



MADE BY
JAMA

DUAL SOUND TECHNOLOGY



- + HOMOLOGATED
& SPORTS IN ONE
- + FLEXIBILITY OF SOUND
- + PERFORMANCE INCREASE
- + STYLISH DESIGN
- + HIGH-TECH ENGINEERED
- + HANDMADE TOP-QUALITY

CHOOSE YOUR OWN SOUND



DUAL SOUND TECHNOLOGY

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The desire to produce a more attractive sound is one of the most important reasons for changing the original exhaust with an aftermarket product.

Sometimes a sporty deeptone sound can easily cause problems. In countries all over the world government regulations on soundlevels are becoming more strict and in some cases sports

exhausts are even banned!!

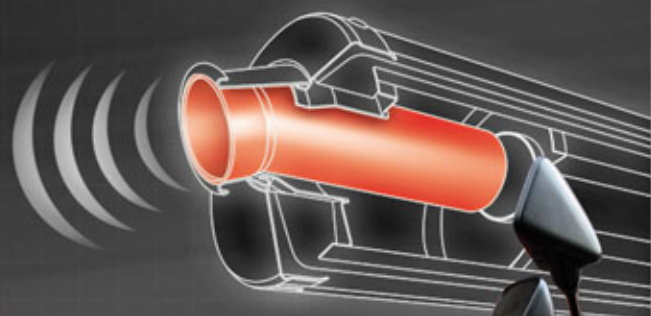
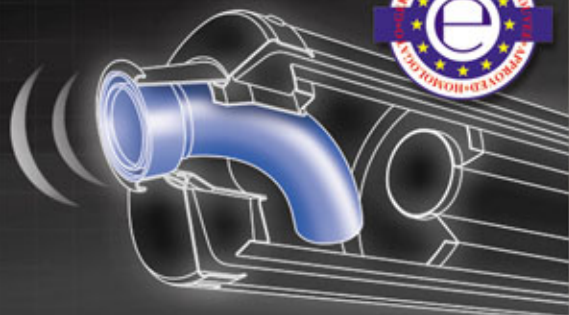
The same can be said about the regulations on racetracks. Trackdays and riding courses can often only be attended with an officially homologated exhaust.

Because the motorcyclist does not want to change the complete exhaust every time conditions change...LASER has developed:

DUAL SOUND TECHNOLOGY

With LASER "Dual Sound Technology" you can change the soundlevel of your exhaust within minutes. By changing inserts you can turn the E-homologated sound into a sportive roar and vice versa!

The ultimate flexibility in sound!!



LOGY

NO COMPROMISES OPTIMAL PERFORMANCE

Normally the construction of a homologated (silent) exhaust means bad news for the performance of the motorcycle!!

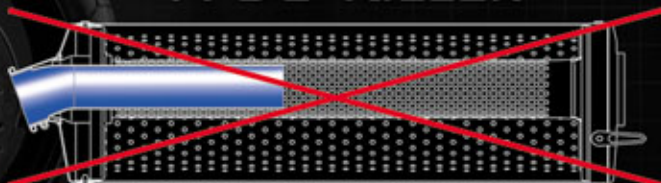
This is NOT the case with "Dual Sound Technology"!!
The whole idea behind the concept is to achieve flexibility of sound without compromising the performance of the motorcycle.

For each individual type of motorcycle the effect of Dual Sound Technology has been tested and measured (In the LASER testing facility as well as in practice).

Specially designed constructions and inserts are used to achieve performance increase in both "sound configurations" for each individual motorcycle.

