

## How To Identify A Spicer Axle

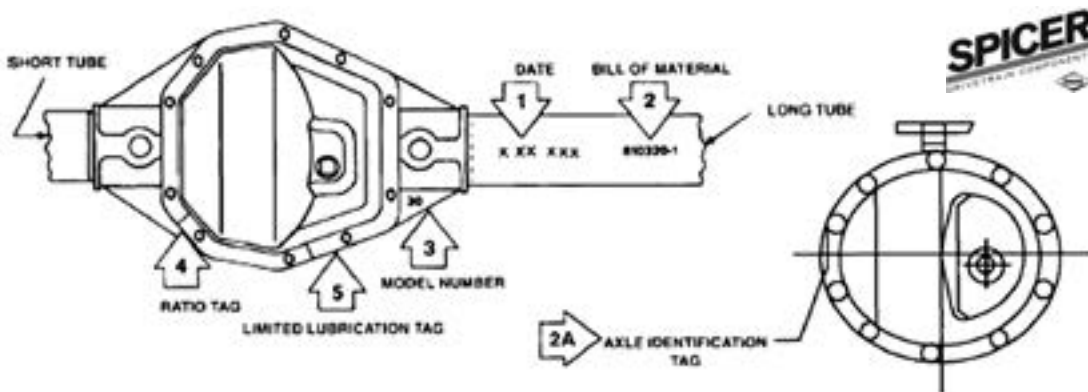
All Spicer Carrier Type axles are identified with a manufacturing date (1) and Bill of Material number (2) stamped on the right or left hand tube on driving axles. The Bill of Material number may also be found on the carrier in some models as shown in illustration (2a). For independent front suspension (IFS) axles, the B/M number may be located at one of three locations:

1. a vertically positioned tag near the center of the right hand side support arm,
2. stamped into the left hand side support arm (opposite end of the camber adjuster),
3. stamped into the 'nose end' of the axle carrier. The location will depend on the manufacturing date of the axle.

The axle model number will be cast into one of the webs as shown (3), or it can be on the nose.

Each axle contains a gear ratio tag (4), and if the axle is equipped with a limited slip differential, it will have a tag... specifying the type of limited slip lubricant to be used (5).

Refer to the appropriate model number section for parts identification and a breakdown of the Bill of Material.



## How Limited Slip Differentials Operate

A conventional differential transmits all the ring gear torque through the differential gears to the axle shafts. Torque is at all times equal on the axle shafts, and if one wheel slips, the other wheel can only put out as much torque as the slipping wheel.

The Spicer Limited Slip differential has the same power flow as a conventional differential, plus a more direct flow which automatically takes effect as driving conditions demand. This more direct power flow is from the differential case to each axle shaft through a clutch plate and disc arrangement.

**Arrangement of these plates and discs is at the option of the vehicle manufacturer, so care should be taken during disassembly to note the arrangement of these components.**

The Limited Slip construction permits differential action when required for turning corners and transmits equal torque to both wheels when driving straight ahead. However, when one wheel tries to spin due to leaving the ground, or hitting a patch of ice, etc., the clutch packs automatically provide more torque to the wheel which is not trying to spin.

The Limited Slip differential resists wheel spin on bumpy roads and provides more pulling power when one wheel tries to slip. In many cases of differences in traction, pulling power will be automatically provided until both wheels start to slip.

In diagnosis of vehicle operators' complaints, it is important to recognize two things.

1. If, with unequal traction, both wheels slip, the Limited Slip Differential has done all it can possibly do.
2. In extreme cases of differences in traction, the wheel with the least traction may spin after the Limited Slip has transferred as much torque as possible to the non-slipping wheel.

— Courtesy Dana Spicer