

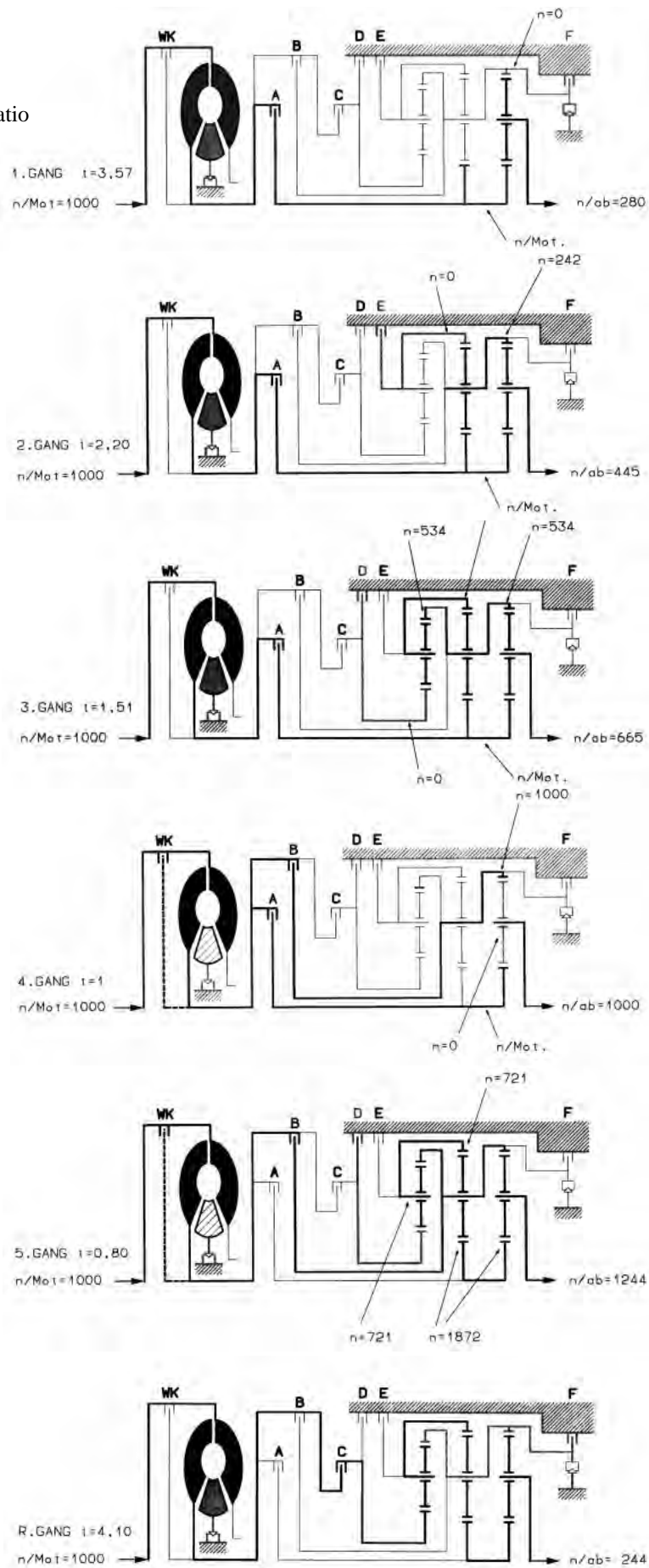
1. General information

1.1 Picture of the transmission



1.2 Power flow diagram

Gang = Gear ratio



1.4 Making adjustments

1.4.0 Measuring the clutch pack (procedure)

Place the two intermediate pieces 5p01 000 329 on the marked positions on measuring fixture 5p01 000 330.



Use knurled screw to turn adjusting device 5p01 001 458 to upper limit position.