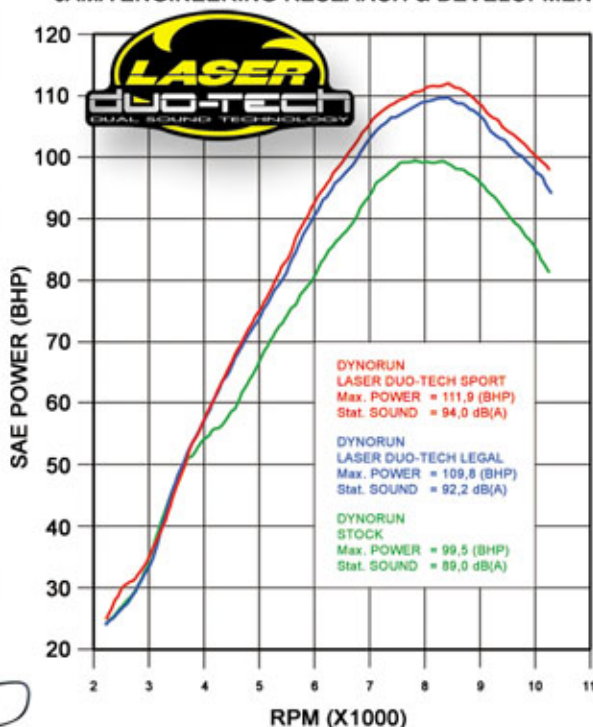


MORE THAN JUST A DB-KILLER

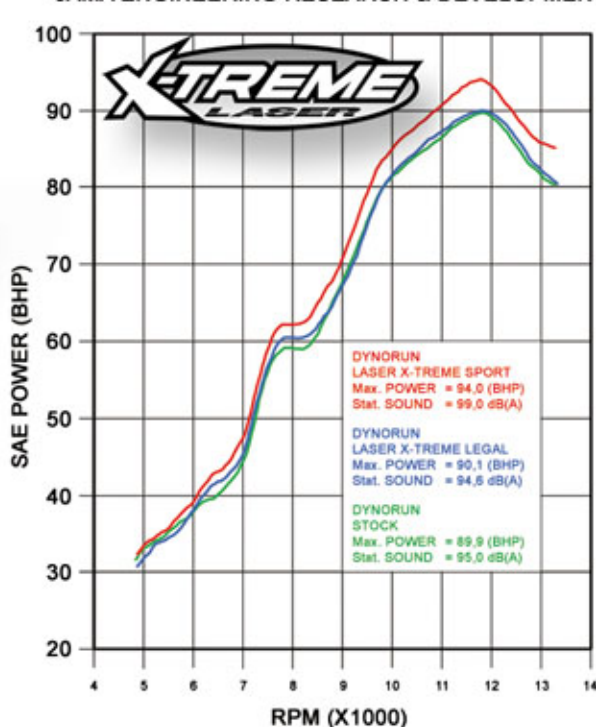


A frequently used method for homologating traditional (sports) exhausts is using an extended dB-killer. Often this results in loss of power and torque! "Dual Sound Technology" has no such negative effects.

SUZUKI GSF1200 BANDIT JAMA ENGINEERING RESEARCH & DEVELOPMENT



YAMAHA FZ6 FAZER 04 JAMA ENGINEERING RESEARCH & DEVELOPMENT



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DUO-TECH ANATOMY



DUAL SOUND TECHNOLOGY

Choose your own sound!

The LASER Duo-Tech muffler offers the possibility to choose between two different inserts. These inserts have their own specific effect on the sound level.

The LASER Duo-Tech is the ultimate combination of reflection and absorption damping technology...

Two sounds in one system!!

LEGAL INSERT



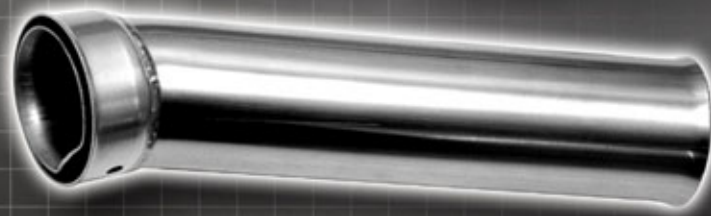
The stainless steel "Legal Insert" is mounted standard into the LASER Duo-Tech. It is fixed with a rivet to the end cap of the muffler.

The Legal Insert has a specific radius and diameter designed for optimal performance on each motorcycle. In the "legal configuration" the gasflow is bend off and pressure is built up inside the expansion chamber. This results in:

- 1.) A significant sound reduction
- 2.) A performance increase



SPORTS INSERT

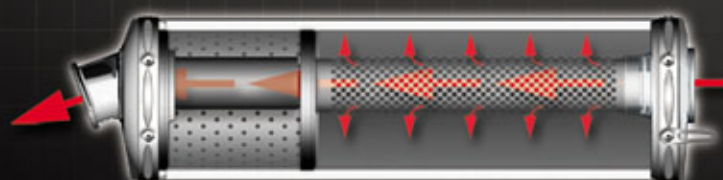
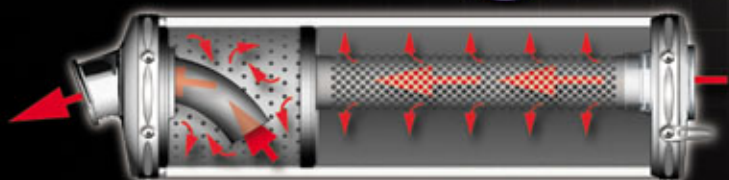


The stainless steel "Sports Insert" is enclosed (for free!) with every Duo-Tech muffler.

