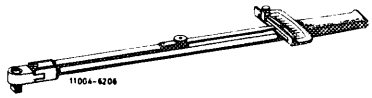
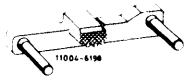
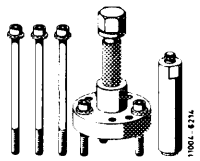
| Tightening torques | Nm | (kpm) |
|---|---|---|
| Bolt M 18 x 1.5 x 45 to crankshaft | 270–330 | (27–33) |
| Bolts M 8 x 65 | 35 | (3.5) |

**Special tools**

| | | |
|---|---|---|
| Socket 27 mm, 1/2" drive |  | 001 589 65 09 00 |
| Torque wrench, 3/4" drive, 150–500 Nm (15–50 kpm) |  | 001 589 31 21 00 |
| Supporting lock |  | 110 589 00 40 00 |
| Puller for balance plate |  | 116 589 10 33 00 |

**Commercially available tool**

| | |
|---|---|
| Adapter, 3/4" female to 1/2" male drive | e.g. Hazet, 5630 Remscheid, order No. 1058 R–1 |

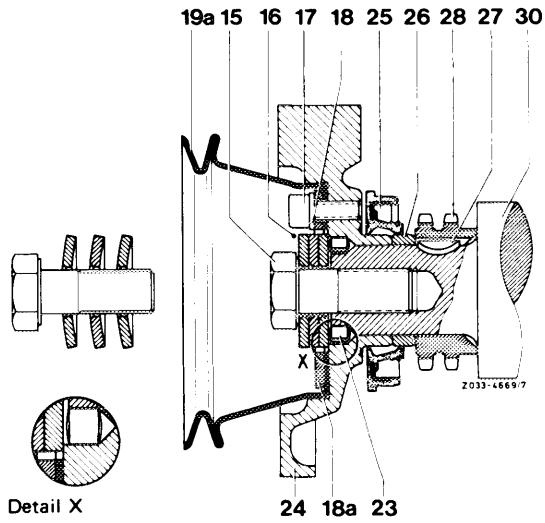
**Note:**

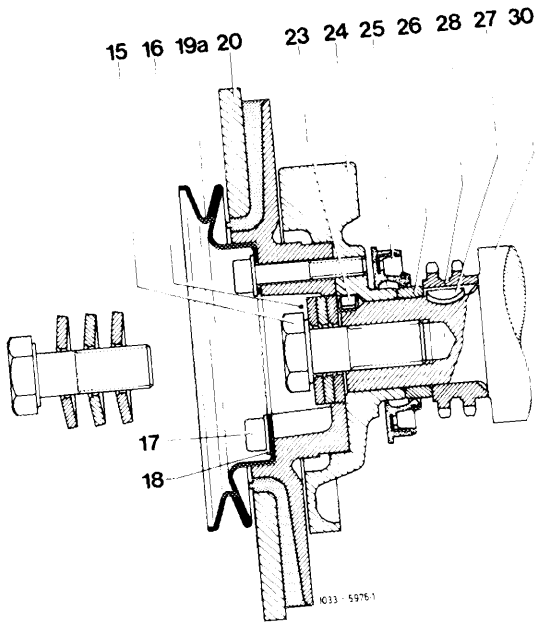
The **vibration damper** for engine 617 can be replaced **without balancing.**

Any **balance plate** that is replaced **will have to be balanced** statically (03–344).

Engines 615, 616

15 Bolt M 18 x 1.5 x 45
16 Disk springs
17 Bolts M 8 x 20
18 Washer
18a Thrust washer
19a Pulley
23 Dowel pin 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket
30 Crankshaft






Engine 617

15 Bolt M 18 x 1.5 x 45
16 Disk spring
17 Bolt M 8 x 45
18 Washer
19a Pulley
20 Vibration damper
23 Dowel pin 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket
29 Crankshaft

