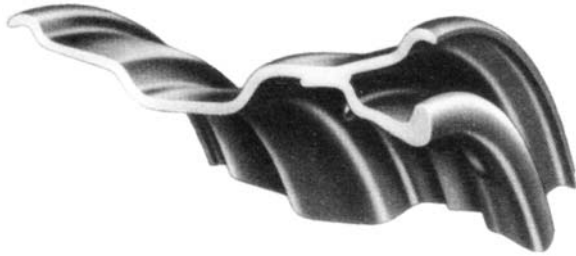


SECTION IV: CORRECT NAMES OF RIM/WHEEL COMPONENTS AND ATTACHING PARTS

There is confusion over the terms "wheel" and "rim" in the industry. Please read the following definitions so you will understand the terms appearing in this manual. Remember, a rim is **not** a wheel and a wheel is **not** a rim. Likewise, there is an important difference between a side ring and a lock ring.

RIM

The rim supports the tire. There are two types of rims: a single piece rim (tubeless—some 16 inch single piece rims are either tubeless or tube-type) and a multi-piece rim (tube-type). A SINGLE PIECE RIM is a continuous one-piece assembly. A MULTI-PIECE RIM is an assembly consisting of a base and either a side ring or a side and lock ring depending on the type. A DEMOUNTABLE RIM does not have a center disc and is clamped onto a cast spoke wheel.



Tubeless Demountable Rim (single piece)
shown in cross section



Tube-Type Demountable Rim Assembly (multi-piece)

DISC WHEELS

A combination of a rim and a disc permanently attached to the rim and attached to the hub by studs and nuts.



Tubeless Disc Wheel



Tube-Type Disc Wheel Assembly

CAST SPOKE WHEEL

As the name implies, it consists of a casting which includes the hub and either 3, 5, or 6 spokes. This is an axle component that demountable rims are attached to with clamps. There are designs with different numbers of clamps with various shapes. Each cast spoke wheel requires clamps designed for the cast spoke wheel. A spacer band is used with duals on rear cast spoke wheels. Typical designs are shown.

**5 Spoke**

Cast spoke wheel with brake drum and clamps (for rear axles)

**5 Spoke**

Cast spoke wheel with clamps,
without brake drum (for front axles)

SPACER BAND

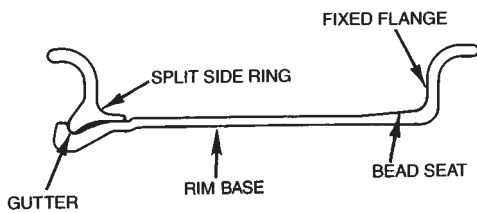
Used on rear cast spoke wheels, the spacer band holds the two rims apart and provides proper dual spacing for the tires.



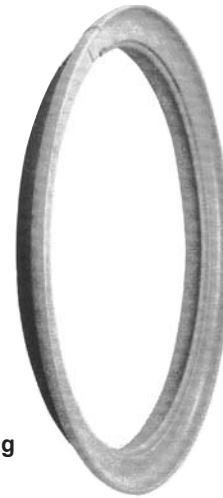
SECTION IV: CORRECT NAMES OF RIM/WHEEL COMPONENTS AND ATTACHING PARTS (continued)

SPLIT SIDE RING

In two-piece assemblies, the side ring retains the tire on one side of the rim. The fixed flange supports the other side. The split side ring is designed so that it acts as a self-contained lock ring as well as a flange.

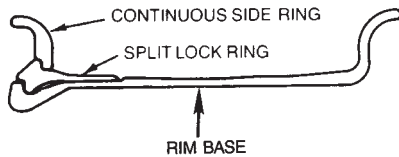


Split Side Ring



FLANGE OR CONTINUOUS SIDE RING

In three-piece assemblies, the flange or continuous side ring supports the tire on one side of the rim. The continuous side ring is, in turn, held in place by a separate split lock ring.



