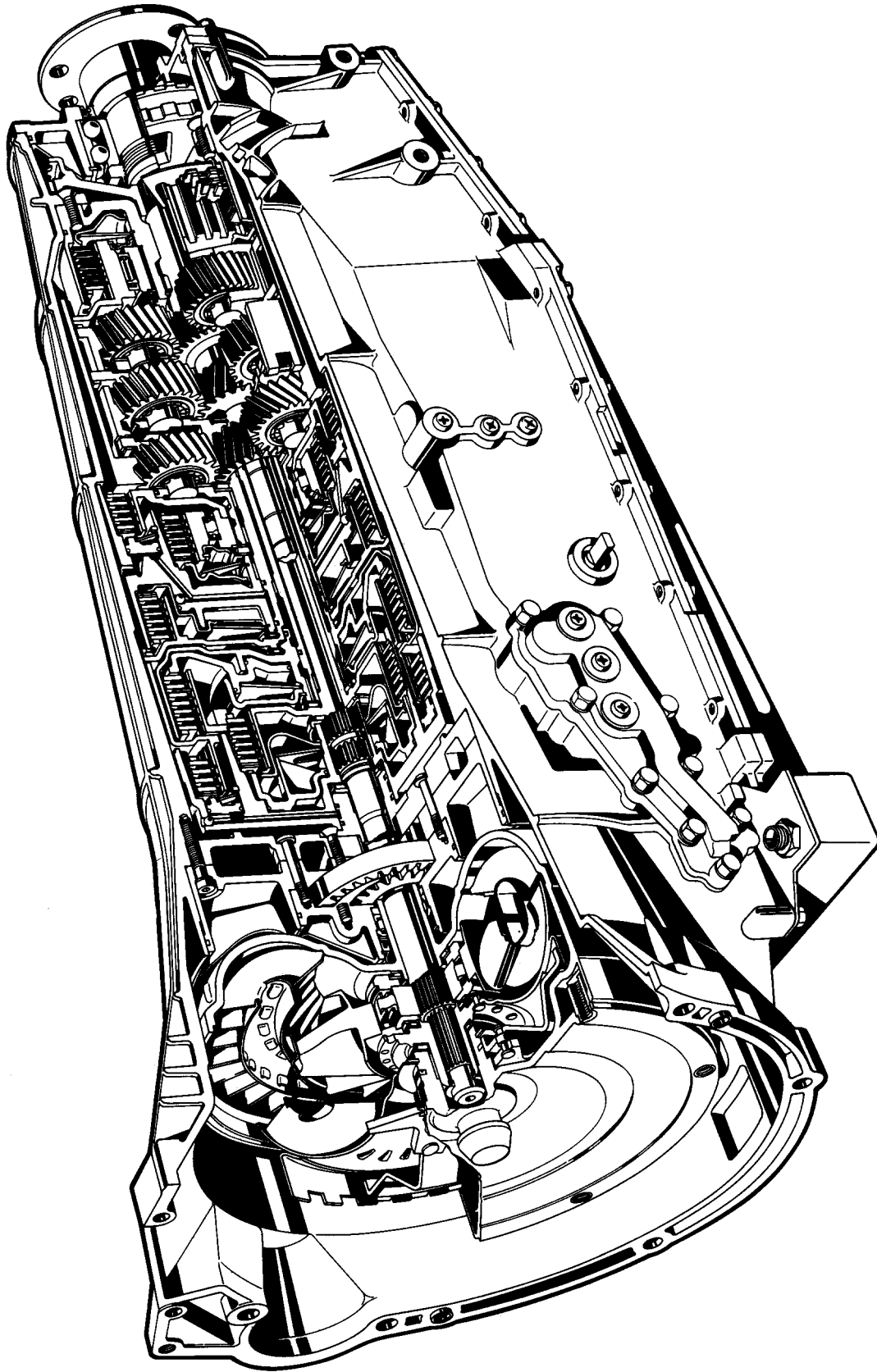


CONTENTS

	Page
Preliminary information	1
1. General remarks	2
1.1 Drawing of transmission	2
1.2 Power flow diagram	3
1.3 Oil flow charts	4
1.4 Adjustment work	5/1
1.4.1 Release clearance at clutch F (snap ring)	5/1
1.4.2 Release clearance at brake D (snap ring)	5/2
1.4.3 Release clearance at brake E2 (snap ring)	5/3
1.4.4 Release clearance at brake E1 (snap ring)	5/4
1.4.5 Clearance at output side (washer)	5/5
1.4.6 Release clearance at clutch C (snap ring)	5/6
1.4.7 Release clearance at clutch A (snap ring)	5/7
1.4.8 Release clearance at brake B (snap -ing)	5/8
1.4.9 Transmission end play (shim)	5/9
1.4.10 Adjustment of switches (detent springs)	5/11
1.4.11 Inspection of switches	5/12
1.5 Tightening torques	6
1.6 Troubleshooting (faults, causes and remedies)	7
1.7 Checking the transmission	8
1.8 Special tools	9
2. Dismantling	10
2.1 Dismantling by assembly group	10
2.2 Brake F with 1st gear freewheel	16
2.3 Output	18
2.4 Section I	19
2.4.1 Brakes (D/E2/E1 and 2nd gear freewheel)	19
2.4.2 Planetary gear sets (III, II and I)	24
2.5 Section II	26
(Input with clutches A, B and C)	
2.6 Oil supply	32
2.7 Housing with shift and parking pawl	34
3. Assembly by assembly group	38
3.1 Housing with shift and parking pawl	38
3.2 Brake F with 1st gear freewheel	45
3.3 Section I	51
3.3.1 Planetary gear set (I, II and III)	51
3.3.2 Brakes (E1 and 2nd gear freewheel / E2 and D)	54
3.4 Output side	61
3.5 Section II (input with clutches A, B and C)	64
3.5.1 Clutches A, C (input)	64
3.5.2 Clutch B (input)	69
3.6 Oil supply unit	73
3.7 Selector unit, oil sump and torque converter	77

