel. If this value deviates too much from the 30 percent despite pretensioning/relaxing the spring, a harder or softer spring must be fitted.

On the BMW boxers with telelever, it is hardly ever necessary to change the preload, as different loading conditions have little effect on the front suspension component.

SUSPENSION SERVICE



Regular customer service contributes to the consistent performance of your suspension components. That is why, like the cartridge kits, all shock absorbers from Touratech Suspension are fully service-enabled. After a thorough inspection, the experts at the Service Centre change the damper oil and give the shock absorbers a fresh charge of nitrogen. If necessary, seals and bearings are renewed. In this way, the products from Touratech Suspension maintain their unique performance over tens of thousands of kilometres. And if something should break, despite the exceptionally high quality - no problem: the affected component is replaced by our suspension professionals - and the shock absorber is as good as new. <<



SERVICE CENTER NIEDERESCHACH

We offer the following services:

- ▶ Adjustment
- ▶ Spring exchange
- ▶ Suspension exchange
- ▶ Suspension / installation conversion
- ▶ Lowering
- ▶ Tuning
- ▶ Fork spring exchange
- ▶ Cartridge installation
- ▶ Steering damper installation

In addition:

- ▶ Complete service and overhaul of shock absorbers / suspension

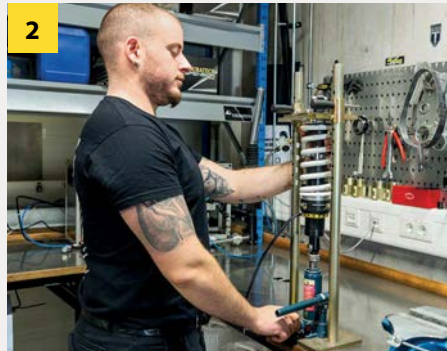
Service & revision of numerous suspensions of well-known manufacturers

Let our experts advise
you: +49 (0) 77 28 92 79 15 55





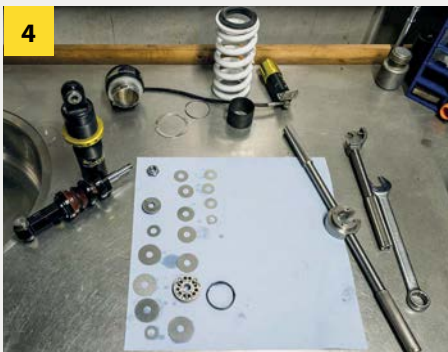
1 The first contact. The shock absorber arrives at the Service Center. The order is recorded and all data checked.



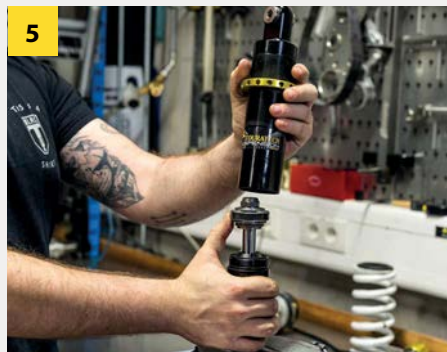
2 Disassembly of the spring: This work process is not only the first step in dismantling the damper. It is also necessary if a spring with a different spring rate is to be used.



3 After checking the shock absorber, the nitrogen is allowed to escape. Now the damper housing can be opened. This is followed by draining the damper oil and removing the piston rod.



4 The interior: Shims, damper piston and seals. All parts are carefully inspected for wear and damage.



5 After inspection and repair, the strut is reassembled. A new piston sealing tape is mandatory. If necessary, the sealing head is also replaced.



6 After filling with fresh oil, the shock absorber is refuelled with nitrogen. This is followed by a final inspection.



SERVICE CENTERS WORLDWIDE

Suspension services are carried out by carefully trained staff with many years of experience.

- ▶ Touratech Headquarters, DE
- ▶ Touratech Orange, FR
- ▶ Touratech Czech Republic
- ▶ JJSuspension Netherlands
- ▶ Touratech Sweden
- ▶ Touratech Turkey
- ▶ Touratech Peru
- ▶ Touratech USA

Contact details of our support points online at www.touratech.com

CARTRIDGE KIT IN EXTREM-TEST

In the demanding terrain of Carbon Ridge in Washington State, Paul Guillien and Iain Glynn from Touratech USA tested a BMW F 800 GS equipped with the Cartridge Kit from Touratech Suspension in direct comparison to a machine with standard suspension.



Paul Guillien, CEO Touratech USA

I love the BMW F 800 GS and have certainly ridden more kilometres on it than on any other Adventure Bike. When riding off-road or with full luggage, however, you quickly reach the limits of the standard fork. It is too soft and lacks cushioning. To make matters worse, there is no way to adjust the spring preload,

which often leads to incorrect negative spring travel and significantly affects the handling.

In this test we rode a conventional F 800 GS together with a second machine on which a Cartridge Kit was fitted at the front and a replacement shock absorber for the ESA variant at the rear.

On slippery roads, the behaviour of the bike with the Cartridge Kit is balanced and confidence-inspiring - even at higher speeds and with luggage. The notorious dipping when braking has completely disappeared and the enjoyment of winding roads is greater than ever. The machine's reactions are so well-balanced and reliable that you almost forget it has a 21-inch front wheel.

Off-road, impacts are effectively absorbed and the bike quickly returns to a neutral position, giving the rider a sense of security. Challenges that once seemed huge turn into



On each pass, we reset the adjusters for rebound and compression damping to improve handling.

pure fun, tempting you to immediately turn around and ride that stretch again. And since our aim was to test the suspensions, that's exactly what we did.

On each pass, we reset the adjusters for rebound and compression damping to improve handling. These adjustments can easily be made with a small tool while seated.

Back on the series machine again, I noticed how much it was working under me, which was extremely irritating. I gradually began to understand how much energy and attention it was costing me to keep bringing the bike under control.

With the standard fork, you tire much more quickly and are distracted from the actual experience, especially on long off-road stages. In rocky or uneven terrain, the fun factor decreases rapidly if the fork is too soft and offers no reasonable damping.

A Cartridge Kit, now available for numerous Adventure Bikes, is without question an expensive upgrade, but there is nothing else that produces a comparable improvement in fork performance. In terms of functionality, it is after all almost a new fork. Consequently, the riding characteristics after the conversion are unrecognisable. <<





ADV TRAVEL BUG

SANDRA'S TIGER 900 RALLY PRO

After adjusting the components of the Touratech suspension on my Tiger 900 Rally Pro, I was surprised how much the driving characteristics improved. The motorcycle is always stable, no matter how rough the terrain. The degree of comfort has increased significantly and I feel safer on the motorcycle.

I used to think that an investment in suspension tuning wasn't necessary for average Adventure riders who, like us, travel the world and don't compete in motorsports. I'm very familiar with the Triumph Tiger, and having ridden it with the suspension from Touratech Suspension, I'm convinced that everyone benefits from the advantages of these components. The new suspension has boosted my confidence off-road!

FIONA'S TIGER 900 RALLY PRO

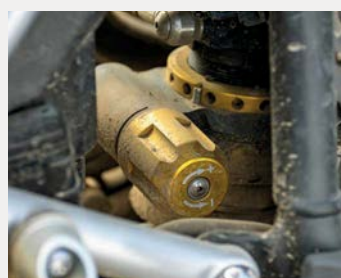
Without the lowering provided by Touratech Suspension, I wouldn't be able to ride the Tiger 900 Rally Pro with confidence. I've just passed my motorcycle test, and to feel comfortable on such a big bike, I wanted to be able to reach the ground with my feet, which with my height (163 cm) required more than just a lowered seat. My concern was that the spring travel would be very short. But these suspension components are perfectly tuned, so that the suspension also functions excellently off-road. The lowering provided by Touratech Suspension enables me to ride a motorcycle on which I would otherwise not feel safe.

