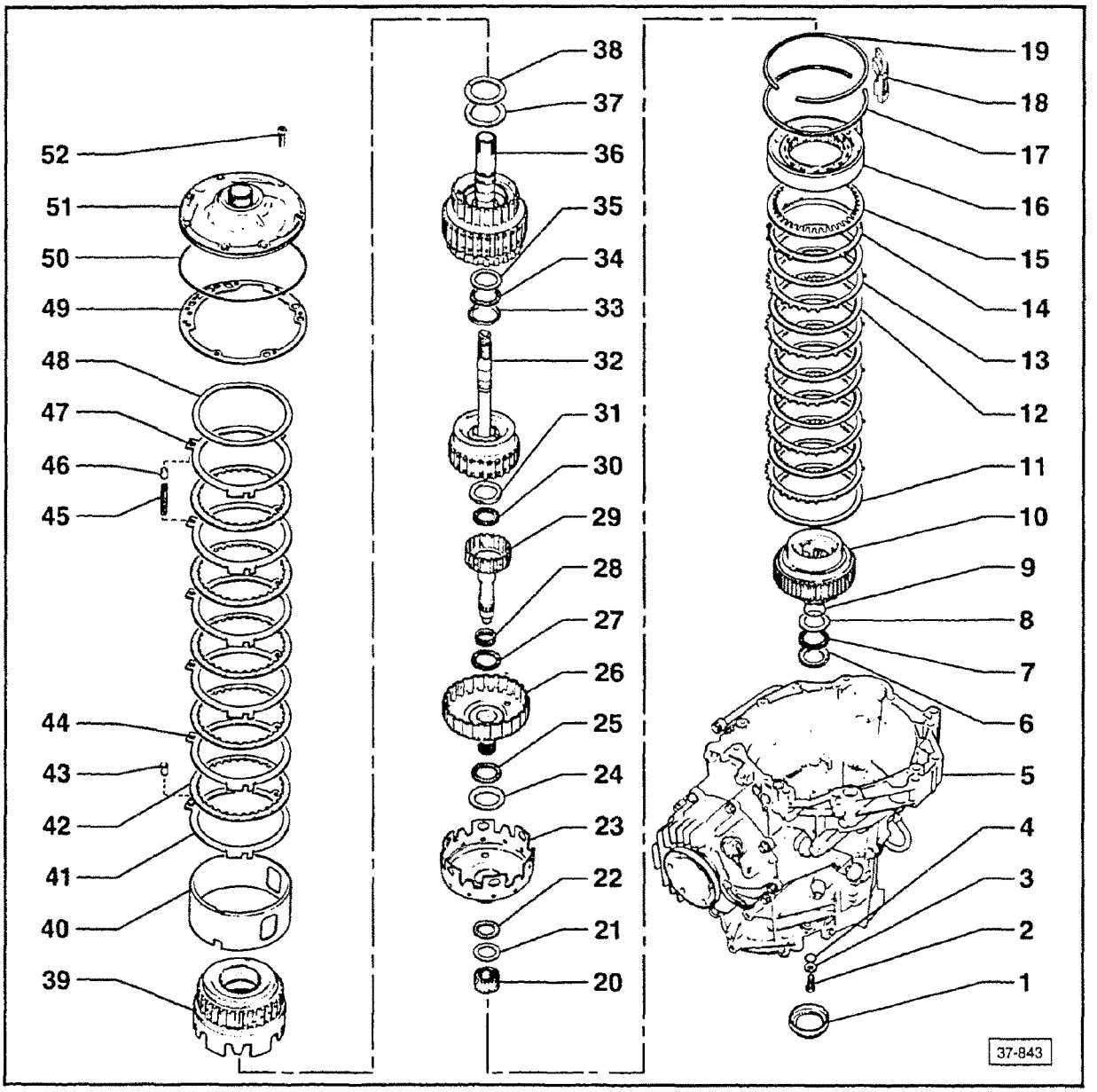
Index

097 4-speed Automatic



CAUTION

Before disassembling planetary gear set, remove valve body. See Repair Group 38.

1 — End cover
- pry out with screwdriver
- drive in with sleeve **40-20**

2 — Bolt — 30 Nm (22 ft lb)
for small driveshaft

3 — Washer

4 — Shim
- for planet carrier
- determining thickness, page 38.8
- adjusting planet carrier: remove drive gear, Repair Group 39

5 — Transmission housing
- valve body assembly, page 38.31
- disassembling/assembling pinion, Repair Group 39
- mounting in repair stand, page 38.5

6 — Washer
lugs toward axial needle bearing

7 — Axial needle bearing
install in planet carrier with washers

8 — **Washer**

9 — **O-ring**
- always replace
- install in planet carrier

10 — **Planet carrier**
- lightly grease washers and needle bearing
- place washers and needle bearing on planet carrier, then install planet carrier plates

11 — **Shim**
- for reverse gear brake (**B1**)
- determining thickness, page 38.10

12 — **Inner splined plate**
- number of plates, see Technical data, Repair Group 37
- before installing new plates, soak in ATF for 15 minutes

13 — **Outer splined plate**
number of plates, see Technical data, Repair Group 37

14 — **Pressure plate**
flat side toward plates

15 — **Plate spring**
curved side toward one-way clutch

16 — **One-way clutch**
- with **B1** piston
- assembly, page 38.18
- installing, page 38.6

17 — **Circlip**
- for one-way clutch
- after installing circlip, install oil deflector
- installed position, page 38.6

18 — **Oil deflector**
- seat in transmission housing groove (near ATF vent hole)
- install deflector **after** installing circlip for one-way clutch and **before** installing circlip for support tube

19 — **Circlip**
- for support tube
- before installing circlip, be sure one-way clutch and oil deflector are in place
- installed position, page 38.6

20 — **Sun gear, small**
install in planet carrier

21 — **Washer**
install with rounded side toward small sun gear

22 — **Axial needle bearing**

23 — **Sun gear, large**
install in planet carrier

24 — **Washer**
install with chamfered side in large sun gear

25 — **Axial needle bearing**

26 — **Driveshaft, large**
install in planet carrier

27 — **Axial needle bearing**

28 — **Needle bearing**

29 — **Driveshaft, small**
install in planet carrier

30 — **Axial needle bearing**
- washer may be integral with needle bearing
- bearing faces small driveshaft

31 — **Washer**
- lugs toward axial needle bearing
- washer may be integral with needle bearing

32 — **3rd/4th gear clutch (K3)**
- with pump shaft
- removing/installing, page 38.6
- assembly, page 38.27

33 — **Washer**
lugs toward axial needle bearing

34 — **Axial needle bearing**

35 — **Washer**

36 — **1st to 3rd gear clutch (K1)**
- with turbine shaft
- assembly, page 38.21

37 — **Shim**
- for **K1/K2** freeplay adjustment
- determining thickness, page 38.13

38 — **Shim**
- for **K1/K2** freeplay adjustment (if second shim is needed)
- determining thickness, page 38.13

39 — **Reverse clutch (K2)**
- installing, page 38.52
- assembly, page 38.25

40 — **Support tube**
- installing, page 38.6
- install so that groove engages in wedge of one-way clutch

41 — **Outer splined plate**
- number of plates, see Technical data, Repair Group 37
- always install 3 mm thick outer plate, page 38.5

42 — **Inner splined plate**
- number of plates, see Technical data, Repair Group 37
- before installing new plates, soak in ATF for 15 minutes
- installing, page 38.5

43 — **Spring cap**
- remove all three
- insert, after installing 1st outer splined plate

44 — **Outer splined plate**
- number of outer plates, see Technical data, Repair Group 37
- always install 2 mm thick outer plate, page 38.5

45 — **Spring**
- remove all three
- insert, before installing the last outer splined plate

46 — **Spring cap**
- remove all three
- insert, before installing the last outer splined plate

47 — Outer splined plate
- number of outer plates, see Technical data, Repair Group 37
- determining thickness of outer plates, page 38.15
- installing, page 38.5

48 — Spring washer, wavy

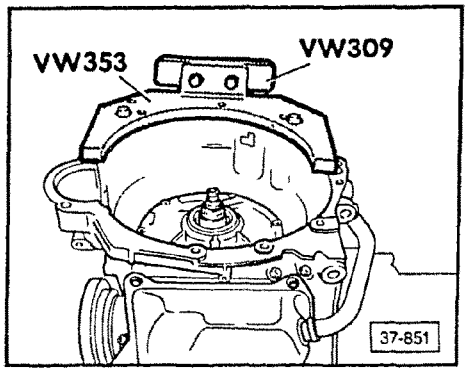
49 — Gasket
always replace

50 — O-ring
- always replace
- place on ATF pump

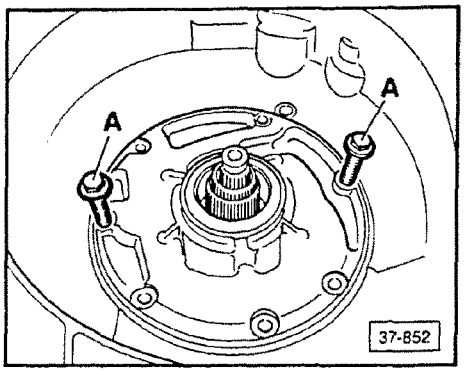
51 — ATF pump
- assembly, page 38.17
- removing/installing, page 38.5

52 — 10 Nm (7 ft lb)

Transmission, disassembling/ assembling



Mounting transmission in repair stand

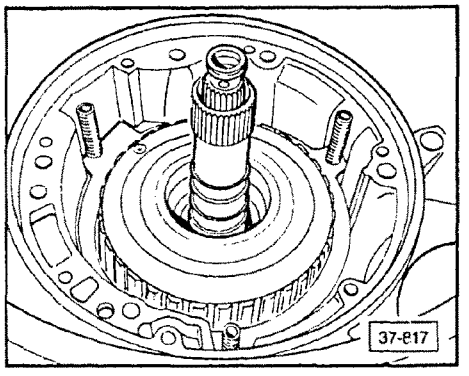


ATF pump, replacing

- extract pump from transmission housing by turning bolts **A**

Note

When installing pump, ensure that gasket is seated.