1. General information

1.1 Drawing of transmission



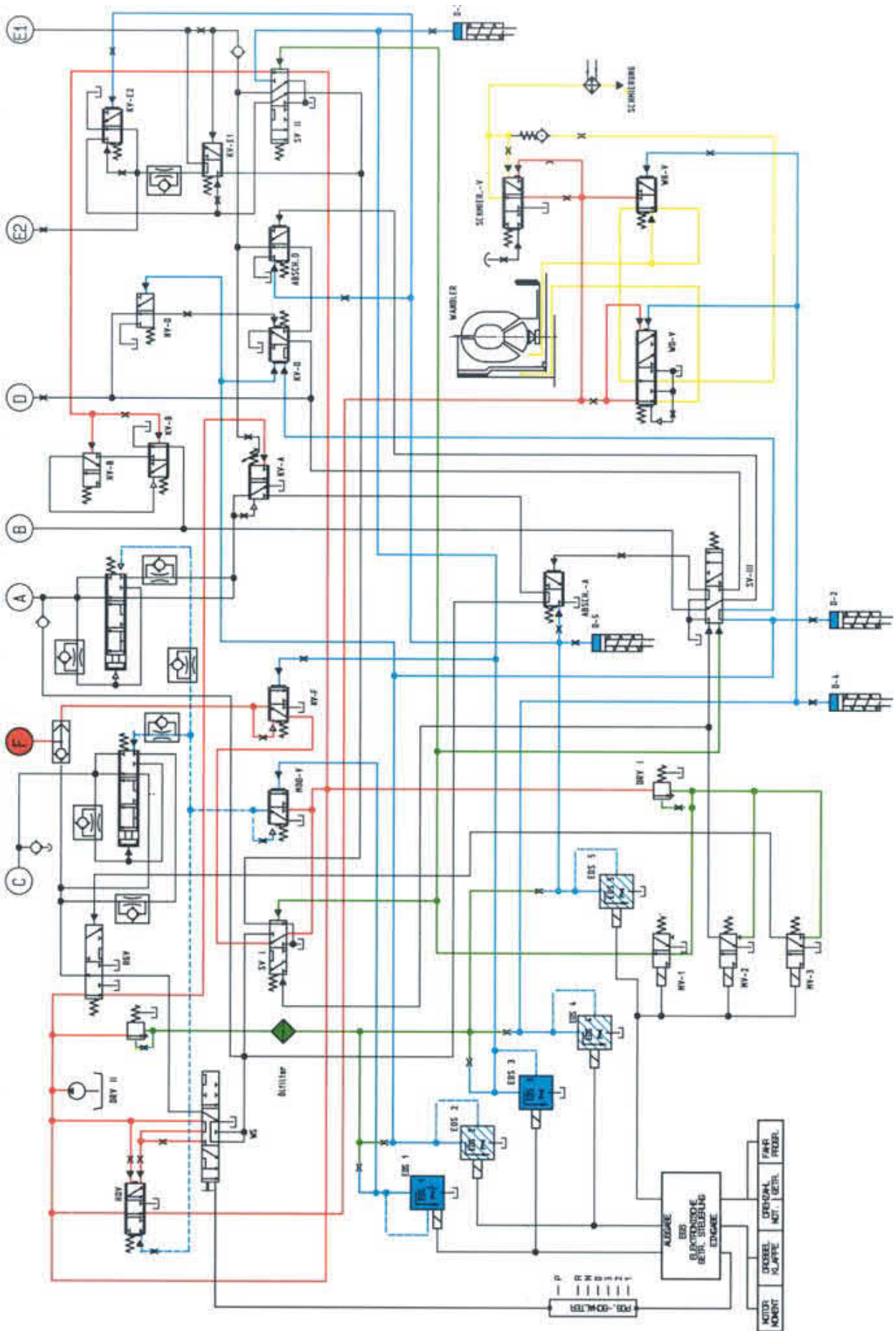
Position N

Neutral (DIN Symb.)

Neutre

Neutral

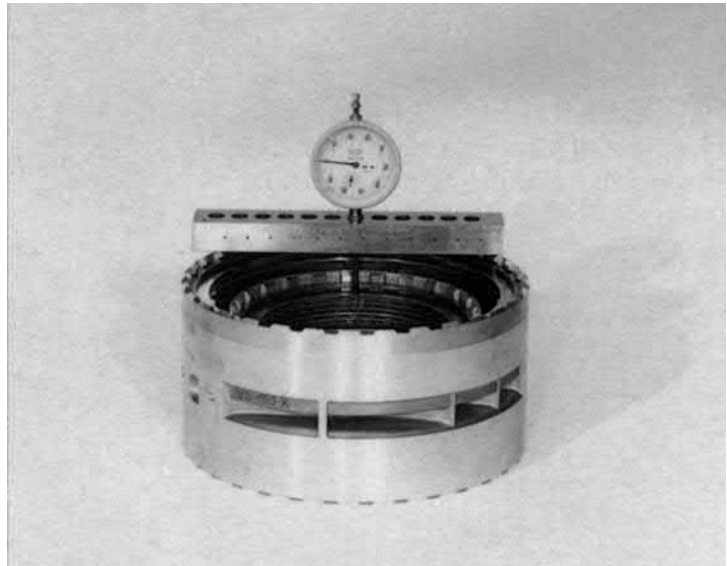
Neutra



1.4.4 Release clearance at brake EI (snap ring)

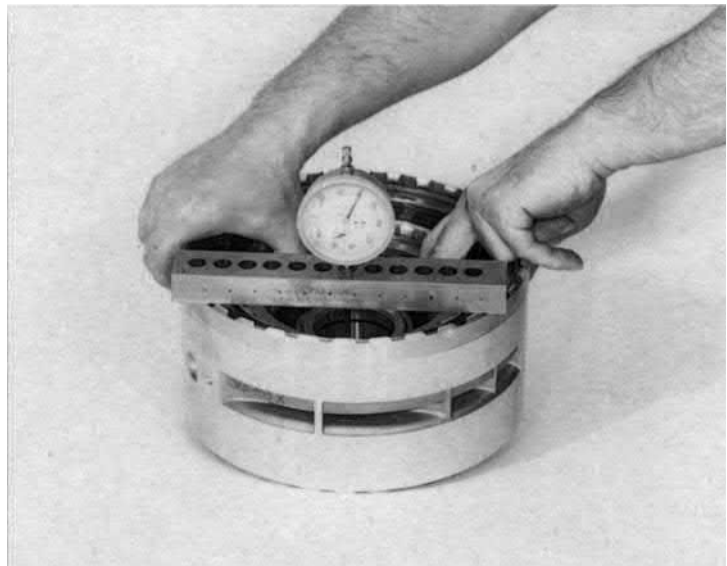
92 133

Insert snap ring 74.090.
(selected thickness = 3.2 mm)
Place dial gauge with bar in position.
Extend the dial gauge pointer as far as
the final disc and set the dial gauge
to „0“.



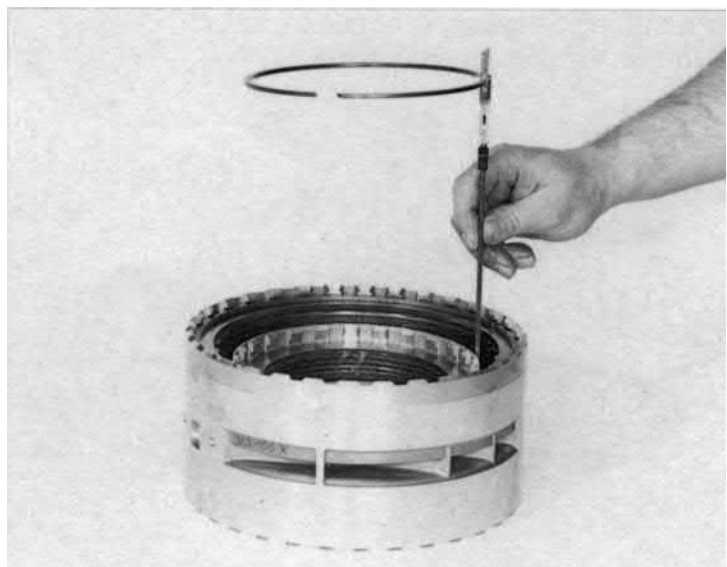
Raise the complete disc set and read
off play at the dial gauge.
Release clearance should be:
with 5 lined discs 1.60 - 1.90 mm

92 134



If a different reading is obtained, select
a thicker or thinner snap ring.

