

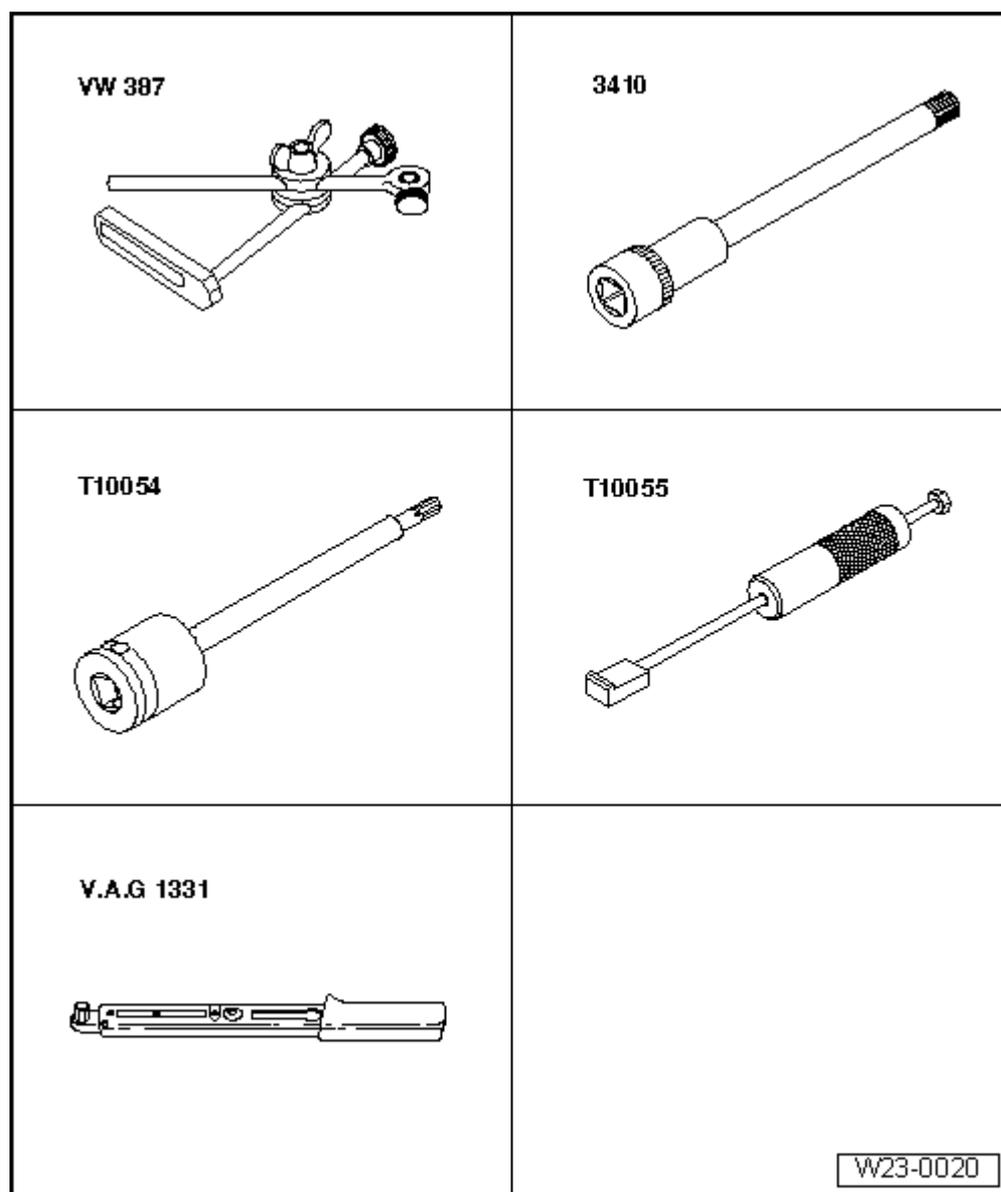
Removing and installing unit injector

Special tools and workshop equipment required

- ◆ Universal dial gauge bracket -VW 387-
- ◆ Socket -3410-
- ◆ Special wrench, long reach -T10054-
- ◆ Puller -T10055-
- ◆ Torque wrench -V.A.G 1331-
- ◆ Workshop vernier caliper -VAS 5276-
- ◆ Torque wrench - V.A.G 1756-

