



SERVICE ADVISORY

Classification: ST92-001	Section: Steering	Models: All 1990-92 models
Reference: SERVICE ADVISORY NTB92-005		Date: January 23, 1992

STEERING PULL DIAGNOSIS AND REPAIR

APPLIED MODELS: All (except USA-produced 1991-92 Sentra with GA16 with power steering).

SERVICE INFORMATION

On some vehicles, customers may complain of steering pull. This advisory will assist Service Advisors and Technicians in identifying and resolving this incident.

Service Advisors should be familiar with and able to identify the three (3) types of incidents which customers may describe as "steering pull":

- Steering wheel off-center** The steering wheel is not in the straight ahead position when driving on a straight, flat road.
- Wander** The vehicle wanders right and left, depending on road surface conditions.
- Pull** Consistent pull to one side on a straight, flat road while maintaining a constant speed.

The factors which influence pulling, wander and wheel off-center are highlighted in the chart below.

Incident	Influencing Factors
Steering wheel off-center	Alignment
Wander	Alignment Steering rack friction
Pulling	Tires Alignment Steering rack friction

Please note that diagnostic flowcharts for each of the incidents are included on pages 6-10. An overview of the adjustable steering/suspension angles for each model is also provided (page 5).

SERVICE PROCEDURE

The following diagnostic procedure is for all steering pull incidents. Refer to the flow charts on pages 6-10 for specific incident complaints.

Basic Diagnostic Procedure

1. Verify the incident by road testing the vehicle (with the customer, if possible). Check the tire pressure and correct if necessary. Check for any unusual loading of the vehicle or use of non-original equipment tires which may cause the incident. If the vehicle exhibits consistent pull to one side, exchange the left and right front tires. If the wheels/tires are directional, exchange them front to rear. If this does not resolve the incident, or if the road test indicates wander or steering wheel off-center, continue to step 2 (Page 4).

2. Check the wheel alignment on a four-wheel alignment rack (Hunter D111, or equivalent).

Adjust the alignment if it's out of specification, and road test vehicle (see vehicle summary of adjustable suspension/steering angles). If the alignment was originally within specification or was adjusted into specification but the incident still exists, continue to Step 3 (Page 4).

3. Adjust the steering rack friction.

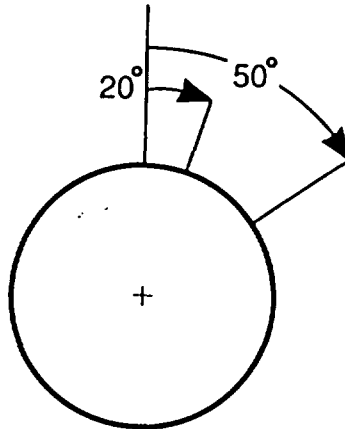
- a. Mark the original position of the adjusting screw and lock nut relative to the steering rack housing as follows:



- b. Loosen the lock nut with a 38 mm wrench while preventing the adjusting screw from turning.

c. Carefully tighten the adjusting screw (clockwise) the following amount.

- Rear wheel drive vehicle: 50 degrees (approx. 1/8 turn)
- Front wheel drive vehicle: 20 degrees (approx. 1/16 turn)



d. Tighten the lock nut to 29-43 foot-pounds torque while preventing the adjusting screw from turning.

e. Verify the effectiveness with a road test.

Note: If the adjusting screw is over-tightened, the steering wheel "return to center" will be affected. Check steering wheel "return to center" after turns to ensure adjusting screw is tightened correctly before returning the vehicle to the customer.

If the incident is not resolved, call FIXS Hotline.

REFER TO DIAGNOSTIC PROCEDURE SUMMARY (NEXT PAGE)

SPECIAL TOOL INFORMATION

A special tool is available through Kent-Moore (PN J39603) which will assist in loosening and tightening of the lock nut on front drive vehicles, as clearance is limited. The lock nut on the rear wheel drive vehicles is easily accessible with normal hand tools. The Kent-Moore toll free number is 1-800-345-2233

WARRANTY INFORMATION

For warranty claims information regarding these adjustments, please reference the Nissan Warranty Flat Rate Manual, Section WD, "Chassis Adjustments", for the appropriate PNC/Op Code/Flat Rate information.

