

## Group 5 Front Suspension

**GENERAL:** This group contains information on the front wheel suspension components designed to suspend the coach above the ground.

**SPECIFICS:** As applicable

...Coil Springs

...Control Arms and Sockets

...Leaf Spring and Attaching Hardware

...Radius Rods

...Shock Absorbers

...Wheel Spindles and Associated Parts



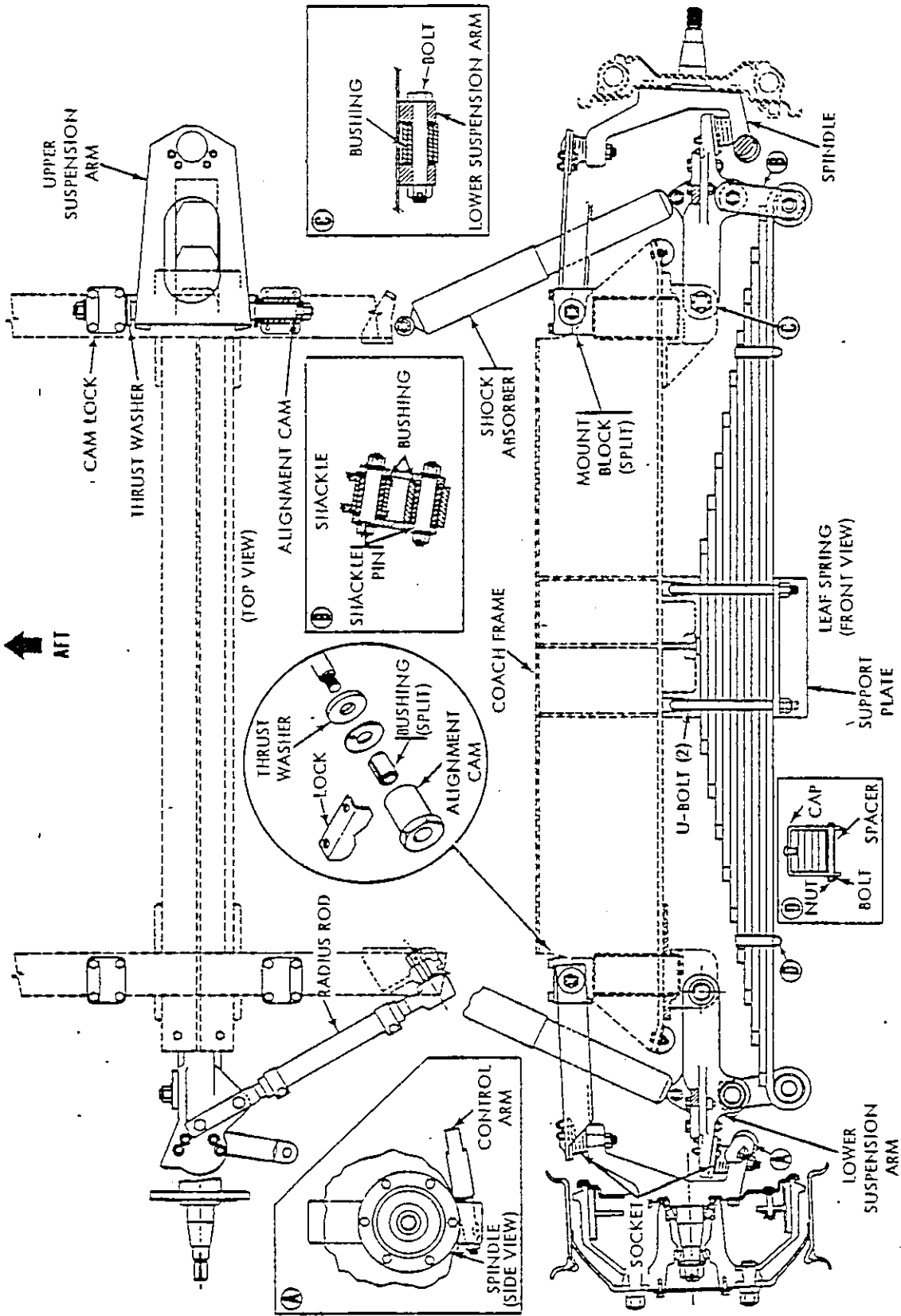
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Recreational Vehicle Division  
333 Brokaw Road Box 564 Santa Clara, California 95052

GROUP 5

FRONT SUSPENSION

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Figure 6-1. Front Suspension System

GROUP 5

FRONT SUSPENSION

5-1. DESCRIPTION

a. General (fig. 5-1). The coach has an independent front suspension system designed to provide a soft ride over varying road conditions and to prohibit transmittal of road shock from one wheel to another should one wheel pass over an obstruction. A 10-leaf transverse spring, shock absorbers, upper and lower suspension arms and spindle assemblies make up the front suspension system. The 3-inch wide 10-leaf spring, (approximately 5 feet 4 inches long) is bolted to a welded saddle bracket. The spring absorbs road shocks at a rate that varies with the intensity of the disturbance. The higher the deflection the greater the number of leaves that come into play and prevent bottoming of the frame on the bumper pads.

The spring and shock absorbers are attached to the lower suspension arm. The spring is attached by means of shackles. These are connected to the lower (main) leaf at the shackle eye, which is a loop bent in the end of the leaf. A shackle pin passes through the loop and is held in place by a nut on each end. The pin seats in a bushing (bonded center joint), comprised of an elastomer cushion

material bonded to tubular steel, which serves two purposes: it permits the shackle to swing, and it keeps road noise and vibration from being passed from the spring to the frame of the coach.

The front suspension system and components are covered in this Group. For service information on equipment interconnected with the front suspension system, such as steering linkages (Group 7), wheels (Group 8) or brakes (Group 9), refer to the appropriate group. For information on procuring replacement parts, refer to the 2900R Parts Catalog.

b. Front Suspension Components. The suspension system major components consist of a 10-leaf spring assembly, two spindles, two lower and two upper suspension arms, and two shock absorbers.

5-2. TROUBLESHOOTING

Instructions for troubleshooting the front suspension system are contained in table 5-1. When corrective remedies are referenced, they should be accomplished in accordance with the step-by-step procedures.

Table 5-1. Troubleshooting Front Suspension

Malfunction (symptoms)	Probable causes	Corrective action (remedies)
Spring noise (squeaking)	Lack of lubrication	Lubricate with Valvoline "TECTYL 400-C"; refer to paragraph 5-3b
	Loose U-bolts	Tighten nuts; refer to paragraph 5-3i step (3)
	Loose or worn bushing (bonded joints) in shackle	Replace
Spring sag	Overloading or severe operation	Check forward areas for overloading; move heavy objects toward rear
	Defective shock absorbers	Replace; refer to paragraph 5-3j and k
	Broken spring leaf	Replace; refer to paragraph 5-6b

Table 5-1. Troubleshooting Front Suspension (Continued)

Malfunction (symptoms)	Probable causes	Corrective action (remedies)
Front end has excessive bounce	Defective shock absorbers	Replace; refer to paragraph 5-3j and k
Spring breakage	Operation over excessively rough terrain or normal fatigue	Replace; refer to paragraph 5-3h and i
Front wheels lean in or out excessively	Camber out of adjustment	Adjust alignment cams on upper suspension arm; refer to Group 7

5-3. REMOVAL/INSTALLATION

a. General Access to various components of the front suspension system may require the removal of components covered in other groups. For removal or installation instructions for such components, refer to the appropriate group.

b. Spindle Removal

- (1) Set parking brake and insert chocks under rear tires.
- (2) Jack up front end and install truck stands under front jack points; see figure 5-2.
- (3) To gain access to the spindle, remove wheel, hub and drum; refer to Group 8.

NOTE

If the brake assembly is to be removed and installed on a new spindle, refer to Group 9 for the replacement procedure.

- (4) Place jack under spring eye (center area between shackle halves) and raise enough to relieve (neutralize) tension.
- (5) Remove cotter pin and nut attaching the steering control arm to the spindle and detach control arm (with woodruff key) from spindle.
- (6) Disconnect flexible hose connecting brake line from frame to lower wheel cylinder fitting. Use container to catch fluid; refer to Group 9.

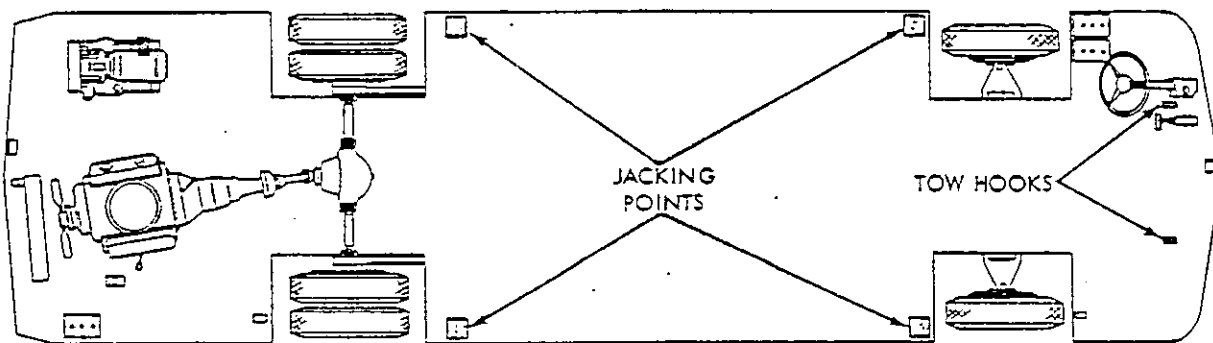


Figure 5-2. Jacking Points

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(7) Remove four nuts from upper end of the four bolts attaching the socket to the lower suspension arm; raise arm as necessary until bolts clear the mount holes.

#### NOTE

An alternate method for disconnecting suspension arms from the spindle (steps 7 and 8) is to remove the cotter pin and nut from tapered stud of socket and separate it from the tapered mount holes in spindle as follows:

- If socket is to be reused, use a special tool (ball-joint press) to extract socket. If necessary, coax the extraction tool with a few gentle taps with a 40-pound hammer.
- If socket assembly is to be replaced use a "pickle fork" or "tuning fork" and hammer to drive fork prongs between socket head and outer area around spindle mount holes.

(8) Support spindle assembly and remove four nuts and bolts attaching the socket to the upper suspension arm; remove spindle assembly.

(9) If replacement of sockets in spindle is necessary, refer to paragraph 5-6 for repair procedures.

#### c. Spindle Installation.

(1) Position spindle with sockets installed in lower and upper spindle attaching points and secure with nuts and cotter pins to align with mount holes in lower and upper suspension arms.

