

Index

2-wheel drive

Identification

- engine number location 00.3
- towing 00.14
- transmission (automatic) 00.7
- transmission (manual) 00.10
- type/model 00.2
- VIN location 00.3

Lifting vehicle with hoist/floor jack

- ★ ■ lifting points 00.15a

Technical data

- engine chart 00.4

Tune-up specifications

- engine code 3A/NG 00.16

Quattro

Identification

- engine number location 00.3
- rear final drive 00.12
- towing 00.15
- transmission 00.17
- type/model 00.2
- VIN location 00.3

Lifting vehicle with hoist/floor jack

- ★ ■ lifting points 00.15a

Technical data

- engine chart 00.4
- engine chart (Coupe) 00.6
- rear differential chart 00.13

Tune-up specifications

- engine code 7A 00.18

★ **NEW INFORMATION** since last filming

Type and model identifications

Model code	Model years	Designation		Body style	Trans	Engine code*
		USA	Canada			
893 4L4	1988-1989	80		4-Door	5-Spd	3A
893 4L3	1988-1989	80		4-Door	Auto.	3A
894 4B5	1988	80 Quattro		4-Door	5-Spd	NG
893 4B5	1989					
893 5B4	1988-1989	90		4-Door	5-Spd	NG
893 6B4 (Canada)	1989		90			
893 5L3	1988	90	90	4-Door	Auto.	3A
893 5B3	1989					NG (Canada)
893 6B3 (Canada)						
894 5B5	1988	90 Quattro	90 Quattro (1989 M.Y. only)	4-Door	5-Spd	NG
893 5B5	1989					
893 6B5 (Canada)						
8A2 4L3	1990	80		4-Door	Auto. 49-State	3A
8A2 4B8	1991					NG
8A2 4L4	1990	80		4-Door	5-Spd 49-State	3A
8A2 4B4	1991					NG
8A2 4W3	1990	80		4-Door	Auto. Calif.	3A
8A2 4N8	1991					NG
8A2 4W4	1990	80		4-Door	5-Spd Calif.	3A
8A2 4N4	1991					NG
8A2 4B5	1990-1991	80 Quattro		4-Door	5-Spd 49-State	NG
8A2 4N5	1990-1991	80 Quattro		4-Door	5-Spd Calif.	NG
8A2 5B4	1990	90		4-Door	5-Spd 49-State	NG
	1990-1991		90		Canada	
8A2 5B3	1990	90		4-Door	5-Spd Calif.	NG
8A2 5B3	1990	90	90	4-Door	Auto. 49-State, Canada	NG
8A2 5B8	1991					
8A2 5N3	1990	90		4-Door	Auto. Calif.	NG
8A2 5N8	1991					
8A2 5T5	1990-1991	90 Quattro	90 Quattro 20V	4-Door	5-Spd 49-State, Canada	7A
8A2 5U5	1990-1991	90 Quattro		4-Door	5-Spd Calif.	7A
8B3 4T5	1990-1991	Coupe Quattro 20V	Coupe Quattro 20V	2-Door	5-Spd 49-State, Canada	7A
8B3 4U5	1990-1991	Coupe Quattro 20V		2-Door	5-Spd Calif.	7A

* Engine Code KW (a RPM (BHP))

3A (4-Cyl)	83 (a 5300 (108))
NG (5-Cyl)	100 (a 5700 (130))
7A (5-Cyl 20V)	125 (a 6000 (162))

Assemblies	Type	Code letters	BHP net (SAE)	RPM
Engine 2.0 Liter (CIS-Motronic)	—	3A	108	5300
Engine 2.3 Liter (CIS-E III)	—	NG	130	5700
Engine 2.3 Liter (MPI)	—	7A	162	6000
5-Speed Manual Transmission (Audi 80)	012	AKL AUF	— —	— —
5-Speed Manual Transmission (Audi 90)	012	ALP	—	—
Automatic Transmission (Audi 90)	087	RBP	—	—
Automatic Transmission (Audi 80)	089	KAU	—	—
4-Speed Automatic Transmission (Audi 90-1991 m.y.)	097	AEL	—	—
5-Speed Manual Transmission (80 Quattro)	01A	AKT	—	—
5-Speed Manual Transmission (90 Quattro)	01A	AKU	—	—
5-Speed Manual Transmission (Coupe Quattro)	01A	ASZ	—	—

