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Superseded by J113862

Specification Definitions—Feller/Buncher

1. Scope—This SAE Standard includes the definitions of specification terms most commonly used to describe both wheeled and track type feller bunchers.

1.1 Purpose—The purpose of this document is to provide a uniform method of defining specification terms for feller bunchers.

This document 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 stated. All dimensions are for a machine on a level surface. The illustrations used are not intended to be descriptive of any existing machine and are used here only to clarify the meaning of the document. The dimensions indicated are basic and may be supplemented by the machine manufacturer.

2. References

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

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

SAE J1234—Specification Definitions—Off-Road Work Machines

SAE J1254—Component Nomenclature—Feller Buncher

2.2 Related Publication—The following publication is provided for information purposes only and is not a required part of this document.

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

SAE J1209—Identification Terminology of Mobile Forestry Machines

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3. Definitions

- 3.1 Right Hand and Left Hand**—The operator's right-hand side or left-hand side, respectively, with the operator facing in the normal direction of travel and the machine in its primary functional mode.
- 3.2 Front and Rear**—The front or rear of the operator, respectively, when in the position described in 3.1.
- 3.3 Felling Head Vertical (Tree) Centerline**—The vertical centerline of the largest diameter tree the felling head is designed to cut.
- 3.4 Horizontal Ground Plane**—Flat, level surface.
- 3.5 Levelling Mechanism**—A mechanism or a linkage between the undercarriage and the upperstructure whose function is to maintain the upperstructure (in a horizontal plane) irrespective of the angle of the undercarriage (within the machine operating limits).

4. Specification Definitions

- 4.1 Operating Mass**—As defined in SAE J1234.
- 4.2 Overall Length (A)**—The horizontal distance 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 levelling mechanism (if equipped) parallel to the horizontal ground plane and the felling head positioned on the horizontal ground plane at maximum reach. (Figure 1 and Figure 2)
- 4.3 Overall Height (B)**—The vertical distance between the horizontal ground plane and a horizontal plane passing through the highest point of the machine with the levelling table (if equipped) parallel to the horizontal ground plane and the felling head positioned as described in 4.2. (Figure 1 and Figure 2)
- 4.4 Overall Width (C)**—The distance 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 4.2. (Figure 1 and Figure 2)
- 4.5 Wheelbase or Length of Track on Ground (D)**—As defined in SAE J1234. (Figure 1 and Figure 2)
- 4.6 Track Gauge or Thread (E)**—As defined in SAE J1234. If the front and the rear are different, both must be specified. (Figure 1 and Figure 2)
- 4.7 Ground Clearance (F)**—As defined in SAE J1234. (Figure 1 and Figure 2)
- 4.8 Upperstructure Tilt**
- 4.8.1 LONGITUDINAL TILT FORWARD AND REARWARD (G_F AND G_R)—The maximum angle in degrees that the levelling mechanism is capable of levelling the upperstructure in forward and rearward direction. (Figure 1)
- 4.8.2 SIDE TILT (H_R AND H_L)—The maximum angle in degrees that the levelling mechanism is capable of levelling the upperstructure to the right and to the left in plane perpendicular to the longitudinal centerline of the machine. (Figure 1)
- 4.9 Felling Head Tilt**
- 4.9.1 LONGITUDINAL FORWARD AND REARWARD TILT (I_1 AND I_2)—The maximum angle in degrees that the felling head vertical centerline tilts forward or rearward about the felling head pivot (see SAE J1254), with the felling head positioned as described in 4.2. (Figure 1 and Figure 2)

4.9.2 **SIDE TILT ANGLE (J_R AND J_L)**—The maximum angle in degrees that the felling head rotates to the right and to the left 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. (Figure 1 and Figure 2)

4.10 **Cutting Distance (K,L,M,N)**—The horizontal distance from the boom mast axis of rotation, the turn-table axis of rotation (see SAE J1254) or the front axle to the felling head vertical tree centerline when the vertical centerline is perpendicular to the horizontal ground plane:

(K) With the felling head on the horizontal ground plane and at its minimum distance from the machine. (Figure 1 and Figure 2)

(L) With the felling head on the horizontal ground plane and at its maximum distance from the machine. (Figure 1 and Figure 2)

(M) With the felling head at its maximum distance above the horizontal ground plane. (Figure 1 and Figure 2)

(N) With the felling head at its maximum distance below the horizontal ground plane. (Figure 1 and Figure 2)

4.11 **Machine Cutting Depth (O)**—The maximum vertical distance below the horizontal ground plane to a horizontal plane through the bottom of the cutting edge when the vertical tree centerline of the felling head is perpendicular to the horizontal reference plane. (Figure 1 and Figure 2)

4.12 **Maximum Cutting Height (P)**—The maximum vertical distance above the horizontal ground plane through the bottom of the cutting edge when the vertical tree centerline of the felling head is perpendicular to the horizontal ground plane. (Figure 1 and Figure 2)

4.13 **Maximum Tree Diameter**—The largest diameter tree that the machine is designed to fell in a single cut.