(2) With leaf spring tension removed by jacking (steps 5-3 b (4)), attach socket in lower suspension arm mount holes with four 1-3/4 inch bolts with nuts on top end; torque to 36 to 38 foot pounds.

(3) Attach socket in upper suspension arm mount holes with four 1-1/4 inch bolts with washers and nuts on top end; torque to 46 to 50 foot pounds.

(4) Install steering control arm (with woodruff key) into hole in the end of lower portion of spindle; secure with nut and cotter pin.

(5) Connect flexible hose brake line between lower wheel cylinder fitting and tube on frame, and bleed brake system; refer to Group 9.

(6) Install wheel, hub and drum; refer to Group 8.

(7) Remove jacks and wheel chocks.

#### d. Upper Suspension Arm Removal.

(1) Repeat jacking procedure in paragraph b steps (1) and (2), then remove wheel to gain access to the suspension arm; refer to Group 8.

(2) Remove shock absorber; refer to paragraph 5-3 j.

(3) Remove four nuts and bolts attaching spindle socket to upper suspension arm.

(4) Remove cotter pin, nut and washers from each end of upper suspension arm pivot spindle (shaft).

#### NOTE

Place a mark across the outer end of the alignment cams (both front and rear cams) and on the lower half of the frame mounted block for use in establishing proper positioning of the cam (eccentric alignment hole) during reinstallation.

(5) Remove four bolts, washers and upper arm alignment cam lock that secures bushing split-block mount to frame block half; remove upper split-block, then remove suspension arm assembly.

#### e. Upper Suspension Arm Installation.

(1) With thrust washer and alignment cam positioned on each end of suspension arm spindle (shaft), install spindle ends into the frame-mounted halves of the blocks. Align the marks on the cam and the lower half of the frame mounted block, then install upper half of block and secure with cam lock, washer and bolt.

#### NOTE

Be sure to line up the marks on the cam and block, as improper reinstallation of the alignment cam could change the camber adjustments. If a new alignment cam assembly or a re-bushed cam is installed, refer to Group 7, and establish proper positioning of alignment cam. Torque the hold-down bolts to 32 to 34 foot pounds following positioning of the alignment cams.

(2) Install washers and nuts on suspension arm pivot shaft (spindle) ends; see preceding NOTE, then torque nut to 171 to 189 foot pounds; install cotter pins..

(3) Connect spindle socket to suspension arm mount holes with nuts on top end; torque to 36 to 38 foot pounds.

(4) Install shock absorber; refer to paragraph 5-3 h.

(5) Install wheel; refer to Group 8, then remove jacks and wheel chocks.

f. Lower Suspension Arm Removal.

(1) Jack coach as outlined in the procedures in paragraph 5-3 b, steps (1) and (2), then remove wheel to gain access to the suspension arm; refer to Group 8.

(2) Remove shock absorber; refer to paragraph 5-3 j.

(4) Remove four nuts and bolts attaching spindle socket to the lower suspension arm.

(5) Remove two nuts and bolts attaching radius rod to lower suspension arm; detach rod.

(6) Remove cotter pin and nut from pivot bolt attaching lower suspension arm to frame bracket; remove bolt then remove lower suspension arm.

g. Lower Suspension Arm Installation (fig. 5-3).

(1) With pivot bushing (bonded center joint) inserted in pivot hole on end of the suspension arm, install in frame mount bracket and attach with pivot bolt (head-end forward) and nut; torque nut to 90 to 100 foot pounds, then install cotter pin.

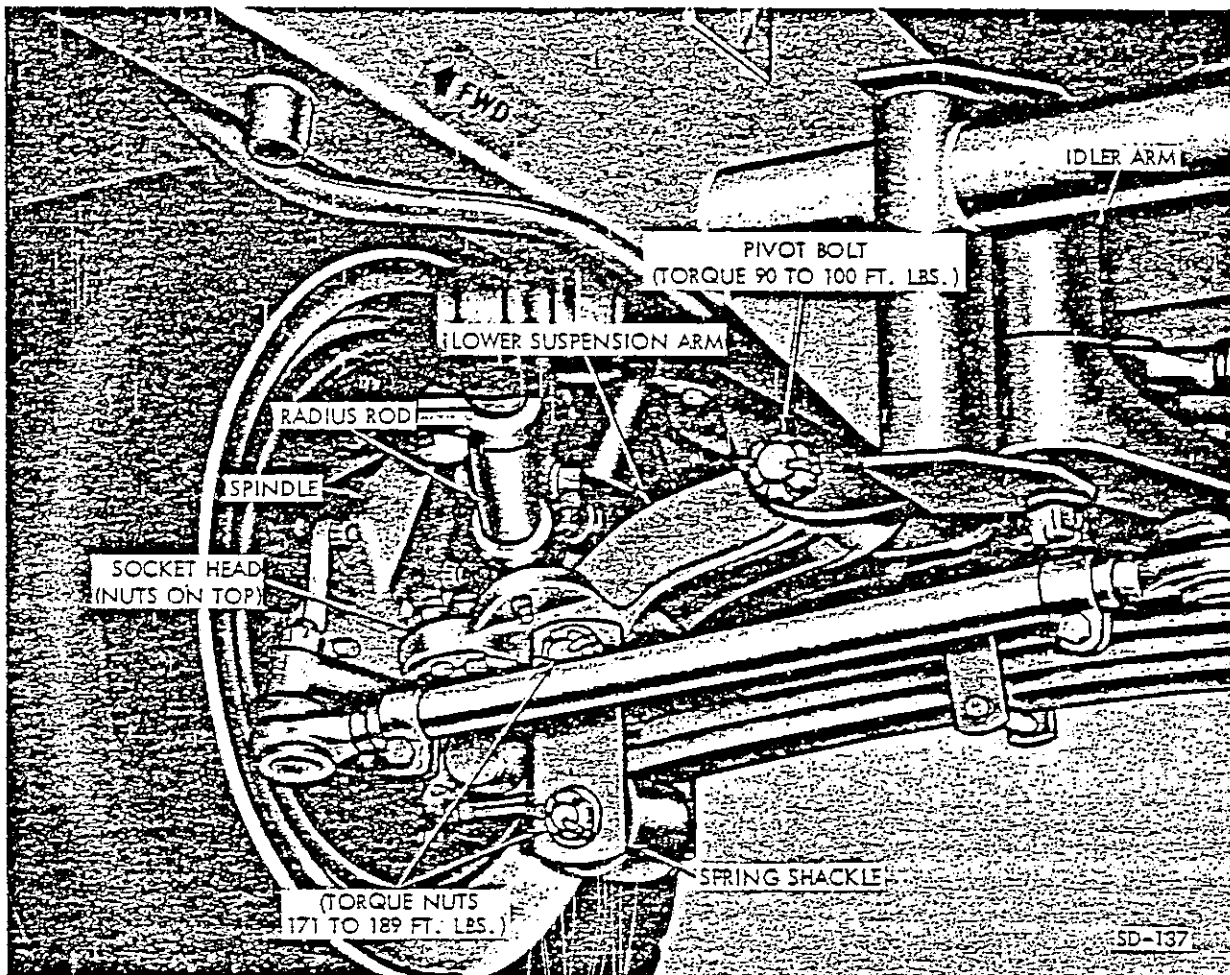


Figure 5-3. Lower Suspension Arm Replacement

(2) Attach the socket head on the spindle to the mount point on the lower suspension arms with four bolts and nuts (with nuts on upper end); torque nuts to 45 to 50 foot pounds.

(3) With bushing in place, connect upper ends of spring shackle to lower suspension arm; torque nuts to 171 to 189 foot pounds.

(4) Install shock absorber; refer to paragraph 5-3 k.

(5) Attach radius rod end to the two lower suspension arm mount holes using a 1-3/4 inch bolt in the forward hole and a 2-1/4 inch bolt in the rear hole; install and torque lock nuts to 86 to 94 foot pounds.

(6) Install wheel; refer to Group 8, then remove jack stands and wheel chocks.

#### h. Leaf Spring Removal.

(1) Jack coach front end and position support stands as outlined in the procedures in paragraph 5-3 b steps (1) and (2).

(2) Remove tension from spring ends with jack, remove shackle pins and detach shackles from spring eyes on each end.

(3) Position a jack under the support plate under center area of spring; support weight of spring and remove four nuts from threads of the U-bolts.

(4) Lower spring assembly to clear U-bolts, and roll out jack and spring toward front end of coach.

#### **NOTE**

The spring center bolt upper round head inserts into a hole in the frame mounted saddle bracket. Early model coaches utilized a bushing to provide a snug fit at this point, but later coaches incorporate a redesigned saddle bracket with a smaller hole i.d. requiring no bushing. If coach has the bushing, retain and reuse when installing a replacement spring.

#### i. Leaf Spring Installation.

(1) With spring assembly supported on floor jack, roll in from front of coach and position (center) spring under U-bolts.

(2) Raise spring assembly to insert round head of center bolt into hole in saddle bracket mount hole (be sure bushing is in place on early model coaches per paragraph h (4) NOTE).

(3) Install four nuts on U-bolt threads; torque nuts to 171 to 189 foot pounds, then remove jack supporting spring center.

(4) Using jack, position spring end eyes to align with holes in lower end of shackles; insert shackle pins and torque nuts to 171 to 189 foot pounds, then install cotter pins.

(5) Remove jack and jack stands and the chocks from rear wheels.

#### j. Front Shock Absorber Removal.

(1) Jack coach front end and position jack stand; refer to procedure in paragraph 5-3 b steps (1) and (2).

(2) Using jack under leaf spring eye, raise to relieve tension on shock absorber attachment bolts.

(3) Remove upper and lower shock absorber attachment nuts and bolts, then remove shock absorber.

k. Front Shock Absorber Installation. Installation of a front shock absorber is accomplished in the same manner as the procedures specified in previous paragraph, except shock absorber is positioned to align with upper and lower mount holes and both attachment nuts/bolts must be inserted and torqued to 212 to 234 foot pounds; remove jacks and wheel chocks upon completion.

#### **5-4. DISASSEMBLY**

a. General. With the exception of the 10-leaf spring, disassembly of the suspension system following removal from the coach consists of separation of two or three components. Refer to the repair section for instructions regarding these assemblies.

b. Leaf Spring Disassembly. Disassembly of the leaf spring after it is removed from the coach is accomplished as follows:

(1) Install a C-clamp adjacent to spring center bolt and tighten.

(2) Remove nuts, bolts and spacer tube from spring clips.



(3) Remove center bolt nut; loosen C-clamp and separate spring leaves.

**NOTE**

Clips remain attached to the number 5 leaf tip mount hole with rivet.

