

**ROTAX®**



**BOMBARDIER**  
*RECREATIONAL PRODUCTS*

# SPARE PARTS LIST

## HARLEY DAVIDSON

FOR ROTAX ENGINE

**TYPE**

**504 HD MIL E**

ENGINE CONFIGURATION NO.:

385041901

NO.

**1048**

EDITION:

02 1999

### **Bombardier-Rotax GmbH**

A-4623 GUNSKIRCHEN  
Welser Strasse 32  
AUSTRIA

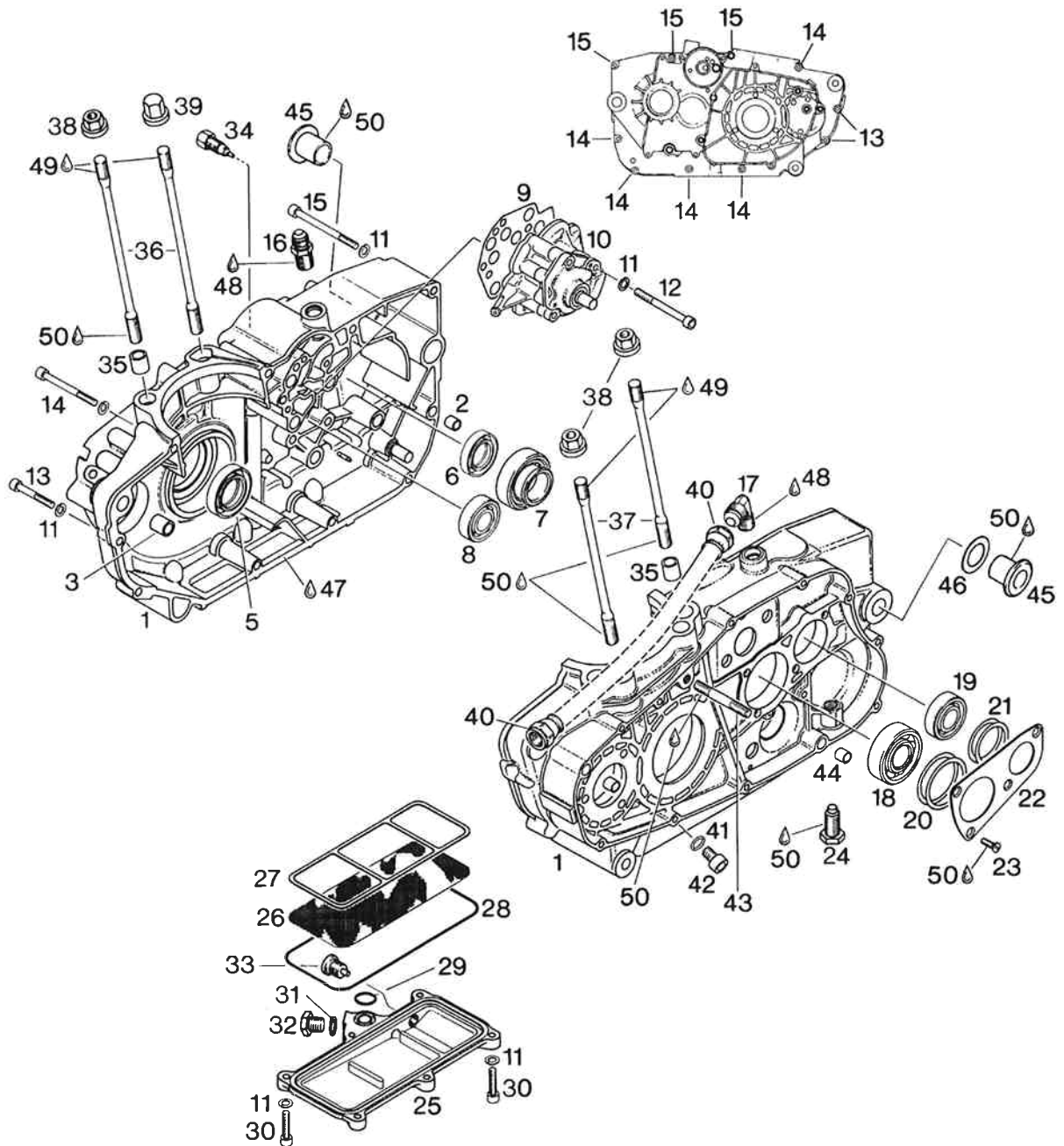
Telefon: (0)7246/601-0\*  
Telefax: (0)7246/6370

NUR ZUR INFORMATION.  
ÄNDERUNGSDIENST NICHT VORGESEHEN.  
FOR INFORMATION ONLY.  
WITHOUT COMMITMENT TO ADVISE MODIFICATIONS.



## TABLE OF CONTENTS

<b>CHAPTER</b>	<b>PAGE</b>
1) CRANKCASE .....	5
2) OIL PUMP .....	9
3) CRANKSHAFT, BALANCE- AND STARTER DRIVE, CYLINDER, PISTON.....	11
4) 5-SPEED TRANSMISSION.....	15
5) CLUTCH, KICK STARTER.....	19
6) CLUTCH COVER, ELECTRIC STARTER .....	23
7) CYLINDER HEAD, CAMSHAFT.....	27
8) VALVES, ROCKER ARMS, ADJUSTMENT SCREWS.....	31
9) TIMING BELT HOUSING, TIMING BELT COVER.....	33
10) CAMSHAFT DRIVE.....	35
11) IGNITION UNIT 12V 190W .....	37
12) SINGLE PARTS FOR ELECTRIC STARTER 293 151 .....	39
13) PRESSURE RETAINING VALVE, OIL FILTER ELEMENT, IGNITION COVER .....	41
14) REPAIR TOOLS, GASKET SETS.....	43

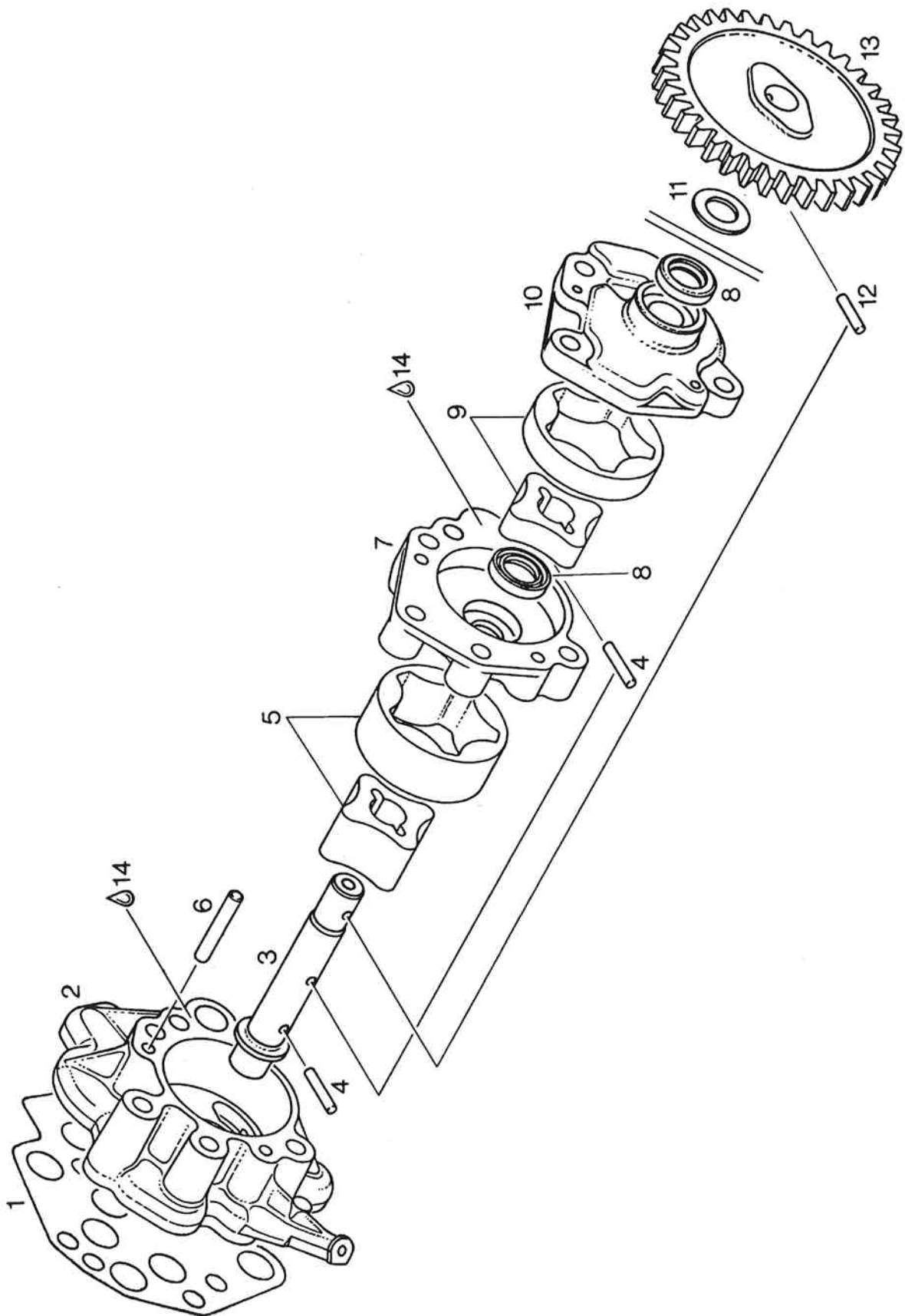


## 1) CRANKCASE

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1 - 3	293798	CRANKCASE ASS'Y	1
2	229140	DOWEL 9,8X10	1
3	229160	DOWEL 13,8X15	1
4	-	NOT USED	-
5	850055	OIL SEAL 30X47X7/7,5 SI FOR CRANKSHAFT, MAGNETO SIDE	1
6	230395	OIL SEAL 25X40X7 NBR FOR MAINSHAFT	1
7	232240	ROLLER BEARING 205E C3 25-52-15 FOR MAINSHAFT, MAGNETO SIDE	1
8	932815	BALL BEARING 6303E C3, 17-47-14 FOR CLUTCH SHAFT, MAGNETO SIDE	1
9	250370	GASKET	1
10	-	..... OIL PUMP ASS'Y (ONLY SINGLE PARTS ARE AVAILABLE, SEE CHAPTER OIL PUMP)	1
11	945751	LOCK WASHER A6 DIN 128-A6-FST	19
12	240371	ALLEN SCREW M6X60 DIN 912	3
13	241816	ALLEN SCREW M6X40 DIN 912	2
14	240371	ALLEN SCREW M6X60 DIN 912	5
15	241871	ALLEN SCREW M6X70 DIN 912	3
16	256210	NIPPLE, STRAIGHT	1
17	256220	ANGULAR NIPPLE	1
18	932430	BALL BEARING 6204 TNH C3, 20-47-14 FOR CLUTCH SHAFT, CLUTCH SIDE	1
19	932033	BALL BEARING 6203 TNH C3, 17-40-12 FOR MAINSHAFT, CLUTCH SIDE	1
20	227610	SHIM 40/46,5/0,5 DIN 988 FOR CLUTCH SHAFT	AS REQ
20	227611	SHIM 40/46,5/0,3 FOR CLUTCH SHAFT	AS REQ
20	227612	SHIM 40/46,5/0,1 DIN 988 FOR CLUTCH SHAFT	AS REQ

