

## Mechanized Equipment, Machinery and Specialty Vehicles

### Short description

This section outlines the guidance for the operation of mobile machinery, equipment, and other specialty type vehicles on project sites.

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## 1 Objective and area of application

The objective of this section is to ensure that mechanized construction equipment, machinery and other specialty vehicles are operated and maintained in a safe manner consistent with the manufacturer's direction as to prevent incidents, loss, and potential injury.

Only qualified operators are permitted to operate machinery, mechanized construction equipment or specialty vehicles on Centennial project sites. A qualified operator shall be familiar with the correct operation of the equipment or vehicle as well as all of the operator's instructions and limitations of use. The operator shall be directly responsible for the safe operation of the equipment and shall comply with all laws and regulations governing the operation of the equipment. Operation of machinery, mechanized equipment and specialty vehicles shall be included in an AHA.

Examples of machinery, mechanized construction equipment and specialty vehicles covered in this section included, but are not limited to the following:

- Backhoe/backhoe loader
- Bulldozer/crawler
- Excavator
- Skid steer
- Grader
- Roller/compactor
- Loader/bucket loader
- Dump trucks
- Water trucks
- Digger derricks
- Pile drivers
- Horizontal directional drills
- Multi-purpose machines
- ATV/UTV
- Other specialty vehicles

## 2 Superior and additional applicable documents

1000\_GP\_11\_01\_en\_6.0 Global Policy on Health, Safety, Environment/Sustainability and Quality (HSEQ)

This section of the HSEQ Manual applies to all Centennial employees and subcontractors who are performing work in Centennial facilities and project sites. There may be more stringent requirements than this section as defined by specific State, local or contract specific requirements. If there is a conflict between this section and other applicable regulations, the more stringent will apply.

USACE EM 385-1-1 Safety and Health Requirements Manual

### 3 Definitions

The following definitions of terms are important for an understanding of this procedure.

Term	Definition
Centennial	All Centennial employees, joint venture employees, subcontractors, and business partners
AHA	Activity Hazard Analysis
ATV	All-terrain vehicle
FOPS	Falling Object Protective Structure
HSEQ	Health, Safety, Environment and Quality
HSEQ Director	Leads the HSEQ Team
PIT	Powered Industrial Truck
ROPS	Roll Over Protective Structure
USACE	United States Army Corps of Engineers
Utility vehicles	Specialty vehicles designed to perform off-road utility tasks such as passenger or cargo transportation and include Rangers, Rhino, Gators, Mules etc.

## 4 General requirements for machinery, mechanized construction equipment and specialty vehicles

### 4.1 Inspections

All machinery, mechanized equipment or specialty vehicles shall be inspected prior to use by a qualified operator in accordance with the manufacturer's recommendations using the Mobile Equipment Inspection Checklist (Appendix 1) or other equivalent or acceptable checklist. A legible manufacturer's operations manual shall be present on all machinery, mechanized equipment, or other specialty vehicles.

Inspected items shall include, but not be limited to, the following components:

- Service brakes (including trailer brakes)
- Parking brake
- Tires/tracks
- Horn
- Steering mechanism
- Coupling devices
- Seat belts
- Safety devices
  - Reverse alarms
  - Lights

- Fire extinguishers
- First aid kits
- Reflectors
- Windshield wipers (if necessary)
- Defrost system (if necessary)
- Spill kits
- Load charts (if applicable)

Machinery, mechanized equipment, or specialty vehicles that do not pass a pre-use inspection shall be immediately removed from service until all unsafe conditions have been corrected and a re-inspection is accomplished by a qualified person determining that unsafe conditions have been adequately resolved.

## **4.2 Maintenance**

All machinery, mechanized equipment and specialty vehicles shall be maintained in safe operating condition. Any and all repair, maintenance and modification shall be carried out in accordance with manufacturer's instructions by a qualified person.

Manufacturer-installed safety equipment shall be maintained in working order and used in accordance with all manufacturers' recommendations. Maintenance records for any service, repair or modification which affects the safe performance of the equipment shall be maintained indefinitely.

## **4.3 Operation**

The general requirements for the operation of machinery, mechanized construction equipment and specialty vehicles are as follows:

- Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set
- Machinery and mechanized equipment shall not be left unattended until the motor has been shut off, key removed and parking brake set
- All mechanized construction equipment with cabs shall be equipped with windshields and powered wipers. Cracked and broken glass shall be replaced immediately
- All cab glass shall be safety glass, or equivalent, that does not create visible distortion for the operator that affects the safe operation
- Cargo items (if permitted) shall be secured as necessary to prevent movement/tipping
- The manufacturer's recommended load carrying capacity, personnel capacity, and maximum safe vehicle speed shall not be exceeded at any time. Manufacturer provided load capacity charts shall be maintained in a legible condition and available at all times
- All machinery and mechanized construction equipment shall be equipped with reverse travel alarms unless designed by the manufacturer to enable the operator to always face the direction of travel. Reverse travel alarms shall be:
  - Audible and distinct to be heard above surrounding noise
  - Operate automatically upon commencement of backward motion
  - Continuous or intermittent during the entire backward movement
  - Substitution of a reverse travel alarm with a signal person exclusively is prohibited