**5-5. INSPECTION/CLEANING**

a. Inspection of Components. Inspect components of the front suspension system as outlined in table 5-2.

with the arm removed, by removing the four nuts and bolts attaching socket head to the arm and removing socket. Install replacement socket head on the arm with four 1-1/4 inch bolts with nuts on upper side of arm; torque nuts to 46 to 50 foot pounds.

c. Lower Suspension Arm Socket Replacement. The socket assembly in the lower suspension is replaced in the same manner as the upper suspension arm socket described above, except four 1-3/4 inch bolts are used and the nuts torqued to 34 to 38 foot pounds.

Table 5-2. Inspection of Components

COMPONENT	INSPECT FOR	METHOD	CORRECTIVE ACTION
U-Bolt nuts	Looseness	Check with wrench	Tighten per paragraph 5-3i step (5)
Spring clips	Loose attachment bolts or damage	Visual	Tighten or replace
Spindle socket attachment nuts/bolts	Looseness	Visual or wrench	Tighten per paragraph 5-3e step (3) and 5-3g step (2)
Spring leaves	Breakage	Clean per following paragraph and visually inspect front and aft edges for cracks	Replace broken leaf per paragraph 5-6d

b. Cleaning. Clean spring leaf outer and upper surfaces with stiff bristle (wire) brush or other suitable method. Standard commercial cleaners can be used, as specified on container, for cleaning and washing of the remaining suspension system components.

**5-6. REPAIR**

a. General. Repairs on the front suspension system assemblies consist of replacing components subjected to wear during normal operations.

b. Upper Suspension Arm Socket Replacement. The socket assembly in the upper suspension is replaced after the spindle has been detached, or

d. Spring Assembly Leaf Replacement. Individual leaves may be replaced by disassembling spring as described in paragraph 5-4 b, inserting new leaf, then reassembling in accordance with paragraph 5-6 b.

**5-7. ASSEMBLY**

a. General. The repair section contains assembly instruction for all the front suspension system assemblies other than the leaf spring.

b. Leaf Spring Assembly (fig. 5-1). To assemble a leaf spring proceed as follows:

(1) Arrange the leaves as shown, then clamp together with a C-clamp positioned near the center bolt hole.

(2) Install center bolt with round head on top and use a new 1/2 x 13 nut; tighten nut, then peen center bolt end to secure nut.

(3) Install clips and secure with bolts, spacer tubes and new 3/8 x 16 nuts; peen end of bolts to secure nuts.

(4) Refer to paragraph 5-3 i to install spring in coach.

5-8. GENERAL INFORMATION

a. Leaf Spring Specifications.

SPRING ASSEMBLY	DATA
Length .....	5 feet 4 inch (approx)
Width .....	3 inches
Number of leaves .....	10
Bushings (Spring-eye)...	Elastomer cushion (bonded to tubular steel)
Capacity .....	10, 200 pounds

b. Lubrication of Leaf Spring. Lubricate leaf spring as follows:

(1) Loosen the four nuts on the U-bolts attaching the spring (center) support plate.

(2) Remove the nuts, bolts, and spacer tubes attaching the clips (clamps) located near outer ends of spring.

(3) Jack up front end of coach at the two forward jack points (see figure 5-2) until both front wheels are off the ground.

(4) Clean any dirt or road grime from spring with stiff bristle (or wire) brush or other suitable method.

(5) Using a suitable prying device, separate spring leaves (one at a time) as far as possible and coat areas between leaves with Valvoline "TECTYL 400-C".

NOTE

Do not lubricate shackle pin bushings in the lower spring eyes.

(6) Lower coach and remove jacks.

(7) Install bolts, spacer tubes and new 3/8 x 16 nuts in the two spring clips; peen bolt end to secure nut in place.

(8) Torque four U-bolt nuts to 171 to 189 foot pounds.



# Service Bulletin

DATE March 14, 1973

NUMBER 2905 40001

ATTENTION: SERVICE MANAGER	GROUP 5
<p>This Service Bulletin contains procedures for correction of a noise nuisance which could occur in the leaf spring of the front suspension system. The spring leaves are initially coated with Valvoline "TECTYL 400-C" lubricant, rust inhibitor, however, after operation in certain wet or hot weather some of the lubricant may dissipate, resulting in squeaking. When this condition is encountered, relubricate spring as follows:</p>	Front Suspension
	SUBJECT Leaf Spring
<ol style="list-style-type: none"> <li>1. Loosen the four nuts on the U-bolts attaching the spring (center) support plate.</li> <li>2. Remove the nuts, bolts and spacer tubes attaching the clips (clamps) located near outer ends of spring.</li> <li>3. Jack-up front end of coach at the two forward jack points (see figure 4-18 on page 4-23 of the owners manual) until both front wheels are off the ground.</li> </ol>	MODEL (S) AFFECTED 2900R
<ol style="list-style-type: none"> <li>4. Clean any dirt or road grime from spring with stiff bristle (or wire) brush or other suitable method.</li> <li>5. Using a suitable prying device, separate spring leaves (one at a time) as far as possible and coat areas between leaves with Valvoline "TECTYL 400-C".</li> </ol>	(Factory Use Only) Information added to:  OWNER MANUAL (S)
NOTE: Do not lubricate shackle pin bushings in the lower spring eyes.	SERVICE MANUAL (S)
6. Lower coach and remove jacks.	PARTS MANUAL (S)
7. Install bolts, spacer tubes and new 3/8 x 16 nuts in the two spring clips; peen bolt end to secure nut in plate.	WARRANTY MANUAL (S)
8. Tighten the 4 U-bolt nuts to a torque of 171 to 189 foot pounds.	OTHER
NOTE: Periodically check U-bolt tightness at intervals specified in the owners manual.	



URGENT

ROUTINE

MANDATORY

INFORMATIONAL

# Service Bulletin

DATE 18 September 1973

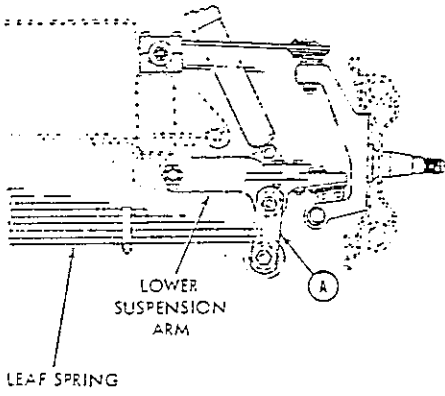
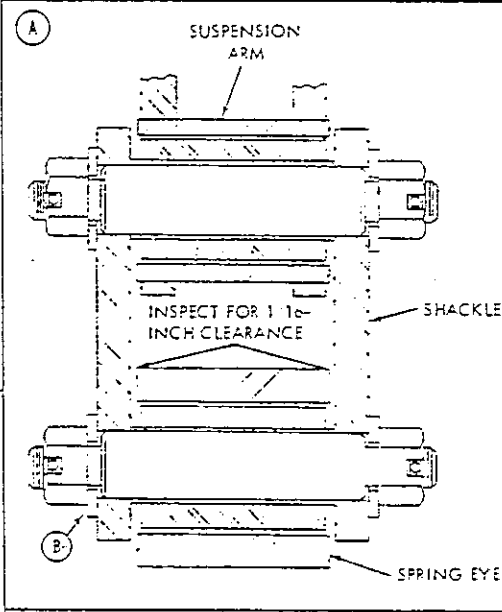
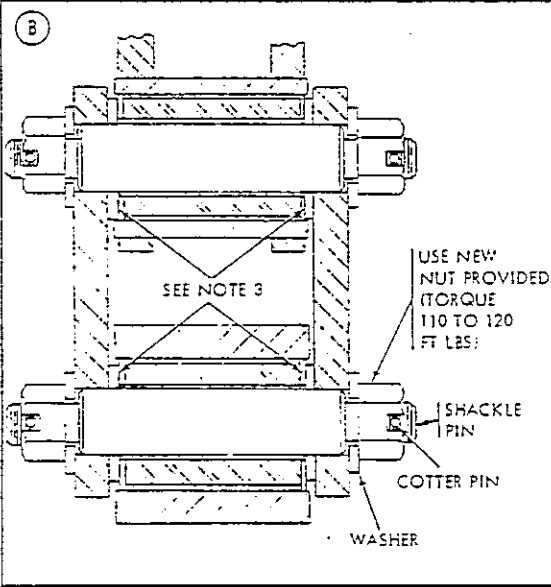
NUMBER 2905 40003

ATTENTION: SERVICE MANAGER	GROUP
NOTE	5
	FRONT SUSPENSION
<p>This Service Bulletin cancels and replaces Service Bulletin Number 2905 40002, dated 22 August 1973, of same title. Remove cancelled bulletin from files and destroy.</p> <p>Binding between shackle and leaf of spring has occurred on some coaches. If condition exists it should be corrected by installing spacers. Inspect as shown in figure 1, then accomplish the following procedures, if required, at points where binding is evident.</p>	SUBJECT
	<p>INSTALLATION OF SPACERS FOR SPRING SHACKLE</p>
<p>1. Refer to Service Manual Group 5, Front Suspension, and jack coach in accordance with paragraph 5-3b, steps (1), (2), and (4).</p> <p>2. Place small jack under spring-eye (center area between shackle halves) and raise enough to relieve (neutralize) tension.</p> <p>3. Remove cotter pins from ends of each shackle pin nut.</p> <p>4. Remove nuts and washers from end of each shackle pin, retain washers.</p> <p>5. Remove shackle and retain; do not remove shackle pins.</p>	MODEL (S) AFFECTED
	2900R
NOTE	(Factory Use Only) Information added to:
	OWNER MANUAL (S)
<p>It may be necessary to further adjust jack, installed in step 2, to free shackle from pin</p>	SERVICE MANUAL (S)
	PARTS MANUAL (S)
<p>6. Install new spacer(s) (5101135-100) on shackle pin ends, as required, to obtain 1/16 inch clearance.</p> <p>7. Reinstall shackle on pins (check for specified clearance), then secure with washers retained from step 4 and new nuts provided; tighten nuts 110 to 120 foot pounds; insert cotter pins.</p> <p>8. Inspect, and if necessary, repeat steps 2 through 8 on opposite side of coach where binding is evident.</p> <p>9. Remove jack and jack stands, then remove wheel chocks from rear wheels.</p>	WARRANTY MANUAL (S)
	OTHER
<p style="text-align: center;"><i>John L. Strever</i> John L. Strever Service Manager</p>	

