

HARDENED BY THE ROAD

EDITION 2022

TEAM PARTNER MOTO GP

TWINCOLOR SPROCKETS

PBR PEOPLE

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P.B.R. Sprockets S.r.l.



WELCOME TO PBR

Welcome to the PBR world, the first Italian company specialized in the production of motorcycle gears since 1969.

We have decided to create this magazine for our current and future retailers, in order to share with them our annual innovations, the results of our partners on the various racing tracks and the most read articles of the year on

our entertainment blog: **roadtrips.it**

Thanks to this magazine you will always have at hand the main information and news about our company.

So now we just have to wish you lots of fun!

**Alessandro & Fabio
Palladino**

WOULD YOU LIKE TO BE A PBR RETAILER?

If you want to join the big family of **over 5000 selected PBR retailers all over the world** you can apply writing to the e-mail:

comm.italia@pbr.it

You will be able to rely on certified quality gears, entirely produced in Italy, developed and tested on the racing tracks by Motocross, MotoGP and Superbike great champions.

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PBR HISTORY

PBR is the first company in Italy to specialize in the production of rear and front sprockets for motorcycles. Now it sells transmission sprockets all over the world (rear and front sprockets, chains and kits) and accessories (handlebars, half handlebars, handlebar weights, bike stand knobs, chain spray grease, crash pads and Mecdraulic) for all types of bikes, both racing and standard. Expertise in this field, service reliability and fast distribution have made PBR known all over the world. A success achieved thanks to years of technical and material researches, combined with specialized craftsmen manual skills and precision of industrial technologies with CNC machines.

- The experience gained from competitions leads the company to continuously develop forefront products.
- State of the art machineries and strict checks guarantee the highest ISO 9001 quality standard.
- The production is managed to satisfy customer needs thanks to a systematic work of fast and on-time order deliveries.

Brief history

From a small artisanal turnery shop specialized in manufacturing rear and front sprockets to a leading company in the sector with over 45 years of experience, research and experimentation. This is PBR Sprockets, acronym of Palladino Bruno Ricambi, founded in 1969 and constantly growing since then, both technically and commercially, up to producing over three thousand pieces a day. In 1973 we expanded the production to the after market, focusing exclusively on the motorcycle market and starting the collaboration with numerous Italian manufacturers, including Benelli, Moto Guzzi and Malaguti. The next step was to follow the riders directly on the World Championship circuits. This has allowed us to gain important experience and develop products with a high level of reliability, which can withstand the heaviest stresses in competitions. Thus began the collaboration with Aprilia - then also involved in off-road - and with other prestigious brands such as Ducati, Betamotor, Bimota, Husaberg, Laverda, Honda, TM, Polini, BMW, to which PBR supplied road and off-road products, widening at the same time our horizons with lines dedicated to mini bikes, karts and maxi bikes.

The success was linked to the exclusive use of the highest quality materials particularly resistant to abrasion and corrosion, such as carbon steel C45 or 18NCD5, and to the advice of valid testimonial-collaborators such as Fausto Gresini, Alex Puzar, Georges Jobè, Chicco Chiodi, Jorgen Nilsson, Michele Rinaldi, who provided important information over time for the development of always forefront rear and front sprockets. PBR products have made a further leap in quality with their entry into the Superbike World Championship, thanks to the collaboration with prestigious teams such as the Ducati Team, in the Sport Production and in the Monomarca championships.

Next to the constant development of products that have become the reference point of the category, PBR has moved onto an international level, using an efficient and widespread network of distributors and strengthening its presence in important markets such as the United States, Japan, South America, South Africa, Australia and New Zealand. The comparison with different realities is still a precious reference for understanding and solving critical issues, improving the product also from an aesthetic point of view.

The interview

What do we find here in Castel San Pietro beside offices?

“Production and warehouse. We produce everything apart from the chain, which is imported from Japan. Keep in mind that almost everyone in Superbike and SuperSport today uses PBR. We made the new kit with the special pitch at 428, it's a special thing “.

Is that where most of the turnover comes from? Fabio Palladino speaks.

“It depends a little on the regions. When we talk about a kit we mean rear sprocket and chain. They ask us for the complete kit or just the parts”.

As said by Mr. Palladino, who in the family is still passionate about motorbikes?

Fabio answers again...

“I use the street bike. But it is not for this reason that we are 70% oriented towards the street. Doing a lot of work with Gresini in MotoGP, with Cecchinello and with such relevant teams, we



have an objective response on the market. Our goal is to choose competitive partners who will help us grow through results. In cross we are trying to grow and, to do so, we believe it is necessary to work with a good team, I am not talking about Cairoli's team, but a good team. It is important that the enthusiast can see the PBR brand on the bikes of the reference riders. We cover all specialties: the largest demand comes from the road but we also deal a lot with off-road. We had Cairoli until he joined KTM”.

The sticker on the bike is just pure communication or is there also the evolution of the materials behind it?

“There is also product development, in particular a close relationship between the company and the engineers of our partner teams. We use hard ergal rear sprockets. In MotoGP we have only sponsorship deals with some teams, while with others we develop the product. On Aprilia we mount titanium rear sprockets, an extremely precious material for transmission components. A sprocket costs around 700 euros”.

“Even as a kid I used to use PBR products, so today it is an honor for me to be also the ambassador of such an important, prestigious and pioneering brand in the bike-parts sector”. **Lucio Cecchinello, Team LCR manager**

SAFE WITH PBR

PBR is the **first manufacturer in Italy specialized in motorcycle gears** (exclusive production of rear and front sprockets since 1969).

Unlike other rear and front sprockets manufacturers who also produce gears for the industrial sector, PBR production is 100% dedicated to bikes.

What is the difference?

A bit like that between the general practitioner and the specialized surgeon.

The study of the details is the result of the knowledge and attention improving year after year.



Here is why over 5000 resellers all over the world have chosen PBR

- 1. 50 years of innovation and tests in partnership with Moto GP teams (Petronas, LCR, Reale Avintia) Superbike, MotoCross, Enduro** (we created the new kit with special pitch at 428 for the Superbike and SuperSport championships and titanium rear sprockets for some Moto GP teams). Over the years, engineers and testimonials such as Fausto Gresini, Alex Puzar, Georges Jobè, Chicco Chiodi, Jorgen Nilsson, Michele Rinaldi, have provided important information for the development of pioneering rear and front sprockets.
- 2. Supply of first assembly gears** on brands such as KTM, Husqvarna, Aprilia, Piaggio, MV Agusta, Fantic, Sherco. The quality tests of the parent companies are especially rigorous and guarantee the absolute value of the transmission kit.
- 3. Complete range immediately available in stock** (3368 motorcycle models in the catalog and over 10.000 rear and front sprockets available in stock).
- 4. Production of custom made-to-measure materials** (even for vintage motorcycles). Some examples? The **Ducati hub** (see image on the left), the **titanium rear sprockets** for the Moto GP and the **prototypes for various parent companies** (such as Fantic and KTM).
- 5. Vintage pieces that cannot be found by any sales rep around.**
- 6. The only Made in Italy guaranteed.** The whole production process takes place in Italy, nothing is located in China or in any other countries where the labor is underpaid and the production processes are not properly controlled.
- 7. Certified Quality.** Latest generation machinery and strict checks in the production process guarantee the highest quality standard (PBR has been ISO 9001 certified since 2007).



FAST DELIVERIES

Fast and on time order execution

What does the end customer wish for?

An **immediate delivery**

Nobody likes waiting.

But what if your supplier is slow in delivering?

You lose one customer after another.

What's more, Covid has further slowed down transports and delivery times.

