

# RT50YB80-3.8Q Twin Impeller High Pressure Pump

## Product Information

The RATO RT50YB80-3.8Q 7hp high pressure pump is ideal for irrigation, fire security, fish pools, orchard water supply, house cleaning and long distance and high pressure water supply. Has a rugged full frame for protection.

All RATO products are covered by our 12 month/500 hour warranty.



### SPECIFICATIONS

#### RT50YB80-3.8Q

<b>Engine model</b>	R210 / 7hp
<b>Engine type</b>	Single cylinder, 4 stroke, OHV
<b>Starting system</b>	Recoil start
<b>Bore x stroke</b>	70 x 55mm
<b>Displacement</b>	212ml
<b>Compression ratio</b>	9 : 1
<b>Net power</b>	4.4kw / 3600rpm
<b>Fuel consumption</b>	≤395 (g/kw-h)
<b>Net torque</b>	12N.m / 2500rpm
<b>Pump set</b>	2" high lift pump
<b>Suction port diameter</b>	50mm (2")
<b>Discharge port diameter</b>	1.5" / 1" / 1"
<b>Suction head lift</b>	7m
<b>Total head lift</b>	80m
<b>Discharge capacity</b>	16m <sup>3</sup> /h / 266 litres per minute
<b>Dimensions (L x W x H mm)</b>	500 x 395 x 446
<b>Net weight</b>	29.5kg

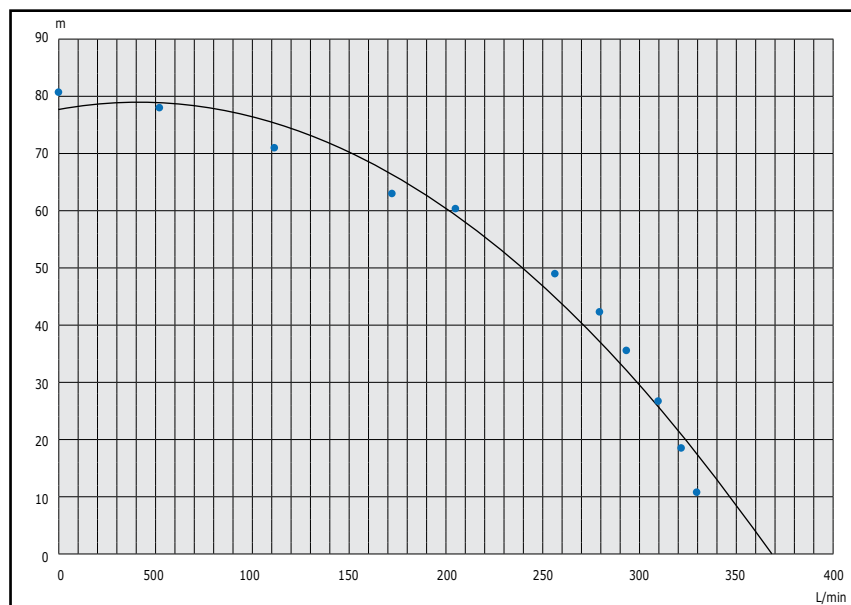
## Features

- Transistorised ignition for reliable starting.
- Cast iron cylinder liner ensures consistent performance and durability.
- Rugged full frame protection.
- Powerful 7hp RATO engine.