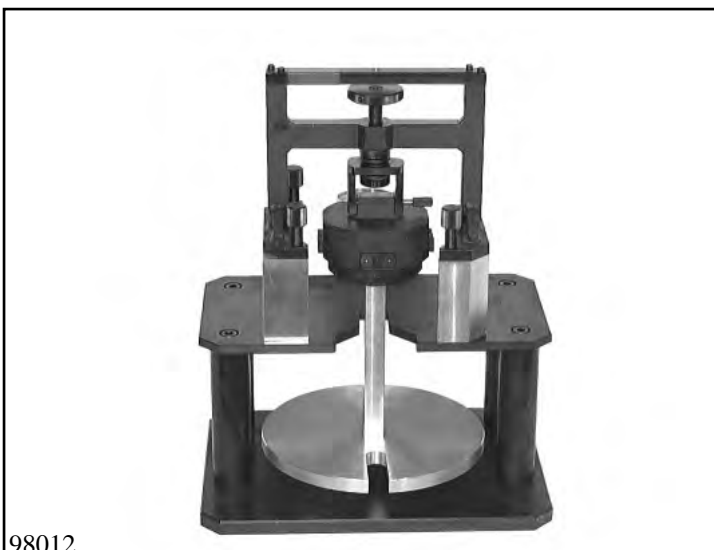
Attach force-measuring unit 5p01 000 329 to adjusting device 5p01 001 458.

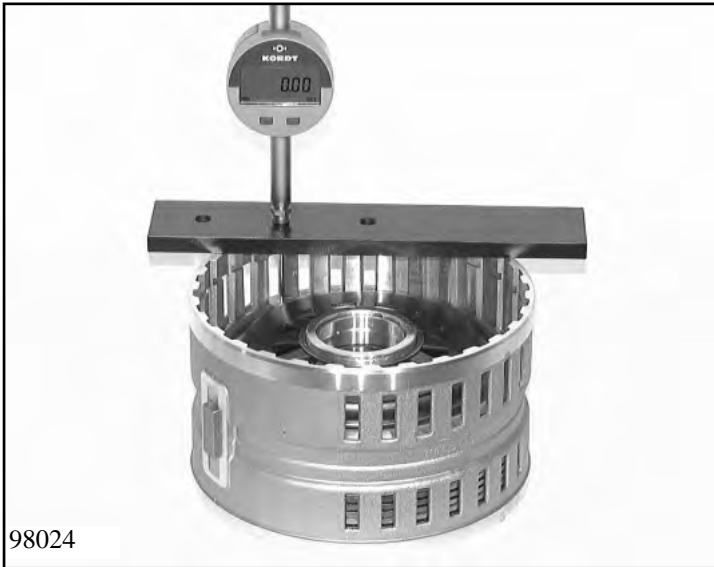


Fasten adjusting device with 4 knurled screws to the measuring fixture using the intermediate pieces.

Connect measuring plate 5p01 040 330 to force-measuring unit using fixing pin.

Use knurled screw to clamp the clutch pack to be measured (with corrugated steel clutch plate – if present – at the bottom) in device at 200 N.



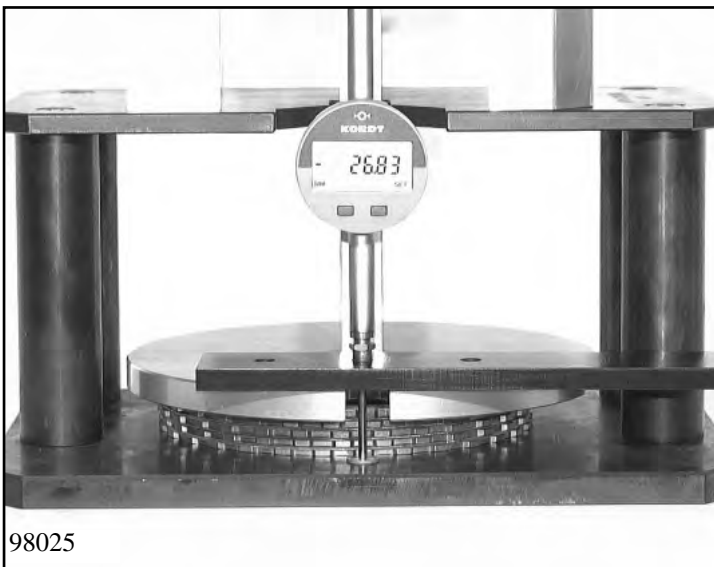


98024

1.4.3 Adjusting clearance of brake E (snap ring)

Determine installation space E_E for brake E with measuring bar 5p01 000 330. To do this, put measuring bar 5p01 000 330 on the edge of the cylinder for brake E. Put the measuring base on the highest point of the disc supporting surface on the piston and set the dial gauge to "0". Pull the measuring sensor upwards, guide it into the snap-ring groove and press it there against the groove's upper edge.

