

Gasoline Engine Instruction Manual

1E34F-2E

1E36F-2E

1E40F-2E

1E43F-E

1E44F-E

MODEL:

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Thank you for purchasing our engine.

This manual covers the operation and maintenance of your engine .

All information in this publication is base on the latest product information available at the time of printing.

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This manual should be considered a permanent part of the engine and should remain with it if it is resold.

Pay special attention to statements preceded by the following words:

WARNING! Indicates a strong possibility of severe personal injury or death if instructions are not followed.

CAUTION! Indicates a possibility of personal injury or equipment damage if instructions are not followed.

WARNING!

- Read the instruction carefully. Be familiar with the controls and proper use of the engine.
- Store fuel in containers specifically designed for this purpose. Refuel outdoors only and do not smoke while refueling. Add fuel before starting the engine. Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
- Replace faulty muffler.
- Replace all fuel tank and container caps securely.
- Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or fire.
- Allow the engine to cool before storing in any enclosure.
- Against the fire, stop running the gasoline engine before the tank is refueled, and ensure that the gasoline engine is far from the fire. Against the poisoning, discharge the exhaust gas from the rooms, channels using gasoline engine or any other closed

places.

- Forbid to touch the muffler and the body when the gasoline engine runs and just stops.
- Against the electrical shock , don't touch the ignition plug cap and wires.
- Forbid children and persons unconcerned to touch the gasoline engine.
- Muffler exhaust outlet can not point to the operator.
- Ensure the cooling of the muffler and the body, cover the gasoline engine after daily work.
- Against the problem , the damage or the misfire of gasoline engine, check and maintain the gasoline regularly and clean the deposit carbon in the muffler and in the cylinder exhaust.
- Forbid to use pure gasoline (without two-stroke engine oil) as fuel.
- Gasoline engine can not work at high speed for long time without load.
- Forbid the drunk、 the dizzy and the pregnant to use the gasoline engine.

I . FOREWORD

Model: **1E34F-2E**、**1E36F-2E**、**1E40F-2E**、**1E43F-E**、**1E44F-E** Gasoline engine is single-cylinder two-stroke air-cooled small-size and light-weighted gasoline engine, its construction is simple , operation and maintenance are easy.

1E34F-2E、**1E36F-2E**、**1E40F-2E**、**1E43F-E**、**1E44F-E** Gasoline engine are used as power for Tiller, Earth Auger , Knapsack Sprayer, Hedge Trimmer, Line Trimmer, Edger, Ice Auger, Leaf Blower, Tamper, Ground Auger, Brush Cutter, Knapsack Duster, Pump.

II. TECHNICAL DATA

ITEM	UNIT	TECHNICAL DATA				
		Single-cylinder,two-stroke, air-cooled				
Type		1E34F-2E	1E36F-2E	1E40F-2E	1E43F-E	1E44F-E
Model		25.4	32.6	42.7	49.4	51.7
Discharging capacity	cc	0.7/7500	0.9/7500	1.1/7500	1.25/700	1.3/7000
Max. power/rotating	kW/r/min	≤550	≤500			
Specific fuel	g/kW.h					≤500
Noise	dB(A)			≤104		
Volume of fuel tank	l	0.65				1
Fuel brand				90 gasoline(GB17930-2006)		
Lubricant				2-stroke oil(JASO FC)		
Ratio of fuel and oil				30:1		
Gap of spark plug	mm			0.5~0.7		
Starting method				Manually drawing wound rope		
Net weight	kg	2.8	3.6			≤4.3
Overall dimension(L×W×H)	mm	248×157× 234	276×174× 255			283×183×267

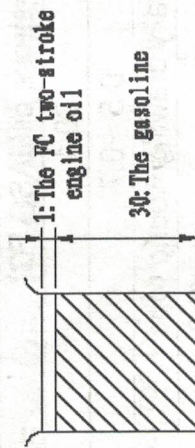
III. PREPARATION

1. Refuel

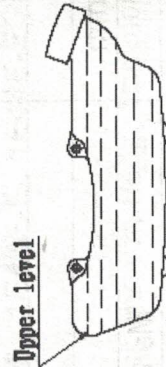
Use the mixture of the gasoline and the two-stroke engine oil, the volume ratio is 30:1. (Graph 1). Fill the gasoline to the edge of the tank neck. (Graph 2).

2. Check and clean the air filter

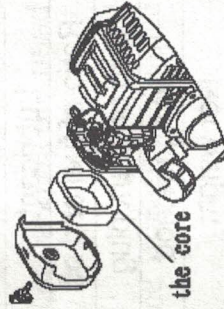
The air filter must be often cleaned, or the polluted air filter will lower the output power of the engine. If the air filter is blocked by dusts, use gasoline to clean the air filter, then dip in the oil, wring out and put the air filter back. (Graph 3)



Graph 1



Graph 2

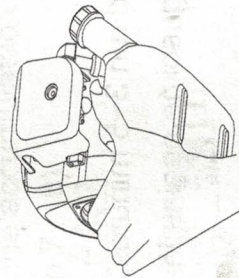


Graph 3

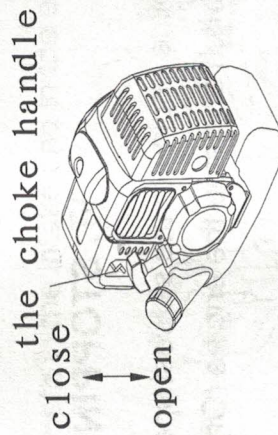
IV. STARTUP

1. Turn on the gasoline switch until the gasoline flows out of the clear plastic pipe. (Graph 4)
2. Close the choke totally. (Graph 5)
3. If the engine is heated, the choke must be totally opened.
3. Open the throttle half.
4. Draw the starter several times slowly, and then draw quickly.

Note: If the excessive gasoline causes the start difficulty, take down the ignition plug and the input pipe, open the choke and the throttle totally, draw the starter several times, then install the input pipe and start the engine. After the startup, open the choke totally.



Graph 4



Graph 5

V. RUNNING

1. After the engine starts, run 3~5 minutes at a low speed.
2. When the engine is heated enough, adjust the throttle handle to the corresponding according to needed speed.

CAUTION: • Don't accelerate abruptly due to bad lubrication of the engine at the beginning of startup.

- Avoid the speedy idle motion and over speed motion. If the throttle is totally opened, the engine will run over speed, which not only shortens the service life of the engine but also causes more problems in the engine.

VI. STOPPING

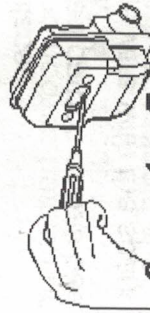
1. Reduce the gasoline engine to the slowest speed and run 3~5 minutes.
2. Press the stop switch and stop the engine. (Only the gasoline engine leaving factory, no stop switch)

VII. MAINTENANCE

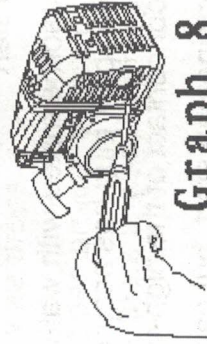
1. Daily check
 - ★ Check all screws and nuts looseness
 - ★ Check fuel leakage or air leakage
2. Check after running 20 hours
 - ★ Clean the air filter
 - ★ Clean the fuel strainer
3. Check after running 50 hours
 - ★ Refasten the nuts of the cylinder
 - ★ Clean the accumulated carbon both in the combustion chamber and in the exhaust of the cylinder
 - ★ Clean the accumulated carbon in the spark plug, adjust the clearance to (0.5~0.7)mm.(Graph 6)
 - ★ Clean the accumulated carbon both in the intake and in the exhaust of the muffler.



