



Australian Government

Department of Education, Employment and Workplace Relations

LMFPT3003A Repair upright and grand piano action, keys and pedals

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the skills and knowledge required to repair upright and grand piano action, keys and pedals.
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Application of the Unit

Application of the unit	This unit applies to the skills and knowledge required to carry out repairs on actions, keyboards and pedals for upright and grand pianos. The unit applies in a workplace and onsite environment and may be conducted in a small to large scale enterprise. The type of work tasks performed when carrying out minor repairs on piano actions, keys and pedals may include removal and replacement of: keys and key leads; damaged or worn felts, leathers and action springs; and broken hammerheads.
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units	Nil	

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Plan for repairing action, keys and pedals	1.1. OHS requirements, legislative requirements and workplace practices relevant to repairing pianos are verified and complied with. 1.2. Customer requirements are received, analysed and confirmed with appropriate personnel. 1.3. Communication with others involved with the work is established and maintained to ensure efficient workflow, coordination, personnel cooperation and safety throughout the application of this competency. 1.4. Written instructions are followed.
2. Prepare for repair	2.1. Tools and equipment are selected consistent with the needs of the job. 2.2. Selected tools and equipment are checked for service ability and safety and any faults repaired and reported according to workplace practices 2.3. Personal protective equipment is correctly fitted and used 2.4. Materials required for the repair of piano action, keys and pedals are selected
3. Repair piano action, keys and pedals	3.1. Correct posture for repairing is demonstrated which minimizes fatigue and promotes muscular control. 3.2. Tools and equipment are applied in the repair process 3.3. Action and keys are removed or dismantled, as required by the repairing process 3.4. Faulty or damaged parts are removed from action, keys and pedals 3.5. Action parts are re-centred, as required 3.6. Materials for replacement felts and leathers are selected, cut and glued to action parts 3.7. Faulty or damaged parts are replaced in accordance with manufacturer's recommendations and workplace practices 3.8. Quality of the repair process is continuously monitored in accordance with workplace practice and quality procedures 3.9. Piano action, keys and pedals are re-assembled according to workplace practices
4. Clean up work area	4.1. All tools, materials and other equipment are checked, cleaned and returned to their appropriate location.

ELEMENT	PERFORMANCE CRITERIA
	4.2. Work area is cleared and waste removed 4.3. Workplace documentation is completed and filed

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

- collect, organise and understand information related to piano tuning and repair work orders, work plans and safety procedures
- complete standardized workplace information
- work with others and in a team to repair pianos
- use pre-checking and inspection techniques to anticipate problems and identify tools or equipment faults and take appropriate action
- participate in establishing new ideas and work specifications for repairing in pianos
- plan and organize activities to avoid any backtracking, workflow interruptions, rework or wastage, including preparation and layout of the worksite and selection of tools and equipment
- manage own work performance to:
 - follow OHS and workplace practices
 - plan and organize work schedules and routines
 - maintain required production output
 - assess quality of own work
- locate, interpret and apply information on piano technology and the use and maintenance of hand and power tools
- use hand and power tools to repair pianos
- use equipment to maintain and repair hand tools, power tools and holding and supporting equipment

Required knowledge

- State or Territory OHS legislation, regulations, standards and codes of practice relevant to the full range of processes for repairing upright and grand piano actions, keys and pedals
- organisational and site standards, requirements, policies and procedures for repairing upright and grand piano actions, keys and pedals
- reading and interpreting workplace documents including work orders, work instructions and operator instructions
- environmental protection requirements relating to the disposal of waste material
- established lines of communication and protocols
- types, characteristics, uses, limitations and preparation of materials and equipment used in piano repair and manufacture
- types of tools and equipment used to repair actions, keys and pedals and procedures for their safe use, operation and maintenance
- problem identification and resolution
- set up and operation of tools and equipment used for repairing actions, keys and

REQUIRED SKILLS AND KNOWLEDGE

- pedals
- storage systems and labelling
- procedures for the recording, reporting and maintenance of workplace records and information
- appropriate mathematical procedures for estimation and measurement

