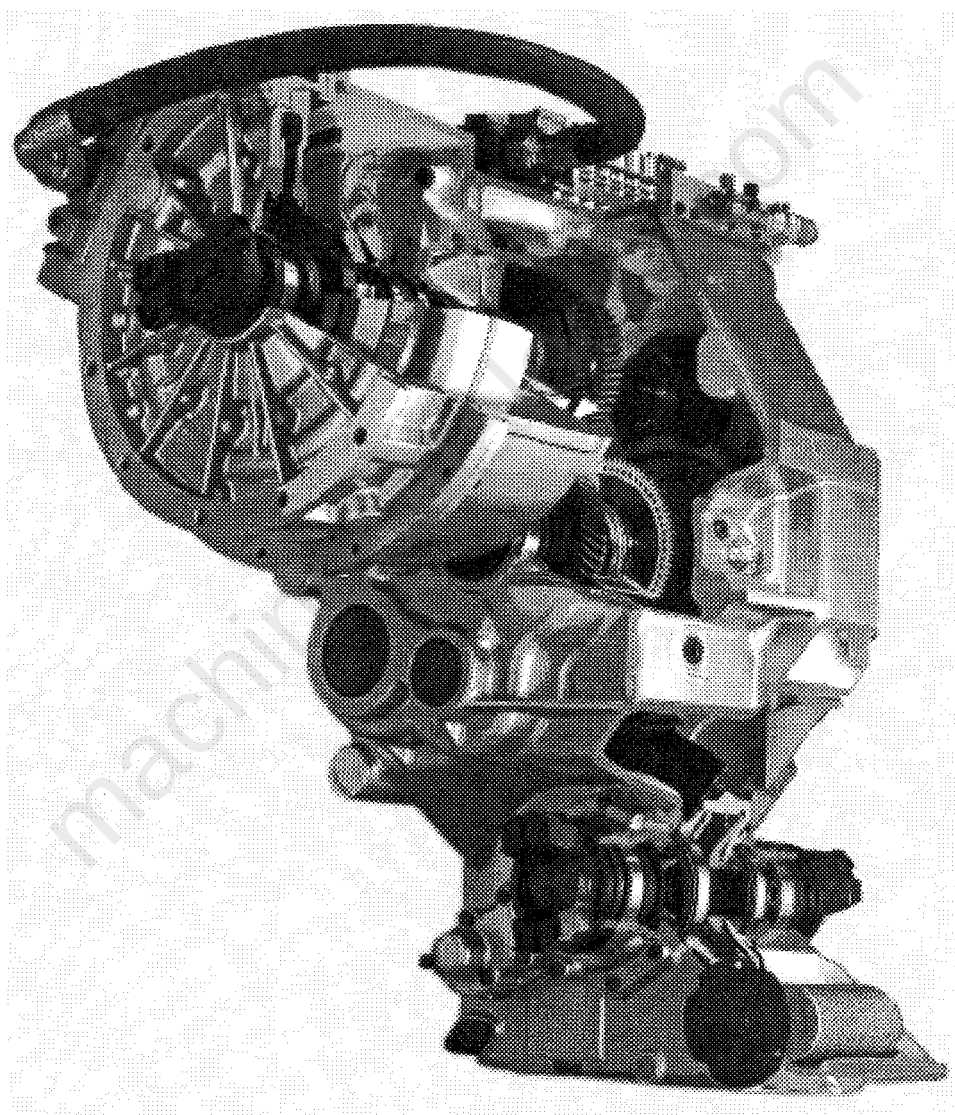


Workshop Manual

Automatic Transmission

ZF - ERGOPOWER

6 WG-210



899646708



Index

TORQUE LIMITS FOR SCREWS (IN Nm) ACCORDING TO ZF-STANDARDS 148

Friction value: μ total= 0,12 for screws and nuts without after-treatment as well as phosphatized nuts. **Tightening by hand!**

