

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J393

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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 Zero set 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 INNER DUAL WHEEL POSITION
- ② OUTER DUAL WHEEL POSITION
- ③ SINGLE WHEEL POSITION
- ④ BRAKE DRUM
- ⑤ HUB
- ⑥ STUD (BOLT)
- ⑦ INNER DUAL BALL SEAT NUT
- ⑧ OUTER DUAL BALL SEAT NUT
- ⑨ SINGLE BALL SEAT NUT
- ⑩ 2 PIECE FLANGE NUT
- ⑪ 1 PIECE FLANGE NUT
- ⑫ CONICAL NUT
- ⑬ BOLT CIRCLE DIAMETER (PITCH CIRCLE DIAMETER)
- ⑭ RIM CENTER PLANE
- ⑮ OFFSET OR HALF DUAL SPACING
- ⑯ DUAL SPACING
- ⑰ RIM BASE
- ⑱ DISC
- ⑲ STUD (BOLT) HOLE
- ⑳ BALL SEAT
- ㉑ CENTER HOLE
- ㉒ DISC SKIRT
- ㉓ DISC TAPERED SECTION
- ㉔ DISC NAVE
- ㉕ WHEEL MOUNTING FACE (WHEEL ATTACHMENT FACE)
- ㉖ HAND HOLE
- ㉗ CONE ANGLE
- ㉘ INCOINED STUD (BOLT) HOLE
- ㉙ OUTCOINED STUD HOLE
- ㉚ INSET
- ㉛ DISC THICKNESS
- ㉜ AXLE TRACK
- ㉝ STUD (BOLT) HOLE CHAMFER

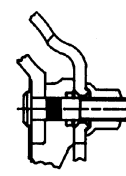
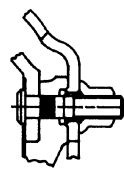
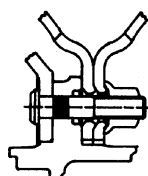
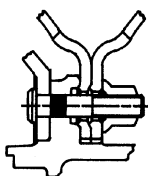
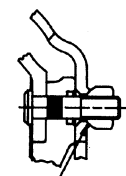
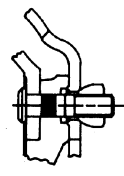
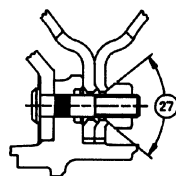
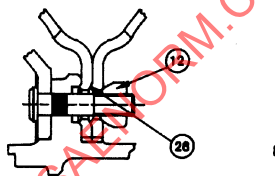
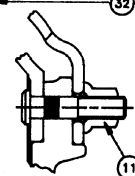
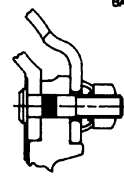
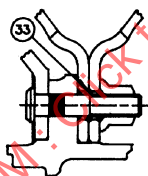
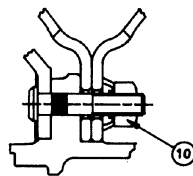
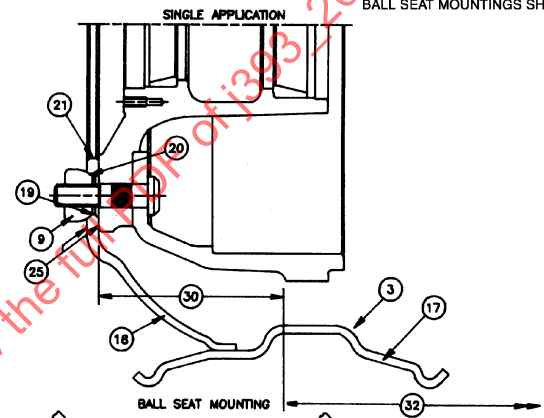
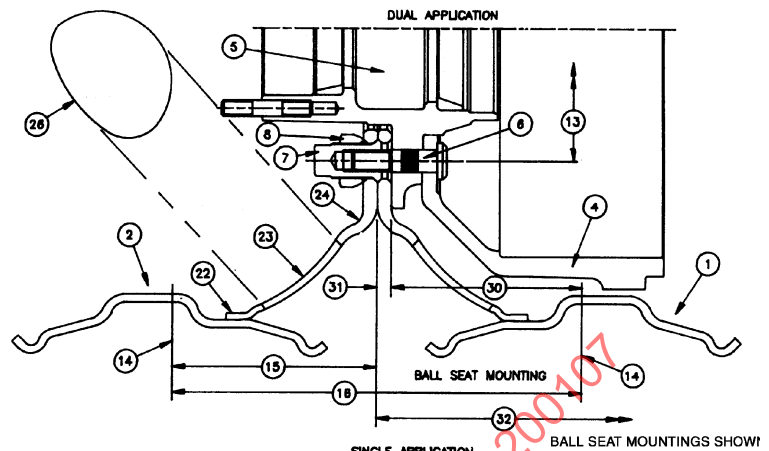


