

REAR SPRING — (EXCEPT FAIRMONT/ZEPHYR)

Removal

1. Position a hoist under the rear axle housing and raise the vehicle. Place jack stands under the frame side rails.
2. Disconnect the lower studs of the two rear shock absorbers from the mounting brackets on the axle housing.
3. On Ford, Mercury, and Lincoln Continental vehicles only, disconnect the rear of the front-to-rear brake tube from the rear brake hose (or hoses on rear disc brake vehicles) at the Number 4 crossmember bracket. Remove the brake hose-to-bracket clip.
4. Lower the hoist and axle housing until the coil springs are released (Fig. 9).

5. Remove the springs and the insulators from the vehicle.

Installation

1. Position the spring in the upper and lower seats with an insulator between upper end of spring and frame seat.
2. Raise the hoist and axle housing with the spring in position and connect the lower studs of the rear shock absorbers to the mounting brackets on the axle housing. Install new attaching nuts, and torque to specifications.
3. On Ford, Mercury, and Lincoln Continental vehicles only, position the rear brake hose in the Number 4 crossmember bracket and secure it with the brake hose-to-bracket clip. Connect the rear of the front-to-rear brake tube to the rear brake hose. Torque to 10 to 18 ft-lb. Bleed the brakes.
4. Remove the jack stands and lower the vehicle.

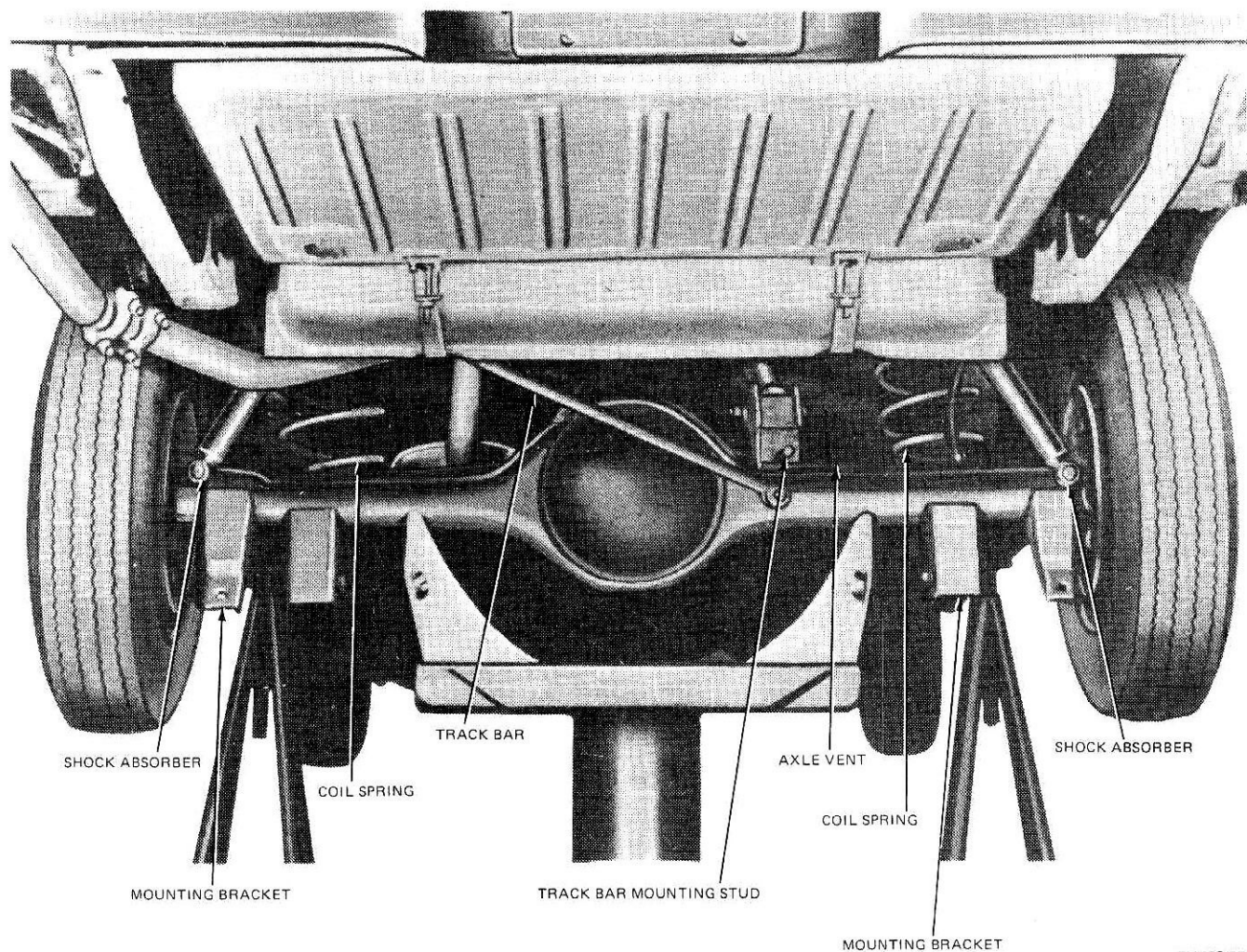


FIG. 9 Removing or Installing Rear Spring—Typical

FAIRMONT/ZEPHYR**Removal (Refer to Fig. 3)**

If one spring requires replacement, replace the other spring also. **Note:** If vehicle is equipped with a rear stabilizer bar, remove the bar per procedure given under Rear Stabilizer Bar — Removal.

