



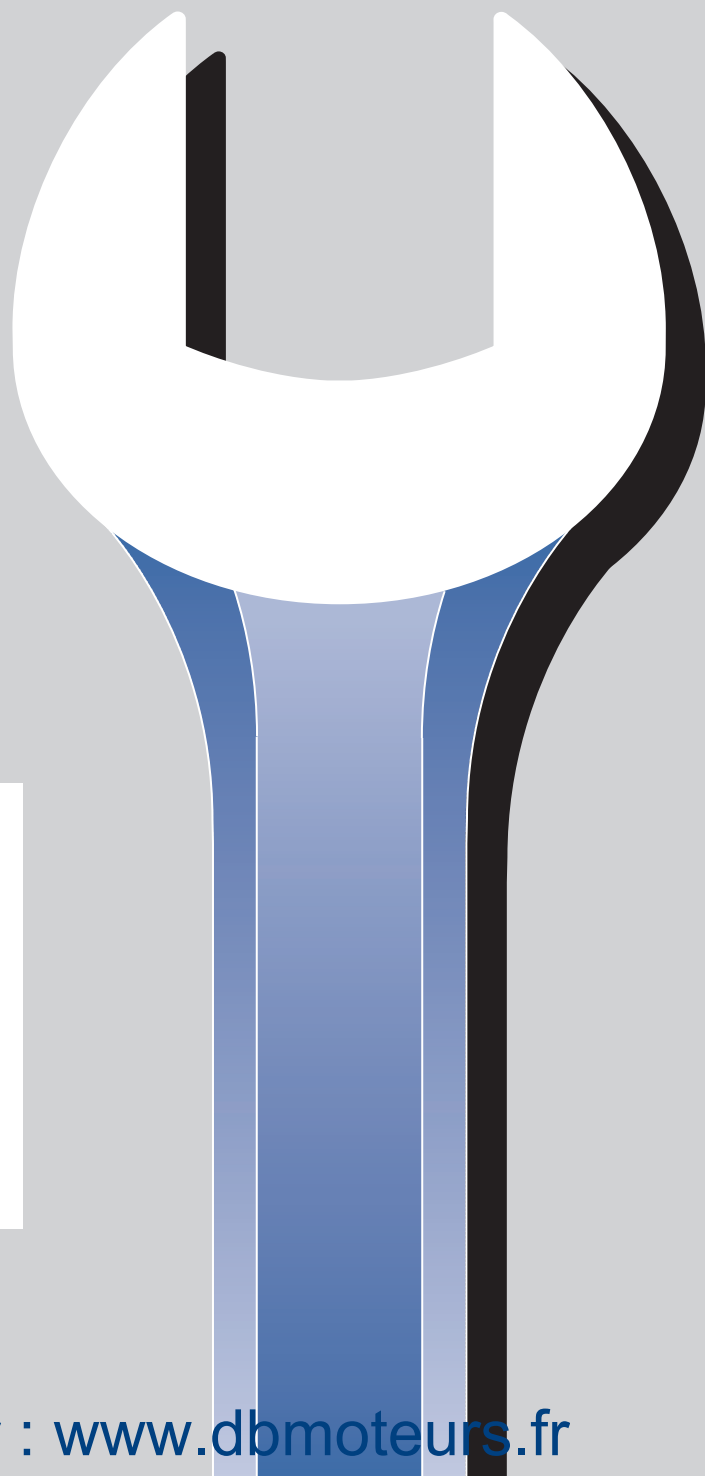
Marine Propulsion Systems

## SPARE PARTS CATALOGUE

ZF 3 M (HBW 35)  
ZF 5 M (HBW 50)  
ZF 6 M  
ZF 10 M (HBW 100)  
ZF 12 M (HBW 125) / HBW 10  
ZF 15 M (HBW 150)  
ZF 15 MA (HBW 150 A)  
ZF 25 M (HBW 250)  
ZF 25 MA  
ZF 30 M

Cod. 310.01.0099

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## 1. Spare Parts List

### 1.1 Preface

The spare parts list is only valid for the type and versions of transmission, as shown below.

You will find the transmission type and version on your transmission name plate.

If the type and version indicated differs from that printed in this Manual, the relative Spare Parts List should be ordered from ZF Marine Arco S.p.A.

The indicated dimensions and standards are as such not enough for ordering parts.

When ordering parts, please state:

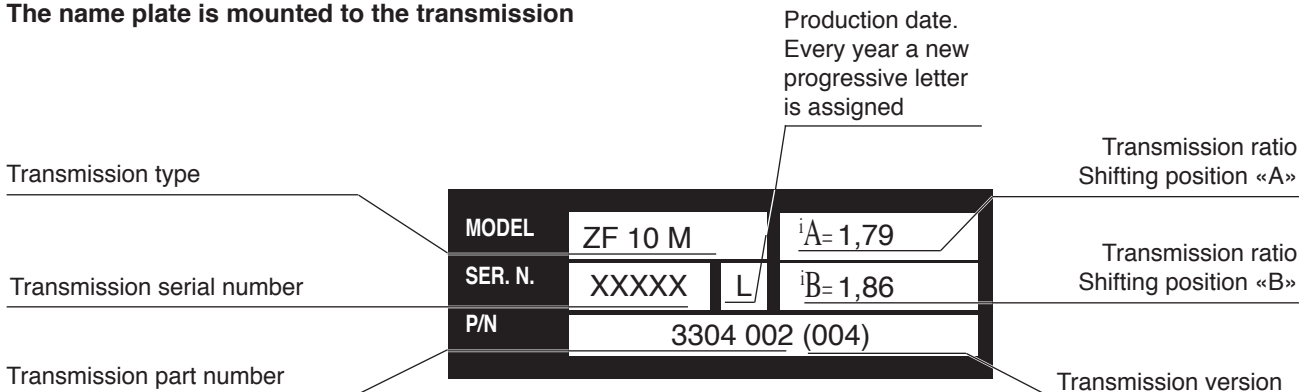
- transmission type
- serial number
- item no. part name, ident no. and quantity of parts required.

The spare parts list is referring to the following versions:

ZF 3 M	versions <b>001; 002</b>	HBW 35	versions <b>25; 26;</b>
ZF 5 M	versions <b>001; 002</b>	HBW 50	versions <b>09; 10; 11; 12; 14</b>
ZF 6 M	versions <b>005; 006</b>		
ZF 10 M	versions <b>003; 004; 005; 010</b>	HBW 100	versions <b>14; 15; 16; 17; 20; 21</b>
ZF 12 M	versions <b>001; 002</b>	HBW 125/HBW 10	versions <b>15; 16</b>
ZF 15 M	versions <b>003; 004</b>	HBW 150	versions <b>18; 17; 20; 22</b>
ZF 15 MA	versions <b>003; 004; 005</b>	HBW 150 A	versions <b>01; 02</b>
ZF 25 M	versions <b>001; 002; 007</b>	HBW 250	versions <b>13; 16; 17; 18; 19; 20; 22; 23</b>
ZF 25 MA	versions <b>005; 006</b>		
ZF 30 M	versions <b>001; 002</b>		

