Before the reinforcement is welded to a cracked frame member, the crack should be prepared to insure a good sound repair. To prevent the crack from spreading, drill a ⅛-inch hole at the root of the crack. Grind out the crack to form a slot which will allow the weld to penetrate to the surface of the reinforcement.

The proper location of the reinforcement depends upon the location of the crack. If the crack is at the bottom of the channel, the reinforcement should be welded to the channel bottom. If the crack extends along the side of the channel, an additional reinforcement should be welded to the side.

d. Frame Member Replacement.

If a damaged frame member is to be replaced, use the same method of attachment as on the original frame member.

To replace parts attached with rivets, drill off the old rivet heads, then drive the rivets out of the parts to be replaced. Position the new parts in their correct locations, and secure them in place with hot rivets.

e. Frame Welding.

When welding frame members, care must be taken to localize the heat so that the steel hardness will be retained. Therefore, all frame welding must be done with electric arc welding equipment and mild steel coated electrodes. When a reinforcement is to be welded to a frame side member, the welds must run lengthwise along the side of the reinforcement.

4. FRONT AXLES

The front axles are of the I-beam type with the front wheel spindles attached to the ends of the axles.

Each spindle is held in place on the axle by a spindle bolt. Steel-backed, bronze bushings are pressed into the upper and lower ends of the spindle to provide bearing surfaces for the spindle bolt. A thrust bearing is installed between the end of the axle and the lower end of the spindle to support the load on the axle. A spindle arm, to which the steering linkage is attached, is installed on the spindle.

The caster and camber angles are set in each axle at the time of manufacture and will not change unless the axle is damaged or the front springs sag.

a. Axle Assembly Replacement.

(1) ***REMOVAL.*** Loosen the front wheel stud nuts, then raise the truck until the front wheels are off the floor. Place a safety stand under each side of the frame just to the rear of the front springs, then lower the truck on the stands.