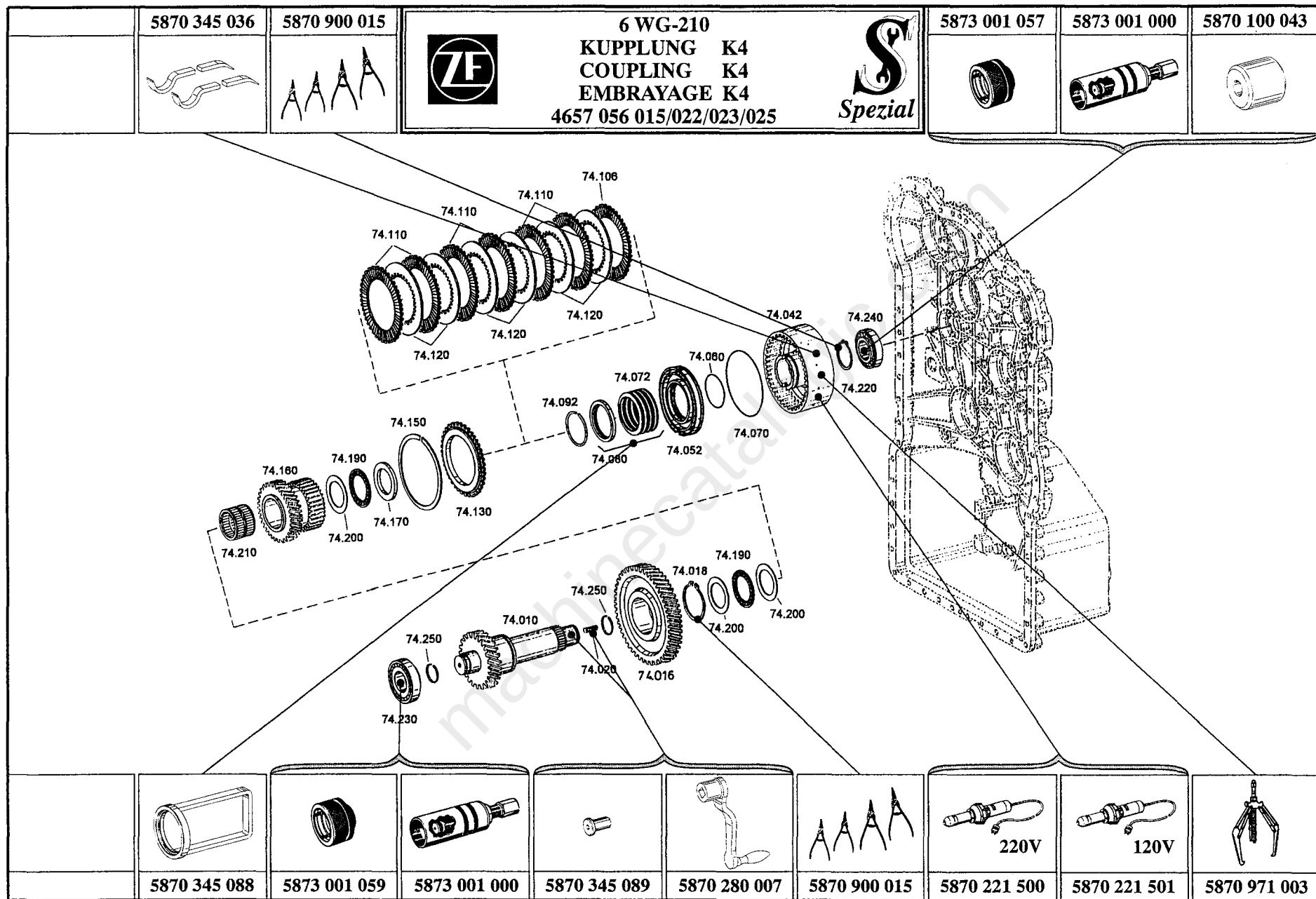
Torque limits, if not especially indicated, can be taken from the following List:

Metric ISO-Standard thread DIN 13, Page 13

Size	8.8	10.9	12.9
M4	2,8	4,1	4,8
M5	5,5	8,1	9,5
M6	9,5	14	16,5
M7	15	23	28
M8	23	34	40
M10	46	68	79
M12	79	115	135
M14	125	185	215
M16	195	280	330
M18	280	390	460
M20	390	560	650
M22	530	750	880
M24	670	960	1100
M27	1000	1400	1650
M30	1350	1900	2250
M33	1850	2600	3000
M36	2350	3300	3900
M39	3000	4300	5100

