



A Granning Group Brand



## Product Operating Instruction

# Fifth Wheels



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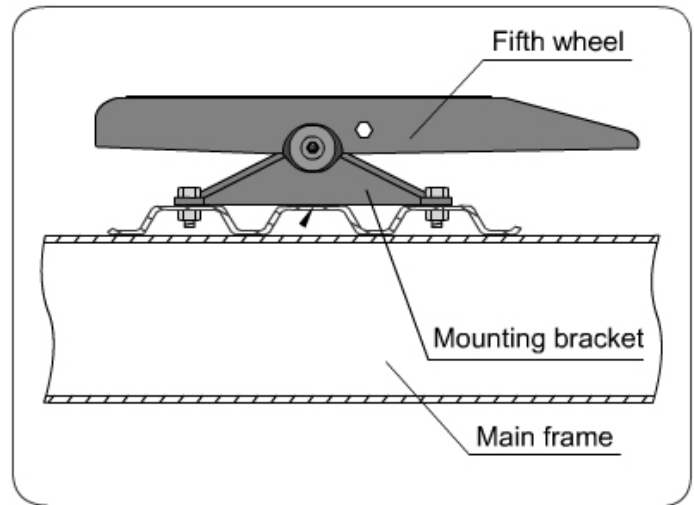
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## 1. Installation of Fifth Wheels

To avoid damage under heavy load, make sure the mounting brackets are on a same level line and the centre of bottom is supported.

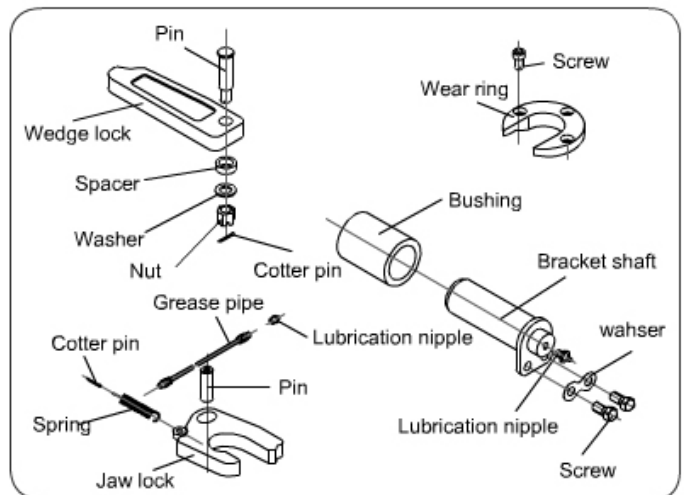
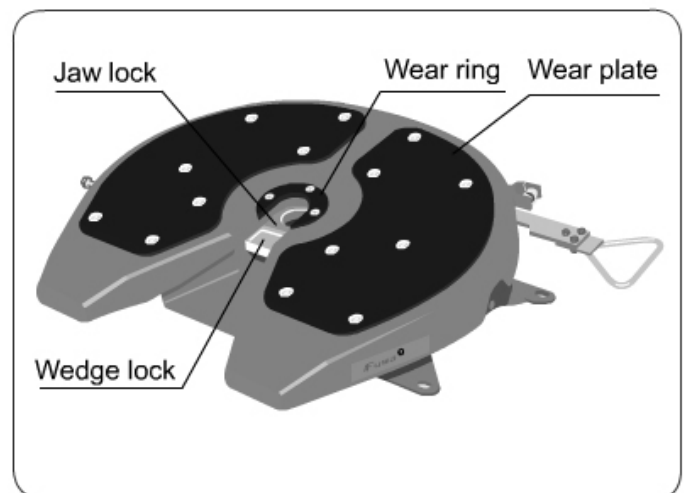


## 2. Usage

### Visual Check

Fifth wheels provide the link for truck and trailer. The fifth wheel and mounting plate are connecting parts that must comply with very high safety requirements. Careful inspection of relevant components and parts must be carried out, after each haul or prior to coupling and de-coupling. If a problem is detected, repair or change worn parts immediately to ensure safety.

