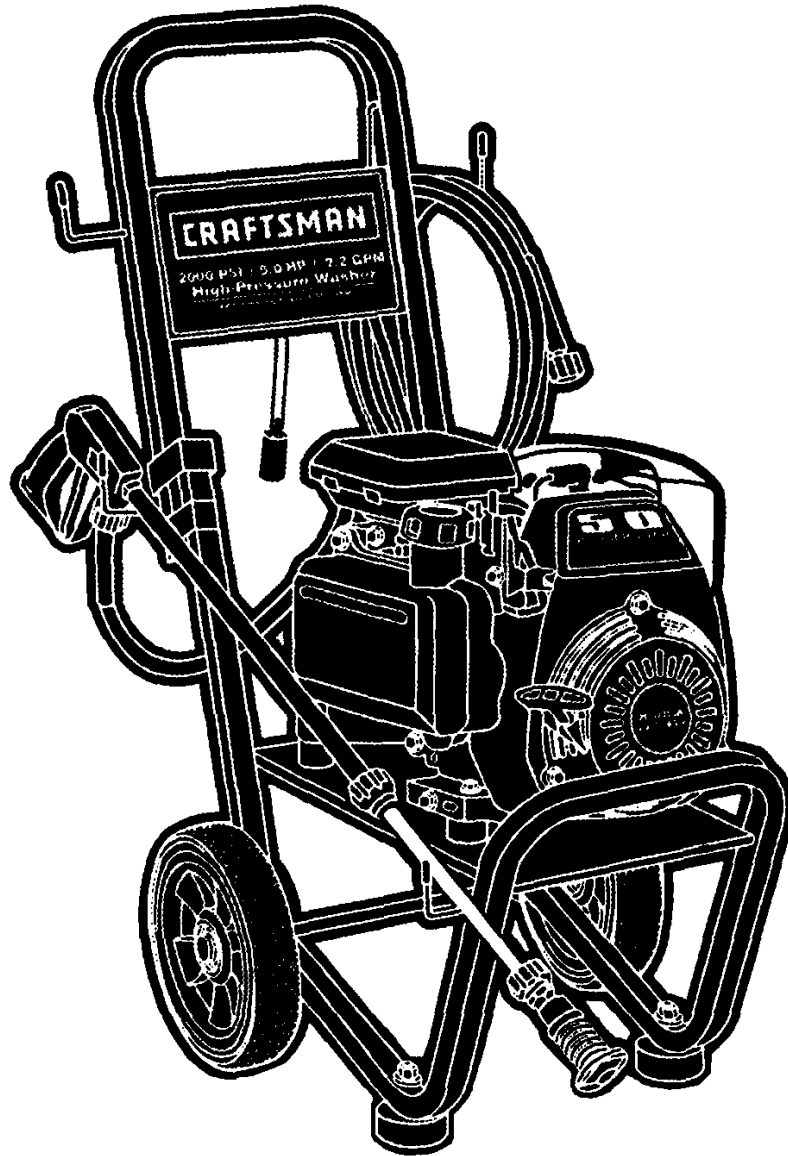


Mfg. No: 1054-0
580.762010, 2,000 PSI Craftsman



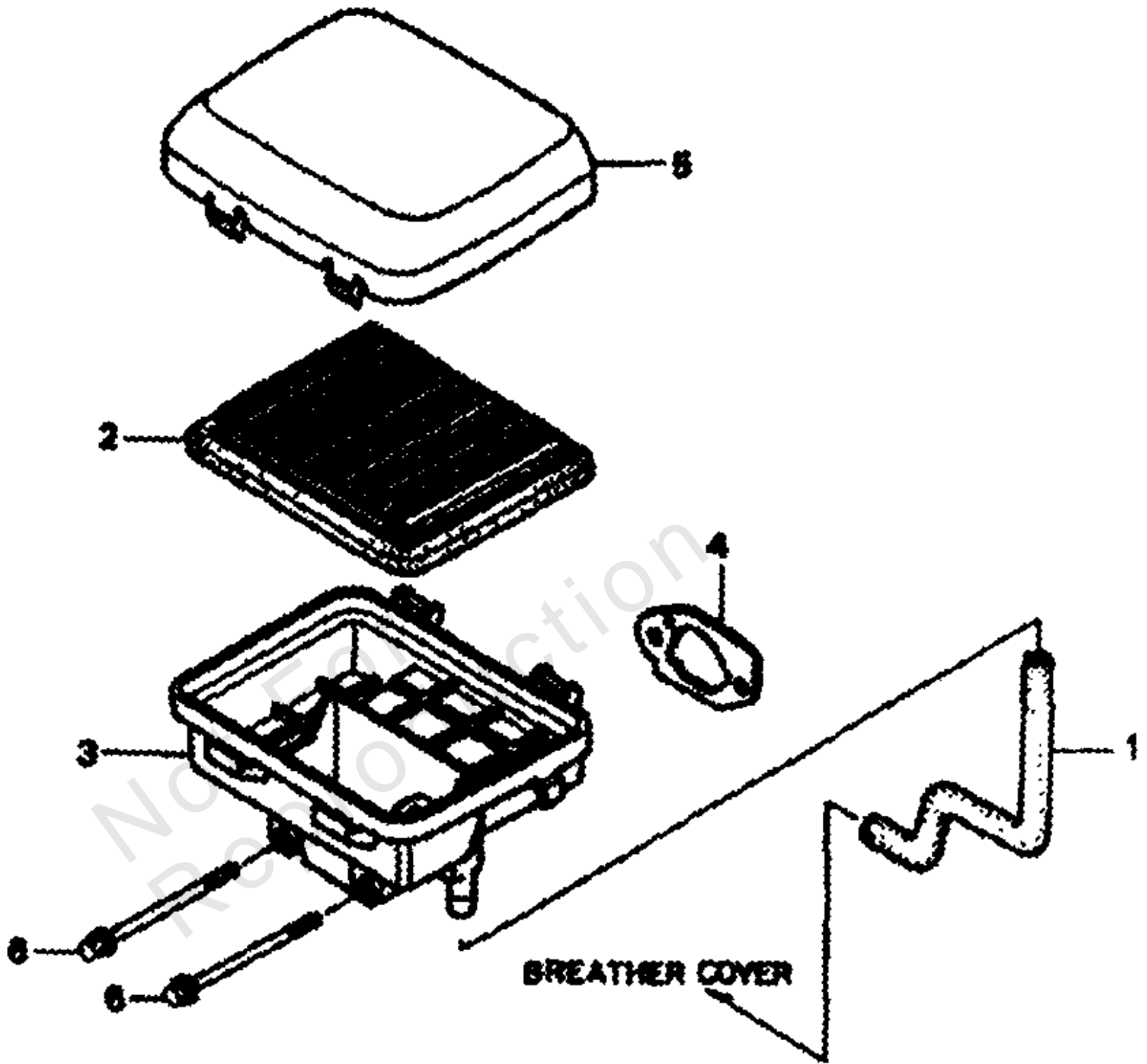
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Air Cleaner

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Air Cleaner

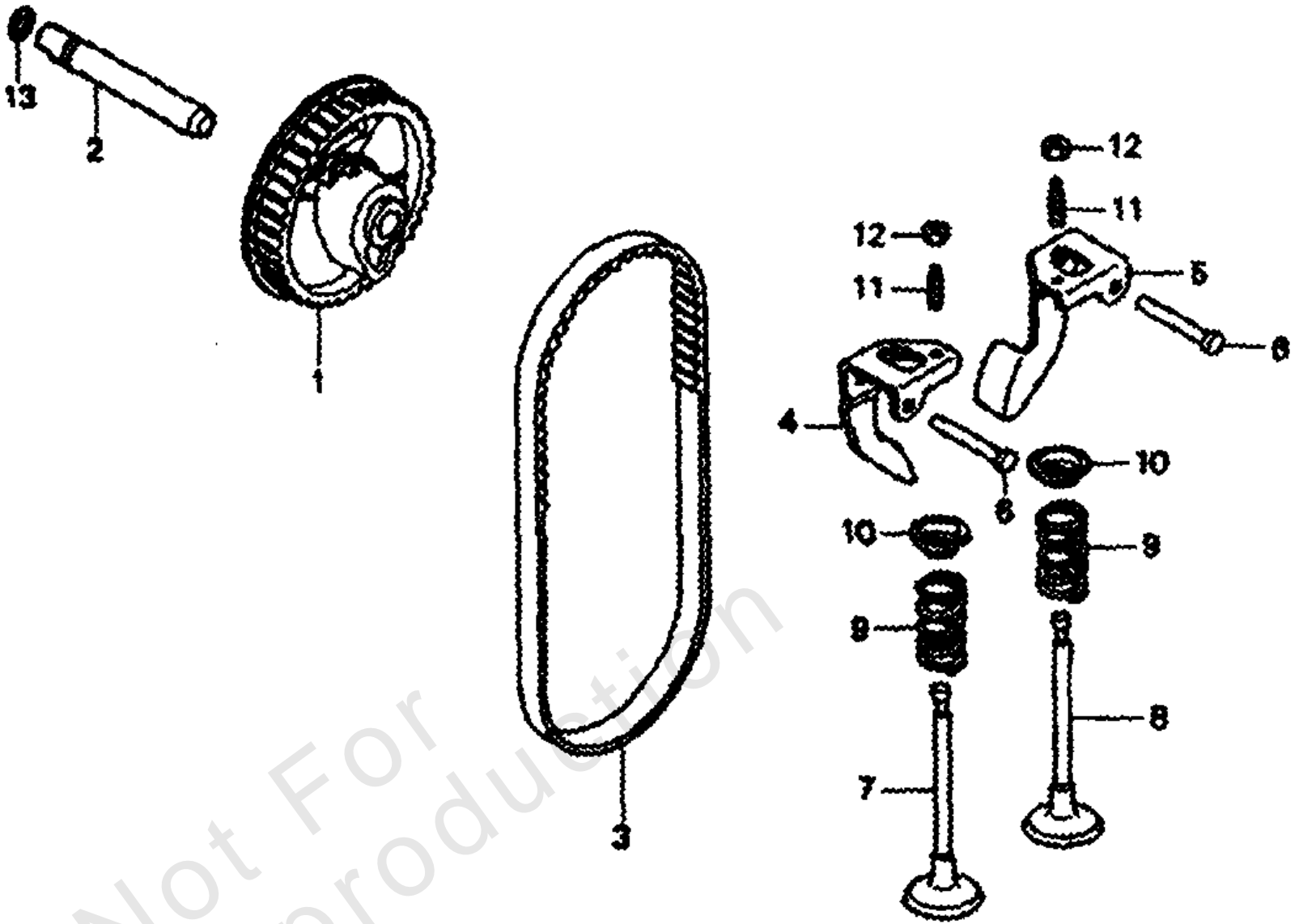
REF NO	PART NO	QTY	DESCRIPTION
1	15721ZL8000	1	Tube, Breather
2	15721ZL8000	1	Element, Air Cleaner
3	17220ZL8000	1	Housing Comp., Air Cleaner
4	17228ZL8000	1	Gasket, Air Cleaner
5	17231ZL8000	1	Cover, Air Cleaner
6	90003ZL8000	2	Bolt, Flange (6 x 112) (CT200)