Metric ISO-Fine thread DIN 13, page 13

Size	8.8	10.9	12.9
M 8 x 1	24	36	43
M 9 x 1	36	53	62
M 10 x 1	52	76	89
M 10 x 1,25	49	72	84
M 12 x 1,25	87	125	150
M 12 x 1,5	83	120	145
M 14 x 1,5	135	200	235
M 16 x 1,5	205	300	360
M 18 x 1,5	310	440	520
M 18 x 2	290	420	490
M 20 x 1,5	430	620	720
M 22 x 1,5	580	820	960
M 24 x 1,5	760	1100	1250
M 24 x 2	730	1050	1200
M 27 x 1,5	1100	1600	1850
M 27 x 2	1050	1500	1800
M 30 x 1,5	1550	2200	2550
M 30 x 2	1500	2100	2500
M33 x 1,5	2050	2900	3400
M 33 x 2	2000	2800	3300
M 36 x 1,5	2700	3800	4450
M 36 x 3	2500	3500	4100
M 39 x 1,5	3450	4900	5700
M 39 x 3	3200	4600	5300



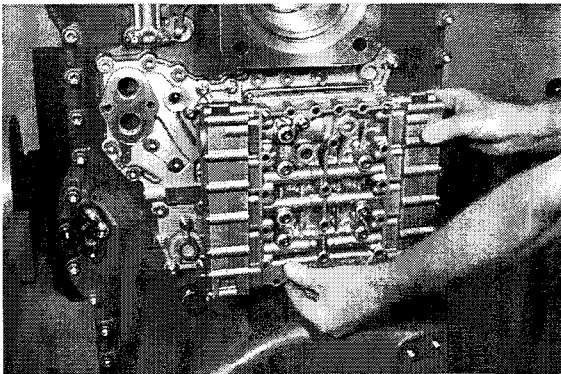


Figure 5

Remove hose pipes.

Loosen cap screws and separate gearshift housing from duct plate.

(S) Socket spanner TX-27

5873 042 002

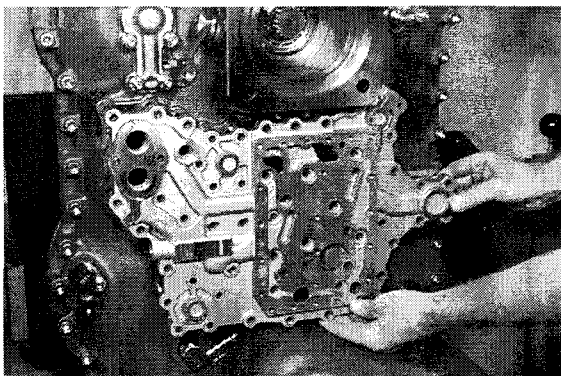


Figure 6

Loosen cap screws and separate duct plate from transmission housing.

(S) Socket spanner TX-40

5873 042 004

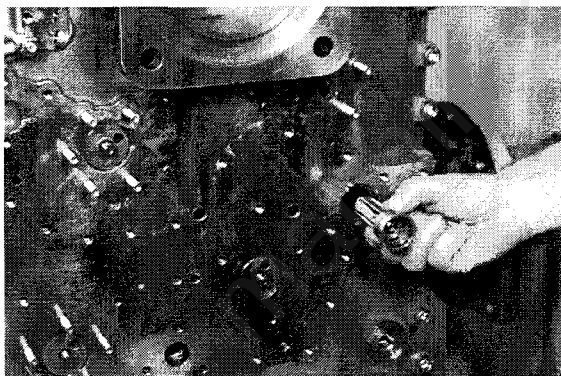


Figure 7

Pull converter safety valve out of the housing bore.