## Name Plate

The name plate is mounted to the transmission



# Spare parts list and explosion view ZF M line



Item No	Part name	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBW10ZF12M15M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M	
		Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n
1	Housing assy HBW 50	3303 201 001	325952														
1	Housing assy ZF 5 M - 2.05R «001»	3303 201 001	325952														
1	Housing assy HBW 50	3303 201 001	325952														
1	Housing assy HBW 50	3303 201 002	387532														
1	Housing assy ZF 5 M - 2.72R «002»	3303 201 002	387532														
1	Housing assy ZF 3 M - 2.05R «001»	3303 201 001	325952														
1	Housing assy ZF 3 M - 2.72R «002»	3303 201 002	387532														
1	Housing assy ZF 6 M - 2.05R «005»			3304 201 003													
1	Housing assy ZF 6 M - 2.72R «006»			3304 201 004													
1	Housing assy ZF 10 M - 1.48R «003»			3304 201 003	288079												
1	Housing assy ZF 10 M - 1.79R «004»			3304 201 003	288079												
1	Housing assy ZF 10 M - 2.72R «005»			3304 201 004													
1	Housing assy HBW 100 - 3R «16»			3304 201 003	465642												
1	Housing assy HBW 100 - 2L «17»			3304 201 003	288079												
1	Housing assy HBW 100 - 2.5R «21»			3304 201 004	465642												
1	Housing assy HBW 10 / ZF 12 M / ZF 15 M					3306 201 003	206447										
1	Housing assy ZF 15 MA							3306 201 001	407465								
1	Housing assy HBW 250 - 2L «20»																
1	Housing assy HBW 250 - 3L «19»																
1	Housing assy HBW 250 - 1.5R «16»																
1	Housing assy ZF 25 M - 1.88R «001» & «22»																
1	Housing assy ZF 25 M - 2.27R «007»																
1	Housing assy ZF 25 M - 2.74R «002» & «23»																
1	Housing assy HBW 250 - 3.5R «13»																
1	Housing assy ZF 25 MA - 2.23R «005»																
1	Housing assy ZF 25 MA - 2.74R «006»																
1	Housing assy ZF 30 M - 2.7R «001»																
1	Housing assy ZF 30 M - 2.15R «002»																
2	Bearing shield input	3304 301 012	288768	3304 301 012	288768	3304 301 012	288768	3306 301 010	206450	3306 301 010	206450	3307 301 008	274248	3307 301 008	274248	3307 301 008	-
2	Bearing shield output	3304 301 011	288767	3304 301 011	288767	3304 301 011	288767	3306 301 010	206450	3306 301 010	206450	3307 301 008	274248	3307 301 008	274248	3307 301 008	-
3	Cover									3306 301 011	206452			3307 301 009	274219		
3	Cover	3304 301 013	288730	3304 301 013	288730	3304 301 013	288730	3306 301 011	206452	3306 301 011	206452	3307 301 009	274219	3307 301 009	274219	3307 301 009	-
3A	Cover									3306 301 008	407475			3307 301 003			
4	Spring washer	0630 302 090	442372							0630 302 090	42372						
4	Spring washer			0630 302 090	442372												
4	Spring washer																
4	Spring washer																
5	Hex head screw (cover)	0636 015 289	215870	0636 015 289	215870	0636 015 289	215870	0636 015 289	215870	0636 015 289	215870	0636 015 289	215870	0636 015 289	215870	0636 015 289	-
6	Actuating lever *	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	195062	947.23.006.01	500635
6	Actuating lever	3306 308 001	500635	3306 308 001	500635	3306 308 001	500635	3306 308 001	500635	3306 308 001	500635	3306 308 001	500635	3306 308 001	500635	3306 308 001	-
7	Hex head screw (actuating lever) *	0636 015 299	199807	0636 015 299	199807	0636 015 299	199807	0636 015 299	199807	0636 015 299	199807	0636 015 299	199807	0636 015 299	199807	0636 015 299	-
7	Hex head screw (actuating lever) **	0636 101 727	442377	0636 101 727	442377	0636 101 727	442377	0636 101 727	442377	0636 101 727	442377	0636 101 727	442377	0636 101 727	442377	0636 101 727	-

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56796 N \*\*\* From s/n 56791 N