ILL. NO.	PART NO.	DESCRIPTION	QTY.
21	227520	SHIM 34/39,5/0,5 FOR MAINSHAFT	AS REQ
21	227521	SHIM 34/39,5/0,3 FOR MAINSHAFT	AS REQ
21	227522	SHIM 34/39,5/0,1 FOR MAINSHAFT	AS REQ
22	227110	RETAINING PLATE	1
23	940315	COUNTERSUNK SCREW M5X12 TIGHTENING TORQUE 5 NM (45 IN.LB)	4
24	241777	HEX.SCREW M12 TIGHTENING TORQUE 75 NM (660 IN.LB)	1
25	212595	OIL SUMP COVER	1
26	256160	OIL SIEVE	1
27	230840	GASKET	1
28	831762	O-RING 145-2,5 SI 60-70 SH	1
29	230880	O-RING 13,3-2,4 SI 60-70 SH	1
30	840861	ALLEN SCREW M6X25 DIN 912	6
31	250010	GASKET RING C 12X18 DIN 7603	1
32	241401	HEX.SCREW M12X12	1
33	241782	MAGNETIC DRAIN PLUG M12X1,5	1
34	241850	CONTACT SCREW M10 ASS'Y	1
35	229160	DOWEL 13,8X15	2
36	240440	STUD M10X197 MAGNETO SIDE	2
37	240430	STUD M10X185 CLUTCH SIDE	2
38	242851	HEX. NUT DIN 6923 M10-8 TIGHTENING TORQUE 40 NM (355 IN.LB)	3
39	242695	COLLAR CAP NUT M10 TIGHTENING TORQUE 40 NM (355 IN.LB)	1
40	-	OIL LINE, NOT SUPPLIED BY ROTAX	1
41	950141	GASKET RING A 8X13 DIN 7603	1
42	841521	ALLEN SCREW M8X12	1

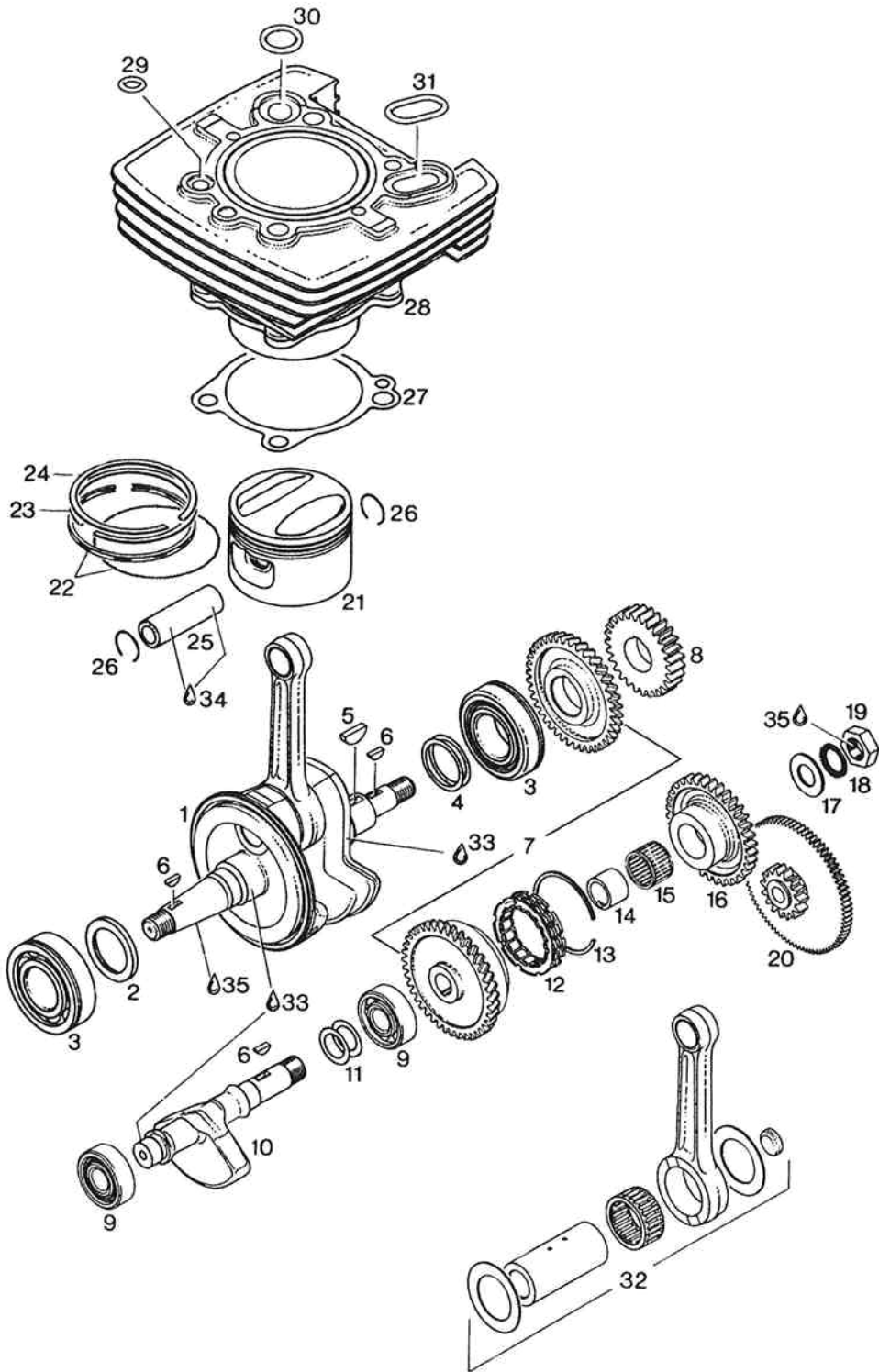
<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
43	940370	STUD M8X61/15	1
44	229140	DOWEL 9,8X10	2
45	247320	SLEEVE	2
46	246150	SHIM 16,3/25,8/0,3	AS REQ
46	246151	SHIM 16,3/25,8/0,5	AS REQ
47	899784	LOCTITE 574 ORANGE 50 C.C. SEALING COMPOUND	AS REQ
48	899788	LOCTITE 648 GREEN, 5 GR. HIGH STRENGTH BOND	AS REQ
49	297433	MOLYKOTE G-N 100 GR., SLIDE PASTE (50 GR).	AS REQ
50	899785	LOCTITE 221 VIOLET, 10 C.C. LOW STRENGTH BOND	AS REQ





**2) OIL PUMP**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	250370	GASKET	1
2	212569	SUCTION PUMP HOUSING ASS'Y	1
3	237647	PUMP SHAFT	1
4	232980	NEEDLE PIN 3X15,8	2
5	256137	INNER AND OUTER ROTOR CPL.	1
6	232970	NEEDLE PIN 4X25,8 G3 DIN 5402	2
7	212572	PRESSURE PUMP HOUSING	1
8	230870	OIL SEAL 11X17X4	2
9	256117	INNER AND OUTER ROTOR CPL.	1
10	212580	PUMP COVER	1
11	827590	THRUST WASHER 10,1/17/1	AS REQ
12	932840	NEEDLE PIN 3X19,8 G2	1
13	235777	PUMP GEAR 27 T.	1
14	899784	LOCTITE 574 ORANGE 50 C.C. SEALING COMPOUND	AS REQ

