



Australian Government

Department of Education, Employment and Workplace Relations

RIISAM302A Service and handover plant and machines

Release: 1

RIISAM302A Service and handover plant and machines

Modification History

Not applicable.

Unit Descriptor

This unit covers the servicing and hand over of plant and machines in the coal and metalliferous mining and extractive industries. It includes: planning and preparing for servicing and maintenance; assessing and secure plant and machinery; servicing, maintaining and repairing plant and machines; testing the operational functions under load; and shutting down equipment and securing the site.

Application of the Unit

This unit is appropriate for those working in operational and maintenance roles, at worksites within:

- Coal mining
- Extractive industries
- Metalliferous mining

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

This unit contains employability skills.

Elements and Performance Criteria Pre-Content

<p>Elements describe the essential outcomes of a unit of competency.</p>	<p>Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.</p>
--	---

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan and prepare for servicing and maintenance	1.1. Access, interpret and apply compliance documentation relevant to the servicing and hand over of plant and machines 1.2. Receive, interpret and clarify work requirements 1.3. Obtain permits required to carry out work from authorised personnel 1.4. Identify replacement parts and service tools from the servicing schedule and obtain them from the appropriate stores area 1.5. Inspect work area to identify hazards and select and implement appropriate prevention/control measures for the hazards identified 1.6. Safeguard (protect) site and non-site personnel, applying the principles of the hierarchy of prevention/control 1.7. Inspect working area to determine appropriate path of movement for loads and equipment/vehicles 1.8. Maintain the service bay
2. Assess and secure plant or machine	2.1. Conduct external checks of machine in accordance with manufacturers' specifications (or equivalent) and site requirements 2.2. Inspect attachments for defects and to ensure security 2.3. Carry out pre-operational and post start-up equipment checks 2.4. Report defects and damage
3. Service, maintain and repair plant and machines	3.1. Effect coordination and liaison to arrange details of preparatory activities, timing and location of servicing 3.2. Operate service/maintenance equipment 3.3. Carry out servicing or maintenance of plant/machine in accordance with the service schedule, current manufacturer's specifications and site requirements 3.4. Dispose of used oil and lubricant in accordance with environmental regulations

	<p>and worksite rules</p> <p>3.5. Maintain completed servicing schedule and/or records</p>
<p>4. Test operational functions under load</p>	<p>4.1. <i>Drive the machine to and in the work area</i> ensuring safety of personnel and avoidance of damage to plant/machine and environment</p> <p>4.2. Shift material using appropriate equipment</p> <p>4.3. Assess weight of test load to ensure compliance with equipment load plate specifications</p> <p>4.4. Apply control levers to ensure <i>safe and effective operation of equipment</i></p> <p>4.5. Maintain speeds of machine to safe operating limits and site requirements</p> <p>4.6. Correctly give and interpret communications with co-workers and other relevant persons</p> <p>4.7. Place test load to ensure stability of materials and the avoidance of hazards</p> <p>4.8. Carry out emergency procedures minimising risk to personnel</p>
<p>5. Shutdown equipment and secure site</p>	<p>5.1. <i>Park machine</i> to avoid machine and site hazards</p> <p>5.2. Conduct shut-down and isolate vehicle</p> <p>5.3. Complete <i>post-operational checks</i></p>

Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

Required skills

Specific skills are required to achieve the performance criteria in this unit, particularly for the application in the various circumstances in which this unit may be applied. This includes the ability to carry out the following as required to service and hand over mine plant and machines:

- apply legislative, organisation and site requirements and procedures
- apply attachments securing procedures
- apply hazard identification procedures
- apply hierarchy of risk controls
- select appropriate equipment for task
- apply lever controls safely and effectively
- interpret communication
- apply service equipment operating procedures

Required knowledge

Specific knowledge is required to achieve the Performance Criteria of this unit, particularly its application in a variety of circumstances in which the unit may be used. This includes knowledge of the following, as required to service and hand over mine plant and machines:

- manufacturer's or equivalent specifications for conduct of external checks
- manufacturer's specification for securing attachments
- procedures for identifying hazards
- procedures for identifying hazard/risk control measures
- the hierarchy of risk control measures
- safeguards for ensuring personnel safety and protection
- requirements for appropriate path for movement for loads and equipment/vehicles
- permits required to carry out work
- manufacturer's specifications/operational manual requirements for pre-operational and post start-up checks
- site communication signals
- site procedures for reporting defects
- safe operating limits of hydraulic shovel/excavator
- site safe operating speed limits
- test load parameters
- requirements for stability of materials
- emergency procedures
- potential parking hazards
- manufacturer's specifications for shutdown and isolation of hydraulic

shovel/excavator

- site post-operational check requirements
- replacement parts and service tools and their source
- manufacturer's and/or site requirements for operating service equipment
- manufacturer's specifications and site servicing schedule requirements for plant and equipment
- environmental regulations and site rules for disposal of used oil and lubricant
- site requirements for the maintenance and completion of servicing schedule and/or records

Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
<p>Overview of assessment</p>	
<p>Critical aspects for assessment and evidence required to demonstrate competency in this unit</p>	<p>The evidence required to demonstrate competency in this unit must be relevant to worksite operations and satisfy all of the requirements of the performance criteria, required skills and knowledge and the range statement of this unit and include evidence of the following:</p> <ul style="list-style-type: none"> • knowledge of the requirements, procedures and instructions for servicing and handing over plant and machines • implementation of requirements, procedures and techniques for the safe, effective and efficient servicing and handing over plant and machines • working with others to service and hand over plant and machines and meets all of the required outcomes • consistent timely completion of servicing and handing over of plant and machines that safely, effectively and efficiently meets the required outcomes
<p>Context of and specific resources for assessment</p>	<ul style="list-style-type: none"> • This unit must be assessed in the context of the work environment. Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated environment provided it is realistic and sufficiently rigorous to cover all aspects of workplace performance, including task skills, task management skills, contingency management skills and job role environment skills. • The assessment environment should not disadvantage the participant. For example, language, literacy and numeracy demands of assessment should not be greater than those required on the job. • Customisation of assessment and delivery environment to sensitively accommodate cultural diversity. • Aboriginal people and other people from a non

	<p>English speaking background may have second language issues.</p> <ul style="list-style-type: none"> • Assessment of this competency requires typical resources normally used in the work environment. Selection and use of resources for particular worksites may differ due to site circumstances. • Where applicable, physical resources should include equipment modified for people with disabilities. • Access must be provided to appropriate learning and/or assessment support when required.
Method of assessment	<p>This unit may be assessed in a holistic way with other units of competency. The assessment strategy for this unit must verify required knowledge and skill and practical application using more than one of the following assessment methods:</p> <ul style="list-style-type: none"> • written and/or oral assessment of the candidate's required knowledge • observed, documented and/or first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • implementation of appropriate requirement, procedures and techniques for the safe, effective and efficient achievement of required outcomes • consistently achieving the required outcomes • first hand testimonial evidence of the candidate's: <ul style="list-style-type: none"> • working with others to service and hand over plant and machines
Guidance information for assessment	<p>Consult the SkillsDMC User Guide for further information on assessment including access and equity issues.</p>

Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<p>Relevant compliance documentation may include:</p>	<ul style="list-style-type: none"> • legislative, organisation and site requirements and procedures • manufacturer's guidelines and specifications • Australian standards • code of practice • Employment and workplace relations legislation • Equal Employment Opportunity and Disability Discrimination legislation
<p>Plant and machines may include:</p>	<ul style="list-style-type: none"> • dozer • scraper • excavator • front-end loader • hydraulic shovel • haul truck
<p>Work requirements may include:</p>	<ul style="list-style-type: none"> • number and type of plant and equipment items to be serviced • details of servicing required • specific servicing priorities and achievement targets • location of plant and equipment • site lighting arrangements • hazards and potential hazards • site occupational health, safety and environmental practices and requirements • appropriate equipment for task • coordination details
<p>Hazards may include:</p>	<ul style="list-style-type: none"> • uneven/unstable terrain • power lines • electrical • dust • noise • trees • overhead service lines • bridges

	<ul style="list-style-type: none"> • surrounding buildings • obstructions • structures • facilities • other equipment in the area • dangerous materials • underground services • recently filled trenches
Safeguards may include the selection of appropriate equipment to ensure personnel safety and protection, such as:	<ul style="list-style-type: none"> • the erection of barricades • posting signs
Service bay maintenance requirements may include:	<ul style="list-style-type: none"> • clearing and cleaning access ways • monitoring and maintaining fuel and lubricant levels • checking and maintaining service bay equipment • applying authorised sampling procedures
External checks may include:	<ul style="list-style-type: none"> • walk around machine • underneath machine for water or oil leaks • tyre condition and pressure • grease fittings and grease pins • fuel level • transmission oil • engine oil • brake fluid • power steering • battery security, water level and cleanliness • coolant • air tank drained • air pre-cleaner • air filter indicator
Attachments are:	<ul style="list-style-type: none"> • to be installed and operated in accordance with manufacturer's specifications
Pre-operational and post start-up equipment checks may include ensuring:	<ul style="list-style-type: none"> • hazard warning systems, for example lights and horns are functional • attachment movements and control functions are smooth and complying with operating requirements • start-up conforming with manufacturer's specifications/operations manual • the communications signals to be used

Driving the machine to and in the work area may include:	<ul style="list-style-type: none"> • selecting correct controls • raising attachments smoothly • ensuring travel direction is clear of personnel and obstacles • selecting appropriate route • travelling at a safe speed • carrying bucket at safe travelling height and crowded back • the test load is the approved load designated for testing purposes under legislation
Safe and effective operation of equipment may include ensuring that:	<ul style="list-style-type: none"> • the force applied to shift load is appropriate to bulk of material • the path of movement is monitored for obstacles and hazards • hazard prevention control measures are selected and applied to ensure safe movement of load
Parking of plant/machinery may include ensuring that:	<ul style="list-style-type: none"> • vehicle/equipment safety locks are in place • implements/attachments are rendered safe • access ways are clear • equipment/vehicle is away from overhangs/fuelling site • excavations are fenced off and made secure • securing against unauthorised movement
Post-operation checks may include:	<ul style="list-style-type: none"> • minor service requirements • defects and damage reports

Unit Sector(s)

Service and Maintenance

Competency field

Refer to Unit Sector(s).

Co-requisite units

Not applicable.