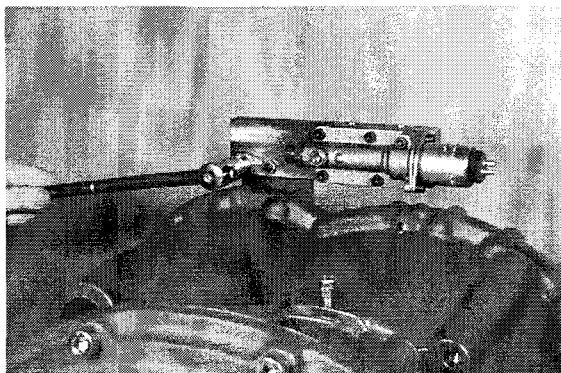


Figure 8

Loosen hexagon nuts and remove converter clutch valve.

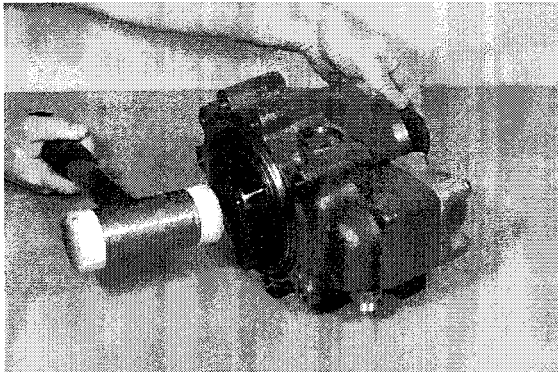


Figure 25

Drive out the output shaft.

(S) Hammer

5870 280 004

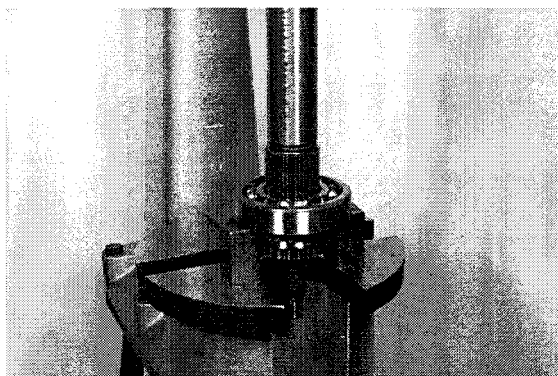


Figure 26

Press ball bearing from the shaft.

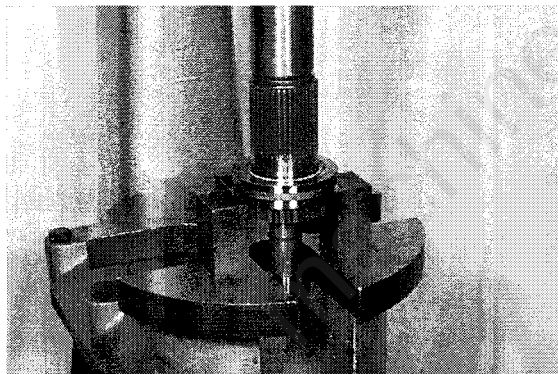


Figure 27

Press oil feed ring from the shaft.

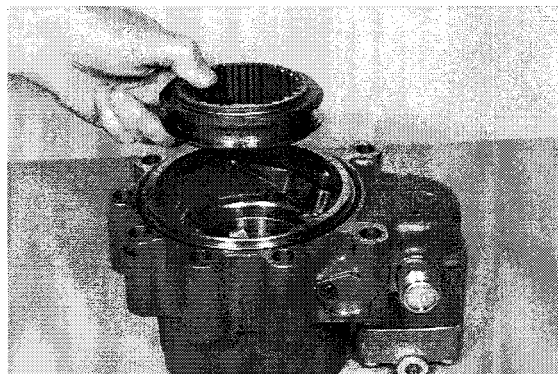


Figure 28

Remove sliding sleeve.

