

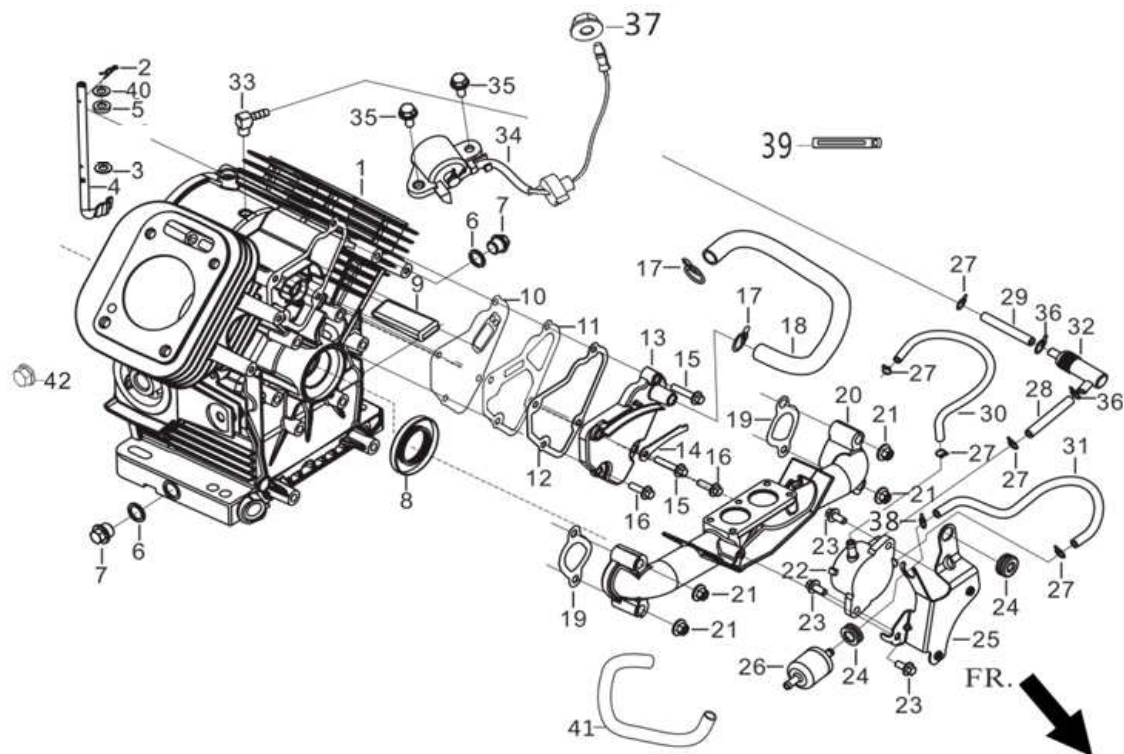
1-0264 670CC ENGINE ELECTRIC START R670D

For parts Call 888-279-9274

VENDOR:	RATO
MODEL:	R670D
DATE:	08/11/22
DRAWN BY:	CODY NEWCOMER

DATE:	DESCRIPTION:	BY:
1/13/2023	REVISED 45-0435 RATO PART NUMBER & CHANGE QTY TO 4	JJR
4/5/2023	ADD ITEM 28 & 29 TO SHROUD/LOWER SHIELD. CORRECT BOLT ITEM 20 ON SHROUD/LOWER SHIELD	CH
4/5/2023	ADD MITM AND RATO PART NUMBER FOR ENGINE FILTER, ITEM 5 ON AIR CLEANER	CH
5/20/2024	ADDED A KEY FOR THE STARTER	JJR

