

Los Rios Community College District – Job Safety Analysis

Job Category: Equipment Mechanics (For Specifics See Below*)		
Required and/or recommended personal protective equipment: Coveralls, gloves, safety glasses/goggles, steel-toed shoes, face masks, protective clothing and ear protection		
Sequence of Basic Job Steps	Potential Hazards	Recommended Action or Procedure
Examination of underside of vehicles	Eye injuries	Wear eye protection.
Battery work	Eye injuries, acid spills, explosion	Wear eye protection, utilize safety junction box starting vehicle with jumper cables, and wear gloves and protective coveralls.
Using hand-held tools	Pinches, finger jams	Use tools for which they were designed. Use proper size required to prevent slips. Keep tools clean and in proper working condition. Discard broken or malfunctioning tools.
Steam cleaning	Eye injuries, scalding burns	Wear protective gloves and safety glasses. Direct steam flow always away from body.
Using grinders	Eye, hand and bodily injuries	Select proper grinder (stationary or portable) with proper wheel grit for job. Wear eye protection--always. Wear gloves--always. Keep guards properly adjusted. Keep tool rest adjusted to within 1/8 inch of wheel on stationary grinders.
Use of ladder	Falls, splinters, cuts	Never use a metal ladder near electrical conduits or power lines. Never use stepladder leaned against a wall. Extension ladders must extend at least 3 feet above a roof or landing. Never use extension ladders to reach heights greater than 44 feet. Use scaffolds. Set ladders at 75 degree with the floor or ground. The horizontal distance from the wall to the foot of the ladder should never be more than ¼ the ladder's length. Never go up or down a ladder with tools in your hand. It is best to raise them using a bucket and rope. Always face the ladder and grasp the side rails or rungs with both hands when going up or down, taking one step at a time--do not hurry. One person at a time on a ladder. Check ladder for cracked or split side rails, for missing or broken or otherwise defective steps (cleats, rungs, treads or U-shapes). Check for sharp edges and splinters on cleats, rungs, and side rails. Check for general weakened conditions. Keep ladder clean. If

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Sequence of Basic Job Steps	Potential Hazards	Recommended Action or Procedure
Use of ladder (continued)	Falls, splinters, cuts (continued)	<p>found to be unsafe, withdraw it from use and fix it at once, if possible. If irreparable, destroy it immediately to make sure it will never be used again. Never stand on the top or next to the top rung of ladder that does not have a guardrail. Select the right type of ladder for the job to be done. Do not use two ladders spliced together. Do not use light household ladder for a heavy construction job. Make sure the ladder is not placed on a loose object or on uneven footing. To prevent slipping, equip the ladder with non-slip points or safety shoes, if practical. If not, secure the ladder firmly by lashing it with rope or by other means. Do not lean a ladder against a moveable object or against window sashes. Fasten a board securely across the top of the ladder to give a bearing on each side of the window. See that a helper stands guard in dangerous circumstances, as when a ladder is in front of a door. If there is a danger of a person or vehicle bumping into the ladder, have a helper stand guard or rope off the space with caution tape around the ladder. Remove any oil or grease from the soles of your shoes before using the ladder. Never work above the second rung from the top of a straight ladder. Hold on with one hand when working from a ladder. Do not over reach and do not push or pull if it will cause the ladder to move. If you are far away from something you have to reach, take time to move the ladder closer. Do not straddle the space between the ladder and another object. Do not work on a ladder in high winds.</p>
Spills and general clean up	Trips, falls	Put material and tools away in proper place. Clean up spills when they happen.
Air tool operation	Eye injuries, loss of hearing	Wear eye protection. Disconnect when not in use. Wear ear protection for air hammers and air chisels.

