

**Front Suspension  
Parts Packages**

**Torsion Bar  
Springs and  
Attaching Parts**

**Front  
Shock Absorber  
Parts Packages**

**Adjustment Data  
and  
Specifications**

**Service  
Diagnosis**

**Service  
Procedures**

**MoPAR**

# **Torsion Aire**

## ***FRONT SUSPENSION SYSTEM***

**BY CHRYSLER CORPORATION**

**For 1957 • 58 • 59**

**PLYMOUTH • DODGE • DESOTO**

**CHRYSLER • IMPERIAL**

**Passenger Cars**

**CHRYSLER MOTORS CORPORATION**  
**MoPar Division**

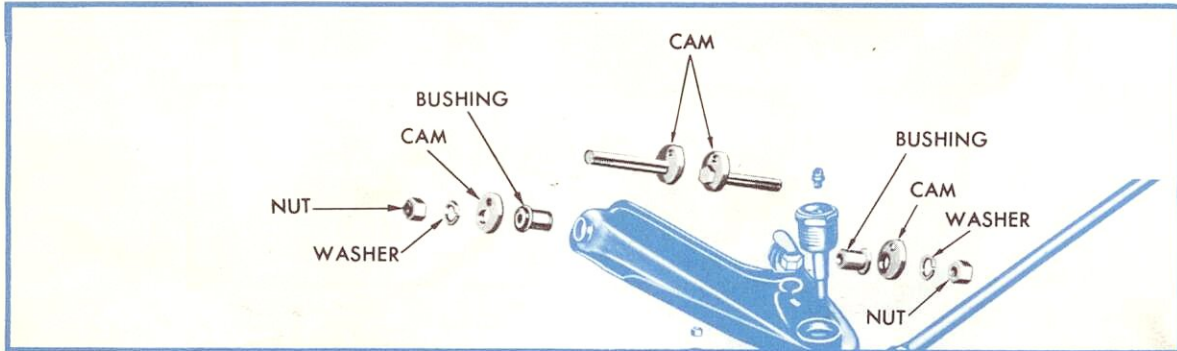




# FRONT SUSPENSION PARTS PACKAGES

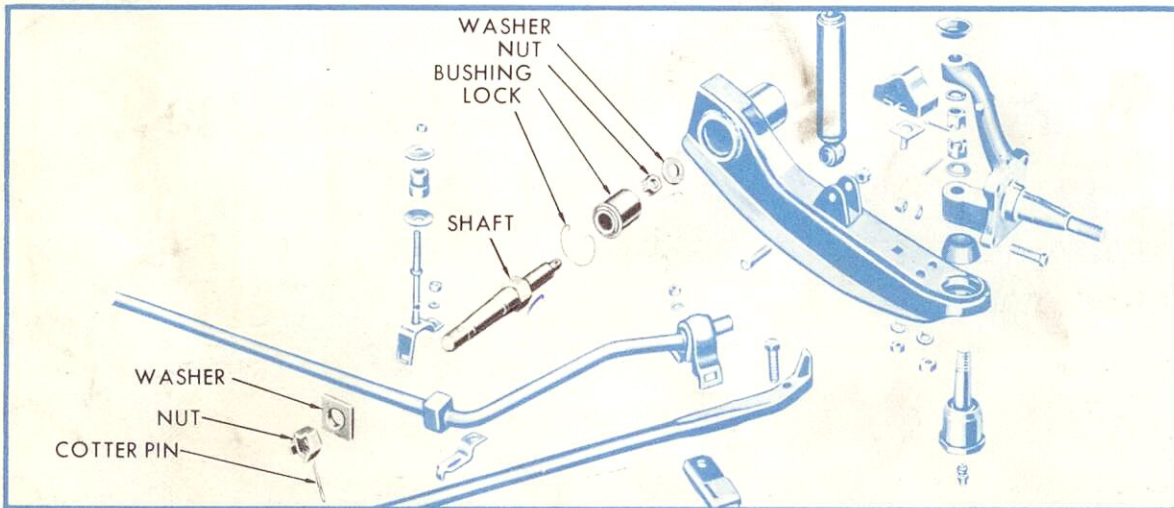
## GUIDE TO APPLICATION GROUPS

- Group 1 | 1957-58—Plymouth, Dodge, DeSoto Firesweep 1958 —Chrysler Windsor
- Group 2 | 1959 —Plymouth, Dodge, DeSoto Firesweep, Chrysler Windsor
- Group 3 | 1957-58—DeSoto; Firedome, Fireflite 1957 —Chrysler 1958 —Chrysler; Saratoga, New Yorker
- Group 4 | 1959 —DeSoto; Firedome, Fireflite 1959 —Chrysler; Saratoga, New Yorker 1959 —Imperial



