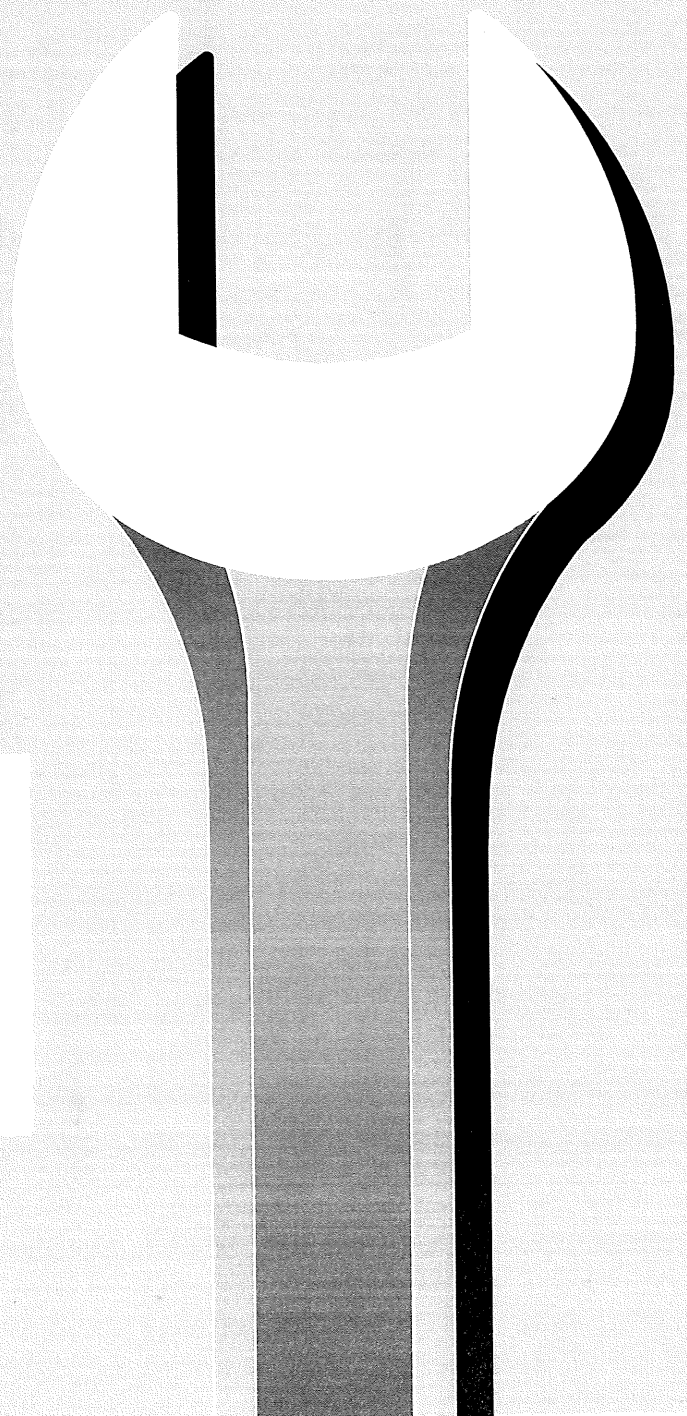


REPAIR MANUAL AND SPARE PARTS LIST



REPAIR MANUAL



ZF 45 C	version 10; 001
ZF 45 C - Walter	version 002
ZF 45 C - Toyota	version 11; 003
ZF 63 C	version 07; 001
ZF 88 C	version 001

Cod. 310.01.0056d

SECTION X: SPARE PARTS LIST AND EXPLOSION DRAWINGS

Valid for: ZF 45C versions 10, 001;
 Valid for: ZF 45C - Walter version 002;
 Valid for: ZF 45C - Toyota versions 11, 003;
 Valid for: ZF 63C versions 07, 001;
 Valid for: ZF 88C version 001;

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 HURTH MARINE**.

The ident number is identical with the order number. The indicated dimensions and standards are as such **not** enough for ordering parts.