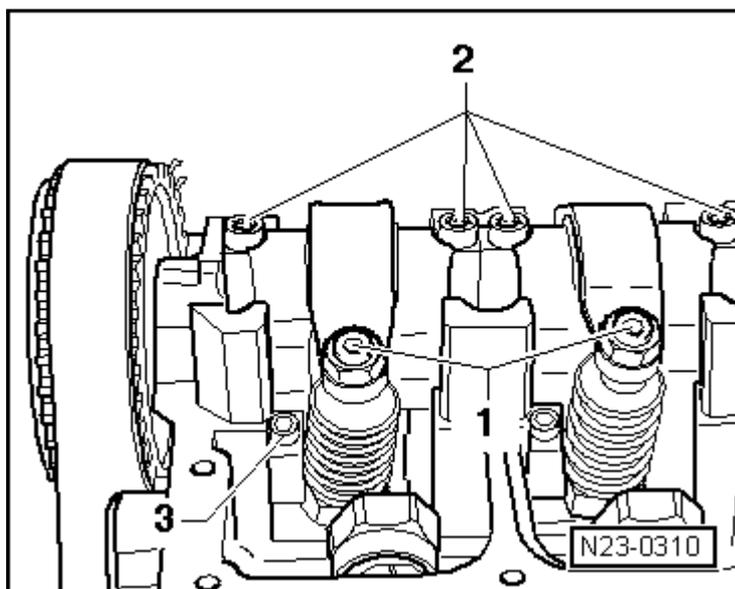
Removing

- Remove cylinder head cover: → Rep. Gr.15.
- Turn crankshaft until both cams for the unit injector to be removed/installed point symmetrically upwards.

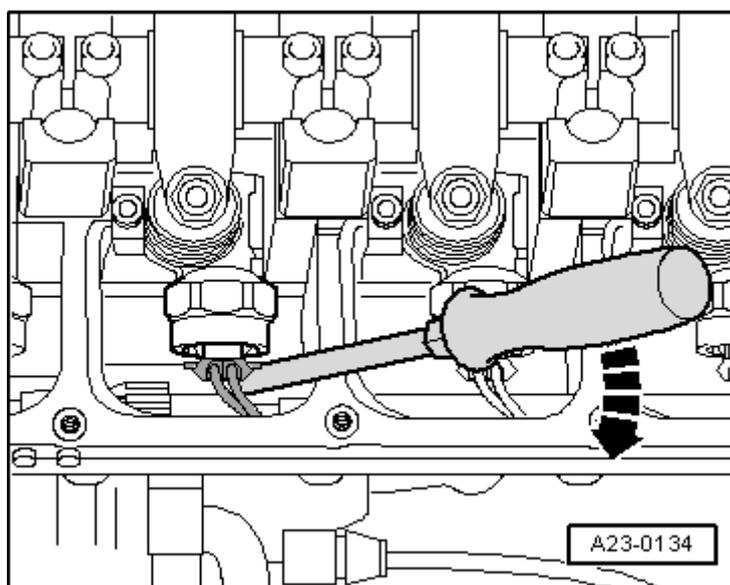


- Loosen lock nuts on adjuster screws -1- and turn adjuster screws anti-clockwise until the relevant rocker arm lies against the plunger spring of the unit injector.
- Unscrew bolts -2- for rocker arm shaft (working from outside inwards) using socket 3410 and detach rocker arm shaft.
- Remove clamping block securing bolt -3- with hexagon key -T10054- and remove

clamping block.



- Pry off connector from the unit injector using a screwdriver -arrow-. Press gently against the other side of connector with finger to prevent it from tilting.



- Apply the puller -T10055- into the slot on the side of the unit injector in place of the clamping block.
- Pull unit injector out of cylinder head seat by gently tapping upwards.

Installing



Note

- ◆ Whenever an operation requires adjustment of a unit injector, the adjuster screw in the rocker arm and the ball stud of the unit injector must be renewed.
- ◆ New unit injectors are supplied with O-rings and insulating seals.
- ◆ When installing a new unit injector, you must also renew the appropriate adjuster screw in rocker arm.
- ◆ When reinstalling old unit injector, you must renew the O-rings and insulating

seals → *Chapter*.