4.14 **Boom Swing (Q_R and Q_L)**—The angle in degrees from the longitudinal axis of the machine to the longitudinal center of the boom at maximum right and left swing position. (Figure 1)

4.15 **Machine Clearance Circle (R)**—As defined in SAE J1234 (Figure 2) with the following additional restrictions:

- a. Brakes cannot be used
- b. Felling head to be at ground level
- c. Articulated machines to be fully articulated

4.16 **Minimum Swing Circle (S)**—The smallest diameter 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. (Figure 1)

4.17 **Tail Swing Radius (T)**—The maximum described radius from the centerline of rotation to the outermost point of the upperstructure with the levelling table (if equipped) parallel to the horizontal ground plane. (Figure 1)

4.18 **Average Ground Pressure**—The operating mass of the machine divided by the ground contact area as defined in SAE J1234 expressed in kilopascals.

4.19 **Loaded Tire Radius (U)**—The vertical distance from the horizontal center of the wheel to the horizontal ground plane. (Figure 1)

4.20 **Minimum Stump Height (V)**—The vertical distance from bottom of the felling head to the bottom of the tree cutting edge. (Figure 1 and Figure 2)

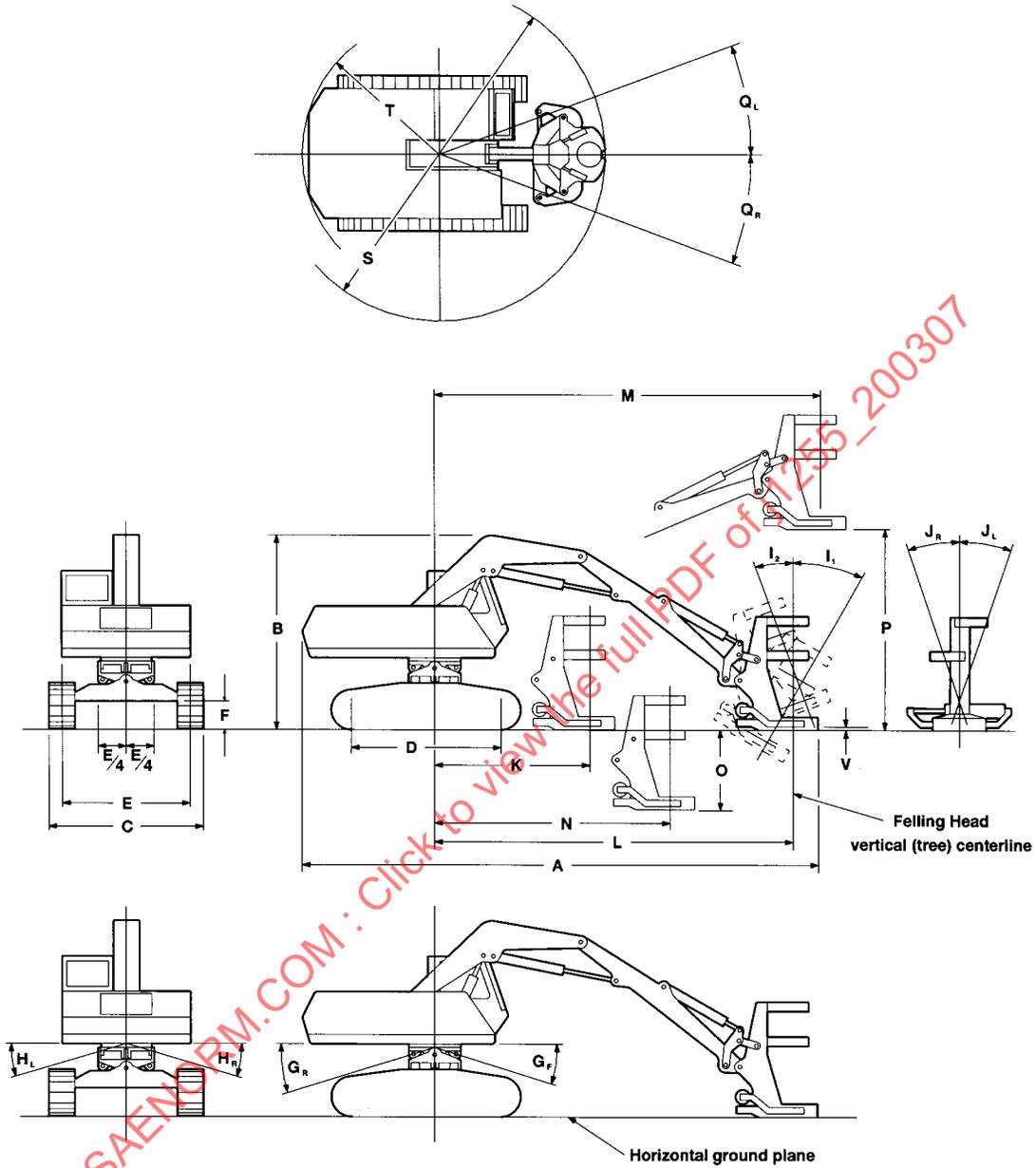


FIGURE 1—FELLER BUNCHER—SWING TO BUNCH—TRACK TYPE