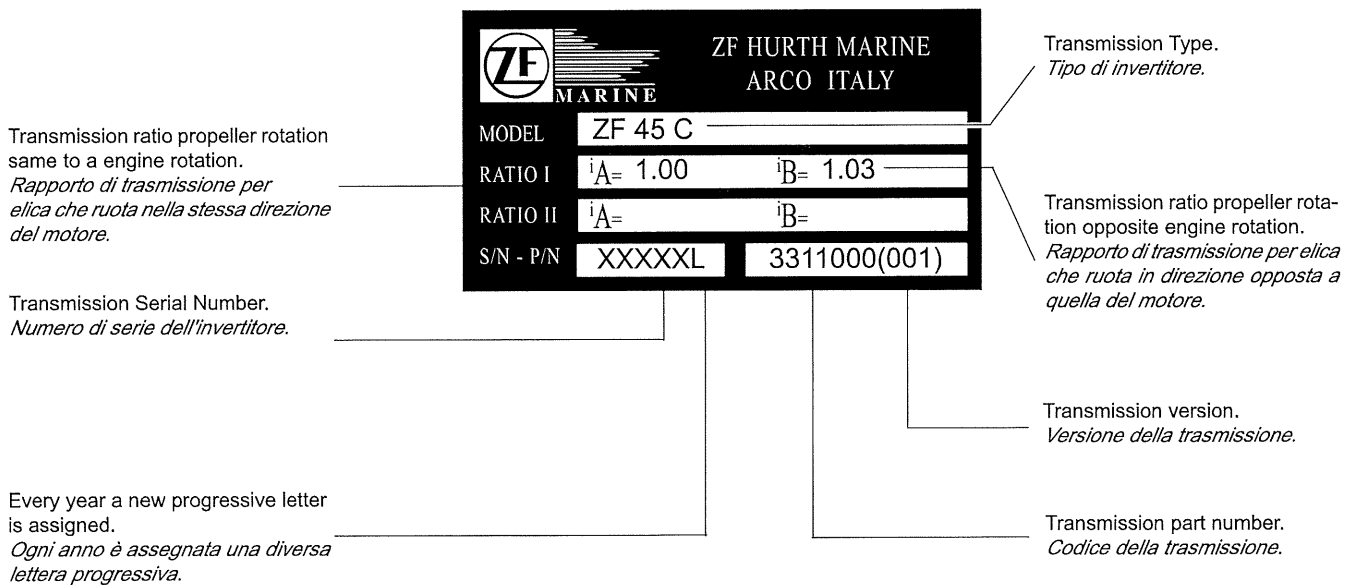
When ordering spare parts, please state:

- transmission type
- serial number
- item no., Part name, ident no. and quality of parts required
- shipment desired

Subject to technical modification.

