REPAIR MANUAL

5 HP - 30

ZF GETRIEBE GMBH SAARBRÜCKEN

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PRELIMINARY INFORMATION

This manual must only be used in connection with detailed practical training.

This manual contains precise details of how to repair the complete transmission.

All dismantling and assembly work is described in the correct order.

The photographs have been selected to cover various types of transmission and may therefore differ from the vehicle on which you are working.

The component list precisely defines which version of the transmission you are working on, and this is also reflected in the parts list.

If any major modifications have to be taken into account when repairs are carried out, you will be notified by Technical Bulletin.

Depending on the nature of the fault, it may be possible to limit the repair to the actual components and areas of the transmission that have failed.

In this connection, please note:

- Always renew the pistons if there is a fault on brakes „F“, „E1“ or „D“. Always replace (never re-use) seals, for example O-rings and shaft sealing rings as well as filters.
- If the transmission has been run for a considerable distance (>50.000 km), renew all lined and steel discs.
- If clutch damage has occured the torque converter, oil cooler lines and the oil cooler itself must be thoroughly flushed out with a suitable cleaning agent.

The following requirements must be satisfied:

- The necessary special tools must be available. The complete set is listed in Section 1.8 of this manual.
- A suitable transmission test rig should be available. Refer to the Technical Bulletins for the relevant test values.

NOTE:

In this manual the control unit is treated as a single element; it should always be exchanged as a complete unit and not dismantled except by suitably trained personnel possessing full knowledge of its design.

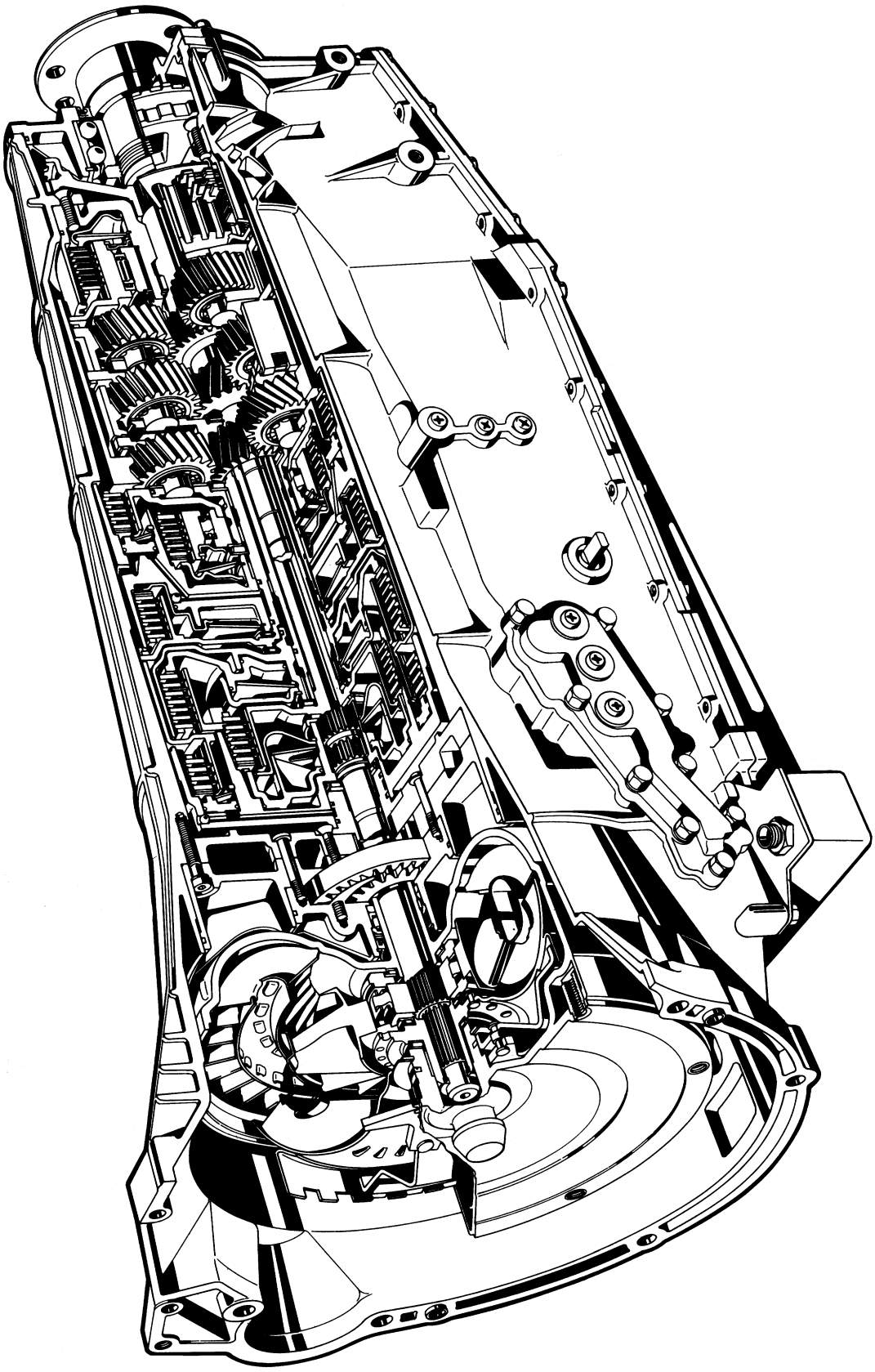
Caution:

The transmission has a „lifetime“ fill of special lubricant.
The transmission has only to be delivered with the correct oil content, as specified in the relevant component list (on microfiche).

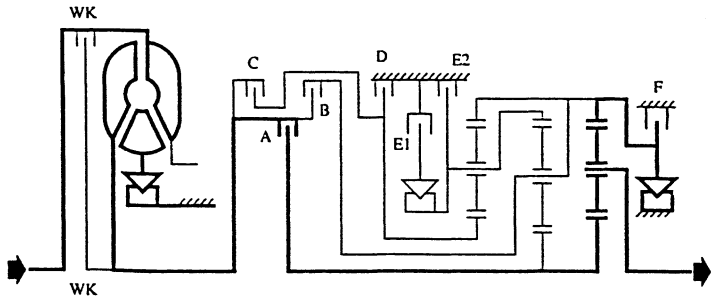
Transmissions are supplied by the Service Department partly filled with oil. The dealer is responsible for correcting the oil level.

1. General information

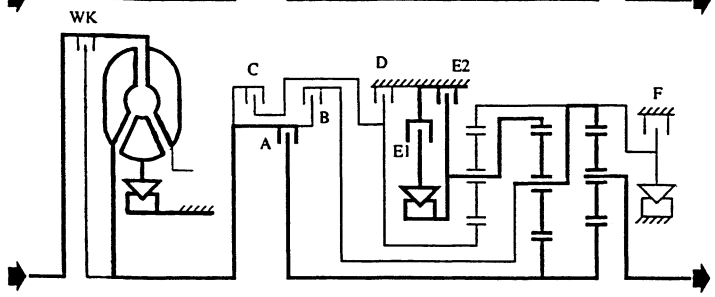
1.1 Drawing of transmission



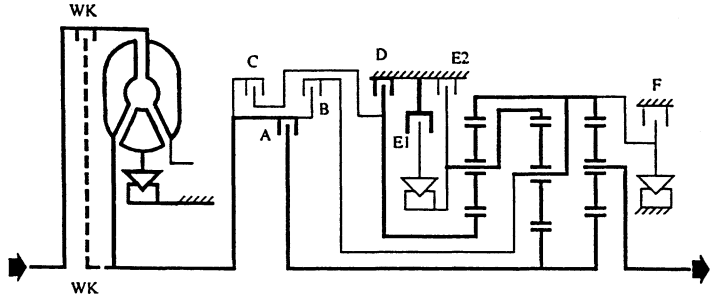
1.2 Power flow



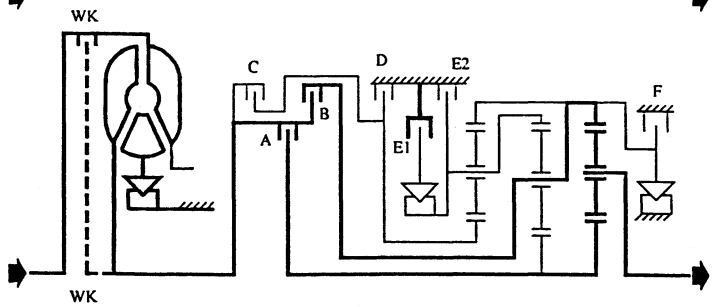
1st gear



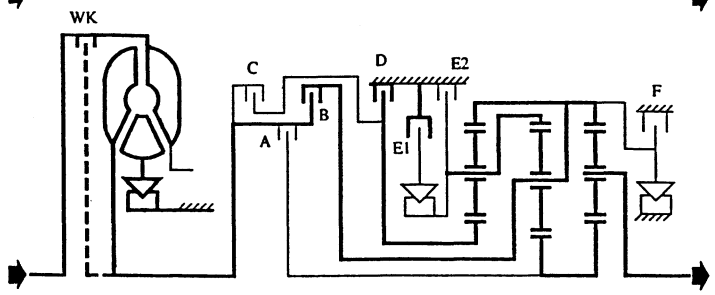