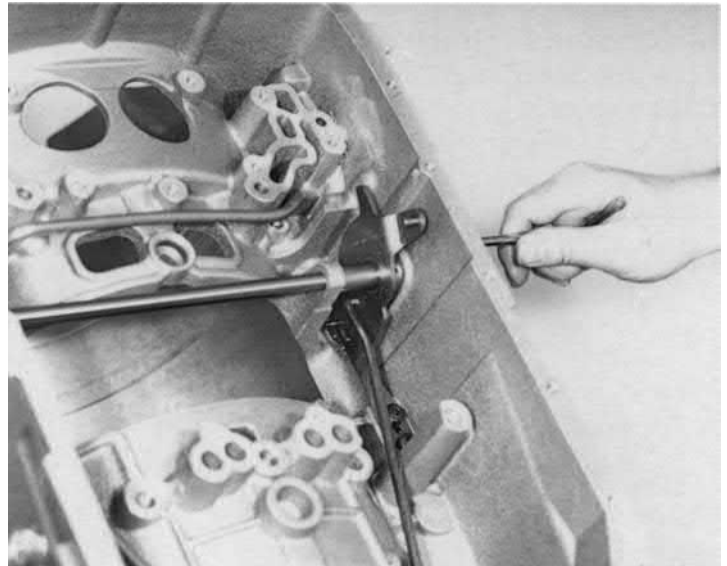
92 135



1.4.10 Adjustment of switches (detent springs)

92 233

Position detent disc in setting N (Neutral) using suitable tool or by hand.



92 234

Attach position gage 5 P 01 002 368 to the selector shaft and eliminate clearance by rotating knurled screw. Rotate position gauge in such a way that the locating bolts (dowels) in the transmission housing mate with the groove in the gauge.

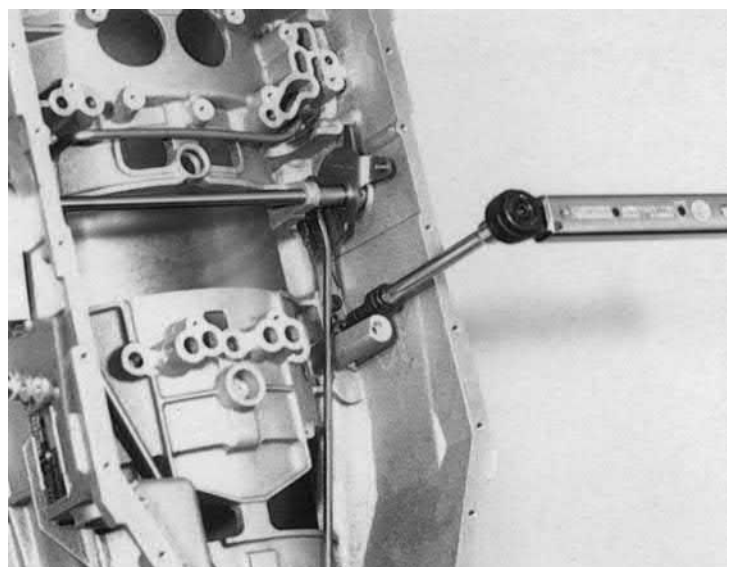


92 235

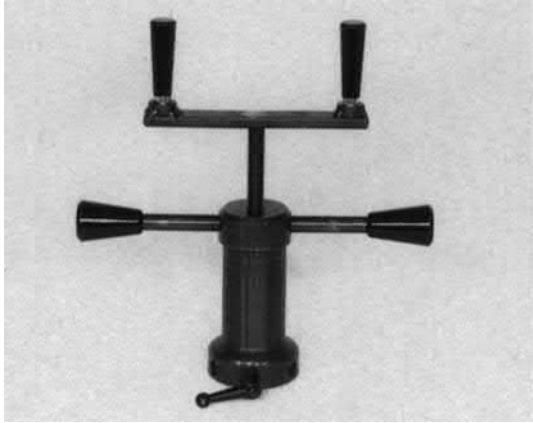
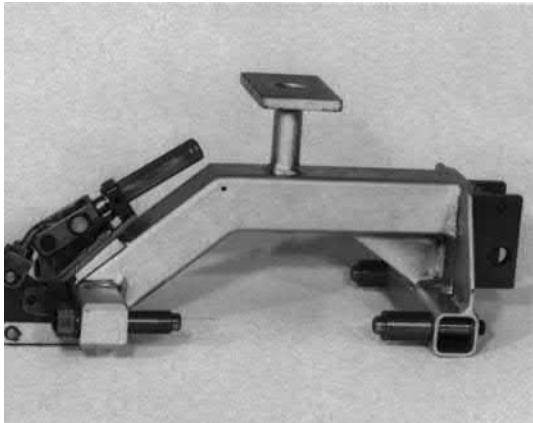

Secure detent spring in this position.
(Wrench size = Torx - TX 27)
(tightening torque = 10 Nm)

Release position gauge and move selector shaft from N to P and back to setting N.


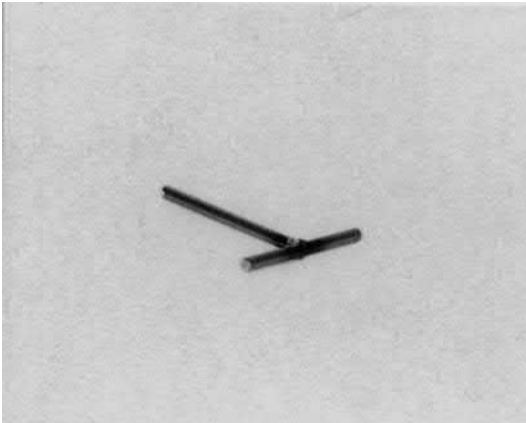
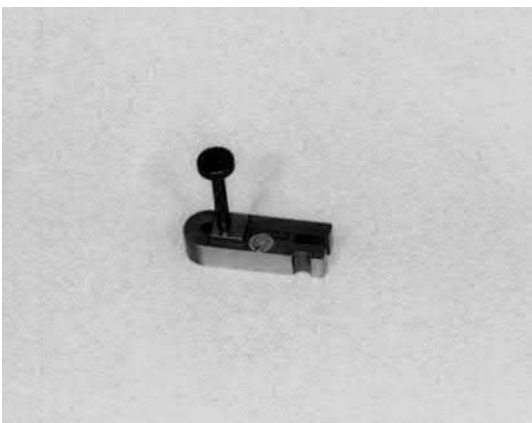
When fitted correctly, the position gauge locates flush with the selector shaft and the transmission housing.



