

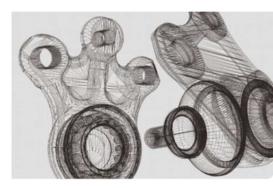
# Steering & Suspension



#### The Chassis expert

- WORLD LEADER wheel bearings & Top mounts
- One of the largest chassis technologies EXPERTISE
- COMPLETE CHASSIS OFFER: top mounts, wheel end, driveline and steering & suspension
- Supplier of steering & suspension products to RACING applications
- STEERING & SUSPENSION range sold for many years in America's aftermarket
- That's why SKF decided to LAUNCH this range in Europe!







### SKF Racing – We bring innovation to the track

- SKF is the leading bearing supplier in Formula One
- Technical partner to Scuderia Ferrari since 1947: "The longest partnership in F1"
- Technical partner to Ducati Corse since 1946

















### Racing – Focus on Steering & suspension parts

- Control and rod end bearings are used on the chassis to connect the suspension arms to the main chassis frame
- High finishing and tight tolerance in order to keep the components aligned and to minimise the play
- Different designs (slots, wider inner ring) and different liners in between the mating surfaces.
- Liners can reduce the friction and be maintenance free. Liner material can be a mixture of PTFE and other friction reducing material.
- Vibration & high acceleration are also important factors for racing applications
- SKF racing provides Steering & Suspension parts to automotive racing teams like Formula One and WRC







## Testing the limits – a core capability

Performing product and subsystem validation for cars & trucks using world class capabilities

- Endurance, dynamics & strength
- Sealing, thermal performance & friction

Aligning equipment, competence and capabilities to ensure a global standard

Sharing knowledge for new designs & innovations

Creating customer value through accelerated simulations of application conditions



Testing more than 10,000 parts every year



### Manufacturing – quality in our DNA

#### **SKF Production System**

- Standardization of processes and set-up for increased flexibility
- Lean manufacturing for high efficiency with reduced waste
- Flexibility in volume and bearing type per channel



World class manufacturing





### Product function **Steering**

- The steering system allows the driver to control the vehicle.
- Axial joint and Tie rod end connect the steering rack and the wheel
- Steering boots protect the steering rack from dust, rocks and water from external environment. They retain grease in case of leaking from steering rack



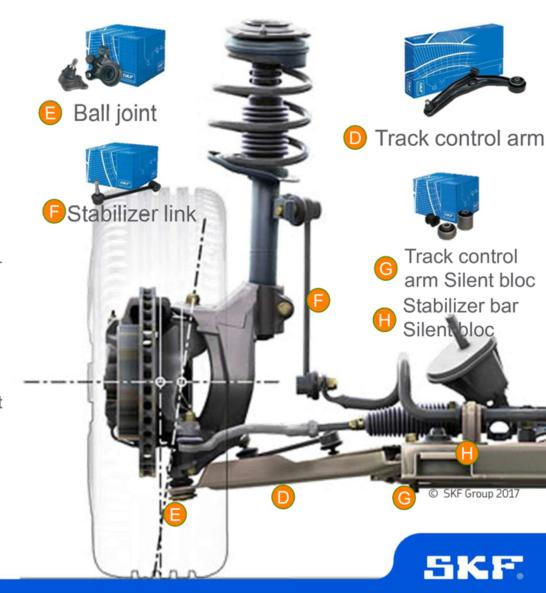
### **Steering - Kit designations**

Product code	Product category	European		Asian		Distance	European	Asian
		Front 3	Rear 4	Front 3	Rear 4	Pictures	X	х
1	Tie rod end	VKDY 31Xxxx	VKDY 41Xxxx	VKDY 81Xxxx	VKDY 91Xxxx	<u> </u>	1 - VAG Group	0 - Chevrolet, Daewoo
2	Axial joint	VKDY 32Xxxx	VKDY 42Xxxx	VKDY 82Xxxx	VKDY 92Xxxx	San Contract of the Contract o	2 - Fiat Group	1 - Toyota, Daihatsu
3	Rod assembly	VKDY 33Xxxx	VKDY 43Xxxx	VKDY 83Xxxx	VKDY 93Xxxx	1	3 - PSA Group	2 - Nissan, Infiniti
4	Centre rod assembly	VKDY 34Xxxx	VKDY 44Xxxx	VKDY 84Xxxx	VKDY 94Xxxx	Z	4 - Ford Group	3 - Honda
6	Repair kit	VKDY 36Xxxx	VKDY 46Xxxx	VKDY 86Xxxx	VKDY 96Xxxx		5 - GM Group	4 - Mazda
	Steering boot	VKJP 2xxx	VKJP 2xxx	VKJP 2xxx	VKJP 2xxx		6 - Renault Group, Volvo	5 - Hyundai, Kia 6 - Suzuki
	Univeral steering boot	VKJP 02xxx	VKJP 02xxx	VKJP 02xxx	VKJP 02xxx		X - BIVIW IVIERCEDES IVIINI	8 - Subaru 9 - Isuzu