Graph 6



Graph 7



Graph 8

VIII. STORAGE

If the gasoline engine isn't used for a long time, it must be maintained as follows:

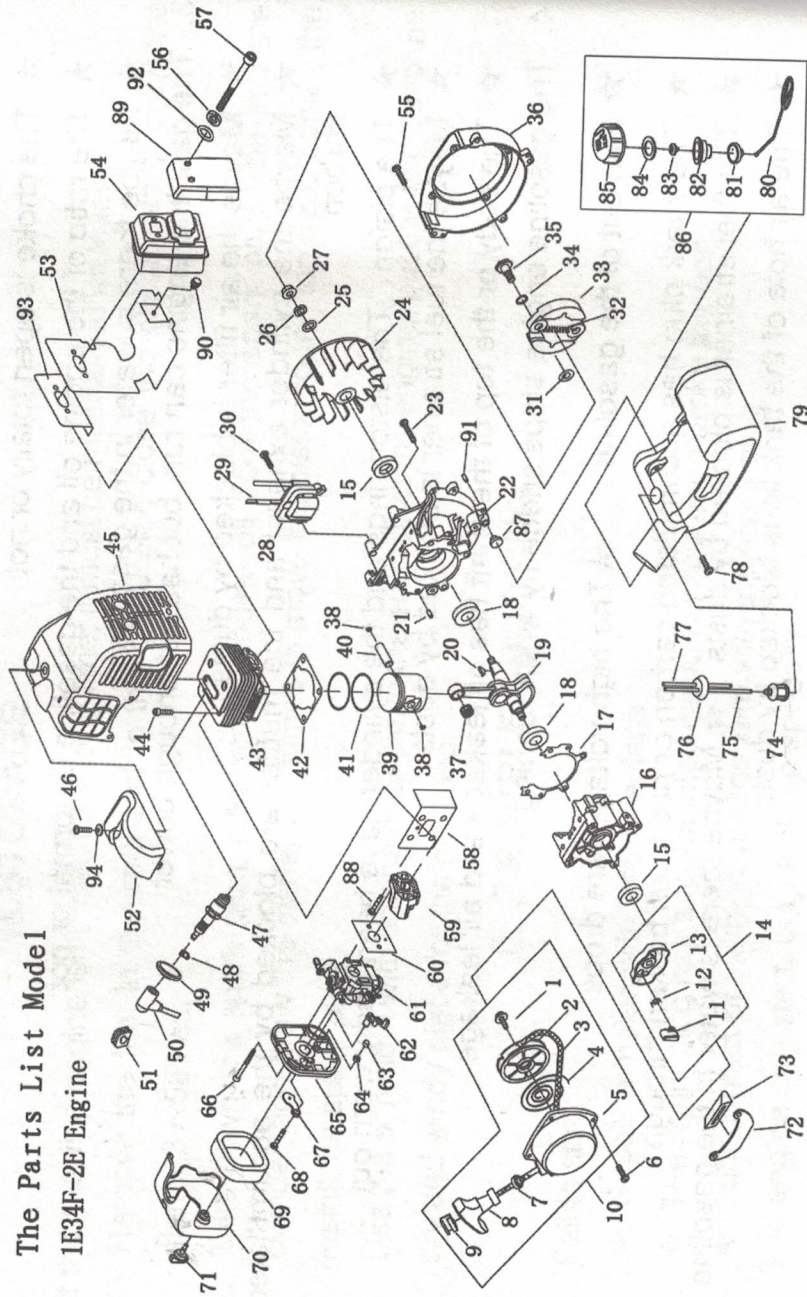
1. Remove the fuel in the tank and in the carburetor, close the choke totally, draw the starter 3~5times.
2. Take down the spark plug, add certain engine oil from the spark plug hole into the cylinder, and draw the starter 2~3times to move the piston to the top dead center, the install the spark plug.
3. Use the soft cloth with engine oil to clean the surface of the engine, put the engine to the dry and windy place for the next use.

IX .TROUBLE SHOOTING

1. Fail to start
 - ★ Gasoline mixed with water, replace
 - ★ The spark plug has accumulated carbon or has been broke through
 - ★ Poor contact of the high-voltage wire with the spark plug
2. The engine can start, but can't run speedily

- ★ The choke is open totally or not
 - ★ The ratio of the engine oil and the gasoline is normal or not
 - ★ Maybe there is water in the gasoline
3. The gasoline engine can run, but has not enough power
- ★ Maybe the air filter is blocked by dusts
 - ★ Maybe the cylinder exhaust and the muffler are blocked by the accumulated carbon
 - ★ The piston. The piston rings and the cylinder have been badly worn out
 - ★ Maybe the fuel strainer is blocked by dusts
 - ★ The body or the top of the shaft has oil leakage and air leakage
4. The gasoline engine stops suddenly when running
- ★ Run out of the gasoline ★ The high-voltage wire drops
 - ★ The spark plug has accumulated carbon or has been broken through
 - ★ The fuel strainer is blocked by dusts ★ Maybe there is water in the gasoline
 - ★ The air hole of the tank lid is blocked by dusts