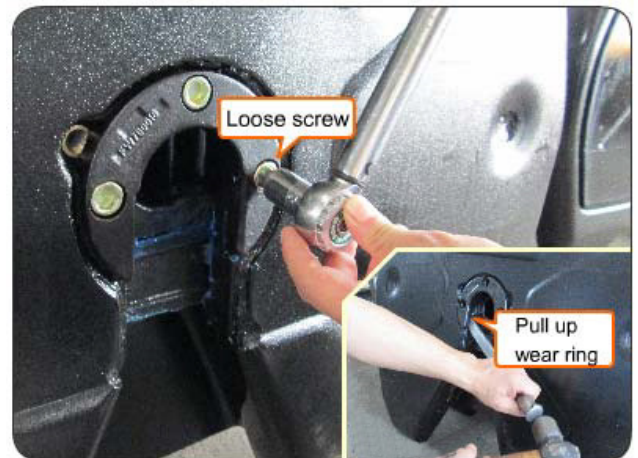
1. Check top plate for evidence of cracks or severe damage.
2. Check jaw locks, wedge locks and wear rings for wear and deformation.
3. Check mounting brackets for cracks or damage and mounting bolts for tightness.
4. Check bushings for cracks. Using a pry bar, check for vertical or horizontal movement within the bracket pivot area. Replace the bushings if the gap is too big.
5. Check all lubrication points for sufficient grease.
6. Check for loose or damaged lubrication lines and worn or damaged parts.
7. Check safety catch and lever mechanism for correct operation.



### 3. Maintenance

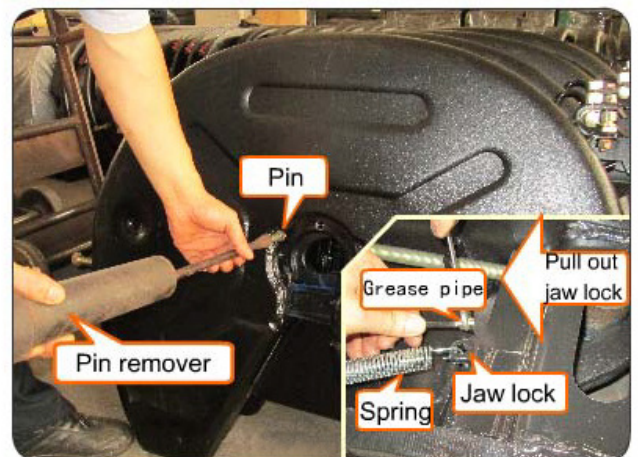
#### Replacement of wear rings

1. Remove the screws on the wear ring and use a chisel to pry off the worn wear ring.
2. Clean the mounting area and fit a new wear ring with a hammer, aligning the screw holes on wear ring to the screw holes on fifth



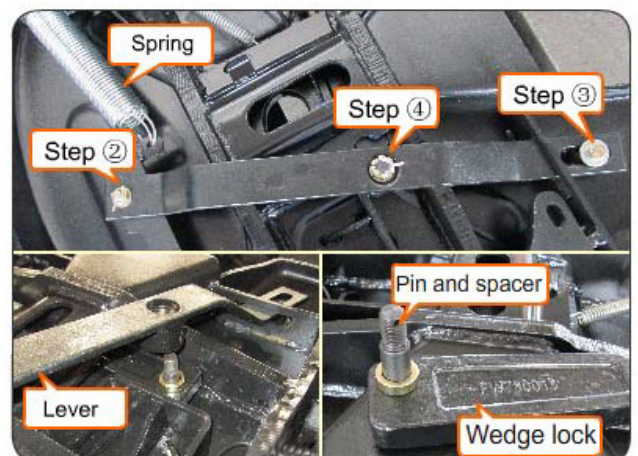
#### Replacement of jaw locks

1. Remove the screws on the wear ring and use a chisel to prise off the worn wear ring.
2. Use a pin removal tool to extract the jaw lock pin.
3. Turn over the fifth wheel and remove lubrication lines, springs and worn jaw locks.
4. Install a new jaw lock and insert the jaw lock pin into the hole. Then install lubrication



#### Replacement of wedge locks

1. Disengage the spring set.
2. Remove split pin, undo nuts, remove bolts and disengage the operational handle unit
3. Remove bolts and demount central bushing and washer.
4. Remove split pins, loosen nuts, lift up lever assembly and remove wedge lock pin, wedge lock and spacer bushing.
5. Install a new wedge lock