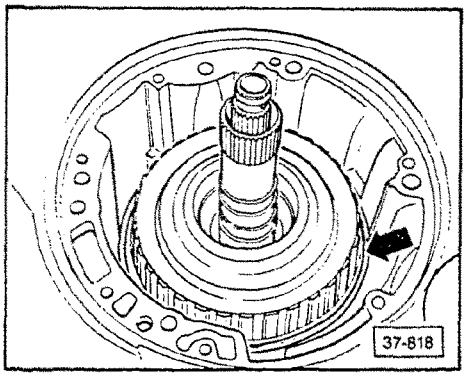


2nd/4th gear brake (B2) plates, replacing

- remove all plates, springs and caps, together with clutches
- install 3 mm outer plate
- install spring caps/springs (three each)
- install all inner plates and 2 mm outer plates (see illustration 37-843 for installation sequence)

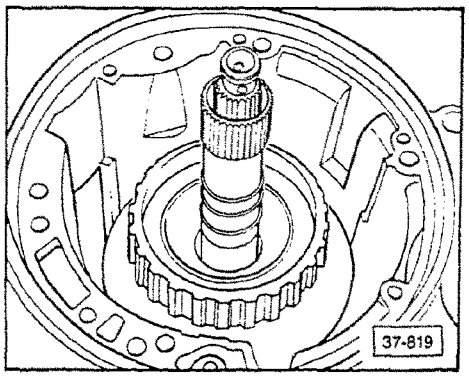
Note

Before installing the last measured outer plate, place a spring cap over each of the three springs.



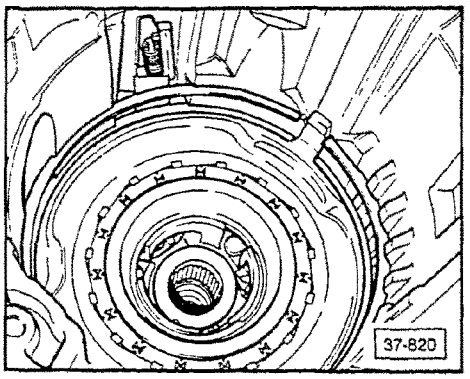
Reverse clutch (K2) and support tube, installing

- install reverse clutch on shims
- install support tube (**arrow**) so that groove engages in wedge of one-way clutch



3rd/4th gear clutch (K3), installing

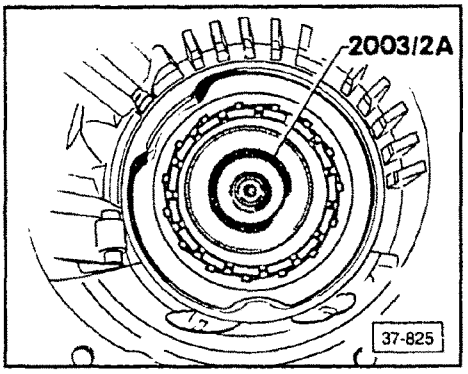
- assemble 1st to 3rd gear clutch (**K1**) and 3rd/4th gear clutch (**K3**) with washers and axial needle bearing (see illustration 37-843 for installation sequence)
- install assembly, altogether



Circlip for one-way clutch (F) and circlip for support tube, installed position

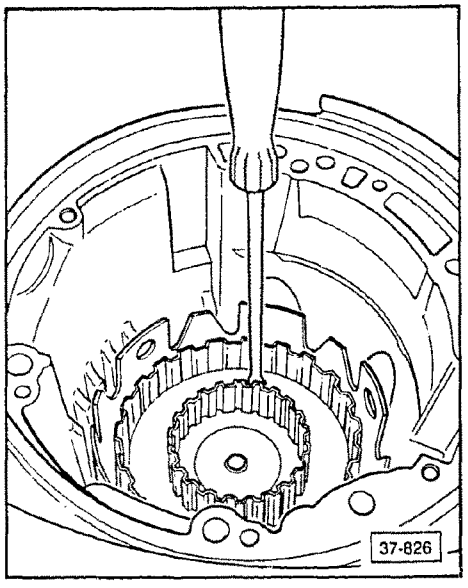
Note

Install oil deflector **after** installing circlip for one-way clutch and **before** installing circlip for support tube



One-way clutch, installing

- position arbor **2003/2A** on planet carrier as shown
- press one-way clutch over arbor, onto planet carrier



Bolt for small driveshaft, replacing

- bolt located in bore of driveshaft and large sun gear

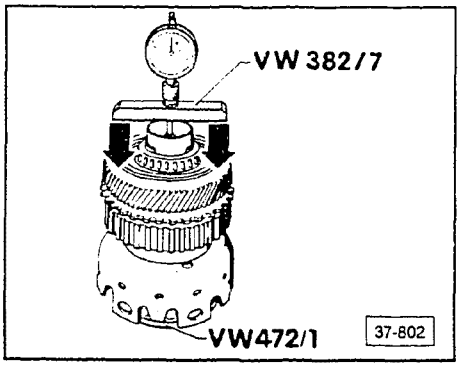
Planet carrier, adjusting/checking

Note

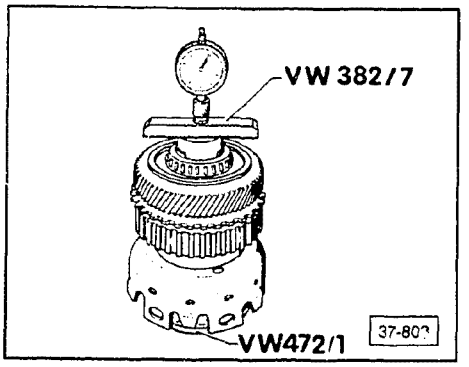
The following components should already be assembled to the small driveshaft:

- planet carrier with washers and needle bearing
- small sun gear
- drive gear with axial needle bearing

Shim thickness, determining



- set up measuring equipment as shown
  - dial indicator sensor must contact small driveshaft
- "zero" dial indicator, with 3 mm preload



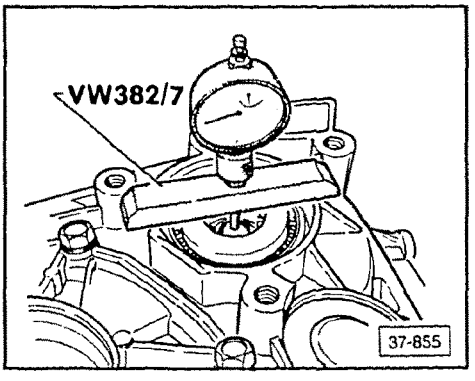
- reposition dial indicator sensor onto axial needle bearing
- record measurement
  - example: 2.00 mm
- use recorded measurement to select appropriate shim thickness from chart which follows:

Dial Gauge Measurement	Thickness Shim (mm)
1.26 ... 1.35	1.0
1.36 ... 1.45	1.1
1.46 ... 1.55	1.2
1.56 ... 1.65	1.3
1.66 ... 1.75	1.4
1.76 ... 1.85	1.5
1.86 ... 1.95	1.6
1.96 ... 2.05	1.7
2.06 ... 2.15	1.8
2.16 ... 2.25	1.9
2.26 ... 2.35	2.0
2.36 ... 2.45	2.1
2.46 ... 2.55	2.2
2.56 ... 2.65	2.3
2.66 ... 2.75	2.4
2.76 ... 2.85	2.5
2.86 ... 2.95	2.6
2.96 ... 3.05	2.7
3.06 ... 3.15	2.8
3.16 ... 3.25	2.9

Example

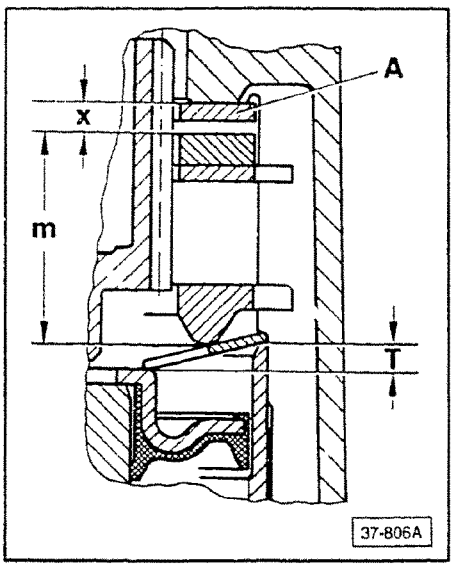
For a measurement of 2.00 mm, select a 1.7 mm shim.

Adjustment, checking



- set up measuring equipment, with dial indicator contacting small driveshaft bolt head
- move small shaft to upper/lower limits of travel
- measure freeplay
  - freeplay minimum: 0.23 mm
  - freeplay maximum: 0.37 mm

Reverse brake (B1), adjusting/ checking



Shim thickness, determining

Note

A shim selection chart appears in this section. Thickness values in the chart are determined by the value of Gap **x**, which must be calculated in the following equation:

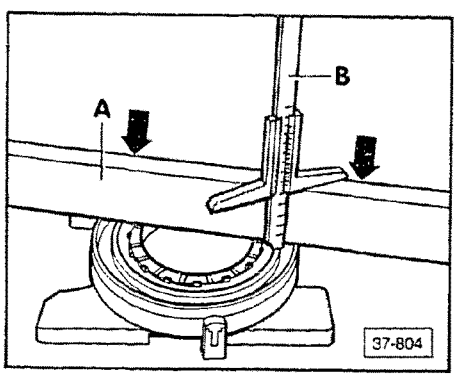
$$\text{Gap } \mathbf{x} = \mathbf{k} + \frac{\mathbf{T}}{2} - \mathbf{m}$$

k = constant value = 26.8 mm

K is determined per transmission housing and number of plates:

k=	No. of plates inner	outer
26.8	5	5
30.5	6	6

The remaining variables (**T, m**) in the equation are measured, as follows:

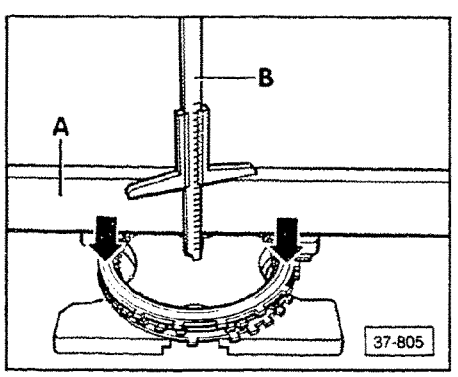


Variable T, determining

- place straightedge **A** on outer race of one-way clutch
- press piston in, to stop, in direction of **arrows**
- measure inner edge of piston with depth gauge **B**

Example

depth gauge reading	51.8 mm
– straightedge thickness	48.2 mm
	T = 3.6 mm



Variable m, determining

- place straightedge **A** on thrust plate
- press plates together in direction of **arrows**
- measure thickness of plate set using depth gauge **B**

Example

depth gauge reading	73.5 mm
– straightedge thickness	48.2 mm
	m = 25.3 mm

Value of Gap x, calculating

Example

$$\text{Gap } x = k + \frac{T}{2} - m$$

$$= 26.8 + \frac{3.6}{2} - 25.3$$

$$= 3.3 \text{ mm}$$

Note

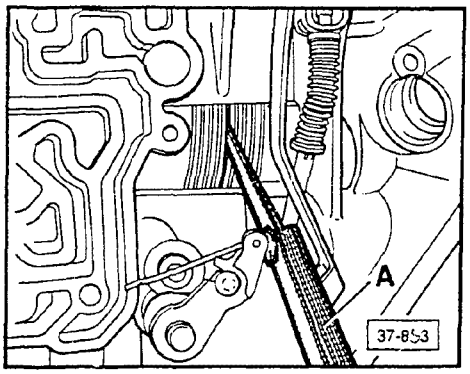
Use calculated value for Gap **x** (derived from actual measurements) to select appropriate shim thickness(es):

Gap x (mm)	Shim (mm)
2.36 . . . 2.45	1.0
2.46 . . . 2.55	1.1
2.56 . . . 2.65	1.2
2.66 . . . 2.75	1.3
2.76 . . . 2.85	1.4
2.86 . . . 2.95	1.5
2.96 . . . 3.05	1.6
3.06 . . . 3.15	1.7
3.16 . . . 3.25	1.8
3.26 . . . 3.35	1.9
3.36 . . . 3.45	1 + 1
3.46 . . . 3.55	1 + 1.1
3.56 . . . 3.65	1.1 + 1.1
3.66 . . . 3.75	1.1 + 1.2
3.76 . . . 3.85	1.2 + 1.2
3.86 . . . 3.95	1.2 + 1.3
3.96 . . . 4.05	1.3 + 1.3
4.06 . . . 4.15	1.3 + 1.4
3.16 . . . 4.25	1.4 + 1.4

Adjustment, checking

Note

Ensure that components up to one-way clutch are properly assembled and secured with circlip.



- measure freeplay between plates with feeler gauge **A**
  - freeplay minimum 1.20 mm
  - freeplay maximum 1.80 mm

Clutches K1 and K2, adjusting/ checking freeplay

Note

K1 = 1st to 3rd gear clutch

K2 = reverse gear clutch

Shim thickness, determining

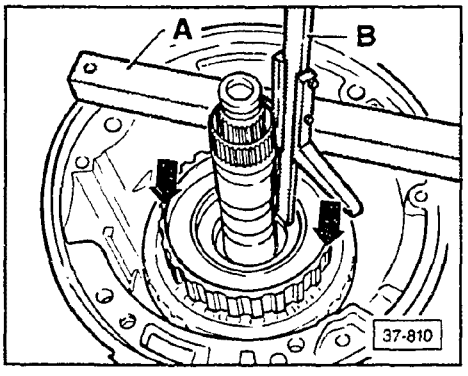
Note

A shim selection chart appears in this section. Thickness values in the chart are determined by the value of Gap **x**, which must be calculated in the following equation:

Gap **x** = **y** − **z**

Variables **y** and **z** in the equation are measured as follows:

Variable y, determining



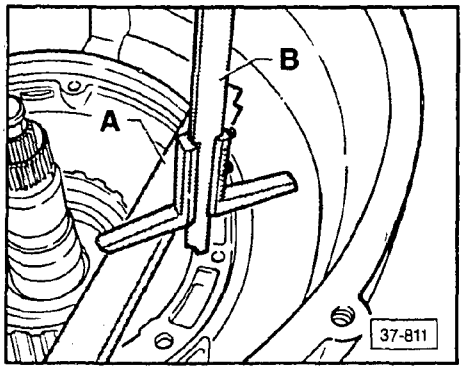
- place straightedge **A** on transmission housing
- press **K1** down, in direction of **arrows**
- measure into **K1** with depth gauge **B**

Example

depth measurement 1 = 88.5 mm

Note

Record value, and take depth measurement 2:



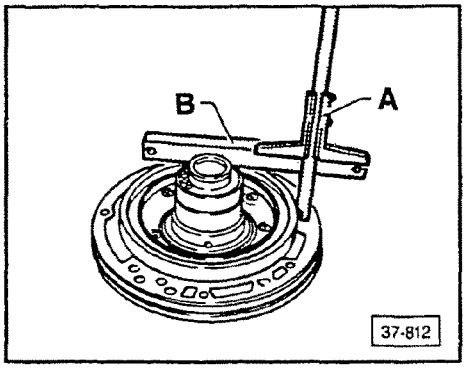
- place straightedge **A** on transmission housing
- position depth gauge **B** on striaghtedge **A** and measure to ATF pump flange

Example

depth measurement 2 = 34.3 mm

y = measurement 1 − measurement 2
= 88.5 mm − 34.3 mm
= 54.2 mm

measurement from pump flange into **K1**



Variable z, determining

- place straightedge **B** on stator support as shown
- measure to pump flange gasket with depth gauge **A**

Example

depth gauge reading	70.5 mm
– straightedge thickness	19.5 mm
	z = 51.0 mm

Value of Gap x, calculating

Example

Gap **x** = **y** – **z**
= 54.2 mm – 51.0 mm
= 3.2 mm

Note

Use calculated value for Gap **x** (derived from actual measurements) to select appropriate shim thickness(es):

Gap x (mm)	Shims (mm)
. . . . 2.54	1.4
2.55 . . . . 3.09	1 + 1
3.10 . . . . 3.49	1.2 + 1.2
3.50 . . . . 3.89	1.4 + 1.4
3.90 . . . . 4.29	1.6 + 1.6
4.30 . . . . 4.69	1.8 + 1.8
4.70 . . . . 5.04	1.2 + 1.2 + 1.6
5.05 . . . . 5.25	1.2 + 1.2 + 1.8

Adjustment, checking

See Clutch adjustment, checking (page 38.16)

2nd/4th gear brake (B2), adjusting

Last outer splined plate, determining thickness

Note

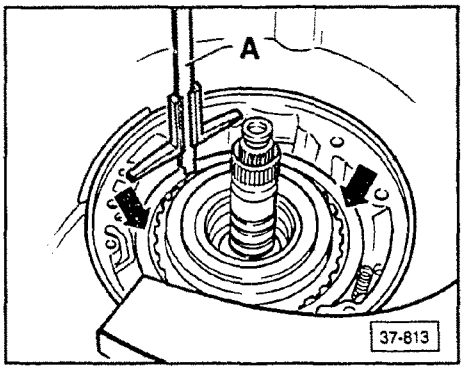
A shim selection chart appears in this section. Thickness values in the chart are determined by the value of Gap **x**, which must be calculated in the following equation:

Gap **x** = **y** – **z** – **k**

k = constant value = 3.6

The remaining variables (**y**, **z**) in the equation are measured as follows:

Variable y, determining

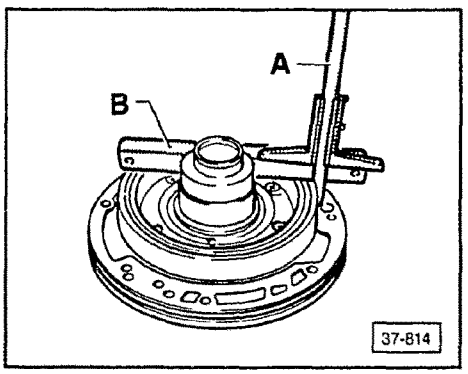


- press inner splined plate (**arrows**) downward
- measure from pump flange **A** to last inner splined plate, using depth gauge **B**

Example

gauge reading = variable **y** = 30.2 mm

Variable z, determining



- place straightedge **A** on stator support as shown
- measure to pump flange gasket with depth gauge **B**

Example

depth gauge reading	40.1 mm
– straightedge thickness	19.5 mm
	z = 20.6 mm

Value of Gap x, calculating

Example

Gap **x** = **y** – **z** – **k**
= 30.2 – 20.6 – 3.6
= 6.0 mm

Note

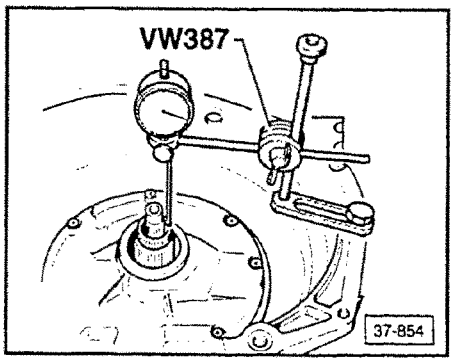
Use calculated value for Gap **x** (derived from actual measurements) to select appropriate plate thickness(es):

Gap x (mm)	Plate (mm)
4.25. . . . 4.49	2.75
4.50. . . . 4.74	3.00
4.75. . . . 4.99	3.25
5.00. . . . 5.24	3.50
5.25. . . . 5.49	3.75
5.50. . . . 5.74	2.00 + 2.00
5.75. . . . 5.99	2.00 + 2.25
6.00. . . . 6.24	2.25 + 2.25
6.25. . . . 6.49	2.25 + 2.50
6.50. . . . 6.74	2.50 + 2.50
6.75. . . . 7.00	2.50 + 2.75

Clutch adjustment, checking

Note

Install ATF pump before measuring clutch freeplay.



