	<h1>Standard Operating Procedure</h1>		
	Procedure Name:	Wheel Change	
	Author:	Steve Smallman	
	Approved By:	Albie Wheeler	
Version	1.1	With Effect from	22/10/13
Review Date	1/11/14	Document Number	SOP 18
Risk Assessment	Name	RA SOP 18 Wheel Change	
	Date	6/8/12	

## 1. Aim of procedure

To identify and formalise the risks and control processes involved in changing wheels on vehicles.

## 2. Scope of application

This SOP applies to wheel changes occurring at the Wheeler Cranes Depot and performed by Crane/Vehicle drivers.

This SOP does not apply to light vehicles.

## 3. References

Manufacturers Handbooks

## 4. Pre-requisites

Drivers undertaking this work must have access to the correct equipment and tools to undertake the task.

Drivers must be trained in the implementation of this SOP.

## 5. Procedure

In this SOP the term “wheel” refers to a wheel consisting of a metal rim, fitted with a rubber tyre. Tyre changing, removing tyres from rims, will not be undertaken by Wheeler Cranes personnel.

Wheeler Cranes personnel will:

1. Have access to a wall mounted shadow board containing all the equipment required to success fully change wheels for every heavy vehicle in the yard.
2. Have access to a chart showing the torque settings for wheel nuts for each model of heavy vehicle in the yard.



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3. Have access to a chart showing the tools required to change wheels on each heavy vehicle in the yard.
4. Park the crane in an appropriate area to undertake the wheel change. Where this requires the crane to be moved, such movement will be minimised and undertaken at the LOWEST possible speed, avoiding sharp turns wherever possible.
5. Select the required equipment, including new wheel, and if necessary run an air lead for the impact driver (rattle gun).
6. Using the correct socket/extension/bar combination loosen the wheel nuts holding the flat wheel.
7. For trailers, chock the wheel opposite the flat tyre. Where bogie/tri axles are affected, the placement of a chock must be such that if the trailer legs fall, the chocked wheel will not lift above the chock.
8. If a slew crane, outriggers will be used to lift the wheels clear of the ground.
9. If a Franna crane, trailer or truck, a trolley jack will be used to raise the wheels. Trolley Jacks are to be placed under the differential of the appropriate axle or in an approved jacking point on steer/trailing axles of trucks. Once raised, the axle/vehicle will be supported using an axle stand.
10. Remove the keys from the ignition and place them in your pocket.
11. Using the rattle gun, loosen all the wheel nuts. Ensure that at least two wheel nuts remain on the studs. (When working with spiders, all nuts must remain on the stud to prevent dislodging of the spider)
12. Using a rubber mallet, strike the tyre wall to release any tension. Ensure that the wheel and tyre now sit loosely on the studs.
13. Remove the remaining wheel nuts, ensuring they are placed in a secure location.
14. Remove the flat wheel and place against the wall at the entrance to the shed. Consider the use of a forklift or levers to assist in the removal and replacement of the wheel.
15. Replace with new wheel. Use levers (podger or breaker bar) to lift the wheel over and onto the studs.
16. Replace the wheel nuts by placing one nut at the top of the rim, another at the bottom of the rim to prevent the wheel falling off. Then replace nuts in any sequence. Be careful not to cross thread. One or two threads is enough for this step.
17. Use rattle gun to run nuts up tight against the rim in a cross pattern (see examples attached).
18. Use levers to settle the rim against the wheel nuts and re-tighten with rattle gun in a cross pattern (see examples attached).
19. Using the torque wrench, tension each wheel to the required torque setting.
20. Remove a warning tag from the shadow board and write the odometer reading on the warning tag. Attach the warning tag to the ignition keys of the vehicle.



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21. Lower the vehicle to the ground and place nut indicators on the wheel nuts so that all indicators point to the centre of the wheel.
22. Return all tools to the shadow board.
23. Should you be taking a crane with a warning tag attached to the keys, pay particular attention to wheel nuts as part of your pre-start. Check the tension of wheel nuts on return to depot.
24. Warning tags may be removed by the person performing the re-tension provided the vehicle has travelled NOT LESS than 100 km after the odometer reading recorded on the tag.