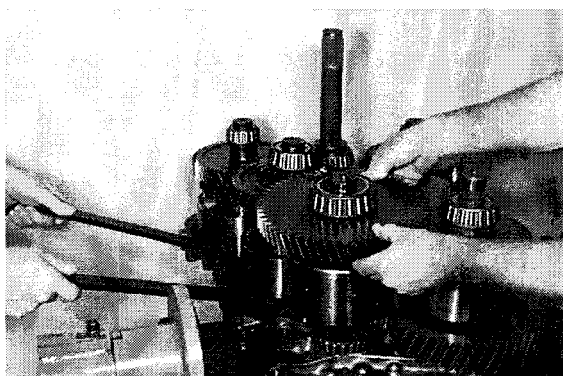


Figure 60

☞ Observe the following sequence for removal of the single clutches:

K1 ⇒ K2 ⇒ K3 ⇒ K4 ⇒ KV, KR and AN (together),
also see Figures 60 ... 64 !

Lift clutch-K4 by means of pry bar set and remove **Clutch -K1**.

(S) Pry bar set

5870 345 036

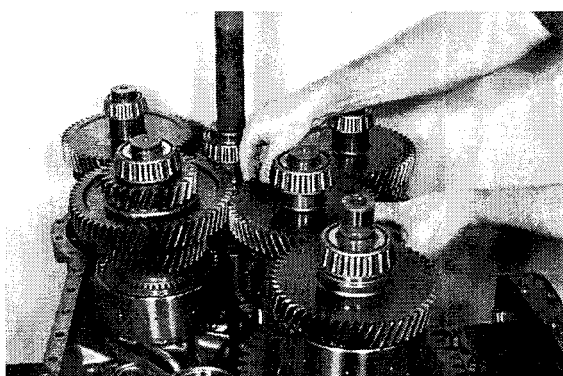


Figure 61

Remove **Clutch-K2**.

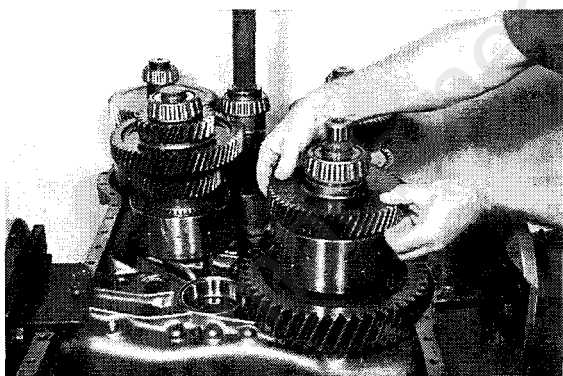


Figure 62

Remove **Clutch-K3**.

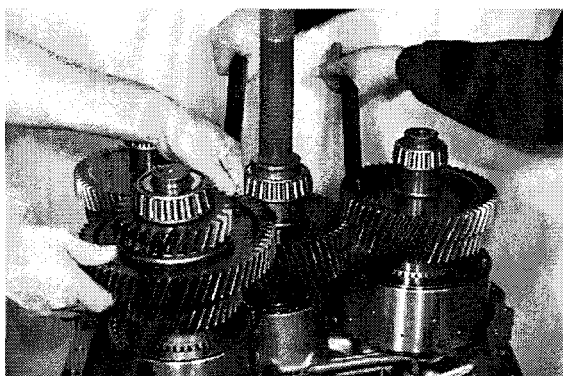


Figure 63

Lift Clutch-KV as well as - KR and remove **Clutch-K4**.

(S) Pry bar set

5870 345 036



Figure 131

Fix single parts by means of retaining ring.

☞ **This step is only required for Clutch – K1 and – K2!
For Clutch –K3 this step is not applicable!**

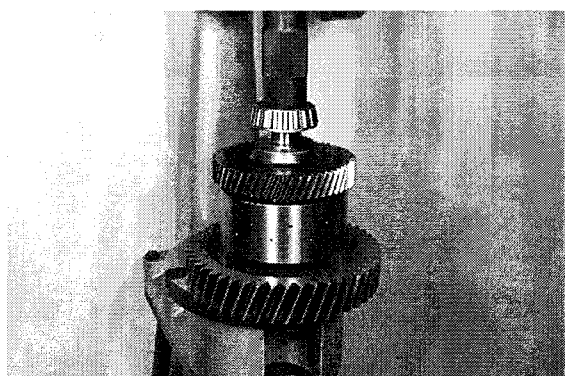


Figure 132

Press taper roller bearing until contact.
Install opposed taper roller bearing analogously.

