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INTERNATIONAL
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SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J2200

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Passenger Car and Light Truck Axles

1. ***Scope—***This SAE Recommended Practice is intended to outline basic nomenclature for axle designs in common use for automotive drives. Over a period of years, there have been many different designs; however, for the purpose of this report, only the most common designs have been selected and only their general construction is illustrated to show the nomenclature of the various parts.

2. ***References—***There are no referenced publications specified herein.

3. ***Definitions***

3.1 **Unitized Carrier Housing Construction—**This construction is one in which the housing that supports the ring gear, bearings, and differential case also supports the vehicle load carrying members. See Figure 1.

3.2 **Separable Carrier Housing Construction—**This construction is one in which the carrier that supports the ring gear, bearings, and differential case is separable from the housing that supports the vehicle loads. See Figure 2.

3.3 **Overhung Mounted Drive Pinion—**This construction is one in which the drive pinion teeth are located outside of the span of the bearings. The overhung mounted pinion is illustrated with either Figure 1 or 2.

3.4 **Straddle Mounted Drive Pinion—**This construction is one in which the pinion teeth are located between bearings. The straddle mounted pinion is illustrated in Figure 3.

3.5 **Differential Pinions—**Two or more differential pinions are used to apply torque to each differential gear. The configuration can consist of different numbers of pinion gears such as the two-pinion design in Figure 1 or the four-pinion design in Figure 4A. For optional construction, see Figure 4B.

3.6 **Semifloating Axle Shaft—**In this type of construction (semi-floating) the shaft carries vehicle loads as well as torque. Various types of wheel bearings such as ball bearings or roller bearings are used with this construction. The shaft may have an integral or separable flange. See Figure 5.

3.7 **Full-Floating Axle Shaft—**In this type of construction, the axle shaft does not carry vehicle loads. It only transmits torque. The vehicle loads are transmitted through bearings, directly to the axle housing. See Figure 6.