Name plate

The name plate is mounted to the transmission



Pos.	Descrizione	Description	Part. N°.	Old P/N	Q.ty	Note
1	Paraolio entrata	Input shaft seal	3312 301 030	413883	1	
1	Paraolio entrata ZF 45 C Toyota	Input shaft seal ZF 45 C Toyota	0634 311 025	501151	1	
2	Paraolio uscita	Output shaft seal	0634 319 136	500064	1	
2	Paraolio uscita ZF 45 C Toyota	Output shaft seal ZF 45 C Toyota	0634 319 140	501709	1	
3	Filtro olio	Oil filter	3311 301 001	500149	1	
4	Guarnizione	Seal	3311 301 011	500216	1	
5	Coperchietto filtro	Filter cover plate	3311 301 010	500153	1	
6	Vite T.E.	Hex head bolt	0636 015 257	330796	8	
7	Vite T.E.	Hex head bolt	0636 010 375	337982	3	< up to s/n 26637C
7	Vite T.E.	Hex head bolt	0636 010 471	500755	3	> from s/n 26638C
7	Vite T.E.	Hex head bolt	0636 015 257	330796	2	< up to s/n 26637C
7	Vite T.E.	Hex head bolt	0636 010 471	500755	2	> from s/n 26638C
8	Vite T.E.	Hex head bolt	0636 010 375	337982	1	
9	Dado	Nut	0637 006 157	455785	1	
10	Rosetta	Washer	0630 302 090	442372	15	
10a	Guarnizione OR	O-Ring	001.105.0374	500411	2	< up to s/n 16407B
11	Vite	Bolt	0636 103 204	500113	1	
12	Tappo	Plug	0636 309 007	455756	1	
13	Rosetta	Washer	0634 801 302	107410	2	
14	Tappo	Plug	0636 302 053	103465	1	< up to s/n 26637C
14	Tappo	Plug	0636 302 068	500744	1	> from to s/n 26638C
15	Interruttore completo	Neutral safety switch	3312 308 029	455764	1	
16	Distanziale	Spacer	3312 308 039	500030	1	
17	Vite di fermo	Stop bolt	3311 308 002	500201	1	
18	Vite di guida	Guide bolt	3311 308 004	500184	1	
19	Rosetta	Washer	0634 801 302	107410	1	< up to s/n 26637C
19	Rosetta	Washer	0634 801 260	500897	1	> from s/n 26638C
20	Molla	Spring	3312 308 047	500044	1	
21	Sfera	Ball	0635 460 014	106695	2	
22	Sfiato	Breather	3311 301 002	442369	1	
23	Guarnizione	Seal	0634 309 621	500065	1	
24	Complessivo canotto ZF 45 C	Spool valve complete ZF 45 C	3311 208 001	500057	1	< up to s/n 26637C
24	Complessivo canotto ZF 45 C	Spool valve complete ZF 45 C	978.47.600.02	500937	1	< s/n 26638C and s/n 13565E
24	Complessivo canotto ZF 45 C	Spool valve complete ZF 45 C	3311 208 001	500057	1	> from s/n 13566E
24	Complessivo canotto ZF 63 C	Spool valve complete ZF 63 C	3312 208 008	501507	1	
24	Complessivo canotto ZF 88 C	Spool valve complete ZF 88 C	3312 108 023	501400	1	
25	Leva	Shift Lever	3312 308 025	452963	1	
26	Astina olio (senza OR pos. 27)	Oil dipstick (no O-Ring pos. 27)	978.46.700.01	500186	1	< up to s/n 12744F
26	Astina olio con OR pos. 27	Oil dipstick with O-Ring pos. 27	3311 201 001	500994	1	> from s/n 12745F
26	Astina olio per ZF 45 C Toyota	Oil dipstick for ZF 45 C Toyota	3311 201 002	501795	1	O-Ring pos. 27 included
27	Guarnizione OR	O-Ring	0634 304 405	501211	1	
28	Chiavetta pompa	Pump key	978.47.038.01	500410	1	< up to s/n 14311E
28	Chiavetta pompa	Pump key	3311 306 001	500894	1	> from s/n 14312E
29	Carter	Carter	3311 301 008	500162	1	
29	Carter ZF 45 C Toyota	Carter ZF 45 C Toyota	3311 301 015	501815	1	
30	Carter ZF 45 C Toyota	Carter ZF 45 C Toyota	3311 301 013	501813	1	
31	Carter ZF 45 C Toyota	Carter ZF 45 C Toyota	3311 301 014	501814	1	
32	Distanziale per carter ZF 45 C Toyota	Spacer for carter ZF 45 C Toyota	3311 301 016	501794	1	
33	Guarnizione OR	O-Ring	0634 306 300	500073	2	
34	Kit pompa olio	Oil pump kit	3311 199 038	500442	1	
35	Kit coperchio	Cover kit	3311 199 039	500441	1	
36	Scatola	Housing	3311 301 023	500904	1	