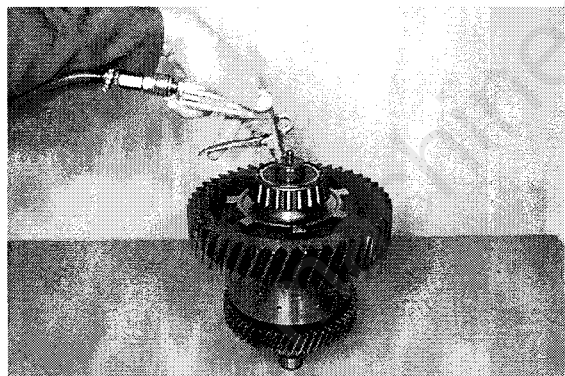


Figure 133

Check function of clutch by means of compressed air.

☞ **With properly installed single parts the clutch closing or opening is clearly audible!**

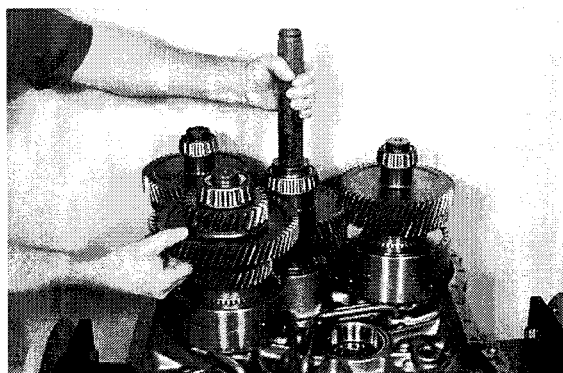


Figure 163

Lift input gear and position Clutch-K4.

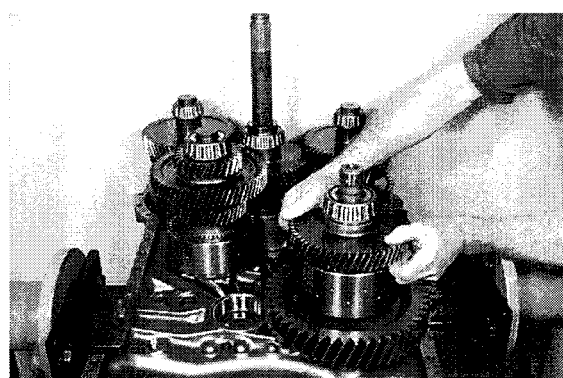


Figure 164

Install Clutch-K3.

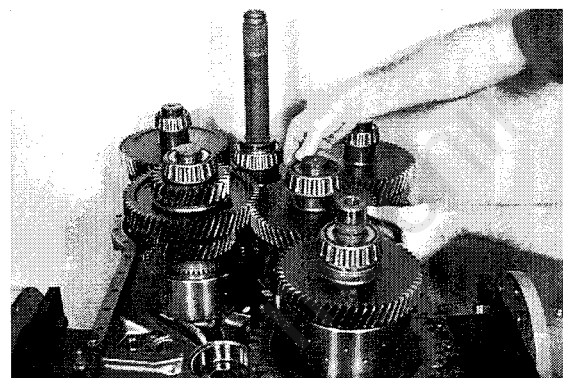


Figure 165

Position Clutch-K2.

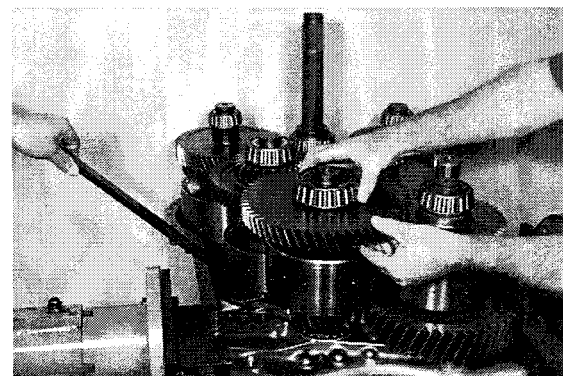


Figure 166

Lift Clutch-K4 and position Clutch-K1.