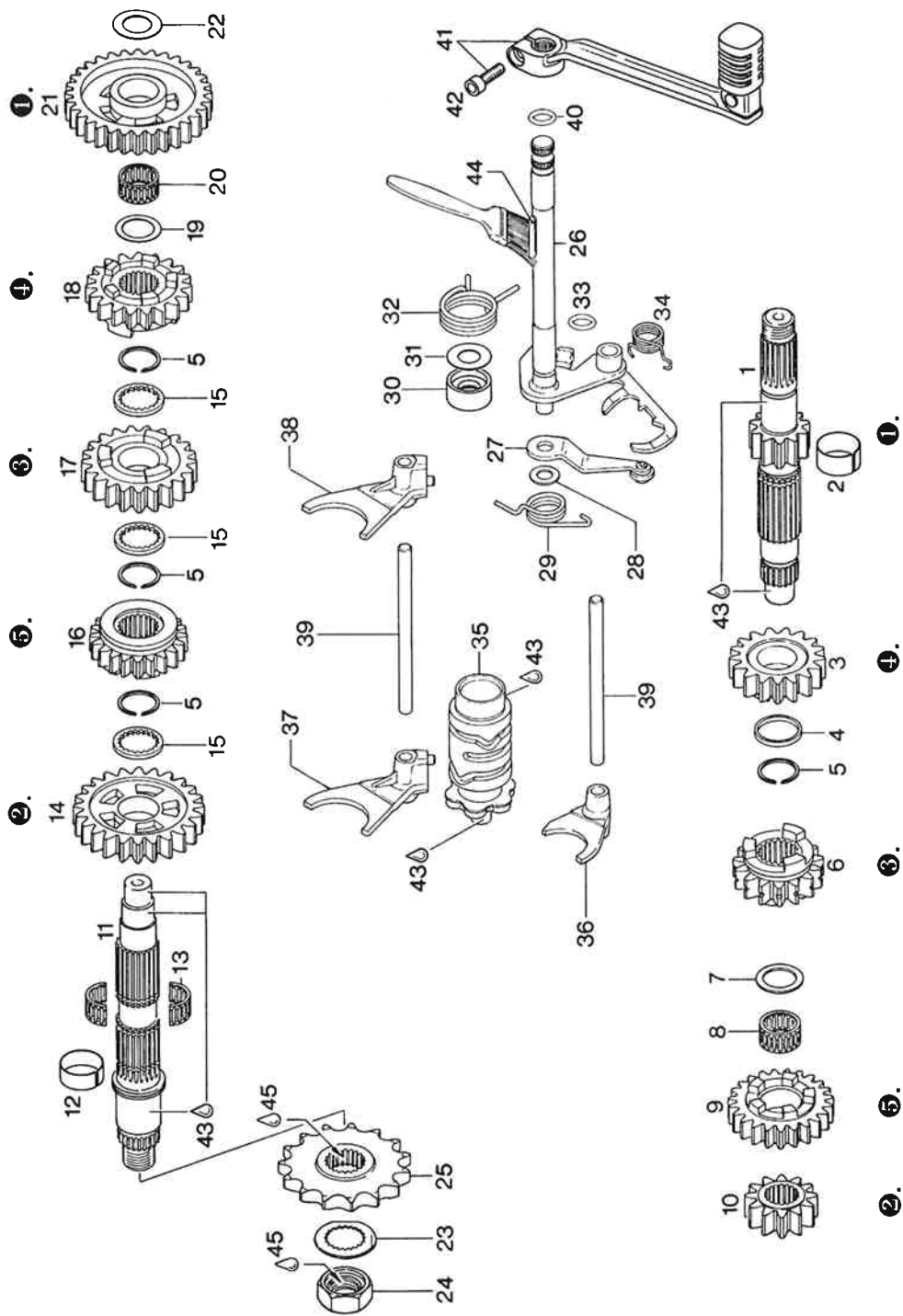


**3) CRANKSHAFT, BALANCER- AND STARTER DRIVE, CYLINDER, PISTON**

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1	294070	CRANKSHAFT ASS'Y STROKE 77,4 MM (3,047 INCH)	1
2	247390	DISTANCE RING 35,2/50/4	1
3	832235	BALL BEARING 6207E TNH, 35-72-17	2
4	927400	SHIM 35,4/43/0,1	AS REQ
4	927401	SHIM 35,4/43/0,2	AS REQ
5	946015	WOODRUFF KEY 6X9 DIN 6888	1
6	246570	WOODRUFF KEY 4X5 DIN 6888	3
7	293458	BALANCE DRIVE ASS'Y REPLACE ONLY BOTH GEARS TOGETHER	1
8	293492	PRIMARY DRIVE ASS'Y REPLACE ONLY DRIVE GEAR WITH CLUTCH DRUM ASS'Y	1
9	932095	BALL BEARING 6304E TNH,20-52-15	2
10	237880	BALANCE SHAFT	1
11	944461	SHIM 20,5/30/0,3	AS REQ
11	944462	SHIM 20,5/30/0,5	AS REQ
11	944465	SHIM 20,5/30/0,15	AS REQ
12	259075	SPRAG CLUTCH 45,665X62,332X13	1
13	245620	SNAPRING 62	1
14	232165	BUSHING	1
15	232890	NEEDLE BEARING 25X29X17	1
16	234353	FREE WHEEL GEAR 37 T.	1
17	227230	THRUST WASHER 18,2/34/2	1
18	245720	FRICTION WASHER VS18	1
19	242790	HEX. NUT M18X1,5 TIGHTENING TORQUE 70 NM (660 IN.LB)	1
20	234053	IDLE GEAR 81/15 Z.	1
21 - 24	294020	PISTON ASS'Y 88,96/88,97 MM WITH RINGS, STANDARD "A" 88,96 STANDARD "B" 88,97	1

ILL. NO.	PART NO.	DESCRIPTION	QTY.
22	215330	OIL SCRAPER RING 89/81,5X3 STANDARD	1
23	215410	TAPERED COMPRESSION RING 89/81,6X1,25 MM STANDARD	1
24	215570	RECTANGULAR RING 89/81,6X1,25 MM STANDARD	1
25	216115	PISTON PIN 22X15X55	1
26	245431	CIRCLIP 22 A T T E N T I O N: USE ONLY ONCE ! FOR FITTING, USE TOOL 877 017	2
27	230825	GASKET 0,5	1
28	223474	CYLINDER "A" 88,96 - 88,972 MM "B" 88,972 - 88,985 MM	1
29	250290	O-RING 12-3	1
30	250430	O-RING 20-3,5 – N	1
31	250430	O-RING 20-3,5 – N	1
32	297434	LOCTITE ANTI SEIZE 15378, 50 ML. TO PREVENT METAL GALLING	AS REQ
33	297433	MOLYKOTE G-N, SLIDE PASTE 50 GR.	AS REQ
34	899785	LOCTITE 221 VIOLET, 10 C.C. LOW STRENGTH BOND	AS REQ





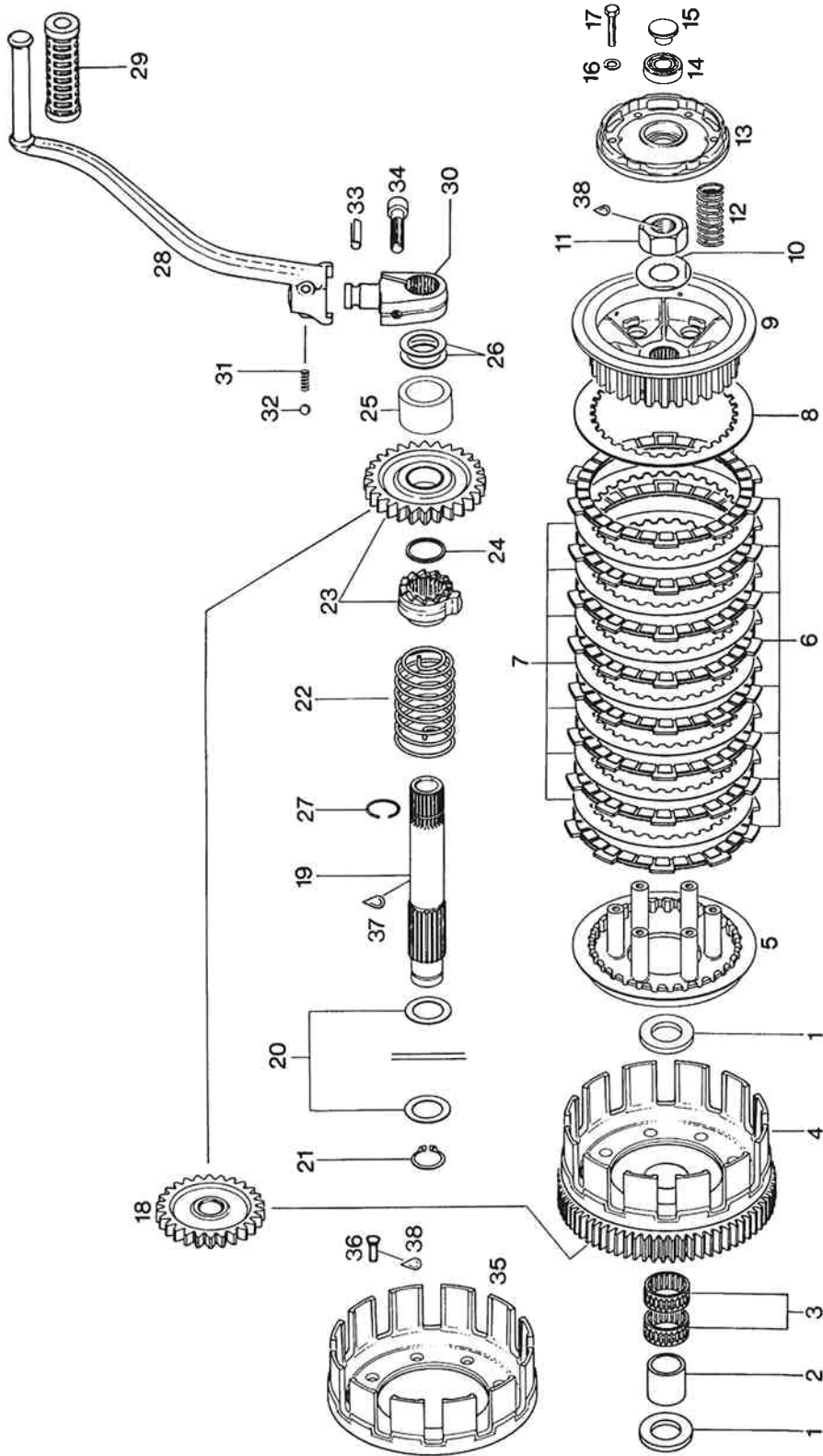
**4) 5-SPEED TRANSMISSION**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	237712	CLUTCH SHAFT 11 T.	1
2	233510	BUSHING 22,8X24X11,7 CLUTCH SHAFT	1
3	235620	FREE PINION 17 T. 4TH SPEED, CLUTCH SHAFT	1
4	227080	THRUST WASHER 22/27,5/2,3 CLUTCH SHAFT	1
5	245340	SNAPRING 24	4
6	235603	GEAR PINION 15 T. 3RD SPEED, CLUTCH SHAFT	1
7	227445	THRUST WASHER 21,2/27,5/1 CLUTCH SHAFT	1
8	232805	NEEDLE BEARING 21X25X13 CLUTCH SHAFT	1
9	235665	FREE PINION 23 T. 5TH SPEED, CLUTCH SHAFT	1
10	235644	FIXED GEAR 12 T. 2ND SPEED, CLUTCH SHAFT	1
11	237720	MAINSHAFT	1
12	233500	BUSHING 23,8X25X9,8 MAINSHAFT	1
13	232800	NEEDLE BEARING 21X25X13 MAINSHAFT	1
14	235654	FREE PINION 24 T. 2ND SPEED, MAINSHAFT	1
15	227465	THRUST WASHER 22/30/2,6 MAINSHAFT	3
16	235113	GEAR PINION 21 T. 5TH SPEED, MAINSHAFT	1
17	235610	FREE PINION 21 T. 3RD SPEED, MAINSHAFT	1
18	235632	GEAR PINION 19 T. 4TH SPEED, MAINSHAFT	1

ILL. NO.	PART NO.	DESCRIPTION	QTY.
19	944468	THRUST WASHER 20,5/30/1 MAINSHAFT	1
20	232795	NEEDLE BEARING K 20X24X12 MAINSHAFT	1
21	235527	FREE PINION 32 T. 1ST SPEED, MAINSHAFT	1
22	227430	THRUST WASHER 17,2/30/1 MAINSHAFT	1
23	245390	TAB WASHER NA24 MAINSHAFT LOCKING	1
24	242650	HEX. NUT M20X1,5 MAINSHAFT TIGHTENING TORQUE 120 NM (1060 IN.LB)	1
25	236023	SPROCKET 17 T. 5/8X1/4X10,16 THIS PART IS MOUNTED STANDARD	1
25	236029	SPROCKET 13 T. 5/8X1/4X10,16	1
25	236020	SPROCKET 14 T. 5/8X1/4X10,16	1
25	236021	SPROCKET 15 T, 5/8X1/4X10,16	1
25	236022	SPROCKET 16 T. 5/8X1/4X10,16	1
25	236024	SPROCKET 18 T. 5/8X1/4X10,16	1
25	236025	SPROCKET 19 T. 5/8X1/4X10,16	1
25	236026	SPROCKET 20 T. 5/8X1/4X10,16	1
26	237636	SHIFT SHAFT WITH PAWL ASS'Y	1
27	248925	INDEX LEVER ASS'Y	1
28	827590	THRUST WASHER 10,1/17/1	1
29	239820	INDEX SPRING	1
30	247570	SPACER	1
31	946870	WASHER 14,5/22,5/1	1
32	239640	SPRING	1
33	250460	O-RING 11-2,7	1
34	239830	SPRING	1
35	258797	SHIFT DRUM ASS'Y	1



