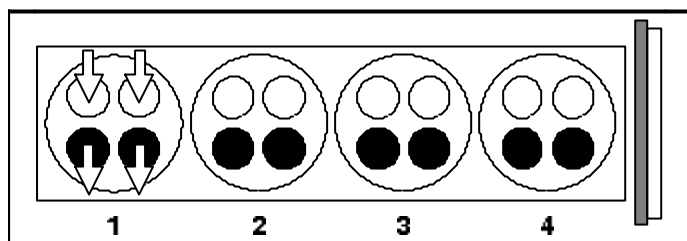


Adjustment data

Engine

– GA14DE, GA16DE



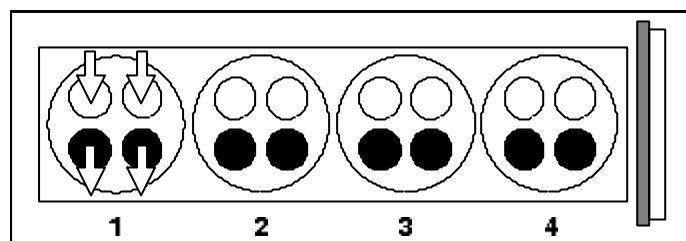
identification	
engine code	GA14DE, GA16DE
cubic capacity	GA14DE: 1392 cm ³ GA16DE: 1597 cm ³
engine lay-out	4 cylinder in-line engine 16 valves
ignition/fuel system	engine management
features	—
mechanical	
oil pressure	at idle speed: min. 0,59 bar at 2000/min: min. 2,45 bar

compression	
– normal	GA14DE: 13,24 bar GA16DE: 13,53 bar
– minimum	GA14DE: 11,28 bar GA16DE: 11,57 bar
– maximum difference between cylinders	0,98 bar
valves	
– valve operation	timing chain; DOHC; tappets
– inlet valve clearance: hot	0,32 - 0,40 mm
– exhaust valve clearance: hot	0,37 - 0,45 mm
– inlet valve clearance: cold	0,25 - 0,33 mm
– exhaust valve clearance: cold	0,32 - 0,40 mm
ignition system	
type	electronic
make and model	part of engine management make and type: no data available
firing order	1 - 3 - 4 - 2
dwel angle	no data available

ignition timing	at idle speed: $10^{\circ} \pm 2^{\circ}$; before TDC bring the engine into the service set mode; see 'ignition/fuel system'
coil; make and model	no data available
coil resistance; primary	0,5 - 1,0 Ω
coil resistance; secondary	approx. 12 k Ω
HT leads resistance	cylinder No. 1: approx. 11 k Ω cylinder No. 2: approx. 10 k Ω cylinder No. 3: approx. 8 k Ω cylinder No. 4: approx. 6,5 k Ω
spark plugs	
- make and model	NGK BKR5E
- spark plug gap	0,8 - 0,9 mm
- torque setting	20 - 29 Nm
fuel system	
type	multipoint injection
make and model	part of engine management make and type: no data available
fuel pump pressure	no data available
system pressure	pressure regulator vacuum hose disconnected and blanked off; at idle speed: 2,94 bar

inlet manifold vacuum	at idle speed: approx. 600 mbar
idle speed	versions with daytime running lights and versions with automatic transmission: 800 ± 50 /min other versions: 700 ± 50 /min adjustable
fast idle speed	no data available
emission	
CO percentage	beyond catalytic converter: max. 0,5 %
CO ₂ percentage	no data available
HC content	no data available
O ₂ percentage	no data available
cooling system	
radiator/header tank cap release pressure	0,78 - 0,98 bar
thermostat opening temperature	88 °C

- SR20DE

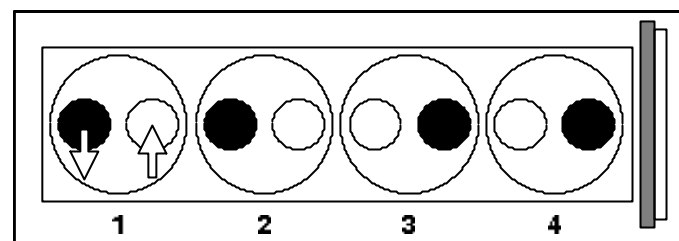


identification	
engine code	SR20DE
cubic capacity	1998 cm ³
engine lay-out	4 cylinder in-line engine 16 valves
ignition/fuel system	engine management
features	—
mechanical	
oil pressure	at idle speed: min. 0,78 bar at 3200/min: 3,14 - 3,92 bar
compression	
- normal	12,26 bar
- minimum	10,30 bar
- maximum difference between cylinders	0,98 bar
valves	
- valve operation	timing chain; DOHC; rocker arms; hydraulic valve clearance adjusters

