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SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J393

REV. JUL2001

Issued 1969-06
Revised 2001-07

Superseding J393 OCT1991

Submitted for recognition as an American National Standard

(R) Nomenclature—Wheels, Hubs, and Rims for Commercial Vehicles

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

1. Scope—This SAE Recommended Practice establishes uniform engineering nomenclature for wheels, hubs, rims, and their components used in truck, bus, and trailer applications. This nomenclature and accompanying drawings are intended to define functional truck wheel, hub, and rim designs. The International Standard (ISO) nomenclature is shown in parentheses when different than SAE J393.

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.

SAE J694—Disc Wheel/Hub or Drum Interface Dimensions—Commercial Vehicles
SAEJ851—Dimensions—Wheels for Demountable Rims, Demountable Rims and Spacers—Commercial Vehicles
SAE J1982—Nomenclature—Wheels for Passenger Cars, Light Trucks, and Multipurpose Vehicles

2.1.2 ISO PUBLICATIONS—Available from ANSI, 11 West 42nd Street, New York, NY 10036-8002.

ISO 3911—Wheels/rims for Pneumatic Tyres—Nomenclature, Designation, and Marking

3. Definitions

3.1 Rim—Supporting member for the tire or tire and tube assembly (Figure 1).

3.2 Disc Wheel—A permanent combination of a rim and a disc (Figures 2, 3 and 4).

3.3 Disc (Spider)—The center member of a disc wheel.

3.4 Hub—A rotating member which provides for disc wheel mounting (Figure 5).

3.5 Spoke Wheel (Wheel for Demountable Rim)—A rotating member which provides for mounting and support of one or two demountable rims (Figures 6 and 7).

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3.6 Highway Speed—A speed of over 30 mph on improved roads.

3.7 Radial Runout—Total indicator reading in the radial direction, taken at the rim bead seat, for one revolution, with the wheel located on the specified datum (Figure 8).

3.8 Lateral Runout—Total indicator reading in the lateral direction, taken at the rim bead seat, for one revolution, with the wheel located on the specified datum (Figure 9).

3.9 Datum—The combination of physical features used to locate a wheel during runout measurement. (Figures 8 and 9).

3.10 Average Radial Runout—The total indicator reading obtained by simultaneous averaging both bead seats radial runout readings.

3.11 Average Lateral Runout—The total indicator reading obtained by simultaneous averaging both bead seats lateral runout readings.