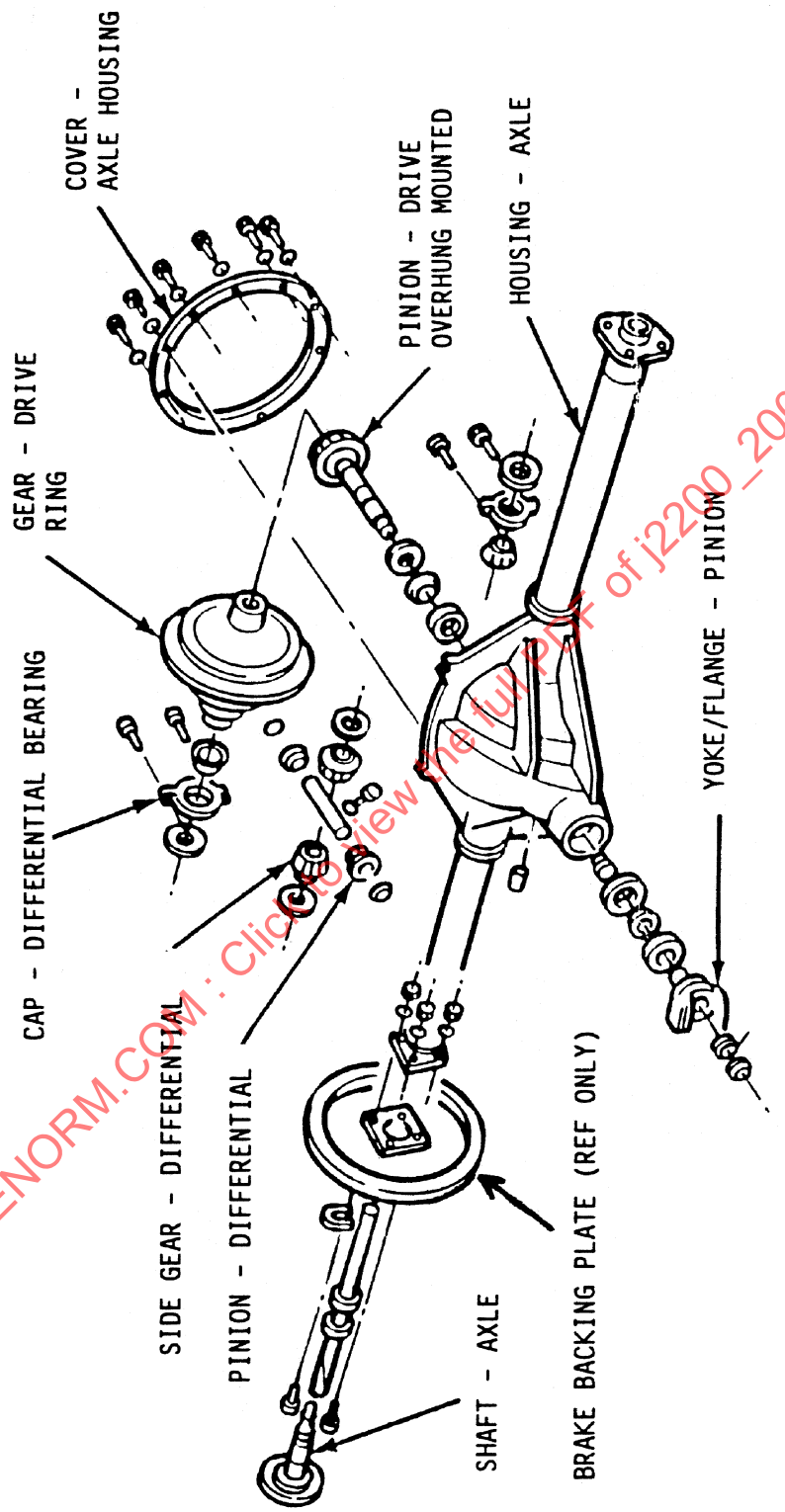

FIGURE 1—UNITIZED CARRIER HOUSING CONSTRUCTION

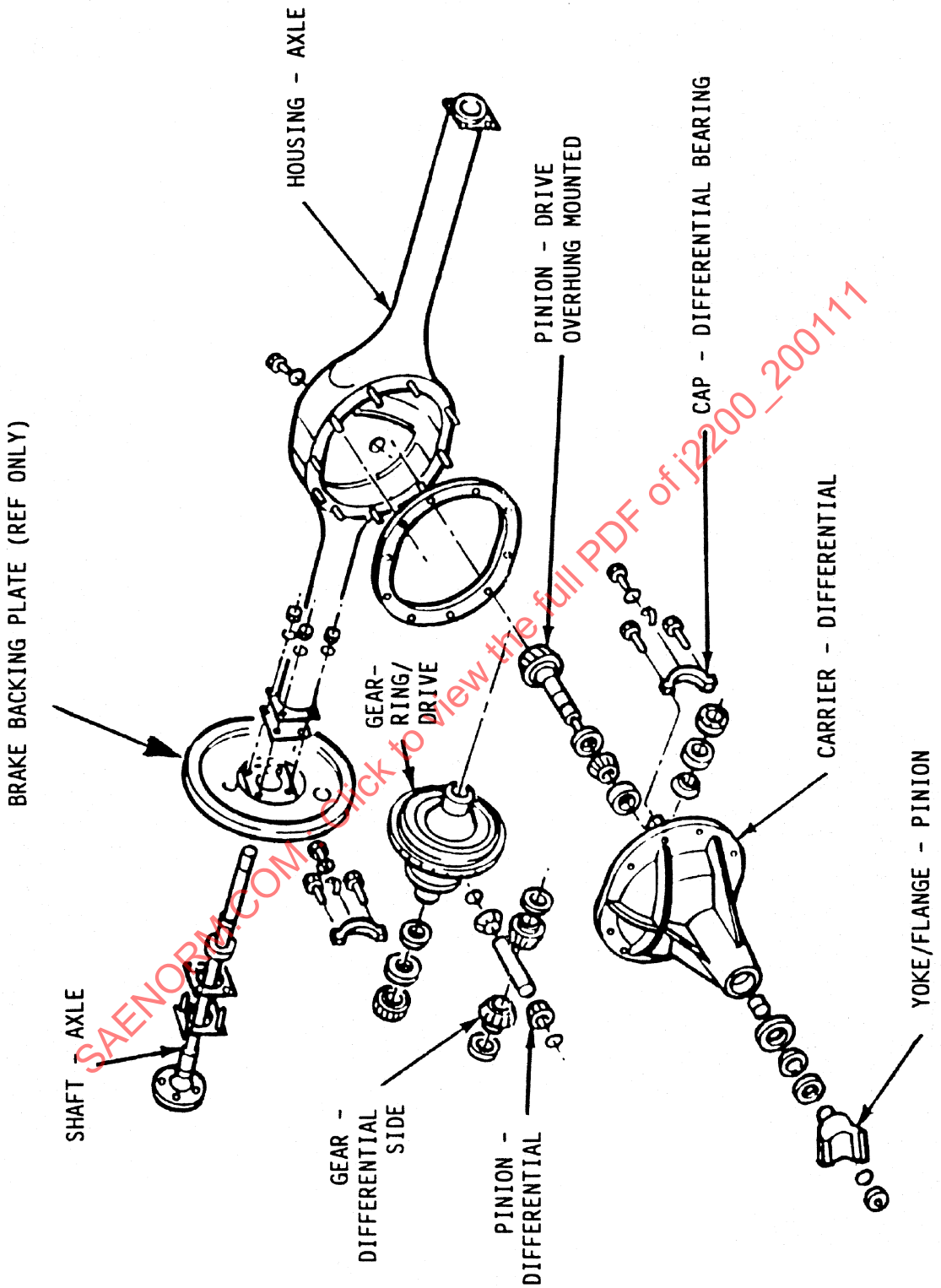