The Parts List Model
1E34F-2E Engine



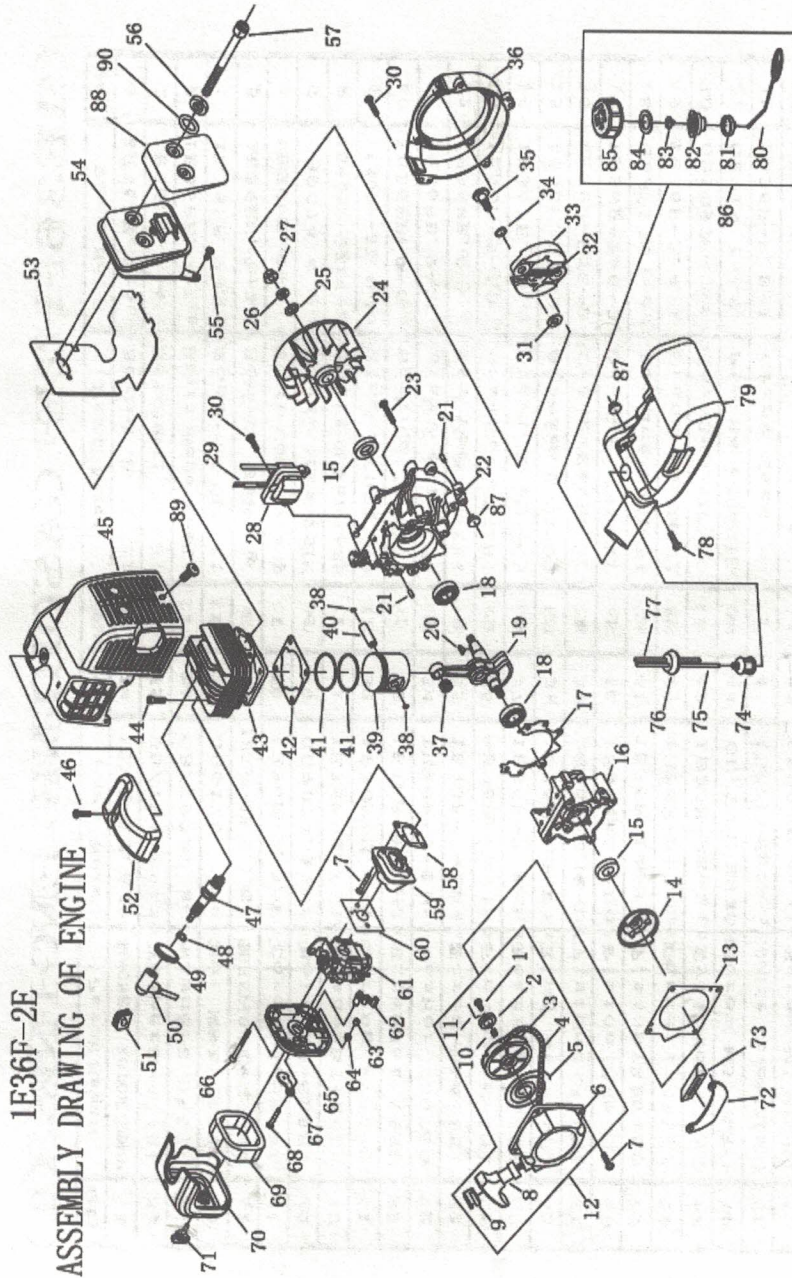
1E34F-2E GASOLINE ENGINE (1)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
1	GB/T9074.6	Screw M5 x 10	1	25	GB/T859	Washer 8	1
2	1E34F.11-2	Start Rope Reel	1	26	GB/T97.1	Washer 8	1
3	1E34F.11-3	Rope	1	27	GB/T6171	Nut M8 x 1	1
4	1E34F.11-1	Recoil Spring	1	28	1E34F-2E.3.2	IGNITION COIL COMP.	1
5	1E34F.11.1	Start Cover Ass'y	1	29	1E36F-2.3.1	Cord Comp.	1
6	GB/T9074.4	Screw M4 x 16	4	30	GB9074.13	Screw M5 x 20	2
7	1E34F.11.1-1	Guide Bushing	1	31	1E34F-11	Washer	2
8	1E36F.1-1	Start Handle	1	32	1E34F.10-1	Spring	1
9	1E36F.1-5	Resist Gasket	1	33	1E34F.10.1	Expander	2
10	1E34F.11G	Starter	1	34	1E34F-13	Spring	2
11	1E34F.8-1	Start pole	1	35	1E34F-12	Screw Pin	2
12	1E34F.8-2	Spring	1	36	1E31FE-HS-3	Fan Cover	1
13	1E34F.8.1	Start Reel	1	37	1E31F.4.1	Bearing	1
14	1E34F.8	Start Reel Ass'y	1	38	1E34F.6-2	Ring	2
15	1E36F.2	Oil-seal	2	39	1E34F-E.4-1	Piston	1
16	1E34F-E.6-1	Crank Case	1	40	1E34F.6-3	Piston Pin	1
17	1E34F-E.6-2	Gasket	1	41	1E34F.6-5	Piston Ring	2
18	GB/T276	Bearing 6001/P5	2	42	1E34F-E-3	Gasket	1
19	1E34F-E.4.1	Crank Shaft	1	43	1E34F-2E-1	Cylinder	1
20	1E40FP-3Z.3-1	Key 3x5x13	1	44	GB/T70.1	Screw M5 x 20	4
21	GB/T119.2	Pin B3 x 10	2	45	1E34F-E.5	Guide Cover Ass'y	1
22	1E34F-E.6-3	Crank Case	1	46	GB/T9074.4	Screw M5 x 16	1
23	GB/T70.1	Screw M5 x 30	4	47	L8RTC	Spark Plug	1
24	1E34F-2E.3.1	MAGNETO ROTOR COMP.	1	48	1E40F-3A.8-2	Spring	1

1E34F-2E GASOLINE ENGINE (2)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
49	1E34F.5-3	Plug Cap	1	73	1E31F-4	Rubber Cover	1
50	1E34F-E.3-1	Cap	1	74	1E34F.9.2-3A	Cleaner Cover	1
51	1E40F-5.3-1	Plug	1	75	EB-415.4.2-4	Fuel Pipe 3 x 1 x 140	1
52	1E34F-E-4	Cover	1	76	1E36FF.8.1-1	Plug	1
53	1E34F-E-2	Gasket	1	77	EB-415.4.2-4	Fuel Pipe 3 x 1 x 85	1
54	1E34F-2E.2	Muffler	1	78	GB/T9074.4	Screw M5 x 16	2
55	GB/T9074.13	Screw M5 x 16	4	79	1E31FE.8-1	Fuel Tank	1
56	GB/T93	Washer 5	2	80	1E32FL.6.2-4	Chain	1
57	GB/T70.1	Screw M5 x 55-12.9	2	81	1E32FL.6.2-3	End Cover	1
58	1E34F-E-8	Gasket	1	82	1E32FL.6.2-2	Inside Cover	1
59	1E34F-E.8	Admitting Pipe	1	83	EB-415.4.1.1-1	Inlet	1
60	1E36F-E-11	Gasket	1	84	CG420.1.3.1-2	Gasket	1
61	1E34F-2E.1A	Carburetor	1	85	1E32FL.6.2-1	Fuel Tank Lid	1
62	1E34F.1-2	Choker Handle	1	86	1E32FL.6.2	Lid Ass'y	1
63	1E34F.1-7	Stop ring	1	87	1E40F-5A-3	Rubber washer	2
64	GB/T6170	Nut M4	1	88	GB/T9074.4	Screw M5 x 25	2
65	1E34F.1.1	Cleaner inside cover	1	89	1E34F-E-7	Cover	1
66	GB/T9074.4	Screw M5 x 55	2	90	GB/T9074.4	Screw M4 x 8	1
67	1E34F.1-3	CHOKER	1	91	GB/T119.2	Pin B4 x 10	2
68	GB/T845	Screw ST4.2 x 12-F-H	1	92	GB/T97.1	Washer 5	2
69	1E34F.1-1	Filter Net	1	93	HA28-6	Gasket	1
70	1E34F.1-4	Cleaner Outside Cover	1	94	1E36F-2C-1	Gasket	1
71	1E34F.1.2	Screw	1	95	1E36F-E-9	Gasket	0.048
72	1E34F-E-6	Stand	1				