FIGURE 2—DISC WHEEL NOMENCLATURE

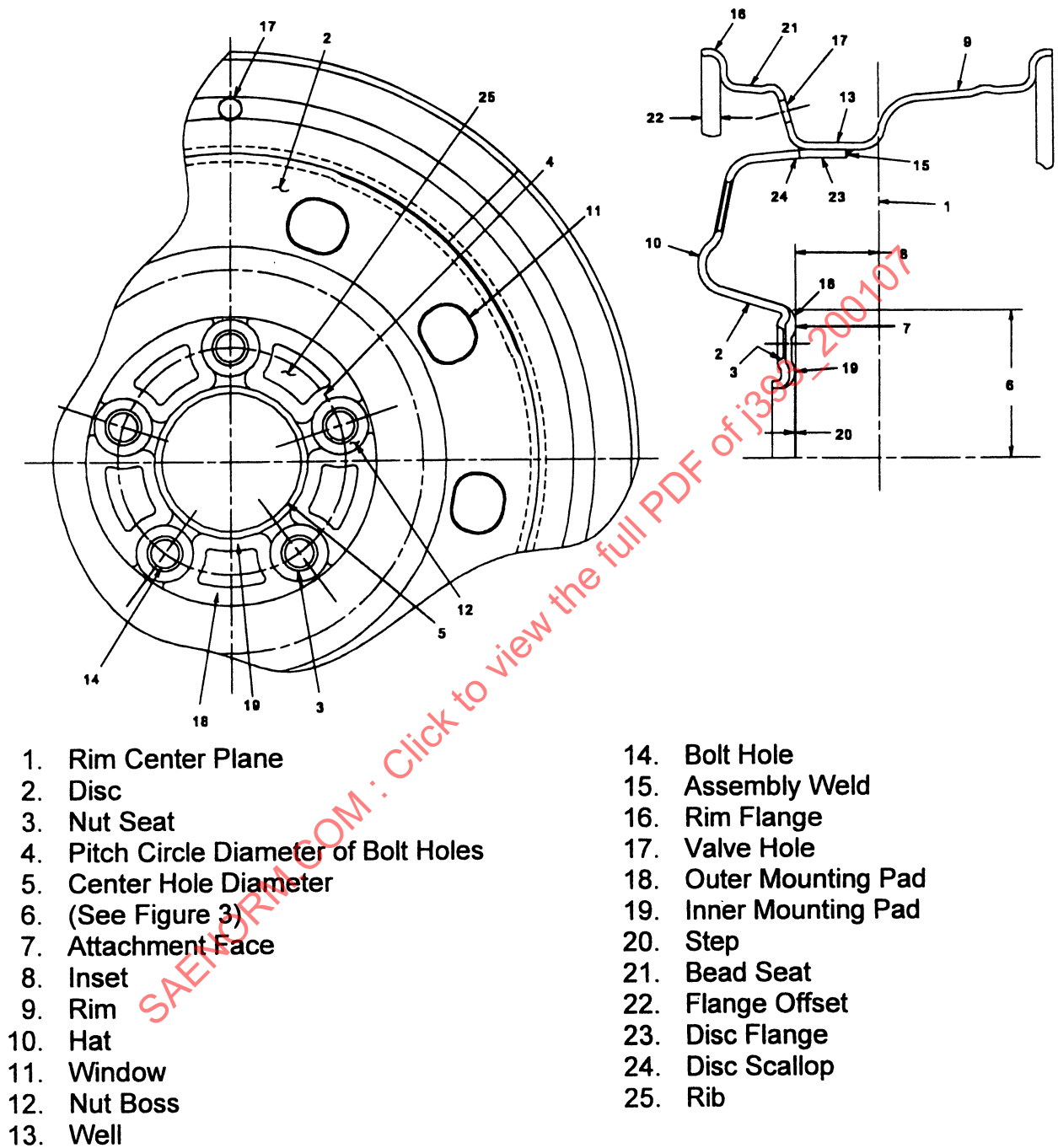