1. Raise the vehicle and support the body at the rear body crossmember.
2. Lower the hoist until the rear shocks are fully extended. **Note: The axle must be supported by the hoist, or a transmission jack, or jack stands.**
3. Place a transmission jack under the lower arm pivot bolt and remove the bolt and nut. Lower the transmission jack slowly until the coil spring load is relieved.
4. Remove the coil spring and insulators from the vehicle.

Installation (Refer to Fig. 3)

1. Place the upper spring insulator into spring seat in the body. Tape in place if necessary.
2. Place the lower spring insulator on the lower arm. Install the internal damper into the spring.
3. Position the coil spring on the lower arm spring seat. Slowly raise the transmission jack until the arm is in position. Insert a new rear pivot bolt and nut, with the nut facing outwards. Do not torque at this time.
4. Lower the transmission jack. Raise the axle to curb height. Torque the lower arm pivot bolt to 70-100 ft-lb.
5. If vehicle was equipped with a rear stabilizer bar, install bar per procedure given under Rear Stabilizer Bar — Installation.
6. Remove crossmember supports and lower the vehicle.

**LOWER ARM —
(EXCEPT FAIRMONT/ZEPHYR)****Removal**

If one arm requires replacement, replace the other arm also.

1. Raise the vehicle on a hoist and place jack stands under the frame side rails.
2. On vehicles equipped with track bar (Ford, Mercury and Lincoln Continental vehicles only), remove the attaching nut and bolt from the frame track bar mounting bracket, and disconnect the bar from the stud (Figs. 1 and 2).
3. Lower the axle enough to relieve spring pressure.
4. Support axle under differential pinion nose as well as under axle.
5. Remove the lower arm pivot bolt and nut from the axle bracket. Then, disengage the lower arm from the bracket.
6. Remove the pivot bolt and nut from the frame bracket and remove the lower arm from the vehicle.

Installation

The rear suspension lower arms are interchangeable side-to-side and end-for-end. They can be identified by color codes (Fig. 10).

1. Position the lower arm in the bracket on the frame side rail. Install a new pivot bolt and new nut (Fig. 9). Do not tighten the nut at this time.
2. Position the lower arm to the axle bracket and install a new bolt and new nut (Fig. 9). Do not tighten the nut at this time.
3. Raise the axle.
4. Torque the lower arm pivot bolts and nuts to specification.
5. If equipped, connect the track bar to the frame bracket with a new nut. Torque the nut to specification.
6. Remove the jack stands and lower the vehicle.

FAIRMONT/ZEPHYR**Removal (Refer to Fig. 3)**

If one arm requires replacement, replace the other arm also. **Note:** If vehicle is equipped with rear stabilizer bar, remove bar per procedure given under Rear Stabilizer Bar — Removal.

1. Raise the vehicle and support body at the rear body crossmember.
2. Lower the hoist until the rear shocks are fully extended. **Note: the axle must be supported by the hoist, or a transmission jack, or jack stands.**
3. Place a transmission jack under the lower arm rear pivot bolt and remove the bolt and nut. Lower the transmission jack slowly until the coil spring can be removed.
4. Remove the lower arm front pivot bolt and nut and remove the lower arm assembly.

Installation (Refer to Fig. 3)

1. Position the lower arm assembly into the front arm bracket and insert a new front pivot bolt and nut, with nut facing outwards. Do not torque at this time.
2. Install coil spring per procedure given under Rear Spring — Installation. Holding the spring in position, use the transmission jack under the rear of the lower arm. Raise the jack until the arm is in position. Insert a new rear pivot bolt and nut with nut facing outwards. Do not torque at this time.
3. Lower the transmission jack. Raise the axle with the hoist to curb height. Torque the lower arm front and rear pivot bolt heads to 70-100 ft-lb.
4. If vehicle was equipped with rear stabilizer bar, install bar per procedure given under Rear Stabilizer Bar — Installation.
5. Remove crossmember supports and lower vehicle.

