# FRONT SUSPENSION AND STEERING LINKAGE

## CONTENTS



## GENERAL INFORMATION

The Chrysler front suspension system is basically the same as in previous models, where the torsion bar rear anchors are integral with the engine rear support member. The front anchors are part of the lower control arms and provide the means of adjusting the vehicle front height. Compression type lower ball joints are integral with the steering arm.

The Imperial front suspension system is the same as the previous years model with a front "K" crossmember that is isolated from the stub frame by four large rubber bushing type isolators. The torsion bar rear anchor crossmember is isolated from the stub frame crossmember by two sandwich type rubber insulators. The front torsion bar anchors are part of the lower control arms and provide the means of adjusting the vehicle front height. The upper control arm is mounted on a pivot bar and the front wheel alignment is set by the adjustment of two vertically mounted cam bolts. The sway bar is the link type and mounts to the lower control arm and front crossmember.

The Imperial rubber isolated front suspension system reduces engine and road noises entering the body structure.

All ball joints and the torsion bars at the front of the rear anchors on all model Chrysler and Imperial vehicles are effectively sealed against road splash by tightly fitted balloon type flexible seals.

**The lower ball joints, steering arm assemblies on Chrysler models should not be replaced for looseness if the axial end play (Up and Down movement) is under .070 inch. Looseness of this nature is not detrimental and will not affect front wheel alignment or vehicle stability.**

**On Imperial models the lower ball joints are preloaded (zero axial end play). Therefore, if any axial end play (Up and Down movement) is observed the ball joint and lower control arm should be replaced. The lower ball joints on the Imperial will be serviced as a lower control arm and ball joint assembly complete. This is due to the lower ball joint being a press in type requiring very high removing and installing forces.**

The ball joints on all model vehicles are of the semi-permanent lubricated type. When lubrication of the ball joints and tie rod end assemblies is required, remove the plugs and install a lubrication fitting. After lubricating, reinstall the plugs.

Service replacement ball joints are equipped with a "Knock-Off" type lubrication fitting. After lubricating, knock off that portion of the fitting over which the lubrication gun was installed. A ball check installed in the remaining portion of the fitting prevents foreign materials from passing through the fitting.

The tie rod end seals, ball joint and torsion bar balloon seals should be inspected for damage at all oil change periods.

**All front suspension points that contain rubber should be tightened while the suspension is at the specified height (see specifications), with full weight of vehicle on its wheels.**

**Rubber bushings should not be lubricated at any time.**

## SERVICE DIAGNOSIS

| Condition | Possible Cause | Correction |
|---|---|---|
| FRONT END NOISE | (a) Ball joint needs lubrication. | (a) Lubricate ball joint. |

| Condition | Possible Cause | Correction |
|---|---|---|
| | (b) Shock absorber inoperative or bushings worn or loose shock absorber mounting. | (b) Replace bushings or shock absorber or tighten shock absorber mounting nuts. |
| | (c) Worn strut bushings. | (c) Replace bushing. |
| | (d) Loose struts—Lower control arm bolts and nuts, (Imperial Only). | (d) Tighten all bolts and nuts. |
| | (e) Loose steering gear on frame. | (e) Tighten the steering gear mounting bolts. |
| | (f) Worn upper control arm bushings. | (f) Replace worn bushings. |
| | (g) Worn lower control arm shaft bushings. | (g) Replace worn bushings. |
| | (h) Worn upper or lower ball joint. | (h) Replace ball joint. |
| | (i) Worn tie rod ends. | (i) Replace tie rod end. |
| | (j) Loose or worn front wheel bearings. | (j) Adjust or replace bearings as necessary. |
| | (k) Steering knuckle arm contacting the lower control arm wheel stop. | (k) Smooth off the contacting area and lubricate with a water resistant grease. |
| **INSTABILITY** | (a) Low or uneven tire pressure. | (a) Inflate tires to correct pressure. |
| | (b) Loose wheel bearings. | (b) Adjust wheel bearing. |
| | (c) Improper steering cross shaft adjustment. | (c) Adjust steering cross shaft. |
| | (d) Steering gear not centered. | (d) Adjust steering gear. |
| | (e) Worn idler arm bushing. | (e) Replace bushing. |
| | (f) Loose or excessively worn front strut bushings. | (f) Replace bushings. |
| | (g) Weak or broken rear spring. | (g) Replace spring. |
| | (h) Incorrect front wheel alignment. | (h) Measure and adjust front wheel alignment. |
| | (i) Shock absorber inoperative. | (i) Replace shock absorber. |
| **HARD STEERING** | (a) Ball joints—require lubrication. | (a) Lubricate ball joints. |
| | (b) Low or uneven tire pressure. | (b) Inflate tires to recommended pressures. |
| | (c) Low power steering fluid level. | (c) Fill pump reservoir to correct level. |
| | (d) Lack of assist of power steering system. | (d) Inspect, test, and service the power steering pump and gear as required. |
| | (e) Incorrect front wheel alignment (particularly caster) resulting from a bent control arm, steering knuckle or steering knuckle arm. | (e) Replace bent parts and adjust the front wheel alignment. |
| | (f) Steering gear low on lubricant. | (f) Fill gear to correct level. |
| | (g) Steering gear not adjusted. | (g) Adjust steering gear. |
| | (h) Idler arm binding. | (h) Replace idler arm. |
| **CAR PULLS TO ONE SIDE** | (a) Low or uneven tire pressure. | (a) Inflate tires to recommended pressure. |
| | (b) Front brake dragging. | (b) Adjust brakes. |
| | (c) Grease, lubricant or brake fluid leaking onto brake lining. | (c) Replace brake shoe and lining as necessary and stop all leaks. |
| | (d) Loose or excessively worn strut bushings. | (d) Tighten or replace strut bushings. |
| | (e) Power steering control valve out of adjustment. | (e) Adjust steering gear control valve. |
| | (f) Incorrect front wheel alignment (particularly camber). | (f) Adjust front wheel alignment. |
| | (g) Broken or weak rear spring. | (g) Replace spring. |
| **EXCESSIVE PLAY IN STEERING** | (a) Worn or loose front wheel bearings. | (a) Adjust or replace wheel bearings as necessary. |
| | (b) Incorrect steering gear adjustment. | (b) Adjust steering gear. |
| | (c) Loose steering gear to frame mounting bolts. | (c) Tighten steering gear to frame bolts. |
| | (d) Worn ball joints or tie rod. | (d) Replace ball joints or tie rods as necessary. |
| | (e) Worn steering gear parts. | (e) Replace worn steering gear parts and adjust as necessary. |
| | (f) Worn upper or lower ball joints. | (f) Replace ball joints. |

| Condition | Possible Cause | Correction |
|---|---|---|
| **FRONT WHEEL SHIMMY** | (a) Tire, wheel out of balance. | (a) Balance wheel and tire assembly. |
| | (b) Uneven tire wear, or excessively worn tires. | (b) Rotate or replace tires as necessary. |
| | (c) Worn or loose wheel bearings. | (c) Replace or adjust wheel bearings as necessary. |
| | (d) Worn tie rod ends. | (d) Replace tie rod ends. |
| | (e) Strut mounting bushings loose or worn. | (e) Replace strut mounting bushings. |
| | (f) Incorrect front wheel alignment (particularly caster). | (f) Adjust front wheel alignment. |
| | (g) Worn or loose upper control arm ball joints. | (g) Inspect ball joints and replace where required. |

## SERVICE PROCEDURES

### WHEEL ALIGNMENT

Front wheel alignment is the proper adjustment of all the interrelated suspension angles affecting the running and steering of the front wheels of the vehicle. The importance of wheel alignment and wheel balancing is considered essential in order to maintain ease of steering, good directional stability and to prevent abnormal tire wear.

Under every day driving conditions the front wheel alignment angles change and therefore it becomes necessary that every vehicle should have an alignment check at least once a year. Such an inspection of the front suspension and steering components is a preventitive maintenance service and also has a definite bearing on the safe operation of the vehicle.

The method of checking front wheel alignment will vary depending on the type of equipment being used. The instructions furnished by the manufacturer of the equipment should always be followed, with the exception of the specifications as recommended by the Chrysler Motors Corporation should always be used.

There are six basic factors which are the foundation to front wheel alignment; height, caster, camber, toe-in, steering axis inclination and toe-out on turns (Fig. 1). All are mechanically adjustable except steering axis inclination and toe-out on turns. The latter two are valuable in determining if parts are bent or damaged particularly when the camber and caster adjustments cannot be brought within the recommended specifications.

**Do not attempt to modify any suspension or steering components by heating or bending.**

All adjustments should be made in the following sequence:

(a) Front suspension height
(b) Caster and Camber
(c) Toe-in
(d) Steering Axis Inclination
(e) Toe-out on Turns.

**Caster** is the number of degrees of forward or backward tilt of the spindle support arm at the top. Forward tilt of the spindle support arm at the top is negative caster. Backward tilt of the spindle support arm at the top from true vertical is positive caster.

**Camber** is the number of degrees the top of the wheel is tilted inward or outward from a true vertical. Inward tilt of the top of the wheel from true vertical is negative camber. Outward tilt of the wheel at the top is positive camber. Excessive camber is a tire wear factor; negative camber causes wear on the inside of the tire, while positive camber causes wear to the outside.

**Toe in** is measured in inches and is the distance the leading edges of the tires are closer than the

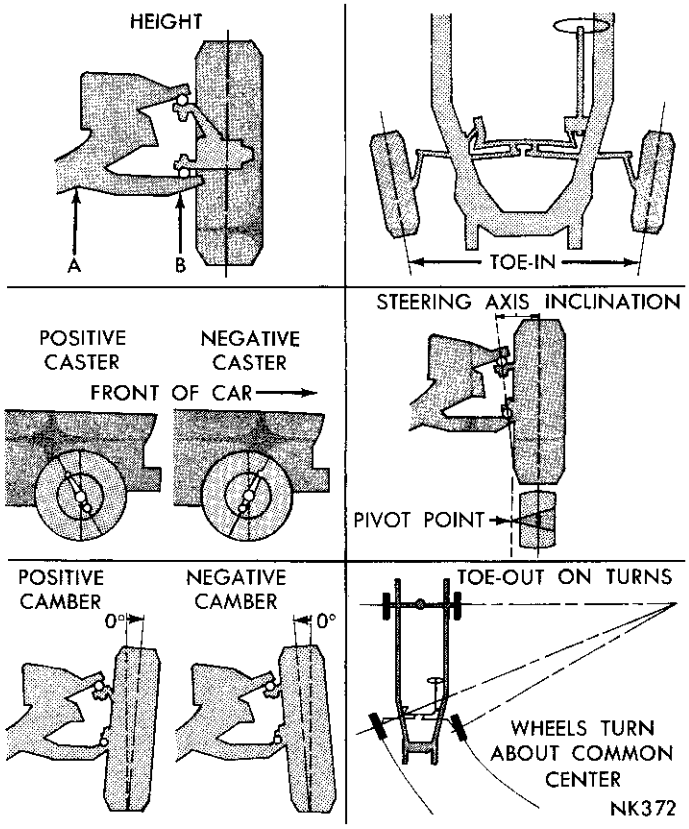


*Fig. 1—Wheel Alignment Factors*

trailing edges. Toe-in is considered the most serious cause for excessive tire wear. Toe-in is the last of the alignment angles to be set in the front wheel alignment operation.

