

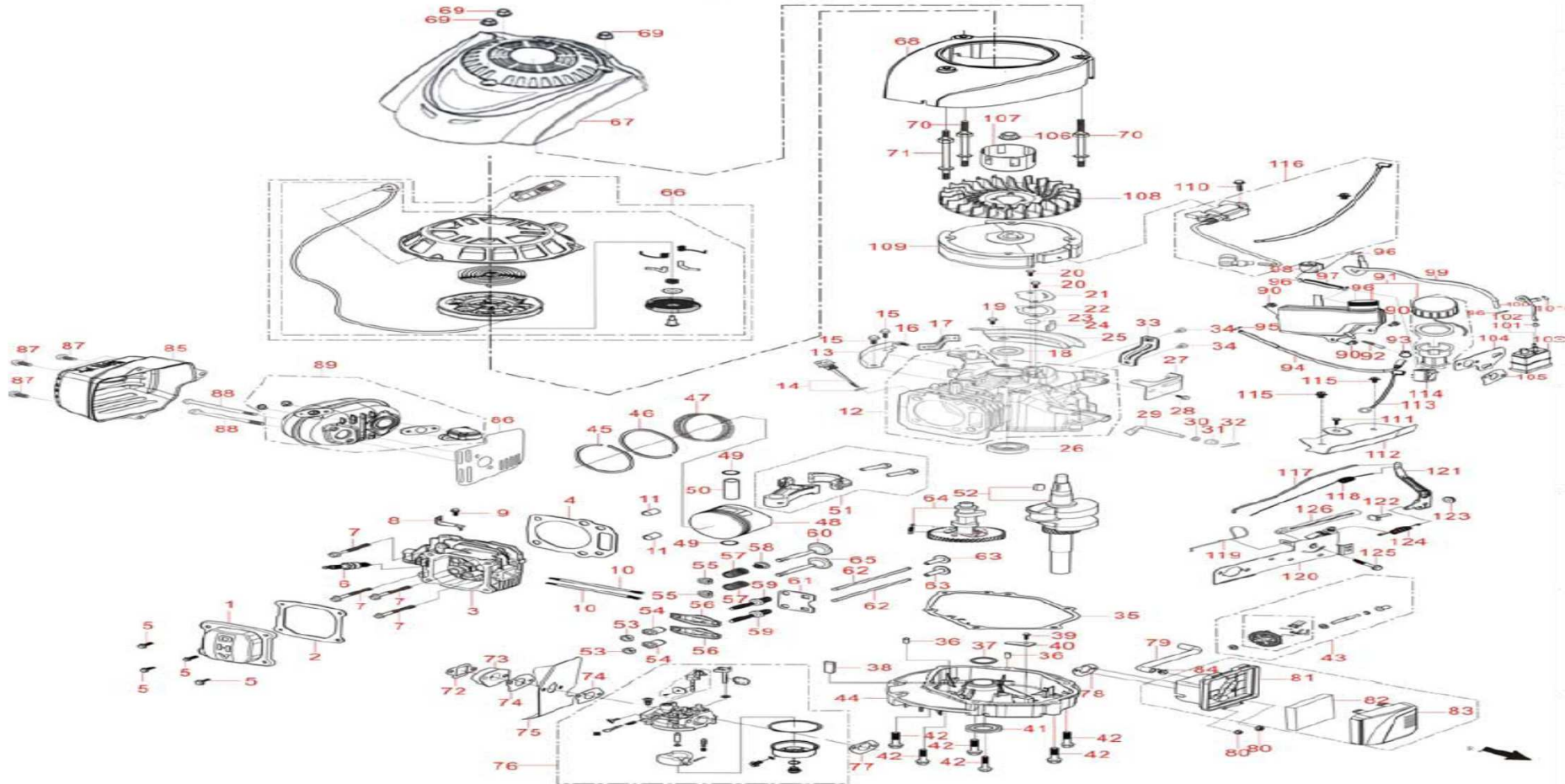
1-0196 170cc Engine (Vertical) - 50 STATE