3.12 Demountable Rim—A rim with permanent 28 degrees bevel mountings (Figures 1, 6 and 7).

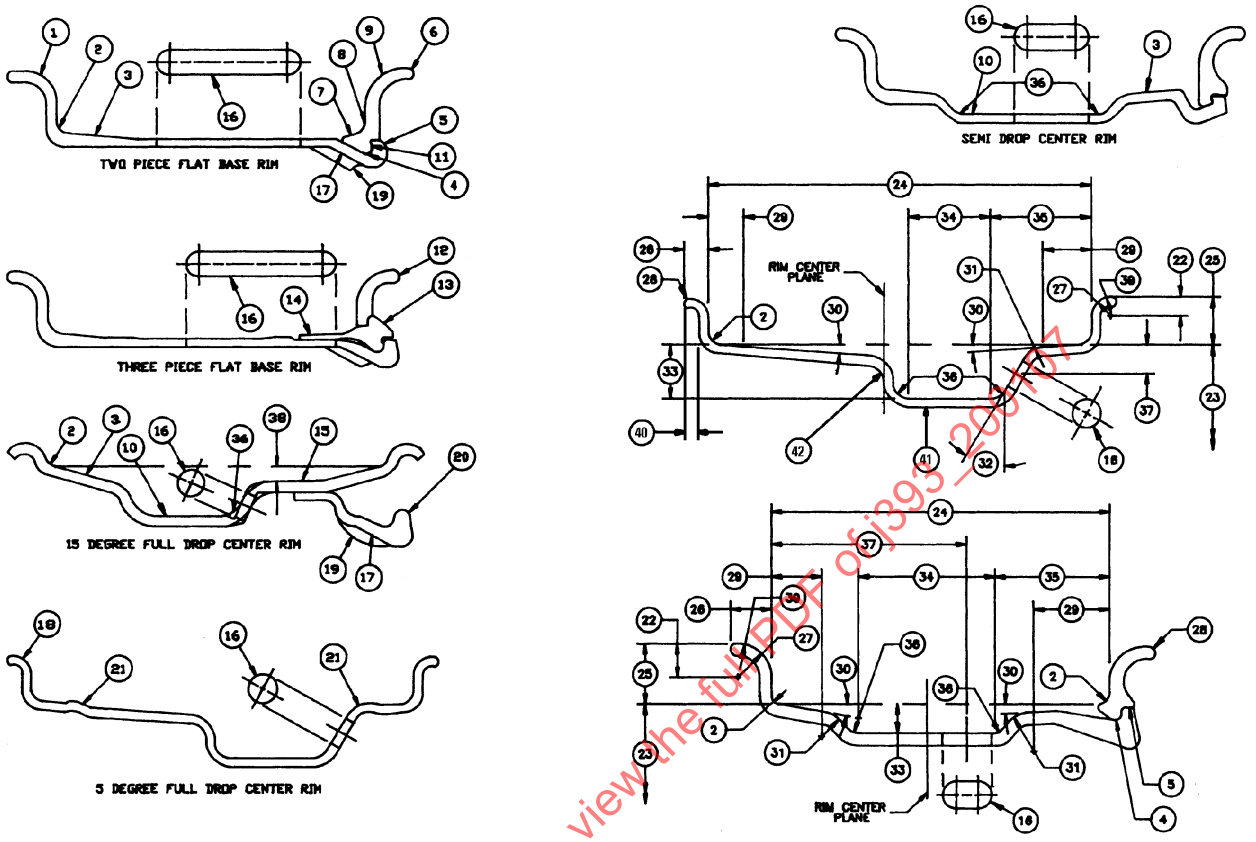
3.13 Adaptor—A 28 degree bevel mounting member of a tubeless demountable rim. (Figures 1, 6 and 7).

3.14 Hub—The rotating member that represents the attachment face for wheel discs.

3.15 Inset Wheel—A wheel so constructed that the center plane of the rim is located inboard of the attachment face of the disc. Inset is the distance from the attachment face of the disc to the center plane of the rim (See Figure 4).

3.16 Zeroset Wheel—A wheel so constructed that the center plane of the rim is coincident with the attachment face of the disc. (See Figure 4).

3.17 Outset Wheel—A wheel so constructed that the center plane of the rim is located outboard of the attachment face of the disc. Outset is the distance from the attachment face of the disc to the center plane of the rim. (See Figure 4).



1. RIM FIXED FLANGE