1.8 Special tools 5 HP 30

Illustr. No.		Order No. / Purpose	Remarks
4	<p data-bbox="256 360 344 394">91 190</p> 	<p data-bbox="842 367 975 394">5 X 46 000 563</p> <p data-bbox="842 400 1091 459">- Assembly fixture for oil supply unit (complete)</p>	<p data-bbox="1353 367 1461 425">Identical to 5 HP 18</p>
5	<p data-bbox="256 925 344 958">91 194</p> 	<p data-bbox="842 934 975 960">5 X 46 000 635</p> <p data-bbox="842 967 1145 1025">- Assembly bracket for complete transmission</p>	<p data-bbox="1353 934 1461 992">Identical to 5 HP 18</p>
6	<p data-bbox="256 1491 344 1525">92 207</p> 	<p data-bbox="842 1500 975 1527">5 X 46 000 688</p> <p data-bbox="842 1534 1015 1592">- Assembly sleeve, - selector shaft</p>	

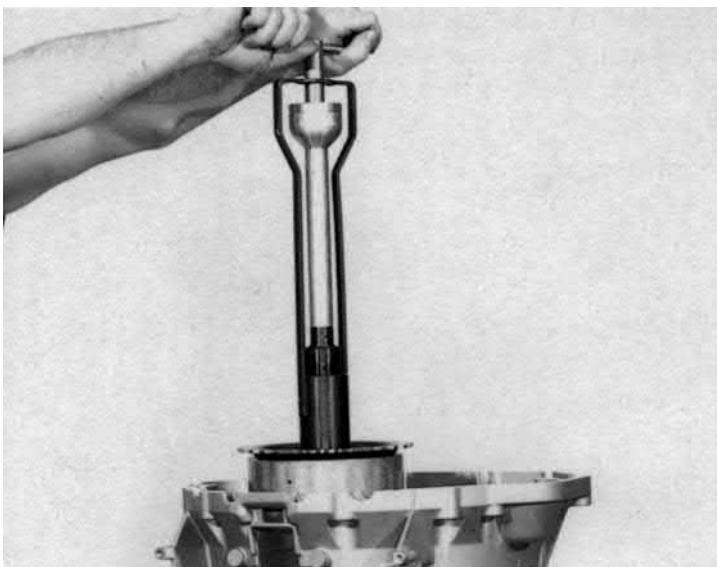
1.8 Special tools 5 HP 30

Illustr. No.		Order No. / Purpose	Remarks
28	<p data-bbox="260 360 347 394">92 224</p> 	<p data-bbox="842 367 979 394">5 X 46 001 064</p> <p data-bbox="842 398 1171 461">- Assembly hoop for pressing down plate springs E2 and C</p>	
29	<p data-bbox="260 925 347 958">92 239</p> 	<p data-bbox="842 931 979 958">5 X 46 001 084</p> <p data-bbox="842 963 1187 990">- Disassembly tool for pot in tower II</p>	
30	<p data-bbox="260 1485 347 1518">92 240</p> 	<p data-bbox="842 1496 979 1523">5 P 01 002 368</p> <p data-bbox="842 1527 995 1554">- Position gauge</p>	

Rotate transmission through 90 degrees and insert lifter 5 X 46 000 83 1 in cylinder F by lifting bracket handle. The fixture is locked by releasing the bracket handle. Rotate fixture until it locates.

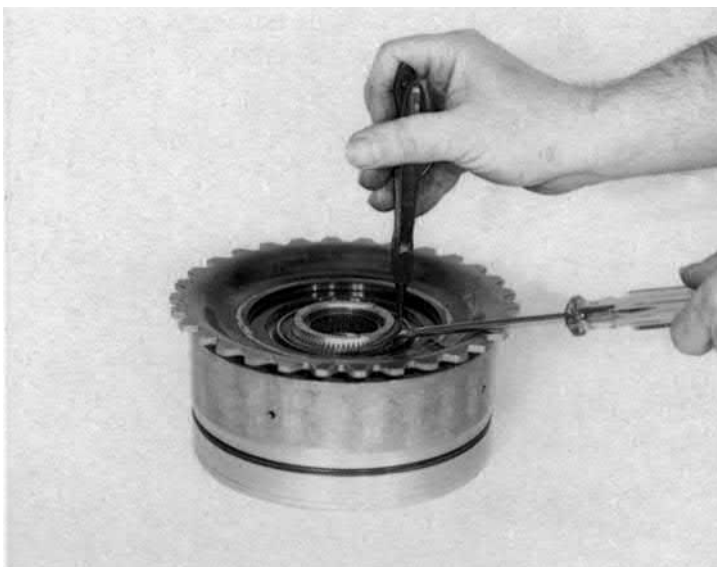
Caution!

Do not lift using bracket handle! Lift out using hand grip on cylinder F.

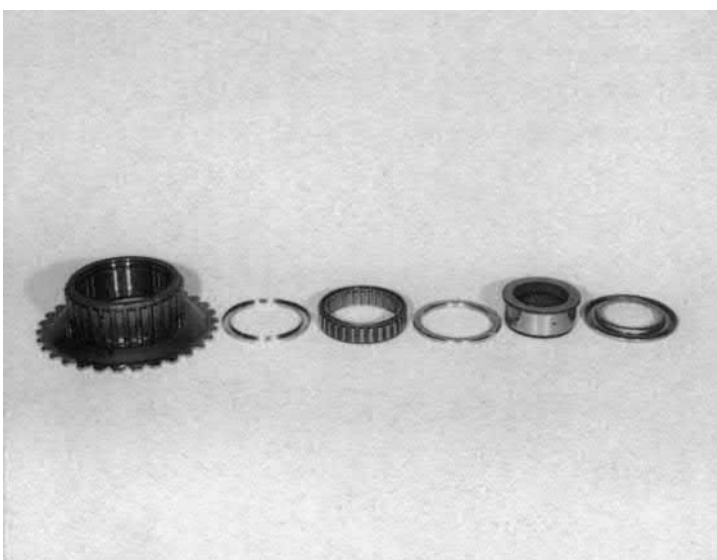


2.2 Brake F + freewheel, 1st gear

The freewheel unit can be completely detached from cylinder F. For this, extract snap ring using suitable pliers and a screwdriver.



Extract snap ring and dismantle freewheel into retaining disc, freewheel inner race, complete freewheel unit (cage and 2 washers) and complete freewheel race F.



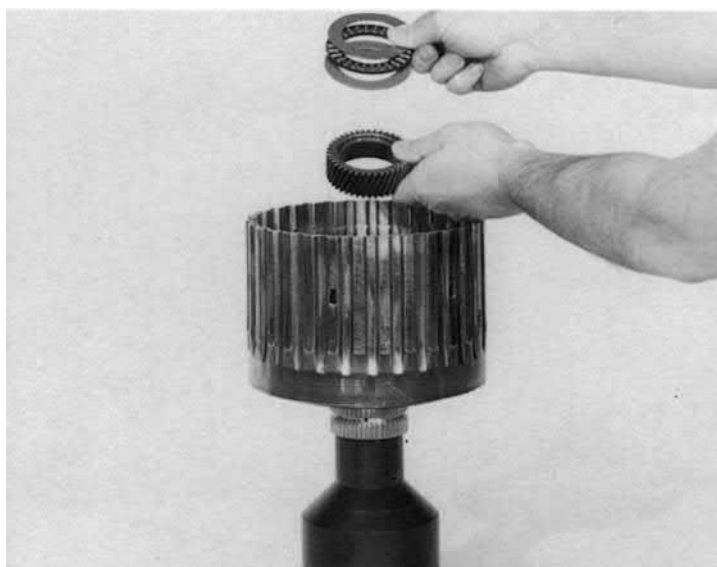
92 040

Remove planet carrier II and extract round seal from shaft.