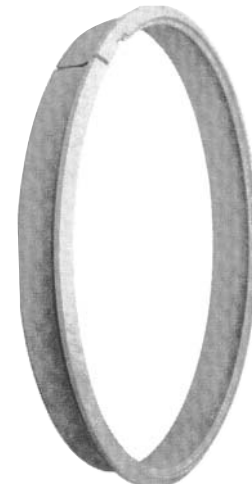
Flange or
Continuous Side Ring



SPLIT LOCK RING

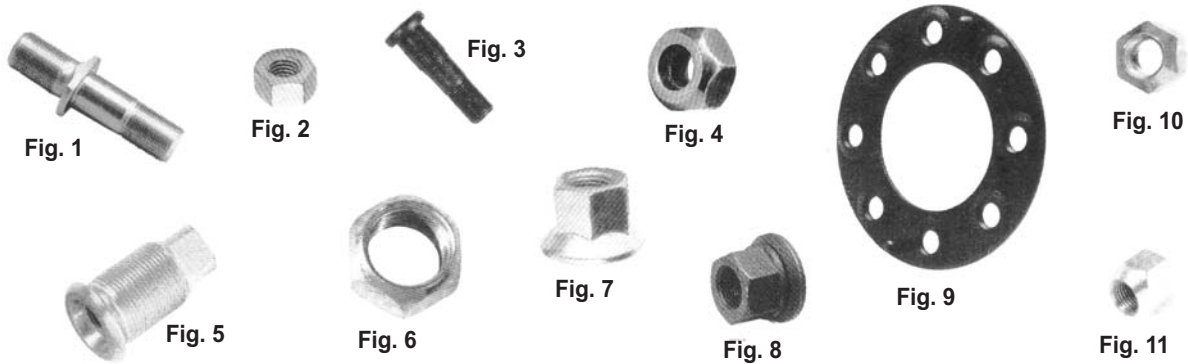
All lock rings are split. In three-piece assemblies, the lock ring is designed to hold the continuous side ring on the rim.

Split Lock Ring



STUDS AND NUTS FOR DISC WHEELS

Typical examples of studs, nuts and clamping plates used with disc wheels are illustrated in this section. A typical stud (**Fig. 1**) used with in-board brake drums has a 3/4" thread on both ends, a shoulder with two flats, and is longer from the shoulder on the one end with an unthreaded section. The flat surfaces of the shoulder fit into the recessed outer surface of the hub to keep the stud from turning. The smooth portion is long enough to fit through the hub and the brake drum, and is then held in place by a back or jam nut (**Fig. 2**). For outboard brake drums a serrated stud with threads on one side is typically used (**Fig. 3**).



On front stud mount wheels, an outer cap nut (**Fig. 4**) or (**Fig. 6**) is used. On stud mount rear dual wheel applications, the inner wheel is held in place by an inner cap nut (**Fig. 5**) and the outer wheel by an outer cap nut (**Fig. 6**).

For hub mount wheels which pilot from the center hole, flange nuts are used on both the front and rear wheels. One-piece flanged cap nuts (**Fig. 7**) are used on light truck and medium truck applications. Heavy trucks and buses and some light trucks use a two-piece flange nut or swiveling lug nut (**Fig. 8**) when hub mount wheels are used. Some light trucks use a clamping plate (**Fig. 9**) and 90° cone nuts (**Fig. 10**) for both the front and rear wheel. Light trucks which use single wheels on the front and rear axle require 90° cone nuts or 60° cone nuts (**Fig. 11**), depending on the truck manufacturer.

RIM CLAMPS, STUDS AND NUTS FOR DEMOUNTABLE RIMS

The stud for cast spoke wheels (**Fig. 12**), threaded on both ends, is installed in a threaded hole at the end of a spoke. The front clamp (**Fig. 13**) and a rear clamp (**Fig. 14**) hold the demountable rim in position with studs and nuts (**Fig. 15**). A clamp for a three-spoke wheel with two stud holes is shown in (**Fig. 16**).