VENDOR: RATO

MODEL: RV170 50 STATE

DRAWN BY: RSW

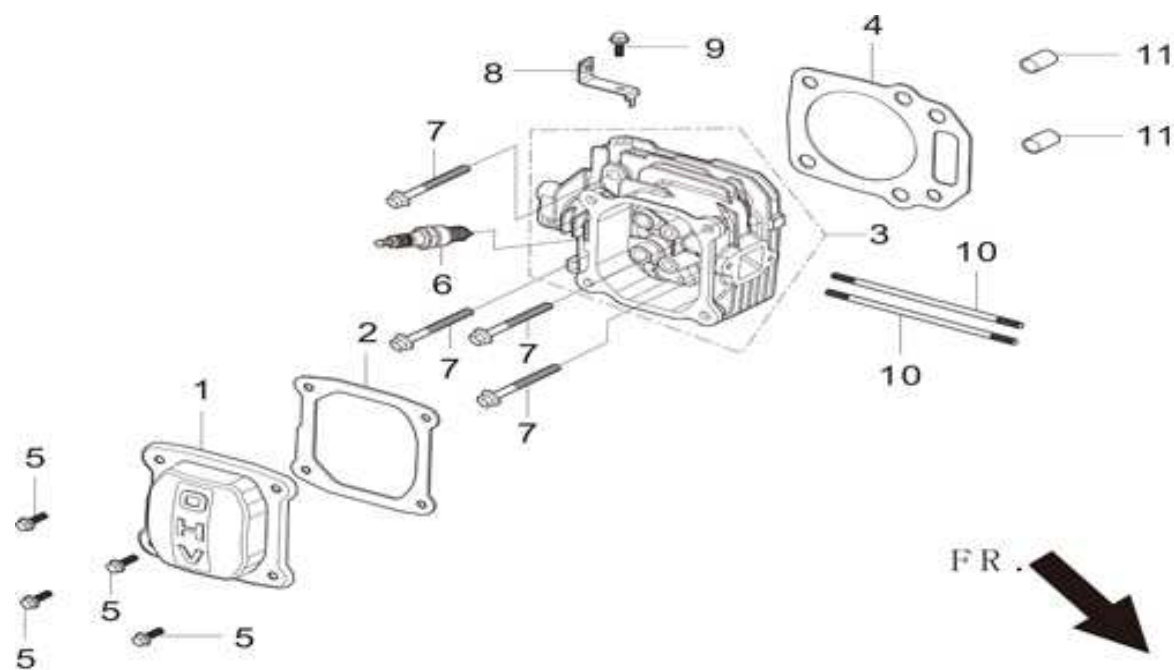
DATE: 12/06/11



DATE:	DESCRIPTION:	BY:
12/30/2013	UPDATED PARTS LIST/ ADDED NEW FUEL TANK ASSEMBLY	ALC
1/22/2014	UPDATED PARTS LIST/ ADDED P/N TO CLAMP AND FUEL STRAINER IN FUEL TANK ASSEMBLY	ALC
6/27/2014	UPDATED AIR CLEANER CASE FROM 45-0217 TO 45-0205	ALC
7/16/2014	UPDATED AIR CLEANER CASE RATO # TO MATCH 45-0217; CHG 45-0212 ENGINE STOP SWITCH (114) RATO #	ALC

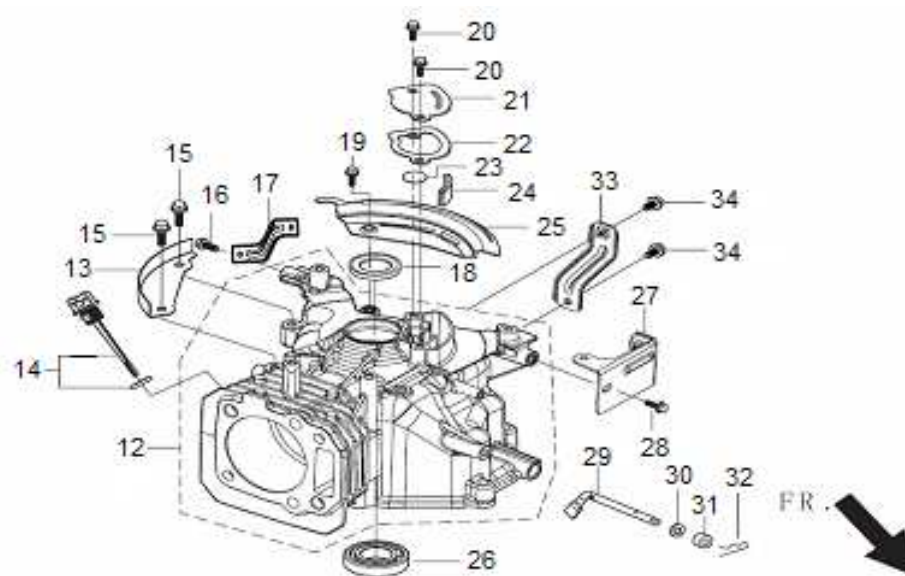
For parts Call 888-279-9274

FIG.1 CYLINDER HEAD SUBASSEMBLY



Ref #	Description	Qty	MiTMPN	RATOPN
1	CYLINDER HEAD COVER SUBASSY	1	45-0190	12411-Z030120-0000
2	GASKET- CYLINDER HEAD COVER	1	45-0191	12004-Z030110-0000
3	CYLINDER HEAD SUBASSY	1	45-0598	12140-Z340210-0000
4	GASKET- CYLINDER HEAD	1	45-0599	12131-Z340110-0000
5	BOLT-STOPPER BRACKET	4	80-0060	90007-0612-A1
6	SPARK PLUG	1	45-0192	30010-Z050110-0000
7	BOLT-CYLINDER HEAD	4	45-0600	12003-Z030110-0000
8	BRACKET- MUFFLER SHIELD	1	45-0193	18006-Z030110-0000
9	BOLT-STOPPER BRACKET	1	80-0060	90007-0612-A1
10	STUD- CARBURETOR	2	45-0601	90204-Z030110-0000
11	PIN- CYLINDER HEAD	2	45-0602	90502-1014-00

