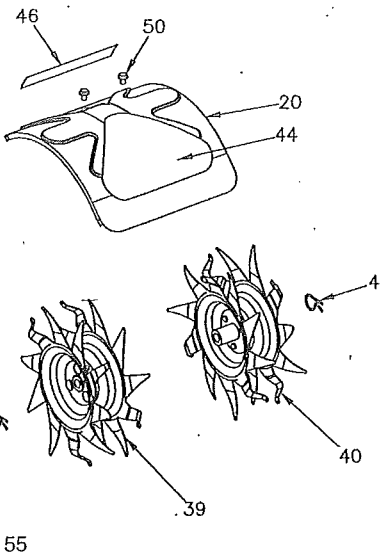
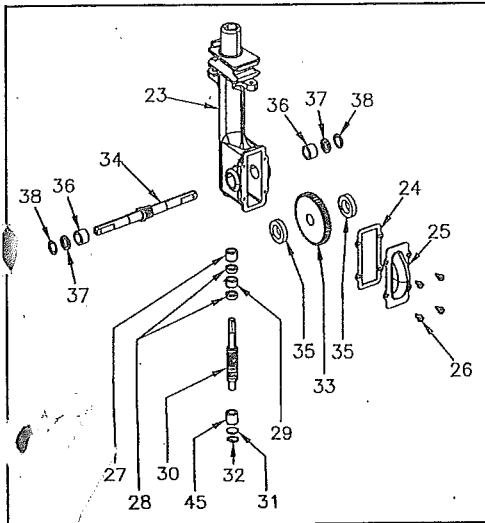
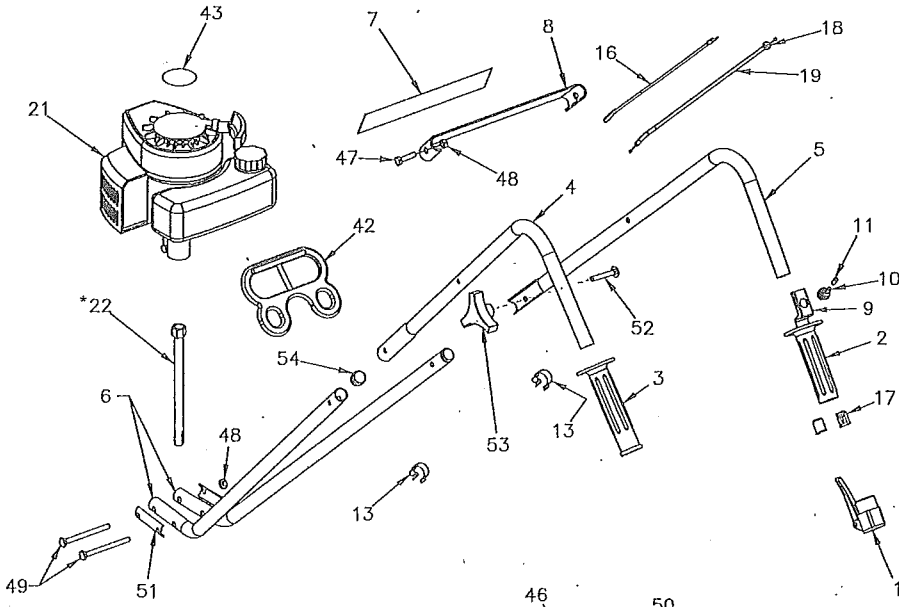
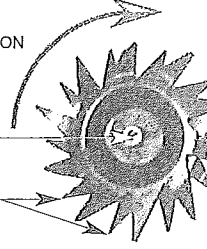


MANTIS TILLER ASSEMBLY



P/N 438LA

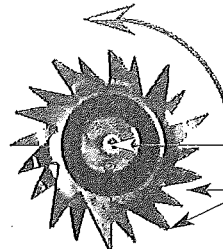
DIRECTION 

Raised Hub

Teeth point in a Clockwise Direction

When you look at a Tine with the raised hub facing you and the teeth are pointing in a **CLOCKWISE** rotation, you have a **LEFT HAND TINE**.

