

PARTS & SERVICE NEWS

REF NO. AA99154

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SUBJECT: REPLACEMENT OF WHEEL RIMS FOR HEAVY DUTY APPLICATIONS

PURPOSE: To provide field personnel with a wheel rim replacement procedure.

APPLICATION: WA250-3L Wheel Loader Serial Number A70001 and UP
WA250-3PTC Wheel Loader Serial Number A75001 and UP

FAILURE CODE: 3A2037

DESCRIPTION: An improved wheel rim assembly is suggested for heavy duty applications. The replacement of the wheel rim will eliminate the possibility of bending and/or cracking around the wheel rim bolt area.

INTRODUCTION

In some applications, the wheel rim assembly tends to bend and/or crack around the wheel rim bolts. In order to eliminate this problem, a heavy duty 19mm thick hub is available to replace the standard 16mm thick hub. The wheel rims can be replaced with the following parts and procedure.

REQUIRED PARTS:

The following parts are available in field campaign kit 8100 799 H91.

Index	Part Number	Description	Qty.	Remarks
	418 W27 A220	Wheel Rims	4	19mm thick

NOTES:

- Please observe all safety and precautionary standards dictated by the environment and working conditions that the equipment will be inspected, reworked and repaired in. Consult the appropriate shop, operator's and maintenance manuals along with your Komatsu district service manager with all questions regarding safety.
- These instructions are intended to supplement the service instructions in the appropriate "Shop Manual". Always refer to that manual for removal, disassembly, reassembly and installation instructions when not contained in this "Parts and Service News".

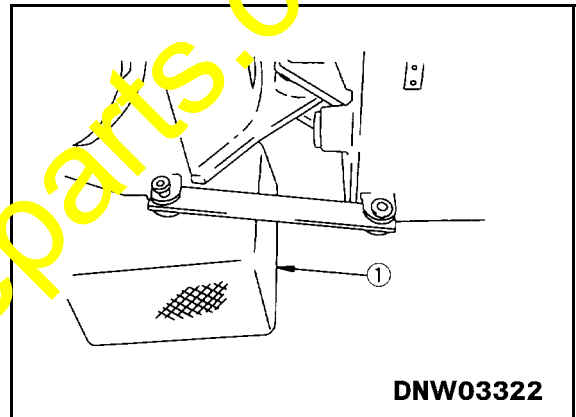
REMOVE LOADER FRONT WHEELS AS FOLLOWS:



WARNING! Failure to follow the safety precautions listed below may lead to a serious accident.

- Stop the machine on level ground and install the safety bar on the frame.
- Lower the work equipment to the ground.
- Fully apply the parking brake and place wheel blocks on the rear wheels to prevent the machine from moving.
- Never use concrete blocks to support the machine. Even light loads can cause them to collapse.

1. Using the bucket, raise the front of the frame until the wheels are slightly off the ground.
2. Place blocks under the frame (1) and lower bucket until weight of machine is on blocks.
3. Place the levers in the hold position and then lock the control levers with the safety lock.

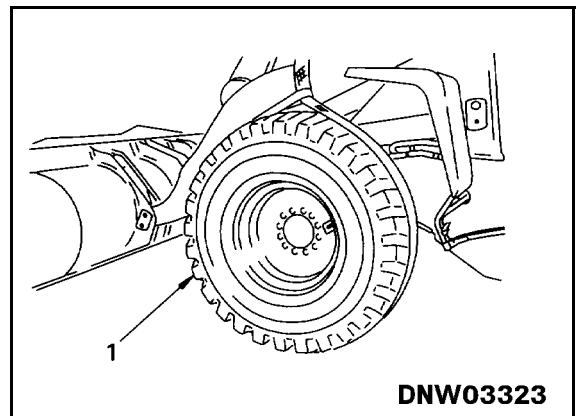


4. Turn the machine off and remove the start switch key until the repairs are complete. Place a tag on the steering wheel advising "This machine is being repaired. It shall not be started or moved for any reason until this tag is removed by the person performing the repairs".

5. Place a sling around the tire and wheel (1), remove the mounting bolts, then lift off the tire. Repeat to remove other front tire.