<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
36	258775	SHIFT FORK ASS'Y SHIFTING 4TH - 5TH GEAR	1
37	258765	SHIFT FORK ASS'Y SHIFTING 2ND GEAR	1
38	258755	SHIFT FORK ASS'Y SHIFTING 1ST - 3RD GEAR	1
39	258780	GUIDE PIN	2
40	430110	O-RING 10X2,7	1
41	-	OPTIONAL	1
42	-	OPTIONAL	1
43	297434	LOCTITE ANTI-SEIZE 15378, 50 ML. TO PREVENT METAL GALLING	AS REQ
44	-	BP-ENERGREASE LS 3	AS REQ
45	899785	LOCTITE 221 VIOLET, 10 CC. LOW STRENGTH BOND	AS REQ

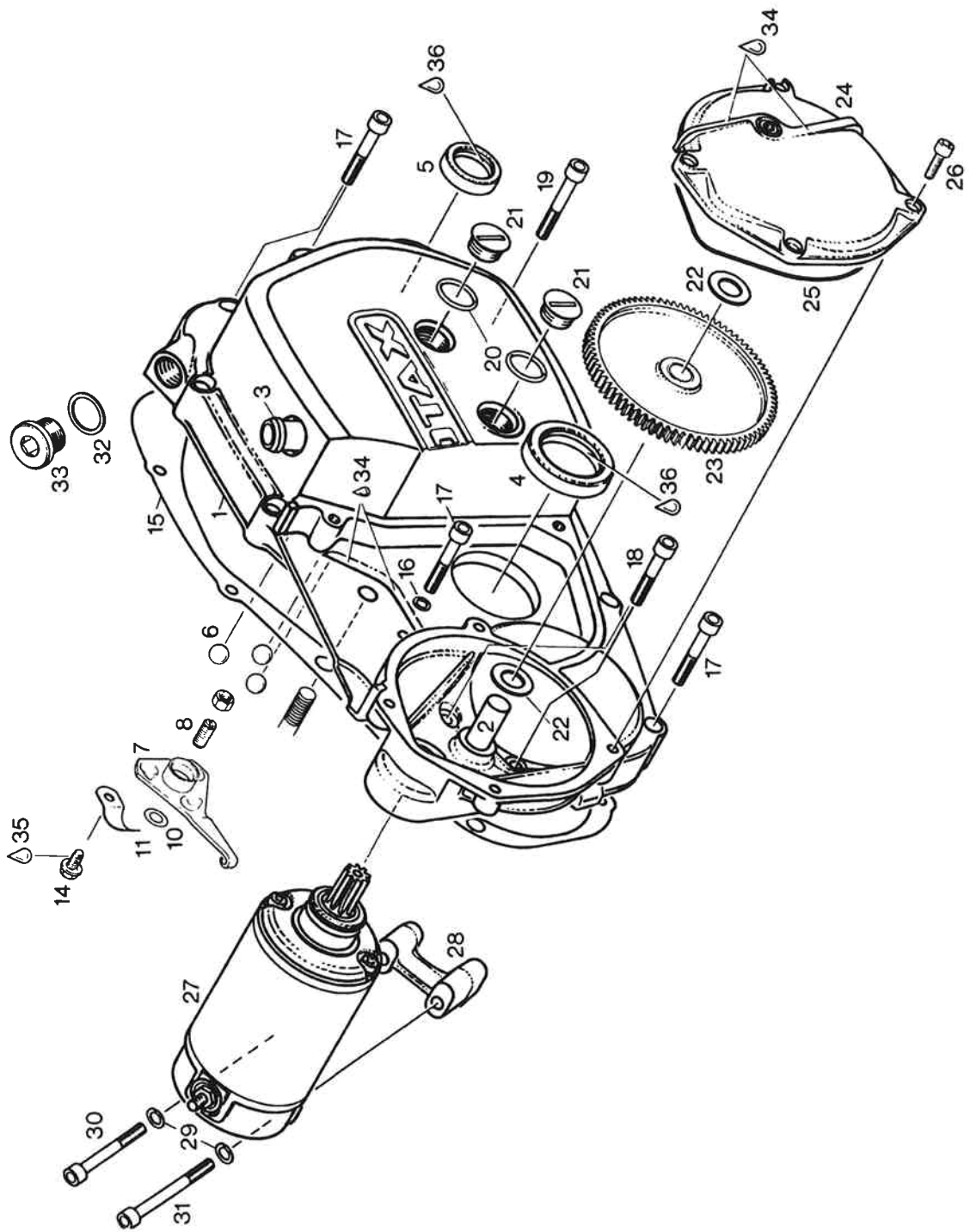


**5) CLUTCH, KICK STARTER**

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1	227600	THRUST WASHER 20,2/35/3	2
2	232700	INNER RACE	1
3	232652	NEEDLE BEARING 25X29X10	2
4	293492	PRIMARY DRIVE ASS'Y REPLACE ONLY DRIVE GEAR WITH CLUTCH DRUM ASS'Y	1
5	259885	INNER PLATE	1
6	259905	FRICTION PLATE 2,6 MM FULLY COATED	8
7	259913	CLUTCH PLATE 1,25 MM	7
8	259915	PLATE 1,5 MM	1
9	259878	CLUTCH HUB	1
10	245320	TAB WASHER NA20	1
11	242605	HEX. NUT M18X1,5 TORQUE 120 NM (1060 IN.LB)	1
12	239625	CLUTCH SPRING 34,1 MM CHANGE SPRINGS ONLY SETWISE	6
13	259130	RETAINING PLATE	1
14	232400	BALL BEARING 6001 C3, 12-28-8	1
15	259140	THRUST HUB	1
16	945750	LOCK WASHER A5	6
17	241770	HEX. SCREW M5X25	6
18	235767	IDLE GEAR ASS'Y 26T.	1
19	237621	KICK START SHAFT	1
20	944468	THRUST WASHER 20,5/30/1	2
21	945660	RETAINING RING 20X1,2	1
22	239762	KICK START SPRING	1
23	293620	KICKSTART DRIVE ASS'Y REPLACE BOTH GEARS TOGETHER	1
24	227880	THRUST WASHER 22,2/25,5/1	1
25	247600	SPACER 22,2/30/19	1

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
26	927475	THRUST WASHER 22,5/30/0,5	1
26	927475	THRUST WASHER 22,5/30/0,5	AS REQ
27	245350	CIRCLIP 19,5X1	1
28 - 33	248180	KICK START LEVER ASS'Y	1
28	248175	KICK START LEVER	1
29	260210	RUBBER SLEEVE	1
30	248959	KICK START HUB	1
31	239537	COMPRESSION SPRING 8 MM	1
32	232440	BALL 5,556 MM	1
33	229210	DOWEL TUBE 6X20	1
34	840991	ALLEN SCREW M8X30	1
35	259854	CLUTCH DRUM	1
36	243340	RIVET 5X12	8
37	297434	LOCTITE ANTI SEIZE 15378 50 ML. TO PREVENT METAL GALLING	AS REQ
38	899788	LOCTITE 648 GREEN, 5 GR. HIGH STRENGTH BOND	AS REQ





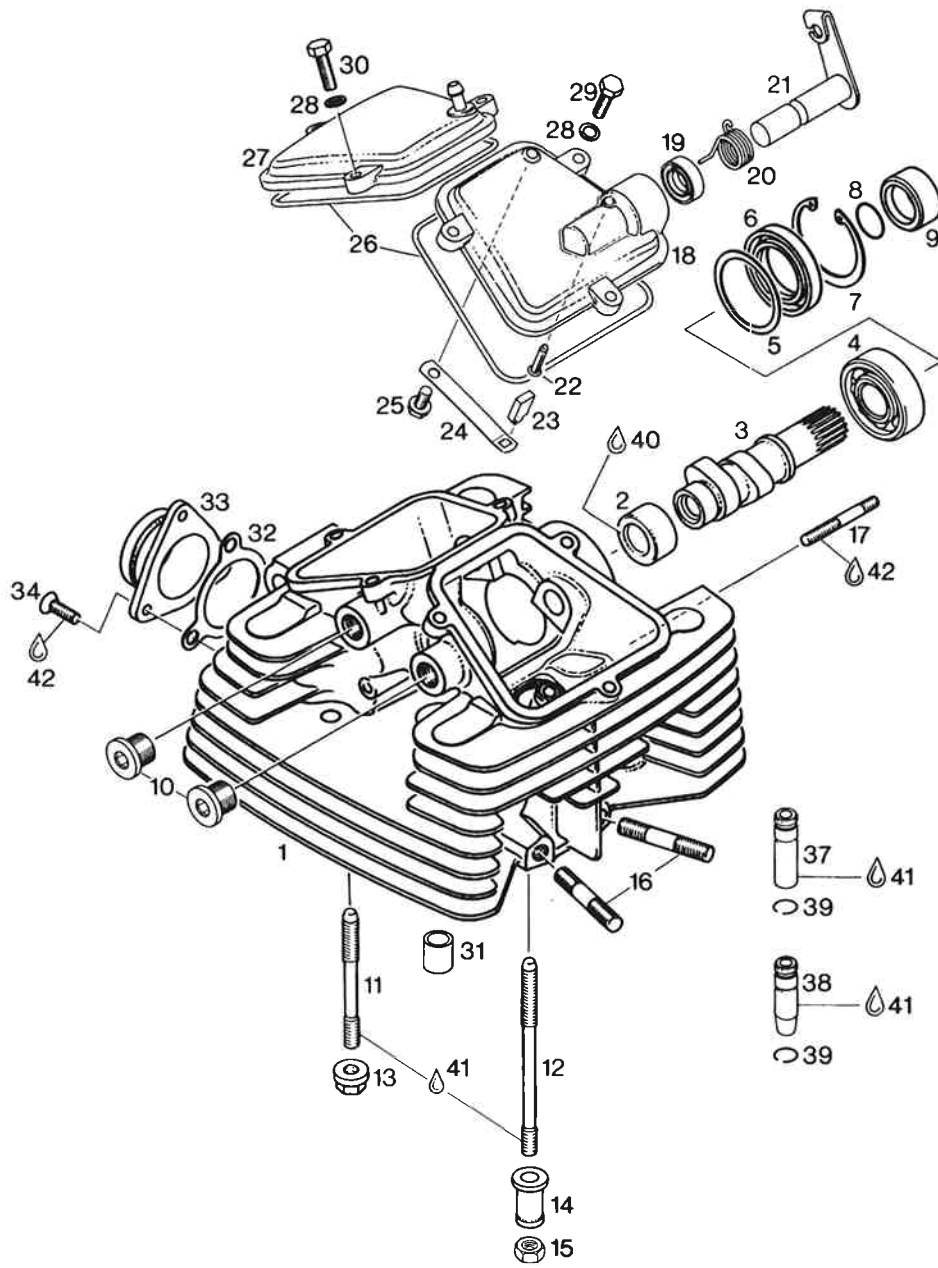
**6) CLUTCH COVER, ELECTRIC STARTER**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1 - 3	210857	CLUTCH COVER ASS'Y	1
2	229230	JOURNAL BOLT	1
3	224230	CLUTCH CABLE TUBE	1
4	930715	OIL SEAL 35X47X7	1
5	831260	OIL SEAL 22X32X7	1
6	232150	BALL 12 MM	3
7	259185	RELEASE CAM, 30 DEGREES	1
8	241791	ADJUSTMENT SCREW M8X16	1
9	942671	HEX. NUT M8	1
10	227945	THRUST WASHER 8,1/15/0,5	1
11	239907	LEAF SPRING	1
12	-	NOT USED	-
13	-	NOT USED	-
14	841685	TAPTITE-SCREW M5X10 ONLY FOR CLUTCH COVER 210 857	1
15	250381	GASKET	1
16	230415	GASKET RING A 6X10 DIN 7603	1
17	241811	ALLEN SCREW M6X35 DIN 912	9
18	840880	ALLEN SCREW M6X30 DIN 912	2
19	241816	ALLEN SCREW M6X40 DIN 912	1
20	230400	O-RING 18X1,5	2
21	241800	PLUG SCREW M18X1,5	2
22	827261	THRUST WASHER 12,5/21,5/1	2
23	234053	IDLE GEAR 81/15 Z.	1
24	212960	STARTER DRIVE COVER BLACK PAINTED	1
25	230310	O-RING 114-2	1
26	840511	ALLEN SCREW M5X16	4
27	293151	ELECTRIC STARTER ASS'Y	1