Sandra and Fiona are ADV Travel Bug. These two adventurers have quit their jobs and are now full-time world travellers. <https://advtravelbug.com>

MARTIN LEONHARDT

As a long-term globetrotter, I really appreciate a well-tuned suspension. The Touratech shock absorber and fork springs have accompanied me on many adventure trips over the last few years.

In particular the DDA variant, used in a BMW R 1200 GS (built 2018), leaves absolutely nothing to be desired, delivering smooth comfort or direct response at the touch of a button. Endless gravel roads, hard washboard tracks and wildly winding stretches merge into one big pleasurable experience.



The adjustment process for my older KTM 1190 Adventure R (built 2012) and most recently on my Triumph Tiger 900 (built 2021) is the same. With regard to the latter, I'm particularly impressed by the clear



low to high speed differentiation. Thanks to the suspension components from Touratech Suspension, I can adapt my preferred hard setup perfectly to all situations. Deep pot-holes, boulders and unexpected changes of surface lose all their terror as a result.

Martin Leonhardt is a professional motorcycle traveller and, as a sought-after speaker, shares his adventures with a large audience. www.martin-leonhardt.de

LASDOSMOTOS

I was aware that we would be travelling thousands of kilometres on dirt roads and with a full load as well. So I replaced the factory default suspension on my 1200 with Travel Extreme shock absorbers from Touratech Suspension.

Of particular importance to me was the option of individually and precisely adjusting the suspension elements to my weight, my riding style and my personal sense of comfort and safety. Of course, you don't want to readjust this after every turn, but you don't have to, because the basic setting already covers a fairly broad spectrum and gives you a good feel for the load at all times.



I was immediately impressed by the fine response of the suspension components and the precise handling.

But the fact that the shock absorbers lasted for 100,000



kilometres without a single service really surprised me. I think that is an insane achievement and speaks for the quality of the components. And what's almost even better than that is that I can now simply let the shock absorbers be overhauled and end up with a new suspension, as it were. I would choose a suspension from Touratech Suspension every time.

Verena and Raoul from Munich are Lasdosmos. For two years, they both travelled the world on their BMW motorcycles, an F 800 GS Adventure and a R 1200 GS Adventure.

www.facebook.com/lasdosmos

HOLLISTER'S MOTORCYCLES

For our conversions, we rely on a mix of self-developed components and bought-in premium parts. When it comes to suspension, we increasingly choose suspension components from Touratech Suspension. Parts from the Black-T series not only offer the best functionality and quality, they can also be perfectly adapted for individual raising or lowering.

Depending on the design of the project, different basic

configurations are used.

While the sensitive response and the high level of comfort of the Black-T Stage2 version - even with cruiser-typical short spring travel - is already impressive, the high-end versions, Stage3 or Stage4, offer additional extensive adjustment options for the damping characteristics. This gives riders the option of configuring an individual suspension setup for their machine and adapting it to their requirements.

Due to our both close and uncomplicated cooperation with Touratech Suspension, we are provided with products that are perfectly matched to our projects every time.

Established by Volker Sichler in 1988, Hollister's Motorcycles is one of the internationally renowned customisers. Specialising in Indian conversions, the sophisticated tuner relies on Black-T parts from Touratech Suspension for its builds. www.hollisters.de



TOURATECH SUSPENSION

MODEL LIST

ELECTRONIC SUSPENSION ESA I DDA

Manufacturer	Model	MY from	MY until	Plug & Travel ESA	Plug & Travel DDA
BMW	F 750 GS	2018		082-5895	
BMW	F 800 GS ADV	2013		048-5876	
BMW	F 800 GS ADV LOW -50 mm	2014		048-5878	
BMW	F 800 GS LOW -50 mm	2013		048-5875	
BMW	F 800 GS LOW -50 mm	2013		048-5877	
BMW	F 850 GS ADV	2019		082-5869	
BMW	F 850 GS ADV - 25mm	2018		082-5876	
BMW	F 850 GS LOW	2018		082-5865	
BMW	F 850 GS REAR	2018		082-5863	
BMW	R 1200 GS (LC) FRONT	2013	2016		045-5883
BMW	R 1200 GS (LC) REAR	2013	2016		045-5884
BMW	R 1200 GS (LC) SET	2013	2016		045-5885
BMW	R 1200 GS (LC) SET LOW -50 mm	2013	2016		045-5886
BMW	R 1200 GS ADV (LC) FRONT	2014	2016		045-5873
BMW	R 1200 GS ADV (LC) REAR	2014	2016		045-5874
BMW	R 1200 GS ADV (LC) SET	2014	2016		045-5887
BMW	R 1200 GS ADV (LC) SET LOW -25 mm	2014	2016		045-5889
BMW	R 1200 GS ADV (LC) SET LOW -40mm	2014	2016		045-5888
BMW	R 1200 GS ADV EXPEDITION SET	2007	2010	044-5892	
BMW	R 1200 GS ADV EXPEDITION SET	2010	2013	044-5893	
BMW	R 1200 GS ADV FRONT	2017			045-5863
BMW	R 1200 GS ADV REAR	2017			045-5864
BMW	R 1200 GS ADV SET	2007	2010	044-5828	
BMW	R 1200 GS ADV SET	2010	2013	044-5833	
BMW	R 1200 GS ADV SET	2017			045-5865
BMW	R 1200 GS ADV SET -40mm	2017			045-5867
BMW	R 1200 GS EXPEDITION SET	2007	2010	044-5890	
BMW	R 1200 GS EXPEDITION SET	2010	2012	044-5891	
BMW	R 1200 GS FRONT	2017			045-5859
BMW	R 1200 GS REAR	2017			045-5860
BMW	R 1200 GS SET	2007	2010	044-5822	
BMW	R 1200 GS SET	2010	2012	044-5825	
BMW	R 1200 GS SET	2017			045-5861
BMW	R 1200 GS SET -50mm	2017			045-5862

TOURATECH SUSPENSION

MODEL LIST

ELECTRONIC SUSPENSION PLUG & TRAVEL EVO

Hersteller	Modell	Bj. von	Bj. bis	Ausführung	Artikel Nr.
BMW	R 1200 GS / R 1250 GS	2013		vorne	038-5859
BMW	R 1200 GS / R 1250 GS	2013		hinten	038-5860
BMW	R 1200 GS / R 1250 GS	2013		Set	038-5861
BMW	R 1200 GS / R 1250 GS Tieferlegung	2013		Set	038-5862
BMW	R 1200 GS / R 1250 GS ADV	2014		vorne	038-5863
BMW	R 1200 GS / R 1250 GS ADV	2014		hinten	038-5864
BMW	R 1200 GS / R 1250 GS ADV	2014		Set	038-5865
BMW	R 1200 GS / R 1250 GS ADV Tieferlegung	2014		Set	038-5866