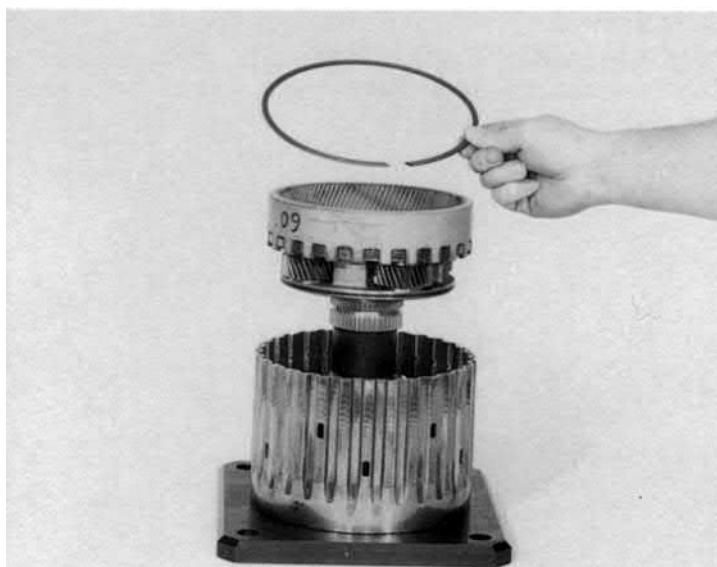
92 041

Remove axial thrust washer, axial needle cage and angled disc. Lift out sun gear.



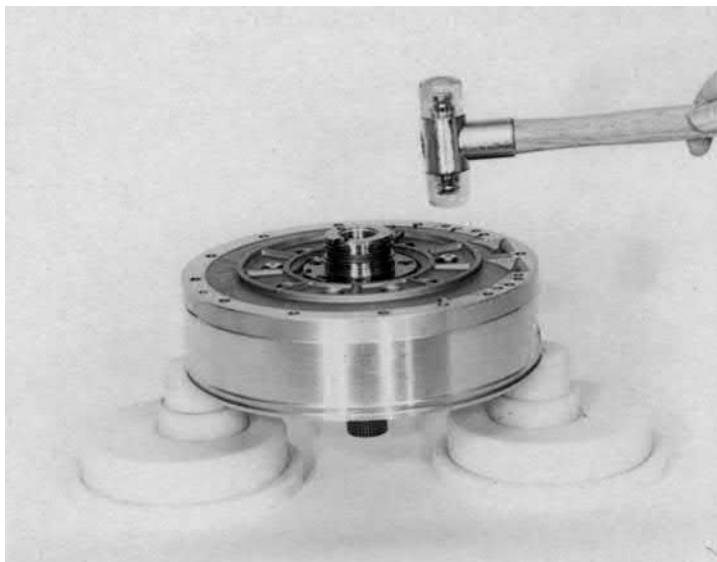
92 042

Extract snap ring and separate planet carrier I and ring gear II from ring gear I.



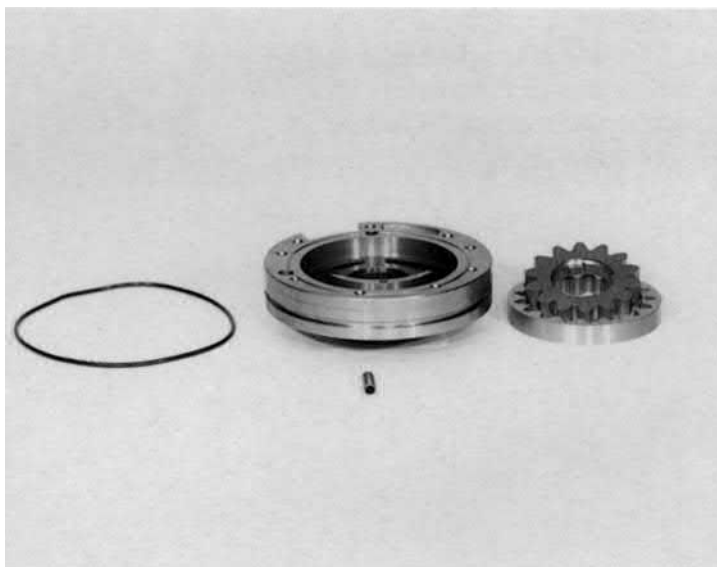
92 064

Remove 10 machine screws. Do not completely remove 2 opposing machine screws. Drive pump off along these screws by striking with plastic mallet.



92 065

Remove O-ring. The pump can be dismantled by removing the impeller and ring gear. Extract sleeve (locating dowel).