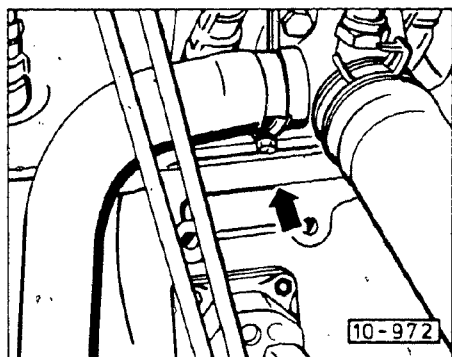
CAUTION**QUATTRO TRANSMISSIONS**

When checking engine performance,
only use dynamometer designed
to brake all four wheels at the
same time.

Vehicle identification

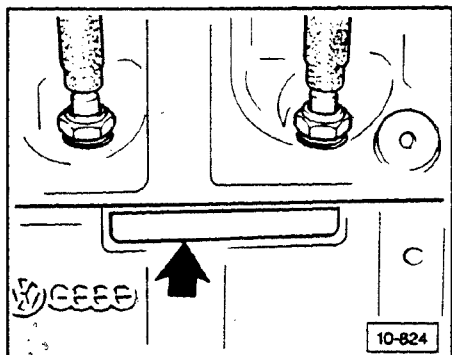
Vehicle Identification Number (VIN)

- on instrument panel on driver's side visible from the outside through the windshield
- on identification label in luggage compartment



Engine number, 4-cylinder

- the engine number is stamped on the left-hand side of the cylinder block (**arrow**)



Engine number, 5-cylinder

- the engine number is stamped on the left-hand side of the cylinder block (**arrow**)

Technical data, engine

		2.0L engine — gasoline	2.30L engine — gasoline	2.30L engine — gasoline
Engine code letters		3A	NG	NG
Start of production	from	9/87	10/87	since 4/89
Cylinders	no.	4	5	5
Displacement	liters	2.0	2.30	2.30
Output	KW @ RPM (BHP)	83/5300 (108)	100/5700 (130)	100/5700 (130)
Torque	Nm @ RPM (ft lb)	170/3250 (121)	190/4500 (140)	190/4500 (140)
Bore	bore 0 mm	82.5	82.5	82.5
Stroke	mm	92.8	86.4	86.4
Compression ratio	:1	10.4:1	10.0	10.0
Valve timing at 1mm valve lift and zero clearance				
	inlet opens Before TDC	After TDC, 3°	0°	3.9°
	inlet closes After BDC	43°	41.0°	41.2°
	outlet opens Before BDC	37°	40.0°	45.9°
	outlet closes Before TDC	3°	1.0°	4.9°
AKI (Anti Knock Index)	minimum	87 (lead-free)	87 (lead-free)	87 (lead-free)
$\frac{R + M}{2}$	recommended	91 (lead-free)	91 (lead-free)	91 (lead-free)
Fuel injection		CIS Motronic	CIS-E III	CIS-E III
Exhaust gas recirculation		No	No	No
Catalytic convertor		Yes	Yes	Yes
Oxygen regulation		Yes	Yes	Yes
Turbocharger		No	No	No
Deceleration cutout		Yes	Yes	Yes

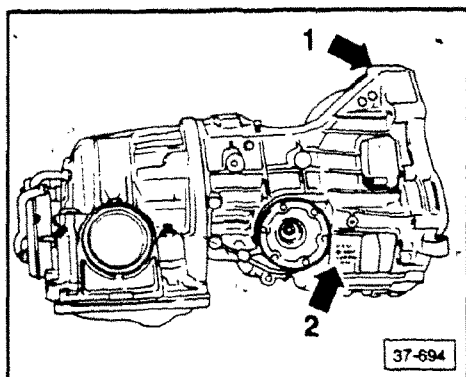
Technical data, engine

Engine code letters	7A
Start of production	4-88
Number of cylinders	5
Cubic displacement	2.3 liters
Bore	82.5 mm (3.25 in)
Stroke	86.4 mm (3.40 in)
Compression	10:1
Firing order	1-2-4-5-3
Horsepower (SAE BHP)	162 at 6000 rpm
Torque	162 ft lb at 4500 rpm
Valve timing	
Intake valve opens before TDC	6°
Intake valve closes after BDC	38°
Exhaust valve opens before BDC	42° -
Exhaust valve closes before TDC	3°
RON (AKI)	95 (91)
Fuel system	MPI (Multi Point Injection)