SUSPENSION COMPONENTS CARTRIDGE KIT EXTREME

Manufacturer	Model	MY from	MY until	Travel	Urban
BMW	F 800 GS	2008	2012	048-5866	
BMW	F 800 GS	2013		048-5840	
BMW	F 800 GS ADV	2013		048-5846	
BMW	F 850 GS	2018		082-5870	
BMW	F 850 GS ADV	2019		082-5872	
BMW	R nine T	2014			042-5840
HONDA	CRF 1000 L	2015	2017	402-5875	
HONDA	CRF 1000 L	2018		402-5891	
HONDA	CRF 1000 L -25mm	2015	2017	402-5877	
HONDA	CRF 1000 L -25mm	2018		402-5890	
HONDA	CRF 1000 L Adv Sports	2018		402-5876	
HONDA	CRF 1000 L Adv Sports -25mm	2018		402-5892	
HONDA	CRF 1000 L Adv Sports -40mm	2018		402-5893	
HONDA	CRF 1100 L	2020		403-5875	
HONDA	CRF 1100 L -25mm	2020		403-5877	
HONDA	CRF 1100 L +20mm	2020		403-5876	
KTM	1050 / 1090 Adventure	2015		371-5841	
KTM	1090 Adventure R	2017		371-5844	
KTM	1190 Adventure R	2014		371-5840	
KTM	1290 Super Adventure R	2018		371-5844	
KTM	790 Adventure	2019		372-5869	
KTM	790 Adventure R	2019		372-5874	
KTM	890 Adventure	2019		372-5869	
KTM	890 Adventure R	2019		372-5874	
TRIUMPH	Tiger 800 XC	2011	2014	420-5840	
TRIUMPH	Tiger 900 Rallye Pro	2020		421-5870	
TRIUMPH	Tiger 900 Rallye Pro	2020		421-5871	
Triumph	Tiger Explorer	2012		422-5840	
YAMAHA	Ténéré 700	2019		632-5875	
YAMAHA	Ténéré 700 -35 mm	2019		632-5876	

PERFORMANCE PARTS STEERING DAMPERS

Manufacturer	Model	MY from	MY until	Travel	Competition	Urban
BMW	F 750 GS	2018		082-5890		
BMW	F 850 GS	2018		082-5891		
BMW	R 1200 GS	2004	2012	044-5858		
BMW	R 1200 GS ADV	2005	2013	044-5858		
BMW	R 1200 GS LC	2013	2013	045-5830		
BMW	R 1200 GS LC / ADV LC	2014		045-5832		
BMW	R 1250 GS / ADV	2014		045-5832		
BMW	R 1200 R	2015		058-0088		
BMW	R nine T, Scrambler, Racer, Pure, Urban G/S	2016				042-5831
BMW	S 1000 RR	2014			058-0090	
BMW	S 1000 XR	2015	2017	058-0089		
DUCATI	1199 Panigale	2014	2015		058-0091	
DUCATI	1299 Panigale	2016			058-0091	
DUCATI	899 Panigale	2014	2015		058-0091	
DUCATI	959 Panigale	2016			058-0091	
KTM	1090 Adventure R	2017		371-5830		
KTM	1190 Adventure R	2013	2015	371-5830		
KTM	1290 Super Adventure T/S/R	2015		371-5830		
KTM	790 Adventure	2019		372-5888		
KTM	790 Adventure R	2019		372-5889		
TRIUMPH	Speed Twin	2019				423-5869

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
APRILIA	CAPONORD	2002	2007	040-7433	040-7434							
BMW	F 650	1994	2000		300-8002	300-8001	300-8000					
BMW	F 650 CS SCARVER	2002	2005		300-8004		300-8003					
BMW	F 650 GS	2000	2007	040-7435	040-7436	300-8006	300-8005					
BMW	F 650 GS DAKAR	2000	2007	040-7412	040-7424	300-8008	300-8007	300-5860	300-5880			
BMW	F 650 GS TWIN	2008	2012	040-7407	048-5863	048-5869	048-8000		048-5882			
BMW	F 700 GS	2013	2018		058-5837	058-5838						
BMW	F 750 GS	2018		082-5880	082-5882	082-5883			082-5860			
BMW	F 800 GS	2008	2012	040-7400	040-7401	040-7402		048-5860	048-5880			048-5871
BMW	F 800 GS	2013	2018	048-5839		048-5835						048-5874
BMW	F 800 GS ADVENTURE	2013	2018	048-5839		048-5832			048-5881			048-5874
BMW	F 800 GT	2013	2018		058-2001	058-2002	058-2000					
BMW	F 800 R	2009	2014		616-8002	616-8001	616-8000					
BMW	F 800 S	2005	2012		612-8000	612-8001	612-8002	612-5860				
BMW	F 800 ST	2005	2012		612-8000	612-8001	612-8002	612-5860				
BMW	F 850 GS	2018		082-5885	082-5887	082-5888						
BMW	F 850 GS ADVENTURE	2018		082-5885	082-5887	082-5888						
BMW	F 900 R	2020				058-2004	058-2003					
BMW	F 900 XR	2020				058-2006	058-2005					
BMW	G 310 GS	2017	2020				300-8009					
BMW	G 310 R	2016	2020		300-8011		300-8010					
BMW	G 650 GS	2009	2015	300-5837	300-5836	300-8013	300-8012					
BMW	G 650 GS SERTA0	2011	2015		300-5839	300-8017	300-8016		300-5883			
BMW	G 650 XCHALLENGE	2007	2011	040-7403								
BMW	G 650 XCOUNTRY	2006	2009		049-8003	049-8002						
BMW	G 650 XMOTO	2006	2007		049-8001							
BMW	HP2	2004	2006									044-5888
BMW	HP2 SPORT	2008	2010		044-8002		044-8001					
BMW	K 100	1983	1996		058-2024		058-2021					
BMW	K 1100 LT	1992	1998		058-2009	058-2010	058-2008					
BMW	K 1100 RS	1992	1998		058-2012	058-2010	058-2011					
BMW	K 1200 ESA	2005	2008				611-8001					
BMW	K 1200 GT	2002	2004				611-8000					

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
BMW	K 1200 LT	1999	2008		058-2015		058-2014					
BMW	K 1200 RS	1997	2003		058-2018		058-2017					
BMW	K 1200 S	2005	2008		058-2020							
BMW	K 75	1983	1996		058-2007		058-2021					
BMW	R 100	1980	1984		058-2080		058-2081					
BMW	R 100 GS	1987	1994		058-2025		058-2027	058-0005	058-0007			058-0008
BMW	R 100 GS PD	1989	1995	040-7413	058-2026		058-2027					
BMW	R 100 R	1992	1996		058-2028							
BMW	R 100 RS	1985	1993		058-2075		058-2074					
BMW	R 100 RT	1987	1995		058-2075		058-2074					
BMW	R 100/7/S	1976	1978		058-2080		058-2081					
BMW	R 100/T	1978	1980		058-2080		058-2081					
BMW	R 1100 GS	1994	1998		058-2030	058-2029	058-2079	040-5860	040-5880			
BMW	R 1100 RS	1993	2001		058-2034	058-2035	058-2033					
BMW	R 1100 RT	1995	2001		058-2038	058-2039	058-2041					
BMW	R 1100 S	1998	2005		058-2044		058-2043					
BMW	R 1100 S BOXER CUP REPLICA	1998	2004		058-2045		058-2047					
BMW	R 1150 ADVENTURE	2002	2005			058-2051						
BMW	R 1150 GS	1999	2003			058-2050	058-2049	040-5877	040-5882			
BMW	R 1150 R	2001	2006		058-2054	058-2055	058-2053					
BMW	R 1150 RS	2001	2004		058-2056	058-2057	058-2059					
BMW	R 1150 RT	2000	2006		058-2060	058-2061	058-2063					
BMW	R 1200 C CRUISER	1997	2003		058-2066		058-2065					
BMW	R 1200 CL	2002	2005		058-2069		058-2068					
BMW	R 1200 GS	2004	2012		040-7440	044-8004		044-5860	044-5880		044-5865	044-5870
BMW	R 1200 GS ADVENTURE	2006	2013			044-8005			044-5882			044-5872
BMW	R 1200 GS ADVENTURE LC	2014	2017			045-7446						045-5871
BMW	R 1200 GS LC	2013	2018		045-8004	045-8005						
BMW	R 1200 R ESA	2007	2010		610-8001	610-8002						
BMW	R 1200 R LC	2015	2018				610-8000					
BMW	R 1200 R (non ESA)	2007	2014		610-8004	610-8005						
BMW	R 1200 RT ESA	2006	2009		047-8000	047-8001						
BMW	R 1200 RT (non ESA)	2005	2014		047-8004	047-8005	047-8003					

