



Tech Tip

KINGPIN REPLACEMENT

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All information, illustrations and specifications are based on the best information available at the time of publication. The author cannot guarantee the accuracy of the information contained in this publication. Corrections are welcomed, and can be submitted to randy74@charter.net.

Information included in this publication comes from a variety of sources, that include, but are not limited to the following:

Chevrolet Shop Manual, 1942—1948 Passenger Cars and 1942—1946 Trucks®

This information is provided to assist fellow hobbyists in the restoration and maintenance of their Chevrolet™ trucks.

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INTRODUCTION

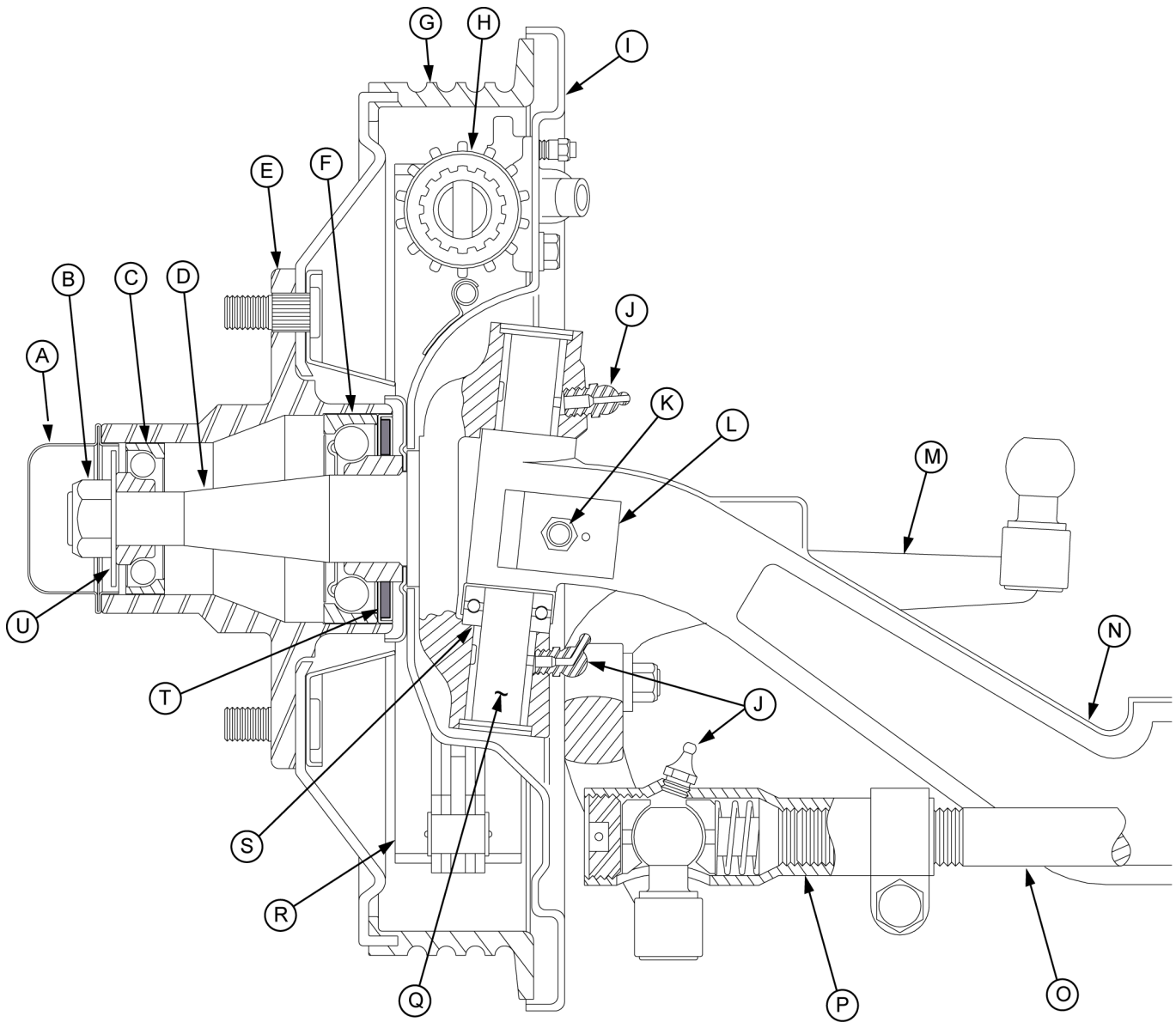
NOTE: The following procedure documents a typical kingpin replacement. The details of your application will vary. Always refer to the service manual that matches to year, make and model of your vehicle for the correct procedure.