Item No	Part name	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBWZF 12 M/15 M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M	
		Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n
7	Screw (actuating lever) ***	0636 103 204	500113	0636 103 204	-	0636 103 204	500113	0636 103 204	500113	0636 103 204	500113	0636 103 204	500113	0636 103 204	500113	0636 103 204	500113
8	Radial sealing ring for shift cover	0634 502 009	106864	0634 502 009	-	0634 502 009	106864	0634 502 009	106864	0634 502 009	106864	0634 502 009	106864	0634 502 009	106864	0634 502 009	-
9	Cover plate	3304 308 001	206448	3304 308 001	-	3304 308 001	206448	3306 308 002	388242	3306 308 002	388242	3306 308 002	388242	3306 308 002	388242	3306 308 002	-
10	Spring dowel pin	0631 329 032	104559	0631 329 032	-	0631 329 032	104559	0631 329 032	104559	0631 329 032	104559	0631 329 032	104559	0631 329 032	104559	0631 329 032	-
11	Actuating cam assy	3304 199 006	304332	3304 199 006	-	3304 199 006	304332	3306 199 008	407211	3306 199 008	407211	3306 199 008	407211	3306 199 008	407211	3306 199 008	-
12	Shift cover assembly	3303 108 002	-	3304 108 002	-	3304 108 002	248459	3306 108 002	407210	3306 108 002	407210	3306 108 002	407210	3306 108 002	407210	3306 108 002	-
15	Shifting fork assy	3304 208 001	326000	3304 208 001	-	3304 208 001	326000	3306 208 001	223563	3306 208 001	223563	3307 208 001	327374	3307 208 001	327374	3307 208 001	-
16	Actuating shaft	3303 308 001	325963	3306 308 004	-	3306 308 004	206484	3306 308 004	206484	3306 308 004	206484	3307 301 012	288673	3307 301 012	288673	3307 301 012	-
17	Plug (O-ring for ZF 3 M - ZF 5 M)	0634 306 179	105524	0636 301 041	-	0636 301 041	442373	0636 301 041	442373	0636 301 041	442373	0636 301 041	442373	0636 301 041	442373	0636 301 041	-
18	Sealing ring	3306 301 016	326578	3306 301 016	-	3306 301 016	326578	3306 301 016	326578	3306 301 016	326578	3306 301 016	326578	3306 301 016	326578	3306 301 016	-
19	Oil dipstick/breather assy	3304 201 006	288729	3304 201 006	-	3304 201 006	288729	3306 201 005	206929	3306 201 002	408451	3307 201 005	274217	3307 201 005	274217	3307 201 005	-
20	Oil drain plug	3306 301 013	228566	3306 301 013	-	3306 301 013	228566	3306 301 013	228566	3306 301 013	228566	3306 301 013	228566	3306 301 013	228566	3306 301 013	-
21	Hex head screw	0636 010 376	215869	0636 010 376	-	0636 010 376	215869	0636 010 376	215869	0636 010 376	215869	0636 010 376	215869	0636 010 376	215869	0636 010 376	-
21	Hex head screw													0636 010 564		0636 010 563	-
21	Hex head screw																-
21	Hex head screw																-
21A	Hex head screw									0636 010 375	337982						-
21B	Hex head screw																-
22	Hex nut	0637 006 157	455785	0637 006 157	-	0637 006 157	455785	0637 006 157	455785	0637 006 157	455785	0637 006 157	455785	0637 006 157	455785	0637 006 157	-
22	Hex nut																-
22	Hex nut																-
22	Hex nut																-
22	Hex nut																-
23	O-ring (Seeger ZF 3 M - ZF 5 M / Plug ZF 25 M)	0630 501 012	104807	0634 306 011	-	0634 306 011	105579	0634 303 118	105530	0634 303 118	105530	0630 361 039	285375	0630 361 039	285375	0630 361 039	-
24	Intermediate gear shaft	3303 303 002	325962	3304 303 002	-	3304 303 002	288741	3306 303 002	206470	3306 303 002	206470	3307 303 001	274225	3307 303 001	274225	3307 303 001	-
25	Retaining plate	3304 303 003	288743	3304 303 003	-	3304 303 003	288743	3306 303 003	206473	3306 303 003	206473	3307 303 002	288702	3307 303 002	288702	3320 303 003	-
25	Retaining plate	3303 303 001	325961	3304 303 001	-	3304 303 001	-	3306 303 001	254730	3306 303 001	254730	3307 303 003	274226	3307 303 003	274226	3320 303 002	-
26	Intermediate gear	0635 300 526	106589	0635 300 530	-	0635 300 530	280128	3306 303 007	215878	3306 303 007	215878	3307 303 004	222273	3307 303 004	222273	3307 303 004	-
27	Cage																-
27	Cage																-
28	Gasket cover	3304 301 015	288739	3304 301 015	-	3304 301 015	288739	3306 301 014	254715	3306 301 014	254715	3307 301 011	274251	3307 301 011	274251	3307 301 011	-
29	Gasket cover plate (or LOCTITE 518)	3306 301 015	254716	3306 301 015	-	3306 301 015	254716	3306 301 015	254716	3306 301 015	254716	3306 301 015	254716	3306 301 015	254716	3306 301 015	-
30	Radial sealing ring input (No HBW 250 «22-23»)	0634 301 830	280135	0634 301 830	-	0634 301 830	280135	0634 301 833	215875	0634 301 833	215875	0634 301 832	284260	0634 301 832	284260	0634 311 025	-
30	Radial sealing ring input (only vers. 22-23)																-
31	Radial sealing ring, output (only vers. «22-23»)	0634 300 371	105153	0634 300 371	-	0634 300 371	105153	0634 300 466	105159	0634 300 466	105159	0634 300 466	105159	0634 300 466	105159	0634 311 026	-
31	Radial sealing ring OUTPUT (only vers. «22-23»)																-
32	TAPERED ROLLER BEARING, INPUT SHAFT	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 370 042	167210	0635 370 042	167210	0635 370 042	-
34	TAPERED ROLLER BEARING, OUTPUT SHAFT	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 501 943	-	0635 370 051	-	0635 370 051	-	0635 370 051	-
36	INPUT SHAFT HBW 50 2L 11 Z-22/22	947.72.001.03	325970														-
36	INPUT SHAFT ZF 5 M-2.05R «001»-Z1Z3-22/22	3303 302 001	326900														-
36	INPUT SHAFT HBW 50 2R 12 Z-22/22	947.72.001.03	325970														-

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56706 N \*\*\* From s/n 56791 N

# Spare parts list and explosion view ZF M line



Item No	Part name	Number per gearbox	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBW10ZF-12M15M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M		
			Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No
36	INPUT SHAFT HBW 50 3R 10 Z=18/20	1	947.72.001.07	387535															
36	INPUT SHAFT ZF 5 M - 2.72R «002» Z1/Z3=18/20	1	3303 302 002	458163															
36	INPUT SHAFT ZF 3 M - 2.05R «001» Z1/Z3=22/22	1	3303 302 001	328900															
36	INPUT SHAFT ZF 3 M - 2.72R «002» Z1/Z3=18/20	1	3303 302 002	458163															
36	INPUT SHAFT ZF 6 M - 2.05R «005» Z1/Z3=22/22*	1			3304.302.018	-													
36	INPUT SHAFT ZF 6 M - 2.72R «006» Z1/Z3=18/20	1			3304.302.006	-													
36	INPUT SHAFT ZF 10 M - 1.48R «003» Z1/Z3=27/22	1			3304.302.004	304059													
36	INPUT SHAFT ZF 10 M - 1.79R «004» Z1/Z3=24/22	1			3304.302.005	305605													
36	INPUT SHAFT ZF 10 M - 2.05R «010» Z1/Z3=22/22	1			3304.302.018	-													
36	INPUT SHAFT ZF 10 M - 2.72R «005» Z1/Z3=18/20	1			3304.302.006	465465													
36	INPUT SHAFT HBW 100 - 3R «16» Z=18/22	1			947.62.001.06	304074													
36	INPUT SHAFT HBW 100 - 2L «17» Z=24/22	1			947.62.001.08	327229													
36	INPUT SHAFT HBW 100 - 2.5R «21» Z=19/20	1			3304.302.007	470502													
36	INPUT SHAFT HBW 10 2L 21 Z=22/22	1					3306.302.020	-											
36	INPUT SHAFT HBW 10/ ZF 12 M - 2.14R «001» Z1/Z3=22/22	1					3306.302.020	-											
36	INPUT SHAFT ZF 12 M - 2.63R «002» Z1/Z3=19/22	1					3306.302.021	-											
36	INPUT SHAFT ZF 15 M - 1.56R «003» Z1/Z3=27/22	1					3306.302.006	304088											
36	INPUT SHAFT ZF 15 M - 1.88R «004» Z1/Z3=24/22	1					3306.302.008	325811											
36	INPUT SHAFT HBW 150 2.4R «20» Z=18/22	1					3306.302.009	439197											
36	INPUT SHAFT HBW 150 3R «22» Z=18/22	1					3306.302.010	468211											
36	INPUT SHAFT ZF 15 MA - 2R «004» Z1/Z3=24/22	1							3306.302.002	407468									
36	INPUT SHAFT ZF 15 MA 2.14R «003» Z=22/22	1							3306.302.018	-									
36	INPUT SHAFT ZF 15 MA - 2.63R «005» Z1/Z3=19/22	1							3306.302.019	-									
36	INPUT SHAFT HBW 250 2L 20 Z=21/25	1												947.52.001.08	387684				
36	INPUT SHAFT HBW 250 3L 19 Z=18/19	1												947.52.001.06	344588				
36	INPUT SHAFT HBW 250 1.5R 16 Z=28/21	1												947.52.001.04	304081				
36	INPUT SHAFT ZF 25 M - 1.88R «001» & «22» Z1/Z3=25/21	1												3307.302.004	325809				
36	INPUT SHAFT ZF 25 M - 2.27R «007» Z1/Z3=22/22*	1												3307.302.005	501485				
36	INPUT SHAFT ZF 25 M - 2.74R «002» & «23» Z1/Z3=19/18	1												3307.302.003	288967				
36	INPUT SHAFT HBW 250 3.5R «13» Z=16/18	1												947.52.001.09	439199				
36	INPUT SHAFT ZF 25 MA 2.23R «005» Z1/Z3=22/19	1														3307.302.001	-		
36	INPUT SHAFT ZF 25 MA 2.74R «006» Z1/Z3=19/19	1														3307.302.002	-		
36	INPUT SHAFT ZF 30 M 2.7R «001» Z1/Z3=23/22	1																3320.302.001	-
36	INPUT SHAFT ZF 30 M 2.15R «002» Z1/Z3=27/22	1																3320.302.002	-
37	SHIM 0.1 mm	2	3304.302.011	288731	3304.302.011	288731	3306.302.011	288731	3306.302.011	288731	3306.302.011	288731	3307.302.006	274252	3307.302.006	274252	3307.302.006	3307.302.006	-
38	SHIM 0.15 mm	2	3304.302.012	288732	3304.302.012	288732	3306.302.012	288732	3306.302.012	288732	3306.302.012	288732	3307.302.007	274253	3307.302.007	274253	3307.302.007	3307.302.007	-
39	SHIM 0.30 mm (shim 0.20 mm for ZF 25 MMA & ZF 30 M)	2	3304.302.014	288734	3304.302.014	288734	3306.302.014	288734	3306.302.014	288734	3306.302.014	288734	3307.302.008	274254	3307.302.008	274254	3307.302.008	3307.302.008	-
40	SHIM 0.50 mm	2	3304.302.015	288735	3304.302.015	288735	3306.302.015	288735	3306.302.015	288735	3306.302.015	288735	3307.302.009	274255	3307.302.009	274255	3307.302.009	3307.302.009	-
41	SCREW	1	3304.304.038	450870	3304.304.038	450870	3306.304.038	450870	3306.304.038	450870	3306.304.038	450870	3307.302.009	274255	3307.302.009	274255	3307.302.009	3306.304.057	-
42	SPACER	1	3303.304.007	325960	3304.304.026	499611	3304.304.026	499611	3304.304.026	499611	3304.304.026	499611	3306.304.028	407281	3306.304.028	407281	3306.304.028	3306.304.028	-
43	THRUST WASHER	2	3304.304.019	288748	3304.304.019	288748	3306.304.019	288748	3306.304.019	288748	3306.304.019	288748	3307.304.022	-	3307.304.022	-	3307.304.022	3307.304.022	-
44	FORWARD GEAR HBW 50 - 2L «11» Z=45	1	3303.304.001	325971															