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
BMW	R 1200 S	2006	2008		058-2072		058-2071					
BMW	R 1250 GS	2018	2020		037-8004	037-8005						
BMW	R 1250 GS ADVENTURE	2018	2021		037-8001	037-8000						
BMW	R 18	2020		018-5860	018-5862		018-5850			018-5855	018-5856	
BMW	R 50/5	1969	1973		058-2080		058-2081					
BMW	R 60/5	1969	1973		058-2080		058-2081					
BMW	R 60/6	1973	1976		058-2080		058-2081					
BMW	R 60/7	1976	1997		058-2080		058-2081					
BMW	R 65	1985	1993		058-2075		058-2074					
BMW	R 65 RT	1985	1988		058-2075		058-2074					
BMW	R 75/5	1969	1973		058-2080		058-2081					
BMW	R 75/6	1973	1976		058-2080		058-2081					
BMW	R 75/7	1976	1977		058-2080		058-2081					
BMW	R 80	1984	1995		058-2075		058-2074					
BMW	R 80 G/S	1980	1988	040-7426								
BMW	R 80 GS	1988	1996	040-7413				058-0005	058-0007			058-0008
BMW	R 80 RT	1984	1995		058-2075		058-2074					
BMW	R 80/7	1977	1984		058-2080		058-2081					
BMW	R 850 GS	1998	2000				058-2079					
BMW	R 850 R	1993	1996		058-2077							
BMW	R 90/6	1973	1976		058-2080		058-2081					
BMW	R 90/5	1973	1976		058-2080		058-2081					
BMW	RNINET	2013	2016	042-5838	042-5839		042-8000			042-5866	042-5869	
BMW	RNINET	2017			042-8002		042-8000			042-5860	042-5861	
BMW	RNINET PURE	2017		042-5833	042-5834					042-5860	042-5861	
BMW	RNINET RACER	2017		042-5844	042-8006					042-5860	042-5861	
BMW	RNINET SCRAMBLER	2016		042-5836	042-5837		042-8009			042-5867	042-5868	
BMW	RNINET URBAN G/S	2016		042-5836	042-5837		042-8009			042-5867	042-5868	
BMW	S 1000 RR	2019	2020		058-2082							
BMW	S 1000 XR	2015	2019		606-8000							
DUCATI	999	2003	2006		058-2104							
DUCATI	1000 GT	2007	2009		058-2084		058-2083					
DUCATI	851 STRADA	1990	1994		058-2087		058-2086					

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
DUCATI	888STRADA	1990	1994		058-2087		058-2086					
DUCATI	900 SS	1991	1996		058-2091		058-2090					
DUCATI	900 SS	1998	2007		058-2095		058-2094					
DUCATI	906 PASO	1989	1991		058-2096							
DUCATI	916 RACING	1994	2003		058-2099		058-2101					
DUCATI	925 RACING / CORSA	1994	2003		058-2099							
DUCATI	955 RACING / CORSA	1994	2003		058-2099		058-2101					
DUCATI	996 RACING / CORSA	1994	2003		058-2099		058-2101					
DUCATI	M 900	1993	2001		058-2106		058-2107					
DUCATI	MONSTER 1000	2003	2005		058-2112							
DUCATI	MONSTER 796	2010	2011		058-2113							
DUCATI	MONSTER S4R	2004	2007		058-2115							
DUCATI	MULTISTRADA 1000	2004	2006		058-2117							
DUCATI	MULTISTRADA 1200	2010	2014		620-8003		620-8002					
DUCATI	MULTISTRADA 1200	2015	2017		620-8001		620-8000					
DUCATI	MULTISTRADA 950	2017	2020		619-8002		619-8001					
DUCATI	S2R 800	2001	2008		058-2118		058-2119					
DUCATI	SCRAMBLER 800	2015	2017	621-5838			621-5851					
DUCATI	SCRAMBLER DESEERT SLED	2017	2020		621-8000							
DUCATI	SPORT 1000	2006	2009		058-2120		058-2121					
DUCATI	SS 1000	2003	2006		058-2122							
DUCATI	ST 2	1997	2003		058-2124		058-2125					
DUCATI	ST 3	2004	2007		058-2123		058-2125					
DUCATI	ST 4	1999	2003		058-2126		058-2125					
HONDA	CB 1000 R	2008	2017		058-2132	058-2133	058-2131					
HONDA	CB 1000 R	2018	2019		058-2129	058-2130	058-2128					
HONDA	CB 1000 SF	1993	1997		058-2135		058-2134					
HONDA	CB 1300	1998	2000		058-2136							
HONDA	CB 500 F	2019	2020		058-2140		058-2141					
HONDA	CB 600 HORNET	2003	2006		058-2143	058-2147	058-2142					
HONDA	CB 600 HORNET	2007	2008		058-2145		058-2144					
HONDA	CB 600 SF HORNET	1998	2002		058-2148	058-2149						
HONDA	CB 650 F	2014	2017		058-2150		058-2152					

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
HONDA	CB 650 R	2019	2020		058-2153		058-2154					
HONDA	CB 750 SEVENTYFIFTY	1992	2001		058-2155							
HONDA	CB 900 F HORNET	2002	2006		058-2157		058-2156					
HONDA	CBF 1000 A	2006	2009		058-2160	058-2161	058-2159					
HONDA	CBF 1000 F	2010	2015		618-8001		618-8000					
HONDA	CBF 500	2004	2007		058-2163	058-2164	058-2162					
HONDA	CBF 600 S	2004	2007		058-2165							
HONDA	CBF 600 S	2008	2013		058-2166	058-2167						
HONDA	CBR 1000 F	1989	1996		058-2169		058-2168					
HONDA	CBR 1000 RR	2008	2011		058-2175							
HONDA	CBR 1100 XX BLACKBIRD	1996	2005		058-2177		058-2176					
HONDA	CBR 500 R	2019	2020		058-2178							
HONDA	CBR 600	1987	1991		058-2179							
HONDA	CBR 600 F	1993	1998		058-2186	058-2188	058-2190					
HONDA	CBR 600 F	1999	2007		058-2194		058-2193					
HONDA	CBR 600 F	2007	2012		058-2181		058-2180					
HONDA	CBR 600 F	2011	2013		058-2182	058-2183	058-2180					
HONDA	CBR 600 RR	2003	2004		058-2196		058-2195					
HONDA	CBR 600 RR	2005	2006		058-2198		058-2197					
HONDA	CBR 650 F	2014	2017		058-2201		058-2152					
HONDA	CBR 650 R	2019	2020		058-2202		058-2154					
HONDA	CBR 900 RR	1993	1995		058-2204		058-2203					
HONDA	CBR 900 RR	1996	1999		058-2207		058-2206					
HONDA	CBR 900 RR	2000	2001		058-2210		058-2209					
HONDA	CRF 1000 L ADV. SPORTS	2018	2020	402-5839	402-5842	402-5843						402-5872
HONDA	CRF 1000 L AFRICA TWIN	2016	2017	402-5835	402-5836	402-5838	402-8000					
HONDA	CRF 1000 L AFRICA TWIN	2018	2020	402-5846	402-5882	402-5884	402-8002					
HONDA	CRF 1100 L ADV. SPORTS	2020		403-5845	403-5851	403-5855			403-5863			403-5874
HONDA	CRF 1100 L AFRICA TWIN	2020		403-5835	403-5839	403-5842			403-5861			403-5871
HONDA	CTX 700	2014	2018		058-2212							
HONDA	F6C VALKYRIE	1996	2001		058-2214		058-2213					
HONDA	GL 1500 SE	1989	2000		058-2217		058-2216					
HONDA	GL 1800	2001	2017		058-2219		058-2218					