The kingpins and bushings are important parts of the steering system. Regular maintenance and inspection are necessary to ensure safety operation.

1/2- and 3/4-ton trucks use bronze "floating" kingpin bushings that do not require reaming. These bushing are manufactured to final size.

1-1/2-ton conventional trucks and school buses use spindle bushings that are press-fit into the spindles, and require reaming to the final size.

COMPONENT IDENTIFICATION



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Figure 1: Spindle Assembly Cross Section View—Driver's Side, Viewed from Rear

- | | |
|---------------------------|----------------|
| A—Dust Cap | L—Stop Bracket |
| B—Nut | M—Steering Arm |
| C—Outer Bearing | N—Axle |
| D—Spindle | O—Tie Rod |
| E—Hub | P—Tie Rod End |
| F—Inner Bearing | Q—Kingpin |
| G—Brake Drum | R—Brake Shoe |
| H—Wheel Cylinder | S—Bearing |
| I—Backing Plate | T—Seal |
| J—Grease Fitting (3 Used) | U—Washer |
| K—Lock Pin | |

REMOVAL

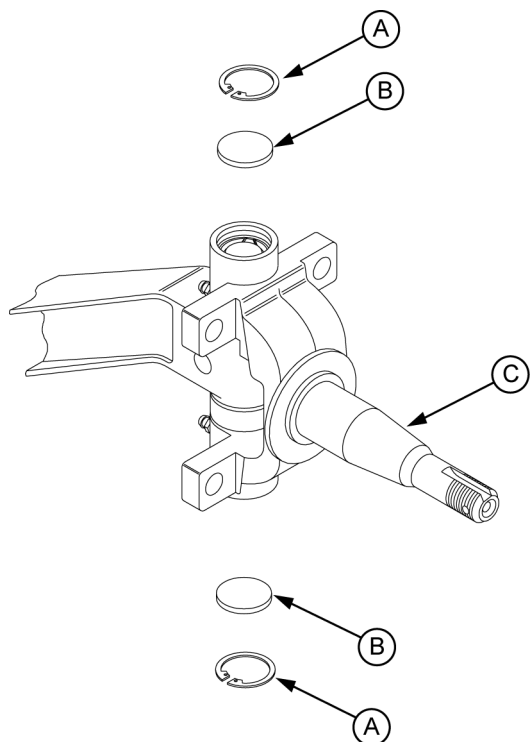
The following procedures document a typical kingpin application for 1/2- and 3/4-ton trucks. The procedure for 1-1/2-ton truck and school buses are similar.

WARNING!

SUPPORT THE VEHICLE SECURELY!

Place jackstands under the frame rails. Never work under or near a vehicle supported only by a jack or other lifting device. Failure to properly support the vehicle and components may result in death or serious injury.

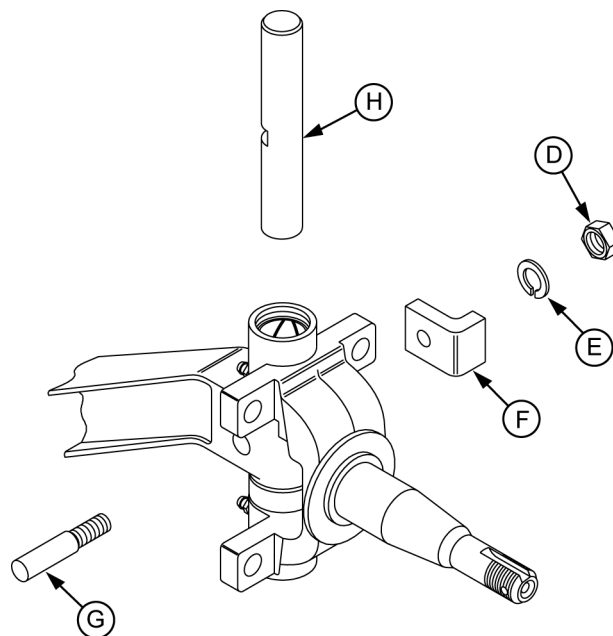
1. Lift the vehicle until both wheels are off the ground. Place jackstands under the frame rails behind the springs.
2. Remove the wheels and tires.
3. Remove the brake components and backing plates, and steering arms.