Carline	Suspension Arm	Side Arm Used On	Color Code	Approximate Lg. (Inches Measured at Bushing $\frac{1}{2}$)	Approximate Body Diameter of Bushing Outer Sleeve	
					Frame	Body
Ford/Mercury/ Lincoln Ford/Mercury (Police, Taxi, Trailer Tow.)	Upper	—	Unpainted	12-5/8"	2-7/16"	
Ford/Mercury/ Lincoln	Lower	Left & Right	Black	22-9/16"	1-7/8"	
Ford/Mercury (Police, Taxi, Trailer Tow.)	Lower	Left & Right	Black— White Daub	22-9/16"	1-7/8"	
LTD II/Cougar/ Cougar XR-7/ Thunderbird	Upper	Left	Unpainted ①	12-1/2"	2-3/16"	1-7/8"
LTD II/Cougar Police, Taxi	Upper	Right	Unpainted ①			
		Left	Unpainted ①	12-1/2"	1-9/16"	1-9/16"
		Right	Unpainted ①			
LTD II/Cougar/ Cougar XR-7/ Thunderbird LTD II/Cougar Police, Taxi, Trailer Tow.	Lower	Left & Right	Black— White & Blue Daub	20"	1-7/8"	
Mark V	Upper	Left	Unpainted ① Yellow & Maroon Stripe	12-3/8"	2-3/16"	1-7/8"
	Upper	Right	Unpainted ① Green & Maroon Stripe			
Mark V	Lower	Left & Right	Black	20"	2-3/16"	

① Service left arm inscribed Left-Hand—Underside in yellow paint or tape. Service right arm inscribed Right-Hand—Underside in green paint or tape.

① Service left arm inscribed Left-Hand—Underside in yellow paint or tape. Service right arm inscribed Right-Hand—Underside in green paint or tape.

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FIG. 10 Rear Suspension Color Code Identification

UPPER ARM — (EXCEPT FAIRMONT/ZEPHYR)

Removal

On LTD II, Cougar, Thunderbird and Continental Mark V vehicles, if one arm requires replacement, replace the other arm also.

1. Raise the vehicle and support the frame side rails with jack stands.
2. Support the rear axle. On units so equipped, disconnect the track bar from the frame bracket.
3. Lower the axle and support the axle under differential pinion nose, as well as under axle.
4. Remove the nut and bolt that attach the upper arm to the axle housing. Disconnect the arm from the housing.

5. Remove the nut and bolt that secures the upper arm to the crossmember and remove the arm.

Installation

Upper suspension arms are identified in Figure 8.

1. Hold the upper arm in place on the crossmember and install a new attaching bolt, and a new self-locking nut. Do not tighten the nut at this time.
2. Secure the upper arm to the axle housing with new attaching bolts and nuts. Do not tighten the bolts at this time.
3. On units so equipped, connect the track bar to the frame bracket with a new self-locking nut. Raise the axle and torque the nut to specifications.

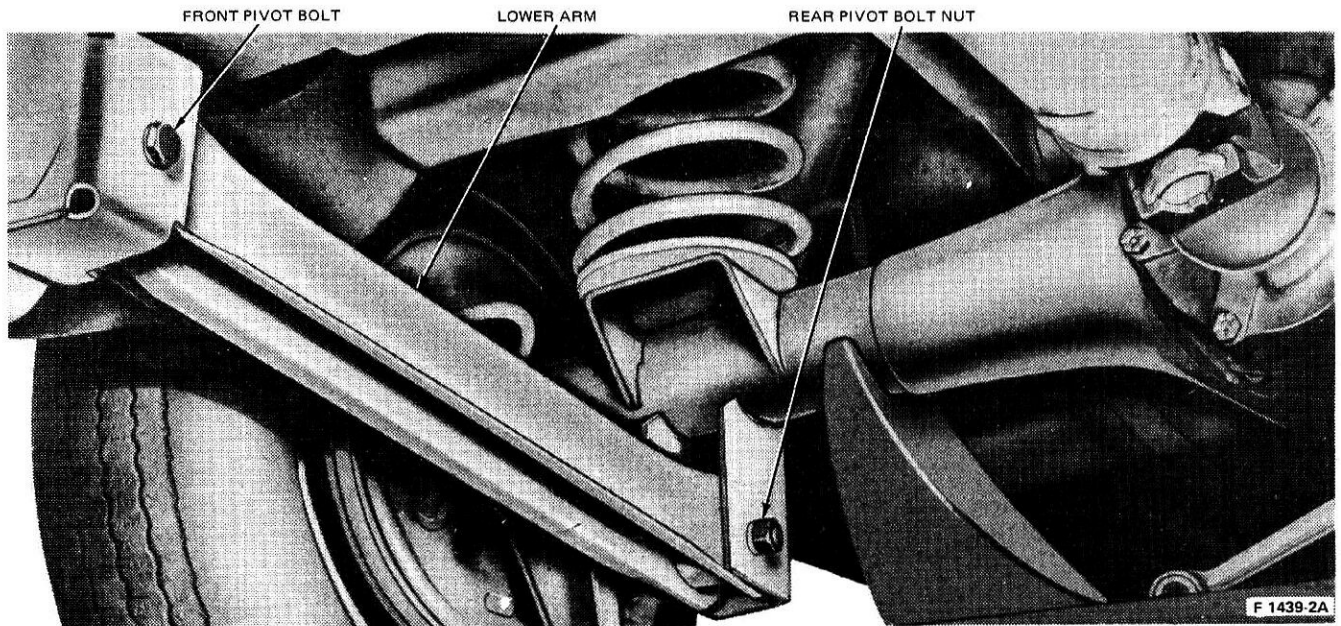


FIG. 11 Rear Suspension Lower Arm Installed—Typical

4. Torque all upper arm front bolts to specification. On LTD II, Cougar, Thunderbird, and Continental Mark V vehicles, torque the bolt head of the upper arm at the axle attachment to specification. Remove the jack stands.
5. On Ford, Mercury, and Lincoln Continental adjust the pinion angle and torque the rear nut to specification.
6. Lower the vehicle.