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Electric tool operation	Electric shock	Check all connections, cords and switches. Use double insulated or properly grounded connections. Do not stand on wet surfaces when using. Wear protective eye/ear equipment.
Lifting and handling of parts	Hand, back and foot injuries	Wear gloves and steel-toed shoes. Use proper body mechanics to lift and carry to avoid bodily injury. Ask for assistance to lift or move heavy items. Use hydraulic lift, jack or dollies when possible.
Cleaning parts with toxic materials	Eye injuries, skin irritation, fire	Wear eye protection. Wear latex gloves. Do not smoke near flammable substances. Refer to Material Safety Data Sheet (MSDS) for proper handling, storage and disposal.
Working under lifted vehicles (when hoist is not used)	Bodily injuries	Use safety stands.
Welding	Eye injuries, burns, cuts, inhalation of poisonous gases, slipping or tripping	Wear eye protection, facemasks, gloves and body leather. Make sure curtains or flash screens are in place. Make sure area is well ventilated. Do not inhale vapors. Make sure that piece being welded is secured and will not fall. Cool weld immediately or place a “HOT” sign on it. Clean up all excess materials and sweep up slag from the floor.
Lifting vehicles with hoist	Bodily injuries	Use proper rear axle adapters. Use proper operating procedures. Check hoist position before lifting completely.
Spray painting	Breathing fumes, fire hazard	Ensure adequate ventilation. Post “NO SMOKING” signs in spray area, paint rooms, paint booths and paint storage areas. Keep the spray area clean of combustible residue. Do not spray paint within 20 feet of flames, sparks, operating electrical motors and other ignition surfaces. Use only explosion proof portable lamps in area. Use cleaning solvents with flash points greater than 100 degrees F. Prior to painting, mask off any sections that may be damaged. Clean up work areas after completion of painting.

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Drilling and machine work	Eye and hand injuries	Wear eye protection. Use correct holding device.
Cut-off saw	Flying sparks from metal, falling pieces of metal	Wear eye protection, gloves and steel-toed shoes. If possible, have a helper catch cut-off material.
Electronic tire balance equipment	Throwing dirt and small rocks from wheel, wheel falling off machine	Wear eye protection and gloves in case of burrs on the wheel. Make sure wheel is bolted on tightly prior to spinning. Stand clear of spinning wheel.
Auto air conditioning	Frostbite, inhalation of dangerous vapors	Make sure hoses are on correct fittings. Remove caps slowly making sure fitting isn't leaking, turn on slowly while checking for possible leaks. Wear protective clothing, goggles and gloves. Make sure everything is clear of moving parts of engine. Remove fittings slowly and bleed off pressure.
Changing/repairing tires	Dirt particles in eye, pinching/smashing fingers, slipping, back injury, falling, flying wheels	Wear safety goggles. Keep head away from air. Keep fingers and toes at safe distance from slide hammer. Remove ring with special tire irons. Hold on to the ring as it comes off. Use proper body mechanics keeping back straight and utilizing leg muscles to lift heavy items. Place tire in position using proper lifting motion. Do not drop tire. Check split ring while inflating, if it doesn't seat, deflate the tire and reposition ring.
Sharpening and adjusting reel lawn mowers	Flying sparks, cutting hand or fingers on reel or bed knife	Wear eye protection and gloves. Keep fingers clear of turning reel.
Blade removal on lawn mowers	Severed fingers, hand	Remove spark plug wire and spark plug prior to repair.
Removing fuel tanks on vehicles	Skin burns, or irritation, explosion, fire	No smoking, welding or running of electrical equipment in area. Drain fuel into approved sealed container. Wear goggles and rubber gloves. Have fire extinguisher in immediate area and know how to use. Refer to MSDS for proper handling of volatile substances.
Repair/replacing brakes (shoes and pads)	Asbestos dust in air and shop floor	Remove brake drums. Vacuum dust from drum and around shoe and axle. Dispose of vacuum bag in hazardous waste container.
Oxy-Acetylene cutting torch	Eye and bodily injury from hot flying pieces of metal, fire, skin burns and eye burns	Wear protective goggles, shoes, gloves and welding leathers.
Operating vehicle inside building	Headache, nausea, death from poisonous gases	Install exhaust pipe suction tubes on tail pipes. Turn on suction fan.

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Chemically, emotionally and psychologically imbalanced students	Physical harm	Contact college police for assistance and protection if student appears to be out of control. Use non-aggressive communication skills.
Office work (after hours, evenings/weekends)	Physical harm	Lock office door if working late at night and alert college police of your presence on campus.
Date: July 1, 1991 / Analysis By: B. Pruden, C. Bettencourt		

*Note: This Job Safety Analysis form includes the following positions in the Los Rios Community College District: Equipment Mechanic I; Equipment Mechanic II; and Lead Mechanic