DIAGNOSTIC PROCEDURE SUMMARY

<u>Step</u>	<u>Action</u>	<u>Next Step</u>
1)	<p>Verify the incident by road test with customer</p> <p><u>Incident</u></p> <ul style="list-style-type: none"> • Consistent pull to one side • Drift to right and left (depending on road surface conditions) • Steering wheel off center <p>Check tire pressure and correct if necessary. Check for any unusual loading of the vehicle or use of non-original equipment tires which may cause the incident.</p>	<p>Step 2</p> <p>Step 3</p> <p>Step 3</p>
2)	<p>Exchange the front tires left and right (For directional tires exchange front and rear)</p> <ul style="list-style-type: none"> • Fixed • Not Fixed 	<p>Step 5</p> <p>Step 3</p>
3)	<p>Check wheel alignment</p> <ul style="list-style-type: none"> • D21/WD21: <ul style="list-style-type: none"> Within specification Out of specification: Replace damaged/worn components, Adjust to within specification • Fixed <ul style="list-style-type: none"> Not fixed • All other models: <ul style="list-style-type: none"> Within specifications Out of specifications: Replace damaged/worn components, Adjust toe to specification • Fixed <ul style="list-style-type: none"> Not fixed 	<p>Step 5</p> <p>End</p> <p>Step 5</p> <p>Step 4</p> <p>End</p> <p>Step 5</p>
4)	<p>Adjust steering rack friction</p> <ul style="list-style-type: none"> • Mark the original position of the adjusting screw and lock nut relative to the steering rack housing. • Loosen the lock nut while preventing the adjusting screw from turning (may require a special tool shown at the end of this bulletin for some front wheel drive models) • Tighten the adjusting screw clockwise the following amount: <ul style="list-style-type: none"> Rear wheel drive vehicle: 50 degrees Front wheel drive vehicle: 20 degrees • Tighten the lock nut to 29-43 foot-pounds torque while preventing the adjusting screw from turning. • Verify effectiveness with a road test <ul style="list-style-type: none"> Fixed Not fixed 	<p>End</p> <p>Step 5</p>
5)	<p>Call FLXS hotline</p> <p>Note: FLXS consultants may be able to provide specific model and model year incident information and countermeasure advice.</p>	

ADJUSTABLE STEERING/SUSPENSION ANGLES

VEHICLE TYPE	MODEL	FRONT			REAR		
		TOE	CAMBER	CASTER	TOE	CAMBER	
PASSENGER CARS	SENTRA	Y	N	N	Y	N	
	STANZA	Y	N	N	Y	N	
	240 SX	Y	N	N	Y	Y	
	MAXIMA	Y	N	N	Y	N	
	300 ZX	Y	N	N	Y	Y	
TRUCKS	TRUCK	Y	Y	Y	N/A	N/A	
	PATHFINDER	Y	Y	Y	N/A	N/A	