FIG.2 CRANKCASE/GOVERNOR GEAR ASSEMBLY



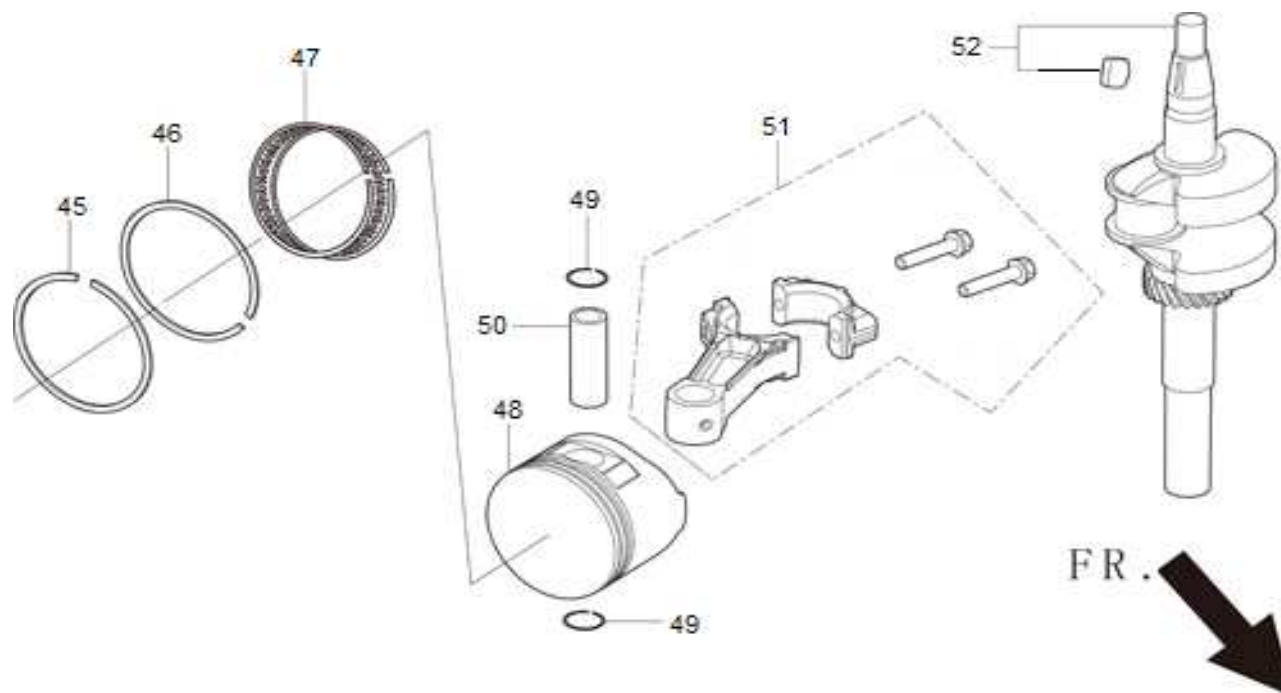
Ref #	Description	Qty	MiTMPN	RATOPN
12	CRANKCASE SUBASSY	1	45-0603	11310-Z340310-0000
13	CRANKCASE SHIELD	1	45-0604	19308-Z030110-0000
14	OIL DIPSTICK SUBASSY	1	45-0194	15010-Z030110-0000
15	BOLT-STOPPER BRACKET	2	80-0060	90007-0612-A1
16	BOLT-STOPPER BRACKET	1	80-0060	90007-0612-A1
17	BRACKET-FUEL TANK	1	45-0605	16608HZ030310-0000
18	SEALING, OIL	1	45-0195	90682-Z030120-0000
19	BOLT-STOPPER BRACKET	1	80-0060	90007-0616-A1
20	BOLT-STOPPER BRACKET	2	80-0060	90007-0612-A1
21	PLATE-BREATHER GROOVE COVER	1	45-0606	11333-Z030110-0000
22	GASKET- BREATHER GROOVE	1	45-0607	11332-Z030110-0000
23	BREATHER RING	1	45-0608	11321-Z030110-0000
24	STRAINER	1	45-0609	11331-Z030110-0000
25	SHIELD- CRANKCASE REAR	1	45-0610	19351-Z030110-0000
26	BALL BEARING	1	45-0611	90541-0205-00
27	BRACKET- FUEL TANK	1	45-0675	16607HZ030510-0000
28	BOLT-STOPPER BRACKET	1	80-0060	90007-0612-A1
29	GOVERNOR ARM	1	45-0613	16061-Z030120-0000
30	WASHER- GOVERNOR ARM	1	45-0480	90408-Z010210-0000
31	OIL- SEAL	1	45-0614	90682-Z030210-0000
32	PIN	1	45-0328	90501-Z010110-0000
33	CRANKCASE BRACKET	1	45-0615	16613HZ340110-0000
34	BOLT-STOPPER BRACKET	2	80-0060	90007-0612-A1

