STATE OF NEVADA
Department of Administration
Division of Human Resource Management

CLASS SPECIFICATION

TITLE	GRADE	EEO-4	CODE
HIGHWAY EQUIPMENT MECHANIC III	**35***	**G**	**9.317**
HIGHWAY EQUIPMENT MECHANIC II	**34***	**G**	**9.318**
HIGHWAY EQUIPMENT MECHANIC I	**33***	**G**	**9.321**

SERIES CONCEPT

Highway Equipment Mechanics maintain, repair, and modify medium (GVWR 10,500-26,000 lbs.) and heavy (GVWR greater than 26,000 lbs.) highway maintenance and construction equipment including single and tandem axle dump trucks, motor graders, chip spreaders, truck mounted backhoes, twin diesel powered rotary snow blowers, ten wheel water trucks, front end loaders, tractor/trailer combinations and pavement grinding machines.

Determine the cause and extent of component or system failure through test drives, pressure and temperature checks, disassembly, inspection, use of diagnostic equipment, and reference to technical manuals, service information bulletins, blueprints and schematic manuals; plan course of action and order parts required for repairs by researching parts manual to locate proper parts; contact vendors and complete purchase requisitions.

Repair and/or rebuild brake systems, steering components and suspensions; replace brake shoes and pads; turn drums and rotors on a brake lathe; rebuild master cylinders and wheel cylinders; repair brake lines, hoses and power booster; maintain and overhaul air brake systems to include air compressor, governor, reservoirs, air dryers, control valves, and actuators; update obsolete systems to meet current regulations and requirements; repack cylinders or rebuild power steering pumps; repair or replace tie rod ends, drag links, idler arms, and ball joints; adjust sleeves, king pins, and spindles; repair or replace springs, pins, bushings, axles, spring shackles, mounts and shocks.

Perform hydraulic system service; repair leaks; replace or fabricate hoses, fittings, and O-ring seals; rebuild hydraulic pumps and motors; repair hydraulic control valves, cylinders and rams; design equipment to utilize an existing system to perform additional tasks not originally intended for system such as freeway line stripers and pavement marking machines.

Repair and/or rebuild power distribution systems; make adjustments and replace gaskets, oil seals, fittings and lines; repair axles, U-joints, and power take-off units; remove differentials, transfer cases, transmissions and clutches; rebuild parts and reassemble with new parts as needed; make necessary adjustments and modifications; reinstall components and conduct road tests.

Perform electrical system diagnosis and repairs to include repairing or replacing electrical components such as batteries, alternators, starters, ignitions, relays, regulators and switches; design new electrical systems or accessories and modify existing systems for computers or video equipment such as systems used for freeway line stripers and pavement marking machines.

Repair diesel and gasoline powered engines; check, adjust and calibrate engines to original performance level; replace injectors; adjust valves; inspect and replace filters; check pressures; disassemble and clean external and internal parts for inspection; grind valves; repair cylinders, pistons, crankshafts, camshafts and

*** Reflects a 2-grade, special salary adjustment granted by the 2007 legislature to improve recruitment and retention.**

SERIES CONCEPT (cont'd)

connecting rods; replace bearings; reassemble engine and/or components; test complete engine or components through a road test and/or use of a dynamometer.

Design and fabricate mechanical apparatus such as battery holders, toolboxes, and light mounting brackets; design, layout and order appropriate materials; weld sections together and mount apparatus on equipment.

Perform modifications to lengthen or shorten truck frames as assigned; cut frame; weld frame and grind welds; measure and move rear suspension to correct wheel base; measure driveline and lengthen lines and wires to fit components.

Perform related duties as assigned.

****

CLASS CONCEPTS

Highway Equipment Mechanic III: Under general supervision, incumbents function as a first line supervisor for a group of equipment shop personnel comprised of three or more lower level mechanics and skilled craft workers. Supervisory responsibilities include interviewing, providing training, assigning and reviewing work, disciplining, and evaluating performance. In addition, incumbents function as an assistant to the supervisor of a major district equipment shop and may perform complex diagnosis, repairs, modifications and specialized design and fabrication work.