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Camshaft

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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Camshaft

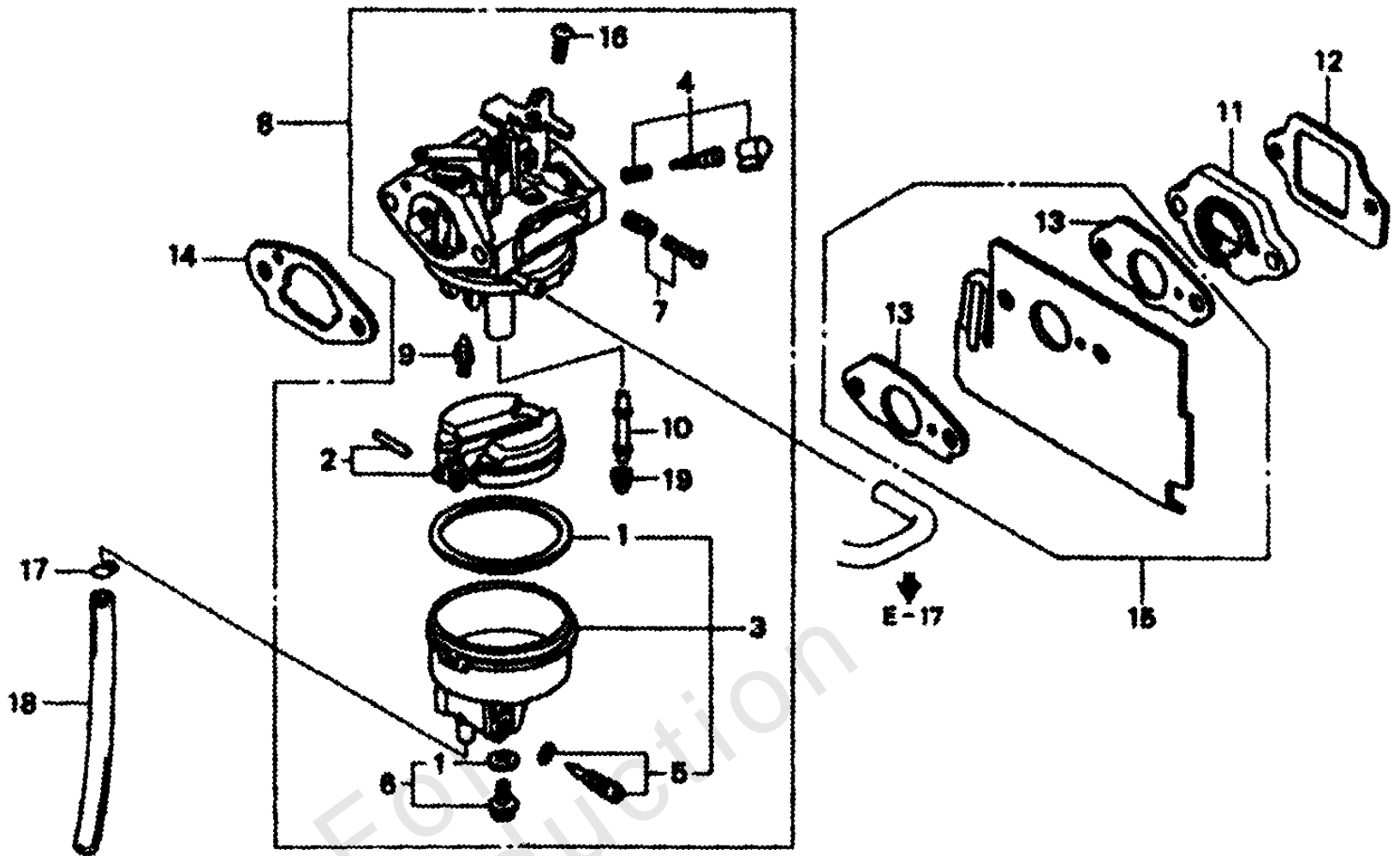
REF NO	PART NO	QTY	DESCRIPTION
1	14320ZL8000	1	Pulley Comp., Camshaft
2	14324ZL8000	1	Shaft, Cam Pulley
3	14400ZL8003	1	Belt, Timing (84HU7 G-200)
4	14431ZL8000	1	Arm, In. Valve Rocker
5	14441ZL8000	1	Arm, Ex. Valve Rocker
6	14461ZL8000	2	Shaft, Rocker Arm
7	14711ZL8000	1	Valve, In.
8	14721ZL8000	1	Valve, Ex.
9	14751ZL8000	2	Spring, Valve
10	14771ZE1000	2	Retainer, In. Spring Valve
11	90012333000	2	Screw, Tappet Adj.
12	90206001000	2	Nut, Tappet Adj.
13	91306PJ4000	1	O-Ring (6.8 x 1.9)