FIG.3 CRANKCASE COVER SUBASSEMBLY



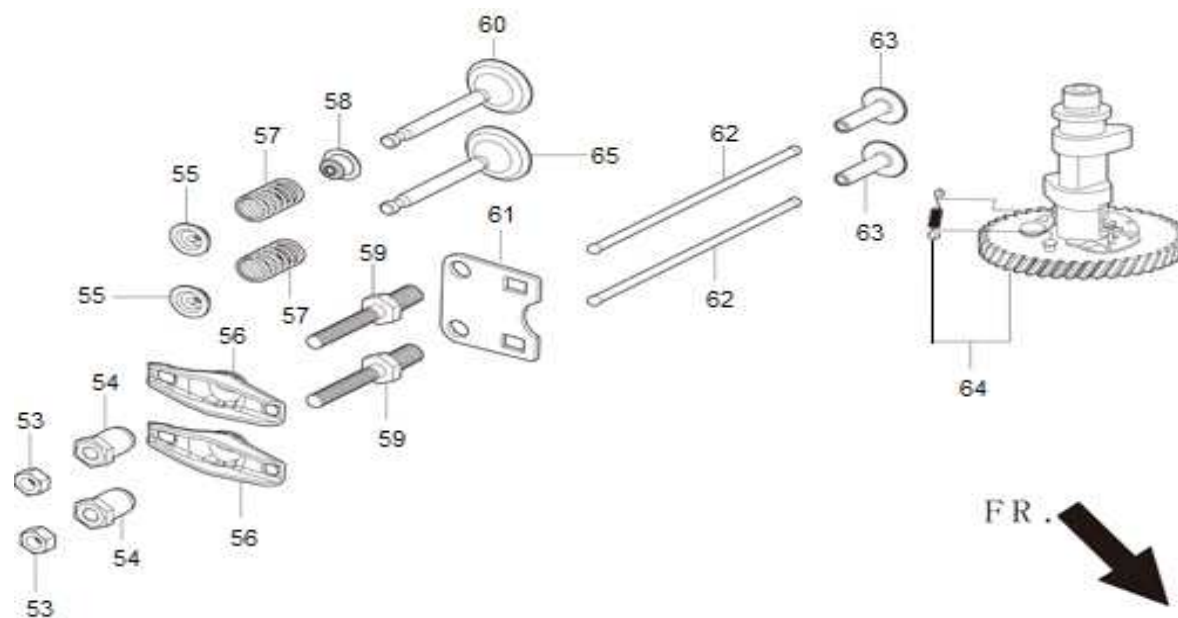
FIG.3 CRANKCASE COVER SUBASSEMBLY

FIG.4 PISTON SUBASSEMBLY



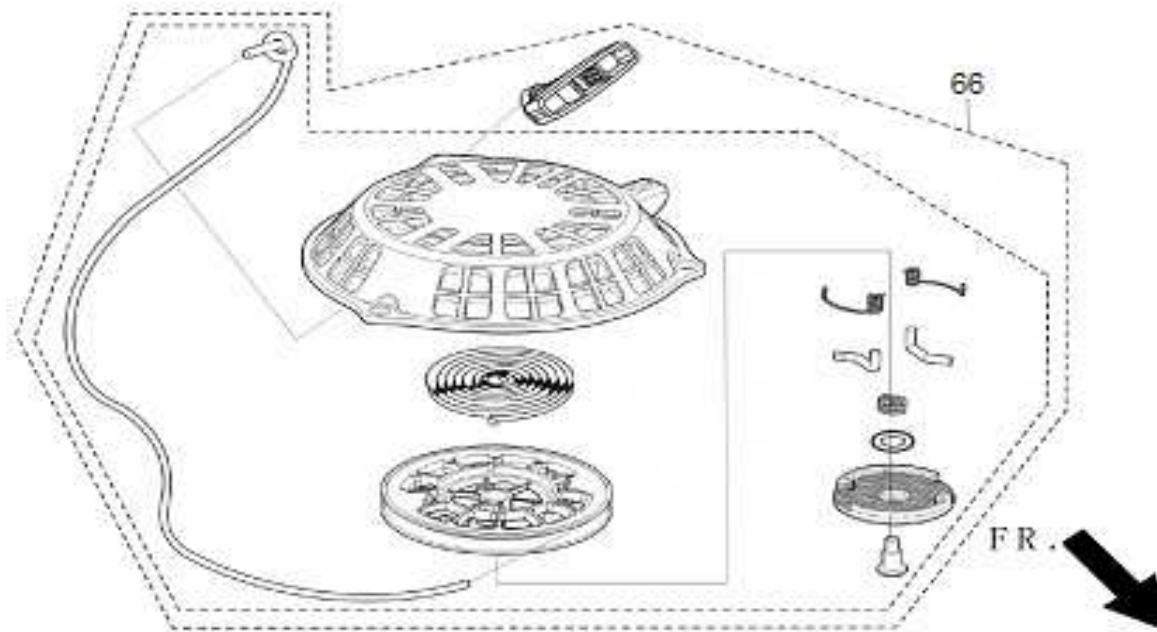
Ref #	Description	Qty	MiTMPN	RATOPN
45	RING- THE FIRST	1	45-0622	13201-Z340110-0000
46	RING- THE SECOND	1	45-0623	13202-Z340110-0000
47	RING SET- OIL	1	45-0624	13210-Z340120-0000
48	PISTON	1	45-0625	13111-Z340110-0000
49	PISTON- RING	2	45-0350	13122-Z010110-0000
50	PIN- PISTON	1	45-0486	13121-Z010110-0000
51	ROD- CONNECTING	1	45-0626	13010-Z030110-0000
52	CRANKSHAFT ASSY	1	45-0627	13300-Z030510-0000

FIG.5 VALVE TRAIN/CAMSHAFT SUBASSEMBLY



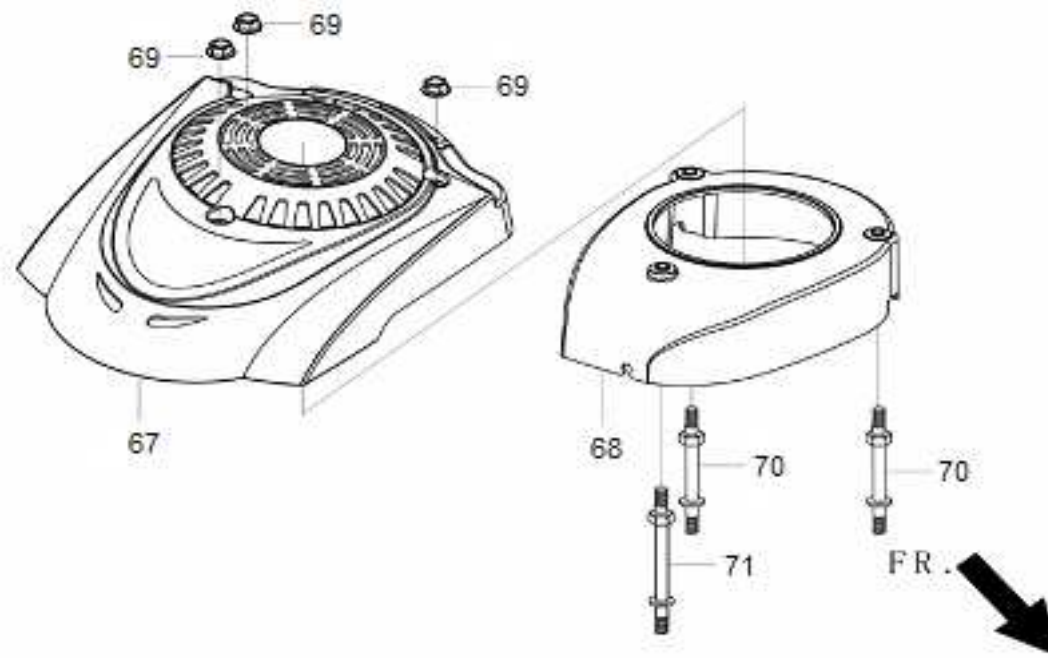
Ref #	Description	Qty	MiTMPN	RATOPN
53	NUT- VALVE LOCK	2	45-0269	14312-Z010110-0000
54	NUT- VALVE ADJUSTING	2	45-0271	14314-Z010110-0000
55	RETAINER- VALVE SPRING	2	45-0628	12112-Z010110-0000
56	VALVE- ROCKER	2	45-0500	14311-Z010110-0000
57	VALVE- SPRING	2	45-0501	12103-Z010110-0000
58	GUIDE- SEAL	1	45-0629	12101-Z030110-0000
59	BOLT- VALVE ADJUSTING	2	45-0270	14313-Z010110-0000
60	VALVE- INTAKE	1	45-0630	12111-Z340110-0000
61	LIFTER STOPPER PLATE SUBASSY	1	45-0631	14090-Z030110-0000
62	VALVE- LIFTER	2	45-0632	14071-Z010110-0000
63	VALVE- TAPPET	2	45-0633	14081-Z010110-0000
64	CAMSHAFT ASSY	1	45-0634	14200-Z010110-0000
65	VALVE- EXHAUST	1	45-0635	12121-Z340210-0000