Automatic transmission (087), identifying

Location

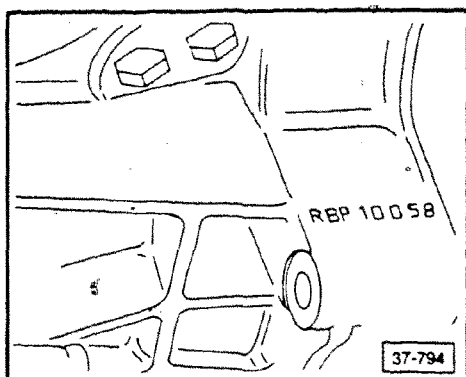
- 1 = transmission code letters and date of production
- 2 = transmission type no.



Transmission code letters and date of production

Example:

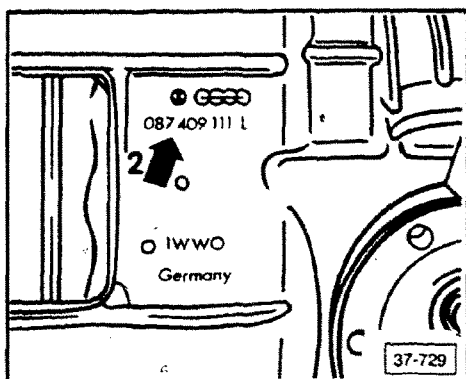
RBP	10	05	8
code	day	month	year (88)



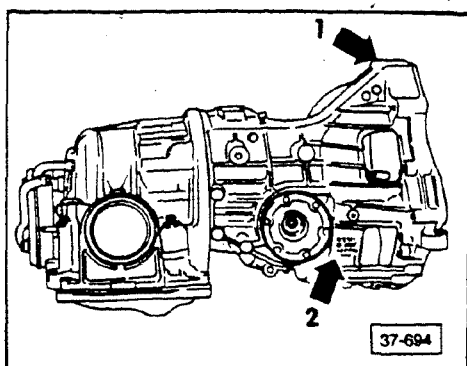
Transmission type no. (arrow)

Note

Transmission code also listed on Vehicle Identification Label.

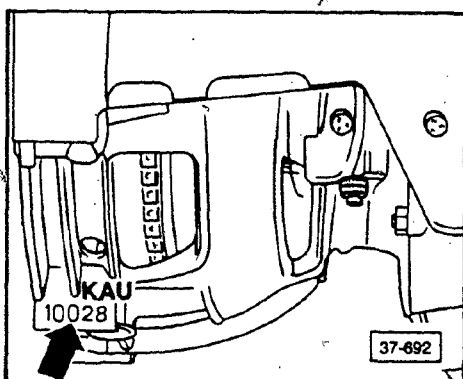


Automatic transmission (089), identifying



Location

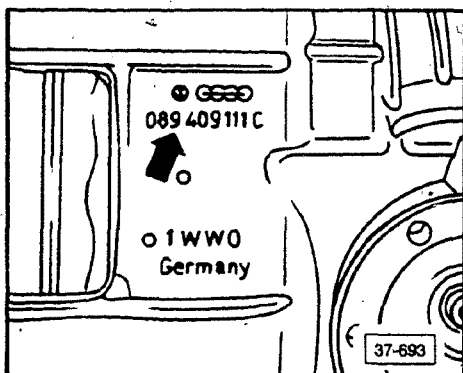
- 1 = transmission code letters and date of production
2 = transmission type no.