Read measured value on the dial $\Rightarrow W_E$



98025

Determine thickness M_E of the brake E clutch pack according to **Chapter 1.4.0: Measuring the clutch pack.**

$\Rightarrow M_E$

Installation space E_E is equal to W_E plus the thickness of the base F . $\Rightarrow E_E$

Test value P_E is equal to installation space E_E minus M_E .

The P_E value must lie between 3.8 - 5.4 mm.

Setting specification 1058 700 029

Version *B*

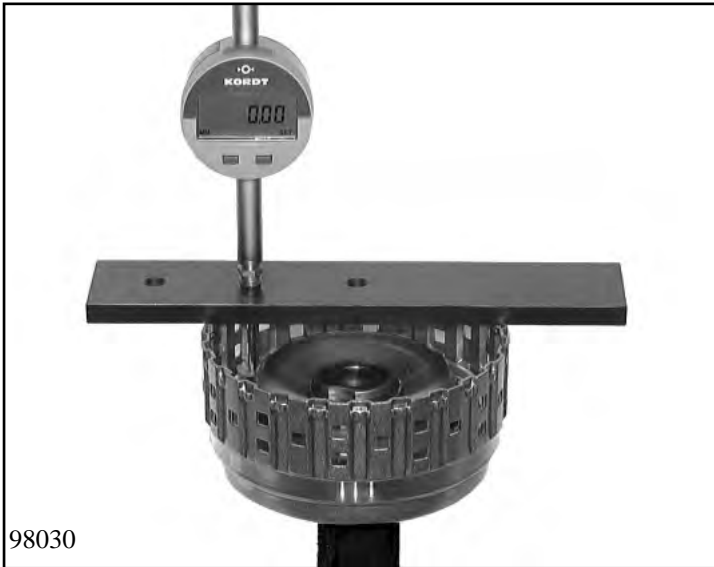
Use test value P_E to select snap ring S_E .

Calculation:

$$E_E = W_E + F$$

$$P_E = E_E - M_E$$

Clutch clearance L_E should be 1.4 - 1.7 mm with 5 lined clutch discs.

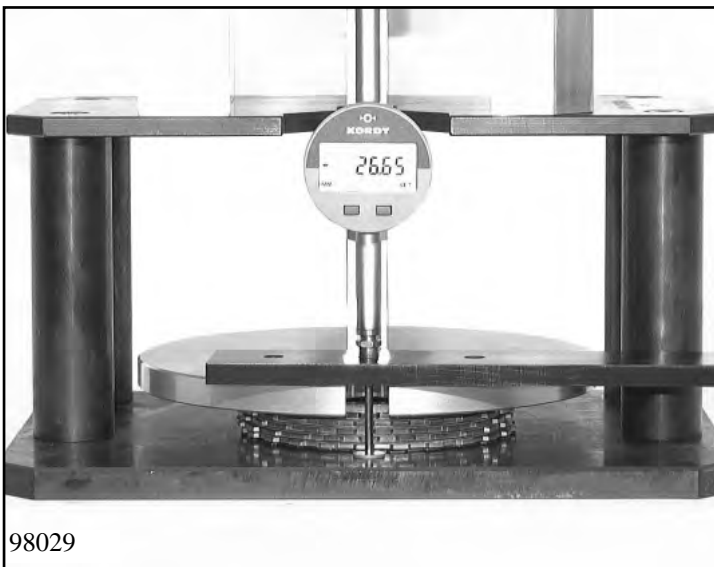


98030

1.4.5 Adjusting clearance of clutch A (snap ring)

Determine installation space E_A for clutch A with measuring bar 5p01 000 330. To do this, put measuring bar 5p01 000 330 on the edge of the cylinder for clutch A. Put the measuring base on the highest point of the disc supporting surface on the piston and set the dial gauge to "0". Pull the measuring sensor upwards, guide it into the snap-ring groove and press it there against the groove's upper edge.