Tire and Wheel: **210 kg (462.97 lbs.)**



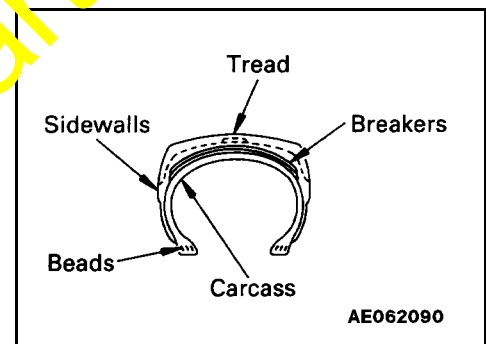
FRONT WHEEL RIM REPLACEMENT

NOTE:

- Disassembly, repair and assembly of tires requires special equipment and skills. Only qualified personnel should mount and dismount tires. If required, contact your local tire repair shop to perform repairs
 - Some tires may be filled with ballast. While deflating tire, assume it is filled with ballast until proven otherwise.
6. Deflate both tires and as required, remove ballast.
 7. Remove both tires from wheel rims.

NOTE: Tire replacement is at the customers expense.

8. Perform an inspection of the tires, if any of the items from the list below or any other damage is found, replace tire as it may not be safe.
 - Nails, pieces of metal which may cause wear or any abnormal wear.
 - Bead wire is broken or bent, or tire is greatly deformed.
 - Wear is excessive and the carcass ply (excluding breaker) is exposed for more than 1/4 of the circumference.
 - Damage to the carcass is more than 1/3 of the tire width.
 - Tire layers are separated.
 - Radial cracks reach the carcass.
 - Deformation or damage which makes the tire unsuitable for use.



WARNING! If the tire is heated during installation to the wheel, a flammable gas is produced. If this gas catches fire, the tire may explode and cause serious injury or damage. Unlike when a tire is punctured and burst, if a tire explodes, it produces a highly destructive force. The following operations are strictly prohibited when the tire is installed to the wheel.

- Welding of the rim
- Lighting fires or carrying out welding operations near the tire or wheel

If you do not understand the proper procedure for carrying out maintenance of the wheel or tire, and you use the wrong method, the wheel or tire may burst and cause serious injury or damage. When conducting such maintenance, please consult your tire manufacturer.

9. Obtain Field Campaign kit 8100 799 H91 which includes wheel rims 418 W27 A220, then install tires on new wheel rims.



WARNING! When pumping up tires, parts may fly off the wheel, do not stand in front of tires or serious injury may occur.

10. Following the guidelines and table below, inflate tires and if previously installed add ballast.
 - Measure the tire pressure when the tires are cold, prior to starting operation.
 - Inflate tires to the specified pressure. Abnormal heat is generated when tire is underinflated.
 - If the tire inflation is too low, the tire will be overloaded; if pressure is too high, it will cause tire cuts and shock bursts. To prevent these problems, adjust tire pressure according to the table below.
 - The values given in the shop manual for tire inflation pressures and permissible speed are general values. The actual value may differ depending on the tire type and conditions under which they are used. For details, please contact your tire manufacturer.
 - When pumping up tires, use an air chuck with a clip on it.
 - Do not adjust tire pressure immediately after traveling at high speeds or after carrying out work under high load.

Tire size (pattern)	Ply rating	Inflation Pressure (kg/cm ²) (lb/in ²)			
		Soft ground (sandy ground)	Normal Road		When shipped from factory
			Stockpile	Digging	
17.5 - 25 (L2 Traction)	12	1.8 - 3.2 (14.2- 45.5)	1.8 - 3.5 (14.2- 49.8)	2.0 - 3.5 (28.4- 49.8)	Front tire: 3.0 (42.7)
17.5 - 25 (L3 Rock)	12	1.8 - 3.2 (14.2- 45.5)	1.8 - 3.5 (14.2- 49.8)	2.0 - 3.5 (28.4- 49.8)	Rear tire: 3.0 (42.7)
20.5 - 25 (L2 Traction)	12	1.9 - 3.3 (27.0- 46.9)	1.9 - 3.3 (27.0- 46.9)	2.1 - 3.5 (29.9- 49.8)	Front tire: 2.8 (39.8)
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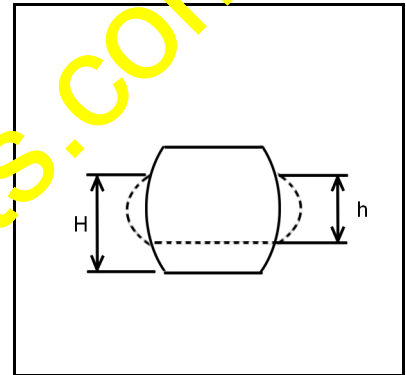
TIPS:

- For operation on normal road surfaces, rock digging operations- use the high end of range in air pressure chart.
- Stockpile operations on soft ground- use the average pressure in air pressure chart.
- Operations on sand (operation not using much digging force)- use the low end of range in air pressure chart.
- If the deflection of the tire is excessive, raise the inflation pressure within the given limits in the table to give a suitable deflection.

$$\text{Deflection Ratio} = \frac{H-h}{H} \times 100$$

As a guideline that can be checked visually, the deflection of the front tire (deflection/free height) is:

- When carrying normal load (lift arm horizontal): Approximately 15- 25%
- When digging (rear wheels off ground): Approximately 25- 35%



FRONT TIRE INSTALLATION

- Using a sling (1) raise wheel and set in mounting position on hub, then using a criss cross pattern tighten mounting bolts.

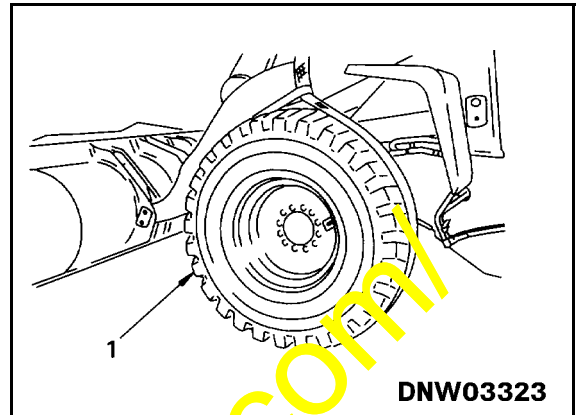


Mounting Bolt:

926.7 ± 103.0 Nm (683.5 ft. lbs. ± 75.97 ft. lbs.)
(width across flats: 36mm)



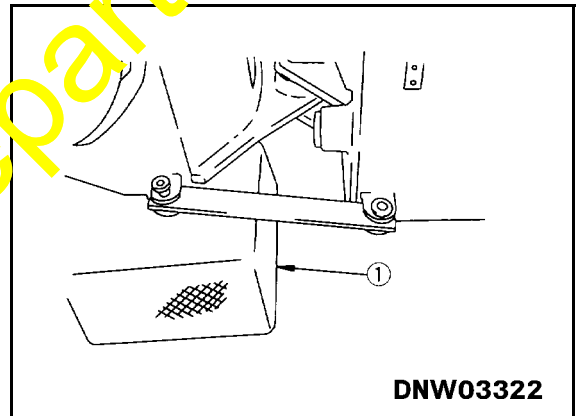
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- Repeat step number 11 for installation of opposite side front tire.

- Using the bucket, raise the machine slightly until weight is removed from blocks, then remove blocks from under frame.

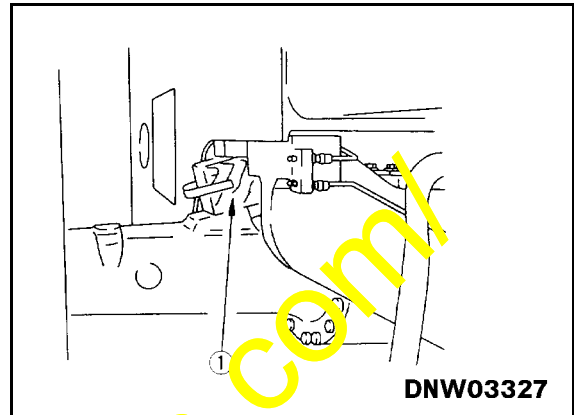
- Lower machine until weight is on front wheels.