**Removal**

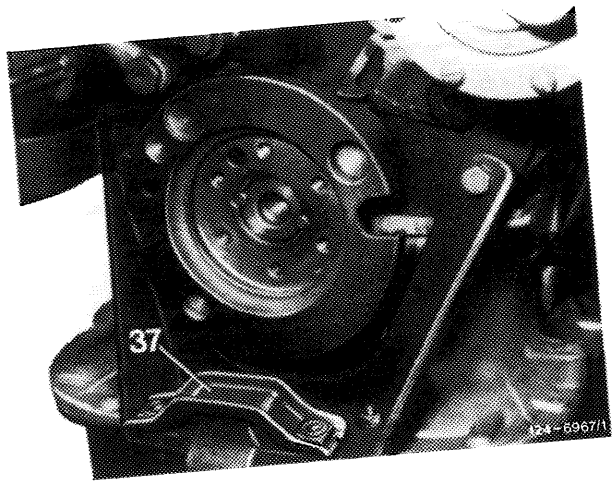
1 Remove radiator and fan.

2 Remove all V-belts (13–340).

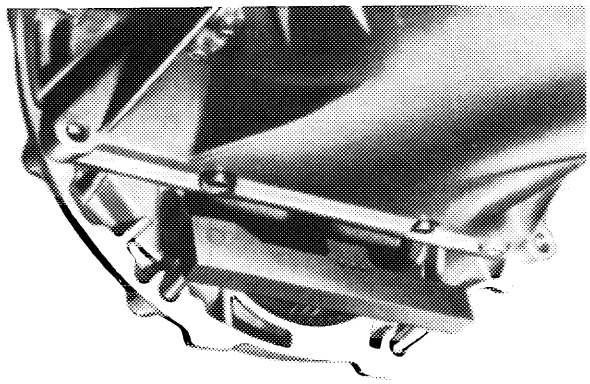
3 Remove pulley.