- secure dial indicator holder **VW 387** to transmission housing
- position dial indicator sensor on turbine shaft, with 1 mm preload
- move turbine shaft to upper/lower limits of travel
  - freeplay minimum 0.5 mm
  - freeplay maximum 1.2 mm

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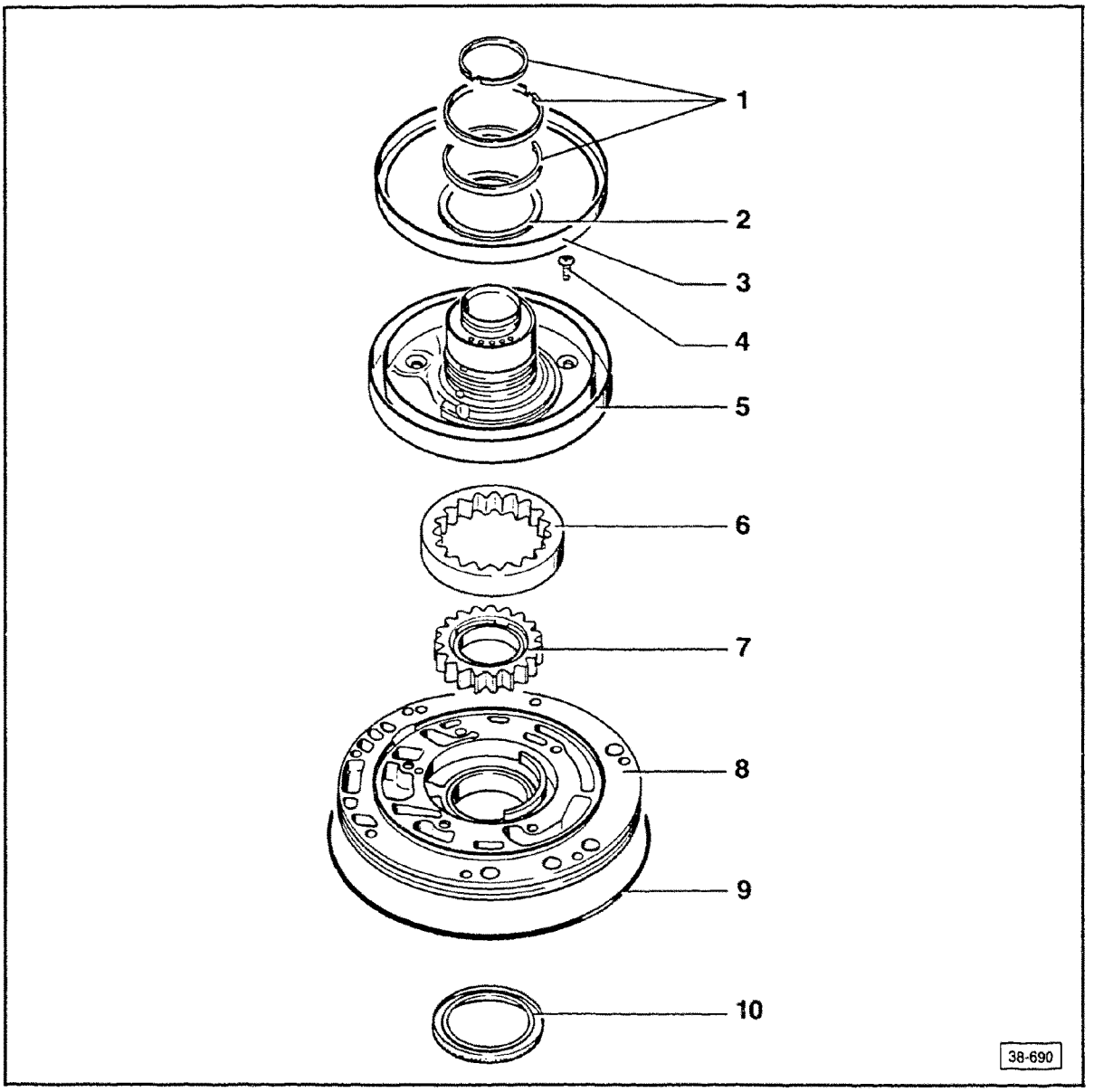


1 — **Piston rings**
check for proper seating

2 — **Thrust washer**

3 — **Piston**
- coat sealing lips with ATF before installing piston
- turn piston slightly while installing

4 — **10 Nm (7 ft lb)**

5 — **Stator support**

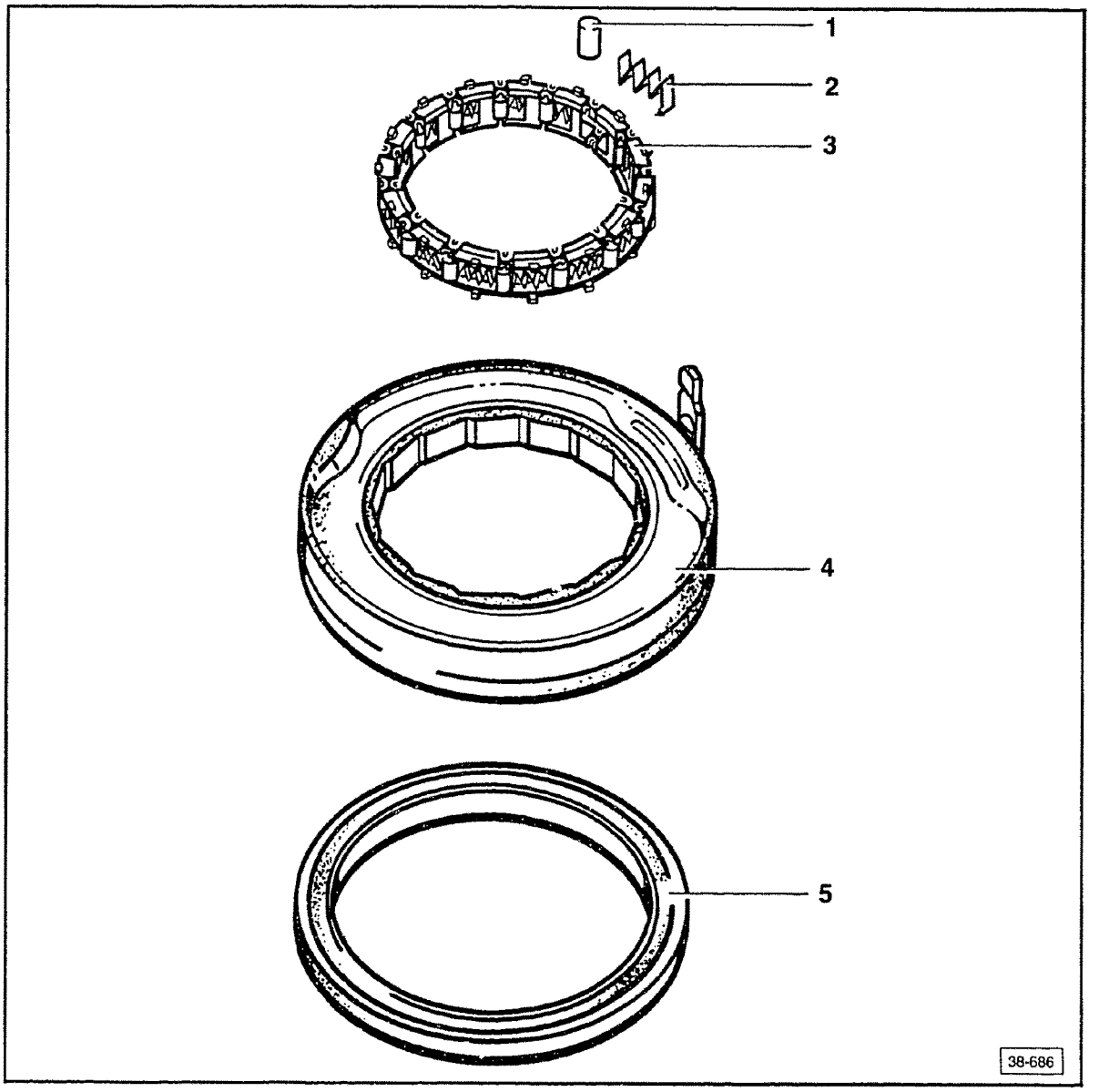
6 — **Outer gear**
- coat with ATF before installing
- marked side must face stator support
- if installed incorrectly, pump may turn stiffly

7 — **Inner gear**
coat with ATF before installing

8 — **ATF pump housing**

9 — **O-ring**
always replace

10 — **Oil seal for torque converter**
removing/installing, see Repair Group 32



1 — **Rollers**
installing, page 38.19

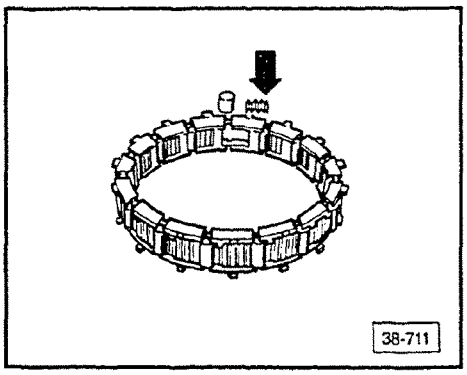
2 — **Springs**
installing, page 38.19

3 — **Cage**
installing/securing, page 38.19

4 — **Outer ring**

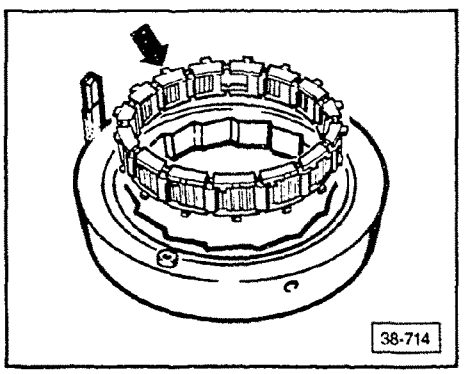
5 — **Piston**
- coat sealing lips with ATF before installing piston
- turn piston slightly while installing
- installed position, page 38.20