Transmission code letters and date of production

Example:

KAU	10	02	8
code	day	month	year (88)

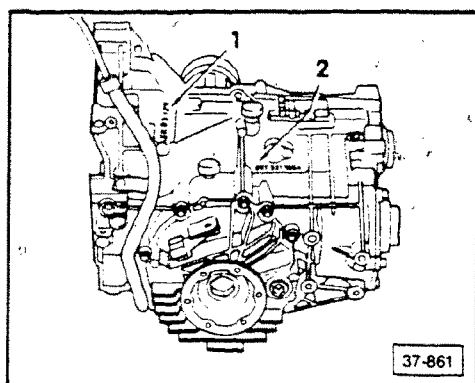


Transmission type no. (arrow)

Note

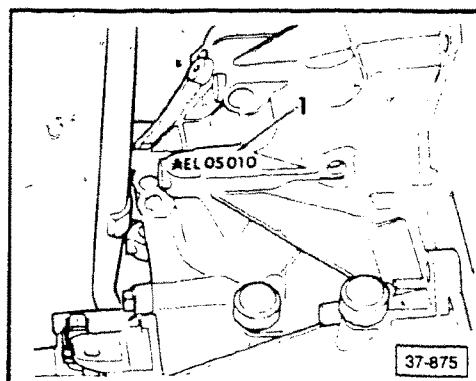
Transmission code also listed on Vehicle Identification Label.

Automatic transmission (097), identifying



Location

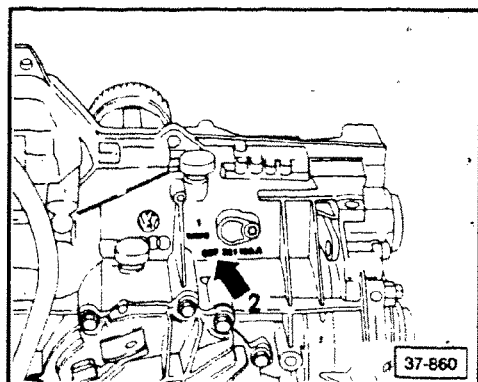
- 1 = transmission code letters and date of production
- 2 = transmission type no.



Transmission code letters and date of production

Example:

AEL	05	01	0
code	day	month	year (90)



Transmission type no. (arrow)

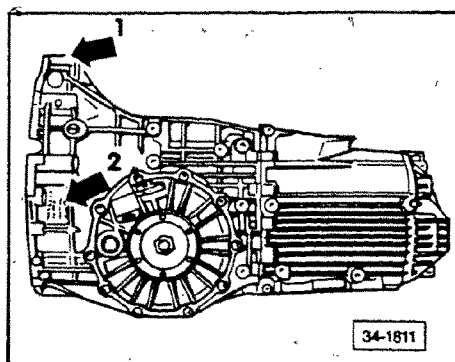
Note

Transmission code also listed on Vehicle Identification Label.

Manual transmission (012), identifying

Location

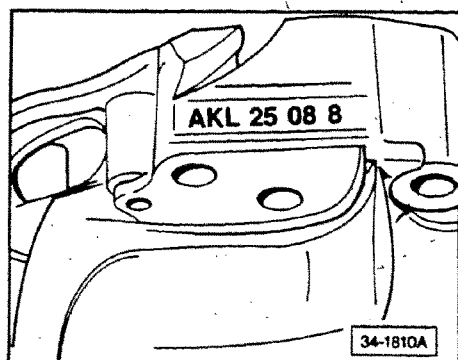
- 1 = transmission code letters and date of production
 2 = transmission type no.



Transmission code letters and date of production

Example:

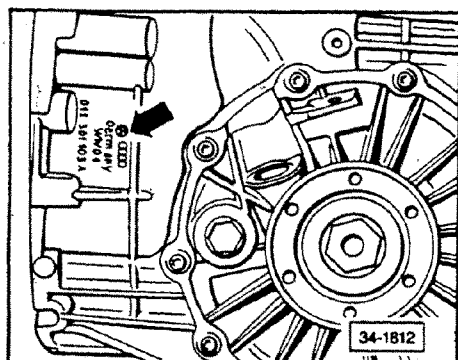
AKL	25	08	8
(or AUF)	day	month	year (88)
code			



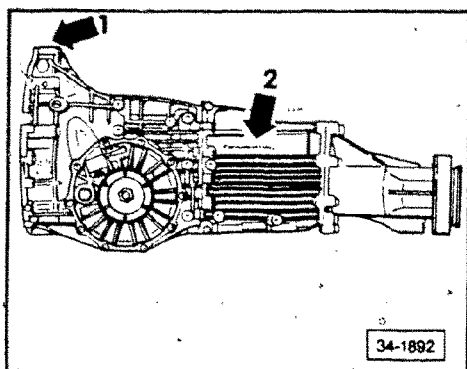
Transmission type no. (arrow)

Note

Transmission code also listed on Vehicle Identification Label.