4 On engine 617 remove vibration damper.

5 On engine 615 in type 115.1 unscrew strap (37) of front engine stop.

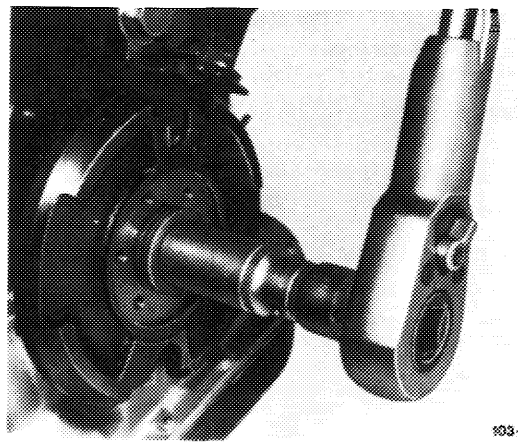


6 Apply supporting lock to flywheel.



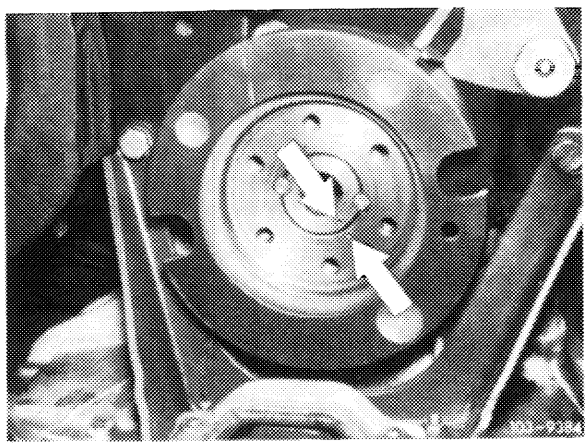
103-9243

7 Remove bolt from crankshaft.

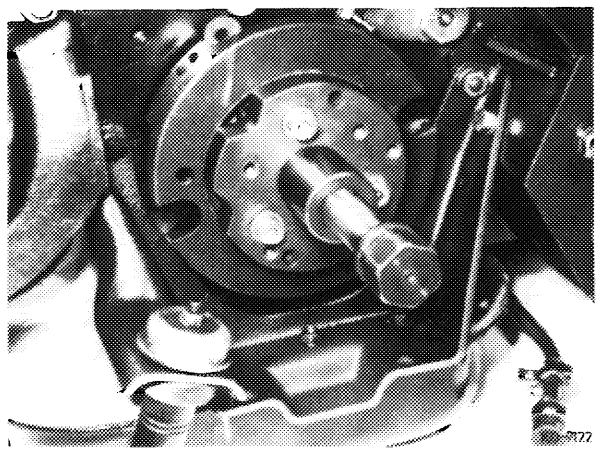


103-15477

8 Mark balance plate and crankshaft, using center punch.



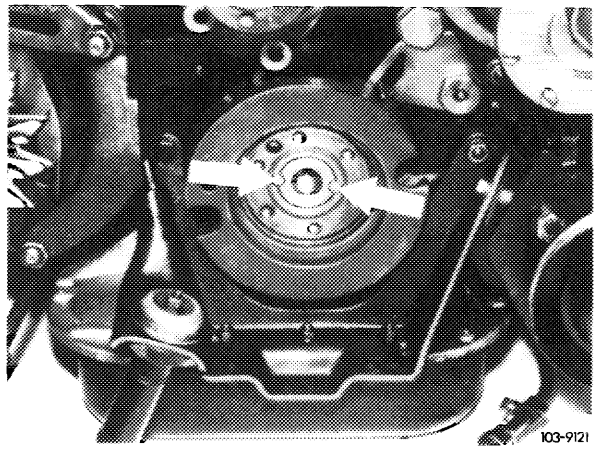
9 Remove balance plate using puller.



**Installation**

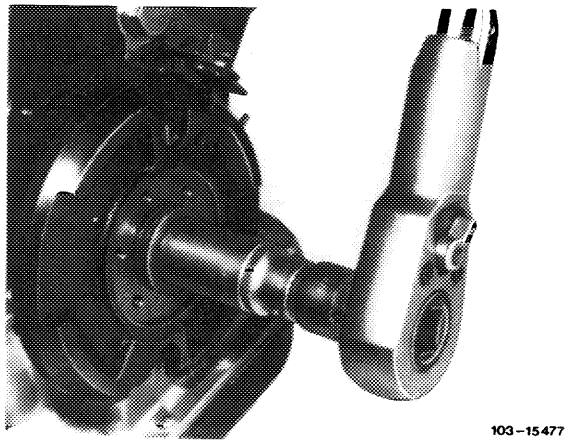
10 Position balance plate on crankshaft so that holes for dowel pins are correctly located.

**Note:** The balance plate is fixed on the crankshaft by two **offset** dowel pins.




11 Fit balance plate on crankshaft with bolt M 18 x 1.5 x 45 and disk springs.

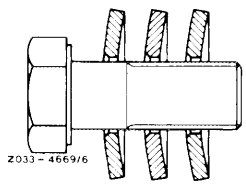
12 Drive both dowel pins home.