Read measured value on the dial $\Rightarrow W_A$



98029

Determine thickness M_A of the clutch A clutch pack according to **Chapter 1.4.0: Measuring the clutch pack.**

$\Rightarrow M_A$

Installation space E_A is equal to W_A plus the thickness of the base F . $\Rightarrow E_A$

Important!

The final disc has a step in it.

When measuring the set thickness, measure down to the final disc's lowest step.

Test value P_A is equal to installation space E_A minus M_A .

Value P_A should be between 3.75 -5.75 mm.

Setting specification 1058 700 021

Use test value P_A to select snap ring S_A .

Calculation:


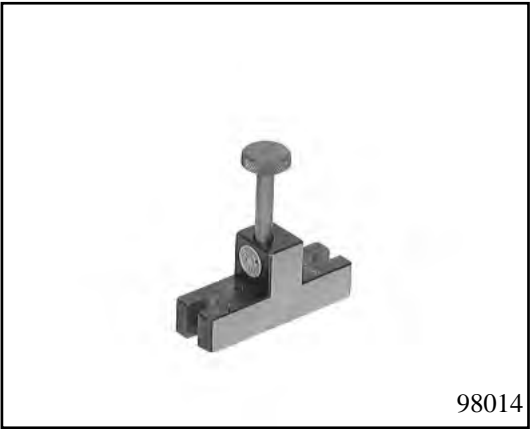

$$E_A = W_A + F$$

$$P_A = E_A - M_A$$

Clutch clearance L_A should be 1.95 - \sim 25 mm with 6 lined clutch discs.

1.5 Tightening torques

No.	Designation	ELCAT-Pos.-No.	Wrench size No.	Page	Tightening torque
1	Screw plug (Transmission housing)	01.650	Hexagonal socket SAF = 5 mm	3.1/3	12 Nm (±1.2Nm)
2	Screw plug (Transmission housing)	01.210	Hexagonal socket SAF = 6 mm	3.1/3	25 Nm (±2.5 Nm)
3	Transport plug (Transmission housing)	01.230 01.240	Hexagonal SAF = 17 mm	3.1/3	2 Nm (±0.2 Nm)
4	Screw plug M14x1.5 (Leg spring)	01.090	Hexagonal socket SAF = 6 mm	3.1/5	20 Nm (±2.0 Nm)
5	Machine screw (Guiding plate)	01.080	TORX - TX 27	3.1/5	10 Nm (±1.0 Nm)
6	Machine screw (Detent spring)	01.010/200	TORX - TX 27 H	1.4/17	10 Nm + 30° (±0.3 Nm ±10°)
7	Hexagon screw (Selector mechanism)	01.590 01.620	Hexagonal SAF = 10 mm	3.1/5	10 Nm (±1.0 Nm)
8	Countersunk screw (Cylinder F)	77.210	TORX - TX 40	3.2/6	23 Nm (±2.3 Nm)
9	Slotted nut (Output)	14.030	Socket wrench 5x46 000 787	3.4/2	120 Nm (±12.0 Nm)
10	Hexagon screw (Output)	14.070	Hexagonal SAF = 13 mm	3.4/3	23 Nm (±2.3 Nm)
11	Machine screw (Stator shaft/ centering plate)	10.020/130	TORX - TX 27	3.6/3	10 Nm (±1.0 Nm)
12	Screw plug, M14x1.5 (Intermediate plate/lub. pressure)	10.090	Hexagonal socket SAF = 6 mm	3.6/3	25 Nm (±2.5 Nm)
13	Screw plug, M22x1.5 (Intermediate plate/flow reg.valve)	01.020/180	Hexagonal SAF = 19 mm	3.6/3	50 Nm (±5.0 Nm)
14	Countersunk screw (Intermediate plate/ pump)	10.070	TORX - TX 27	3.6/4	10 Nm (±1.0 Nm)
15	Countersunk screw (Intermediate plate/ pump)	10.074	TORX - TX 27	3.6/4	5 Nm (±0.5 Nm)

