

Assessment Definitions and Guidelines
Qualified Chainsaw and Pruning (Ground-based) Technician (QCPT)
International Society of Arboriculture, Hong Kong Chapter
電油鋸及修剪(地上)技師 評核定義 及指引

In order to become Qualified Chainsaw and Pruning (Ground-based) Technicians (QCPT), candidates must demonstrate a satisfactory level of applied knowledge in the physical conduct of all key chain saw inspection, maintenance and operations as defined by the HK ISA Qualification Board in conformance with Government requirements.

為了成為電油鋸及修剪(地上)技師（QCPT），考生必須證明在檢查, 保養及操作電油鋸都合符國際樹木學會香港分部及政府的要求。

The minimum performance activities, organized according to knowledge and skill Modules, required to be demonstrated by each candidate are defined as follows:

考生須在各單元中達到最低的知識及操作水平:

Personal Protective Equipment (PPE): Candidates must perform a complete and correct inspection of all necessary items of PPE. As the candidate progresses through the inspection, he/she must verbally explain what they are inspecting, describe one or two defects that are commonly discovered, and clearly define the thresholds for failure of each piece of equipment. The minimum descriptors for each piece of PPE that must be inspected and described by the candidate are as follows:

個人防護裝備: 考生須自備一套完整的個人防護裝備. 考生須檢查及指出那些項目他已檢查, 說出 1 至 2 個該裝備常出現的問題, 各裝備的最低要求為:

Protective Helmet: 頭盔

- Visual check for stamp that ensures manufacturer conformance with safety standards (CE EN12492 or EN397, ANSI Z89, AS/NZS 1800, or equivalent);
目測標示符合以下規格 (CE EN12492 或 EN397, ANSI Z89, AS/NZS 1800, 或同級)
- Visual and tactile inspection of shell indicating that they are checking for cracks, holes, or deformities ;
目測及觸摸頭盔以測試頭盔沒有裂,洞或其他問題;
- Squeeze test of shell describing that they are testing for flexibility and listening for any sounds of cracking that indicate the shell has deteriorated;
擠壓頭盔以測試頭盔的彈力及聆聽有沒有撕裂聲音;
- Visual and tactile inspection of shock absorbing webbing and/or foam inside helmet describing that they are ensuring that it is firmly and properly attached and in good condition;
目測及觸摸頭盔以測試頭盔內的吸震棉固定及狀態良好;

- Helmet must possess a functioning chin strap. 頭盔附有下巴帶。

Eye Protection: (Either glasses and/or integrated helmet face shields are acceptable)

眼部保護 (護目鏡或頭盔的面罩都可接受)

- Visual check for stamp that ensures manufacturer conformance with safety standards (CE EN166, ANSI Z87, AS/NZS 1336, or equivalent);
目測標示符合以下規格 (CE EN166, ANSI Z87, AS/NZS 1336, 或同級);
- Visual and tactile inspection of frame and lenses/mesh describing that they are observing structural integrity ;
目測及觸摸眼罩檢查護目鏡或頭盔的面罩沒有破損;
- Visual inspection of lenses/mesh describing that they are inspecting for optical clarity;
目測護目鏡或頭盔的面罩並講出能透過它清楚看見物件;
- Test for proper sizing and fit by placing on candidate's head and explaining that they are ensuring proper fit and that it does not easily fall off candidate's head.
測試大小及帶上及指出目鏡或頭盔的面罩合適及不會掉下。

Hearing Protection: (Ear muffs, ear plugs or hearing bands are acceptable)

聽覺保護 (耳塞及耳罩都可接受)

- Visual check for stamp that ensures manufacturer conformance with safety standards (CE EN352, ANSI S3.19-1974, or NRR/SNR 25 or higher rating). In the case of hearing protection without labeling, the original package label with the proper safety standard must be provided.
目測標示符合以下規格 (CE EN352, ANSI S3.19-1974, 或 NRR/SNR 25 或更高規格)。若沒有標示，考生須提供包裝。
- Visual and tactile inspection of earmuffs describing that they are checking the integrity of the outer shell, inner foam, and earcup. Also a tactile inspection of the earcup describing that they are testing the flexibility of the pads for adequate seal around ears.
目測及觸摸耳罩並指出他們在檢查耳罩的耳杯,外殼及內棉. 觸摸耳杯外的墊以測試耳墊有足夠的隔音效果。
- Visual and tactile inspection of earplugs describing that they are testing the integrity and flexibility for good seal in ears.
目測及觸摸耳塞以測試耳塞有足夠的隔音效果。

Chainsaw Chaps / Trousers: 電油鋸護腿套褲

- Visual check for stamp that ensures manufacturer conformance with safety standards for chain saw protection for chain speeds of 20m/s or higher (EN381 Class 1 or higher, ASTM F1897/UL Class A or higher, or equivalent).

- 目測標示符合以下規格: 可承受鏈速達每秒 20 米或以上的速度(EN381 Class 1 或更高, ASTM F1897/UL Class A 或更高, 或同等規格)。
- Visual inspection for any damage to inner protective fiber pads describing that they are inspecting for pulled, fused, melted or damaged fibers.
目測檢查纖維有否撕裂,溶化或破損。
- Visual inspection for presence and integrity of all straps, buckles, and clips describing that they are inspecting for missing, broken and damaged items.
目測檢查所有扣是否存在或破損。
- Check for proper sizing and fit by putting on chaps. Visual check and verbal acknowledgement that chaps are proper length that extends over top of boot.
試穿以示範大小適中, 目測檢查並指出電油鋸護腿套褲長度能覆蓋至工作鞋。

Work Boots: 工作鞋

- Candidate identifies that boot is constructed of leather, or similar durable materials.
考生指出工作鞋以皮或其他耐用物料造成。
- Candidate identifies that boot top covers and provides ankle protection. 考生指出工作鞋能提供腳面及足踝保護。
- Candidate identifies that boot possesses a safety toe.
考生指出工作鞋有安全鞋頭。
- Candidate lifts foot to identify that soles are of lug design or comparable to ensure adequate traction and minimize risk of falling on slippery ground.
考生指出鞋底的紋或設計有防滑功能。

Gloves: (optional) 手套 (自選)

- Candidate puts on gloves to demonstrate that fingers are the correct length for candidate's hand. 考生穿上手套以展示手指長度合適。
- Candidate flexes hands to demonstrate that gloves possess a snug fit that does not restrict movement or unreasonably interfere with finger dexterity.
考生伸展手指以展示手部能自由伸展。
- Candidate identifies that fabric material ensures a non-slip grip on chainsaw handles.
考生指出手套附有防滑物料能抓緊電油鋸。

Appropriate Clothing: 合適衣著

- Candidate identifies long trousers and that they are constructed of durable material adequate to avoid abrasions to legs.
考生須穿上以耐用物料造成的長褲以減少足部磨損。

- Candidate identifies that shirt, jacket, or other upper wear are constructed of durable material adequate to avoid abrasions to arms and body.
考生須指出上衣,外套以耐用物料造成以減少對上身的磨損。
- Candidate visually inspects and identifies that all clothes are close-fitting without any string, cords, or other parts that hanging longer than 150 mm off of clothing.
考生檢查衣物確保衣物合身及沒有長於 150 毫米的物件伸出。
- Candidate visually inspects and identifies that no loose jewellery or other accessories are hanging longer than 150mm
考生檢查身體確保沒有掛著長於 150 毫米的鬆身手飾或配件。
- Candidate visually inspects and identifies that hair is not hanging longer than 150mm below the chin or that it is be pinned/tied up
考生檢查頭髮有沒有長過下巴 150 毫米，如有則須束好。

First Aid Kit: 急救包

Fully stocked first aid kit in conformance with chainsaw requirements (e.g. Factories and Industrial Undertakings Ordinance (Chapter 59), Occupational Safety and Health Regulation (Chapter 509 A), First-aid kits – US OSHA 1910.266(d)(2)(i)).