FIG.1 CRANKCASE/GEAR ASSY, GOVERNOR

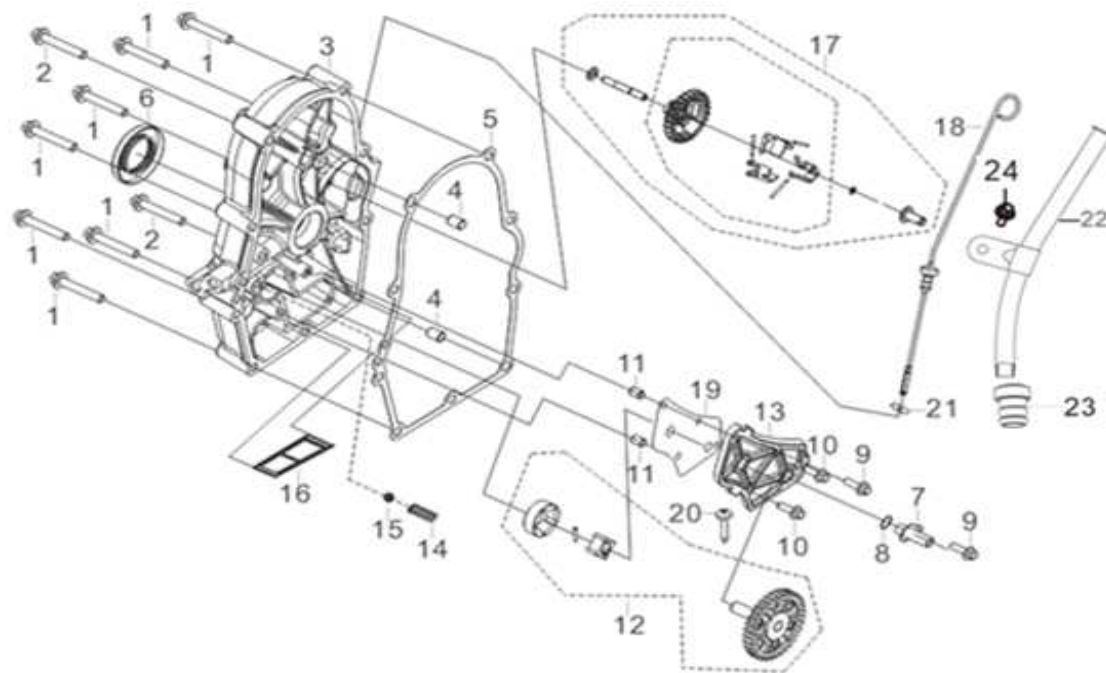


REF.NO.	DESCRIPTION	QTY	MiTM	RATO
1-1	CRANKCASE SUBASSEMBLY	1	45-0954	11310-Z120311-00A0
1-2	GOVERNOR ARM PIN	1	45-0328	90501-Z010110-0000
1-3	FLAT WASHER	1	45-1086	90408-V010110-0000
1-4	GOVERNOR ARM	1	45-1008	16047-Z130110-00A0
1-5	OIL SEAL	1	45-1087	90682-Z130220-00A0
1-6	CRANKCASE WASHER	2	45-0326	90412-Z080110-00A0
1-7	DRAIN PLUG BOLT	2	45-0236	11007-Z080110-00A0
1-8	OIL SEAL	1	45-1088	90682-Z130120-00A0
1-9	STRAINER	1	45-0695	11331-Z250110-00A0
1-10	BREATHER PLATE	1	45-0955	11320-Z120120-00A0
1-11	BREATHER GASKET	1	45-0957	11332-Z130130-00A0
1-12	BREATHER GASKET	1	45-0956	11332-Z120120-00A0

FIG.1 CRANKCASE/GEAR ASSY, GOVERNOR / CONTINUED

REF.NO.	DESCRIPTION	QTY	MiTM	RATO
1-13	BREATHER PLATE	1	45-0958	11333-Z120120-00A0
1-14	CLAMP	1	45-1058	54066-Z130110-0000
1-15	FLANGED HHCS-M6-1.0P X 30MM	2	45-0915	90007-0630-A1A0
1-16	BOLT - AIR CLEANER - 420CC	2	45-0896	90007-0620-A1A0
1-17	PIPE CLAMP	2	45-1078	90685-Z130210-00A0
1-18	BREATHER TUBE	1	45-1024	17004-Z120110-00A0
1-19	INLET GASKET	2	45-1089	17002-Z130120-00A0
1-20	INTAKE TUBE	1	45-0975	12510-Z130120-00A0
1-21	HEXAGON NUT WITH FLANGE	4	80-0583	90305-0800-31A0
1-22	FUEL PUMP ASSY	1	45-1016	16300-Z130121-00M0
1-23	BOLT	3	80-0556	90007-0616-A1A0
1-24	FUEL PUMP RUBBER SLEEVE	2	45-1018	16302-Z130120-0000
1-25	FUEL PUMP SUPPORT	1	45-1017	16301-Z130130-0000
1-26	FUEL STRAINER	1	45-1020	16510-Z120111-00M0
1-27	PIPE CLAMP	5	45-1076	90685-1000-Z4A0
1-28	VACUUM HOSE	1	45-0952	11017-Z120410-0000
1-29	VACUUM HOSE	1	45-0953	11017-Z120510-0000
1-30	FUEL HOSE	1	45-1080	90686-Z120210-00M0
1-31	FUEL HOSE	1	45-1081	90686-Z130410-00M0
1-32	GAS AND OIL SEPERATOR	1	45-1006	16030-Z120210-00A0
1-33	PCV VALVE	1	45-0972	12502-Z130130-00A0
1-34	ENGINE OIL SENSOR	1	45-1090	37060-Z010310-0000
1-35	BOLT - AIR CLEANER - 420CC	2	45-0896	90007-0620-A1A0
1-36	PIPE CLAMP	2	45-1077	90685-Z120110-00A0
1-37	HEXAGON NUT WITH FLANGE	1	80-0396	90305-Z010210-01A0
1-38	PIPE CLAMP	1	80-0653	90685-D095-0EA0
1-39	LOW OIL SHUTDOWN CLIP	1	45-0335	90684-Z030120-0000
1-40	FLAT WASHER - GOVERNOR ARM	1	45-1071	90406-0800-E1A0
1-41	FUEL HOSE	1	45-1023	16804-Z120110-0000

