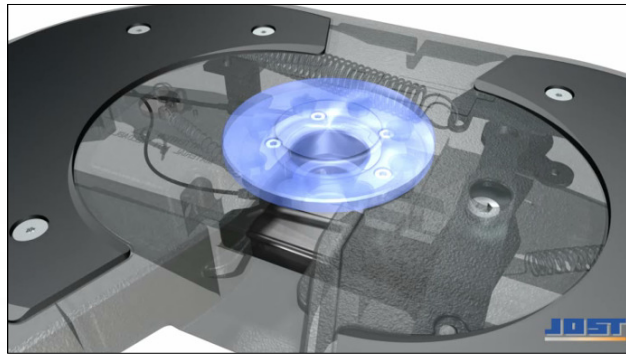


Fifth wheel coupling procedures

The only thing standing between hauling a load safely and an accident with possible disastrous consequences on our roads is the safe coupling between the kingpin on the semi-trailer and the fifth wheel on the prime mover. Too often however this critical connection is overlooked by drivers/operators when doing their pre-trip checks with no thought given on the possible repercussions.

Drivers have reported that the fifth wheel “opened by itself” whilst the combination was in motion, resulting in serious damage to the semi-trailer and endangering the lives of fellow road users. This is called a miss-hitch.

The Jost fifth wheel locking mechanism is of such a design that (provided the fifth wheel is correctly maintained and adjusted at regular intervals and the Kingpin has been installed correctly) it is mechanically impossible for the fifth wheel locking mechanism to “open by itself”.



Subsequent investigations into these complaints invariably revealed that either the kingpin height is incorrect, or the fifth wheel did not couple securely to the semi-trailer kingpin due to incorrect coupling procedures being followed during the coupling process.

Correct coupling procedures must be carried out and **ALL** the following steps **MUST** be followed during the coupling procedure: -

- Ensure that the combination is parked on a firm and level surface



- Ensure that the semi-trailer is secured to prevent it from rolling backwards during the coupling process

- Reverse the truck tractor close enough to the semi-trailer to compare the rubbing (skid) plate height to that of the fifth wheel top plate. The rubbing plate must be lower than the fifth wheel top plate by not more than 50mm (when using low maintenance fifth wheels the rubbing plate must be higher than the fifth wheel and the semi-trailer rubbing plate must be lowered onto the top plate of the fifth wheel just prior to the final coupling)
- Check that the kingpin is positioned centrally to the entrance into the fifth wheel top plate



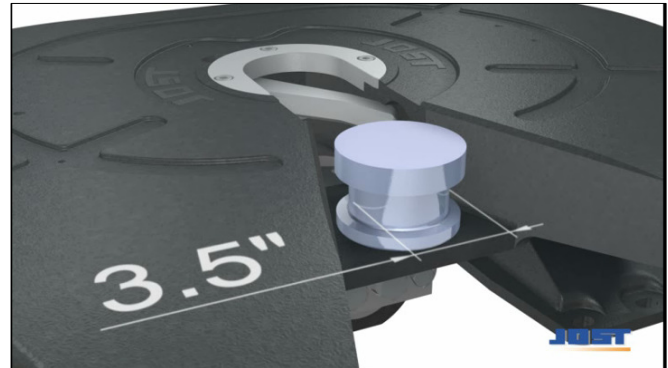
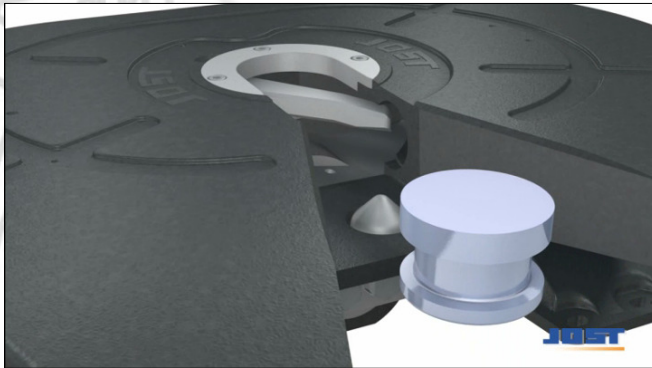
- Reverse the truck tractor slowly backwards in **one steady motion** until the fifth wheel closes