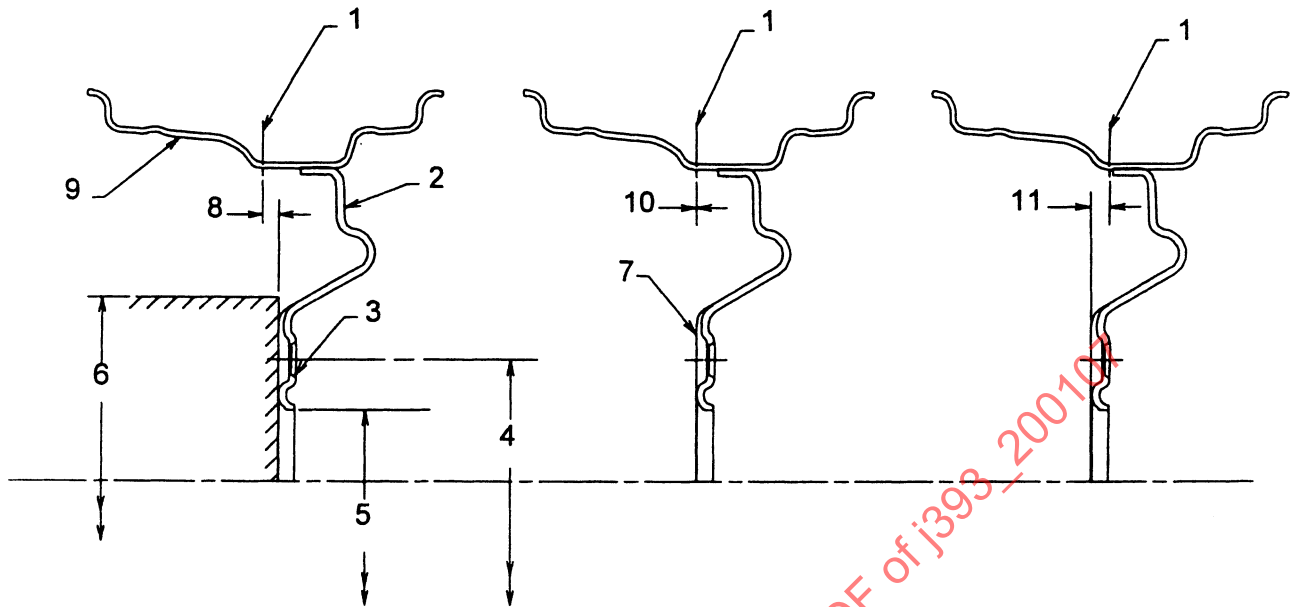