2nd gear



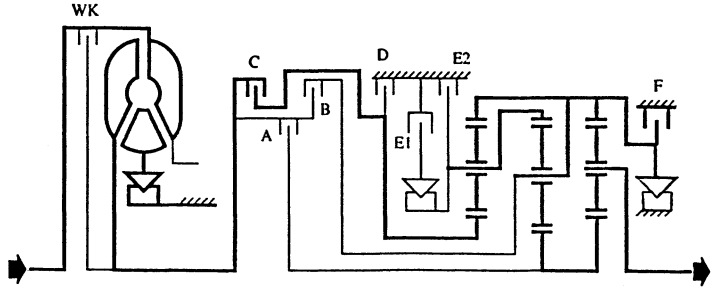
3rd gear



4th gear



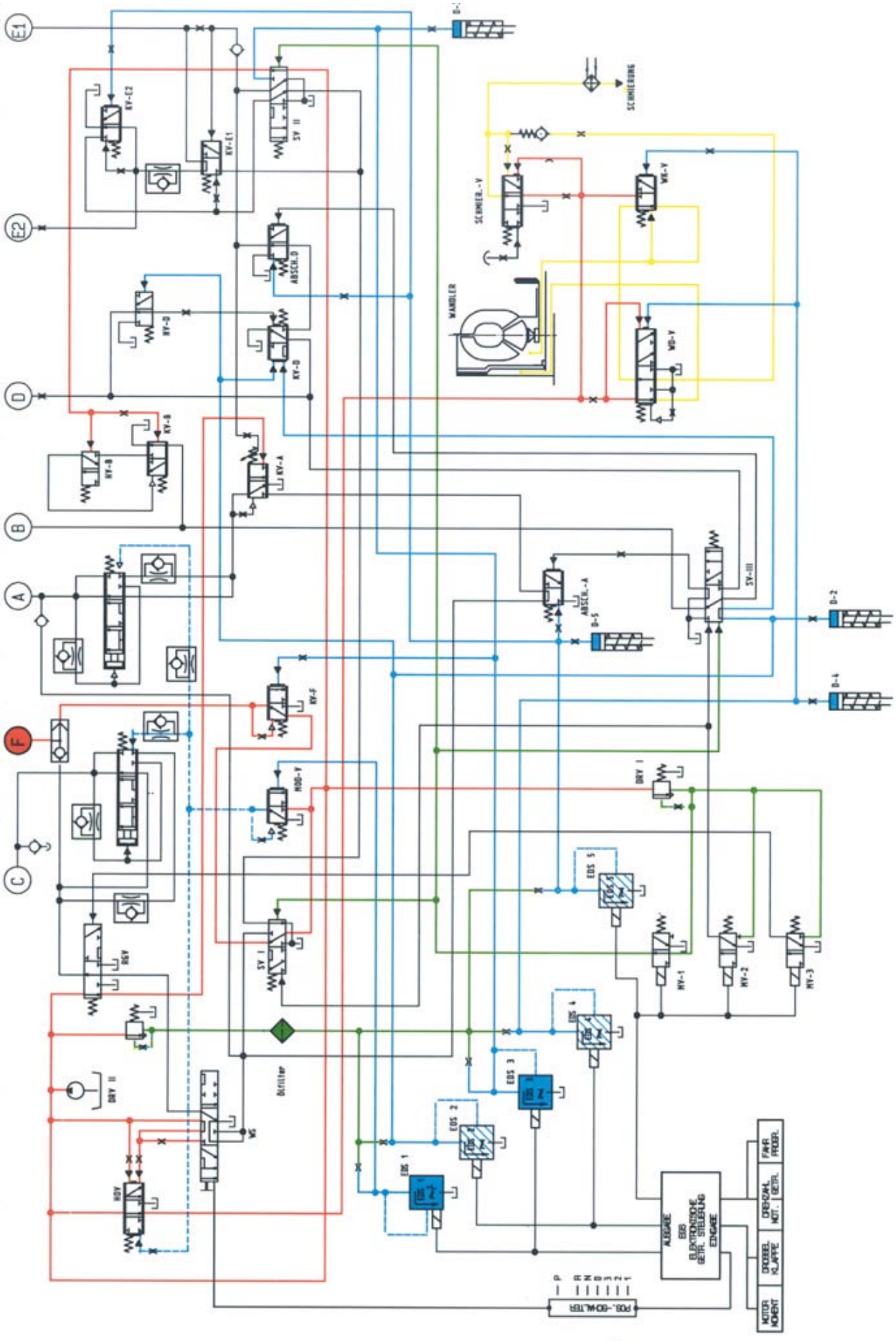
5th gear



Reverse gear

For a full description, refer to seperate documentation.

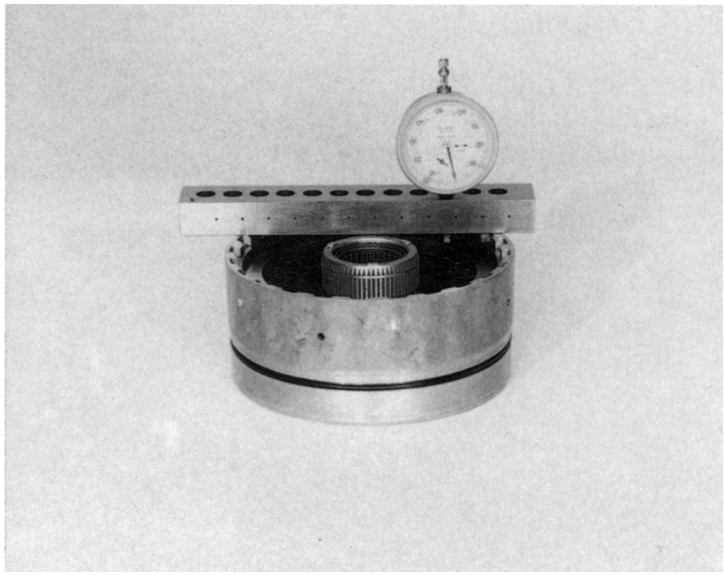
Position N	Neutral (DIN Symb.)	Neutre	Neutral	Neutra