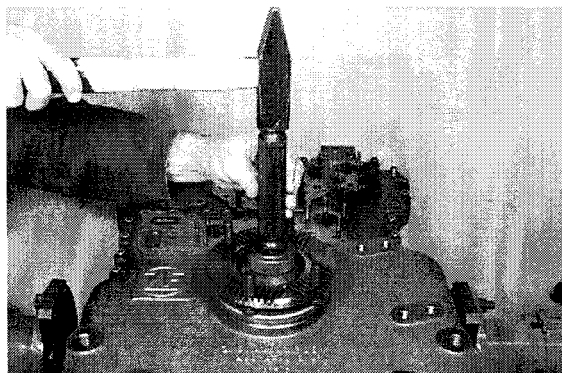


Figure 244

Fix output shaft by means of washer and hexagon screws.

Tightening torque (M10/8.8) $M_A = 46 \text{ Nm}$

Then fix hexagon screws by means of tab washer (Figure).

(S) Driver	5870 057 009
(S) Handle	5870 260 002

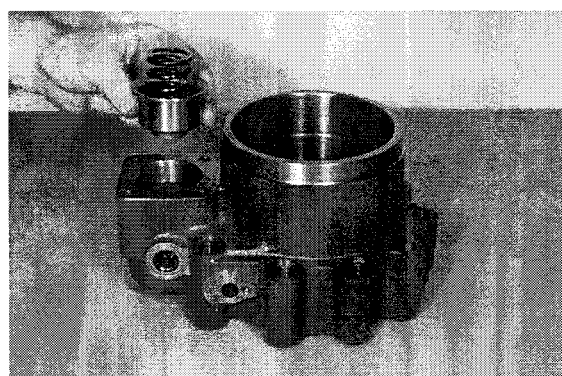


Figure 245

Install spring cup and compression spring.

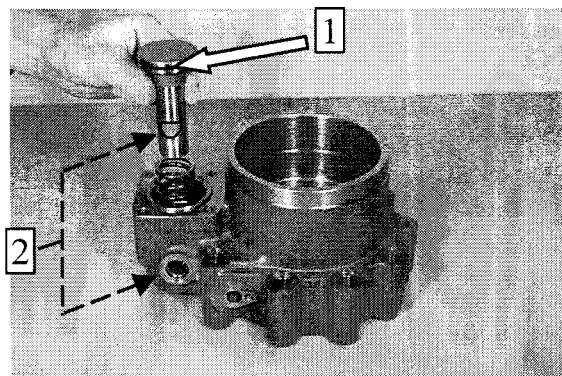


Figure 246

Insert Viton-Ring (arrow 1) into annular groove and grease it.
Assemble piston.

 **Pay attention to radial location of piston! Contact surface of locking pin must show to bore hole – see arrow 2 !**

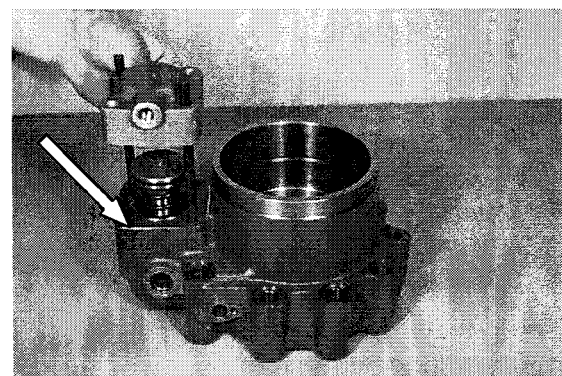


Figure 247

Install two adjusting screws and put on gasket (arrow).

Install cylinder equally until contact.

Tightening torque (M8) $M_A = 23 \text{ Nm}$

(S) Adjusting screws	5870 204 011.
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Full Version Available

ZF 6WG210 Transmission Service Manual (5871159 002 E)

ZF 6WG210 transmission service manual with repair procedures, adjustments and troubleshooting. 146-page searchable PDF. Instant PDF download.

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