**Steering Axis Inclination** is measured in degrees and is the amount the spindle support center line is tilted from true center. It has a fixed relationship with camber settings and does not change except when components are damaged or bent. This angle is not adjustable and damaged parts must be replaced.

**Toe-out on Turns (Turning Radius)** is measured in degrees and is the amount one front wheel turns sharper than the other on a turn. This angle is designed into the steering arms in relationship to the wheelbase of the vehicle and is not adjustable. When checking the turning radius and it is found not to be within the recommended specifications, look for possible bent or damaged components.

## PRE-ALIGNMENT INSPECTION

Before any attempt is made to change or correct the wheel alignment factors the following inspection and necessary corrections must be made on those parts which influence the steering of the vehicle.

(1) Check and inflate tires to recommended pressure. All tires should be same size and be in good condition and have approximately same wear. Note type of tire tread wear which will aid in diagnosing (Group 22).

(2) Check and adjust front wheel bearings (Group 22).

(3) Check front wheel and tire assembly for radial and lateral runout (follow the Equipment Manufacturers Instructions (Group 22).

(4) Check wheel and tire for unbalance conditions both static and dynamic which could affect steering.

(5) Inspect ball joints and all steering linkage pivot points for excessive looseness.

(6) Check shock absorbers for leaks and jounce vehicle to determine if shock absorbers have proper control.

(7) Check steering gear for roughness, binding or sticking condition and adjust as necessary.

(8) Check rear springs for cracks or broken leaves and "U" bolts for proper tightness and measure height differential between left and right sides of vehicle. (Vehicle should be on level floor or on alignment rack) with a full tank of fuel and no luggage or passenger load.

(9) Front suspension heights must only be checked after the vehicle has the recommended tire pressures, full tank of fuel, no passenger load and is on a level floor or alignment rack.

To obtain accurate readings, vehicle should be jounced in following manner just prior to taking each measurement (Height - Caster - Camber and Toe): Grasp bumpers at center (rear bumper first) and jounce up and down several times. Always release bumpers on the down cycle after jouncing both rear and front ends an equal number of times.

## WHEEL ALIGNMENT ADJUSTMENTS

Front wheel alignment settings must be held to specifications to hold tire wear to a minimum and to maintain steering ease and handling of vehicle.

The equipment manufacturers recommended procedure should always be followed. Any parts of the front suspension system should be replaced if they are found to be bent. **Do not attempt to straighten any bent part.**

### *Height*

Front suspension heights must be held to specifications for a satisfactory ride, correct appearance, proper front wheel alignment and reduced tire wear.

The heights should only be measured when vehicle has the recommended tire pressures, a full tank of fuel, no passenger load and is on a level floor or an alignment machine rack.

(1) **On Chrysler Models** clean all foreign material from bottom of steering knuckle arm assemblies and from lowest area of the height adjusting blades directly below center of lower control arm inner pivots.

**On Imperial Models** clean all foreign material from bottom of lower ball joint assemblies and bottom of torsion bar front anchors.

(2) Jounce vehicle several times releasing it on downward motion.

(3) **On Chrysler Models** measure distance from lowest point of one adjusting blade to floor (measurement A) and from lowest point of steering knuckle

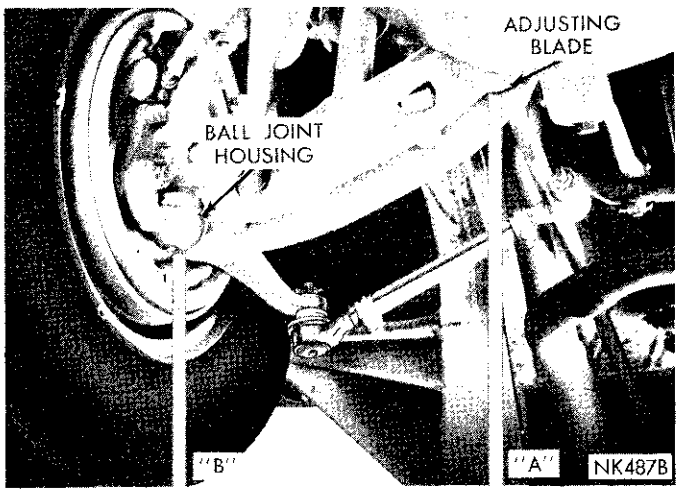


***Fig. 2—Measuring Front Suspension Height (Chrysler)***

arm, at the centerline, on same side (measurement B) to floor (Fig. 2). Measure only one side at a time.

**On Imperial Models** measure distance from lowest point of front torsion bar anchor at the rear of lower control arm flange to floor (measurement A) and from lowest point of ball joint housing on same side (measurement B) to floor (Fig. 3) measure only one side at a time.

**The difference between A and B (A always being greater than B) is the front suspension height.**

(4) Refer to Specifications and adjust if necessary by turning torsion bar adjusting bolt clockwise to increase height and counterclockwise to decrease height.

(5) After each adjustment, jounce vehicle before remeasuring. Both sides should be measured even though only one side has been adjusted.

(6) Measure other side in same manner. The maximum allowable difference in suspension height from side to side is 1/8 inch on all Models.

### *Camber and Caster*

(1) Prepare vehicle for measuring wheel alignment.

(2) Remove all foreign material from exposed threads of cam adjusting bolts.

(3) Record initial camber and caster readings before loosening cam bolt nuts.

(4) Camber settings should be held as close as possible to "preferred" setting. Caster should be held as nearly equal as possible on both wheels. Tighten cam bolt nuts 65 foot-pounds (Chrysler) and 160 foot-pounds (Imperial) after wheel alignment adjustment.

### *Toe-In*

The toe setting should be the final operation of the front wheel aglinment adjustments. The front wheels must be in a straight ahead position. Follow the equipment manufacturers procedure. The steering wheel should be centered during this operation.

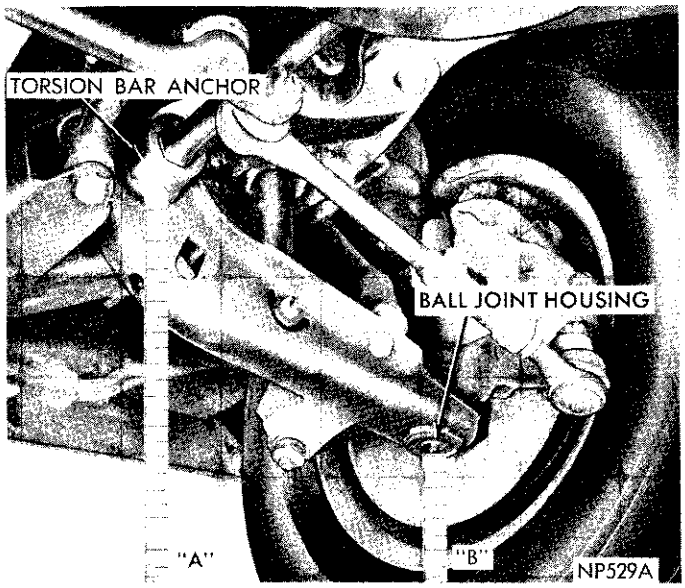


*Fig. 3—Measuring Front Suspension Height (Imperial)*

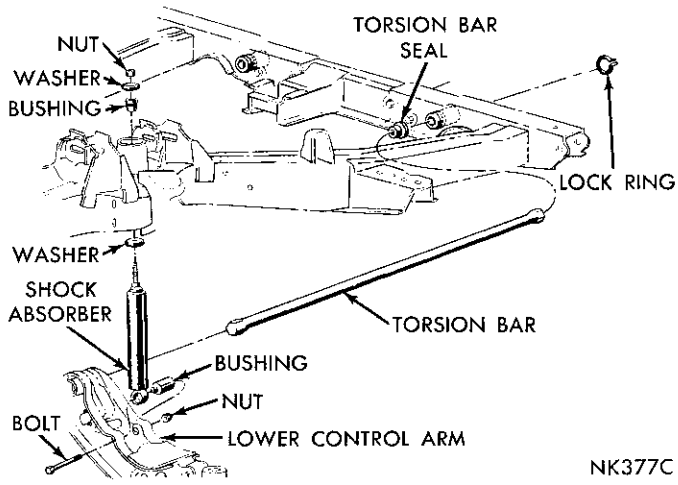


*Fig. 4—Torsion Bar (Chrysler)*

Turning both tie rod sleeves will "center" the steering wheel. If the steering wheel was centered, make the toe-in adjustment by turning both sleeves an equal amount. Tighten clamp bolt nuts 150 inch-pounds with the clamp rotated so bolts are on bottom, otherwise interference with torsion bars in jounce may result.

## TORSION BARS (Figs. 4 and 5)

The torsion bars are not interchangeable side for side. The bars are marked either right or left by an "R" or an "L" stamped on one end of bar.

### *Removal*

(1) Remove upper control arm rebound bumper.

(2) If vehicle is to be raised on a hoist, make sure it is lifted on body only so front suspension is in full rebound (under no load).

(3) **On Chrysler models,** release all load from torsion bar by turning anchor adjusting bolt counterclockwise.