考生自備符合電油鋸要求的急救箱（如工廠及工業經營條例（第 59 章），職業安全及健康條例（第 509 章 A），急救包 - 美國 OSHA1910.266 (D) (2) (i)）。

- Visual check to generally ensure that kit is fully stocked. Not required to inventory all items. 目測以確定有足夠的裝備，不需每項檢查。

Chainsaw Inspection: 電油鏈鋸檢查

Candidates must provide a rear-handled chain saw with a guide bar no larger than 51 cm (20 inches) and necessary maintenance tools for use in the assessment. Chainsaw maintenance tools must include:

考生須帶同一把有後手柄及導板不長過 51cm (20 吋) 的電油鏈鋸, 及帶同以下維護工具:

- Srench (or screwdriver and wrench) of the correct size for the subject chainsaw;
合適大小的鏈鋸專用匙 (或螺絲批及扳手);
- Round file of the correct size for the subject chainsaw cutting teeth;
合適大小圓銼;
- Flat file;
平銼;
- Depth gauge.
深度儀。

Additional tools may be in possession, but the above are the minimum required. Failure to possess any of the above tools will result in disqualification of the candidate.

考生或可備有其他額外工具，但以上是最低要求。如未有齊備上述任何工具，將導致考生被取消資格。

The candidate must remove the clutch cover, bar, and chain, conduct an inspection of the parts, and then correctly reassemble the chainsaw.

考生必須卸下離合器罩，導板和鋸鏈，進行檢查，然後再正確地組裝電油鋸。

Candidate must demonstrate and verbally explain inspection, including identification of thresholds for failure and repair or replacement of chainsaw or chainsaw part of the listed parts of the chainsaw.

考生必須示範及口頭講解檢驗過程，包括識別故障的臨介點，和修理或更換電油鋸部分。

If the chainsaw does not pass inspection the candidate will not be permitted to proceed further with the assessment until they produce a chainsaw in satisfactory condition.

如果鏈鋸未通過檢查，考生將不會被允許繼續進行評核，直到鏈鋸情況令考官滿意，評核方可進一步進行。

In order to continue that same day, candidate must produce a satisfactory chainsaw within a 5 minutes time period of discovery of an unsatisfactory chainsaw.

若考生想繼續在同一天完成評核，考生必須於發現電油鋸失靈後 5 分鐘內找到另一具令考官滿意的電油鋸。

Candidate must demonstrate and describe an inspection of the chainsaw as follows:

考生必須示範並說明電油鋸的檢查如下：

Chainsaw body: 電油鋸

- Visual inspection describing that they are inspecting for any significant cracks, damage, or defects. 目視檢查描述，他們正在檢查的任何顯著破裂，損壞或缺陷。

Throttle lock: 油門安全制

- Visual and operation inspection for proper function of the throttle lock. 目測和操作檢驗油門制的正常功能。

Top handle: 上手柄

- Visual inspection describing that they are inspecting for any significant cracks, damage, or defects. 目視檢查並描述檢查中發現的任何顯著破裂，損壞或缺陷。

- Visual and physical check describing that they are inspecting for firm attachment to chainsaw body.
目視及描述檢查上手柄與電油鋸的接駁位置穩固。

Rear handle: 後手柄

- Visual inspection describing that they are inspecting for any significant cracks, damage or defects
目視檢查及描述檢查中發現的任何顯著破裂，損壞或缺陷。
- Visual and physical check describing that they are inspecting for firm attachment to chainsaw body.
目視及檢查描述後手柄與電油鋸的接駁位置穩固。

Chain brake: 制動器 (或稱鏈鎖)

- Visual inspection describing that they are inspecting for any significant cracks, damage or defects
目視檢查及描述檢查中發現的任何顯著破裂，損壞或缺陷。
- Visual and physical check describing that they are inspecting for firm attachment to chainsaw body.
目視及檢查描述制動器與電油鋸的接駁位置穩固。
- Operation check for proper function of the chain brake.
測試鋸鏈制動器能否正常運作。