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
HONDA	GL 1800	2018	2019		058-2220							
HONDA	GT 647 BROSS / HAWK	1988	1993		058-2221							
HONDA	NC 700 D INTEGRA	2012	2015		405-8000		405-8001					
HONDA	NC 700 S	2012	2019				405-8001					
HONDA	NC 700 X	2012	2015		330-5836		405-8002					
HONDA	NC 750 S	2012	2017	405-5840	405-5841			405-5860	405-5865			
HONDA	NC 750 S	2018	2019		405-8004							
HONDA	NC 750 X	2012	2015	405-5838	405-5839			405-5850	405-5855			
HONDA	NC 750 X	2016	2019		405-8006		405-8005					
HONDA	NC 750 X	2018	2020		405-8007							
HONDA	NT 700 V DEAUVILLE	2006	2016		058-2223		058-2222					
HONDA	NTV 650 / REVERE	1992	2005		058-2225							
HONDA	NTV 650 V DEAUVILLE	1998	2005		058-2227		058-2226					
HONDA	NX 650 DOMINATOR	1988	1994		058-2230		058-2228					
HONDA	PS 800	1988	1998		058-2232		058-2233					
HONDA	ST 1100 PANEUROPEAN	1990	2001		058-2235		058-2234					
HONDA	ST 1300 A PANEUROPEAN	2002	2016		058-2239		058-2238					
HONDA	VARADERO	1999	2002	040-7416	058-2268		058-2267	058-0015				
HONDA	VARADERO	2003	2009	040-7425	058-2270		058-2269					
HONDA	VFR 1200 F	2010	2016		058-2242		058-2241					
HONDA	VFR 1200 X CROSSTOURER	2012	2018	406-5838		406-8001	406-8000		406-5880			
HONDA	VFR 750 F	1992	1993		058-2243							
HONDA	VFR 750 F	1994	1997		058-2244							
HONDA	VFR 800 F	2014	2017		058-2245		058-2246					
HONDA	VFR 800 Fi	1997	2001		058-2247		058-2248					
HONDA	VFR 800 Fi V-TEC	2002	2013		058-2249							
HONDA	VFR 800 X CROSRUNNER	2011	2014		058-2252		058-2251					
HONDA	VT 1100 C SHADOW	1987	1990		058-2253							
HONDA	VT 1100 C SHADOW	1989	2006		058-2255		058-2254					
HONDA	VT 700 SHADOW	1986	1987		058-2256							
HONDA	VTR 1000 F FIRESTORM	1997	2007		058-2258		058-2257					
HONDA	VTR 1000 SP-1	2000	2001		058-2260		058-2261					
HONDA	VTR 1000 SP-2	2002	2006		058-2262		058-2261					

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
HONDA	VTX 1800	2002	2008		058-2263							
HONDA	X 11	1999	2001		058-2264							
HONDA	X 4	1997	1999		058-2265							
HONDA	XL600V TRANSALP	1990	1995	058-5851	058-5852		520-8000					
HONDA	XL650V TRANSALP	2000	2007	058-5853	058-5854		520-8002					
HONDA	XL700V TRANSALP	2008	2012	040-7404		040-7406	520-8003	058-0030				
HONDA	XR 600 R	1991	1998		058-2273		058-2272					
HONDA	XR 650 R	2000	2002		058-2275		058-2274					
HONDA	XRV 750 AFRICA TWIN	1988	1994	040-7446	040-7447		058-2276					
HONDA	XRV 750 AFRICA TWIN	1995	2001	040-7415	040-7432		058-2277				058-0011	
HUSQVARNA	TE449/511	2011	2011									410-5870
HUSQVARNA	TR650 TERRA	2013	2015					412-5860				
INDIAN	SCOUT 1200	2018	2021	661-5833			661-5813			661-5814		
INDIAN	SCOUT BOBBER	2018	2021	661-5834			661-5815			661-5816		
KAWASAKI	ER-6 N/F (NINJA 650)	2005	2008		058-2279	058-2280	058-2278					
KAWASAKI	ER-6 N/F (NINJA 650)	2009	2011		058-2281	058-2282						
KAWASAKI	ER-6 N/F (NINJA 650)	2012	2016		058-2283	058-2284						
KAWASAKI	GPZ 1100	1995	1999		058-2286		058-2285					
KAWASAKI	GPZ 500 S	1986	1993				058-2287					
KAWASAKI	GPZ 500 S	1994	2003		058-2288							
KAWASAKI	GPZ 900R/A12	1999			058-2289							
KAWASAKI	GPZ 900R/A7	1994			058-2290							
KAWASAKI	GTR 1400 / CONCOURS 14	2007	2009		058-2292	058-2293	058-2291					
KAWASAKI	GTR 1400 / CONCOURS 14	2010	2014		058-2295		058-2294					
KAWASAKI	KLR 650	2008	2018	409-5838	409-5839		409-8000					
KAWASAKI	KLV 1000	2004	2006		058-2296							
KAWASAKI	KLX 650 C STREET	1992	1996		058-2298		058-2297					
KAWASAKI	NINJA 650	2017	2020		058-2299	058-2300	058-2301					
KAWASAKI	VERSYS 1000	2012	2014		407-8001	407-8002	407-8000					
KAWASAKI	VERSYS 1000	2015	2018		407-8004	407-8005	407-8003					
KAWASAKI	VERSYS 650	2006	2014		408-8001	408-8002	408-8000					
KAWASAKI	VERSYS 650	2015	2020		408-8004	408-8005	408-8003					
KAWASAKI	VN 900	2006	2010		058-2302							