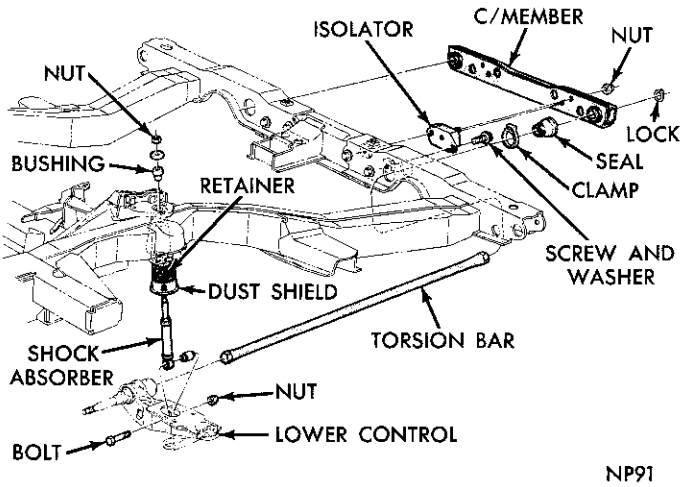


*Fig. 5—Torsion Bar (Imperial)*

(4) **On Imperial models,** load on **both** torsions bars will have to be released by turning anchor adjusting bolts counterclockwise. **This is necessary because the rubber isolator rear crossmember would be under load and could possible cause severe damage or personal injury.**

(5) Slide rear anchor balloon seal off of rear anchor and remove lock ring from anchor.

**In some instances, it may be necessary to use Tool C-3728 to aid in removing torsion bar** (Fig. 6). It is advisable to place Tool C-3728 toward rear of torsion bar to allow sufficient room for striking pad of tool. **Do not apply heat to torsion bar, front anchor or rear anchor.**

(6) Remove torsion bar by sliding the bar out through rear of the rear anchor. Use care not to damage balloon seal when it is removed from torsion bar.

### *Inspection*

(1) Inspect balloon seal for damage and replace if necessary.

(2) Inspect torsion bar for scores and nicks. Dress down all scratches and nicks to remove sharp edges, then paint repaired area with a rust preventative.

(3) Remove all foreign material from hex openings in anchors and from hex ends of torsion bars.

(4) Inspect torsion bar adjusting bolt and swivel and replace if there is any sign of corrosion or other damage. Lubricate for easy operation.

### *Installation*

(1) Insert torsion bar through rear anchor.

(2) Slide balloon seal over torsion bar (cupped end toward rear of bar).

(3) Coat both hex ends of torsion bar with Multi-Mileage Lubricant, Part Number 2525035 or equivalent.

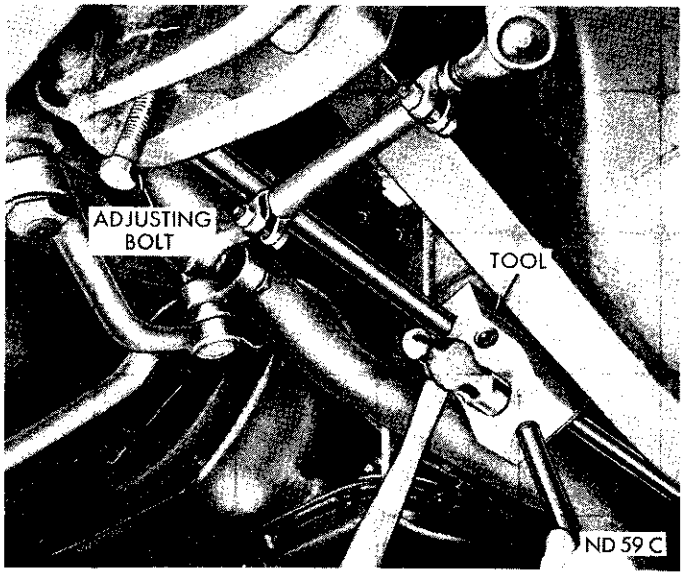


*Fig. 6—Removing Torsion Bar*

(4) Slide torsion bar in hex opening of lower control arm.

(5) Install lock ring, making sure it is seated in its groove.

(6) Pack annular opening in rear anchor completely full of Multi-Mileage Lubricant, Part Number 2525035 or equivalent. Position lip of balloon seal in groove of anchor. On Imperial models, install balloon seal clamp.

(7) On Chrysler models, turn adjusting bolt clockwise to place a load on torsion bar.

(8) On Imperial models, turn both adjusting bolts clockwise to place a load on both torsion bars.

(9) Lower vehicle to floor and adjust front suspension height.

(10) Install upper control arm rebound bumper and tighten nut 200 inch-pounds.

## TORSION BAR RUBBER ISOLATOR (Imperial Fig. 5)

### *Removal*

(1) Raise vehicle so front suspension is in full rebound.

(2) Remove all load from torsion bars by turning adjusting bolts counterclockwise.

(3) Remove lock rings from rear anchors and loosen torsion bar seal clamp and slide seal forward on torsion bar.

(4) Loosen and remove two bolts each side attaching torsion bar rear anchor crossmember to the isolators.

(5) Remove crossmember from torsion bars.

(6) Remove nuts attaching rubber isolator assembly to engine rear support crossmember and remove isolator assembly.

### *Installation*

The rubber isolator and mounting bracket is serviced as an assembly only.

(1) Position isolator assembly on engine rear support crossmember bolts and install nuts and tighten nuts 30 foot-pounds.

(2) Position torsion bar anchor crossmember over the hex ends of torsion bars and install bolts and tighten 75 foot-pounds.

(3) Install lock rings in rear anchors and position seal over lip of crossmember and install clamp.

(4) Place a load on torsion bars by turning adjusting bolts clockwise.

(5) Lower vehicle and adjust front suspension heights.

## STEERING KNUCKLES

**On Chrysler models equipped with disc brakes, see**

**Brakes Group 5 for brake disc and caliper removal and installation procedure.**

### *Removal—Chrysler*

(1) Remove upper control arm rebound bumper.

(2) Raise vehicle so front suspension is in full rebound (under no load).

(3) Remove wheel, tire and drum as an assembly.

(4) Remove all load from torsion bar by turning the adjusting bolt counterclockwise.

(5) Remove tie rod end from steering knuckle using Tool C-3894.

(6) Remove upper ball joint stud from steering knuckle using Tool C-3964.

(7) Remove two upper bolts securing steering knuckle to brake support.

(8) Remove two lower bolts attaching steering arm to steering knuckle and remove steering knuckle. **Support the brake assembly during this operation to prevent damage to brake hose when lower bolts are removed.**

### *Installation—Chrysler*

(1) Position steering knuckle on brake support and install upper mounting bolts and nuts finger tight only.

(2) Position steering knuckle arm on steering knuckle and install mounting bolts and nuts finger tight only.

(3) Install upper ball joint stud in steering knuckle and tighten the ball joint stud nut 100 foot-pounds. Install cotter pin.

(4) Tighten steering knuckle upper bolt nuts 55 foot-pounds. Tighten lower bolt nuts 120 foot-pounds and install cotter pin.

(5) Place a load on torsion bar by turning adjusting bolt clockwise.

(6) Install tie rod end in steering knuckle arm and install nut, tighten 40 foot-pounds and install cotter pin.

(7) Install wheel tire and drum assembly and adjust front wheel bearing (Group 22).

(8) Lower vehicle to floor and install upper control arm rebound bumper. Tighten nut 200 inch-pounds.

(9) Adjust front wheel alignment as necessary.

**All Imperial models are equipped with front wheel disc brakes. For brake disc and caliper removal and installation, see Brakes Group 5 for correct procedure.**

### *Removal—Imperial*

(1) Raise vehicle so front suspension is in full rebound (under no load).

(2) Remove wheel and tire assembly.

(3) Remove all load from **both** torsion bars by turning adjusting bolts counterclockwise.

(4) Disconnect brake hose to disc brake caliper brake line.

(5) Remove disc brake caliper and brake disc, see Brakes Group 5.

(6) Remove tie rod end from steering knuckle arm using Tool C-3894. **Use care not to damage seals.**

(7) Remove upper and lower ball joint studs from steering knuckle using Tool C-3564. Turn threaded portion of tool locking it securely against ball joint stud. Spread tool enough to place ball joint stud under pressure, then strike steering knuckle sharply with a hammer to loosen stud. Do not attempt to force stud out of knuckle with tool alone.

(8) Remove bolts attaching steering arm to steering knuckle and remove steering knuckle.

### *Installation—Imperial*

(1) Align steering knuckle mounting holes with those of steering arm, insert mounting bolts and tighten finger tight at this time.

(2) Install upper and lower ball joint studs in steering knuckle and install nuts, tighten upper 125 and lower 155 foot-pounds and install cotter pins.

(3) Tighten steering knuckle bolts to 160 foot-pounds.

(4) Install tie rod end stud in steering knuckle arm and install nut. Tighten 40 foot-pounds and install cotter pin.

(5) Install disc brake caliper and brake disc, see Brakes Group 5.

(6) Connect brake hose to disc brake caliper brake line and bleed brakes.

(7) Place a load on **both** torsion bars by turning adjusting bolts clockwise.

(8) Install wheel and tire assembly and adjust front wheel bearings (Group 22).

(9) Lower vehicle to floor and adjust front suspension heights and wheel alignment as necessary.

## STEERING LINKAGE (Figs. 7 and 8)

The tie rod end seals should be inspected at all oil change periods. **Removal of tie rod ends from the steering knuckle arm or center link by methods other than using the recommended tools may damage tie rod end seal.**

Damaged seals require removal of the seals and inspection of the tie rod assembly end at the throat opening. If the parts have not lost all the lubricant and are not contaminated, worn or rusted, use new seals and reinstall, otherwise, a new complete tie rod end assembly should be installed. Lubricate the tie rod end assembly. Special long-life chassis greases such as Multi-Mileage Lubricant, Part Number 2525035 intended for this purpose.

### *Removal*

(1) Remove tie rod ends from steering knuckle arms using Tool C-3894 (Chrysler and Imperial) (Fig.

