FIGURE 8.1 Solid axles are used on rear-wheel-drive vehicles as well as on front-wheel-drive vehicles.

FIGURE 8.2 A solid axle supports the springs, so the axle and suspension components are unsprung weight.
FIGURE 8.3 When the axle housing reacts against the force of axle shaft rotation, the front of the differential tilts upward, creating axle windup.

FIGURE 8.4 A typical rear-wheel-drive pickup truck rear suspension equipped with leaf springs.

FIGURE 8.5 An exploded view of a beam axle with multileaf springs.
FIGURE 8.6 A trailing arm rear suspension with a solid axle used on a front-wheel-drive vehicle.

FIGURE 8.7 The Camaro and Firebird rear suspension systems use a torque arm to control axle windup.

FIGURE 8.8 A typical beam axle rear suspension, which uses trailing arms and coil springs along with a track rod, also called a Panhard rod, to control side-to-side axle movement.
FIGURE 8.9 This Ford rear suspension uses upper and lower semi-trailing arms to mount the rear axle and a watts linkage to control side-to-side movement.

FIGURE 8.10 An independent rear suspension provides a better ride because less weight is unsprung and the suspension is able to react quickly to bumps in the road without affecting the opposite side.

FIGURE 8.11 A typical short/long-arm independent rear suspension.
FIGURE 8.12 This independent rear suspension uses a MacPherson strut, two parallel lower transverse control arms, and a trailing arm.

FIGURE 8.13 The toe-control rod provides an extra brace to keep the rear wheels straight ahead during braking and acceleration on this modified-strut-type independent rear suspension.

FIGURE 8.14 A transverse mono-type leaf spring used on the rear suspension of a Chevrolet Corvette.
**FIGURE 8.15** The crossbeam is placed toward the front of the vehicle rather than the centerline of the rear wheels on a semi-independent-type rear suspension.

**FIGURE 8.16** A semi-independent rear suspension with MacPherson struts.

**FIGURE 8.17** Check all rubber bushings for excessive cracking.
FIGURE 8.18 Carefully inspect the bump stops for damage during a thorough visual inspection.

FIGURE 8.19 A broken spring was discovered during a routine under-vehicle visual inspection.

FIGURE 8.20 The shock absorber needs to be disconnected before removing the coil spring. Installation is the reverse of removal procedure.
**FIGURE 8.21** The center bolt is used to hold the leaves of the leaf spring together. However, the hole for the center bolt also weakens the leaf spring.

![Image of the center bolt and crack](image)

**FIGURE 8.22** Whatever was leaking appeared to be a clear liquid but it did not smell like gasoline. What could it be from the rear of the truck?

![Image of the clear liquid](image)

**FIGURE 8.23** The source of the leak was discovered to be hydraulic shock fluid that had leaked from the bottom of the shock and not from around the shaft seal, which is the most likely location for shocks to leak.

![Image of hydraulic shock fluid](image)