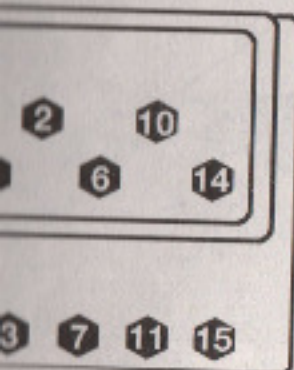


installed with the raised bead
ing UP

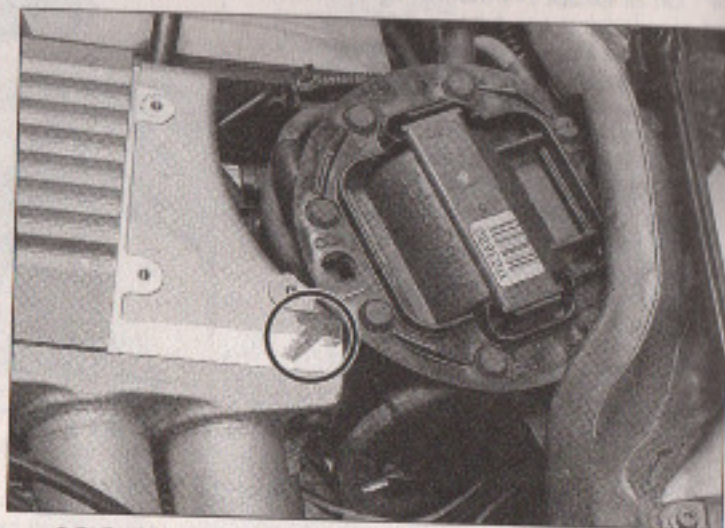
ONT



24064-2A-8.165 HAYNES

sequence - note that the bolts
(arrow) are shorter than

8.15 The head bolts **MUST** be coated with a non-hardening
sealant (such as Permatex no. 2) before they are installed -
coolant will leak past the bolts if this is not done



9.5 On later models, make a mark on the plenum directly
opposite the number one spark plug wire terminal in the
distributor cap (in this photo the number one on the wire retainer
has been highlighted with chalk for clarity)

9 Top Dead Center (TDC) for number 1 piston - locating

Refer to illustrations 9.5, 9.7 and 9.8

1991 and earlier models

1 Top Dead Center (TDC) is the highest point in the cylinder that each piston reaches as it travels up-and-down when the crankshaft turns. Each piston reaches TDC on the compression stroke and again on the exhaust stroke, but TDC generally refers to piston position on the compression stroke. The timing marks on the vibration damper installed on the front of the crankshaft are referenced to the number one piston at TDC on the compression stroke.

2 Positioning the piston(s) at TDC is an essential part of many procedures such as rocker arm removal, valve adjustment, timing chain and sprocket replacement and distributor removal.

3 In order to bring any piston to TDC, the crankshaft must be turned using one of the methods outlined below. When looking at the front of the engine, normal crankshaft rotation is clockwise. **Warning:** Before beginning this procedure, be sure to place the transmission in Neutral and disconnect the BAT wire at the distributor cap to disable the ignition system.

- The preferred method is to turn the crankshaft with a large socket and breaker bar attached to the vibration damper bolt that is threaded into the front of the crankshaft.
- A remote starter switch, which may save some time, can also be used. Attach the switch leads to the S (switch) and B (battery) terminals on the starter motor. Once the piston is close to TDC, use a socket and breaker bar as described in the previous paragraph.
- If an assistant is available to turn the ignition switch to the Start position in

9.7 Turn the crankshaft until the line on the vibration damper is
directly opposite the zero mark on the timing plate as shown here

short bursts, you can get the piston
close to TDC without a remote starter
switch. Use a socket and breaker bar as
described in Paragraph a to complete
the procedure.

4 On 1984 models, make a mark on the air
cleaner assembly housing directly across
from the number one spark plug wire terminal
on the distributor. **Note:** The terminal num-
bers are marked on the spark plug wire
retainer attached to the top of the distributor.

5 On later models, remove the screws and
detach the distributor cover from the plenum.
Using a felt tip pen, make a mark on the
plenum directly across from the number one
spark plug wire terminal on the distributor
(see illustration). The terminal numbers are
marked on the spark plug wire retainer
attached to the top of the distributor.

6 Remove the distributor cap as
described in Chapter 1.

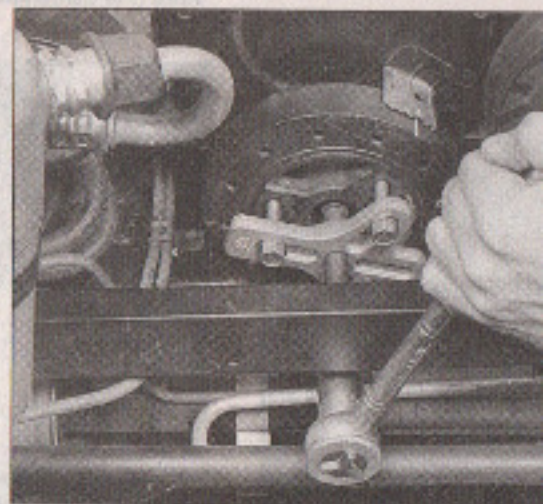
7 Turn the crankshaft (see Paragraph 3
above) until the line on the vibration damper
is aligned with the zero mark on the timing
plate (see illustration). The timing plate and
vibration damper are located low on the front
of the engine, near the pulley that turns the
drivebelt.

8 The rotor should now be pointing
directly at the mark on the air cleaner housing
or plenum (see illustration). If it isn't, the pis-
ton is at TDC on the exhaust stroke.

9 To get the piston to TDC on the com-
pression stroke, turn the crankshaft one com-
plete turn (360-degrees) clockwise. The rotor
should now be pointing at the number one spark
plug wire terminal in the distributor cap
(which is indicated by the mark on the
plenum or housing) and the timing marks are
aligned, the number one piston is at TDC on
the compression stroke.

10 After the number one piston has been
positioned at TDC on the compression
stroke, TDC for any of the remaining cylin-
ders can be located by turning the crankshaft

9.8 If the rotor is pointin
air cleaner housing, as s
TDC on



90-degrees at a time and following the firing
order (refer to the Specifications).

1992 and later models

11 Insert a compression gauge (screw-in
type with a hose) in the number 1 spark plug
hole and zero it. Place the gauge dial where
you can see it while turning the balancer hub
bolt.

12 Turn the crankshaft until the arrow on
the balancer approaches straight up (or 12 o'
clock) (see illustration 14.9). If you see com-
pression building up on the gauge, you are
on the compression stroke for number one.
Stop turning when the arrow is straight up. If
you did not see compression build up, con-
tinue rotating one more complete revolution
to achieve TDC for number one.

13 After the number one piston has been
positioned at TDC on the compression
stroke, TDC for any of the remaining cylin-
ders can be located by turning the crankshaft
90-degrees (1/4-turn) at a time and following
the firing order (refer to the Specifications).
For example, turning 90-degrees past num-
ber one TDC would give you TDC for number
eight cylinder, the next in the firing order.