

## EUROPEAN CHAINSAW STANDARDS: 2015

### ECS 4: Windblown & Damaged Tree Techniques

**What the chainsaw operator must be able to do: (Practical Test - Recommended guide bar length 30-38cm & Recommended time allowed 2hr - 2hr 30min) Pre-requisite: ECC3**

		Diagnostic tools					
		Written	Practical	Oral	Other	Critical	
<b>ECS4-1</b>	<b>TAKE CARE OF YOURSELF (PPE) AND OTHERS AROUND YOU AT WORK</b> - Candidate to wear appropriate PPE, sign RA & show ID:	√	√				<b>1</b>
<b>1:1</b>	Chainsaw safety trousers		√			√	<b>1:1</b>
<b>1:2</b>	Chainsaw safety boots		√			√	<b>1:2</b>
<b>1:3</b>	Safety helmet		√			√	<b>1:3</b>
<b>1:4</b>	Eye & ear protection		√			√	<b>1:4</b>
<b>1:5</b>	Gloves appropriate to task		√				<b>1:5</b>
<b>1:6</b>	Non-snap outer clothing		√				<b>1:6</b>
<b>1:7</b>	Personal /Squad First Aid Kit - on work site		√			√	<b>1:7</b>
<b>1:8</b>	Whistle/Mobile/Radio		√				<b>1:8</b>
<b>ECS4-2</b>	<b>PLANNING THE WORK INCLUDING WHAT TO DO IF THERE IS AN EMERGENCY</b> - Candidate to identify hazards relevant to the site & trees:	√	√				<b>2</b>
<b>2:1</b>	Risk Assessment		√			√	<b>2:1</b>
<b>2:2</b>	Method statement		√				<b>2:2</b>
<b>2:3</b>	Emergency planning		√				<b>2:3</b>
<b>ECS4-3</b>	<b>OPERATIONAL SAFETY CHECKS</b> - Candidate to check chainsaw for condition/sharpness etc and pre-use safety:	√	√				<b>3</b>
<b>3:1</b>	Cold/Warm start method (ground/'leg lock')		√				<b>3:1</b>
<b>3:2</b>	Safe start distance from fuel (min.1m or greater according to national guidance)		√				<b>3:2</b>
<b>3:3</b>	Chain brake tested with saw running		√			√	<b>3:3</b>
<b>3:4</b>	Saw checked for oiling (e.g. oil throw test or oil present on drive links)		√				<b>3:4</b>
<b>3:5</b>	Chain not moving when throttle released (no chain creep)		√				<b>3:5</b>
<b>3:6</b>	On/off switch is working (pull choke to stop if not, then label not to be used)		√				<b>3:6</b>
<b>3:7</b>	Chain tension 'warm' re-checked		√				<b>3:7</b>
<b>ECS4-4</b>	<b>MEET LEGAL &amp; SITE ENVIRONMENTAL REQUIREMENTS IN ACCORDANCE WITH NATIONAL STANDARDS</b> - Candidate to check specifications:	√	√				<b>4</b>
<b>4.1</b>	Protection of fauna, flora, wildlife, waterways, site specifications etc, regards pollution/damage:		√			√	<b>4.1</b>