Therefore, if you want a **guaranteed delivery within 24/48 hours**,

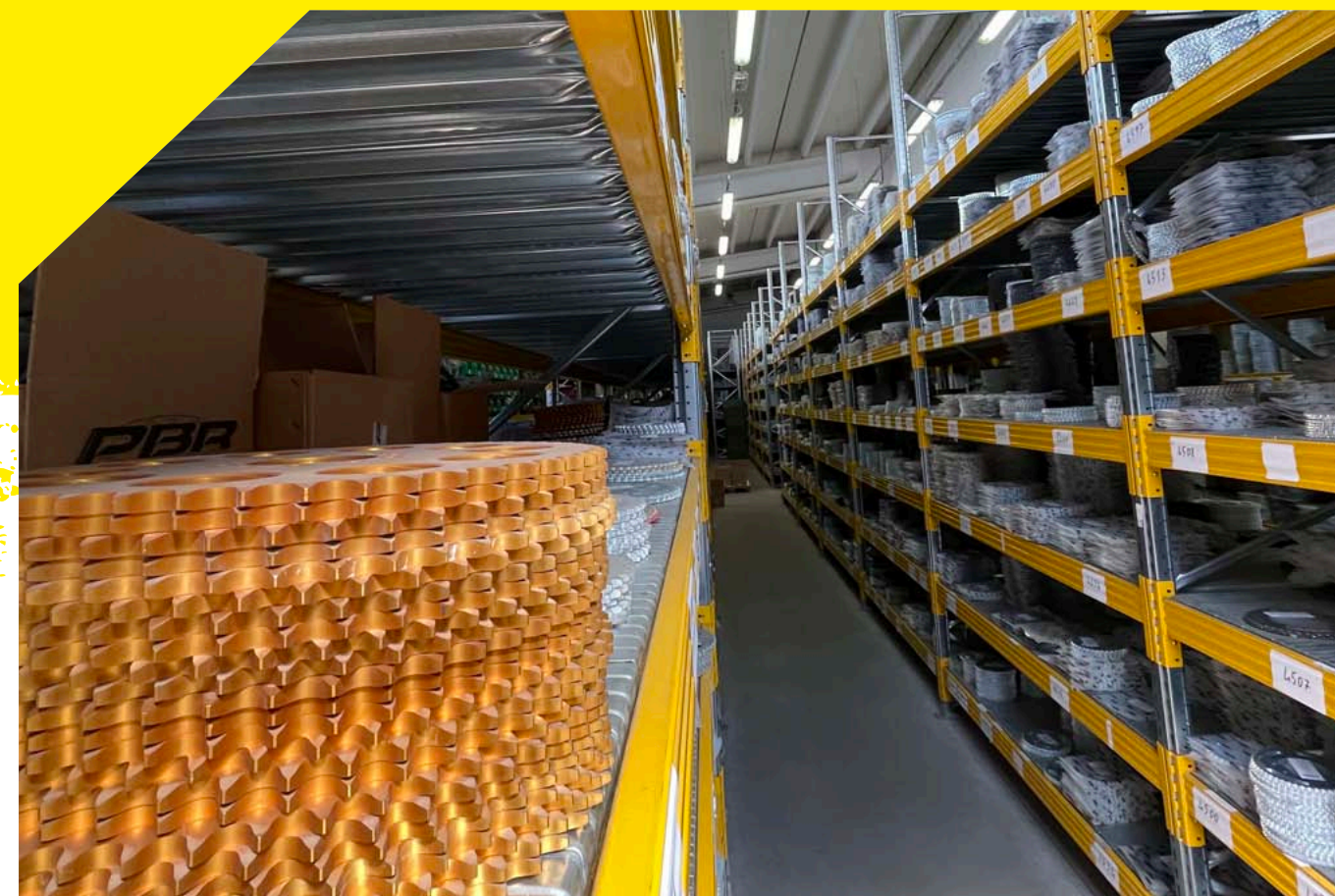
you should choose a specialized manufacturer with a stocked warehouse, such as PBR.

By ordering from a **wholesaler** you will

not have these guaranteed deadlines and your risk increases exponentially. Similarly, if you order from a **sales rep** who has to get the pieces from abroad, **delivery times** become **eternal**.

Comprehensive range immediately available at warehouse

- **3368 models of motorcycles in the catalog**, from cross to enduro, up to racing and road.
- **Over 10,000 rear and front sprockets** available in stock.
- **Production of customized materials** tailor-made (even for vintage motorcycles).





CERTIFIED PRODUCTION QUALITY

*Latest generation automatic
machines oriented to 4.0 Industry
(industrial automation)*

*Strict checks in the production
process and continuous evolution
of the process efficiency*

*Quality standards guaranteed by
ISO 9001 certification*



SUPPLY OF FIRST ASSEMBLY GEAR

Why is it important for a dealer to choose the manufacturer who does the first assembly?

Because the quality tests of the parent companies are ultra-rigorous and the approval of a supplier takes place after a thorough check

1. of the raw materials
2. of the efficiency of the production processes
3. of the reliability on delivery times

The parent companies know that choosing made in Italy parts is an added value to ensure the reliability of their transmission kits.



PIAGGIO



Husqvarna



aprilia

FANTIC

SHERCO

100% SPECIALIZED MANUFACTURER IN SPROCKETS

The entire production process is carried out in the province of Bologna, a world-famous motorcycle hub.

Nothing is located in China or in other countries where labor is underpaid and both materials and production processes are not properly checked.

Since 1969 PBR has been manufacturing only sprockets for motorcycles

50 years of tests in partnership with Moto GP teams and the widespread network of distributors around the world (in all 5 continents) are constantly optimizing products and accessories.





TWINCOLOR SPROCKETS

***The latest revolutionary
ergal sprocket for the true
Supermotard Enduro or Cross
enthusiast***

They are an absolute novelty in the world of sprockets for the final transmission of your motorcycle.

Strong and reliable. The numerical control machine construction makes the workmanship particularly accurate and free from defects, with the full advantage of durability and reliability.

Lightness and grit. The TWINCOLOR rear sprockets are even more aggressive thanks to the new and accurate design of the lightening holes. You will see your performance soar and both your traveling companions and your opponents will eat your dust.

Tested by professionals

You can be sure of the choice of quality that you're making. Before launching them on the market, we tested the reliability of the TWINCOLOR rear sprockets on the tracks where the 6-time WMX world champion Kiara Fontanesi and Team cross partners trained.

**ASK MORE INFORMATION
TO YOUR PBR SALES REP**

For each **TWINCOLOR** sprocket there will be a **free...**
racing bag!

Currently you can choose your TWINCOLOR Ergal sprocket in the following colors:

Red and black -> Honda CRF

Green and black -> Kawasaki KXF

Blue and black -> Yamaha YZ / GAS / Fantic

Yellow and black -> Suzuki RMZ

Orange and black + blue and black -> KTM / Husqvarna / Beta

WHY IN ERGAL?

The rear sprockets are composed of a variable toothing depending on the make and model of the bike. They can be of different materials, from steel to ergal.

Ergal rear sprockets (the best among all conventional aluminum alloys) is certainly more elegant than the molded rear sprockets, thanks to its metallic colors and the lightening holes

manufactured by CNC machines (which give a racing look to the bike). The Ergal rear sprocket is also lighter than the steel one, but the lightening is not so relevant if you are not a professional who tries your hand on racing tracks.

Moreover, because the Ergal rear sprocket is lighter, it is also more sensitive to wear compared to that in steel.

The Twincolor rear sprocket is ideal for the motorcyclist who wants to customize their Supermotard, Enduro or Cross motorcycle.

With a Twincolor Ergal 7075-T6 sprocket you can give a special look to your adventure companion.

Thanks to the new Twincolor rear sprocket you can:

1. Give an original and unique touch to your bike (you won't find it anywhere else)
2. Improve your performance (it is a light and aggressive rear sprocket because of the new and accurate design of the lightening holes)
3. Play it safe: it was put to the test on the training tracks by the 6-time WMX world champion Kiara Fontanesi and by the riders of our partner teams (Fantic, Maddii Racing, Maggiora Park racing team, Team 505).



FINAL TRANSMISSION RATIOS ON THE BIKE



CWith “final transmission ratio of the motorcycle” we mean the number obtained by dividing the number of teeth on the rear sprocket (located on the rear wheel) by the number of teeth on the front sprocket. So, in short:

Final drive ratio of the bike = number of rear sprocket teeth / number of front sprocket teeth

The final transmission ratio figure represents the number of times the front sprocket has to rotate to make the rear sprocket rotate and eventually determines how the number of engine revolutions translates into road speed and how much torque there is on the rear wheel. If you change the transmission ratio, you change the power delivery of the bike, because you affect the response time of the engine.

The different types of transmission ratios

Before we go into detail, I'll make it simple. When a motorcycle has a “long” ratio, it means that it will have a higher top speed, but at the expense of acceleration. If the bike's ratio is “short”, it means better acceleration, but a lower top speed. Well, now comes the hardest part.

What you Need to know when shifting ratio

Each front sprocket modification

tooth corresponds to approximately **2.7 rear sprocket modification teeth**. So beware because a front sprocket tooth is worth almost three rear sprocket ones. Moreover, remember to consider the length of your chain as well. In fact, if you change only one tooth of the rear sprocket, you don't need to change the number of links in the chain, but if you change two, you have to fit a chain that is longer or shorter by one link. Where is the good news? All you really need to know is the current pitch of your bike, which you find printed on the chain and, sometimes, even on the rear and front sprocket. From this you can decide how to adjust the tooth count to change the performance of your motorcycle.