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Carburetor

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



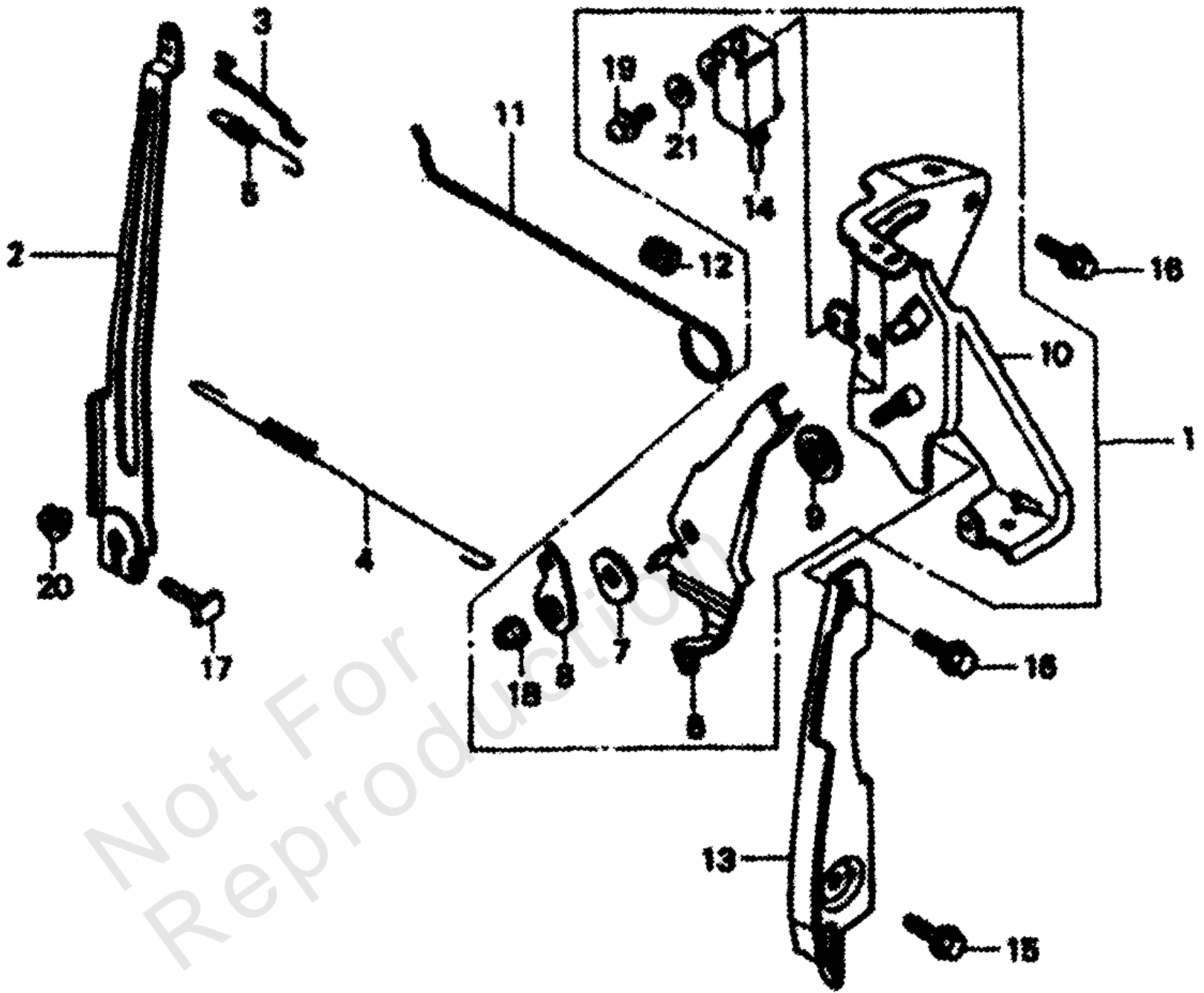
Carburetor

REF NO	PART NO	QTY	DESCRIPTION
1	16010883015	1	Gasket Set
2	16013ZL1003	1	Float Set
3	16015ZL8003	1	Chamber Set, Float
4	16016ZG0W00	1	Screw Set
5	16024124760	1	Screw Set, Drain
6	16028ZE0005	1	Screw Set B
7	16029ZG0901	1	Screw Set
8	16100ZL8801	1	Carburetor Assy. (BB61B B)
9	16155ZL8003	1	Valve Comp., Float
10	16166ZL8003	1	Nozzle, Main
11	16211ZL8000	1	Insulator, Carburetor
12	16212ZL8000	1	Gasket, Insulator
13	16221883800	2	Gasket, Carburetor
14	16288ZL8000	1	Gasket, Carburetor (Choke side)
15	19650ZL8000	1	Guide Comp., Air
16	93500050061H	1	Screw, Pan (5 x 6)
17	9500202650	1	Clip, Tube (B 6.5)
18	950030700060M	1	Bulk Hose, Vinyl (4 x 7 x 8000) (4 x 7 x 150)
19	991011240600	1	Jet, Main (#60)
	991011240620	1	Jet, Main (062)
	991011240650	1	Jet, Main (065)

Control 1

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



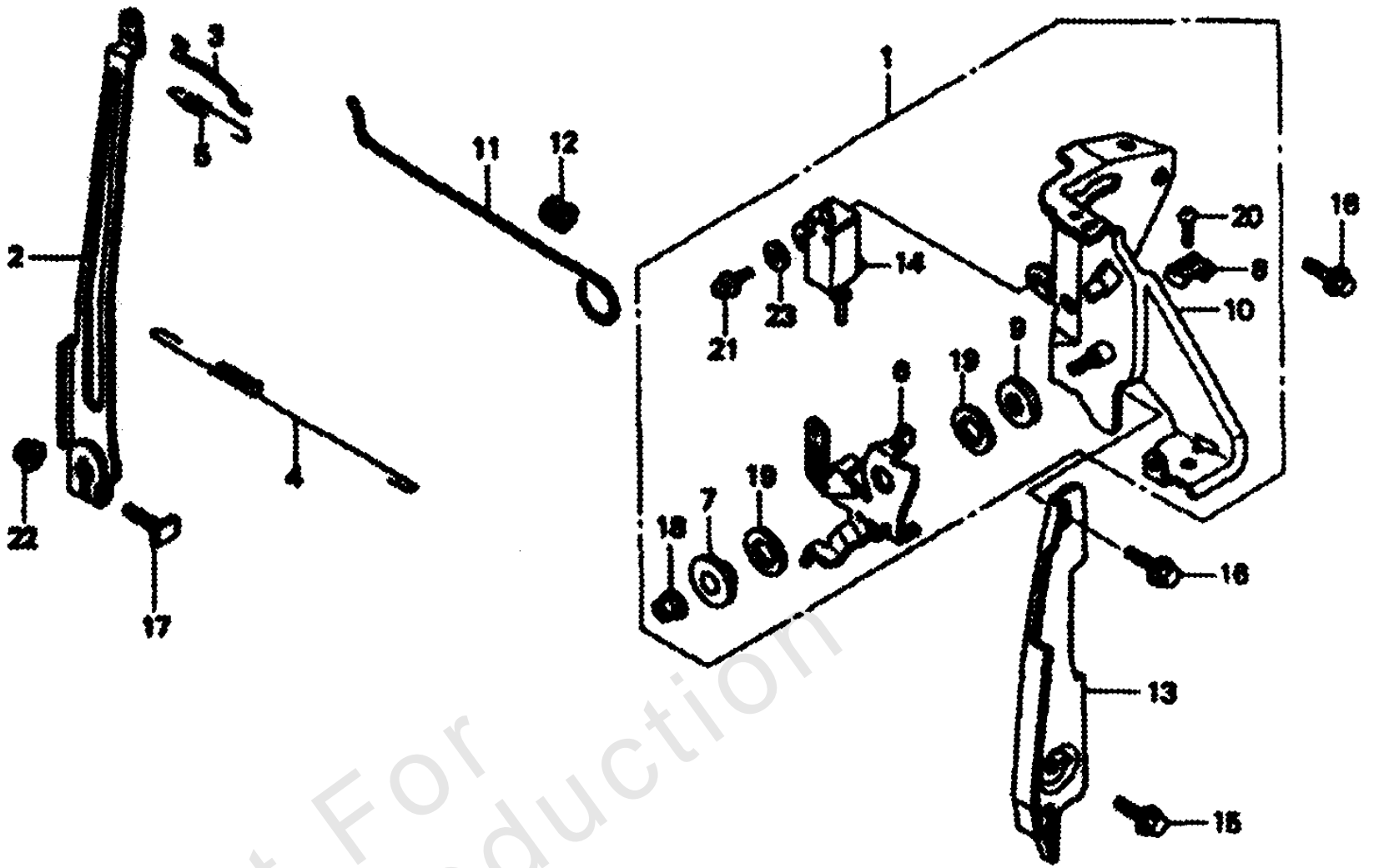
Control 1

REF NO	PART NO	QTY	DESCRIPTION
1	16500ZL8000	1	Control Assy.
2	16551ZL8000	1	Arm, Governor
3	16555ZL8000	1	Rod, Governor
4	16561ZL8000	1	Spring, Governor
5	16562ZL8000	1	Spring, Throttle Return
6	16571ZL8000	1	Lever, Control
7	16574ZE1000	1	Spring, Lever
8	16575ZL8000	1	Washer, Control Lever
9	16578ZE1000	1	Spacer, Control Lever
10	16580ZL8000	1	Base Comp., Control
11	16611ZL8000	1	Rod, Choke Control
12	16613893000	1	Grommet, Choke Rod
13	19612ZL8000	1	Plate, Side
14	35120ZL8003	1	Switch Assy., Engine Stop (N.O)
15	90013883000	1	Bolt, Flange (6 x 12)
16	90014952000	2	Bolt, Flange (6 x 14)
17	90015ZE5010	1	Bolt, Governor Arm
18	90114SA0000	1	Nut, Self-lock (6MM)
19	938920401200	1	Screw-Washer (4 x 12)
20	9405006000	1	Nut, Flange (6MM)
21	9410304000	1	Washer, Plain

Control 2

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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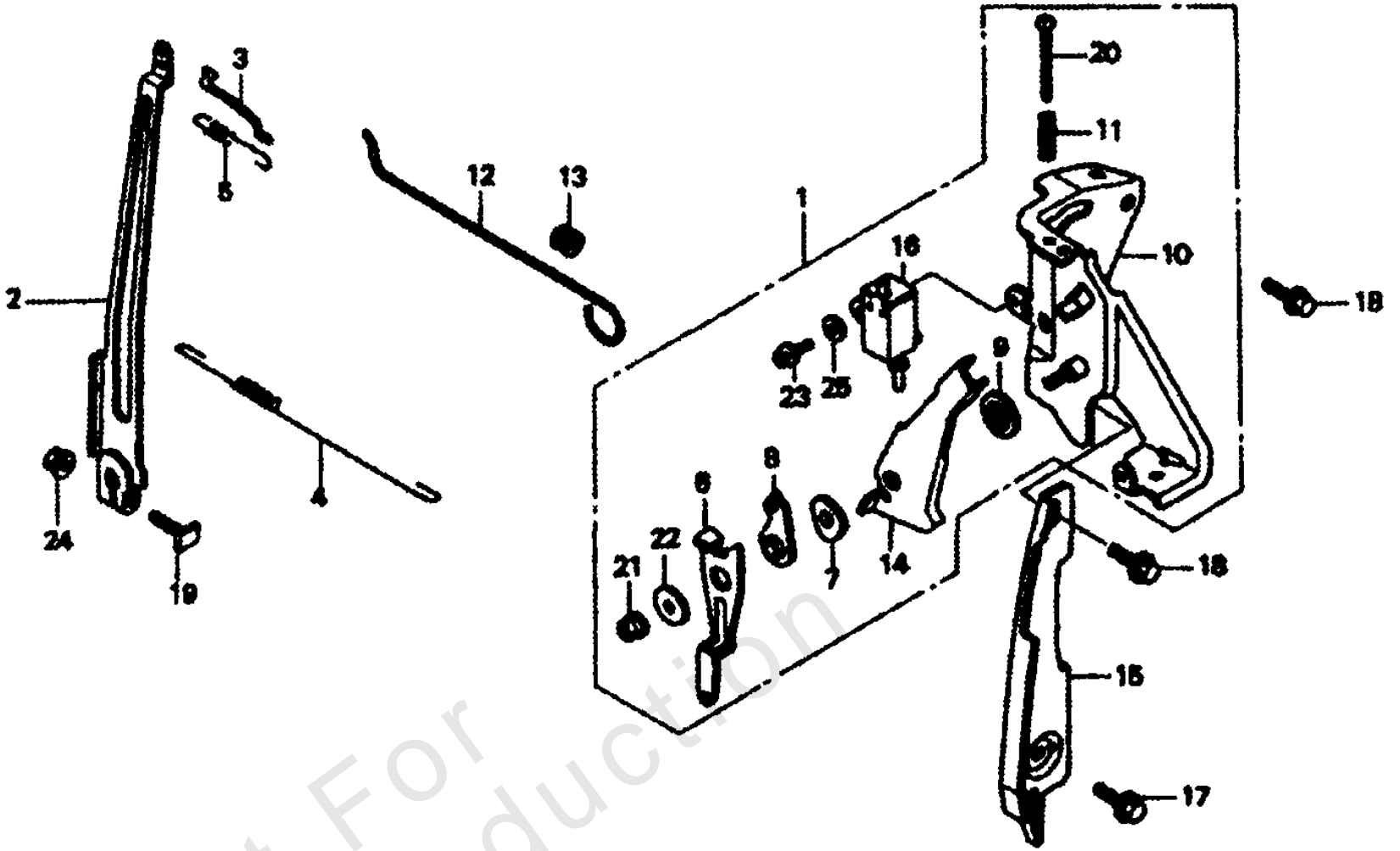
Control 2