Repair Manual and Spare Parts List ZF 45C / 63C / 88C



Pos.	Descrizione	Description	Part. N°	Old P/N	Q.ty	Note
37	Albero ingresso completo per ZF 45 C / ZF 63 C	Input shaft assembly for ZF 45 C / ZF 63 C	3311 199 040	500444	1	
37	Albero ingresso completo per ZF 88 C	Input shaft assembly for ZF 88 C	3313 199 006	-	1	
38	Kit portasatelliti	Planetary gear assembly	3311 199 041	500443	1	
39	Anello di tenuta	Piston ring	0634 402 175	500068	3	
40	Anello di tenuta	Piston ring	0634 402 118	500067	2	
41	Cuscinetto a rullini	Needle bearing	0635 303 058	500090	1	
42	Rondella di rasamento	Thrust Washer	978.47.036.01	500235	1	up to s/n 18783B
42a	Gabbia a rullini	Needle bearing	0635 302 019	500557	1	from s/n 18784B
42b	Rondella di rasamento	Thrust Washer	0635 290 002	500558	2	from s/n 18784B
43	Cuscinetto a sfere	Ball bearing	0635 331 216	500211	1	
44	Anello di sicurezza	Retaining ring	0630 531 227	500559	1	
45	Rondella di rasamento	Thrust Washer	3311 304 019	500060	1	
46	Cuscinetto a strisciamanto	Bushing	3311 304 020	500412	1	
47	Supporto corona dentata ZF 45 C / ZF 63 C	Ring gear support ZF 45 C / ZF 63 C	3311 302 030	500234	1	
47	Supporto corona dentata ZF 88 C	Ring gear support ZF 88 C	3313 302 039	501779	1	
48	Anello seeger	Retaining ring	0630 513 039	500352	1	
49	Corona dentata (Z=65) ZF 45 C / ZF 63 C	Ring gear (Z=65) ZF 45 C / ZF 63 C	3311 302 026	500218	1	
49	Corona dentata ZF 88 C	Ring gear ZF 88 C	3313 302 038	501777	1	
50	Anello seeger	Retaining ring	0630 513 066	455788	1	
51	Pistone ZF 45 C / ZF 63 C	Clutch piston forward ZF 45 C / ZF 63 C	3311 302 031	500275	1	
51	Pistone ZF 88 C	Clutch piston forward ZF 88 C	3313 302 040	501778	1	
52	Guarnizione OR	O-Ring	0634 304 400	500354	1	
53	Guarnizione OR	O-Ring	0634 304 128	500243	1	
54	Molla a tazza	Cup spring	3312 302 015	500148	3	
55	Anello di sicurezza	Retaining ring	0630 501 038	500076	1	
56	Pistone	Clutch piston reverse	3311 301 005	500602	1	
57	Guarnizione OR	O-Ring	0634 304 689	500072	1	
58	Molla	Spring	3311 301 007	500190	4	
59	Disco finale	End disc	3311 302 034	500241	1	
60	Disco frizione interno ZF 45 C / ZF 63 C	Inner clutch disc ZF 45 C / ZF 63 C	3311 302 028	500276	5	
60	Disco frizione interno ZF 88 C	Inner clutch disc ZF 88 C	3311 302 028	500276	6	
61	Disco frizione esterno ZF 45 C / ZF 63 C	Outer clutch disc ZF 45 C / ZF 63 C	3311 302 029	500240	6	
61	Disco frizione esterno ZF 88 C	Outer clutch disc ZF 88 C	3311 302 029	500240	7	
62	Disco frizione	Inner clutch disc reverse	3311 302 027	500177	2	
63	Disco intermedio	Outer clutch disc reverse	3311 301 006	500180	3	
64	Spessore 0,3 mm	Shim 0.3 mm	3311 301 042	500355	1	
65	Spessore 0,5 mm	Shim 0.5 mm	3311 301 043	500356	1	
66	Flangia uscita ZF 45 C	Output flange ZF 45 C	3311 304 017	500232	1	
66	Flangia uscita ZF 63 C / ZF 88 C	Output flange ZF 63 C / ZF 88 C	3311 304 018	500346	1	
67	Cuscinetto a sfere	Ball bearing	0635 341 008	500092	1	
68	Spessore 0,1 mm	Shim 0.1 mm	3205 302 007	-	1	
69	Spessore 0,25 mm	Shim 0.25 mm	3205 302 009	-	1	
70	Anello di sicurezza	Retaining ring	0630 502 039	500082	1	
71	Guarnizione OR	O-Ring	0634 303 314	105559	1	
72	Ghiera	Nut ring	0635 513 037	489305	1	
73	Spessore 0,2 mm	Shim 0.2 mm	0630 004 229	500102	1	
74	Spessore 0,3 mm	Shim 0.3 mm	0630 004 124	500487	1	
75	Spessore 0,1 mm	Shim 0.1 mm	3311 304 027	500488	1	
76	Spessore 0,3 mm	Shim 0.3 mm	3311 304 028	500489	1	