FIG.6 RECOIL STARTER



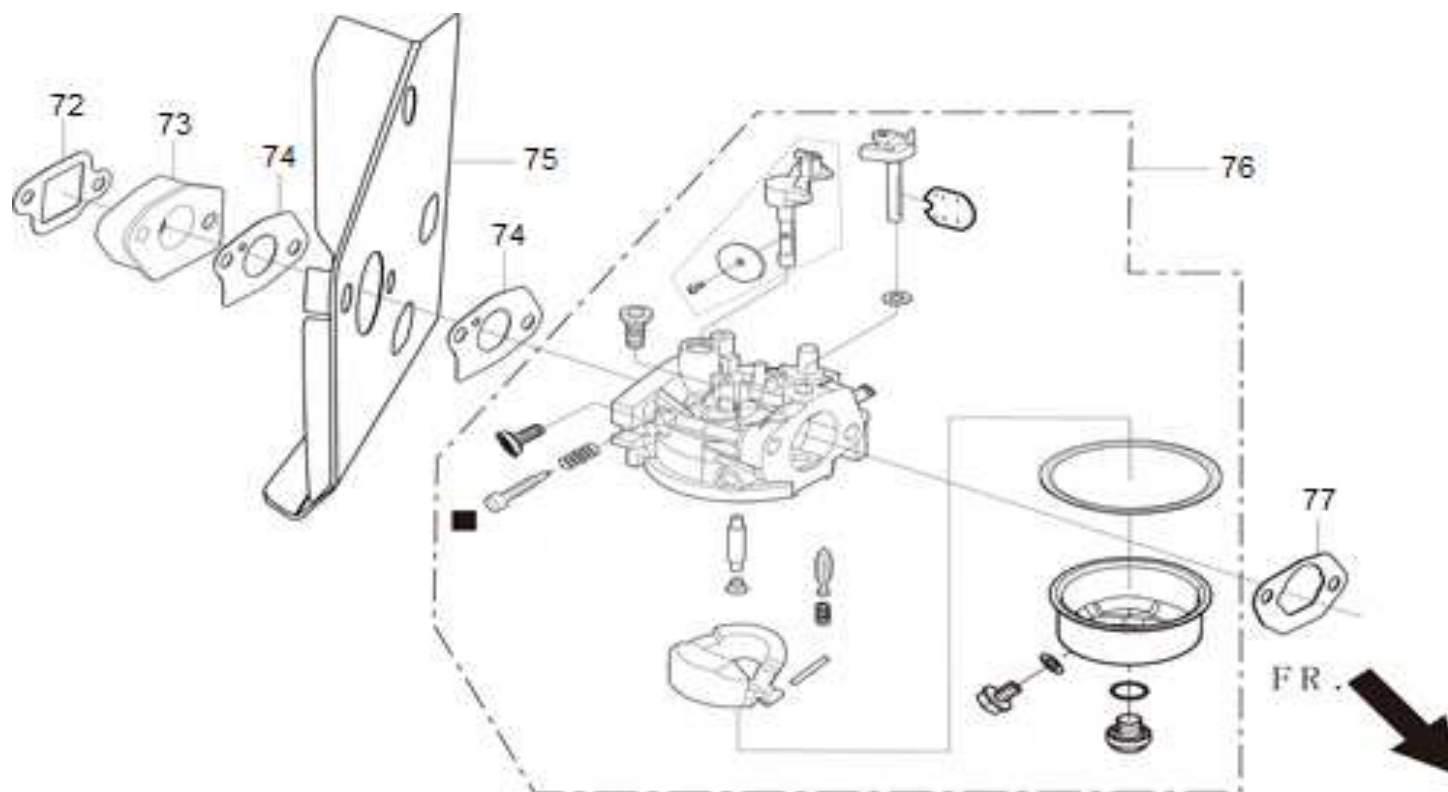
Ref #	Description	Qty	MiTMPN	RATOPN
66	RECOIL STARTER ASSY	1	45-0198	28200-Z340110-Q200

FIG.7 SHROUDS



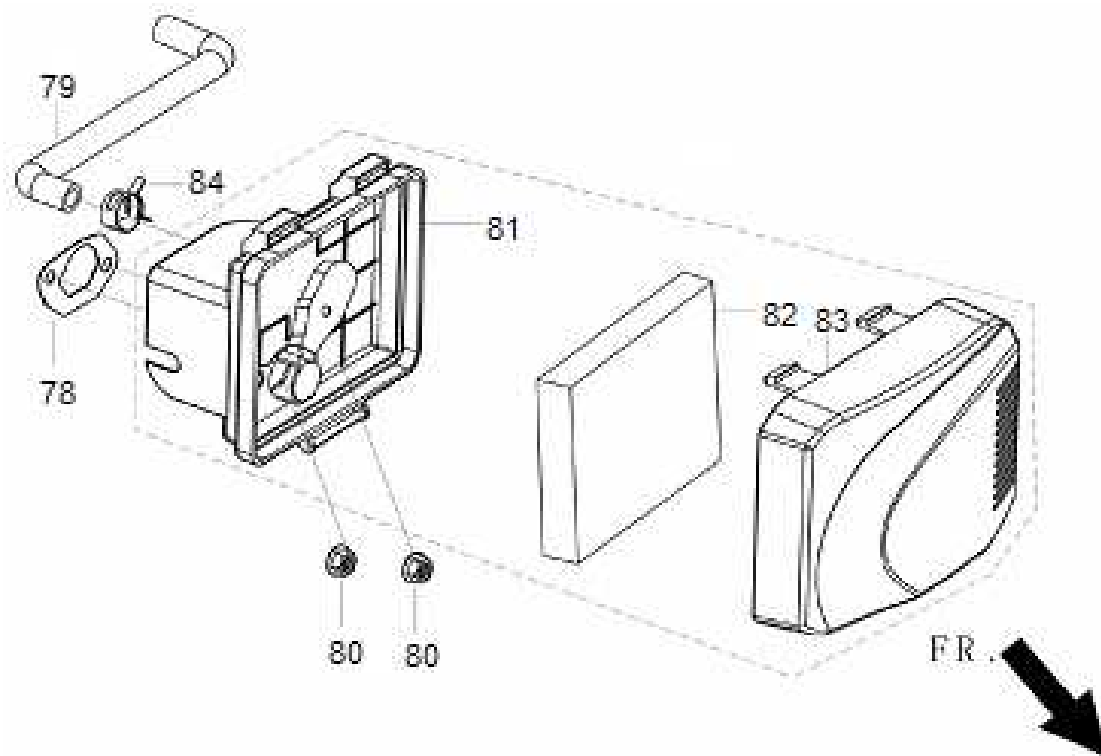
Ref #	Description	Qty	MiTMPN	RATOPN
67	ENGINE HOUSING- 170CC	1	45-0215	80001-Z340310-Q200
68	SHROUD- INNER	1	45-0636	28110-Z340110-0000
69	NUT- GOVERNOR SUPPORT	3	45-0324	90305-0600-31
70	STUD- SHROUD MOUNTING	2	45-0637	28001-Z340210-0000
71	STUD- LONG- SHROUD MOUNTING	1	45-0638	28001-Z340110-0000