13 Fit three disk springs so that convex side points toward bolt head.

14 Tighten bolt on crankshaft to 270–330 Nm (27–33 kpm) securing crankshaft with supporting lock.

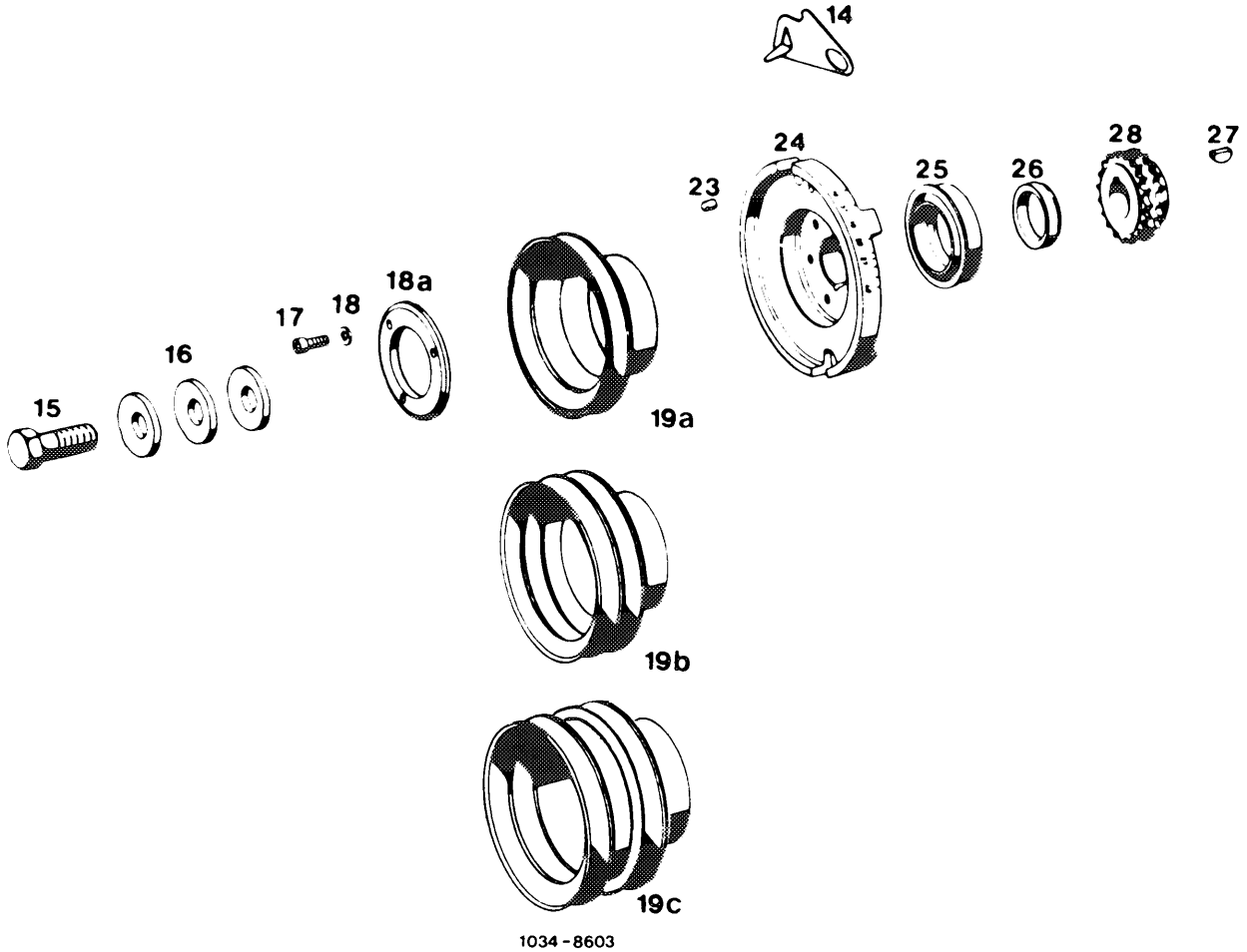
15 On engine 615 in type 115 install strap for front engine stop.