## Performance Curve

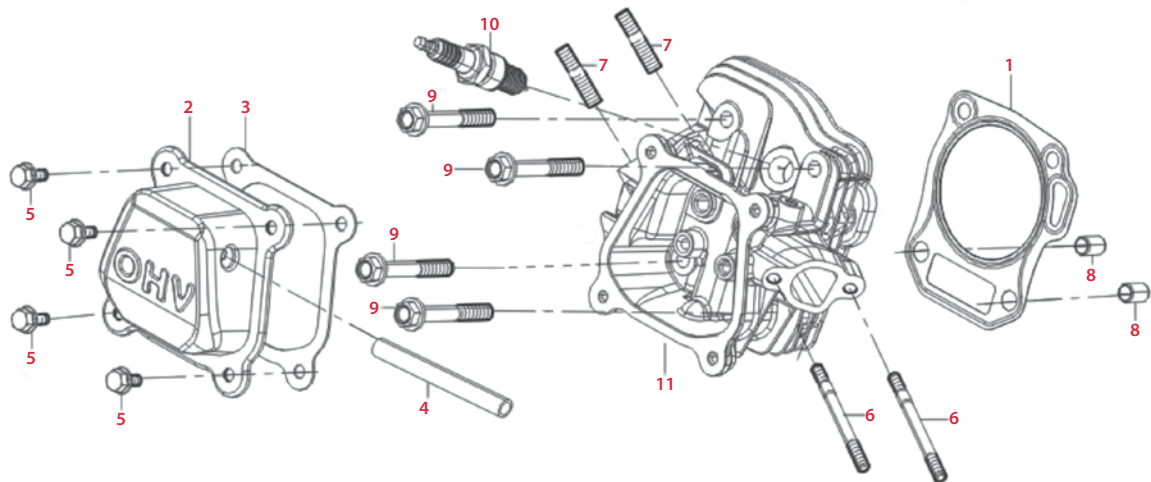
Unload Speed	Loading Speed	Suction Head Lift	Discharge Capacity (m <sup>3</sup> /h)	Discharge Capacity (L/min)	Total Head Lift (M)	Test Envir. Temp (C°)	Humidity at Outlet	Pressure at Outlet
3810	3400	7	19.8	330.00	10.9	30.5	62	87.7
/	/	/	19.3	321.67	18.61	/	/	176.2
/	/	/	18.6	310.00	26.8	/	/	235.8
/	/	/	17.6	293.33	35.66	/	/	330.6
/	/	/	16.8	280.00	42.28	/	/	379.1
/	/	/	15.4	256.67	49.09	/	/	446.2
/	/	/	12.3	205.00	60.27	/	/	550.9
/	/	/	10.3	171.67	62.9	/	/	594
/	/	/	6.7	111.67	70.96	/	/	651.4
/	/	/	3.1	51.67	78.12	/	/	691.8
/	/	/	0	0.00	80.44	/	/	720.4



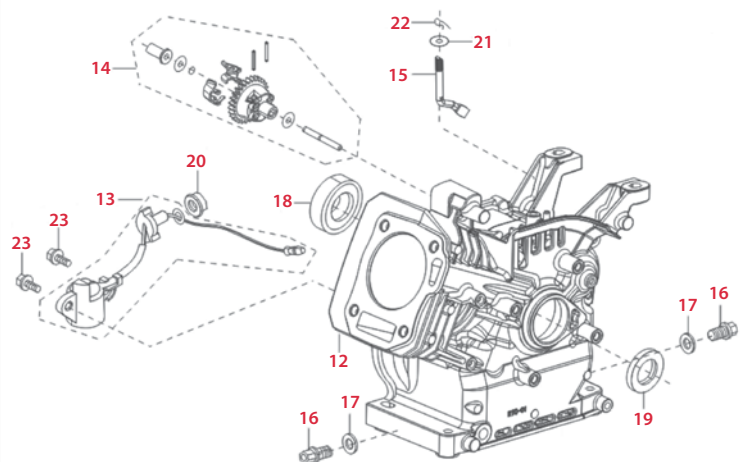
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Item	JAK Max Part No.	RATO Part No.	Description
<b>Cylinder Head Subassembly &amp; Spark Plug (below)</b>			
1	JMRT1001	12131-Z950110-0000	Cylinder head gasket
2	NS	12410-Z010220-H300	Cylinder head cover subassembly
3	JMRT1002	12004-Z010110-0000	Cylinder head cover gasket
4	NS	17004-Z050210-0000	Breather tube
5	NS	90001-0612-01	Bolt
6	NS	90204-Z010310-0000	Stud

Item	JAK Max Part No.	RATO Part No.	Description
<b>Cylinder Head Subassembly &amp; Spark Plug - continued (below)</b>			
7	NS	90203-Z010110-0000	Stud
8	NS	90502-1014-00	Pin
9	NS	12003-Z010110-0000	Cylinder head bolt
10	BPR6ES/ RN9YC	30010-Z010110-0000	Spark plug
11	NS	12140-Z040610-0000	Cylinder head subassembly