Chain catcher pin: 鏈擋

- Visual inspection describing that they are inspecting for any significant damage or defects. Catcher pin must be aligned under the bar and chain.
目視檢查及描述檢查中發現的任何顯著破裂，損壞或缺陷。鏈擋必須在導版及鋸鏈底下安裝妥當。
- Visual and physical check describing that they are inspecting for firm attachment to chainsaw body.
目視及檢查描述鏈擋與電油鋸的接駁位置穩固。

Muffler/ Exhaust system: 消音器 / 排氣系統

- Visual inspection describing that they are inspecting for any significant cracks, damage or defects.
目視檢查及描述檢查中發現的任何顯著破裂，損壞或缺陷。
- Visual and physical inspection describing that they are inspecting for firm attachment to chainsaw body.
目視檢查及描述消音器 / 排氣系統與電油鋸的接駁位置穩固。

- Visual check describing that they are inspecting for presence and condition of spark arrestor screen, if chainsaw is equipped with spark arrestor.
目視檢查及描述火花消除器濾網的狀態，如該部鏈鋸有配置火花消除器的話。

Chain sharpness: 鋸鏈的鋒利度

- Visual and tactile inspection describing that they are inspecting for adequate chain sharpness. Adequate sharpness shall be defined as at least 75% of the teeth possess a tactilely sharp, pointed cutting corner and sharp top and side plates
目視及觸摸檢測，並描述鋸鏈的鋒利度。合適的鋒利度為最少 75% 的鋸齒頂切片及側切片鋒利。

Chain tension: 鋸鏈的鬆緊度

- Visual and physical inspection describing that they are inspecting for proper chain tension. Chain should run freely, but cold chain must not visibly hang off the lower portion of the bar.
目視檢查及描述鋸鏈的拉緊度是否適中。鋸鏈應能自由運動，但凍鏈不可明顯地在導板下部垂下來。

Bar: 導板

- Visual inspection describing that they are inspecting for straightness of bar. 目視檢查及描述導板是否挺直。
- Visual and tactile inspection describing that they are inspecting for bar grooves for any significant cracks, damage, defects, chips, pinched or splayed edges, or burrs.
目測及觸摸導板是否有任何顯著破裂、損傷、瑕疵、碎片、捏陷或邊沿開叉，或披刺。
- Operational inspection for freely turning nose sprocket.
檢查導板咀齒輪能否自由轉動。
- Visual inspection describing that they are inspecting for cleanliness of bar and chain oil feed hole.
目視檢查及描述導板的清潔及出油孔的狀況。
- Candidate verifies that chain saw bar should be appropriately sized for the chain saw sprocket and engine size.
考生確認導板的大小與引擎的大小配合。
- Chain saw bar should be appropriately sized for the wood to be cut during the practical assessment. Guide bars greater than 51cm (20 inches) will not be permitted.
導板的大小應以合適作切割實務評核中的木材為準。導板大於 51 厘米(20 吋)將禁止使用。

Chainsaw Starting and Cutting 電油鏈鋸的啟動及切割

Hand transport: 手携移動

- Bar must be positioned to face to the rear of the operator anytime the chainsaw is carried with one hand for a distance greater than 3 meters. Scabbard is not required.
當用單手携帶電油鋸移動超過 3 米距離時，導板必須置向操作者身後。不一定需要蓋上鋸鏈保護罩。
- Fingers and thumb must be wrapped firmly around handle at all times when transporting the chainsaw.
携帶電油鋸移動時手指和拇指必須時常緊握鏈鋸的把手。
- Attention must be maintained on the walking path to avoid tripping or other hazards
行走路徑上必須保持留神，以避免絆倒或其它危險。

Chainsaw starting - Ground start and Leglock start:

電油鏈鋸啟動- 地上啟動和腿間啟動：

The candidate must demonstrate both a proper ground start and a leg lock start of the chainsaw. Evaluators should continue to monitor starting practices throughout the assessment and shall deduct points from this section if starting safety or practice violations occur later in the assessment. Any drop starting of the chainsaw will result in a Fail.