1E36F-2E
ASSEMBLY DRAWING OF ENGINE

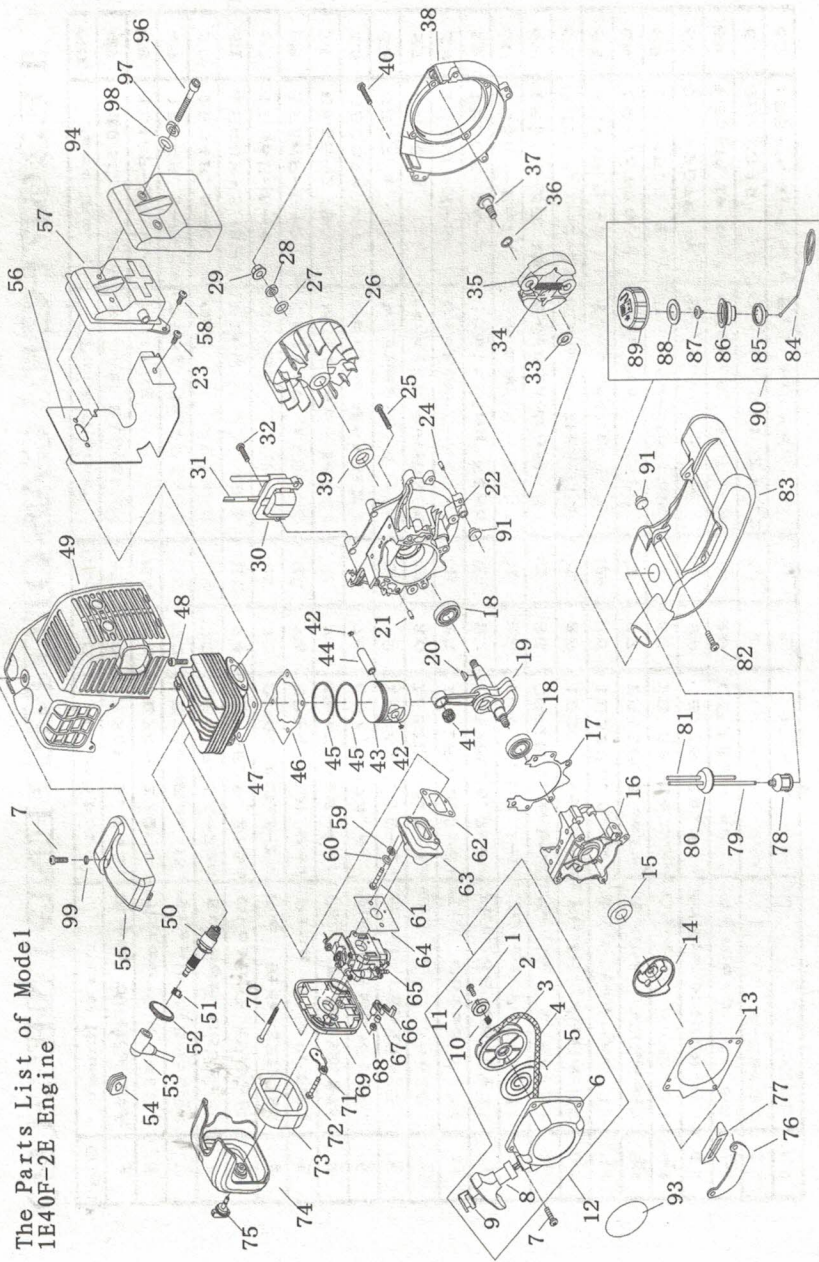


1E36F-2E GASOLINE ENGINE (1)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
1	1E36FE. 9-3	Screw	1	24	1E36F-E. 3.1.1	MAGNETO ROTOR COMP.	1
2	1E36FE. 9-4	Ratchet	1	25	GB/T859	Washer8	1
3	1E36FE. 9-1	Start Rope Reel	1	26	GB/T97.1	Washer8	1
4	1E36FE. 9-5	Rope	1	27	GB6170	Nut M8	1
5	1E36FE. 9-7	Recoil Spring	1	28	1E36F-2E. 2.1.1	IGNITION COIL COMP.	1
6	1E36FE. 9-8	Start Cover Ass'y	1	29	1E36F-2. 3.1	Cord Comp.	1
7	GB9074. 4	Screw M5 x 25	6	30	GB9074. 13	Bolt M5 x 20	6
8	1E40FP-3Z. 4-2	Start Handle	1	31	1E36F-3	WasherB	2
9	1E40FP-3Z. 4-10	Ring	1	32	1E36F-E. 6-1	Spring	1
10	1E36FE. 9-6	Spring	1	33	1E40F-5. 6A-1	Expander	2
11	1E36FE. 9-2	Start pole	2	34	1E40F-5-11	Washer	2
12	1E36FE. 9	Starter	1	35	1E40F-5-12	Screw Pin	2
13	1E40F-5-10	Gasket	1	36	1E36FE-5	Fan Cover	1
14	1E36FE. 7	Start Reel	1	37	1E36F-2. 4. 1	Bearing	1
15	1E36F. 2	Oil-seal	2	38	1E36F. 10-2	Ring	2
16	1E36F-E. 8-2	Crank Case	1	39	1E36F-E. 4-1	Piston	1
17	1E36F-2. 6-3	Gasket	1	40	1E36F. 10-1	Piston Pin	1
18	GB/T276	Bearing 6201/P5	2	41	1E36F. 10-3	Piston Ring	2
19	1E36F-E. 4. 1	Crank Shaft	1	42	1E36F-E-3	Gasket	1
20	GB1099	Key 3x5x13	1	43	1E36F-2E-1	Cylinder	1
21	GB119	Pin B4 x 10	4	44	GB/T70. 1	Screw M5 x 18	4
22	1E36F-E. 8-1	Crank Case	1	45	1E36F-E. 5	Guide Cover Ass'y	1
23	GB70. 1	Screw M5 x 30	4	46	GB9074. 4	Screw M5 x 16	1

1E36F-2E GASOLINE ENGINE (2)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
47	L8RTC	Spark Plug	1	70	1E36F-E. 7-1	Cleaner Outside Cover	1
48	1E40F-3A. 8-2	Spring	1	71	1E34F. 1. 2	Screw	1
49	1E34F. 5-3	Plug Cap	1	72	1E36F-E-5	Stand	1
50	1E34F. 5-2	Cap	1	73	1E40F-5A-2	Rubber Cover	1
51	1E40F-5. 3-1	Plug	1	74	1E34F. 9. 2-3A	Cleaner Cover	1
52	1E36F-E-4	Cover	1	75	CG420. 1. 3. 2-2	Fuel Pipe 3X1X185	1
53	1E36F-E-2	Gasket	1	76	EB-415. 4. 2-2	Plug	1
54	HA36-2. 3	Muffler	1	77	EB-415. 4. 2-4	Fuel Pipe 3X1X75	1
55	GB9074. 4	Screw M5 x 12	1	78	GB/T9074. 4	Screw M5 x 16	2
56	GB97. 1	Washer5	2	79	1E36FE. 10-1	Fuel Tank	1
57	GB70. 1	Screw M5 x 60-12. 9	2	80	1E32FL. 6. 2-4	Chain	1
58	1E36F-E-8	Gasket	1	81	1E32FL. 6. 2-3	End Cover	1
59	1E36F-2A-2	Admitting Pipe	1	82	1E32FL. 6. 2-2	Inside Cover	1
60	1E36F-E-11	Gasket	1	83	EB-415. 4. 1. 1-1	Inlet	1
61	1E34F-2E. 1A	Carburetor	1	84	CG420. 1. 3. 1-2	Gasket	1
62	1E34F. 1-2	Choker Handle	1	85	1E32FL. 6. 2-1	Fuel Tank Lid	1
63	1E34F. 1-7	Stop ring	1	86	1E32FL. 6. 2	Lid Ass'y	1
64	GB/T6170	Nut M4	1	87	1E40F-5A-3	Rubber washer	2
65	1E34F. 1. 1	Cleaner inside cover	1	88	1E36F-E-7	Cover	1
66	GB/T9074. 4	Screw M5 x 55	2	89	GB/T9074. 4	Screw M4 x 8	1
67	1E34F. 1-3	CHOKER	1	90	GB93	Washer5	2
68	GB/T845	Screw ST4. 2 x 12	1				
69	1E34F. 1-1	Filter Net	1				