FIGURE 3—DISC WHEEL



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

FIGURE 4—RIM TO DISC LOCATION

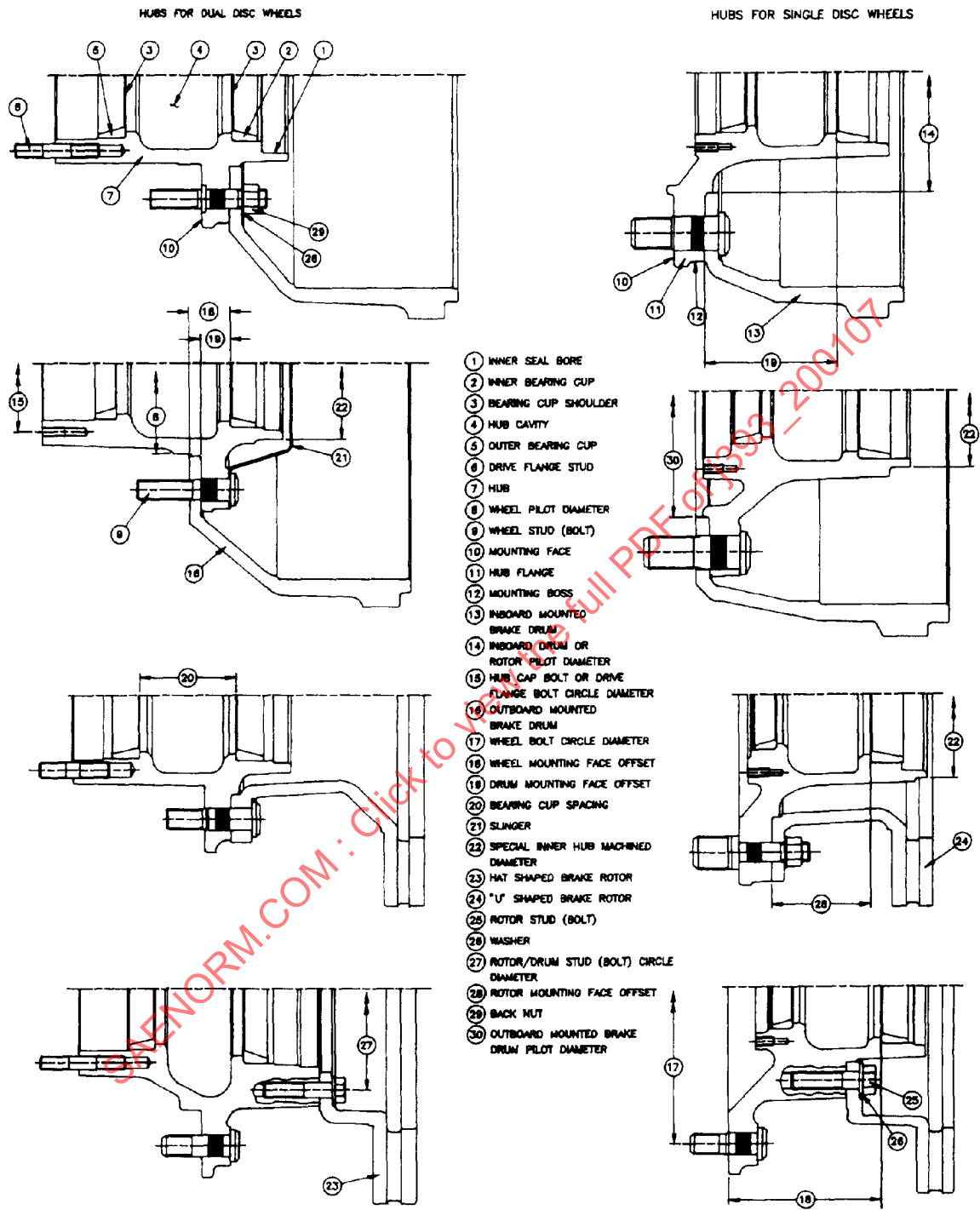


