



Senior Equipment Mechanic (USUAL & CUSTOMARY)

GENERAL COMMENTS

This job analysis was conducted on-site on December 16, 2008 with the assistance of the Maintenance/Operations Manager, and an employee.

Hours: 8 hours a day, 40 hours, Monday through Friday

Wage: NA

GENERAL JOB DESCRIPTION

The Senior Equipment Mechanic works in a Mechanical Shop facility located at the job site, along with 2 other Senior Equipment Mechanics, and a Lead Equipment Mechanic. The Mechanic works on a variety of vehicles and equipment performing routine maintenance and repair of vehicles and equipment owned and/or operated by the Chico Unified School District. Mechanics perform principal work duties at the facility however, on occasions may pick up or perform work at off-site locations, such as road service.

DESCRIPTION OF TASKS - Essential Duties/Tasks

- **Inspect, diagnose, overhaul, adjust and repair gas and diesel powered buses, trucks, automobiles and other power equipment.**
- **Perform general overhaul, installation, repair, replacement and adjustment of all mechanical systems related to commercial and industrial gasoline and diesel equipment/vehicles.**
- **Perform prescribed preventative maintenance on the bus fleet, trucks, and automobiles according to Preventative Maintenance Program; access and update Preventative Maintenance data base.**
- **Drive or operate, and evaluate equipment or vehicle to ensure work performed is proper and complete.**
- **Inspect school buses and sign forms indicating compliance with State requirements provided by law; adhere to timeliness and documentation requirements, and if repair work identified to follow up for completion and compliance with regulations.**

- Perform electrical diagnostic evaluations via computer, painting, acetylene and arc welding, and minor body repair on motorized equipment.
- Perform work in adherence to safe work practices and procedures and in compliance with application standards and specifications, including performing work in accordance with , and maintenance of equipment, as required by the California Highway Patrol and Vehicle Code; remain current on all laws pertaining to safe maintenance and repair of school buses.
- Patch and install seat covers and other accessories on buses.
- Operate a steam cleaner to clean buses, automobiles and trucks; under carriage, engine compartments, etc.
- Maintain inventory of parts and supplies on hand for repair of vehicles/equipment; research catalogs or data bases(s), contact and compare vendors to obtain high quality supplies for best price; use telephone; obtain written proposals.
- Lead and train non-journey mechanics or service personnel, as needed.
- Maintain a clean and orderly work area; maintain and repair shop facilities and equipment.
- Maintain a variety of records, including vehicle identification, date, mileage and nature of each inspection, maintenance, lubrication and repair performed; enter data related to Preventative Maintenance Program; use a computer to make data entries.
- Possess and maintain all certifications and/or licenses required in performance of duties.

Other Duties:

- Perform related duties and responsibilities as required.

Knowledge, Skills, and Abilities Required:

Knowledge of: methods, techniques and procedures used in the inspection, maintenance, overall, repair and adjustment of gas and diesel powered equipment; operating and repair characteristics of a variety of automotive and school bus diagnostic and repair equipment and tools; methods, techniques and procedures used in the repair and adjustment of fuel, ignition, electrical and cooling systems and chassis; methods and techniques of performing acetylene and arc welding, painting and electrical work on motorized vehicles and equipment; procedures of preventative maintenance related to automotive and school bus vehicles; laws, rules and regulations pertaining to school bus operations and pupil transportation, including appropriate California State Motor Vehicle Code and the Education Code; principals, practices and procedures of recycling and disposing of hazardous waste from motorized vehicles and equipment; operational hazards and standard safety procedures necessary in the area of assigned work; principals and procedures of record keeping; safe driving principals and practices.

Skill to: operate the full range of diagnostic, maintenance and repair equipment in a safe and effective manner; operate a school bus and motor vehicles safely; operate modern office equipment, including computer equipment.