FIG.8 CARBURETOR ASSEMBLY



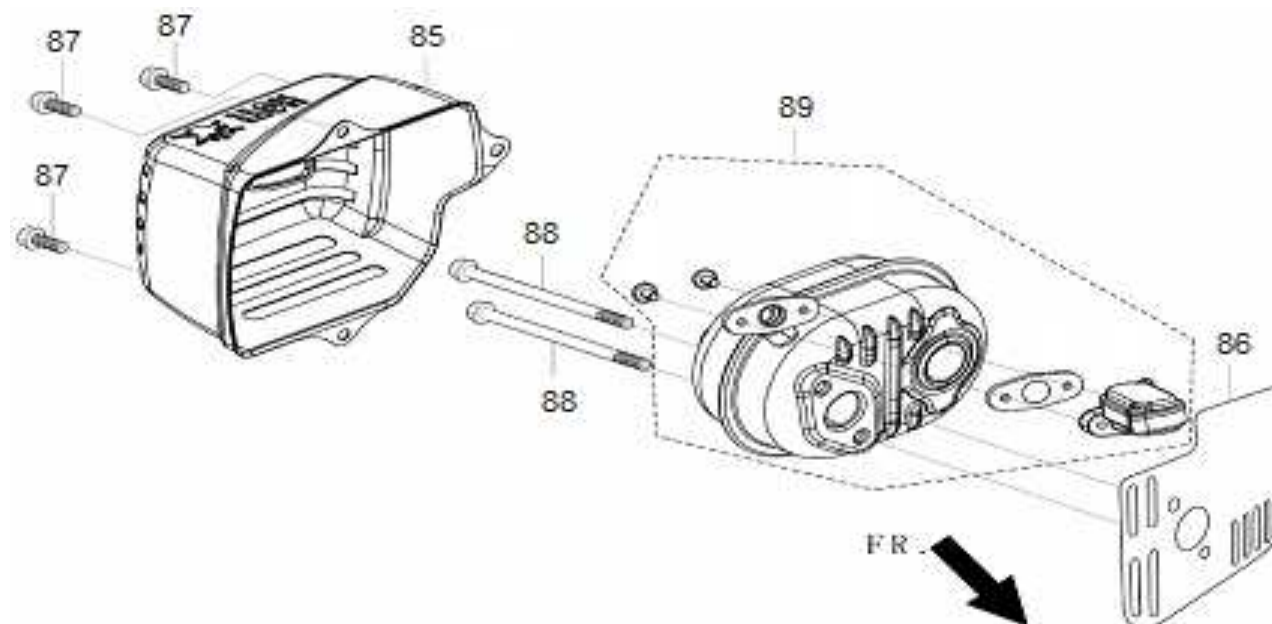
Ref #	Description	Qty	MiTMPN	RATOPN
72	GASKET- INSULATOR PLATE	1	45-0200	16004-Z030110-0000
73	PLATE- CARBURETOR INSULATOR	1	45-0639	16003-Z030110-0000
74	GASKET- CARBURETOR	2	45-0201	16001-Z010110-0000
75	GASKET- CARBURETOR INSULATOR	1	45-0640	16002-Z340110-0000
76	CARBURETOR ASSY	1	45-0216	16100-Z340420-0000
77	GASKET- AIR CLEANER	1	45-0203	17001-Z030110-0000

FIG.9 AIR CLEANER



Ref #	Description	Qty	MiTMPN	RATOPN
78	GASKET-AIR CLEANER	1	45-0203	17001-Z030110-0000
79	BREATHER- TUBE	1	45-0204	17004-Z030310-0000
80	NUT- GOVERNOR SUPPORT	2	45-0324	90305-0600-31
81	AIR CLEANER CASE- 170CC	1	45-0217	17101-Z030320-0000
82	AIR FILTER ELEMENT- 170CC	1	45-0206	17150-Z030210-0000
83	AIR CLEANER- CASE COVER	1	45-0207	17104-Z030310-0000
84	CLIP- AIR CLEANER	1	45-0641	90685-1300-Z4

