SAE International™

SURFACE VEHICLE STANDARD

SAE J1111

REAF. AUG2007

Issued 1975-05
Reaffirmed 2007-08

Superseding J1111 DEC2002

Component Nomenclature—Skidder-Grapple

1. Scope—This SAE Standard characterizes grapple skidders and identifies the major components and parts most commonly associated therewith. Illustrations used herein are not intended to include all existing commercial machines or to be exactly descriptive of any particular machine. They have been included to facilitate application of this document.

1.1 Rationale—This document has been reaffirmed to comply with the SAE 5-Year Review policy.

2. References

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

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J1110—Specification Definitions—Articulated, Rubber-Tired Log Skidder
SAE J1112—Specification Definitions—Skidder-Grapple

3. Characteristics

3.1 Grapple Assembly

3.1.1 LONG ARM (FIGURE 1)—Grapple arm cylinders are exposed and each operates the grapple arm on its side (left or right) of the grapple head.

3.1.2 SINGLE CYLINDER CRADLE (FIGURE 2)—Grapple arms are operated by a grapple arm cylinder and timing link which are enclosed.

3.1.3 DUAL CYLINDER CRADLE (FIGURE 3)—Grapple arm cylinders are enclosed and each operates the grapple arm on the opposite side (left or right) of the grapple head.

3.2 Boom Assembly

3.2.1 SINGLE FUNCTION (FIGURES 4 AND 5)—This configuration consists of a boom and dual cylinders. Grapple pivot movement is through a fixed arc.

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3.2.2 DUAL ARCH (FIGURE 6)—This configuration consists of a boom and two arches. Dual hydraulic cylinders may be attached to either the front or rear arch. Grapple pivot movement is through a fixed path.

3.2.3 DUAL FUNCTION (FIGURE 7)—This configuration consists of a boom, one arch, and two pairs of hydraulic cylinders which provide increased grapple pivot working range.

3.2.4 SWING (FIGURE 8)—This configuration consists of two booms and associated cylinders which provide both horizontal and vertical grapple pivot movement. A swing mast provides for rotation around a vertical axis to either side of the longitudinal centerline of the rear frame of the machine.

Each configuration may accommodate either type grapple (long arm or cradle arm), but either the grapple head or boom must incorporate a grapple rotator in order to achieve rotation of the grapple head.

Inclusion of a fairlead assembly is optional.

4. Nomenclature

1. Grapple Swing Damper
2. Grapple Rotator Yoke
3. Grapple Pivot
   a. Upper
   b. Lower
4. Grapple Head
5. Grapple Arm Cylinder
6. Grapple Arm
7. Grapple Rotator
8. Timing Link
9. Boom Cylinder
10. Fairlead Assembly
11. Boom
12. Boom Pivot
    a. Log Bumper Mounted
    b. Frame Mounted
13. Front Arch
14. Arch Cylinder
15. Rear Arch
16. Swing Mast
17. Secondary Boom Cylinder
18. Secondary Boom Pivot
19. Secondary Boom