FIGURE 5—HUB NOMENCLATURE

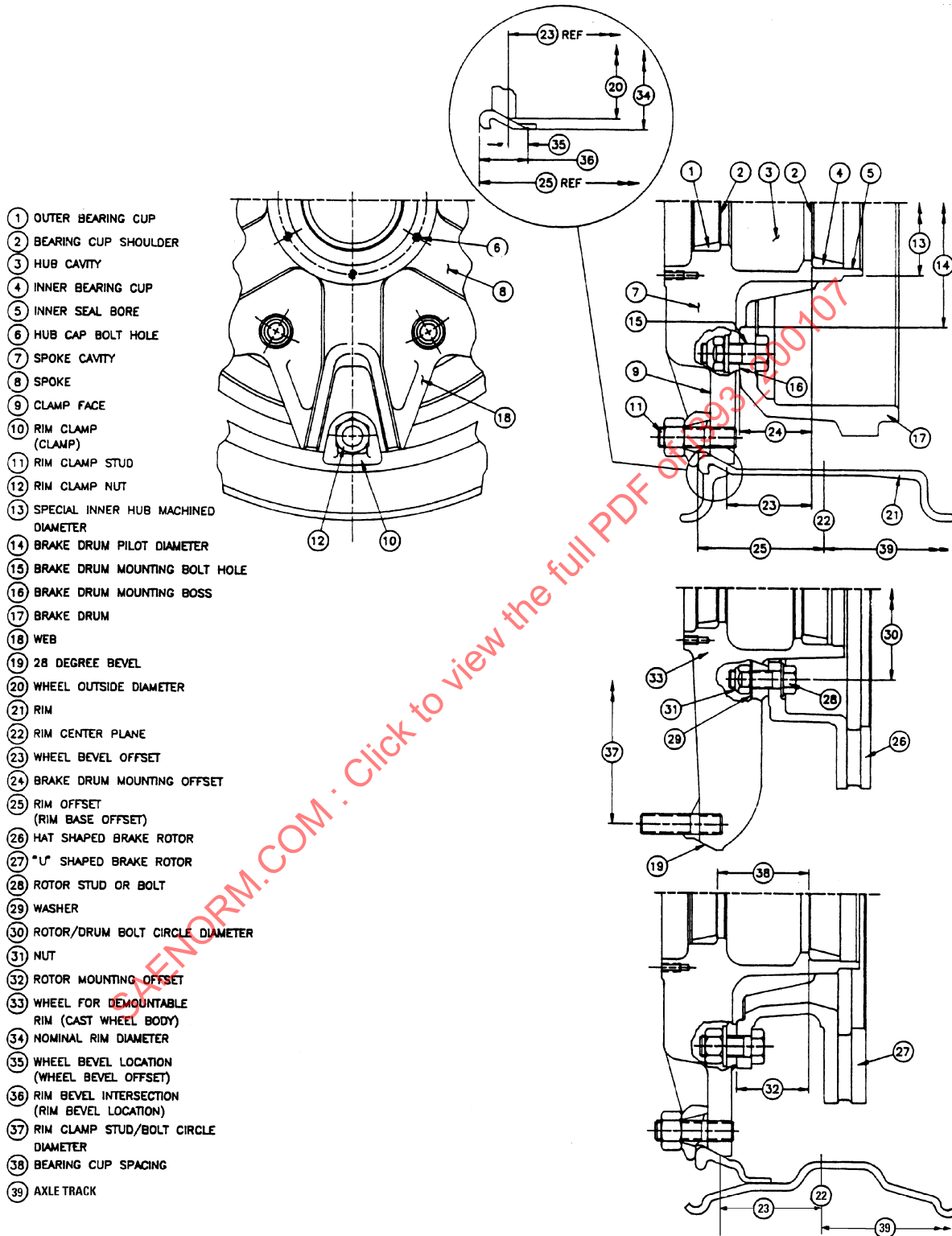


FIGURE 6—NOMENCLATURE, FRONT WHEEL FOR DEMOUNTABLE RIM