16 Install vibration damper, pulley, fan and radiator.

17 Tighten V-belts (13–340).

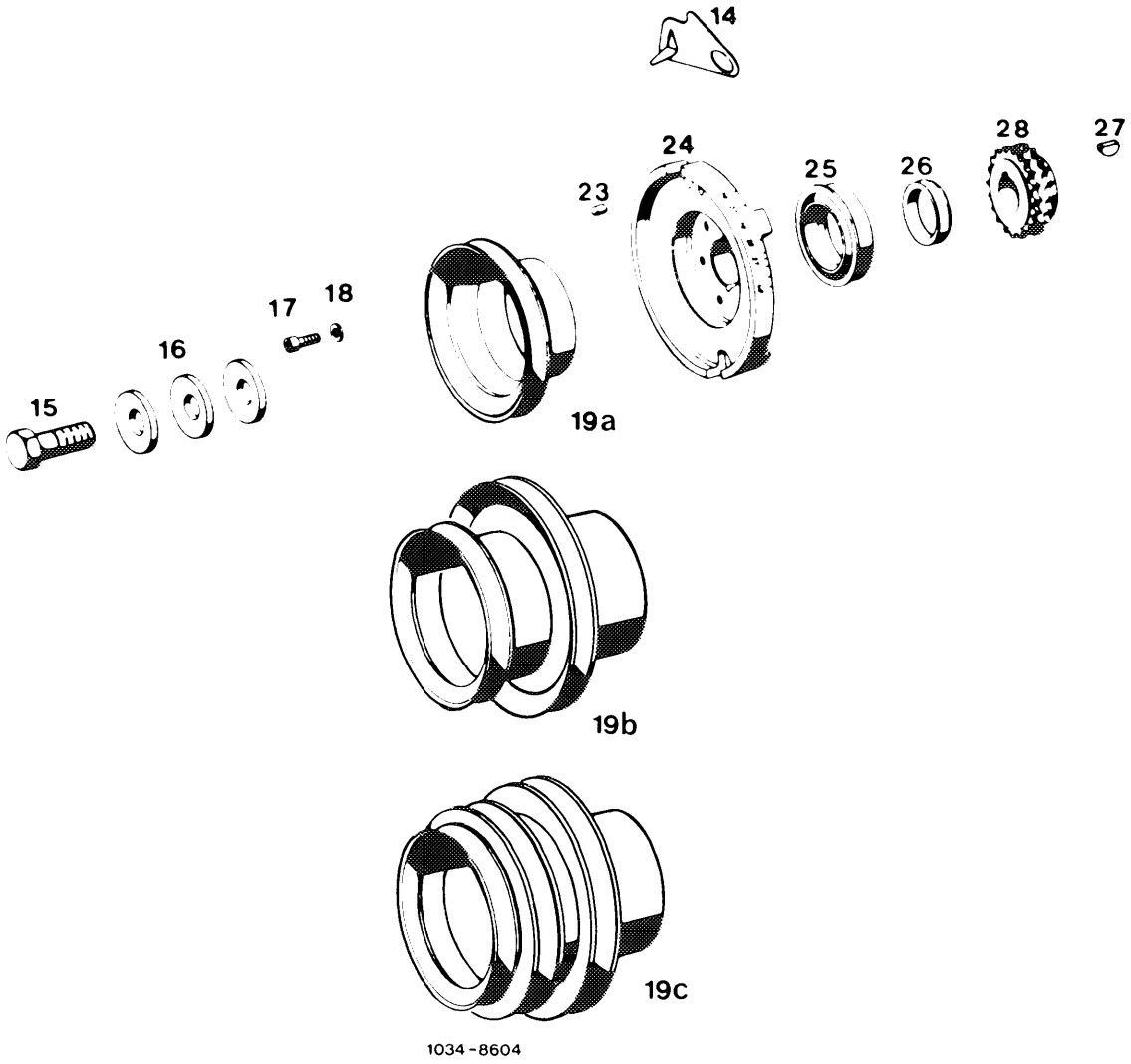
Balance plate and pulley
Engines 615 and 616 in types 115.1 and 123.1
1st version till February 1979




14 Timing pointer
15 Bolt M 18 x 1.5 x 45
16 Disk springs
17 3 bolts M 8 x 20
18 3 washers 8.4
18a Thrust washer
19a Pulley (125 mm dia. for engine 615; 150 mm dia. for engine 616)
19b Pulley for power steering and air conditioning in connection with pulley 19a (thrust washer 18a is omitted in this case)
19c Pulley for types 123.102/103/125 as well as for type 123.183 of greater payload, in connection with pulley 19a (thrust washer 18a is omitted in this case)

