



SURFACE VEHICLE STANDARD

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Commercial Literature Specifications - Off-Road Work Machines

RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future.

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Foreword—This Document *has also changed* to comply with the new SAE Technical Standards Board Format.

1. Scope—This standard is applicable to off-road work machines - base machine and its equipment included in categories 1.1, 1.2, 2, 4, and 5 of SAE J1116.

1.1 Purpose—This standard identifies commercial literature specifications which are to describe minimum technical data included in specification publications.

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 revision of SAE publications shall apply.

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

SAE J1116—Categories of Off-Road Self-Propelled Work Machines

2.2 Related Publications—The following publications are provided for information purposes only and are not a required part of this document.

2.2.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1057—Identification Terminology of Earthmoving Machines

SAE J1349—Engine Power Test Code—Spark Ignition and Diesel

SAE J741—Capacity Ratings—Scraper, Dumper Body, and Trailer Body

SAE J742—Capacity Rating—Loader Bucket

SAE J1363—Capacity Rating—Dumper Body and Trailer Body

SAE J872—Reserve Tractive Ability Test Code

2.2.2 ISO PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

ISO 6165—Basic types—Vocabulary
ISO 6747—Tractors—Terminology
ISO 7131—Loaders—Terminology and commercial specifications
ISO 7132—Dumpers—Terminology and commercial specifications
ISO 7133—Tractor-scrappers—Terminology and commercial specifications
ISO 7134—Graders—Terminology and commercial specifications
ISO 7135—Excavators—Terminology and commercial specifications
ISO 7136—Pipelayers—Terminology and commercial specifications
ISO 1585—Engine test code—Net power
ISO 6483—Dumper bodies—Volumetric rating
ISO 6484—Elevating scrapers—Volumetric rating
ISO 7546—Loader and front loading excavator buckets—Volumetric rating
ISO 7464—Method of test for the measurement of drawbar pull

3. **Base Machine Model Designation**—Model name and number.

3.1 **Power Type**

3.1.1 Manufacturer and model number

3.1.2 Reciprocating internal combustion

3.1.2.1 Ignition (diesel or spark)

3.1.2.2 Cycle (2 or 4 stroke)

3.1.2.3 Aspiration (natural, mechanically supercharged, or turbocharged)

3.1.2.4 Number of cylinders

3.1.2.5 Bore, mm (in)

3.1.2.6 Stroke, mm (in)

3.1.2.7 Displacement, L (in³)

3.1.2.8 Net power at rpm, kW (hp)

3.1.2.9 Maximum torque at rpm, N.m (lb ft)

3.1.2.10 Types of fuel

3.1.2.11 Cooling system (water or air cooled)

3.1.2.12 Electrical system, nominal voltage, and maximum amperage

3.2 Power Train

- 3.2.1 Transmission type (manual shift, power shift, hydrostatic, electric etc.)
- 3.2.2 Clutch or torque converter type
- 3.2.3 Differential type and ratio
- 3.2.4 Drive axle and ratio
- 3.2.5 Final drive type and ratio

3.3 Steering System

- 3.3.1 Type (front or rear wheel, articulated, clutch and brake, planetary, etc.)
- 3.3.2 Power source type (manual, power-assist, full-power)
- 3.3.3 Secondary steering type

3.4 Hydraulic System

- 3.4.1 Circuit Functions
- 3.4.2 Pump Type and Capacity - L per min (U.S. gal per min) at rated engine rpm and rated pressure in kPa (lbf/in²) at stated temperature °C (°F)
- 3.4.3 System Rated Pressure - kPa (lbf/in²) at rated flow in L per min (U.S. gal per min) at stated temperature °C (°F)
- 3.4.4 Hydraulic Motor Type and Capacity - kW (hp) at rated pressure in kPa (lbf/in²) and speed
- 3.4.5 Hydraulic Cylinder
 - 3.4.5.1 Function (lift, steering, etc.)
 - 3.4.5.2 Type (single or double acting)
 - 3.4.5.3 Bore and stroke, mm (in)
 - 3.4.5.4 Rod diameter, mm (in)
- 3.4.6 Hydraulic Filters - Full-flow, bypass, cartridges, screen, suction, return or pressure

3.5 Braking System

- 3.5.1 Service brake type and actuating system
- 3.5.2 Parking brake type and actuating system
- 3.5.3 Retarder type and actuating system
- 3.5.4 Secondary brake system type and actuating system