Ability to: perform the full range of journey level mechanical work, including the diagnosing, troubleshooting and repairing of equipment; inspect, maintain, overhaul, repair and adjust gas and diesel powered equipment; repair and adjust fuel, ignition, electrical and cooling systems and chassis; perform acetylene and arc methods of welding on motorized vehicles and equipment; patch and install seat covers and other accessories; accurately determine mechanical repair needs; interpret and apply the policies, procedures, laws, codes and regulations pertaining to assigned programs and functions; provide lead supervision and training to assigned staff; prepare and maintain accurate and complete records; work independently in the absence of supervision; understand and follow oral and written instructions; communicate clearly and concisely, both orally and in writing; possess and hold a current valid Class A California Driver's License; establish, maintain and foster positive and harmonious relationships with those contacted in the course of work.

Experience and Training Guidelines – any combination of experience and training that would likely provide the required knowledge, skills and abilities is qualifying.

Experience: Four (4) years of experience as a mechanic, including experience working with school buses, gas and diesel engines and hydraulic and air brake systems.

Training: Formal or information education or training which ensures the ability to read and write at a level necessary for successful job performance supplemented by completion of a mechanical apprenticeship program.

License/Certificate: Meet/maintain the requirements for a valid California School Bus Drivers' Certificate, with acceptable restrictions, with first aid training and DMV Medical Examiner's Certificate. Acceptable restrictions are "automatic transmissions only" and "first aid test waived", must comply with 12522(c) of the Vehicle Code by the end of the 5th month of probationary status; possession of a current valid Class A driver's license by the end of the 5th month of probationary status.

TOOLS, EQUIPMENT, WORK AIDS/ASSISTING DEVICES

Various small hand tools; various shop tools and equipment, including (but not limited to) impact wrenches, tire balancing and wheel remove/installation equipment, welding equipment, machining tools and equipment, grinders, diagnostic equipment; various lifts and assistive devices including (but not limited to) overhead cranes or lifts, engine lifts, drum jacks, vehicle jacks, creepers, forklift.

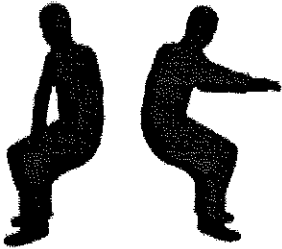
PHYSICAL DEMAND DEFINITIONS (times listed are for an 8 hour shift)

Never:	Not Present	
Rarely/Seldom:	1% or less per day	(5 minutes or less per day)
Infrequently:	2% to 5% of the day	(6 to 30 minutes per day)
Occasionally:	6% to 33% of the day	(.5 to 2.5 hours per day)

Frequently:	34% to 66% of the day	(2.5 to 5.25 hours per day)
Constantly/Continuous:	67% to 100% of the day	(5.25 to 8 hours per day)
Intermittent:	Stopping/Starting at intervals-periodic	

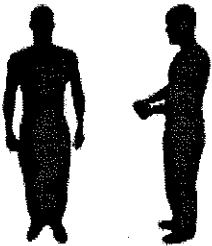
PHYSICAL DEMANDS (Examples of weights and measurements have been verified by the Job Analyst unless otherwise indicated)

1) **Sitting** (Remaining in a seated position): Include driving/vehicle type:



Occasionally. Approximately 20% of the day, or 1 to 2 hours, depending on need. Sits for up to 30 minute duration, to drive vehicles/equipment, sit at desk to use computer or research parts. On rare occasions, may drive to distant areas to pick up or repair a vehicle, as road side assistance involving sitting for longer period of time.

2) **Standing** (Remaining on one's feet in an upright position at a workstation without moving about):



Occasionally. Approximately 30% of duties require standing to make inspections, repairs, obtain parts, or perform routine duties related to repair/maintenance duties. Standing is on smooth cement surface in Shop environment, or asphalt or graveled surface in yard. Standing is intermittent with periods of walking.

