



TECHNICAL GUIDE

JOST Fifth Wheel Adjustment and Rebuild Guide for Semi Trucks

How to check and adjust a JOST-type fifth wheel lock, tell jaw wear from slack, choose lock, bushing and rubber repair kits, and keep the plate lubricated.

A semi truck that clunks every time the driver eases off the throttle often has nothing wrong with the trailer itself. On a JOST-type fifth wheel, the lock has simply let slack build up between the jaw and the king pin, and a few millimetres of movement turns into a hammer blow at every gear change and brake application. Most of that slack comes out with a lock adjustment check; the rest calls for a rebuild with the right repair kit.

This guide was prepared by the VADEN technical team for workshops and fleets that maintain JOST-type fifth wheels on tractor units. The procedures and intervals described here are general reference points, not a substitute for the coupling manufacturer's instructions. For exact adjustment steps, wear limits, bolt torques and grease specifications, the current OE service manual matching the vehicle's chassis code and the fifth wheel's type plate takes precedence. Last updated: October 2026.

What Is a JOST Fifth Wheel and How Does Its Lock Work?

A JOST fifth wheel is a semi-trailer coupling plate made by the German manufacturer JOST, mounted on a tractor's chassis, that locks around the trailer's king pin with a spring-loaded jaw and a sliding lock bar. An adjusting screw on the lock linkage sets how tightly the jaw closes, so slack from normal wear can be taken up without dismantling the plate.

A JOST fifth wheel follows the same idea as any fifth wheel coupling: the king pin slides up the ramp, enters the V-shaped throat and strikes the lock jaw, which swings round behind the pin. What sets the JOST design apart is how the lock is secured. Once the jaw has closed, a lock bar (also called a wedge or locking slide) moves in behind it under spring pressure, and the release handle drops into its locked position. The jaw holds the pin; the lock bar holds the jaw. If the lock bar does not travel fully home, the jaw can be pushed open again under load.

Because the lock bar works against an inclined face, its final position decides how much play remains around the king pin. As the jaw, the lock bar and the wear ring in the throat lose material over thousands of couplings, the adjusting screw moves the lock bar further in to compensate. Once the screw runs out of travel, or the parts pass the manufacturer's wear limit, the only safe fix is new parts.

General fifth wheel and king pin faults (high hitch, a cracked plate, a worn pin neck, slide lock problems) are covered in [Fifth Wheel & King Pin: Faults, Replacement & Maintenance Guide](#). This article stays with the JOST-type lock, its adjustment and its rebuild.

How Do You Identify a JOST-Type Fifth Wheel Before Ordering Parts?

A JOST-type fifth wheel is identified by its type plate, not by its outline. Plates from different production years can look identical from above while using different jaws, lock bars, springs and bushings inside. Before ordering, record:

- **Type designation and serial number** from the identification plate; on European JOST plates the designation often starts with JSK.

- **King pin size:** 2 inch (50.8 mm) for most road haulage, 3.5 inch (89 mm) for heavy and low-bed work.
- **Mounting style** (fixed, sliding or height-adjustable) and the lubrication type: greased top plate or polymer pads.
- **The OE part number** of the part being replaced, where it is still legible.

VADEN lists replacement plates under **JOST-type fifth wheels**. "JOST-type" names the design family, not a fitment promise for a particular truck: confirm every part against the OE number, the type plate and the vehicle's chassis code before installation.

When Does a JOST Fifth Wheel Lock Need Adjustment?

A JOST fifth wheel lock needs adjustment when the coupled trailer moves fore and aft against the tractor more than it should. Drivers describe a knock or jerk at take-off, at gear changes, when the engine brake or retarder comes in, and when braking over rough road. Signs that point to the lock rather than the mounting:

- A clunk on throttle lift-off or light braking, with no visible movement between plate and chassis.
- The release handle sits short of its normal locked position, or rattles over potholes.
- Polished contact marks on the king pin neck where the jaw has been hammering it.
- The lock tester can be rocked or turned in the closed lock with less force than usual.

Not every clunk comes from the lock. Worn bearing bushings, loose mounting bolts or cracks around the brackets produce similar noise; bracket and bolted-joint inspection is covered in [Chassis Mounting Bracket: Failure, Replacement & Care Guide](#), and cracks in the frame rails near the mounting in [Truck Chassis Crack: Causes, Risk Assessment and Weld Repair Limits](#).