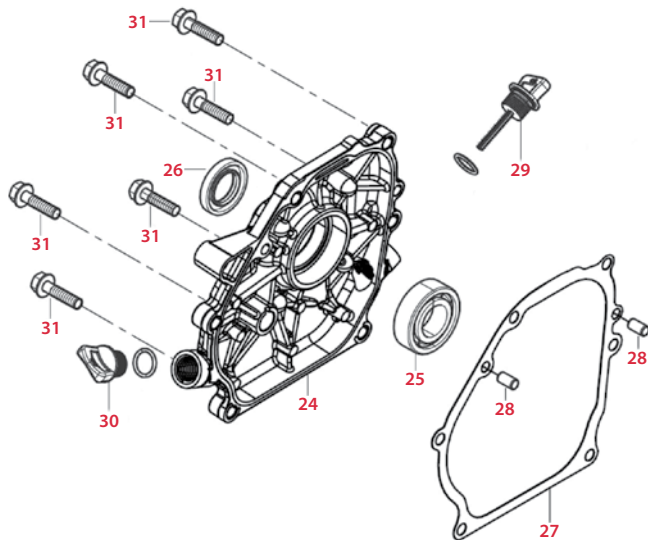
Item	JAK Max Part No.	RATO Part No.	Description
<b>Crankcase &amp; Governor Gear Assembly (right)</b>			
12	NS	11310-Z141220-0000	Crankcase assembly
13	JMRT1004	37060-Z010120-0000	Engine oil sensor
14	NS	16400-Z010110-0000	Governor gear assembly
15	NS	16061-Z010110-0000	Governor arm
16	NS	11007-Z010110-0000	Drain plug bolt
17	NS	90408-Z010110-0000	Washer
18	JMRT1008	90548-0205-CL	Bearing
19	JMRT1005	90682-Z300110-0000	Oil seal
20	NS	90305-Z010210-01	Nut
21	NS	90408-Z010210-0000	Governor gear washer
22	NS	90501-Z010110-0000	Pin
23	NS	90001-0614-01	Bolt



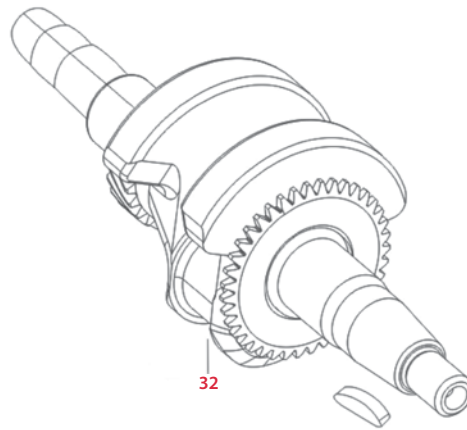
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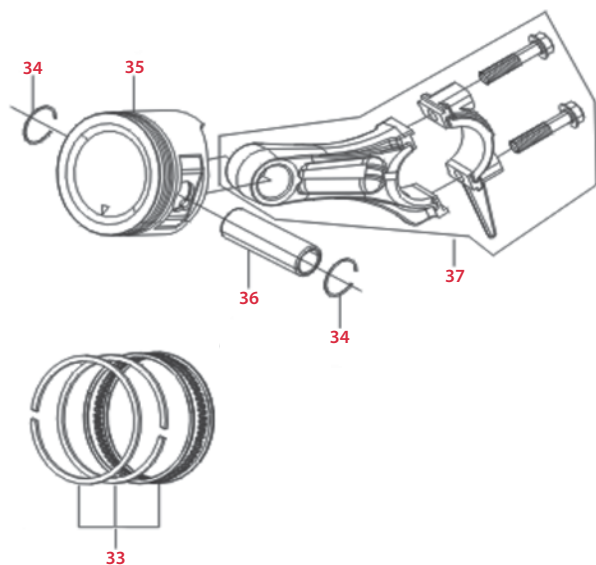
Item	JAK Max Part No.	RATO Part No.	Description
<b>Crankcase Cover Subassembly (below left)</b>			
24	NS	11411-Z010310-0000	Crankcase cover
25	JMRT1008	90548-0205-CL	Bearing
26	JMRT1005	90682-Z300110-0000	Oil seal
27	JMRT1006	11001-Z440110-0000	Crankcase gasket
28	NS	90502-0812-00	Pin
29	JMRT1007	15010-Z010130-Q500	Oil dipstick subassembly
30	NS	15030-Z010130-Q500	Engine oil plug subassembly
31	NS	90001-0832-01	Bolt



Item	JAK Max Part No.	RATO Part No.	Description
<b>Crankshaft (below right)</b>			
32	JMRT1009	13300-Z860610-0000	Crankshaft assembly



