

071906T4AEN

AGRICULTURAL ENGINEERING LEVEL 6

ENG/OS/AGR/CR/05/6/A

Demonstrate Understanding of Tractors and Power Units

March/April 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICAL ASSESSMENT

INSTRUCTIONS TO ASSESSOR

1. Assess the candidate as the practical progresses observing the critical areas
2. You are required to mark the practical as the candidate perform the tasks
3. You are required to take video clips at critical points
4. Ensure the candidate has a name tag and registration code at the back and front

OBSERVATION CHECKLIST

Candidate's Name & Registration Code			
Assessors Name & Registration Code			
Venue of Assessment			
Date of Assessment			
Items to be Evaluated: <i>Please award marks as appropriate. Give a brief comment on your observation.</i>	Marks Available	Marks Obtained	Comments
TASK 1: Remove the injector nozzles, service them, fit them back and operate the engine			
1. Wore PPEs <ul style="list-style-type: none"> • Overall • Safety boots • Mask • Gloves <i>(Award 1 mark each)</i>	4		
2. Assembled appropriate tools and materials as per the task <i>(Award 1 mark each or zero)</i>	2		
3. Removed the injector nozzle <ul style="list-style-type: none"> • Selected appropriate tools as per the task • Removed the nozzle <i>(Award 1 mark each or 0)</i>	2		
4. Dismantled the injector nozzles as per the task <ul style="list-style-type: none"> • Selected appropriate tools as per the task • Dismantled the injector nozzle 	2		
5. Cleaned the nozzle parts <i>(Award 1 mark or 0)</i>	1		
6. Visually inspected the nozzle parts <i>(Award 1 mark or 0)</i>	1		
7. Tested the springs for tension <i>(Award 1 mark or 0)</i>	1		

8. Assembled the injector nozzles <ul style="list-style-type: none"> Correctly assembled three nozzles as per the manual (Award 1 mark each) 	3		
9. Set the injector pressure (Award 1 mark or 0)	1		
10. Tested nozzle operating pressure <ul style="list-style-type: none"> Appropriately used the pressure gauge Read the pressure (Award 1 mark each) 	2		
11. Tested nozzle spray pattern <ul style="list-style-type: none"> Observed the spray pattern Noted the pressure pattern (Award 1 mark each) 	2		
12. Tested nozzle valve leakage (Award 1 mark or 0)	1		
13. Carried nozzle back leakage test (Award 1 mark or 0)	1		
14. Fitted nozzles back to the engine (Award 1 mark or 0)	1		
15. Carried out bleeding of the fuel system <ul style="list-style-type: none"> Correctly selected appropriate tools as per the task Identified bleed screws/nuts Bled the fuel filter Bled the injector pump Bled the injector nozzles (Award 1 mark each) 	5		
16. Checked engine oil and water levels <ol style="list-style-type: none"> Oil <ul style="list-style-type: none"> Used a dip stick for oil Visually inspected oil level Noted the oil level Water <ul style="list-style-type: none"> Identified the radiator cap Visually inspected the water level Noted the water level (Award 1 mark each) 	6		

17. Started the engine as per the standard procedure (Award 1 mark)	1		
Sub-Total 1	36		
TASK 2: Service the engine lubrication system			
18. Selected appropriate tools and equipment as per the task (Award 1 mark or 0)	1		
19. Performed engine lubrication pre-operational check as per the task. <ul style="list-style-type: none"> • Checked the oil level with a dip stick and noted the level • Checked for the presence of water on the oil filler cap (Award 1 mark each)	2		
20. Serviced the engine lubrication system <ul style="list-style-type: none"> • Started the engine as per the standard procedures and ran it for 2 minutes • Checked the oil level again after stopping the engine with a dip stick and noted the level • Opened the oil drain plug and let the oil to pour on a clean tray • Observed the condition of the oil and checked with the clean oil once (new one). • Noted the difference in colour and thickness of the oil • Closed the drain plug • Replaced new filter and poured oil on it before fixing it • Refilled the sump with new oil and ran the engine for a while • Rechecked the level of the oil with a dip stick. • Noted the new oil level 	10		

(Award 1 mark each)			
21. Observed safety (Award 1 mark or 0)	1		
Sub-Total 2	14		
GRAND TOTAL	50		
ASSESSMENT OUTCOME			
<p>The candidate was found to be:</p> <p style="text-align: center;">Competent <input type="checkbox"/> Not yet Competent <input type="checkbox"/></p> <p>(Please tick as appropriate)</p> <p>(The candidate is competent if the candidate obtains at least 50%)</p>			
Feedback from the Candidate:			
Feedback to the Candidate:			
Candidate Signature		Date:	
_____		_____	
Assessor's Signature		Date	
_____		_____	