### Product function Suspension

- The suspension system affects the safety, comfort and control of a vehicle.
- Ball joints allow the front wheel assembly to move up and down, while also allowing for turning motion.
- Track control arms locate position of the wheel/hub carrier assembly in relation to the chassis
- Silent blocs maintain dynamic wheel alignment and reduce transmitted noise, road shock and vibration, while providing resistance to suspension movement
- Stabilizer links are connected to the anti-roll bar to combat the roll of the car on its suspension. This creates a more level ride and reduces vehicle sway or lean when cornering.



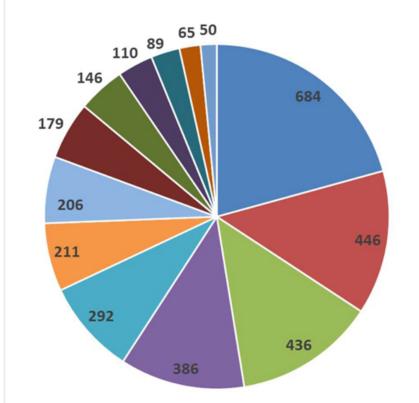
### **Suspension - Kit designations**

Product code	Product category	European		Asian		Pistores	European	Asian
		Front 3	Rear 4	Front 3	Rear 4	Pictures	х	x
1	Ball joint	VKDS 31Xxxx	VKDS 41Xxxx	VKDS 81Xxxx	VKDS 91Xxxx	*	1 - VAG Group	0 - Chevrolet, Daewoo
2	Track control arm - w/o ball joint	VKDS 32Xxxx	VKDS 42Xxxx	VKDS 82Xxxx	VKDS 92Xxxx		2 - Fiat Group	1 - Toyota, Daihatsu
2	Track control arm - with ball joint	VKDS 32Xxxx B	VKDS 42Xxxx B	VKDS 82Xxxx B	VKDS 92Xxxx B		3 - PSA Group	2 - Nissan, Infiniti
3	Track control arm, silent bloc	VKDS 33Xxxx	VKDS 43Xxxx	VKDS 83Xxxx	VKDS 93Xxxx	0	4 - Ford Group	3 - Honda
4	Stabilizer	VKDS 34Xxxx	VKDS 44Xxxx	VKDS 84Xxxx	VKDS 94Xxxx	4	5 - GM Group	4 - Mazda
5	Stabilizer, silent bloc	VKDS 35Xxxx	VKDS 45Xxxx	VKDS 85Xxxx	VKDS 95Xxxx	0	6 - Renault Group, Volvo	5 - Hyundai, Kia 6 - Suzuki
6	Repair kit	VKDS 36Xxxx	VKDS 46Xxxx	VKDS 86Xxxx	VKDS 96Xxxx	o	X - KN/NN/ N/Arcadas N/IIII	8 - Subaru 9 - Isuzu



#### Steering & Suspension offer





- Suspension track control arm kit (VKDS)
- Suspension kit (VKDA-C)
- Steering tie rod end kit (VKDY)
- Suspension rod strut stabilizer kit (VKDS)
- Suspension ball joint kit (VKDS)
- Suspension track control arm bush kit (VKDS)
- Steering tie rod axle joint kit (VKDY)
- Steering boot kit (VKJP)
- Suspension bearing bush stabilizer kit (VKDS)
- Protection kit (VKDP)
- Steering rod assembly kit (VKDY)
- Suspension bearing (VKD)
- Repair kit (VKDS)



- √ 96% of car parc coverage in Europe
- ✓ More than 3000 kits in the range



\*Ramp-up range available during 2018

### When to replace Steering & Suspension parts?

- ✓ Noise increase
- ✓ Vibration increase
- ✓ Incorrect steering behaviour with too much steering force
- ✓ Bad suspension performances
- ✓ Vehicle pulls to one side
- ✓ Rolling car movements
- Car parts tested in the MOT



Worn S&S parts affect performances and safety



#### **Steering & Suspension USP's**

- ✓ Complete Chassis offer
- ✓ OE quality & Racing Expertise
- ✓ High quality cataloguing
- ✓ Superior support
- ✓ One-stop shop concept





THE RIGHT CHASSIS BUSINESS PARTNER



#### The Chassis expert



RIGHT PRICE RIGHT TIME









GET IN TOUCH WITH US NOW:



