

Nomenclature and Specification Definitions—Dozers

1. **Scope**—This standard is applicable to dozers which are commonly used on crawler and wheel tractors as defined in SAE J1057.

1.1 **Purpose**—This standard provides the names of major components of dozers which include a blade and all associated structural elements, normally mounted in front of a self-propelled machine for scraping and pushing materials through forward motion of the machine. It also includes dimensional specification definitions applicable to dozers.

2. References

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

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

SAE J1057—Identification Terminology of Earthmoving Machines

SAE J1234—Specification Definitions—Off-Road Work Machines

3. Definitions

3.1 **General**—When the dozer is mounted on a tractor or other machine, the dozer specifications should be qualified by stating track shoe type or tire type, size, ply and specified inflation pressure. Vertical measurements are referenced to the horizontal reference plane, which is tangent to the face of the track shoes for track machines and to the loaded tire radius for wheel machines. Refer to SAE J1234 for further definitions.

3.2 **Lift Height (A)**—The maximum vertical distance in mm that the center of the cutting edge, in mid-pitch position, can be raised above ground while maintaining zero tilt and angle.

3.3 **Blade Height (B)**—The vertical distance in mm from the cutting edge resting on ground to the top of the blade (excluding name plate and spill guard) with the blade in mid-pitch position.

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3.4 Blade Pitch (C)

- 3.4.1 **PITCH**—The fore and aft movement of the blade around the blade pivot expressed in deg of total movement, with the cutting edge at ground level.
- 3.4.2 **MID-PITCH**—Blade positioned forward from the rearmost pitch position an angle equal to one-half of the total blade pitch.

3.5 Depth of Cut (D)—The maximum vertical distance in mm that the center of the cutting edge, in mid-pitch position, can be lowered below ground while maintaining zero tilt and angle.

3.6 Blade Tilt (E)—The vertical distance in mm that the end bit can be raised from horizontal. If opposite ends vary, specify both.

3.7 Blade Width (F)

- 3.7.1 **WIDTH, WITH END BITS (F₁)**—The distance in mm from outside to outside of the blade, including end bits. Specify end bit used.
- 3.7.2 **WIDTH, LESS END BITS (F₂)**—The maximum distance in mm from outside to outside of the blade, exclusive of end bits.

3.8 Blade Angle (G)—The horizontal angle in degrees that the blade in the mid position can be angled to either side.

3.9 Lift Speed—The rate of cutting edge travel to raise from ground level to full height expressed in m per second, engine at rated rpm.

4. Nomenclature—The specific names of the various components of a dozer are shown in Table 1 and are illustrated in Figure 1 and Figure 2.

TABLE 1—NOMENCLATURE

- | | |
|---------------------------|------------------------------------|
| 1. Swivel, blade | 12. Strut, angling |
| 2. C-frame | 13. Member, cushion |
| 3. Trunnion | 14. Bearing, trunnion |
| 4. Strut, horizontal | 15. Tube, yoke or trunnion support |
| 5. Beam, push | 16. Yoke, cylinder |
| 6. Plow bolt | 17. Frame, tilt |
| 7. Bracket, angling strut | 18. Frame, angling |
| 8. Edge, cutting | 19. Cylinder, lift |
| 9. Bit, end | 20. Cylinder, angling |
| 10. Jack, adjusting | 21. Blade |
| 11. Frame, push | |

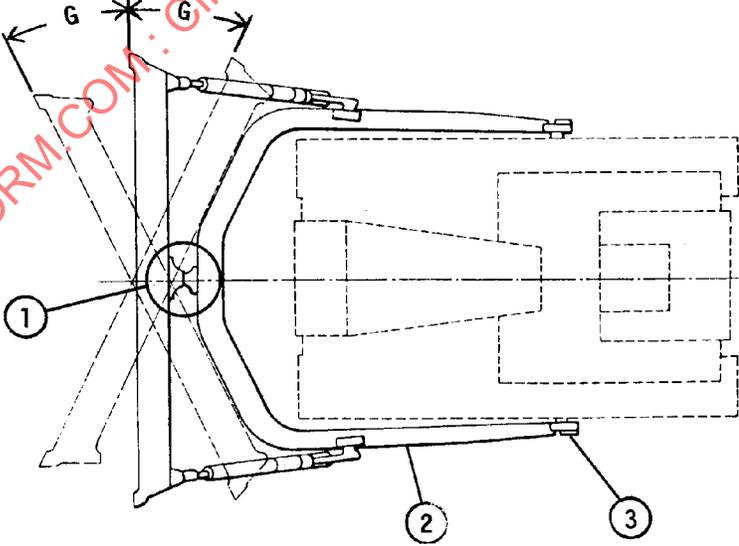
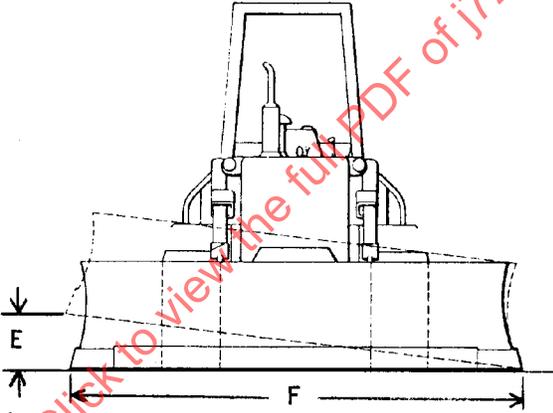
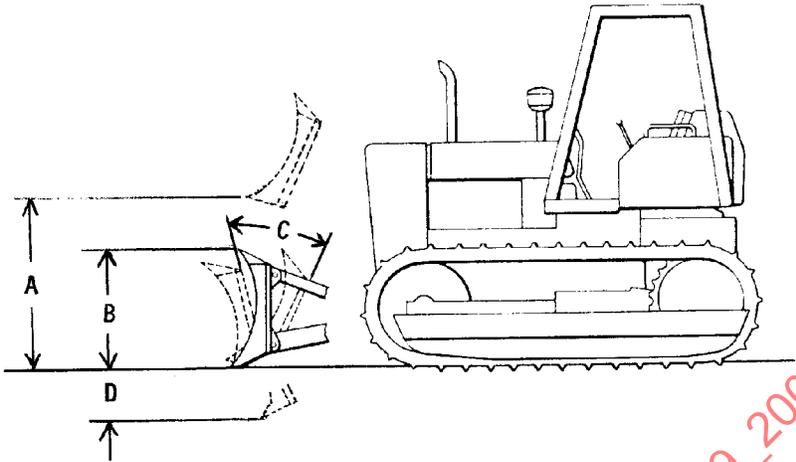
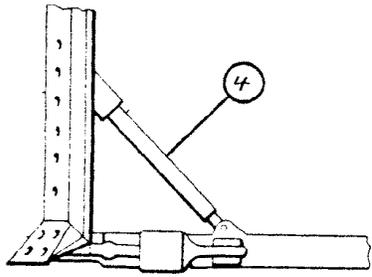
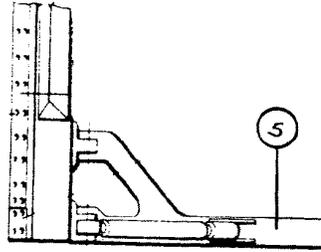