**SUPPORT BRACKET, CAM AND BUSHING PACKAGE**

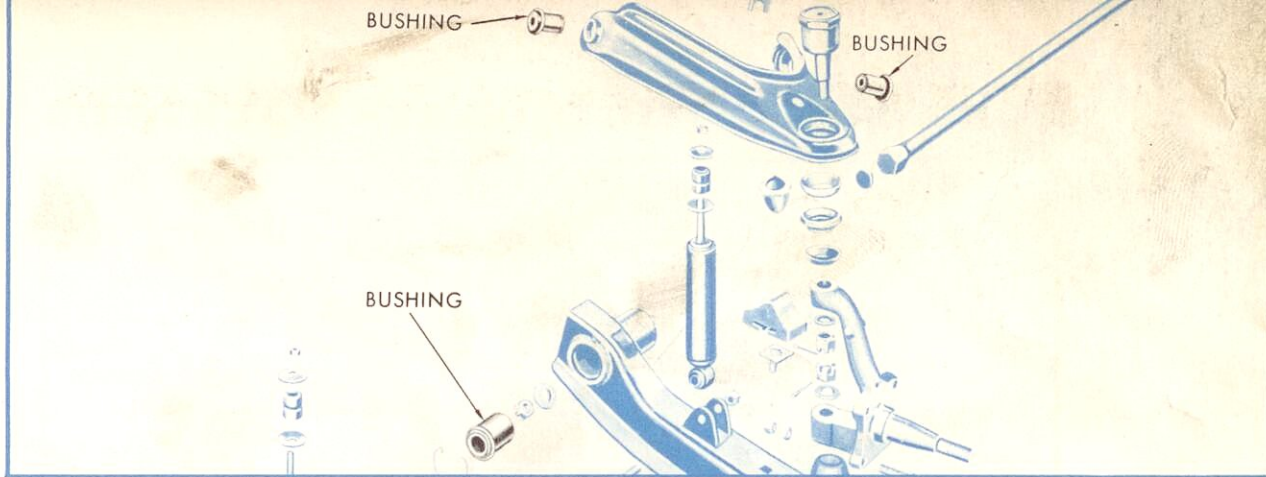
Part No.	Application Groups
1881 652	2 and 4



**LOWER ARM SHAFT AND BUSHING PACKAGE**

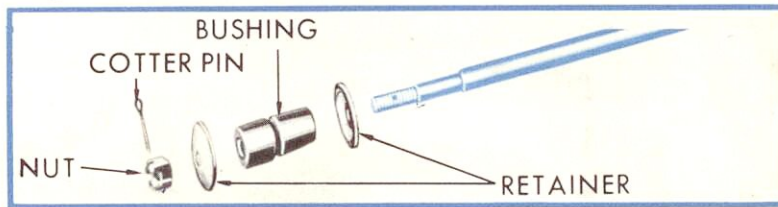
Part No.	Application Groups
1881 650	1 and 2
1881 647	3 and 4





### CONTROL ARM BUSHING PACKAGE

Part No.	Application Groups	Part No.	Application Groups
1881 651	1	1881 648	3
1881 654	2	1881 653	4