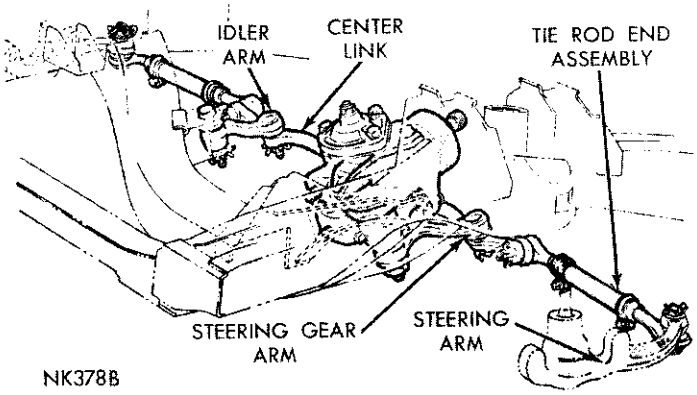


***Fig. 7—Steering Linkage (Chrysler)***

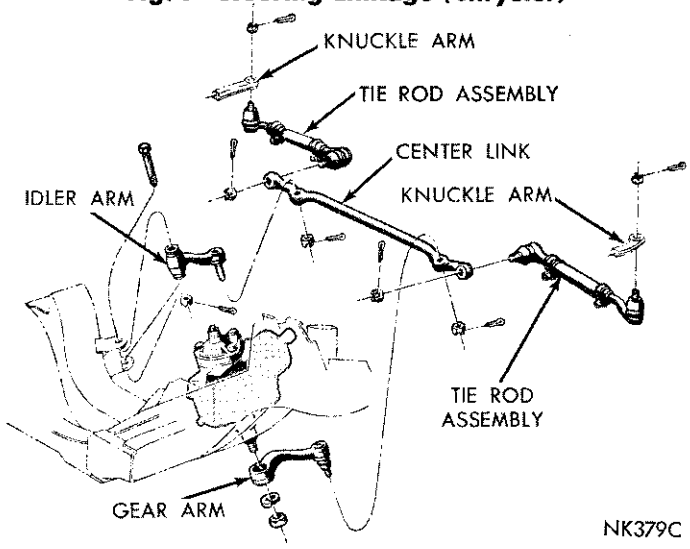


***Fig. 7—Steering Linkage (Chrysler)***

8). **Use care not to damage seals.**

(2) Using Tool C-3894 remove inner tie rod ends from center link.

(3) Remove idler arm stud from center link using Tool C-3894. Remove idler arm bolt from crossmember.

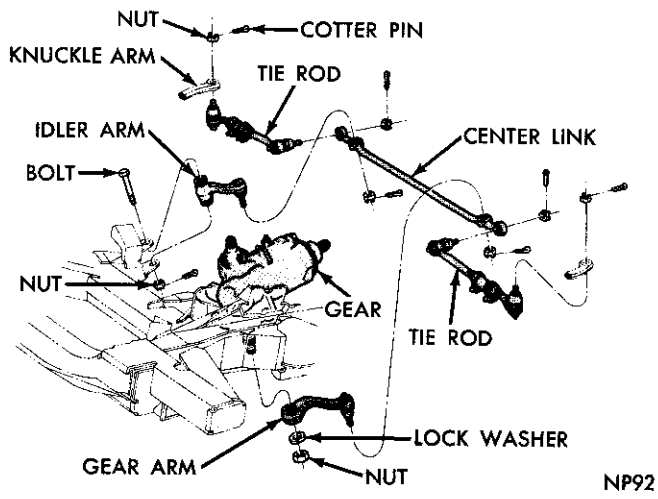


***Fig. 8—Steering Linkage (Imperial)***

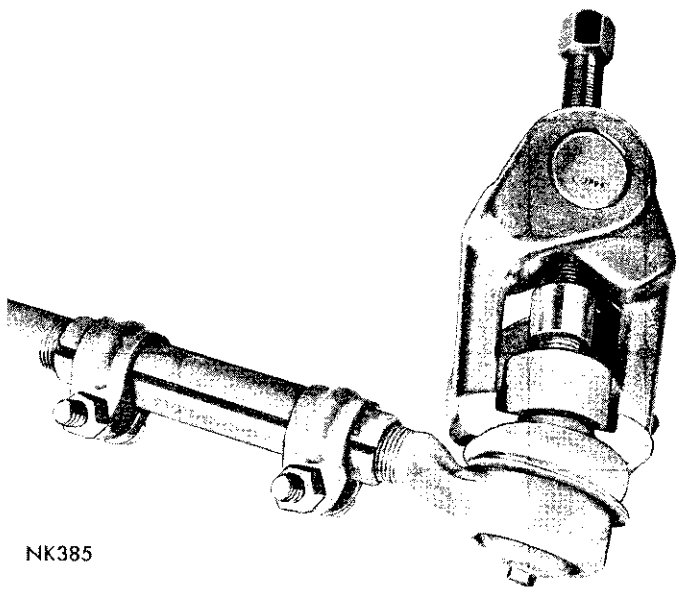


***Fig. 9—Removing Outer Tie Rod End***

(4) Remove steering gear arm stud from center link, using Tool C-3894, and remove steering gear arm from gear.

### *Installation*

Replace all tie rod and steering arm assemblies that are damaged or excessively worn. Damaged seals are replaceable.

(1) Insert idler arm and bushings assembly into bracket using care not to damage bushing. Insert bolt and tighten to 65 foot-pounds.

(2) Insert center link over idler arm and steering arm studs and tighten nuts to 40 foot-pounds. Insert cotter pins.

(3) Connect tie rod ends to steering knuckle arms. Tighten nuts to 40 foot-pounds, install cotter pins.

(4) Measure and adjust front wheel toe-in.

## SWAY BAR (Figs. 10 and 11)

### *Removal—Chrysler*

(1) Remove two sway bar link retaining nuts and concave retainers.

(2) Remove two sway bar cushion retaining nuts, lockwashers, straps, and bolts, (one to each strut). Slide sway bar out through control arm struts and away from vehicle. **The sway bar bushings are not serviced separately. If replacement is necessary, install a new sway bar assembly. Remove lower concave retainer.**

(3) Remove sway bar link insulating bushings from frame bracket. If bushings are worn or deteriorated, install new bushings as required.

### *Installation—Chrysler*

(1) Dip sway bar link bushings in water and install opening in frame bracket, using a twisting motion.

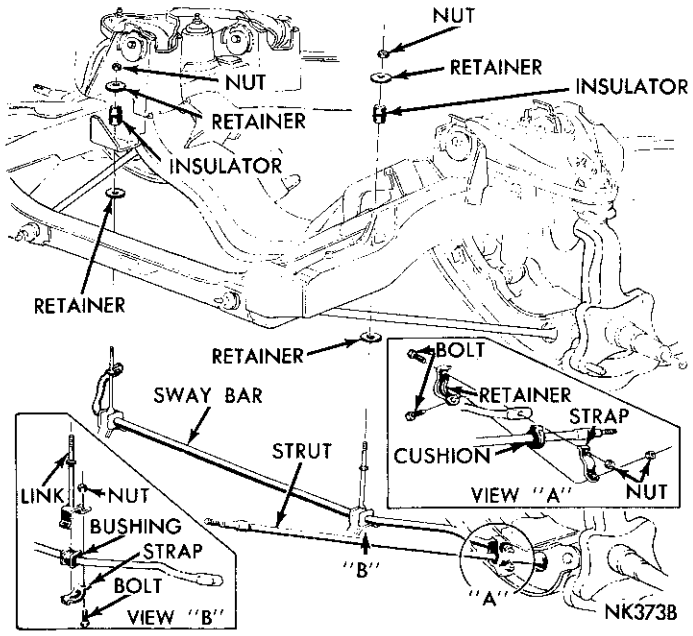


*Fig. 10—Sway Bar (Chrysler)*

When installed properly, groove in bushing will index with opening in frame bracket.

(2) Thread sway bar into position over top of lower control arm struts.

(3) Engage sway bar cushion housing with struts and install straps, bolts, lockwashers and nuts. Tighten to 30 foot-pounds.

(4) Install retainers over ends of links (concave side up), then slide links up through bushings. Install retainers (concave side down) over ends of links and down on bushings. Install nuts and tighten to 100 inch-pounds.

### *Removal—Imperial*

(1) Raise vehicle on hoist so front suspension is in full rebound (under no load).

(2) Remove one wheel and tire assembly from vehicle, which will aid in removal of sway bar.

(3) Loosen and remove upper link nut, retainer and rubber insulator on both sides.

(4) Loosen and remove screw and washer assemblies attaching both bushing retainers to front crossmember.

(5) Remove sway bar from vehicle.

(6) Loosen and remove nuts, retainers and rubber insulators and remove links from lower control arm bracket.

(7) If the rubber insulator bushings show excessive wear or deterioration of rubber, install new bushings.

**The sway bar bushings are not serviced separately. If replacement is necessary, install a new sway bar assembly.**

### *Installation—Imperial*

(1) Position link with retainer rubber insulator in lower control arm bracket followed by rubber insulator and retainer (concave side toward rubber insulator) and nut. Tighten nut to 100 inch-pounds.

(2) Position sway bar assembly in vehicle and install attaching screw and washer assemblies and tighten finger tight only.

(3) Install retainer on link followed by rubber insulator and sway bar. Using a screwdriver or **pinch** bar between strut and sway bar apply pressure and install upper rubber insulator retainer and nut and tighten nut 100 inch-pounds.

(4) Lower vehicle to floor so full weight is on wheels. Tighten the bushing retainer screw and washer assemblies to 200 inch-pounds.