REF NO	PART NO	QTY	DESCRIPTION
1	16500ZL8800	1	Control Assy.
2	16551ZL8000	1	Arm, Governor
3	16555ZL8000	1	Rod, Governor
4	16561ZL8000	1	Spring, Governor
5	16562ZL8000	1	Spring, Throttle Return
6	16571ZL8800	1	Lever, Control
7	16575ZL8800	1	Washer, Control Lever
8	16576891000	1	Holder, Cable
9	16578ZL8800	1	Spacer, Control Lever
10	16580ZL8000	1	Base Comp., Control
11	16611ZL8000	1	Rod, Choke Control
12	16613893000	1	Grommet, Choke Rod
13	19612ZL8000	1	Plate, Side
14	35120ZL8003	1	Switch Assy., Engine Stop (N.O)
15	90013883000	1	Bolt, Flange (6 x 12)
16	90014952000	2	Bolt, Flange (6 x 14)
17	90015ZE5010	1	Bolt, Governor Arm
18	90114SA0000	1	Nut, Self-lock (6MM)
19	90452KG8000	2	Washer (12.5MM)
20	93500050160A	1	Screw, Pan (5 x 16)
21	938920401200	1	Screw-Washer (4 x 12)
22	9405006000	1	Nut, Flange (6MM)
23	9410304000	1	Washer, Plain (4MM)

Control 3

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



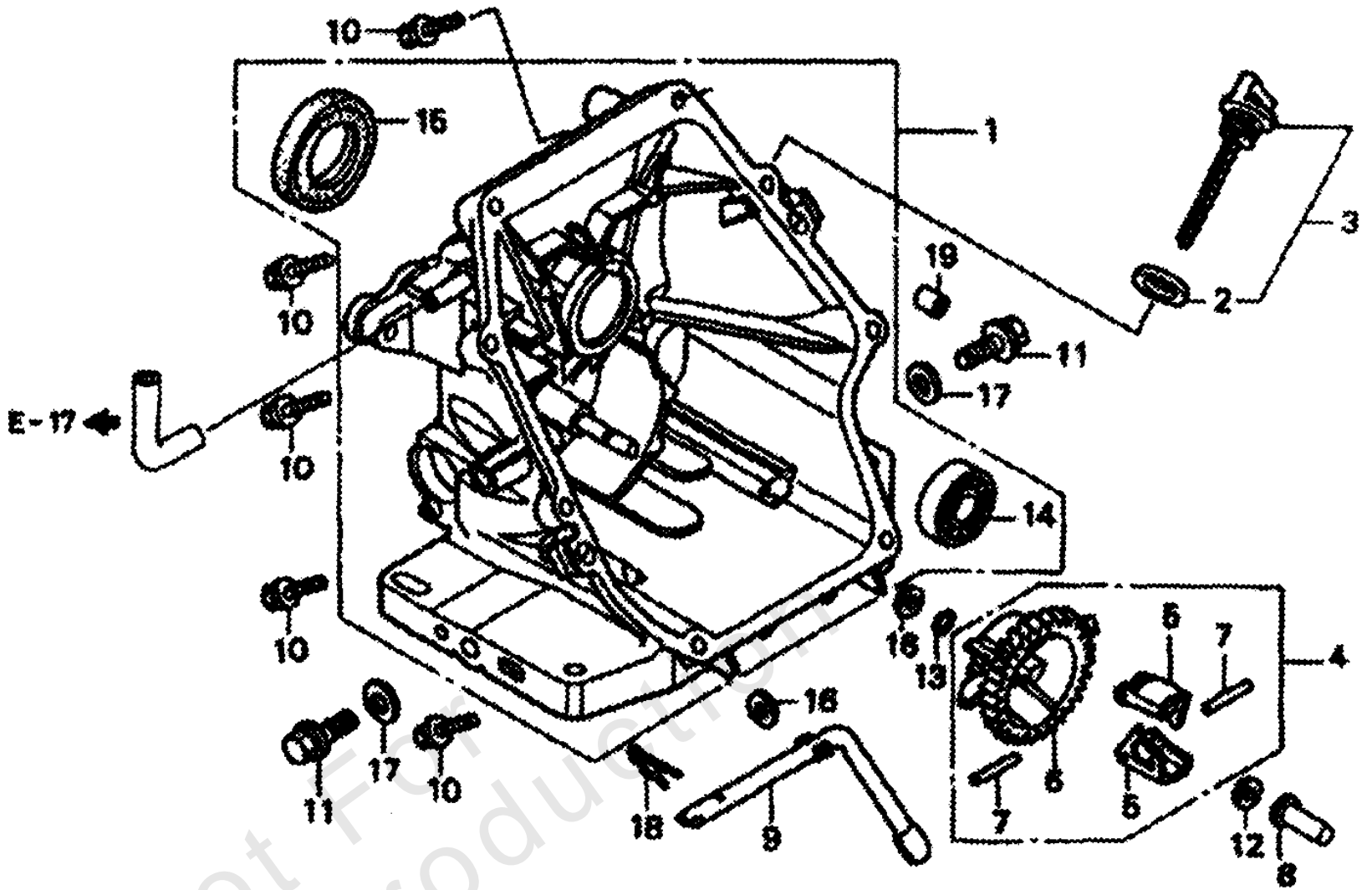
Control 3

REF NO	PART NO	QTY	DESCRIPTION
1	16500ZL8850	1	Control Assy.
2	16551ZL8000	1	Arm, Governor
3	16555ZL8000	1	Rod, Governor
4	16561ZL8810	1	Spring, Governor
5	16562ZL8000	1	Spring, Throttle Return
6	16571ZL8850	1	Lever, Control
7	16574ZE1000	1	Spring, Lever
8	16575ZL8000	1	Washer, Control Lever
9	16578ZE1000	1	Spacer, Control Lever
10	16580ZLS000	1	Base Comp., Control
11	16584883300	1	Spring, Control Adjusting
12	16611ZL8000	1	Rod, Choke Control
13	16613893000	1	Grommet, Choke Rod
14	16631ZL8000	1	Lever, Stop
15	19612ZL8000	1	Plate, Side
16	35120ZL8003	1	Switch Assy., Engine Stop (N.O)
17	90013883000	1	Bolt, Flange (6 x 12)
18	90014952000	2	Bolt, Flange (6 x 14)
19	90015ZE5010	1	Bolt, Governor Arm
20	90031ZL8850	1	Screw, Adjust
21	90114SA0000	1	Nut, Self-lock (6MM)
22	90563355000	1	Washer, Wheel (6MM)
23	938920401200	1	Screw-Washer (4 x 12)
24	9405006000	1	Nut, Flange (6MM)
25	9410304000	1	Washer, Plain (4MM)