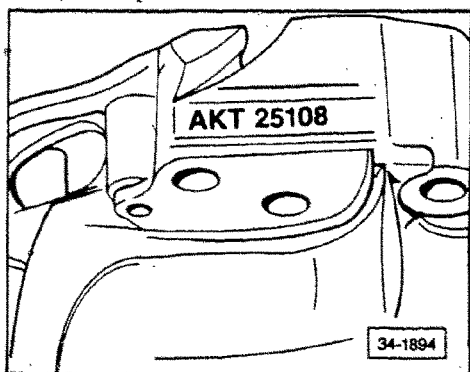


Manual transmission 01A, identifying



Location

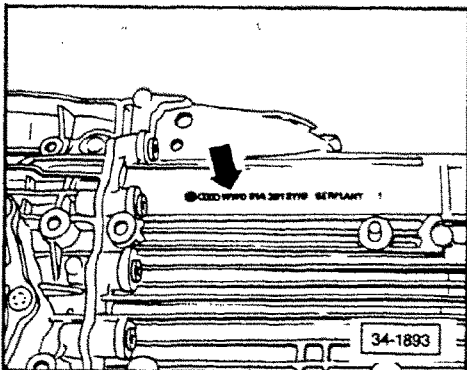
- 1 = transmission code letters and date of production
 2 = transmission type no.



Transmission code letters and date of production

Example:

AKT (or AKU) code	25 day	10 month	8 year (88)
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Transmission type no. (arrow)

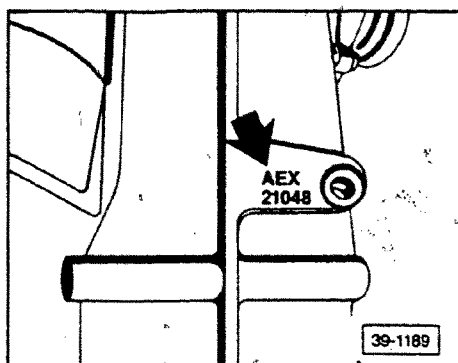
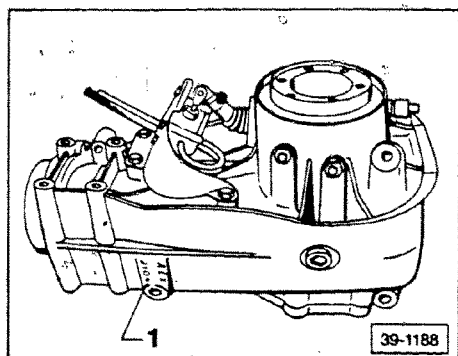
Note

Transmission code also listed on Vehicle Identification Label.

Rear final drive — Quattro, identifying

Location

1 = rear final drive code letters and date of production



Rear final drive code letters and date of production

Example:

AEX			
(or AEC)	21	04	8
code	day	month	year (88)

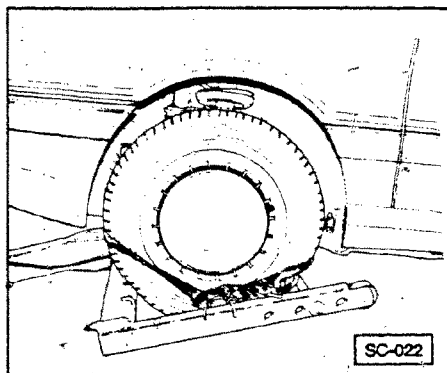
Technical data, rear differential

Code		AEX	AEC
Production	from:	06/86	06/86
Arrangement	Type	Audi 80 Quattro	Audi 90/Coupe Quattro
	Engine	2.0 liter 83 kW (108 hp)	2.3 liter 101 kW 2.3 liter 125 kW (20V)
	Standard Transmission	AKT	AKU ASZ
Ratio	Differential	41:9 = 4.556	37:9 = 4.111
Filler amount	0.75 liter (0.79 qt)		
Specification	Transmission oil GL 5 (MIL-L 2105 B) SAE 90		
Drive shaft flange		90 mm	100 mm