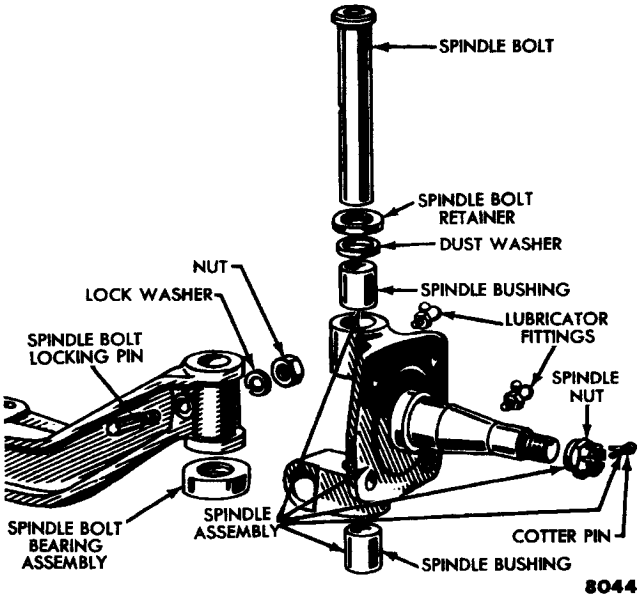

Fig. 5—Spindle, Disassembled—500 through 600 Series

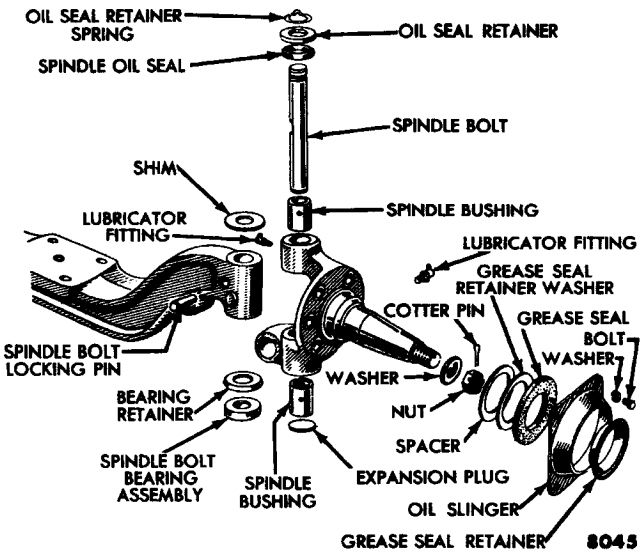

Fig. 6—Spindle, Disassembled—B-700 and 750, F-700 and 750, T-700

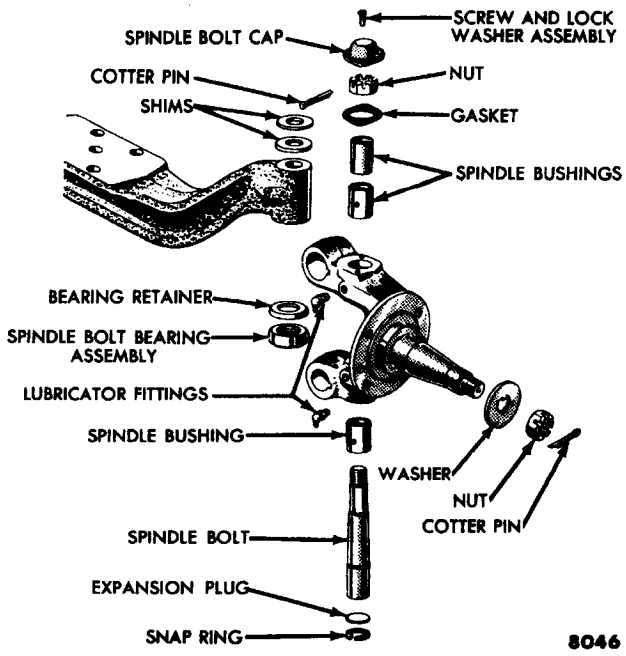

Fig. 7—Single, Disassembled—C-700, 750, and 800; F-800

NOTE: ***Place a jack under the axle to support the axle after the spring clips (U-bolts) have been removed.***

Remove both front wheels. Disconnect the flexible front brake lines at the frame side member brackets. On trucks equipped with power steering, disconnect the fluid lines from the power cylinder, then wire the power cylinder to the axle. If equipped with front shock absorbers, disconnect the lower ends of both shock absorbers from the axle.

