



Australian Government

MSFPT3012 Tune octaves aurally to appropriate stretch

Release: 1

MSFPT3012 Tune octaves aurally to appropriate stretch

Modification History

Release 1 - New unit of competency

Application

This unit of competency covers tuning octaves aurally so they achieve an even and accurate pitch and then continuing to tune strings while using hammer and stabilisation techniques. It applies in workplace and on-site environments for small to large scale enterprises.

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

Pre-requisite Unit

Competency Field

Unit Sector

Piano Technology

Elements and Performance Criteria

Elements describe the essential outcomes.

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

1	Plan for tuning octaves aurally	1.1	Work health and safety (WHS) requirements, legislative requirements and workplace practices relevant to tuning octaves 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 work flow, coordination, personnel cooperation and safety
		1.4	Written instructions are followed
2	Prepare to tune octaves	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
3	Tune the fundamental string aurally to a pitch standard	3.1	Correct posture for tuning is demonstrated which minimises fatigue and promotes muscular control
		3.2	Given an external pitch standard, frequency of one string is matched to that pitch to within $\pm .5$ cent
		3.3	Tuned string is stabilised using hammer techniques
4	Match frequency of a string 1 octave above or below pitch standard	4.1	Pitch of string/octave is adjusted above or below pitch standard
		4.2	Stabilisation techniques are utilised
		4.3	4 th and 5 th intervals are used to establish the highest or lowest beatless condition
		4.4	The overtone of the primary note is matched a fundamental octave up, or the fundamental of a primary note is matched to the 1 st octave of one overtone lower
		4.5	10 th , double octaves and minor 7 th checks are used
		4.6	Intervals going up and down are tested to ensure tuning meets industry standards
		4.7	Remaining octaves are tuned according to the above process
5	Clean up work area	5.1	All tools, materials and other equipment are checked, cleaned and returned to their appropriate location
		5.2	Work area is cleared and waste removed
		5.3	Workplace documentation is completed and filed

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency. Detail on appropriate performance levels for each furnishing unit of competency in reading, writing, oral communication and numeracy utilising the Australian Core Skills Framework (ACSF) are provided in the Furnishing Training Package Implementation Guide.

Range of Conditions

Specifies 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. Range is restricted to essential operating conditions and any other variables essential to the work environment.

Unit context includes:	• WHS requirements, including legislation, building codes, material safety management systems, hazardous and dangerous goods codes, and local safe operating procedures or equivalent • work is carried out in accordance with legislative obligations, environmental legislation, relevant health regulations, manual handling procedures and organisation insurance requirements • work requires individuals to demonstrate some discretion, judgement and problem solving
Tools and equipment include:	• pitch standard • tuning lever/hammer • temperament strip • mutes and wedges • tip wrench • tuning tips and heads
Correct posture includes:	• standing or seated according to type of piano and height of individual • evenly distributing body weight between both feet while standing to reduce fatigue • resting arm where available to aid control during tuning and reduce tiredness
Pitch standards include:	• piano • electronic keyboard • electronic tuning device (ETD) • tuning fork
Hammer techniques include:	• selection of tuning tip and angle • jerking movements • positioning hammer on pin at correct angle to avoid bending of tuning pin
Stabilisation techniques include:	• use of firm key blows in conjunction with placement of pin • calculation of string stretch
Personal protective equipment includes:	• that prescribed under legislation, regulations and enterprise policies and practices
Information and	• workplace procedures relating to the use of tools and

procedures include:

- equipment
- work instructions, including job sheets, cutting lists, plans, drawings and designs
- workplace procedures relating to reporting and communication
- manufacturer specifications and operational procedures

Unit Mapping Information

Supersedes and is equivalent to LMFP3012A Tune octaves aurally to appropriate stretch.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=0601ab95-583a-4e93-b2d4-cfb27b03ed73>

Assessment Requirements for MSFPT3012 Tune octaves aurally to appropriate stretch

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Performance Evidence

- Interpret work order and locate and apply relevant information
- Apply safe handling requirements for equipment, products and materials, including use of personal protective equipment
- Identify materials used in the work process
- Follow work instructions, operating procedures and inspection processes to:
 - minimise the risk of injury to self or others
 - prevent damage to goods, equipment and products
 - maintain required production output and product quality
- Tune a minimum of two (2) octaves aurally on both one (1) upright and one (1) grand piano
- Detect aurally the differences in frequency between strings within $\pm .5$ cent without the aid of an electronic device where the fundamentals are matching with no audible interfering patterns
- Use mathematical ideas and techniques to correctly complete measurements, calculate area and estimate material requirements
- Communicate ideas and information to enable confirmation of work requirements and specifications and the reporting of work outcomes and problems, interpret basic plans and follow safety procedures
- Avoid backtracking, work flow interruptions or wastage
- Work with others and in a team by recognising dependencies and using cooperative approaches to optimise work flow and productivity

Knowledge Evidence

- State or territory WHS legislation, regulations, standards and codes of practice relevant to the full range of processes for tuning pianos
- Organisational and site standards, requirements, policies and procedures for tuning pianos
- 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 tuning
- Types of tools and equipment used to regulate actions, keys and pedals and procedures for their safe use, operation and maintenance

- Relevant problem identification and resolution
- Set-up and operation of tools and equipment used for tuning pianos
- Identify the fundamental string (the first string of a given note that is tuned to an external pitch standard) and the adjacent string
- Recognise that in a bi-cord, the string selected can be either side of the fundamental, while in a tri-cord, three adjacent strings are tuned
- Identify beatless condition where two strings are at the same frequency
- Storage systems and labelling
- Procedures for the recording, reporting and maintenance of workplace records and information
- Appropriate mathematical procedures for estimation and measurement

Assessment Conditions

- Assessors must:
 - hold training and assessment competencies as determined by the National Skills Standards Council (NSSC) or its successors
 - have vocational competency in the furnishing industry at least to the level being assessed with broad industry knowledge and experience, usually combined with a relevant industry qualification
 - be familiar with the current skills and knowledge used and have relevant, current experience in the furnishing industry.
- Assessment methods must confirm consistency of performance over time rather than a single assessment event and in a range of workplace relevant contexts.
- Assessment must be by observation of relevant tasks with questioning on underpinning knowledge and, where applicable, multimedia evidence, supervisor's reports, projects and work samples.
- Assessment is to be conducted on single units of competency or in conjunction with other related units of competency. Foundation skills are integral to competent performance in the unit and should not be assessed separately.
- Assessment must occur on the job or in a workplace simulated facility with relevant process, equipment, materials, work instructions and deadlines.
- Access is required to hand tools used in the tuning of pianos, safety and personal protective equipment, and upright and grand pianos.

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