The Parts List of Model
1B40F-2E Engine

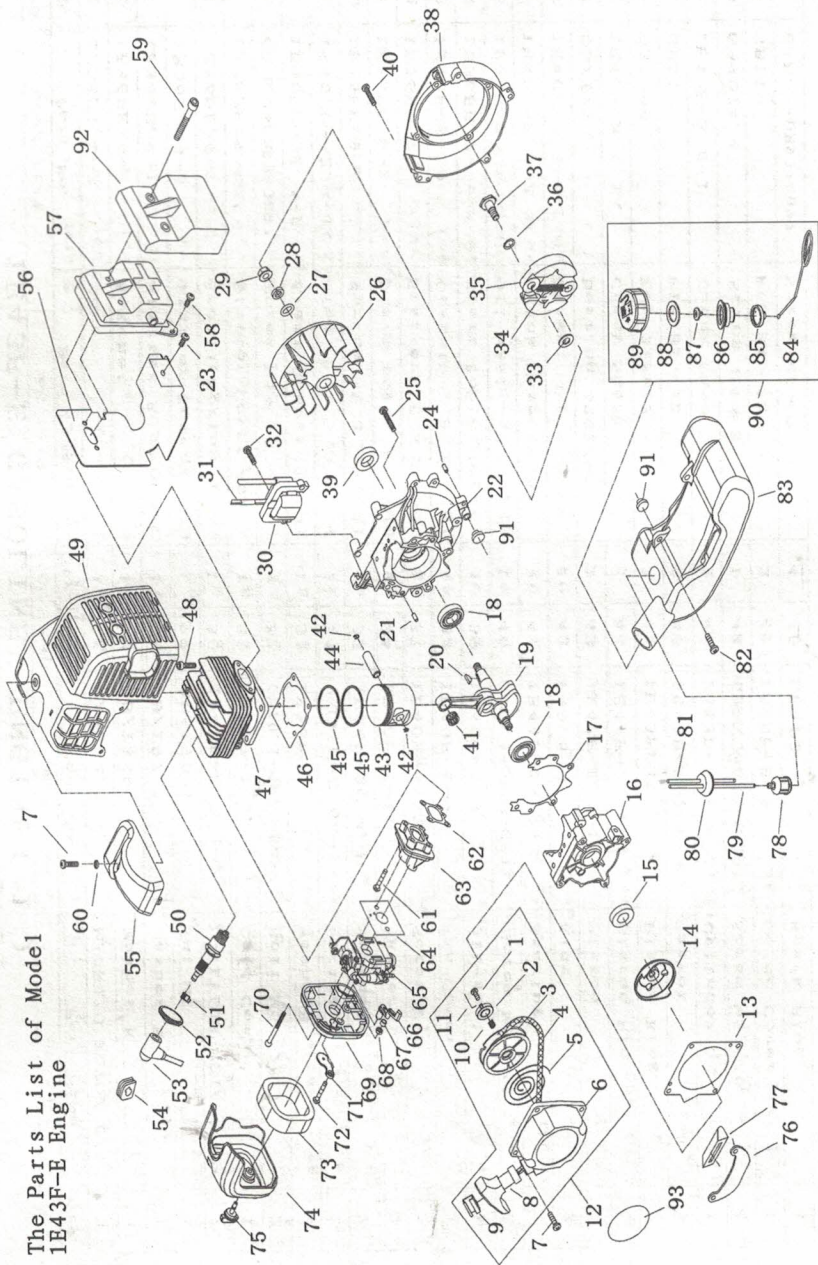
1E40F-2E GASOLINE ENGINE (1)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
1	1E36FE. 9-3	Screw	1	26	HA46. 2. 1. 1	MAGNETO ROTOR COMP.	1
2	1E36FE. 9-4	Ratchet	1	27	GB/T859	Washer 8	1
3	1E36FE. 9-1	Starter Rope Reel	1	28	GB/T97. 1	Washer 8	1
4	1E36FE. 9-5	Starter Rope	1	29	GB6170	Nut M8	1
5	1E36FE. 9-7	Recoil Spring	1	30	1E40F-E. 3. 1-2	IGNITION COIL COMP.	1
6	1E36FE. 9-8	Starter Cover Ass'y	1	31	1E36F-2. 3. 1	Cord Comp.	1
7	GB9074. 4	Screw M5 x 20	5	32	GB9074. 13	Bolt M5 x 20	2
8	1E40FP-3Z. 4-2	Start Handle	1	33	1E36F-3	Washer B	2
9	1E40FP-3Z. 4-10	Ring	1	34	1E36F-E. 6A-1	Spring	1
10	1E36FE. 9-6	Spring	1	35	1E36F-2C. 4. 1	Expander	2
11	1E36FE. 9-2	Start pole	2	36	1E40F-5-11	Washer	2
12	1E36FE. 9	Starter	1	37	1E40F-5-12	Screw Pin	2
13	1E40F-5-10	Gasket	1	38	1E40F-5-9	Fan Cover	1
14	1E36FE. 7	Start Reel	1	39	1E40F-5. 9	Oil-seal	1
15	1E36F. 2	Oil-seal	1	40	GB9074. 13	Screw M5 x 25	4
16	1E40F-E. 6-2	Crank Case	1	41	1E44F-2A. 2-3	Bearing	1
17	1E40F-5. 8-4	Gasket	1	42	P40. 6-4	Ring	2
18	GB/T276	Bearing 6202/P6	2	43	1E40F-E. 4-1	Piston	1
19	1E40F-E. 4. 1A	Crank Shaft	1	44	1E46FP. 6-3	Piston Pin	1
20	GB1099	Key 3x5x13	1	45	1E40FP-3Z. 3-5	Piston Ring	2
21	GB119	Pin B5 x 12	2	46	1E40F-E-3	Gasket	1
22	1E40F-E. 6-1	Crank Case	1	47	1E40F-2E-1	Cylinder	1
23	GB9074. 4	Screw M4 x 8	1	48	GB/T70. 1	Screw M5 x 20	4
24	GB119	Pin B4 x 10	2	49	1E40F-E. 5	Guide Cover Ass'y	1
25	GB9074. 4	Screw M5 x 30	4	50	L8RTC	Spark Plug	1

1E40F-2E GASOLINE ENGINE (2)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
51	1E40F-3A. 8-2	Spring	1	76	1E36F-E-5	Stand	1
52	1E34F. 5-3	Plug Cap	1	77	1E40F-5A-2	Rubber Cover	1
53	1E34F. 5-2	Cap	1	78	P40. 12. 2-3A	Cleaner Cover	1
54	1E40F-5. 3-1	Plug	1	79	CG420. 1. 3. 2-2	Fuel Pipe 3 × 1.5 × 145	1
55	1E40F-E-4	Cover	1	80	EB-415. 4. 2-2	Plug	1
56	1E40F-E-2	Gasket	1	81	EB-415. 4. 2-4	Fuel Pipe 2.5 × 1.25 × 80	1
57	1E40F-2E. 2	Muffler	1	82	GB/T9074. 4	Screw M5 × 16	2
58	GB9074. 4	Screw M5 × 12	2	83	1E40F-HS. 5. 1	Fuel Tank	1
59	GB/T93	Washer 5	2	84	1E32FL. 6. 2-4	Chain	1
60	GB/T97. 1	Washer 5	2	85	1E32FL. 6. 2-3	End Cover	1
61	GB/T70. 1	Screw M5 × 25	2	86	1E32FL. 6. 2-2	Inside Cover	1
62	1E40F-5-2	Gasket	1	87	EB-415. 4. 1. 1-1	Inlet	1
63	HA46. 9	Admitting Pipe	1	88	CG420. 1. 3. 1-2	Gasket	1
64	1E40F-5A-1	Gasket	1	89	1E32FL. 6. 2-1	Fuel Tank Lid	1
65	1E40F-2E. 1A	Carburetor	1	90	1E32FL. 6. 2	Lid Ass'y	1
66	1E34F. 1-2	Choker Handle	1	91	1E40F-5A-3	Rubber washer	2
67	1E34F. 1-7	Stop ring	1				
68	GB/T6170	Nut M4	1	93	1E36F-2-10	Label	1
69	1E34F. 1. 1	Cleaner inside cover	1	94	1E40F-E-6	Cover	1
70	GB/T9074. 4	Screw M5x50	2				
71	1E34F. 1-3	Choker	1	96	GB/T70. 1	Screw M6 × 60	2
72	GB/T845	Screw ST4. 2X12	1	97	GB/T93	Washer 6	2
73	1E34F. 1-1	Filter Net	1	98	GB/T97. 1	Washer 6	2
74	1E36F-E. 7-1	Cleaner Outside Cover	1	99	1E36F-2C-1	Gasket	1
75	1E34F. 1. 2	Screw	1				