Item	JAK Max Part No.	RATO Part No.	Description
<b>Oil Ring Set &amp; Crankshaft Connecting Rod (right)</b>			
33	JMRT1011	13200-Z140210-0099	Piston ring set
34	JMRT1012	13122-Z010110-0000	Piston pin clip
35	JMRT1013	13111-Z140220-0099	Piston
36	JMRT1014	13121-Z010110-0000	Piston pin
37	JMRT1016	13010-Z440210-0099	Connecting rod

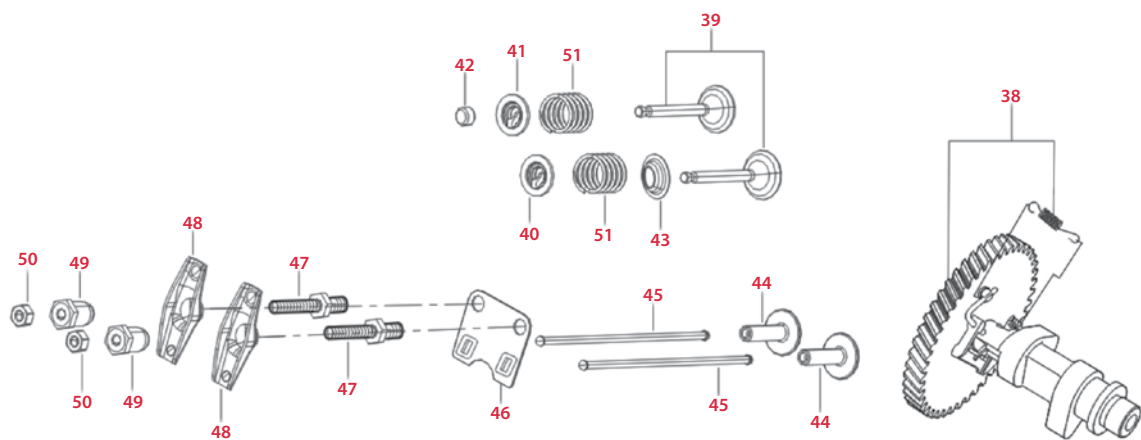


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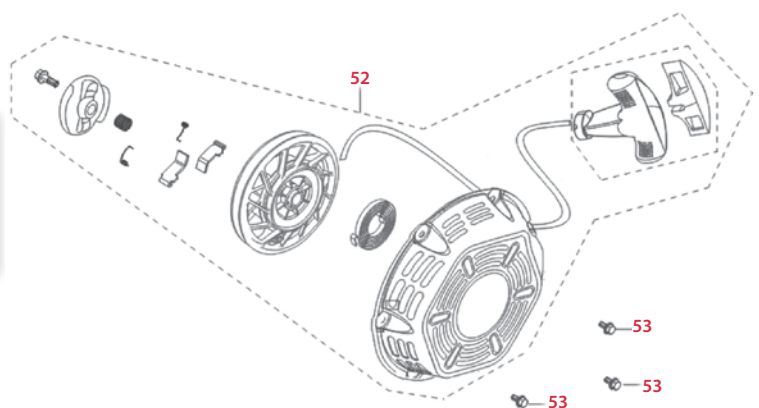
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Item	JAK Max Part No.	RATO Part No.	Description
<b>Valve Train &amp; Camshaft Subassembly (below)</b>			
38	JMRT1017	14200-Z300210-0000	Camshaft assembly
39	JMRT1018	12110-Z010110-0000	Valve set
40	NS	12112-Z010110-0000	Valve spring seat
41	JMRT1020	12107-Z010110-0000	Exhaust valve retainer
42	JMRT1021	12104-Z010110-0000	Valve rotator
43	JMRT1022	12101-Z810210-0000	Seal guide
44	JMRT1023	14081-Z040110-0000	Valve tappet

Item	JAK Max Part No.	RATO Part No.	Description
<b>Valve Train &amp; Camshaft Subassembly - continued (below)</b>			
45	JMRT1024	14071-Z010110-0000	Valve lifter
46	JMRT1025	14090-Z010110-0000	Lifter stopper plate subassembly
47	JMRT1026	14313-Z010110-0000	Valve adjusting bolt
48	JMRT1027	14311-Z010110-0000	Valve rocker
49	JMRT1028	14314-Z010110-0000	Valve adjusting nut
50	JMRT1029	14312-Z010110-0000	Valve lock nut
51	JMRT1030	12103-Z010110-0000	Valve spring