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Figure 2: Remove Retaining Rings and Dust Caps

4. See Figure 2. Remove the top and bottom retaining rings (A) and dust caps (B) from spindle (C).



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Figure 3: Remove Locking Bolt

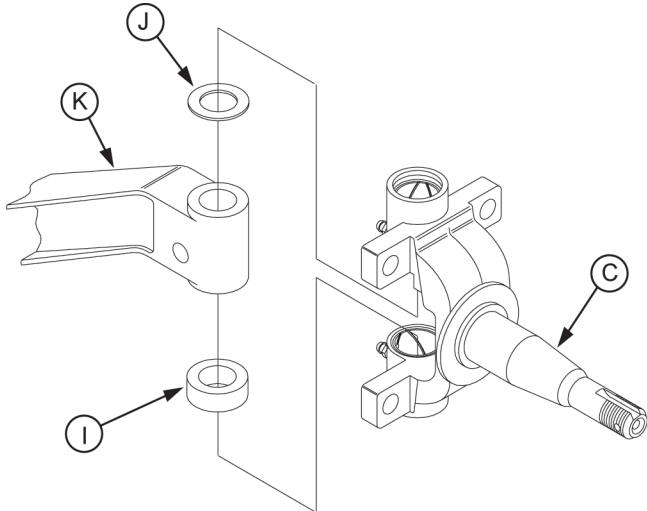
CAUTION

DO NOT use heat to remove the kingpin. Heat may weaken or distort the spindle and axle.

5. See Figure 3. Remove the nut (D), lock washer (E), stop bracket (F) and kingpin locking bolt (G).

NOTE: If the kingpin cannot be driven out, remove the axle from the vehicle and use a press to remove the kingpin.

6. Drive the kingpin (H) out using a hammer and soft brass punch.



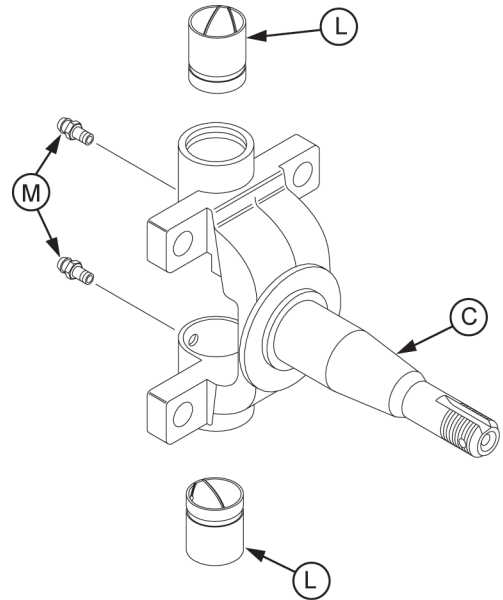
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Figure 4: Remove Spindle

IMPORTANT

Record the location and number of shims used (if any) to ensure proper assembly.

7. See Figure 4. Remove the spindle (C), thrust bearing (I) and shim (J) (if any) from the axle (K).



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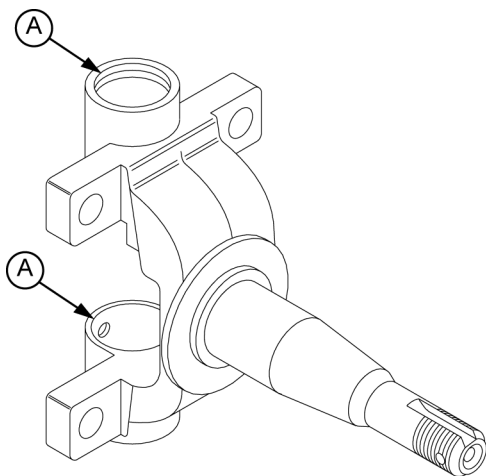
Figure 5: Remove Spindle Bushings

IMPORTANT

Use caution when removing bushings, DO NOT damage the bushing bore.

8. See Figure 5. Remove the bushings (L) from the spindle (C) using a soft brass punch.
9. Remove the grease fittings (M).

