

# SURFACE VEHICLE RECOMMENDED PRACTICE

Submitted for recognition as an American National Standard

**SAE** J1255

REAF.  
JAN85

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Superseding J1255 JAN79

## SPECIFICATION DEFINITIONS—FELLER/BUNCHER

1. **Purpose**—The purpose of this SAE Recommended Practice is to provide a uniform method of defining specification terms for feller/bunchers. (See SAE J1209 (November, 1977).)
2. **Scope**—This recommended practice includes the definitions of specification terms most commonly used to describe both wheeled and crawler type machines.
3. **Specification—General**—This recommended practice includes the definitions of specification terms peculiar to and most commonly used to describe feller/bunchers. The specifications described must be qualified by stating the track shoe type and width or the tire size, ply rating and specified inflation pressure and amount of counterweight or ballast with which the machine is equipped. For articulated machines, all specifications are with the axles parallel unless otherwise specified. When specifications are affected by adjustable or extendable members, their position must be determined. The illustrations used are not intended to be descriptive of any existing machine and are used here only to clarify the meaning of the standard. The dimensions indicated are basic and may be supplemented by the machine manufacturer.
4. **Definitions**
  - 4.1 **Right Hand and Left Hand**—Defined as being the operator's right-hand or left-hand side, respectively, with the operator facing in the normal direction of travel and the machine in its primary functional mode.
  - 4.2 **Front and Rear**—Defined as being to the front or rear of the operator, respectively, when in the position described in paragraph 4.1.
  - 4.3 **Felling Head Vertical Centerline**—Defined as being the vertical centerline of the largest diameter tree the felling head is designed to cut.
5. **Specification Definitions**
  - 5.1 **Operating Weight**—As defined in SAE J1234 (June, 1978).

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## SAE J1255 Reaffirmed JAN85

- 5.2 Overall Length (A)<sup>1</sup>**—The horizontal distance in millimeters (inches) from a vertical plane touching the rearmost point of the machine to a vertical plane touching the forwardmost point of the felling head with the felling head positioned in the normal transport configuration. (Transport is defined as machine-powered movement between work sites and/or unloaded movement between areas within a work cycle.)
- 5.3 Overall Height (B)<sup>1</sup>**—The vertical distance in millimeters (inches) between the horizontal ground plane and a horizontal plane passing through the highest point of the machine with the felling head positioned as described in paragraph 5.2.
- 5.4 Overall Width (C)<sup>1</sup>**—The distance in millimeters (inches) between two vertical planes parallel to the machine's longitudinal axis and passing through the farthest points on the two sides of this axis with the felling head positioned as described in paragraph 5.2.
- 5.5 Wheelbase or Length of Track on Ground (D)**—As defined in SAE J1234 (June, 1978).
- 5.6 Track Gauge or Thread (E)**—As defined in SAE J1234 (June, 1978). If the front and rear are different, both must be specified.
- 5.7 Ground Clearance (F)**—As defined in SAE J1234 (June, 1978).
- 5.8 Longitudinal Felling Head Rotation (G)**—The total angle in degrees that the felling head rotates about the felling head pivot pin. (See SAE J1254 (April, 1979).)
- 5.8.1 REARWARD FELLING HEAD ROTATION (G1)**—The angle in degrees that the felling head vertical centerline rotates rearward when the felling head is positioned on the horizontal ground plane.
- 5.8.2 FORWARD FELLING HEAD ROTATION (G2)**—The angle in degrees that the felling head vertical centerline rotates forward when the felling head is positioned on the horizontal ground plane.
- 5.9 Lateral Felling Head Rotation (H)**—The total angle in degrees that the felling head rotates in a plane perpendicular to the longitudinal centerline of the machine with the booms and felling head positioned on or parallel to the longitudinal centerline.
- 5.10 Cutting Distance (I, R, S, T)**—The horizontal distance in millimeters (inches) from the boom mast axis of rotation, the turn-table axis of rotation (see SAE J1254 (April, 1979)) or the front axle to the felling head vertical centerline when the vertical centerline is perpendicular to the horizontal ground plane:
- (I) With the felling head on the horizontal ground plane and at its minimum distance from the machine.
  - (R) With the felling head on the horizontal ground plane and at its maximum distance from the machine.
  - (S) With the felling head at its maximum distance above the horizontal ground plane.
  - (T) With the felling head at its maximum distance below the horizontal ground plane.
- 5.11 Machine Cutting Depth (J)**—The maximum vertical distance in millimeters (inches) below the horizontal ground plane to a horizontal plane through the top of the cutting edge when the vertical centerline of the felling head is perpendicular to the horizontal reference plane.

<sup>1</sup> (A), (B), and (C) are to be simultaneous measurements.