Evidence Guide

EVIDENCE GUIDE

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.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- Interpret work order, locate materials and use information to complete tasks to repair upright and grand piano actions, keys and pedals
- Identify tools and equipment used in repairing actions, keys and pedals
- Select, set up and maintain equipment in accordance with manufacturer specifications and workplace practices
- Repair a minimum of two actions, keys and pedals in both upright and grand pianos
- Modify activities to cater for variations in workplace contexts and environment
- Communicate and work with others in the work area
- Apply safe handling practices and safe operating procedures for equipment, products and materials to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
- Clean tools, equipment and work area
- Maintain and repair a range of hand and power tools used in piano repair
- Apply OHS practices when using hand and power tools, holding and support equipment, products and materials, including use of personal protective equipment

Context of and specific resources for assessment

Assessment may occur on the job or in a simulated workplace environment in accordance with work practices and safety requirements

Assessment is to occur under standard work practices, and to comply with legislative and regulatory requirements.

The following resources should be made available:

- hand and power tools used in the repair and manufacture of pianos
- materials used in the repair and manufacture of pianos
- safety and personal protective equipment

EVIDENCE GUIDE	
	• holding and supporting equipment • workplace location or simulated workplace • upright and grand pianos
Method of assessment	Assessment must confirm consistency (over time and in a range of workplace relevant contexts) in application of skills and knowledge when: • organising work • completing tasks according to instructions • working systematically with attention to detail • identifying improvements and avoiding damage • using workplace practices • using OHS practices • assessing operational readiness of tools and equipment • recognising and adapting to cultural differences in the workplace, including modes of behaviour and interactions Assessment must include a variety of project or work activities that allow the candidate to demonstrate competency in the unit Assessment should be by direct observation of tasks and include questioning on required knowledge and skills to ensure correct interpretation and application. Assessment should be conducted over time and may be in conjunction with assessment of other units of competency

Range Statement

RANGE STATEMENT	
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.	
OHS requirements may include:	Relevant Federal, State or Territory OHS legislation, regulations, standards and codes of practice, and workplace policies and procedures including the use of personal protection equipment, hazard and risk control and manual handling.
Legislative requirements may include:	Relevant Federal, State or Territory legislation including award and enterprise agreements, industrial relations, Australian Standards, confidentiality and privacy, the environment, equal opportunity, anti-discrimination, industry codes of practice.
Workplace practices may include:	Site guidelines, policies and procedures relating to own role, quality assurance, procedural manuals, tool manufacturer's recommendations, ethical standards, recording and reporting, equipment use, maintenance and storage, environmental management (waste disposal, recycling, re-use).
Tools and equipment may include:	knives, guillotine, measuring equipment, centering equipment, glue brushes and sticks, glue pot,
Personal protective equipment may include:	Safety glasses, goggles, hearing protection, safety footwear, protective clothing, gloves, respiratory protection
Materials may include:	action felts and leathers, key bushings, key frame materials, springs, action components, key tops, pedal caps, pedal trap bushings, center pins, hammer heads, bridle tapes
Correct posture may include:	- Standing or seating, according to type of piano and height of individual - Even distribution of body weight between both feet while standing, to reduce fatigue - Rest arm where available to aid control during

RANGE STATEMENT	
	tuning and reduce tiredness
Faulty or damaged parts may include:	• action • broken damper springs, faulty hammer heads and shanks, faulty hardware • keys • broken keys, discoloured keys, faulty key leads • pedals • loose/worn pedal caps, worn pedal felt, damaged trap work, broken pedals
Re-centering of action parts may include:	Identification of faulty center pins, extraction of faulty centre pins, re-bushing flanges, replacement of center pins, replacement of flanges
Felts and leathers may include:	Felts - box cloth, cushion felt, check felt, Hammer-rest baise, backtouch baise, nameboard felt, celeste-rail felt, bushing felt and damper felts. Leathers - doeskin, pigskin, sheepskin, kangaroo skin, splitskin.
Workplace documentation may include:	Time sheets, customer cards, work orders including job sheets, cutting lists, plans, drawings and designs, tool maintenance records and schedules

Unit Sector(s)

Unit sector	Piano Technology
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		