RATIOS TABLE REAR / FRONT SPROCKETS										
	NUMBER OF TEETH OF FRONT SPROCKET									
	10	11	12	13	14	15	16	17	18	19
30	3,00	2,73	2,50	2,31	2,14	2,00	1,88	1,76	1,67	1,58
31	3,10	2,82	2,58	2,38	2,21	2,07	1,94	1,82	1,72	1,63
32	3,20	2,91	2,67	2,46	2,29	2,13	2,00	1,88	1,78	1,68
33	3,30	3,00	2,75	2,54	2,36	2,20	2,06	1,94	1,83	1,74
34	3,40	3,09	2,83	2,62	2,43	2,27	2,13	2,00	1,89	1,79
35	3,50	3,18	2,92	2,69	2,50	2,33	2,19	2,06	1,94	1,84
36	3,60	3,27	3,00	2,77	2,57	2,40	2,25	2,12	2,00	1,89
37	3,70	3,36	3,08	2,85	2,64	2,47	2,31	2,18	2,06	1,95
38	3,80	3,45	3,17	2,92	2,71	2,53	2,38	2,24	2,11	2,00
39	3,90	3,55	3,25	3,00	2,79	2,60	2,44	2,29	2,17	2,05
40	4,00	3,64	3,33	3,08	2,86	2,67	2,50	2,35	2,22	2,11
41	4,10	3,73	3,42	3,15	2,93	2,73	2,56	2,41	2,28	2,16
42	4,20	3,82	3,50	3,23	3,00	2,80	2,63	2,47	2,33	2,21
43	4,30	3,91	3,58	3,31	3,07	2,87	2,69	2,53	2,39	2,26
44	4,40	4,00	3,67	3,38	3,14	2,93	2,75	2,59	2,44	2,32
45	4,50	4,09	3,75	3,46	3,21	3,00	2,81	2,65	2,50	2,37
46	4,60	4,18	3,83	3,54	3,29	3,07	2,88	2,71	2,56	2,42
47	4,70	4,27	3,92	3,62	3,36	3,13	2,94	2,76	2,61	2,47
48	4,80	4,36	4,00	3,69	3,43	3,20	3,00	2,82	2,67	2,53
49	4,90	4,45	4,08	3,77	3,50	3,27	3,06	2,88	2,72	2,58
50	5,00	4,55	4,17	3,85	3,57	3,33	3,13	2,94	2,78	2,63
51	5,10	4,64	4,25	3,92	3,64	3,40	3,19	3,00	2,83	2,68
52	5,20	4,73	4,33	4,00	3,71	3,47	3,25	3,06	2,89	2,74
53	5,30	4,82	4,42	4,08	3,79	3,53	3,31	3,12	2,94	2,79
54	5,40	4,91	4,50	4,15	3,86	3,60	3,38	3,18	3,00	2,84
55	5,50	5,00	4,58	4,23	3,93	3,67	3,44	3,24	3,06	2,89
56	5,60	5,09	4,67	4,31	4,00	3,73	3,50	3,29	3,11	2,95
57	5,70	5,18	4,75	4,38	4,07	3,80	3,56	3,35	3,17	3,00
58	5,80	5,27	4,83	4,46	4,14	3,87	3,63	3,41	3,22	3,05
59	5,90	5,36	4,92	4,54	4,21	3,93	3,69	3,47	3,28	3,11
60	6,00	5,45	5,00	4,62	4,29	4,00	3,75	3,53	3,33	3,16
61	6,10	5,55	5,08	4,69	4,36	4,07	3,81	3,59	3,39	3,21
62	6,20	5,64	5,17	4,77	4,43	4,13	3,88	3,65	3,44	3,26

Driving on winding roads or in the city? Do you need more acceleration? Then shorten the ratio, decrease the front sprocket teeth, or add rear sprocket teeth.

Do you want to get better mileage and lower rpm while traveling on the motorway? Add teeth to the front sprocket or remove them from the rear sprocket.

Given that most motorcycles nowadays have an excessively long pitch, some riders prefer to shorten it. But even if on your bike you have the feeling that the gears are far from your driving style, you probably won't have to change the number of teeth much

to notice the difference. In general, it is difficult to change more than one or two teeth on the front sprocket, and two, or three, teeth on the rear sprocket.

On what basis do you choose the right ratio for you?

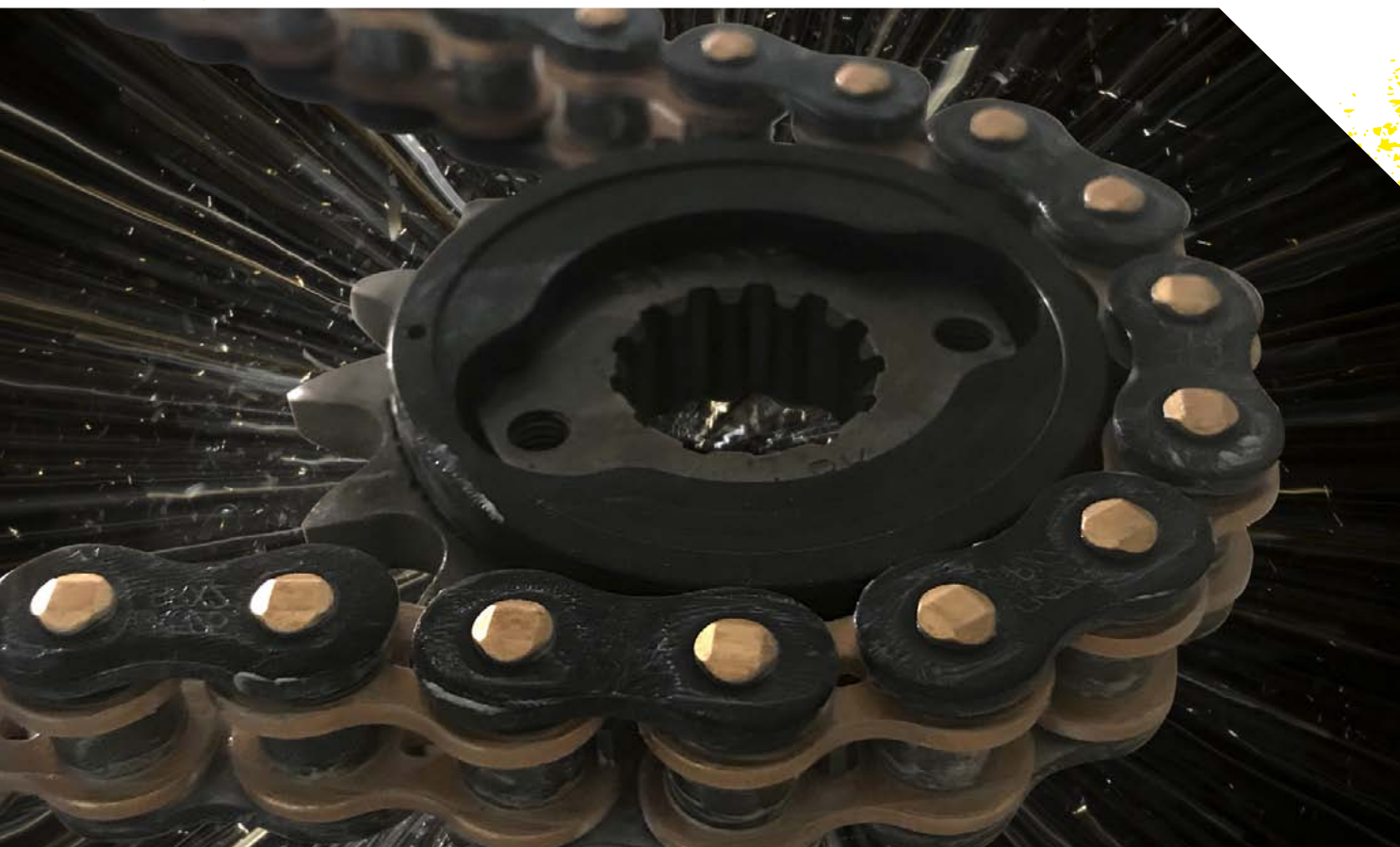
1. Type of use of the motorcycle (enduro, motocross, supercross, etc.)
2. Type of track (sandy or hard)
3. Riding style
4. Type of configuration of the motorcycle

Why change the transmission ratio on a street bike?

If you have a naked motorbike you can change the front sprocket, because without protections you will hardly be able to do 230/240 km/h of speed in a prolonged way (with the impact of the wind that you find against you, you will get tired quickly), so it is hardly useful. For this reason...

Finish reading here: roadtrips.it/rapporti-di-trasmissione-moto/

THE BEST TRANSMISSION KIT FOR ROAD BIKES



When you have to change the transmission kit for your bike, you will evaluate the new purchase based on the power and torque of the engine you have and, in most cases, you will stick to the indications of the parent company.

Two mistakes to avoid when you choose a transmission kit for your bike

1. Choose the cheapest

Poor sprockets wear out prematurely and blow your system out of tolerance in no time. The level of performance in terms of energy and therefore of power collapses.

2. Choose according to the brand of

the chain

Unfortunately, few know that the "aftermarket" kits are assembled by the companies who, in order to have greater margins, make them with rear and front sprockets of foreign origin and often of poor quality. This is because what matters for the end customer is the brand of the chain.

How to check the measurements of the rear and front sprockets and the length of the chain?

When you are uncertain about choosing a transmission kit for your bike, keep

it easy. Keep to the indications of the original kit of the parent company. If you do not know what they are, look at the number written on your current chain and count the rear and front sprockets teeth (or ask a mechanic or look on the internet for the first assembly kit of your bike).

Chapter chain: Mount a chain equal to the one you have mounted or higher. If you switch from a 530 pitch chain to a 520 pitch racing chain, you lighten the bike and increase smoothness, but you expose yourself to greater wear, obtaining a performance that is hard to perceive unless you are a professional. While if you change the sprocket from steel to ergal, you can see a slight improvement if you have a low-displacement bike (you won't feel

much difference for 600 and over).

Rear sprocket in Ergal or Steel? Which one to choose?