FIG.2 COVER SUBASSEMBLY, CRANKCASE

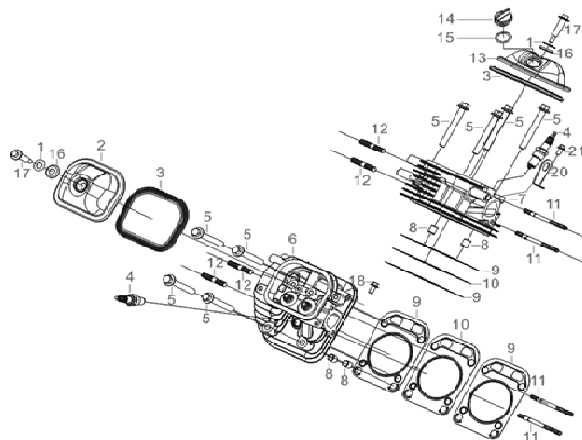


REF.NO.	DESCRIPTION	QTY	MiTM	RATO
2-1	HHCS FLANGE M8-1.25P X 50MM	7	80-0687	90001-0850-03
2-2	BOLT - CRANKCASE	2	45-1061	90001-0855-01A0
2-3	CRANKCASE COVER SUBASSEMBLY	1	45-0959	11410-Z120510-0000
2-4	POSITION PIN - TYPE A	2	45-1091	90502-1014-00A0
2-5	CRANKCASE GASKET	1	45-0951	11001-Z130120-00A0
2-6	OIL SEAL	1	45-1088	90682-Z130120-00A0
2-7	HOSE, SUCTION OIL	1	45-0993	15111-Z120110-0000
2-8	O-RING OIL PUMP	1	45-1082	90692-Z120210-00A0
2-9	BOLT - AIR CLEANER - 420CC	1	45-0896	90007-0620-A1A0
2-10	BOLT - GOVERNOR PLATE	2	45-0666	90007-0628-A1
2-11	POSITION PIN	2	45-0922	90502-0810-00A0
2-12	OIL PUMP ASSY	1	45-0992	15100-Z130110-00A0
2-13	OIL PUMP COVER	1	45-0994	15141-Z120210-00A0

FIG.2 COVER SUBASSEMBLY, CRANKCASE / CONTINUED

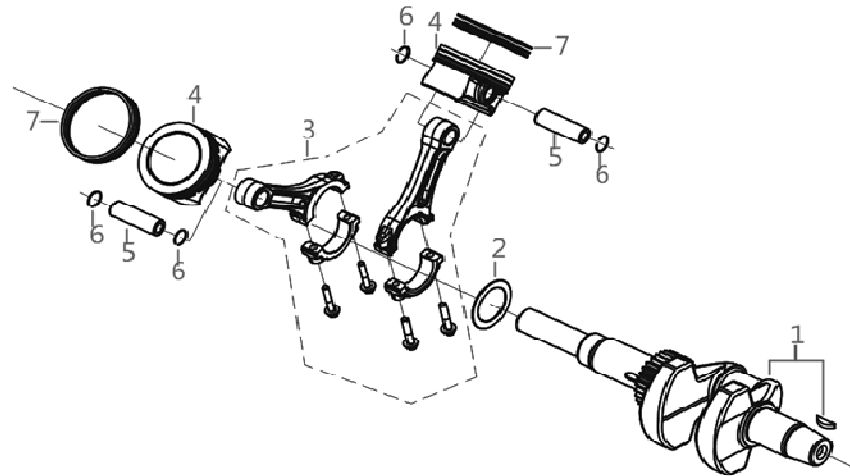
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
2-14	PRESSURE RELIEF SPRING	1	45-0996	15161-Z130310-00A0
2-15	STEEL BALL	1	45-1073	90543-9500-00A0
2-16	OIL STRAINER	1	45-0998	15211-Z120120-0000
2-17	GOVERNOR GEAR ASSY	1	45-1019	16400-Z130210-00A0
2-18	OIL DIPSTICK ASSY	1	45-0988	15010-Z120320-Q9A0
2-19	OIL PUMP SEAL GASKET	1	45-0995	15142-Z120310-00A0
2-20	BOLT - OIL PUMP	1	45-1066	90104-0520-51A0
2-21	RING, SEAL	1	45-1075	90681-Z090110-00A0
2-22	TUBE, DIPSTICK	1	45-0990	15020-Z120110-0000
2-23	DIPSTICK SEAT GROMMET	1	45-0989	15014-Z120111-0000
2-24	FLANGED HHCS M6 X 1.0 16MM	1	80-0365	90001-0616-01A0