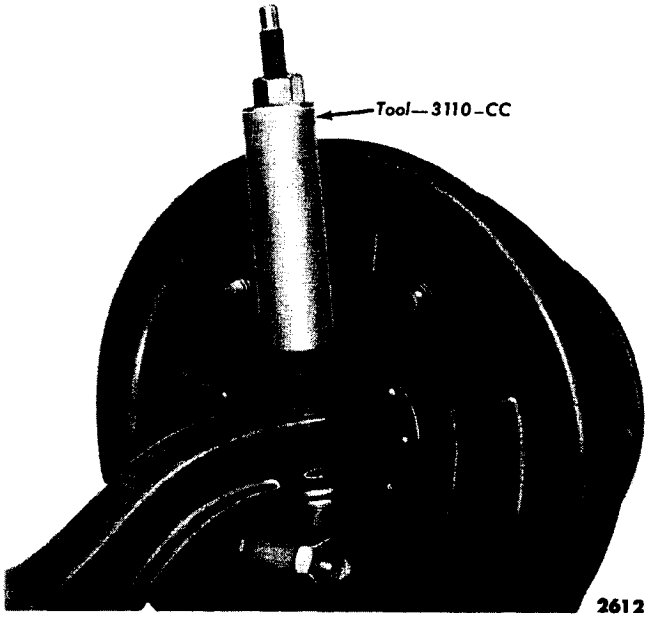

Fig. 8—Spindle Bolt Removal—F-700 and 750, B-750

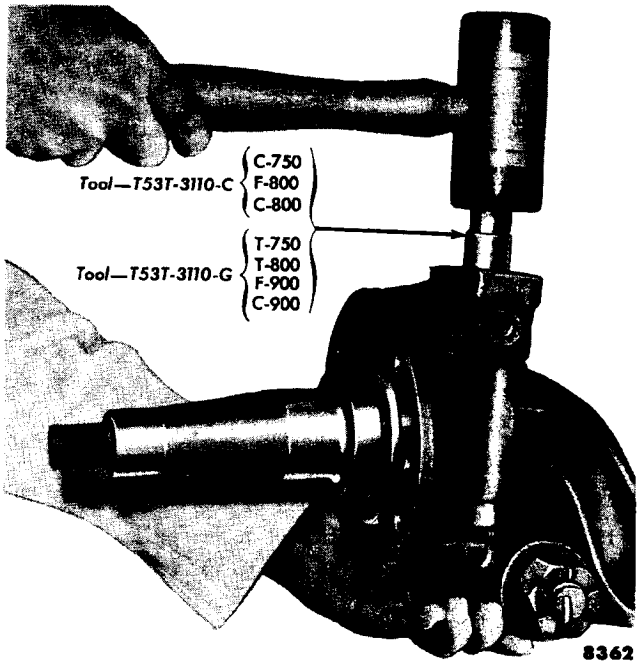

Fig. 9—Spindle Bolt Removal—C-750, 800 through 900 series

(2) ***INSTALLATION.*** Carefully position the complete axle assembly under the truck. On trucks equipped with caster wedges, place the wedges between the front axle and the front springs with the thick edges of the wedges toward the rear of the truck.

Place the spring clips in position over the axle bumper brackets. Make sure the spring tie bolts are centered in the holes provided in the axle. Install the lock washers and nuts on the spring clips. Tighten the nuts to the correct torque specifications to secure the axle to the front springs.

Connect the drag link to the spindle arm. Connect the brake hoses. On trucks equipped with power steering, connect the fluid lines to the power cylinder, and check for fluid leakage. If equipped with front shock absorbers, connect the lower end of each shock absorber to the axle.

Install the front wheels. Bleed the brakes. Lower the truck to the floor. If the axle has been disassembled, check and adjust the wheel alignment. Lubricate all necessary points on the axle assembly. On power steering equipped trucks, refill the fluid reservoir with Automatic Transmission Fluid—Type A.

b. Spindle Bolt and Bushing Replacement.

(1) ***SPINDLE ASSEMBLY REMOVAL.*** Raise the

front of the truck, then remove the wheel. Remove the hub and drum and the wheel bearings from the spindle.

If the brake carrier plate is bolted to the spindle, remove the plate from the spindle. Attach a wire from the truck frame to the carrier plate to prevent damage to the brake hose.

If the brake carrier plate is riveted to the spindle flange, disconnect the brake hose from the wheel cylinder.

Disconnect the drag link and the spindle connecting rod (tie rod) from the spindle arm. Remove the nut from the spindle bolt locking pin (figs. 5, 6, and 7), then drive the pin out of the axle. On 100 through 600 series trucks, drive the spindle bolt out through the top of the axle.

On F-700, F-750, and B-750 trucks, remove the oil seal retainer spring, felt retainer, and oil seal at the top of the spindle bolt (fig. 6). Pull the spindle bolt out from the top as shown in fig. 8.

On C-750, and 800 through 900 series trucks, remove the spindle bolt cap, gasket, cotter pin, and nut. Remove the expansion plug retaining snap ring. Drive the spindle bolt out of the spindle from the top as shown in fig. 9.

Remove the spindle assembly from the axle. Place the spindle assembly on a bench. Drive the bushings out of the spindle with the tool shown in fig. 10. If this tool is not available, carefully drive a small center punch between the bushing and the spindle, at the split end of