1.4 Adjustment work

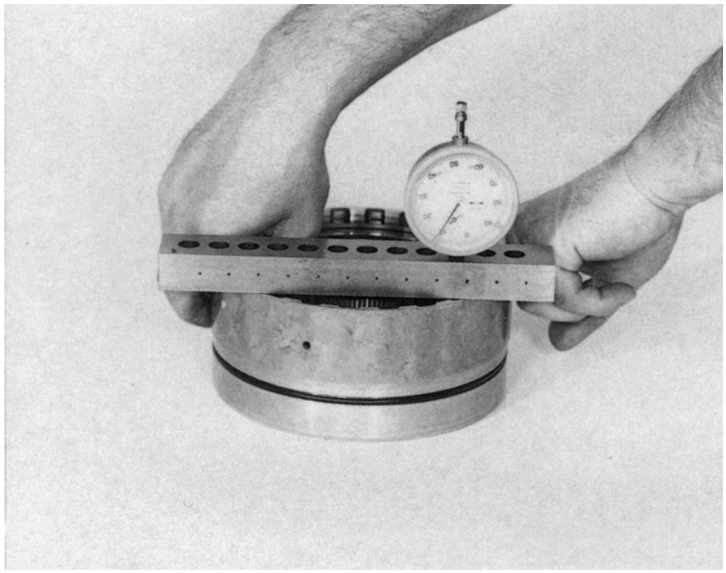
1.4.1 Release clearance at clutch F (snap ring)

92 092



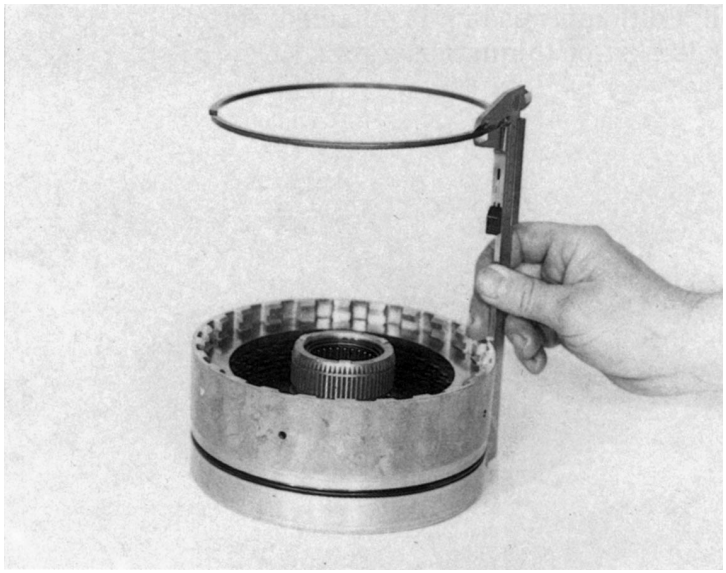
Insert snap ring 76.210.
(selected thickness = 3.0 mm).
Place dial gauge and bar in position.
Extend dial gauge pointer until it touches the end disc, and set dial gauge to „0“.

92 093



Raise the complete disc set and read off play at the dial gauge.
It should be:
with 6 lined discs = 1.90 - 2.40 mm

92 094

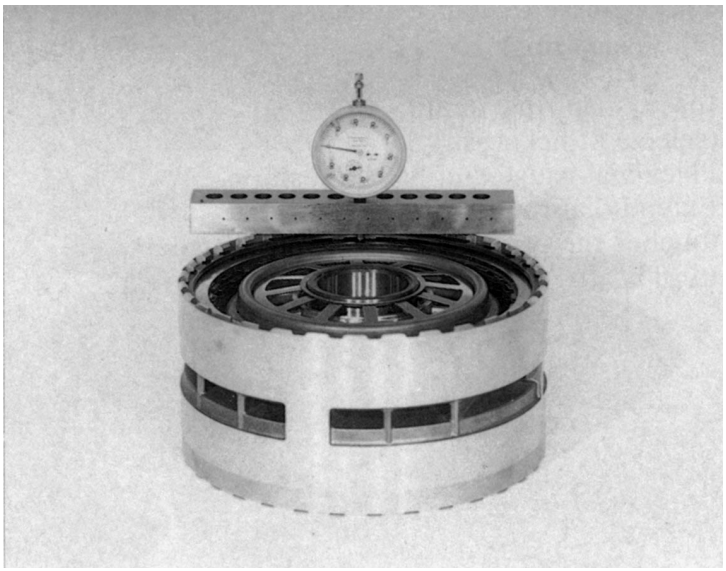


If a different reading is obtained, select a thicker or thinner snap ring.