This class is distinguished from Highway Equipment Mechanic II by the responsibility for supervision of equipment shop personnel on a permanent basis.

Highway Equipment Mechanic II: Under general supervision, incumbents assist the supervisor the preponderance of the time on a regular and recurring basis by scheduling equipment for maintenance and repairs; monitoring the progress of work; maintaining records and preparing reports; and either:

1) Function as a leadworker to lower level mechanics in a major equipment shop to include providing training and technical assistance, assigning and reviewing work, and providing input to performance evaluations;

2) In a remote satellite shop, independently supervise shop operations which may include supervision of lower level mechanics (less than three) and fleet service staff; or

3) Work as a Class II Emission Inspector performing inspections and certifying all emissions-related repairs performed by non-certified mechanics including diagnostics; provide technical assistance, maintain test equipment, and document and retain all records regarding emission certification.

Leadworker and supervisory positions also diagnose and determine the time and cost of repairs; complete repair order forms; assign work to shop staff based on skill, training, and priority of repairs; monitor progress of work in the shop; and provide technical assistance. Incumbents also compile information; maintain records and complete reports related to vehicle usage, equipment awaiting repairs, open work orders, equipment data files, tool and equipment inventory, hazardous chemicals and material safety data sheets, accident reports and accident investigations.

Highway Equipment Mechanic I: Under general supervision, incumbents perform the range of duties described in the series concept. Work is assigned through repair orders. Supervisory approval is required prior to performing costly repairs and for decisions as to whether to repair or replace major system assemblies. This is the journey level in the series.

MINIMUM QUALIFICATIONS

SPECIAL REQUIREMENTS:

* Incumbents are required to furnish their own mechanic's tools.
* Some positions require a Class II Emissions Inspector certification.
* Pursuant to NRS 284.4066, some positions in this series have been identified as affecting public safety. Persons offered employment in these positions must submit to a pre-employment screening for controlled substances. In addition, federal law requires random testing for controlled substances during employment.
* Some positions require an American Welding Society welding certification is required for some positions.

INFORMATIONAL NOTE:

* A valid Class A or B Nevada commercial driver's license is required within six months of the date of appointment and as a condition of continuing employment.

HIGHWAY EQUIPMENT MECHANIC III

EDUCATION AND EXPERIENCE: Completion of a recognized automotive/equipment repair apprenticeship program followed by two years of journey level experience in the maintenance and repair of medium and heavy duty vehicles and equipment; **OR** completion of the Equipment Mechanic-in-Training program in Nevada State service followed by two years of journey level experience as described above; **OR** one year of experience as a Highway Equipment Mechanic II in Nevada State service; **OR** an equivalent combination of education and experience. *(See Special Requirements and Informational Note)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):
Detailed knowledge of: electrical and mechanical theories and design applicable to the repair and maintenance of medium and heavy equipment; equipment safety, safe work methods and the proper use, storage, and disposal of hazardous materials. **Working knowledge of:** supervisory practices and procedures. **Ability to:** plan and organize work; design and fabricate specialized highway equipment components and systems; train personnel in new methods and procedures; *and all knowledge, skills and abilities required at the lower levels*.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):
Working knowledge of: principles and practices of supervision; set priorities which reflect the relative importance of the needs of the agency and the capacity of the shop to meet those needs within established policies and guidelines; modify and/or adapt designs, procedures, or methods in order to design new systems, modify existing systems, or accomplish tasks more efficiently; diagnose and determine what repairs are necessary to repair a system to proper working condition; estimate the cost of repairs and determine the cost effectiveness and feasibility. **Ability to:** supervise staff including hiring, training, assigning and reviewing work, establishing work schedules and priorities, administering discipline and evaluating performance; gather, compile, and analyze data to prepare informational reports regarding equipment shop operations and procedures; write specifications for equipment and parts.