### STRUT BUSHING AND RETAINER PACKAGE

Part No.	Application Groups
<i>2084045</i> 1879-435	1, 2, 3 and 4

### 1957-59 DATA AND SPECIFICATIONS

	1957-59 Plymouth 1959 Dodge and De Soto		1957-58 Dodge and De Soto		1957-59 Chrysler and Imperial	
	Setting	Pre-ferred	Setting	Pre-ferred	Setting	Pre-ferred
<b>CAMBER</b>						
Left Wheel.....	+1/2° to 0°	3/8°	+1/4° to ±1/4°	3/8°	+1/4° to ±1/4°	3/8°
Right Wheel.....	+1/4° to -1/4°	0°	0° to ±1/4°	0°	0° to ±1/4°	0°
<b>CASTER</b>						
Manual Steering.....	0° to 1 1/2°	-3/4°	-3/4° to ±3/4°		-3/4° to ±3/4°	
Power Steering.....	+1 1/2° to 0°	+3/4°	+3/4° to ±3/4°		+3/4° to ±3/4°	
Note: Right and Left Side should be the same.						
<b>TOE-IN</b> .....	3/32" to 5/32"	1/8"	3/32" to 5/32"	1/8"	1/8" ± 1/32"	1/8"
<b>STEERING AXIS INCLINATION</b> ...	6 1/2°		5 3/4° to 7 1/4°		5° to 7° at 0° Camber	

LUBRICATION..... Ball joints and Tie Rods Ends are the only parts requiring lubrication.

### TORQUE SPECIFICATIONS

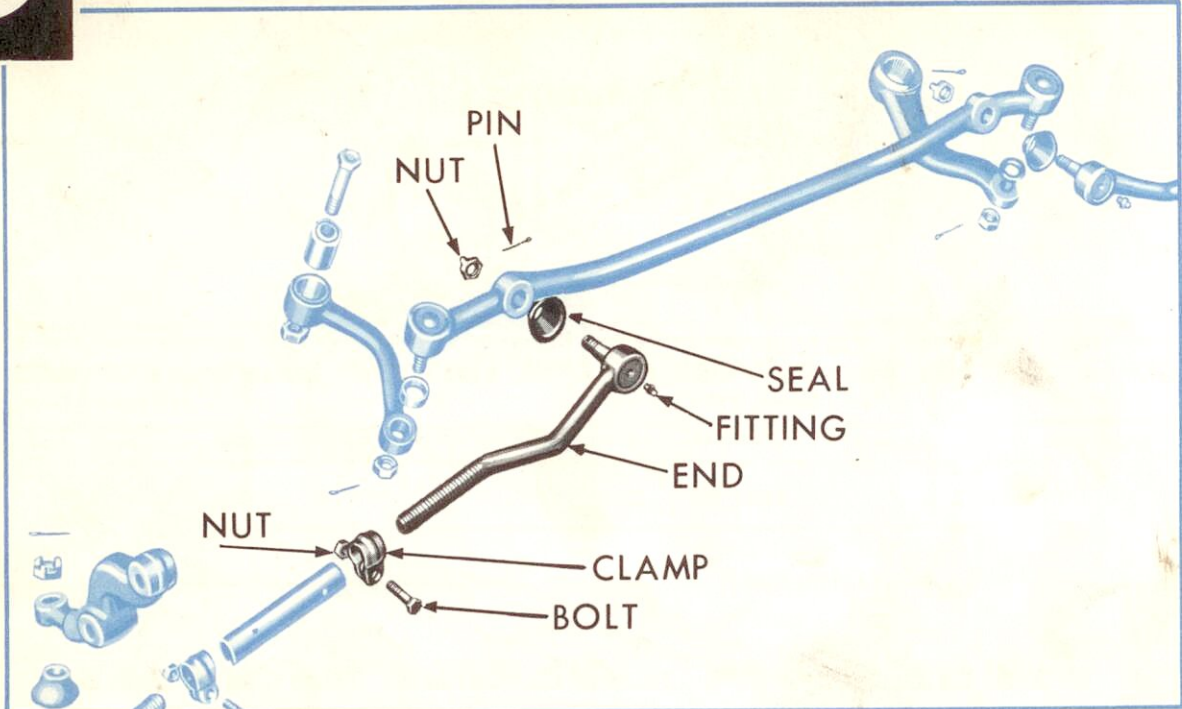
Lower Control Arm Shaft Nut—Outer.....	180 ft.-lbs.	Upper Ball Joint Stud Nut.....	100 ft.-lbs.
Lower Control Arm Shaft Nut—Inner.....	125 "	Lower Ball Joint Stud Nut.....	135 "
Lower Control Arm Strut Bushing Nut.....	40 "	Upper Control Arm Inner Pivot Bushing Bolt Nut.....	55 "
Lower Control Arm Strut Bolt Nut.....	65 "	Upper Control Arm Support Bracket Screw—Lower.....	50 "
Tie Rod Clamp Bolts.....	10 to 15 "	Upper Control Arm Support Bracket Screw—Upper.....	70 "
<b>Ball Joints—</b>			
Plymouth & Dodge.....(minimum)*	125 "		
DeSoto Firesweep.....	100 "		
Firedome & Fireflite.....	135 "		
Chrysler & Imperial.....	250 "		