1.4.2 Release clearance at brake G (snap ring)

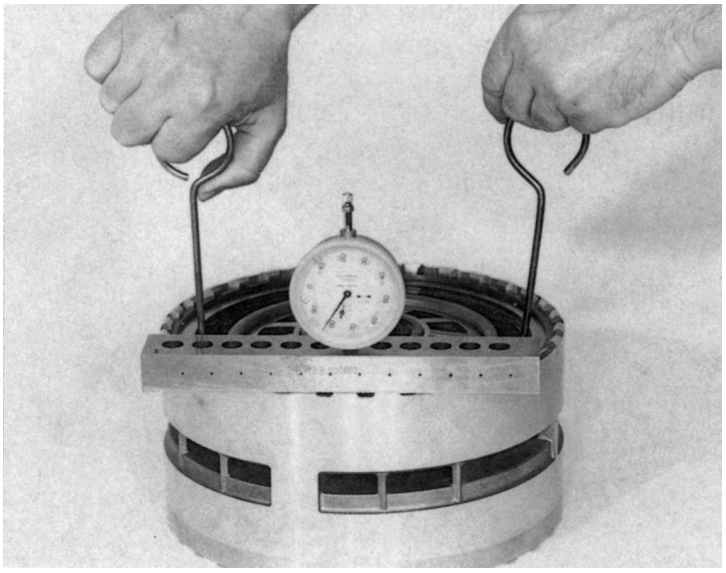
92 125

Insert snap ring 73.110.
(selected thickness = 3.6 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“.



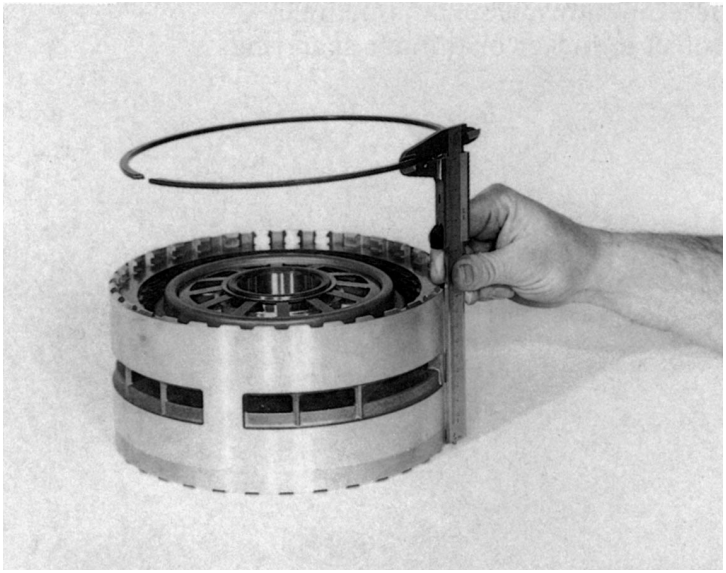
92 126

Raise the complete disc set and with two hooks, e.g. 5 X 46 000 095 and read off play at the dial gauge.
It should be:
with 5 lined discs = 1.60 - 1.90 mm