Towing

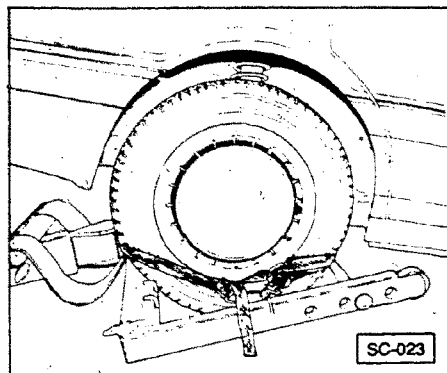
CAUTION

- the Audi 80/90 cannot be towed with conventional sling-type equipment or wheel dollies. Towing with this type of equipment will cause bumper and body panel damage
- if an automatic transmission vehicle must be towed, the front wheels must be lifted to avoid damage to transmission due to lack of lubrication



Front hook-up

- attach wheel lift equipment to wheels
- attach safety straps to wheels
- towing clearance: 6-12 inches between tires and ground
- towing speed/miles:
 - manual transmission: 50 mph/50 mi
 - automatic transmission: 50 mph/50 mi



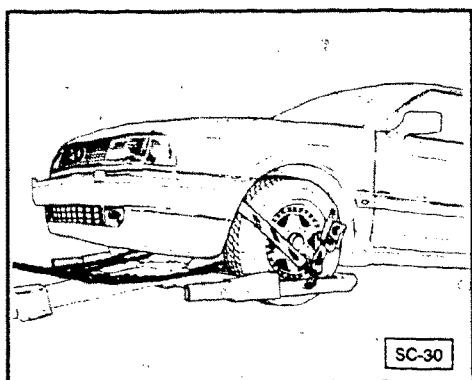
Rear hook-up

- attach wheel lift equipment to wheels
- attach safety straps to wheels
- towing clearance: 6-12 inches between tires and ground
- towing speed/miles:
 - manual transmission: 50 mph/50 mi
 - automatic transmission: 0 mph/0 mi

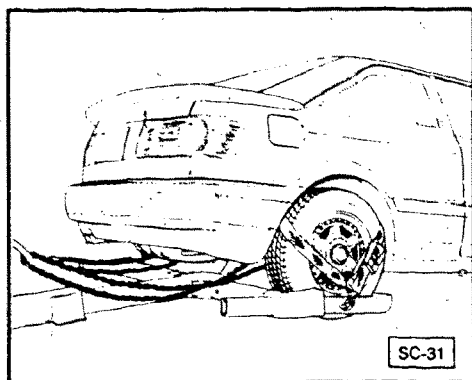
Towing

CAUTION

- the Coupe Quattro cannot be towed with conventional sling-type equipment or wheel dollies. Towing with this type of equipment will cause bumper and body panel damage
- differential must be unlocked during towing. Consult owners manual for unlocking information
- DO NOT exceed 30 mph or tow further than 30 miles
- if towing distance is more than 30 miles, vehicle must be flat bedded
- use towing loop in tool kit and attach below right front or right rear bumper to load Coupe onto flat bed

**Front hook-up**

- attach wheel lift equipment to wheels
- attach safety straps to wheels
- attach safety chains to lower control arms
- towing clearance: 6-12 inches between tires and ground
- towing speed/miles:
manual transmission: 30 mph/30 miles

**Rear hook-up**

- attach wheel lift equipment to wheels
- attach safety straps to wheels
- attach safety chains to subframe
- towing clearance: 6-12 inches between tires and ground
- towing speed/miles:
manual transmission: 30 mph/30 miles