P/N 438RA

DIRECTION 

Raised Hub

Teeth point in a Counter Clockwise Direction

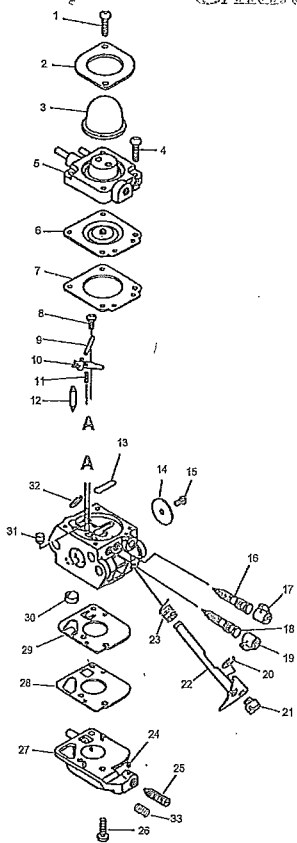
When you look at Tine with the raised hub facing you and the teeth are pointing in a **COUNTER CLOCKWISE** rotation, you have a **RIGHT HAND TINE**.

ITEM	NAME	QTY	MATERIAL	ITEM	NAME	QTY	MATERIAL	ITEM	NAME	QTY	MATERIAL
1	400215	1	Throttle Lever	19	467-2	1	Throttle Cable Assy.	38	435	2	Bearing Seal Retainer
2	400220	1	Grip-Thru	20	465	1	Fender Guard	39	438LA	1	Tine Assembly (LT)
3	400214	1	Grip	21	380E-4B1E	1	Engine Assembly	40	438RA	1	Tine Assembly (RT)
4	400226	1	Upper Handle	*22	468	1	Drive Shaft	41	418-1	2	Tine Retaining Hair Pin
5	400225	1	Upper Handle Throttle Side	23	466	1	Worm Gear Housing	42	400218	1	Carrying Handle
6	400224	2	Lower Handle - Fold Down	24	436	1	Gasket	43	487MA	1	Engine Label
7	488M	1	Label	25	437A	1	Housing Cover	44	4043	1	Tine Label
8	148	1	Handle Brace	26	651	4	Rd. Hd. Self Tapping Screw	45	458	1	Roller Bearing
9	464	1	Switch Bracket	27	423	1	Roller Bearing	46	4058	1	Mantis Label
10	479	1	Switch	28	425	2	Worm Bearing Race	47	410	2	Cap Screw 1/4-20 x 1" LG.
11	1612-70A	1	Switch Cover	29	424	1	Worm Thrust Bearing	48	972	4	Lock Nut 1/4 - 20
13	478	2	Throttle Clip	30	422	1	Worm Shaft	49	470	2	1/4 - 20 x 3" Bolt
16	4075	1	Connector Wire	31	426	1	Worm Disk	50	140	2	Bolt 1/4-20 x 3/8" Lg.
17	400229	2	Cable Retainer	32	428	1	Retaining Ring	51	377	2	Handle Clamp
18	413	1	Retaining Ring	33	429	1	Worm Gear	52	400509	2	Bolt
				34	431	1	Tine Shaft	53	400510	2	Knob
				35	430	2	Worm Gear Thrust Washer	54	400230	2	Plug
				36	432	2	Worm Gear Bearing	55	400010	1	Transmission Assembly
				37	434	2	Bearing				