## LOWER CONTROL ARM AND SHAFT (Figs. 12 and 13)

**On models equipped with disc brakes, see Brakes group 5 for brake disc and caliper removal and installation procedure.**

### *Removal—Chrysler*

(1) Loosen and remove lower shock absorber attaching bolt and push up and out of the way, and

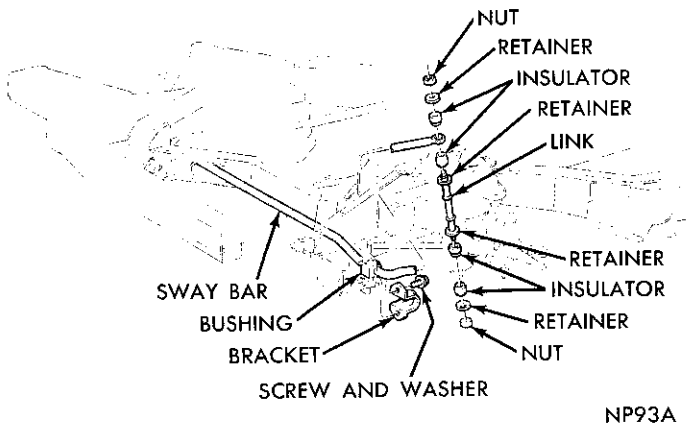


*Fig. 11—Sway Bar (Imperial)*

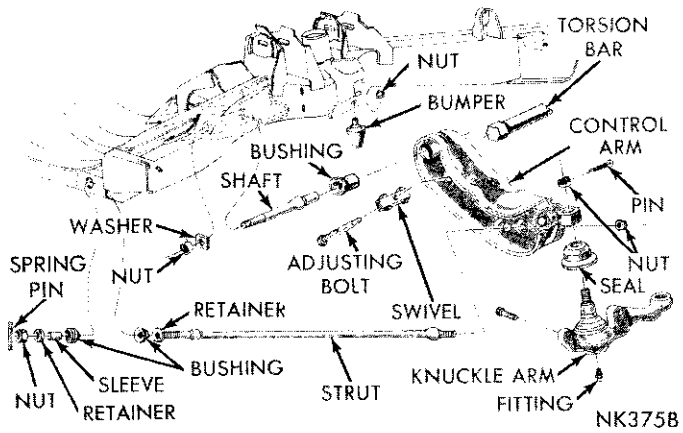


*Fig. 12—Lower Control Arm (Chrysler)*

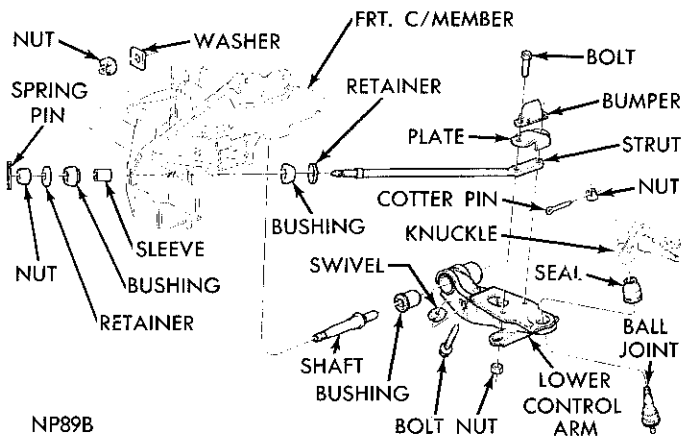


*Fig. 13—Lower Control Arm (Imperial)*

remove torsion bar from lower control arm.

(2) Remove cotter pin and nut. Remove tie rod end from steering knuckle arm using Tool C-3964 or Tool C-3742. **Use care not to damage seal.**

(3) Remove sway bar to strut attaching straps.

(4) Remove steering knuckle arm to brake support bolts and remove steering knuckle arm. Move brake support assembly out of the way. **Do not allow brake support to hang by brake hose.**

(5) Remove ball joint stud from lower control arm using Tool C-3964 (Fig. 14). The bottom portion of tool must be positioned between seal and control arm to avoid seal damage.

(6) Remove strut spring pin, front nut and bushing retainer.

(7) Remove nut and washer from lower control arm pivot shaft.

(8) Tap end of lower control arm shaft with a "soft end" hammer, to aid in removal of shaft from crossmember, and remove lower control arm, shaft and strut as an assembly.

(9) Remove strut bushings (Fig. 15) from crossmember.

(10) Remove strut bushing inner retainer from strut.

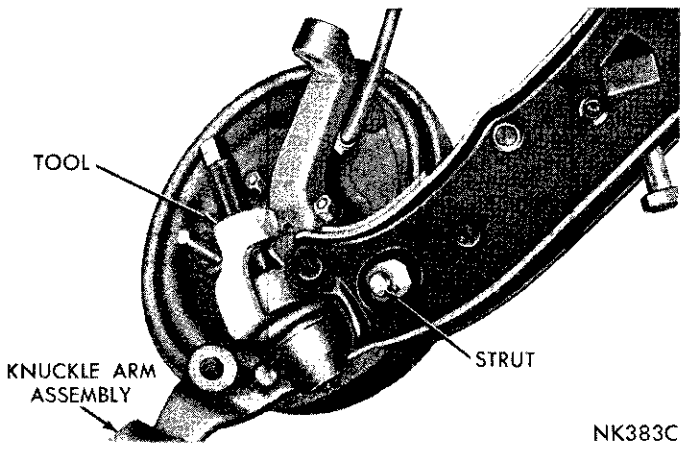


*Fig. 14—Removing Lower Ball Joint Stud*

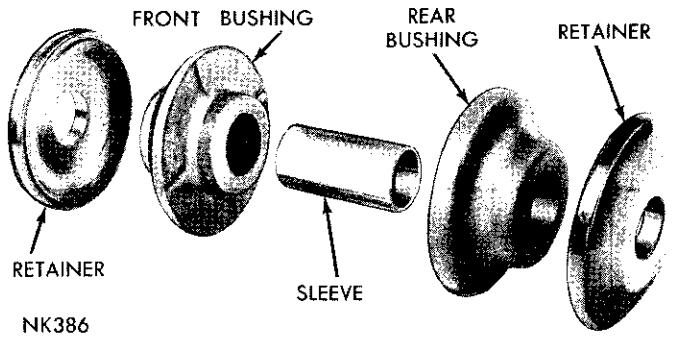


*Fig. 15—Strut Crossmember Bushing (Chrysler)*

### *Disassembly—Chrysler*

(1) Place strut portion of control arm assembly in a vise and remove nut from strut.

(2) Remove strut from control arm.

(3) Remove torsion bar adjusting bolt and swivel from control arm.

(4) Place control arm assembly in an arbor press with torsion bar hex opening up and with a support under outer edge of control arm (Fig. 16).

(5) Place a brass drift into hex opening and press shaft out of control arm (Fig. 16). The bushing inner shell will remain on shaft.

(6) Remove bushing inner shell from pivot shaft.

(7) Remove rubber portion of bushing from control arm.

(8) Remove bushing outer shell in control arm by cutting with a chisel. **Use care not to cut into control arm.**

### *Assembly—Chrysler*

(1) Position new bushing on shaft, flange end of bushing first, and seat the bushing on shoulder of shaft.

(2) Press shaft and bushing assembly into control arm using Tool C-3556 and an arbor press. **In some instances, it may be necessary to reduce shoulder diameter of shaft to facilitate use of Tool C-3556.**

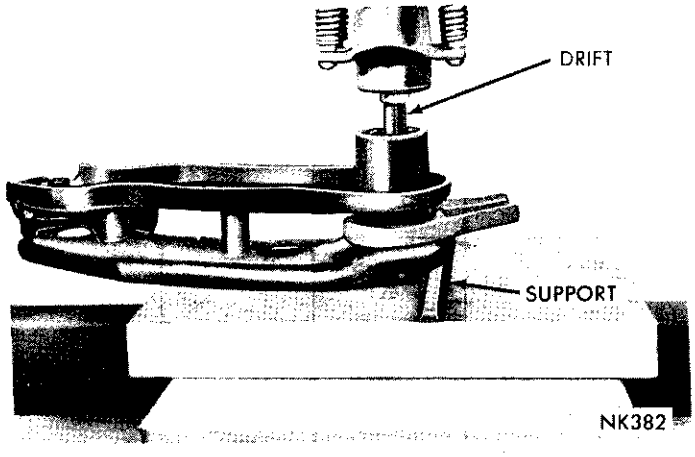


*Fig. 16—Removing Pivot Shaft (Chrysler)*

(3) Install torsion bar adjusting bolt and swivel.

(4) Position strut in control arm and tighten nut 110 foot-pounds.

### *Installation—Chrysler*

(1) Place strut bushing rear retainer and bushing rear half on strut and position control arm, shaft and strut assembly into crossmember.

(2) Install front strut bushing half, sleeve and retainer. Install nut finger tight only.

(3) Install control arm pivot shaft washer and nut finger tight only.

(4) Position lower ball joint stud into tapered hole in control arm. Tighten nut 115 foot-pounds and install cotter pin.

(5) Position brake support on steering knuckle and install two upper bolts and nuts finger tight only.

(6) Position steering knuckle arm on steering knuckle and install two lower bolts and nuts finger tight only.

(7) Tighten upper bolt nuts 55 foot-pounds and lower bolt nuts 120 foot-pounds.

(8) Inspect tie rod for damage. Connect tie rod end to steering knuckle arm and tighten nut 30 foot-pounds and install cotter pin.

(9) Connect shock absorber to control arm and tighten nut finger tight.

(10) Install torsion bar.

(11) Install wheel, tire and drum assembly and adjust front wheel bearings (Group 22).

(12) Lower vehicle to floor and tighten strut nut, at crossmember, 50 foot-pounds and install spring pin. Tighten shock absorber nut 50 foot-pounds.

(13) Tighten lower control arm shaft nut 180 foot-pounds.

(14) Measure and adjust front suspension height and wheel alignment as necessary.

### *Removal—Imperial*

(1) Raise vehicle on hoist so front suspension is in full rebound (under no load).

(2) Remove wheel and tire assembly.

(3) Remove all load from **both** torsion bars by turning adjusting bolts counterclockwise.

(4) Disconnect shock absorber at lower control arm shock mounting bolt, then push shock absorber up into frame out of way.

(5) Remove nuts and bolts attaching strut to lower control arm.

(6) Disconnect brake hose to disc brake caliper brake line.

(7) Remove upper and lower ball joint stud nuts. Slide Tool C-3564 over upper stud until tool rests on steering knuckle. Turn threaded portion of tool locking it securely against lower stud. Spread tool enough to place lower ball joint stud under pressure, then strike steering knuckle sharply with a hammer to loosen stud. **Do not attempt to force stud out of knuckle with tool alone.**

(8) Remove tool and disengage ball joint from knuckle.

(9) Remove nut and washer attaching lower control arm pivot shaft to frame.

(10) Using a brass drift and hammer, tap end of shaft to loosen (shaft is a tapered fit in front crossmember). This will aid in removal of shaft from crossmember.

(11) Remove lower control arm and shaft as an assembly. **The lower control arm and ball joint will be serviced as an assembly only. This is necessary due to lower ball joint being a very tight press fit into the arm.**

### *Disassembly—Imperial*

(1) Position lower control arm in an arbor press with torsion bar hex opening up and with a support under out edge of control arm.

(2) Insert a brass drift into hex opening and press shaft out of lower control arm. The bushing inner shell will remain on shaft.

(3) Remove bushing inner shell from pivot shaft.

(4) Remove bushing outer shell in torsion bar anchor by cutting with a chisel. Use care not to cut into control arm.

(5) Remove torsion bar adjusting bolt and swivel from lower control arm.

### *Assembly—Imperial*

(1) Position new bushing on shaft, flange end of bushing first, and seat bushing on shoulder of shaft.