FIG.3 HEAD SUBASSEMBLY, CYLINDER/SPARK PLUG



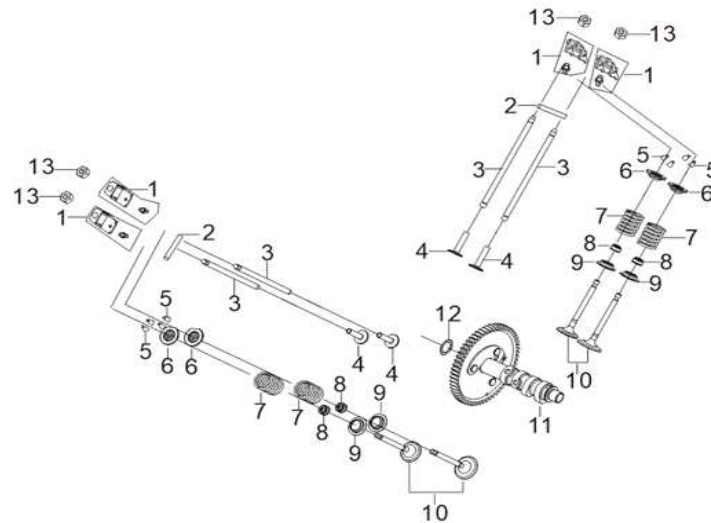
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
3-1	CYLNDR HEAD CVR SEAL BOLT ASSY	2	45-0962	12034-Z120110-0000
3-16				
3-2	CYLINDER HEAD COVER	1	45-0969	12411-Z130110-0000
3-3	CYLINDER HEAD COVER GASKET	2	45-0960	12004-Z130110-00A0
3-4	SPARK PLUG	2	45-1047	30010-Z120110-00A0
3-5	CYLINDER HEAD BOLT	8	45-0239	12003-Z080110-00A0
3-6	CYLINDER HEAD SUBASSY	1	45-0967	12140-Z130510-00A0
3-7	RIGHT CYLINDER HEAD SUBASSY	1	45-0968	12210-Z130510-00A0
3-8	CYLINDER HEAD PIN	4	45-0330	90502-1220-00A0
3-9	CYLINDER HEAD GASKET	4	45-0965	12131-Z130120-00A0
3-10	HEAD GASKET	2	45-0966	12134-Z130110-00A0
3-11	STUD - CYLINDER HEAD	4	45-1068	90204-0845-A1A0
3-12	STUD - M8x1.25x113 OAL	4	45-0468	90203-Z010110-0000
3-13	CYLINDER HEAD COVER	1	45-0970	12411-Z130210-0000
3-14	PLUG, ENGINE OIL FILL	1	45-0991	15031-Z120110-Q5A0
3-15	RING, SEAL	1	45-1074	90681-Z080210-00A0
3-17	CYLINDER HEAD COVER BOLT	2	45-1092	12032-Z130210-00A0
3-18	BOLT - BRACKET,MUFFLER	1	80-0478	90001-0816-01A0
3-20	LIFTING LUG	1	45-0961	12008-Z130110-0000
3-21	SHOULDER BOLT - LUG	1	45-1064	90013-Z130210-00A0

FIG.4 ROD,CRANKSHAFT CONNECTING



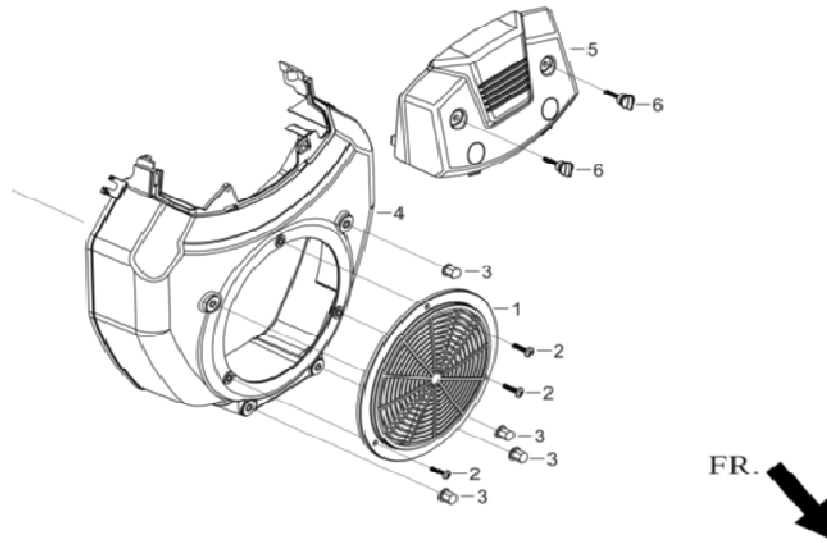
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
4-1	CRANKSHAFT ASSY.	1	45-0979	13300-Z120230-00A0
4-2	WASHER, THRUST	1	45-0980	13306-Z130110-00A0
4-3	CONNECTING ROD	2	45-0976	13010-Z130210-00A0
4-4	PISTON	2	45-0977	13111-Z120110-00A0
4-5	PISTON PIN	2	45-1093	13121-Z130110-00A0
4-6	PISTON PIN CLIP	4	45-1094	13122-Z130110-00A0
4-7	PISTON RING ASSY	2	45-0978	13200-Z120110-00A0