ignition system	
type	electronic
make and model	part of engine management make and type: no data available
firing order	1 - 3 - 4 - 2
dwelling angle	no data available
ignition timing	at idle speed: 15° ± 2°; before TDC bring the engine into the service set mode; see 'ignition/fuel system'
coil; make and model	no data available
coil resistance; primary	0,5 - 1,0 Ω
coil resistance; secondary	approx. 25 kΩ
HT leads resistance	cylinder No. 1: approx. 11 kΩ cylinder No. 2: approx. 9,5 kΩ cylinder No. 3: approx. 8 kΩ cylinder No. 4: approx. 7 kΩ
spark plugs	
- make and model	NGK PFR5B-11
- spark plug gap	no data available
- torque setting	20 - 29 Nm
fuel system	
type	multipoint injection

make and model	part of engine management make and type: no data available
fuel pump pressure	no data available
system pressure	pressure regulator vacuum hose disconnected and blanked off; at idle speed: 2,94 bar
inlet manifold vacuum	at idle speed: ap- prox. 600 mbar
idle speed	800 ± 50/min adjustable
fast idle speed	no data available
emission	
CO percentage	beyond catalytic converter: max. 0,5 %
CO ₂ percentage	no data available
HC content	no data available
O ₂ percentage	no data available
cooling system	
radiator/header tank cap re- lease pressure	0,78 - 0,98 bar
thermostat opening tempera- ture	76,5 °C

– CD20



identification	
engine code	CD20
cubic capacity	1974 cm ³
engine lay-out	4 cylinder in-line engine 8 valves
fuel system / pre-glow sys- tem	independent systems
mechanical	
oil pressure	at idle speed: min. 0,59 bar at 2000/min: approx. 2,9 bar
compression	
– normal	31,4 bar
– minimum	24,5 bar
– maximum difference be- tween cylinders	4,9 bar
valves	
– valve operation	timing belt; OHC; hydraulic tappets

fuel system	
injectors	
- make and model	no data available
- break pressure; new	127,5 - 135,3 bar
- break pressure; used	122,6 - 132,4 bar
- torque setting	injector holder in cylinder head: 59 - 69 Nm
injection pump	
- type	rotary pump
- make and model	no data available
injection sequence	1 - 3 - 4 - 2
idle speed	725 ± 25/min
fast idle speed	no data available
max. engine speed	5400/min; no-load adjustable
static injection timing	
- crankshaft position	9°; after TDC
- plunger height	0,79 - 0,85 mm
pre-glow system	
glow plugs	
- make and model	no data available
- torque setting	no data available

emission	
light absorption co-efficient (smoke test)	no data available
cooling system	
radiator/header tank cap release pressure	0,78 - 0,98 bar
thermostat opening temperature	88 °C

Driveline and chassis

Clutch

operation	petrol engined versions: mechanical diesel engined versions: hy- draulic
self-adjusting	mechanically operated clutch: no hydraulically operated clutch: yes
free play	
– pedal	petrol engine: 11 – 15 mm diesel engine: 9 – 16 mm
– lever	petrol engine: 2,5 – 3,5 mm diesel engine: —
pedal height	RHD versions: petrol engine: 159 – 169 mm diesel engine: 156 – 166 mm LHD versions: petrol engine: 153 – 163 mm diesel engine: 149 – 159 mm
pedal travel (working stroke + free play)	no data available
pedal working stroke	no data available

Brake system

vacuum pump capacity	at 1000/min: min. 866 mbar
pedal height	RHD versions: versions with manual gear- box: 155 – 165 mm versions with automatic transmission: 164 – 174 mm LHD versions: versions with manual gear- box: 148 – 158 mm versions with automatic transmission: 157 – 167 mm
parking brake	
– free play	max. 1 click
– working travel	versions with rear drum brakes: 7 – 8 clicks versions with rear disc brakes: 8 – 9 clicks
front disc brakes	
disc thickness	
– new	versions with SR20DE en- gine: 26 mm other versions: 18 mm
– minimum	versions with SR20DE en- gine: 24 mm other versions: 16 mm

min. brake pad thickness	2,0 mm; without back plate
rear drum brakes	
brake drum diameter	
– new	180 mm
– maximum	181 mm
min. lining thickness	1,5 mm; without back plate
rear disc brakes	
disc thickness	
– new	versions with SR20DE engine: 9 mm other versions: 7 mm
– minimum	versions with SR20DE engine: 8 mm other versions: 6 mm
min. brake pad thickness	1,5 mm; without back plate

Suspension

conditions for wheel alignment	unladen; fuel tank full
wheelbase	2535 mm
front wheels	
track width	versions with 13 inch wheels: 1480 mm versions with 14 or 15 inch wheels: 1470 mm

tracking; total	toe-in: 2 ± 2 mm / $0^\circ 11' \pm 11'$; measured on tread centre line adjustable on both track rods
camber	$-0^\circ 35' \pm 45'$ max. difference LH/RH: no data available non-adjustable
castor	$1^\circ 25' \pm 45'$ max. difference LH/RH: no data available non-adjustable
king pin inclination	$14^\circ 45' \pm 45'$ non-adjustable
rear wheels	
track width	versions with 13 inch wheels: 1445 mm versions with 14 or 15 inch wheels: 1435 mm
tracking; total	toe-in: 1 ± 4 mm / $0^\circ 5' \pm 21'$; measured on tread centre line non-adjustable
camber	$-1^\circ 00' \pm 45'$ max. difference LH/RH: no data available non-adjustable