After removing the "Legal Insert" the "Sports Insert" provides a straight gas flow. The expansion chamber is now used to its full potential! Besides building up pressure the chamber now also amplifies the deeptone sound of the Duo-Tech!

This results in:

- 1.) A higher performance increase
- 2.) A more sporty sound



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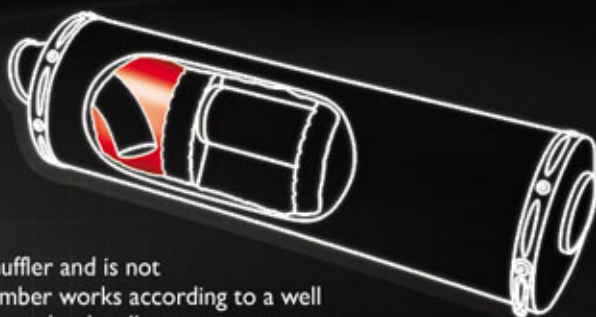


EXPANSION CHAMBER

The expansion chamber is the **UNIQUE** characteristic of the LASER Duo-Tech.

The chamber is located at the end of the muffler and is not visible from the outside. The expansion chamber works according to a well known exhaust concept: "reflection damping technology" (often used in homologated and original exhausts).

The expansion chamber has a direct influence on the gas flow and the backpressure. This influence has positive effects on sound and performance!



DOUBLE MUFFLER SHELL

The Duo-Tech body work consists of two separate muffler shells. The use of a double shell significantly increases the durability of the muffler and makes it also suitable for high powered two cylinder motorcycles!

● The outer shell.

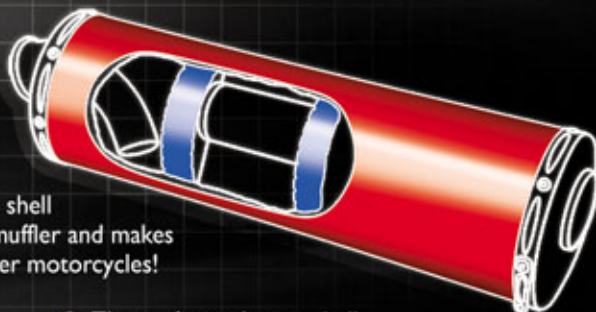
This shell is mostly for decorative purposes. Available in high quality materials like:

- Carbonfibre
- Titanium
- Stainless steel (INOX)



● The perforated inner shell.

Made out of high quality stainless steel. The inner shell provides the muffler with additional strenght in the overall construction and keeps the outer muffler filling in place.



SPECIAL FILLING

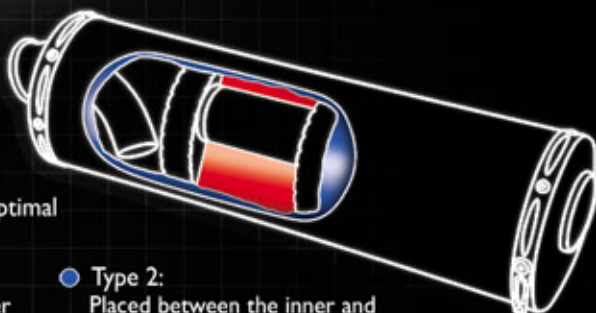
Two types of damping material are used in the LASER Duo-Tech in order to achieve optimal damping and maximum durability.

● Type 1:

Placed in the absorption part of the muffler around the inner tube. This durable filling is made out of special basalt fibres and has excellent damping and heat resisting characteristics.

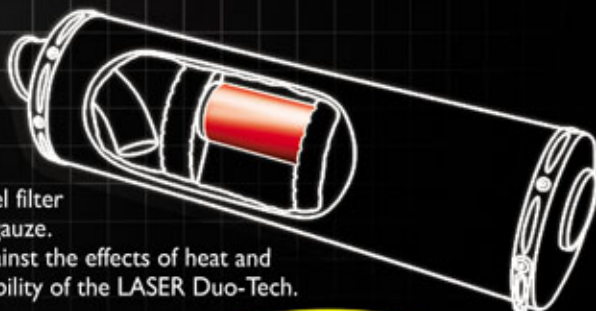
● Type 2:

Placed between the inner and outer muffler shell over the total lenght of the muffler. Made out of glass fibres covered with a thin aluminium coating. This damping layer protects the outer shell against excessive temperatures, and assures the famous "Deeptone Sound".