* Also in Key #55

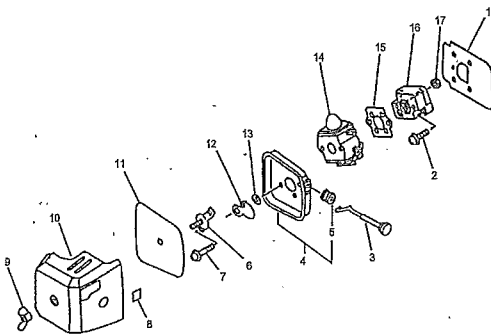
SV-4B1E ENGINE PARTS ASSEMBLIES

CARBURETOR

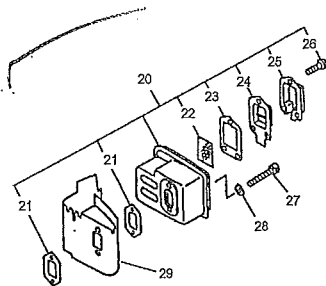


KEY NO.	PART NO.	QTY	DESCRIPTION	KEY NO.	PART NO.	QTY	DESCRIPTION
	12520013122	1	Carburetor Assy Includes the following:	21	12537242030	1	Swivel
1	12534405360	2	Screw	22	12531713310	1	Shaft, Throttle
2	12536308560	1	Ring	23	12531342030	1	Spring, Throttle Return
3	12538108660	1	Pump, Purge	24	12537813930	1	Piece, Friction
4	12531005360	2	Screw	25	12533306960	1	Screw, Idle Adjust
5	12538305360	1	Base, Purge	26	12533306960	2	Screw
6	A B	1	Diaphragm, Metering	27	12532412820	1	Cover, Pump
7	A B	1	Gasket, Metering	28	A B	1	Gasket, Fuel Pump
8	12533942030	1	Screw	29	A B	1	Diaphragm, Fuel Pump
9	A	1	Pen, Metering Arm	30	A	1	Strainer
10	A	1	Lever, Metering	31	12537649030	1	Nozzle, Main Check Valve
11	A	1	Spring, Metering Lever	32	12532715130	1	Clip
12	A	1	Valve, Inlet Needle	33	12533406560	1	Spring, Adjust Screw
13	A	1	Plug, Welch	A	12530012820	1	Rebuild Kit
14	12531649030	1	Valve, Throttle	B	12530320560	1	Gasket/Diaphragm Kit
15	12531413930	1	Screw				
16	12531813120	1	Needle, Low Speed				
17	12532909860	1	Cap, Limiter L.L.				
18	12532013310	1	Needle, High Speed				
19	12532939030	1	Cap, Limiter H.S.				
20	12532713930	1	Clip				

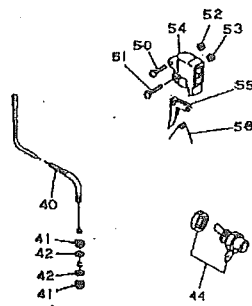
AIR CLEANER, MUFFLER, & THROTTLE



KEY NO.	PART NO.	QTY	DESCRIPTION
1	13001042032	1	Gasket, Intake
2	90023805020	2	Screw 5 x 20
3	17851004560	1	Rod, Choke
4	13030104560	1	Case, Air Cleaner
5	17881005230	1	Grommet
6	13041005360	1	Bracket, Air Cleaner
7	90024205057	2	Screw 5 x 57
8	89012140630	1	Label, Choke
9	90052800005	1	Nut, Wing
10	13032611521	1	Cover, Air Cleaner
11	13031004560	1	Filter, Air
12	17851504560	1	Shutter, Choke
13	17851600830	1	Spacer
14	12520013122	1	Carburetor Assy
15	13001642031	1	Gasket, Intake



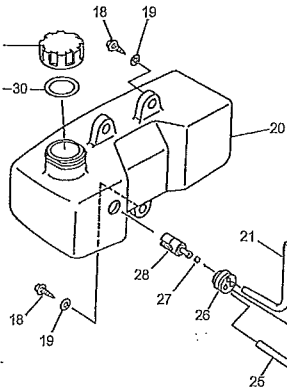
KEY NO.	PART NO.	QTY	DESCRIPTION
16	13001742031	1	Insulator
17	90050000005	2	Nut 5
20	14580011821	1	Muffler Assy (Includes Items 21-26)
21	14551042031	2	Gasket, Muffler (Included In Kit 88900045131)
22	14586240630	1	Screen, Muffler
23	14586642031	1	Gasket, Muffler Lid (Included In Kit 88900045131)
24	14587642030	1	Lid, Muffler
25	14586306960	1	Fixture, Screen
26	90024204010	3	Screw 4 x 10
27	90010505050	2	Bolt 5 x 50
28	90060000005	2	Washer 5
29	14587105360	1	Cover, Muffler



KEY NO.	PART NO.	QTY	DESCRIPTION
40	178001-11820	1	Throttle Cable
41	900502-00006	2	Nut, 6
42	900610-00006	2	Washer, Lock 6
44	163400-02160	1	Switch, On/Off
50	900220-05028	1	Screw, Shoulder 5 x 25
51	178110-05330	1	Screw 5 x 28
52	900500-00005	1	Locknut 5
53	900560-00005	1	Nut 5
54	178024-06130	1	Throttle Bracket
55	178010-06460	1	Throttle Trigger
56	178043-05230	1	Spring Throttle Return