Remarks	Order No. / Application	OBJECT
<p>Identical</p> <p>4 HP 18 Q</p>	<p>5p01 001 458</p> <ul style="list-style-type: none"> - Measurement device, bearing play - Measurement device, clutch clearance (top piece) 	<p style="text-align: center;">4</p>  <p style="text-align: right;">97301</p>
	<p>5p01 002 567</p> <ul style="list-style-type: none"> - Adjustment tool, detent spring (BMW transmission housings up to #7128 (= 1058 301 072) and all JAGUAR transmission housings) 	<p style="text-align: center;">5</p>  <p style="text-align: right;">98014</p>
	<p>5p01 002 839</p> <ul style="list-style-type: none"> - Adjustment tool, detent spring (BMW transmission housing as from transm. serial N°. greater #7129 (= 1058 301 082 or newer)) 	<p style="text-align: center;">6</p>  <p style="text-align: right;">97303</p>

1.8 Funktion tests

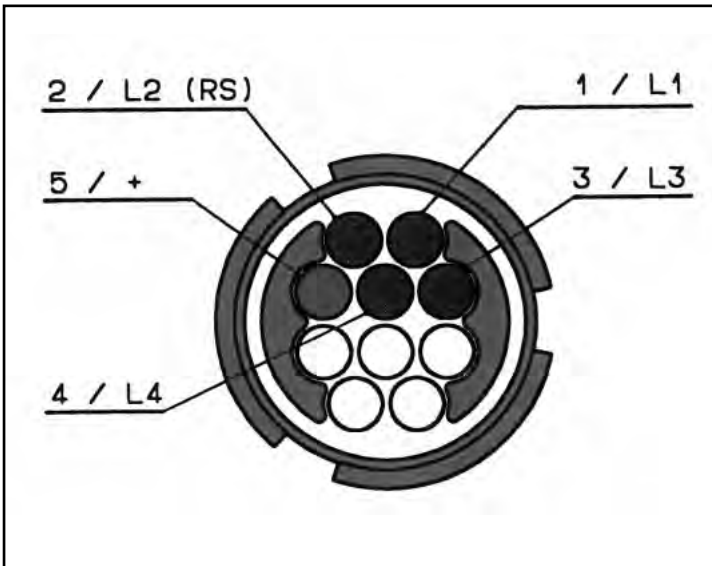
1.8.1 Position switch

1.8.1.1 Typ BMW

Use a multimeter to make a resistance test of the position switch according to the function table.

Codiertabelle

	P	Z1	R	Z2	N	Z2	D	Z3	4	3	2
L1	1	1	1	1	1	1	0	0	0	0	1
L2	1	0	0	0	1	0	0	0	0	0	0
L3	0	0	0	1	1	1	1	0	0	1	1
L4	1	1	0	0	0	0	0	0	1	1	1
RF	0	0	1	0	0	0	0	0	0	0	0

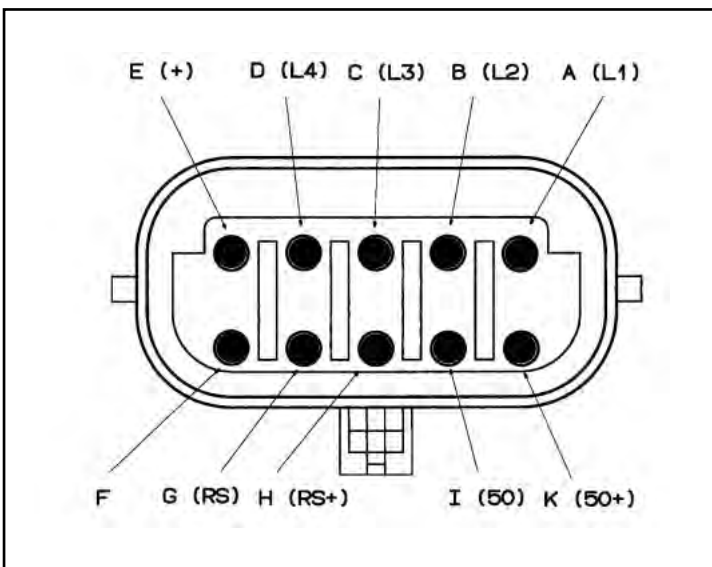


1.8.1.1 Typ JAGUAR

Use a multimeter to make a resistance test of the position switch according to the function table.