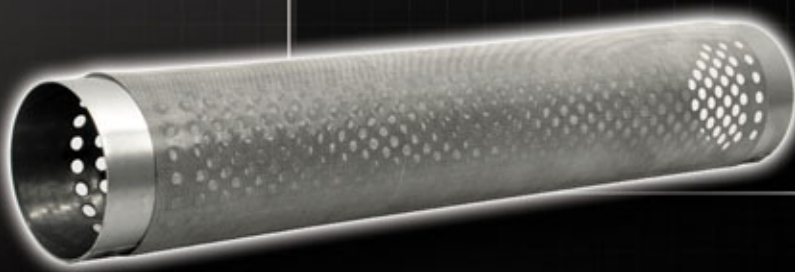


PROTECTIVE FILTER

Around the inner perforated tube a protective filter is placed. This stainless steel filter is made out of a fine netted heat resistant gauze. It protects the Type 1. damping material against the effects of heat and gas pulsations. The filter increases the durability of the LASER Duo-Tech.



All metal parts are made out of high quality Stainless Steel 321



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X-TREME ANATOMY



EXCHANGEABLE INSERTS

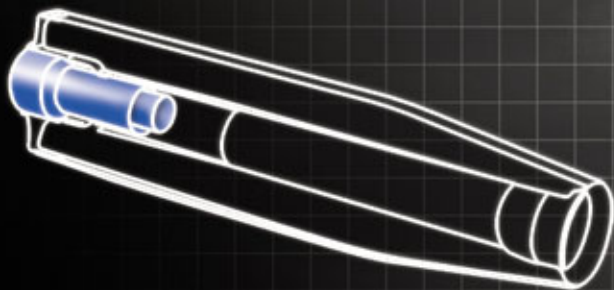
Two sounds in one system!

With the LASER X-treme exhausts the inserts are placed into the intake-side of the muffler!

In this way the insert is not visible when the muffler is mounted on the motorcycle.

The best optical solution!

HOMOLOGATED

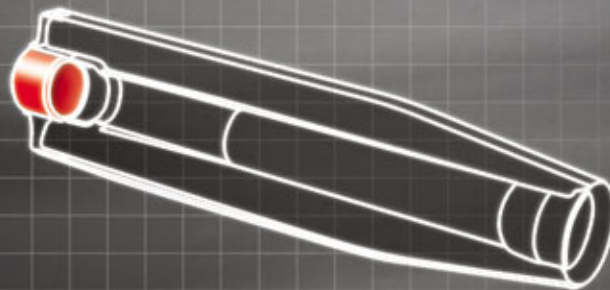


LEGAL INSERT

The "Legal Insert" is mounted into the intake-side of the X-treme muffler. For every application of the X-treme exhaust a special "Legal Insert" is developed.

The "Legal Insert" changes the gas flow in such a way that it reduces the sound level and has a positive effect on the performance of the motorcycle!

SPORTS



SPORTS INSERT

The "Sports Insert" provides an open and unrestricted gas flow in the X-treme muffler.

When mounting the "Sports insert" sound level increases significantly and an even higher performance increase is obtained!



M4

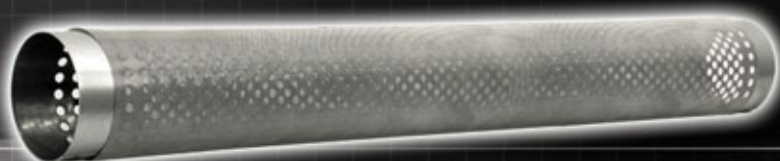
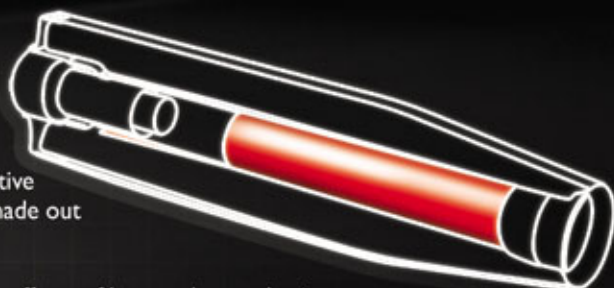
ME SER



PROTECTIVE FILTER

Around the inner perforated tube a protective filter is placed. This stainless steel filter is made out of a fine netted heat resistant gauze.

It protects the damping material against the effects of heat and gas pulsations. The filter increases the durability of the LASER X-treme.



HIGH QUALITY CONSTRUCTION

The bodywork of the LASER X-treme is made out of high quality stainless steel.

This material makes the LASER X-treme highly durable and maintenance friendly!