Fairmont/Zephyr

If one arm requires replacement, replace the other arm also.

1. Raise vehicle on hoist and support body at rear crossmember.
2. Remove upper arm rear pivot bolt and nut.
3. Remove front pivot bolt and nut. Remove upper arm from vehicle.

If upper arm rear bushing is to be replaced, service tool T78P-5638-A must be used, and the following procedure adhered to:

1. Place the upper arm rear bushing remover tool in position as shown in Fig. 12.
3. Remove upper arm rear pivot bolt and nut.
3. Remove front pivot bolt and nut. Remove upper arm from vehicle.
4. Using the installer tool as shown in Fig. 13, install the bushing assembly into the bushing ear of the rear axle.

1. Place the upper arm into the bracket of body side rail. Insert a new front upper arm pivot bolt and nut, with nut facing outboard. Do not torque at this time.
2. Raise the suspension with hoist until upper arm rear pivot hole is in position with hole in axle

bushing. Install a new pivot bolt and nut with nut facing inboard. Do not torque at this time.

3. Connect lower shock absorber to the lower shock bracket and torque a new nut to 40-55 ft-lb.
4. Raise the suspension to curb height and torque both the front and rear upper arm pivot bolt heads to 70-100 ft-lb.

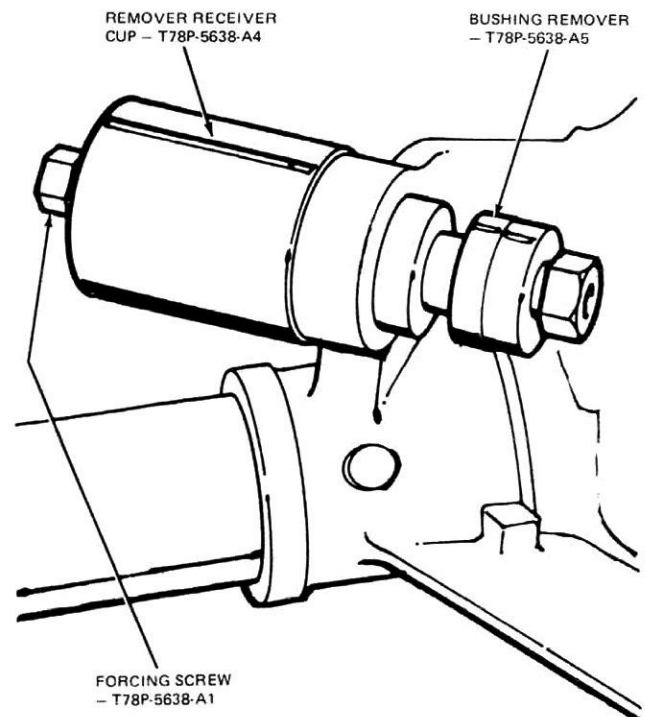


FIG. 12 Bushing Removal

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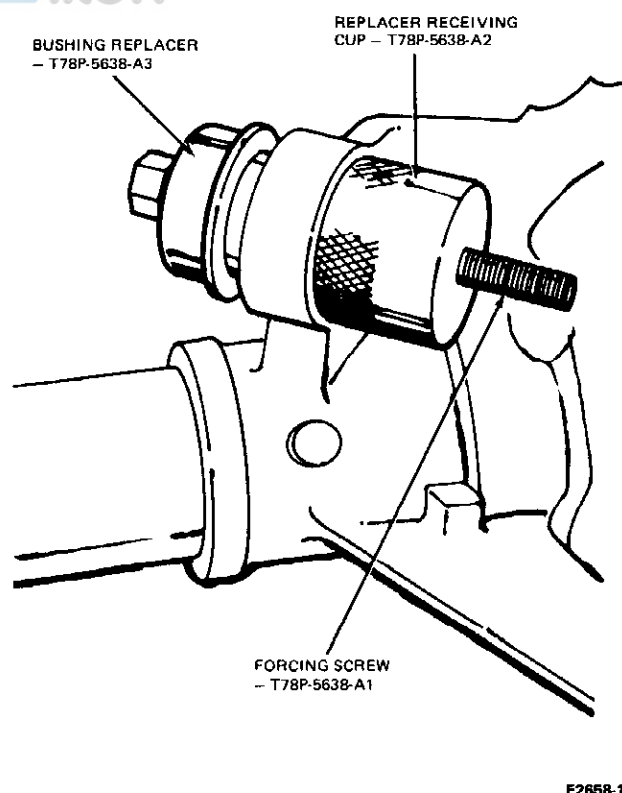