SAE J1255 Reaffirmed JAN85

- 5.12 Maximum Cutting Height (K)**—The maximum vertical distance in millimeters (inches) above the horizontal ground plane to a horizontal ground plane through the bottom of the cutting edge when the vertical centerline of the felling head is perpendicular to the horizontal ground plane.
- 5.13 Maximum Tree Diameter**—The largest diameter tree (at specified cutting height) in millimeters (inches) that the machine is designed to fell and bunch.
- 5.14 Boom Swing, R.H. (L)**—The angle in degrees from the longitudinal axis of the machine to the longitudinal center of the boom at maximum right swing position.
- 5.15 Boom Swing, L.H. (M)**—The angle in degrees from the longitudinal axis of the machine to the longitudinal center of the boom at maximum left swing position.
- 5.16 Machine Clearance Circle (N)**—As defined in SAE J695a (June, 1971) with the following additional restrictions:
- (a) Brakes cannot be used.
  - (b) Felling head to be in the normal carry position.
  - (c) Articulated machines to be fully articulated.
- 5.17 Minimum Swing Circle (O)**—The smallest diameter in millimeters (inches) that the outermost point on the machine or felling head will describe when the turntable and/or booms and felling head are swung to their limits. The felling head is to be in the normal swing position and as close to the machine as possible without making contact with a non-rotating structural member.
- 5.18 Average Ground Pressure**—The operating weight of the machine divided by the ground contact area (as defined in SAE J1234 (June, 1978)) expressed in kilopascals (pounds per square inch).
- 5.19 Loaded Tire Radius (P)**—The vertical distance in millimeters (inches) from the horizontal center of the wheel to the horizontal ground plane.
- 5.20 Minimum Stump Height (Q)**—The vertical distance in millimeters (inches) from bottom of the felling head to the bottom of the tree severing means.

PREPARED BY THE SAE OFF-ROAD MACHINERY TECHNICAL COMMITTEE

SAE J1255 Reaffirmed JAN85

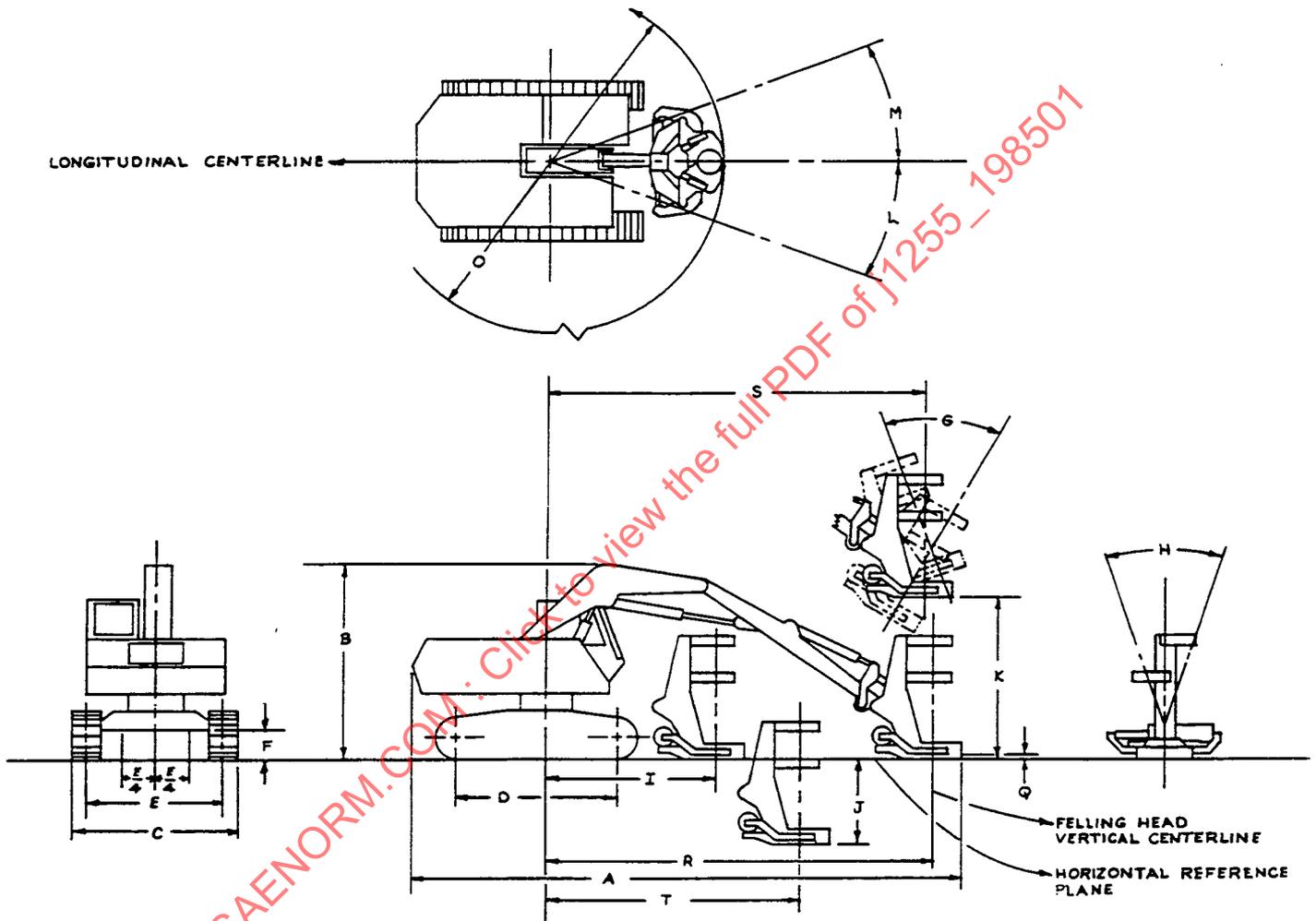


FIG. 1