FIG.5 TRAIN, VALVE/CAMSHAFT SUBASSEMBLY



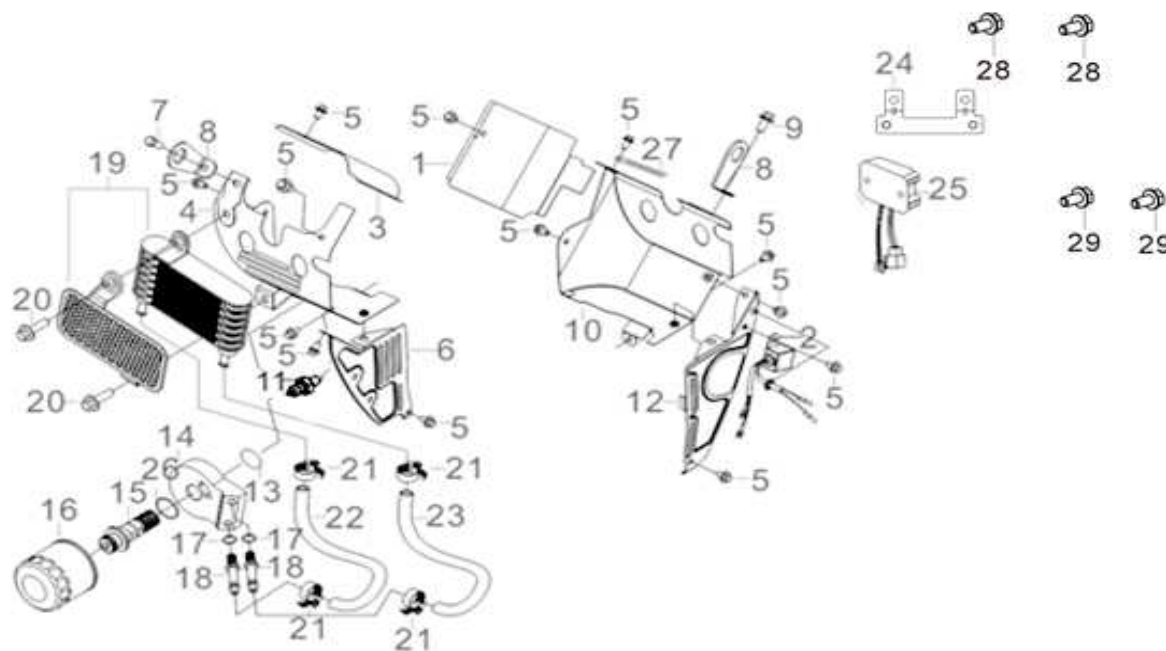
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
5-1	VALVE ROCKER SUBASSY	4	45-0986	14310-Z130210-00A0
5-2	VALVE ROCKER SHAFT	2	45-0987	14330-Z130310-00A0
5-3	VALVE LIFTER SUBASSY	4	45-1095	14070-Z130210-00A0
5-4	TAPPET, VALVE	4	45-1096	14081-Z130110-00A0
5-5	CLAMP, VALVE LOCK	8	45-0963	12109-Z400110-00A0
5-6	VALVE SPRING SEAT	4	45-1097	12112-Z400110-00A0
5-7	VALVE SPRING	4	45-1098	12103-Z130110-00A0
5-8	SEAL GUIDE - 280&420CC	4	45-0242	12101-Z080110-0000
5-9	VALVE SPRING RETAINER	4	45-1099	12105-Z130110-00A0
5-10	VALVES SET	2	45-0964	12110-Z130310-00A9
5-11	CAMSHAFT ASSY.	1	45-0984	14200-Z130210-00A0
5-12	WASHER - CAMSHAFT	1	45-0985	14215-Z130110-00A0
5-13	VALVE LOCK NUT	4	45-1100	14312-Z240110-00A0

FIG.6 OUTER HOUSING



REF.NO.	DESCRIPTION	QTY	MiTM	RATO
6-1	SHROUD SHIELD	1	45-1048	30028-Z130110-Q2A0
6-2	SCREW - SHROUD	3	45-1065	90103-0508-A1A0
6-3	NUT - SHROUD	4	45-1070	90314-Z130210-00A0
6-4	SHROUD ASSY.	1	45-1040	19330-Z130110-Q2A0
6-5	AIR CLEANER FRONT COVER	1	45-1034	19303-Z130110-Q2A0
6-6	LOCK HANDLE SUBASSY	2	45-1043	24540-Z130110-0000