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
28	251910	DISTANCE BLOCK	1
29	945751	LOCK WASHER A6 DIN 128	2
30	241821	ALLEN SCREW M6X45 DIN 912	1
31	240331	ALLEN SCREW M6X55 DIN 912	1
32	230905	GASKET RING A 16X20X1	1
33	240230	PLUG SCREW M16X1,5	1
34	297386	SILASTIC 732 RTV, 100 GR.	AS REQ
35	899785	LOCTITE 221 VIOLET, 10 C:C. LOW STRENGTH BOND	AS REQ
36	-	BP-ENERGREASE LS 3	AS REQ





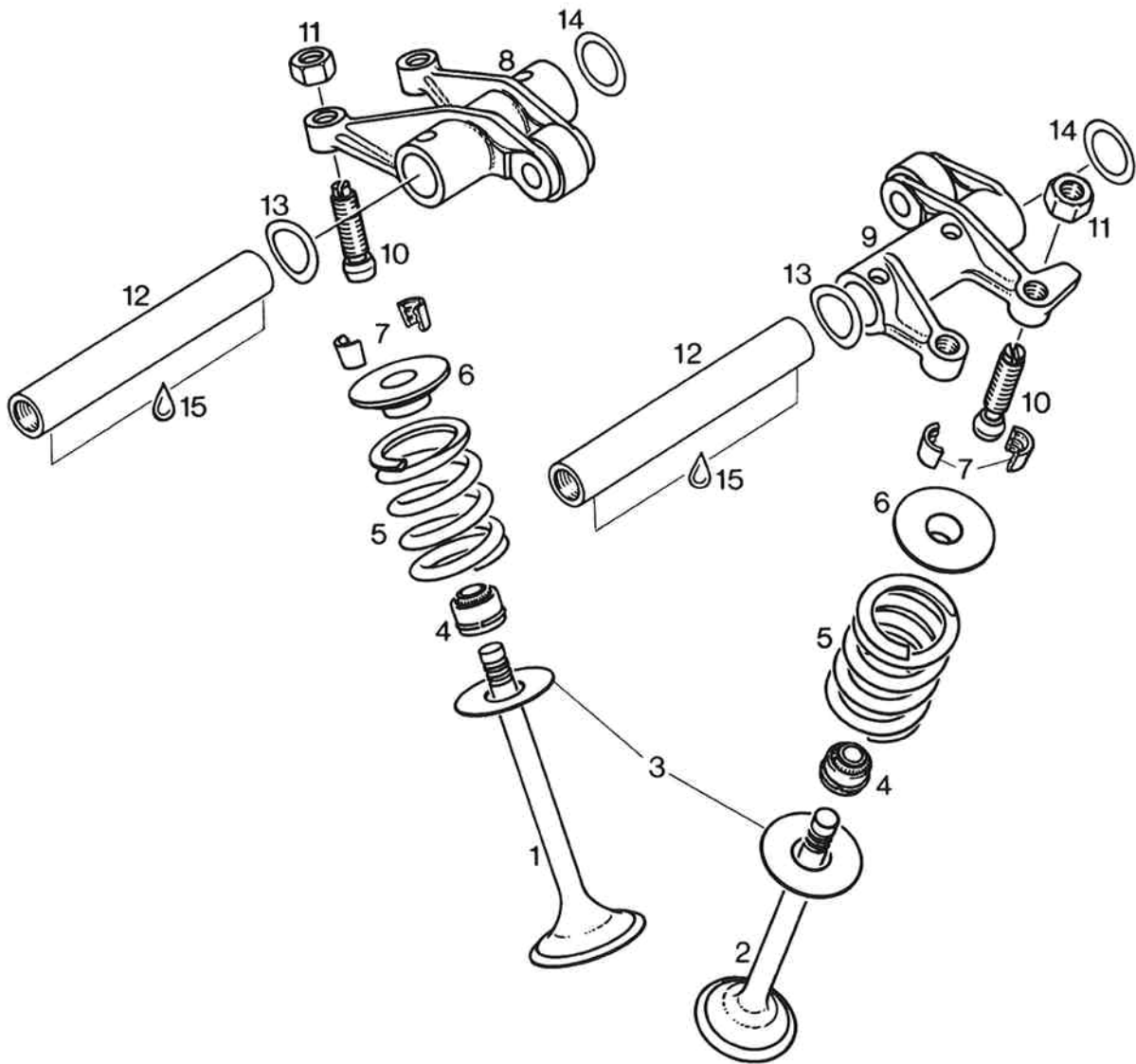


## 7) CYLINDER HEAD, CAMSHAFT

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1	223465	CYLINDER HEAD ASS'Y BLACK	1
2	232920	NEEDLE BUSHING 22X28X12	1
3	237665	CAMSHAFT 225/240 DEGREES	1
4	932432	BALL BEARING 6204 C3, 20-47-14	1
5	927222	SHIM 38/46,8/1,0	1
6	850055	OIL SEAL 30X47X7/7,5 ST	1
7	945690	RETAINING RING 47X1,75 DIN 472	1
8	230405	O-RING 18X1,5 – N DIN 472	1
9	247420	SPACER 20/30/13	1
10	240230	PLUG SCREW A M16X1,5	2
11	240415	STUD M8X94	1
12	240423	STUD M8X119	1
13	242700	COLLAR HEX. NUT M8 TORQUE 20 NM (175 IN.LB)	1
14	247720	DISTANCE SLEEVE	1
15	242206	HEX. NUT M8 DIN 934 TIGHTENING TORQUE 20 NM (175 IN.LB)	1
16	240365	STUD M8X50	4
17	940000	STUD M6X40/11	1
18	212555	VALVE COVER BLACK	1
19	230690	OIL SEAL 14X24X7 NBR	1
20	239800	SPRING	1
21	237655	DECOMPRESSOR SHAFT ASS'Y	1
22	229170	GROOVE PIN 4X20 DIN 1476	1
23	231010	DECOMPRESSOR PLATE	1
24	239790	FLAT SPRING	1
25	240385	TAPTITE-SCREW M6X12	1
26	230860	O-RING 107-2,5 – N DIN 3771	2

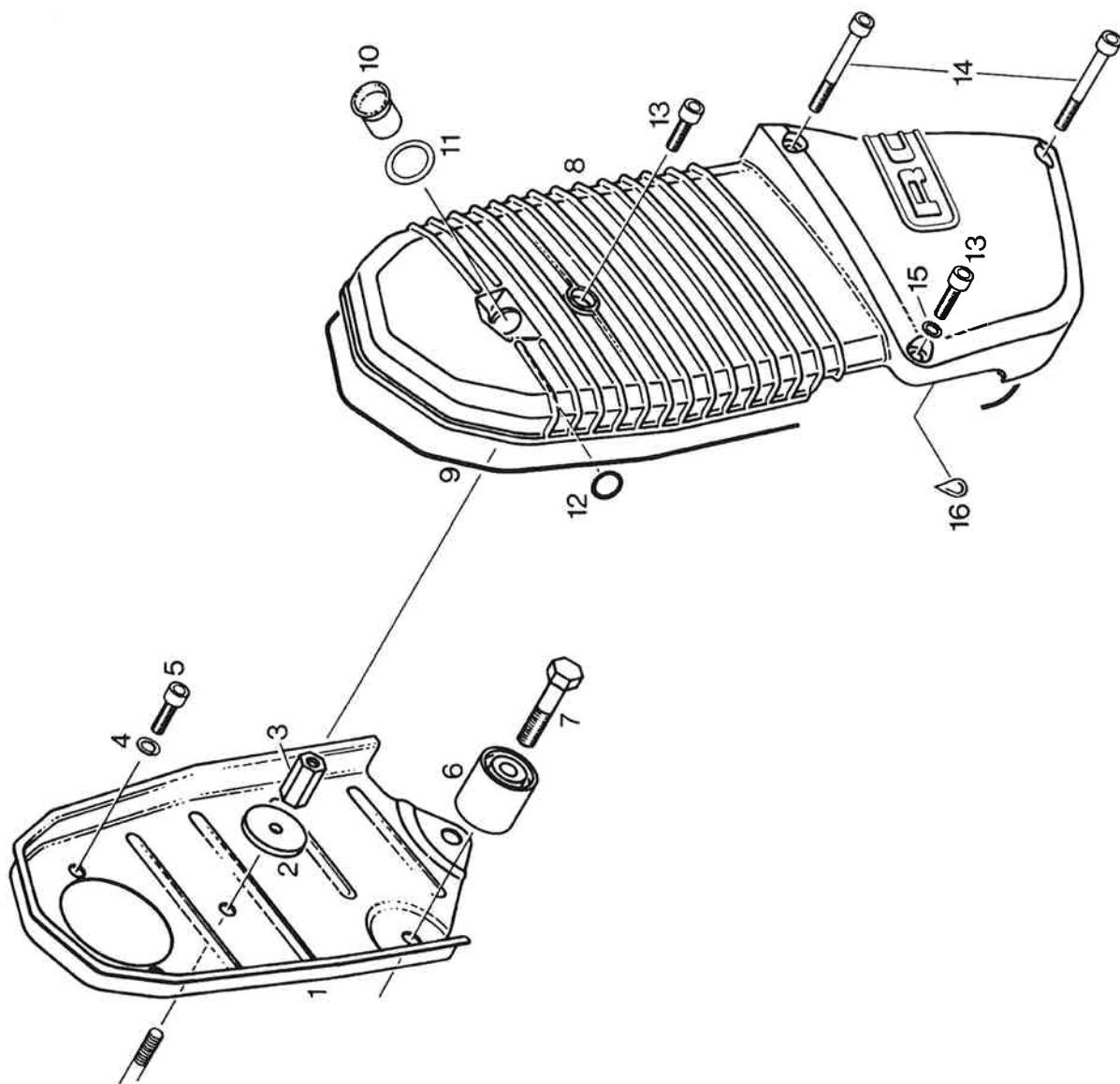
<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
27	212546	VALVE COVER ASS'Y BLACK	1
28	945751	LOCK WASHER A6 DIN 128-A6-FST	6
29	940561	HEX.SCREW M6X20 DIN 933 FOR OUTLET	3
30	940561	HEX.SCREW M6X20 DIN 933 FOR INLET	3
31	229160	DOWEL 13,8X15	2
32	230011	GASKET	1
33	267857	INTAKE FLANGE	1
34	941041	COUNTERSUNK SCREW M6X16 DIN 964	3
35	-	NOT USED	-
36	-	NOT USED	-
37	253116	EXHAUST VALVE GUIDE FOR REPAIR	2
38	253117	INLET VALVE GUIDE FOR REPAIR	2
39	245440	RETAINING RING A12 DIN 7993	4
40	297386	SILASTIC 732 RTV, 100 GR.	AS REQ
41	297433	MOLYKOTE G-N, SLIDE PASTE 50 GR.	AS REQ
42	899785	LOCTITE 221 VIOLET, 10 C.C. LOW STRENGTH BOND	AS REQ