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56706 N \*\*\* From s/n 56719 N

Item No	Part name	Number per gearbox	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBW0ZF12M15M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M			
			Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h	Part No	Old p/h
44	FORWARD GEAR ZF 5 M - 2.05R «001» Z2=45	1	3303 304 001	325971																
44	FORWARD GEAR ZF 5 M - 2.72R «002» Z2=49	1	3303 304 002	325971																
44	FORWARD GEAR HBW 50 2R 12 Z=45	1	3303 304 001	325971																
44	FORWARD GEAR HBW 50 3R 10 Z=49	1	3303 304 002	325976																
44	FORWARD GEAR ZF 3 M - 2.05R «001» Z2=45	1	3303 304 001	325971																
44	FORWARD GEAR ZF 3 M - 2.72R «002» Z2=49	1	3303 304 002	325976																
44	FORWARD GEAR ZF 6 M - 2.05R «005» Z2=45	1			3304 304 039	-														
44	FORWARD GEAR ZF 6 M - 2.72R «006» Z2=49	1			3304 304 006	-														
44	FORWARD GEAR ZF 10 M - 1.48R «003» Z2=40	1			3304 304 007	304060														
44	FORWARD GEAR ZF 10 M - 1.79R «004» Z2=43	1			3304 304 008	305607														
44	FORWARD GEAR ZF 10 M - 2.05R «010» Z2=45	1			3304 304 039	-														
44	FORWARD GEAR ZF 10 M - 2.72R «005» Z2=49	1			3304 304 006	287655														
44	FORWARD GEAR HBW 100 3R 16 Z=49	1			3304 304 006	287655														
44	FORWARD GEAR HBW 100 2L 17 Z=43	1			3304 304 008	305607														
44	FORWARD GEAR HBW 100 2.5R 21 Z=48	1			3304 304 009	470903														
44	FORWARD GEAR HBW 10 2L 21 Z=47	1					3306 304 012	407218												
44	FORWARD GEAR HBW 10 / ZF 12 M - 2.14R «001» Z2=47	1					3306 304 012	407218												
44	FORWARD GEAR ZF 12 M - 2.63R «002» Z2=50	1					3306 304 013	407219												
44	FORWARD GEAR ZF 15 M - 1.56R «003» Z2=42	1					3306 304 015	407221												
44	FORWARD GEAR ZF 15 M - 1.88R «004» Z2=45	1					3306 304 014	407220												
44	FORWARD GEAR HBW 150 2.4R 20 Z=43	1					3306 304 016	439188												
44	FORWARD GEAR HBW 150 3R 22 Z=51	1					3306 304 017	468212												
44	FORWARD GEAR ZF 15 MA - 1.88R «004» Z2=45	1							3306 304 003	407469										
44	FORWARD GEAR ZF 15 MA - 2.14R «003» Z=47	1							3306 304 001	-										
44	FORWARD GEAR ZF 15 MA - 2.63R «005» Z2=50	1							3306 304 005	407483										
44	FORWARD GEAR HBW 250 2L 20 Z=47	1									3307 304 007	305613								
44	FORWARD GEAR HBW 250 3L 19 Z=52	1									3307 304 010	288971								
44	FORWARD GEAR HBW 250 1.5R 16 Z=43	1									947.52.002.03	304083								
44	FORWARD GEAR ZF 25 M - 1.88R «001» & «02» Z2=47	1									3307 304 007	305613								
44	FORWARD GEAR ZF 25 M - 2.27R «007» Z2=50	1									3307 304 008	-								
44	FORWARD GEAR ZF 25 M - 2.74R «002» & «03» Z2=52	1									3307 304 010	288971								
44	FORWARD GEAR HBW 250 3R 13 Z=56	1									947.52.003.04	439200								
44	FORWARD GEAR ZF 25 MA - 2.23R «005» Z2=49	1											3307 304 001	-						
44	FORWARD GEAR ZF 25 MA - 2.74R «006» Z2=52	1											3307 304 003	-						
44	FORWARD GEAR ZF 30 M - 2.7R «001» Z2=62	1															3320 304 004	-		
44	FORWARD GEAR ZF 30 M - 2.15R «002» Z2=58	1															3320 304 007	-		
45	NEEDLE CAGE	2	0635 300 411	320678	3304 304 037	280132	0635 300 148	201187	0635 300 148	201187	0635 300 148	201187	0635 300 148	201187	0635 300 148	201187	0635 300 148	201187	201187	
45	NEEDLE CAGE	4																		
46	NEEDLE BEARING INNER RACE	2	3303 304 012	328060	3304 304 022	288759	3306 304 021	251524	3306 304 021	251524	3306 304 021	251524	3306 304 021	251524	3306 304 021	251524	3306 304 021	251524	251524	
46	NEEDLE BEARING INNER RACE	4																		
47	SPACER	2	3303 304 011	328026	3304 304 017	288756	3306 304 025	250982	3306 304 025	250982	3306 304 025	250982	3307 304 018	274242	3307 304 018	274242	3320 304 006	-	-	
48	CUP SPRING	2	3303 304 005	325958																