How Do You Check and Adjust a JOST Fifth Wheel Lock?

A JOST fifth wheel lock is checked and adjusted with the trailer uncoupled, using a lock tester in place of a real king pin. The sequence below is a general workshop procedure; screw location, direction of rotation, back-off amount and locknut torque differ between models and come from the manufacturer's instructions for that type plate.

- 1 **Make the truck safe.** Uncouple on level ground, apply the parking brake, chock the wheels and switch off the engine. Never work on the lock with a trailer on the plate.
- 2 **Clean the plate and throat.** Grit and old grease hide cracks and change how the lock tester sits.
- 3 **Inspect before adjusting.** A cracked plate, broken spring, damaged safety catch, worn wear ring or chipped jaw is a repair, not an adjustment.
- 4 **Insert the lock tester.** Open the lock with the release handle and push the tester into the throat so it trips the jaw. The lock should close on its own and the handle return to the locked position.

- 5 **Check the play.** Try to rock and turn the tester by hand and compare the handle position with the locked-position reference in the manual.
- 6 **Adjust in small steps.** Loosen the locknut and turn the adjusting screw in the direction the manual gives until the tester is held firmly, then back it off by the specified amount so the lock still opens and closes freely in cold weather and with grease on the pin.
- 7 **Secure and test.** Tighten the locknut to the manufacturer's torque, refit any split pin or cover, then open and close the lock several times: the jaw must close fully and the lock bar travel fully home every time.
- 8 **Check coupled and record.** Couple a trailer, confirm visually that the jaw is closed round the king pin with no gap between plate and trailer, do a tug test, and note the date, mileage and remaining screw travel.

Do not adjust a JOST-type lock tighter to silence a knock. An over-tightened lock may not close fully on a real king pin, and the release handle can then look locked while the lock bar has stopped short. That false lock can let the trailer separate on the road. If the play cannot be removed within the adjustment range, or the lock does not close freely afterwards, take the truck out of service and rebuild or replace the lock.

How Do You Tell JOST Lock Wear from a Lock That Only Needs Adjusting?

JOST lock wear is confirmed when correct adjustment no longer gives a firm, free-closing lock, or when any lock part is past the wear limit in the manual. Adjustment compensates for even, gradual wear; it cannot correct a stepped jaw, a lock bar with a rolled edge or a tired spring.

JOST-type fifth wheel lock: wear points and checks (general reference; limits come from the coupling manufacturer's manual)

Part	What wear looks like	How to check	Usual action
Lock jaw (hook)	Groove or step on the pin contact face, chipped tip	Visual check and manufacturer's gauge after cleaning	Replace with lock repair kit parts
Lock bar / wedge	Rolled or flattened edge, uneven contact pattern	Lock bar does not travel fully home	Replace together with the jaw
Wear ring in the throat	Ovality, thin section, cracks	Gauge per manual, visual crack check	Replace the wear ring
Lock and handle springs	Slow or incomplete closing, handle does not return	Function test with the lock tester	Replace springs
Adjusting screw	Screw at the end of its travel, damaged thread	Remaining travel after adjustment	Rebuild the lock
Bearing bushings and rubber elements	Plate rocks on its brackets, cracked or extruded rubber	Lever check between plate and bracket	Replace bushings or rubber kit

Part	What wear looks like	How to check	Usual action
King pin (trailer side)	Reduced neck diameter, ovality, step at the root	King pin gauge	Trailer repair before refitting a new lock

Always check the king pin when rebuilding the lock: a new jaw closed round a worn pin shows play straight away and wears out fast.

Which Repair Kits Are Used in a JOST Fifth Wheel Rebuild?

A JOST fifth wheel rebuild uses repair kits grouped by the area being restored, so good parts stay in service and everything that wears together is replaced in one job.

- **Lock repair kits:** jaw, lock bar or wedge, springs, pins and fixings, listed under [fifth wheel lock repair kits](#).
- **Bearing repair kits:** the pivot bushings that let the plate rock fore and aft, often called a fifth wheel bushing kit in the US; see [fifth wheel bearing repair kits](#).
- **Rubber repair kits:** the damping elements between plate and mounting; hard or cracked rubber lets the plate knock even with a perfect lock. See [fifth wheel rubber repair kits](#).
- **Assembly repair kits** for a fuller overhaul, under [fifth wheel assembly repair kits](#).