INSPECTION



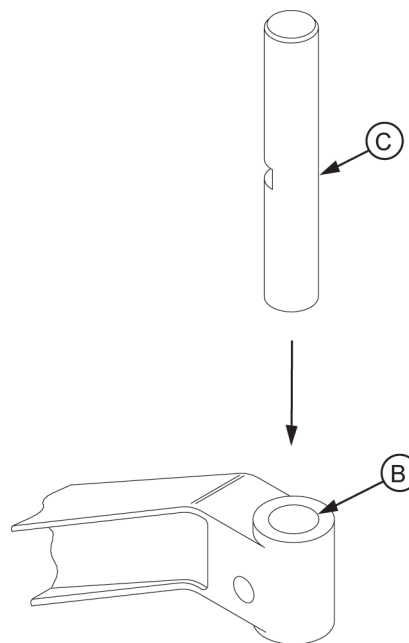
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Figure 6: Inspect the Spindle Assembly

CAUTION

DO NOT use sandpaper or abrasives to clean the spindle and axle bores. The use of abrasives will remove excessive material, causing a loose kingpin fit and premature wear.

1. **See Figure 6.** Thoroughly clean and inspect the spindle assembly. Replace the spindle if any damage is noted.
2. Inspect the spindle kingpin bushing bores (A). The bores should be free of pitting, rust, scoring or cracks. Light rust or pits can be removed using a brake hone. Replace the spindle(s) as needed.



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Figure 7: Inspect Axle Bore

3. **See Figure 7.** Inspect the axle kingpin bore (B). The bores should be free of pitting, rust, scoring, cracks, or worn out-of-round. Replace the axle if any damage is noted.

Apply anti-seize compound to the axle kingpin bore (B), and insert the new (replacement) king pin (C), into the axle to check the fit. The king pin should be a hard hand-push fit, and should not have any play.

If any play is noted, an oversize kingpins and bushings must be used, and the axle bore must be reamed to fit the new king pin.

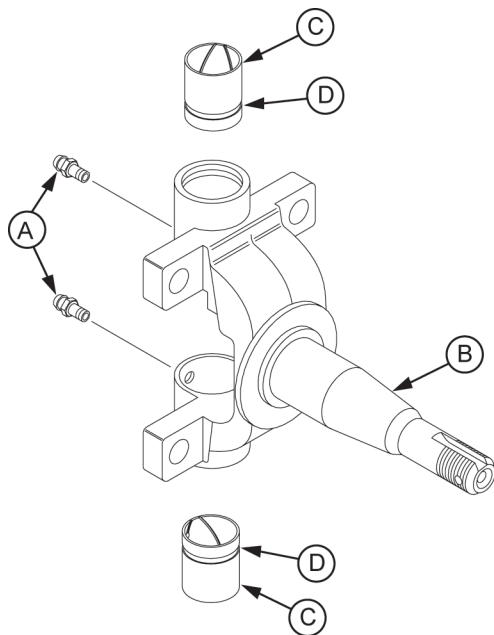
NOTE: If proper equipment is available, the axle may be reamed while the axle is still installed on the vehicle. If not, remove the axle, and have it reamed to match the oversize kingpin at a machine shop.

INSTALLATION

WARNING!

SUPPORT THE VEHICLE SECURELY!

Place jackstands under the frame rails. Never work under or near a vehicle supported only by a jack or other lifting device. Failure to properly support the vehicle and components may result in death or serious injury.



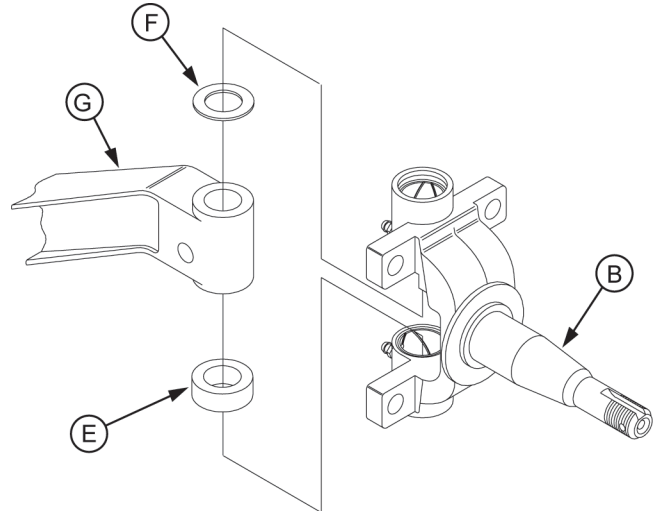
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Figure 8: Install Spindle Bushings

IMPORTANT!