**8) VALVES, ROCKER ARM, ADJUSTMENT SCREW**

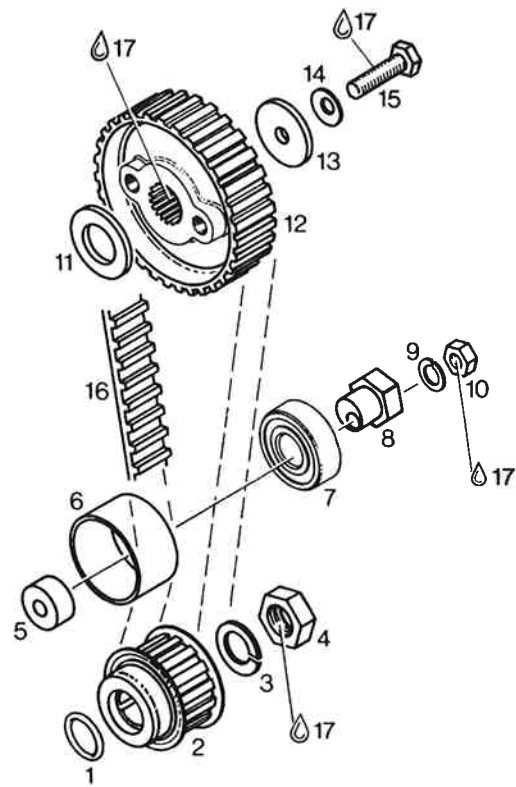
<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	253070	INLET VALVE 34 MM	2
2	253080	EXHAUST VALVE 30 MM	2
3	227980	THRUST WASHER 12,2/29,5/1	4
4	230810	VALVE STEM SEAL	4
5	239780	VALVE SPRING DM 25,2 D4 L36,6 MM	4
6	253101	VALVE SPRING RETAINER	4
7	253090	VALVE COTTER	8
8	253315	INTAKE ROCKER ARM ASS'Y	1
9	253345	EXHAUST ROCKER ARM ASS'Y	1
10	240205	ADJUSTMENT SCREW M7 ASS'Y	4
11	242591	HEX.NUT M7 DIN 934	4
12	253050	ROCKER ARM SHAFT	2
13	227950	SPRING WASHER 14,3/20/0,5	2
14	227955	THRUST WASHER 14,3/20/0,5	2
15	297433	MOLYKOTE G-N, SLIDE PASTE 50 GR.	AS REQ



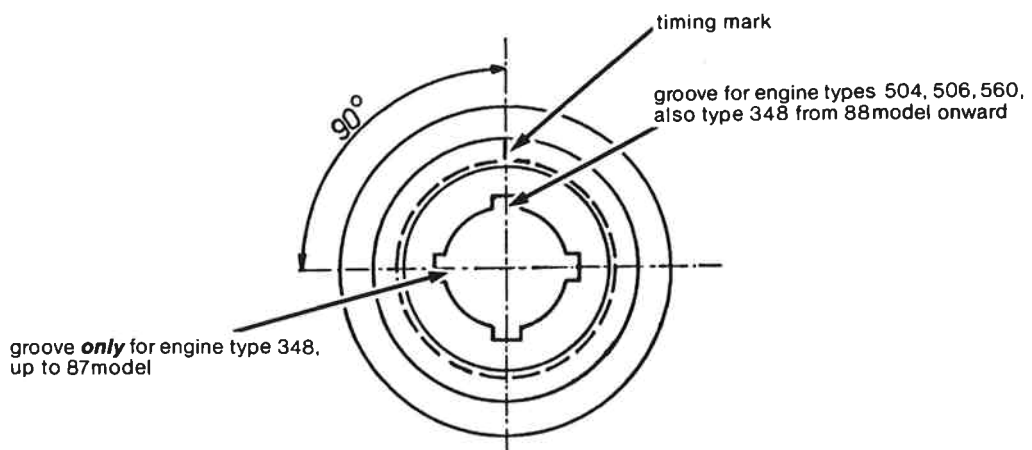


**9) TIMING BELT HOUSING, TIMING BELT COVER**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	212527	TIMING BELT HOUSING	1
2	227920	WASHER 6,4/30/3	1
3	242680	DISTANCE NUT M6X22	1
4	945751	LOCK WASHER A6 DIN 128	2
5	241930	ALLEN SCREW M6X20	2
6	232130	GUIDE PULLEY 28X27X30	1
7	240281	HEX. SCREW M8X50	1
8	212955	TIMING BELT COVER	1
9	230852	O-RING 2,5X820	1
10	260550	LENS	1
11	250091	GASKET RING 14/19/0,5	1
12	430020	O-RING 9,3X2,4	1
13	840401	ALLEN SCREW M6X22	2
14	241761	ALLEN SCREW M6X50	2
15	230415	GASKET RING A 6X10 DIN 7603	1
16	297386	SILASTIC 732 RTV, 100 GR.	AS REQ