(2) Press shaft and bushing assembly into control arm using Tool C-4037.

(3) Install torsion bar adjusting bolt and swivel.

(4) Position new ball joint seal on ball joint body and using Tool C-4034 install seal. **To facilitate installation of seal, the ball joint stud should be perpendicular to ball joint body.** Lubricate ball joint, see Lubrication section Group 0.

### *Installation—Imperial*

(1) Position lower control arm assembly in frame crossmember in approximate operating position. Install washer and nut. **DO NOT TIGHTEN** nut until full weight of vehicle is on wheels.

(2) Raise the lower control arm assembly and insert the lower ball joint stud in steering knuckle. Install ball joint stud nuts (upper and lower) and tighten upper 125 and lower 155 foot-pounds and install cotter pins.

(3) Position strut bushing rear half and rear retainer on strut and insert strut through crossmember.

(4) Install strut bushing front half and retainer on strut. Install nut finger tight only.

(5) Position rear of strut over lower control arm

strut mounting holes and install bumper and plate assembly and insert bolts and install nuts, and tighten to 100 foot-pounds.

(6) Connect shock absorber to lower control arm and install nut finger tight.

(7) Install torsion bar and apply some load on both torsion bars by turning adjusting screws clockwise.

(8) Connect brake hose to disc brake caliper brake line and bleed brakes.

(9) Install wheel and tire assembly and adjust wheel bearings (Group 22).

(10) Lower vehicle to floor and tighten strut nut at crossmember to 50 foot-pounds with full weight of vehicle on wheels and install spring pin. Tighten lower control arm pivot shaft nut 190 foot-pounds and install cotter pin. Tighten lower shock absorber nut to 50 foot-pounds.

(11) Measure and adjust front suspension height and wheel alignment as necessary.

## LOWER CONTROL ARM STRUT (Figs. 12 and 13)

### *Removal—Chrysler*

(1) Remove lower control arm, shaft and strut as an assembly.

(2) Remove nut holding strut to lower control arm and remove strut from control arm.

(3) Inspect strut bushings (Fig. 15). If bushings are worn or deteriorated, install new bushings.

### *Installation—Chrysler*

(1) Install new strut bushings, if necessary.

(2) Position strut into control arm and tighten nut 110 foot-pounds.

(3) Position strut bushing rear retainer and strut bushing rear half on strut. (Concave side of retainer in contact with bushing). Position control arm shaft and strut assembly into crossmember. Install strut front bushing, sleeve and retainer. Tighten nut finger tight only.

(4) Install control arm pivot shaft washer and nut finger tight only.

(5) Connect shock absorber to lower control arm and tighten nut finger tight only.

(6) Lower vehicle to floor so full weight is on its wheels.

(7) Adjust front suspension heights to specifications.

(8) Tighten front strut nut to 52 foot-pounds and install spring pin. Tighten pivot shaft nut 190 foot-pounds. Tighten shock absorber nut 50 foot-pounds.

(9) Adjust front wheel alignment as necessary.

### *Removal—Imperial*

(1) Raise vehicle on hoist so front suspension is in full rebound (under no load).

(2) Loosen and remove lower control arm strut spring pin nut and retainer.

(3) Loosen and remove attaching bolts to lower control arm bumper and plate assembly and remove bumper assembly.

(4) Slide strut and bushing retainer from strut bushing in frame.

(5) Separate front and rear halves of strut bushing from frame using a screwdriver. If the rubber bushings show excessive wear or deterioration of rubber, install new bushings.

### *Installation—Imperial*

(1) Position rear retainer and strut bushing rear half on strut (concave side of retainer in contact with bushing).

(2) Insert strut into frame. Install strut bushing front half, spacer and retainer (concave side of retainer in contact with bushing) on strut and install nut finger tight.

(3) Position rear of strut over lower control arm strut mounting holes and install bumper and plate assembly and insert bolts and install nuts and tighten to 100 foot-pounds.

(4) Lower vehicle to floor and with weight of vehicle on wheels, tighten forward end strut nut to 50 foot-pounds and install strut spring pin.

(5) Check and adjust front wheel alignment.

## LOWER BALL JOINTS

**On models equipped with disc brakes, see Brakes group 5 for brake disc and caliper removal and installation procedure.**

**The lower ball joints, steering arm assemblies on Chrysler models should not be replaced for looseness if the axial end play (Up and Down movement) is under .070 inch. Looseness of this nature is not detrimental and will not affect front wheel alignment or vehicle stability.**

**On Imperial models the lower ball joints are preloaded (zero axial end play). Therefore, if any axial end play (Up and Down movement) is observed the ball joint and lower control arm should be replaced. The lower ball joints on the Imperial will be serviced as a lower control arm and ball joint assembly complete. This is due to the lower ball joint being a press fit and requires very high removing and installing forces.**

### *Inspection—Chrysler*

(1) Raise the front of vehicle and install safety floor stands under both lower control arms as far outboard as possible. The upper control arms must not contact the rubber rebound bumpers.

(2) With the weight of vehicle on the control arm,

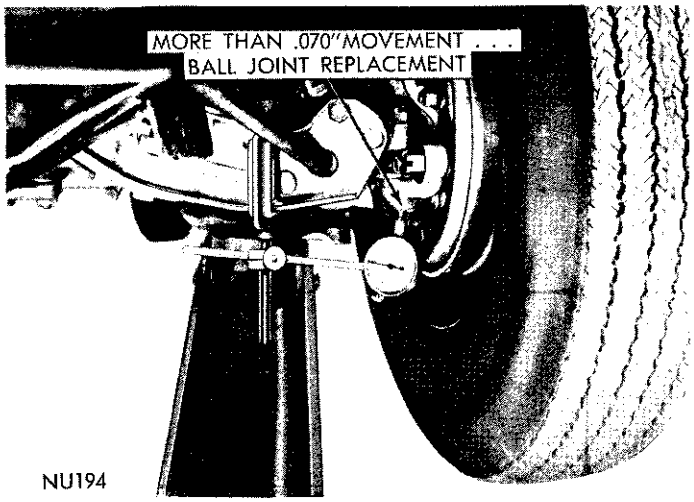


***Fig. 17—Measuring Lower Ball Joint Axial Travel***

install dial indicator and clamp assembly to lower control arm (Fig. 17).

(3) Position dial indicator plunger tip against ball joint housing assembly and zero dial indicator.

(4) Measure axial travel of the ball joint housing arm with respect to the ball joint stud, by raising and lowering the wheel using a pry bar under the center of the tire.

(5) If during measurement you find the axial travel of the housing arm is .070" or more, relative to the ball joint stud, the ball joint should be replaced.

### *Removal—Chrysler*

(1) Remove upper control arm rebound bumper.

(2) Raise vehicle so front suspension is in full rebound. Remove all load from torsion bar by turning adjusting bolt counterclockwise.

(3) Remove wheel, tire and drum as an assembly.

(4) Remove two lower bolts from brake support attaching steering arm and ball joint assembly to steering knuckle.

(5) Remove tie rod end from steering knuckle arm using Tool C-3894. **Use care not to damage seal.**

(6) Using Tool C-3964 remove ball joint stud from lower control arm (Fig. 14) and remove steering arm and ball joint assembly.

### *Installation—Chrysler*

(1) Place a new seal over ball joint stud (if necessary) and press seal fully down on ball joint housing until it is securely locked into position using a 1-7/8" socket.

(2) Position steering arm and ball joint assembly on steering knuckle and install two mounting bolts. Tighten nuts 120 foot-pounds.

(3) Insert ball joint stud into lower control arm.

(4) Install stud retaining nut and tighten to 115 foot-pounds. Install cotter pin and lubricate ball joint.

(5) Inspect tie rod end seal for damage and replace if damaged. Connect tie rod end to steering knuckle arm and tighten nut 40 foot-pounds and install cotter pin.

(6) Place a load on torsion bar by turning adjusting bolt clockwise.

(7) Install wheel, tire and drum assembly and adjust front wheel bearing (Group 22).

(8) Lower vehicle to floor and install upper control arm rebound bumper. Tighten to 200 inch-pounds.

(9) Measure front suspension height and adjust if necessary.

(10) Measure front wheel alignment and adjust if necessary.

### *Replacement—Imperial*

**The lower ball joints on the Imperial will be serviced only as a lower control arm and ball joint assembly complete. This is due to the lower ball joint being a press fit and requires very high removing and installing forces. See Lower Control Arm and Shaft for replacement procedure.**

## UPPER CONTROL ARM (Figs. 18 and 19)

### *Removal—Chrysler*

(1) Place a jack under lower control arm as close to wheel as possible and raise vehicle until front wheel clears floor, and upper control arm rebound bumper is free.

(2) Remove wheel and tire assembly.

(3) Using Tool C-3964 (Fig. 20) remove upper ball joint stud.

(4) Remove nuts, lockwashers, cams and cam bolts

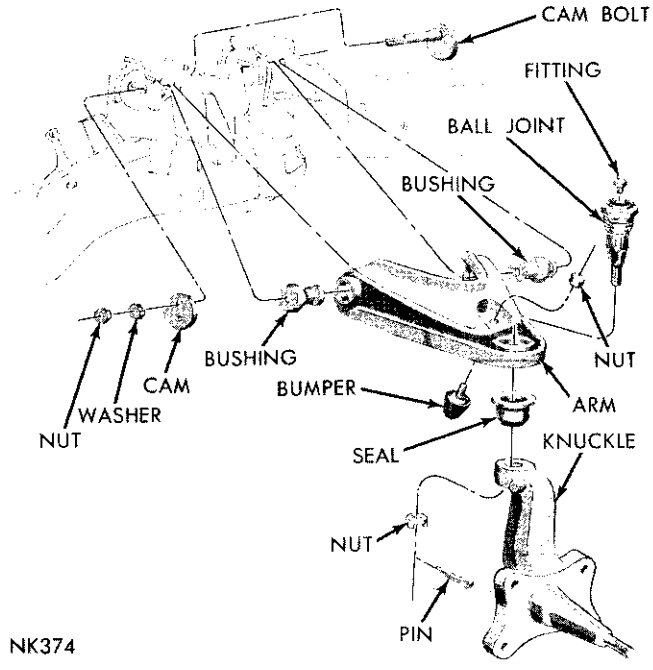


***Fig. 18—Upper Control Arm (Chrysler)***

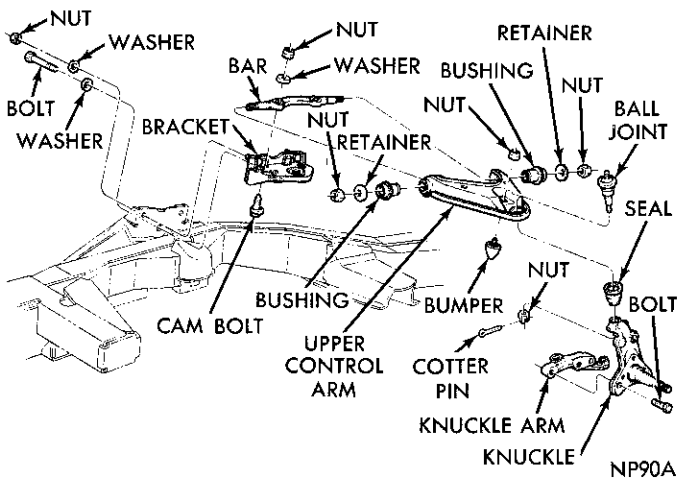


*Fig. 19—Upper Control Arm (Imperial)*

attaching upper control arm bushings to front and rear support. Lift upper control arm up and away from support.