Item	JAK Max Part No.	RATO Part No.	Description
<b>Starter Recoil (right)</b>			
52	JMRT1031	28200-Z140510-H700	Starter Recoil assembly
53	NS	90001-0608-01	Bolt

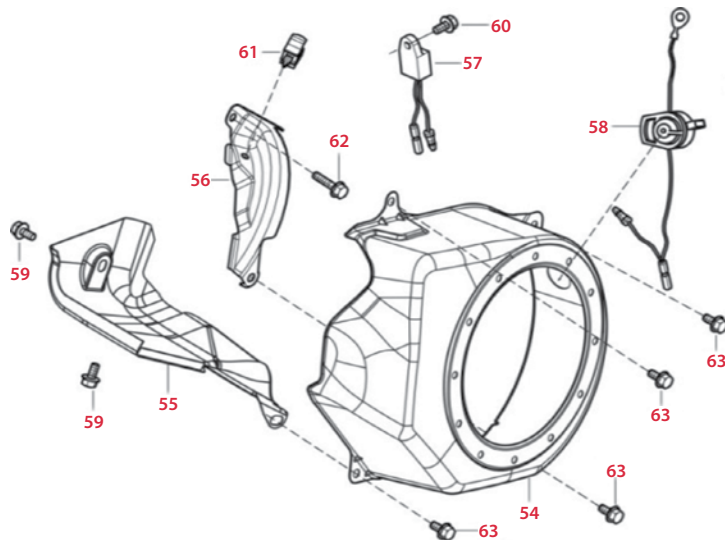


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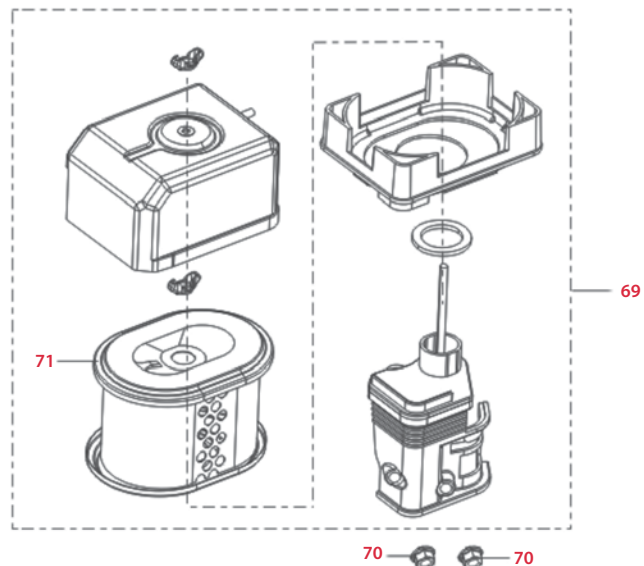
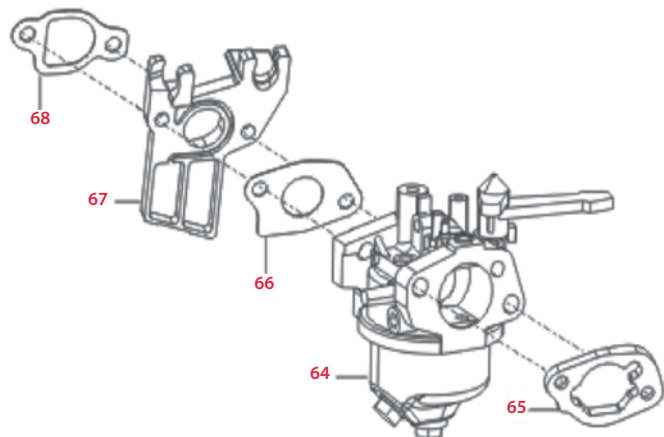
Item	JAK Max Part No.	RATO Part No.	Description
<b>Shroud &amp; Lower Shield (below)</b>			
54	NS	28110-Z010410-Y100	Shroud
55	NS	19304-Z010710-0000	Cylinder body shroud
56	NS	19340-Z010510-0000	Lower shield
57	NS	37050-Z010210-0000	Oil protector
58	JMRT1033	35540-Z060140-Q200	Stop engine switch subassembly

Item	JAK Max Part No.	RATO Part No.	Description
<b>Shroud &amp; Lower Shield - continued (below)</b>			
59	NS	90001-0610-01	Bolt
60	NS	90001-0610-01	Bolt
61	NS	90740-Z010110-0000	Collar
62	NS	90001-0616-01	Bolt
63	NS	90001-0612-01	Bolt