## 6. Approval

Albie Wheeler  
Managing Director  
13/9/12



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## 7. Acknowledgement

Name	Signature	Name	Signature

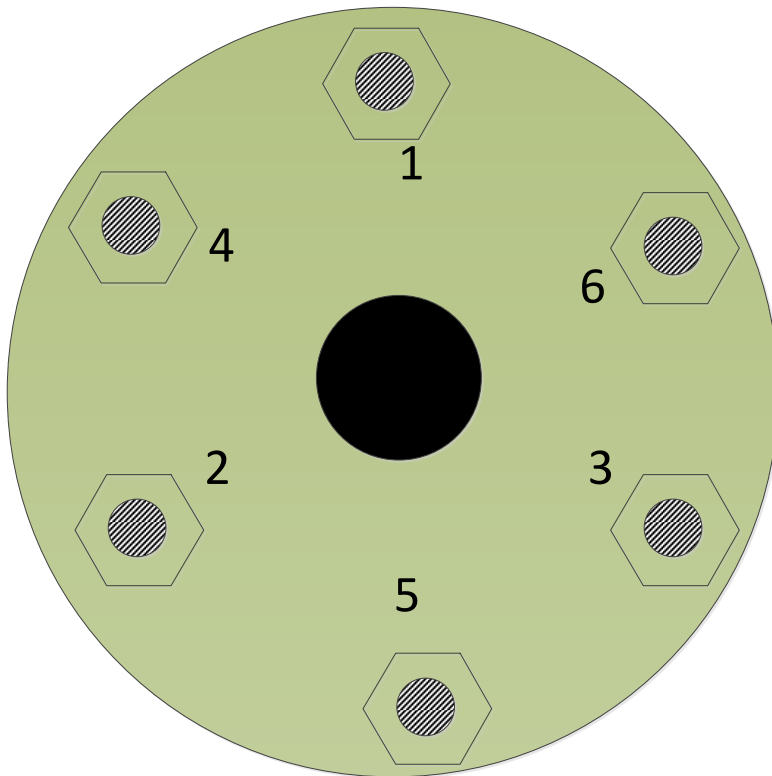


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Attachment 1:

6 stud tightening pattern





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## Attachment 2:

Vehicle Make	Tools		Torque setting Nm	Tyre inflation pressure	Tyre Size
Terex AT18	Socket	32mm	450 Re-torque 50 km	Front 120 psi	1200 x 20 -20ply
	Extension	Both		Rear 90 psi	
	Trolley Jack	Yes			1200 x 20 -20ply
	Axle Stand	Yes			
Terex AT20	Socket	32mm	650 Re-torque 120 km	Front 120 psi	1200 x 20 -20ply
	Extension	Both		Rear 100 psi	
	Trolley Jack	Yes			1200 x 20 -20ply
	Axle Stand	Yes			
Terex MAC25	Socket	32mm	650 Re-torque 120 km	Front 120 psi	1400 x 20 -20ply
	Extension	Both		Rear 100 psi	
	Trolley Jack	Yes			1400 x 20 -20ply
	Axle Stand	Yes			
Tadano GR120N	Socket			Front 100 psi	275/80 R 22.5
	Extension			Rear 100 psi	
	Trolley Jack	No			275/80 R 22.5
	Axle Stand	No			
Tadano 250E	Socket	41mm		Front 100 psi	10.00 x 20 16Ply
	Extension	Front Nil Rear Both		Rear 100 psi	
	Trolley Jack	No			10.00 x 20 16Ply duals
	Axle Stand	No			
Terex AC40/2L	Socket	32mm	600 Re-torque 50 km	Front 100 psi	205 R 25
	Extension	Nil		Rear 100 psi	
	Trolley Jack	No			205 R 25
	Axle Stand	No			
Tadano GT 550e	Socket			Front 100 psi	385/65 R22.5
	Extension			Rear 100 psi	
	Trolley Jack	No			385/65 R22.5
	Axle Stand	No			
Liebherr 1055.3	Socket	32mm	600 Re-torque 50 km	Front 100 psi	205 R 25
	Extension	Nil		Rear 100 psi	
	Trolley Jack	No			205 R 25
	Axle Stand	No			
Demag AC80-2 /AC205	Socket	32mm	600 Re-torque 50 km	Front 100 psi	205 R 25
	Extension	Nil		Rear 100 psi	
	Trolley Jack	No			205 R 25
	Axle Stand	No			



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Grove GMK5130.2	Socket	32mm	600 Re-torque 50 km	Front 100 psi	16.00 R 25
	Extension			Rear 100 psi	16.00 R 25
	Trolley Jack	No			
	Axle Stand	No			
Liebherr LTM 1200/1	Socket	32mm	650 Re-torque 100km	Front 100 psi	16.00 R 25
	Extension	Short		Rear 100 psi	16.00 R 25
	Trolley Jack	No			
	Axle Stand	No			
Hino 6 wheeler	Socket	32mm	450 Re-torque 100km		
	Extension				
	Trolley Jack	Yes			
	Axle Stand	Yes			
Acco 8 wheeler	Socket	32mm	450 Re-torque 100km		
	Extension				
	Trolley Jack	Yes			
	Axle Stand	Yes			
Prime Movers	Socket	32mm	450 Re-torque 100km		
	Extension				
	Trolley Jack	Yes			
	Axle Stand	Yes			
Trailers	Socket	32mm	450 Re-torque 100km		
	Extension				
	Trolley Jack	Yes			
	Axle Stand	Yes			
Manitou	Socket	32mm			
	Extension				
	Trolley Jack	Yes			
	Axle Stand	Yes			