2. BEAD SEAT RADIUS
3. BEAD SEAT
4. GUTTER GROOVE
5. GUTTER TIP
6. REMOVABLE SIDE RING (DETACHABLE SPRING FLANGE)
7. SIDE RING TOE
8. SIDE RING BEAD SEAT RADIUS
9. SIDE RING FLANGE
10. RIM WELL
11. RIM GUTTER HOOK
12. REMOVABLE CONTINUOUS SIDE RING (DETACHABLE ENDLESS FLANGE)
13. REMOVABLE LOCK RING (SPRING LOCK RING)
14. LOCK RING TOE
15. INFLATION LEDGE
16. VALVE HOLE OR SLOT (VALVE APERTURE)
17. 28 DEGREE BEVEL
18. RIM FLANGE
19. VALVE HOLE LOCATORS
20. ADAPTOR
21. HUMP
22. FLANGE RADIUS LOCATION
23. SPECIFIED RIM DIAMETER
24. SPECIFIED RIM WIDTH
25. FLANGE HEIGHT
26. FLANGE WIDTH
27. FLANGE RADIUS
28. FLANGE TIP RADIUS (FLANGE EDGE RADIUS)
29. BEAD SEAT WIDTH
30. BEAD SEAT ANGLE
31. WELL TOP RADIUS
32. WELL ANGLE
33. WELL DEPTH
34. WELL WIDTH
35. WELL POSITION
36. WELL BOTTOM RADIUS
37. VALVE HOLE OR SLOT LOCATION (VALVE APERTURE LOCATION)
38. LEDGE DEPTH
39. FLANGE COMPOUND RADIUS
40. FLANGE OFFSET
41. RIM INSIDE DIAMETER
42. WELL WALL RADIUS