<b>ECS4-5</b>	<b>SEVER TREE ROOT-PLATES BOTH UNDER &amp; OVER GUIDE BAR DIAMETER USING APPROPRIATE CUTS - Candidate to demonstrate appropriate reducing cuts and appropriate compression and tension cuts as appropriate, –used to sever a minimum of 3 root-plates:</b> The candidate must restrain one with a winch or other appropriate machinery (backward or forward weighted) using safe techniques:	√	√				<b>5</b>
<b>5:1</b>	Check no risk to the operator from the root-plates rolling or falling or the stems springing (including sideways)		√				<b>5:1</b>
<b>5:2</b>	Identify tension and compression in stems and select severing methods		√		√		<b>5:2</b>
<b>5:3</b>	Sever root-plate safely from stem under guide-bar length in diameter		√		√		<b>5:3</b>
<b>5:4</b>	Sever root-plate safely from stem over guide-bar length in diameter		√		√		<b>5:4</b>
<b>5:5</b>	Sever root-plate safely to retain a saw-log of appropriate length		√		√		<b>5:5</b>
<b>5:6</b>	Ensure trees and root-plates are left in a safe and appropriate position and condition to enable subsequent operations		√		√		<b>5:6</b>
<b>5:7</b>	Restrain a root plate with a winch using safe anchor point(s) and compatible winching components & ancillary equipment, or restrained with other appropriate suitable, stabilised machinery		√		√		<b>5:7</b>
<b>5:8</b>	A plan of operations is agreed with winch or machine operator and full communication maintained				√		<b>5:8</b>
<b>5:9</b>	Sever restrained root-plate safely using appropriate cuts (may be achieved as part of 3, 4 or 5 above)		√		√		<b>5:9</b>
<b>5:10</b>	Ensure tree and root-plate are left safe, in appropriate position & condition		√		√		<b>5:10</b>
	Recover, clean and check winch as appropriate		√				
<b>5:11</b>	Site left tidy & safe		√				<b>5:11</b>
<b>ECS4-6</b>	<b>PREPARE THE SITE &amp; FELL A DAMAGED TREE -</b> The candidate will have to must fell a minimum of one of the three options: either 1. A partially uprooted ('half-blown') tree; 2. Tree with a broken top (top attached); or 3. Tree with broken top (not attached) as chosen by the assessor:	√	√				<b>6</b>
<b>6:A1</b>	Trees Inspected for signs of decay, splitting, loose top / branches etc. & accurate evaluation of weight distribution and selection of fuel storage		√		√		<b>6:A1</b>
<b>6:A2</b>	Remove debris, branches, climbing vegetation, scrub and other obstructions from around the tree and compact vegetation to facilitate access		√				<b>6:A2</b>
	Correct brushing technique demonstrated: position of the saw in relation to the operator, bar on opposite side of stem or out of line of head/neck and body		√				
<b>6:A4</b>	Saw body not used above shoulder height		√		√		
<b>6:A3</b>	Choice of felling direction made		√				<b>6:A3</b>
<b>6:A4</b>	Escape routes prepared and selected		√		√		<b>6:A4</b>
<b>6:A5</b>	A plan of operations is agreed to maintain safe working distances where machinery or winch is to be used to extract timber as windblown clearance progresses		√		√		<b>6:A5</b>
<b>6:A8</b>	Where a winch is being used: maintain safe working distances		√				
	Candidate to cut a sink to determine felling direction, using: fell a tree using appropriate technique, for example, 1.forward leaning tree cut with boring technique 2. Overlapping step cut, 3. "Double-V" cut, 4. "Split level" or 'Saved corner' cut 5. Progressive sink cut or other recognized safe technique						
<b>6B:1</b>	Safe stance & position of operator		√		√		<b>6B:1</b>
<b>6B:2</b>	Cutting technique chosen is appropriate to condition and aspect of tree						<b>6B:2</b>
	Top sink cut normally between 45-60°		√				
	Bottom sink cut as close to ground as practicable		√				
<b>6B:4</b>	Cuts 20-30% into stem unless RA dictates otherwise		√				
<b>6B:5</b>	Sink cuts to meet accurately		√				

<b>6B:6</b>	Sink facing in the chosen direction of fall		✓			✓	
<b>6B:7</b>	Chain brake as appropriate		✓				
<b>6B:8</b>	Boring cut made if safe & appropriate into the middle of the sink at appropriate height, depth and width to remove centre of the tree		✓				
	Candidate to make the main felling cut using:						
<b>6C:1</b>	Safe stance		✓				
<b>6C:2</b>	Buttresses removed or "ears" cut at appropriate depth and height to avoid tearing, as appropriate		✓				
<b>6C:3</b>	Main felling cut in line with or slightly above level of sink & use of plunge/boring cuts, as appropriate		✓				
<b>6C:4</b>	Final felling cut from tension side if appropriate		✓				
<b>6C:5</b>	Safe withdrawal of the saw		✓				
<b>6C:6</b>	Chain brake as appropriate		✓				
<b>6C:7</b>	A hinge retained no less than 10% tree diameter at felling height unless the RA dictates otherwise		✓				
<b>6B:3</b>	Appropriate aid tools or machinery used as required to assist felling		✓				<b>6B:3</b>
<b>6B:4</b>	Site check for safety before the main felling cut completed & shout verbal warning		✓			✓	<b>6B:4</b>
<b>6B:5</b>	Cutting technique used is appropriate to method chosen		✓				<b>6B:5</b>
<b>6B:6</b>	Tree felled safely		✓			✓	<b>6B:6</b>
<b>6B:7</b>	Use a prepared escape route as soon as the tree begins to fall, not losing sight of tree		✓			✓	<b>6B:7</b>

