JOB HAZARD ANALYSIS (JHA)

Business name

Document: JHA-001 Rev 1
Prepared: Nov 9, 2026
Review by: Dec 9, 2026
Highest risk after controls: Medium

1. BUSINESS AND JOB DETAILS

Job	Ducted AC unit installation	**Start date**	Nov 9, 2026
Working hours	7:00 am to 3:30 pm	**Trade**	HVAC

2. JOB STEPS, HAZARDS AND CONTROLS

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
1	Check the roof space for asbestos, cables and access	Disturbing asbestos Electric shock from live wiring Tight spaces: attics and crawl spaces Rules: 29 CFR 1926.1101 and 40 CFR 61 Subpart M (NESHAP); 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	1.1 Treat insulation, surfacing and resilient flooring in buildings built before 1981 as asbestos unless testing shows otherwise, and get the owner's asbestos survey before you start. [Elimination] 1.2 Seal off the work area and keep everyone else out. [Engineering (guarding)] 1.3 If asbestos must be disturbed, keep it wet, use hand tools not power tools, and clean up with a HEPA vacuum. [Engineering] 1.4 Follow 29 CFR 1926.1101: competent person, work class, regulated area and exposure monitoring. [Administrative] 1.5 Commercial renovation and any demolition need a NESHAP asbestos inspection first, and demolition needs written notice to the state or EPA 10 working days before work starts (40 CFR 61 Subpart M). [Administrative] 1.6 Roofing felts, cement shingles and siding, roof coatings and old panel backboards can also contain asbestos. Test them or treat them as asbestos; asbestos roofing is removed intact with hand tools by trained workers (29 CFR 1926.1101(g)(8)). [Administrative] 1.7 Stop work straight away if you find suspect asbestos. Do not touch it and tell your supervisor. [Administrative] 1.8 Wear a fit-tested NIOSH-approved respirator suited to the work class, and disposable coveralls. [PPE] 1.9 Isolate the power before any work. Do not work live. [Elimination] 1.10 Lock out and tag the disconnecting means with your own personal lock and tag so the circuit cannot be energized (29 CFR 1926.417). [Engineering (guarding)] 1.11 Electric shock from live wiring: see step 6 for the full controls [Administrative] 1.12 Do as much of the work as you can from outside the tight space. [Elimination] 1.13 Turn the power off at the panel before entering where	**Medium Unlikely / Recordable / lost time**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				you can, as damaged wiring may be live. [Engineering (guarding)] 1.14 Lay crawl boards across the joists so you cannot step through the ceiling. [Engineering] 1.15 Set up ventilation and lighting in the space. [Engineering] 1.16 Limit time in hot attics and take breaks somewhere cool. [Administrative]		
2	Work in the roof space early in the day, with breaks and water	Heat stress Confined space entry Rules: OSH Act Section 5(a)(1) General Duty Clause; state heat rules where they apply (Cal/OSHA T8 3395, WA WAC 296-62-095, OR OAR 437-002-0156, MD COMAR 09.12.32); 29 CFR 1926 Subpart AA	**High Possible / Serious injury**	2.1 Schedule heavy work for the cooler part of the day. [Elimination] 2.2 Provide shade over work and rest areas, and fans or cooling in attics. [Engineering] 2.3 Supply cool drinking water close by and drink a cup every 15 to 20 minutes. [Administrative] 2.4 Take regular rest breaks in the shade, more often as it gets hotter. [Administrative] 2.5 Let new and returning workers build up to full work in the heat over about a week. [Administrative] 2.6 Watch each other for dizziness, headache, confusion or stopping sweating. Stop work, cool down and get help. [Administrative] 2.7 Have a hot weather plan, including when work stops. [Administrative] 2.8 In California, Washington, Oregon and Maryland, follow the state heat illness rule: written plan, shade, water, rest and high-heat procedures. [Administrative] 2.9 Wear light, loose, long-sleeved clothing, a hat or brim, and sunscreen. [PPE] 2.10 Do the work from outside the space where you can, using cameras or long-reach tools. [Elimination] 2.11 Isolate and lock out all pipes, power and moving parts going into the space. [Engineering (guarding)] 2.12 Test the air for oxygen, flammable and toxic gases before entry, and keep testing during the work. [Engineering] 2.13 Use forced ventilation to keep the air clean. [Engineering] 2.14 Use a permit-required confined space program with a written entry permit (29 CFR 1926 Subpart AA). Only trained workers enter. [Administrative] 2.15 Keep a trained standby person outside at all times, in contact with those inside. [Administrative] 2.16 Set up a rescue plan and rescue gear before entry. Never go in to rescue without the right gear. [Administrative] 2.17 Wear a harness for retrieval and the respirator the air test calls for. [PPE]	**Medium Unlikely / Serious injury**	Site supervisor
3	Lift the indoor unit into the roof with a hoist or team	Lifting and carrying heavy loads Falling tools and materials	**High Likely / Recordable /**	3.1 Plan to avoid carrying: have materials delivered, and old items picked up, as close as possible to where they are used. [Elimination]	**Medium Unlikely / Serious injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