One-way clutch with B1 piston, disassembling/assembling



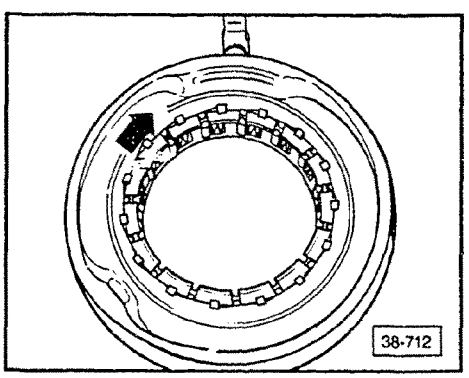
Springs/rollers, installing

- install spring (**arrow**) so that it seats in cage



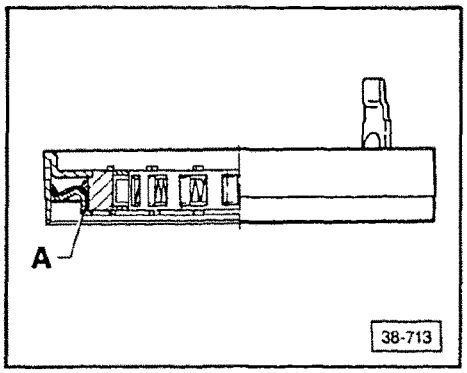
Spring/roller cage assembly, installing

- install with lugs (**arrow**) upward



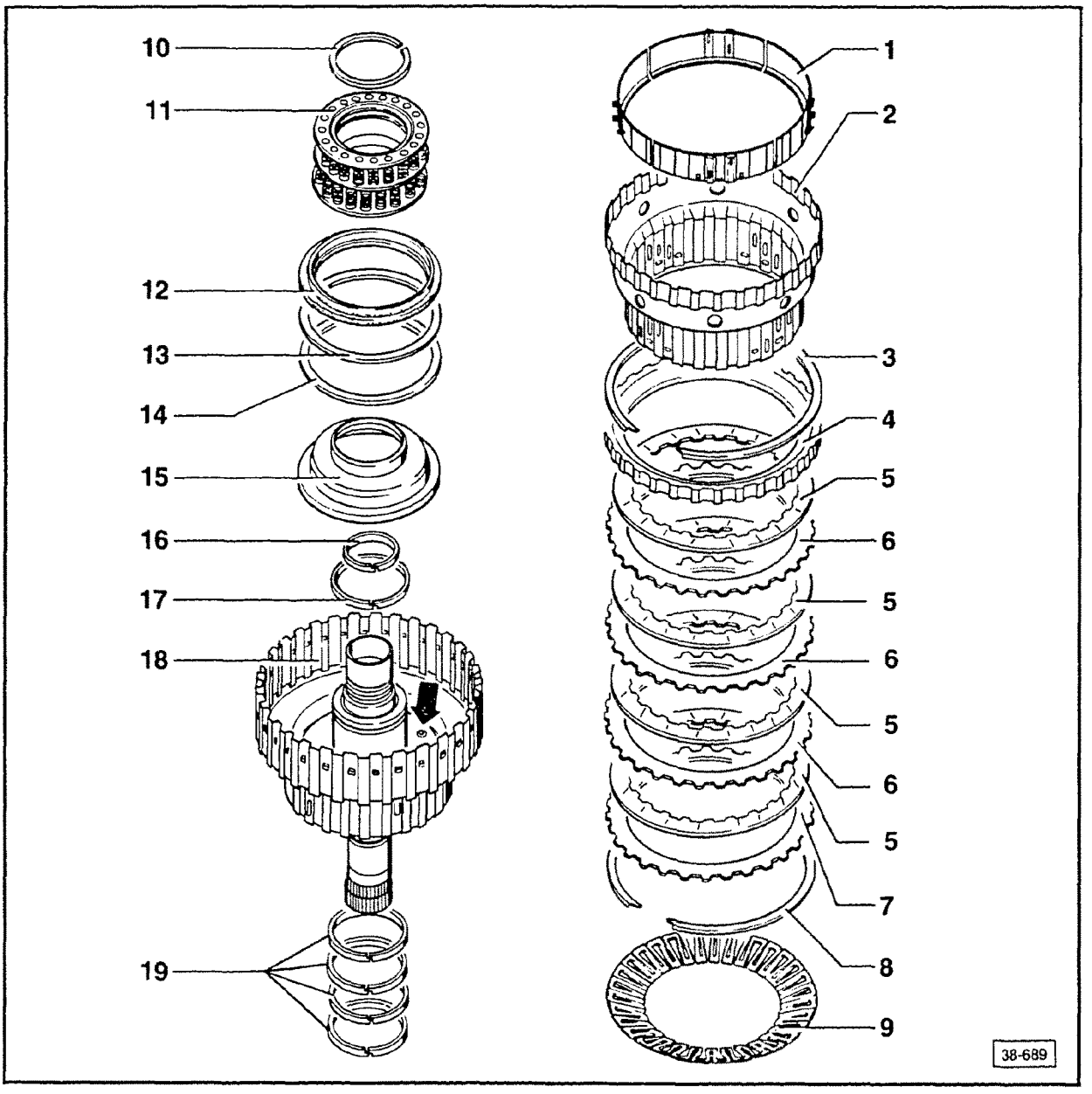
Cage assembly, securing

- turn cage in direction of **arrow**, to stop



Piston, installed position

- install piston **A** as shown



CAUTION

During clutch repair, inspect ball valve (**arrow**) for damage.

1 — **Support ring**
- has four segments
- unclip from inner splined plate carrier
- installing, page 38.24

2 — **Inner splined plate carrier**
assembling, page 38.24

3 — **Circlip**
- mark after removal and install in same position
- different thicknesses available
- removing/installing, page 38.24

4 — **Thrust plate**
- smooth side faces inner plates
- install together with inner plate carrier

5 — **Inner splined plate**
- number of plates, see Technical data, Repair Group 37
- installing, page 38.24

6 — Outer splined plate
- number of plates, see Technical data, Repair Group 37
- installing, page 38.24

7 — Thrust plate
curved side faces diaphragm spring

8 — Circlip
removing/installing, page 38.23

9 — Diaphragm spring
curved side faces piston

10 — Circlip
removing/installing, page 38.23

11 — Spring intermediate ring assembly
with guide for compression springs

12 — Operating ring
rounded surface faces spring intermediate ring assembly

13 — Plate spring
- curved side faces operating ring
- installing, page 38.23

14 — Plate spring
- curved side faces piston
- installing, page 38.23

15 — Piston
- coat sealing lips with ATF before installing piston
- turn piston slightly while installing

16 — Piston ring, smaller
to remove, unhook ends

17 — Piston ring, larger
to remove, unhook ends

18 — Clutch drum with turbine shaft
- replace drum if bushings are damaged
- before installing inner plate carrier, place an inner and outer plate in clutch drum
- assembling, page 38.24

19 — Piston rings
to remove, unhook ends

1st to 3rd gear clutch (K1) with turbine shaft, disassembling/ assembling

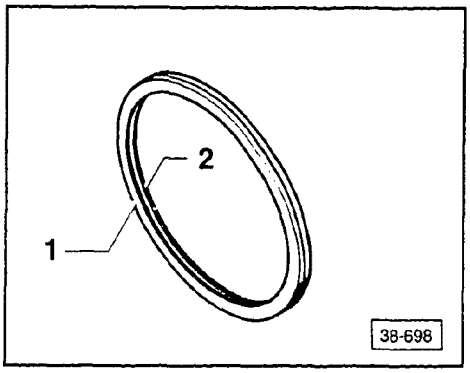
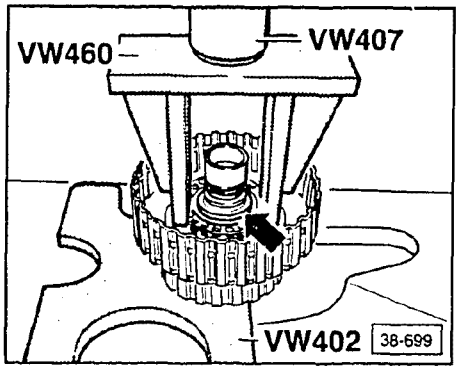


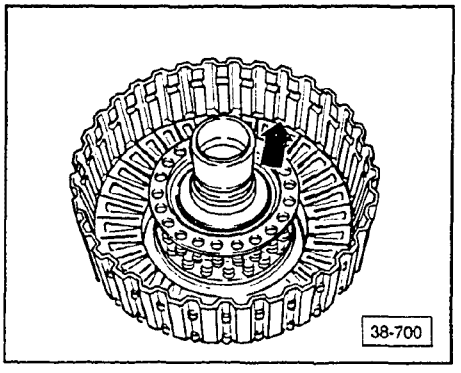
Plate springs, installing

- install plate springs **1** and **2** so that outer edges make contact
  - at inner diameter of plates there is clearance



Circlip at spring intermediate ring assembly, removing/installing

- set up pressing equipment as shown
- push spring intermediate ring downward until circlip (**arrow**) can be seated/unseated at groove

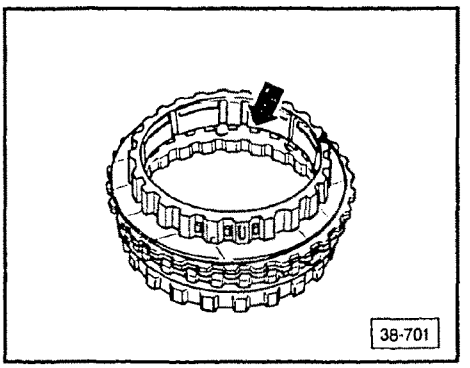


Circlip at diaphragm spring, removing/ installing

- seat/unseat circlip (**arrow**) at groove

Note

Diaphragm spring is slightly preloaded.