3) **Walking** (Moving about on foot):



Frequently. Approximately 60% of duties involve walking to and from area of work (vehicle/equipment location) to access parts, tools, or equipment. Walking is intermittent with periods of standing or sitting. Walking is generally from 10 to 30 feet, or up to an location with Shop (60'X80'), or adjacent areas. Must be attentive to body position and/or obstacles while walking on smooth cement, gravel, or asphalt surfaces.

4) **Bending** (Bending at the waist with straight knees):

A) Light – 20 degrees



Frequently. Approximately 60% of duties involve light bending up to 20 degrees from standing or seated position to access area being worked on, tools and equipment, parts, and in performance of routine inspections. Duration varies from brief to several minutes without change of position.

B) Moderate – 45 degrees



Occasionally. Approximately 20% of duties (or up to 1 ½ hours) involve moderate bending, generally while standing or kneeling to access areas being worked on for repair/replacement of parts, inspections, etc. Duration is brief up to 15 minutes without change of position.

C) Full bend – 90 degrees



Infrequently. Less than 30 minutes. Brief full bending occurs where access to area being worked on is inaccessible by squatting or kneeling, such as into engine compartment, using Top Side Creeper (assistive device), or at employee's discretion to pick up a part or tool off floor level.

5) Squatting (Bending the body downward and forward by bending legs and spine at the waist):



Infrequently. Less than 30 minutes, generally briefly (down and up motion) Squats to obtain better position to access a lower area to troubleshoot, inspect area briefly, or to lift item from floor level.

6) Kneeling (Bending legs at knees to come to rest on knee or knees):



Infrequently to Occasionally. Up to 5%, or up to 10% of work day, depending on assignment/task, and usually for short duration. Performed to get on/off floor creeper, inspections, removal/replacement of wheels, etc. Approximately 1 day per month while performing tune-ups, will remain in kneel position for up to 15 minutes 4 or more times in the day.

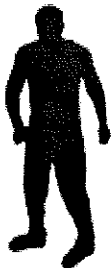
7) Crawling (Moving about on hands and knees):



Rarely/Seldom, 1% of day overall. Brief period of seconds to a minute crawl position is used to get on or off floor creeper, or incidentally to access an area, such as bus seat to unbolt and re-bolt. Does not occur daily.

NOTE: Laying on back---while using floor creeper, Mechanic lays on back up to 5% of the day, or Infrequently, to access under carriage area when a lift is not available, or not applicable (road service).

8) Twisting:



Occasionally, and intermittently. Up to 30% of the day an upper torso twist occurs to approximately 30 degrees or less. Twisting occurs to access areas, tools, parts, and area being worked on.

9) Neck Positions:

a.) Flexion (forward bend, or chin to chest / 0 –80 degrees)



Occasionally. Up to 10% of the day, activities require neck flexion to approximately 50 degrees.

b.) Extension (looking up at ceiling / 0 –70 degrees)



Occasionally. Up to 20% of the day, activities require neck extension to 70 degrees to look at areas under carriage (vehicle on lift), access overhead hoses, or equipment/parts, areas of vehicle, such as lights,

overhead exit door, windows, etc. Most mechanical repairs are made while vehicle in on a lift.

c.) **Right/Left Rotation** (look over right/left shoulder / 0 –45 degrees)



Up to Occasionally. Up to 33% of the day, the Mechanic glances to left or right to safely work in Shop environment, drive or operate vehicle or equipment, access parts and tools, and generally view work area(s) in order to perform duties safely. Full range is required.

d.) **Right/Left Lateral Flexion** (ear to shoulder / 0 –50 degrees)



Infrequently. Up to 5% of the day. Short, brief duration lateral flexion is required to view areas behind equipment/parts and to access same during routine repair/maintenance tasks.

10) **Balancing** (Maintaining body equilibrium to prevent falling):



Infrequently. Up to 5 minutes or longer, depending on service requirement. Balancing occurs while standing on 8 foot A-Frame ladder to perform work on outside lights, or other step ladder. Balancing is required as uses hands to perform repair/replacement, and use tools.