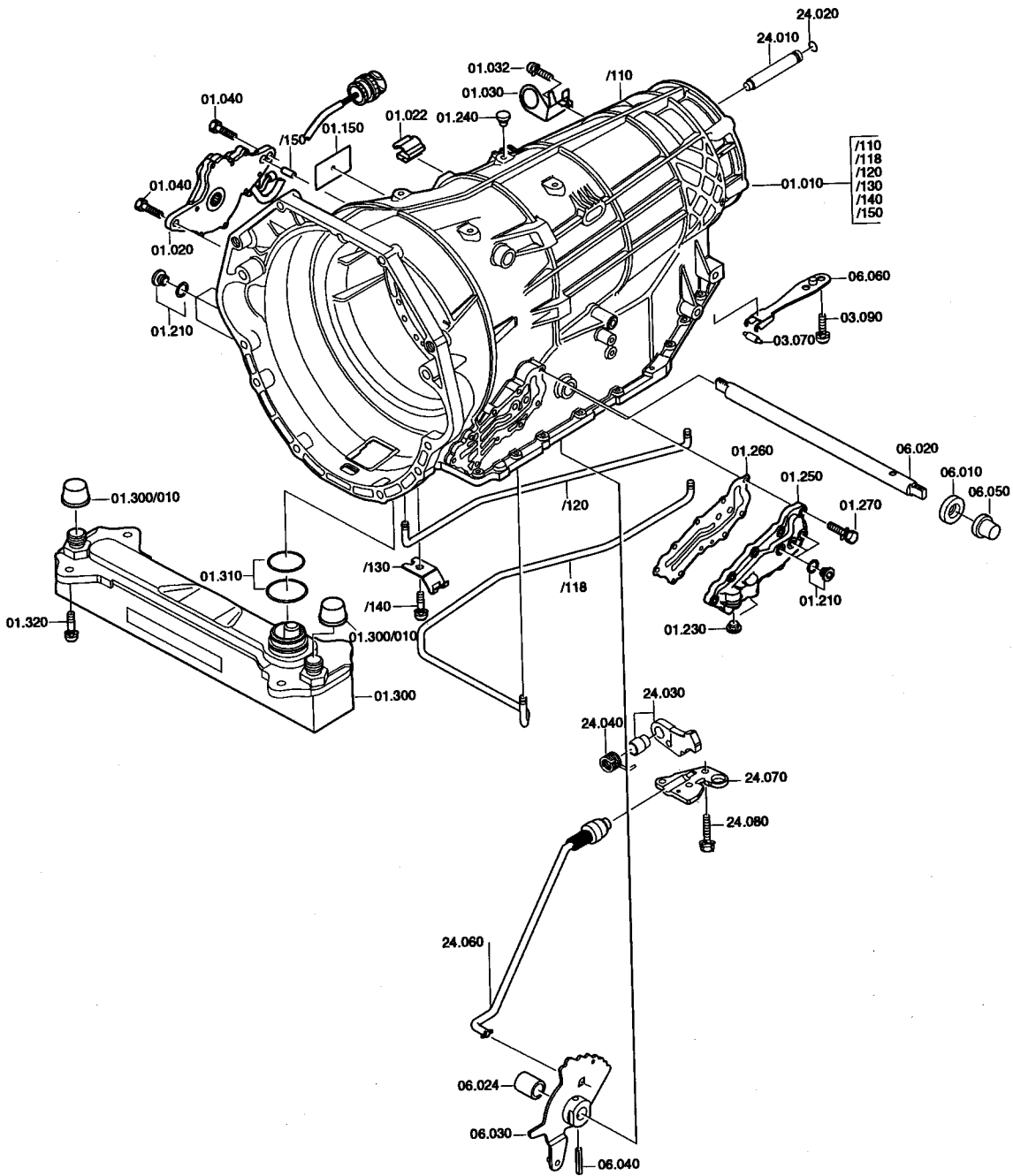
92 066

Extract snap ring and lever out shaft seat using suitable screwdriver. Remove corrugated disc.



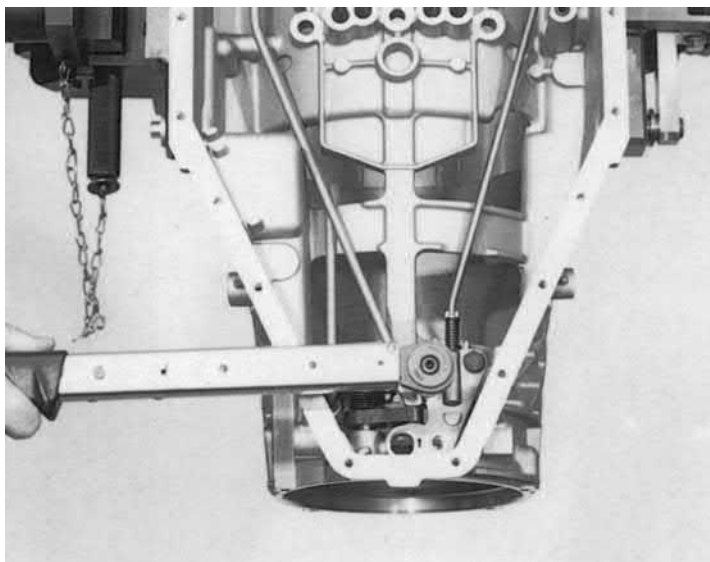
3. Assembly

3.1 Housing with shift assembly and parking detent



Press down pawl: connecting rod must be pressed backwards by rotating the detent disc, and guide plate 24.070 must initially be secured by 2 hex screws 24.080.

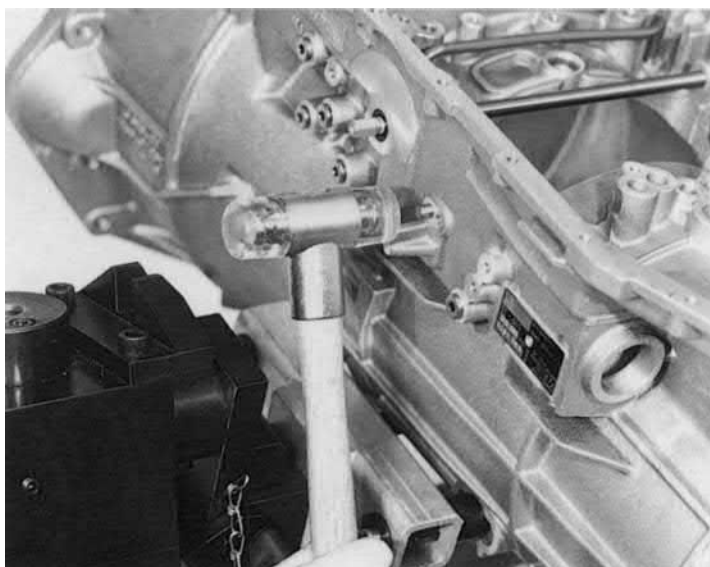
(Width across flats = 13 mm)
(Tightening torque = 23 Nm)



Caution!

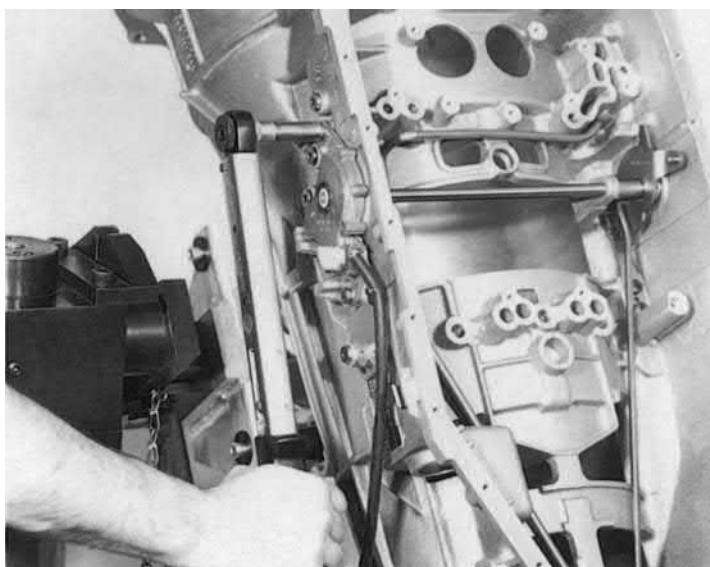
If the transmission housing, detent spring, detent disc or selector shaft were replaced, or if the detent springs were unfastened, the switch (detent spring) must be reset. (see Pt. 1.4.10, Page 5/11).

Drive dowel pin 01.060 into transmission housing with plastic mallet until it protrudes by no more than 5.0 - 5.5 mm.