- Before installing the unit injector, check the three O-rings, insulating seal and retaining ring for correct seating.

i Note

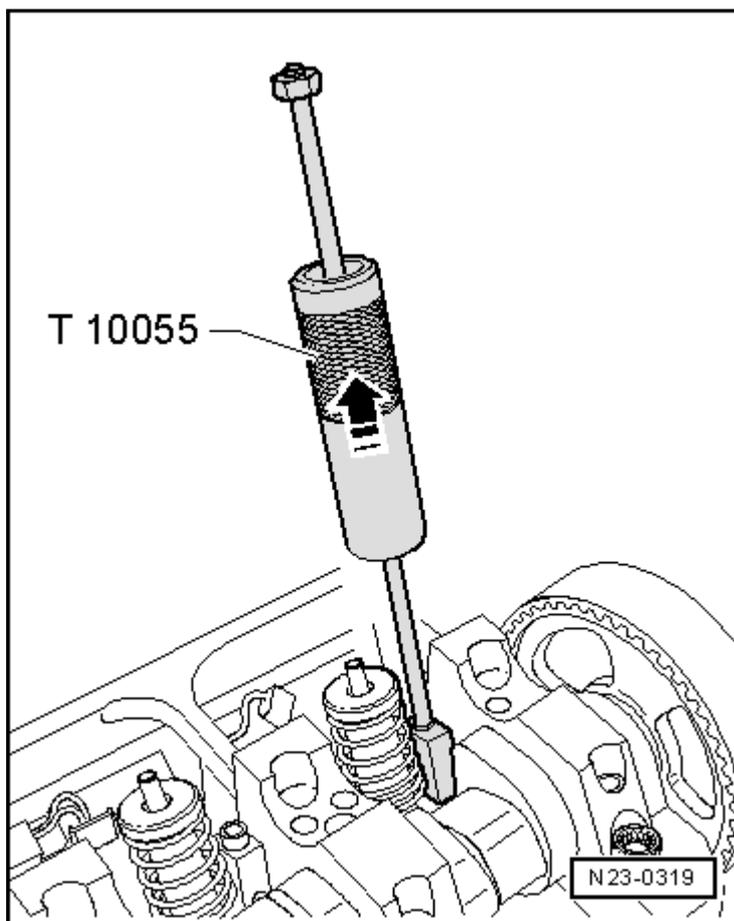
The O-rings must not be twisted.

- Oil O-rings and fit unit injector in cylinder head seat very carefully.
- Whilst pressing evenly, slide unit injector into cylinder head seat as far as it will go.
- Insert the clamping block in the slot on the side of the unit injector.

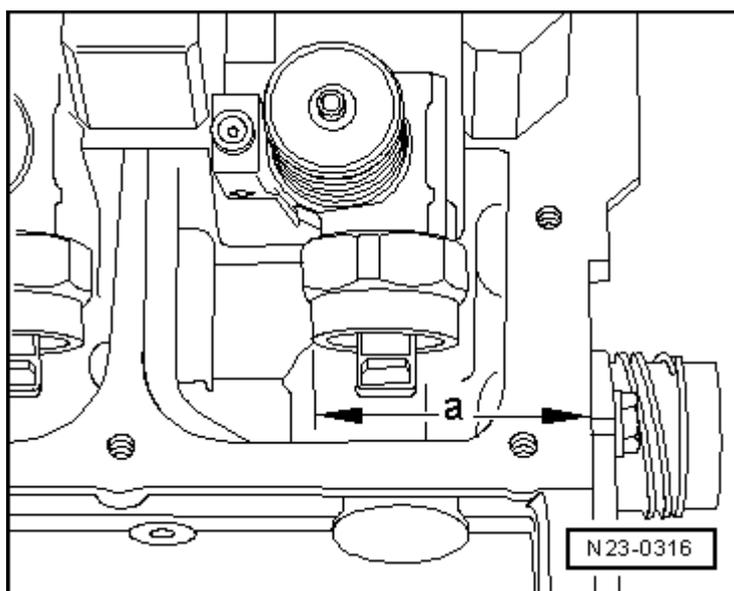
i Note

If the unit injector is not seated at a right angle to the clamping block, the securing bolt may come loose, resulting in damage to the unit injector or cylinder head.

- Therefore, align the unit injector as follows:
- Screw new securing bolt into clamping block, but do not tighten (it must still be possible to turn the unit injector slightly).
- Now align the unit injector at a right angle to the bearing pedestals of the camshaft.
- Using a workshop vernier caliper -VAS 5276- (measuring range at least 400 mm), check dimension "a" from outer edge of cylinder head to rounded surface of unit injector.



