

# RIDE AND HANDLING

## CONTENTS

| Subject  | Page No. |
|--|----------|
| <b>DESCRIPTION AND OPERATION: (Not Applicable)</b>   |          |
| <b>DIAGNOSIS:</b>                                    |          |
| Trouble Diagnosis .....                              | 3A- 2    |
| <b>MAINTENANCE AND ADJUSTMENTS: (Not Applicable)</b> |          |
| <b>MAJOR REPAIR: (Not Applicable)</b>                |          |
| <b>SPECIFICATIONS: (Not Applicable)</b>              |          |

### DIAGNOSIS

#### RIDE AND HANDLING DIAGNOSIS

This ride and handling diagnosis is a preliminary diagnosis for the various sections of the suspension

and steering group. Ride and handling problems are such that require consideration of all steering, suspension and tire components of the system. This section lists the most common problem areas associated with the particular condition in order of ease of accessibility. Referrals are made to the appropriate sections where more detailed inspection and testing procedures can be found.

| CONDITION                            | POSSIBLE CAUSE  | REFER TO SECTION   |
|--------------------------------------|---|--|
| Abnormal Tire Wear                   | Improper Tire Inflation                                     | I - Wheels and Tires   |
|                                      | Tire or Wheel Unbalance                                     | I - Wheels and Tires   |
|                                      | Improper Front End Alignment                                | D - Front End Alignment                                      |
| Vibration                            | Tire or Wheel Unbalance                                     | I - Wheels and Tires   |
|                                      | Tire Run-Out  | I - Wheels and Tires   |
| Wander or Lack of Steering Stability | Improper Tire Inflation                                     | I - Wheels and Tires   |
|                                      | Uneven Tire Wear  | I - Wheels and Tires   |
|                                      | Improper Front End Alignment                                | D - Front End Alignment                                      |
|                                      | Insufficient or Improper Lubricant in Power Steering System | F - Power Steering Gear and Pump                             |
|                                      | Improper Steering Gear Adjustment                           | F - Power Steering Gear and Pump<br>E - Manual Steering Gear |
|                                      | Loose Front Wheel Bearing Adjustment                        | B - Front Suspension   |

| <b>CONDITION</b>                      | <b>POSSIBLE CAUSE</b>             | <b>REFER TO SECTION</b>                             |
|---------------------------------------|-----------------------------------|---|
|                                       | Steering Linkage Worn             | C - Steering Linkages                               |
| Body Lean or Sway<br>in Corners       | Improper Tire Inflation           | I - Wheels and Tires                                |
|                                       | Stabilizer Bar Loose              | B - Front Suspension<br>H - Rear Suspension         |
|                                       | Incorrect or Weak Shocks          | B - Front Suspension<br>H - Rear Suspension         |
|                                       | Incorrect or Weak Springs         | B - Front Suspension<br>H - Rear Suspension         |
| Ride too Soft<br>(Large Body Motions) | Improper Tire Inflation           | I - Wheels and Tires                                |
|                                       | Incorrect or Weak Shocks          | B - Front Suspension<br>H - Rear Suspension         |
| Ride too Harsh                        | Improper Tire Inflation           | I - Wheels and Tires                                |
|                                       | Incorrect Shock Absorbers         | B - Front Suspension<br>H - Rear Suspension         |
|                                       | Incorrect Springs                 | B - Front Suspension<br>H - Rear Suspension         |
| Bottoming (Normal Load)               | Incorrect or Weak Shock Absorbers | B - Front Suspension<br>H - Rear Suspension         |
|                                       | Incorrect or Weak Springs         | B - Front Suspension<br>H - Rear Suspension         |
| Bottoming (Heavy Load)                | Exceeding Maximum Load Rating     | Suggest Heavy Duty Shock Absorbers at Owner Expense |
|                                       | Incorrect or Weak Shock Absorbers | B - Front Suspension<br>H - Rear Suspension         |
|                                       | Incorrect or Weak Springs         | B - Front Suspension<br>H - Rear Suspension         |

| CONDITION                                      | POSSIBLE CAUSE   | REFER TO SECTION   |
|--|--|--|
| Pulls or Leads                                 | Front Tires of Unequal Diameter Due to Wear, Make or Size Design | D - Front End Alignment<br>I - Wheels and Tires              |
|  | Low or Uneven Tire Inflation                                     | I - Wheels and Tires   |
|  | Improper Front End Alignment                                     | D - Front End Alignment                                      |
|  | Steering Gear  | F - Power Steering Gear and Pump                             |
| Excessive Play or Looseness in Steering System | Torn Steering Shaft Flex Coupling or Worn Pot Joint              | G - Steering Column  |
|  | Worn or Loose Steering Linkage                                   | C - Steering Linkages  |
|  | Steering Gear Adjustment   | E - Manual Steering Gear<br>F - Power Steering Gear and Pump |
| Poor Return of Steering                        | Improper Tire Inflation  | I - Wheels and Tires   |
|  | Insufficient Lubrication at Steering Linkage or Ball Joints      | Group 0 Lubrication<br>C - Steering Linkages                 |
|  | Improper Steering Gear Adjustment                                | E - Manual Steering Gear<br>F - Power Steering Gear and Pump |
|  | Improper Front End Alignment                                     | D - Front End Alignment                                      |
|  | Insufficient or Improper Lubrication in Manual Steering Gear     | E - Manual Steering Gear                                     |
|  | Misaligned Steering Shaft  | G - Steering Column  |
| Hard Steering Effort                           | Improper Tire Inflation  | I - Wheels and Tires   |
|  | Insufficient Lubrication in Steering Linkage or Ball Joints      | Group 0 Lubrication<br>C - Steering Linkages                 |
|  | Steering Gear Adjustment   | E - Manual Steering Gear<br>F - Power Steering Gear and Pump |

| CONDITION                 | POSSIBLE CAUSE  | REFER TO SECTION   |
|---------------------------|---|--|
|                           | Improper Front End Alignment  | D - Front End Alignment                                      |
|                           | Insufficient or Improper Lubrication in Manual Steering Gear          | E - Manual Steering Gear                                     |
|                           | Misaligned or Worn Steering Shaft                                     | G - Steering Column  |
| Abnormal Noise            | Uneven Tire Wear<br>(Worn Spots or Scalloping)                        | D - Front End Alignment<br>I - Wheels and Tires              |
|                           | Insufficient or Improper Lubricant in Steering Gear and/or Pump       | E - Manual Steering Gear<br>F - Power Steering Gear and Pump |
|                           | Worn or Maladjusted Front Wheel Bearings                              | B - Front Suspension   |
|                           | Worn Rear Wheel Bearings  | Group 4B   |
|                           | Worn or Insufficiently Lubricated Steering Linkage                    | C - Steering Linkage   |
|                           | Worn or Insufficiently Lubricated Ball Joints or Control Arm Bushings | B - Front Suspension   |
|                           | Worn or Insufficiently Lubricated Steering Shaft                      | G - Steering Column  |
|                           | Faulty Power Steering Pump  | F - Power Steering Gear and Pump                             |
|                           | Loose or Faulty Steering Gear   | E - Manual Steering Gear<br>F - Power Steering Gear and Pump |
| Low or Uneven Trim Height | Incorrect or Weak Springs   | B - Front Suspension<br>H - Rear Suspension                  |
|                           | Unmatched Springs   | B - Front Suspension<br>H - Rear Suspension                  |