

Volkswagen Corrado 1990 - 1994
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Wheel alignment

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Wheel alignment data for front and rear axles

Notes

It is advisable to measure wheel alignment after at least 1000-2000 km (600-1200 miles) when the coil springs have been given a chance to settle.

Checking requirements

- correct adjustment of measuring equipment
- curb weight of vehicle (w/spare tire, full fuel tank)
- tire pressures correct
- vehicle positioned accurately and suspension bounced
- no excessive play in steering and steering linkage
- check suspension for excessive play and damage

Front axle		
Total toe (wheels not pressed)		0° ± 10'
Camber	(at straight-ahead position)	-40' ± 20'
	maximum permissible difference between right and left	maximum 30'
Toe angle difference at 20° lock between left and right		-1° 20' ± 30'
Caster	(not adjustable)	+ 1° 35' ± 30'
	maximum permissible difference between both sides	maximum 1°

Rear axle		vehicles produced up to 3/90	vehicles produced from 4/90
Camber	(not adjustable)	-1° 40' ± 20'	-1° 30' ± 10'
	maximum permissible difference between both sides	maximum 30'	maximum 20'
Total toe	(not adjustable)	+25' ± 15'	+20' ± 10'
	maximum permissible difference between both sides	maximum 20'	maximum 20'

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Wheel alignment data for front and rear axles

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Checking requirements

- correct adjustment of measuring equipment
- curb weight of vehicle (w/spare tire, full fuel tank)
- tire pressures correct
- vehicle positioned accurately and suspension bounced
- no excessive play in steering and steering linkage
- check suspension for excessive play and damage

Front axle		
Total toe (wheels not pressed)		0° ± 10'
Camber	(at straight-ahead position)	-1° 20' ± 20'
	maximum permissible difference between right and left	maximum 20'
Toe angle difference at 20° lock between left and right		-1° 30' ± 20'
Caster	(not adjustable)	+3° 25' ± 30'
	maximum permissible difference between both sides	maximum 30'

Rear axle		
Camber	(not adjustable)	-1° 30' ± 10'
	maximum permissible difference between both sides	maximum 20'
Total toe	(not adjustable)	+20' ± 10'
	maximum permissible difference between both sides	maximum 25'

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Determining total toe/alignment of rear wheels

Example

Toe angle of left rear wheel +15'	Toe angle of right rear wheel +5'
$15' - 5' = 10'$ $10' / 2 = 5'$	
Toe (Deviation in alignment) = + 5'	

A

1 - if both toe angles are positive (+/+) or negative (-/-), subtract the lower number from the higher number and divide by 2

Example

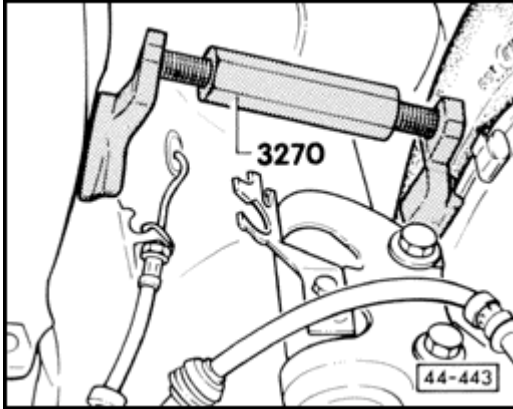
Toe angle of left rear wheel +15'	Toe angle of right rear wheel -5'
$15' + 5' = 20'$ $20' / 2 = 10'$	
Toe (Deviation in alignment) = + 10'	

A

2 - if one toe angle is positive and the other negative (+/-), add the two numbers and divide by 2

The result obtained is the actual deviation of the running direction from the longitudinal direction of the vehicle.

Camber, adjusting



- remove brake hose from bracket on suspension strut
- install tool between wheel and body near suspension strut and tighten slightly
- loosen bolt connection of suspension strut/wheel bearing housing
- adjust camber by turning tool spindle
- tighten bolt connection of suspension strut/wheel bearing housing when camber specification is reached
- remove tool and install brake hose in bracket
- check camber and readjust if necessary.

Notes

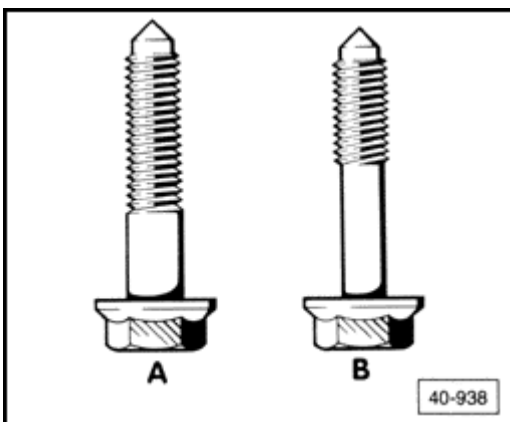
Slight diagonal positioning of tool 3270 may be necessary.

Front wheel camber, adjusting

The Corrado front suspension generally does not require camber adjustment after the installation of suspension struts/wheel bearing housings.

If an alignment check indicates the camber exceeds the recommended tolerance for other reasons, use the following procedure to adjust camber:

- visually inspect suspension and replace any damaged components
- loosen bolts securing suspension strut to wheel bearing housing
- move top of wheel/tire in or out in direction required to obtain proper camber
- tighten bolts to **80 Nm (59 ft lb)** and recheck camber



A

- if camber is out of specified range, replace original top bolt **A** with special camber correction bolt **B**
 - bolt Part No. **N 101 740.01**
(thinner diameter allows approximately 1° camber adjustment)
- using original bolt **A** in lower position, pivot top of wheel/tire in or out to obtain proper camber
- if more movement is required for specified camber, also replace original lower bolt with special camber adjustment bolt **B**
- tighten bolts to **80 Nm (59 ft lb)** and recheck camber

CAUTION!