The rear sprocket is the largest toothed wheel. You can easily see it on the wheel or rear end of the bike. It is the gear that transmits movement to the wheel. Rear sprockets are equipped with variable teeth number, depending on the make and model of the bike. They can be of different materials, from steel to ergal. The **Ergal rear sprocket** (the best of all conventional aluminum alloys) is certainly more elegant than the molded rear sprocket, thanks to its metallic colors and the lightening holes made with CNC machines (which give a racing look to the bike). The Ergal rear sprocket is also lighter than the steel one, but the little weight is not so relevant unless you are a professional who rides on racing tracks. Furthermore, since the Ergal rear sprocket is lighter, it is also more sensitive to wear than the steel one.

Does the Ergal rear sprocket make sense on a

road bike?

Fit it if you ride short distances or if you want something different from the original version to obtain a particular look (also because an ergal rear sprocket has to be checked more often). *Do you have a motorcycle with a high CC (above 600)?* Better a tempered steel rear sprocket, more durable than normal C45 steel ones. *Do you have a motorcycle with a small CC (up to 400)?* Fit a normal C45 steel rear sprocket, because it doesn't have all this cavalry to express. *What really makes the difference?* The **maintenance** you do on your transmission system to get the best performance.

The best transmission kit for Street Bikes: Black & Gold Kit

The PBR top leading kit for street bikes is the Black & Gold kit. This amazing quality transmission kit consists of:

1. **REAR SPROCKET C45T** in zinc-coated steel tempered at high frequency, anti corrosion. Developed alongside MotoGP

and Superbike teams.

2. **RSS FRONT SPROCKETS** in tempered steel with rubber coating.
3. **EK CHAIN Black & Gold with QX-RING SRX2** (increases the life of the chain up to double and reduces friction by 40% compared to those with O-rings).

Why do PBR transmission kits have EK chains?

Enuma was the first manufacturer in the world to introduce in 1974 the chain closed with O-Ring and holds the most important patents. Furthermore, in 1997 the company was certified with the ISO9001 quality standards. This certification reinforces the guarantee of safety and precision in each product. Less famous than DID chains for marketing choices, they have always been at the forefront of technology on motorcycle chains.

Discover the main types of EK chains here: roadtrips.it/miglior-kit-trasmissione-moto/





RSS FRONT SPROCKET

Front sprocket in hardened steel with rubber coating for exceptional strength combined with unique smoothness and silence

The **RSS front sprocket** (Rubber Sprocket System) is among the most advanced products in the PBR range.

Made of tempered steel, thanks to the innovative rubber coating specially injected into the holes drilled, it combines exceptional strength with fluidity and silence.

With this solution, the rubber lasts longer preventing problems with glue, maintaining its reliability during extensive use, even after many thousands of kilometers.

RSS front sprockets are available for all sport street and enduro/off-road motorcycles with medium/heavy capacity.

**ASK MORE INFORMATION
TO YOUR PBR SALES REP**

4694 50 **PBR** 40/16

C-LIGHT **NEW REAR SPROCKET**

The latest PBR rear sprocket model for off-road motorcycles equipped with the most advanced technical solutions

Manufactured in black zinc-coated C45 steel, also tempered (to further enhance its durability), it is the perfect rear sprocket if you are looking for high performance off-road.

WEIGHT: 0,74 kg

21,3% less than the standard C45 steel sprocket
14% less than the old C-Light model

Developed together with 6-time WMX champion **Kiara Fontanesi**. TOP quality thanks to CNC machining. Available in different sizes for 2 and 4 stroke engine cross and enduro Honda, Kawasaki, Suzuki, Yamaha, Husqvarna and KTM.

The off-road rear sprocket is equipped with **lightening holes** that allow it to have a **similar weight to an ergal sprocket**, while maintaining the strength of the steel.

**ASK MORE INFORMATION
TO YOUR PBR SALES REP**

WHEN TO CHANGE CHAIN, REAR AND FRONT SPROCKET



"How do I understand when it is time to change one or all of the main components of the final transmission of my bike?"

Short answer: if the transmission kit is of good quality, it can last up to 25000/30000 km on the road. But if you choose kits assembled by sales representatives, which insert elements of dubious origin, the performance drops vertically on 10,000 km or less. So you have to change the kit much earlier (not the way to save money).

Long answer: it depends...

First of all, it is important that you know the secret to keep your bike performance constant over time and avoid unpleasant unexpected events. **Schedule regular and proper**

maintenance of the transmission kit.

The factors that affect the duration of the transmission are infinite. They range from the type of motorcycle (road or off-road), to the driving style you adopt (aggressive or conservative), up to the maintenance you do (for example, the chains of road bikes will need less frequent interventions than a cross or enduro bike). So for each specific case it is always good to contact a trusted mechanic.

Brief overview of the elements of the motorcycle transmission kit (rear and front sprocket, chain)

If you do not know, the transmission

of the motorcycle represents the organ thanks to which the torque of the gearbox countershaft can move to the wheel. In simple terms, the transmission is the element that allows the bike to advance on the ground. Among the different types of final transmission of the motorcycle (belt, cardan, chain) the best known is certainly the one that sees the chain, rear and front sprockets as protagonists.

Rear and front sprocket

Rear and front sprockets are toothed wheels connected to each other by the chain. The front sprocket is the smallest wheel, while the larger one is known as the rear sprocket.

The front sprocket is usually made of tempered steel (more resistant than normal steel).

The rear sprocket is usually made of steel or aluminum (a lighter alloy). For off-road motorcycles, the Eral rear sprocket is also very popular, a particular alloy that is lighter but also resistant, with an attractive design. In motorcycles, the front sprocket is connected directly to the gear shaft, while the rear sprocket is mounted on the rear wheel rim:

When to change the chain: how to recognize the signs of wear

The chain, on the other hand, is made up of a succession of links (internal and external) connected to each other in order to "articulate" freely. There are three different types of gaskets between one link and another:

1. O-ring
2. X-ring
3. Z-ring

The lubricant you will use to clean your transmission must be compatible with the type of gasket on your chain. Of the 3 transmission elements, the chain is certainly the

element subjected to the greatest stress. Precisely for this reason, make it a good habit to check the following 3 factors:

1. Is the chain properly greased or does it show any cracks or rust?
2. Does the chain "move" on the rear sprocket, that is, if you pull the chain with your hands, does it move a lot and does not adhere well to the rear sprocket?
3. If you measure the length of a part of it, does the growth results greater than 2% compared to a new chain?

If one of the previous conditions occurs, the chain is worn and you have to change it.

The main risk you run by changing only one piece or only 2 out of 3 pieces of your motorcycle transmission kit

It can often happen that you only change one element to save money.

You must NOT do this for two reasons:

1. Poor parts wear prematurely and blow the system out of tolerance in no time. The level of performance in terms of energy

and therefore power collapses drastically.

2. A worn chain ruins parts more quickly, even if they are new and of high quality.

Remember: check your transmission kit every 1,000km. This protects you from the previous problems. As I told you, if you change only one component of the transmission, as they no longer match, they wear out differently, for example: the rear sprocket can be more worn than the front sprocket if you only changed the front sprocket and you will notice that it malfunctions. Many amateur bikers, not knowing this difference, change the rear and front sprocket after many kilometers, keeping the previous chain. Then they complain that they last less than the original pieces. But this derives from the fact that the rear and front sprocket, working with a worn chain, wear out much faster.

Finish reading here: roadtrips.it/quando-cambiare-trasmissione-moto/



TITANIO  Z41

TITANIUM REAR SPROCKET

DO YOU KNOW WHICH METAL IS THE MOST RESISTANT AND “STRONGER” EVER?

TITANIUM, whose alloys are used in the aeronautical and aerospace industry. What you might not know is that this metal is also used in Moto GP. Precisely. PBR has studied a special rear sprocket in Titanium in collaboration with some GP and Superbike motorcycle teams. They are made with CNC machines, with a **Racing design specifically designed for the GP bike.**

It is a work that requires precision, the result of years of research and obsessive attention to details that we can also supply to our dealers. And when you develop this type of manufacture, the process of creating every other element in production is also inevitably affected.

Because quality standards cannot be improvised. Remember this, when you decide to buy a commercial assembled kit (with gears that you do not know where and how they were produced).

We are talking about the absolute Top, which combines:
Toughness, Lightness, Corrosion resistance

**ASK MORE INFORMATION
TO YOUR PBR SALES REP**



PBR HANDLEBARS

The complete model line for motocross and enduro and the one for road bikes

OFF-ROAD HANDLEBARS

Equipped with bumpers, made in Ergal and developed in the cross and enduro World Championship. Available in different colors, the classic version \varnothing 22 with reinforcement bar and the conical version \varnothing 28.6 with and without plate attachment kit.

ROAD HANDLEBARS

Available in different colors and made in Ergal, are available in the \varnothing 28.6 version with a variable conical section without reinforcement crossbar for naked sport bikes and the \varnothing 22 designed for most popular naked.

HALF HANDLEBARS

Manufactured in silver-colored light alloy with an inclination of 7.5 degrees, suitable for forks \varnothing 41, 43, 45, 48, 50, 51, 52, 53, 53.5 and 54. To be used with a specific screw-type or universal expansion-type handlebar weights.

HANDLEBAR WEIGHTS ORIGINAL

Available in two stabilizing versions, one basic and the other with a knurled body, they are manufactured in light alloy, with CNC machines, anodized and available in silver, black, gold, red and blue.