\* If torque required to seat Ball Joint is less than the minimum, the control arm will have to be replaced.



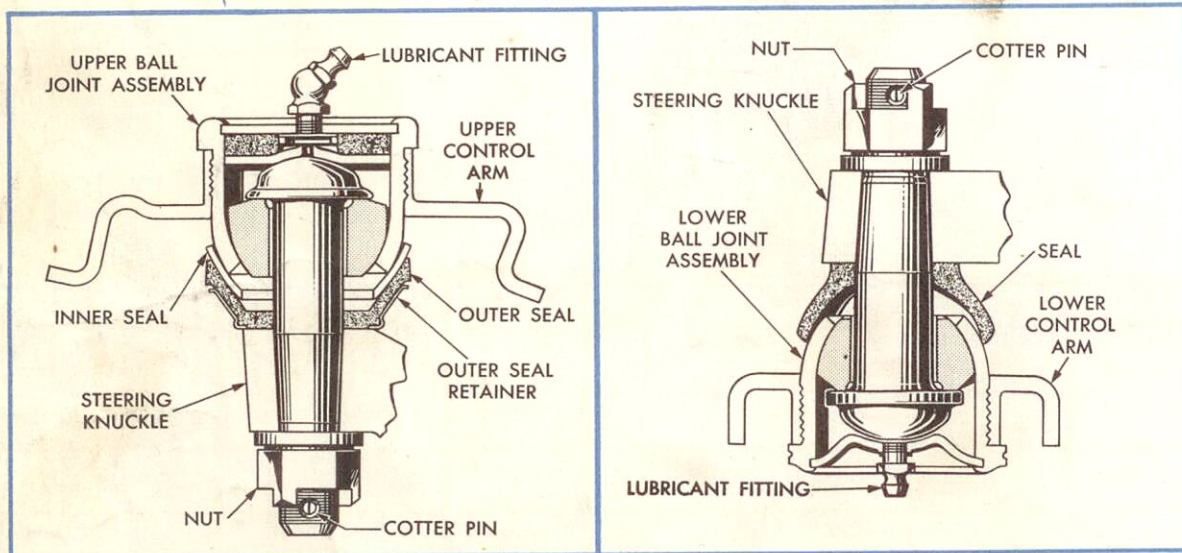


# FRONT SUSPENSION PARTS PACKAGES



## TIE ROD END PACKAGE

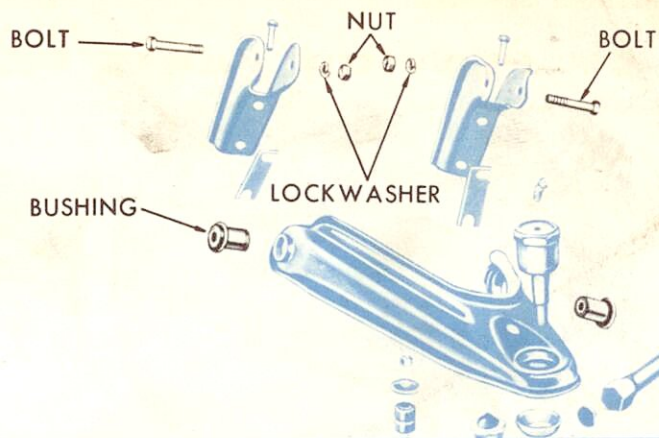
Inner	Outer	Application Groups
1818 999	1818 998	1 and 2
1881 820 lt.	1692 688	3 and 4
1881 821 rt.	1692 688	