Diagnostic Charts -- Overview

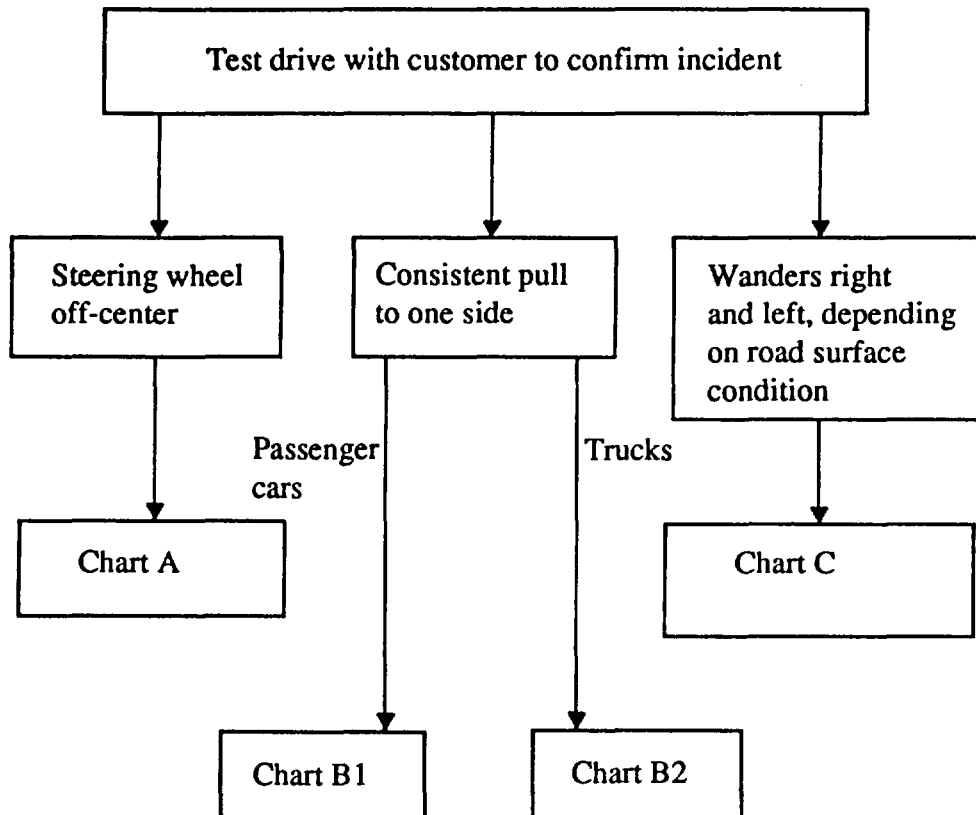


Chart A -- Passenger Cars and Truck/Pathfinder

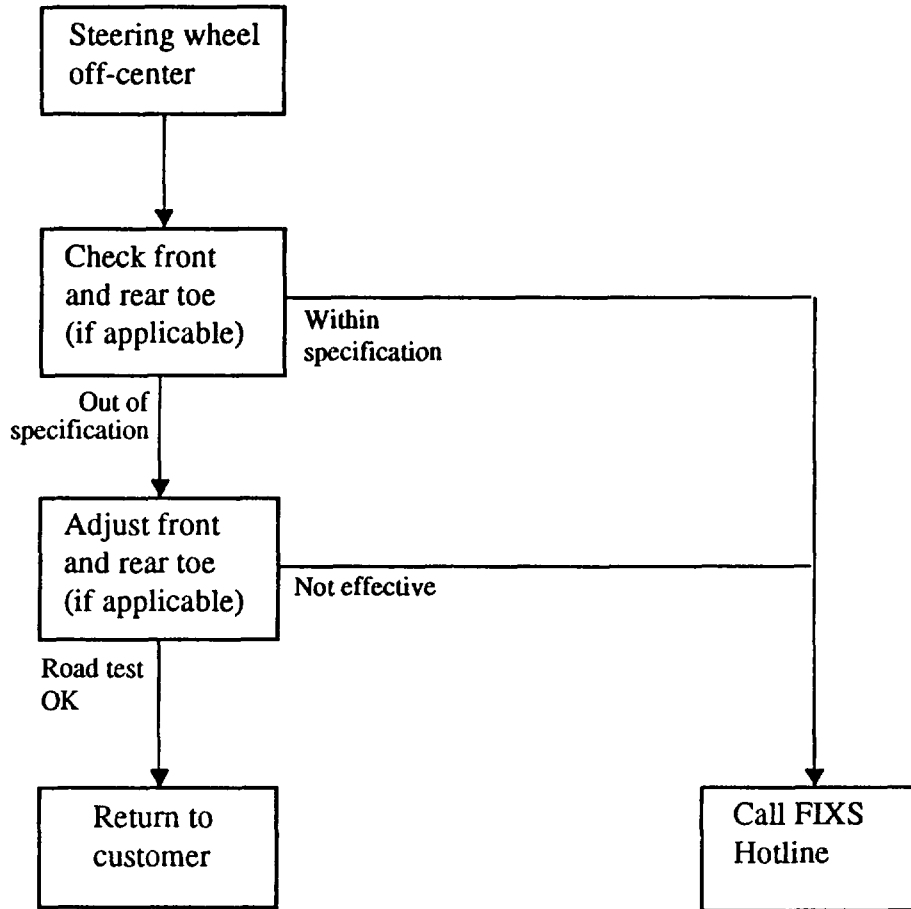