DO NOT attempt to adjust camber by moving position of ball joint in control arm.

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Eliminating Vibrations

Wheel imbalance generates dynamic forces that can cause vehicle components such as steering gear, wheel suspension components and body to resonate. This, in turn, leads to vibrations of the steering wheel and the vehicle itself.

When vibrations of this type occur, use the following procedure to determine the source of the imbalance.

- check tire pressures and correct if necessary
- check surfaces of tires for scuffing, flat spots or other damage
- road test vehicle to determine type of condition and speed range
- check suspension components for damage or wear

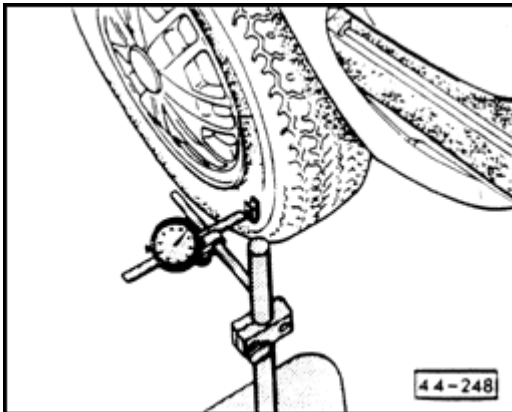
Notes

If a component is replaced or if tires are worn unevenly, check and align front suspension as necessary. Road test vehicle again after alignment.

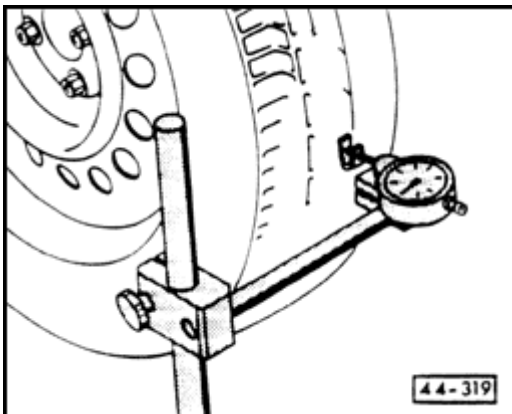
- check wheel mountings
 - center boss of hub or brake drum must protrude beyond, or be flush with, center collar of wheel. If not, replace wheel.

Wheel and tire runout, checking

- set up dial indicator so roller is just making contact with center of tire tread or tire wall



- rotate wheel slowly by hand and read needle deflections off meter



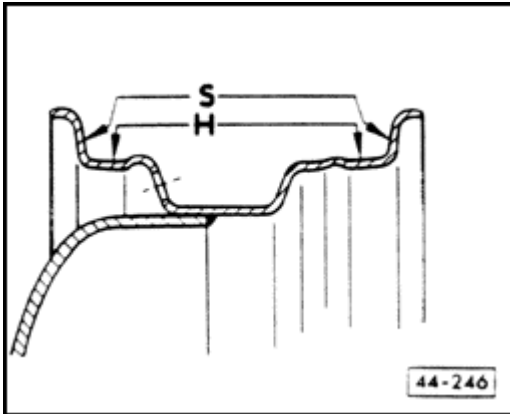
- mark location of maximum radial runout on tire

	Radial	Lateral
Tire with wheel	0.8 mm (0.032 in.)	1.2 mm (0.059 in.)

- if runout figures are within limits, balance wheel/tires (see below Wheels/tires balancing)
- if runout figures are outside limits, rotate tire on wheel
- deflate tire and push tire beads down into wheel bed
- rotate tire 120° on wheel
- inflate tire and remeasure radial runout
- if maximum figure is still outside limits, rotate tire a further 120° on wheel and remeasure radial runout
- if outside limits, check lateral and radial runout of wheels (see below)

Wheel runout, checking

- dismount tire and mount wheel in balancing machine or on vehicle



- measure radial and lateral runout at points shown above

	Radial (H)	Lateral (S)
Steel wheel	0.6 mm (0.024 in.)	0.8 mm (0.032 in.)
Alloy wheel	0.5 mm (0.020 in.)	0.5 mm (0.020 in.)

Notes

Peak readings, up or down, which are caused by small imperfections on the wheel surface, can be ignored.

- if maximum values are exceeded, replace wheel and recheck runout of wheel and tire assembly
- balance tire and wheel assembly

Wheels/tires, balancing

- remove existing balance weights before balancing

CAUTION!

Wheels MUST be mounted with same centering method as on vehicle (i.e. bolted to hub/arbor) and centered on a cylindrical (not conical) surface.

- maximum permissible residual imbalance = 5 grams

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Wheels/tires, balancing (continued)

Notes

For on-the-vehicle balancing of the driving wheels, the wheels must be driven by the engine so that wheel speeds are synchronized.

Wheels, installing

- install wheels with point of maximum radial runout at top and tighten lug bolts in this position

Notes

If tire wear is approximately equal, the wheels with the lowest amount of radial runout and the smallest balance weights should be installed at the front.

- repeat road test of vehicle

If vibrations are still present, the radial and lateral oscillations of one or more tires are too high. These oscillations cannot be measured with normal workshop equipment. For such cases, the front tires, rear tires or all four tires should be replaced.

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Snow tires

Corrado vehicles can use 185/55 R15 81T size snow tires with 6J X 15 steel wheels. The Part No. for the steel wheel is **535 601 025 C** .

CAUTION!

14 in. wheels cannot be installed on the Corrado because the brake discs and calipers are too large for the wheel.

CAUTION!

Part numbers are for reference only. Always check with your Parts Department for latest information.