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56706 N \*\*\* From s/n 56791 N

# Spare parts list and explosion view ZF M line



Item No	Part name	Number per gearbox	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBW0ZF-12 MW15 M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M		
			Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No
48	CUJ SPRING	4			3304 304 018	-		3304 304 018	305537	3306 304 026	387391	3306 304 026	387391	3307 304 019	305536	3307 304 019	305536	3307 304 019	305536
49	THRUST RING/END DISC	2	3303 304 006	325959	3304 304 014	-	3304 304 014	288755	3306 304 030	407139	3306 304 030	407139	3306 304 030	3307 304 014	274271	3307 304 014	274271	3307 304 014	274271
50	CIRCLIP	2	0630 503 040	320677	0630 513 059	-	0630 513 059	280131						0630 502 031	277055	0630 502 031	277055	0630 502 031	277055
51	HALF RING	4							3306 304 011	326630	3306 304 011	326630	3306 304 011						
51	INTERNAL CLUTCH DISC	4	3304 304 040	-															
51	INTERNAL CLUTCH DISC	6			3304 304 040	-													
51	INTERNAL CLUTCH DISC	8					3304 304 040			3306 304 027	407231	3306 304 027	407231						
51	INTERNAL CLUTCH DISC (Old version)	8								947.42.017.01	288912								
51	INTERNAL CLUTCH DISC	10																	
51	INTERNAL CLUTCH DISC	12																	
52	EXTERNAL CLUTCH DISC	4	3304 304 021	288758			3304 304 021												
52	EXTERNAL CLUTCH DISC	4																	
52	EXTERNAL CLUTCH DISC	6																	
52	EXTERNAL CLUTCH DISC	8					3304 304 021	288758											
52	EXTERNAL CLUTCH DISC (Old version)	6																	
52	EXTERNAL CLUTCH DISC	10																	
53	SHIM 0.4 mm	2	3304 304 032	288760			3304 304 032	288760											
54	SHIM 0.5 mm	2	3304 304 033	288761			3304 304 033	288761											
55	SHIM 0.6 mm	2	3304 304 034	288762			3304 304 034	288762											
56	SHIM 0.7 mm	2	3304 304 035	288763			3304 304 035	288763											
57	DISC CARRIER	2	3303 304 008	325967			3303 304 016	288713											
58	BALL	6	0635 460 061	280133			0635 460 061	280133											
59	GUIDE SLEEVE	1	3303 304 010	438961			3303 304 010	438961											
60	ACTUATING SLEEVE	1	3304 304 027	326063			3304 304 027	326063											
61	COMPRESSION SPRING (Actuating members)	3	3304 304 023	287525			3304 304 023	287525											
62	DETTENT PIN	3	3304 304 024	288766			3304 304 024	288766											
63	DRIVING PIN	3	3304 304 025	288767			3304 304 025	288767											
64	SPRING	3	3306 304 024	206798			3306 304 024	206798											
65	REVERSE GEAR HBW 50 2L 11 Z=41	1	3303 304 003	325966															
65	REVERSE GEAR ZF 5 M - 2.05R «01» Z5=41	1	3303 304 003	325966															
65	REVERSE GEAR HBW 50 2R 12 Z=41	1	3303 304 003	325966															
65	REVERSE GEAR HBW 50 3R 10 Z=43	1	3303 304 009	387539															
65	REVERSE GEAR ZF 5 M - 2.72R «02» Z5=43	1	3303 304 009	387539															
65	REVERSE GEAR ZF 3 M - 2.05R «01» Z5=41	1	3303 304 003	325966															
65	REVERSE GEAR ZF 3 M - 2.72R «02» Z5=43	1	3303 304 009	387539															
65	REVERSE GEAR ZF 6 M - 2.05R «005» Z5=41						3304 304 011												
65	REVERSE GEAR ZF 6 M - 2.72R «006» Z5=43						3304 304 012												
65	REVERSE GEAR ZF 10 M - 1.48R «003» Z5=41	1					3304 304 011	288084											
65	REVERSE GEAR ZF 10 M - 1.79R «004» Z5=41	1					3304 304 011	288084											
65	REVERSE GEAR ZF 10 M - 2.05R «010» Z5=41	1					3305 304 011	288084											
65	REVERSE GEAR ZF 10 M - 2.72R «005» Z5=43	1					3304 304 012	465466											
65	REVERSE GEAR HBW 100 3R 16 Z=41	1					3304 304 011	288084											

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56706 N \*\*\* From s/n 56719 N

Item No	Part name	Number per gearbox	ZF 3 M - ZF 5 M		ZF 6 M		ZF 10 M		HBW10ZF 12M/15M		ZF 15 MA		ZF 25 M		ZF 25 MA		ZF 30 M		
			Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No	Old p/n	Part No
65	REVERSE GEAR HBW 100.2L 17 Z=41	1					3304.304.011	288084											
65	REVERSE GEAR HBW 100.2.5R 21 Z=43	1					3304.304.012	465466											
65	REVERSE GEAR HBW 10 / ZF 12 M / ZF 15 M Z5=43	1							3306.304.018	407235									
65	REVERSE GEAR ZF 15 MA Z5=43	1									3306.304.004	407480							
65	REVERSE GEAR HBW 250.2L 20 Z=44	1											3307.304.009	274240					
65	REVERSE GEAR HBW 250.3L 19 Z=49	1											3307.304.006	288969					
65	REVERSE GEAR HBW 250.1.5R 16 Z=44	1											3307.304.009	274240					
65	REVERSE GEAR ZF 25 M - 1.88R «001» & «22» Z5=44	1											3307.304.009	274240					
65	REVERSE GEAR ZF 25 M - 2.27R «007» Z5=44	1											3307.304.006	288969					
65	REVERSE GEAR ZF 25 M - 2.74R «002» & «23» Z5=49	1											3307.304.006	288969					
65	REVERSE GEAR HBW 250.3.5R 13 Z=49	1											3307.304.006	288969					
65	REVERSE GEAR ZF 25 MA - 2.23R «005» Z5=52	1													3307.304.002	-			
65	REVERSE GEAR ZF 25 MA - 2.74R «006» Z5=52	1													3307.304.002	-			
65	REVERSE GEAR ZF 30 M - 2.7R «001» Z5=58	1															3320.304.005	-	
65	REVERSE GEAR ZF 30 M - 2.15R «002» Z5=58	1															3320.304.005	-	
66	OUTPUT SHAFT	1	3303.304.004	325957	3304.304.013	-	3304.304.013	439448		3306.304.019	407280	3306.304.019	407280	3307.304.011	408092	3307.304.011	408092		
67	KEY	1	0631.501.634	280130															
67	KEY	2			0631.501.634	-	0631.501.634	280130		3306.304.007	187841	3306.304.007	187841						
67	KEY	4																	
68a	SHIM 0.1 mm	1	3317.302.023	-															
68b	SHIM 0.2 mm	1	0630.000.257	337665															
68c	SHIM 0.5 mm	1	0630.004.179	337664															
68d	SHIM 1.0 mm	1	0630.004.180	337662															
69	STUD	4	0636.610.232	396330	0636.610.232	-	0636.610.232	396330		0636.610.232	396330	0636.610.232	396330	0636.610.232	396330	0636.610.232	396330		
70	NEEDLE BEARING FOR SHIFT COVER	2								0635.303.056	268620	0635.303.056	268620	0635.303.056	268620	0635.303.056	268620		
72	NUT (Actuating lever)	1	0637.006.157	455785	0637.006.157	-	0637.006.157	455785		0637.006.157	455785	0637.006.157	455785	0637.006.157	455785	0637.006.157	455785		
73	SPACER ZF 15 MA & ZF 25 MA	1										3306.301.007	407474						
74	NAME PLATE	1	3306.301.005	-	3306.301.005	-	3306.301.005	-		3306.301.005	-	3306.301.005	-	3306.301.005	-	3306.301.005	-	3306.301.005	-
75	OIL NAME PLATE	1	3304.301.016	-	3304.301.016	-	3304.301.016	-		3304.301.016	-	3304.301.016	-	3304.301.016	-	3304.301.016	-	3304.301.016	-
76	WASHER (Actuating lever) ***	1	0630.001.085	167010	0630.001.085	-	0630.001.085	167010		0630.001.085	167010	0630.001.085	167010	0630.001.085	167010	0630.001.085	167010		

