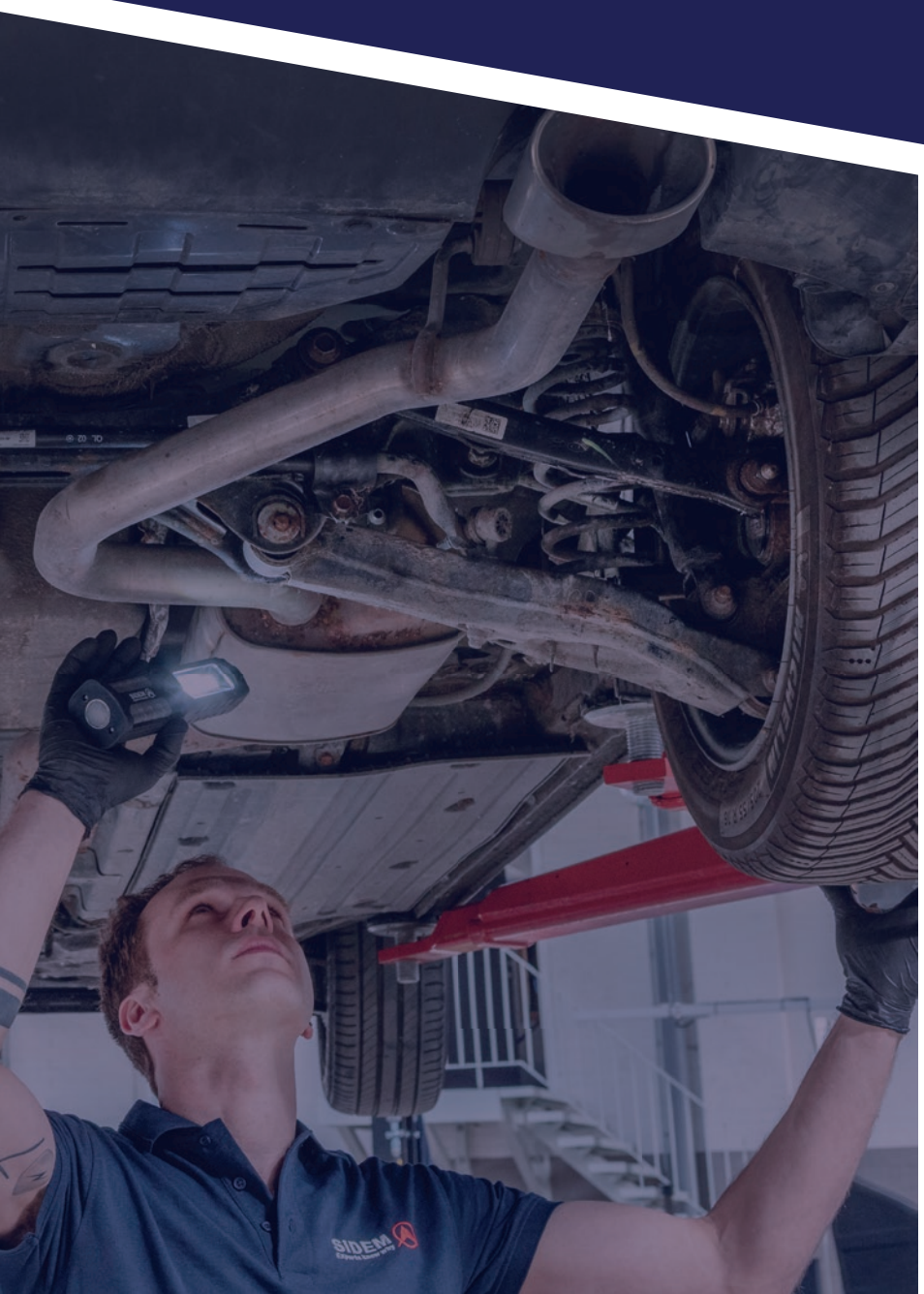
SIDEM WORKSHOP TIP.

HOW TO DETECT & SOLVE CHASSIS NOISE & VIBRATION

LINKED TO STEERING & SUSPENSION PARTS?

Noise and vibration complaints are rarely caused by faulty steering or suspension components. However, the quality of used materials and design of those parts has a significant impact on noise and vibrations. Small variations in rubber properties, bearing design or manufacturing tolerances can influence how effectively vibrations are absorbed.