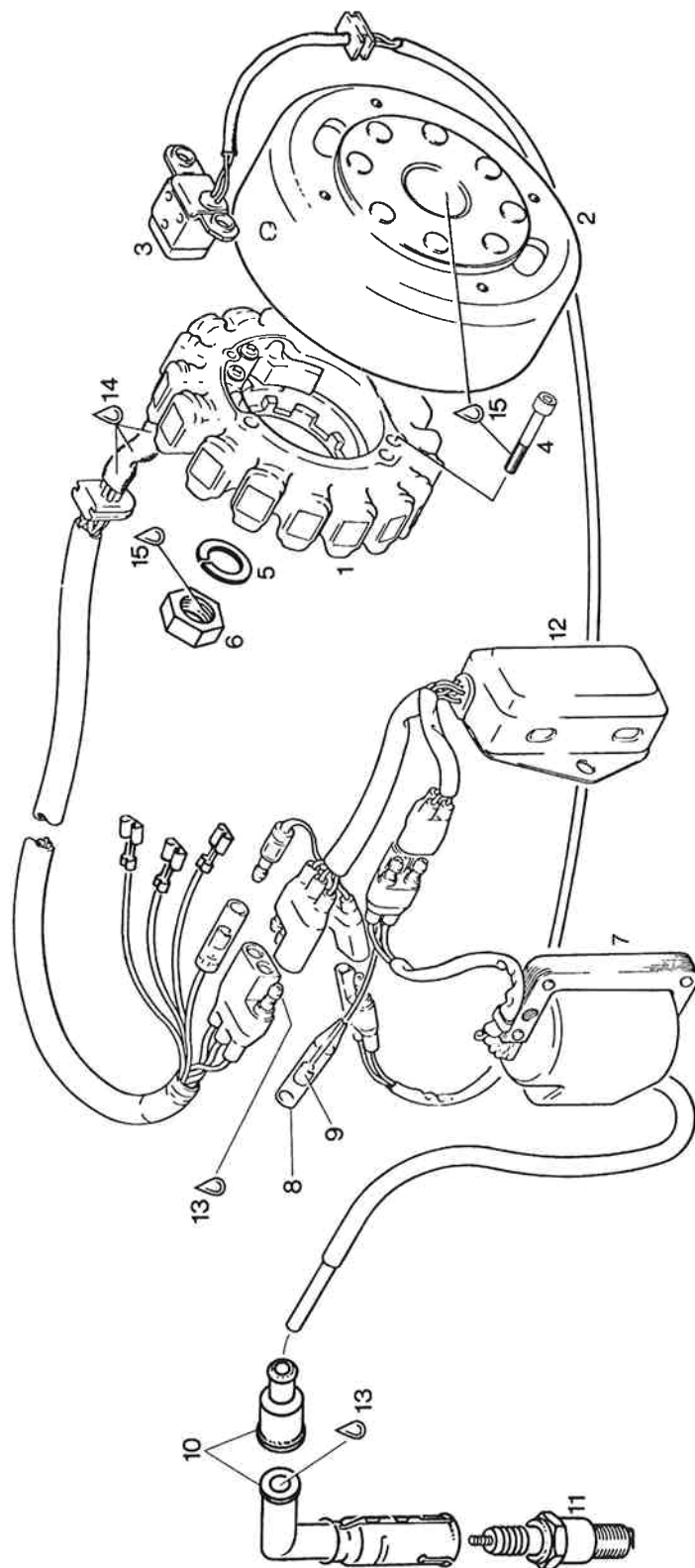


**Front view**



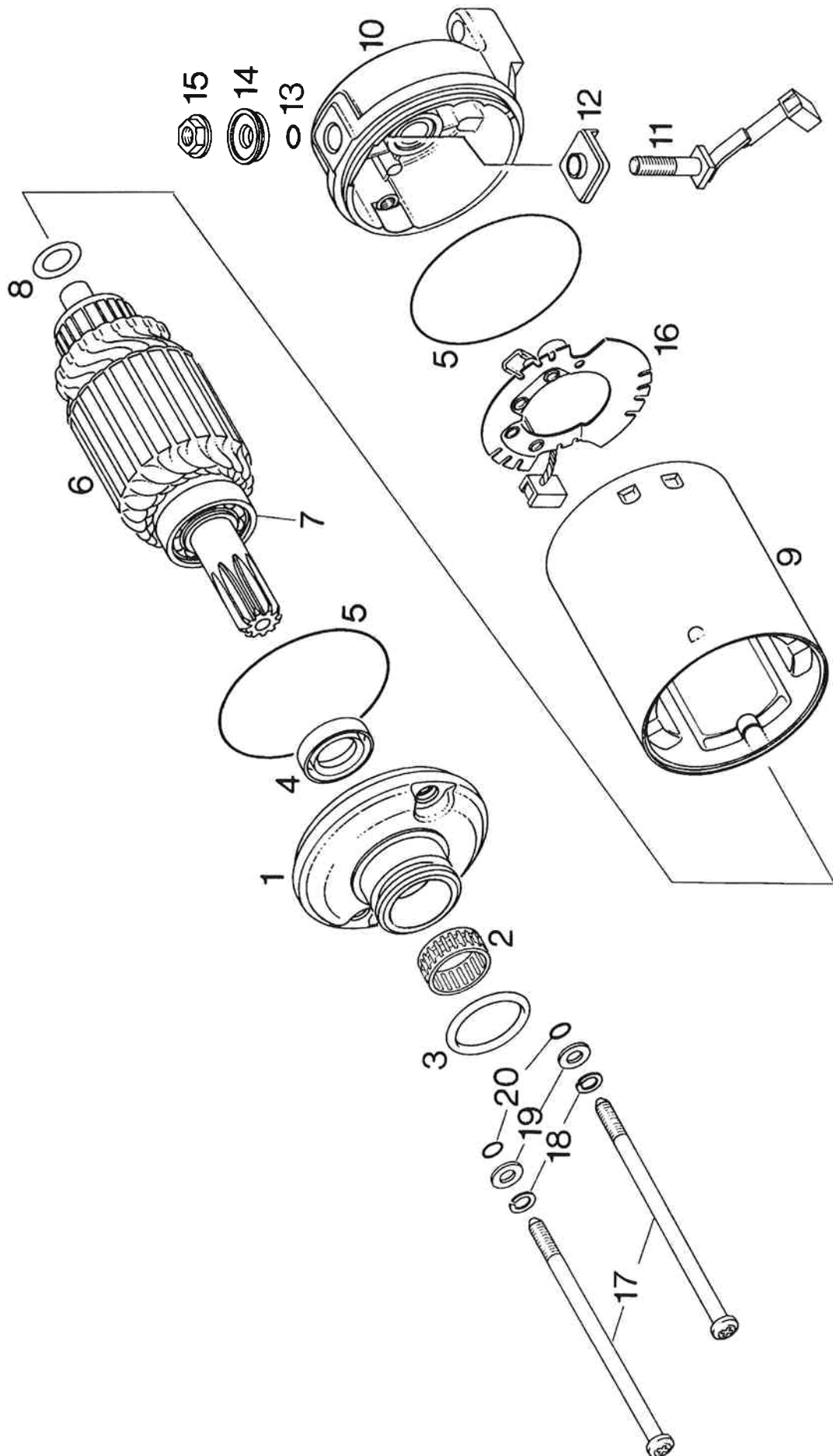
## 10) CAMSHAFT DRIVE

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1	230890	O-RING 17-2,5	1
2	253017	TIMING PULLEY ASS'Y 15 T.	1
3	945756	LOCK WASHER 16	1
4	242710	HEX.NUT M16X1,5 TIGHTENING TORQUE 150 NM (1330 IN.LB)	1
5	247430	SPACER 8,4/24/11	1
6	280030	GUIDE PULLEY	1
7	932037	BALL BEARING 6203-2RS1, 17-40-12	1
8	280020	TENSIONER ECCENTER	1
9	945752	LOCK WASHER A8	1
10	242206	HEX. NUT M8 TIGHTENING TORQUE 15 NM (310 IN.LB)	1
11	227600	THRUST WASHER 20,2/35/3	1
12	253023	TIMING PULLEY 30 T.	1
13	227930	WASHER 8,4/32/3	1
14	245460	SPRING WASHER 8	1
15	940485	HEX.SCREW M8X30 TIGHTENING TORQUE 35 NM ( 310 IN.LB)	1
16	280015	TIMING BELT 9,525X19X86	1
17	899785	LOCTITE 221 VIOLET, 10 C.C. LOW STRENGTH BOND	AS REQ



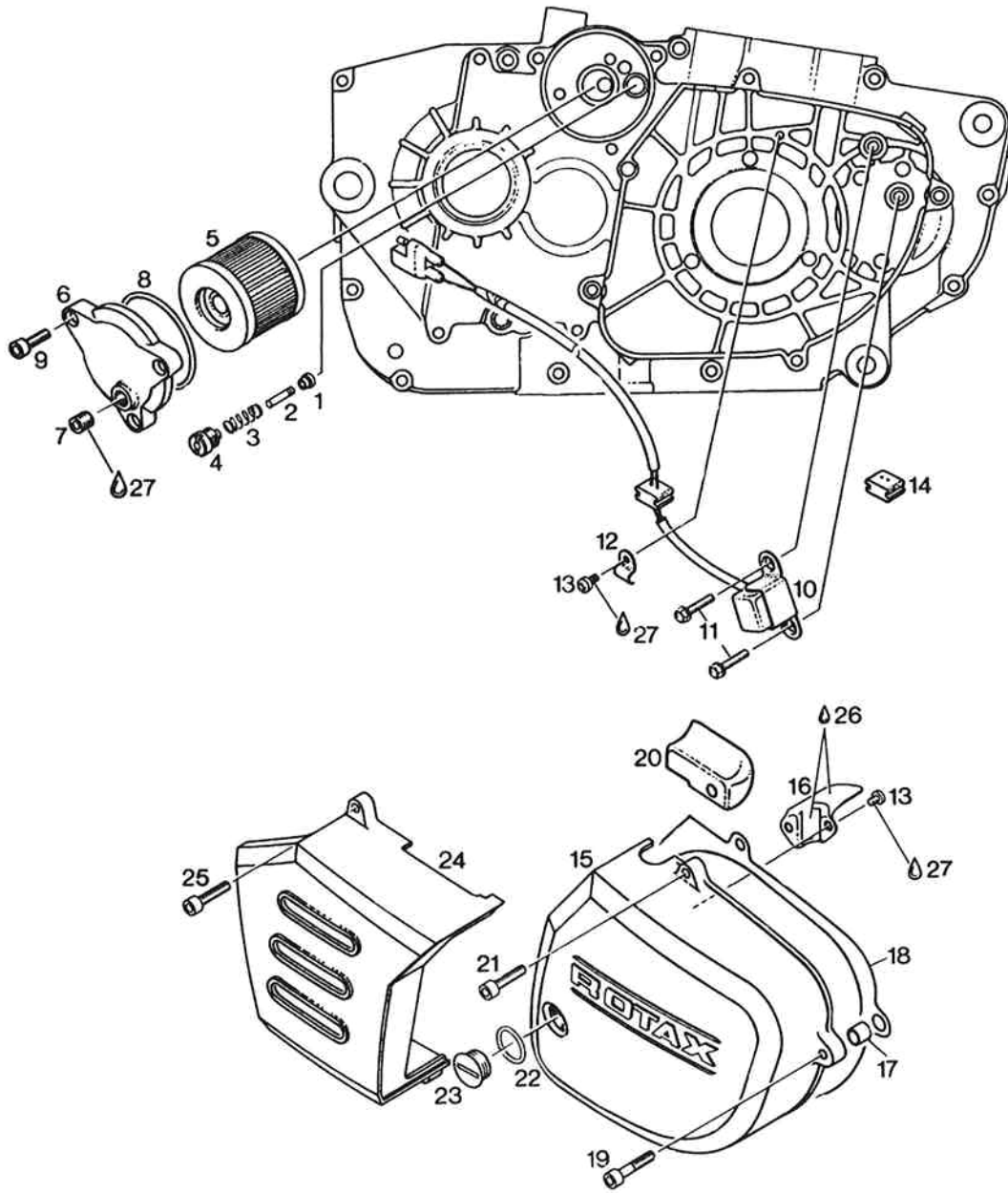
**11) IGNITION UNIT 12V 190W**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1 - 3	293123	IGNITION UNIT 12V 190W ASS'Y	1
1 - 2	293128	STATOR WITH MAGNETO FLYWHEEL ASS'Y STATOR AND MAGNETO FLYWHEEL MUST BE EXCHANGED ONLY TOGETHER	1
3	264750	TRIGGER COIL FOR START IGNITION	1
4	241816	ALLEN SCREW M6X40 DIN 912	3
5	945757	LOCK WASHER 18 DIN 128A	1
6	942220	HEX. NUT M18X1,5 TORQUE 100 NM (885 IN.LB)	1
7 - 10	264736	IGNITION COIL ASS'Y	1
8	964070	INSULATION SHEATH	1
9	964067	FASTON CONNECTOR 3,96	1
10	264861	SHIELDED SPARK PLUG CONNECTOR ASS'Y	1
11	297540	SPARK PLUG 12 MM NGK D8 EA TIGHTENING TORQUE 20 NM (175 IN.LB) ON COLD ENGINE	1
12	264740	AMPLIFIER-BOX	1
13	897330	LITHIUM-BASE GREASE, 250 GR. TO PREVENT LEAKAGE CURRENT	AS REQ
14	297386	SILASTIC 732 RTV, 100 GR.	AS REQ
15	899785	LOCTITE 221 VIOLET, 10 C.C. LOW STRENGTH BOND	AS REQ