11) **Climbing** (ascending or descending ladders, stairs, scaffolding, ramps, poles and the like using feet and legs or hands and arms).

a.) **Stairs and Ramps**



Infrequently. Approximately 15 minutes overall during day, as brief in step up---stand or walk---step down 2 to 4 steps in/out of bus or vehicle 8' or 9" rise, or ramp under 10 degrees in/out of facility main office, if required.

b.) Other



Rarely/Seldom up to Infrequently. Climbs in/out of boom truck requiring overhead/over shoulder climb one or twice every 3 months, and up/down 8 foot A-Frame ladder at approximately 70 degrees.

12) Lifting (Raising or lowering an object from one level to another – includes upward pulling):



0 – 10 pounds: Frequently. 60% of day lifts small tools, parts, etc. from floor to overhead to perform routine work tasks.

11- 20 pounds: Occasionally. Up to 33% of day lifts, heavier tools (wrench), parts, etc. from floor to approximately 48" (mid-torso).

21 – 35 pounds: Infrequently. Up to 30 minutes of day for short duration, lifts miscellaneous parts (starter) from floor to approximately 48" (mid-torso).

36 – 50 pounds: Rarely/Seldom to Infrequently. Depending on task, lifts heavier parts, such as bell-housing, tire, or small wheel from floor to 48" (mid-torso).

51 – 75 pounds: Rarely/Seldom. Depending on task, lifts part (wheel) or similar items from floor to approximately 32 inches.

80 pounds: Weight of Van wheel is lifted and rolled to Tire Machine from floor to approximately 32 inches. Not lifted daily, but on occasion may lift several times in one day. This is heaviest item lifted, and occurs overall under 5 minutes on day performed.

13) Carrying (Transporting an object, usually holding it in the hands or arms or on the shoulder):



0 – 10 pounds: Frequently. Up to 60% of the day – carries miscellaneous hand tools, parts, equipment generally 5- 30 feet up to 60 or 80 feet within Shop, or area where work is performed.

11- 20 pounds: Occasionally. Miscellaneous parts and equipment carried short distances 5 – 30 feet.

21- 35 pounds: Infrequently. Miscellaneous parts and equipment carried short distance 5 to 30 feet.

36 – 50 pounds: Rarely/Seldom. Parts/equipment 5 to 10 feet.

51 – 75 pounds: Rarely/Seldom. Parts/equipment 5 to 10 feet.

NOTE: Employee uses rolled cart, rolled table, or jack or other assistive device to transport equipment and parts.

14) Pulling (Exerting force upon an object so that the object moves toward the force – also includes jerking):



Infrequently. Up to 30 minutes overall, pulling occurs to dislodge part, pull carts or jacks. Range of exertion is ounces to 50 pounds of initial and sustained force.

15) Pushing (Exerting force upon an object so that the object moves away from the force – includes slapping, striking, kicking and treadling):

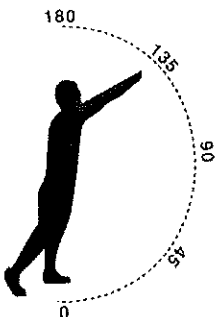


Infrequently. Up to 30 minutes overall, pushing occurs to dislodge part, push carts or jacks. Range of exertion is ounces to 65 pounds of initial and sustained force.

NOTE: Forces are estimated based on simulation with Push/Pull Measuring Device, or actual measured forces. Applied force can vary based on various factors including urgency, and individual styles of hand and body placement.

16) Reaching/Shoulder Positions:

a.) Flexion (forward reach / 0 –180 degrees)



Forward Reaching 45 degrees to 135 degrees: Frequently, 34 – 66% of tasks involve reaching within this range.

Forward Reaching Below 45 degrees and Above 135 degrees: Infrequently, 2-5%.

c.) **Abduction** (side reach / 0 –180 degrees)



Never/Not required.

c.) **Horizontal Abduction** (reach away from chest / 0 –90 degrees):



Occasionally, up to 30% unilaterally, or bilaterally in conjunction with horizontal adduction.

d.) **Horizontal Adduction** (reach across chest / 0 –45 degrees):



Occasionally, up to 30% unilaterally, or bilaterally in conjunction with horizontal abduction.