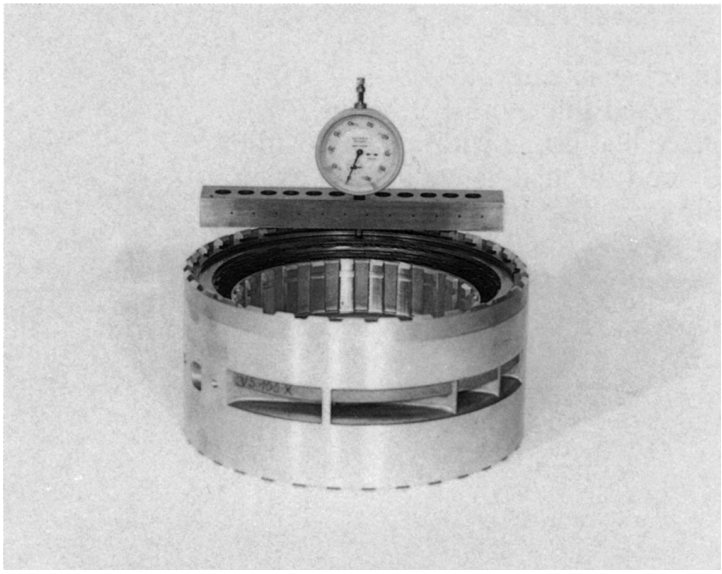
92 127

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



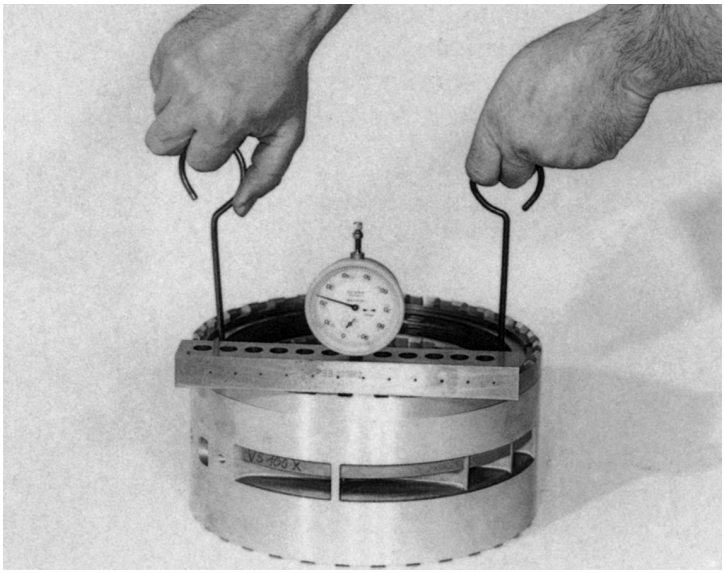
1.4.3 Release clearance at brake E2 (snap ring)

92 129



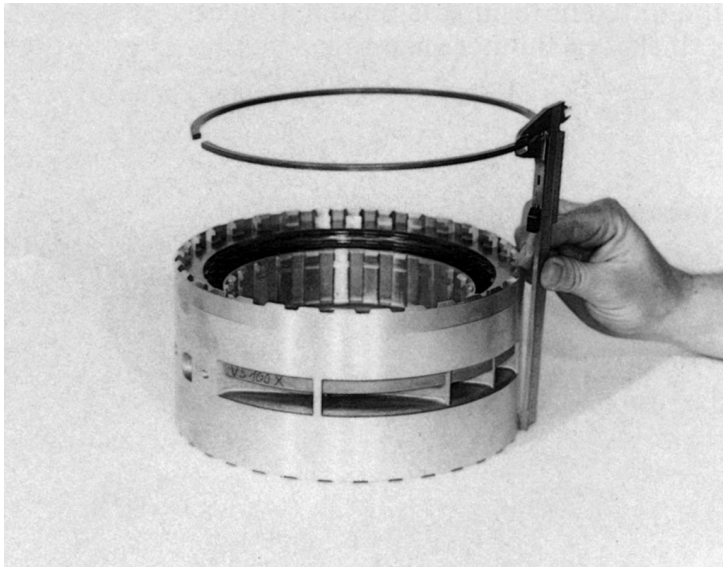
Insert snap ring 75.120.
(selected thickness = 3.4 mm)
Place dial gauge with bar in position.
Extend the dial gauge pointer as far as the final disc and set the dial gauge to „0“.

92 130



Raise the complete disc set with two hooks, e.g. 5 X 460 00 095 and read off play at the dial gauge.
Release clearance should be:
with 4 lined discs = 1.30 - 1.60 mm

92 131



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