The Parts List of Model
1E43F-E Engine



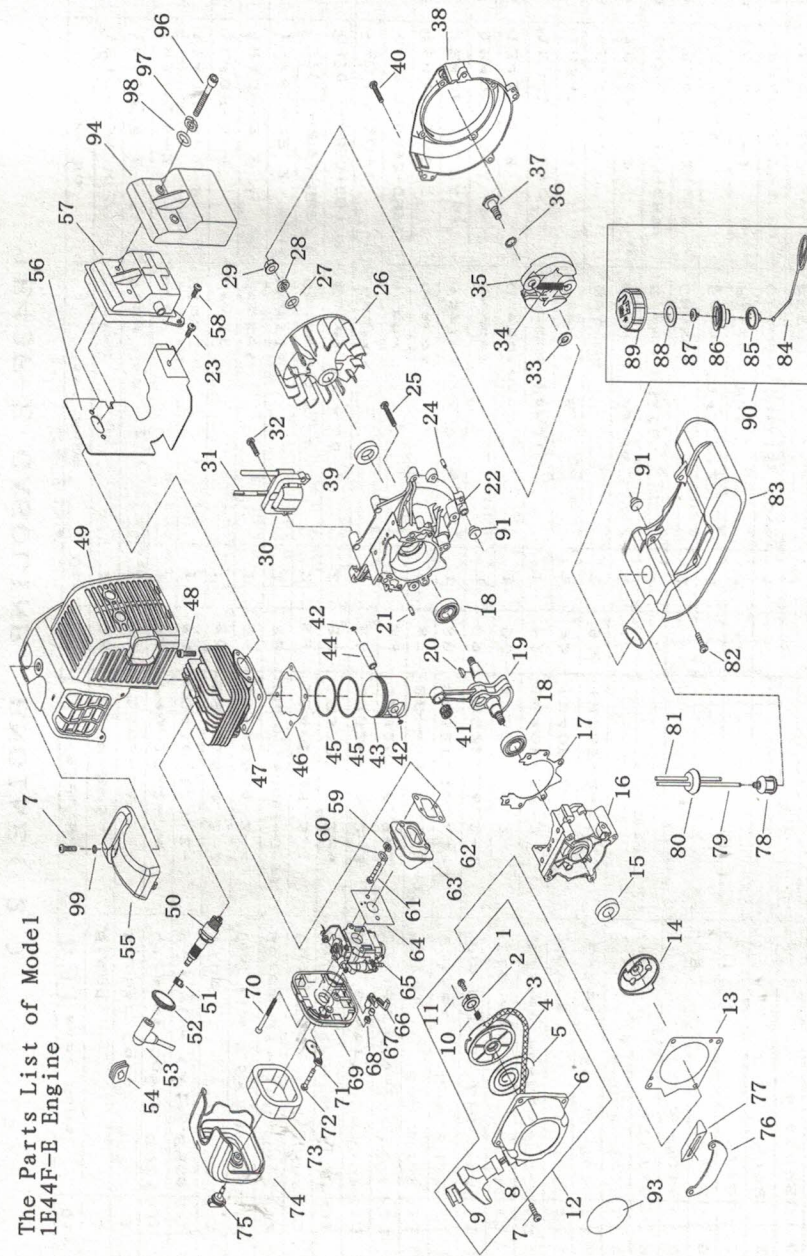
1E43F-E GASOLINE ENGINE (1)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
1	1E36FE. 9-3	Screw	1	26	HA46. 2. 1. 1	MAGNETO ROTOR COMP.	1
2	1E36FE. 9-4	Ratchet	1	27	GB/T859	Washer 8	1
3	1E36FE. 9-1	Starter Rope Reel	1	28	GB/T97. 1	Washer 8	1
4	1E36FE. 9-5	Starter Rope	1	29	GB6170	Nut M8	1
5	1E36FE. 9-7	Recoil Spring	1	30	1E40F-E. 3. 1-2	IGNITION COIL COMP.	1
6	1E36FE. 9-8	Starter Cover Ass'y	1	31	1E36F-2. 3. 1	Cord Comp.	1
7	GB70. 1+GB93+GB97	Screw M5 x 20	5	32	GB70. 1+GB93+GB97	Bolt M5 x 20	2
8	1E40FP-3Z. 4-2	Start Handle	1	33	1E36F-3	WasherB	2
9	1E40FP-3Z. 4-10	Ring	1	34	1E36F-E. 6A-1	Spring	1
10	1E36FE. 9-6	Spring	1	35	1E36F-2C. 4. 1	Expander	2
11	1E36FE. 9-2	Start pole	2	36	1E40F-5-11	Washer	2
12	1E36FE. 9	Starter	1	37	1E40F-5-12	Screw Pin	2
13	1E40F-5-10	Gasket	1	38	1E40F-5-9	Fan Cover	1
14	1E36FE. 7	Start Reel	1	39	1E40F-5. 9	Oil-seal	1
15	1E36F. 2	Oil-seal	1	40	GB70. 1+GB93+GB97	Screw M5 x 25	4
16	1E40F-E. 6-2	Crank Case	1	41	1E44F-2A. 2-3	Bearing	1
17	1E40F-5. 8-4	Gasket	1	42	P40. 6-4	Ring	2
18	GB/T276	Bearing 6202/P6	2	43	1E43F-E. 1-1	Piston	1
19	1E40F-E. 4. 1A	Crank Shaft	1	44	1E44F-2A. 2-2	Piston Pin	1
20	GB1099	Key 3x5x13	1	45	1E43FD. 1-2	Piston Ring	2
21	GB119	Pin B5 x 12	2	46	1E43F-E-2	Gasket	1
22	1E40F-E. 6-1	Crank Case	1	47	1E43F-E-1	Cylinder	1
23	GB9074. 4	Screw M4 x 8	1	48	GB70. 1+GB93+GB97	Screw M5 x 20	4
24	GB119	Pin B4 x 10	2	49	1E40F-E. 5	Guide Cover Ass'y	1
25	GB70. 1+GB93+GB97	Screw M5 x 30	4	50	L8RTC	Spark Plug	1

1E43F-E GASOLINE ENGINE (2)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
51	1E40F-3A. 8-2	Spring	1	76	1E36F-E-5	Stand	1
52	1E34F. 5-3	Plug Cap	1	77	1E40F-5A-2	Rubber Cover	1
53	1E34F. 5-2	Cap	1	78	P40. 12. 2-3A	Cleaner Cover	1
54	1E40F-5. 3-1	Plug	1	79	CG420. 1. 3. 2-2	Fuel Pipe 3 × 1. 5 × 180	1
55	1E40F-E-4	Cover	1	80	EB-415. 4. 2-2	Plug	1
56	1E40F-E-2	Gasket	1	81	EB-415. 4. 2-4	Fuel Pipe 2. 5 × 1. 25 × 80	1
57	1E40F-2E. 2	Muffler	1	82	GB70. 1+GB93+GB97	Screw M5 × 16	2
58	GB70. 1+GB93+GB97	Screw M5 × 12	2	83	1E40F-HS. 5. 1	Fuel Tank	1
59	GB70. 1+GB93+GB97	Screw M6 × 60	2	84	1E32FL. 6. 2-4	Chain	1
60	1E36F-2C-1	Gasket	1	85	1E32FL. 6. 2-3	End Cover	1
61	GB70. 1+GB93+GB97	Screw M5 × 25	4	86	1E32FL. 6. 2-2	Inside Cover	1
62	1E44F-2AD-5	Gasket	1	87	EB-415. 4. 1. 1-1	Inlet	1
63	1E40F-5A. 2A	Admitting Pipe	1	88	CG420. 1. 3. 1-2	Gasket	1
64	1E40F-5A-1	Gasket	1	89	1E32FL. 6. 2-1	Fuel Tank Lid	1
65	1E43F-E. 8	Carburetor	1	90	1E32FL. 6. 2	Lid Ass'y	1
66	1E34F. 1-2	Choker Handle	1	91	1E40F-5A-3	Rubber washer	2
67	1E34F. 1-7	Stop ring	1	92	1E40F-E-6	Cover	1
68	GB/T6170	Nut M4	1	93	1E36F-2-10	Label	1
69	1E34F. 1. 1	Cleaner inside cover	1				
70	GB70. 1+GB93+GB97	Screw M5x50	2				
71	1E34F. 1-3	Choker	1				
72	GB/T845	Screw ST4. 2X12	1				
73	1E34F. 1-1	Filter Net	1				
74	1E36F-E. 7-1	Cleaner Outside Cover	1				
75	1E34F. 1. 2	Screw	1				