FIG. 13 Bushing Installation

TRACK BAR — Ford/Mercury, Lincoln Continental

Removal and Installation

1. Raise the vehicle on an axle contact hoist.
2. Remove rubber cover at the axle attachment on the track bar.
3. Remove the nut and flat washer attaching the track bar to the upper arm bracket and disengage the track bar from the mounting stud (Fig. 7).
4. Remove the nut attaching the track bar to the frame side rail and remove the track bar.
5. Position the track bar washer spacer sleeves, and insulators on the track bar. Position the track bar in the frame side rail bracket, and install outer insulator and washer. Install a new self-locking nut.
6. Position the track bar on the upper arm bracket mounting stud and install a new flat washer and a new attaching nut. Torque the track bar attaching nuts to specification. Lubricate the rubber cover with synthetic rubber lubricant and insert it over the end of the stud onto the washer. Then, lower the vehicle.

STABILIZER BAR — LTD II/Cougar, Thunderbird/Continental Mark V

Removal and Installation

1. Raise the vehicle with a floor jack at the axle housing.

2. Remove the bolts and nuts that fasten the stabilizer bar assembly to the rear link assemblies at both sides (Fig. 14).
3. Remove the nuts that fasten mounting bracket to the U-bolts (two nuts each side).
4. Remove the stabilizer bar from the vehicle.
5. Place new axle insulators on the stabilizer bar and position the stabilizer bar in the vehicle. The color coded end of the bar must be on the left-hand side.
6. Install four new nuts retaining the mounting brackets to the U-bolts (both sides of axle housing). Torque to specification.
7. Install new bolts and nuts retaining the rear link assemblies to the stabilizer bar assembly. The bolts must be installed from the outboard side of the vehicle. Torque the nuts to specification.
8. Lower the vehicle.

FAIRMONT/ZEPHYR

Removal (Refer to Fig. 15)

1. Raise vehicle on hoist.
2. Remove four bolts attaching stabilizer bar to brackets in lower arms.
3. Remove stabilizer bar from vehicle.

Installation (Refer to Fig. 15)

1. Align four holes in stabilizer bar with holes in brackets in lower arms.
2. Install four new bolts and torque to 30-40 ft-lb.
3. Lower vehicle.

STABILIZER BAR BRACKETS —

Fairmont/Zephyr

Removal

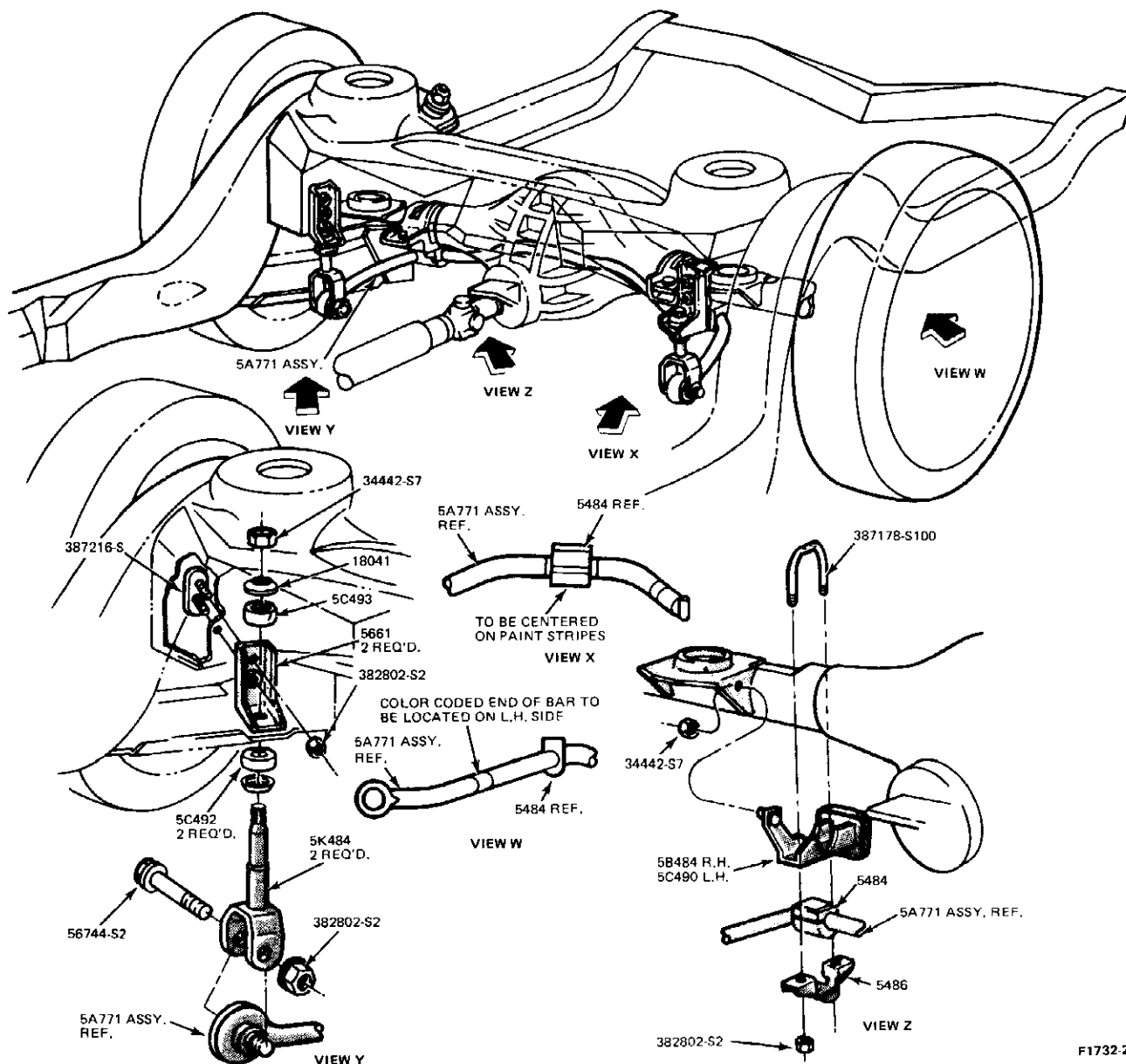
1. Raise vehicle on hoist and support body at rear crossmember.
2. Remove stabilizer bar as outlined in Stabilizer Bar — Removal.
3. Disconnect the shock absorbers at the lower shock bracket.
4. Slowly lower the suspension until the front bracket to arm bolt clears the body side rail.