## BALL JOINT PACKAGES

Upper	Application Groups	Lower	Application Groups
1843 245	1 and 2	1843 247	1 and 2
1843 246	3 and 4	1843 248	3 and 4



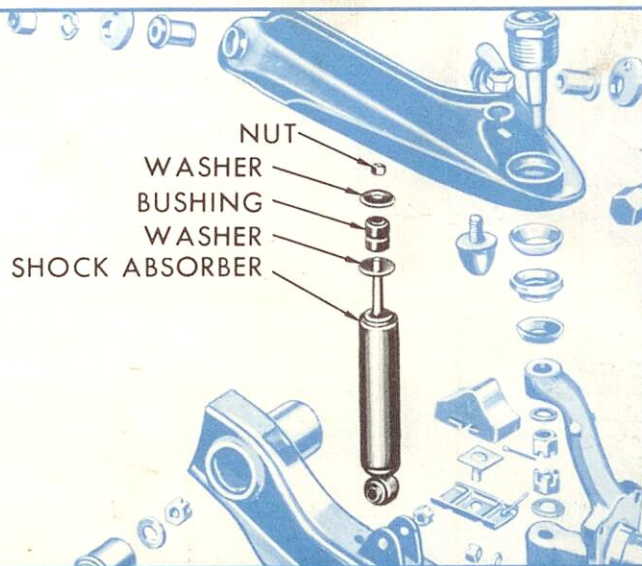


**UPPER CONTROL ARM SUPPORT BRACKET, BOLT AND BUSHING PACKAGE**

Part No.	Application Groups
1881 649	1
1881 646	3



**FRONT SHOCK ABSORBER PACKAGES**



All MoPar  
Oriflow Front  
Shock Absorbers  
now include  
installed  
Lower Bushings!

Part Number	Models		Plymouth	Dodge	De Soto	Chrysler	Imperial
1879 686	Exc. Fury, D500 . . . . .	Std.	57-58	57-58			57-58
	Exc. Sub., Adventurer, C300 . . . .	Std.			57-58	57-58	
1881 774	All . . . . .	Std.	59	59	59	59	59
1879 687	Fury, D500 . . . . .	Std.	57-58	57-58			
	Sub., Adventurer, C300 . . . . .	Std.			57-58	57-58	
	Exc. Fury, D500 . . . . .	H.D.	57-58	57-58			57-58
	Exc. Sub., Adventurer, C300 . . . .	H.D.			57-58	57-58	
1881 775	All . . . . .	H.D.	59	59	59	59	59





# TORSION BAR SPRINGS & ATTACHING PARTS

The anchor end of Torsion Bars are stamped with the last three (3) digits of the part number and an "R" or "L" indicating right or left installations. It is extremely important that Bars stamped "R" be installed on the right and Bars stamped "L" be installed on the left.

Where right and left parts differ, the right part number is listed in its entirety, followed by the last digit of the left hand part number. Listing of a single part number indicates that the part is used on both the right and left sides.