**ECS 4: Windblown & Damaged Tree Techniques**
**What the chainsaw operator must know and understand: (Theory Test)**

<b>1</b>	Demonstrate knowledge of safety considerations and legal requirements when dealing with individually uprooted windblown trees	✓		✓	✓	✓	<b>1</b>
<b>2</b>	Demonstrate knowledge of safety regarding overhead and underground services when severing root-plates/timber under heavy tension	✓		✓	✓	✓	<b>2</b>
<b>3</b>	Describe the features of tension and compression in the timber to be considered when severing root-plates /timber under heavy tension	✓		✓	✓	✓	<b>3</b>
<b>4</b>	Demonstrate knowledge of when it is appropriate to use aid tools when severing root plates/timber under heavy tension	✓		✓	✓	✓	<b>4</b>
<b>5</b>	Demonstrate knowledge of situations where winches may also be used when severing root plates/timber under heavy tension	✓		✓	✓	✓	<b>5</b>
<b>6</b>	Demonstrate knowledge of additional safety considerations that may be needed when severing root-plates/timber under heavy tension	✓		✓	✓	✓	<b>6</b>
<b>7</b>	Demonstrate knowledge of other types of uprooted or damaged trees that will require specialist methods	✓		✓	✓	✓	<b>7</b>
<b>8</b>	Demonstrate knowledge of selecting and inspecting winch and ancillary equipment for condition and compatibility	✓		✓	✓	✓	<b>8</b>
<b>9</b>	Demonstrate knowledge of inspection of an uprooted tree, site and winch anchor point(s) and system to be set up	✓		✓	✓	✓	<b>9</b>
<b>10</b>	Demonstrate knowledge of selecting a winch anchor point and suitability of attachments & winch	✓		✓	✓	✓	<b>10</b>

<b>11</b>	Demonstrate knowledge of when offset winching should be used and additional precautions required	√		√	√	√	<b>11</b>
<b>12</b>	Demonstrate knowledge of alternative methods of restraining a root-plate	√		√	√	√	<b>12</b>
<b>13</b>	Demonstrate knowledge of how to sever multiple windblown trees <b>from roots</b> , both under and over guidebar length in diameter	√		√	√	√	<b>13</b>
<b>14</b>	Demonstrate knowledge of methods of dealing with a trees with side tension	√		√	√	√	<b>14</b>
<b>15</b>	Demonstrate knowledge of how to fell leaning, half blown trees	√		√	√	√	<b>15</b>
<b>16</b>	Demonstrate knowledge of safety factors to consider when felling broken trees leaning, half blown trees and hung sections	√		√	√	√	<b>16</b>
<b>17</b>	Demonstrate knowledge of methods of dealing with a broken tree section lodged in or on a standing tree	√		√	√	√	<b>17</b>
<b>18</b>	Demonstrate knowledge of severing multiple windblown stems <b>in the following situation</b> , working on slopes	√		√	√	√	<b>18</b>
<b>18</b>	Demonstrate knowledge of severing multiple windblown stems <b>in the following situation</b> , working with a <b>variety range</b> of different species, hazardous and/or damaged timber	√		√	√	√	<b>18</b>
<b>19</b>	Demonstrate knowledge of identifying safety points when <b>planning the branch removal procedure using machinery to restrain rootplates or timber under heavy tension</b>	√		√	√	√	<b>19</b>
<b>20</b>	Demonstrate knowledge of a plan of operations where machinery is to be used to extract timber as windblown clearance progresses	√		√	√	√	<b>20</b>
		Written	Practical	Oral	Other	Critical	