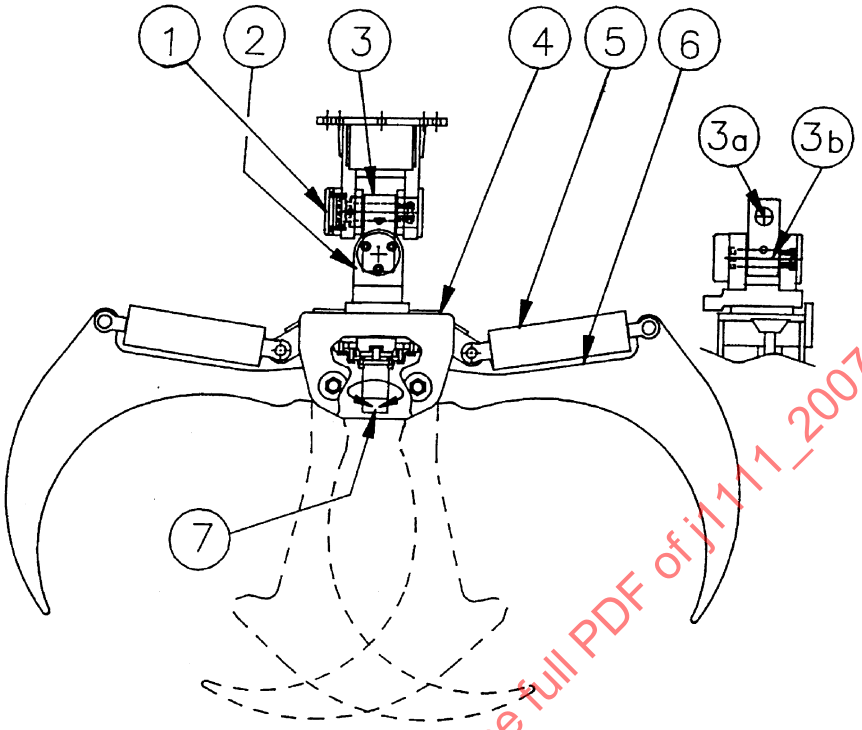

FIGURE 1—LONG ARM GRAPPLE

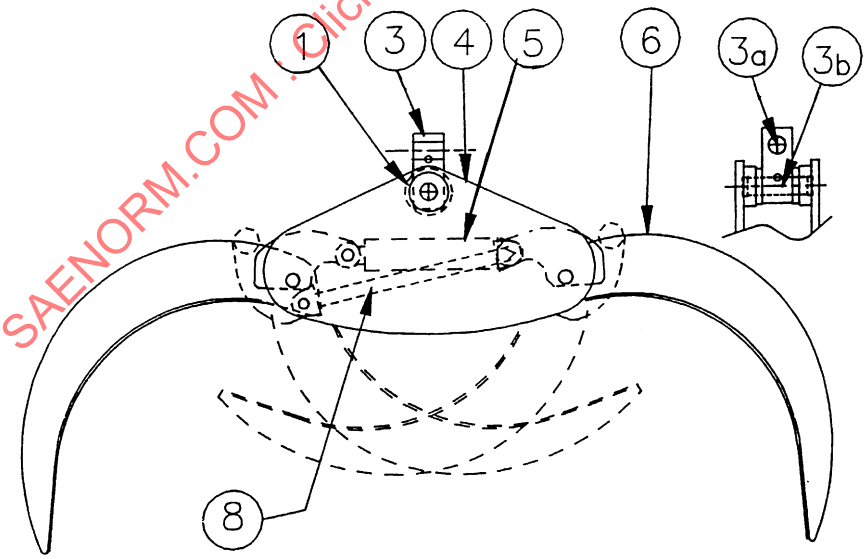

FIGURE 2—SINGLE CYLINDER CRADLE GRAPPLE

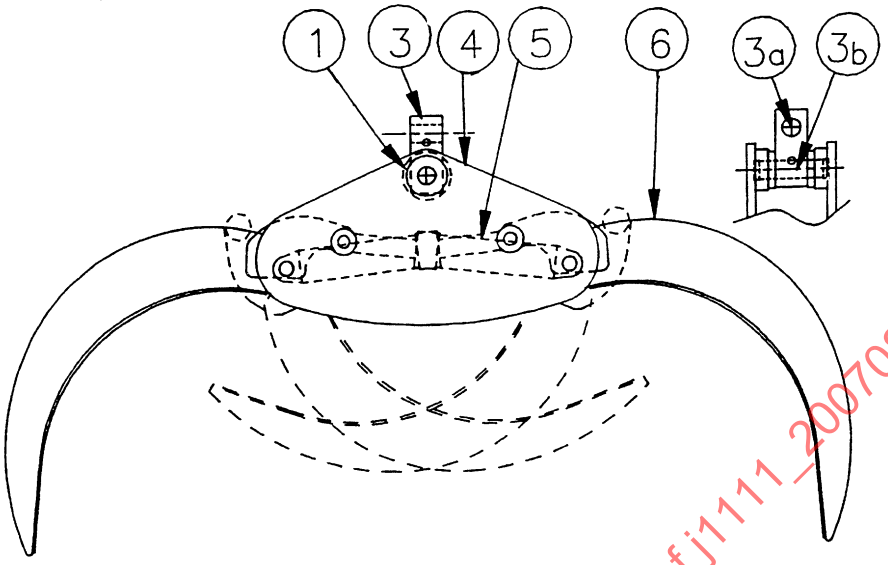

FIGURE 3—DUAL CYLINDER CRADLE GRAPPLE

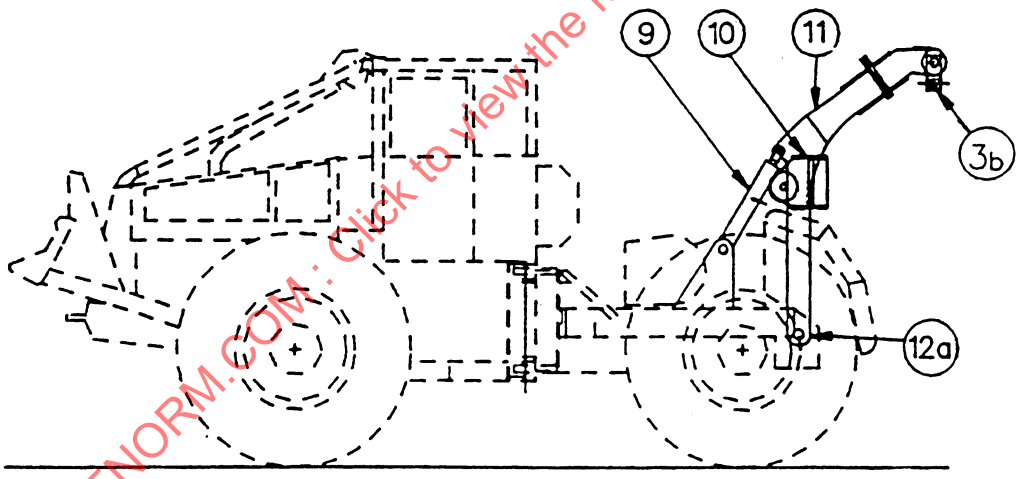

FIGURE 4—SINGLE FUNCTION BOOM ASSEMBLY—LOG BUMPER MOUNTED