



Australian Government

PMBPROD367 Remove and replace conveyor belts

Release: 1

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Modification History

Release 1. Supersedes and is equivalent to PMBPROD367B Remove and replace conveyor belts

Application

This unit of competency covers the skills and knowledge required to remove and replace conveyor belts in contracted, on-site locations. It applies to all types of industrial conveyor belts (e.g. steel cord, fabric reinforced ply belts and solid woven belts) in standard configurations. Removal may be via de-tensioning and removal or by joining to a new belt for removal.

This unit of competency applies to experienced operators who are required to prepare equipment, tools, materials and conditions, use the appropriate removal method, track on and commission the new belt, make adjustments to remedy faults and non-conformity and solve problems within area of responsibility.

This unit of competency applies to an experienced operator demonstrating theoretical and technical knowledge and well developed skills in situations that require some discretion and judgement. The operator may work alone or as a member of a team or group and will work in liaison with other shift team members, team leader and supervisor, as appropriate.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Competency Field

Production

Unit Sector

Not applicable

Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 | Plan for conveyor belt replacement | 1.1 | Review belt specifications and work order documentation |
| | | 1.2 | Identify hazards and risk controls |
| | | 1.3 | Review plan to ensure that downtime is minimised, materials are used economically and quality standards are met |
| | | 1.4 | Ensure that all permissions and permits have been obtained |
| | | 1.5 | Ensure that all required equipment, tools and materials are available and have been checked for condition, quality and compliance tags |
| | | 1.6 | Ensure that a safe work area has been established |
| | | | |
| 2 | Remove and replace conveyor belt | 2.1 | Examine the conveyor system for and eliminate sources of potential belt damage |
| | | 2.2 | Facilitate removal of conveyed materials from the belt |
| | | 2.3 | Identify and eliminate any residual dangerous or hazardous substances or contaminants |
| | | 2.4 | Ensure conveyor equipment is disengaged and locked out. |
| | | 2.5 | Remove tension from belt, as required |
| | | 2.6 | Set up equipment to appropriately support the removal and replacement of belt, without unnecessary twisting or bending |
| | | 2.7 | Remove existing belt and track replacement belt onto rollers |
| | | 2.8 | Store removed belt appropriately |
| | | 2.9 | Ensure new belt is spliced according to procedures |

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| 3 | Commission conveyor belt | 3.1 | Inspect belt condition for imperfections or irregularities |
| | | 3.2 | Start conveyor or monitor start up to procedures |
| | | 3.3 | Monitor and adjust tracking, speed and tensions as required |
| | | 3.4 | Observe belt in operation and identify conditions which may require emergency shutdown of equipment |
| | | 3.5 | Give appropriate notice of any impending shutdown to procedures |
| | | 3.6 | Follow shutdown procedures. |
| | | | |
| 4 | Clean work area. | 4.1 | Clean work area and return to approved condition |
| | | 4.2 | Follow all waste and recycling procedures |
| | | 4.3 | Complete documentation |
| | | | |
| 5 | Anticipate and solve problems | 5.1 | Recognise a problem or a potential problem |
| | | 5.2 | Determine problems needing priority action |
| | | 5.3 | Refer problems outside area of responsibility to appropriate person, with possible causes |
| | | 5.4 | Seek information and assistance as required to solve problems |
| | | 5.5 | Solve problems within area of responsibility |
| | | 5.6 | Follow through items initiated until final resolution has occurred |

Foundation Skills

This section describes those required skills (language, literacy and numeracy) that are essential to performance.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Regulatory framework The latest version of all legislation, regulations, industry codes of practice and Australian/international standards, or the version specified by the local regulatory authority, must be used.

Applicable legislation, regulations, standards and codes of practice include:

- health, safety and environmental (HSE) legislation, regulations and codes of practice relevant to the workplace, manual handling and hazardous materials
- Australian/international standards relevant to the materials being used and products being made
- any relevant licence and certification requirements.

All operations to which this unit applies are subject to stringent HSE requirements, which may be imposed through state/territory or federal legislation, and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and such requirements the legislative requirements take precedence.

The regulatory framework will be reflected in workplace policies and procedures and is not required to be independently assessed.

Procedures All operations must be performed in accordance with relevant procedures.

Procedures are written, verbal, visual, computer-based or in some other form, and include one or any combination of:

- emergency procedures
- work instructions
- standard operating procedures (SOPs)
- safe work method statements (SWMS)
- formulas/recipes
- batch sheets
- temporary instructions
- any similar instructions provided for the smooth running of the plant.

Tools and equipment

Tools and equipment include:

- hand tools (such as spanners, wrenches and hammers)
- power operated hand tools (such as drills, cutting disks and sanders)
- clips, pulling plates, steel cables (certified as required)
- belt winders, belt stands and winches.

Additional tools and equipment will be selected as required from:

- portable power generators and vulcanising equipment
- knives and other cutting instruments
- hoists/lifting equipment not requiring any special permits or licences
- manual handling aids, such as hand carts and trolleys
- relevant personal protective equipment (PPE).

Hazards

Hazards must be identified and controlled. Identifying hazards requires consideration of:

- weight, shape, volume of materials to be handled
- hazardous products and materials
- lifting, tracking and securing hazards
- rotational equipment or vibration
- sharp edges, protrusions or obstructions
- slippery surfaces, spills or leaks
- smoke, dust, vapours or other atmospheric hazards
- high temperatures
- electricity
- gas
- gases and liquids under pressure
- structural hazards
- equipment failures
- machinery, equipment and product mass
- other hazards that might arise.

Problems

Routine and non-routine problems must be resolved.

Non-routine problems must be resolved by applying operational knowledge to develop new solutions, either individually or in collaboration with relevant experts, to:

- determine problems needing action
- determine possible fault causes

- develop solutions to problems which do not have a known solution
- follow through items initiated until final resolution has occurred
- report problems outside area of responsibility to designated person.

Non-routine problems are unexpected problems or variations of previous problems and include one or more of:

- variations in quality
- incorrect or faulty joining processes
- emergency situations
- intermittent faults.

Operational knowledge includes one or more of:

- procedures
- training
- technical information, such as journals and engineering specifications
- remembered experience
- relevant knowledge obtained from appropriate people.

Routine problems are predictable and have known solutions and include one or more of:

- processing problems
- equipment malfunctions
- obstructions and impediments to removal and fitting on new belt
- worn or malfunctioning rollers, drums or propulsion equipment
- lack of accessibility
- tool problems.

Unit Mapping Information

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Links

MSA Training Package Implementation Guides - <http://mskills.org.au/training-packages/info/>