## TORSION BAR SPRINGS

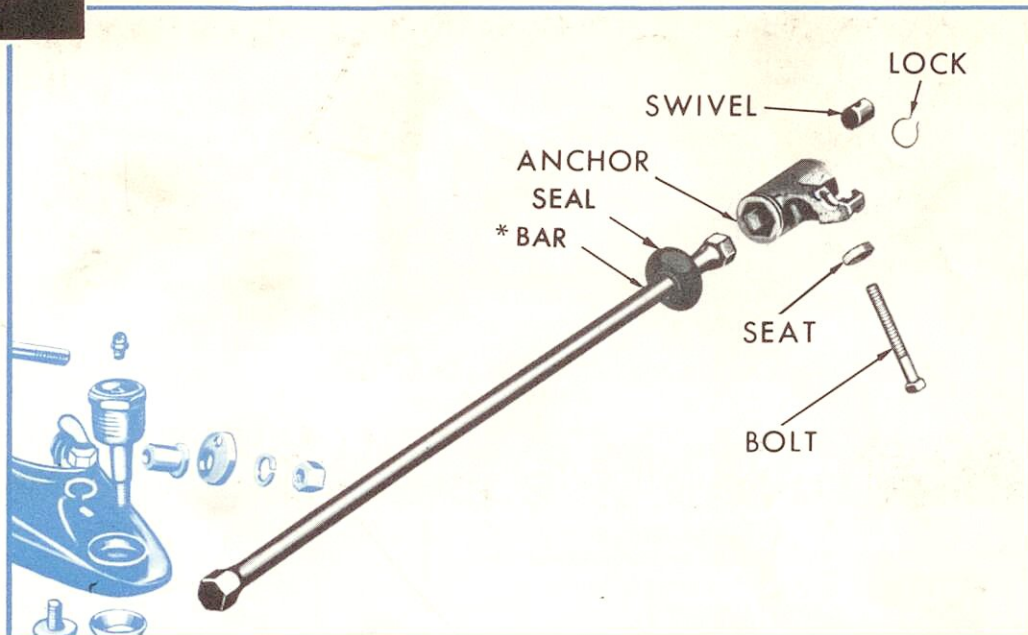
PLYMOUTH				
Year	Models	No. Of Cyl.	Bar Springs	
			Standard	Heavy Duty
57	All exc. Sub. Suburbans, UP TO 14357344	6	1635 948-9	1635 952-3
	AFTER 14357344	6	1635 946-7	"
	All	6	"	1635 956-7
	All	8	1635 952-3	"
58	All exc. Sub.	6	1635 950-1	1635 952-3
	Suburban	6-8	"	1635 956-7
	All exc. Sub.	8	1635 952-3	"
59	All exc. Sub.	6	1825 604-5	1825 606-7
	Suburbans	6	"	1825 608-9
	All exc. Cv. Cpe.	8	1825 606-7	"
	Cv. Cpe.	8	1825 704-5	1825 706-7
DODGE				
57	CORONET & ROYAL	6-8	1635 952-3	1635 956-7
	CUSTOM & CUSTOM ROYAL	8	1635 950-1	1635 952-3
58	All exc. Sub.	6-8	1635 952-3	1635 956-7
	Suburban	8	1635 950-1	1635 952-3
59	Models W/Out Sway Elim.	6-8	1825 606-7	1825 608-9
	All exc. Cv. Cpe. & Sub.	6-8	1825 704-5	1825 706-7
	Cv. Cpe.	6-8	1825 604-5	— —
	All exc. Cv. Cpe. & Sub.	6-8	1825 702-3	— —
	Cv. Cpe.	6-8	1825 702-3	— —
Suburbans	6-8	1825 604-5	1825 606-7	
IMPERIAL				
57-58	All	8	1635 962-3	1635 966-7
59	All	8	1635 962-3	1635 964-5

DE SOTO				
Year	Models	No. Of Cyl.	Bar Springs	
			Standard	Heavy Duty
57-58	FIRESWEEP			
	All exc. Sub. Suburban	8	1635 952-3	1635 956-7
	FIREDOME & FIREFLITE	8	1635 950-1	1635 952-3
59	FIREDOME & FIREFLITE	8	1635 960-1	1635 964-5
	FIRESWEEP			
	Models W/Out Sway Elim.			
	All exc. Cv. Cpe. & Sub.	8	1825 606-7	1825 608-9
	Cv. Cpe.	8	1825 704-5	1825 706-7
	Models W/Sway Elim.			
	All exc. Cv. Cpe.	8	1825 604-5	— —
	Cv. Cpe.	8	1825 702-3	— —
	Suburbans	8	1825 604-5	1825 606-7
	FIREDOME & FIREFLITE			
All exc. Cv. Cpe.	8	1825 702-3	1825 706-7	
Cv. Cpe.	8	1635 960-1	1635 964-5	
CHRYSLER				
57	All exc. Sub. & "300"	8	1635 960-1	1635 964-5
	Suburban	8	1635 962-3	"
	"300"	8	1635 964-5	— —
58	WINDSOR	8	1635 950-1	1635 952-3
	SARATOGA & NEW YORKER			
	All exc. Sub. & "300"	8	1635 960-1	1635 964-5
	Suburban	8	1635 962-3	— —
	"300"	8	1635 964-5	— —
59	WINDSOR			
	All exc. Cv. Cpe.	8	1825 610-1	1825 606-7
	Cv. Cpe.	8	1825 702-3	1825 706-7
	SARATOGA & NEW YORKER			
	All exc. Cv. Cpe.	8	1825 702-3	1825 706-7
Cv. Cpe.	8	1635 960-1	1635 964-5	