# Service Bulletin

DATE 18 September 1973

NUMBER 2905 40003

ATTENTION: SERVICE MANAGER		GROUP 5
 <p>LOWER SUSPENSION ARM LEAF SPRING</p>		FRONT SUSPENSION
		SUBJECT INSTALLATION OF SPACERS FOR SPRING SHACKLE
 <p>SUSPENSION ARM SHACKLE INSPECT FOR 1 16-INCH CLEARANCE SPRING EYE</p>		MODEL (S) AFFECTED  2900R
		(Factory Use Only) Information added to:  OWNER MANUAL (S)  SERVICE MANUAL (S)  PARTS MANUAL (S)  WARRANTY MANUAL (S)  OTHER
 <p>SEE NOTE 3 USE NEW NUT PROVIDED (TORQUE 110 TO 120 FT LBS) SHACKLE PIN COTTER PIN WASHER</p>		NOTES: 1. INSPECT FOR 1 16-INCH CLEARANCE BETWEEN SPRING CUT-UP EDGES AND SHACKLE—SEE A. IF BINDING IS EVIDENT INSTALL NEW SPACER SEE E. 2. SEE TEXT AND PERFORM STEPS SPECIFIED TO INSTALL NEW SPACER S1, AS REQUIRED, TO OBTAIN 1 16-INCH CLEARANCE. 3. INSTALL NEW SPACERS PER STEP 2 FOR CLEARANCE, THEN AT EACH UPPER POINT, AS NEEDED, TO ENSURE PARALLELISM OF SHACKLE.
SD-321		
<b>SPRING-TO-SHACKLE SPACERS</b> <b>FIGURE 1</b>		



URGENT

ROUTINE

MANDATORY

INFORMATIONAL

# Service Bulletin

DATE October 16, 1974

NUMBER 2905-40004

ATTENTION: SERVICE MANAGER		GROUP												
<u>DESCRIPTION</u>		5												
<p>This service bulletin is issued to help dealers overcome the noise problem that is due to the transverse front spring assembly. On early Production coaches a ten-leaf spring was used on the front suspension. If coach owner is experiencing a noisy front end and the distance between the upper suspension arm and rubber bump stop is <math>\frac{1}{4}</math>" or more, add liner kit to the ten-leaf spring. If distance from upper suspension arm to rubber bumper stop is less than <math>\frac{1}{4}</math>" an 11-leaf spring (5106719) should be substituted for the ten-leaf. The new 11 leaf spring assembly (5106719) has spring liners built in at the factory and need not be disassembled.</p>		SUBJECT												
<p><u>KIT CONTENTS (5101800-R004)</u></p> <table border="1"> <thead> <tr> <th><u>MCD NUMBER</u></th> <th><u>DESCRIPTION</u></th> <th><u>QTY</u></th> </tr> </thead> <tbody> <tr> <td>5106738</td> <td>Laminate, leaf (3" wide, cut to length-10 pcs)</td> <td>1</td> </tr> <tr> <td>5106734</td> <td>Bolt, Spring Center</td> <td>1</td> </tr> <tr> <td>5101821</td> <td>U-Bolt, Spring Mounting</td> <td>2</td> </tr> </tbody> </table>		<u>MCD NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>	5106738	Laminate, leaf (3" wide, cut to length-10 pcs)	1	5106734	Bolt, Spring Center	1	5101821	U-Bolt, Spring Mounting	2	<p>FRONT SPRING LINER KIT</p>
<u>MCD NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>												
5106738	Laminate, leaf (3" wide, cut to length-10 pcs)	1												
5106734	Bolt, Spring Center	1												
5101821	U-Bolt, Spring Mounting	2												
<p><u>INSTRUCTIONS</u></p> <ol style="list-style-type: none"> <li>Remove spring assembly from coach per Group 5 of Service Manual.</li> <li>Disassemble spring by removing nut from spring center bolt and lifting off individual spring leaves.</li> <li>Thoroughly clean spring leaves and coat each leaf with a good grade of heavy-duty multi-purpose automotive grease.</li> </ol>		<p>MODEL(S) AFFECTED</p> <p>2900R MOTOR HOME SERIAL 00001 to 00588 APPROX</p>												
<p>NOTE</p> <p>If spring leaves are equipped with nylon tips, leave tips in place and cut off end of laminating strip.</p> <ol style="list-style-type: none"> <li>Place liners on spring leaves so that liner matches leaf and reassemble spring.</li> </ol>		<p>(Factory Use Only) Information added to:</p> <p>OWNER MANUAL(S)</p> <p>SERVICE MANUAL(S)</p> <p>PARTS MANUAL(S)</p> <p>WARRANTY MANUAL(S)</p> <p>OTHER</p>												



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URGENT

ROUTINE

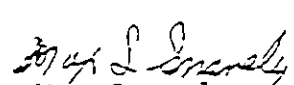
MANDATORY

INFORMATIONAL

# Service Bulletin

DATE October 16, 1974

NUMBER 2905-40004

ATTENTION: SERVICE MANAGER	GROUP
5. Use new center bolt (5106734) in reassembled spring. Use existing center bolt nut during reassembly.	5.
6. Install spring assembly in position on coach and use new U-Bolts (5101321) to hold spring to coach frame.	SUBJECT
7. Load coach to its normal operating weight and realign wheels in accordance with Service Bulletin 2907-40002.	FRONT SPRING LINER KIT
<u>WARRANTY REIMBURSEMENT</u>  We will allow a maximum of 3 labor hours and reimbursement for parts on a properly filled out warranty claim (form RVD69) for this modification. Authorization for dealer to proceed must be obtained from Motor Coach Division Service Department prior to performing the work.	MODEL (S) AFFECTED  2900R MOTOR HOME SERIAL 00001 to 00588 APPROX
 Max Snavely Service Manager	(Factory Use Only) Information added to:
	OWNER MANUAL (S)
	SERVICE MANUAL (S)
	PARTS MANUAL (S)
	WARRANTY MANUAL (S)
	OTHER



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Motor Coach Division  
333 Brokaw Road Box 664 Santa Clara California 95052

URGENT

ROUTINE

MANDATORY

INFORMATIONAL

# Service Bulletin

DATE November 15, 1976

NUMBER 2905-40005

ATTENTION: SERVICE MANAGER

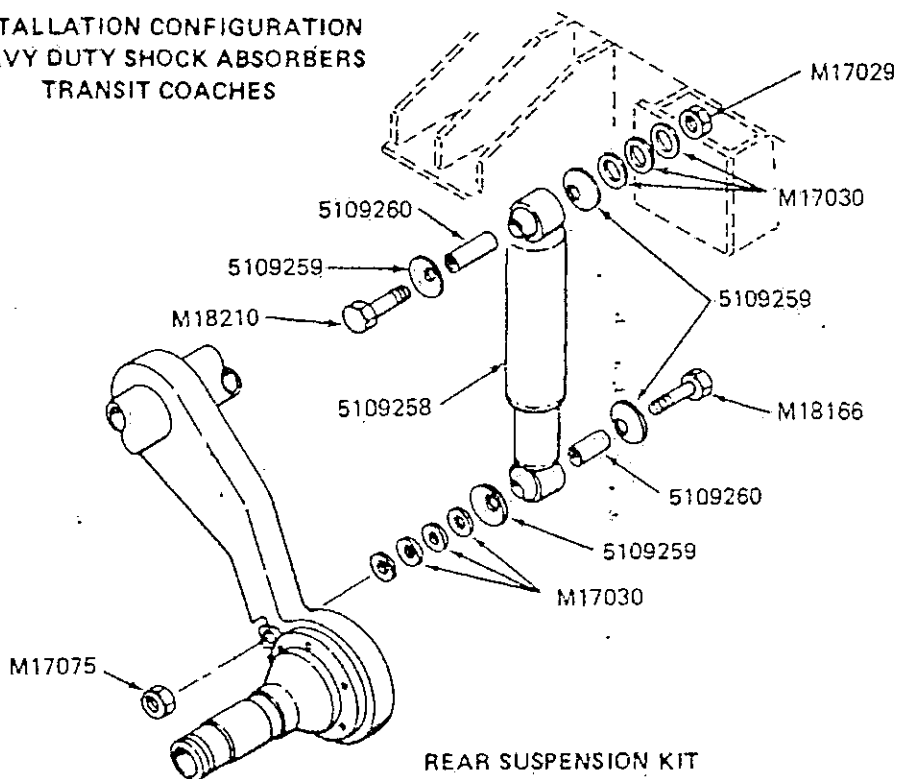
GROUP

5 & 6

SUBJECT

HEAVY  
DUTY  
SHOCK  
ABSORBER

INSTALLATION CONFIGURATION  
HEAVY DUTY SHOCK ABSORBERS  
TRANSIT COACHES



MODEL (S)  
AFFECTED

ALL  
TRANSIT  
COACHES

## Parts Required for Installation (Per Shock)

1 - M17029	Nut (top)
1 - M17075	Nut (bottom)
1 - M18210	Bolt (top)
1 - M18166	Bolt (bottom)
7 - M17030	Washer
4 - 5109259	Washer
2 - 5109260	Bushing
1 - 5109258	Shock





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5 & 6

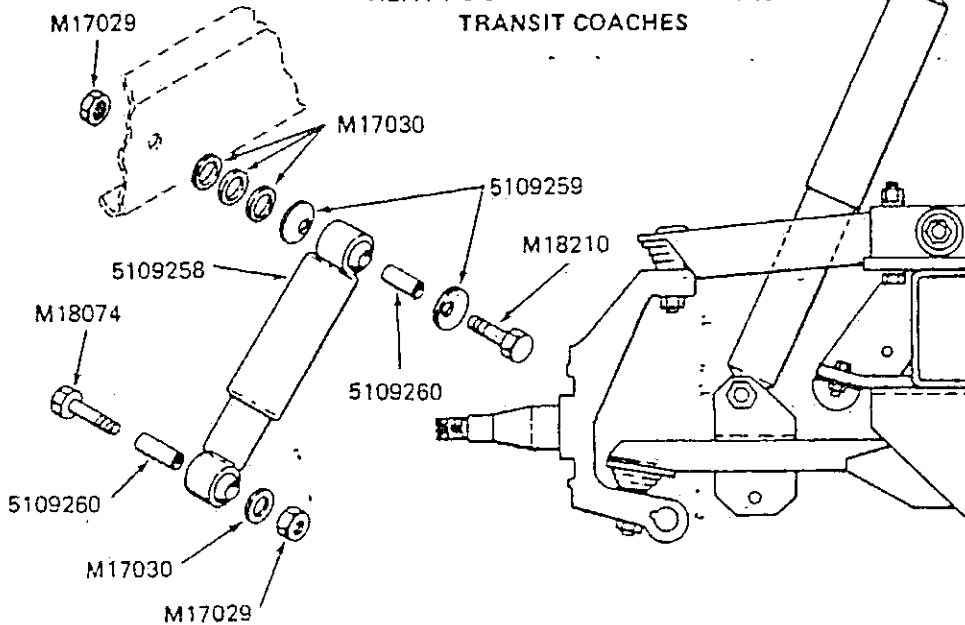
SUBJECT

HEAVY  
DUTY  
SHOCK  
ABSORBER

MODEL (S)  
AFFECTED

ALL  
TRANSIT  
COACHES

## INSTALLATION CONFIGURATION HEAVY DUTY SHOCK ABSORBERS TRANSIT COACHES



FRONT SUSPENSION KIT

### Parts Required for Installation (Per Shock)

2 - M17029	Nut
4 - M17030	Washer
1 - M18210	Bolt (top)
1 - M18074	Bolt (bottom)
2 - 5109259	Washer
2 - 5109260	Bushing
1 - 5109258	Shock