FIGURE 2—SEPARABLE CARRIER HOUSING CONSTRUCTION

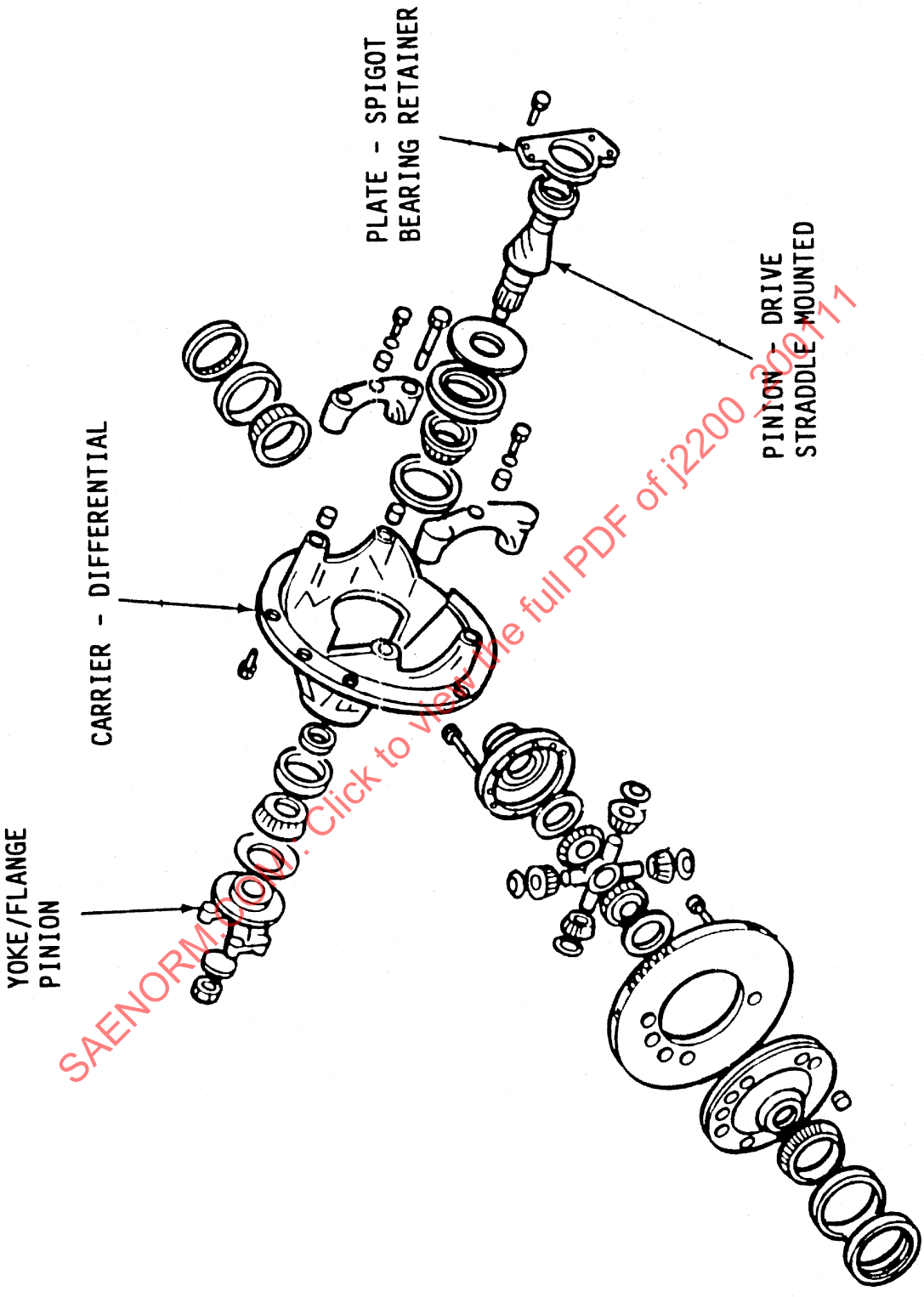