### Disassembly—Chrysler

(1) Remove ball joint using Tool C-3560. The ball joint balloon type seal will come off as ball joint is removed.

(2) Assemble Tool C-3962, using adapter SP-3953 over bushing and press bushings out of arm (from inside out) (Fig. 21). **Be sure control arm is firmly supported if a hammer and drift is used in place of tool.**

### Assembly—Chrysler

**When installing new bushings, be sure control arm is supported squarely at the point where bushing is being pressed in. Do not use oil or grease to aid in installation.**

(1) Position flange end of new bushing in Tool C-3962, with control arm supported squarely press bushings into control arm (from outside) until flange


*Fig. 20—Removing Upper Ball Joint Stud (Chrysler)*

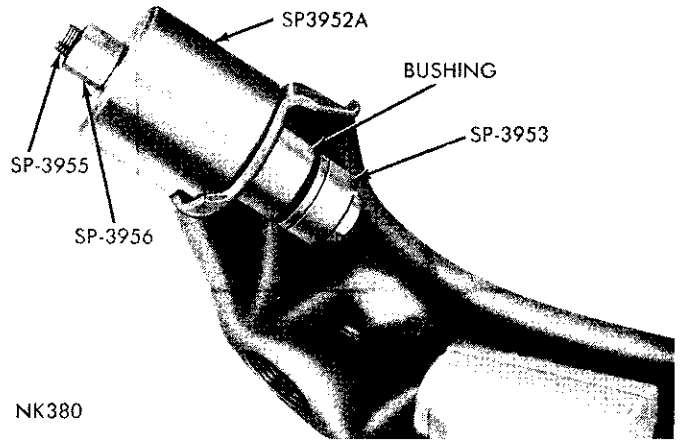


*Fig. 21—Removing Upper Control Arm Bushing (Chrysler)*

bushings seats on arm (Fig. 22).

(2) Thread ball joint into arm using Tool C-3560, tighten to a minimum of 125 foot-pounds until seated. The ball joint will cut threads into a new arm during tightening operation.

### Installation—Chrysler

(1) Slide upper control arm into position. Install cam bolts, cams, washers and nuts. Tighten nuts 65 foot-pounds **after** adjusting front wheel alignment.

(2) Position new ball joint seal on ball joint body and press seal on using a 2" socket making sure it is seated fully down on housing. To facilitate installation of seal the ball joint stud should be perpendicular to ball joint body. Lubricate ball joint, see "Lubrication" section, Group 0.

(3) Position stud in steering knuckle and install washer and nut. Tighten nut 100 foot-pounds and install cotter pin.

(4) Install wheel and tire and adjust front wheel bearing (Group 22) and lower vehicle to floor.

(5) Adjust suspension height and wheel alignment as necessary.

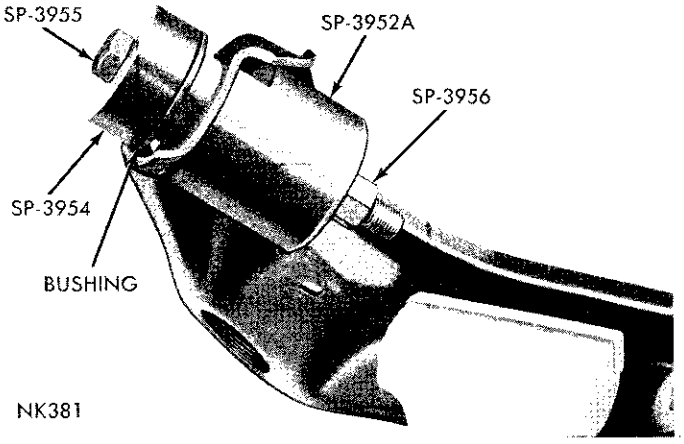


*Fig. 22—Installing Upper Control Arm Bushing (Chrysler)*

### *Removal—Imperial*

(1) Place a jack under lower control arm as close to wheel as possible and raise vehicle until front wheel clears floor, and rebound bumper is free.

(2) Remove wheel and tire assembly.

(3) Disconnect brake hose at disc brake caliper brake line.

(4) Remove upper and lower ball joint stud nuts. Slide Tool C-3564 down over lower ball joint stud until tool rests on steering knuckle. Turn threaded portion of tool locking it securely against upper stud. Spread tool enough to place upper stud under pressure then strike knuckle sharply with a hammer to loosen stud. **Do not attempt to force stud out of knuckle with tool alone.**

(5) Remove tool, then disengage ball joint from knuckle.

(6) Remove cam bolt nuts, cone washers attaching upper control arm pivot bar and control arm assembly to front "K" member bracket assembly.

(7) Lift upper control arm and pivot bar assembly up and away from bracket. **The upper control arm and pivot bar including bushings are not serviced separately. If replacement is necessary, install a new upper control arm which will include pivot bar and bushings installed.**

### *Disassembly—Imperial*

(1) Remove upper control arm pivot bar nuts and retainers.

(2) Remove upper control arm bumper assembly.

(3) Remove ball joint using Tool C-3561. The ball joint balloon type seal will come off as ball joint is removed.

### *Assembly—Imperial*

(1) Position upper control arm in a vise supported squarely for ease of installation of upper ball joint.

(2) Thread ball joint into upper control arm using Tool C-3561. Make sure threads properly engage those in control arm.

(3) Tighten to a minimum of 150 foot-pounds until seated. The ball joint will cut threads into a new arm during tightening operation.

(4) Install upper ball joint balloon seal using Tool C-4034. **To facilitate installation of seal the ball joint stud should be perpendicular to ball joint body.** Lubricate ball joint, see "Lubrication" section, Group 0.

(5) Install upper control arm bumper assembly and tighten nut 200 inch-pounds.

(6) Install upper control arm bushing retainers and nuts and tighten finger tight only. All front suspension pivot points should be tightened when front suspension heights are as specified with full weight of vehicle on wheels.

### *Installation—Imperial*

(1) Position upper control arm assembly into position over cam bolts and install cone washers and nuts and tighten to 160 foot-pounds. (After setting alignment).

(2) Insert upper ball joint stud in steering knuckle. Install ball joint stud nuts (upper and lower) and tighten upper 125 and lower 155 foot-pounds and install cotter pins.

(3) Connect brake hose to disc brake caliper brake line and bleed brakes.

(4) Install wheel and tire assembly and adjust front wheel bearing (Group 22).

(5) Lower vehicle to floor and adjust front suspension heights and wheel alignment as necessary.

## UPPER BALL JOINTS

### *Removal—Chrysler*

(1) Raise vehicle by placing a jack under lower control arm as close as possible to wheel.

(2) Remove wheel and tire assembly.

(3) Remove upper ball joint stud from steering knuckle using Tool C-3964 (Fig. 20), making sure bottom portion of tool is positioned between steering knuckle and seal, otherwise, damage to seal will result.

(4) Using Tool C-3560 (Fig. 23), unscrew ball joint from upper control arm. The ball joint balloon type seal will come off as ball joint is removed.

### *Installation—Chrysler*

**When installing a new ball joint, it is very important that ball joint threads properly engage those in control arm. Balloon type seals should always be replaced once they have been removed.**

(1) Screw ball joint squarely into control arm as far as possible by hand.

(2) Using Tool C-3560, tighten until ball joint

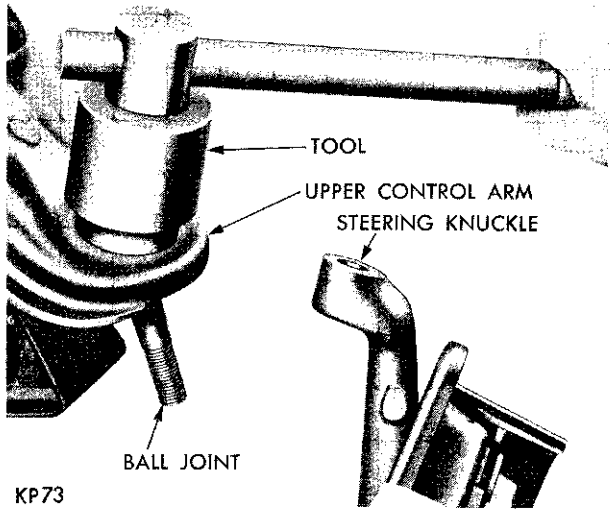


*Fig. 23—Removing Ball Joint*

housing is seated on control arm. Tighten to a minimum of 125 foot-pounds. **If ball joint cannot be tightened to 125 foot-pounds, inspect threads on ball joint and also in control arm and replace ball joint or control arm as necesary.**

(3) Position new ball joint seal on ball joint body and press seal on using a 2″ socket making sure it is seated fully down on housing. To facilitate installation of seal, the ball joint stud should be perpendicular to ball joint body. Lubricate ball joint, see "Lubrication" section, Group 0.

(4) Position stud in steering knuckle and install washer and nut. Tighten nut 100 foot-pounds and install cotter pin.

(5) Install wheel and tire and adjust front wheel bearing (Group 22) and lower vehicle to floor.

(6) Adjust suspension height and wheel alignment as necessary.

### *Removal—Imperial*

(1) Raise vehicle by placing a jack under lower control arm as close as possible to wheel.

(2) Remove wheel and tire assembly.

(3) Disconnect brake hose at disc brake caliper brake line.