- All belts, gears, pulleys, sprockets, spindles, drums, flywheels, chains or other rotating or moving parts shall be guarded when exposed to contact
- Overhead protection (such as FOPS or overhead guards) shall be provided for operators of PITs, other similar material handling equipment or mechanized equipment where the operator could be exposed to falling or flying objects
- Cellular phones shall only be operated with a hands-free device while in motion. Prior to using a hand-held cellular phone, operators shall bring the vehicle to a stop and activate the emergency brake. Text messaging or web browsing is prohibited while operating equipment or vehicles
- Portable headphones, earphones or other listening devices is prohibited while operating machinery, equipment, or other vehicles
- Eating, drinking, and smoking is prohibited while the equipment, machinery or vehicle is in motion
- Seatbelts (if provided by the manufacturer) shall be installed, maintained, and worn in accordance with the manufacturer on equipment and vehicles
- Equipment and vehicles shall not be driven at speeds greater than the posted speed limit or as conditions warrant
- Spotters shall be used when backing and the operator's visibility is limited
- Equipment and vehicles shall not be loaded in a manner that obscures the operator's visibility or safe operation
- Personnel shall not be transported unless permitted by the manufacturer and there are adequate number of seats
- Operators and passengers are prohibited from traveling with arms or legs outside of the vehicle or equipment body or traveling while standing
- Accessing or egressing a vehicle or equipment while it is in motion is prohibited
- Adequate lighting shall be provided from dusk until dawn or in conditions that reduce operator visibility such as
  - Fog
  - Heavy rain
  - Smoke
  - Any condition where visibility is limited to 500 ft. or less
- Modifications shall not be made to any machinery, mechanized equipment or specialty vehicles that affect the capacity or safe operation without the manufacturer's written approval
- Machinery, mechanized equipment, and specialty vehicles shall be shut down before and during fueling operations
- Personnel shall not work in, pass under, or ride in buckets or booms of loaders
- Machinery, mechanized equipment, or specialty vehicles shall not be operated on hazardous slopes
- Machinery, mechanized equipment, or specialty vehicles shall not be operated in confined or unventilated spaces unless measures are taken to adequately protect from creating a hazardous atmosphere
- No personnel shall stand within or walk through the working swing radius of any machinery, mechanized equipment, or specialty vehicles

## 5 Amendment history

Date	Version	Revised content
12.01.2015	1.0	Initial Preparation
01.01.2018	2.0	Updates to Paragraph 2 Superior Documents to add the Group Policy and Global Standards, Paragraph 3 Definitions (Centennial and HSEQ Director), Paragraph 4.1 Inspections (addition of spill kits and load charts) and Appendix 1 (logo)
11.01.2018	2.1	Paragraph 4.3 Operations (swing radius)
11.01.2021	2.2	Update to Appendix 1

## 6 Appendix

Appendix 1: Mobile Equipment Inspection Checklist (0206500\_CP\_11\_28\_en\_A1.2)

# Mobile Equipment Inspection Checklist

0206500\_CP\_11\_28\_en\_A1.2



Inspector Name: \_\_\_\_\_

Equipment Type & Model #: \_\_\_\_\_

Engine Off Checks X: for Fail    ✓: for Pass	Date:						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Leaks - Fuel, Hydraulic Oil, Engine Oil or Radiator Coolant							
Owner's Manual/Service Records/Mechanics Cert - on forklift							
Forks, Top Clip Retaining Pin and Heel - Check Condition							
Hydraulic Hoses, Mast Chains, Cables and Stops - Check Visually							
Hydraulic Fluid Level - Check Level							
Engine Oil Level - Dipstick							
Transmission Fluid Level - Dipstick							
Radiator Coolant - Check Level							
Nameplate - Attached and include Load Rating Information							
Seat Belt - Functioning Smoothly							
Brake Fluid - Check Level							
Battery (electric) - Fluid Level/Condition							
Propane Tank (LPG Models) - Rust/Corrosion/Condition							
Tires- Condition/Pressure							
Fire Extinguisher - Annual/Monthly inspections (proper size)							
Engine On Checks <i>Unusual Noises Must Be Investigated Immediately</i>							
Accelerator or Direction Control Pedal - Functioning Smoothly							
Service Brake - Functioning Smoothly							
Parking Brake - Functioning Smoothly							
Steering Operation - Functioning Smoothly							
Cab (if equipped) - Wipers/Defrost/Heater							
Drive Control - Forward/Reverse - Functioning Smoothly							
Tilt Control - Forward and Back - Functioning Smoothly							
Hoist and Lowering Control - Functioning Smoothly							
Horn and Lights - Functioning							
Gauges: Ammeter, Engine Oil Pressure, Hour Meter, Fuel Level, Temperature, Instrument Monitors - Functioning							
Work & Travel Area							
Boom/Mast/Load Height/clearance (if equipped)							
Counterweight swing/clearance (if equipped)							
Ground condition setup/outriggers (if equipped)							
Location of power lines & any overhead hazards or clearances							
Underground lines/hazards & weight restrictions							
Directional Alarms/Back-up Alarm (Functioning)							

**Notes/Remarks:** if any items are missing, need service or repair, list below (include dates)

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*All mobile equipment should be equipped with a fire extinguisher. If hydraulic hoses/lines are involved, a spill kit should be accessible. Please place completed mobile equipment inspections in the project binder for recordkeeping.*