Lifting vehicle with hoist/floor jack

WARNING

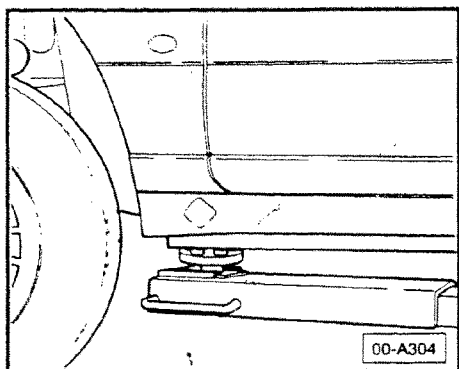
When removing components such as rear axle, fuel tank, spare wheel and rear lid, place additional weight on rear end of car or anchor car to hoist to prevent tipping if center of gravity changes.

CAUTION

Before driving onto lift, check for clearance between lifting arms and tires to avoid cutting sidewalls.

Extend arms and check to see if arms are long enough to contact lifting points.

Lift only at points shown.

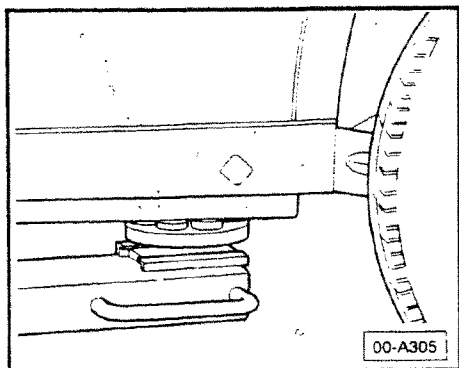


Front

Lift points are located on the underbody, where the door hinge pillar is welded to the chassis frame rail, below the diamond shaped mark.

CAUTION

Do not lift vehicle by engine, transmission, front or rear suspension. Doing so may result in damage to components.



Rear

Lift points are located below the diamond shaped mark in front of the rear wheel well.

Take care to avoid damaging critical components which are close to the lift points. This applies especially to the electric fuel pump.

Note

Lifting vehicle with floor jack

The same lifting points as illustrated for the hoist also apply when using a floor jack. To avoid damage to the underbody or chassis frame, it is necessary to insert a rubber pad between the floor jack and the lift points.

Tuneup specifications

From 1988 m.y.

Engine code	3A	
Type fuel/ignition system	CIS-E Motronic	
CIS-E Motronic (combined fuel/ignition)	893 907 404	
Ignition distributor	053 905 205A	
RPM cutoff (upper limit) (via CIS-E Motronic control unit)	6400 \pm 100 RPM	
Ignition timing	checking value	4° - 8° Before TDC
	adjusting value	6° \pm 1° Before TDC see idle adjustment, Group 25
Firing order	cylinders 1-3-4-2	
Spark plugs	Bosch	W7DTC
	electrode gap	mm (in.) 0.8 \pm 0.1 (0.031 \pm 0.004)
	tightening torque	Nm (ft lb) 20Nm (15 ft lb)
Idle RPM (NOT adjustable, controlled by idle stabilization system)	840 \pm 60	
CO-content (measured at CO tap with oxygen sensor connected)	0.3 - 1.2 vol % Adjustment performed via differential pressure regulator control current adjustment.	

CAUTION

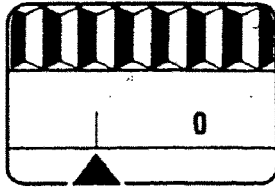
Part numbers are for reference only. Always consult with the Parts Department for the latest information.

CAUTION

Idle speed, ignition timing and CO are inter-related and **must** be checked and adjusted together.

Tuneup specifications

From 1988 m.v.

Engine code		NG
Fuel injection control unit	49 states**	443 906 264 C
	California**	443 906 264 B
Ignition control unit	49 states**	443 907 397 C
	California**	443 907 397 E
Ignition distributor		034 905 205 H
RPM cutoff (upper limit) (via CIS-E III control unit)		6600 \pm 100 RPM
Ignition timing	checking value	13-17° Before TDC
	adjusting value	15 \pm 1° Before TDC
Timing mark location: ON flywheel		
Firing order		1-2-4-5-3
Spark plugs	Bosch	W7DTC
	electrode gap	mm (in.) 0.8 \pm 0.1 (0.031 \pm 0.004)
	tightening torque	Nm (ft lb) 20Nm (15 ft lb)
Idle RPM*	manual transmission RPM	790 \pm 70
	automatic transmission RPM	790 \pm 70
CO-content (oxygen sensor probe disconnected)	checking value	0.3-3.0 vol. %
	adjusting value	0.6-1.0 vol. %

*Idle speed can **NOT** be adjusted using air screw on throttle body, idle is regulated by CIS-E III idle stabilization system.