\* Production date (see name plate description pag. 2) \*\* Up to s/n 56706 N \*\*\* From s/n 56791 N



## ZF M SPARE PARTS KITS

### SEAL KITS

#### ZF 3 M - ZF 5 M                      KIT    P/N 3303 199 001    ID/N 500426

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 306 179	105524	Shift fork shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3304 301 015	288739	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 830	280135	Input shaft
Sealing ring	1	0634 300 371	105153	Output shaft

#### ZF 6 M - ZF 10 M                      KIT    P/N 3304 199 003    ID/N 500427

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 306 011	105679	Intermediate shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3304 301 015	288739	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 830	280135	Input shaft
Sealing ring	1	0634 300 371	105153	Output shaft

#### ZF 12 M - ZF 15 M - ZF 15 MA                      KIT    P/N 3306 199 001    ID/N 500428

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 303 118	105530	Intermediate shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3306 301 014	254715	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 833	215875	Input shaft
Sealing ring	1	0634 300 466	105159	Output shaft

#### ZF 25 M - ZF 25 MA                      KIT    P/N 3307 199 001    ID/N 500430 (EXCL. VERS. 22; 23)

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3307 301 011	274251	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 832	284260	Input shaft
Sealing ring	1	0634 300 466	105159	Output shaft

#### ZF 30 M                                      KIT    P/N 3320 199 001

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	-	Shift cover
Sealing ring	2	3306 301 016	-	Drain plug/oil dipstick
Gasket	4	3307 301 011	-	Cover
Sealing ring	1	0634 311 025	-	Input shaft
Sealing ring	1	0634 311 026	-	Output shaft

**SEAL + CLUTCH PACK KITS**
**ZF 3 M - ZF 5 M                      KIT            P/N 3303 199 002            ID/N 500436**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 306 179	105524	Shift fork shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3304 301 015	288739	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 830	280135	Input shaft
Sealing ring	1	0634 300 371	105153	Output shaft
Thrust washer	2	3304 304 019	288748	Bearing/gear
Inner clutch disc	4	3304 304 040	-	Clutch pack
Outer clutch disc	4	3304 304 021	288758	Clutch pack
Spring	3	3306 304 024	206798	Disc carrier
Key	1	0631 501 634	280130	Output shaft
Shim 0.15 mm	2	3304 304 029	500016	Clutch pack
Shim 0.20 mm	2	3304 304 030	288975	Clutch pack
Shim 0.30 mm	2	3304 304 031	288974	Clutch pack
Shim 0.40 mm	2	3304 304 032	288760	Clutch pack
Shim 0.50 mm	2	3304 304 033	288761	Clutch pack
Shim 0.40 mm	2	3304 304 032	288760	Input + output shaft
Shim 0.50 mm	2	3304 304 033	288761	Input + output shaft

**ZF 6 M                                      KIT            P/N 3303 199 004**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 306 011	105679	Intermediate shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3304 301 015	288739	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 830	280135	Input shaft
Sealing ring	1	0634 300 371	105153	Output shaft
Thrust washer	2	3304 304 019	288748	Bearing/gear
Inner clutch disc	6	3304 304 040	-	Clutch pack
Outer clutch disc	4	3304 304 021	288758	Clutch pack
Spring	3	3306 304 024	206798	Disc carrier
Key	2	0631 501 634	280130	Output shaft
Shim 0.15 mm	2	3304 304 029	500016	Clutch pack
Shim 0.20 mm	2	3304 304 030	288975	Clutch pack
Shim 0.30 mm	2	3304 304 031	288974	Clutch pack
Shim 0.40 mm	2	3304 304 032	288760	Clutch pack
Shim 0.50 mm	2	3304 304 033	288761	Clutch pack
Shim 0.10 mm	2	3304 302 011	288731	Input + output shaft
Shim 0.15 mm	2	3304 302 012	288732	Input + output shaft
Shim 0.30 mm	2	3304 302 014	288734	Input + output shaft

**ZF 10 M                                    KIT            P/N 3304 199 004            ID/N 500437**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 306 011	105679	Intermediate shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3304 301 015	288739	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 830	280135	Input shaft
Sealing ring	1	0634 300 371	105153	Output shaft
Thrust washer	2	3304 304 019	288748	Bearing/gear
Inner clutch disc	8	3304 304 040	-	Clutch pack
Outer clutch disc	6	3304 304 021	288758	Clutch pack
Spring	3	3306 304 024	206798	Disc carrier
Key	2	0631 501 634	280130	Output shaft
Shim 0.15 mm	2	3304 304 029	500016	Clutch pack
Shim 0.20 mm	2	3304 304 030	288975	Clutch pack
Shim 0.30 mm	2	3304 304 031	288974	Clutch pack
Shim 0.40 mm	2	3304 304 032	288760	Clutch pack
Shim 0.50 mm	2	3304 304 033	288761	Clutch pack
Shim 0.10 mm	2	3304 302 011	288731	Input + output shaft
Shim 0.15 mm	2	3304 302 012	288732	Input + output shaft
Shim 0.30 mm	2	3304 302 014	288734	Input + output shaft