Crankcase Cover

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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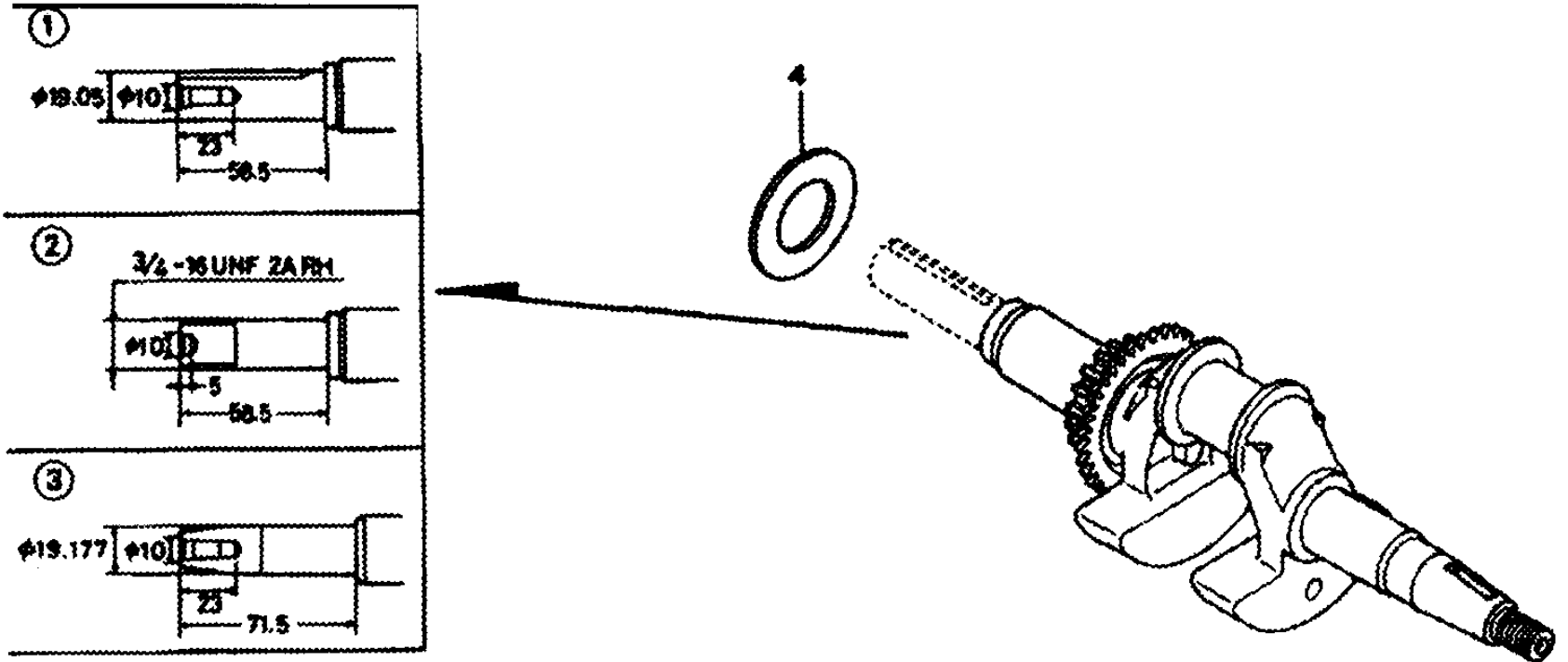
Crankcase Cover

REF NO	PART NO	QTY	DESCRIPTION
1	11300ZL8600	1	Cover Assembly, Crankcase -(Q-Type)
	11300ZL8660	1	Cover Assembly, Crankcase -(U-Type)
	11300ZL8670	1	Cover Assembly, Crankcase -(UX-Type)
2	15625ZE1003	1	Gasket, Oil Filler Cap
3	15650ZL8003	1	Gauge Assembly, Oil Level
4	16510ZL8000	1	Governor Assembly
5	16511ZL8000	2	Weight, Governor
6	16512ZL8000	1	Holder, Governor Weight
7	16513ZE1000	2	Pin, Governor Weight
8	16531ZE1000	1	Slider, Governor
9	165421ZL8000	1	Shaft, Governor Arm
10	90121952000	8	Bolt, Flange (6 x 25)
11	90131883000	2	Bolt, Drain Plug
	90131883000	1	Bolt, Drain Plug
	90131896650	2	Bolt, Drain Plug
	90131896650	1	Bolt, Drain Plug
12	90451ZE1000	1	Washer, Thrust (6MM)
13	90602ZE1000	1	Clip, Governor Holder
14	91001ZL8003	1	Bearing, Radial Ball
15	91202ZL8003	1	Oil Seal (28 x 41.25 x 6)
16	9410106800	2	Washer, Plain (6MM)
17	9410912000	2	Washer, Drain Plug (12MM)
	9410912000	1	Washer, Drain Plug
18	9425108000	1	Pin, Lock (8MM)
19	9430108200	2	Pin, Dowel (8 x 20)

Crankshaft

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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Crankshaft

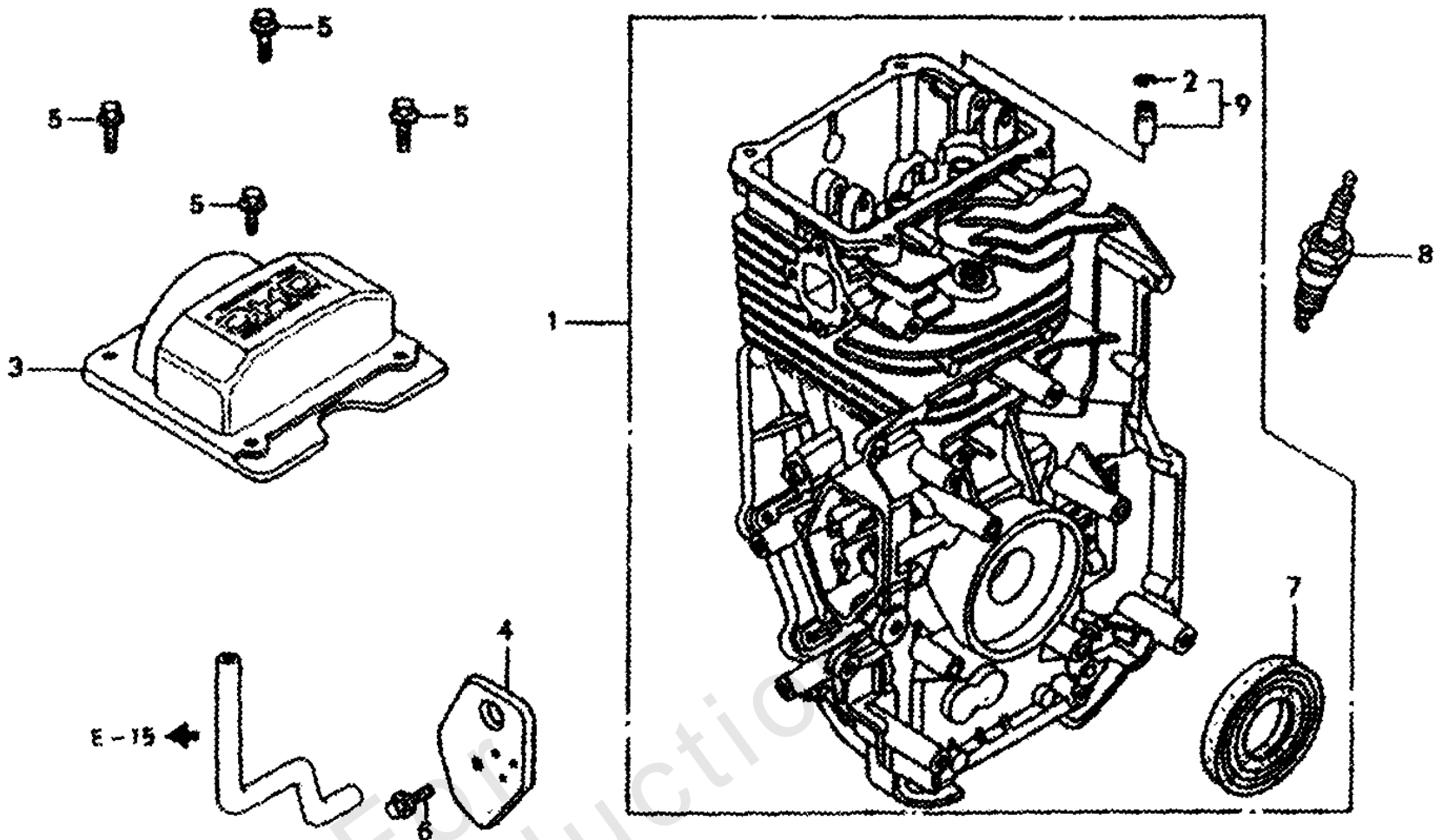
REF NO	PART NO	QTY	DESCRIPTION
1	13310ZL8600	1	Crankshaft Comp. -(Q-Type)
2	13310ZL8650	1	Crankshaft Comp. -(P-Type)
3	13310ZL8670	1	Crankshaft Comp. -(V-Type)
4	90402ZL8000	1	Washer, Thrust

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Cylinder Barrel

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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Cylinder Barrel