**Do not mix 49 states control units with California control units or vice versa.

CAUTION

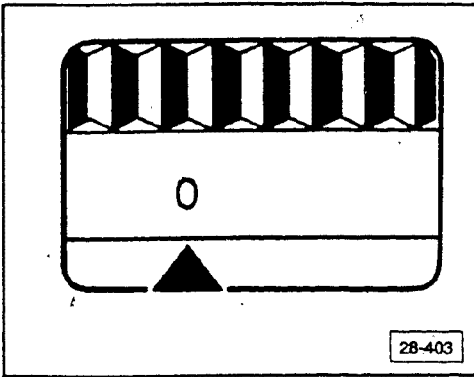
Part numbers are for reference only. Always consult with the Parts Department for the latest information.

CAUTION

Idle speed, ignition timing and CO are inter-related and **must** be checked and adjusted together.

Tuneup specifications

1990-1991 m.y.

Engine code letters	7A	
Ignition distributor	034 905 205 J	
Ignition distributor basic setting*	TDC	
Timing mark, location		
Ignition timing sensor**	resistance	approximately 1000 ohms
Engine speed sensor***	resistance	approximately 1000 ohms
CAUTION It is NOT possible to adjust the ignition timing. Ignition timing is determined by the control unit ignition map.		
Spark plugs	part no.	191 905 450 J
		Bosch F 6 DTC
Electrode gap		0.8 + 0.1 mm (0.031 + 0.004 in)
Tightening torque		20 Nm (15 ft lb)
Firing order	1-2-4-5-3	
RPM limit (cutout)	starts at 7200 RPM, completes at 7400 RPM	
Ignition coil	secondary resistance	6500 to 8000 ohms
	primary resistance	approximately 0 to 1 ohm
Ignition distributor rotor	resistance	1000 ohms

*see section 28-250

**Ignition timing sensor, checking, section 28-230

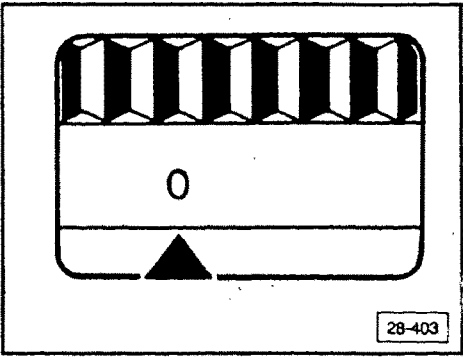
***Engine speed sensor, checking, see Repair Group 24

CAUTION

Part numbers are for reference only. Always consult with the Parts Department for the latest information.

Tuneup specifications

1990-1991 m.y.

Engine code		7A
Ignition distributor		034 905 205 J
Timing mark location		
Ignition timing point		TDC
Ignition timing sender checking, section 28-300	resistance checking	approximately 1000 ohms
Engine speed sender checking, see Repair Group 24	resistance checking	approximately 1000 ohms
Spark plugs	part number electrode gap tightening torque	Bosch F 6 DTC 101 000 004 AA 0.8 ± 0.1 mm 20 Nm (15 ft lb)
Firing Order	Cylinder number	1-2-4-5-3
RPM limit		7200 ± 200 rpm
Resistance checking Ignition coil	Secondary resistance	6500 to 8000 ohms
	Primary resistance	0 to 1 ohm
Distributor rotor		approximately 1000 ohms

Note

Ignition timing is determined by the control unit map and feedback signals. Ignition timing is NOT adjustable.

Basic distributor adjustment see section 28-360

CAUTION

Part numbers are for reference only. Always consult with the Parts Department for the latest information.