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
KAWASAKI	VN 900 CLASSIC	2011	2017		058-2303							
KAWASAKI	VULCAN S	2015	2019		058-2305		058-2304					
KAWASAKI	W 650	1999	2008		058-2307		058-2306					
KAWASAKI	W 800	2010	2019		058-2308		058-2309					
KAWASAKI	Z 1000	2003	2006		058-2311		058-2310					
KAWASAKI	Z 1000	2007	2009		058-2313		058-2312					
KAWASAKI	Z 1000	2010	2013		058-2315	058-2316	058-2314					
KAWASAKI	Z 1000 (also ABS)	2011	2013		058-2322	058-2321						
KAWASAKI	Z 1000 (also ABS)	2014	2016		058-2324	058-2325	058-2323					
KAWASAKI	Z 1000 (also ABS)	2017	2020		058-2326	058-2327						
KAWASAKI	Z 650	2017	2020		058-2331	058-2332						
KAWASAKI	Z 750 (not for R version)	2007	2012		058-2334		058-2333					
KAWASAKI	Z 750 S	2004	2006		058-2337		058-2338					
KAWASAKI	Z 800 (not for E version)	2013	2014		058-2340		058-2339					
KAWASAKI	Z 900	2017	2019		058-2342	058-2343	058-2341					
KAWASAKI	Z 900 RS	2018	2020		058-2345	058-2346	058-2344					
KAWASAKI	Z 900, Z1 A / B	1974	1975		058-2348		058-2347					
KAWASAKI	ZEPHYR 1100	1992	2006		058-2330		058-2349					
KAWASAKI	ZEPHYR 550	1989	1997		058-2350		058-2351					
KAWASAKI	ZR-7	1999	2000		058-2352							
KAWASAKI	ZR-7S	2001	2003		058-2353							
KAWASAKI	ZRX 1100	1997	1999		058-2355		058-2354					
KAWASAKI	ZX-10R	2004	2005		058-2359							
KAWASAKI	ZX-10R	2006	2007		058-2360							
KAWASAKI	ZX-10R	2008	2010		058-2361							
KAWASAKI	ZX-10R	2011	2015		058-2362							
KAWASAKI	ZX-12 R NINJA	2000	2001		058-2364		058-2363					
KAWASAKI	ZX-12 R NINJA	2002	2005		058-2366		058-2365					
KAWASAKI	ZX-6R	1995	1997		058-2370		058-2369					
KAWASAKI	ZX-6R	1998	1999		058-2373		058-2372					
KAWASAKI	ZX-6R	2000	2001		058-2375		058-2374					
KAWASAKI	ZX-6R	2002	2004		058-2382		058-2383					
KAWASAKI	ZX-6R	2005	2006		058-2381							

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
KAWASAKI	ZX-6R	2007	2008		058-2376							
KAWASAKI	ZX-6R	2009	2010		058-2377							
KAWASAKI	ZX-6R	2013	2017		058-2379		058-2378					
KAWASAKI	ZX-6R	2019	2020		058-2380							
KAWASAKI	ZX-6 RR	2003	2004		058-2368		058-2367					
KAWASAKI	ZX-7R	1996	2003		058-2384							
KAWASAKI	ZX-9R NINJA	1994	1995		058-2386		058-2385					
KAWASAKI	ZX-9R NINJA	1996	1997		058-2388		058-2387					
KAWASAKI	ZX-9R NINJA	1998	1999		058-2390		058-2389					
KAWASAKI	ZX-9R NINJA	2000	2001		058-2392		058-2391					
KAWASAKI	ZX-9R NINJA	2002	2003		058-2394		058-2393					
KAWASAKI	ZRX 1200 DAEG	2009	2016		058-2356							
KAWASAKI	ZRX 1200 R and S	2001	2003		058-2357							
KAWASAKI	ZRX 1200 R and S	2004	2006		058-2358							
KAWASAKI	ZXR-750	1989	1990		058-2395							
KAWASAKI	ZXR-750	1991	1992		058-2396							
KAWASAKI	ZXR-750 R	1991	1992		058-2397							
KAWASAKI	ZZR 1100	1990	1992		058-2399		058-2398					
KAWASAKI	ZZR 1100	1993	2001		058-2401		058-2400					
KAWASAKI	ZZR 1200	2002	2005		058-2403		058-2402					
KAWASAKI	ZZR 1400	2006	2011		058-2405		058-2404					
KAWASAKI	ZZR 1400	2011	2015		058-2406							
KAWASAKI	ZZR 1400	2016	2020		058-2407							
KAWASAKI	ZZR 600	1990	1992		058-2409		058-2408					
KAWASAKI	ZZR 600	1993	1994		058-2410		058-2408					
KAWASAKI	ZZR 600	1995	2005		058-2411		058-2408					
KTM	1050 ADVENTURE	2015	2016	371-5832	371-5833							
KTM	1090 ADVENTURE	2017	2018	371-5834	371-5835							
KTM	1090 ADVENTURE R	2017	2019	371-5845	371-5846							371-5871
KTM	1190 ADVENTURE	2013	2016	371-5836	371-5837							
KTM	1190 ADVENTURE R	2013	2016	371-5838	371-5839							371-5871
KTM	1290 SUPER ADVENTURE R	2017	2020	371-5847	371-5848							371-5871
KTM	390 ADVENTURE	2020			058-2412	058-2413						

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
KTM	790 ADVENTURE	2019	2020	372-5880	372-5881	372-5883			372-5860			372-5867
KTM	790 ADVENTURE R	2019	2020	372-5884	372-5885	372-5887			372-5870			372-5872
KTM	890 ADVENTURE	2021		372-5890					372-5860			372-5867
KTM	890 ADVENTURE R	2021		372-5894	372-5895	372-5897			372-5870			372-5872
KTM	250 DUKE	2017	2019		058-2414	058-2415	058-2416					
KTM	390 DUKE	2017	2020		058-2417	058-2418	058-2416					
KTM	950 ADVENTURE	2005	2005									370-5868
KTM	950 ADVENTURE	2003	2004									370-5869
KTM	950 ADVENTURE S	2004	2005									370-5872
KTM	990 ADVENTURE	2007	2010	370-5836	370-5837							370-5870
KTM	990 ADVENTURE R	2009	2013									370-5871
KTM	950 SUPER ENDURO R	2006	2009									370-5867
SUZUKI	GSF 1250 BANDIT	2007	2012		058-2428		058-2429					
SUZUKI	GSF 650 BANDIT 650 (S)	2007	2015		058-2430							
SUZUKI	GSF 650 N BANDIT	2005	2006		058-2431							
SUZUKI	GSF 650 S BANDIT	2000	2006		058-2433		058-2432					
SUZUKI	B-KING 1300	2008	2011		058-2419		058-2420					
SUZUKI	V-STROM DL1000	2002	2003	040-7419	391-8000							
SUZUKI	V-STROM DL1000	2004	2013		391-8001		391-8002					
SUZUKI	V-STROM 1000	2014	2019	391-5838	391-5839				391-5865			
SUZUKI	DL 650	2004	2011				390-8000	390-5860	390-5880			
SUZUKI	V-STROM 650/V-STROM 650XT	2004	2016	040-7421	040-7422		390-8000					
SUZUKI	V-STROM 650/V-STROM 650XT	2016	2020	390-5883	390-5884			390-5862	390-5882			
SUZUKI	DR 750 S / 800 / 800 S BIG	1990	1996					058-0020				
SUZUKI	GLADIUS 650 (SFV)	2009	2015		058-2421		058-2422					
SUZUKI	GSF 1200 BANDIT	1996	2000		058-2423		058-2424					
SUZUKI	GSF 1200/S BANDIT	2001	2005		058-2425		058-2426					
SUZUKI	GSR 750	2011	2014		058-2434	058-2435	058-2436					
SUZUKI	GSX-R 1000	2000	2002		058-2450		058-2451					
SUZUKI	GSX-R 1000	2003	2004		058-2452		058-2451					
SUZUKI	GSX-R 1000	2005	2006		058-2453		058-2454					
SUZUKI	GSX-R 1000	2007	2008		058-2455	058-2456	058-2457					
SUZUKI	GSX-R 1000	2009	2016		058-2458	058-2459	058-2460					