**12) SINGLE PARTS FOR ELECTRIC STARTER 293 151**

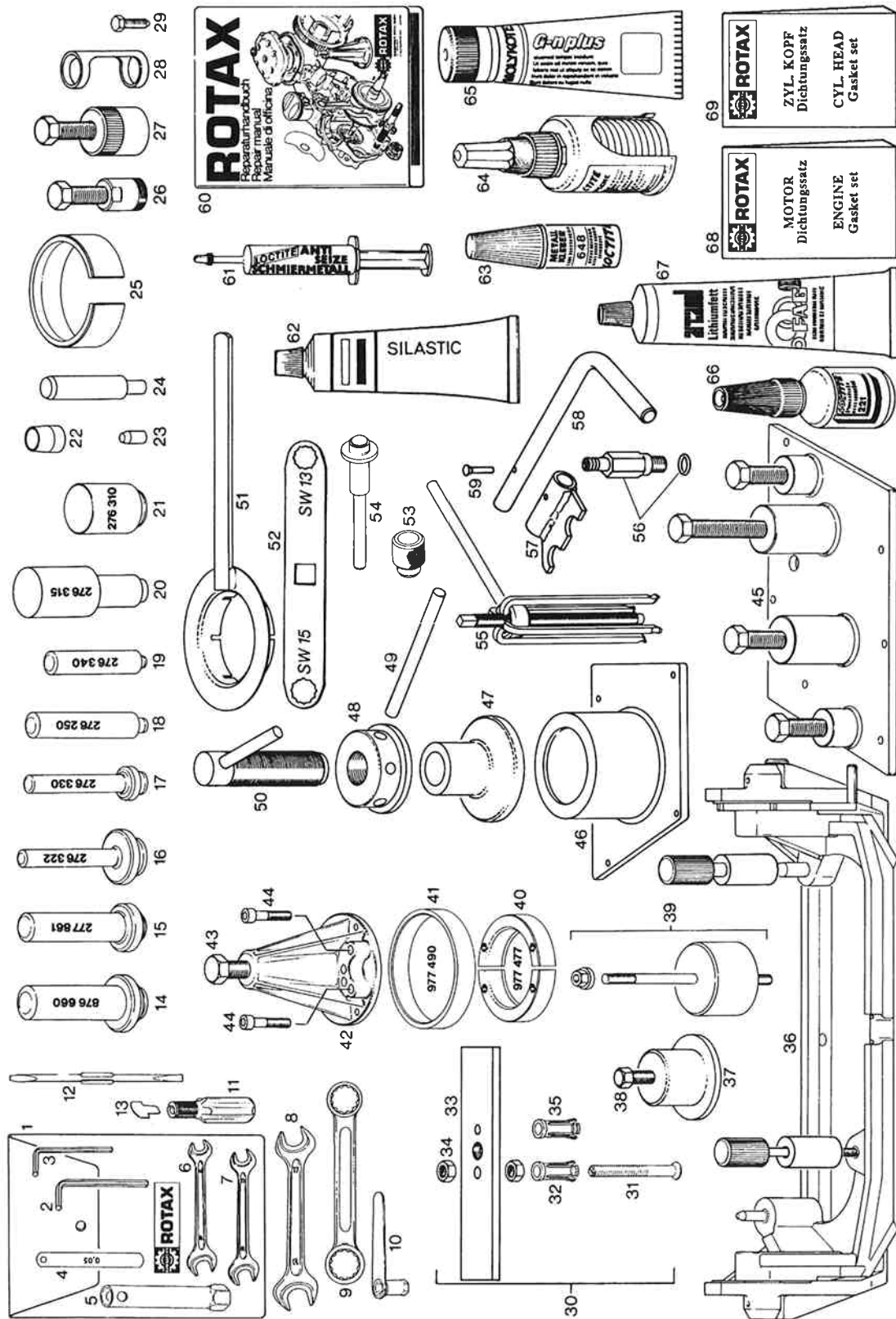
<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	264135	SUPPORT SPARE PART VERSION, FOR CONFIGURATION WITH NEEDLE BUSHING 232 250	1
2	232250	NEEDLE BUSHING 15X21X12 SPARE PART VERSION, FOR CONFIGURATION WITH SUPPORT 264 135	1
3	250140	O-RING DIN 3771-24,4X3,1-N	1
4	250130	OIL SEAL 15X24X5	1
5	850500	O-RING 62-1,5	2
6	264140	ROTOR ASS'Y	1
7	232260	BALL BEARING 6002 Z / 15-32-9	1
8	827600	SHIM	AS REQ
9	264150	STATOR YOKE ASS'Y	1
10	264170	ROTOR SUPPORT ASS'Y	1
11	264180	CARBON BRUSH ASS'Y	1
12	260810	CONNECTOR SHEATH	1
13	230530	O-RING 6X1,7	1
14	260800	CONNECTOR SHEATH	1
15	242780	COMBINED NUT M6	1
16	866890	BRUSH HOLDER WITH SPRINGS	1
17	241130	CYL. SCREW M5X113	2
18	945750	LOCK WASHER A5	2
19	827660	WASHER 5,3/10/1,5	2
20	850510	O-RING 4,7X1,4	2





**13) PRESSURE RETAINING VALVE, OIL FILTER ELEMENT, IGNITION COVER**

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
1	260570	PRESSURE RETAINING VALVE	1
2	256150	VALVE PIN	1
3	239815	COMPRESSION SPRING 13,0 MM	1
4	256170	VALVE PIN SCREW	1
5	256180	OIL FILTER ELEMENT	1
6	212620	OIL FILTER COVER	1
7	240480	PLUG SCREW 1/8-27NPT	1
8	230920	O-RING 60X2,5-N	1
9	241930	ALLEN SCREW M6X20	3
10	264750	TRIGGER COIL	1
11	240580	TAPTITE SCREW M6X16	2
12	251890	CABLE CLAMP	1
13	240195	TAPTITE-SCREW M4X8	3
14	260760	RUBBER PLUG	1
15	212515	IGNITION COVER	1
16	251880	CABLE COVER, INNER	1
17	229140	DOWEL 9,8X10	2
18	250391	GASKET	1
19	840880	ALLEN SCREW M6X30 DIN 912	2
20	251887	CABLE HOLDER, OUTER	1
21	840861	ALLEN SCREW M6X25 DIN 912	2
22	230400	O-RING 18X1,5	1
23	241800	PLUG SCREW M18X1,5	1
24	212610	CHAIN COVER	1
25	840861	ALLEN SCREW M6X25 DIN 912	3
26	297386	SILASTIC 732 RTV, 100 GR.	AS REQ
27	899785	LOCTITE 221 VIOLET, 10 CC. LOW STRENGTH BOND	AS REQ



### 14) REPAIR TOOLS, GASKET SETS

ILL. NO.	PART NO.	DESCRIPTION	QTY.
1 - 13	277995	TOOL KIT	1
1	876197	TOOL BAG 230X160	1
2	277810	ALLEN KEY 6 MM	1
3	876360	ALLEN KEY 5 MM	1
4	276295	VALVE FEELER GAUGE 0,05 MM	1
5	276281	SPARK PLUG WRENCH 18 MM	1
6	276065	FORK WRENCH 10X13 MM	1
7	876230	FORK WRENCH 11X13 MM	1
8	276090	FORK WRENCH 17X19 MM	1
9	277825	RING WRENCH 22X24 MM	1
10	276040	WRENCH 11 MM FOR CLUTCH PLAY ADJUSTMENT	1
11 - 12	277847	SCREW DRIVER ASS'Y	1
12	-	..... SCREW DRIVER INSERT / USE SCREW DRIVER ASS'Y PART-NO. 277 847	1
13	277340	SCREW DRIVER INSERT FOR PLUG SCREW	1
14	876660	INSERTION JIG ASS'Y FOR OIL SEAL 850 055, CRANKSHAFT MAGNETO SIDE	1
15	277861	INSERTION JIG ASS'Y FOR OIL SEAL 230 395, MAINSHAFT	1
16	276322	INSERTION JIG ASS'Y FOR OIL SEAL 930 715, CRANKSHAFT CLUTCH SIDE	1
17	276330	INSERTION JIG ASS'Y FOR OIL SEAL 831 260, KICK STARTER SHAFT	1
18	276250	INSERTION JIG FOR OIL SEAL 230 690, DECOMPRESSION SHAFT	1
19	276340	INSERTION JIG FOR OIL SEAL 230 870, OIL PUMP SHAFT	1
20	276315	INSERTION JIG FOR NEEDLE BUSHING 232 920, CAMSHAFT	1

ILL. NO.	PART NO.	DESCRIPTION	QTY.
21	276310	INSERTION JIG FOR OIL SEAL 850 055, CAMSHAFT	1
22	277970	GUIDE SLEEVE FOR MAINSHAFT	1
23	276450	GUIDE SLEEVE FOR OIL PUMP SHAFT	1
24	276300	GUIDE BOLT FOR PISTON PIN	1
25	276350	PISTON RING SPANNER 89 MM TO MOUNT PISTON IN CYLINDER	1
26	276445	PULLER ASS'Y FOR TIMING PULLEY 15 T.	1
27	277807	PULLER ASS'Y M35X1,5 FOR FLYWHEEL	1
28	276472	VALVE SPRING MOUNTING DEVICE	1
29	241965	CRANKSHAFT FIXATION SCREW M8X30 FOR CRANKSHAFT	1
30 - 34	276360	PULLER ASS'Y FOR BEARINGS, CLUTCH SHAFT AND BALANCER SHAFT	1
31	276380	BOLT M10	1
32	276370	EXTRACTOR SLEEVE FOR BALL-BEARING 6303, CLUTCH SHAFT	1
33	276390	SUPPORT PLATE	1
34	242091	HEX.NUT M10	2
35	276375	EXTRACTOR SLEEVE FOR BEARING 6304, BALANCER SHAFT	1
36	277917	TRESTLE ASS'Y	1
37 - 38	277087	PULLER ASS'Y FOR BALANCE GEAR	1
38	841700	HEX.SCREW M10X60	1
39	276405	CAMSHAFT PULLER ASS'Y	1
40	977477	RING HALF FOR BALL BEARING 6207 E	2
41	977490	RING FOR RING HALF	1
ILL. NO.	PART NO.	DESCRIPTION	QTY.

42 - 43	876298	PULLER ASS'Y FOR BEARING	1
43	940755	HEX. SCREW M16X1,5X150	1
44	840681	ALLEN SCREW M8X40 DIN 912 FOR PULLER	4
45	276436	PULLER PLATE ASS'Y FOR CRANKCASE HALF	1
46	276535	PULLER PLATE ASS'Y FOR CRANKSHAFT DISASSEMBLY	1
47	276560	PULLER BELL FOR CRANKSHAFT	1
48	276550	PULLER RING	1
49	276155	BOLT 12X250	1
50	276127	PULL-IN SPINDLE M18X1,5 ASS'Y FOR CRANKSHAFT	1
51	276825	CLUTCH HUB LOCKING TOOL ASS'Y	1
52	277070	RING WRENCH 13/15 FOR TORQUE WRENCH	1
53 - 54	877017	CIRCLIP INSTALLATION TOOL ASS'Y FOR FITTING OF PISTON PIN CIRCLIPS 22 MM	1
53	877022	CIRCLIP INSTALLATION SLEEVE 22 MM	1
54	877012	CIRCLIP INSTALLATION PUSHER 22 MM	1
55	277180	BALL BEARING PULLER SET FOR BALL BEARINGS: 6006, 6203, 6300, 6203 E, 6007, 6204, 6301, 6302, 6204 E, 6205, 6303 AND 6304	1
56	276855	PRESSURE NIPPLE ASS'Y FOR COMPRESSED AIR CONNECTION	1
57	276880	VALVE SPRING SPANNER ASS'Y	1
58	276990	SPRING SPANNER LEVER	1
59	243360	RIVET 5X25	1
60	299040	REPAIR MANUAL ASS'Y	1
61	297434	LOCTITE ANTI SEIZE 15378 50 ML. TO PREVENT METAL GALLING	1
62	297386	SILASTIC 732 RTV, 100 GR.	1

<b>ILL. NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>QTY.</b>
63	899788	LOCTITE 648 GREEN, 5 GR. HIGH STRENGTH BOND	1
64	899784	LOCTITE 574 ORANGE 50 CC. SEALING COMPOUND	1
65	297433	MOLYKOTE G-N, SLIDE PASTE 50 GR.	1
66	899785	LOCTITE 221 VIOLET, 10 CC. LOW STRENGTH BOND	1
67	897330	LITHIUM-BASE GREASE, 250 GR. TO PREVENT LEAKAGE CURRENT	1
68	293254	GASKET SET, FOR ENGINE	1
69	293258	GASKET SET, CYLINDER HEAD FOR CYLINDER HEAD REPAIR	1