Codiertabelle

Selector Position	L1	L2	L3	L4	D zu 4	50 (AS)	RS
Parken	1	0	0	0	0	1	0
R. Gang	0	1	0	0	0	0	1
Neutral	1	1	1	0	0	1	0
Pos. D	1	0	1	1	0	0	0
Pos. 4	1	0	1	1	1	0	0
Pos. 3	0	1	1	1	1	0	0
Pos. 2	0	0	0	1	1	0	0
Pos. 1	0	0	1	0	1		



Take the O-ring off cylinder F; using assembly bracket 5x46 000 931, press down the cup spring in the mandrel press and then remove the split ring. Take out the cup spring.



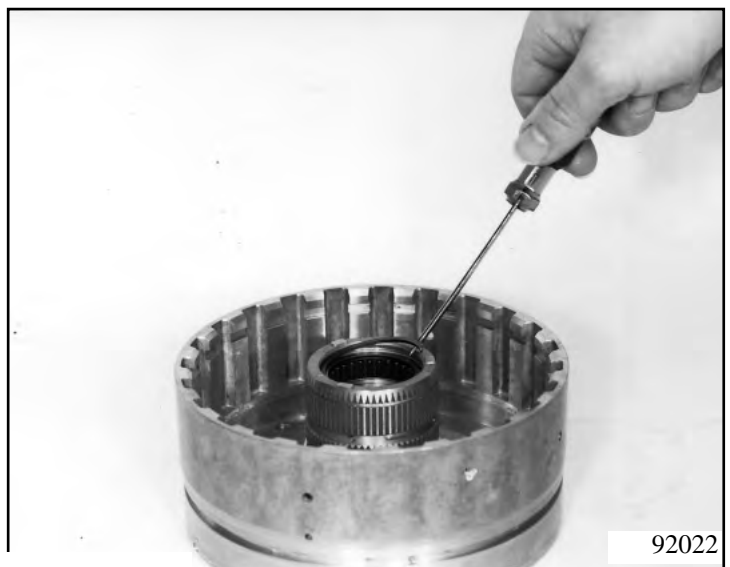
Push cylinder F out using two plastic punches.



Important!

Store the piston in such a way that the sealing lip is neither folded nor damaged.

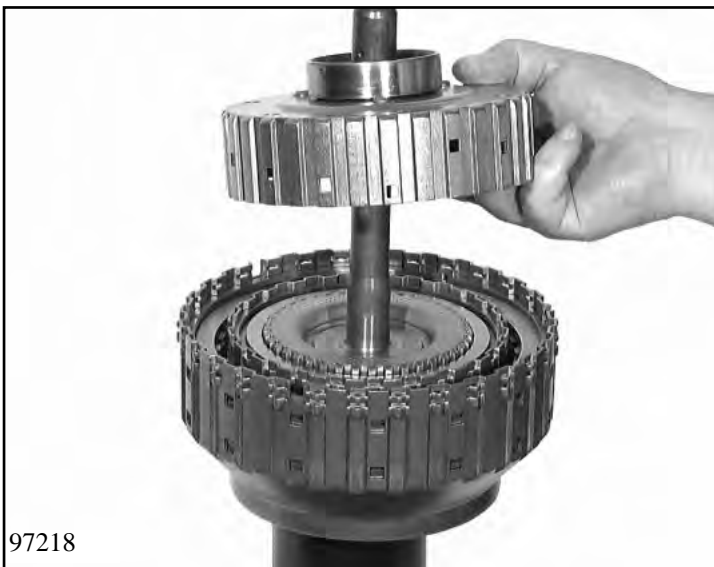
Take out the snap ring and use a suitable drift to drive the needle roller bearing out of the cylinder hub. You can use assembly bracket 5x46 000 931 as a support.



2.5 Tower II



Take out the snap ring and remove inner disc carrier C.



