



St. Louis County Heavy Equipment Mechanic Pre-Employment Assessment

The pre-employment assessment for Heavy Equipment Mechanics is comprised of sixteen Functionally Based Activities:

Repeated Forward Bend	Elevated Lift
Prolonged Forward Reach	Overhead Work
Squat/Kneel/Crawl	Grip Strength
Push/Pull	Ladder Climb
Walk	Balance
Low Lift	Platform
Level Lift	Hand Tool Simulation
Bilateral Weight Carry	Shoveling

Each test is briefly described below. Applicants must pass each test in order to pass the pre-employment assessment. The test will be conducted in the order listed. Each test states which job tasks it relates to on the Heavy Equipment Mechanic Physical Activity Determination form and the Job Description.

Station 1: Repeated Forward Bend:

Forward bend to 18" from waist. Repeat for 2 minutes, averaging more than 20 repetitions per minute. Required when replacing blade and crawling inside funnel to do repair work.

Requirement: ≥ 40 reps in 2 minutes

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 2: Prolonged Forward Reach:

Maintain a forward reach at 40" for 30 seconds. Required when replacing blade.

Requirement: Maintain a forward reach at 40" for 30 seconds

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 3: Squat/Kneel/Crawl:

3 minutes of squatting and/or kneeling and crawling 20 feet. Required when replacing blade and doing repair work.

Requirement: 3 minutes

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 4: Push/Pull:

Hold for 3 seconds at 40" hand height: 25 lbs, 40 lbs, 55 lbs and 160 lbs. Required when replacing blade and changing screens.

Requirement: Hold 25 lbs, 40 lbs, 55 lbs and 160 lbs at 40" hand height for 3 seconds

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 5: Walk:

Walk a quarter mile in five minutes. Required throughout the work day.

Requirement: Walk a quarter mile within five minutes

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 6: Low Lift:

Lift and carry for 5 feet: 3 reps of 30 lbs, 3 reps of 40 lbs, 3 reps of 70 lbs with beginning hand height 10"; end hand height 40"; maximum weight required 70 lbs. Required when replacing blade.

Requirement: Lift and carry for 5 feet: 3 reps of 30 lbs, 3 reps of 40 lbs and 3 reps of 70 lbs

Directly relates to the following job tasks: 2, 3, 4, 6, 7, 10, 11

Station 7: Level Lift:

Lift and carry for 5 feet: 3 reps of 30 lbs, 3 reps of 40 lbs, 3 reps of 70 lbs with beginning hand height 40"; end hand height 40"; maximum weight required 70 lbs. Required when replacing blade.

Requirement: Lift and carry for 5 feet: 3 reps of 30 lbs, 3 reps of 40 lbs and 3 reps of 70 lbs

Directly relates to the following job tasks: 2, 3, 4, 6, 7, 10, 11

Station 8: Bilateral Weight Carry:

Lift and carry for 50 feet: 1 rep of 30 lbs, 1 rep of 40 lbs and 1 rep of 70 lbs with beginning hand height 40"; maximum weight required 70 lbs. Required when changing screens.

Requirement: Lift and carry for 50 feet: 1 rep of 30 lbs, 1 rep of 40 lbs and 1 rep of 70 lbs

Directly relates to the following job tasks: 2, 3, 4, 6, 7, 10, 11

Station 9: Elevated Lift:

Stationary; with beginning hand height 40" lift 45 lb weight and place it on a higher shelf, ending hand height 62". Required when replacing batteries or cab window of the excavator.

Requirement: 45 lbs X 3 reps

Directly relates to the following job tasks: 2, 3, 4, 6, 7, 10, 11

Station 10: Overhead Work:

2 minutes 12" above AC joint. Required to access hoist. Changing screen involves a lot of overhead work up to 3 feet high.

Requirement: 2 minutes 12" above AC joint

Directly relates to the following job tasks: 1, 2, 3, 4, 6, 7, 8, 10, 11

Station 11: Grip Strength:

Grip strength of 100 lbs for each hand. Required when using an impact wrench and hooking/unhooking screens.

Requirement: 100 lbs for right hand and 100 lbs for left hand

Directly relates to the following job tasks: 2, 3, 4, 6, 7, 10, 11

Station 12: Ladder Climb:

3 reps of 3 rungs on a vertical ladder. Required when doing some repair work.

Requirement: 3 rungs X 3 reps

Directly relates to the following job tasks: 1, 3, 4, 6, 7, 8, 10, 11

Station 13: Balance:

Walk length of 8' 2X6; step off; turn; and walk on 2X6 to starting point. Forward, backward and sidestep with zero errors. Required when doing some repair work.

Requirement: Forward, backward and sidestep with 0 errors

Directly relates to the following job tasks: 1, 2, 3, 4, 6, 7, 8, 10, 11

Station 14: Platform Step:

Step-up test from floor to 28" high platform to simulate climbing into a vehicle.

Requirement: 1 repetition

Directly relates to the following job tasks: 1, 2, 3, 4, 6, 7, 8, 10, 11

Station 15: Hand Tool Simulation:

Mechanic's tools

Requirement: Demonstrate proper use of mechanic's tools

Directly relates to the following job tasks: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11

Station 16: Shoveling:

5 shovelfuls from bin to yellow container. Empty container back into bin.

Requirement: 5 shovelfuls from bin to container and back

Directly relates to the following job tasks: 3, 7, 10, 11



**St. Louis County
Heavy Equipment Mechanic
Pre-Employment Assessment Summary**

Test	Requirement	Performance	Met	Not Met
Station 1 Repeated Forward Bend	≥ 40 reps in 2 minutes			
Station 2 Prolonged Forward Reach	Maintain a forward reach at 40" for 30 seconds			
Station 3 Squat/Kneel/Crawling	3 minutes of squatting and/or kneeling and crawling 20 feet			
Station 4 Push/Pull	Hold for 3 seconds at 40" hand height: 25 lbs, 40 lbs, 55 lbs and 160 lbs			
Station 5 Walk	Walk a quarter mile in ≤ 5 minutes			
Station 6 Low Lift	3 reps of 30 lbs, 3 reps of 40 lbs and 3 reps of 70 lbs			
Station 7 Level Lift	3 reps of 30 lbs, 3 reps of 40 lbs and 3 reps of 70 lbs			
Station 8 Bilateral Weight Carry	1 rep of 30 lbs, 1 rep of 40 lbs and 1 rep of 70 lbs			
Station 9 Elevated Lift	45 lbs X 3 reps			
Station 10 Overhead Work	2 minutes 12" above AC joint			
Station 11 Grip Strength	≥ 100 lbs with right hand and ≥ 100 lbs with left hand			
Station 12 Ladder Climb	3 reps of 3 rungs on vertical ladder			
Station 13 Balance	Walk length of 8' 2X6; step off; turn; and walk on 2X6 to starting point. Forward, backward and sidestep with 0 errors			
Station 14 Platform Step	Step-up test from floor to 28" high platform			
Station 15 Hand Tool Simulation	Demonstrate proper use of mechanic's tools			
Station 16 Shoveling	5 shovelfuls from bin to container and back			

Pre-Employment Assessment Test Results: PASS _____ FAIL _____

Therapist signature: _____

Date: _____