



Manipulative Performance Test

Procedures Handbook 4300

LADDERS

TOPIC/EQUIPMENT: Pickup, Carry, Raise, Climb and Lower a 24' Extension Ladder – One Person Method

CATEGORY: Performance Examination

POINTS POSSIBLE: 100

TIME ALLOWED: 5 Minutes

BEHAVIORAL OBJECTIVE:

Condition: A 24' extension ladder, lying flat on a level surface with fly section up, a wall, structural protective clothing and one assistant

Behavior: The students shall pick up, carry, raise, climb and lower a 24' extension ladder, using the high shoulder carry and the beam ladder raise method under simulated fire conditions

Standard: Following steps and procedures in proper sequence, according to the job breakdown with a minimum of 70% accuracy, within 5 minutes

MATERIALS NEEDED:

- One (1) Set structure safety clothing per student
- One (1) 24' Extension ladder
- One (1) Assistant
- One (1) Stop watch
- One (1) Score sheet per student
- One (1) Manipulative performance test cover page

PROCEDURES: The examination and time will start when the student either verbally or by conduct performs any step of the examination. The examination will end when the student either verbally or by conduct indicates the examination has been completed.

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SCORING:

Points will be deducted for each step omitted, performed improperly, or performed out of sequence. Additional points will be deducted for any repeated step performed improperly. Steps designated by an asterisk (*) must be correctly performed or the student fails the examination. A score of zero (0) will be given, if during the examination, the ladder is dropped or handled in a manner jeopardizing the safety of the equipment or personnel, i.e., student grasps a rung on the ladder while the fly section is not tied off, or control of the ladder is lost.

SPECIAL NOTES:

1. Prior to entering the examination area the student will don full structural protective clothing.
2. Before the exam begins, students will be allowed to ask any clarifying questions and inspect the equipment.
3. The exam will begin and end at the same point as indicated by the evaluator. This point will be approximately 70 feet away from building test area. The course to and from the building will consist of two or three turns each way.
4. If any cracks (expansion joints) are present in the examination area, they can not be used to ground and raise the ladder. If student does use any crack to assist in grounding and raising ladder, the exam will be stopped by the evaluator and student will start over from the very beginning.
5. Once the examination begins, the evaluator will not answer any questions or intercede in any way, unless a safety violation occurs that could injure personnel or damage equipment.

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Score Sheet

Pickup, Carry, Raise, Climb and Lower a 24'
Extension Ladder – One Person Method

DATE ____ / ____ / ____ TEST # ____ RETEST # ____ UNIT #

STUDENT'S NAME _____

EVALUATOR'S NAME _____

STEPS AND PROCEDURES

If at any time the student loses control of the ladder, grasps a rung on the ladder while the fly section is not tied off, or incorrectly performs a step designated with an "*" (asterisk), a final score of zero (0) will be given. The evaluator may terminate the examination for safety reasons if, in his/her judgement, continuation of the examination would jeopardize the safety of personnel or equipment.

Time Start

	<u>POINTS</u>
1. Assume a low crouch position on either side of the ladder, at the balance point, facing the tip of the ladder	<u>1</u>
2. Grasp the near ladder beam at the balance point with an overhand grip	<u>1</u>
3. Rotate the ladder up onto the farthest beam to a position perpendicular to the ground, lifting with legs not back	<u>3</u>
4. Move to the tip of the ladder while steadying the ladder by sliding a hand down the top beam	<u>1</u>
5. At the tip of the fly section of the ladder, simultaneously grasp the ladder by the top beam, lift the ladder from the ground to at least chest height and pivot the body into the ladder until in a position facing the butt of the ladder and lower beam aligned with shoulder	<u>4</u>

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Pickup, Carry, Raise, Climb and Lower a 24' Extension Ladder – One Person Method

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| 6. | Move to balance point by placing the working hand palm up directly above the shoulder and slide the hand down the lower beam until the balance point is reached. The free hand must support the top beam | <u>2</u> |
| 7. | Upon reaching the balance point dip or bend the knees slightly and leverage the butt of the ladder off the ground into a high shoulder carry position | <u>4</u> |
| 8. | Carry the ladder to the designated point with the butt end tilted down announcing "ladder coming through" and "ladder coming around" as necessary | <u>*</u> |
| 9. | Upon reaching building raise ladder by lowering the butt end of the ladder to the ground and simultaneously pushing the lower beam upward until the ladder is in a vertical position with both butt spurs contacting the ground and the fly section toward the building | <u>4</u> |
| 10. | Facing building with both hands on the beams of the ladder, stabilize the ladder by placing the instep, calf and knee of one leg against the beam of the ladder and the other leg one step back | <u>*</u> |
| 11. | Release the ladder beams, grasp the halyard with both hands in a thumbs down position and place both forearms against the beams | <u>3</u> |
| 12. | Announce "fingers and toes" loudly | <u>3</u> |
| 13. | Using a hand over hand method raise the fly section of the ladder with the halyard to the proper height. In the event the student needs to grasp the ladder to maintain control, the beams, not the rungs, must be grasped | <u>4</u> |
| 14. | Lock in fly section by lowering the fly section until the pawls lock on a rung | <u>3</u> |
| 15. | Visually confirm that the pawls are locked then announce "pawls locked" loudly | <u>*</u> |