The full range sits under [fifth wheel repair kits](#). Kit contents differ between plate generations, so match the kit to the type plate and the OE numbers of the removed parts, and compare old and new parts on the bench before fitting.

How Do You Rebuild a JOST Fifth Wheel Lock?

A JOST fifth wheel lock rebuild replaces the jaw, lock bar, springs and fixings as a set and then resets the adjustment from the start. Depending on the plate type, the manual allows the lock to be rebuilt on the truck or only with the plate removed; removing the plate also gives better access to the bushings and rubber elements.

- 1 Uncouple, secure the truck and clean the plate as for an adjustment check.
- 2 Photograph the lock before dismantling; spring positions and lock bar orientation are easy to get wrong.
- 3 Release spring tension the way the manual describes before removing pins; lock springs store enough energy to injure.
- 4 Remove the old parts, clean the housing and check it and the pivot bores for cracks and ovality.
- 5 Fit the new parts as a set with the grease the manual specifies; never mix new jaws with old lock bars or springs.
- 6 Set the adjusting screw to its starting position and carry out the full lock tester check.

- 7 Couple a trailer, confirm the lock visually, do a tug test, and recheck the adjustment after the bedding-in period the manual gives.

Never weld, heat or grind a lock part or the plate to restore a worn face: heat changes the hardness of the material.

How Should a JOST Fifth Wheel Be Lubricated?

A JOST fifth wheel is lubricated in two separate areas: the top plate, where the trailer's upper coupler slides as the rig turns, and the lock mechanism inside the plate. The interval is driven by the duty cycle: many couplings a day and dusty or salty roads shorten it.

On a greased plate, old grease is scraped off and a fresh, even film of the grease named by the manufacturer goes on the top surface and ramps; dirty grease acts like grinding paste. Low-maintenance plates with polymer pads are not greased on top, because grease attracts dirt and damages the pads, but their lock still needs lubrication and the pads are replaced at the manufacturer's thickness limit.

The lock is lubricated through its grease points or directly on the pivots and sliding faces. A dry lock bar may not travel fully home, which turns a lubrication problem into a locking problem.

What Safety Rules Apply to Fifth Wheel Repair on a Semi Truck?

Fifth wheel repair on a semi truck is safety-critical work, because a coupling that releases on the road leaves an uncontrolled trailer behind the tractor. These rules apply to every JOST-type plate:

- Work only on an uncoupled plate, on a truck secured against movement.
- Use only parts matched to the type plate and OE number; never combine parts from different plate generations.
- Treat any crack in the plate, bracket bosses or lock housing as a reason to replace, not repair.
- After every adjustment or rebuild, check with the lock tester and again with a trailer coupled.
- Before every trip, the driver checks that the jaw is closed round the king pin, the handle and safety catch are locked, there is no gap between plate and trailer, and the tug test holds.

In the United States, coupling devices on commercial vehicles are covered by 49 CFR 393.70, and the CVSA out-of-service criteria list defective or missing locking parts, cracks and excessive movement in the fifth wheel as conditions that can take the truck off the road at roadside inspection. In the UK, the annual HGV test checks the coupling, its lock and its mountings.

Standards and Further Reading

Fifth wheel and king pin interchangeability is set out in ISO 3842 for fifth wheels and ISO 337 for 2-inch king pins; in North America, SAE J700 covers upper coupler king pins, and within UN-ECE type approval mechanical couplings fall under UN Regulation No. 55.

- Commercial Vehicle Safety Alliance (CVSA): **North American Standard Out-of-Service Criteria**, the defects that take a truck off the road at roadside inspection, including coupling devices.
- UK Driver and Vehicle Standards Agency: **HGV inspection manual**, the annual test criteria for HGVs, including the fifth wheel coupling and its mountings.
- Wikipedia: **Fifth-wheel coupling**, a general overview of the coupling's history and variants.

Main guide: **What Is a Truck Axle? Axle Types and Wheel Hub Bearing Failure**

This document is for information only; in practice the vehicle manufacturer's current service manual and safety instructions apply. Values are general references for common heavy-duty systems; use the relevant OE service document for model-specific figures. © VADEN Otomotiv San. Tic. A.Ş. · vadenoriginal.com