考生必須示範地上啟動和腿間啟動電油鏈鋸。考官應持續監察整個評估，如果在啟動過程中違反了安全，應在單元扣分。

- Visual check and verbal signal: Before starting, operator must visually check completely around for any other persons within a 3 m radius, and give a verbal signal for all persons nearby to stand clear. Operator should not start saw until that 3 m radius is clear of other persons and persons within 20 meters distance have acknowledged his/her warning.
目視檢查和語言信號：在開始之前，考生必須以目視徹底檢查周圍 3 米範圍內的任何其他人士，並給予口頭信號通知所有就近的人迴避。考生直到超出 3 米半徑內沒有人前，及在 20 米內距離人士承認他/她的警告前，都不應該啟動鏈鋸。
- Chain brake must be engaged before starting chainsaw.
制動器必須在啟動電油鋸前鎖上。
- Left hand must be on chain saw top handle, with left arm straight and fingers and thumb wrapped firmly around handle.
左手必須握於電油鋸的前手柄上，左臂必須伸直，以拇指及其他手指緊握手柄。

- Operator's body should be out of the line of the bar so that they are not exposed to uncontrolled movement of the bar and chain. For ground start, place the chainsaw on level ground in an area that is free from rocks and debris. For leg lock start, rest the body of the chainsaw on the front of the left leg. The chainsaw must be held with the flat side of the bar tilting slightly away from the operator's body. Ensuring that the guide bar is pointing to the left side, hook the right leg over the back handle. The chainsaw should not be positioned completely on its side like the flat side of the bar is parallel to the ground when leg lock starting.

操作者的身體應該離開導板的直線，以防在導板及鋸鏈失控時受傷害。於地面啟動鏈鋸時，鏈鋸應擺放在沒有碎石或其他碎屑阻礙的平地上。腿部啟動電油鋸時，左手提鋸，先把鋸身倚傍在左腿前，須提起鏈鋸至鋸身和導板的平面稍為向身體外傾斜。確保導板的尖端指向操作員的左手邊，右腿從後跨上及搭在後手柄。發動鏈鋸時也不應完全把鋸身過度擺側，使導板的平面與地面平行。

- Rear handle secured: For ground start, the rear handle must be secured with the right toe/foot or knee. For the leglock start, the rear handle must be resting behind the right knee or leg, while maintaining stable footing. Feet should be adequately spaced apart to ensure a stable foot foundation that prevents operator imbalance. Pinching the saw between the legs when leg locking is an error.

後手柄固定：於地上啟動時，後手柄必須以右腳尖/腳或右膝固定。於腿部啟動時，後手柄一定要擱在右膝或右腿的後面，操作員同時須保持站立穩定。雙腳應適度張開，以確保操作員站立穩定而不致失平衡。於腿部啟動時將鋸夾緊在兩腿之間是錯誤的。

Cutting 鋸木:

Candidate will be presented with a work scenario that requires performance of a number of cuts. Several logs that are least 250 mm diameter will be arranged in a standardized setup. A total of 6 locations shall be marked on 3 logs arranged in a standardized setup for cutting. Paint or tape markings on the logs will indicate the locations where the candidate should cut the logs. The candidate will be assessed for proper cutting practices and penalized for safety violations.

考生將要面對需要進行數次切割的工作情況。標準的安排包括放置有多件直徑達至少 250 毫米的木條; 並有一共 6 個位置標示於 3 件木條上以供切割。該等位置會以油漆或膠帶作為標記。評核將按考生的切割方法是否正確及有否任何違反操作安全的情況進行評分。

- Stable body position: Body position must be stable with good balance at all times when cutting, to avoid being pulled or pushed over by chain saw reactive forces. This requires that feet should be adequately spaced apart and knees bent when cutting. A clear work zone with no logs, branches or other debris must be maintained around the feet to ensure stability and lack of tripping hazards and to permit an escape route if worker must move away from falling log