Item	JAK Max Part No.	RATO Part No.	Description
<b>Carburettor Assembly (below left)</b>			
64	JMRT1035	16100-Z300510-0000	Carburettor assembly
65	JMRT1037	17001-Z010210-0000	Air cleaner gasket
66	JMRT1038	16001-Z010110-0000	Carburettor gasket
67	JMRT1039	16003-Z010110-0000	Carburettor insulator plate
68	JMRT1040	16002-Z010110-0000	Carburettor insulator gasket

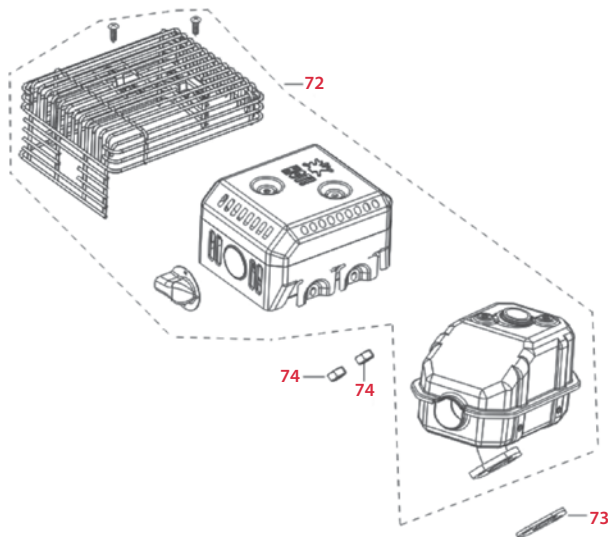
Item	JAK Max Part No.	RATO Part No.	Description
<b>Air Cleaner (below right)</b>			
69	JMRT1371	17100-Z010210-0000	Air cleaner complete
70	NS	90305-0600-31	Nut
71	JMRT1042	17150-Z010110-0000	Air cleaner element



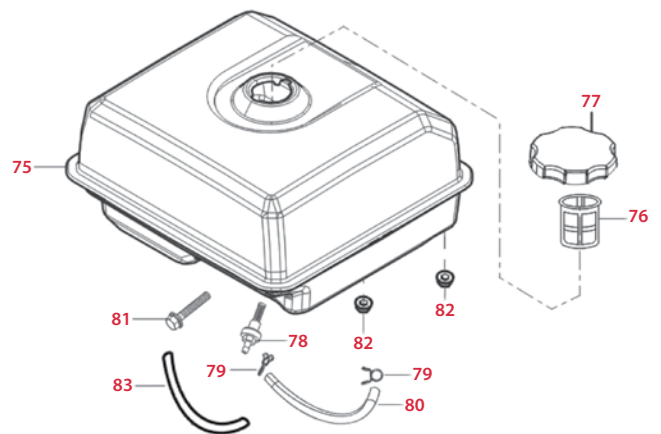
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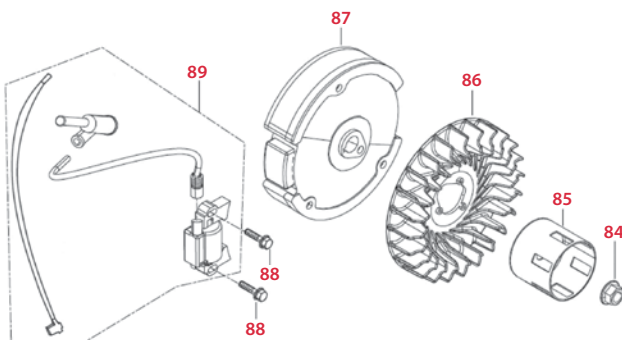
Item	JAK Max Part No.	RATO Part No.	Description
<b>Muffler Assembly (below left)</b>			
72	JMRT1043	18100-Z010510-H300	Muffler assembly
73	JMRT1045	18001-Z010110-0000	Exhaust outlet gasket
74	NS	90303-0800-31	Nut