When installing the bushings, it is important that the grease channels are aligned with the grease fittings. Installing the bushing incorrectly will result in premature kingpin and bushing wear.

1. See Figure 8. Install new grease fittings (A) into spindle (B).
2. Apply a light coat of wheel bearing grease to the new bushings (C), and install bushings, aligning the grease channels (D) in the bushing with the grease fittings (A).

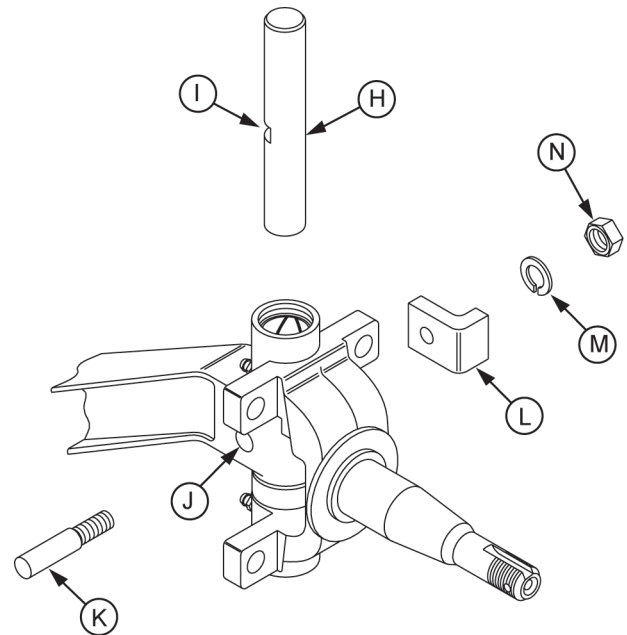


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Figure 9: Install the Spindle and Thrust Bearing

NOTE: Install the thrust bearing with the dust shield up (toward the axle).

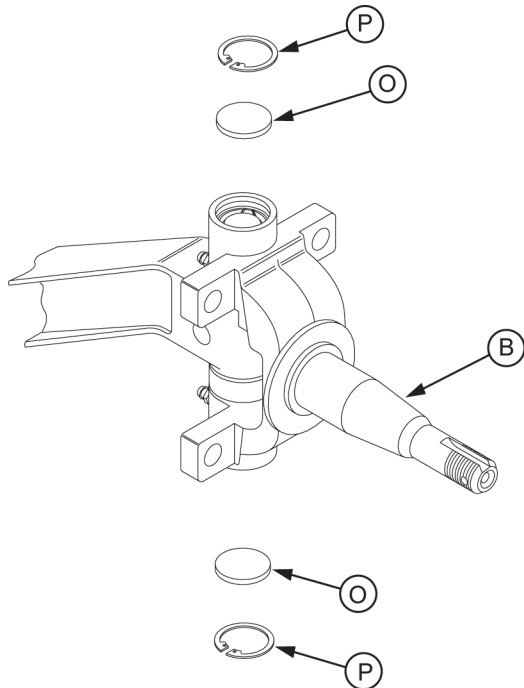
3. See Figure 9. Install the spindle (B) and thrust bearing (E) on the axle (G). Check the clearance between the spindle and axle. If the clearance is greater than 0.006", install a shim (F)



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Figure 10: Install the Kingpin

4. See Figure 10. Install the kingpin (H), aligning the notch (I) in the kingpin with the lock pin hole (J) in the axle.
5. Install the lock pin (K), stop bracket (L), lock washer (M) and nut (N).



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Figure 11: Install Dust Caps and Retaining Rings

6. See Figure 11. Install dust caps (O) and retaining rings (P).

NOTE: Tighten spindle nut to specifications. Always use a new cotter pin when installing the spindle nut.

7. Install backing plates, brake components, and steering arms.
8. Apply grease to grease fittings. Grease spindle bushings regularly to ensure long bushing life.
9. Perform front end alignment.