In case the noise or vibrations come from steering and suspension parts, here are some tips to identify possible reasons and how to solve them.



QUICK DIAGNOSTICS TIPS.

- ☑ **Start with a proper road test**
  Try to reproduce the exact driving conditions where the noise appears.
- ☑ **Check related systems**
  Wheel imbalance, engine mounts, springs, shock absorbers or tires can also contribute to noise and vibrations.
- ☑ **Inspect all joints and bushings visually**
  Look for cracks, wear, oil contamination or torn dust covers.
- ☑ **Torque components under vehicle load**
  Tightening suspension parts with wheels hanging in the air stresses rubber bushings and increases noise and vibrations.
- ☑ **Use diagnostic tools**
  Chassis microphones or vibration sensors help pinpoint the source quickly.

SIDEM
Experts know why

CHECKLIST.

CLUNKING NOISE OVER BUMPS.

CUSTOMER COMPLAINT.

- ☑ Strange noise when braking or accelerating
- ☑ Strange noise or car behavior when changing directions
- ☑ Clunk heard over speed bumps or potholes
- ☑ Noise from front or rear axle

INSPECTION CHECKLIST.

- ☑ Inspect the tires for irregular wear
- ☑ Inspect control arm bushings for cracks, tears, or separation
- ☑ Shake the control arm and check for excessive movement of the ball joint or silent blocks
- ☑ Inspect stabilizer links for play in ball joints
- ☑ Check stabilizer bar mountings
- ☑ Verify all suspension fasteners are tightened to specification
- ☑ Road test on uneven surface to reproduce symptoms
- ☑ Check for cracks, tear and play in ball joints

ROOT CAUSE CONFIRMATION.

- ☑ Excessive play in control arm bushings
- ☑ Excessive play in stabilizer links
- ☑ Metal-to-metal contact observed

RECOMMENDED REPAIR.

- ☑ Replace worn control arm(s) with complete assembly
- ☑ Replace stabilizer links if play is present
- ☑ Recheck torque specifications after installation

SIDEM SOLUTION.

- ☑ Install Sidem control arms with pre-fitted silent blocks
- ☑ Verify wheel alignment
- ☑ Confirm noise elimination during road test

REPAIR VERIFICATION.

- ☑ No clunking noise present
- ☑ Suspension alignment checked if required
- ☑ Customer complaint resolved

STEERING WHEEL VIBRATION AT SPEED.

CUSTOMER COMPLAINT.

- ☑ Vibration between 60 and 100 km/h (front)
- ☑ Vibration between 100 and 120 km/h (rear)
- ☑ Steering wheel shake during cruising
- ☑ Vibration during acceleration only
- ☑ Constant vibration

INSPECTION CHECKLIST.

- ☑ Check wheel balance
- ☑ Check wheel alignment
- ☑ Inspect tires for irregular wear
- ☑ Check tie rod ends for play
- ☑ Check axial joints for looseness
- ☑ Inspect strut top mounts for wear or cracking
- ☑ Check steering rack mounting points

ROOT CAUSE CONFIRMATION.

- ☑ Check tire condition
- ☑ Wheel balance issue
- ☑ Alignment issue
- ☑ Worn tie rod end(s)
- ☑ Worn axial joint(s)
- ☑ Defective top mount(s)

RECOMMENDED REPAIR.

- ☑ Balance or replace wheels
- ☑ Perform wheel alignment
- ☑ Replace worn steering components
- ☑ Replace top mounts if necessary

SIDEM SOLUTION.

- ☑ Install Sidem tie rod ends and axial joints
- ☑ Install Sidem top mounts where applicable
- ☑ Verify steering precision and vibration reduction

REPAIR VERIFICATION.

- ☑ Steering wheel vibration eliminated
- ☑ Vehicle tracks straight
- ☑ No abnormal NVH present

CREAKING OR GROANING WHILE TURNING.

CUSTOMER COMPLAINT.

- ☑ Noise during parking maneuvers
- ☑ Noise at low speed only
- ☑ Noise in wet conditions

INSPECTION CHECKLIST.