The Parts List of Model
1E44F-E Engine



1E44F-E GASOLINE ENGINE (1)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
1	1E36FE. 9-3	Screw	1	26	HA46. 2. 1. 1	MAGNETO ROTOR COMP.	1
2	1E36FE. 9-4	Ratchet	1	27	GB/T859	Washer 8	1
3	1E36FE. 9-1	Starter Rope Reel	1	28	GB/T97. 1	Washer 8	1
4	1E36FE. 9-5	Starter Rope	1	29	GB6170	Nut M8	1
5	1E36FE. 9-7	Recoil Spring	1	30	1E40F-E. 3. 1-2	IGNITION COIL COMP.	1
6	1E36FE. 9-8	Starter Cover Ass'y	1	31	1E36F-2. 3. 1	Cord Comp.	1
7	GB9074. 4	Screw M5 x 20	5	32	GB9074. 13	Bolt M5 x 20	2
8	1E40FP-3Z. 4-2	Start Handle	1	33	1E36F-3	WasherB	2
9	1E40FP-3Z. 4-10	Ring	1	34	1E36F-E. 6A-1	Spring	1
10	1E36FE. 9-6	Spring	1	35	1E36F-2C. 4. 1	Expander	2
11	1E36FE. 9-2	Start pole	2	36	1E40F-5-11	Washer	2
12	1E36FE. 9	Starter	1	37	1E40F-5-12	Screw Pin	2
13	1E40F-5-10	Gasket	1	38	1E40F-5-9	Fan Cover	1
14	1E36FE. 7	Start Reel	1	39	1E40F-5. 9	Oil-seal	1
15	1E36F. 2	Oil-seal	1	40	GB9074. 13	Screw M5 x 25	4
16	1E40F-E. 6-2	Crank Case	1	41	1E44F-2A. 2-3	Bearing	1
17	1E40F-5. 8-4	Gasket	1	42	P40. 6-4	Ring	2
18	GB/T276	Bearing 6202/P6	2	43	1E44F-E. 3-1	Piston	1
19	1E40F-E. 4. 1A	Crank Shaft	1	44	1E44F-2A. 2-2	Piston Pin	1
20	GB1099	Key 3x5x13	1	45	1E44F-2A. 2-4	Piston Ring	2
21	GB119	Pin B5 x 12	2	46	1E40F-5-6	Gasket	1
22	1E40F-E. 6-1	Crank Case	1	47	1E44F-E-1	Cylinder	1
23	GB9074. 4	Screw M4 x 8	1	48	GB/T70. 1	Screw M5 x 20	4
24	GB119	Pin B4 x 10	2	49	1E40F-E. 5	Guide Cover Ass'y	1
25	GB9074. 4	Screw M5 x 30	4	50	L8RTC	Spark Plug	1

1E44F-E GASOLINE ENGINE (2)

NO.	Part No.	Part Name	Qty.	NO.	Part No.	Part Name	Qty.
51	1E40F-3A. 8-2	Spring	1	76	1E36F-E-5	Stand	1
52	1E34F. 5-3	Plug Cap	1	77	1E40F-5A-2	Rubber Cover	1
53	1E34F. 5-2	Cap	1	78	P40. 12. 2-3A	Cleaner Cover	1
54	1E40F-S. 3-1	Plug	1	79	CG420. 1. 3. 2-2	Fuel Pipe 3x1.5x145	1
55	1E40F-E-4	Cover	1	80	EB-415. 4. 2-2	Plug	1
56	1E40F-E-2	Gasket	1	81	EB-415. 4. 2-4	Fuel Pipe 2.5x1.25x80	1
57	1E44F-E. 2-SW	Muffler	1	82	GB/T9074. 4	Screw M5x16	2
58	GB9074. 4	Screw M5x12	2	83	1E40F-HS. 5. 1	Fuel Tank	1
59	GB/T93	Washer 5	2	84	1E32FL. 6. 2-4	Chain	1
60	GB/T97. 1	Washer 5	2	85	1E32FL. 6. 2-3	End Cover	1
61	GB/T70. 1	Screw M5x25	2	86	1E32FL. 6. 2-2	Inside Cover	1
62	1E40F-5-2	Gasket	1	87	EB-415. 4. 1. 1-1	Inlet	1
63	HA46. 9	Admitting Pipe	1	88	CG420. 1. 3. 1-2	Gasket	1
64	1E40F-5A-1	Gasket	1	89	1E32FL. 6. 2-1	Fuel Tank Lid	1
65	1E40F-2E. 1A	Carburetor	1	90	1E32FL. 6. 2	Lid Ass'y	1
66	1E34F. 1-2	Choker Handle	1	91	1E40F-5A-3	Rubber washer	2
67	1E34F. 1-7	Stop ring	1				
68	GB/T6170	Nut M4	1	93	1E36F-2-10	Label	1
69	1E34F. 1. 1	Cleaner inside cover	1	94	1E40F-E-6	Cover	1
70	GB/T9074. 4	Screw M5x50	2				
71	1E34F. 1-3	Choker	1	96	GB/T70. 1	Screw M6x60	2
72	GB/T845	Screw ST4. 2X12	1	97	GB/T93	Washer 6	2
73	1E34F. 1-1	Filter Net	1	98	GB/T97. 1	Washer 6	2
74	1E36F-E. 7-1	Cleaner Outside Cover	1	99	1E36F-2C-1	Gasket	1
75	1E34F. 1. 2	Screw	1				

XI. SERVICE INFORMATION OF EPA

Address: 402 W BROADWAY SUITE 1120

SAN DIEGO CA 92101

Telephone number: 1-888-876-3567

Email: lawrence@tomahawk-power.com

XII. EMISSION CONTROL WARRANTY STATEMENT

I. CALIFORNIA AND FEDERAL EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The California Air Resources Board, the United States Environmental Protection Agency and Shandong Huasheng Zhongtian Machinery Group Co., Ltd. are pleased to explain the emissions control system warranty on your 2016-2017 small off-road engine/equipment (SORE). In the United States and California, new small off-road engine/equipment must be designed, built and equipped to meet the State's stringent anti-smog standards. Shandong Huasheng Zhongtian Machinery Group Co., Ltd. must warrant the emissions control system on your small off-road engine/equipment for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine/equipment.

Your emission control system may include parts such as the carburetor, fuel-injection system, the ignition system, catalytic converter, fuel tanks, fuel lines, fuel caps, valves, canisters, filters, vapor hoses, belts, clamps, connectors, and other associated emission-related components. For engines less than or equal to 80 cc, only the fuel tank is subject to the evaporative emission control warranty requirements of this section. (California only)

Where a warrantable condition exists, Shandong Huasheng Zhongtian Machinery Group Co., Ltd. will repair your small off-road engine/equipment at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

The emissions control system is warranted for two years. If any emissions-related part on your small off-road engine/equipment is defective, the part will be repaired or replaced by Shandong Huasheng Zhongtian Machinery Group Co., Ltd.

OWNER'S WARRANTY RESPONSIBILITIES:

As the small off-road engine/equipment owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Shandong Huasheng Zhongtian Machinery Group Co., Ltd. recommends that you retain all receipts covering maintenance on your small off-road engine/equipment, but Shandong Huasheng Zhongtian Machinery Group Co., Ltd. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the small off-road engine/equipment owner, you should however be aware that Shandong Huasheng Zhongtian Machinery Group Co., Ltd. may deny your warranty coverage if your small off-road engine/equipment or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine/equipment to distribution center or service center authorized by Shandong Huasheng Zhongtian Machinery Group

Co., Ltd. as soon as the problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact Shandong Huasheng Zhongtian Machinery Group Co., Ltd. customer service representative at 1-888-876-3567, or Email: lawrence@tomahawk-power.com.