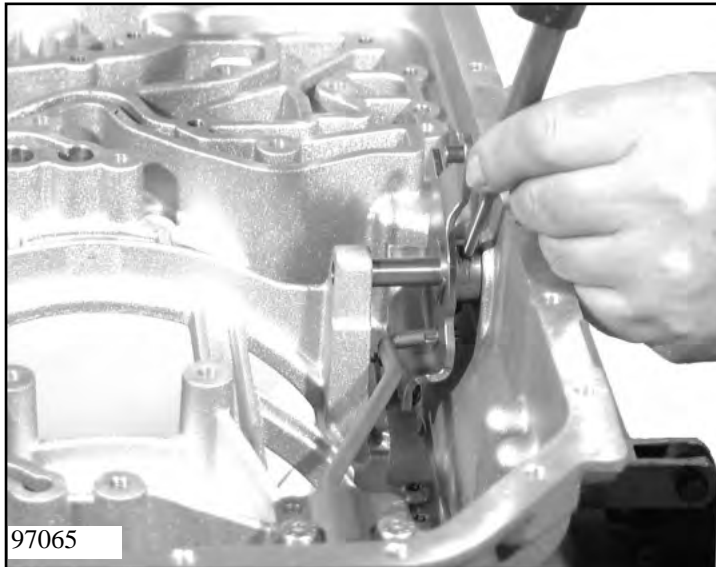
Take out inner disc carrier B and lift off the axial needle roller bearing from the intermediate shaft.



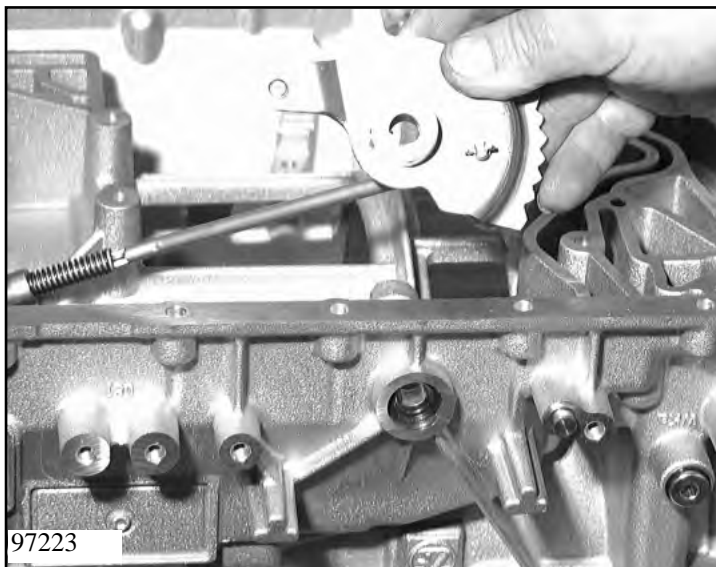
Lift up the intermediate shaft with inner disc carrier A. Remove axial needle bearing.

Now turn the set by 180° and put it back into the supporting fixture.

2.8 Housing with selector mechanism and parking lock



Using a suitable drift, drive the clamping sleeve out of the detent spring and pull out the selector shaft.

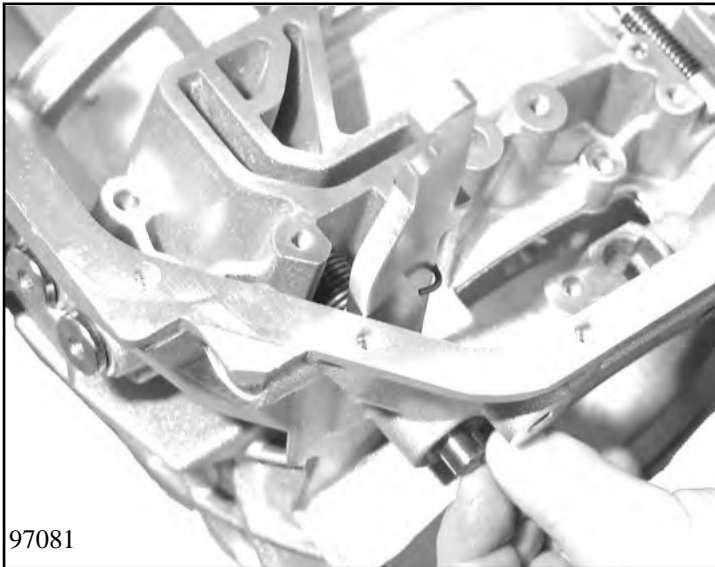


Now the detent disc and the connecting rod can be taken out. Lift off the shaft seal using a screwdriver.