# TORSION BAR SPRING ATTACHING PARTS



APPLICATION	ANCHOR PACKAGE*	BOLT	SWIVEL	SEAT	LOCK	SEAL
Group 1 Exc. Cv. Cpe.	2084 012-11	1674 444	1674 446	1674 445	1671 446	—
Group 1 Cv. Cpes.	2084 013	"	"	"	"	—
Group 2 All	2084 018-17	1735 461	"	1735 460	1639 171	1613 388
Group 3 Cv. Cpes. & Imperial Sp. 4 Dr.	2084 016	1674 451	1674 453	1674 452	"	—
Group 3 Exc. Cv. Cpes. & Imperial Sp. 4 Door	2084 015-14	"	"	"	"	—
Group 4 Exc. Imperial 2 & 4 Doors	2084 020-19	1735 465	"	1735 464	"	1613 388
Group 4 Imperial 2 & 4 Doors	2084 022-21	"	"	"	"	"

\* Anchor pkg. includes Bolt, Swivel, Seat, Lock, Seal, which parts may also be ordered separately. Anchor pkg. does not include bars.

## GUIDE TO APPLICATION GROUPS

GROUP 1—1957-58 1958	Plymouth, Dodge, De Soto Firesweep Chrysler Windsor	GROUP 3—1957-58 1957 1958 1957-58	DeSoto Firedome & Fireflite All Chrysler Chrysler Saratoga & New Yorker Imperial
GROUP 2—1959	Plymouth, Dodge, De Soto Firesweep Chrysler Windsor	GROUP 4—1959 1959 1959	De Soto Firedome & Fireflite Chrysler Saratoga & New Yorker Imperial

## SERVICE DIAGNOSIS

### FRONT END NOISE

Lack of lubrication in ball joints or tie rod ends.  
Wheel bearings loose or worn.  
Worn upper or lower control arm pivot bushings (rubber) or loose mounting brackets.  
Loose or worn strut mounting bushings (rubber).  
Worn ball joints or tie rod ends.  
Front shock absorber nuts loose or worn bushing or shock absorber.  
Loose sway eliminator or worn bushing.  
Brake shoe drag.

### BODY HAS TENDENCY TO PITCH AND ROLL

Low or uneven tire pressures.  
Shock absorber inoperative.  
Loose or worn sway bar or bushings.  
Improper front suspension height.

### HARD STEERING

Steering gear low on lubricant.  
Steering gear not adjusted properly.  
Pump belt slipping or broken.  
Leak in steering system.  
Low pump pressure.  
Control valve maladjusted.  
Lack of lubrication in ball joints or tie rod ends.  
Low or uneven tire pressure.  
Improper caster.  
Lower or upper control arms bent or twisted.  
Frame bent.  
Bent steering knuckle.  
Tight steering gear assembly.  
Worn ball joints.  
Sagging torsion bar.

Continued



**ROUGH UNCUSHIONED RIDE**

Worn shock absorber.  
Weak torsion bar.

**FRONT WHEEL SHIMMY**

Uneven tire pressure.  
Worn or loose front wheel bearings.  
Inoperative shock absorber.  
Worn ball joints or tie rod ends.  
Worn upper or lower control arm bushings.  
Loose or worn strut mounting bushings.  
Incorrect front end alignment.  
Loose or bent steering knuckle.  
Wheels or tires out of balance.  
Excessive wheel and tire runout.  
Sagging torsion bar.

**TIRE WEAR**

Strut bushings loose or worn.  
Tie rod ends loose or worn.  
Tire pressure low or uneven.  
Wheels improperly aligned.

**EXCESSIVE PLAY OR LOOSENESS  
IN STEERING SYSTEM**

Loose stabilizer.  
Worn or loose front wheel bearings.  
Worn ball joints or tie rod ends.

Worn upper or lower control arm bushings.  
Worn steering gear.