		Rules: 29 CFR 1926.501(c)	**lost time**	3.2 Use lighter or smaller loads: order smaller bags and shorter lengths, and drain or break down old items before moving them. [Substitution] 3.3 Use trolleys, pallet jacks, hoists, vacuum lifters or plant instead of carrying by hand. [Engineering] 3.4 Use a two-person lift for anything heavy, long or awkward. Plan the route first and clear it. [Administrative] 3.5 Keep the load close, back straight and no twisting. Turn with your feet. [Administrative] 3.6 Rotate tasks and take breaks on long lifting jobs. [Administrative] 3.7 Wear gloves for grip and safety boots to protect your feet. [PPE] 3.8 Barricade and sign the drop zone under overhead work so nobody walks beneath. [Engineering (guarding)] 3.9 Fit toe boards, kick plates and mesh screens on scaffolds and edges. [Engineering] 3.10 Use catch fans, debris netting or covered walkways where people pass below. [Engineering] 3.11 Tether hand tools when working at height. [Engineering] 3.12 Keep platforms tidy. Do not stack materials near edges or above toe board height. [Administrative] 3.13 Lower materials with a hoist, chute or rope. Never throw or drop anything down. [Administrative] 3.14 Wear a hard hat anywhere objects could fall. [PPE]		
4	Walk on joists or crawl boards only	Falling through a floor opening or void Rules: 29 CFR 1926 Subpart M	**Critical Possible / Fatality**	4.1 Cover every hole with a secured cover marked "HOLE" or "COVER" that can hold twice the weight it may carry. [Engineering (guarding)] 4.2 Put guardrails with toe boards around stairwells, elevator shafts, floor holes and open edges. [Engineering (guarding)] 4.3 Install stairs early and fit temporary handrails as soon as they go in. [Engineering] 4.4 Never remove a cover or guardrail without approval. Put it back straight away. [Administrative] 4.5 Inspect covers and barriers daily and after other trades have been through. [Administrative] 4.6 Keep lighting good enough to see openings, especially on lower floors and in the evening. [Administrative] 4.7 Use a harness clipped to a rated anchor when working right next to an open void. [PPE]	**Medium Rare / Fatality**	Site supervisor
5	Install ducts, cutting with care and wearing gloves and a mask for insulation	Cuts from sharp edges General dust	**Medium Likely / Minor injury**	5.1 Deburr or cover sharp edges, and fit edge protectors on exposed sheet metal. [Engineering] 5.2 Use knives with retractable or self-retracting blades. [Engineering] 5.3 Cut away from your body and keep your other hand clear. [Administrative] 5.4 Put used blades in a blade bin or sharps container. [Administrative]	**Low Unlikely / Minor injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				5.5 Use two people to handle large sheets of metal or glass. [Administrative] 5.6 Wear cut-resistant gloves and long sleeves. [PPE] 5.7 Use low-dust products, such as dust-reduced or pre-mixed compounds. [Substitution] 5.8 Seal off the work area with plastic sheeting in occupied buildings. [Engineering (guarding)] 5.9 Use tools with dust extraction and a vacuum for clean up. [Engineering] 5.10 Lightly mist the area with water to keep dust down, away from anything electrical. [Engineering] 5.11 Never dry sweep or blow dust off with compressed air. [Administrative] 5.12 Wear a dust mask and safety glasses. [PPE]		
6	Connect refrigerant and power, test and commission	Refrigerant leaks Electric shock from live wiring Pressure testing Rules: 40 CFR Part 82 Subpart F (Section 608); 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	6.1 Recover refrigerant into an approved cylinder before opening the system. Never vent it. [Engineering (guarding)] 6.2 Ventilate closed spaces and use a leak detector during the work. [Engineering] 6.3 Only EPA Section 608 certified technicians handle refrigerants. [Administrative] 6.4 With flammable refrigerants (such as R32 or R290), remove ignition sources and use spark-free tools. [Administrative] 6.5 Wear cold-rated gloves and safety glasses or a face shield. [PPE] 6.6 Isolate the power before any work. Do not work live. [Elimination] 6.7 Lock out and tag the disconnecting means with your own personal lock and tag so the circuit cannot be energized (29 CFR 1926.417). [Engineering (guarding)] 6.8 Test before you touch: prove dead at the point of work with a tested voltage tester. [Engineering] 6.9 Only qualified persons work on or near exposed energized parts. [Administrative] 6.10 Check for back feeds from solar, batteries and generators that can keep a circuit live after the main switch is off. [Administrative] 6.11 Test with water instead of air or gas where the system allows it. Never put water in refrigerant pipework, which is tested with dry nitrogen. [Substitution] 6.12 Keep people out of the test area with signs and barriers. [Engineering (guarding)] 6.13 Use a calibrated gauge and a relief valve set to protect the system. [Engineering] 6.14 Test to the pressure the system calls for and hold it for the set time. Never go over. [Administrative] 6.15 Release the pressure fully before tightening anything or fixing leaks. [Administrative]	**Medium Rare / Fatality**	Site supervisor