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| 16. | Facing the ladder and the building place the ball of either foot on the bottom rung of the ladder and both hands at chest height on the beams then slowly lower the extended ladder into the building | <u>4</u> |
| 17. | While standing between the building and the ladder, wrap the excess halyard around two adjacent rungs and then tie off with a clove hitch and finish with a half hitch | <u>*</u> |
| 18. | While positioned facing the ladder and the building and centered on the pivot beam reach across the front of the ladder and grasp the non-pivot beam with an overhand grip at waist height. Simultaneously, grasp the pivot beam at chest height with the free hand and secure the pivot beam by placing foot instep against the outside of the butt spur | <u>2</u> |
| 19. | Roll ladder over into a "fly out" position by bringing the non-pivot beam outwards from the building, towards the body, until the ladder is perpendicular to the building | <u>*</u> |
| 20. | At the mid-point of the roll while stepping around the ladder, switch hands and feet. Secure the pivot beam by placing the opposite instep against the outside of the butt spur and complete the roll into the building without stepping between the ladder and the building | <u>3</u> |
| 21. | Check the climbing angle by facing the ladder and building, with toes touching the butt of the ladder extend arms outward parallel to the ground. (If palms do not reach the rungs or project through the ladder, adjust the ladder by facing side of beam and grasping different rungs from the front and the back of the ladder and lifting with the legs, lift the ladder to the proper climbing angle (approx. 75 ⁰) one step at a time) | <u>*</u> |
| 22. | Request an assistant to heel the ladder | <u>*</u> |
| 23. | Climb the ladder cautiously and smoothly using the alternate rung foot and hand technique | <u>3</u> |

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24.	Check to ensure that pawls are engaged prior to climbing the fly section	<u>3</u>
25.	Halt climb at the roof line and lock in using the leg lock method with either foot projected through the ladder between adjacent rungs and wrapped around the beam	<u>*</u>
26.	Work off the ladder to the side opposite the leg lock by extending both hands in that direction and announcing "working left/right"	<u>3</u>
27.	Descend the ladder cautiously and smoothly using alternate rung foot and hand technique	<u>3</u>
28.	Dismiss the assistant heeling the ladder	<u>1</u>
29.	While positioned facing the ladder and the building and centered on the pivot beam, reach across the front of the ladder and grasp the non-pivot beam with an overhand grip at waist height. Simultaneously, grasp the pivot beam at chest height with the free hand and secure the pivot beam by placing the foot instep against the outside of the butt spur	<u>2</u>
30.	Roll ladder over into a "fly in" position by bringing the non-pivot beam outwards from the building, towards the body, until the ladder is perpendicular to the building	<u>3</u>
31.	At the mid-point of the roll while stepping around the ladder, switch the hands and feet. Secure the pivot beam by placing the opposite foot instep against the outside of the butt spur and complete the roll until both beams rest against the building, without crossing between ladder and building	<u>2</u>

Score Sheet

Pickup, Carry, Raise, Climb and Lower a 24' Extension Ladder – One Person Method

32. While standing between the ladder and the building, untie the clove hitch and half hitch, place the ball of either foot on the bottom rung of the ladder and with both hands at chest height on the beams, slowly take (leverage) the ladder away from the building to a vertical position.
- (Prior to accomplishing this step it may be necessary to reposition the ladder by grasping different rungs from the front and the back of the ladder and lifting with the legs, place the ladder nearer to the building to increase the leverage for taking the ladder out)
33. With both hands on the beams of the ladder, stabilize the ladder by placing the instep, calf and knee of one leg against the beam of the ladder and place the other leg one step back
34. Release the ladder beams, grasp the halyard with both hands in a thumbs down position and place both forearms against the beams
35. Announce "fingers and toes" loudly
36. Using a hand over hand method, raise the fly section slightly to unlock the pawls then lower the fly section with the halyard. In the event the student grasps the ladder, to maintain control, the beams not the rungs must be grasped
37. Lower the fly section until the pawls lock on the second rung
38. Visually confirm that the pawls are locked then announce "pawls locked" loudly. Shift hands from halyard to beams
39. Visually check the area where the tip of the ladder is to be lowered and loudly announce "clear"
40. Positioned at the side of the ladder, facing the corner of the beam with one hand on each beam, tilt ladder toward the body while walking backwards. Slide the palm of the hand on the lower beam to the balance point
- | | |
|--|----------|
| | <u>4</u> |
| | <u>*</u> |
| | <u>3</u> |
| | <u>3</u> |
| | <u>4</u> |
| | <u>2</u> |
| | <u>3</u> |
| | <u>*</u> |
| | <u>4</u> |

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|-----|--|----------|
| 41. | Keeping back straight and dipping at the knees slightly, leverage the butt of the ladder off the ground into a high shoulder carry position while supporting the ladder with the working hand positioned between the shoulder and the lower beam of the ladder, palm up. Use free hand to support top beam of the ladder | <u>4</u> |
| 42. | Carry the ladder to the designated point with the butt end tilted down announcing "ladder coming through" and "ladder coming around" as necessary | <u>*</u> |
| 43. | At designated point lower the butt of the ladder until the butt spur of the bottom beam rests on the ground, then walk backwards until the tip of the ladder is reached | <u>3</u> |
| 44. | At the tip of the ladder simultaneously grasp the top beam with an overhand grip, pivot the body inward toward the ladder and lower the ladder to the ground on the bottom beam by bending at the knees | <u>4</u> |
| 45. | While rising turn around to face the ladder butt, bend at waist and slide the hand down the top beam to the balance point | <u>2</u> |
| 46. | At the balance point grasp top beam with overhand grip simultaneously bend at the knees and lower top beam to the ground with fly section up | <u>2</u> |

TIME STOP

ENTER TOTAL TIME:	<u> </u>
POINTS POSSIBLE:	<u>100</u>
POINTS DEDUCTED:	<u> </u>
FINAL SCORE	<u> </u>

COMMENTS:

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