

DIAGNOSIS (Continued)

STEERING SYSTEM DIAGNOSIS (Continued)

| CONDITION | POSSIBLE SOURCE | ACTION |
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| <ul style="list-style-type: none"> ● Low Efforts at All Vehicle Speeds | <ul style="list-style-type: none"> ● VAPS system malfunction. | <ul style="list-style-type: none"> ● Refer to VAPS system diagnostic procedure and service or replace components accordingly. |
| <ul style="list-style-type: none"> ● Low Steering Gear Efforts Above 30 mph | <ul style="list-style-type: none"> ● VAPS system malfunction | <ul style="list-style-type: none"> ● Refer to VAPS system diagnostic procedure and service or replace components accordingly. |
| <ul style="list-style-type: none"> ● External Leakage <p>NOTE: Clean Off the Steering Gear Before Performing ANY Steering Gear External Leakage Checks.</p> | <ul style="list-style-type: none"> ● Leaks between actuator and gear. ● Leaks between actuator and actuator bolts. ● Gear fittings loose, cross threaded or stripped. ● Leaks from steering gear seals (input shaft, pinion or either rack seals). ● Housing cracked or leaking (due to a porous condition). | <ul style="list-style-type: none"> ● Tighten actuator bolts. Refer to Section 11-02. ● Tighten actuator bolts. ● Replace two upper actuator seals. ● Inspect and tighten or replace gear assembly. ● Replace gear assembly. <p>NOTE: The only serviceable components on the VAPS steering gear are the boots, tie rods, actuator, and actuator bolts and seals. All external leaks, which cannot be serviced by tightening tube fittings, are to be serviced by installing a "short rack" assembly (Part No. 3L547).</p> |
| <ul style="list-style-type: none"> ● Loose On Center <p>NOTE: This Condition Should be Checked on Center Only. The Loose Condition Can be Detected With Greater Reliability With the Engine Off and Steering Wheel Straight Ahead. A Very Light Touch on the Steering Wheel Should be Used in Checking for This Condition.</p> | <ul style="list-style-type: none"> ● Steering gear mounting bolts loose. ● Column intermediate shaft connecting bolt loose. ● Intermediate shaft spring loaded U-bolt distorted. ● Flex coupling clamp bolt loose. ● Gear tie rod inner ball socket loose. ● Column intermediate shaft joints loose or worn. ● Steering column shaft clips missing or broken. ● Flex coupling fractured. ● Tie rod ends loose or worn. ● Wheel loose or worn. ● Loose wheel lug nuts. | <ul style="list-style-type: none"> ● Tighten retaining nuts to specification. Refer to Section 11-02. ● Tighten. Refer to Section 11-04. ● Replace U-bolt. ● Tighten. ● Replace gear tie rod. ● Replace intermediate shaft assembly. Refer to Section 11-04. ● Replace as required. ● Replace as required. ● Tighten or replace as required. ● Replace as required. Refer to Section 04-01. ● Tighten. Refer to Section 04-04. |
| <ul style="list-style-type: none"> ● Steering Wheel Not Centered Properly <p>NOTE: Groove on Steel Hub of Steering Wheel Must Be In Line With Mark on Top End of Steering Shaft With Front Wheels in Straight Ahead Position to Line Up Steering Wheel Spokes Properly. Steering Wheel Centerline Should Be Within 10 Degrees of Vertical Plane After Toe-In Is Adjusted.</p> | <ul style="list-style-type: none"> ● Incorrect toe setting. ● Flex coupling clamp bolts loose / missing. ● Pinion installed in rack off location. ● Improperly installed steering wheel. ● Steering gear loose on frame. ● Column intermediate shaft installed off location in column shaft V-block. | <ul style="list-style-type: none"> ● Set. Refer to Section 04-00. ● Replace and tighten. ● Replace gear assembly. Refer to Section 11-02. ● Reposition steering wheel. ● Tighten. Refer to Section 11-02. ● Index shaft to correct position. |