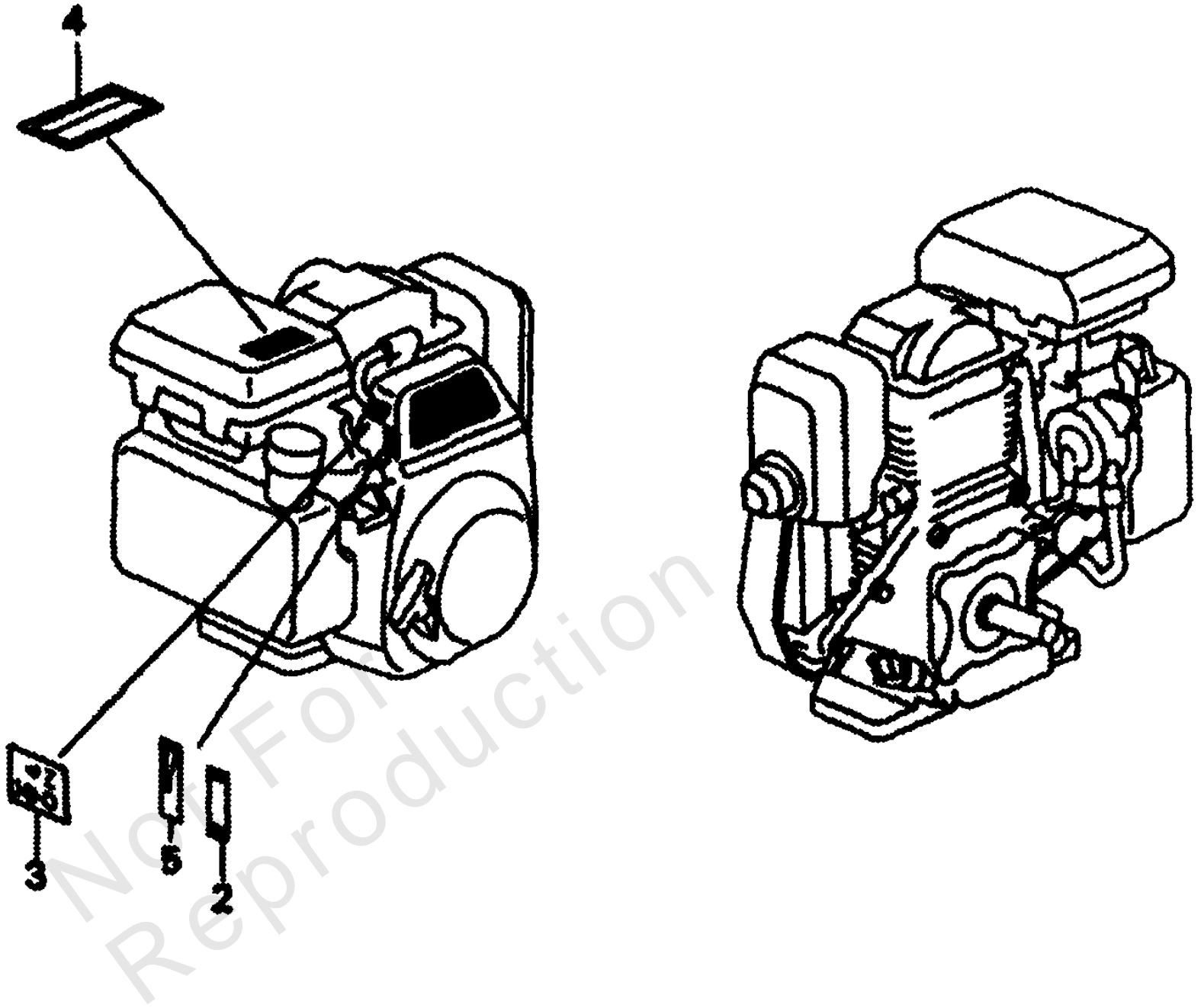
REF NO	PART NO	QTY	DESCRIPTION
1	12000ZL8000	1	Cylinder Assembly
2	12216ZE5300	1	Clip, Valve Guide
3	12311ZL8000	1	Cover, Head
4	12355ZL8000	1	Cover Comp., Breather
5	90013883000	4	Bolt, Flange -(6 x 12)
6	90014952000	1	Bolt, Flange -(6 x 14)
7	91201ZL8003	1	Oil Seal -(25.4 x 62 x 6)
8	9807956846	1	Spark Plug -(BPR6ES) (NGK)
9	12205ZE1315	1	Guide, Ex. Valve -(OS)

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Engine Marks

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Engine Marks

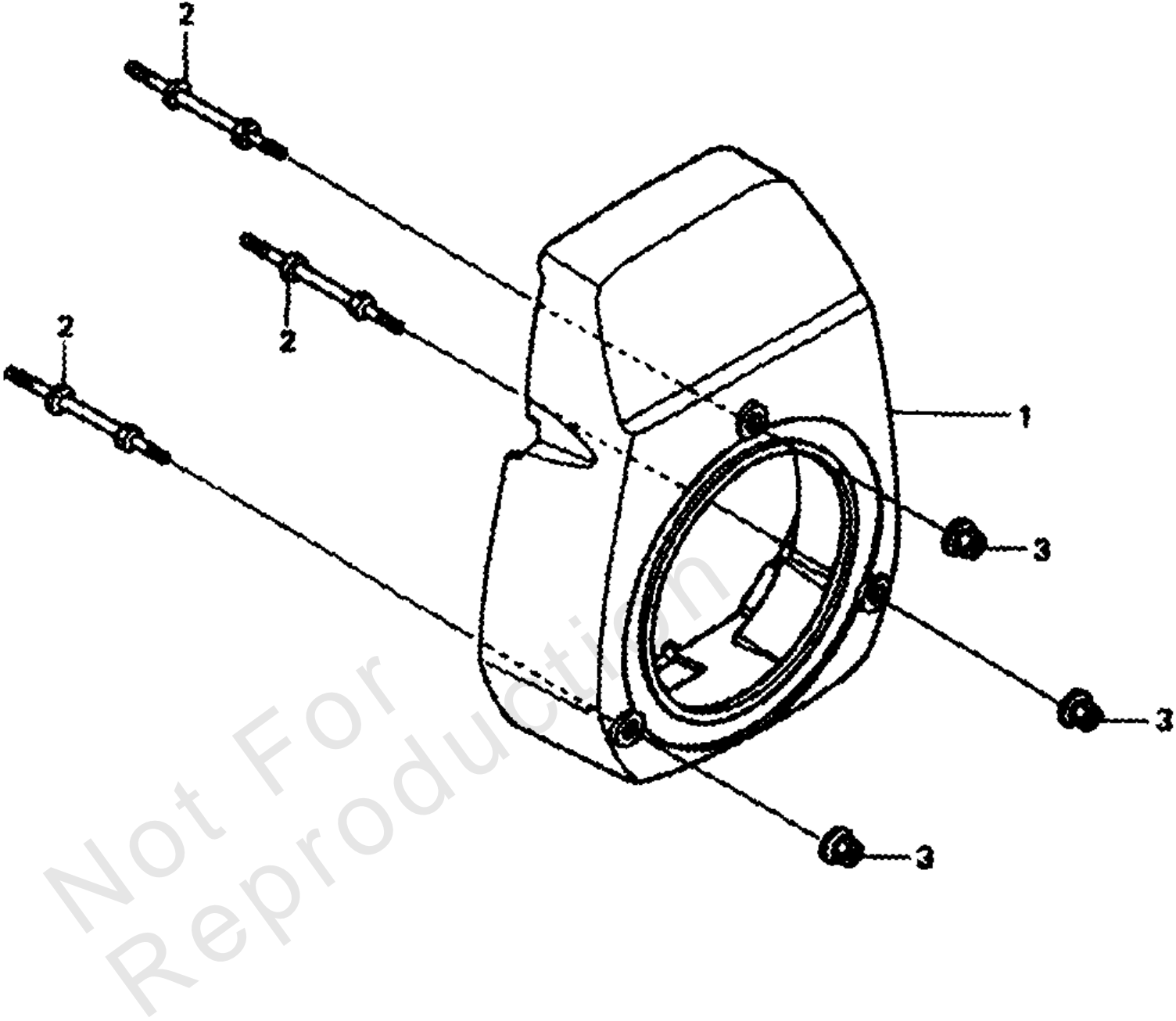
REF NO	PART NO	QTY	DESCRIPTION
2	87501ZL8000	1	Mark, Engine Switch Indication
3	87528ZL8000	1	Mark, Choke
4	87530ZL8000	1	Mark, Oil Alert
5	87532ZL8800	1	Mark, Throttle Indication

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Fan Cover

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Fan Cover

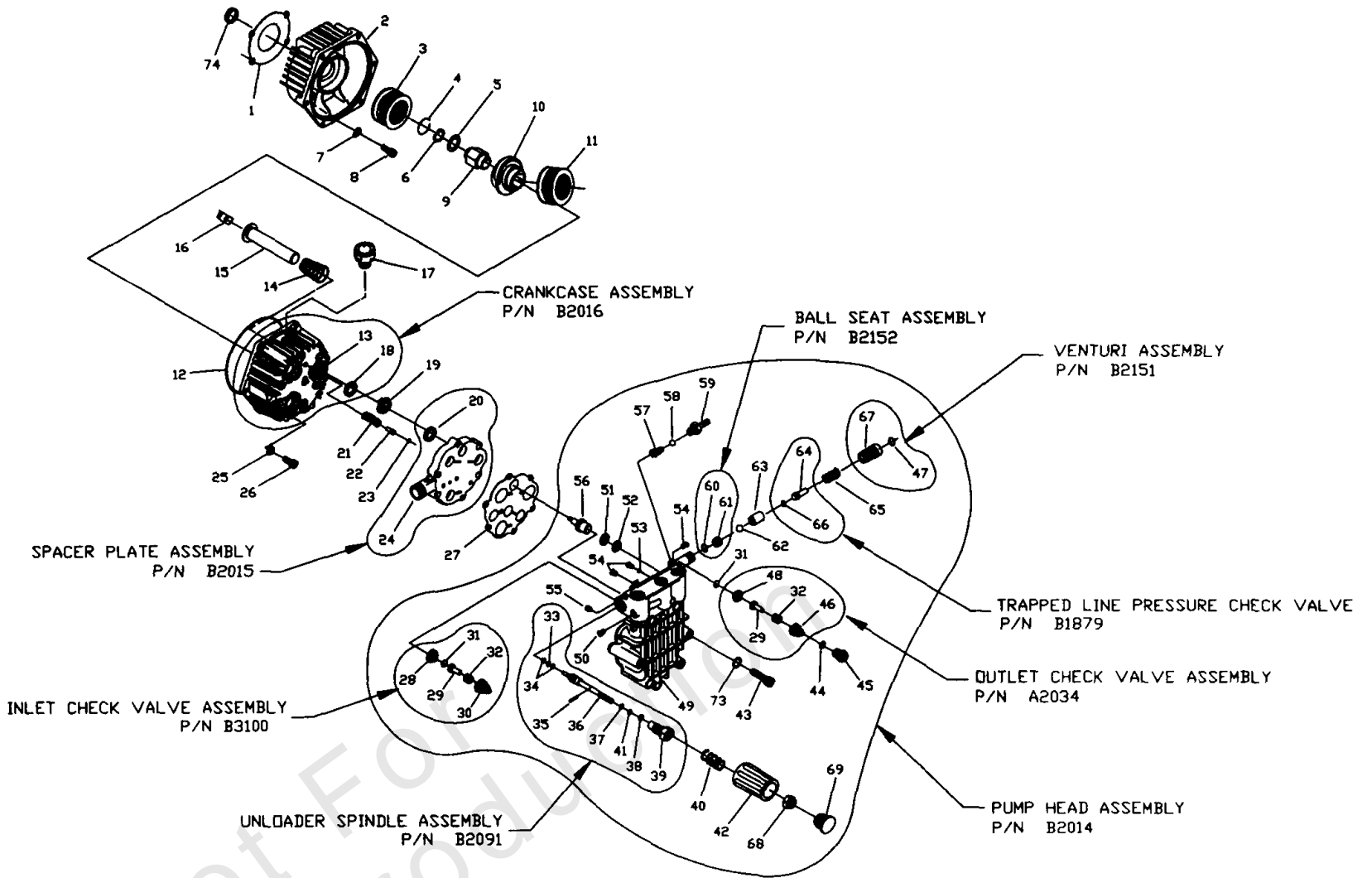
REF NO	PART NO	QTY	DESCRIPTION
1	19611ZL8000ZA	1	Cover, Fan NH1 (Black)
2	90043ZL8000	3	Bolt, Stud
3	90303MR1000	3	Nut, Flange (6MM)