The stainless steel shell is polished and a very fine etched logo is put on it. It gives the LASER X-treme mufflers a very distinctive and classy appearance



SPECIAL FILLING

A special high density glass fibre filling is used in the LASER X-treme.

This filling has excellent damping and heat resisting characteristics. It protects the outer shell against the effects of heat and gas pulsations.



All metal parts are
made out of high quality
Stainless Steel 321



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IN 3 STEPS FROM HOMOLOGATED TO SPORTS

DUO-TECH INSERT CHANGE

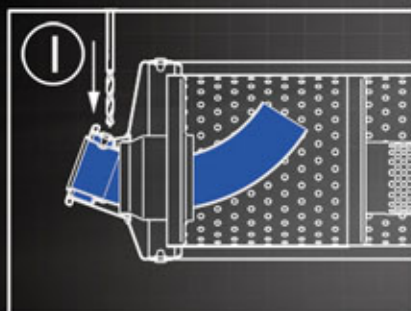


Changing the insert of a Duo-Tech muffler can be done in 3 easy steps:

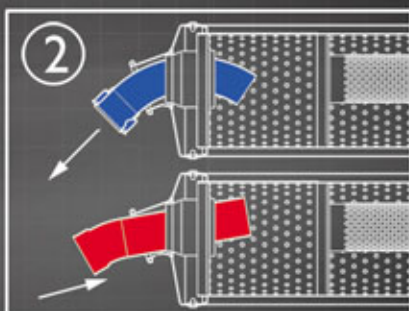
- (1) Remove the rivet which holds the "Legal Insert" ..(Only for the first time)
- (2) Replace the "Legal Insert" with the "Sports Insert".
- (3) Fix the "Sports Insert" with the included nut and bolt.

PLEASE NOTE:

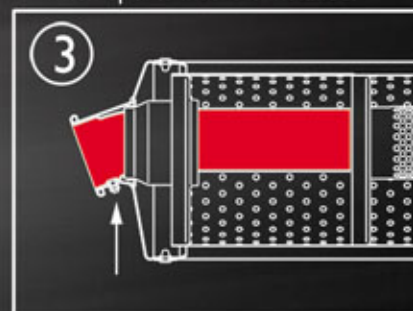
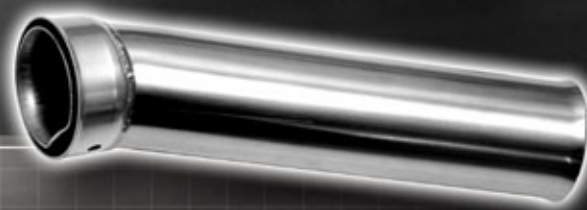
The muffler is not homologated when Sports Insert is installed.



LEGAL INSERT



SPORTS INSERT



X-TREME INSERT CHANGE

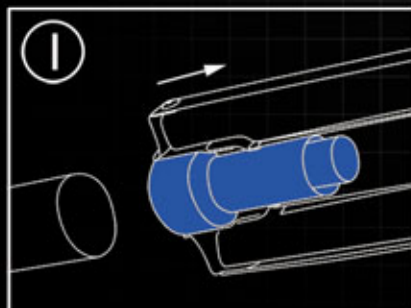


Changing the insert of a X-treme muffler can be done in 3 easy steps:

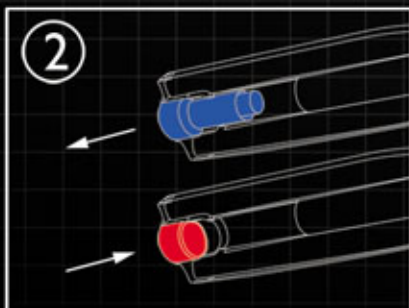
- (1) Disconnect the LASER X-treme muffler from the collector tube.
- (2) Replace the "Legal Insert" with the "Sports Insert".
- (3) Connect the LASER X-treme muffler to the collector tube.

PLEASE NOTE:

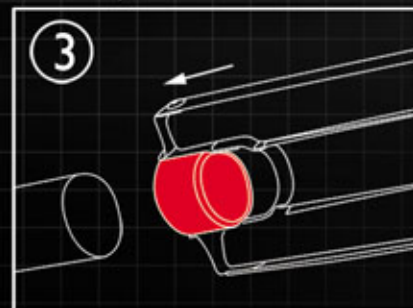
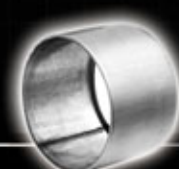
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LEGAL INSERT



SPORTS INSERT



DUAL SOUND TECHNOLOGY