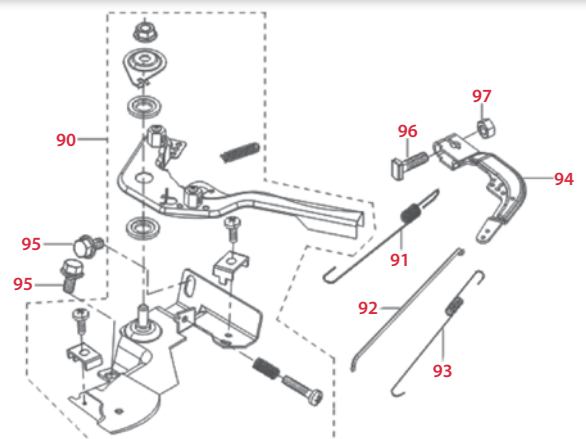
Item	JAK Max Part No.	RATO Part No.	Description
<b>Fuel Tank Assembly (below right)</b>			
75	JMRT1046	16620-Z860210-H700	Fuel tank
76	JMRT1047	16652-Z010810-0000	Fuel strainer
77	JMRT1048	16730-Z010820-0000	Fuel tank cap
78	JMRT1049	16680-Z010110-0000	Fuel tank oil outlet subassembly
79	NS	90740-Z010210-0000	Clamp
80	NS	90686-Z010510-0000	Fuel tube
81	NS	90001-0630-01	Bolt
82	NS	90305-0600-31	Nut
83	NS	30431-Z010110-0000	Rubber jacket



Item	JAK Max Part No.	RATO Part No.	Description
<b>Flywheel, Impeller, Starter Pulley &amp; Ignition Coil (below)</b>			
84	NS	13501-Z010110-0000	Nut
85	JMRT1051	28002-Z300210-0000	Starter cup
86	NS	19352-Z010310-0000	Impeller
87	NS	13510-Z300110-0000	Flywheel subassembly
88	NS	90001-0625-01	Bolt
89	JMRT1052	30400-Z440110-0100	Ignition coil



Item	JAK Max Part No.	RATO Part No.	Description
<b>Throttle Control Assembly (below right)</b>			
90	NS	16520-Z440110-0000	Throttle control assembly
91	JMRT1053	16063-Z050120-0000	Governor spring
92	NS	16062-Z010110-0000	Governor rod
93	JMRT1054	16012-Z010110-0000	Throttle valve returning spring
94	NS	16070-Z010110-0000	Governor support subassembly
95	NS	90001-0610-01	Bolt
96	NS	16072-Z010110-0000	Governor support bolt
97	NS	90305-0600-31	Nut