The detent spring normally remains in the transmission housing. If it is to be removed, unscrew the two Torx screws.

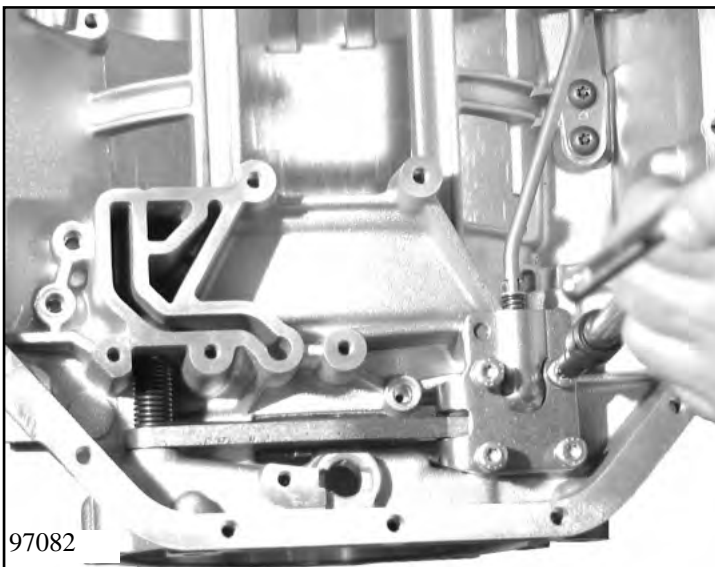
(Wrench size = Torx - TX 27 H)



97081

Insert pawl 01.040 and leg spring 01.050 into the transmission housing and fix it in place by pressing in bolt 01.020. Then plug up the bore using a screw plug with seal 01.090.

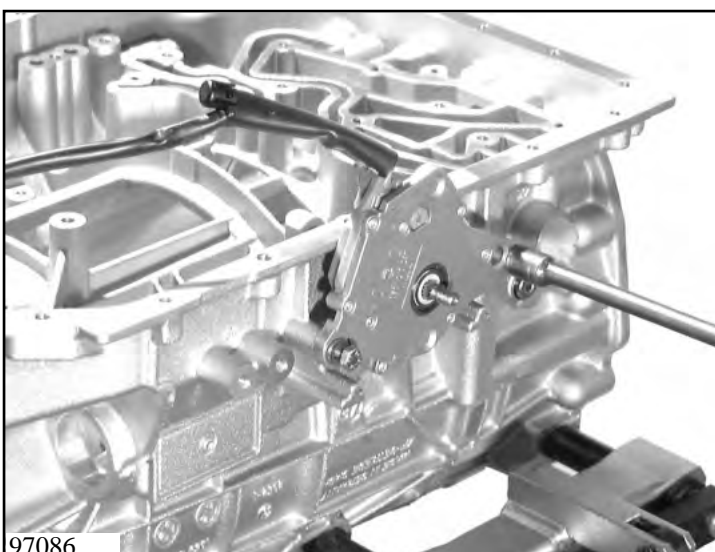
(See Chapter 1.5 for tightening torque)



97082

Press the pawl down, and fasten guiding plate 01.070 with four Torx screws 01.080.

(See Chapter 1.5 for tightening torque)



97086

Put the 01.480 switch on the selector shaft and tighten it with two hexagonal screws (01.590 and 01.620) on to the transmission housing.

(See Chapter 1.5 for tightening torque)

Insert the inner sprag race, turning it clockwise as you put it in.

Important!

Function check:

The internal sprag race must turn freely in the clockwise direction when the outer ring is hold tight.



Press in fixing washer 77.120/140 and secure it with snap ring 77.120/150.



Insert the complete freewheel into brake F, turning it as you put it in. Now insert snap ring 77.130 using assembly tool 5x46 000 892 (or by hand).





Insert ring gear III 32.240 with the outer engaging gears towards the top and secure it with snap ring 32.250. To put the snap ring in position, lift ring gear I slightly.



Take planetary drive (I and II with ring gear III) off the device. Put planet carrier III 42.010 onto the device and insert sun wheel 32.360.



Turn the planetary drive as you put it on the planet carrier.