(4) Remove upper and lower ball joint stud nuts. Slide Tool C-3564 down over lower ball joint stud until tool rests on steering knuckle. Turn threaded portion of tool locking it securely against upper stud. Spread tool enough to place upper stud under pressure then strike knuckle sharply with a hammer to loosen stud. **Do not attempt to force stud out of knuckle with Tool alone.**

(5) Remove tool then disengage ball joint from knuckle.

(6) Remove upper ball joint using Tool C-3561 to unscrew ball joint from upper control arm. The ball joint balloon type seal will come off as ball joint is removed.

### *Installation—Imperial*

**When installing a new ball joint, it is very important that ball joint threads properly engage those in control arm. Balloon type seals should always be replaced once they have been removed.**

(1) Screw ball joint squarely into control arm as far as possible by hand.

(2) Using Tool C-3561 tighten until ball joint housing is seated on control arm. Tighten to a minimum of 150 foot-pounds. **If ball joint cannot be tightened to 150 foot-pounds, inspect threads on ball joint and also in control arm and replace ball joint or control arm as necessary.**

(3) Install upper ball joint balloon seal using Tool C-4034. **To facilitate installation of seal, the ball joint stud should be perpendicular to ball joint body.** Lubricate ball joint, see "Lubrication" section, Group 0.

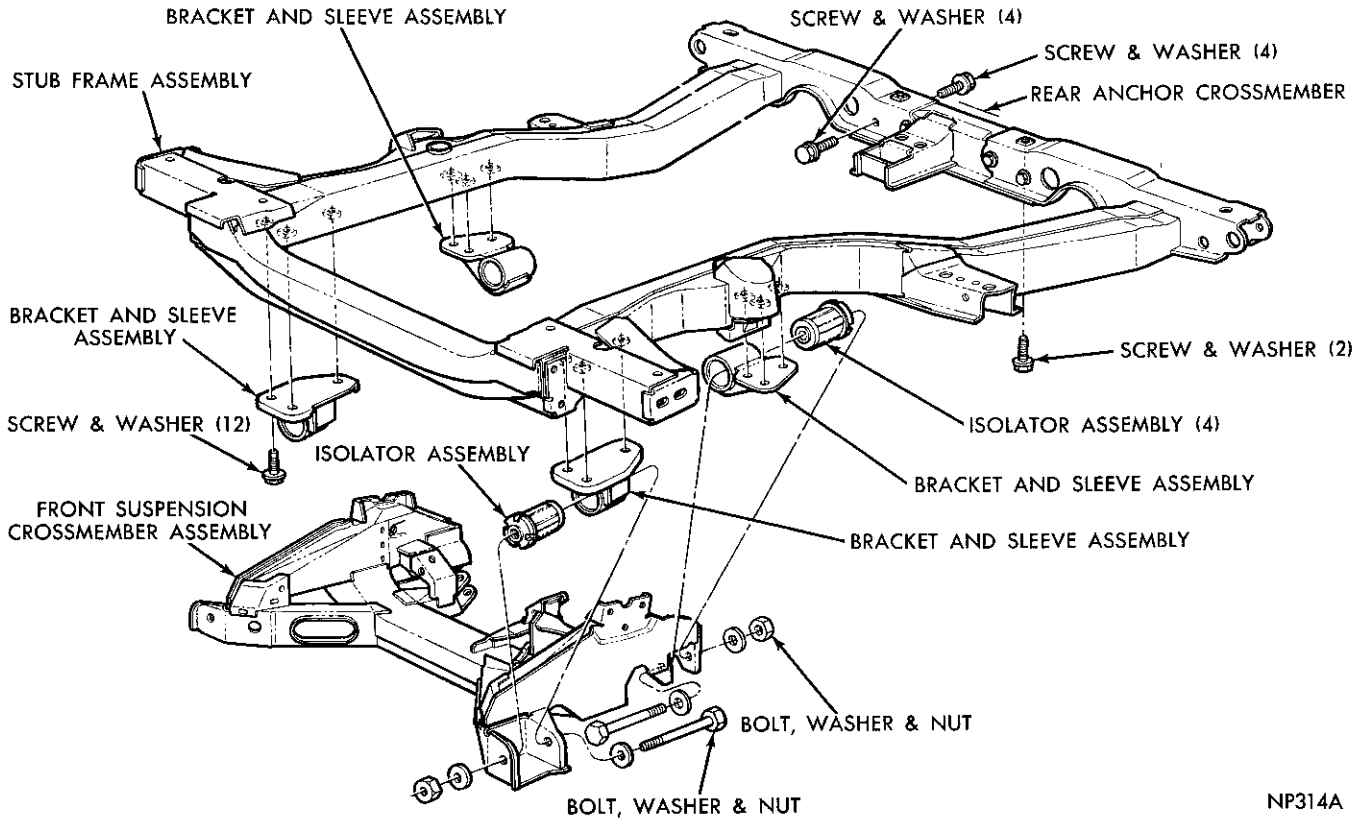


*Fig. 24—Rubber Isolated Front Crossmember and Stub Frame Assembly*

(4) Insert upper ball joint stud in steering knuckle. Install ball joint stud nuts (upper and lower) and tighten upper 125 and lower 155 foot-pounds and install cotter pins.

(5) Connect brake hose to disc brake caliper brake line and bleed brakes.

(6) Install wheel and tire assembly and adjust front wheel bearing (Group 22).

(7) Lower vehicle to floor and adjust front suspension heights and alignment as necessary.

## RUBBER ISOLATED FRONT CROSSMEMBER (Imperial)

**Refer to body and frame alignment for crossmember replacement.**

The rubber isolated front crossmember is a drop out member which is isolated from the stub frame assembly by four bushing type rubber isolators (Fig. 24). **The bracket and sleeve assembly with rubber isolator will be serviced as an assembly only.**

### *Removal*

(1) Raise vehicle so front suspension is in full rebound (under no load).

(2) Position a jackstand under front crossmember, which will support crossmember when bracket and sleeve assembly is loosened and removed.

(3) Loosen and remove bracket and sleeve assembly attaching bolts and washer assemblies.

(4) Loosen and remove nut, washer and bolt attaching isolator bracket and sleeve assembly in front crossmember brackets.

(5) Using a screwdriver, pry bracket and sleeve with rubber isolator from front crossmember.

### *Installation*

(1) Position bracket and sleeve with isolator assembly in front crossmember mounting brackets so holes align and install bolt followed by washer and nut and tighten finger tight only.

(2) Align bracket and sleeve assembly holes with those in stub frame and install bolt and washer assemblies, tighten 75 foot-pounds.

(3) Remove jackstand and lower vehicle to floor and tighten isolator assembly nuts 30 foot-pounds.

(4) Adjust front suspension heights as necessary.

# SPECIFICATIONS

| Model | Chrysler | Imperial |
|---|---|---|
| CAMBER—Left | +1/4° to +3/4° (Preferred +1/2°) | |
| Right | 0° to +1/2° (Preferred +1/4°) | |
| CASTER—Manual Steering | 0° to −1° (−1/2° preferred) | |
| Power Steering | 0° to −1° (−1/2° preferred) | |
| Power Steering Imperial Models only | +1/4° to +1-1/4° (+3/4° preferred) | |
| HEIGHT (Inches) | 1-1/8 ± 1/8 | 1-3/4 ± 1/8 |
| Side to Side Difference (Maximum) | 1/8 | |
| STEERING AXIS INCLINATION | 7-1/2° | 9° |
| TOE-IN | 3/32 inch to 5/32 inch (Preferred 1/8 inch) | |
| TOE-OUT ON TURNS (When inner wheel is 20°) Outer Wheel Is | 18.8° | 17.9° |
| TREAD (Inches) Front | 62.0 | 62.4 |
| Rear | 62.0 | 62.0 |
| Rear (Station Wagon) | 63.4 | |
| TORSION BAR | | |
| Length (inches) | 47 | 50.0 |
| Diameter (inches) | 0.96 | 1.00 |
| With Air Conditioning | 0.98 | 1.00 |
| Heavy Duty | 0.98 | 1.06 |
| Hi. Perf. 440 Eng. | 0.98 | |
| WHEEL BASE (Inches) | 123.5 | 127 |

# TIGHTENING REFERENCE

| | Pounds Foot | Pounds Inch |
|---|---|---|
| BALL JOINT (Chrysler) | 125 | (Min.) |
| (Imperial) | 150 | (Min.) |
| Stud Nut (Chrysler) (Upper) | 100 | |
| (Lower) | 115 | |
| (Imperial) (Upper) | 125 | |
| (Lower) | 155 | |
| Bumper Nut | | 200 |
| Bracket Nuts (Imperial) | 75 | |
| Cam Bolt Nut (Chrysler) | 65 | |
| (Imperial) | 160 | |
| Pivot Bar Bushing Nuts (Imperial) | 75 | |
| CONTROL ARMS (Lower) | | |
| Bumper Nut | | 200 |
| Pivot Shaft Nut (Chrysler) | 190 | |
| (Imperial) | 190 | |
| CROSSMEMBER (Front) | | |
| Bracket and sleeve screws | 75 | |
| Isolator Bolts | 150 | |
| SHOCK ABSORBERS (Front) | | |
| (Lower) | 50 | |
| (Upper) | 25 | |
| TIE ROD CLAMP BOLT NUTS | | 150 |

| | Pounds Foot | Pounds Inch |
|---|---|---|
| STEERING LINKAGE | | |
| Idler Arm to Bracket Bolt Nut | | |
| (Chrysler) | 65 | |
| (Imperial) | 65 | |
| To center Link Nut | 40 | |
| Steering Gear Arm to Center Link Nut | 40 | |
| Steering Knuckle Arm to Tie Rod | 40 | |
| Steering Knuckle (Chrysler) (lower) | 120 | |
| (upper) | 55 | |
| To Knuckle Arm (Imperial) | 160 | |
| STRUT (Chrysler) (Front) | 52 | |
| (Rear) | 115 | |
| (Imperial (Front) | 52 | |
| (Rear) | 105 | |
| SWAY BAR | | |
| Link Nut | | 100 |
| Cushion Strap Bolt Nut (Imperial) | | 200 |
| Bar to Strut Strap Nut (Chrysler) | 30 | |
| TORSION BAR REAR ISOLATOR | | |
| Isolators to Rear Crossmember | 75 | |
| Crossmember to Isolator Bolt Nut | 30 | |