FIGURE 3—STRADDLE MOUNTED PINION

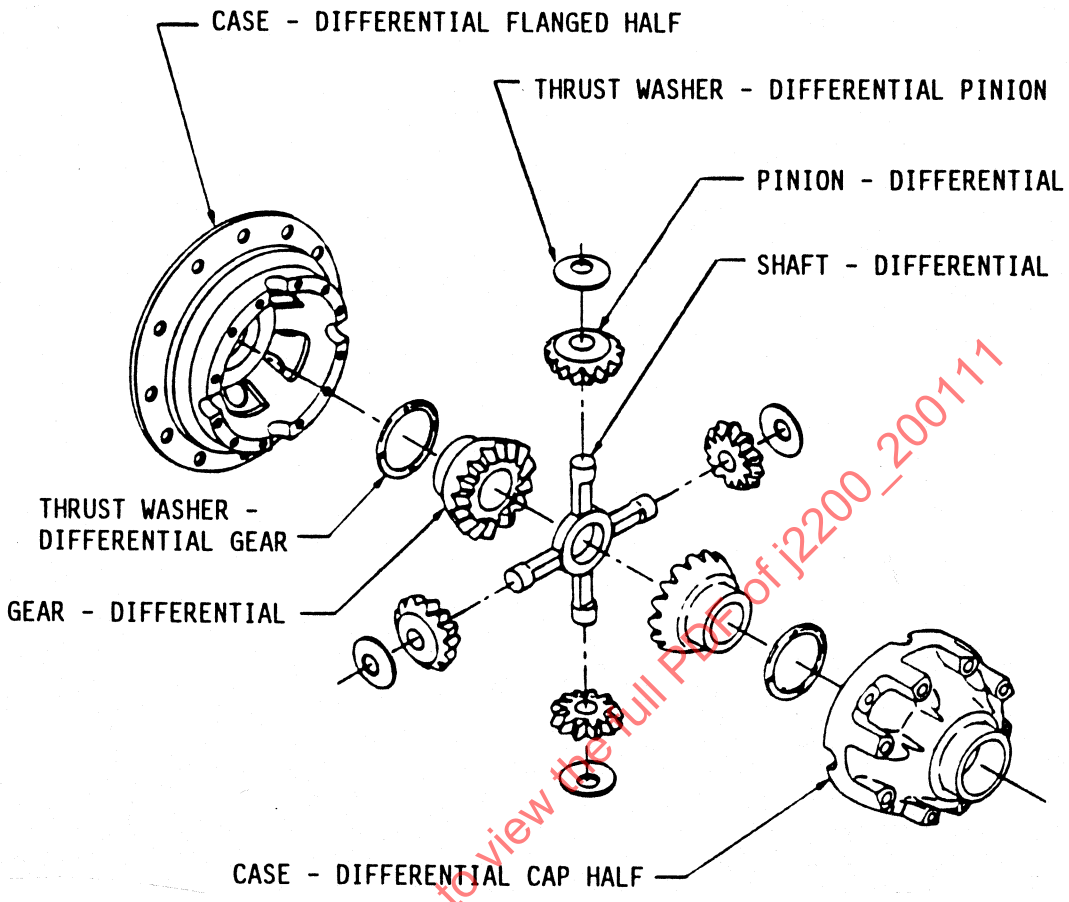

FIGURE 4A—MULTIPLE PINION DIFFERENTIAL

