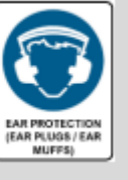




VUL-SWP-072a-009-Demounting & Mounting Tyres

STANDARD WORK PROCEDURE (SWP)	
Description	<i>Demounting & Mounting Tyres</i>
Site	<i>Vulcan Mine</i>
Department	<i>Maintenance – Tyres</i>
Purpose	<i>The purpose of this SWP is to provide a documented way of working to achieve an acceptable level of risk. The steps outlined pertain to the titled task only. All other SHMS requirements such as SOPs must be followed e.g.: VUL-SOP-065-PPE, VUL-SOP-089-Dust etc.</i>
PPE Required	Job Step Analysis Reference
    	CTMS-WI-GNC-004. This integrated SWP forms part of VUL-SOP-072a-Tyres, Wheels & Rims Mgmt.
	Other Relevant Information
	☐ Relevant OEM instructions & specification available
Task Specific PPE	<i>ERT resources available on-site during operations.</i>
  	<i>Personnel performing tyre fitting and maintenance tasks shall be assessed as competent in the specific units of competency according to the state OR national regulations</i> • AURKTJ011 Remove, inspect, and fit earthmoving and off-the-road tyres. • AURKTJ012 Remove, inspect, and fit earthmoving and off-the-road wheel / rim assemblies. • RIIVEH307D Operate heavy rigid vehicle. • RIIHAN307D Operate a vehicle loading crane.
The purpose of this SWP is to provide a documented way of working to achieve an acceptable level of risk. The steps outlined pertain to the titled task only. All other SHMS requirements such as SOPs must be followed eg VUL-SOP-065-PPE, VUL-SOP-089-Dust etc.	<i>Work Instruction is based on working in a controlled environment (Tyre Bay) on OEM standard Machine. If the environment, tools, equipment changes and or a deviation from this Work Instruction, a new JHA must be created and approved by all workers conducting the task.</i>
Critical (Hazard) Risks	
Ensure controls are in place for critical risks associated with this task. These include:	    



1. Planning and preparation

1. Attend daily pre-start Meeting
2. Confirm tasks with supervisor
3. Complete personal hazard id tool (take five).
4. Establish Work Zone – Refer to
 - **VUL-SWP-072a-004- Tyre Bay - Establishment of Work Zones;** and
 - **VUL-SOP-094-Check, Examine and Restrict Work Areas**

2. Stripping Tyre from the wheel / rim – Horizontal Method

1. Set-up Restricted Work Zone (RWZ)
2. Clean the valve assembly using an appropriate tool, without loosening the inflation valve.
3. Follow the instruction stated in **VUL-SWP-072a-008-Tyre Deflation & Inflation** to deflate the tyre.
4. Ensure that the tyre is fully deflated before commencing the next step.
5. Use pressure gauge or deflation station to completely deflate tyre (0 PSI).
6. Document wheel/rim ID and tyre ID onto appropriate job docket
 - a. Use a bead breaker to break the back bead of a 5-piece rim/wheel assembly (Ensure lock ring is in place before flipping the assembly to access back bead.)
 - b. After back bead is broken flip the assembly to gain access to lock ring and o ring.
 - c. Using the tyre handler, place the arms on the sidewall of the tyre and apply downward pressure to expose lock ring and o ring.
7. Apply tyre handler park brake then turn off and ensure equipment is choked and fundamentally stable.
8. Enter the centre of the wheel assembly using correct work platform.

NOTE: If a larger sized Earth-Moving Tyre is being stripped, use an approved step ladder or platform to reach the centre of the wheel assembly.
9. Removal all lock ring retainers and drive keys (if applicable)
 - a. Using the correct tyre levers for the task, remove the lock ring and the O-ring.

NOTE: DO NOT USE FINGERS.

 - a. When the lock ring is unseated from the groove, inspect for damage.
 - b. (One piece lock ring requires further inspection for sprung.)
 - c. Apply a 'Gap Wrap' protective sleeve to wrap the gap on the lock ring.
 - d. Remove the lock ring from the RWZ by sliding across the tyre.
 - e. Store the lock ring in a secure location.
10. Exit the centre of the wheel assembly.
11. Remove wheel chocks and tyre handler from the RWZ.
12. Using the tyre handler grab the tyre on the tread area and slowly lift tyre until clear of wheel / rim base (Spotter may be required on certain assemblies)
13. **CAUTION:** Do not drop the tyre to break the beads on the tyre.
14. **CAUTION:** The component may fall out during this process.
13. Ensure the wheel/rim has been successfully removed from the tyre.
14. If tyre is removed for spare or inspection, place the tyre into the inspection stand.
15. If tyre is scrap or requires repair the following steps will need to be followed.
 - a. Place tyre horizontally in stripping area.
 - b. Using a bead breaker, remove the BSB from the tyre bead.
16. Once the work area has been cleared from personal and tooling, remove the BSB and flange using one of the following methods:
 - a. Remove the BSB and flange by using the tyre handler to gently grab the flange.
 - b. Fit the special handling pad to the tyre handler, use it to pick up rims and other components (smaller than 49" diameter)



- c. Smaller wheels may require manual handling (two person lift if / where required).

