



SURFACE VEHICLE STANDARD

J2583™

DEC2025

Issued 2002-06
Reaffirmed 2007-08
Revised 2025-12

Superseding J2583 FEB2013

Directional Drilling Planning and Mapping Nomenclature

RATIONALE

Organizations like AEM and CGA have been discussing the confusion in the industry in regard to the accuracy of data needed by municipalities and other groups when digging and boring for utility installation. A review and update of this document will be a first step to harmonizing requirements and information. SAE J2022 no longer includes horizontal earthboring machines, so the reference needed to be corrected to ISO 21467:2023.

1. SCOPE

This SAE Standard applies to planning and mapping various types of information associated with directional boring/drilling machines. This type of planning and mapping information is typically used with horizontal directional drilling (HDD) machines as defined by ISO 21467:2023.

1.1 Purpose

This is a compilation of terms and definitions commonly associated with the planning and mapping of underground pipe and utility installation by using HDD machines.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 ISO Publications

Copies of these documents are available online at www.iso.org/store.

ISO 21467:2023 Drilling and Foundation Machinery – Horizontal Directional Drilling (HDD) Machines – Commercial Specifications

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2025 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, or used for text and data mining, AI training, or similar technologies, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 1-877-606-7323 (U.S. and Canada only)
Tel: 1-724-776-4970 (outside U.S. and Canada)
Fax: 724-776-0790
Email: CustomerService@sae.org
<http://www.sae.org>

SAE WEB ADDRESS:

Full document details: SAE J2583_202512

For more information on this standard, visit https://www.sae.org/standards/content/J2583_202512/

Documents

Standard, visit Sharing Hub

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (U.S. and Canada only) or +1 724-776-4970 (Outside U.S. and Canada), www.sae.org.

SAE J2520 Classification, Nomenclature, and Specification Definitions for Directional Drilling Tracking Equipment

3. DEFINITIONS

3.1 BORE PATH

The planned, pilot, or installed route of the drilling from entry point to exit point.

3.1.1 PLANNED PATH

The planned location for the bore.

3.1.2 INSTALLED PATH or AS-BUILT

The centerline of the completed bore.

3.1.3 PILOT BORE PATH

The centerline location of the pilot bore.

3.2 BORE PATH LENGTH

The distance from the entry point to the exit point along the actual bore path.

3.3 DEPTH

The vertical distance from the surface to the transmitter.

3.4 HEIGHT

The vertical dimension above or below a horizontal reference plane.

3.5 ELEVATION

The vertical dimension above/below sea level.

3.6 HEADING

The azimuth or direction in the horizontal plane relative to true or magnetic north.

3.7 PILOT BORE

The initial hole created by the forward progress of the tool head.

3.8 DEVIATION

The distance offset from the planned path to the pilot bore or the installed path.