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
SUZUKI	GSX-R 1000	2017	2020		058-2461	058-2462						
SUZUKI	GSX 1100 F	1989	1993		058-2438		058-2437					
SUZUKI	GSX 1100 S / KATANA	1980	1984		058-2439		058-2441					
SUZUKI	GSX 1250 FA	2010	2013		617-8000		617-8001					
SUZUKI	GSX-1400	2001	2005		058-2447		058-2448					
SUZUKI	GSX-1400	2006	2008		058-2449		058-2448					
SUZUKI	GSX 650 F	2007	2012		058-2443		058-2444					
SUZUKI	GSX 750 F	1998	2002		058-2445		058-2446					
SUZUKI	GSX-R 1100	1986	1988		058-2463		058-2464					
SUZUKI	GSX-R 1100	1988	1989		058-2465		058-2466					
SUZUKI	GSX-R 1100	1990	1992		058-2467							
SUZUKI	GSX-R 1100	1993	1998		058-2469		058-2470					
SUZUKI	GSX-R 1300 HAYABUSA	1999	2007		058-2471		058-2472					
SUZUKI	GSX-R 1300 HAYABUSA	2008	2017		058-2473	058-2474	058-2475					
SUZUKI	GSX-R 750	1988	1989		058-2476		058-2477					
SUZUKI	GSX-R 750	1996	2000				058-2478					
SUZUKI	GSX-R 750	2000	2003		058-2479		058-2480					
SUZUKI	GSX-R 750	2004	2005		058-2481		058-2482					
SUZUKI	GSX-R 750	2006	2010		058-2483	058-2484	058-2486					
SUZUKI	GSX-R 750	2011	2017		058-2487							
SUZUKI	GSX-S 1000	2015	2020		058-2496	058-2495	058-2497					
SUZUKI	GSX-S 1000 KATANA	2019	2020		058-2498	058-2499	058-2500					
SUZUKI	GSX-S 750	2015	2016		058-2501	058-2502						
SUZUKI	SV 1000 N	2003	2007		058-2505		058-2506					
SUZUKI	SV 1000 S	2003	2004		058-2507		058-2506					
SUZUKI	SV 1000 S	2005	2007		058-2508		058-2506					
SUZUKI	SV 650 (with ABS)	2016	2020		058-2509		058-2510					
SUZUKI	SV 650 N / S	1999	2002		058-2511		058-2512					
SUZUKI	SV 650 N / S	2003	2012		058-2513		058-2514					
SUZUKI	SV 650 XA	2018	2020		058-2515							
SUZUKI	TL 1000 S	1997	2000		058-2516		058-2517					
SUZUKI	VS 1400 GL INTRUDER	1987	2009		058-2519							
SUZUKI	VL 1500 LC	1998	2004		058-2518							

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
SUZUKI	VX 800	1990	1996		058-2520							
SUZUKI	M1800R / VZR 1800 / M109R	2006	2019		058-2503		058-2504					
TRIUMPH	BONNEVILLE (also T100)	2002	2014		058-2526		058-2527					
TRIUMPH	BONNEVILLE BOBBER	2017	2020		058-2528		058-2529					
TRIUMPH	BONNEVILLE SE	2009	2014		058-2530		058-2531					
TRIUMPH	BONNEVILLE T120	2016	2017		058-2532		058-2533					
TRIUMPH	955I DAYTONA	2002	2004		058-2522							
TRIUMPH	955I DAYTONA	2005	2006		058-2523							
TRIUMPH	955I DAYTONA / T595	1997	2004		058-2524		058-2525					
TRIUMPH	DAYTONA 1200	1991	1998		058-2534		058-2535					
TRIUMPH	DAYTONA 675	2006	2012		058-2536		058-2537					
TRIUMPH	DAYTONA 900	1991	1998		058-2538		058-2539					
TRIUMPH	DAYTONA SPEED TRIPLE 900	1993	1993		058-2540							
TRIUMPH	DAYTONA SUPER THREE 900	1993	1993				058-2539					
TRIUMPH	EXPLORER	2012	2016	422-5838			422-8000		422-5880			422-5870
TRIUMPH	SPEED TRIPLE 1050	2005	2010		615-8000	615-8001	615-8002					
TRIUMPH	SPEED TRIPLE 1050	2011	2016		615-8003		615-8004					
TRIUMPH	SPEED TRIPPLE	1991	1998				058-2539					
TRIUMPH	SPEED TRIPPLE	1996	2004		058-2542							
TRIUMPH	SPEED TWIN	2019		423-5867			423-5865			423-5866		
TRIUMPH	SPRINT RS	1999	2004		058-2543							
TRIUMPH	SPRINT ST	2000	2004		058-2544		058-2546					
TRIUMPH	SPRINT ST 1050	2005	2010		058-2548	058-2547	058-2549					
TRIUMPH	STREET SCRAMBLER	2017	2019		058-2550		058-2551					
TRIUMPH	STREET TRIPLE 675	2007	2012		058-2552	058-2553	058-2554					
TRIUMPH	STREET TRIPLE R	2009	2012		058-2556		058-2555					
TRIUMPH	STREET TRIPLE R	2013	2016		058-2557	058-2558	058-2559					
TRIUMPH	STREET TRIPLE R (765)	2017	2020		058-2560		058-2561					
TRIUMPH	STREET TRIPLE RS (765)	2017	2020		058-2562		058-2561					
TRIUMPH	STREET TRIPLE S (765)	2017	2020		058-2563		058-2564					
TRIUMPH	STREET TWIN	2017	2020		058-2565		058-2566					
TRIUMPH	THUNDERBIRD	1995	1999		058-2567		058-2568					
TRIUMPH	TIGER 1050	2007	2012	615-0120	040-7437	615-8005	615-8006		615-5880			

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
TRIUMPH	TIGER 800	2011	2014	420-5835	420-5834							
TRIUMPH	TIGER 800 XC / XCx / XCα	2016	2018	420-5830	420-5831							
TRIUMPH	TIGER 800 XR / XRt / XRx	2016	2017	420-5832	420-5833	420-8001						
TRIUMPH	TIGER 800XC	2011	2014	420-5838	420-5839	420-5836	420-8000	420-5860	420-5882			
TRIUMPH	TIGER 900	1991	1997		058-2569							
TRIUMPH	TIGER 900	1999	2000		058-2571							
TRIUMPH	TIGER 900 RALLYE	2020		421-5880	421-5881	421-5883						
TRIUMPH	TIGER 900 RALLYE PRO	2020		421-5880	421-5881	421-5883			421-5860			421-5865
TRIUMPH	TIGER 955	2005	2006		058-2572							
TRIUMPH	TIGER 955	2001	2004		058-2573							
TRIUMPH	TIGER SPORT 1050	2013	2016		058-2574	058-2575	058-2576					
TRIUMPH	TIGER SPORT 1050	2017	2020		058-2577	058-2578						
TRIUMPH	TRIDENT 750	1991	1998		058-2579		058-2535					
TRIUMPH	TRIDENT 900	1991	1998		058-2580		058-2539					
TRIUMPH	TROPHY 3/900	1991	1995		623-8002		058-2539					
TRIUMPH	TROPHY 4/1200	1991	1998		623-8004		058-2539					
TRIUMPH	TRIDENT SPRINT	1993	1998									
TRIUMPH	TRIDENT SPRINT 900	1994	1998		058-2582							
TRIUMPH	TROPHY 1215	2012	2015		623-8000		623-8001					
TRIUMPH	TROPHY 750	1991	1991		623-8005					423-5864		
TRIUMPH	THRUXTON-R	2016	2018				423-5863					
TRIUMPH	TT 600	2000	2003		058-2583		058-2584					
YAMAHA	BT 1100 BULLDOG	2002	2006		058-2585		058-2586					
YAMAHA	FJR 1300	2001	2012		613-8000		613-8002					
YAMAHA	FJR 1300 A	2013	2015		613-8006		613-8002					
YAMAHA	FJR 1300	2016	2018		613-8003		613-8004					
YAMAHA	FJR 1300 ES (Electric Susp.)	2014	2020		613-8008							
YAMAHA	FZ-1 FAZER	2006	2006		058-2589		058-2591					
YAMAHA	FZ-1 FAZER ABS	2007	2015		058-2590		058-2591					
YAMAHA	FZS 1000 FAZER	2001	2005		058-2598							
YAMAHA	FZ 750 GENESIS	1987	1992		058-2587		058-2588					
YAMAHA	FZ-8	2011	2012		058-2593		058-2592					
YAMAHA	FZ-8	2013	2015		058-2594							