FIG.7 SHROUD/LOWER SHIELD

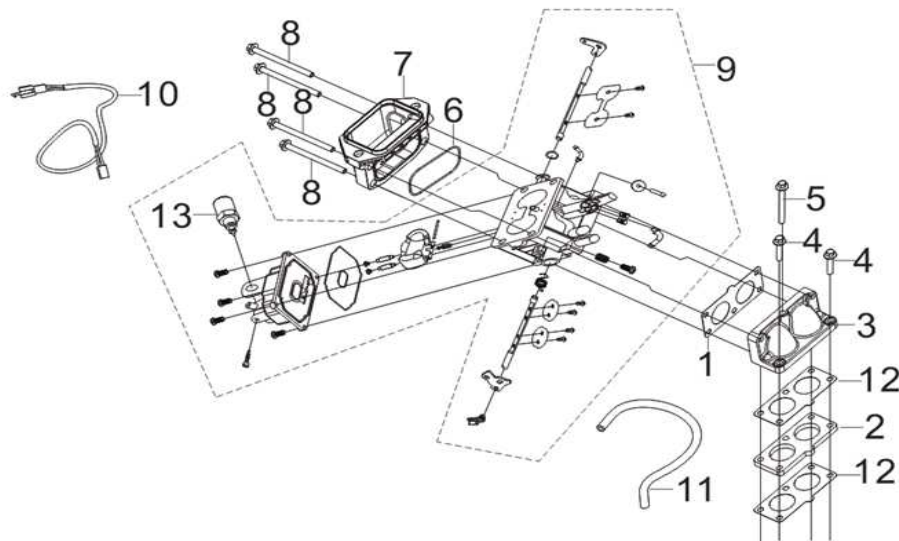


REF.NO.	DESCRIPTION	QTY	MiTM	RATO
7-1	CYLINDER BODY SHROUD 2	1	45-1036	19305-Z130110-00A0
7-2	DIODE	1	45-1046	30003-Z130110-0000
7-3	SHIELD, LOWER	1	45-1035	19304-Z130110-00A0
7-4	LOWER SHIELD	1	45-1041	19340-Z120110-0000
7-5	BOLT-SHROUD-M6x1x10 FLANGE	13	45-0533	90001-0610-01A0
7-6	BODY LEFT SHIELD	1	45-1038	19308-Z130120-0000
7-7	SHOULDER BOLT - LUG	1	45-1064	90013-Z130210-00A0
7-8	LIFTING LUG	2	45-0961	12008-Z130110-0000
7-9	SHOULDER BOLT - LUG	1	45-1064	90013-Z130210-00A0
7-10	LOWER RIGHT SHIELD	1	45-1037	19307-Z120110-0000
7-12	BODY RIGHT SHIELD	1	45-1039	19309-Z130130-0000
7-13	O-RING OIL FILTER HOLDER	1	45-1084	90692-Z120410-00A0
7-14	OIL FILTER BLOCK	1	45-1000	15229-Z120150-00A0

FIG.7 SHROUD/LOWER SHIELD / CONTINUED

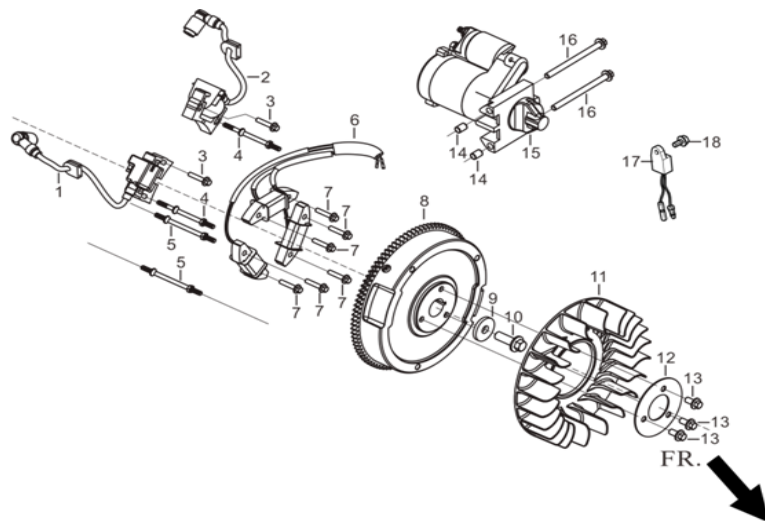
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
7-15	TUBE, OIL FILTER ADAPTER	1	45-0997	15208-Z120130-0000
7-16	OIL FILTER	1	45-0999	15220-Z120210-00A0
7-17	WASHER-OIL DRAIN-OD16, ID10	2	45-0530	90408-Z010110-00A0
7-18	BARB - OIL COOLER	2	45-1033	19112-Z120120-00A0
7-19	OIL COOLER ASSY	1	45-1030	19100-Z120110-00A0
7-20	BOLTL-M6x1x25 FLA	2	45-0535	90001-0625-01
7-21	PIPE CLAMP	4	45-1101	90685-D180-0EA0
7-22	HOSE - OIL COOLER	1	45-1031	19111-Z120130-00A0
7-23	HOSE - OIL COOLER	1	45-1032	19111-Z120230-00A0
7-24	HOUSING BRACKET	1	45-1059	80171-Z120110-0000
7-25	VOLTAGE REGULATOR	1	45-1049	30060-Z120410-0000
7-26	RING, SEAL	1	45-1075	90681-Z090110-00A0
7-27	LOW OIL SHUTDOWN CLIP	1	45-0335	90684-Z030120-0000
7-28	BOLT-SHROUD-M6x1x10 FLANGE	2	45-0533	90001-0610-01A0
7-29	BOLT - AIR CLEANER - 420CC	2	45-0896	90007-0620-A1A0