MINIMUM QUALIFICATIONS (cont'd)

HIGHWAY EQUIPMENT MECHANIC II

EDUCATION AND EXPERIENCE: Completion of a recognized automotive/equipment repair apprenticeship program followed by one year of journey level experience in the maintenance and repair of medium and heavy duty vehicles and equipment; **OR** completion of the Equipment Mechanic-in-Training program in Nevada State service followed by one year of journey level experience as described above; **OR** an equivalent combination of education and experience. *(See Special Requirements and Informational Note)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):
Detailed knowledge of: equipment systems and operating characteristics of light, medium, heavy, and specialized highway maintenance and construction equipment from a variety of manufacturers; methods, materials, tools and equipment used in the construction, assembly, overhaul, repair, and adjustment of automotive and highway construction and maintenance equipment. **Working knowledge of:** federal and State rules and regulations governing exhaust emission standards. **Ability to:** diagnose, repair and service devices for the control of exhaust emissions; calculate the time and cost of repairs and prepare repair orders; set priorities which reflect the relative importance of repair orders. **Skill in:** performing complex diagnoses, repair, rebuilding, and modifications; *and all knowledge, skills and abilities required at the lower level*.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):
General knowledge of: principles and practices of supervision; State administrative regulations, policies and procedures regarding personnel and purchasing. **Ability to:** supervise staff including assigning and reviewing work, and establishing work schedules and priorities; establish and maintain records and files and prepare reports pertaining to shop operations, equipment, materials and supplies.

HIGHWAY EQUIPMENT MECHANIC I

EDUCATION AND EXPERIENCE: Completion of a recognized automotive/equipment repair apprenticeship program; **OR** completion of the Equipment Mechanic-in-Training program in Nevada State service; **OR** an equivalent combination of education and experience. *(See Special Requirements and Informational Note)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):
Working knowledge of: equipment systems and operating characteristics of medium and heavy highway maintenance and construction equipment from a variety of manufacturers; methods, materials, tools and equipment used in the construction, assembly, overhaul, repair, and adjustment of automotive and heavy construction and maintenance equipment; safe working procedures and the proper use, storage, and disposal of hazardous materials. **Ability to:** prepare repair orders, requisition supplies, and document condition of equipment; read and understand repair orders, service manuals, operating system manuals, and hydraulic and electrical schematics; diagnose and determine what is necessary in repairing a system to restore proper working condition; use various diagnostic and testing equipment and precision measuring devices; lift heavy components and equipment in a safe manner. **Skill in:** basic arc and acetylene welding and cutting and basic machining; repairing, rebuilding and modifying components of highway equipment including diesel and gas engines, automatic and manual transmissions, and hydraulic equipment.

MINIMUM QUALIFICATIONS (cont'd)

HIGHWAY EQUIPMENT MECHANIC I (cont'd)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):
Working knowledge of: agency and division rules, policies, and procedures; equipment operating systems and operating characteristics of light and specialized highway equipment; electrical and mechanical theory and design. **Ability to:** modify and/or adapt designs, procedures, or methods to design new systems, modify existing systems, or accomplish tasks more efficiently. **Skill in:** improvising as necessary to perform repairs in the field.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

	9.317	9.318	9.321
ESTABLISHED:	7/1/91P	3/31/75	1/1/61
	11/29/90PC		
REVISED:		1/1/81	8/1/66
REVISED:			8/23/71
REVISED:			2/16/73
REVISED:			3/31/75
REVISED:			11/21/80-3
REVISED:			8/7/81-3
REVISED:		8/6/87-3	8/6/87-3
REVISED:		7/1/91P	7/1/91P
		11/29/90PC	11/29/90PC
REVISED:	8/11/95UC	8/11/95UC	8/11/95UC
REVISED:	6/15/98UC	6/15/98UC	6/15/98UC
REVISED:	9/17/97R	9/17/97R	9/17/97R
	7/10/98UC	7/10/98UC	7/10/98UC
REVISED:	6/25/04PC	6/25/04PC	6/25/04PC
REVISED:	7/1/07LG	7/1/07LG	7/1/07LG