**ZF 12 M - ZF 15 M - ZF 15 MA      KIT      P/N 3306 199 007      ID/N 500438**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
O-Ring	1	0634 303 118	105530	Intermediate shaft
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3306 301 014	254715	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 833	215875	Input shaft
Sealing ring	1	0634 300 466	105159	Output shaft
Thrust washer	2	3306 304 029	344787	Bearing/gear
Inner clutch disc	8	3306 304 027	407231	Clutch pack
Outer clutch disc	8	3306 304 031	407230	Clutch pack
Spring	3	3306 304 024	206798	Disc carrier
Key	2	3306 304 007	187841	output shaft
Shim 0.30 mm	2	3306 304 034	500254	Clutch pack
Shim 0.40 mm	2	3306 304 035	195714	Clutch pack
Shim 0.50 mm	2	3306 304 036	195715	Clutch pack
Shim 0.10 mm	2	3304 302 011	288731	Input + output shaft
Shim 0.15 mm	2	3304 302 012	288732	Input + output shaft
Shim 0.30 mm	2	3304 302 014	288734	Input + output shaft

**ZF 25 M - ZF 25 MA      KIT      P/N 3307 199 002      ID/N 500440 (EXCL. VERS. 22; 23)**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	106864	Shift cover
Sealing ring	2	3306 301 016	326578	Drain plug/oil dipstick
Gasket	4	3307 301 011	274251	Cover
Gasket	1	3306 301 015	254716	Shifting cover
Sealing ring	1	0634 301 832	284260	Input shaft
Sealing ring	1	0634 300 466	105159	Output shaft
Thrust washer	2	3307 304 022	-	Bearing/gear
Inner clutch disc	10	3307 304 021	-	Clutch pack
Outer clutch disc	8	3307 304 005	206026	Clutch pack
Spring	3	3306 304 024	206798	Disc carrier
Key	4	3307 304 004	206121	Output shaft
Shim 0.30 mm	2	3306 304 034	500254	Clutch pack
Shim 0.40 mm	2	3306 304 035	195714	Clutch pack
Shim 0.50 mm	2	3306 304 036	195715	Clutch pack
Shim 0.1 mm	2	3307 302 006	274252	Input + output shaft
Shim 0.15 mm	2	3307 302 007	274253	Input + output shaft
Shim 0.20 mm	2	3307 302 008	274254	Input + output shaft

**ZF 30 M      KIT      P/N 3320 199 003**

PART NAME	Q.TY	P/N	ID/N	POSITION
Sealing ring	1	0634 502 009	-	Shift cover
Sealing ring	2	3306 301 016	-	Drain plug/oil dipstick
Gasket	4	3307 301 011	-	Cover
Sealing ring	1	0634 311 025	-	Input shaft
Sealing ring	1	0634 311 026	-	Output shaft
Thrust washer	2	3307 304 022	-	Bearing/gear
Inner clutch disc	12	3307 304 021	-	Clutch pack
Outer clutch disc	10	3307 304 005	-	Clutch pack
Spring	3	3306 304 024	-	Disc carrier
Key	4	3307 304 004	-	Output shaft
Shim 0.30 mm	2	3306 304 034	-	Clutch pack
Shim 0.40 mm	2	3306 304 035	-	Clutch pack
Shim 0.50 mm	2	3306 304 036	-	Clutch pack
Shim 0.10 mm	2	3307 302 006	-	Input + output shaft
Shim 0.15 mm	2	3307 302 007	-	Input + output shaft
Shim 0.20 mm	2	3307 302 008	-	Input + output shaft

**BEARING KITS (ALL VERSIONS)**
**ZF 3 M - ZF 5 M**
**KIT 501220 P/N 3303 199 003**

<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>Q.TY</b>
0635 501 943	Tapered roller bearing	Input + Output shaft	4
0635 300 526	Cage	Intermediate shaft	1
0635 300 411	Needle cage	Reverse gear	2
3303 304 012	Needle bearing inner race	Reverse gear	2
3304 302 011	Shim 0.10 mm	Input + Output shaft	4

**ZF 6 M - ZF 10 M**
**KIT 501221 P/N 3304 199 005**

<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>Q.TY</b>
0635 501 943	Tapered roller bearing	Input + Output shaft	4
0635 300 530	Cage	Intermediate shaft	1
3304 304 037	Needle cage	Reverse gear	2
3304 304 022	Needle bearing inner race	Reverse gear	2
3304 302 011	Shim 0.10 mm	Input + Output shaft	4

**ZF 12 M - ZF 15 M**
**KIT 501222 P/N 3306 199 003**

<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>Q.TY</b>
0635 501 597	Tapered roller bearing	Input + Output shaft	4
0635 300 148	Needle cage	Reverse gear	2
3306 304 021	Needle bearing inner race	Reverse gear	2
3306 303 007	Cage	Intermediate shaft	1
0635 303 056	Needle bearing	Shift cover	2
3306 302 011	Shim 0.10 mm	Input + Output shaft	4

**ZF 25 M - ZF 25 MA**
**KIT 501224 P/N 3307 199 003**

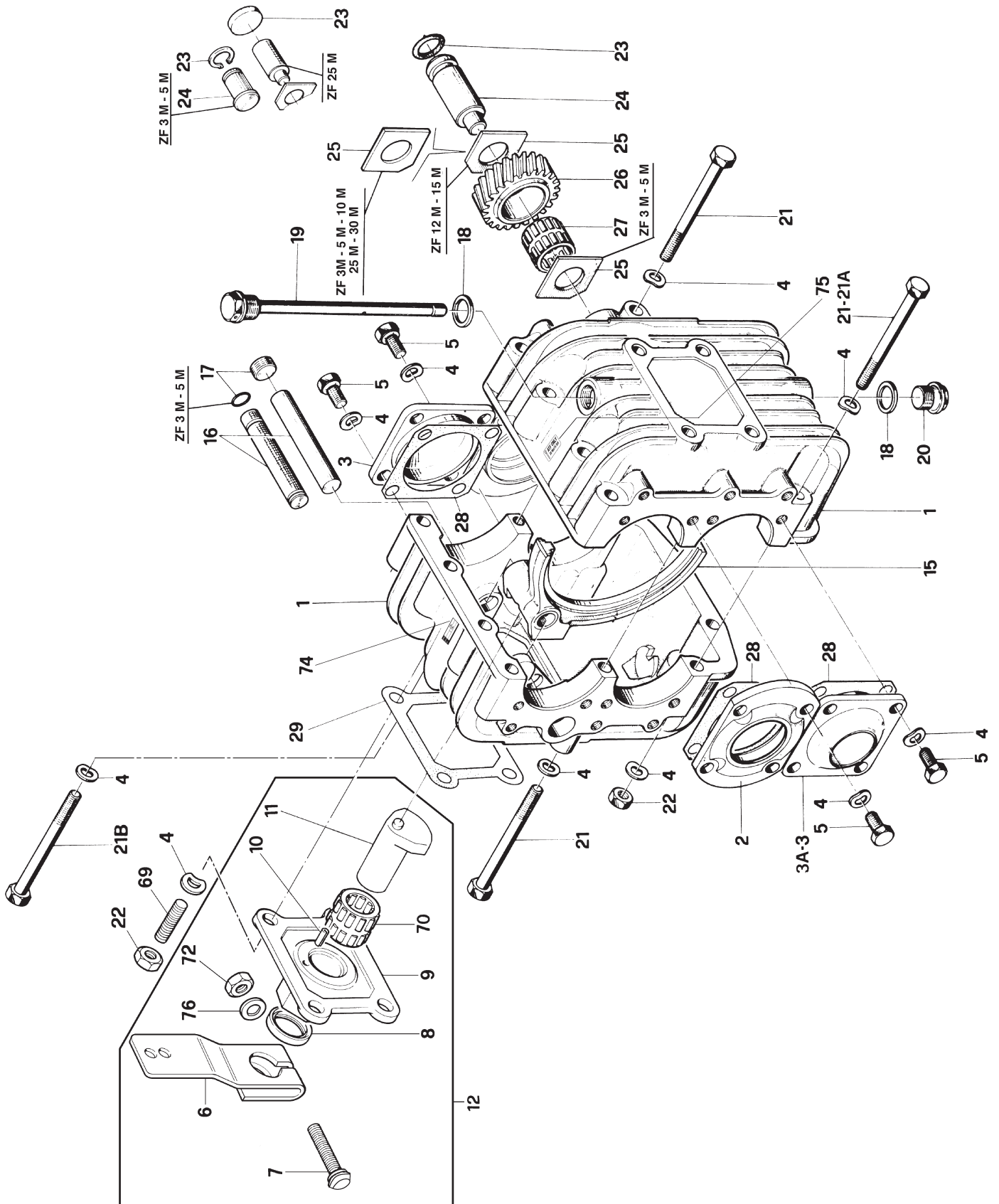
<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>Q.TY</b>
0635 370 042	Tapered roller bearing	Input shaft	2
0635 370 051	Tapered roller bearing	Output shaft	2
0635 300 148	Needle cage	Reverse gear	2
3306 304 021	Needle bearing inner race	Reverse gear	2
3307 303 004	Cage	Intermediate shaft	1
0635 303 056	Needle bearing	Shift cover	2
3307 302 006	Shim 0.10 mm	Input + Output shaft	4