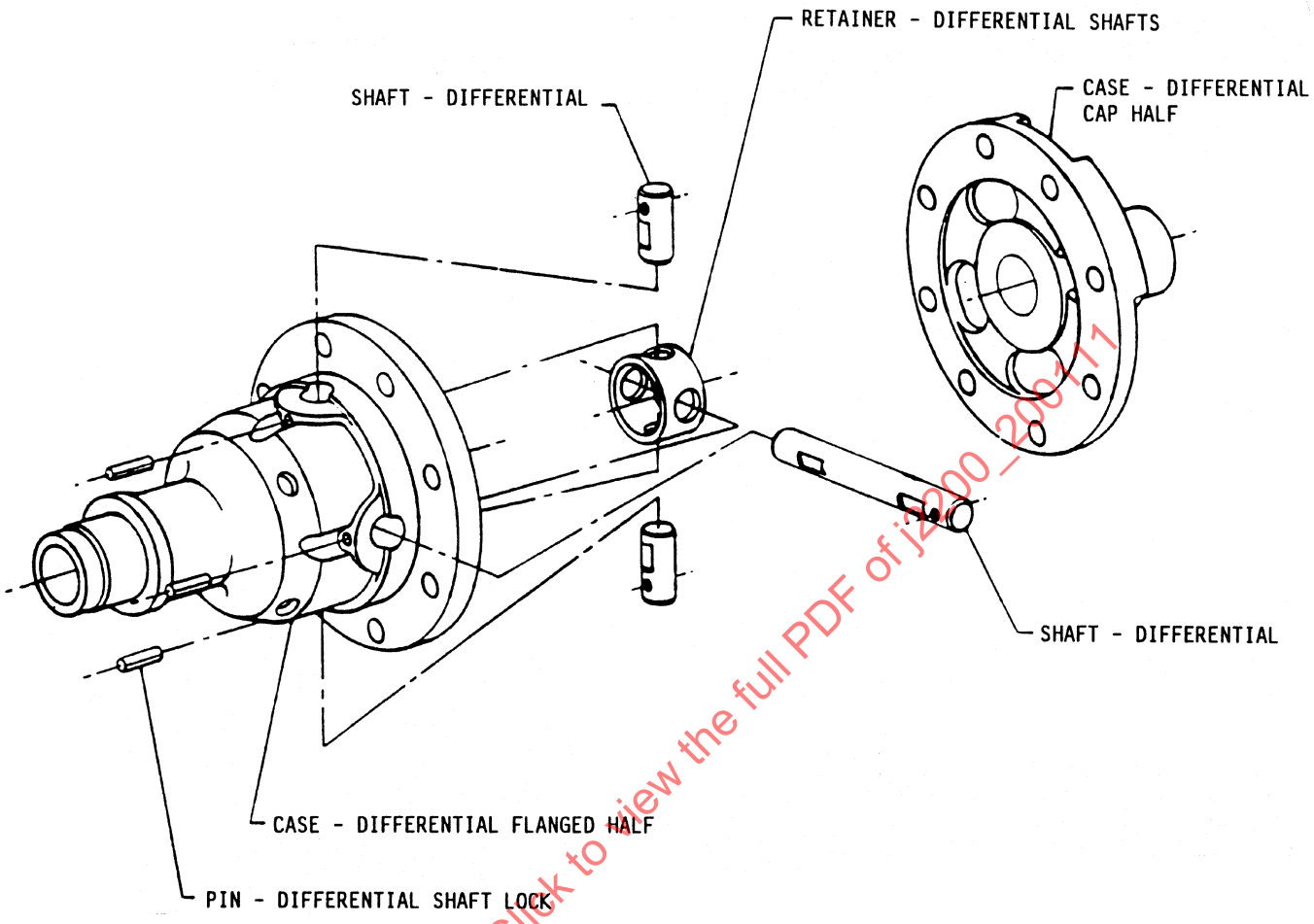

FIGURE 4B—MULTIPLE PINION DIFFERENTIAL (OPTIONAL CONSTRUCTION)