**ASK MORE INFORMATION
TO YOUR PBR SALES REP**



1



2



3



4



5

SPONSORSHIP

MOTO GP YEARS

PBR has been a partner of the LCR Honda team since its debut in Moto GP in 2006, when a certain Casey Stoner was also making his debut in the premier class. Since then, the LCR team has seen renowned drivers, such as Jack Miller and excellent years such as Bradl's 2013.

Picture 1 - Stefan Bradl in 2013. He ends the season in 7th place with 156 points (despite being forced to miss the Malaysian and Australian Grand Prix due to a fractured right ankle).

Picture 2 - Casey Stoner at his MotoGP debut. Despite the many crashes, he closed the year by finishing in 8th place with 119 points. He got second place in Turkey.

Picture 3 - Carlos Checa in 2007 when, at the end of the season, interrupted his extremely long-lasting career in the world championship.

Picture 4 - Year 2012. PBR is sponsor of Team Gresini with Antonelli in moto 3.

Picture 5 - Jack Miller in 2015 at his MotoGP debut.



Fausto Gresini contributed so much to the development of PBR products, we remember him fondly.

MOTO GP 2021 TEAM: LCR & DUCATI AVINTIA ESPONSORAMA

The LCR team racers
for 2021 are the new
entry Alex Marquez
and Taka Nakagami.



In the 2021 season Enea Bastianini races with the private team Esponsorama Racing partner PBR, with Luca Marini as teammate.

On 19 September of the same year he obtained his first podium in the premier class, finishing third in the San Marino Grand Prix and the Rimini Riviera in Misano Adriatico (third place repeated 2 weeks later on the same circuit, in the Emilia Romagna GP).

"It was an unexpected result, but in the morning I thought it was possible because I saw that I could easily do good lap times. We managed to find a good set-up on the bike and I enjoyed it.

Halfway through the race I was feeling really good and, when I overtook Miller, I continued to set my pace.

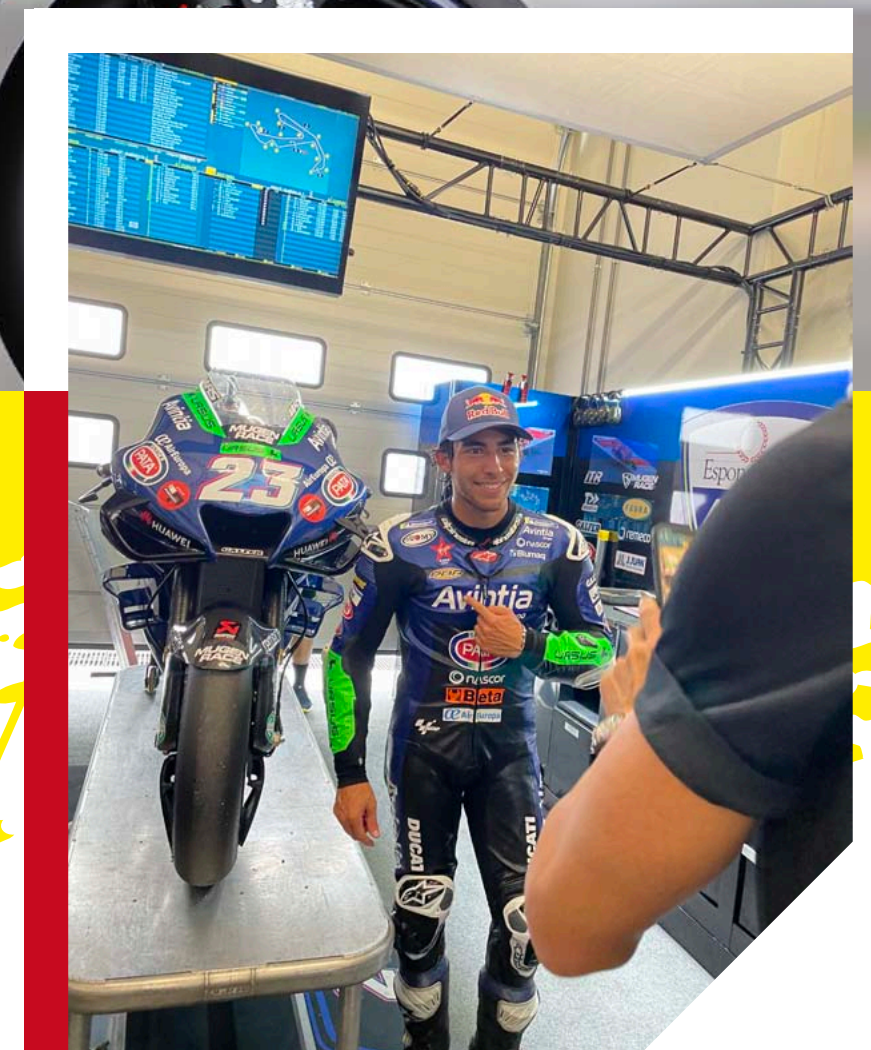
I knew I was in front of Quartararo and Bagnaia

and I wanted to try to attack them, but I was already practically at the limit. I am very happy with this 3rd place and it was fantastic to get this podium in Misano".

Luca Marini finds some more difficulties, but he still manages to take home an excellent fifth place in Austria.

LCR TEAM 2021 season

The combination of Takaaki Nakagami and Álex Márquez shows strength and quality. The Japanese racer gets a fourth, a fifth and a seventh place as best scores. His Spanish teammate, on the other hand, gets a fourth, a sixth and two eighth positions as best places in a season, to be honest, perhaps a little conditioned by the growth of competing bikes and by a less performing Honda than in the past. In fact, in 2020 Nakagami had obtained two fourths and two fifths, always arriving at the finishing line among the top ten riders.



MOTO GP PARTNERS: PETRONAS 2020 - 2021

In 2020 PBR starts the partnership with Petronas. Racers: Morbidelli and Quartararo (photo 1). The young Frenchman starts the season splendidly: in the Spanish Grand Prix he wins his first victory in the MotoGP class, repeating himself seven days later, once again on the Spanish circuit (photo 2). Later in the season, he gets four pole positions and wins another race in Catalonia, while in the remaining races he almost always finishes in the top ten, before suffering a slowdown in the final part of the season.

Quartararo ends the season in eighth place with 127 points, but with three wins to his credit.



1



2



3



4

Morbidelli 2020

On 13 September 2020 Franco Morbidelli on the Misano circuit gets his first victory in the premier class (photo 3).

In the Catalunya Grand Prix he wins his first pole position in Moto GP. He wins the Teruel Grand Prix.

On November 14 on the Valencia circuit he obtains his second pole position and the following day his third success of the season. Eventually, he comes third in Portugal and ends the season in second place in the world championship with 158 points.

2021: Rossi & Co.

In 2021 Quartararo exchanges with Rossi passing to the official Yamaha team (where he will win the world championship). Morbidelli injures his knee after a great third place in Spain and missed five races.

Then, starting from the San Marino Grand Prix, he joins the official team taking the place vacated by Maverick Viñales. His place in the team was taken by the American Garrett Gerloff



for the Dutch GP and later by the British Cal Crutchlow and Jake Dixon.

Until Andrea Dovizioso is hired. Rossi's last season in Moto GP is rather disappointing: he often finds himself fighting with his brother Marini, on the Ducati of the Avintia Esponsorama team (photo 4).

But for the legend he represents it is a great pride to be able to see him with the PBR brand on the suit and on the bike.

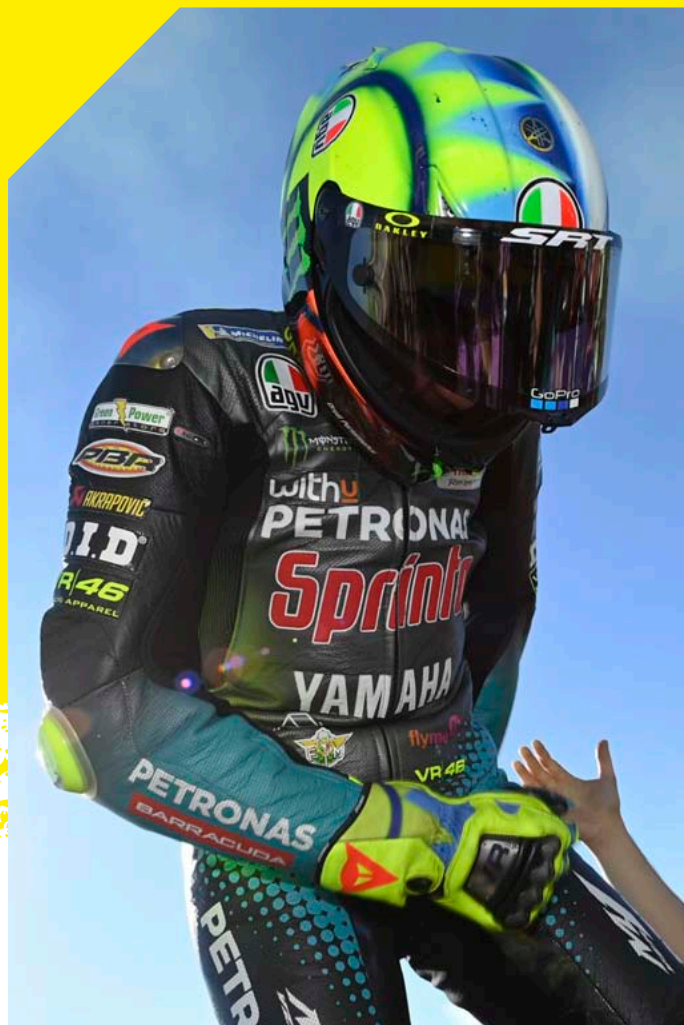
MOTO GP PARTNERS

2021: ROSSI'S FAREWELL PARTY

The 2021 motorcycle season ends and the curtain falls on Valentino Rossi's career. The champion from Tavullia will remain forever in our hearts for all the great emotions he gave us. In Valencia, a truly exciting yellow hug of 70,000 people marked this memorable moment. All the racers paid tribute to the champion at the end of the race.