NOTE: If the rim components are sized 49" and below, the components can be manually removed. (using team lift technique)

17. Inspect all components for wear or damage prior to storing.
18. Clearly mark the components to what area they are being assigned to, e.g., spare, scrap, repair, and inspection
19. Place wheel and wheel components in a designated storage area.
20. Tyre inspection:
 - a. Pump rim inhibitor from inside of tyre into an approved IBC.
 - b. Inspect the tyre.
 - c. Clearly mark required details.
21. Store the inspected tyre in allocated storage location (scrap / spare / repair).
22. Clean up the work area, return all tools to their original location
23. Once task completed, record the following information within the Maintenance Management System (MMS) against the asset.
 - a. Tyre Serial Number / Position / Hours / Inspection details / Tread depths / repair status
 - b. Wheel / Rim position / Hours / Inspection details / ID number

3. Tyre Installation to Wheel / Rim

3.1 Tyre Preparation

1. Select correct tyre for the equipment planned for change.
2. Ensure TD, location (spare, New), repair status is suitable for the position required.
3. Once suitable tyre has been identified, place the tyre into preparation stand using tyre handler.
4. Remove tyre handler away from prep area.
5. Remove all foreign objects from inner chamber, sidewalls, and beads. (This also includes old rim treat, water, mud.)
6. Thoroughly inspect the tyre for any damage to beads, sidewall, tread & inner liner. (If damage has been identified clearly mark the damaged area and place the tyre into the inspection area for supervisor to inspect).
7. Once inspected, add the appropriate amount of rim treat to the inner chamber, apply recommended bead lubrication to bead areas. (If pre-seated Jewelry is installed, ensure compatible with Wheel/rim selected and mating faces are clean.)

3.2 Wheel and Rim Preparation

CAUTION: Ensure that personnel are equipped with proper PPE in accordance with **VUL-SOP-056-PPE**.

1. Select the correct wheel/ rim for equipment requiring component change
2. Place appropriate rim stand in the fitment area / RWZ.
3. Using the tyre handler, place the wheel/ rim onto the prep stand.
- NOTE:** For a loader type wheel, it is recommended to have the driver pocket facing the lifting machine/plant for better alignment of rim components and drive key.
4. Remove all jewelry from the base to be cleaned and inspected. (if fitted)
5. Using a wire wheel buffer, clean the rim mounting mating surfaces, BSB and other rim components thoroughly. (Ensure all paint is removed from lock ring and o ring grooves).
6. Inspect all components and mating faces for compatibility, damage, wear using Rimex wear gauges.
7. Ensure new valving is fitted to the wheel / rim base.
8. Use the rim manufacturers' stampings to verify the wheel assemblies. Ensure that all the markings on the components are visible and clearly identifiable.
9. Ensure that the additional site/client specific identification tracking number is stamped on the gutter section.
10. Record the specific identification number in the Tyre Change Sheet and upload to the MMS against the asset.

3.3 Tyre Installation onto 5-piece wheel/rim

1. Using an appropriate tool, apply an even layer of bead lubricant on the taper on the rim. Avoid using excess lube in the lock ring groove.



2. Using tyre handler fit compatible side ring onto base.
3. Using the tyre handler, fit the tyre onto the wheel / base. If tyre is directional, ensure that the tread pattern is fitted facing the right way onto the wheel/rim base for the intended position.
NOTE: Engage a spotter to help the operator align the components on the wheel.
However, ensure that the spotter does not enter the RWZ to reduce the risk of an unwanted event.
4. Ensure all components are compatible with the base they are being installed to.
5. Place the flange then BSB onto wheel / rim base.
6. Using the tyre handler push down on the sidewall of the tyre exposing lock ring and o ring groove.
NOTE: For a loader type rim, ensure that the driver pocket on the BSB is pushed down below the O-ring groove to ensure a secure fitting for the O-ring and Lock Ring. Ensure the driver pocket on the BSB is aligned correctly with the driver pocket on the base before components are released from the tyre handler.
7. Once o ring and lock ring grooves are exposed engage park brake, switch of machine and chock tyre handler.
8. Using a tyre lever, fit a new O-ring and Lock ring onto the wheel.
 - a. Check that the lock ring is fitted securely, and lock ring retainers are to be installed, if the lock ring has retainer holes.
 - b. Use tyre lever to seat the O ring into the O ring groove, avoid twisting the O ring as it might damage it.
 - c. For a Loader Type Rim, fit the driver key into the driver pocket.

4. Inflation

Follow ***VUL-SWP-072a-008-Tyre Deflation & Inflation***

5. Wheel Assembly Inspection & Storage

1. Check components have been correctly seated.
2. If assembly is going into storage ready for planned change, ensure asset ID and position intended is written clearly on tread using high vis paint with tyre and wheel/ rim serial numbers also identified.
3. Return all the tools to their designated area.
4. Complete required documentation and upload to MMS against the asset.
5. Clean up the area and prepare it for the next task.