**CAR PULLS TO ONE SIDE**

Low or uneven tire pressure.  
Rear wheels are not tracking with front wheels.  
Brake dragging.  
Inoperative shock absorber.  
Incorrect front wheel alignment.  
Bent upper or lower control arm.  
Worn or loose strut bearings.  
Worn ball joints or tie rod ends.  
Improper car front height.  
Control valve maladjusted.

**WANDER**

Improperly centered steering wheel will give effect of wander.  
Smooth tread or uneven inflation of tires.  
Bent front suspension parts or unequal wheelbase may create a change in caster. Look for broken rear spring or leaf, broken rear spring center bolt, or bent parts in suspension system or frame.  
Misalignment of steering column.  
Gear adjusted off high point.  
Loose or worn front wheel bearings.

**WHEEL BOUNCE**

Unequal tire pressure.  
Unbalanced wheels, tires, or brake drums.  
Damaged, or in some instances, repaired tires.  
Inoperative shock absorber.

**SMALLER TURNING RADIUS  
IN ONE DIRECTION**

Wheel stops not adjusted properly.

**HYDRAULIC FLUID LEAKS**

Check hose adapters, between gear and worm housings, and gear shaft oil seal.

**POOR RECOVERY ON TURNS**

Tire pressure too low.  
Bind in steering column, gear, or knuckle.  
Improper front end alignment.  
Gear shaft adjustment too tight.

Replace worn parts with genuine MoPar parts for Plymouth, Dodge, De Soto, Chrysler and Imperial passenger cars.  
Refer to the Torque Specifications chart for proper tightening specifications.

**SERVICE PROCEDURES**

Jounce front of car and allow it to find its free height before checking.

Check alignment and aiming of headlight beam after front suspension height has been changed by adjustment.

Car must remain in the "normal unloaded position" while checking camber, caster, and steering axis inclination.

Steering wheel hub, steering gear arm, steering tube and steering gear roller shaft are machined with master serrations to place front wheels straight ahead when steering wheel is in center position. Do not alter these serrations or change position of these parts. Improper position of steering wheel must be corrected by adjusting tie rod lengths.

Upper and lower ball joints are not interchangeable. When installing new ball joint, it is very important that the ball joint threads engage those of the control arm squarely.

To prevent swivel from falling into frame brackets, do not loosen the swivel bolt all the way out until torsion bar is removed.

When installing torsion bar the anchor blade must be in the proper position otherwise it will be impossible to adjust front suspension to the proper height.

Caster, camber, and front suspension height should always be checked whenever the torsion bars are replaced.

Make definitely sure control arm is properly supported when removing bushings. If hammer and drift are used, extreme care must be exercised to avoid damaging bushing surface in the control arm.

All suspension parts with the exception of the ball joints are effectively sealed. In order to lubricate the ball joints, raise front of the car in such a manner that the weight is on both lower control arms as close as possible to the ball joints. Apply grease gun to fitting and trigger the gun so that pressure is applied inter-

mittently. Grease should be applied generously while turning the steering and front wheel assembly from side to side to allow the lubricant to penetrate the joint.

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

When front suspension repairs necessitate removal of the wheels and tires, be sure to cover the brake shoes to prevent dirt or grease from soiling the lining.

Adjusting one side of the suspension system will affect the other side and should be compensated for accordingly. Adjust the side that is off the most first, then repeat the bouncing operation before rechecking the car height or wheel alignment.

The camber of the left wheel must always be  $\frac{1}{4}^{\circ}$  more positive than the right wheel to compensate for the crown of the road.

The front suspension must always be set at the proper height before alignment checks are performed.

Do not remove upper control arm brackets from frame unless bent or damaged.

Front suspension parts are heat treated, if they are damaged or bent, they should be replaced. **UNDER NO CIRCUMSTANCES SHOULD THESE PARTS BE HEATED IN ORDER TO STRAIGHTEN.**

Torsion bar springs are not interchangeable, side for side. The spring will be indicated as either left or right by an "R" or "L" stamped on the anchor end.

The rubber bushings used in the front suspension are designed to grip the contacting metal parts firmly and operate as a flexible medium between parts. The use of lubricants such as oil, grease, brake fluid, powder, rubber lubricant or others will destroy the necessary friction and cause noise as well as premature failure of the bushings.