

Ordering-No.: 5871 419 002

ZF-PLANETARY AXLE

AP-R 715



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Edition: 2001/07

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TECHNICAL DATA AND SETTING OF THE ZF-PLANETARY AXLE "AP-R 715"

AXLE ARRANGEMENT – depending on version ..: Front- or rear axle
OUTPUT ..... : Planetary drive

DIFFERENTIAL - depending on version .: - Standard differential Type D 250
- Self-locking differential Type DZ 250 (45 %)
- DHK(100% lock)

(DHK = Differential – hydraulically engaged)

INPUT – depending on version .....: - Standard (without brake or axle transmission case)
- with flange brake (BHF-brake)
- with drum brake (Hydr. Simplex- or Servo brake)
- 1 axle transmission case-150 or 1 axle transmission case 185

OIL QUALITY .....: as per ZF-list of lubricants TE-ML 05

OIL FILLING VOLUME – depending on version : * Axle casing abt. 3.5 ..... 4.0 litres
* per planetary drive abt. 0.3 ..... 0.4 litres
* axle transmission case abt. 1.0 litre

REFERENCE TO *: **Binding is an oil level up to the marking or to the overflow at the filling- and control screws!**

ROLLING MOMENT - INPUT PINION SUPPORT (WITHOUT SHAFT SEALING RING)...: 1.5 ... 2.5 Nm

ROLLING MOMENT - DIFFERENTIAL SUPPORT) .....: 1.0 ... 4.0 Nm
For new roller bearing - aim at upper value!

BACKLASH (Pinion/Crown wheel) .....: 0.15 ... 0.27 Nm

TIGHTENING TORQUE at the input flange:
depending on version – cylindrical bolt or hexagon bolt (M 20x1.5/10.9) .....: 400 Nm

Decisive, however, is the bearing rolling moment of the input pinion support!

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LIST OF TOOLS FOR DISASSEMBLY AND ASSEMBLY

ZF – PLANETARY STEERING AXLE AR – R 715
4472 004 018 / 032 / 034 / 035 / 040 / 041

Disassembly Fig.	Assembly Fig.	Designation / Use	Item-No.
Fig. 1.1 Fig. 1.42		**Assembly carriage compl. with swivelling device** **Fixing angle** **1 set = 2 units** Universal use . For clamping the compl. axle AP – R 715 or the axle casing 4472 304 052/052 on the assembly carriage	**5870 350 000** **5870 350 106**
Fig. 1.3 Fig. 1.7 Fig. 1.15		**Hot-air blower** 230 V or **Hot-air blower** 115 V Universal use . For heating up housing-, bearing and spare parts..	**5870 221 500** **5870 221 501**
Fig. 1.23	Fig. 4.52 Fig. 4.54 Fig. 4.73 Fig. 6.14	**Clamping fork #** Universal use. For fixing the output flange upon loosening and tightening the bolt connection of the input flange.	**5870 240 025**
Fig. 1.4 Fig. 1.12	Fig. 6.11	**Socket spanner** **WAF** 12 Universal use . For loosening and tightening the cylindrical bolts M14x40/45 0636 101 084 /085 – brake carrier fastening. Permits the assembly and disassembly of the complete brake without dismantling it. Can be used in combination with: **Torque spanner** 40 – 200 Nm **Torque spanner** 80 – 400 Nm with square connection 14 x 18 mm	**5870 656 084** **5870 203 017** **5870 203 023**
Fig. 1.25	Fig. 6.69	**Adjusting screws** M12 1 set = 2 units Universal use . For positioning and aligning the spring casing at the brake housing. .	**5870 204 021**
Fig. 1.34 Fig. 1.40 Fig. 1.55	Fig. 4.71	**Plastic mallet** 60 mm Universal use . For the saving disassembly and assembly of axle parts .	**5870 280 004**
Fig. 1.37		**Two-armed puller** Universal use. For withdrawing the disc carrier 4472 330 137 from the brake housing .	**5870 970 002**

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Fig. 39

Disassemble differential.

Determine dimension „B" (1/2 diameter/differential)

Dimension „B" e.g. ..... 56.20 mm

☞ Make measurements at various points and determine average value!



Fig. 40

Determine dimension „C" (bearing width).

Dimension „C" e.g. ..... 24.70 mm

(S) Abutting blocks 5870 200 066
(S) Digital depth gage 5870 200 072

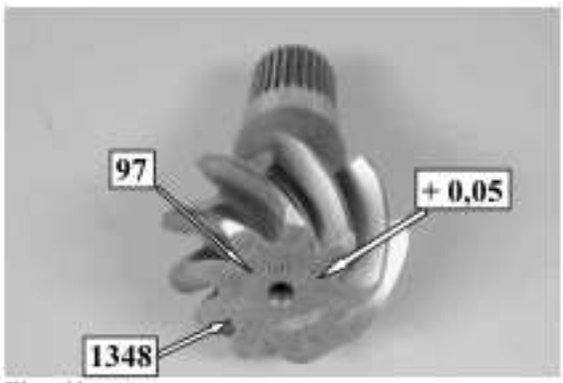


Fig. 41

Determine dimension „D" of the pinion.

Pinion dimension (basic distance) e.g. 97.00 mm
if a ± distance deviation is specified e.g. + 0.05 mm
Dimension „D" e.g. 97.05 mm

☞ Pair number/pinion e.g. „1348" must be identical to pair number/bevel gear (bevel gear set)!

CALCULATION EXAMPLE:

Dimension „I" (Dim. „A" + „B") e.g..... 123.00 mm
Dimension „II" (Dim. „C" + „D") e.g.. ..... - 121.75 mm
Result → Spacer disc(s) = 1.25 mm

Required adjusting spacer (Item S-1 – see Sketch-No. 37) e.g.. s = 1.25 mm.

☞ **Continue the assembly with Fig.-No.: 45/page 4/13!**

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