Chart B1 -- Passenger Cars

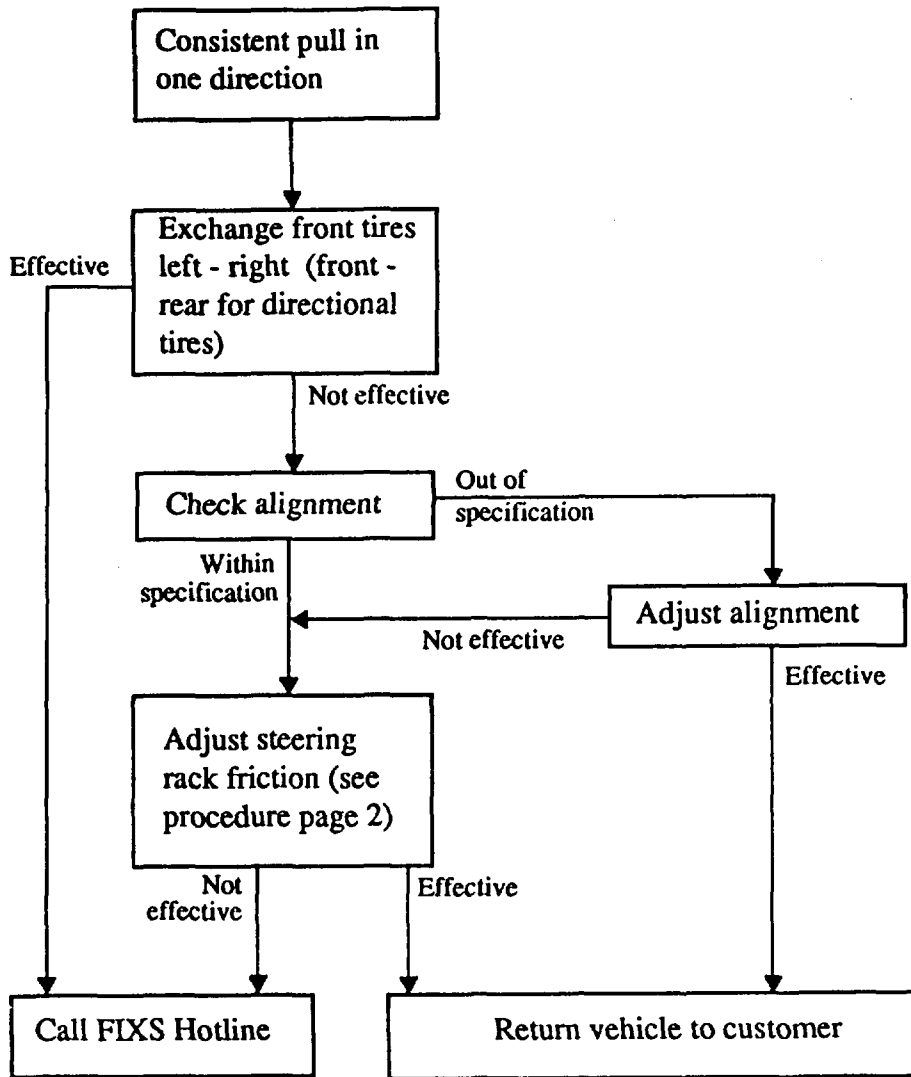


Chart B2 -- Truck/Pathfinder

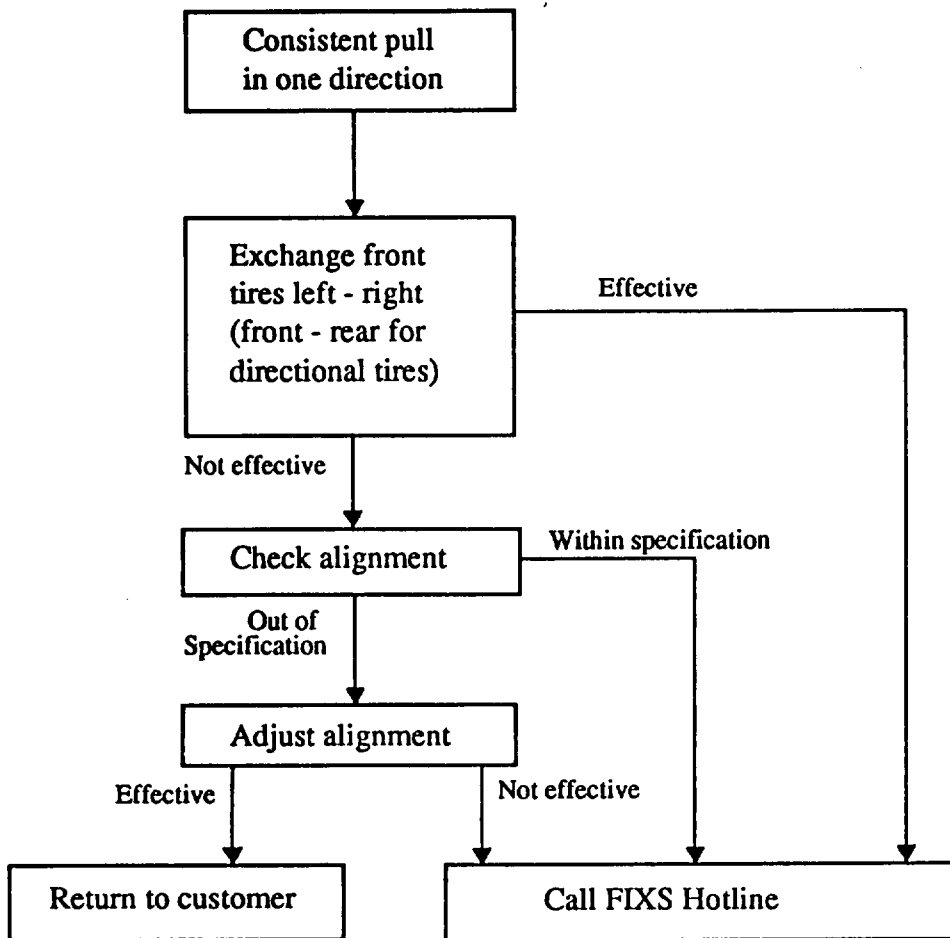