DEFECTS WARRANTY REQUIREMENTS

- (a) The warranty period begins on the date the small off-road engine/equipment is delivered to an ultimate purchaser.
- (b) General Emissions Warranty Coverage. Shandong Huasheng Zhongtian Machinery Group Co., Ltd. warrants to the ultimate purchaser and each subsequent owner that the engine/equipment is:
 - (1) Designed, built, and equipped so as to conform with all applicable regulations adopted

by the Air Resources Board; and

(2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

(c) Subject to certain conditions and exclusions as stated below, the warranty on emissions related parts is as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in your Owner's Manual is warranted for the warranty period stated above. If the part fails during the period of warranty coverage, the part will be repaired or replaced by Shandong Huasheng Zhongtian Machinery Group Co., Ltd. according to Subsection (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period.

(2) Any warranted part that is scheduled only for regular inspection in your Owner's Manual is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in your

Owner's Manual is warranted for the period of time before the first scheduled replacement date for that part. If the part fails before the first scheduled replacement, the part will be repaired or replaced by Shandong Huasheng

Zhongtian Machinery Group Co., Ltd. according to Subsection (4) below. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the warranty provisions herein must be performed at a warranty station at no charge to the owner.

(5) Notwithstanding the provisions herein, warranty services or repair will be provided at all of our distribution centers that are franchised to service the subject small off-road engine/equipment.

(6) The small off-road engine/equipment owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Shandong Huasheng Zhongtian Machinery Group Co., Ltd. is liable for damages to other small off-road engine/equipment components proximately caused by a failure under

warranty of any warranted part.

(8) Throughout the small off-road engine/equipment warranty period stated above, Shandong Huasheng Zhongtian Machinery Group Co., Ltd. will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.

(9) Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of Shandong Huasheng Zhongtian Machinery Group Co., Ltd.

(10) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the ultimate purchaser will be grounds for disallowing a warranty claim. Shandong Huasheng Zhongtian Machinery Group Co., Ltd. will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.

(11) The manufacturer issuing the warranty shall provide any documents that describe that manufacturer's warranty procedures or policies within five working days of request by the Air Resources Board.

EMISSION WARRANTY PARTS LIST

The repair or replacement of any warranted part otherwise eligible for warranty coverage may be excluded from such warranty coverage if Shandong Huasheng Zhongtian Machinery Group Co., Ltd. demonstrates that the small off-road engine/equipment has been abused, neglected, or improperly maintained, and that such abuse, neglect, or improper maintenance was the direct cause of the need for repair or replacement of the part. That notwithstanding, any adjustment of a component that has a factory installed, and properly operating, adjustment limiting device is still eligible for warranty coverage. The following emissions warranty parts for each engine family list is covered.

For engine families greater than 80cc:

- (1) Fuel Metering System:
 - (a) Gasoline carburetor assembly and its internal components
 - (b) Carburetor gaskets
 - (c) Fuel tank

- (d) Fuel Line
- (e) Fuel Line Fittings
- (f) Clamps
- (g) Pressure regulator (if equipped)
- (h) Mixer assembly and its internal components (if equipped)
- (2) Air Induction System including:
 - (a) Intake pipe/manifold
 - (b) Air cleaner
- (3) Ignition System including:
 - (a) Spark plug
 - (b) Ignition coil
- (4) Catalytic Muffler Assembly including:
 - (a) Muffler gasket
 - (b) Exhaust manifold
 - (c) Catalytic converter
- (5) Crankcase Breather Assembly including:

- (a) Breather connection tube.
- (6) Fuel tank evaporative emissions control system including:
 - (a) Purge Valves
 - (b) Carbon Canister
 - (c) Canister Mounting Brackets
 - (d) Fuel Cap
 - (e) Fuel Tank

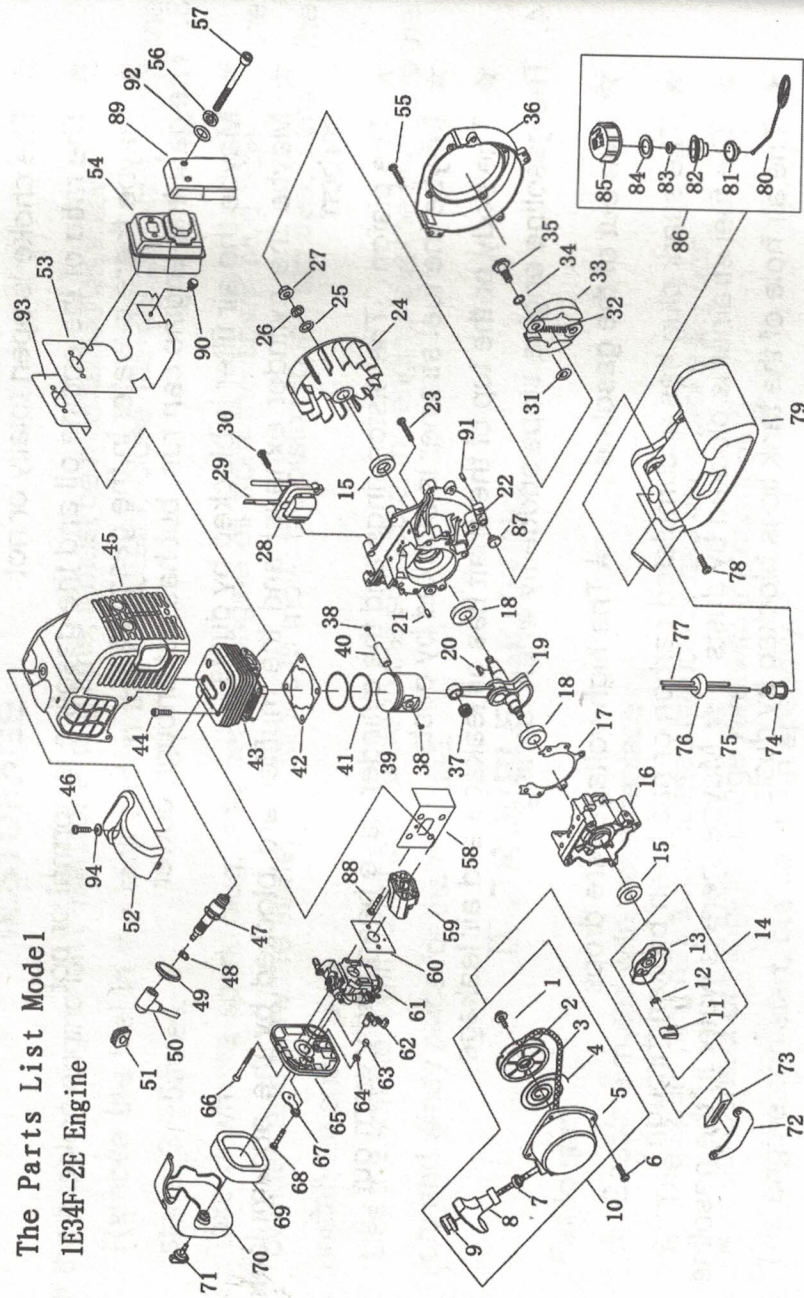
(7) Miscellaneous items Used in Above Systems including:

- (a) Switches
- (b) Hoses, belts, connectors, and assemblies.
- (8) Air injection system
 - (a) Pulse valve

For engine families less than or equal to 80cc:

- (1) Fuel Metering System:
 - (a) Gasoline carburetor assembly and its internal components

The Parts List Model
1E34F-2E Engine



(b) Hoses, belts, connectors, and assemblies.

(7) Fuel tank evaporative emissions control system including:

(a) Fuel Tank

The warranty is provided in accordance with the "California AND FEDERAL Emission Control Warranty Statement".