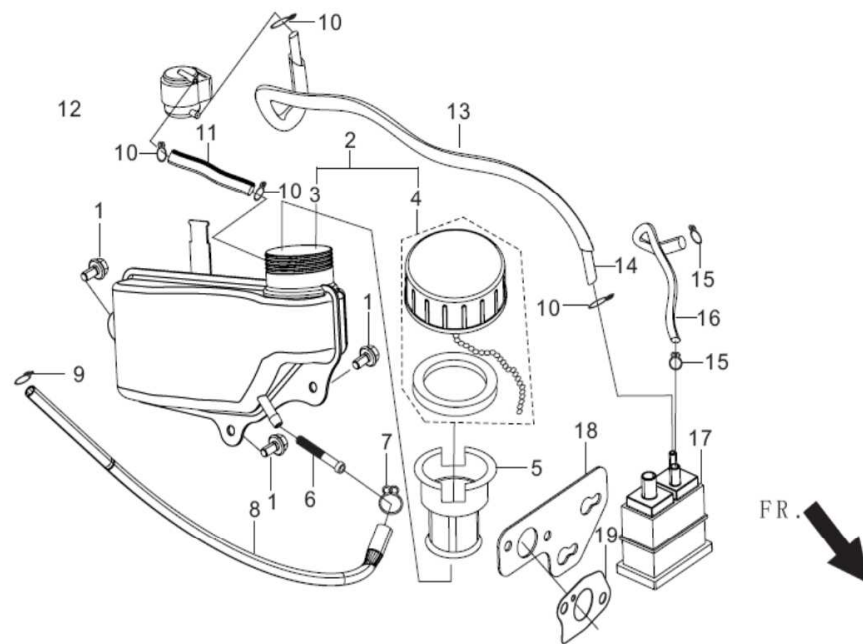
FIG.10 MUFFLER ASSEMBLY



Ref #	Description	Qty	MiTMPN	RATOPN
85	OUTER MUFFLER- COVER 170CC	1	45-0208	18130-Z030310-QB00
86	EXHAUST PORT GASKET	1	45-0210	18001-Z340110-0000
87	BOLT- STOPPER BRACKET	3	80-0060	90007-0612-A1
88	BOLT- MUFFLER	2	45-0642	90001-Z030210-0000
89	MUFFLER ASSY	1	45-0218	18100-Z030210-QA00

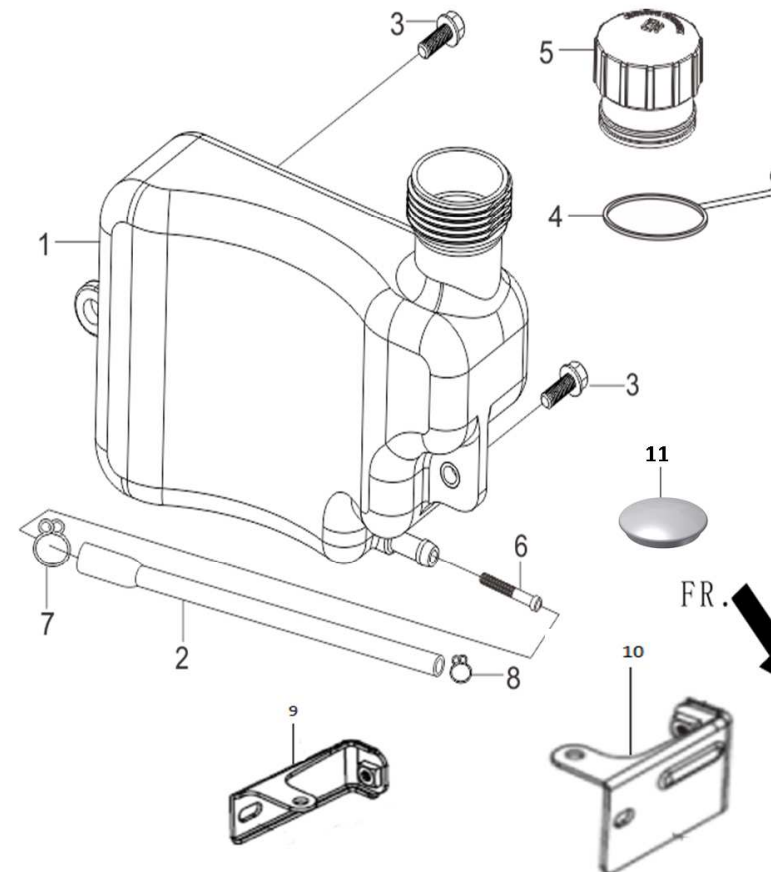
FIG.11 FUEL TANK ASSEMBLY

OLD FUEL TANK ASSEMBLY
OBSOLETE SEE NEW FUEL TANK



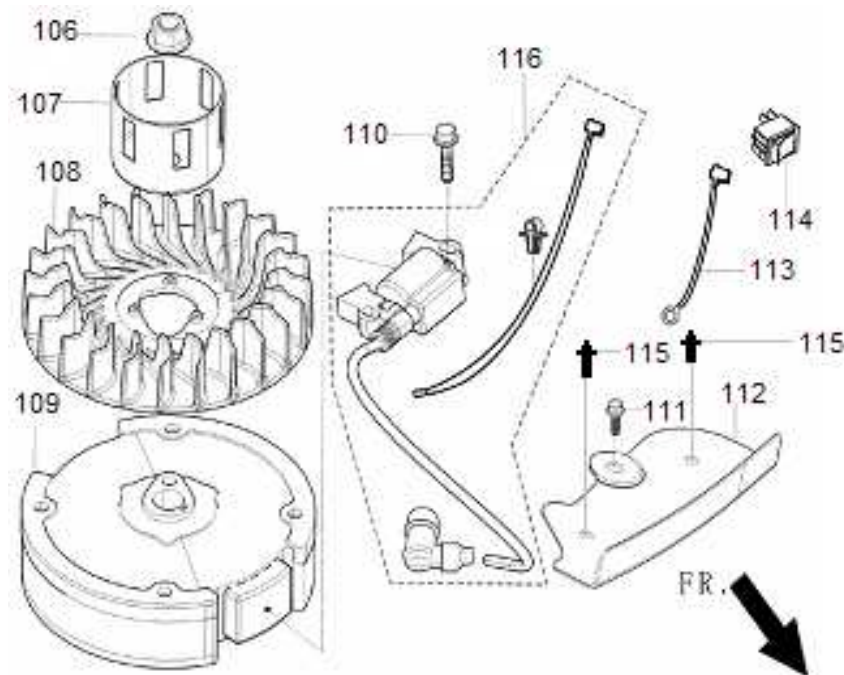
Ref #	Description	QTY	MiTMPN
1	BOLT	2	45-0643
2	FUEL TANK ASSY	1	SEE 851-0406
6	FUEL STRAINER	1	45-0644
7	CLIP	1	45-0645
8	FUEL TUBE	1	45-0646
9	CLIP	1	45-0338
10	COLLAR	4	45-0517
11	HOSE	1	SEE 851-0406
12	VALVE ONE WAY	1	SEE 851-0406
13	RUBBER JACKET	1	SEE 851-0406
14	STEAM FUEL HOSE	1	SEE 851-0406
15	CLAMP	2	SEE 851-0406
16	HOSE AIR CLEANER	1	SEE 851-0406
17	FUEL STEAM COLLECTOR	1	SEE 851-0406
18	STEAM COLLECTOR BRACKET	1	SEE 851-0406
19	CARBURETOR GASKET	1	45-0201
-	KIT-CARBON CANISTER	1	SEE 851-0406