FIGURE 1—RIM NOMENCLATURE

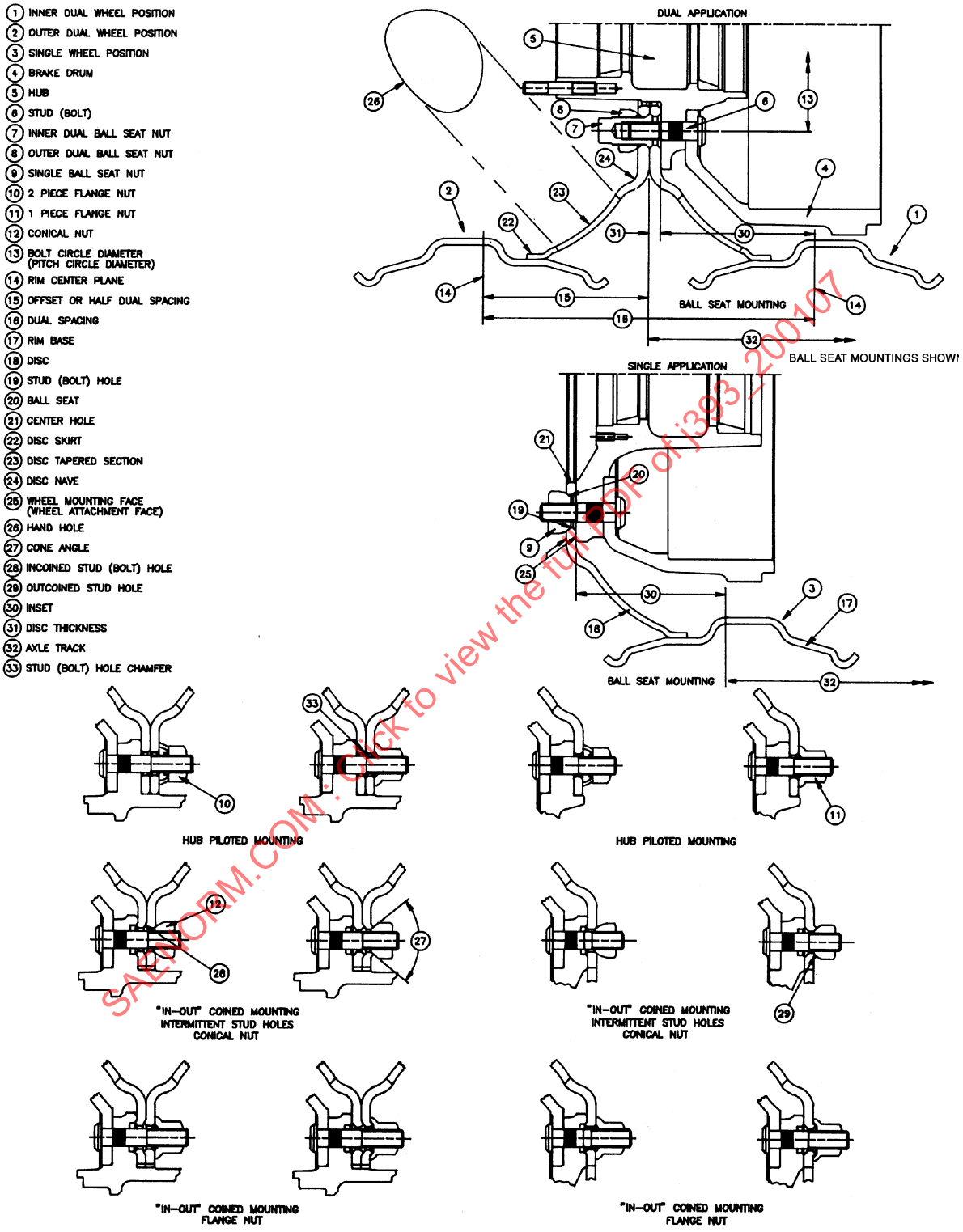