- ☑ Inspect tire condition and wear
- ☑ Inspect strut mounts, bearings and springs
- ☑ Inspect ball joint dust boots for tears
- ☑ Look for grease leakage
- ☑ Check for water or dirt contamination
- ☑ Rotate steering while vehicle is lifted: steering rack leakage
- ☑ Listen for friction or binding

ROOT CAUSE CONFIRMATION.

- ☑ Torn dust cover
- ☑ Dry ball joint
- ☑ Corroded ball joint
- ☑ Excessive friction in joint

RECOMMENDED REPAIR.

- ☑ Replace affected ball joint(s)
- ☑ Replace control arm if ball joint is integrated
- ☑ Inspect nearby joints for similar damage

SIDEM SOLUTION.

- ☑ Install Sidem ball joints with sealed dust boot
- ☑ Verify correct articulation and smooth movement

REPAIR VERIFICATION.

- ☑ Steering operates quietly
- ☑ No creaking or groaning during turns
- ☑ Dust boot integrity confirmed

KNOCKING UNDER BRAKING OR ACCELERATION.

CUSTOMER COMPLAINT.

- ☑ Knock during braking
- ☑ Knock during acceleration
- ☑ Knock when changing driving direction
- ☑ Front-end movement felt

INSPECTION CHECKLIST.

- ☑ Verify torque settings (wheels, steering & suspension)
- ☑ Inspect front lower control arm bushings
- ☑ Check subframe mounts for deterioration
- ☑ Inspect suspension arm mounting points
- ☑ Check for excessive arm movement using pry bar
- ☑ Check the ball joint on tear and wear

ROOT CAUSE CONFIRMATION.

- ☑ Worn control arm bushings
- ☑ Worn subframe mounts
- ☑ Excessive suspension movement under load

RECOMMENDED REPAIR.

- ☑ Replace worn bushings/components
- ☑ Replace complete control arm if necessary
- ☑ Perform alignment after repair

CRITICAL INSTALLATION CHECK.

- ☑ Tighten rubber bushings at normal ride height
- ☑ Confirm no preload in bushing rubber

SIDEM SOLUTION.

- ☑ Install Sidem rubber-to-metal components
- ☑ Verify correct geometry under load

REPAIR VERIFICATION.

- ☑ No knocking during braking
- ☑ No knocking during acceleration
- ☑ Vehicle feels stable under load transfer

CHECKLIST.

METALLIC RATTLE AT LOW SPEED.

CUSTOMER COMPLAINT.

- ☑ Metallic tapping noise
- ☑ Noise on cobblestones or rough roads
- ☑ Noise below 50 km/h
- ☑ Intermittent rattle

INSPECTION CHECKLIST.

- ☑ Check stabilizer links for play
- ☑ Inspect anti-roll bar bushings for wear
- ☑ Check anti-roll bar for movement inside bushings
- ☑ Confirm mounting bracket condition
- ☑ Perform shake test with vehicle raised

ROOT CAUSE CONFIRMATION.

- ☑ Stabilizer link ball joint play
- ☑ Anti-roll bar bushing wear
- ☑ Combined wear condition

RECOMMENDED REPAIR.

- ☑ Replace stabilizer links
- ☑ Replace anti-roll bar bushings
- ☑ Inspect opposite side components

SIDEM SOLUTION.

- ☑ Install Sidem stabilizer links
- ☑ Install Sidem anti-roll bar bushings
- ☑ Verify elimination of internal clearance

REPAIR VERIFICATION.

- ☑ No metallic rattle during road test
- ☑ Suspension operates quietly
- ☑ Customer complaint resolved

BEST PRACTICES.

- ☑ **Tighten under normal ride height**: always simulate vehicle load before final torque.
- ☑ **Replace components in pairs** to ensure balanced damping and equal stiffness on both sides.
- ☑ **Follow torque specs exactly**: under- or over-tightening creates unwanted play or stiffness.
- ☑ **Clean contact surfaces**: remove corrosion and dirt to avoid noise.
- ☑ **Perform wheel alignment after installation**: correct geometry prevents steering vibration and uneven tire wear.

INSTALLATION VIDEOS.

Visit the Sidem Youtube channel and find solutions about the installation of steering and suspension parts.

WORKSHOP TIPS.

Scan the QR code to learn more about our parts and how to install them properly.