FIGURE 58.1 Tinnerman nuts are used at the assembly plant to prevent the brake drum from falling off until the wheels are installed.

FIGURE 58.2 Turning the bolts that are threaded into the brake drum forces the drums off of the hub.
FIGURE 58.3 If the brake shoes have worn into the drum, the adjuster can be backed in after removing the access plug. After removing the plug, use a wire or a screwdriver to move the adjusting lever away from the starwheel, then turn the starwheel with a brake adjusting tool, often called a "brake spoon."

FIGURE 58.4 Using side-cut pliers to cut the heads off of the hold-down pins (nails) from the backing plate to release the drums from the shoes.

FIGURE 58.5 A liquid soaking solvent, such as brake cleaner, should be used to wet the linings. The purpose of wetting the lining material while the drum is still on the vehicle is to prevent the possibility of asbestos from the lining becoming airborne. Asbestos is only hazardous when asbestos dust is airborne and is breathed in during brake system service.
FIGURE 58.6 Using a brake spring tool to release a return (retracting) spring from the anchor pin.

FIGURE 58.7 A special tool, called a hold-down spring tool, being used to depress and rotate the retainer.

FIGURE 58.8 A typical rusting backing plate shoe pad. This can cause the brakes to squeak when the friction material is applied during a brake application and again when the brake pedal is released.
FIGURE 58.9 Applying lithium grease to the raised pads on the backing plate.

FIGURE 58.10 A rule of thumb is that the lining should be at least the thickness of a nickel.

FIGURE 58.11 Cracked brake lining must be replaced.
FIGURE 58.12 The top spring is a good-looking spring because all coils of the spring are touching each other. The bottom spring is stretched and should be discarded. The arrow points to the back side of the spring, which goes into a hole in the brake shoe. The open loop of the spring is too long enough to keep from straightening out during use. Using the back side of the hook provides a strong, long-lasting bond in the brake shoe.

FIGURE 58.13 Many wheel cylinders are bolted to the support plate (backing plate). The O-ring seal helps keep water and dirt out of the drum brake.

FIGURE 58.14 (a) Some wheel cylinders are simply clipped to the backing plate. (b) This special tool makes it a lot easier to remove the wheel cylinder clip. A socket (1 1/8 inch, 12 point) can be used to push the clip back onto the wheel cylinder.
FIGURE 58.15: This starwheel adjuster is damaged and must be replaced. A lack of proper lubrication can cause the adjuster to become frozen in one place and not adjust properly.

FIGURE 58.16: Pre-assembly of the starwheel adjuster with its connecting spring often helps when reassembling a drum brake.

FIGURE 58.17: Sometimes it is necessary to cross the shoes when pre-assembling the starwheel adjuster and connecting spring.
FIGURE 58.18 Brake spring pliers being used to install the connecting spring.

FIGURE 58.19 Notice that the brake shoe is not contacting the anchor pin. This often occurs when the parking brake cable is stuck or not adjusted properly.

FIGURE 58.20 The first step in using a brake shoe clearance gauge is to adjust it to the drum inside diameter and tighten the lock screw.
FIGURE 58.21 Place the gauge over the shoes and adjust the brakes until they contact the inside of the gauge.

FIGURE 58.22 To prevent getting grease on the lining, the wise service technician covers the friction material with masking tape. The tape is removed after the brake shoes have been installed.

FIGURE 58.23 Tools needed to service a drum brake assembly include brake tools, silicone grease, wheel lug nut sockets, and torque limiting adapters or a torque wrench.
After safely hoisting the vehicle to chest height, remove the brake drum.

Remove the primary (forward facing) shoe return spring, using a brake tool. Then remove the secondary return spring.

Remove the parking brake strut along with the antirattle spring.
UNFIGURE 58.5 Use a brake tool to depress the hold-down spring, and then rotate it until the slot in the retainer lines up with the flattened part of the hold-down pin.

UNFIGURE 58.6 Removing the primary brake shoe plus the starwheel adjuster and connecting spring.

UNFIGURE 58.7 When the secondary lining hold-down spring is removed, the adjusting lever reset pawl return spring can also be removed.
UNFIGURE 58.8 The parking brake lever can now be disconnected from the secondary brake shoe.

UNFIGURE 58.9 Check the wheel cylinder for leakage. This wheel cylinder is relatively new and not leaking.

UNFIGURE 58.10 Clean all six brake shoe ledges. Lubricate the ledges with silicone brake grease.
Multitasking, in order to assemble the connecting spring and interlaced opposite both shoes to help in the reinstallation.

Attaching the parking brake lines to the secondary shoe. The assembled parts at the bottom help keep everything together.

Installing the secondary shoe hold-down spring.
Installing the secondary shoe return spring. Note that the primary return spring has already been installed.

After installing the brake shoes and springs, use a drum/shoe clearance gauge and set it to the inside diameter of the drum.

Adjust the starwheel adjuster until the linings contact the drum brake shoe clearance gauge.
After installing the drum, it may be necessary to make the final adjustment using a brake adjusting tool (spoon).

After completing the brake service, be sure to cover the brake adjustment opening to prevent water from getting into the brakes.