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	Split system 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	Plan unit positions, checking walls for cables and pipes	Electric shock from live wiring Gas and fuel lines Rules: 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	1.1 Isolate the power before any work. Do not work live. [Elimination] 1.2 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)] 1.3 Electric shock from live wiring: see step 8 for the full controls [Administrative] 1.4 Isolate and purge the line before work, with the owner's approval. [Elimination] 1.5 Lock off and tag the isolation valve. [Engineering (guarding)] 1.6 Check for leaks with a gas detector before and during work, and ventilate the area. [Engineering] 1.7 Only licensed gas fitters work on gas lines. [Administrative] 1.8 Remove ignition sources: no smoking, no hot work and no sparking tools near the line. [Administrative] 1.9 Know where the shut-off valve is and what to do if a leak happens. [Administrative] 1.10 Wear safety glasses and gloves, and keep a fire extinguisher close by. [PPE]	**Medium Rare / Fatality**	Site supervisor
2	Set up a platform ladder or scaffold for high walls and the outdoor unit	Falling from a ladder Falling from height Rules: 29 CFR 1926 Subpart X; 29 CFR 1926 Subpart M	**Critical Likely / Fatality**	2.1 Use a platform ladder, mobile scaffold or aerial lift for longer jobs instead of a straight ladder. [Substitution] 2.2 Use Type I, IA or IAA ladders in good condition. Tag and remove any damaged ladder. [Engineering] 2.3 Set extension ladders at a 4 to 1 angle on firm, level ground, secured, and reaching 3 feet above the landing. [Engineering] 2.4 Use ladders only for short, light work. Do not carry heavy or awkward loads up a ladder. [Administrative] 2.5 Keep three points of contact and your belt buckle between the stiles. Do not overreach. [Administrative] 2.6 Do not stand on the top three rungs of an extension ladder or the top step of a stepladder. [Administrative]	**Medium Unlikely / Serious injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				2.7 Check the ladder before each use: feet, rungs, side rails and locks. [Administrative] 2.8 Wear non-slip safety boots with clean soles. [PPE] 2.9 Do the work from the ground where you can, for example pre-assemble on the ground or use extension poles. [Elimination] 2.10 Install guardrails or edge protection on all open edges before work starts. [Engineering (guarding)] 2.11 Use a scaffold, mobile work platform or aerial lift instead of working off a ladder. [Engineering] 2.12 Where edge protection is not practical, use a fall restraint or fall arrest system on a rated anchor point. [Engineering] 2.13 Provide fall protection at 6 feet or more and train workers to recognize fall hazards (29 CFR 1926.503). [Administrative] 2.14 Have a rescue plan so a worker hanging in a harness can be brought down within minutes. [Administrative] 2.15 Wear a full body harness with a shock-absorbing lanyard, clipped on at all times when using fall arrest. [PPE]		
3	Core drill the wall with dust extraction	Silica dust from concrete, brick, stone and tiles Loud noise Injury from power tools Rules: 29 CFR 1926.1153; 29 CFR 1926.52; 29 CFR 1926 Subpart I	**Critical Likely / Fatality**	3.1 Order materials cut to size, or use low-dust methods such as score and snap or a block splitter. [Substitution] 3.2 Cut outdoors or in a separate area, with other people well away and upwind. [Engineering (guarding)] 3.3 Use wet cutting or on-tool dust collection with a HEPA vacuum, as set out in Table 1 of 29 CFR 1926.1153. [Engineering] 3.4 Clean up with a vacuum or wet methods. Never dry sweep or use compressed air. [Administrative] 3.5 Have a written exposure control plan and a competent person for silica (29 CFR 1926.1153). [Administrative] 3.6 Workers who must wear a respirator 30 or more days a year get a free medical exam every 3 years (29 CFR 1926.1153(h)). [Administrative] 3.7 Wear the respirator Table 1 lists for the task: APF 10 (a fit-tested N95 or half mask) for most tasks, APF 25 (such as a loose-fitting PAPR) for tuckpointing with a handheld grinder for more than 4 hours a shift. [PPE] 3.8 Use quieter tools and methods, such as cut-to-size materials, low-noise machines and battery tools. [Substitution] 3.9 Keep noisy plant away from work areas, and use screens or distance between the noise and people. [Engineering (guarding)] 3.10 Keep tools maintained and use mufflers on compressors and generators. [Engineering] 3.11 Limit time on noisy tools and rotate workers. [Administrative] 3.12 If you have to shout to be heard at arm's length, wear	**Medium Unlikely / Recordable / lost time**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				hearing protection. [Administrative] 3.13 Keep all guards fitted and working. Never tie back or remove a guard. [Engineering] 3.14 Clamp or secure the work piece. Do not hold it by hand. [Engineering] 3.15 Only trained, competent people use power tools, following the maker's instructions. [Administrative] 3.16 Check tools before use. Unplug or remove the battery before changing blades or bits. [Administrative] 3.17 No loose clothing, jewelry or long hair near spinning parts. [Administrative]		
4	Fix the wall bracket and mount the indoor unit	Falling from a ladder Lifting and carrying heavy loads Rules: 29 CFR 1926 Subpart X	**High Possible / Serious injury**	4.1 Falling from a ladder: see step 2 for the full controls [Administrative] 4.2 Plan to avoid carrying: have materials delivered, and old items picked up, as close as possible to where they are used. [Elimination] 4.3 Use lighter or smaller loads: order smaller bags and shorter lengths, and drain or break down old items before moving them. [Substitution] 4.4 Lifting and carrying heavy loads: see step 5 for the full controls [Administrative]	**Medium Unlikely / Serious injury**	Site supervisor