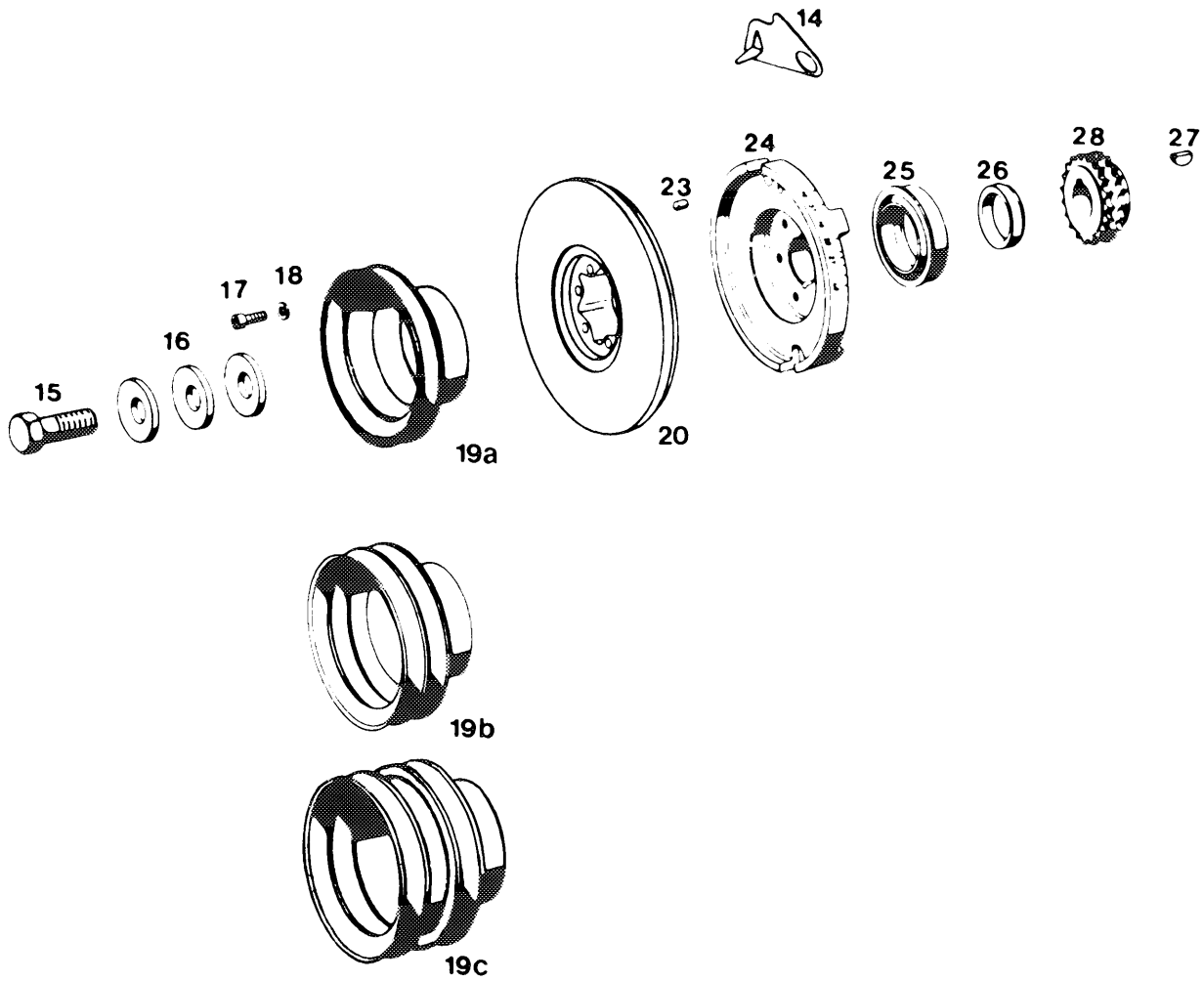
23 2 dowel pins 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket

Balance plate and pulley
Engines 615 and 616 in type 123.1
2nd version from February 1979