Here's what Rossi said at the end of the race:

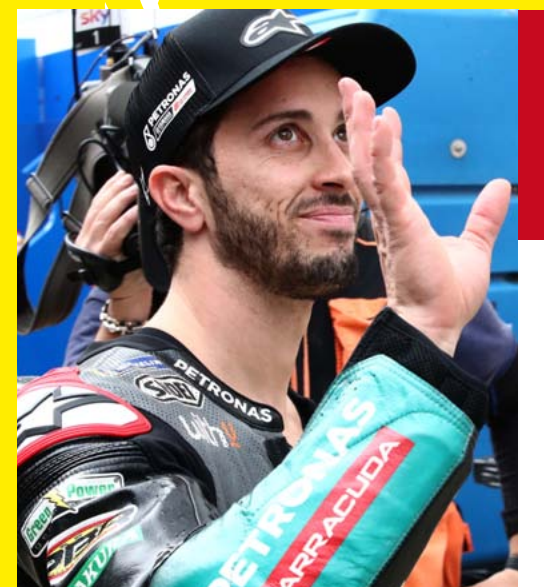
"I was worried about this weekend as I didn't know how I would feel and there was a lot of pressure and a lot of things to do. It was fantastic, I got a lot of positive energy from all the people in the paddock and I received a lot of surprises: from seeing all my bikes on Thursdays, to the Academy VR46 riders wearing my helmets today. I had a lot of fun and it was the best way to end. It's been a long career and I want to say thanks to everyone."



2021: Rossi & Dovi

Guys what a show! Valentino Rossi and Andrea Dovizioso together made us happy anyway. Beside the performance, it is nice when Italian racers of this level carry your brand on their right arm. Small details make a big difference.

Like choosing the gears for your bike. Better to avoid the risk of premature consumption, typical of aftermarket transmission kits assembled by commercial operators. Better to choose the reliability and quality of PBR, made in Italy since 1969.



SUPERBIKE PARTNERS: GO ELEVEN

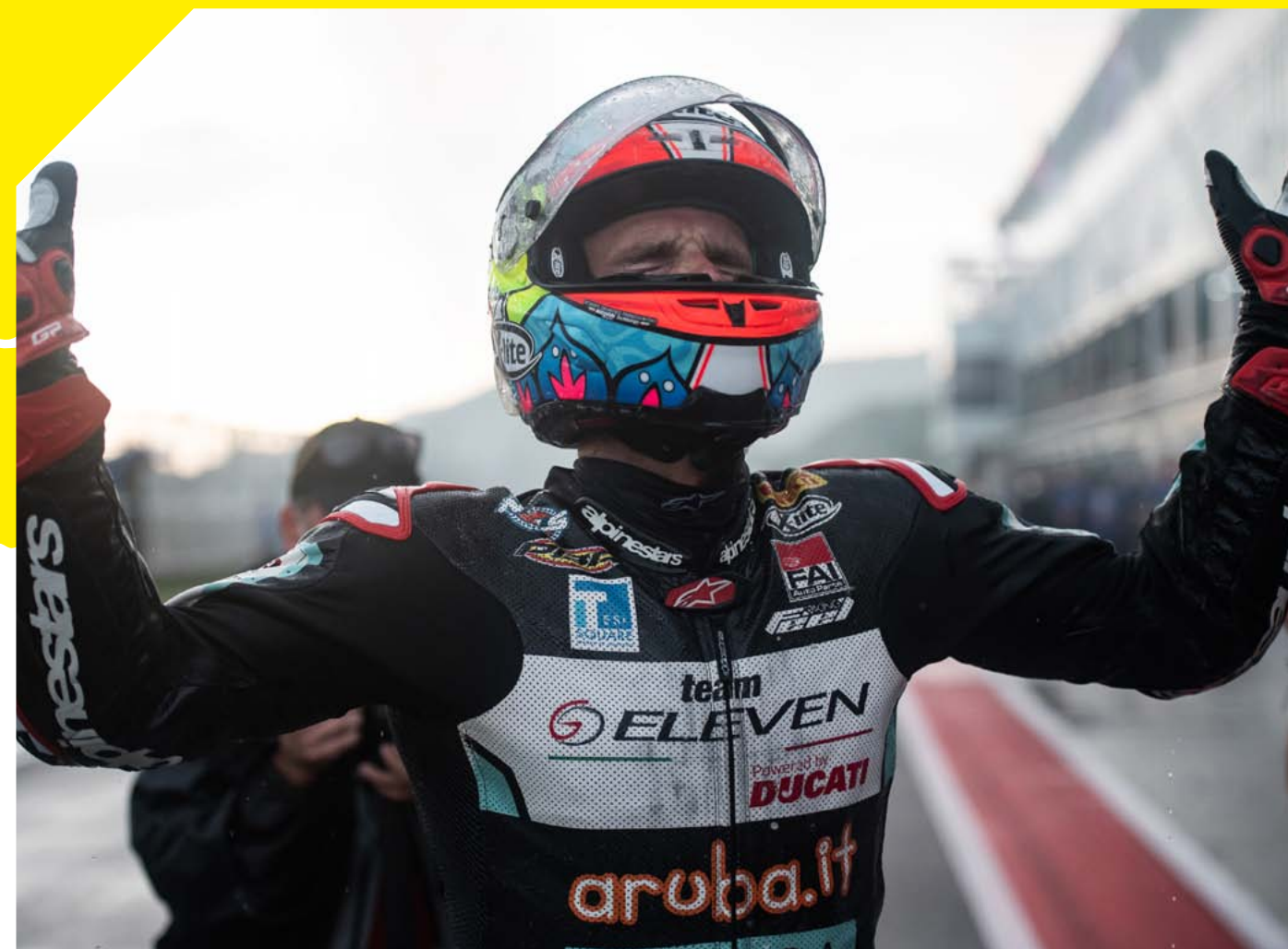
The Go Eleven Team was born in 2008, from the passion of Gianni Ramello and from the motorcycling experience of Piero Cabutti, to support the rider Rubén Xaus, then riding the BRC Racing Ducati.

In the 2020 season, together with racer Michel Rubén Rinaldi, the GoEleven Team ranks 7th in the championship in the premier class with 3 podiums and one victory, winning the Best Independent Rider & Best Independent Team titles.

In 2021, British champion Chaz Davies arrives from the official Ducati team, in his last season in Superbike (a World Championship won in 2011, 3 times world runner-up). After an excellent second place in Estoril, he is forced to miss the Jerez Grand Prix due to an injury in the previous event. His place in the team is taken by Loris Baz, who immediately gets two third places in Portimao, Portugal.