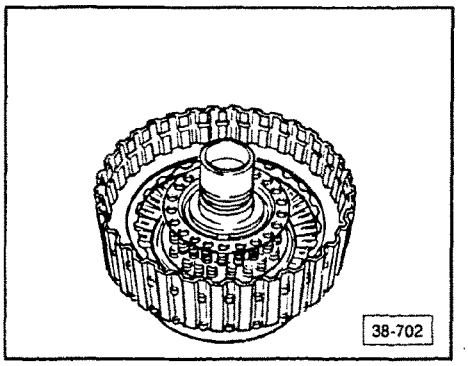


Inner splined plate carrier, assembling

- install thrust plate
- install inner and outer plates
- clip support ring to carrier

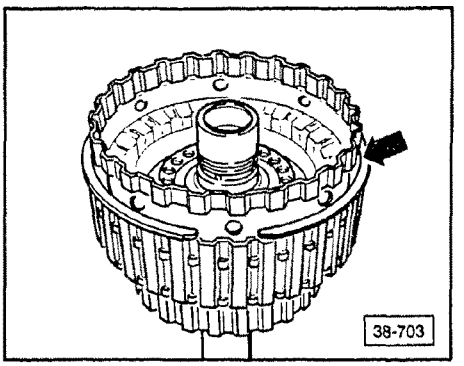
Note

One inner and one outer plate must be placed in clutch drum before inner splined plate carrier is installed (see below).



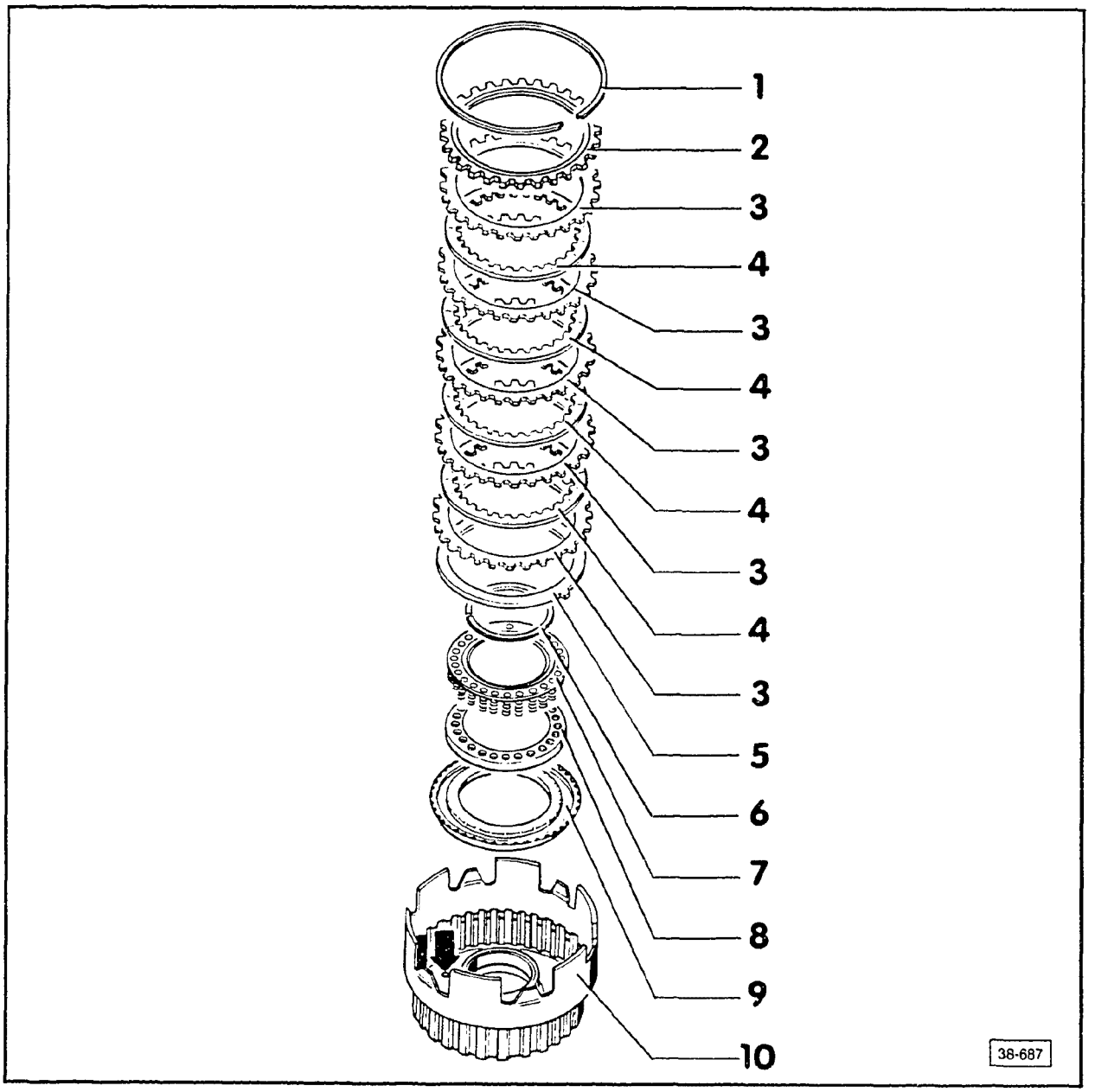
Clutch drum, assembling

- install thrust plate
- install one inner plate
- install one outer plate



Circlip at inner splined plate carrier, removing/installing

- seat/unseat circlup (**arrow**) at groove



CAUTION

During clutch repair, inspect ball valve (**arrow**) for damage.

1 — **Circlip**
- mark after removal and install in same position
- different thicknesses available

2 — **Thrust plate**
shouldered side faces circlip

3 — **Outer plate**
number of plates, see Technical data, Repair Group 37

4 — **Inner plate**
number of plates, see Technical data, Repair Group 37

5 — **Spring washer, wavy**

6 — **Circlip**
removing/installing, page 38.26

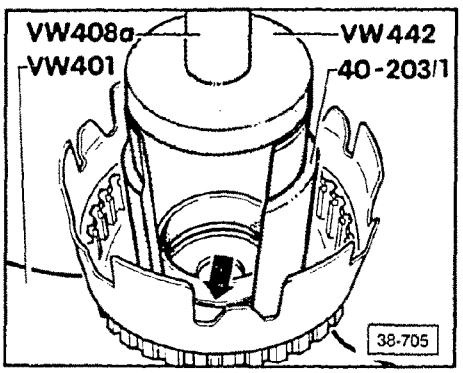
7 — **Spring support plate**
- with springs
- installed position, page 38.26

8 — **Spring support ring**

9 — **Piston**
- coat sealing lips with ATF before installing piston
- turn piston slightly while installing

10 — **Clutch drum with clutch tube**

Circlip for reverse clutch (K2) spring support assembly, replacing



Removing

- set up pressing equipment as shown
- push spring support plate downward

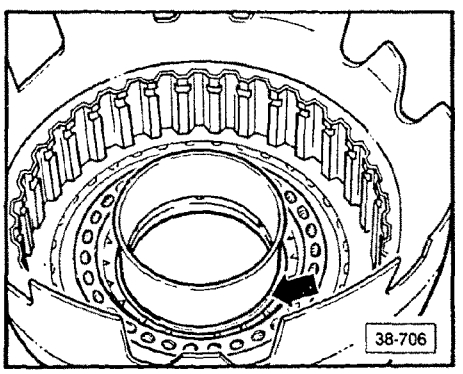
CAUTION

Spring plate bends easily.

- spread/remove circlip

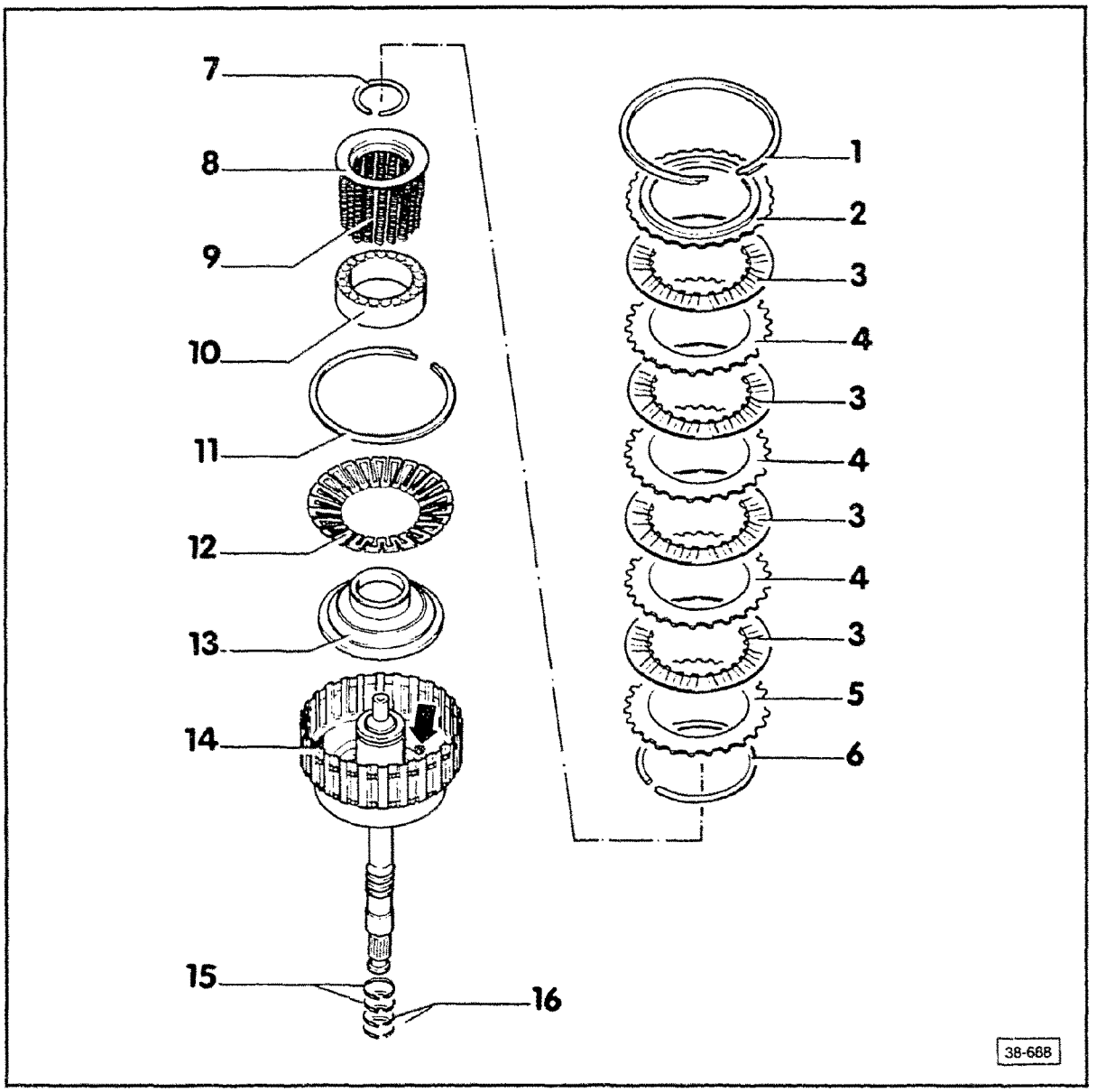
Installing

- position new circlip
- press new circlip down carefully with spring support plate, as in removal
- seat circlip in groove at clutch drum



Installed position, checking

- check that circlip (**arrow**) is fully seated at clutch drum
- check that spring support plate is concentric with hub
  - if not, plate will bend



CAUTION

During clutch repair, inspect ball valve (**arrow**) for damage.