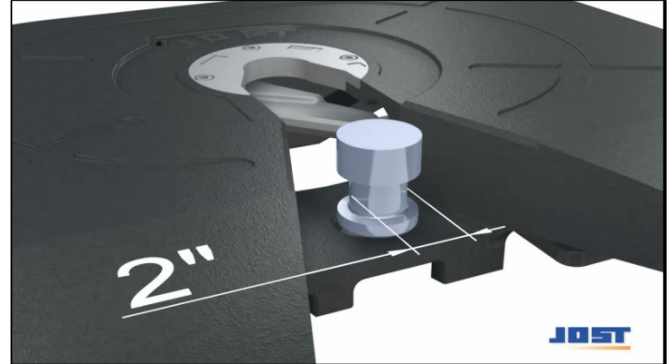
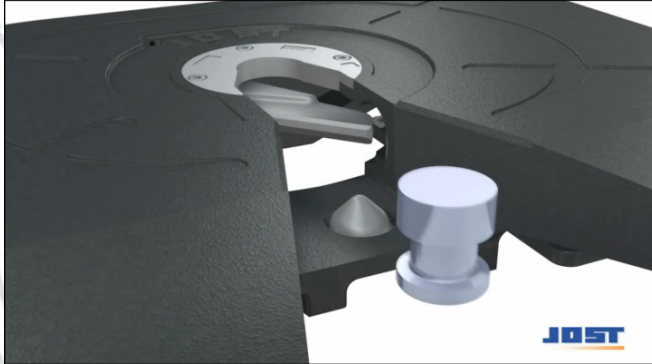
To improve the dynamic imposed loads exerted by Tankers and Side Tippers in particular, we recommend the use of the 38C fifth wheel. The Jost 38C fifth wheel increases the allowable imposed load on the top plate of the fifth wheel from 20 Tons to 36Tons. This allows for more shock absorption, fewer required repairs and a longer life of the fifth wheel and fifth wheel rubbers, especially in these dynamic load applications.

When hitching a 38C with 2" wearing kit, it is imperative that the hitching procedures be followed closely. Incorrect kingpin heights and dangerous hitching practices can cause a miss-hitch.

Jost JSK38C. 3,5" Kingpin entering the locking mechanism.
Note the position of the kingpin in relation to the locking bar release latch that needs to be depressed to ensure that the locking bar can engage once the kingpin has entered into the fifth wheel.

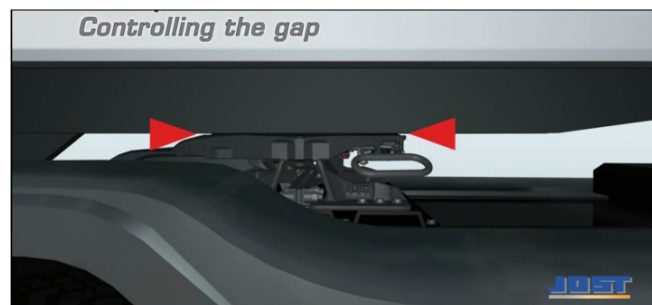


Jost JSK38C. 2" Kingpin entering the 2" locking mechanism. Due to the smaller surface area of the 2" Kingpin, it is very important to line up correctly as illustrated, and hitch positively.

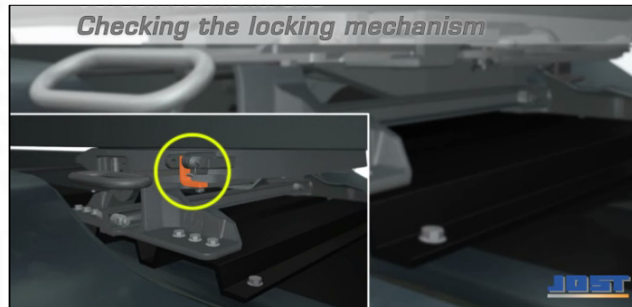


Upon completion of the coupling process **ALL** the following visual checks **MUST** be carried out to ensure that the fifth wheel had coupled securely to the semi-trailer kingpin: -

- Check that no gap is visible between the fifth wheel top plate and the semi-trailer rubbing plate

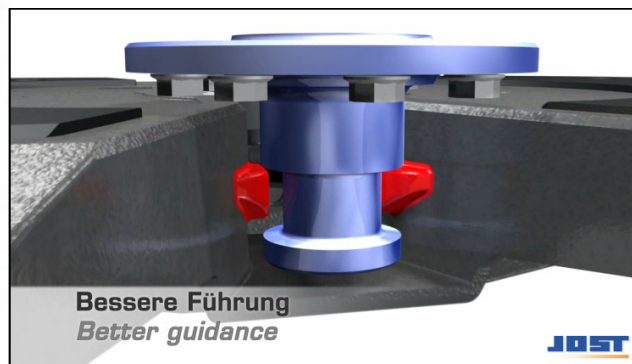


- Check that the fifth wheel handle had entered fully into the body of the fifth wheel top plate
- Check that the automatic safety latch had engaged in front of the operating handle of the fifth wheel (should the fifth wheel be fitted with a manual spring hook and chain safety device, the spring hook must be manually locked)