穩定的姿勢：切割時，考生要避免被鏈鋸的反作用力拉或推動，任何時候必須保持穩定的姿勢及良好的平衡。這須把雙腳適當的張開並於切割時把膝蓋彎

曲。雙腿周圍必須保持一個沒有木材、枝條或其他雜物阻礙的工作區，以確保站立穩定不會絆倒，並允許一條逃生路徑以便有木材倒塌時供工人走避。

- **Both feet must be placed firmly on ground at all times when cutting: Feet must not leave ground when cutting. Foot must never be placed on log to stabilize and never stand on top of a log. Fingers and thumb must be wrapped around both handles at all times when cutting and handling chain saw with engine operating and chain brake disengaged.**
在切割期間，任何時候雙腳必須堅定地站於地上：切割時雙腳不能離開地面。考生的腳不能放在木段之上作穩定之用，更絕不可站在木材之上。在切割和搬運發動中（制動器在解鎖的狀態）的鏈鋸時，手指和拇指必須在任何時候緊握兩個手柄。
- **Bar clear of body when cutting: The bar and chain should never be in close proximity to any part of the body when the chain saw is running .**
切割時導板須離開身體：當鏈鋸運行時導板及鋸鏈絕不應靠近身體任何部位。
- **Chain brake must be engaged when not cutting: It is permitted to make several cuts from one position and without moving the feet without engaging the chain brake. However, before the operator moves to a new position, or during significant pauses in cutting activity, the chain brake must be engaged. Operation of the chain brake must always be done without removing hands from chain saw handles.**
非切割時必須鎖上制動器：只要腿不走動，操作員可站於同一位置在制動器解鎖狀態下進行多次切割。然而，在操作員轉移到新的位置之前或工作期間需要較長的暫停時，必須鎖上制動器。操作制動器時雙手必須保持緊握手柄。
- **Attention must always be focused on saw bar and bar tip when cutting: Operator must maintain constant awareness of the location of the kickback zone. If operator is distracted or called while cutting, operator must engage chain brake prior to diverting vision off of chainsaw bar.**
切割時必須專注於導板和導板前端：操作員必須對反彈區的位置保持警覺。如果操作員需分心處理其他事情或被召喚，他必須進在轉移對導板的視線前把制動器鎖上。
- **The chainsaw must never be used above the operator's shoulders.**
鏈鋸必定只可在不高於操作員肩膊的位置使用。
- **No cutting between legs: The chain saw bar must not be positioned between the feet or legs and must not be used to cut any material located directly between the operator's legs**
不可於兩腿間進行切割：導板絕不可置於雙腳或雙腿之間，更不可用於切割放於操作員雙腿間的物件。

- Direct contact of the running chain with the ground, or with any other object aside from the wood piece being cut, must be avoided.
運行中的鋸鏈必須避免與地面或與被切割木材旁邊的任何其它物件直接接觸。
- Right and left hands must always be placed on proper handles: The right hand must always be used on the rear handle, controlling the throttle, and left hand must always be on the top handle, managing the chain brake.
左右手必須保持握著正確的手柄上：右手必須緊握後手柄、控制油門，左手則必須緊握上手柄及能操控制動器。
- No straddling logs/branches. The chainsaw operator should not permit any wood to remain between their legs when cutting or cut any log or branch that extends between their legs, in order to avoid being tripped when trying to escape or injured by a moving piece of wood.
禁止跨過木頭或樹枝。進行切割時，鋸操作員不應允許任何木材置於兩腿之間，或對伸延至兩腿之間的木材進行切割，以避免在走避的情況下絆倒，或被移動的木材弄傷。
- Confident control of saw at all times: The chainsaw operator should exhibit smooth control and efficiency of movement with the chain saw. Clear familiarity with the tool should be evident, with no hesitation or lack of confidence in its use.
在任何時間皆需具信心控制鋸：鋸操作員應表現順暢地控制和有效率地操作鋸。操作員必須表現對其鋸明顯地熟悉，操作時具信心而不會猶豫。
- Worker must remain clear of the path of potential kickback.
操作員必須清楚可能出現反彈的位置。
- Kickback zone of the bar must never be used to cut a piece of wood, either intentionally or unintentionally. Kickback must not occur.
無論是否有意，絕對可不使用導板的反彈區去切割。反彈絕對不應該出現。
- All of the marked cuts must be successfully completed.
所有標記的位置必須成功的切割。
- Undercuts and topcuts must be used appropriately with no bar pinching: The chainsaw operator should demonstrate an efficient and systematic cutting plan, taking into consideration the presence of tension and compression wood.
底鋸及頂鋸必須恰當地運用以免夾鋸：鋸操作員應表現出高效和有系統的切割計劃，並考慮到木材的張力和擠壓力的存在。