Not For Reproduction

Flathead Pump

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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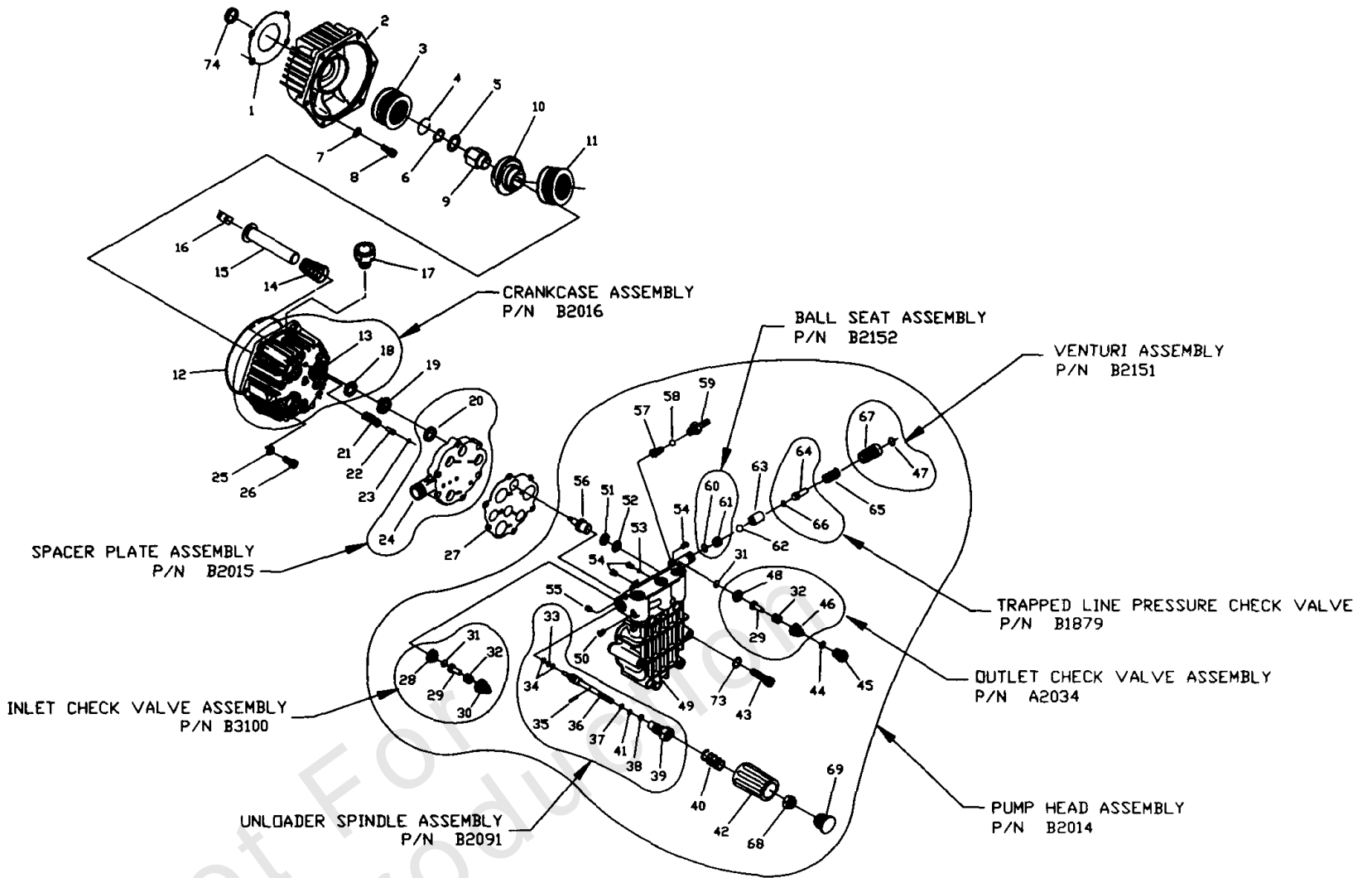
Flathead Pump

REF NO	PART NO	QTY	DESCRIPTION
1	93871	1	GASKET, Engine Adapter
2	96430A	1	ADAPTER, Engine
3	96542	1	BEARING, Eng. Adptr. Roller Thrust 4 x 4
4	97675	1	O-RING, Cam Retainer
5	97570	1	WASHER, Thrust
6	95524	1	WASHER, Retainer
7	92479	4	LOCKWASHER, M8 Ribbed
8	95531	4	BOLT, SHC 5/16 - 24 x 3/4" Lg
9	95435	1	ADAPTER, Engine Shaft 3"
10	97671V	1	CAM, Axial 6.0 Lift
11	97606	1	BEARING, Axial Cam Roller Thrust 5.5 x 4
12	93790	1	O-RING, Crankcase 113.97 x 119.21 x 2.62
13	97568A	1	CRANKCASE, Pump
14	96400	3	SPRING, Piston Return
15	99427	3	ASSEMBLY, Ceramic Piston & Cap
16	94944	3	SHOE, Piston Pivot
17	99735	1	ASSEMBLY, Breather
18	93680	3	SEAL, Oil Piston
19	93668	3	SPACER, Pilot
20	93667	3	SEAL, U-Cup ELF
21	93652	1	SPRING, Thermal Relief Actuator
22	95416	1	PISTON, Thermal Relief Actuator
23	93876	1	O-RING, Thermal Relief 2.9 x 6.5 x 1.78
24	A1320	1	SPACER, Inlet Plate
25	93873	6	LOCKWASHER, M6 Ribbed
26	40945	6	SCREW, SHC M6 x 1.0 x 20 mm Lg
27	A2069	1	GASKET, Head
28	A2062	3	SEAT, Check Valve Inlet
29	A2060	6	POPPET, Check Valve
30	97931	3	CAGE, Check Valve Inlet
31	B2640	6	O-RING, Chk Valve 12.4 x 15.96 x 1.78
32	97929	6	SPRING, Check Valve Outlet
33	97843	1	O-RING, 9.25 x 12.81 x 1.78
34	A2017	2	PAR-BACK, Backup Ring
35	A1719	1	PIN, 2.0 Dia. Spindle
36	A1711	1	SPINDLE, Pressure Regulator
37	93656	1	O-RING, Spindle 1/4 x 3/8 x 1/16 cs
38	A3829	1	O-RING, Retainer Nut 14 x 17.56 x 1.78
39	A1712	1	NUT, Retainer - Spindle
40	A1716	1	SPRING, Unloader
41	A2016	1	PAR-BACK, Backup Ring
42	A2039	1	HANDLE, Unloader
43	A2013	6	BOLT, Head M8 x 1.25 x 70mm Lg
44	97840	3	O-RING, Chk Valve Cap 15.6 x 19.16 x 1.78
45	97841	3	CAP, Outlet Port
46	20002	3	CAGE, Check Valve Outlet
47	A3805	1	O-RING, Venturi 10.82 x 14.38 x 1.78
48	A2217	3	SEAT, Check Valve Outlet
49	A1318	1	CYLINDER, Head
50	B1758	1	PLUG, Button M8 x 1.25 x 8 mm
51	96053	3	SEAL, High Pressure