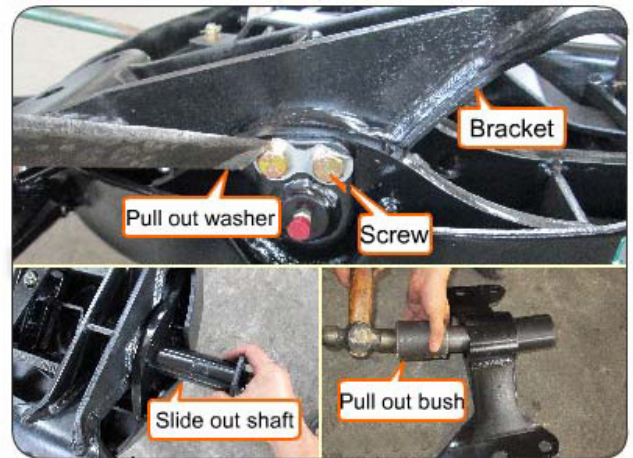




### 3. Maintenance (cont'd)

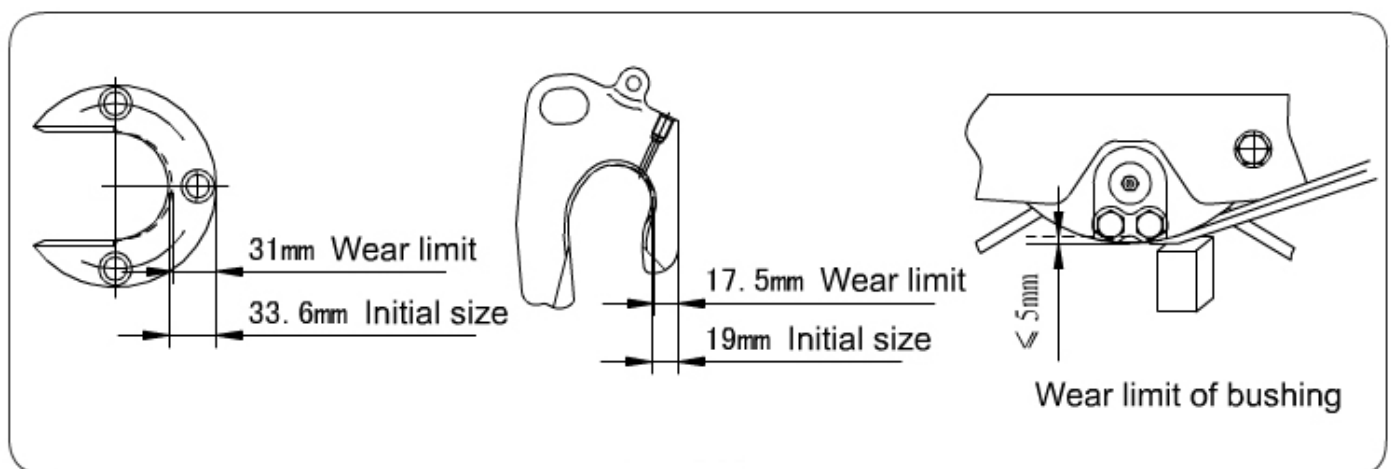
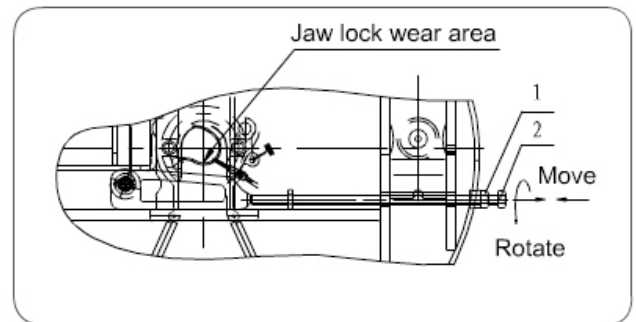
#### Replacement of pivot pin bushing

1. Pull up the locking tabs, unscrew M12 bolts, extract the pivot pin, dismantle the mounting bracket from coupling plate and remove worn pivot pin bushing.
2. Clean the pivot pin hole and fit a new bushing, then install mounting bracket, pivot pin, locking tabs and M12 bolts according in reverse of the removal instructions.
3. Tighten M12 bolts to 80Nm and bend tabs over M12 to secure. Use grease gun to fill in sufficient grease.