17) **Handling**** Bilateral/Unilateral (Seizing, holding, grasping, turning, or otherwise working with hand or hands):

Constantly, 67 – 100% of duties involve full hand use to use tools, handle parts and equipment. Handling varies according to task, but involve simple grasping, lateral grasping, hook grasping, spherical grasp, three-point pinch, tip-pinch, power grasp, wrist ulnar and radial deviation, wrist rotation, wrist flexion and extension, supination and pronation. Full hand use is required to perform duties.

18) **Fingering**** Bilateral/Unilateral:

a.) Keyboarding- Occasionally, 5 – 20%, or 30 minutes to 2 hours on intermittent bases for periods of 1-2 minutes to 15 minutes to perform computer related tasks.

b.) Picking, pinching or otherwise working primarily with fingers- Infrequently to Frequently, depending on task. Varies daily from short periods to use small parts (washers, nuts, etc.) to maximum of 66% of day, or dismantle and assembly carburetor.

19) **Talking/Hearing:** Must be able to communicate effectively with coworkers, supervisors and others in-person, or using a telephone.

20) **Tasting/Smelling:** Not required, however, a sense of smell is desirable to detect unusual odors (burning, etc.) on equipment or vehicles during inspections.

21) **Vision** (Near acuity, far acuity, depth perception, accommodation, color vision, field of vision): Normal, or corrected to normal, vision is required and compliance Department of Transportation/Department of Motor Vehicles requirements for Class A license maintenance.

22) **Eye/Hand/Foot Coordination:** Required to operate equipment, drive vehicles.

ENVIRONMENTAL FACTORS

- 1) Indoors %: 80%
- 2) Outdoors %: 20%
- 3) Exposure to dust, gas or fumes: Ambient dust, gas or fumes from gasoline or diesel engines, or fluids.
- 4) Working around moving mechanical parts: Yes, as necessary to diagnose or troubleshoot repair issues.
- 5) Noise intensity level: Low to Moderate. Hearing protection is not required, but is available for use when operating air-tools, etc.

PSYCHOLOGICAL FACTORS:

1. **ABILITY TO COMPREHEND AND FOLLOW INSTRUCTIONS:**
The ability to maintain attention and concentration for necessary periods.
The ability to understand written and oral instructions, and the ability to do work requiring set limits, tolerances, or standards.

90 TO 100% OF DUTIES AND TASKS PERFORMED REQUIRE THE ABILITY TO COMPREHEND AND FOLLOW INSTRUCTIONS RELATED TO SAFETY, REPAIR TECHNIQUES AND PROTOCOLS.

2. ABILITY TO PERFORM SIMPLE AND REPETITIVE TASKS:

The ability to ask simple questions or request assistance; the ability to perform activities of a routine nature; and the ability to remember locations and work procedures. The ability to obtain information and answer questions regarding company procedures, or standards for immediate staff is required.

50% OF DUTIES AND TASKS PERFORMED REQUIRE THE ABILITY TO PERFORM SIMPLE AND REPETITIVE TASKS. AS EXPERTISE IN A REPAIR OR PROCURE BECOME COMMON PLACE, OR ROUTINE, THEY BECOME SIMPLE AND CAN BE PERFORMED QUICKER OR MORE REPETITIVELY.

3. THE ABILITY TO MAINTAIN A WORK PACE APPROPRIATE TO A GIVEN WORKLOAD:

The ability to perform activities within a schedule, maintain regular attendance and be punctual; and the ability to complete a normal workday and/or work week and perform a consistent pace.