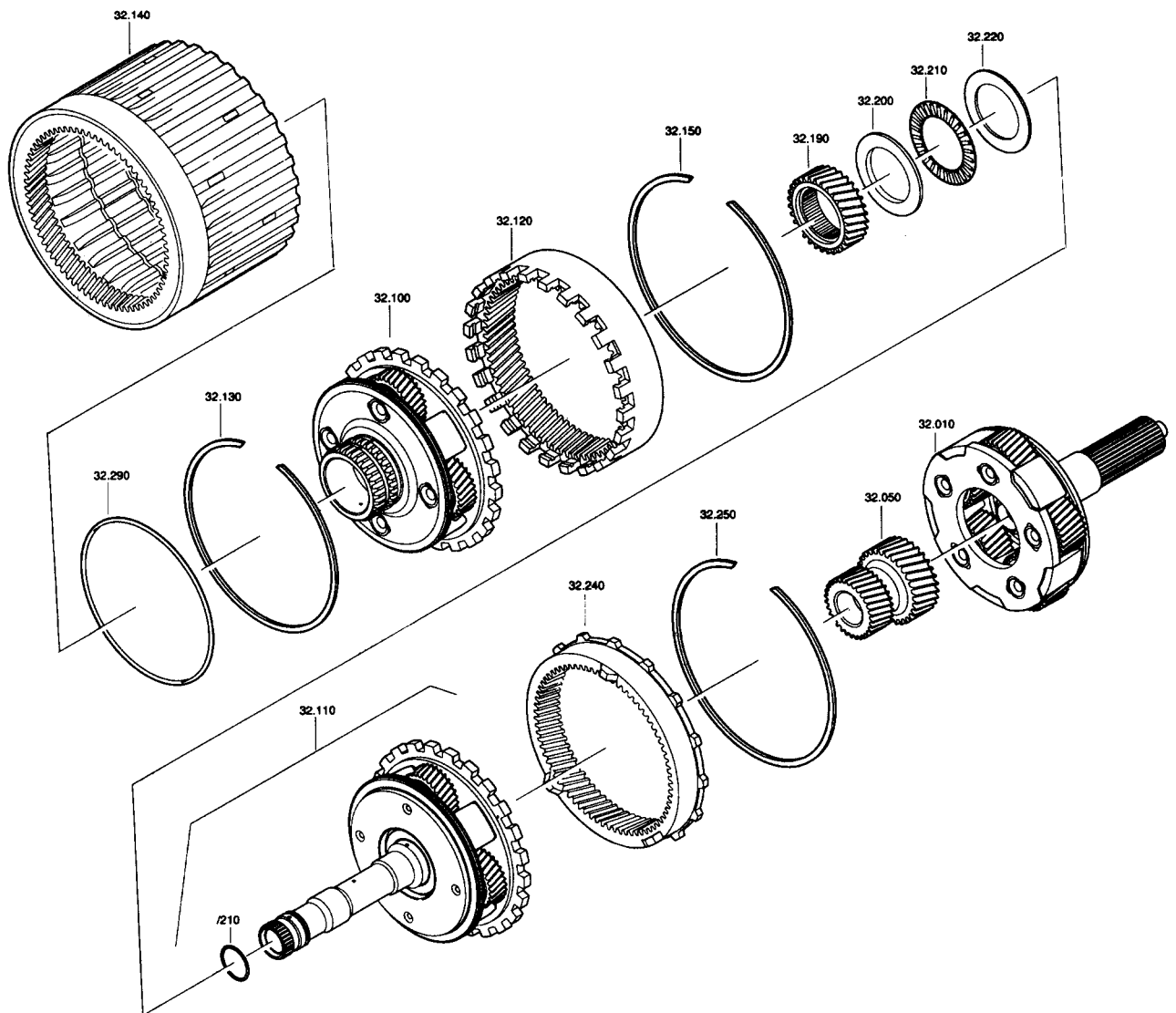
Fit switch 01.020 to selector shaft and secure with 2 hex screws on transmission housing.

(Width across flats = 10 mm)
(Tightening torque = 8 Nm)



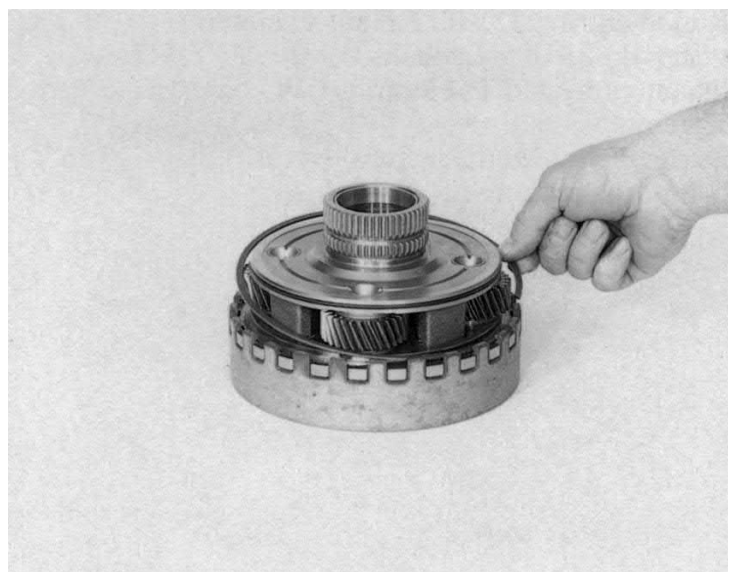
3.3 Tower I

3.3.1 Planetary drives (I,II and III)

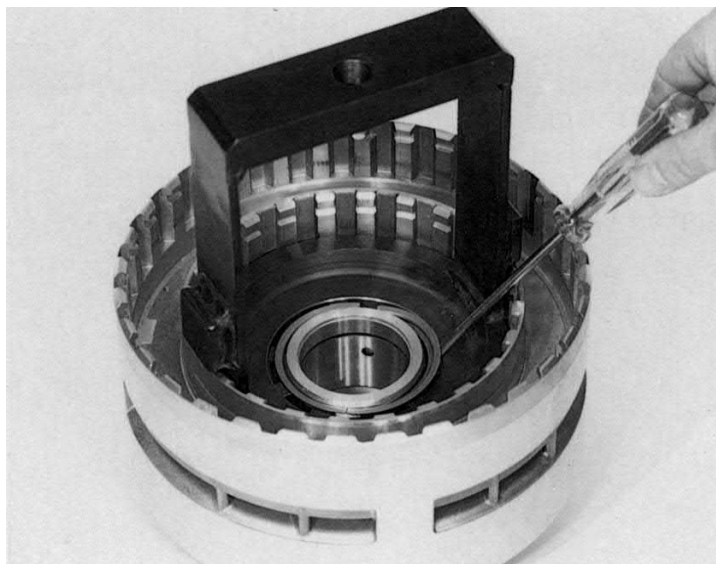


92 105

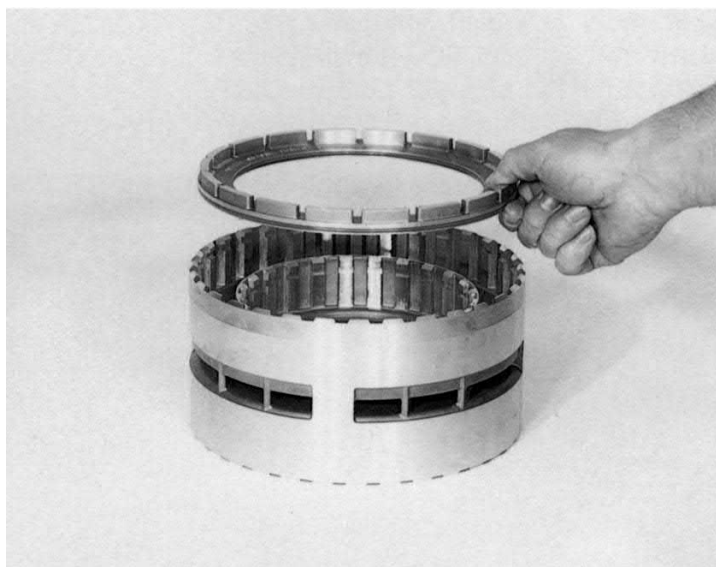
Fit new O-ring 32.290 to planet carrier I 32.100. Install planet carrier in ring gear II 32.120 and secure with snap ring 32.130.