#### Wedge lock Adjustment after jaw lock wear (King Pin must be engaged)

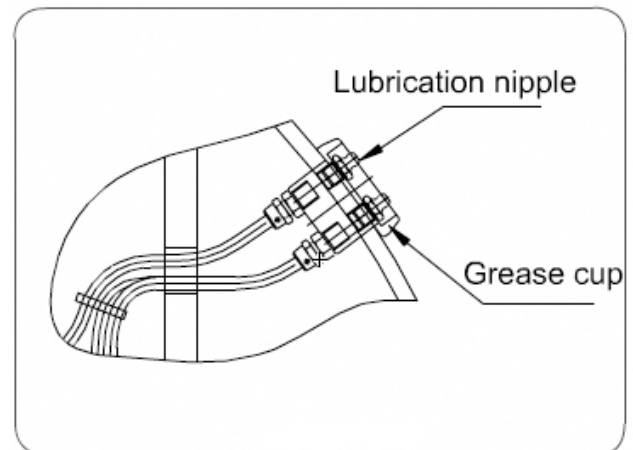
1. Undo the lock nut and unscrew adjusting bolt (counter clockwise ) by 4-6 full turns.
2. Tighten adjusting bolt counter-clockwise in proper position, to compensate the wear on jaw lock.
3. Pull operational handle outward to check for tightness. If too tight, wind in adjusting screw clockwise by approx. 1-1.5 turns and tighten lock nut.



## 4. Lubrication

1. Prior to operation, grease all lubrication points and apply a thin coat of grease on top plate.
2. In case of frequent de-coupling, maintenance on jaw lock, wedge lock and wear ring must be carried out in more frequent intervals. Clean the dirt and oil away from jaw lock, wedge lock, wear ring and king pin. Then reapply fresh grease.

1. Clean top plate and skid plate regularly. Apply sufficient grease on the top plate every time after cleaning. In the event of short distance haulage or frequent coupling and decoupling or in harsh application, inspection every 500km is recommended. For long distance hauling, inspect at intervals of 1000-1500km.
2. Grease lubrication fittings regularly. Prior to applying grease, make sure the lubrication circuit is free of blockage. If free, grease lubrication fittings until fresh grease emerges. If clogged, clear the lubrication circuit. Failure to do so may result in broken lubrication pipe when grease is applied.



## 5. Frequent Faults, Causes & Remedial Actions

Faults	Causes Analysis	Remedial Action
Fail to coupling	<ol style="list-style-type: none"> <li>1. Position of fifth wheel is too high or too low</li> <li>2. Unflat skid plates</li> <li>3. Deformation on jaw locks</li> </ol> Fail to coupling <ol style="list-style-type: none"> <li>4. Problem on spring set</li> <li>5. Bend deformation on levers or operational handles</li> </ol>	<ol style="list-style-type: none"> <li>1. The skid plate must ideally be at the same height as or no more than 50mm lower than the coupling plate on the fifth wheel.</li> <li>2. Replace skid plates</li> <li>3. Replace jaw locks</li> <li>4. Replace spring set</li> <li>5. Replace and calibrate lever or operational handle</li> </ol>
Fail to de-coupling	<ol style="list-style-type: none"> <li>1. King pins stuck on fifth wheel</li> <li>2. Damage on jaw locks or wedge locks or improper adjustment on adjusting bolts</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the thickness of skid plates</li> <li>2. Replace jaw lock or wedge lock, re-adjust adjusting bolts</li> </ol>
Fifth wheel out of working position	<ol style="list-style-type: none"> <li>1. Deformation on jaw locks</li> <li>2. Damage on spring sets</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace jaw lock</li> <li>2. Replace spring set</li> </ol>
Movement between fifth wheel and trailer	<ol style="list-style-type: none"> <li>1. Damage on pivot pin bush, excessive pivot pin play</li> <li>2. Damage on king pins</li> <li>3. Excessive gap on locking mechanism</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace pivot pin bushes</li> <li>2. Replace king pins</li> <li>3. Adjust locking mechanism. If not workable, replace jaw locks or wedge locks</li> </ol>

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