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 Motor Coach Division  
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ATTENTION: SERVICE MANAGER	GROUP 5 & 6																												
<p>On page T6-3 delete existing items 24 through 27 and substitute the following:</p> <table border="0"> <tr> <td>Item 24</td> <td>5109258</td> <td>SHOCK ABSORBER</td> <td>2</td> </tr> <tr> <td>Item 25</td> <td>M18210</td> <td>BOLT, Upper</td> <td>2</td> </tr> <tr> <td>Item 26</td> <td>M17029</td> <td>NUT, Bolt</td> <td>4</td> </tr> <tr> <td>Item 27</td> <td>M17030</td> <td>WASHER, Bolt</td> <td>14</td> </tr> <tr> <td></td> <td>M18166</td> <td>BOLT, Lower</td> <td>2</td> </tr> <tr> <td></td> <td>5109259</td> <td>WASHER, Cupped</td> <td>8</td> </tr> <tr> <td></td> <td>5109260</td> <td>BUSHING, Bolt</td> <td>4</td> </tr> </table> <p>Remove and install shock absorbers in accordance with instructions contained in Transit Series Service Manual Groups 5 &amp; 6. Substitute new heavy duty shock absorber parts for existing shock absorbers.</p>	Item 24	5109258	SHOCK ABSORBER	2	Item 25	M18210	BOLT, Upper	2	Item 26	M17029	NUT, Bolt	4	Item 27	M17030	WASHER, Bolt	14		M18166	BOLT, Lower	2		5109259	WASHER, Cupped	8		5109260	BUSHING, Bolt	4	SUBJECT  HEAVY DUTY SHOCK ABSORBER
Item 24	5109258	SHOCK ABSORBER	2																										
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	MODEL (S) AFFECTED  ALL TRANSIT COACHES																												



URGENT

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# Service Bulletin

DATE November 15, 1976

NUMBER 2905-40005

ATTENTION: SERVICE MANAGER

GROUP  
5 & 6

DESCRIPTION

This bulletin provides data on the heavy-duty shock absorbers required for transit coaches. Effective immediately the existing shock absorbers (front and rear) are superseded by shock absorber #5109258.

The new shock (5109258) will fit both front and rear applications and replaces all stock under MCD numbers 5100990 and 5100991 which are no longer available for transit application.

Your initial order for the new shocks will require all the parts shown on pages 3, and 4 of this bulletin.

SUBJECT  
HEAVY  
DUTY  
SHOCK  
ABSORBER

REPAIR PARTS CATALOG CORRECTIONS

On page T5-4 delete existing items 60 through 62 and substitute the following:

Item 60	5109258	SHOCK ABSORBER	2
Item 61	M18074	BOLT, Lower	2
	M18210	BOLT, Upper	2
Item 62	M17029	NUT, Bolt	4
	M17030	WASHER, Bolt	4
	5109260	BUSHING, Bolt	4
	5109259	WASHER, Cupped	4

MODEL (S)  
AFFECTED

ALL  
TRANSIT  
COACHES

On page T5-8 delete existing items 58 through 62 and substitute the following:

Item 58	5109258	SHOCK ABSORBER	2
Item 59	M18210	BOLT, Upper	2
Item 60	M17029	NUT, Bolt	4
Item 61	M17030	WASHER, Bolt	2
Item 62	M18074	BOLT, Lower	2
	5109260	BUSHING, Bolt	4
	5109259	WASHER, Cupped	4

F.M.C. CORPORATION  
 MOTOR COACH DIVISION  
 333 BROKAW ROAD  
 SANTA CLARA, CALIF. 95052

AS SUPPLIED BY THE MANUFACTURER

FMC Corporation

Motor Coach Division  
313 Brockway Road Box 634  
Santa Clara California 95052  
(408) 2390111

5

7-26-76



Dear FMC 2900R Owner:

This notice is sent to you in accordance with the requirements of the National Traffic and Motor Vehicle Act.

FMC/MCD has determined through reports and inspections that a safety related defect exist in the front suspension system of Vehicle 1 through 645.

The parts involved are the upper "A" arm shaft and cam bushings. The failure of the self-lubricating bushing is caused by a misaligned condition of the upper "A" arm cam adjusters. The unequal adjustment of the upper "A" arm forward and aft cams causes a torsional stress on the "A" arm shaft. This, in turn causes premature wear of the bushing surface permitting contact of the steel "A" arm shaft and steel backing sleeve of the bushing. Penetration of moisture or salt-laden road water to the steel surfaces can over a period of time cause shaft seizure.

FMC will correct this problem by furnishing an oil impregnated bushing design with a better lubricating capacity and correct all vehicles with unequal adjustments of upper "A" arm cam adjusters. The parts for the recall are available as of August 1, 1976. Parts will be shipped directly to FMC coach owners via United Parcel Service. Upon delivery of the parts package, you or someone within your household will be required to sign for it.

Enclosed in the parts package you will find Service Bulletin #2905-10001 giving detailed instructions on pages 1 through 9 on how to remove old parts and install new ones. Pages 13 through 15 gives a list of former FMC Dealers and authorized FMC Service Centers. This list will allow you to confirm appointments before taking your coach in for repair.

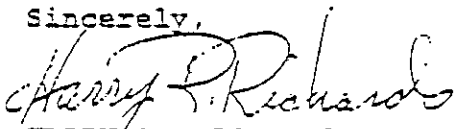
For those coaches found to have an unequal upper "A" arm cam adjustment, please refer to Page 11, Para. (f) for correct setting. The yellow self-addressed Status Report Card (MCD Form 79) included in parts package is to be completed by Service Center and dropped into the nearest mailbox. The white self-addressed card enclosed with this letter is to be completed if you no longer own the FMC 2900R vehicle or can furnish information regarding the new owner. It is imperative that you comply with this recall campaign, it is conceivable that an accident could occur. The upper "A" arm shaft due to torsional stress and seizure could snap at both ends, thus allowing wheel and spindle assembly to tilt outward resulting in loss of control of vehicle.

FMC/MCD no longer has a Dealer organization and upon contact some Dealers may refuse to do the work or require you to pay for labor, or you may feel the former Dealer or FMC Authorized Service Center is not within a reasonable distance. If service is refused, you may contact a local front-end shop to do the work. This arrangement should be coordinated with Customer Service before beginning the work. Customer Service can be reached by calling (408) 289-3665.

If you are requested to pay for service rendered by former FMC Dealers or Service Centers, please forward paid invoice to FMC/MCD Warranty Dept., 333 Brokaw Road, Box 664, Santa Clara, CA. 95052, you will be reimbursed promptly.

We wish to advise you, the coach owner, involved in this recall that if work has not been performed at NO CHARGE or you have not been reimbursed, you may contact the Administrator of National Highway Traffic Safety Administration, Washington, D.C. 20590.

Sincerely,

  
HARRY R. RICHARDS  
Customer Service Manager

HRR/pf



FMC Corporation  
Motor Coach Division  
333 Brokaw Road Box 664 Santa Clara California 95052

URGENT

ROUTINE

MANDATORY

INFORMATIONAL

# Service Bulletin

DATE July 26, 1976

NUMBER 2905-10001

ATTENTION: SERVICE MANAGERS AND OWNERS	GROUP  5
<p><u>DESCRIPTION</u></p> <p>This bulletin provides instructions for replacement of the front upper suspension arm alignment cam bushings and washers with lubricated bushings and washers. Replacement is necessary due to the poor lubricating qualities of the original bushings, which may cause seizing of the alignment cam and mount block and subsequent damage or failure of the upper suspension arm.</p> <p><u>COMPLIANCE</u></p> <p>Service Managers and owners must comply with this bulletin as soon as possible per recall notification #A0507.</p> <p><u>MANPOWER</u></p> <p>Estimated accomplishment time for one mechanic is 4.0 hours. FMC/MCD will reimburse for labor up to a maximum of 4.0 hours.</p> <p><u>MATERIAL</u></p> <p>Replacement parts supplied at no charge by FMC/MCD are:</p> <p>4 ea. #M17031 Steel Washers (Small) 4 ea. #M17198 Steel Thrust Washers (Large) 4 ea. #5109266 Oil Impregnated Washers (Large) 4 ea. #5109271 Oil Impregnated Washers (Small) 4 ea. #5109265 Bushings 4 ea. #5109268 Felt Packings 4 ea. #5109267 Oilers 4 ea. #M25055 Cotter Pins 8 ea. #M17002 Locknuts</p> <p>See Last page for current list of repair centers.</p>	SUBJECT  Upper Suspension Arm.
	MODEL (S) AFFECTED  Coaches 00001 to 00645.



# Service Bulletin

DATE July 26, 1976

NUMBER 2905-10001

<p>ATTENTION: SERVICE MANAGERS AND OWNERS</p>	<p>GROUP  5</p>
<p><u>ACCOMPLISHMENT INSTRUCTIONS</u></p> <ol style="list-style-type: none"> <li>1. Set parking brake and place a chock behind each rear tire.</li> <li>2. Jack up front end and install a truck jack stand under each front jacking point (figure 1).</li> <li>3. Remove front wheels to gain access to the suspension arms.</li> <li>4. Place a support under each front hub, and raise hub enough to relieve pressure on shock absorber (figure 2).</li> <li>5. Remove lower shock absorber locknut, bolt, and washers.</li> </ol> <p style="text-align: center;">NOTE</p> <p>It may be necessary to relieve pressure on shock absorber by jacking up control arm.</p> <ol style="list-style-type: none"> <li>6. Note position of cam notch in relation to cam lock, and scribe a mark from the cam to the alignment cam block (figure 3). (Identify blocks left, right, front and rear.)</li> <li>7. Loosen four bolts on top of each alignment cam block and remove block from arm spindle assembly (figure 3).</li> <li>8. Remove four locknuts and bolts holding ball joint to suspension arm. Discard locknuts.</li> <li>9. Remove upper suspension arm.</li> <li>10. Place suspension arm in vise; remove cotter pin and nut, then remove cam and two washers from spindle (figure 4). Retain thin teflon coated washer (with small hole), and nut. Discard cotter pin.</li> </ol> <p style="text-align: center;">NOTE</p> <p>If cam is frozen on spindle, heat cam with a torch, and use a hammer and block of wood or other soft material to remove it from the spindle.</p> <p style="text-align: center;">NOTE</p> <p>When using vise, protect parts with a piece of scrap aluminum or other soft material.</p> <ol style="list-style-type: none"> <li>11. Using a 13/16 Proto spark plug socket (no. 5326), and a 1-1/8 deep socket or a piece of pipe; place cam in vise, and press out the old bushing (figure 5)</li> </ol>	<p><u>SUBJECT</u></p> <p>Upper Suspension Arm.</p> <p><u>MODEL (S) AFFECTED</u></p> <p>Coaches 0001 to 00645.</p>



URGENT

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MANDATORY

INFORMATIONAL

# Service Bulletin

DATE July 26, 1976

NUMBER 2905-10001

ATTENTION: SERVICE MANAGER

GROUP

5

SUBJECT

Upper Suspension  
 Arm.