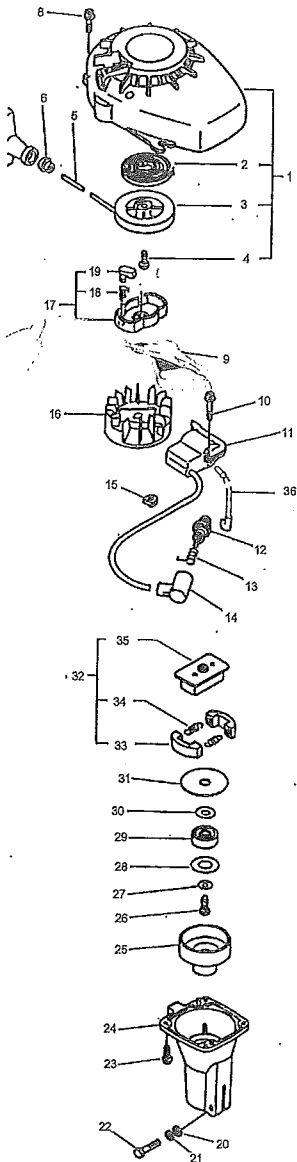
SV-4B1E ENGINE PARTS

FUEL TANK



KEY NO.	PART NO.	QTY	DESCRIPTION
18	90027505018	3	Screws 5x15
19	90060300005	3	Washers
20	13100511820	1	Tank, Fuel
21	13201011520	1	Pipe 3x5x210
22	13130056430	1	Valve, Check
23	13011100530	1	Clip, Pipe
24	13131244330	1	Pipe 3x 5x 70
25	13201049030	1	Pipe 3x6x50
26	13211546730	1	Grommet, Fuel
27	13201309820	1	Clip
28	13120507320	1	Strainer, Fuel
29	13100453530	1	Cap Asy, Fuel Tank (Includes Item 30)
30	13101655830	1	Gasket, Fuel Cap

STARTER, PAWL CATCHER & CLUTCH



KEY NO.	PART NO.	QTY	DESCRIPTION
1	177200 12820	1	Starter Asy
2	17722042030	1	Spring, Rewind
3	17721544430	1	Drum, Starter
4	17723644330	1	Screw
5		1	Rope Starter (Use Bulk Rope 99944400040 3 x 890 (.12 x 33.5))
6	17727742030	1	Guide, Rope
7	17728811120	1	Grip, Starter
8	90023804016	4	Screw 4x16
9	90060500008	1	Washer, Spring 8
10	90016204022	2	Bolt 4 x 22
11	15660152130	1	Coil, Ignition
12	99944500071	1	Spark Plug BPM-7Y
13	15901103432	1	Coil, Spark Plug
14	15901201620	1	Cap, Spark Plug
15	15611004920	1	Bushing
16	15680105360	1	Flywheel
17	17720212220	1	Pawl Asy, Starter (Includes Items 18 & 19)
18	17723442030	2	Spring, Pawl Return
19	17721844330	2	Pawl, Starter
20	90060000005	1	Washer 5
21	90060500005	1	Washer, Spring 5
22	90011505025	1	Bolt 5x25
23	90023804014	4	Screw 4x14
24	61022311520	1	Case Clutch
25	17501004633	1	Drum, Clutch
26	90023806012	1	Screw 6x12
27	17501411520	1	Washer, Clutch
28	17504404630	1	Washer, Clutch
29	90080836000	1	Bearing, Ball 6000
30	90060000010	1	Washer 10
31	17501904630	1	Plate, Clutch
32	17500007531	1	Clutch Asy (Includes Items 33-35)
33	17500905131	2	Shoe, Clutch
34	17501805130	2	Spring, Clutch
35	17501605020	1	Hub, Clutch
36	16202152830	1	Lead, Ignition

BLOCK

KEY NO.	PART NO.	QTY	DESCRIPTION
1	10020411520	1	Crankcase kit (Includes Items 2-6)
2	10021242030	2	Seal, Oil
3	10021503930	2	Pin, Dowel
4		1	Gasket, Crankcase (Included in Kit 88900045131)
5	90081036201	2	Bearing, Ball 620
6	90016205028	3	Bolt 5x28
7	10010013120	1	Crankshaft Asy
8	61032502730	1	Key, Woodruff
9	10000048732	1	Piston, Kit (Includes Items 10-14)
10	10001105330	2	Ring, Piston
11	10001504630	2	Circlip, Piston Pin
12	10001411520	2	Spacer, Piston Pin
13	10001251230	1	Bearing, Needle
14	10001311520	1	Pin, Piston
15	10101044332	1	Gasket, Cylinder Base (Included in Kit 889000045131)
16	10101106562	1	Cylinder
17	90016205022	2	Bolt 5x22
18	90023804018	2	Screw 4x18
19	10150612820	1	Cover, Cylinder