FIG.8 CARBURETOR ASSY



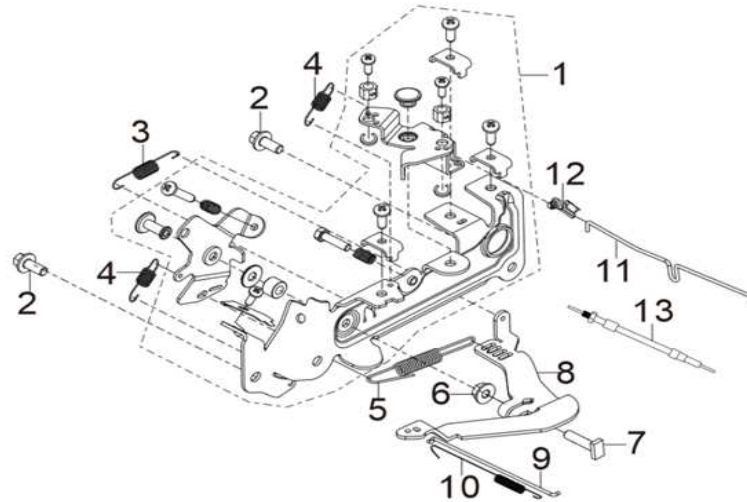
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
8-1	GASKET, CARBURETOR	1	45-1001	16001-Z130110-00A0
8-2	GASKET, CARBURETOR INSULATOR	1	45-1003	16002-Z130120-00A0
8-3	CARBURETOR INTAKE ELBOW	1	45-0971	12501-Z120120-00A0
8-4	FLANGED HHCS-M6-1.0P X 30MM	2	45-0915	90007-0630-A1A0
8-5	BOLT - CARBURETOR	1	45-1063	90007-0665-A1A0
8-6	O-RING AIR CLEANER INTAKE TUBE	1	45-1083	90692-Z120310-00A0
8-7	AIR CLEANER INTAKE TUBE ASSY	1	45-1026	17112-Z120130-0001
8-8	BOLT - CARBURETOR	4	45-1060	90001-0695-01A0
8-9	CARBURETOR ASSY.	1	45-1013	16100-Z120210-00AA
8-10	LINE, SOLENOID VALVE AC	1	45-1056	35665-Z120120-0000
8-11	FUEL HOSE	1	45-1079	90686-Z030310-00M0
8-12	GASKET, CARBURETOR	2	45-1002	16001-Z130210-00A0

FIG.9 FLYWHEEL/IMPELLER/STARTER PULLEY/IGNITION COIL



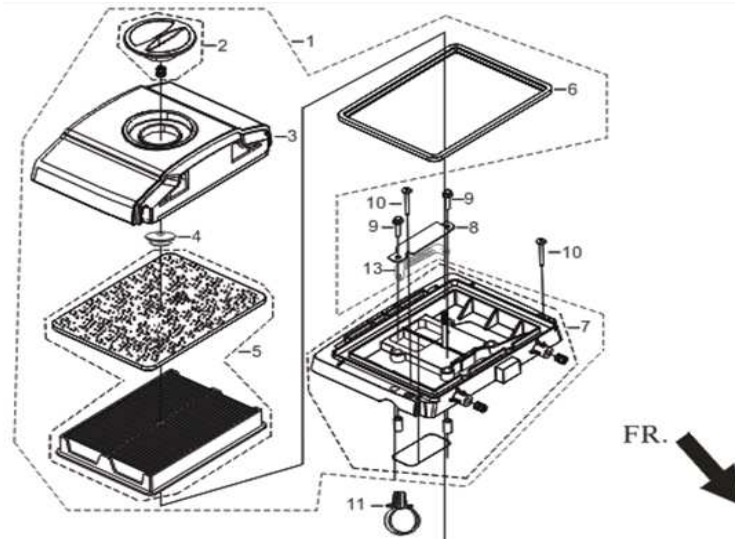
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
9-1	IGNITION COIL	1	45-1054	30400-Z130310-0000
9-2	IGNITION COIL	1	45-1055	30400-Z130410-0000
9-3	FLANGED HHCS-M6-1.0P X 30MM	2	45-0915	90007-0630-A1A0
9-4	STUD	2	45-1044	28001-Z130110-00A0
9-5	STUD	2	45-1045	28001-Z130210-00A0
9-6	CHARGE COIL SUBASSEMBLY	1	45-1050	30140-Z120210-0000
9-7	BOLT - MUFFLER MOUNTING BRACKET	6	80-0480	90007-0635-A1A0
9-8	FLYWHEEL ASSY.	1	45-0981	13500-Z120210-00A0
9-9	FLAT WASHER - FLYWHEEL	1	45-1072	90407-Z130120-0000
9-10	BOLT - FLYWHEEL	1	45-0982	13502-Z130110-00A0
9-11	IMPELLER	1	45-1042	19352-Z130110-00A0
9-12	IMPELLER SETTING TRAY	1	45-0983	13515-Z130110-0000
9-13	BOLT - BRACKET, MUFFLER	3	80-0478	90001-0816-01A0
9-14	POSITION PIN - TYPE A	2	45-1091	90502-1014-00A0
9-15	STARTING MOTOR ASSEMBLY	1	45-1051	30300-Z130121-0000
9-16	BOLT - STARTER	2	45-1062	90001-08B0-01A0
9-17	OIL PROTECTOR	1	45-1057	37050-Z130110-0000
9-18	BOLT-SHROUD-M6x1x10 FLANGE	1	45-0533	90001-0610-01A0