Note: Do not stress the brake hose when lowering the suspension.

5. Remove both bracket to arm bolts and nuts and remove bracket from the arm.

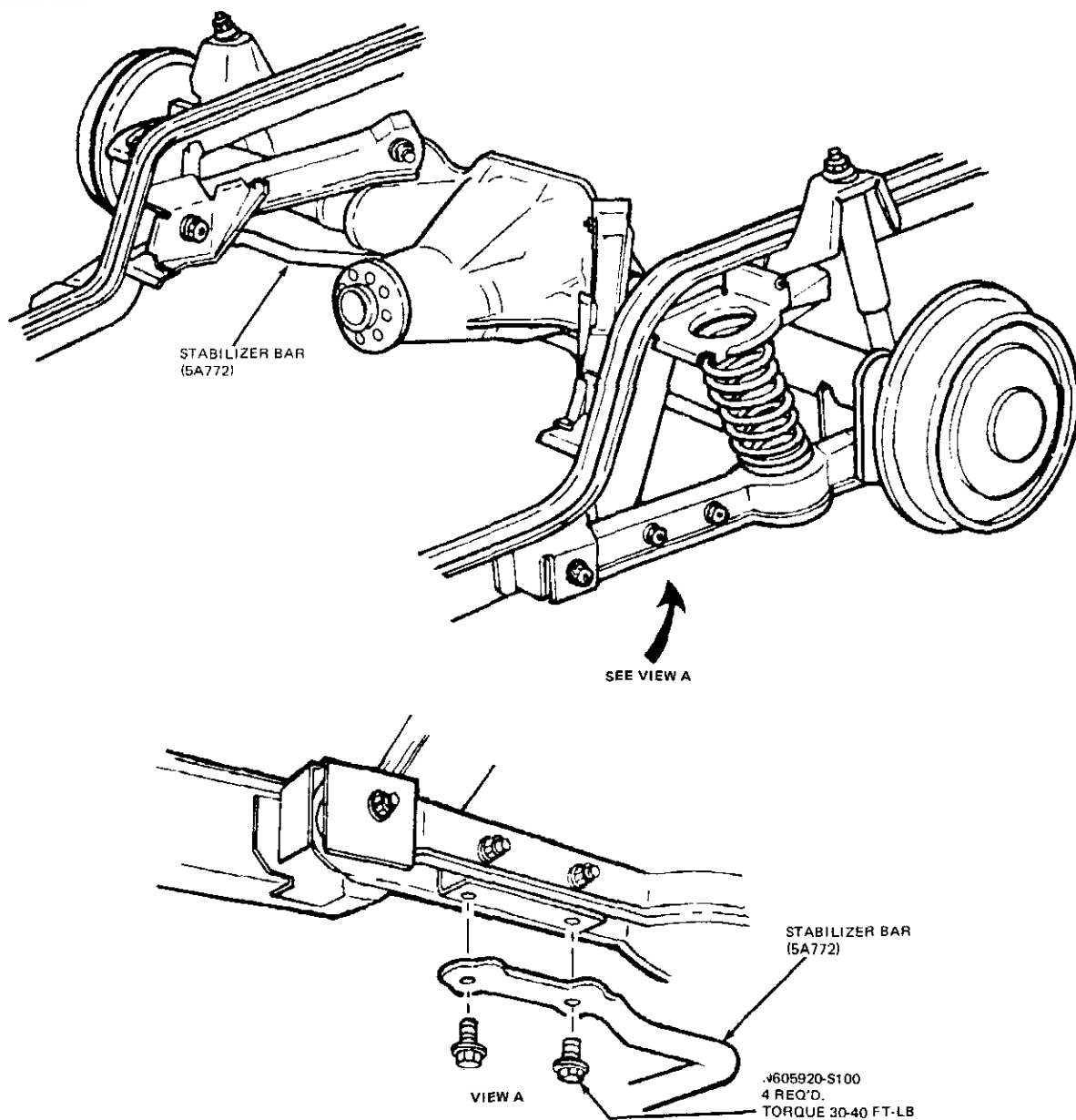
Installation

1. Insert the bracket into the arm and align holes in arm and bracket. Install new bolts and nuts. Torque the nut to 55-70 ft-lb.
2. Raise the suspension, connect the shock absorber and torque a new attaching nut to 40-55 ft-lb.
3. Install stabilizer bar as outlined in Stabilizer Bar — Installation.
4. Remove crossmember supports and lower the vehicle.



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FIG. 14 Stabilizer Bar Installation — LTD II, Thunderbird (Max. Handling), Cougar, Continental Mark V (Similar)



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FIG. 15 Stabilizer Bar Installation — Fairmont/Zephyr

SPECIFICATIONS

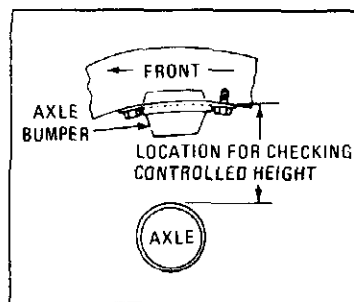
TORQUE LIMITS – REAR SUSPENSION (FT-LB)

Description	Ford/ Mercury	Lincoln Continental	Thunderbird/ Mark V, LTD II/ Cougar	Fairmont/ Zephyr
Shock Absorber to Frame (Upper Attachment)		20-26	*	14-26
Upper Arm to Frame	120-130		—	70-100
Upper Arm to Axle		120-130 (Nut)	120-130 (Bolt)	70-100
Track Bar to Axle Track Bar Stud	75-85 (Nut)		—	
Track Bar Stud to Axle	140-150 (Stud)		—	
Track Bar to Frame (Nut Torque)	50-70		—	
Wheel Lug Nut		80-110		
Shock Absorber to Axle (Lower Attachment)		65-85		40-55
Shock Stud to Axle Bracket	50-70			
Lower Arm to Axle – Nut	120-130		120-130	70-100
Upper Arm to Frame – Bolt		120-130		
Lower Arm to Frame – Bolt	120-130 (Bolt)		120-130 (Nut)	70-100
Bumper Assembly to No. 4 Crossmember		Self-Tapping	15-25 Mark V	
Stabilizer Bar Bracket to Frame (Nut)	—		18-20	
Rear Link Assembly to Bracket (Nut)	—		10-12	
Upper Mounting Clamp to Lower Mounting Clamp (Nut)	—		16-20	
Mounting Bracket to U-Bolt (Nut)	—		16-20	
Upper Mounting Clamp to Axle (Nut)	—		16-20	