Risk key: risk = likelihood x consequence on a 5 x 5 matrix. Low, Medium, High, Critical. Work must not start while the risk after controls is high or above. Controls are listed in order of the hierarchy of controls:

Elimination, Substitution, Engineering (guarding), Engineering, Administrative, PPE.

3. PPE AND PERMITS

Required PPE	Permits and plans
Safety-toe boots (ASTM F2413) Safety glasses (ANSI Z87.1) Cut-resistant gloves N95 respirator Personal fall arrest system (harness) Half-face respirator (P100 cartridges) Coveralls Work gloves Rubber insulating gloves Arc flash PPE (NFPA 70E) Knee pads Hard hat (ANSI Z89.1) Sun protection (sunscreen, hat, long sleeves) Face shield (ANSI Z87.1)	Lockout/tagout (1926.417)

4. PLANT AND EQUIPMENT

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
Power drill		Visual check of cord, plug and guards before each day's use; if you run an assured equipment grounding program instead of GFCIs, test every 3 months (29 CFR 1926.404(b)(1))			
Hand tools					
Platform ladder		Inspected by a competent person for visible defects periodically and after any event that could affect safe use (29 CFR 1926.1053(b)(15))			
Mobile crane	Operator certified by an accredited body or audited employer program (29 CFR 1926.1427) and evaluated by the employer, with a signed evaluation on site (1926.1427(f)); qualified rigger (1926.1425) and qualified signal person (1926.1428)	Shift inspection by a competent person (29 CFR 1926.1412(d)), documented monthly inspection (1926.1412(e)) and annual inspection by a qualified person (1926.1412(f))			
Electrical test meter		Rated for the voltage and category (CAT III or IV), inspected before each use, and checked on a known source before and after testing (NFPA 70E)			

5. TRAINING REQUIRED FOR THIS WORK

- Asbestos awareness training, plus class-specific training for Class I to III work (29 CFR 1926.1101(k)(9)); respirator fit test and medical evaluation (29 CFR 1910.134)
- Qualified person training for work on or near exposed energized parts (29 CFR 1926.416, NFPA 70E)
- Confined space training for entrants, attendants and entry supervisors (29 CFR 1926.1207); respirator fit test and medical evaluation (29 CFR 1910.134)

- Fall protection training by a competent person, with a written certification record (29 CFR 1926.503)

6. CREW TRAINING AND CERTIFICATIONS

Crew listed at sign-on below, with ticket and licence numbers.

7. EMERGENCY ARRANGEMENTS

Emergency number	911	**First aid kit**	In the work vehicle
Fire extinguisher	In the work vehicle	**Alarm and evacuation**	Shout for help and stop work. Make the area safe and go to the assembly point. Call the emergency number and send someone to meet the ambulance.
Reporting incidents	Report a fatality to OSHA within 8 hours, and an in-patient hospitalization, amputation or eye loss within 24 hours.		

8. MONITORING, REVIEW AND LEGAL BASIS

A competent person inspects the job site, materials and equipment before work each day and as conditions change (29 CFR 1926.20(b)(2)). Any time this JHA is revised, the affected crew is re-briefed and signs again.

Legal basis: OSH Act Section 5(a)(1) and 29 CFR 1926, Safety and Health Regulations for Construction (incl. 1926.20 and 1926.21). OSHA requires employers to find and fix hazards and to train workers on them. A JHA breaks the job into steps, lists the hazards in each step and the controls that protect the crew. General contractors often require one before you start.

Keep this JHA on site during the job, and keep it with the training and inspection records for at least 1 year after the job (longer if your state plan or general contractor requires it). OSHA does not set a retention period for JHAs themselves.

9. REVISION HISTORY

Rev	Date	By	What changed
1	Nov 9, 2026		First issue

10. SIGN-OFF

	Name	Signature	Date	
Prepared by				
Supervisor				
General contractor review				Accepted for use: Yes / No

By signing below, each crew member confirms they were trained on the hazards and controls in this JHA before work started, and will follow it. Stop work and tell the supervisor if conditions change.

Name	Role / company	Tickets / licences	Signature	Date

Name	Role / company	Tickets / licences	Signature	Date