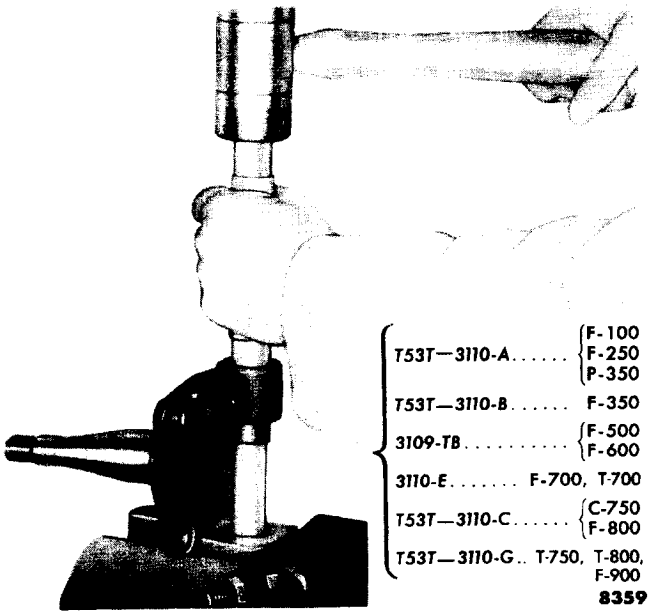

Fig. 10—Spindle Bushing Removal

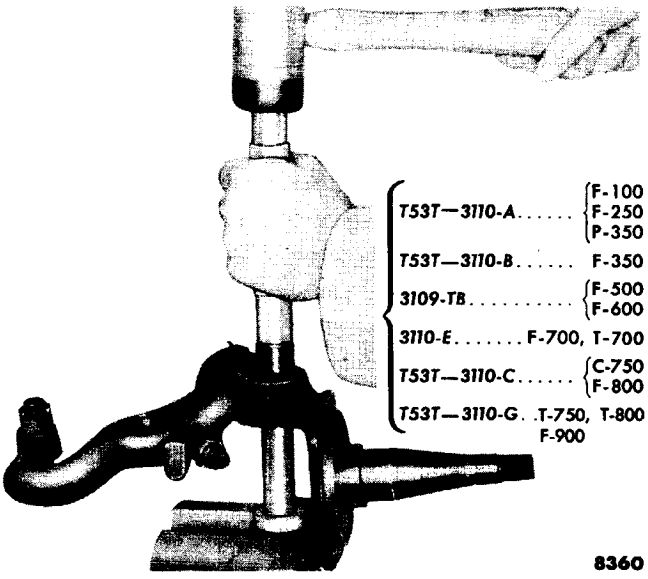

Fig. 11—Spindle Bushing Installation

the bushing. Collapse the bushing, then remove the bushing from the spindle bore.

Clean the spindle bores thoroughly, and make certain the lubricating holes are not plugged.

Position a new bushing in the spindle bore with the lubricating hole in line with the lubricator fitting and the oil groove in the correct position. Drive the bushing into the spindle with the tool shown in fig. 11. Install the remaining bushing in the same manner. Line ream the bushings to the required size (fig. 12). Clean all metal shavings from the bushings after reaming, then apply a light coat of oil to each bushing.

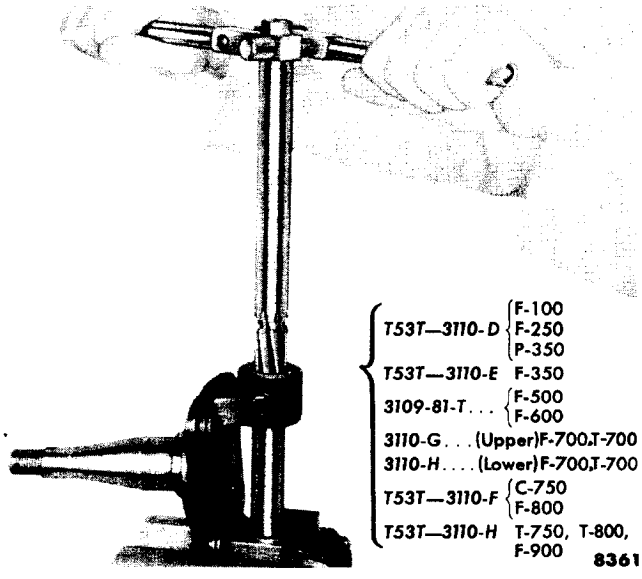

Fig. 12—Reaming Spindle Bushings

(2) ***INSTALLATION.*** Place the spindle in position on the axle. Insert the spindle bolt bearing between the bottom of the axle and the spindle (figs. 5-7). On the 100 through 600 series trucks, first install the retainer and dust washer on the spindle bolt. Line up the notch in the spindle bolt with the spindle bolt locking pin hole in the axle. Drive the spindle bolt through the axle until the notch and hole are in line. Fasten the spindle bolt in place with a new locking pin. Install the lock washer and nut on the lock pin.