1 — Circlip
- mark after removal and install in same position
- different thicknesses available

2 — Pressure plate
shouldered side faces circlip

3 — Inner plate
number of plates, see Technical data, Repair Group 37

4 — Outer plate
number of plates, see Technical data, Repair Group 37

5 — Thrust plate
rounded side faces ring

6 — Ring
install in rounded side of thrust plate

7 — Circlip
replacing, page 38.29

8 — Spring support ring

9 — Springs
place on support ring

10 — Spring support plate

11 — Circlip
seat in grove at clutch drum

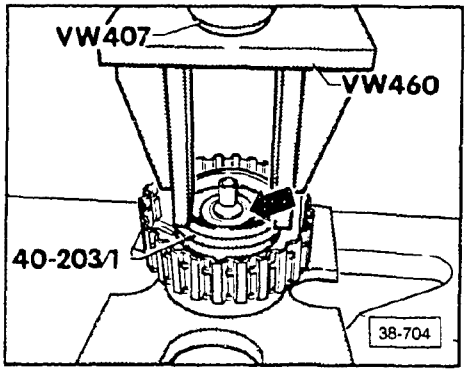
12 — Diaphragm spring
curved side faces piston

13 — Piston
- coat sealing lips with ATF before installing piston
- turn piston slightly while installing

14 — Clutch drum with pump shaft

15 — Piston rings
- remove/replace only if defective
- are destroyed during removal

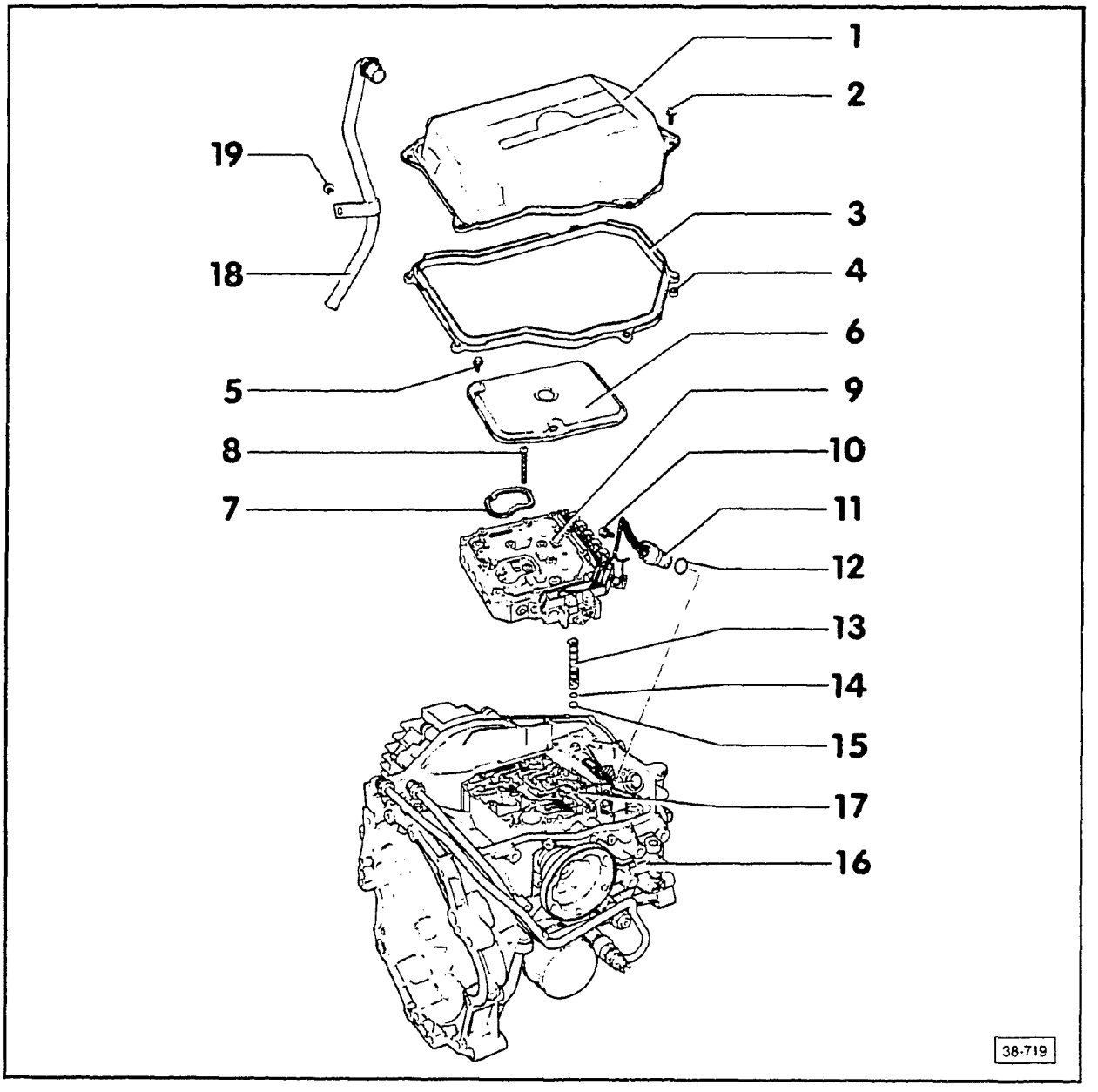
16 — Piston rings
to remove, unhook ends



Circlip for 3rd/4th gear clutch (K3) spring support assembly, replacing

- set up pressing equipment as shown
- seat new circlip at spring support assembly (**arrow**)

intentionally
left blank



Note

The valve body can be removed with transmission in vehicle. Replace valve body if unit is contaminated or defective.

After installing oil pan, refill with ATF to specifications.

CAUTION

Do not run engine or tow vehicle with oil pan removed, or without oil in transmission.

1 — **Oil pan**
remove ATF filler tube before removing oil pan

2 — **10 Nm (7 ft lb)**

3 — **Gasket**
- always replace
- press spacer into gasket

4 — **Spacer**
press into gasket

5 — **Oil strainer**
- seat seal
- installed position, page 38.33

6 — **Valve body**
- installed position, page 38.34
- identifying, page 38.33

7 — 10 Nm (7 ft lb)

8 — **Wiring connector**
install with O-ring

9 — **O-ring**
always replace

10 — **Sealing plug**
- remove plug before removing/installing one-way clutch
- *installing, page 38.34*

11 — **O-ring**
always replace

12 — **O-ring**
always replace

13 — **Operating rod for manual valve**
- positioning, page 38.34
- shouldered side faces manual valve

14 — **Final drive housing**

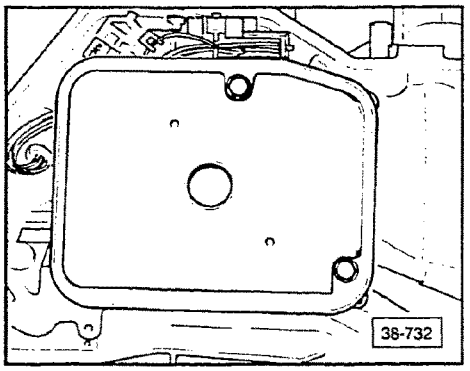
15 — **Seal**
- always replace
- seat in oil strainer

16 — 5 Nm (44 in. lb or 51 cm kg)

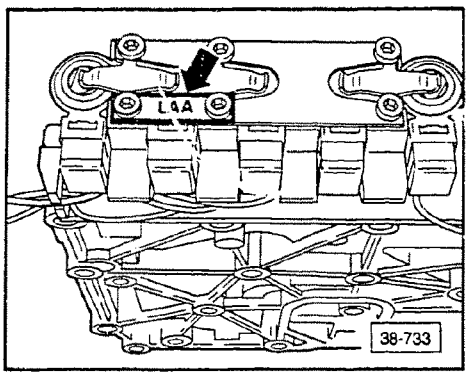
17 — 8 Nm (71 in. lb or 82 cm kg)

18 — **ATF filler tube**
tightening torque at oil pan: 80 Nm (59 ft lb)

19 — 10 Nm (7 ft lb)



Oil strainer, installed position



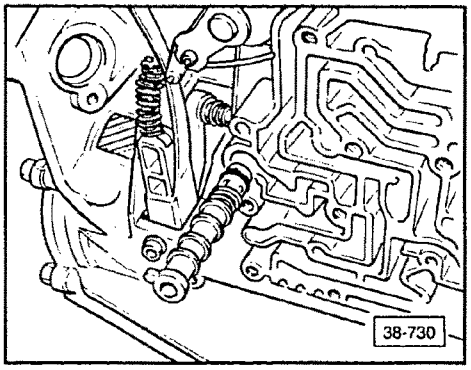
Valve body, identifying

Note

Code letters are stamped on a metal tag which must remain attached to the valve body.

For valve body application, see Technical data in Repair Group 37.