Repair Manual and Spare Parts List ZF 45C / 63C / 88C

REBUILT KIT P/N 3311 199 032 ZF 45 C (no version 11 Toyota), ZF 63 C

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	3312 301 030	1
2	Output shaft seal	0634 319 136	1
3	Fluid filter	3311 301 001	1
4	Seal	3311 301 011	1
10a	O-Ring	001.105.0374	2
13	Washer	0634 801 302	2
19	Washer	0634 801 260	1
21	Ball	0635 460 014	2
27	O-Ring	0634 304 405	1
28	Pump Key	3311 306 001	1
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
42a	Needle bearing	0635 302 019	1
42b	Thrust washer	0635 290 002	2
44	Retaining ring	0630 531 227	1
45	Thrust washer	3311 304 019	1
46	Bushing	3311 304 020	1
48	Retaining ring	0630 513 039	1
50	Retaining ring	0630 513 066	1
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
58	Spring	3311 301 007	4
60	Inner clutch disc	3311 302 028	5
61	Outer clutch disc	3311 302 029	6
62	Inner clutch disc Reverse	3311 302 027	2
63	Outer clutch disc Reverse	3311 301 006	3
64	Shim 0,3 mm	3311 301 042	1
65	Shim 0,5 mm	3311 301 043	1
68	Shim 0,1 mm	3205 302 007	1
69	Shim 0,25 mm	3205 302 009	1
70	Retaining ring	0630 502 039	1
71	O-Ring	0634 303 314	1
72	Nut ring	0635 513 037	1
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1
75	Shim 0,1 mm	3311 304 027	1
76	Shim 0,3 mm	3311 304 028	1

FORWARD CLUTCH KIT P/N 3311 199 033 ZF 45 C (no version 11 Toyota), ZF 63 C

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	3312 301 030	1
10a	O-Ring	001.105.0374	2
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
60	Inner clutch disc	3311 302 028	5
61	Outer clutch disc	3311 302 029	6
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1

REVERSE CLUTCH KIT P/N 3311 199 034 ZF 45 C (no version 11 Toyota), ZF 63 C, ZF 88 C

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	0634 311 025	1
10a	O-Ring	001.105.0374	2
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
62	Inner clutch disc Reverse	3311 302 027	2
63	Outer clutch disc Reverse	3311 301 006	3
64	Shim 0,3 mm	3311 301 042	1
65	Shim 0,5 mm	3311 301 043	1

SEAL KIT P/N 3311 199 035 ZF 45 C (no version 11 Toyota), ZF 63 C, ZF 88 C

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	3312 301 030	1
2	Output shaft seal	0634 319 136	1
4	Seal	3311 301 011	1
10a	O-Ring	001.105.0374	2
13	Washer	0634 801 302	2
19	Washer	0634 801 260	1
27	O-Ring	0634 304 405	1
33	O-Ring	0634 306 300	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
71	O-Ring	0634 303 314	1