FIG.10 CONTROL ASSY/THROTTLE



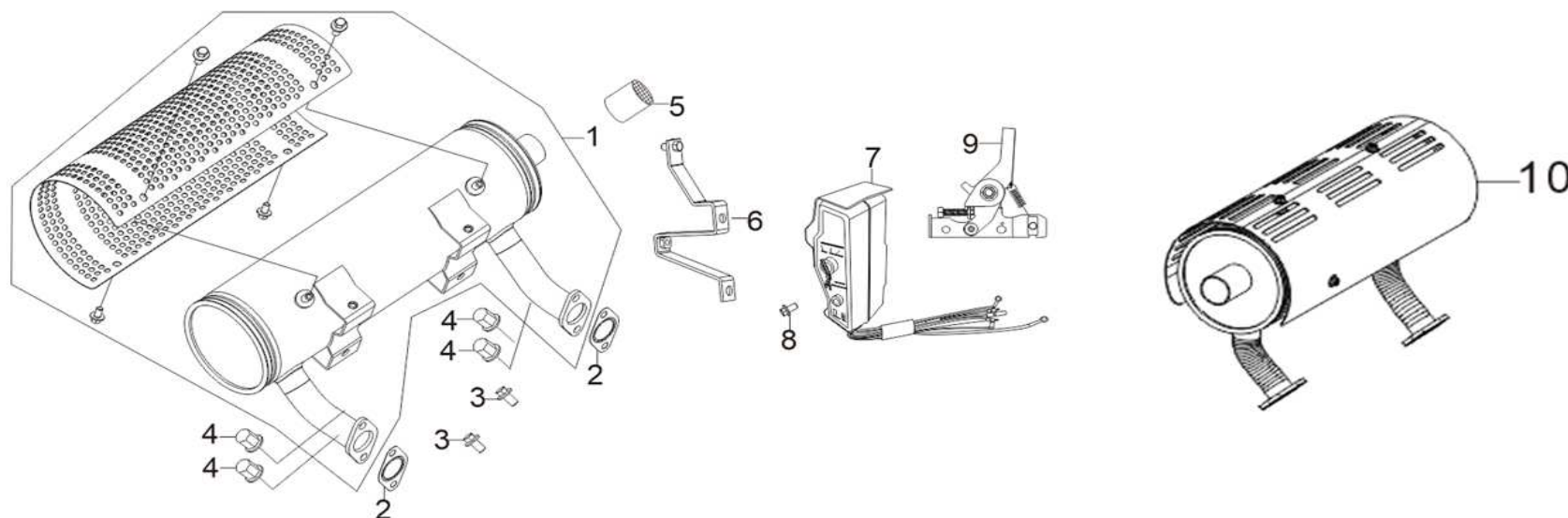
REF.NO.	DESCRIPTION	QTY	MiTM	RATO
10-1	THROTTLE CONTROL ASSY	1	45-1022	16520-Z130120-0000
10-2	BOLT	2	80-0556	90007-0616-A1A0
10-3	GOVERNOR SPRING	1	45-1010	16063-Z130210-00A0
10-4	CHOKE RETURN SPRING	2	45-1015	16236-Z130210-00A0
10-5	GOVERNOR SPRING	1	45-1011	16063-Z130420-00A0
10-6	HEXAGON NUT WITH FLANGE	1	80-0469	90305-0600-31A0
10-7	GOVERNOR SUPPORT BOLT	1	45-0282	16072-Z010110-00A0
10-8	GOVERNOR BRACKET	1	45-1012	16071-Z130110-00A0
10-9	GOVERNOR ROD	1	45-1009	16062-Z120110-00A0
10-10	THROTTLE ROD SPRING	1	45-1005	16012-Z120210-00A0
10-11	CHOKE PULL ROD	1	45-1014	16123-Z120120-00A0
10-12	CHOKE ROD CLIP	1	45-1004	16011-Z130120-00A0
10-13	THROTTLE CABLE ASSY	1	45-1007	16040-Z120110-00A0

FIG.11 AIR CLEANER



REF.NO.	DESCRIPTION	QTY	MiTM	RATO
11-1	AIR CLEANER	1	45-1025	17100-Z120110-0000
11-5	ENGINE FILTER	1	45-1112	17150-Z130110-00A0
11-8	INTAKE COVER	1	45-0973	12503-Z120110-0000
11-9	FLANGED HHCS-M6-1.0P X 30MM	2	45-0915	90007-0630-A1A0
11-10	SELF-TAPPING SCREW - SHROUD	2	45-1067	90107-4225-51A0
11-11	COLLAR	1	45-1085	90740-Z130120-00A0
11-13	INTAKE SCREEN	1	45-0974	12503-Z120210-0000

FIG.12 MUFFLER ASSY



REF.NO.	DESCRIPTION	QTY	MiTM	RATO
12-1	RIGHT HAND MUFFLER ASSY.	1	45-1027	18100-Z120310-00A2
12-2	GASKET, EXHAUST OUTLET	4	45-0435	18001-Z190110-00A0
12-3	BOLT - BRACKET, MUFFLER	2	80-0478	90001-0816-01A0
12-4	NUT - MUFFLER	4	45-1069	90314-Z130120-00A0
12-5	SPARK COLLECTOR	1	45-1029	18250-Z120110-00A0
12-6	CONTROL BOX SUPPORT SUBASSY	1	45-1053	30360-Z120110-00A1
12-7	STARTING CONTROL BOX	1	45-1052	30350-Z120320-0000
12-8	BOLT	1	80-0481	90007-0612-A1A0
12-9	THROTTLE CONTROL ASSY	1	45-1021	16520-Z120310-0000
12-10	LEFT HAND MUFFLER ASSY.	1	45-1028	18100-Z120510-00A0
-	ENGINE STARTING KEY	2	45-1149	35302-Z160110-0000