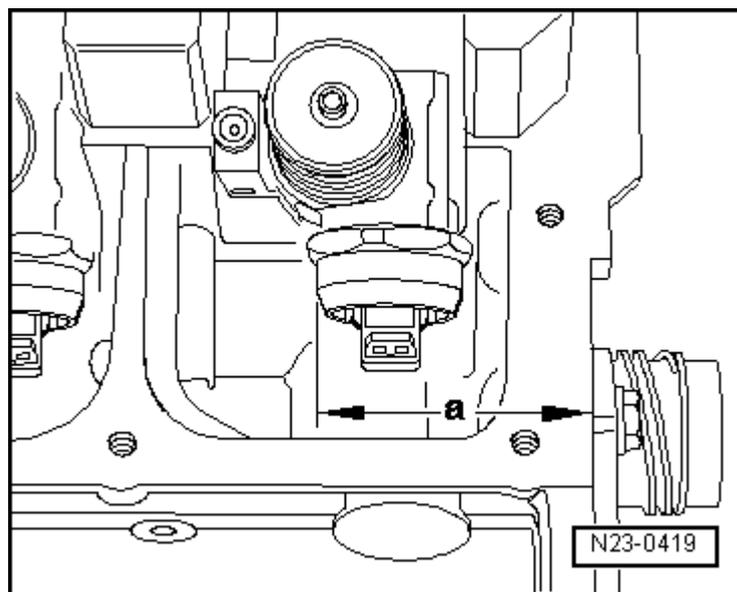
Unit injector nut with cylindrical collar:



Cylinder	Dimension "a"
1	244.2 ± 0.8 mm
2	152.8 ± 0.8 mm

3	64.8 ± 0.8 mm
---	---------------

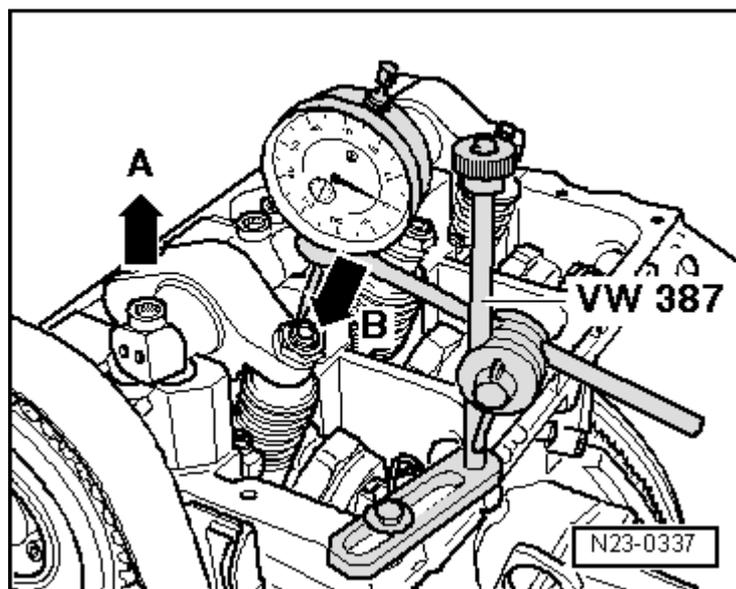
Unit injector nut with bevelled collar:



Cylinder	Dimension "a"
1	245.0 ± 0.8 mm
2	157.0 ± 0.8 mm
3	65.6 ± 0.8 mm

All models:

- Align unit injector as necessary and tighten securing bolt as follows:
 - ◆ Tightening torque: 12 Nm + 270° (3/4 turn further).
- Fit rocker arm shaft and tighten new securing bolts as follows:
 - First tighten inner bolts then outer bolts in several stages.
 - ◆ Tightening torque in the same sequence: 20 Nm + 90° (1/4 turn further).
- Fit dial gauge onto adjuster screw of unit injector as shown.
- Turn crankshaft in direction of engine rotation until roller of rocker arm is located at tip of drive cam.
 - ◆ Roller side -arrow A- positioned at highest point; dial gauge -arrow B- positioned at lowest point
- Remove dial gauge.
- Now turn the adjuster screw into rocker arm until significant resistance can be felt (unit injector is at limit stop).



- Turn adjuster screw 180° back off limit stop using special tool torque wrench -V.A.G 1756-.
- Hold adjuster screw in this position and tighten lock nut.
- ◆ Tightening torque: 30 Nm
- Attach electrical connector for unit injector.
- Install cylinder head cover and toothed belt cover → [Rep. Gr.15](#).