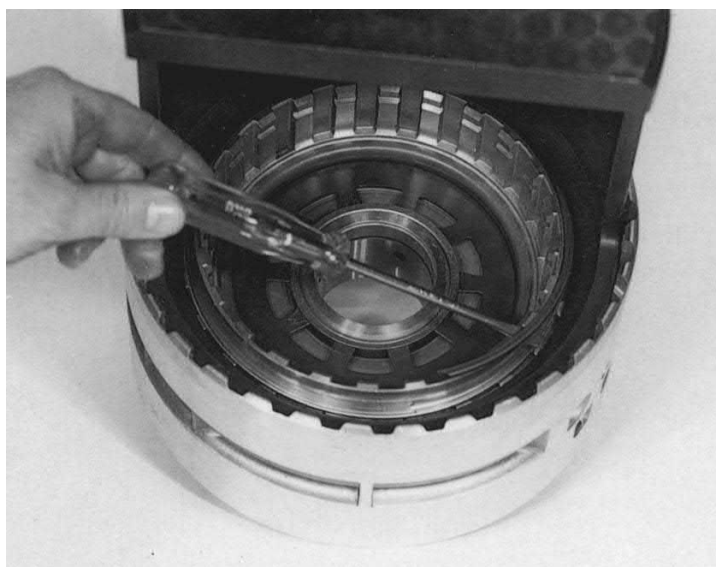
Insert plate spring 74.020.
Using assembly bracket
5 X 46 000 928, press down plate spring
under mandrel press and secure with
split retaining ring 74.030.



Fit new O-rings 75.020 and 75.030 to
piston E2 75.010 and apply a light
coating of grease (Vaseline).
Press piston E2 into cylinder DE.

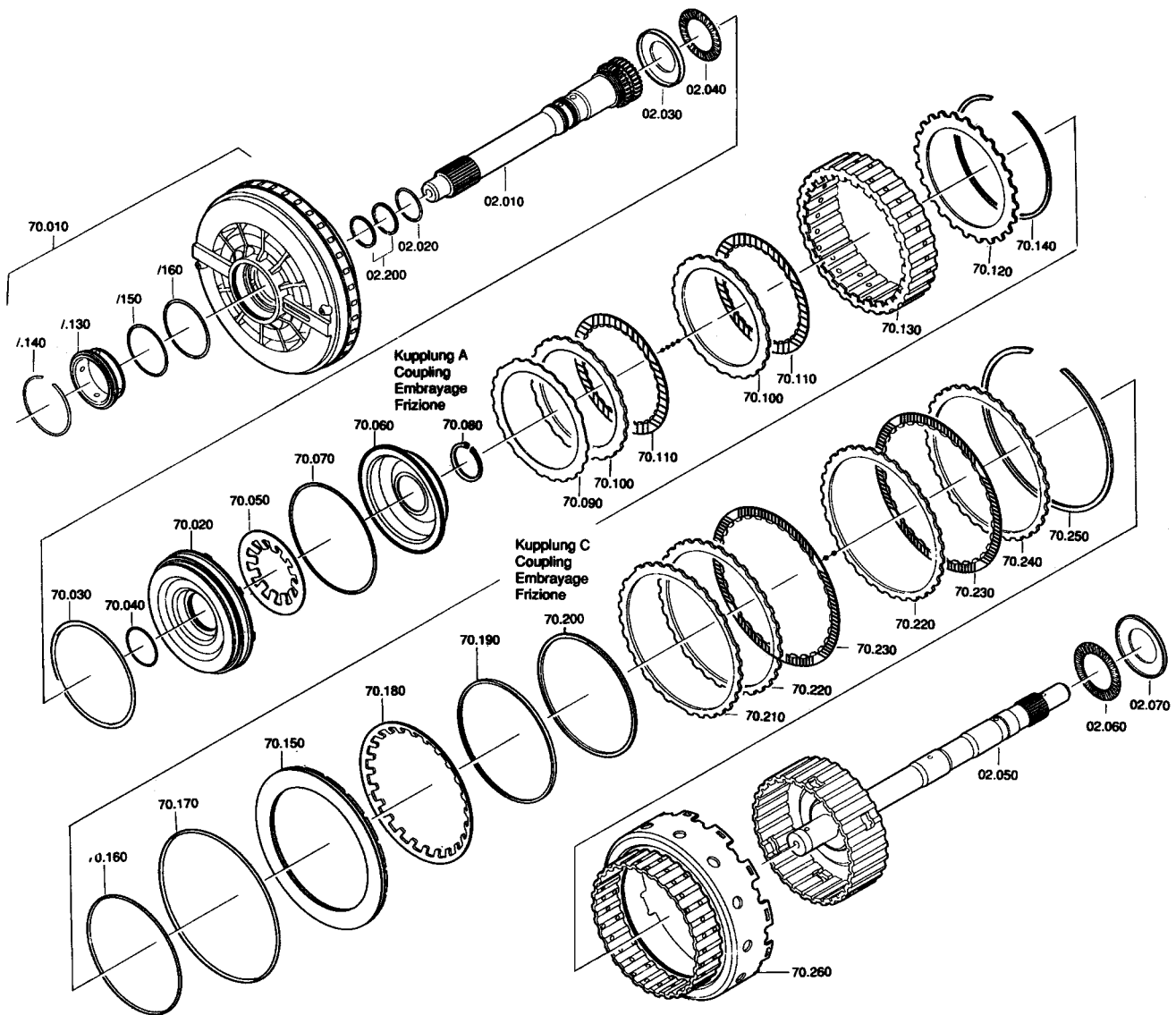


Insert plate spring E2 75.040.
Install retaining disc 75.050, press down
plate spring under mandrel press using
assembly bracket 5 X 46 001 064 and
secure with snap ring 75.060.



3.5 Tower II (input with clutches A, C and B)

3.5.1 Clutches A, C (input)



92 148

Complete assembly of cylinders A + C 70.010. For this, fit two O-rings 70.010/150 and 70.010/160 to bush 70.010/130 and apply light coating of grease (Vaseline). Press bush into cylinder A + C and secure using snap ring 70.010/140.