5	Lift the outdoor unit with two people onto its bracket or pad	Lifting and carrying heavy loads Falling from height Rules: 29 CFR 1926 Subpart M	**Critical Likely / Fatality**	5.1 Plan to avoid carrying: have materials delivered, and old items picked up, as close as possible to where they are used. [Elimination] 5.2 Use lighter or smaller loads: order smaller bags and shorter lengths, and drain or break down old items before moving them. [Substitution] 5.3 Use trolleys, pallet jacks, hoists, vacuum lifters or plant instead of carrying by hand. [Engineering] 5.4 Use a two-person lift for anything heavy, long or awkward. Plan the route first and clear it. [Administrative] 5.5 Keep the load close, back straight and no twisting. Turn with your feet. [Administrative] 5.6 Rotate tasks and take breaks on long lifting jobs. [Administrative] 5.7 Wear gloves for grip and safety boots to protect your feet. [PPE] 5.8 Falling from height: see step 2 for the full controls [Administrative]	**Medium Unlikely / Recordable / lost time**	Site supervisor
6	Run and flare the pipework, brazing only under a hot work permit	Refrigerant leaks Fire from hot works Burns from hot surfaces Rules: 40 CFR Part 82 Subpart F (Section 608); 29 CFR 1926.352 and NFPA 51B (35 ft rule also in 1910.252(a))	**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.	**Medium Rare / Fatality**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				[Administrative] 6.5 Wear cold-rated gloves and safety glasses or a face shield. [PPE] 6.6 Use cold work methods where you can, such as bolting, press fittings or cutting with a saw instead of a torch. [Elimination] 6.7 Move anything that can burn at least 35 feet away, or cover it with fire blankets. [Engineering (guarding)] 6.8 Use fire-resistant screens to stop sparks reaching people or gaps in walls and floors. [Engineering] 6.9 Get a hot work permit before starting. [Administrative] 6.10 Keep a charged fire extinguisher and fire blanket at the work spot. [Administrative] 6.11 Isolate heating systems and let parts cool before you touch them. [Elimination] 6.12 Fit guards or insulation on hot pipes and equipment. [Engineering] 6.13 Mark hot items with chalk or a "HOT" sign so others know. [Administrative] 6.14 Keep a first aid kit and cool running water nearby for burns. [Administrative] 6.15 Wear heat-resistant gloves and long sleeves. [PPE]		
7	Pressure test with dry nitrogen through a regulator, keeping clear of fittings under pressure	Pressure testing	**Medium Unlikely / Serious injury**	7.1 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] 7.2 Keep people out of the test area with signs and barriers. [Engineering (guarding)] 7.3 Use a calibrated gauge and a relief valve set to protect the system. [Engineering] 7.4 Test to the pressure the system calls for and hold it for the set time. Never go over. [Administrative] 7.5 Release the pressure fully before tightening anything or fixing leaks. [Administrative] 7.6 Wear safety glasses or a face shield. [PPE]	**Low Rare / Serious injury**	Site supervisor
8	Electrical connection by a licensed electrician, with the circuit isolated	Electric shock from live wiring Rules: 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	8.1 Isolate the power before any work. Do not work live. [Elimination] 8.2 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)] 8.3 Test before you touch: prove dead at the point of work with a tested voltage tester. [Engineering] 8.4 Only qualified persons work on or near exposed energized parts. [Administrative] 8.5 Check for back feeds from solar, batteries and generators that can keep a circuit live after the main switch is off. [Administrative] 8.6 If energized work cannot be avoided, use an energized work permit, a safety observer and insulated tools, following	**Medium Rare / Fatality**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				NFPA 70E. [Administrative] 8.7 Wear insulated gloves, arc-rated clothing and a face shield when testing or working near live parts. [PPE]		
9	Vacuum the system, open the service valves to let the outdoor unit's factory charge into the pipework, then commission	Refrigerant leaks Rules: 40 CFR Part 82 Subpart F (Section 608)	**Medium Unlikely / Serious injury**	9.1 Refrigerant leaks: see step 6 for the full controls [Administrative]	**Low Rare / Serious injury**	Site supervisor
10	Clean up and show the client how to use the system	Poor housekeeping and waste	**Medium Likely / Minor injury**	10.1 Order materials to size and send packaging back where you can. [Elimination] 10.2 Put dumpsters and waste chutes close to the work. [Engineering] 10.3 Clean as you go, and do a full clean up at the end of each day. [Administrative] 10.4 Keep exits, stairs and walkways clear at all times. [Administrative] 10.5 Stack materials neatly on level ground, away from edges. [Administrative] 10.6 Wear gloves when handling waste. [PPE]	**Low Unlikely / Minor injury**	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) Work gloves N95 respirator Hearing protection (earmuffs or plugs) Rubber insulating gloves Arc flash PPE (NFPA 70E) Hard hat (ANSI Z89.1) Half-face respirator (P100 cartridges) Face shield (ANSI Z87.1) Welding gloves Coveralls	Lockout/tagout (1926.417) Hot work permit (fire watch at least 60 minutes after, NFPA 51B)

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			

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
		instead of GFCIs, test every 3 months (29 CFR 1926.404(b)(1))			
Core 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))			
Extension 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))			
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)			
Hand tools					

5. TRAINING REQUIRED FOR THIS WORK

- Qualified person training for work on or near exposed energized parts (29 CFR 1926.416, NFPA 70E)
- Ladder safety training by a competent person (29 CFR 1926.1060)
- Fall protection training by a competent person, with a written certification record (29 CFR 1926.503)
- Silica training on the exposure control plan and Table 1 controls (29 CFR 1926.1153(i)); respirator fit test and medical evaluation (29 CFR 1910.134)

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