

SUSPENSION CONTROL ARMS

What is it?

The **suspension control arms**, considered as critical safety components of the front suspension system, are links which connect the wheels to the chassis. They are part of the steering geometry along with the shock absorbers, stabilizer bars and stabilizer bar links. In conjunction with the tires and suspensions they ensure the road holding of the vehicle (they keep the car driving straight down on the road)

The control arms are the suspension components with the highest exposure the stresses of the car.

Suspension arms shape and materials are based on car design requirements, usually those of the rear axle present a simpler geometry.

Arms may be longitudinal or transverse. The longitudinal ones require the use of stabilizer bars for a better stability.



Different materials can be used to produce control arms:



Stamping steel



Cast iron



Aluminium



Stamping sheet

The number and shape of the arms is closely linked to the type of suspension adopted by car manufacturer:



McPherson

is the most popular and simplest type of suspension scheme. It consists of one and only lower oscillating arm per wheel (such as for the Fiat 500, Punto, Panda, Ford Focus.)



Quadrilater (double arm)

composed by two oscillating arms, of which the upper one is smaller and the lower one is bigger, it is very common in high-performance and sport cars. Their A-shape gives rise to their name A-Arm or Double Wishbone. This suspension ensures that the car maintains a proper camber angle even when the wheel passes over a bump or the car is leaning in a pronounced bend.



Multilink

the best type of suspension possible with a multi-link scheme, but very complex and expensive. It is generally adopted by German manufacturers (Mercedes Benz, Volkswagen and BMW). Historically, it was used mostly for the rear axle, but it begins to be commonly used also for the front one. It grants a better road holding and the maximum driving comfort.

What is its function?

Structurally, the arms connect the wheels to the vehicle frame through the silent-blocks and a ball joint. The silent-blocks are rubber to metal parts set on the side of the frame, while the joint is located on the wheel side. The silent-blocks grant flexibility to the arm while the joint allows the movement of the wheel.

The correct functioning of the shock absorbers and the entire suspension components group are strictly related to the operating of the arms. Their task is to transmit the loads, braking and towing copies in all directions.

By absorbing all the stresses during the ride, the silent-blocks are the components most prone to wear. When the rubber deteriorates it loses elasticity and the functionality of the arm is compromised.



Our range

The range of Original Birth control arms is one of the largest on the European market with a Car Park coverage of 93%. It includes over 1,200 arms, over 800 silent-blocks, and over 400 joints. Many of Original Birth arms are equipped with original silent blocks and a large number of them is also supplied as a complete front axle kit for the main applications of VW group, Fiat, Mercedes, BMW, Dacia, Renault.

Our products:

- All Original Birth arms meet the highest quality standards envisaged by car manufacturer.
- For all arms, Original Birth uses only premium alloys.
- Specific checks are carried out during the production and assembly processes on all products
- Many Original Birth arms are fitted with OE Silent-blocks covered by patents
- Customised 2-grooves rubber boots used for joints, offer longer performance and better flexibility
- Customized O-ring with red and grey brand's colours used for better product identification
- The Arms are supplied complete with bolts and fixing nuts.
- Traceability of Original Birth arms includes logo, part number and lot number marked onto each single product

Warning:

- An arm even slightly damaged can be very dangerous, especially while driving. For this reason, Original Birth recommends to perform periodic checks on the arms, to verify their integrity and full functionality.
- An incorrect functioning of the arms could cause abnormal tire wear
- Fitting a cast iron arm on a car that originally had a steel arm may seem economically advantageous, but it would be risky because it is not suitable for the load defined by rendering.
- One of the most common signs of suspension arms wear is banging noise while driving over bumps. It can be perceived simply turning the steering wheel or even when the car is stationary. Other failure indicators may include: failure to keep the wheels converging, instability and failure to keep the car trajectory, wear of the front tyres on a specific side.
- An excessive noisy of the arm can be caused by a lock of the joint, this can affect the vehicle ride dynamics, handling and alignment as well as a wheel block.
- An eventual worn silent-block would compromise handling, comfort and safety. This kind of problems can come out when strong vibrations are perceived during acceleration and at higher speeds.



ACTIVE CODES	APPLICATIONS	VEHICLES
1371	52.331	1618



ACTIVE CODES	APPLICATIONS	VEHICLES
381	18.249	1.354



ACTIVE CODES	APPLICATIONS	VEHICLES
778	41.399	1.559


TIPS!

- To ensure the best performance and correct functionality it's advisable to replace the suspension arms in pairs (both the left and the right side together);
- An unsuitable installation could shorten the lifetime of the new installed arm.
- Do not tighten the frame bolts while the front wheels are still suspended.
- Once the replacement has been completed, it is a good practice to carry out the wheels convergence, as the operations carried out could easily affect the correct position of the suspension and consequently the car's attitude.

Why choosing Original Birth?


Rule of "3S": STRONG - SAFE - STABLE

- Great attention is paid to the quality of silent-blocks, in fact the assembled silent-blocks are original or from proper production.
- Original Birth uses only first quality raw material.
- The 2-grooves rubber boots used for joints provide superior performance and better flexibility.
- Quality tests are carried out during the production and assembly processes on all products.
- All parts are easily recognizable by the "Birth" logo and production lot, marked directly onto each product.



The quality control during the assembly process is guaranteed by the use of computerized presses.

Quality control during assembly process



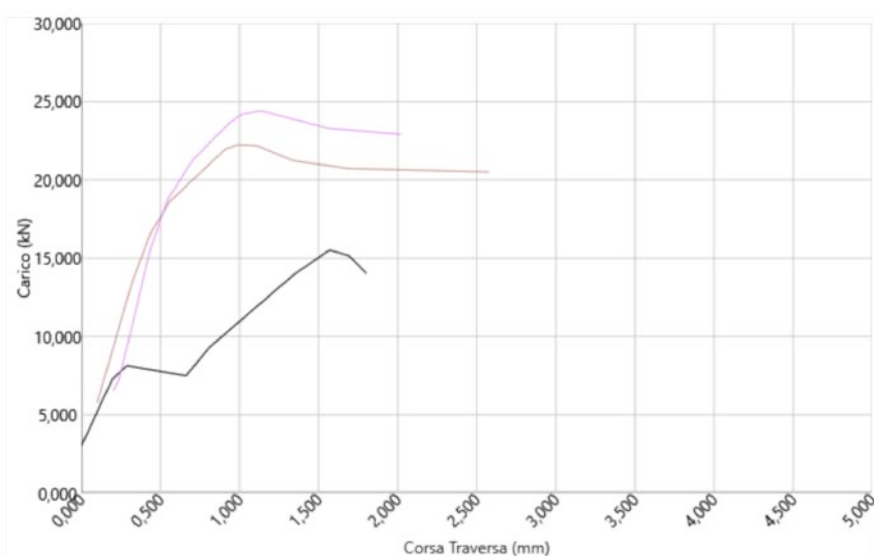
The 100% Check in process carried out on both the fixing points and the silent-block to check their right position and adhesion, are realised on templates produced in house by proper specialised technicians.

Push out test

Push out test

Metodo : SPIANTAGGIO BOCCOLA

	Codice	Data	Fm kN	NOTE
1	BIRTH1	04/11/2020	22,25	
2	BIRTH2	04/11/2020	24,41	
3	OE	21/05/2020	15,55	



Don't forget! Besides suspension control arms, **Original Birth** offers a **wide range of products**: coolant system components, steering and suspension parts, engine mounts, strut mounts, gear box mounts, axle and steering boots, wheel hubs, pedals, EGR Valves and much more.