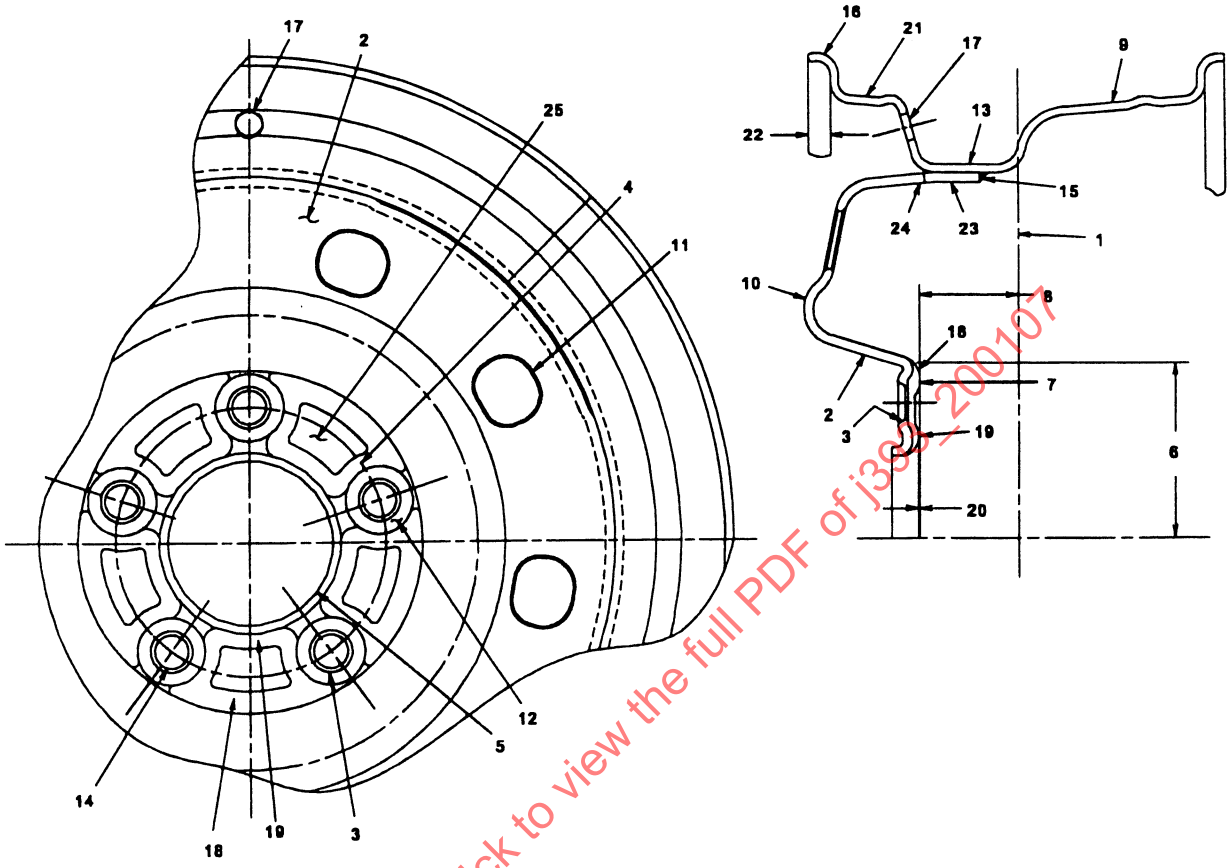
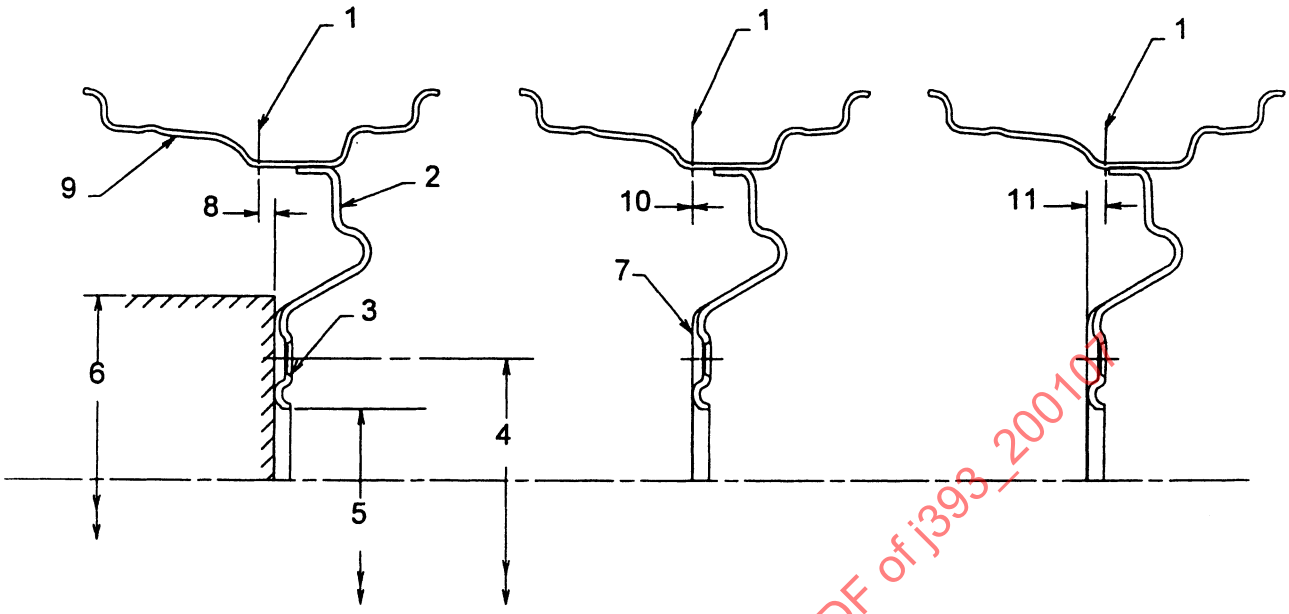