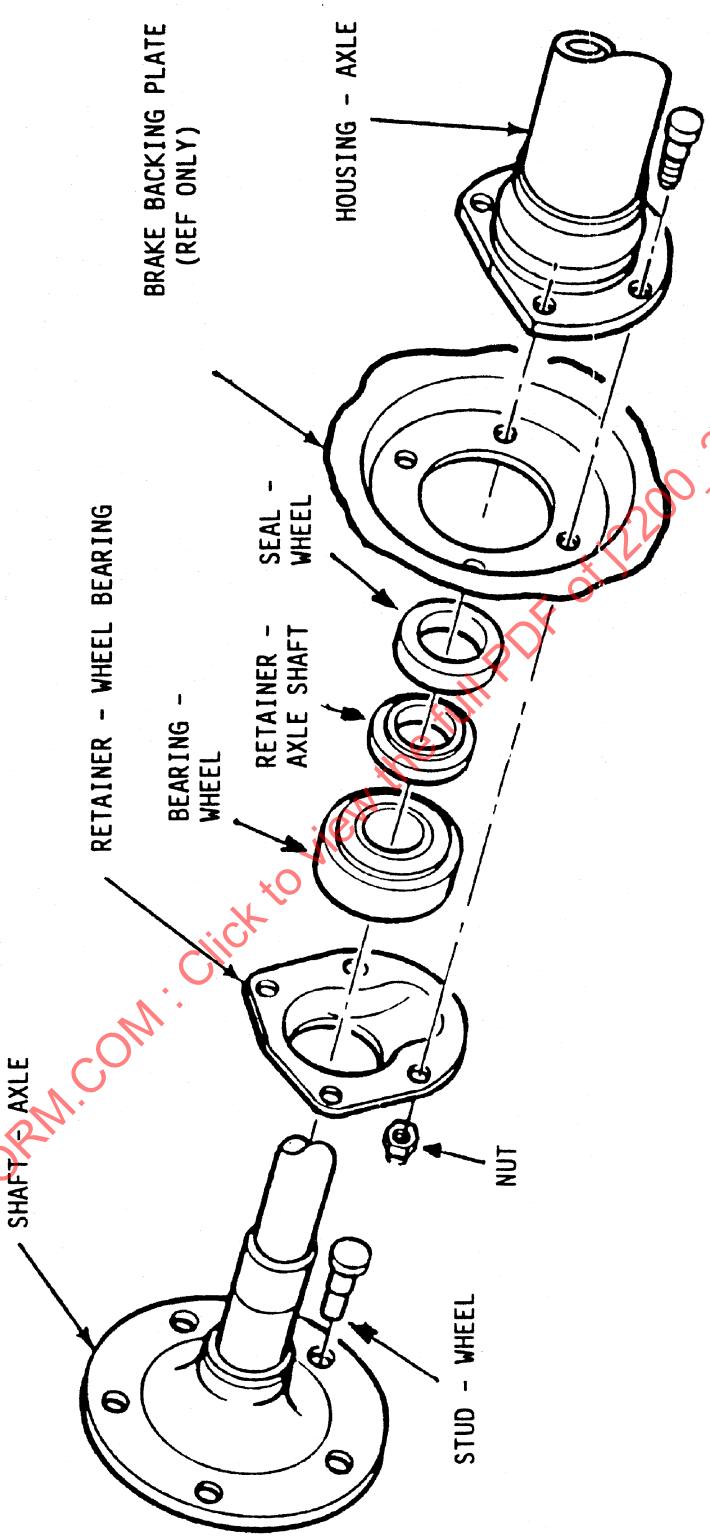

FIGURE 5—WHEEL END SEMIFLOATING-FLANGED AXLE SHAFT