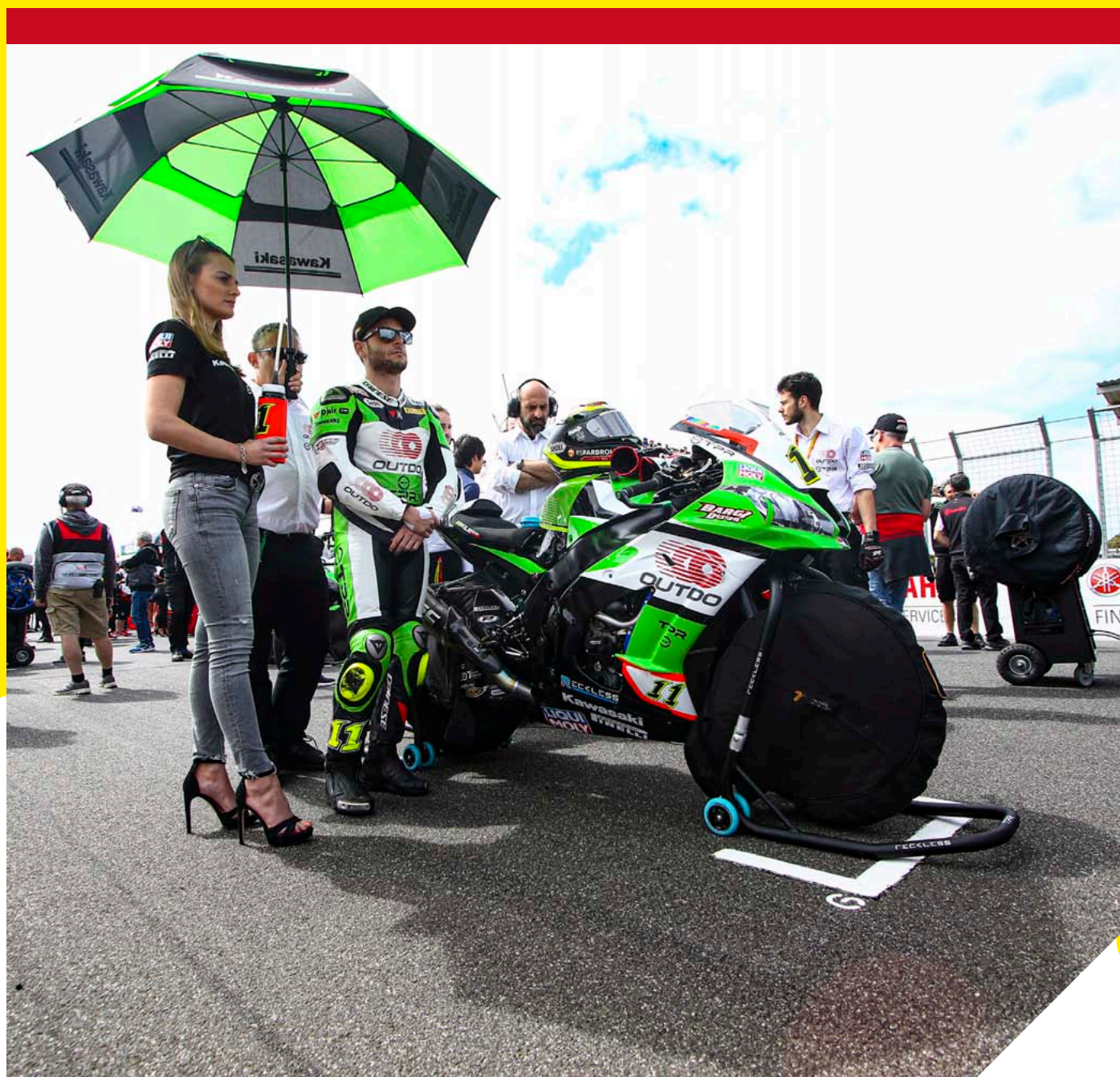
#THANKSLEGEND



SUPERBIKE PARTNERS: PEDERCINI

Team Pedercini Racing srls is a motorcycle team based in Italy, founded in 1993. The Italian team has lined up a long list of racers since it entered the scene.

Celebrates its 30th World Championship racing season in 2021, making it one of the longest-running and most respected teams in the WorldSBK Paddock.



CIV PARTNERS: BUCCI MOTO

Bucci Moto, the historic Italian motorcycle brand, in the year of its debut in MiniGP closed the CIV Junior in third absolute position with Luca Maria Casagrande Contardi and the BR12GP2T, a sign of a successful project and a season in great growth for the company from Felino, which will continue its path in the future.

Claudio Bucci: "I am really satisfied with how we finished the Italian Junior Speed Championship and that we were able to finish the season in third position with Luca Maria. We thank the people and sponsors who have supported us this season and to whom we want to dedicate this third place in the ranking! Thank you all!"



PARTNERSHIP

FANTIC 2020 - 2021

In 2021 PBR supports the following **FANTIC** teams:

Fantic Jet racing - enduro world championship and Italian absolute

Fantic team Maddii - European EMX250 and 125 + NATIONAL MX

Team Fantic E50 - World and Italian enduro

- **Nicholas Lapucci** (Fantic team Maddii) wins the EMX250 European championship!
- **Maximilian Spies** (Fantic team Maddii) wins the European 2t cross championship!
- **Davide Guarneri** (Team Fantic E50) obtains the title of vice-champion in the E1 class
- **Harry Edmondson** (Fantic Jet racing) becomes vice-champion of the Youth world



MOTOCROSS WOMEN

FONTARACING TEAM

Rated 8, like her number.

This is the judgment that **Kiara Fontanesi** gives to her 2021 season, which saw her regain the Italian women's motocross championship that she had been missing since 2017 and fight until the last race for the world title.

Another year as a great protagonist riding her **GASGAS MC 250 F** of the MXFONTARACING Team for the queen of motocross (6 times world champion)...

... the only rider at great levels who is also a mother (that's quite something).



HOW TO CHOOSE THE CHAIN

After driving thousands of miles, you think it's time to change your bike's transmission chain. So you may be wondering: *What type of chain do I take for my motorcycle?*

Understanding how to choose a chain for your motorcycle is not easy. Also because we are talking about a fundamental component for your safety as a rider and for the

transmission of power, therefore also for the total efficiency of the bike. This is why you are right to look for a very high-performance chain that is at the same time light and unbeatable in terms of value for money. Let me tell you three things about chains right away:

1. You will hardly find unprofessional chain manufacturers.
2. Each House identifies its own production line with

initials, intended for specific applications, capacity or disciplines.

3. Often, as with other products, the visibility obtained from the greater advertising investment does not mean having the best quality.

Having said that, let's begin to clarify some key concepts for your choice.

Sealed chain is constructed by six parts.

ROLLER

EK sealed chain uses the roller of the cold forging.

BUSHING

Solid typed bush is more longer life than non solid typed bush.

INNER PLATE

Inner plate has "Lightening Hole".

PIN

EK chain has adopted thicker pin than competitor's chain.

SEAL RING

EK has various type seal ring.
EK succeeded in developing the first O-Ring chain.

OUTER PLATE

Outer plate shape optimizes light weighting and strength.

Types of motorcycle transmission chains

The "families" of chains are of 2 types:

1. **Non sealed** -> they require frequent maintenance, otherwise you risk having to change them every year or even earlier.
2. **Sealed** -> ie those greased already during the assembly stages and then made waterproof through the adoption of sealing rings (polymer gaskets) interposed between the internal and external link.

The type of section with which the joint ring is made is indicated with a letter of the alphabet that most closely resembles it: the classic one is the O-ring (round ring section).

If you do motocross, you will use non sealed chains, because you must be able to wash them after each race and this process would irreparably damage the O-rings.

Fundamental components of the motorcycle transmission chain

In your choice for the right chain for your motorcycle you must consider two fundamental measures:

1. the length of the pitch;
2. the internal width of the link.

To express these 2 measures, a single standardized numerical code is used, consisting of three digits, which expresses both values (examples: 415, 420, 428, 520, 525, 530).

ATTENTION!

You CANNOT mount a 520 chain on a 530 pitch rear and front sprocket or vice versa. The pitches of chain, rear and front sprocket must be the same. *Do you want to change the pitch of your bike?*

Better if you buy a complete transmission kit.

The chain is then composed of several components.

- **Inner and outer plates:** that is the real connecting portions of the chain that bear the tension on the chain.
- **Rollers:** in the center of the chain are the rollers, which are the contact area for the front sprockets.

- **Pins:** the pins are the axis of the rollers.
- **Bushing:** separate the rollers from the pins, but there are also chains without bushings.

Furthermore, if you find yourself installing a new chain, you may find yourself closing different types of joints. I advise you to always use the joints already supplied as standard in the packages, because they are the most suitable for the type of chain.

Conversion to pitch racing 520? Beware of deception

5520, 525, 530... as mentioned before, these numbers indicate the pitch in relation to the internal width of the link.

- **525:** you can find it in most street bikes.
- **530** (thicker): you can find it in motorcycles with very high torque and large capacity (1000 or 1200).

Here's the thing: if you convert to a 520 chain, you are going to replace a heavier chain with a lighter one, for better performance.

Of course, theoretically a lighter chain, combined with lighter sprockets (rear and front), also creates less centrifugal force,

allowing the bike's engine to spin more easily (and therefore to develop more power).

What are the mistakes you can make if you are not a professional?

>> The difference in performance is so small that you only notice it during a track competition.

>> 520 chains wear out faster than their thicker counterparts.

>> You risk having an unscrupulous aftermarket dealer selling you kits with poor quality 520 chains (which can absorb up to 25% of engine power), which last a short time and even risk breaking.

Chain joining method: O-ring Vs X-ring

O-rings are small polymer gaskets that seal the pins of each chain link. They owe their name to the letter O shape.

Chains with X-rings are similar to chains with O-rings, but use gaskets with an X-shaped cross section.

Continue reading here: roadtrips.it/come-scegliere-catena-trasmissione-moto/



EK CHAIN

The PBR transmission kits only include EK Enuma Chains, strictly Made in Japan. This is because Enuma is one of the largest chain manufacturers in the world, and holds dozens of important patents.

In 1997 the company received the ISO9001 certification to guarantee the high construction standards.

The research and development department of Enuma Chain has obtained strong technological advances and the development of original ideas, such as the invention of the chain with O-rings, thanks to the many years of experience and technique.

Namely, Enuma was the first manufacturer in the world to introduce the closed chain with O-Ring in 1974.

ZST technology of excellence - zero stretch

EK's zero-stretch technology eliminates chain elongation during the first 1000

km of use. ZST eliminates the problem of continuous adjustments and re-tensioning of the chain.

This technology is normally used on all chains of the RXO and RXO / GP series.