FIGURE 2—DISC WHEEL NOMENCLATURE



1. Rim Center Plane
2. Disc
3. Nut Seat
4. Pitch Circle Diameter of Bolt Holes
5. Center Hole Diameter
6. (See Figure 3)
7. Attachment Face
8. Inset
9. Rim
10. Hat
11. Window
12. Nut Boss
13. Well
14. Bolt Hole
15. Assembly Weld
16. Rim Flange
17. Valve Hole
18. Outer Mounting Pad
19. Inner Mounting Pad
20. Step
21. Bead Seat
22. Flange Offset
23. Disc Flange
24. Disc Scallop
25. Rib

FIGURE 3—DISC WHEEL



1. Rim Center Plane
2. Disc
3. Nut Seat
4. Pitch Circle Diameter of Bolt Holes
5. Center Hole Diameter
6. Attachment Face Diameter
7. Attachment Face
8. Inset
9. Rim
10. Zeroset
11. Outset

FIGURE 4—RIM TO DISC LOCATION

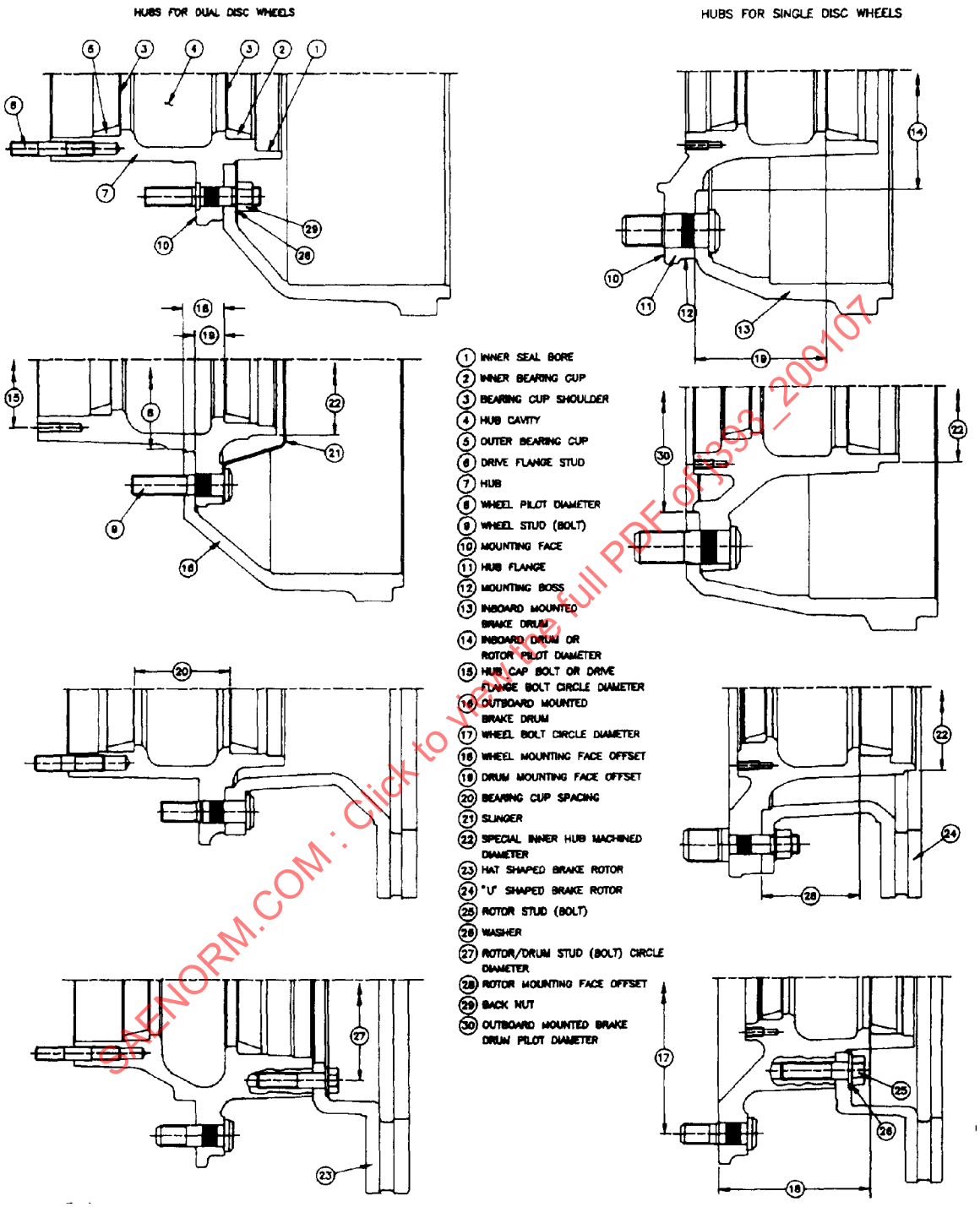


FIGURE 5—HUB NOMENCLATURE

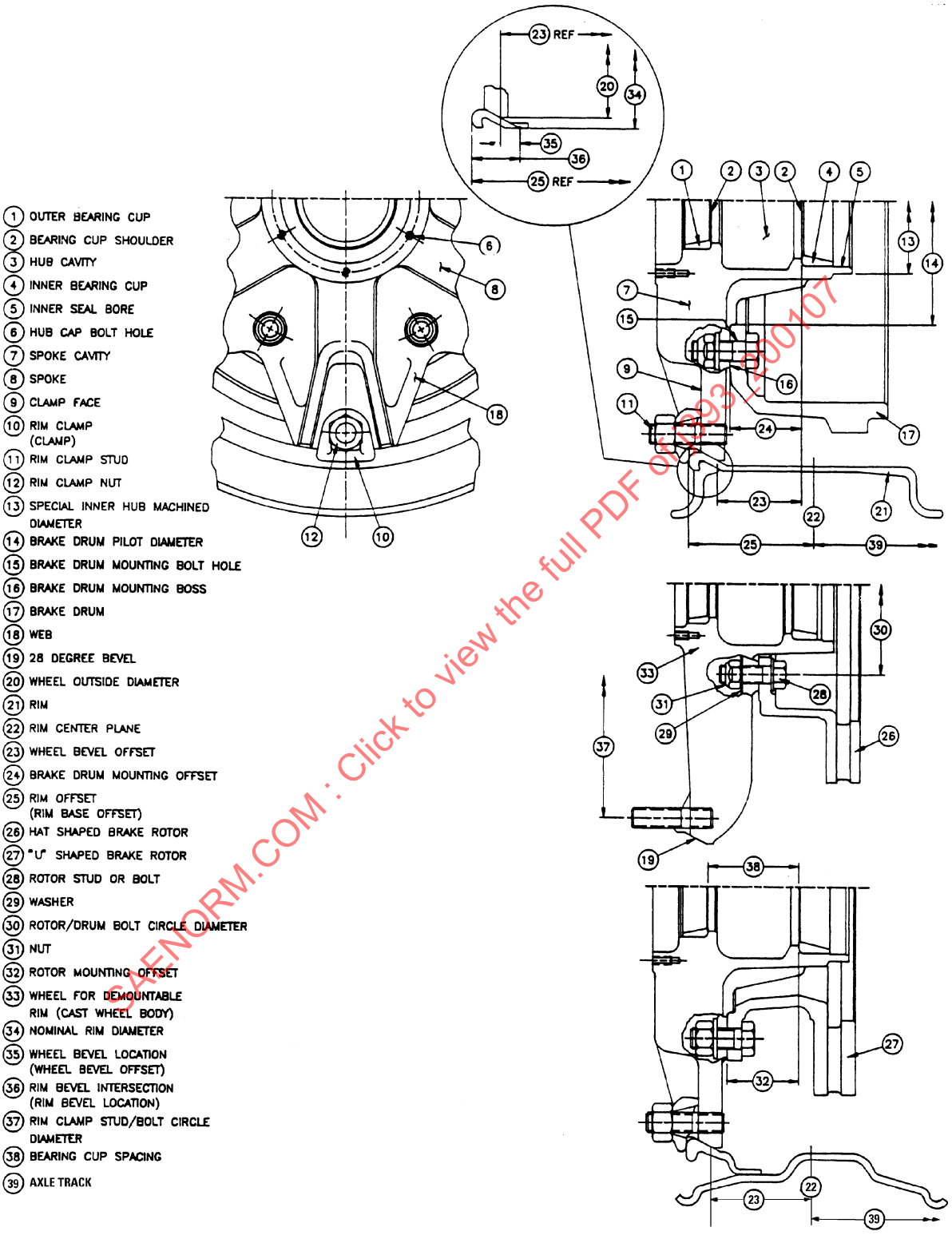


FIGURE 6—NOMENCLATURE, FRONT WHEEL FOR DEMOUNTABLE RIM