50% OR MORE OF TASKS INVOLVE MAINTAINING A WORK PACE IN ORDER TO COMPLETE TASK IN A TIMELY FASHION. THE MECHANIC WORKS INDEPENDENTLY AND AS A TEAM TO COMPLETE TASKS ACCORDING TO DEADLINE, OR TO BE IN COMPLIANCE WITH REGULATIONS. WORK IS OFTEN PERFORMED WITH FREQUENT INTERRUPTIONS, AND/OR MULTIPLE JOBS ARE ON-GOING SIMULANTEOUSLY REQUIRING ABILITY TO JUMP FROM ONE TASK TO ANOTHER, LOOK UP PARTS, OBTAIN PARTS, AND RESUME WORKING, ETC.

4. ABILITY TO PERFORM COMPLEX AND VARIED TASKS:

The ability to synthesize, coordinate, and analyze data; and the ability to perform jobs requiring precise attainment of set limits, tolerances and standards.

50% OF TASKS INVOLVE PERFORMING COMPLEX AND/OR VARIED TASKS ON A DAILY BASIS; NEW OR MORE INVOLVE REPAIRS, REPAIRS TO NEW EQUIPMENT, ETC.

5. ABILITY TO RELATE TO OTHER PEOPLE BEYOND GIVING AND RECEIVING INSTRUCTIONS:

The ability to get along with coworkers or peers; the ability to perform work activities requiring negotiation with, explaining, or persuading; and the ability to respond appropriately to evaluation or criticism.

40 – 50% OF TASKS INVOLVE RELATING TO OTHERS TO COORDINATE WORK ACTIVITIES IN ORDER TO MAKE ADJUSTMENTS IN PRIORITIES, AND TO NEGOTIATE FOR PARTS PRICING/DEVIERY. THIS INVOLVES COMMUNICATION WITH CO-WORKERS AND LEAD MECHANIC, SUPERVISOR(S), OTHER DISTRICT PERSONNEL, AND VENDORS.

6. ABILITY TO INFLUENCE PEOPLE:

The ability to convince or direct other; the ability to understand the meaning of words and to use them appropriately and effectively; and the ability to interact appropriately with people.

10% OF DUTIES INVOLVE THE ABILITY TO INFLUENCE OR DIRECT OTHER MECHANICS IN TASKS OR PROCEDURES THEY ARE UNFAMILAR WITH. THIS REQUIRES THE ABILITY TO INTERACT APPROPRIATELY TO COWORKERS TO ACHIEVE A COMMON GOAL.

7. ABILITY TO MAKE GENERALIZATIONS, EVALUATIONS, OR DECISIONS WITHOUT IMMEDIATE SUPERVISION:

The ability to recognize potential hazards and follow appropriate precautions; the ability to understand and remember detailed instructions; the ability to make independent decisions or judgments based on appropriate information; and the ability to set realistic goals or make plans independent of others.

50% OF TASKS INVOLVE MAKING INDEPENDENT EVALUATION OR DECISIONS REGARDING TECHNIQUES AND PROCEDURES, AND APPLICATION AND USE OF EQUIPMENT. THE SENIOR EQUIPMENT MECHANIC EVALUATES AND MUST BE AWARE OF HAZARDS, AND MAKE APPROPRIATE DECISIONS REGARDING PERSON SAFETY AND THE SAFETY OF OTHERS.

8. ABILITY TO ACCEPT AND CARRY OUT RESPONSIBILITY FOR DIRECTION, CONTROL, AND PLANNING:

The ability to set realistic goals or make plans independently of others; the ability to negotiate with, instruct or supervise people; and the ability to respond appropriately to changes in the work conditions.

NOT REQUIRED AS TO DIRECT SUPERVISION OF OTHERS, HOWEVER, THE SENIOR MECHANIC TAKES PERSONAL RESPONSIBILITY FOR DIRECTION AND CONTROL OF PERSONAL DUTIES AND OUTCOMES RELATED TO REPAIR OR INSPECTION PROCEDURES.

Respectfully Submitted,



Nancy Kennedy, MS, CRC
Vocational Consultant