Regular maintenance checks that must be carried out to ensure that a safe and reliable coupling between fifth wheel coupling and semi-trailer kingpin is consistently achieved are as follows: -

- Check that the semi-trailer kingpin is installed at the correct installation height



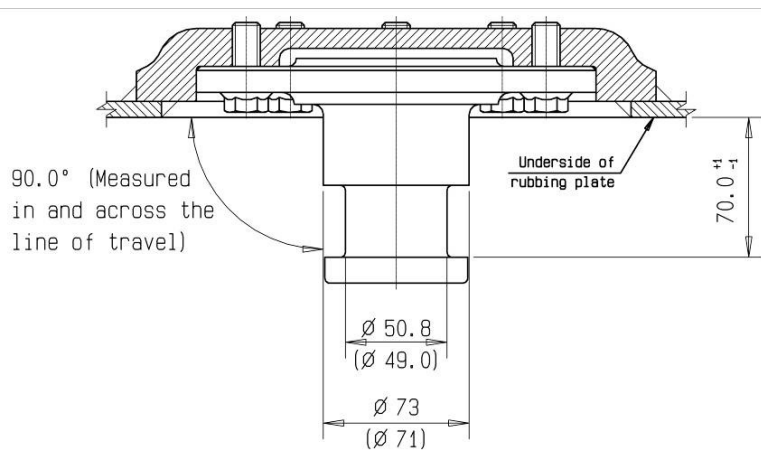
- Check that the semi-trailer rubbing plate is not deformed beyond the allowable limit (a maximum of 2mm unevenness over a radius of 485mm measured from the centre of the kingpin)



This is an example of a near perfect installation.

The gauge slides easily over the kingpin without touching the kingpin cutout on the gauge, and leaves less than 0.5mm gap over a radius of 485mm between the gauge and the skid plate.

- Check the kingpin throat and top flange diameters to ensure that these dimensions are still within the allowable wear tolerances.



- Ensure that the fifth wheel is correctly adjusted (it must be said that even an incorrectly adjusted Jost fifth wheel will lock securely, but the play in the locking mechanism will eventually result in damage to the drive train of the prime mover and in accelerated driver fatigue)
- Ensure that the fifth wheel and rubbing plate is cleaned and re-greased at regular intervals. The correct grease to use is EP₂ with graphite additive

Several gauges are available from Jost for the checking of rubbing plates, kingpin wear and to allow for easy fifth wheel adjustment in the workshop.

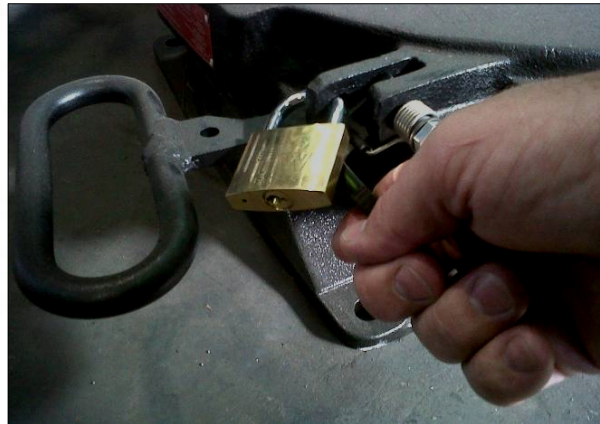
| | | |
|-----------|----------------|-------------------------------|
| Model no: | Jost GN-IM-147 | Fifth wheel adjustment gauge. |
| | Jost GN-IM-127 | Skid plate gauge |
| | Jost J909L | Kingpin Gauge |



As ALL Jost fifth wheels are lockable an additional safety measure that can be taken is to provide the driver/operator with a padlock to lock the automatic safety latch in its locked position.



This will prevent any unauthorized opening of the fifth wheel (e.g. when the combination is left unattended by the driver/operator during breaks, etc.).



Enquire at Jost for driver training. By training your driver trainer, he or she will then be able to educate your drivers on safe hitching and unhitching procedures and inspections.

Limit the chances of miss-hitches and make your fleet safer, reduce the chance of costly repairs and downtime resulting in a cost effective and more profitable fleet.