



Australian Government

MSFPT4009 Tune unisons aurally to a beatless condition

Release: 1

MSFPT4009 Tune unisons aurally to a beatless condition

Modification History

Release 1. Changes to code, application, elements, performance criteria, assessment requirements. Foundation skills added. Range of conditions removed. Assessment requirements changed.

Application

This unit describes the skills and knowledge required to tune unisons aurally so they can achieve an even and accurate pitch. This may include the use of tuning hammers and stabilisation techniques.

This unit applies to piano technologists who work in accordance with established procedures, using discretion, judgement and problem-solving to apply and communicate technical solutions to resolve predictable and unpredictable issues. They use factual, technical and theoretical knowledge to identify, analyse, compare and act on information from a range of sources.

No licensing or certification requirements exist at the time of publication. Relevant legislation, industry standards and codes of practice within Australia must be applied.

Competency Field

Piano Technology

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan and prepare for tuning unisons aurally	1.1 Analyse and confirm job requirements with personnel, customer or from workplace documentation 1.2 Identify and follow work health and safety requirements including physical and ergonomic needs 1.3 Establish and maintain communication to ensure efficient workflows, coordination, personnel cooperation and safety 1.4 Select tools and equipment consistent with needs of job, inspect for serviceability and safety, and repair any faults or report in accordance with workplace procedures
2. Set a string	2.1 Aurally tune fundamental string to a pitch standard 2.2 Given an external pitch standard, match frequency of one string to

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	that pitch to within $\pm .5$ cent 2.3 Stabilise tuned string using correct hammer techniques
3. Tune an adjacent string in unison to the fundamental string	3.1 Adjust pitch of unison string to fundamental string, employing stabilisation techniques, to beatless condition 3.2 Tune remaining strings in accordance with above process
4. Clean up work area	4.1 Check, clean and store equipment and any unused materials in accordance with workplace procedures 4.2 Clean work area, safely dispose of waste and identify items for recycling in accordance with workplace procedures and environmental standards 4.3 Complete required workplace records

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

- Reading skills to interpret familiar workplace procedures and work documentation
- Writing skills to communicate information in familiar workplace documents
- Numeracy skills to work with numerical concepts involved in piano tuning.

Other foundation skills essential to performance are explicit in the performance criteria of this unit.

Unit Mapping Information

Release 1. Supersedes and is not equivalent to MSFPT3011 Tune unisons aurally to a beatless condition.

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 MSFPT4009 Tune unisons aurally to a beatless condition

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Performance Evidence

There must be evidence the candidate has completed all the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- tune at least two unisons aurally on at least one upright or 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, at least once.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- workplace standards, requirements, policies and procedures for tuning pianos
- 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, including:
 - pitch standard
 - tuning lever/hammer
 - temperament strip
 - mutes and wedges
 - tip wrench
 - tuning tips and heads
- best physical and ergonomic approaches to promote muscle control and avoid fatigue, including:
 - standing or seated according to type of piano and height of individual
 - evenly distributing body weight between both feet while standing to reduce fatigue
 - use a resting arm, where available, to aid control during tuning and reduce tiredness
- pitch standards, including:
 - piano
 - electronic tuning device (ETD)
 - tuning fork
- techniques for using hammers, including:

- selection of tuning tip and angle
- jerking movements
- positioning hammer on pin at correct angle to avoid bending of tuning pin
- stabilisation techniques, including:
 - use of firm key blows in conjunction with placement of pin
 - calculation of string stretch
- problem identification for tuning unisons and resolution
- set-up and operation of tools and equipment used for tuning pianos
- how to identify the fundamental string (the first string of a given note that is tuned to an external pitch standard) and the adjacent string
- how to 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
- how to identify beatless condition where two strings are at the same frequency
- procedures for recording, reporting and maintaining workplace records and information
- work health and safety requirements for piano tuning.
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Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources required for performance evidence, including:
 - pianos for tuning
 - tools and materials used in piano tuning
 - workplace procedures, manufacturing specifications, codes, standards, manuals, and reference materials.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

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