Stabilizer Bar to Rear Link (Nut)	—		16-20	
Stabilizer Bar to Lower Arm	50-55			30-40

*Thunderbird/Mark V and Lincoln Continental: torque to 22 to 30 ft.-lbs.

DRIVESHAFT – PINION ANGLE DEGREE SPECIFICATION

Vehicle	Axle	Degree	Controlled Height For Checking Angle
Cougar, LTD II, Thunderbird 2-Door	9 In.	$20^{\circ}33' \pm 45'$	4.82 In.
LTD II, Cougar – 4-Door	9 In.	$20^{\circ}28' \pm 45'$	
LTD II, Cougar – Station Wagon	9 In.	$10^{\circ}7' \pm 45'$	
Hancho	9 In.	$10^{\circ}7' \pm 45'$	5.55"
Fairmont/Zephyr – Sedan	7.5 In.	$0.010^{\circ} (.6') \pm$	
Fairmont/Zephyr – Station Wagon	7.5 In.	$0.130^{\circ} (8') \pm$	5.88"
Mark V	—	$20^{\circ}47' + 30'$ – $45'$	4.82 In.
Lincoln	—	$80^{\circ}4' \pm 50'$	5.70 In.
Ford/Mercury	—	$20^{\circ}48' \pm 50'$	



SPECIAL SERVICE TOOLS

Tool No.	Description
T68P-4602-A	Pinion Angle Level Gauge
T72P-5538-A	Suspension Adjusting Tool
T78P-5638-A	Bushing Remover and Installer Tool
T78P-5638-A1	Forcing Screw
T78P-5638-A2	Replacer Receiving Cup
T78P-5638-A3	Bushing Replacer
T78P-5638-A4	Remover Receiving Cup
T78P-5638-A5	Bushing Remover

Manual Fill Load Leveler System— Air Sleeve Rear Shock Absorbers

**PART
14-45**

Applies to Ford/Mercury

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION		TESTING	
Manual Fill Load Leveler System	45-1	Leak Test	45-3
		System Functional Check	45-3
REMOVAL AND INSTALLATION			
Air Line Assembly	45-3		
Air Sleeve Shock Absorber	45-3		

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DESCRIPTION

MANUAL FILL LOAD LEVELER SYSTEM

The manual fill load leveler system (Fig. 2) is designed to level the rear of the vehicle under various load conditions. The rear shock absorbers can be inflated or deflated, as required, at the fill valve, located under the hood on the left fender apron, to bring the vehicle back to its normal design ride height.