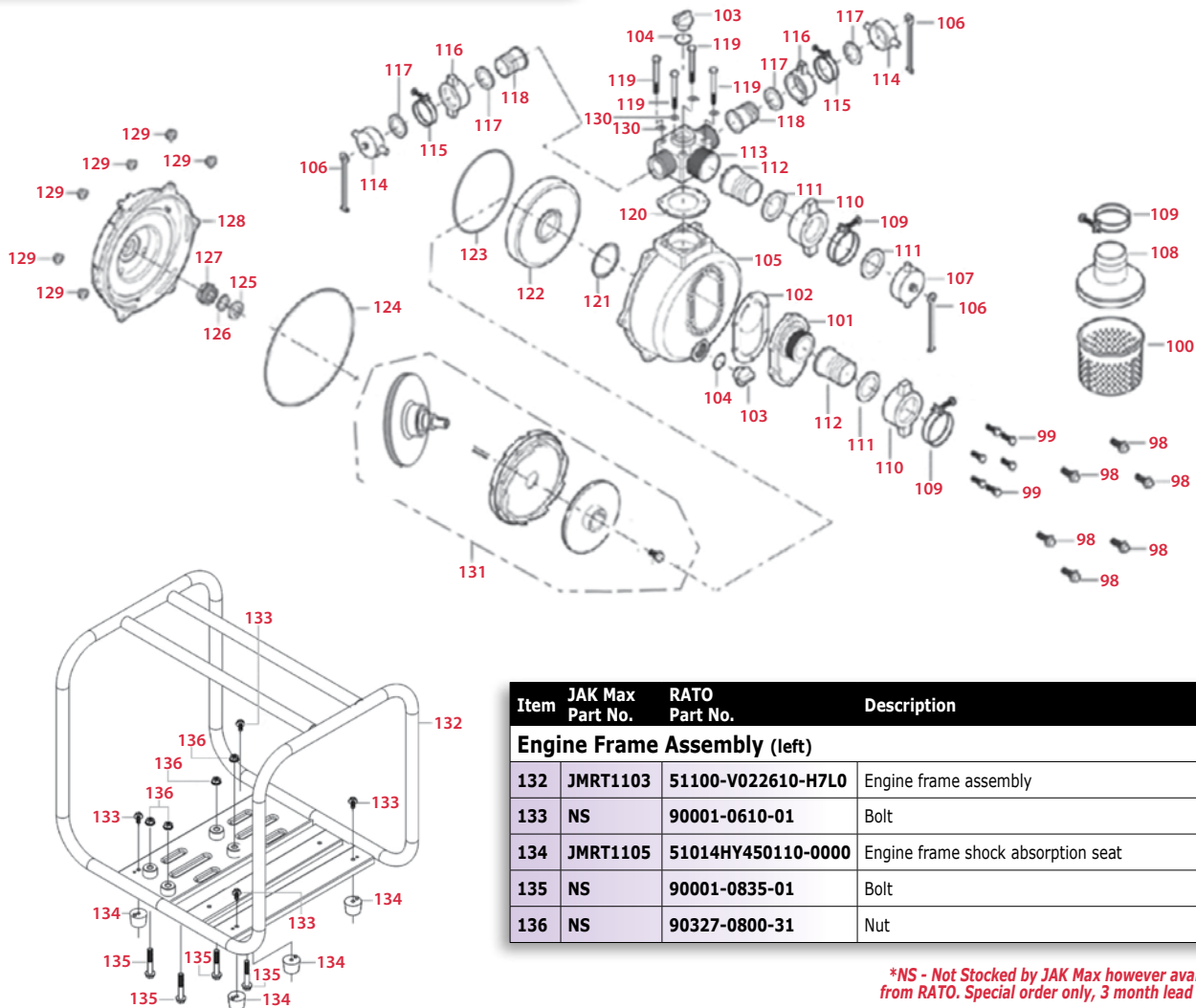


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Item	JAK Max Part No.	RATO Part No.	Description
<b>Pump Assembly (below)</b>			
98	NS	90007-1030-01	Bolt
99	NS	90005-0825-01	Bolt
100	JMRT1100	70114-V010110	Filter
101	JMRT1094	70116-V070210	Water inlet
102	JMRT1093	70115-V070210-0000	Inlet water gasket
103	JMRT1095	70107-V070210	Thread plug
104	NS	70122-V070210	Screw plug washer
105	JMRT1059	70105-V070510-0000	Pump body
106	NS	70138-V100110	
107	NS	70137-V100110	
108	JMRT1099	70113-V010110	Filter cover
109	JMRT1101	70400-V010110	Hose hoop subassembly
110	JMRT1096	70111-V010110	Hose joint
111	JMRT1097	70131-V010110	Hose joint seal ring
112	JMRT1098	70112-V010110	Hose interface
113	JMRT1065	70108-V070910-0000	Water outlet
114	JMRT1066	70137-V070510-0000	Outlet cover
115	JMRT1067	70400-V040110-0K00	Hose hoop subassembly

Item	JAK Max Part No.	RATO Part No.	Description
<b>Pump Assembly - continued (below)</b>			
116	JMRT1068	70111-V040110-0000	Hose joint
117	JMRT1069	70131-V040110-0000	Hose joint seal ring
118	JMRT1070	70112-V040110-0000	Hose interface
119	NS	90004-0875-01	Nut
120	JMRT1091	70109-V100110	Outlet gasket
121	JMRT1089	70104-V100110	Whorl case sealing ring
122	JMRT1073	70103-V100410-0000	Whorl case
123	JMRT1074	70136-V100410-0000	Impeller sleeve ring
124	NS	70119-V070210	Water pump joint cushion
125	JMRT1087	70125-V070210-0000	Impeller seal ring
126	JMRT1076	70309-V100110	Porcelain seal
127	JMRT1077	70300-V100210-0000	Mechanism seal assembly
128	JMRT1078	70118-V070610-0000	Water pump joint
129	NS	90306-1000-31	Nut
130	NS	90408-0800-01	
131	JMRT1079	70250-V100410-0000	Twin impeller set
	JMRT1080	70100-V100110-0K00	Water pump assembly



Item	JAK Max Part No.	RATO Part No.	Description
<b>Engine Frame Assembly (left)</b>			
132	JMRT1103	51100-V022610-H7L0	Engine frame assembly
133	NS	90001-0610-01	Bolt
134	JMRT1105	51014HY450110-0000	Engine frame shock absorption seat
135	NS	90001-0835-01	Bolt
136	NS	90327-0800-31	Nut

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