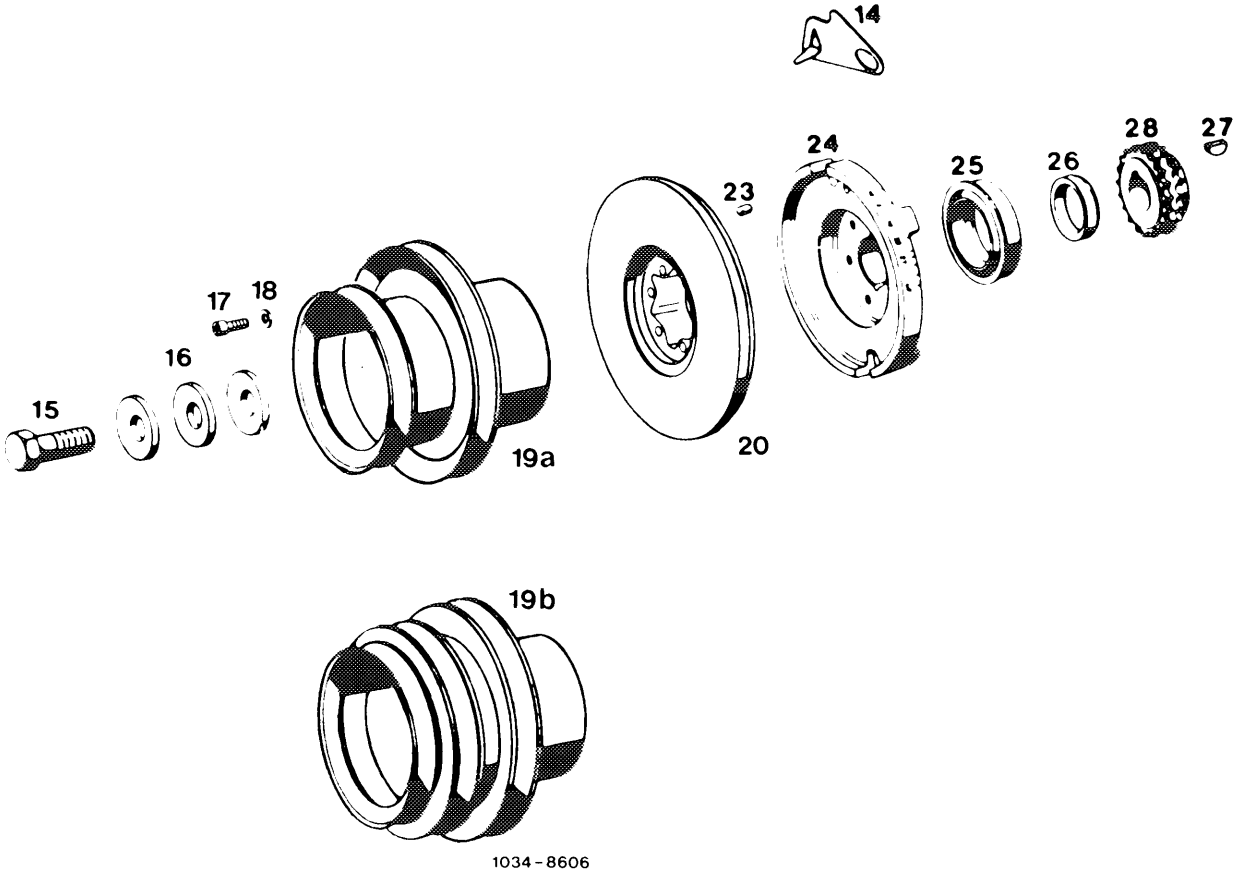

14 Timing pointer
15 Bolt M 18 x 1.5 x 45
16 Disk springs
17 6 bolts M 8 x 20
18 6 washers 8.4
19a Pulley 161 mm dia., sectional width 12.5 mm
19b Pulley for power steering
19c Pulley for power steering and air conditioning
23 2 dowel pins 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket

Balance plate and pulley
Engine 617 in types 115.1 and 123.1
1st version till February 1979




14 Timing pointer
15 Bolt M 18 x 1.5 x 45
16 Disk springs
17 6 bolts M 8 x45
18 6 washers 8.4
19a Pulley 140 mm dia.
19b Pulley for power steering and air conditioning in connection with pulley 19a
19c Pulley for types 123.105/132 as well as for type 123.190 for greater payload in connection with pulley 19a
20 Vibration damper
23 2 dowel pins 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket

Balance plate and pulleys
Engine 617 in type 123.1
2nd version form February 1979




14 Timing pointer
15 Bolt M 18 x 1.5 x 45
16 Disk springs
17 6 bolts M 8 x 45
18 6 washers 8.4
19a Pulley 161 mm dia., sectional width 12.5 mm
19b Pulley for air conditioning
20 Vibration damper
23 2 dowel pins 8 x 8
24 Balance plate
25 Radial seal
26 Spacing ring
27 Woodruff key
28 Crankshaft sprocket