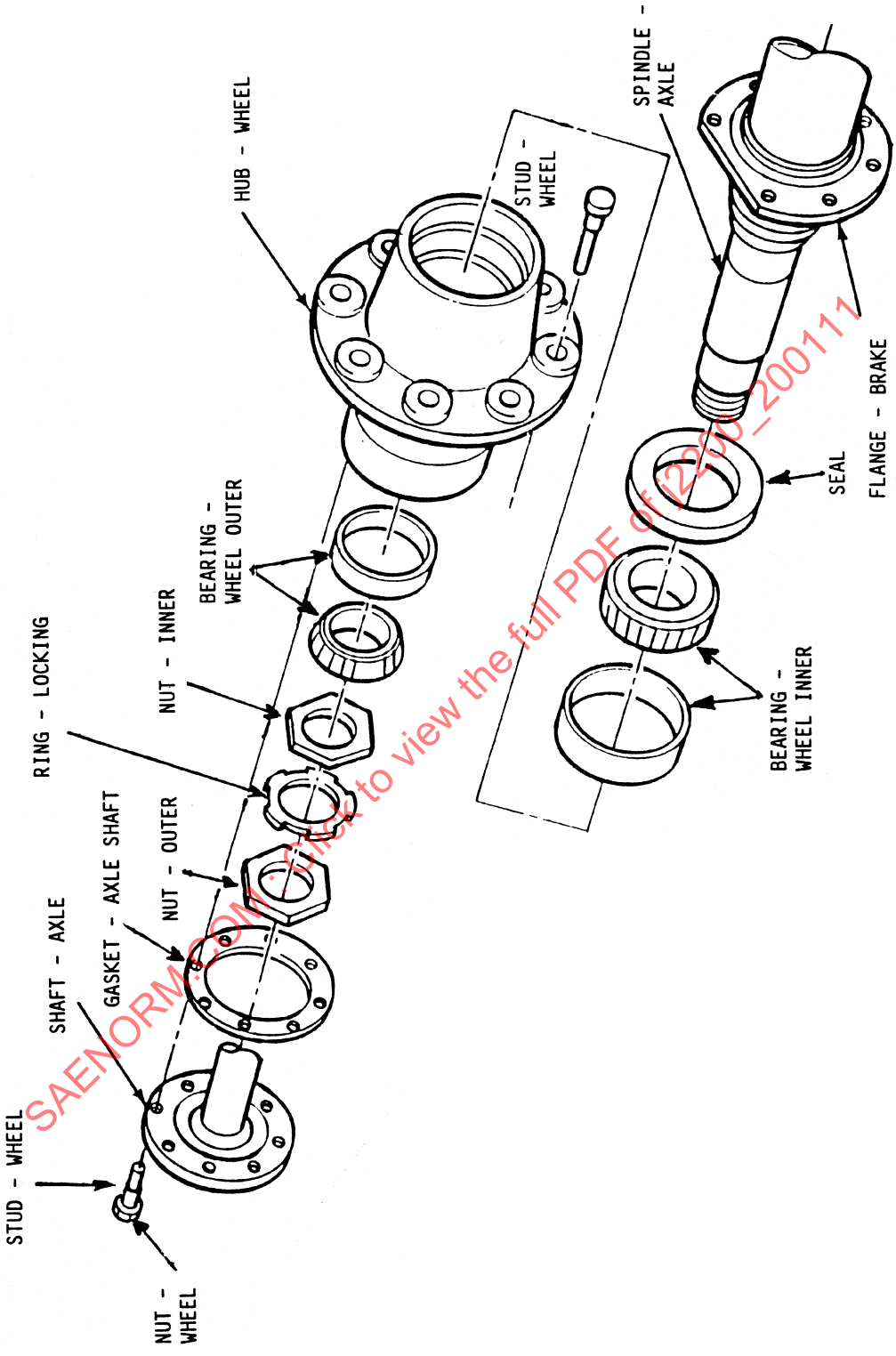

FIGURE 6—WHEEL END FULL FLOATING AXLE SHAFT