MODEL (S)  
 AFFECTED

Motor Coaches  
 00001 to 00645.

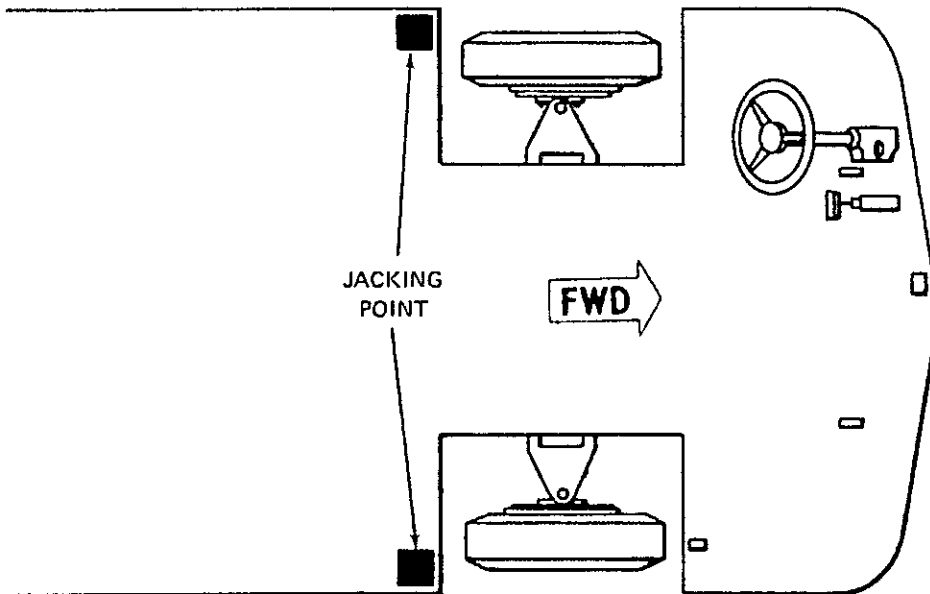


Figure 1. Front Jacking Points.

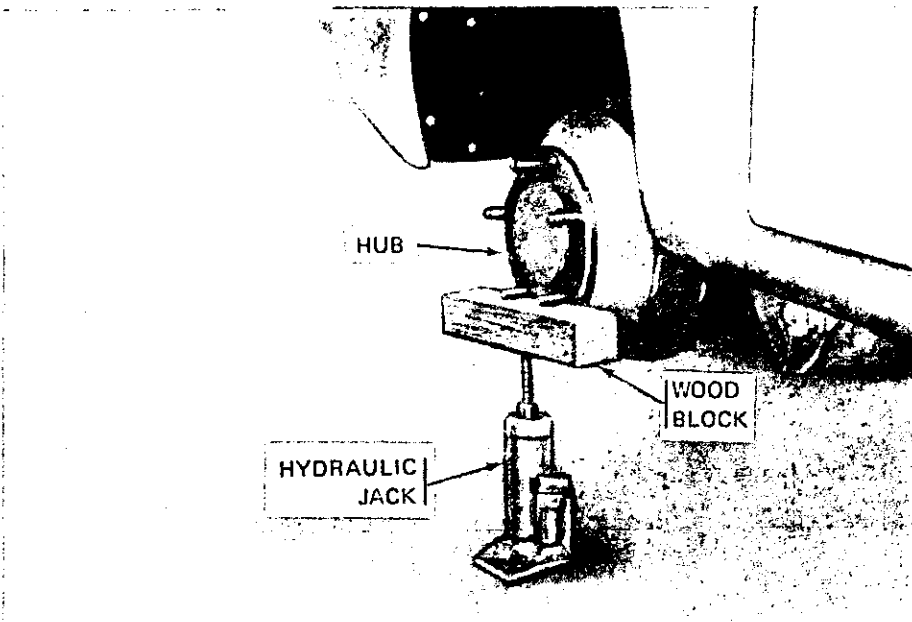


Figure 2. Hub Support.



# Service Bulletin

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GROUP

5

SUBJECT

Upper Suspension  
 Arm.

MODEL (S)  
 AFFECTED

Motor Coaches  
 00001 to 00645.

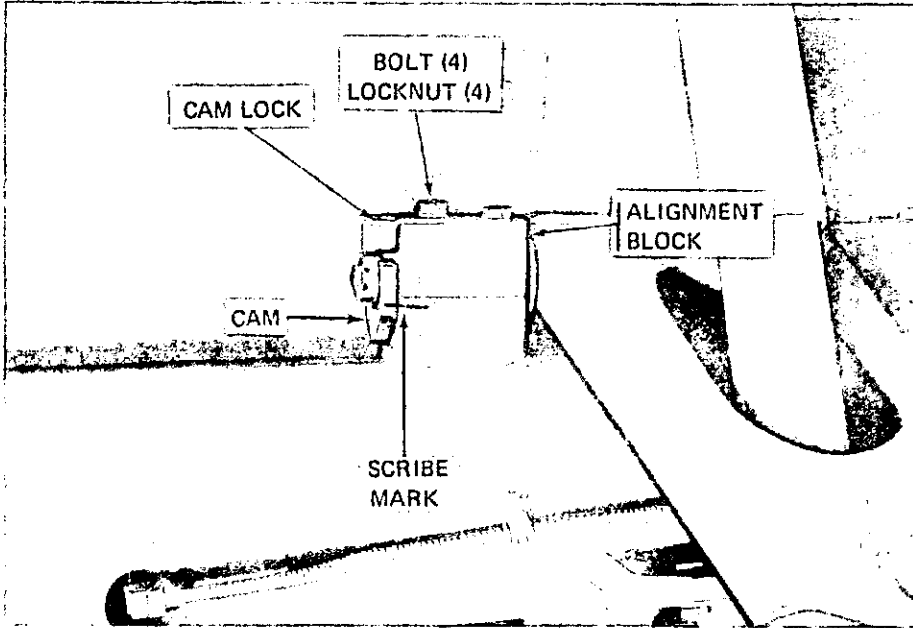


Figure 3. Cam to Block Scribe Mark.

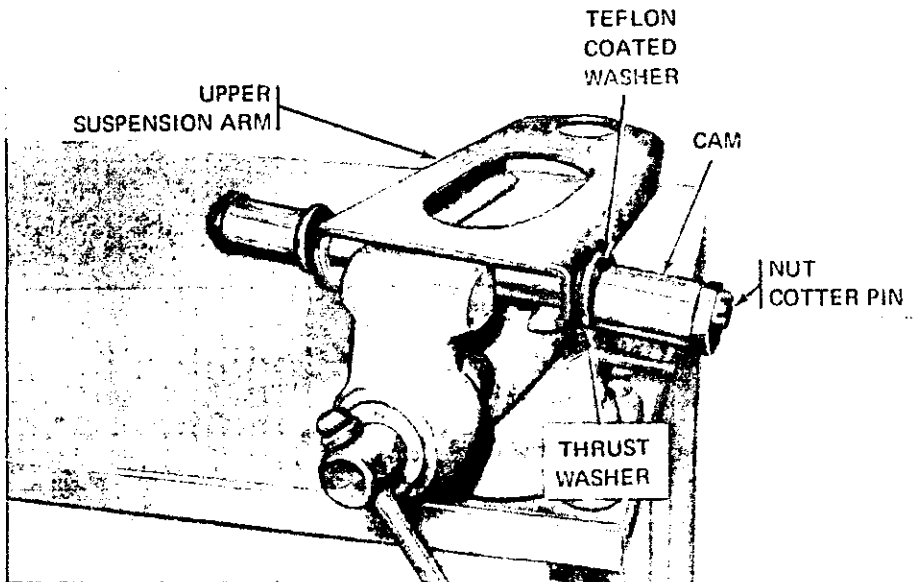


Figure 4. Removing Cam.



URGENT

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ATTENTION: SERVICE MANAGERS AND OWNERS	GROUP  5
<p>12. Clean spindle and cam in dry cleaning solvent, then remove rust or burrs with crocus cloth and wire brush. Be sure you clean all surfaces of the cam, especially the bushing bore. Wash it off again in solvent.</p> <p>13. Inspect spindle-to-suspension arm weld for cracks. If you find a crack, do not attempt to reweld it. Order a replacement arm and spindle assembly #5100066-W01 from FMC/MCD.</p> <p>14. Place cam in vice with outboard (hex) end up. Punch mark at dead center of hex. Using a 3/16 drill bit, drill a hole approximately 1-1/4 to 1-1/2 inch deep. Then drill a hole through the side of the cam (same size), to intersect the first hole and into the bushing bore (figure 6).</p> <p>15. Counterbore hole in outboard (hex) end of cam using a 3/8 drill bit. The counterbore should be at least 3/8 inch deep. Clean out both holes.</p> <p>16. Position oiler to cam, place cam in vise, and press oiler into counterbored hole.</p> <p>17. Chamfer inboard end of cam bore. Slide new oil impregnated washer (large), over new bushing, and position cam and bushing in vise. Take care to protect oiler. Press bushing into cam (figure 7). End of bushing must be flush with face of oil impregnated washer (figure 8).</p> <p>18. Place suspension arm in vise. Soak new felt packing in 140 weight gear oil. Assemble cam on spindle as follows (figure 9):</p> <ol style="list-style-type: none"> <li>a. New Steel thrust washer (large).</li> <li>b. Retained teflon coated bushing washer (with small hole).</li> <li>c. New oil impregnated washer (large).</li> <li>d. Cam with new bushing and oiler.</li> <li>e. New oil-soaked felt packing.</li> <li>f. New oil impregnated washer (small).</li> <li>g. New steel washer (small).</li> <li>h. Retained slotted nut (finger tight).</li> </ol>	<p>SUBJECT  Upper Suspension  Arm</p> <p>MODEL (S) AFFECTED  Coaches 00001  to 00645.</p>



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 Arm.