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Travel Level 2	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
YAMAHA	FZR 1000	1986	1988		058-2595							
YAMAHA	FZR 1000 EXUP	1989	1990		058-2596		058-2597					
YAMAHA	MT-07 (USA: FZ-07)	2014	2017		629-8000	629-8001	629-8002					
YAMAHA	MT-07 (USA: FZ-07)	2018	2020		629-8003	629-8004	629-8005					
YAMAHA	MT-07 (USA: FZ-07)	2016	2019		629-8006	629-8007	629-8008					
YAMAHA	MT-09 (USA: FZ-09)	2013	2016		631-8000		631-8001					
YAMAHA	MT-09 (USA: FZ-09)	2017	2020		631-8002							
YAMAHA	MT 09 Tracer (USA: FJ-09)	2015	2016	630-5850	630-5851		630-8000	630-5860	630-5880			
YAMAHA	MT 09 Tracer (USA: FJ-09)	2017	2020		630-8001							
YAMAHA	MT-09 Tracer GT	2018	2019		630-8002		630-8003					
YAMAHA	MT-01	2005	2009		058-2599	058-2600						
YAMAHA	MT-03	2006	2011		058-2601	058-2602	058-2603					
YAMAHA	MT-10 (USA: FZ-10)	2016	2020		058-2604		058-2605					
YAMAHA	NIKEN (GT)	2019	2020		058-2606	058-2607						
YAMAHA	SZR 660	1996	2001		058-2608		058-2609					
YAMAHA	TDM 850	1991	1995		058-2610		058-2611					
YAMAHA	TDM 850	1996	2003		058-2612		058-2611					
YAMAHA	TDM 900	2004	2010		058-2615		058-2614					
YAMAHA	TENERE 700	2019		632-5880	632-5881	632-5883			632-5860			632-5870
YAMAHA	TRACER 700	2020			058-2616	058-2617						
YAMAHA	TRX 850 EUROPE	1995	1998		058-2619		058-2618					
YAMAHA	V-MAX/ VMX 1200	1988	1992		058-2623		058-2622					
YAMAHA	XJ-6	2008	2015		058-2634	058-2633	058-2635					
YAMAHA	XJ 900 S DIVERSION	1996	2002		058-2632		058-2631					
YAMAHA	XJR 1200	1994	1998		058-2636		058-2637					
YAMAHA	XJR 1200	1998	2001		058-2639		058-2647					
YAMAHA	XJR 1200	2000	2002		058-2640		058-2647					
YAMAHA	XJR 1200	2002	2003		058-2641		058-2647					
YAMAHA	XJR 1200	2003	2005		058-2642		058-2647					
YAMAHA	XJR 1200	2004	2006		058-2643		058-2647					
YAMAHA	XJR 1200	2007	2015		058-2644		058-2647					
YAMAHA	XJR 1200	2015	2016		058-2645		058-2647					
YAMAHA	XSR 900	2016	2017		058-2648		058-2649					

E1 / Black-T: Stage 2: Emulsion damper **Travel, Level 1:** Separating piston damper **Travel, Level 2:** Separating piston damper and hydraulic spring preload **Black-T, Stage 3:** Separating piston damper and piggyback reservoir **Travel, High End / Black-T, Stage4:** Separating piston damper, hydraulic spring preload and piggyback reservoir **Travel, Extreme:** Separating piston damper, hydraulic spring preload, piggyback reservoir and PDS

SUSPENSION COMPONENTS FROM THE E1, TRAVEL AND BLACK-T SERIES

Manufacturer	Model	MY from	MY until	Replacement springs fork	Replacement springs Set, fork and shock	Replacement springs Set, lowering	E1 / Black-T Stage 2	Travel Level 1	Black-T Stage 3	Travel High End / Black-T Stage 4	Travel Extreme
YAMAHA	XT 1200 Z SUPER TENERE	2010	2013		046-0308	046-8000	046-8001			046-5880	
YAMAHA	XT 600 E	1990	2002		046-8002		046-8003				
YAMAHA	XT 600 Z TENERE	1984	1989		046-8005		046-8004				
YAMAHA	XT 660 R	2004	2014	046-5838			046-8006				
YAMAHA	XT 660 X	2004	2014		046-8007		046-8006				
YAMAHA	XT 660 Z TENERE	2008	2010	046-0305	046-0306		046-8008		046-5883		
YAMAHA	XT 660 ZA TENERE ABS	2011	2015		046-8009		046-8010				
YAMAHA	XTZ 750 SUPER TENERE	1989	1995		058-2650		058-2651				
YAMAHA	XV 1700 WILD / ROAD STAR	1999	2015		058-2652						
YAMAHA	XV 1600 WILD / ROAD STAR	1999	2015		058-2652						
YAMAHA	XVZ 1300 ROYAL STAR	1996	2001		058-2653						
YAMAHA	YX 600 S RADIAN	1986	1992		058-2654						
YAMAHA	YZF 1000 / THUNDERACE	1996	2002		058-2655		058-2656				
YAMAHA	YZF 1000 R1	1998	2001		058-2658	058-2657	058-2659				
YAMAHA	YZF 1000 R1	2002	2003		058-2660		058-2659				
YAMAHA	YZF 1000 R1	2004	2006		058-2661		058-2662				
YAMAHA	YZF 1000 R1	2007	2008		058-2663	058-2664					
YAMAHA	YZF 1000 R1	2009	2014		058-2665						
YAMAHA	YZF 1000 R1	2015	2020		058-2666		058-2667				
YAMAHA	YZF 600 THUNDERCAT	1994	2001		058-2677		058-2679				
YAMAHA	YZF 750 R	1993	1994		058-2681		058-2682				
YAMAHA	YZF 600 R6	1998	2002		058-2669		058-2668				
YAMAHA	YZF 600 R6	2003	2004		058-2670		058-2671				
YAMAHA	YZF 600 R6	2005	2006		058-2672		058-2673				
YAMAHA	YZF 600 R6	2006	2007		058-2674						
YAMAHA	YZF 600 R6	2008	2015		058-2675						
YAMAHA	YZF 600 R6	2017	2020		058-2676						

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► **SHOCK ABSORBERS**



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