Pruning 修剪

The candidate must provide a handsaw appropriate for general pruning work. The candidate must wear appropriate PPE for hand cutting (protective helmet, eye protection, proper work clothing). The candidate will be presented with a stem that includes branches that are at least 50mm diameter and 500mm in length. The stem should be secured in an upright position so that the branch to be pruned is at a reasonable height, approximately 1 to 1.5 meters above ground level. The candidate must remove one indicated branch with a proper 3-point pruning cut.

考生必須自備適合一般修剪工作的手鋸。考生必須穿戴供徒手鋸木時配備的個人防護裝備（防護頭盔，護眼裝備，適當的工作服）。考生將會獲提供一條附有至少直徑 50 毫米及長度 500 毫米分枝的樹幹。該枝幹會固定成直立的狀態，使其分枝處於合理的高度以供修剪（地面以上大約 1 至 1.5 米）。考生必須以適當的三刀修剪法移除一指定的分枝。

- **Undercut and topcut:** The main part of the branch must be correctly removed first by using an undercut at least 1/3 the diameter of the branch and located at a distance from the branch attachment (approximately 75mm – 300mm) that will leave a stub that can be removed without resulting in ripping of the bark. The second cut must be a topcut located directly above the undercut or slightly towards the end of the branch. There should be no significant tearing or ripping of the bark or wood on the remaining stub when the branch falls away.

底鋸和頂鋸：首先，分枝的主體部分必須在距離枝樞位約 75 毫米 - 300 毫米的位置，以底鋸切割至枝條直徑的至少三分之一的深度，以便稍後留下一個殘枝，方便在不導致撕破樹皮的情況下被除去。第二刀為頂切，落刀位必須直接位於底切的上方或向分枝的末端稍為移前一點。當分枝剝落時殘枝的樹皮或木材上不應留下顯著的撕裂或殘破。

- **Final pruning cut /stub removal:** The remaining stub must be removed with a single clean cut from the top or bottom of the branch to remove the stub without damaging the branch collar. There must be no significant tearing or ripping of the bark or wood on the remaining cut.

最後一刀/殘枝移除：剩餘的殘枝必須以一次過利落的頂鋸或底鋸來移除，而不損傷枝領位置。剩下的傷口附近的樹皮或木材上不應留下顯著的撕裂或殘破。

- **The location and angle of the final pruning cut must be correctly positioned in regards to the angle of the main stem and the branch bark ridge/branch collar. The final cut does not need to exact, but must be satisfactory to demonstrate the candidate's understanding of the reference of the branch bark ridge to remove a reasonable amount of the stub and permit proper CODIT. For reference, see the most current ANSI A300 (Part 1) Pruning Standard, the British Standard for Tree Work (BS 3998), or equivalent pruning standard.**

最終修剪的位置和角度必須正確地定位在主幹和枝皮脊/枝領的角度。最終修剪的位置並不需要非常精確，但考生必須展示了解在切除合理份量的殘枝，並允許有適當的樹木腐朽區隔化 CODIT，要以枝皮脊作參考。詳細可參考最新的 ANSI A300（第 1 部分）修剪標準，英國樹木工作標準（BS 3998），或同等修剪標準。