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Motor Coaches  
 00001 to 00645.

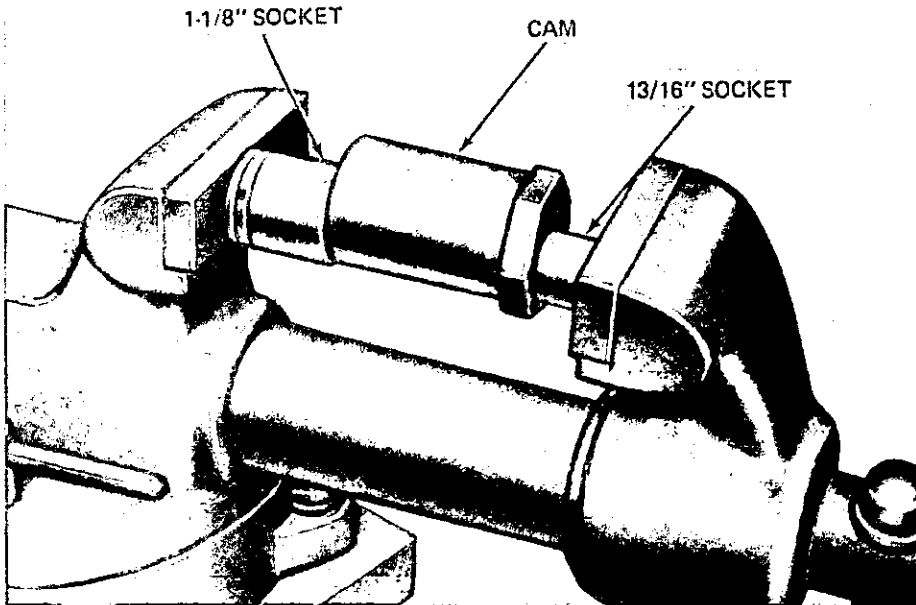


Figure 5. Removing Old Bushing.

DRILL 3/16" DIA.-  
 1-1/4" TO 1-1/2" DEEP-  
 COUNTERBORE 3/8"

DRILL 3/16" TO  
 BUSHING BORE

1-1/4" TO 1-1/2"

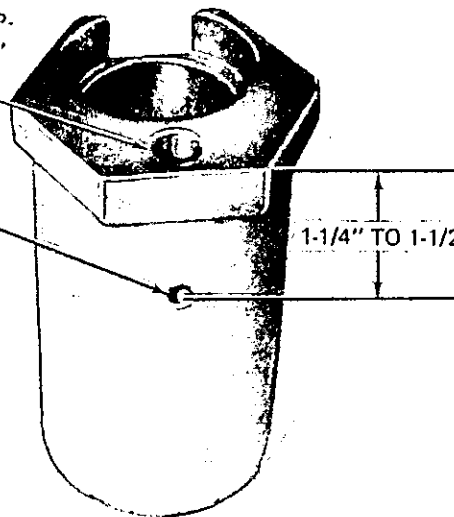


Figure 6. Drilling Cam.



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SUBJECT

Upper Suspension  
 Arm.

MODEL (S)  
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Motor Coaches  
 00001 to 00645.

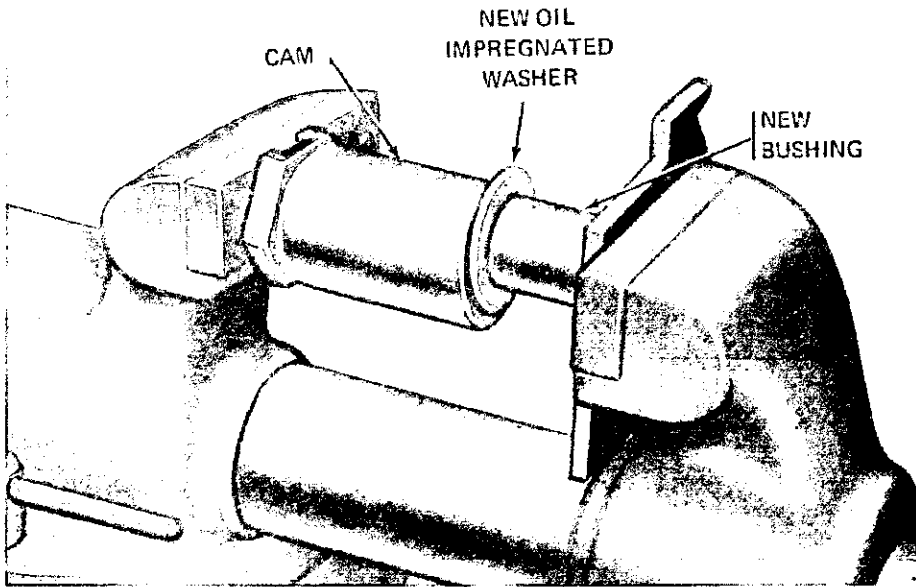


Figure 7. Pressing New Bushing into Cam.

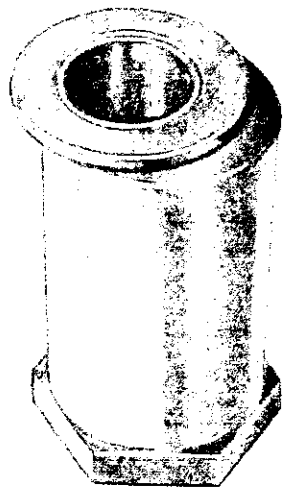


Figure 8. End of Bushing Flush with Washer.

# Service Bulletin

DATE July 26, 1976NUMBER 2905-10001

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GROUP

5

SUBJECT

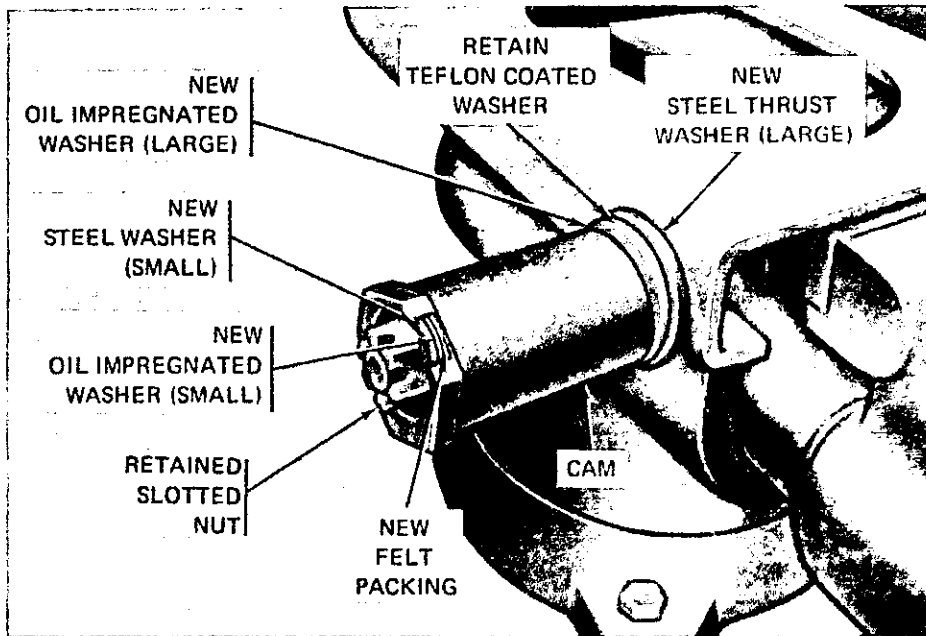
Upper Suspension  
Arm.MODEL (S)  
AFFECTEDMotor Coaches  
00001 to 00645.

Figure 9. Assembling Cam.



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ATTENTION: SERVICE MANAGERS AND OWNERS	GROUP
	5
<p>19. Lubricate cam through oiler with 140 weight gear oil. Hold finger over bleeder hole until air is bled out and oil appears. Tighten slotted cam nut finger tight and turn to next slot on nut, secure with new cotter pin.</p> <p>20. After all cams have been reworked, install upper suspension arm and spindle assembly in lower half of alignment cam blocks.</p> <p>21. Install top half of each alignment cam block (identified to bottom half). Align scribe marks and secure with four bolts and lockwashers. Tighten bolts to 32 to 34 foot pounds torque. Check suspension arm for binding.</p>	SUBJECT
<p>22. Position ball joint to spindle assembly, and secure with four bolts and new locknuts. Tighten locknuts to 36 to 38 foot pounds torque.</p> <p>23. Position shock absorber, and secure with washers, bolt and locknut. Tighten locknut to 212 to 234 foot pounds torque.</p> <p>24. Remove hub supports; install wheels, and remove jack stands.</p> <p>25. Lower front end of vehicle and remove rear tire chocks.</p>	<p>Upper Suspension Arm.</p> <p>MODEL (S) AFFECTED</p> <p>Coaches 00001 to 00645.</p>

*f. Wheel Alignment.* Proper wheel alignment ensures that the suspension and steering systems will function to provide optimum handling, steering, and stability with minimum tire wear.

Six adjustments are required to properly align the coach suspension and steering system.

**Levelling** — Coach should be level laterally (side-to-side) and the rear end should be 1/8 inch lower than the front.

**Camber** — The angle the top of the front wheel tilts out (positive) or (negative) in relation to true vertical. The coach front wheels tilt inward at the top at an angle of 1/2 degree negative camber.

**Caster** — The forward or rearward angle of tilt from true vertical of the steering spindle as established at lower and upper attachment points to the suspension arms. The spindle attachment point to the upper arm on the coach is aft of the lower attachment point. A center-line drawn from the spindle lower-to-upper attach points would, if viewed from the side, indicate the difference from true vertical to be 2 degrees positive caster.

**Toe-out (front)** — The difference in measured inches between the front edges (of outer tread edge) of the two front tires vs the difference of the rear edges when measured at approximately hub level. The coach measurement should indicate the front edge tire-to-tire distance to be 3/8 inch more than rear.

**Toe-in (rear outboard wheels)** — Measure same as front; should be 1/8 (plug 0, minus 1/16).

**Steering wheel spoke positioning** — see figure 7-1. Position spokes as shown, in accordance with paragraph 7-6f(6).

(1) *Levelling the Coach.* Prior to wheel alignment, check levelling and adjust as required. The rear end of the coach should be 1/8 inch lower than the front. This can be adjusted as follows:

(a) Place turntables (swivel pads) with lock-pins installed on a level, preferably concrete floor, directly in front of coach front and rear outboard wheels.

(b) Drive coach straight onto turntables and center the tires on swivel pads; front wheels positioned straight ahead.

(c) Set parking brake.

(d) Check all tires for 75 pounds pressure. Inflate or deflate, as required, to obtain specified psi.