The system consists of an air fill valve, a flexible nylon air line assembly and two air sleeve rear shock absorbers (Fig. 1). The air fill valve is of the conventional tire valve type. The flexible nylon air line assembly uses 1/4" diameter tubing with brass fittings and rubber O-rings.

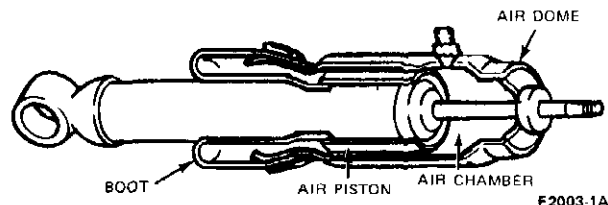


FIG. 1 Air Sleeve Rear Shock Absorber

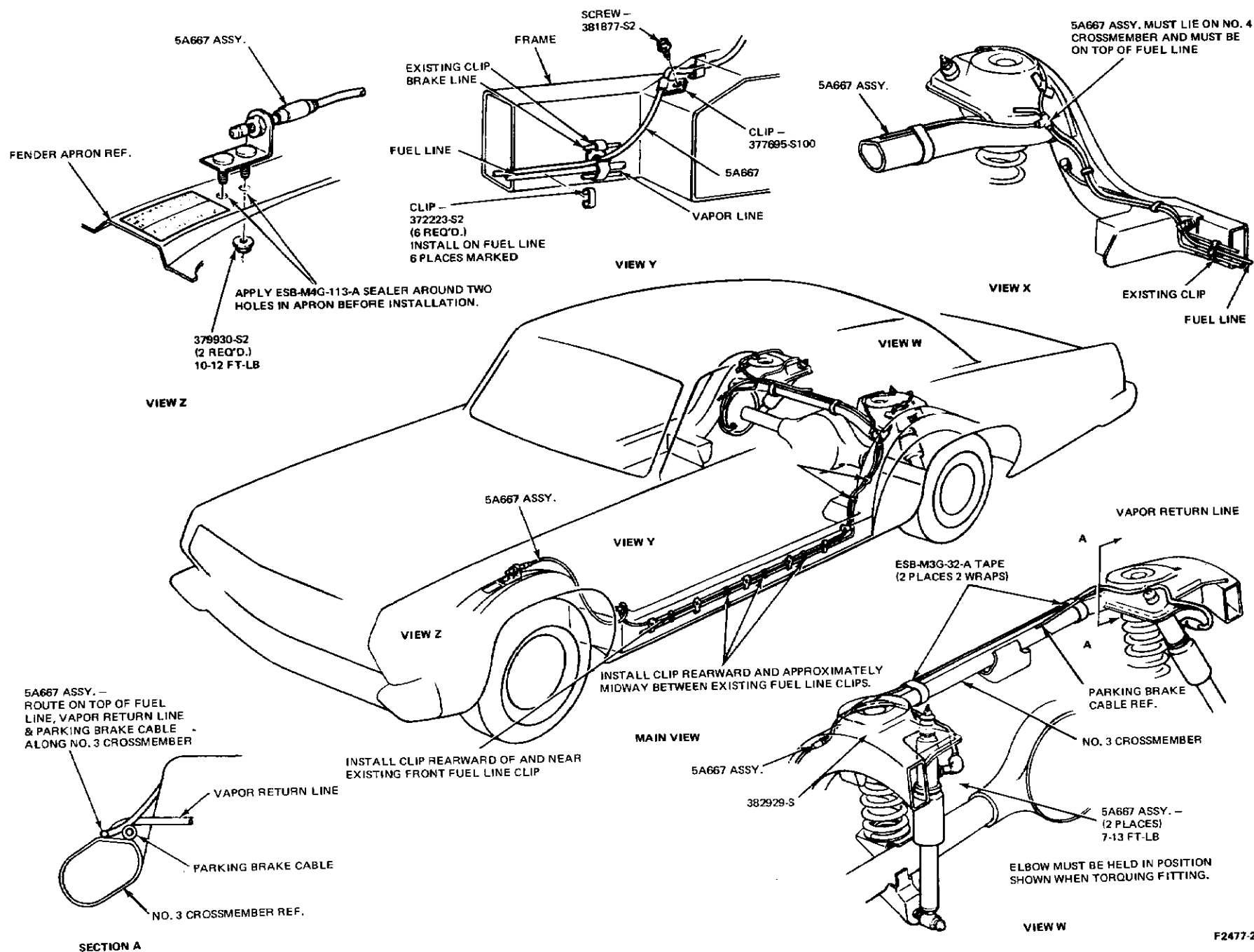


FIG. 2 Manual Fill Load Leveler System