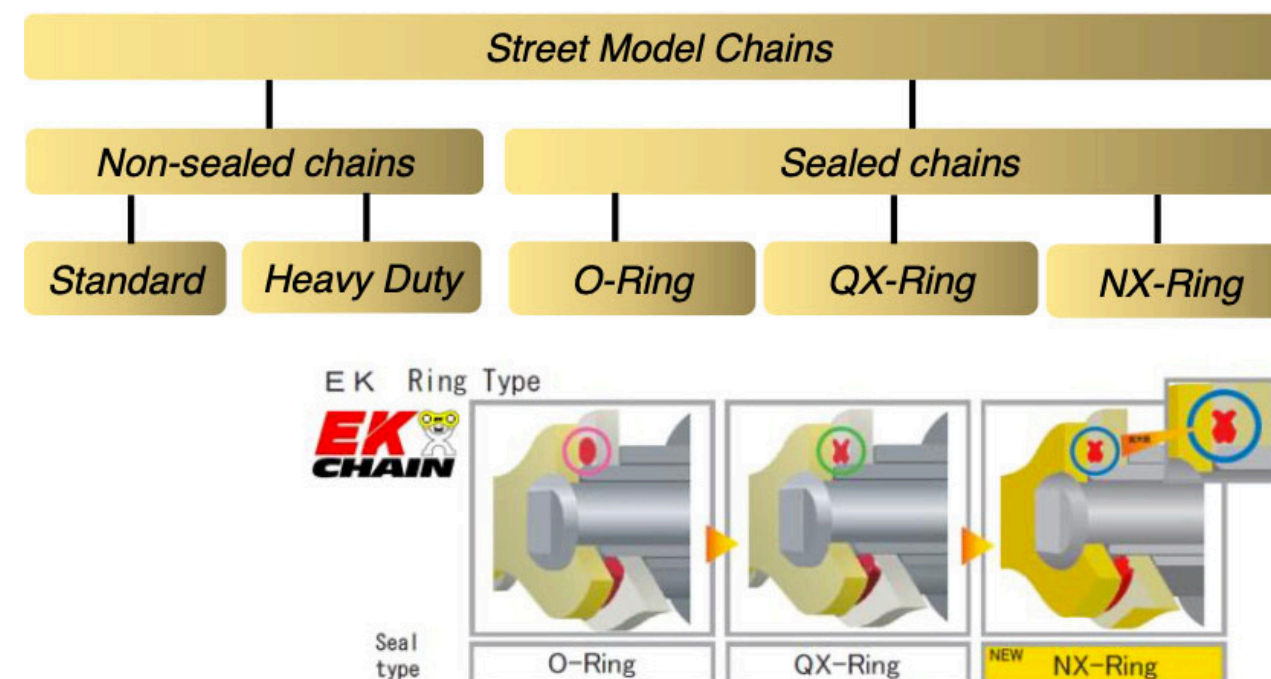
New Quadra X-Ring

The design of the Quadra X-Ring reduces friction by 40% thanks to a smaller contact surface. The 4 contact points of the X-Ring allow better closure than traditional O-Rings.

Laboratory tests certify that Quadra X-Ring chains last 50% longer than standard O-Rings.

Unparalleled value for money

In direct comparison, the ZVX easily outperforms any other brand with the pulling strength of 11,000 lbs.



Main types of EK chains

STANDARD EK CHAINS (ROAD AND OFF-ROAD)

For small and medium-sized motorcycles that can use the same technology of the chains dedicated to competitions. Excellent value for money.

EK O-RING CHAINS (ROAD AND OFF-ROAD)

O-Ring technology

Developed as an alternative to original equipment chains, they offer the right compromise between price, quality and durability. Lightning holes and high-tech tempered alloy material.

CHAINS EK QX-MVXZ2

Quadra X-Ring technology

It increases the life of the chain by up to double and reduces friction by 40% compared to those with O-Rings. Ideal replacement for the original product for any road bike from 600 to 1000cc. Available in different colors (gold, red, blue, green, orange).

ZVX3 chains

NX-Ring technology

Compared to a chain with O-Ring, it increases the life of the chain by 15% compared to QX-Ring technology and reduces friction by 40%.

They are the TOP of the category thanks to their pulling strength of 11,000 lbs.

Ideal for all ultra sports bikes (over 800cc).

It's hard to find a better chain than this one.

PBR PEOPLE: #TRANSMIT YOUR PASSION



@giady_296



@andreagiorgia97

PBR is not just professionalism. PBR also wants to contribute to helping young people to cultivate their dreams in the motorcycle world. That's why every year we work alongside boys and girls with a passion for motorcycles. Girls like **Andrea Giorgia Grazia**, motocross rider from Castel S. Pietro Terme (BO), a 42 kg wisp of a girl who managed to win the Emilia Romagna Women's regional championship in 2020. Or girls like **Gaia Oddo** who is not afraid of mud on the track. Her number is 47 and for her motocross is not just fun. For her it means living unforgettable moments. A bit like that time, when Gaia breaks her collarbone and is forced to stay still. Yet she, despite her pain, manages to return in time to participate in

the last race, only "not to lose points completely". Gaia currently competes in the IMF regional championship and the Italian championship without any particular ambitions for victory. When you ask her what her difficult moments have been, she replies those in which she was unable to participate in competitions. In the world of women's motocross she has found a family of friends and true values. **Care, persistence and determination** combined with mutual respect, a value rarer to find when money guides decisions. That's why we care about supporting this crystalline passion. Like that of **Giada Calgaro** who, at the Italian IMF championship in 2021, ended 28th out of 50 girls and in her new Enduro experience she finished

8th out of 17 girls at the Italian championship. Because it is enjoying the journey that makes the difference in life. Without **ever giving up**, with the desire to always improve, with a tenacious passion. A bit like in the world of motorcycle gears. There are commercials who assemble pieces to give you the best price. And then there is PBR, which takes care of every detail of the processing with tenacity and determination, day after day. To offer these new generations an ever better experience. For some it's not worth the effort, for others it's a reason for living. **The great thing is that you can choose which side to take.**

@danielvalperta



@lorenzo_scovazzo_official



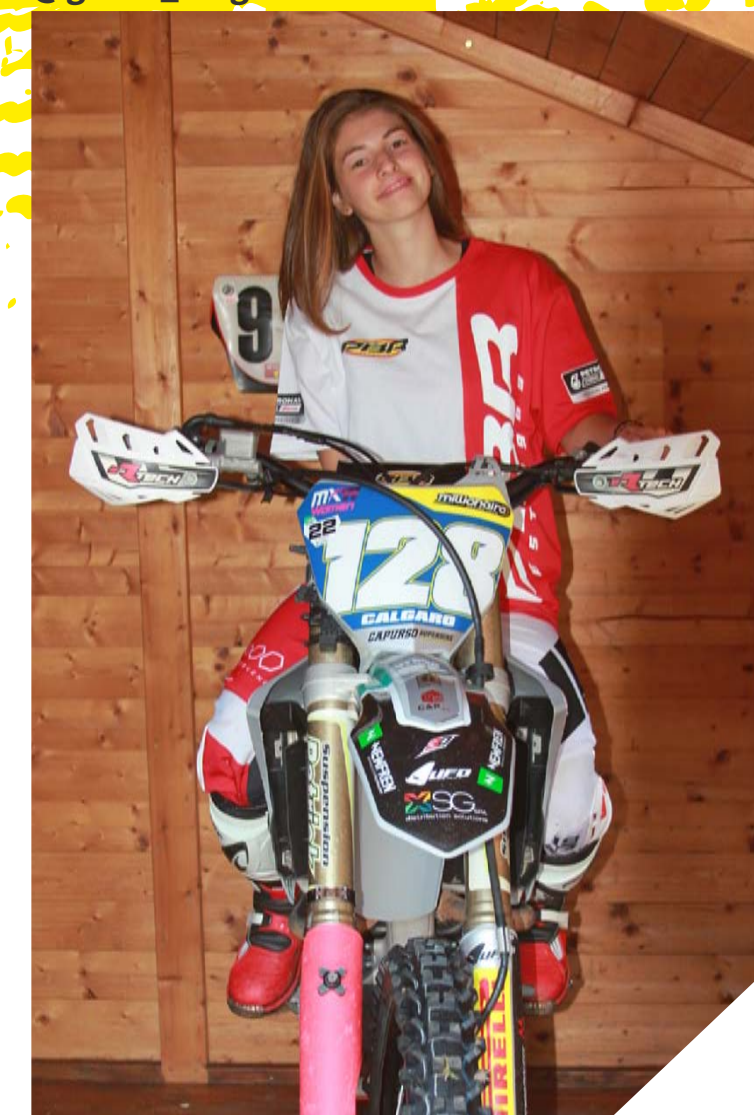
@bluegrenzgboy_official



@gaiaoddo47



@giada_calgaro



PBR MERCHANDISE



All resellers of PBR Sprockets products can take advantage of the merchandising resources (T-shirt, mask, bag) to persuade new customers to purchase PBR products.

How does it work in practice? The reseller who buys...

1 kit with EK chain

Receives the Anti Cardan mask.

1 Twincolor rear sprocket

Receives the racing bag as a gift for the customer.

5 EK chains

Receives 1 racing shirt for free.





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