NEW FUEL TANK ASSEMBLY
851-0406 FUEL TANK ASSEMBLY KIT

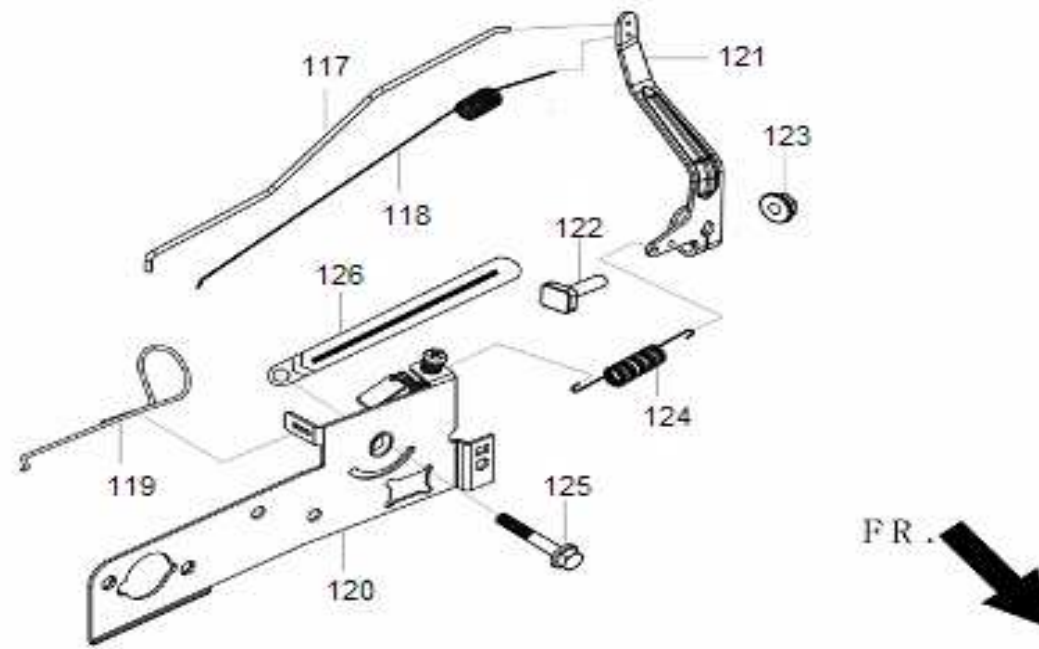


Ref #	Description	Qty	MiTMPN	RATOR
1	FUEL TANK - 170CC	1	45-0683	16620-Z0305
2	TUBE-FUEL	1	45-0646	90686-Z0303
3	BOLT-FUEL TANK	2	45-0643	90007-061
4	FUEL TANK CHAIN	1	45-0689	16744-Z6201
5	FUEL TANK CAP- 170CC	1	45-0690	16730-Z6202
6	STRAINER-FUEL	1	45-0644	16652-Z0301
7	CLIP-HOSE	1	45-0645	90685-Z0304
8	CLAMP	1	45-0338	90685-Z0302
9	BRACKET-FUEL TANK	1	45-0675	16608HZ0301
10	BRACKET-CRANKCASE FRONT	1	45-0612	16607HZ0301
11	PLUG	1	39-0248	MCMASER !

FIG.12 FLYWHEEL/ IMPELLER/ STARTER PULLEY/ IGNITION COIL



Ref #	Description	Qty	MiTMPN	RATOPN
106	NUT- FLYWHEEL	1	45-0520	13501-Z010110-0000
107	PULLE-STARTER	1	45-0654	28002-Z030110-0000
108	IMPELLER	1	45-0655	19352-Z010110-0000
109	FLYWHEEL SUBASSY	1	45-0656	13510-Z340110-0000
110	BOLT- IGNITION COIL	1	45-0657	90007-0625-A1
111	BOLT- STOPPER BRACKET	1	80-0060	90007-0612-A1
112	SHIELD- FUEL TANK LEFT	1	45-0658	19309-Z030220-0000
113	WIRE- GROUND	1	45-0659	35555-Z010120-0000
114	ENGINE SWITCH- 170CC	1	45-0212	35540-Z020110-QG00
115	CLIP	2	-	90684-Z030310-0000
116	IGNITION COIL- 170CC	1	45-0213	30400-Z031110-0000

FIG.13 THROTTLE CONTROL ASSEMBLY

Ref #	Description	Qty	MiTMPN	RATOPN
117	ROD- GOVERNOR	1	45-0660	16062-Z030110-0000
118	SPRING- THROTTLE VALVE RETURN	1	45-0661	16012-Z030120-0000
119	ROD- CHOKE	1	45-0662	16123-Z030220-0000
120	THROTTLE CONTROL ASSY	1	45-0663	16520-Z030420-0000
121	GOVERNOR SUPPORT ASSY	1	45-0664	16070-Z030120-0000
122	BOLT- GOVERNOR SUPPORT	1	45-0282	16072-Z010110-0000
123	NUT	1	45-0324	90305-0600-31
124	SPRING- GOVERNOR	1	45-0665	16063-Z030120-0000
125	BOLT- GOVERNOR PLATE	1	45-0666	90007-0628-A1
126	CLIP	1	45-0335	90684-Z030120-0000