

Operating Precautions for Horizontal Earthboring Machines

1. Scope—These general operator precautions apply to horizontal earthboring machines as defined in SAE J2022. These should not be considered as all-inclusive for all specific uses and unique features of each particular type of machine. Other more specific operator precautions not mentioned herein should be covered by users of this SAE Recommended Practice for each particular machine application.

1.1 Purpose—This document is intended to be used as a guide for manufacturers and users of horizontal earthboring machines to improve the degree of personal safety for operators and others during normal operation and servicing. Avoidance of accidents also depends upon the care exercised by such persons. Inclusion of this practice in state, federal, or any laws or regulations where flexibility of revision is lacking is discouraged.

2. References

2.1 Applicable Publication—The following publication forms a part of the specification to the extent specified herein. Unless otherwise indicated, the latest version of SAE publications shall apply.

2.1.1 SAE PUBLICATION—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J2022—Classification, Nomenclature, and Specification Definitions for Horizontal Earthboring Machines

3. Personnel Precautions

3.1 Avoid loose fitting clothing, loose or uncovered long hair, jewelry, and loose personal articles.

3.2 Know and use the recommended protective equipment that is to be worn when operating this machine. Hard hats, protective glasses, protective shoes, gloves, reflector type vests, respirators, and ear protection are examples of types of equipment that may be required.

3.3 Be sure all personnel know and follow safe operating procedures, including a complete understanding of all safety signs and avoidance procedures.

3.4 Know and use the hand signals required for particular jobs and know who has the responsibility for signaling.

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4. Operator—General Precautions

- 4.1 It is the responsibility of the operator to read and understand the Operator's Manual and other information provided and use the correct operating procedure. Machines should be operated only by qualified operators and trained helpers.
- 4.2 Make sure that all protective guards, doors, etc., are in place and secure.
- 4.3 Remove all loose objects stored in or on the machine. Remove all objects which do not belong in or on the machine and its equipment.
- 4.4 It is the operator's responsibility to point out each of the safety signs on the machine and insure the crew understands the importance of adhering to each of the safety signs.
- 4.5 It is the operator's responsibility to know that all underground utilities have been located before the bore is started, and to avoid them by using proper boring techniques.
- 4.6 In some instances venting of exhaust may be required. It is the operator's responsibility to be sure that the exhaust fumes have been properly vented.
- 4.7 Know and obey all federal, state, and local codes and regulations.
- 4.8 Make sure all personnel know and stay in their prescribed areas to insure a safe operation.

5. Starting and Stopping Precautions

- 5.1 Do not start machine until all personnel are clearly away from any rotating or moving parts.
- 5.2 Check operation of all machine controls before using the machine.
- 5.3 Make sure all servicing, as prescribed in the Operator's Manual, has been completed.
- 5.4 Start and operate the machine only from the operator's station.
- 5.5 Make sure all fluid lines are securely connected before starting the machine.
- 5.6 When shutting down machine, follow manufacturer's recommended procedure.
- 5.7 **Procedure for Shut Down**—Shut power source down, relieve system pressure, and remove the starter key (if so equipped).

6. Operating Precautions

- 6.1 Make sure all operating personnel observe and use safe operating practices, including adhering to all safety signs.
- 6.2 Watch that all personnel and objects are clearly away from any rotating or moving parts.
- 6.3 Never leave operator station while machine is in operation.
- 6.4 Do not operate machine unless protective guards, doors, etc., are in place.
- 6.5 Shut down machine at first sign of malfunction or hazardous condition.

7. Maintenance Precautions

- 7.1 Shut down power source and relieve system pressures before doing any maintenance.
- 7.2 Observe manufacturer's recommended maintenance procedures.
- 7.3 Maintenance should be done by trained personnel.
- 7.4 Do not modify the machine in any way.
- 7.5 Repair or replace damaged or missing protective guards, doors, etc.
- 7.6 Replace all missing, illegible, or damaged safety signs. Keep all safety signs clean.
- 7.7 Use a piece of cardboard or wood to check for pressurized leaks to prevent fluid penetrating the skin.

WARNING—Hydraulic fluid escaping under pressure can have sufficient force to enter a person's body by penetrating the skin and causing serious injury and possibly death if proper medical treatment by a physician familiar with this injury is not received immediately.

8. Fuel Handling Precautions

- 8.1 Do not smoke or permit open flames (which includes welding) while fueling or near fueling operations.
- 8.2 Do not refuel while engine is running, or while the engine is hot.
- 8.3 Do not refuel to tank capacity. Allow room for fuel expansion.
- 8.4 Tighten the fuel tank cap securely. If cap is lost, replace it with only the original manufacturer's approved cap.
- 8.5 Always use the correct grade of fuel.
- 8.6 Prevent fuel spillage by maintaining control of the fuel filler nozzle when filling the tank.
- 8.7 Clean up spilled fuel immediately.
- 8.8 Never use fuel for cleaning purposes.

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