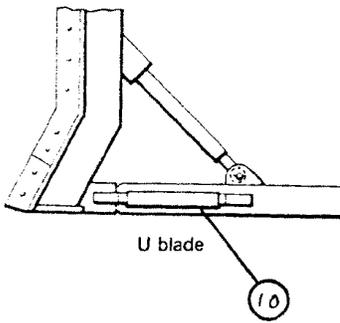
FIGURE 1—



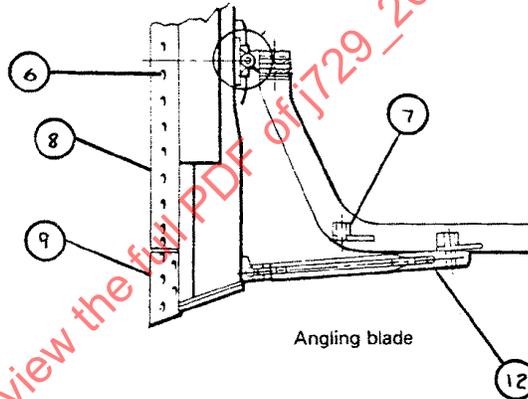
Semi-U blade



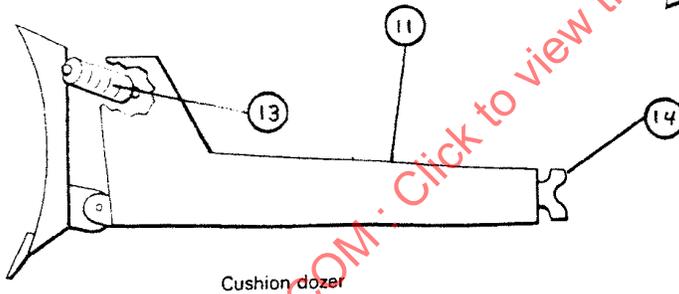
Straight blade



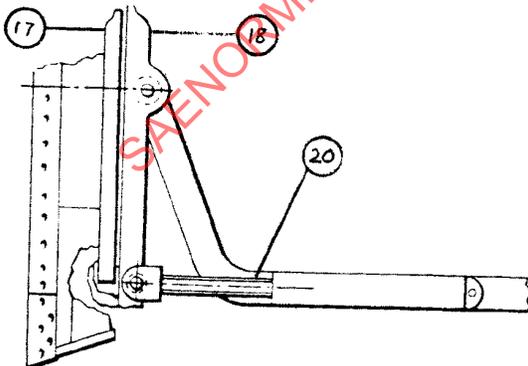
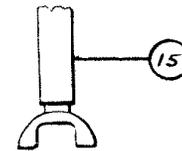
U blade



Angling blade



Cushion dozer



Power (angle and tilt) blade dozer

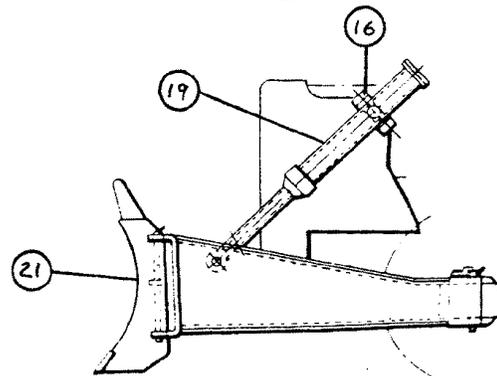


FIGURE 2—

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