**ZF 30 M**
**P/N 3320 199 002**

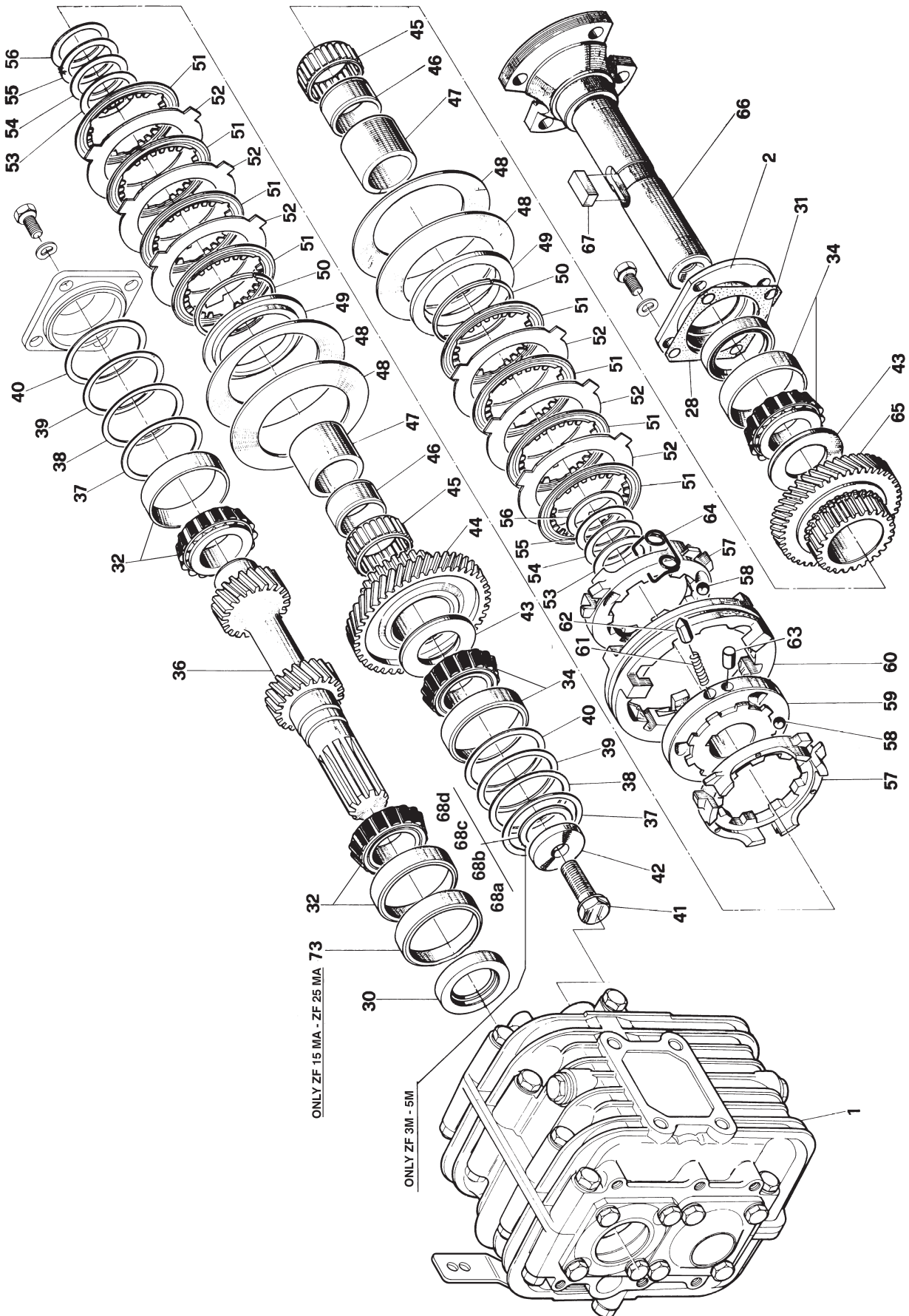
<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>LOCATION</b>	<b>Q.TY</b>
0635 370 042	Tapered roller bearing	Input shaft	2
0635 370 051	Tapered roller bearing	Output shaft	2
0635 300 148	Needle cage	Reverse gear	4
3306 304 021	Needle bearing inner race	Reverse gear	4
0635 300 114	Cage	Intermediate shaft	2
0635 303 056	Needle bearing	Shift cover	2
3307 302 006	Shim 0.10 mm	Input + Output shaft	4

## 2. Drawings (Explosion view)

ZF 3 M, ZF 5 M, ZF 6 M, ZF 10 M, ZF 12 M, ZF 15 M, ZF 15 MA, ZF 25 M, ZF 25 MA, ZF 30 M,



ZF 3 M, ZF 5 M, ZF 6 M, ZF 10 M, ZF 12 M, ZF 15 M, ZF 15 MA, ZF 25 M, ZF 25 MA, ZF 30 M,





**NOTE**

A series of horizontal lines for writing notes, starting below the 'NOTE' header and extending to the bottom of the page.



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