### *Caution*

A normal road-operating load should be on the coach for these procedures. Domestic and automotive systems serviced, holding tanks empty or low, normal kitchenware, supplies, and baggage in place in cabinets and closets.

(e) Measure coach height at two front and two rear jack points, jot down location and measurements, and compare the figures. Each rear measurement should be equal and each should be 1/8 inch lower than the front end measurement. If these measurements are obtained, proceed to paragraph 7-6f(2); if not, perform steps (f) and (g) below.

(f) Adjust rear end height by removing four cap screws and torsion bar anchor cover plate located on forward wall of each wheel well. To get access to the plate, pull the rubber strip inboard out of the retainer groove. Turn torsion bar anchor adjustment bolt, as required, to increase or decrease until specified rear end height is obtained.

### NOTE

When adjusting, check left-hand and right-hand side measurements frequently, as adjustment on one side affects height of opposite side. Coach must be level laterally while maintaining proper height.

(g) Reinstall access plates, and insert rubber strips upon completion of previous step.

(2) *Camber adjustment (fig. 7-1, 7-4, and 7-5).* With coach leveled as specified in previous paragraph, adjust camber to (negative) 1/2 degree as follows:

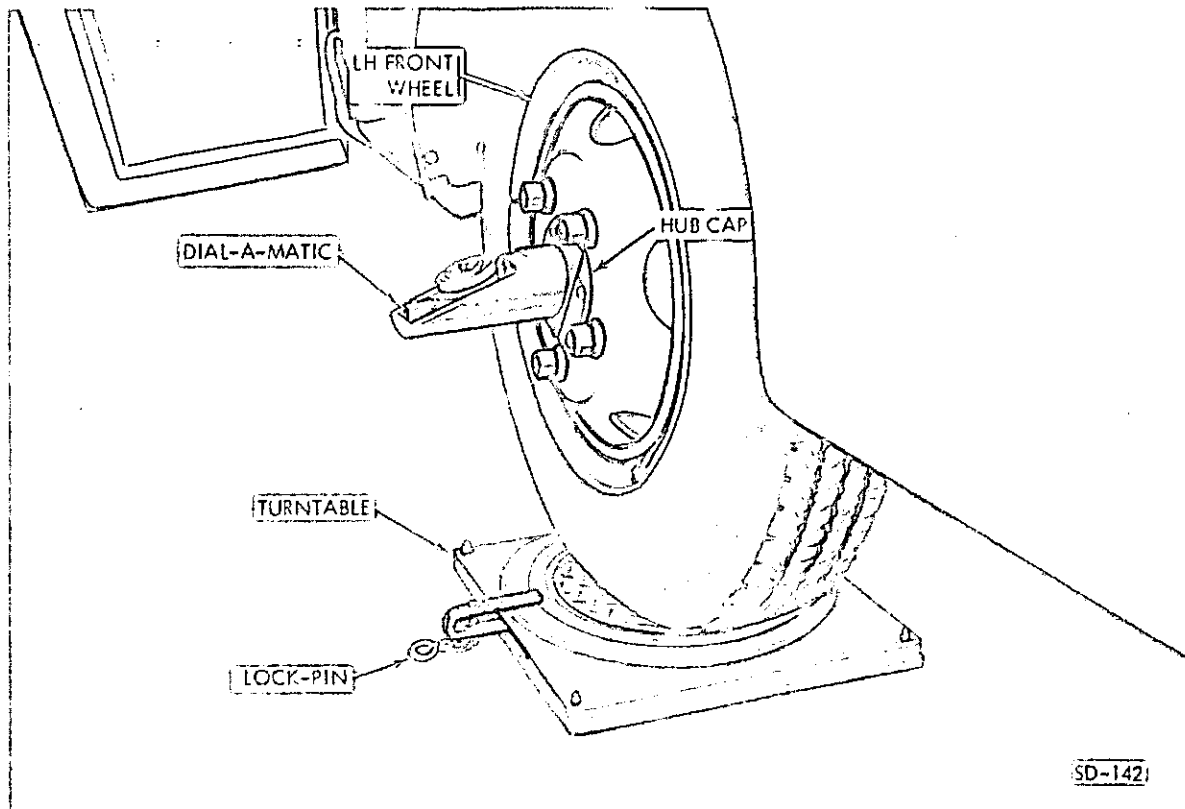


Figure 7-5. Front Wheel Alignment

(a) Loosen the nuts and bolts securing rod end clamps (fig. 7-1, item 6) to control link rod (fig. 7-1, item 14) on both right-hand and left-hand rods, at each end of each rod. Rods must be free to turn on threaded ends of sockets. Also loosen radius rod end clamps in same manner to accomplish later steps.

(b) Using a John Bean "Dial-A-Matic" caster, camber and dual-level indicating device (fig. 7-5), or equivalent, magnetically attach to left-hand front wheel hub cap, with adapter, to get readings directly in line from spindle axle.

(c) Remove the lock-pins from front wheel turntable swivel pads. Set to zero "0" reading on gage.

(d) Remove the two hold-down bolts securing the alignment cam lock to each end of the forward and aft split-block mounts; remove locks (fig. 7-1, item 19).

**Warning**

To permit rotation of alignment cam, slightly loosen the two hold-down bolts remaining in the two split-block mounts. If loosened too far, they might strip-out, allowing wheel assembly to abruptly sag outward.

(e) Check the camber for a  $0 + 1/2$  reading on the Dial-A-Matic by first rotating to center the cross-level bubble. Then turn the dial wheel to center the dial-level bubble. Read camber from the camber dial (large outer dial).

(f) Adjust the forward and aft eccentric alignment cams equally, using a 1 and 7/8 inch socket, until a 1/2 degree negative camber reading is obtained. Tighten mount block bolts, then reinstall cam locks and secure with bolts; torque all bolts 32 to 34 foot-pounds.



(g) Repeat procedures on right-hand wheel.

(3) *Caster Adjustment (fig. 7-5)*. With levelling and camber adjusted as outlined in preceding steps, proceed to adjust caster to 2 degrees positive as follows:

(a) Reinstall Dial-A-Matic as previously described, on left-hand hub cap.

(b) Turn wheel to a 15-degree angle outboard (left-hand turn) setting on turntable gage. Center the cross and dial level bubbles on the Dial-A-Matic. Set caster dial to "0" by holding the dial wheel stationary and turning the hex knob to align the "0" line on the caster dial with the index mark on the parapet.

(c) Turn until front of wheel is at a 15-degree angle inboard (right-hand turn) indication in turntable gage.

(d) Center the Dial-A-Matic cross and dial level bubbles.

(e) The Dial-A-Matic caster reading should be 2 degrees positive. If necessary, adjust by turning radius rod (use a pipe wrench if necessary).

(f) Recycle wheel to all of the previous positions and verify that adjustment stays within allowable tolerance.

(g) Repeat procedure on right-hand wheel.

(h) Remove Dial-A-Matic and adapter from hub cap mount holes; reinstall hub cap attaching bolts (both sides).

(4) *Toe-out Adjustment (Front) (fig. 7-5)*. With levelling, camber and caster adjusted as outlined in preceding steps, adjust toe-out 3/8 inches as follows:

(a) Position front wheel straight ahead on turntable.

(b) Use a 6-inch square and check that the lower aft-extending arm (fig. 7-1) on the bellcrank (left-hand side) is parallel with adjacent coach frame. If not parallel, loosen nuts and bolts on the clamps at each end of the drag link rod, which attaches the upper bellcrank arm to the pitman arm, and adjust lower arms until parallel; retighten clamps.

(c) Make a preliminary toe-out check by measuring the distance between the frame and inboard edge of the wheel rim at the rear end of wheel; then measure at front end. The measurement at the front should be 3/16 inch more than the rear measurement.

(d) Adjust, if required to obtain the toe-out specified in previous step, by turning the control link rod which connects bellcrank to the spindle control arm.

(e) Repeat steps (a), (c), and (d) on right-hand wheel.

(f) Using a steel tape or other measuring device, measure the distance between the aft end of the right-hand and left-hand front wheel tires (at the outer thread edge approximately hub level); then measure at the front ends of the wheels. The distance at the front should be 3/8 inch more at the front than at the rear.

(g) If toe-out specified in the previous step is not obtained, repeat step (d) on both right-hand and left-hand wheels until required toe-out is obtained.

#### NOTE

Retighten all linkage rod end clamps by tightening the attaching nuts and bolts at each end.

~~(5) *Toe-in Adjustment (Rear) (fig. 7-5)*. With front toe-out adjusted as outlined above, check the rear outboard wheel toe-in and adjust, if required, as follows:~~

~~(a) Using a cord (twine or string) of approximately 30-foot length, wrap one end around right-hand and outboard rear tire at approximately hub level. Secure to the inboard side of tire. Pull cord tight and extend length of cord to front tire, and secure opposite end of cord to front tire same position as rear. Front wheels are positioned as adjusted by previous procedures.~~

~~(b) Check that cord touches front tire fore and aft outboard surfaces evenly; then check for same condition at rear outboard tire.~~

~~(c) If rear outboard tire surfaces do not contact cord both fore and aft outer edges, adjust rear toe-in in accordance with the following steps (d) through (j). If cord is properly contacting tire surfaces, no further rear toe-in adjustments are necessary. Check opposite side.~~

~~(d) Determine amount of rear wheel toe-in adjustment needed; if small, adjust only the outboard trailing arm pivot mount block.~~

~~(e) Loosen the four bolts securing the upper half of the split pivot block to the frame.~~

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FMC Corporation

Motor Coach Division  
333 Brokaw Road Box 664  
Santa Clara California 95052  
(408) 2890111

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January 10, 1977



Dear FMC Motor Coach Owner:

In August of 1976, FMC Motor Coach Division started a recall campaign A0507 involving the first 645 motor coaches built. This campaign involved replacement of cam bushing on the left and right front upper "A" arm. In addition to this we added a kit and instruction to improve the lubrication in this area.

FMC wishes to thank those 308 FMC coach owners that have reported taking part in this campaign. FOR THOSE WHO HAVE NOT, WE WISH TO IMPRESS UPON YOU THE DANGER THAT EXISTS IF YOU DO NOT HAVE THE WORK DONE AS SOON AS POSSIBLE.

We wish to apologize for the delay of payment for those of you who have turned in your claims! Due to the continued cutback of the Motor Coach Division personnel, our Accounting Dept. is behind. Please be assured you will be paid for the time called out in the service bulletin #2905-10001.

FMC Motor Coach Division wishes you all a Happy and Prosperous New Year.

Sincerely,

A handwritten signature in cursive script that reads "Harry R. Richards".

HARRY R. RICHARDS  
Customer Service Manager

HRR/pf