On F-700, F-750, and B-750 trucks, the oil seal, retainer, and oil seal retainer spring (fig. 6) can be installed after the spindle bolt has been installed and locked in place with the lock pin. On C-750, and 800 and 900 series trucks (fig. 7), drive the spindle bolt in from the bottom, tighten in place with the mounting nut, then install the cotter pin. Install the expansion plug and retaining ring in the lower spindle bore, then install the gasket and dust cover on top of the spindle.

Install the spindle connecting rod tube, then connect the drag link to the spindle arm. If the brake carrier plate was removed, position the plate on the spindle flange, then install the attaching bolts. Connect the brake hose at the wheel cylinder if it was previously disconnected, then bleed the brakes. Install the hub and drum assembly and the wheels. Lubricate the spindle bolt, then check and adjust the toe-in.

5. SPRINGS

Semi-elliptic, leaf-type front and rear springs are used on all trucks. The springs are mounted parallel to the frame side members, and are held in place on the axles by spring clips (U-bolts).

The forward end of each front spring on conventional truck models is attached to the frame side member by a shackle, and the rear end is connected to a bracket mounted on the frame side member. On Cab Forward and Parcel Delivery models, the shackle is at the rear of the spring, and the bracket is at the forward end.

The forward end of each rear spring on all trucks is attached to a bracket on the frame side member, and the rear end is shackled to the frame side member.

a. Front Springs.

(1) ***REMOVAL.*** Raise the truck frame until the weight is off the front springs with the wheels still touching the floor. Remove the nuts from the lower shackle stud and the bracket. Remove the nuts from the two spring clips (U-bolts) which hold the spring on the axle (fig. 13).

(2) ***INSTALLATION.*** Position the spring on the spring seat, then align the front spring eye with the spring bracket (fig. 13). Insert the shackle stud through the bracket and spring with the lubricator fitting on the shackle stud facing outward. Install the nut and draw it up snug, then back it off one-third turn. Install the cotter pin.

Raise the rear end of the spring and align the spring eye with the shackle bars. Insert the shackle stud through the shackle bar and spring eye with the lubricator fitting facing outward. Install the nut and draw it up snug, then back the nut off one-third turn. Install the cotter pins through the upper and lower nuts.

On trucks with the axle caster wedge, place the wedge between the axle and the spring with the thick edge of the wedge toward the rear of the truck. Place the spring clips in position over the spring clip plate and through the holes in the axle. Make sure the spring tie bolt is in the hole provided in the axle.

Install the lock washers and nuts on the spring clips. Lower the truck to the floor, then tighten the spring clip nuts to the specified torque.

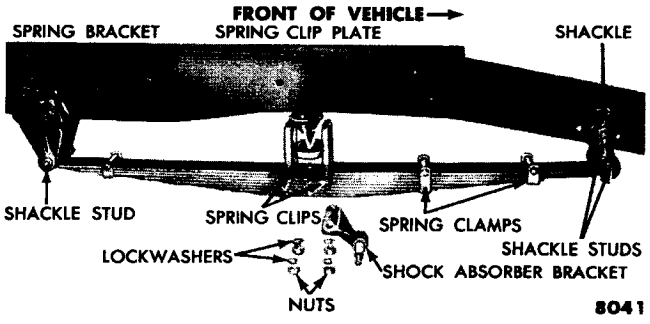

Fig. 13—Front Spring, Disassembled

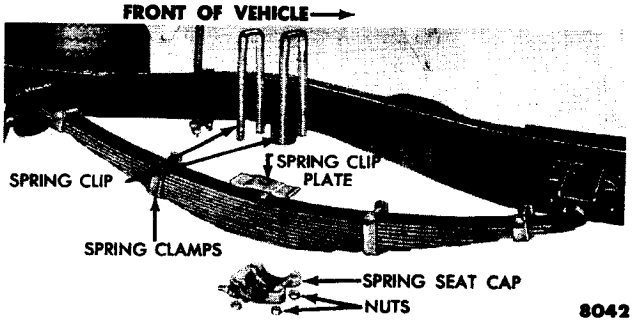

Fig. 14—Light-Duty Rear Spring—Disassembled