**REBUILT KIT P/N 3313 199 014
ZF 88 C**

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	3312 301 030	1
2	Output shaft seal	0634 319 136	1
3	Fluid filter	3311 301 001	1
4	Seal	3311 301 011	1
10a	O-Ring	001.105.0374	2
13	Washer	0634 801 302	2
19	Washer	0634 801 260	1
21	Ball	0635 460 014	2
27	O-Ring	0634 304 405	1
28	Pump Key	3311 306 001	1
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
42a	Needle bearing	0635 302 019	1
42b	Thrust washer	0635 290 002	2
44	Retaining ring	0630 531 227	1
45	Thrust washer	3311 304 019	1
46	Bushing	3311 304 020	1
48	Retaining ring	0630 513 039	1
50	Retaining ring	0630 513 066	1
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
58	Spring	3311 301 007	4
60	Inner clutch disc	3311 302 028	6
61	Outer clutch disc	3311 302 029	7
62	Inner clutch disc reverse	3311 302 027	2
63	Outer clutch disc reverse	3311 301 006	3
64	Shim 0,3 mm	3311 301 042	1
65	Shim 0,5 mm	3311 301 043	1
68	Shim 0.1 mm	3205 302 007	1
69	Shim 0.25 mm	3205 302 009	1
70	Retaining ring	0630 502 039	1
71	O-Ring	0634 303 314	1
72	Nut ring	0635 513 037	1
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1
75	Shim 0,1 mm	3311 304 027	1
76	Shim 0,3 mm	3311 304 028	1

**FORWARD CLUTCH KIT P/N 3313 199 015
ZF 88 C**

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	3312 301 030	1
10a	O-Ring	001.105.0374	2
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
60	Inner clutch disc	3311 302 028	6
61	Outer clutch disc	3311 302 029	7
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1

**REBUILT KIT P/N 3311 199 001
ZF 45 C Toyota**

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	0634 311 025	1
2	Output shaft seal	0634 319 140	1
3	Fluid filter	3311 301 001	1
4	Seal	3311 301 011	1
10a	O-Ring	001.105.0374	2
13	Washer	0634 801 302	2
19	Washer	0634 801 260	1
21	Ball	0635 460 014	2
27	O-Ring	0634 304 405	1
28	Pump Key	3311 306 001	1
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
42a	Needle bearing	0635 302 019	1
42b	Thrust washer	0635 290 002	2
44	Retaining ring	0630 531 227	1
45	Thrust washer	3311 304 019	1
46	Bushing	3311 304 020	1
48	Retaining ring	0630 513 039	1
50	Retaining ring	0630 513 066	1
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
58	Spring	3311 301 007	4
60	Inner clutch disc	3311 302 028	5
61	Outer clutch disc	3311 302 029	6
62	Inner clutch disc Reverse	3311 302 027	2
63	Outer clutch disc Reverse	3311 301 006	3
64	Shim 0,3 mm	3311 301 042	1
65	Shim 0,5 mm	3311 301 043	1
70	Retaining ring	0630 502 039	1
71	O-Ring	0634 303 314	1
72	Nut ring	0635 513 037	1
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1
75	Shim 0,1 mm	3311 304 027	1
76	Shim 0,3 mm	3311 304 028	1

**FORWARD CLUTCH KIT P/N 3311 199 003**
ZF 45C TOYOTA

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	0634 311 025	1
10a	O-Ring	001.105.0374	2
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
60	Inner clutch disc	3311 302 028	5
61	Outer clutch disc	3311 302 029	6
73	Shim 0,2 mm	0630 004 229	1
74	Shim 0,3 mm	0630 004 124	1

REVERSE CLUTCH KIT P/N 3311 199 004
ZF 45C TOYOTA

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	0634 311 025	1
10a	O-Ring	001.105.0374	2
33	O-Ring	0634 306 300	2
39	Piston ring	0634 402 175	3
40	Piston ring	0634 402 118	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
62	Inner clutch disc Reverse	3311 302 027	2
63	Outer clutch disc Reverse	3311 301 006	3
64	Shim 0,3 mm	3311 301 042	1
65	Shim 0,5 mm	3311 301 043	1

SEAL KIT P/N 3311 199 002
ZF 45C TOYOTA

Pos.	Description	Part. N°.	Q.ty
1	Input shaft seal	0634 311 025	1
2	Output shaft seal	0634 319 140	1
4	Seal	3311 301 011	1
10a	O-Ring	001.105.0374	2
13	Washer	0634 801 302	2
19	Washer	0634 801 260	1
27	O-Ring	0634 304 405	1
33	O-Ring	0634 306 300	2
52	O-Ring	0634 304 400	1
53	O-Ring	0634 304 128	1
57	O-Ring	0634 304 689	1
71	O-Ring	0634 303 314	1