Valve body, disassembling/assembling

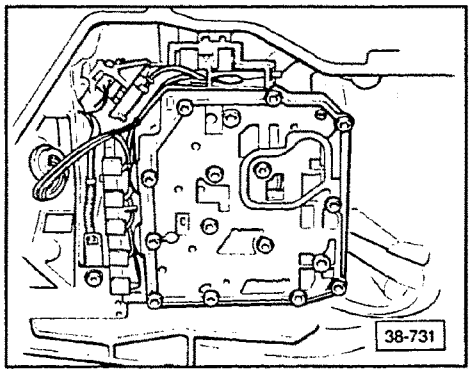


Sealing plug, installing

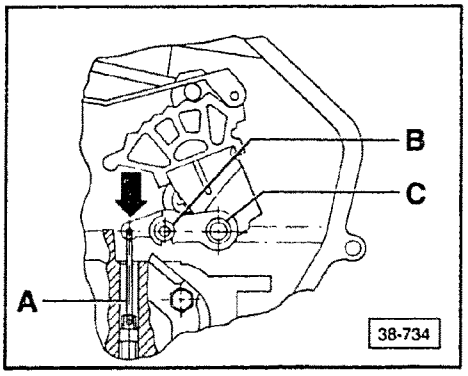
- install O-rings on plug
- install plug so that lug seats in groove on housing

CAUTION

Before removing/installing one-way clutch, remove sealing plug from housing to avoid damage to plug and O-ring.



Valve body, installed position

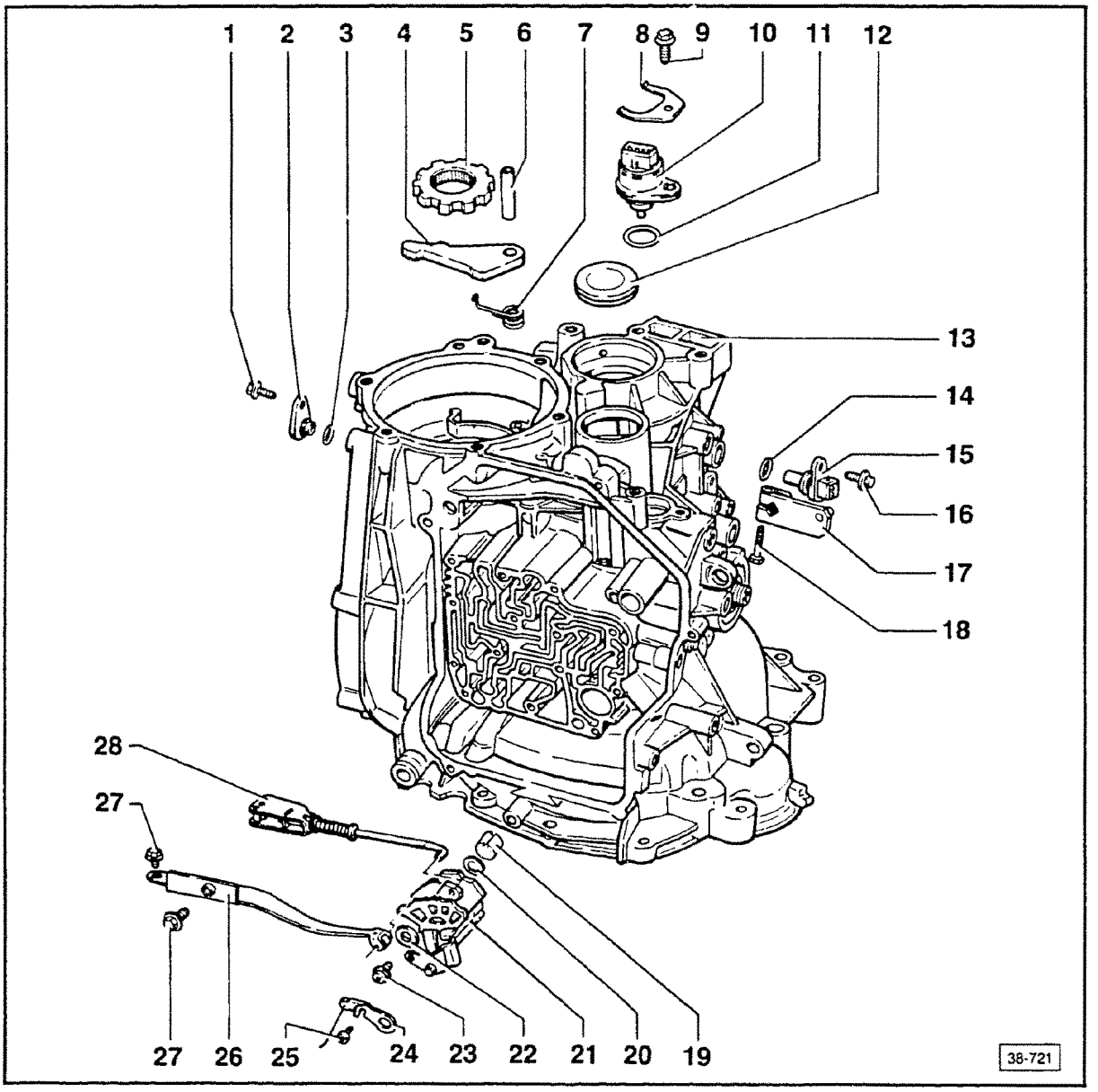


Manual valve assembly, installing

- move shaft to selector lever position **P**
- install manual valve assembly fully into valve body
  - operating rod **A** positioned in direction of **arrow**
- tighten stop screw **B** to 4 Nm (35 in. lb or 41 cm kg)

CAUTION

The manual valve lever **C** must remain against stop screw **B** during installation. When tightening screw **B** at manual valve lever **C**, counter-hold lever in direction of **arrow**.



1 — **10 Nm (7 ft lb)**

2 — **Sealing plug**
installing, page 38.38

3 — **O-ring**
always replace

4 — **Parking pawl**
- install with return spring
- align with parking lock gear

5 — **Parking lock gear**
rounded side faces pinion cover

6 — **Pin for parking pawl**
- removing, page 38.37
- drive in with mandrel
- staking, page 38.37

7 — **Return spring**

8 — **Retainer**
for multi-function switch

9 — **10 Nm (7 ft lb)**

10 — **Multi-function switch (F125)**

11 — **O-ring**
always replace

12 — Cap

13 — Final drive housing

14 — O-ring
always replace

15 — Speed sensor

16 — 10 Nm (7 ft lb)

17 — Lever for gear change shaft

18 — 10 Nm (7 ft lb)

19 — Bushing
remove/install with mandrel

20 — O-ring
- always replace
- seat in groove of gear change shaft
- installed position, page 38.37

21 — Gear change shaft assembly
- before withdrawing shaft, remove multi-function switch and lock spring
- securing, page 38.37
- always install with lever

22 — Lock washer
installed position, page 38.37

23 — 10 Nm (7 ft lb)

24 — Manual valve lever

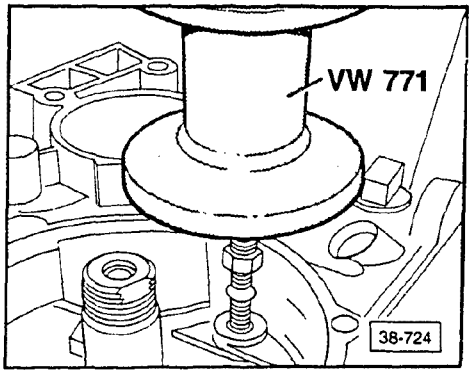
25 — 4 Nm (35 in. lb or 41 cm kg)

26 — Lock spring
installation sequence for bolts, page 38.37

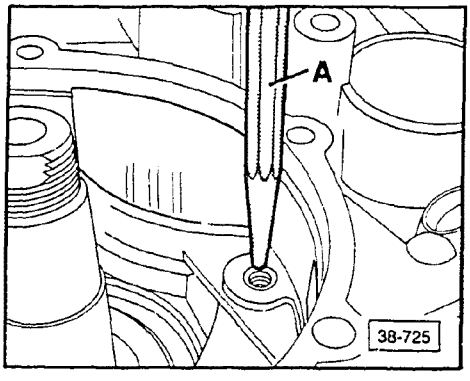
27 — 10 Nm (7 ft lb)
installing, page 38.37

28 — Lever

Parking lock, disassembling/ assembling

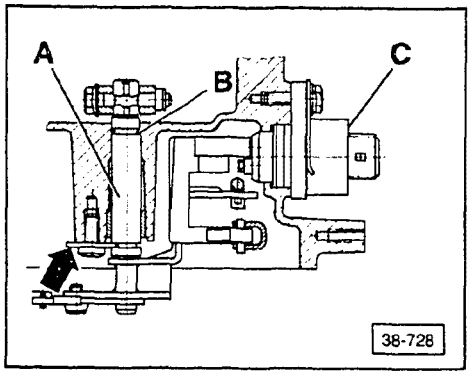


Pin for parking pawl, removing



Pin for parking pawl, staking

- secure pin by staking with punch **A** at final drive housing

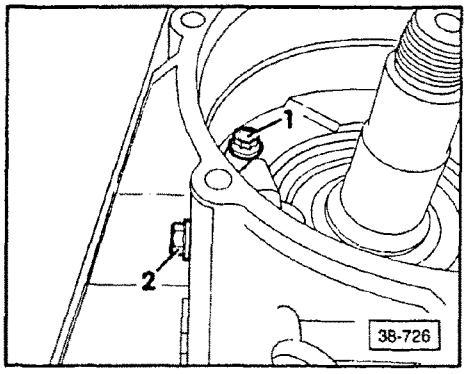


Gear change shaft assembly, installed position

A — gear change shaft
B — O-ring
C — multi-function switch (**F125**)

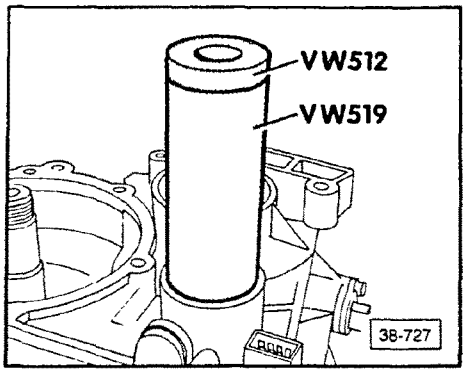
Note

Shaft is held stationary by lock washer (**arrow**).



Bolts for lock spring, installation sequence

- start both bolts into housing
  - approximately 3 threads
- tighten bolt **2** to 10 Nm (7 ft lb)
- tighten bolt **1** to 10 Nm (7 ft lb)



Sealing plug, installing