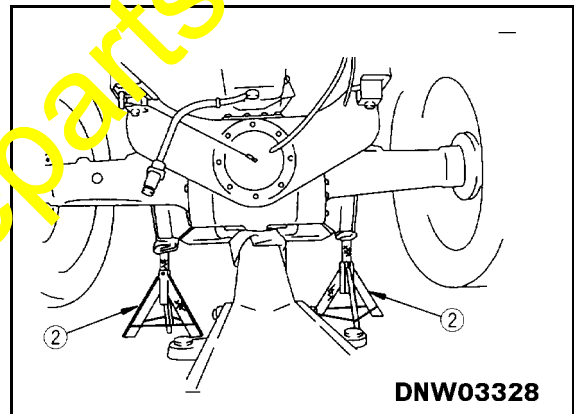
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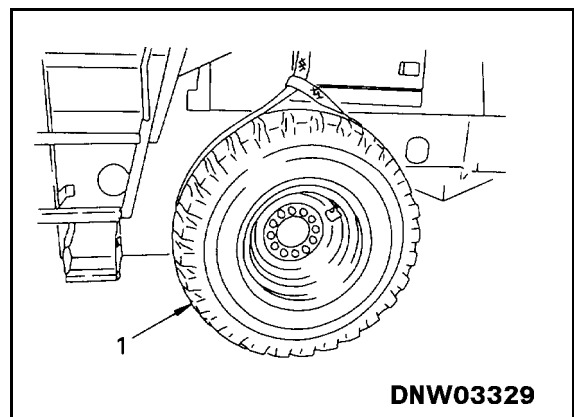
1. As shown in figure DNW03327, set block (1) between both left and right rear axles and rear frame. Also install wheel blocks on the front wheels to keep the machine from moving.



2. Jack up rear chassis with a garage jack or equivalent until rear wheels are slightly off the ground, then place block (2) under frame.



3. Place a sling around the tire and wheel (1), remove the mounting bolts, then lift off the tire. Repeat to remove other rear tire.



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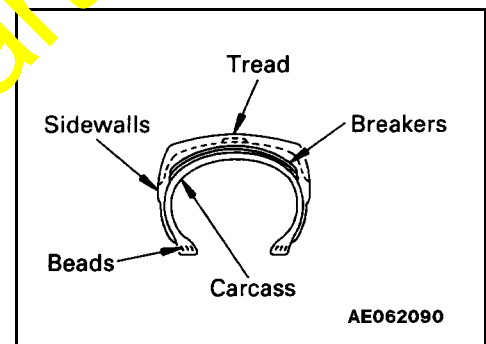
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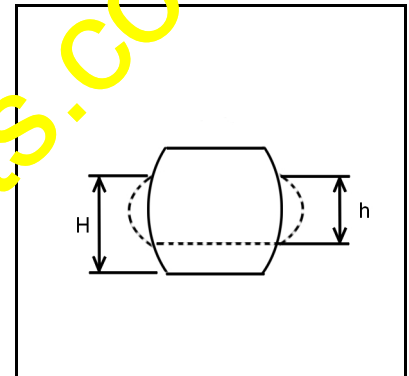
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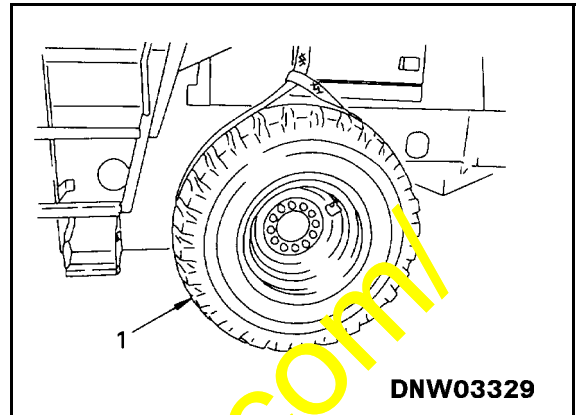


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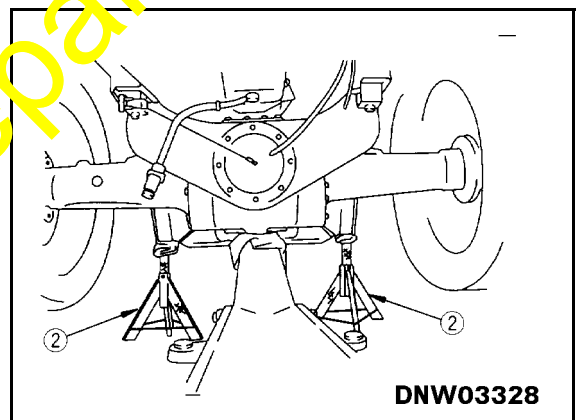


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10. Repeat step number 9 for installation of opposite side rear tire.

11. Jack up rear chassis with a garage jack or equivalent until frame is slightly off the block (2), then remove block (2) under frame.



12. Lower machine until weight is on rear wheels.

13. Remove block (1) from between left and right axles and rear frame.

14. Including the following items, return the machine to service.

- Remove the safety bar from the frame.
- Remove the wheel blocks from the front wheels.
- Remove the safety lock from the control levers.
- Reinstall the start switch key and remove the tag from steering wheel.