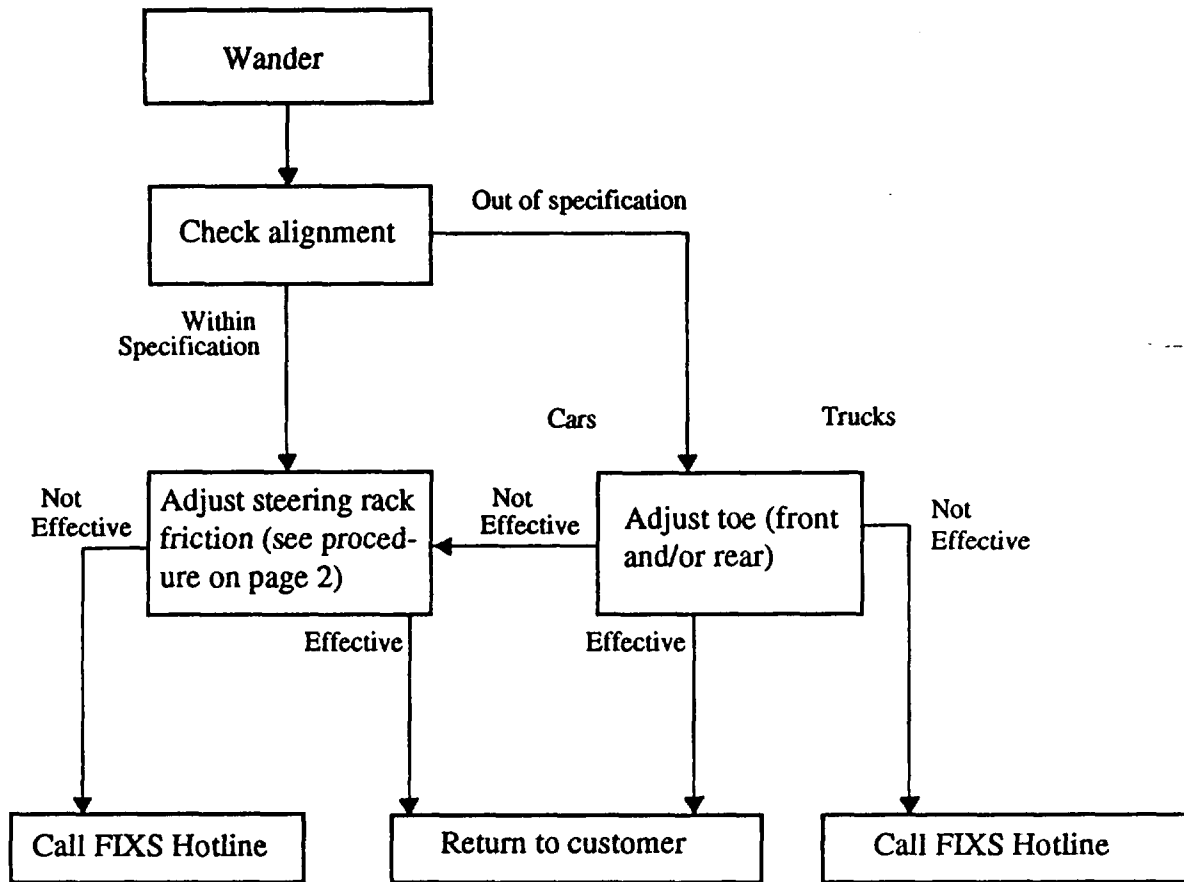


Chart C -- Passenger Cars and Truck/Pathfinder



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