Flathead Pump

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



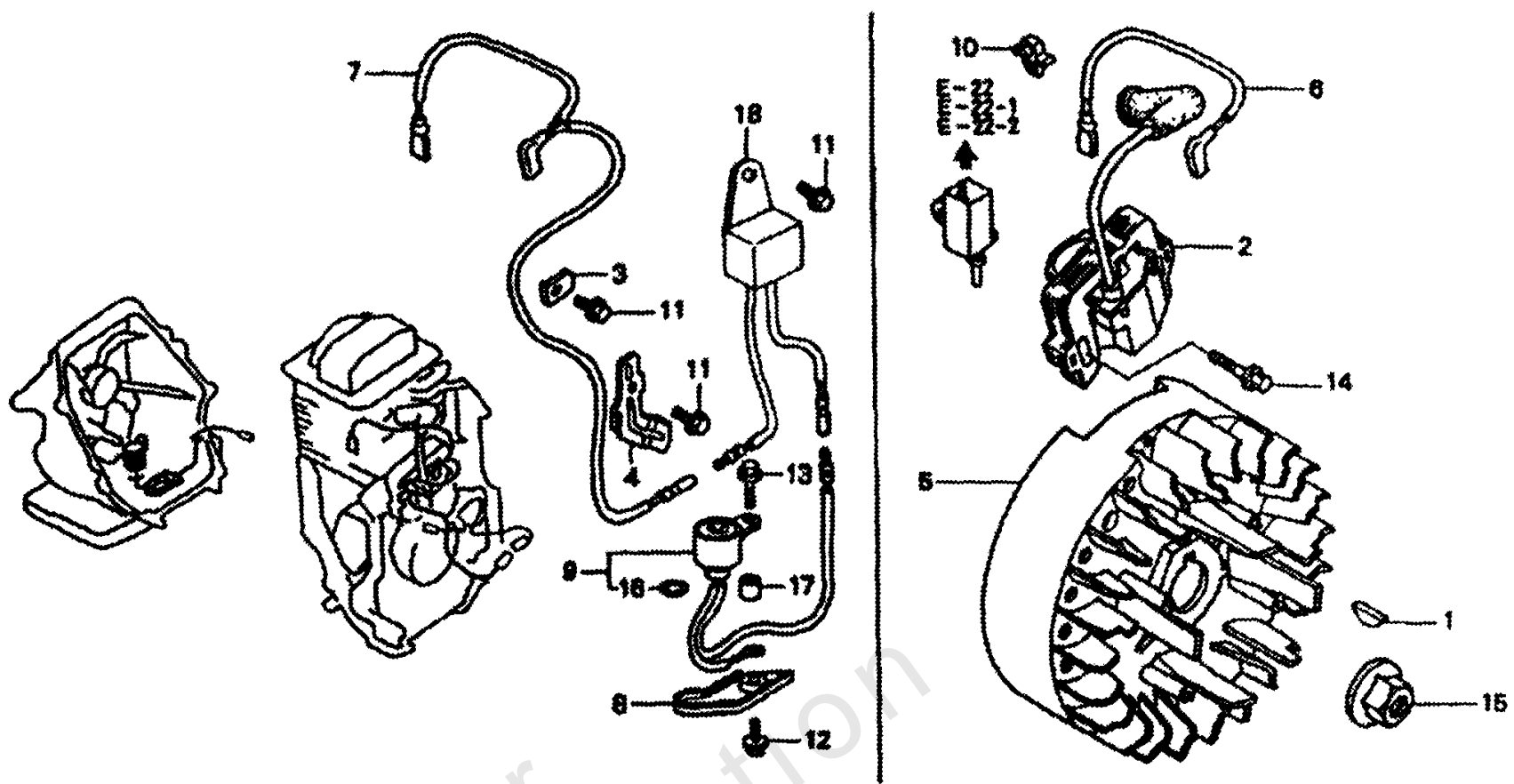
Flathead Pump

REF NO	PART NO	QTY	DESCRIPTION
52	96015	3	RING, Bearing
53	A1717	1	MAGNET, Ball Deflector
54	B1757	4	PLUG, Button M6 x 1.0 x 8 mm
55	A1718	1	SETSCREW, M8 - 1.25 x 8mm
56	93644	1	ACTUATOR, Thermal Relief
57	95380	1	SPRING, Chemical Injector
58	95379	1	BALL, 5.5 dia. Chemical Injector
59	A1575	1	BARB HOSE, Brass with Nylon Insert
60	97855	1	O-RING, Ball Seat 6.5 x 10.5 x 2 cs
61	A1713	1	SEAT, Ball Unloader
62	A2015	1	BALL, Stainless Steel 9/32 Dia.
63	A2503	1	SEAT, Trapped Line Pressure
64	A2756	1	VALVE, Shuttle Piston
65	89138	1	SPRING, Check Valve
66	21123	1	O-RING, 3.68 x 7.24 x 1.78 cs
67	A1714	1	VENTURI, Chemical
68	B2236	1	LOCKNUT, M6 x 1.0 Nylon
69	B2241	1	CAP, Plastic
73	B2665	6	WASHER
74	95441	1	PILOT, Engine
B2014	B2014		PUMP HEAD ASSEMBLY
A2034	A2034		OUTLET CHECK VALVE ASSEMBLY
B1879	B1879		TRAPPED LINE PRESSURE CHECK VALVE
B2151	B2151		VENTURI ASSEMBLY
B2152	B2152		BALL SEAT ASSEMBLY
B2016	B2016		CRANKCASE ASSEMBLY
B2015	B2015		SPACER PLATE ASSEMBLY
B3100	B3100		INLET CHECK VALVE ASSEMBLY
B2091	B2091		UNLOADER SPINDLE ASSEMBLY

Flywheel & Ignition Coil

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



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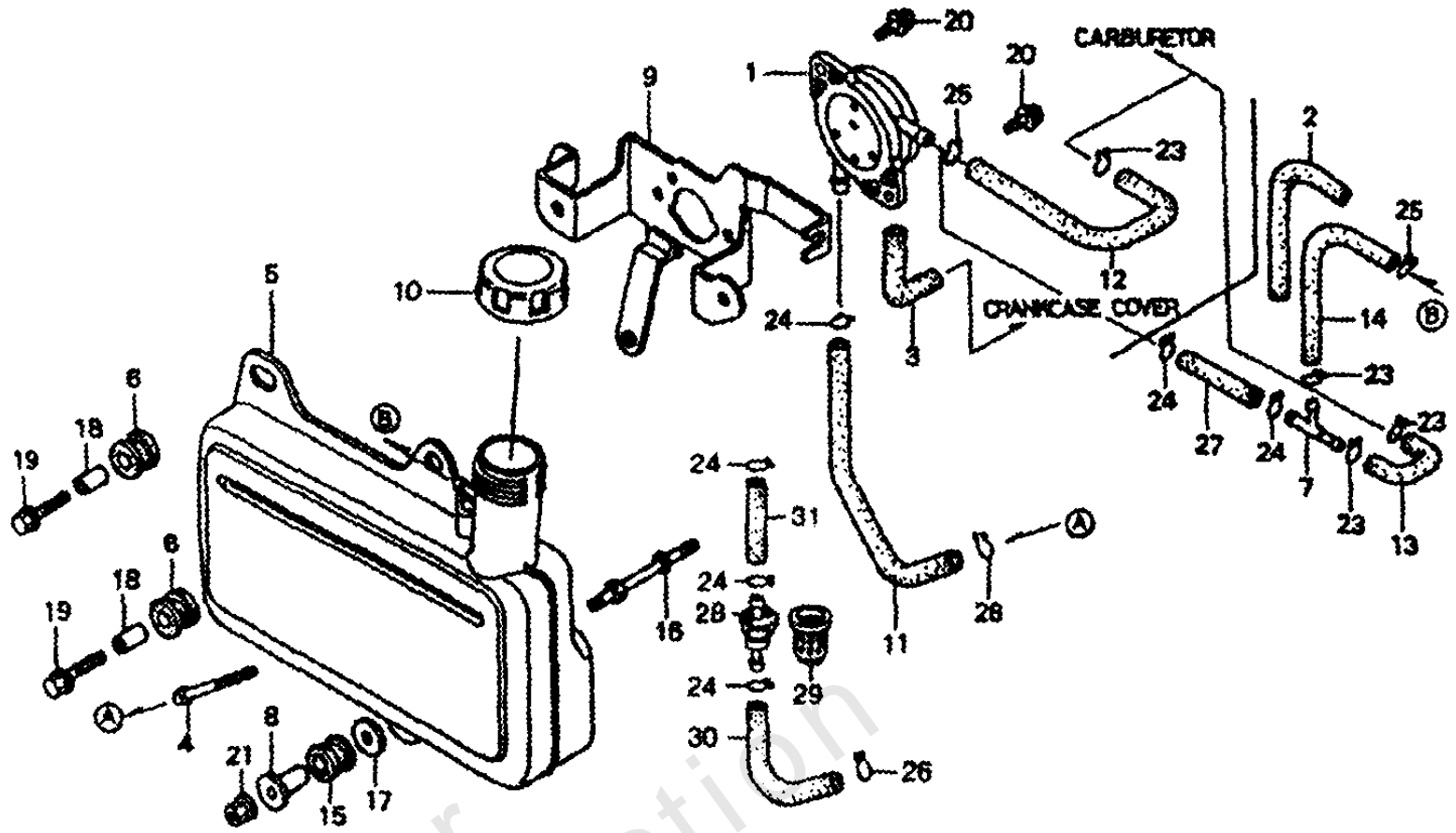
Flywheel & Ignition Coil

REF NO	PART NO	QTY	DESCRIPTION
1	13331357000	1	Key, Special Woodruff (25 x 18)
2	30500ZL8004	1	Coil Assy., Ignition
3	30548ZL8000	1	Clamp, Stop Switch Wire
4	305492L8000	1	Clamp, Wire
5	31110ZL8004	1	Flywheel Comp.
6	32198ZL8000	1	Wire, Stop Switch
7	32195ZL8810	1	Wire, Stop Switch
8	35419ZL8000	1	Protector, Switch
9	35480ZL8811	1	Switch Comp., Oil Level
10	36103ZE1000	1	Holder, Stop Switch Wire
11	90013883000	3	Bolt, Flange (6 x 12)
12	90014952000	1	Bolt, Flange (6 x 14)
13	90015883000	1	Bolt, Flange (6 x 28)
14	90022888010	1	Bolt, Flange (6 x 20)
15	90201878003	1	Nut, Special (14MM)
16	91320MJ6003	1	O-Ring (11.8 x 2.4)
17	91501ZL8000	1	Collar (6.6 x 13.8 x 14.5)
18	34150ZH7003	1	Sensor Unit ESS

Fuel Tank

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



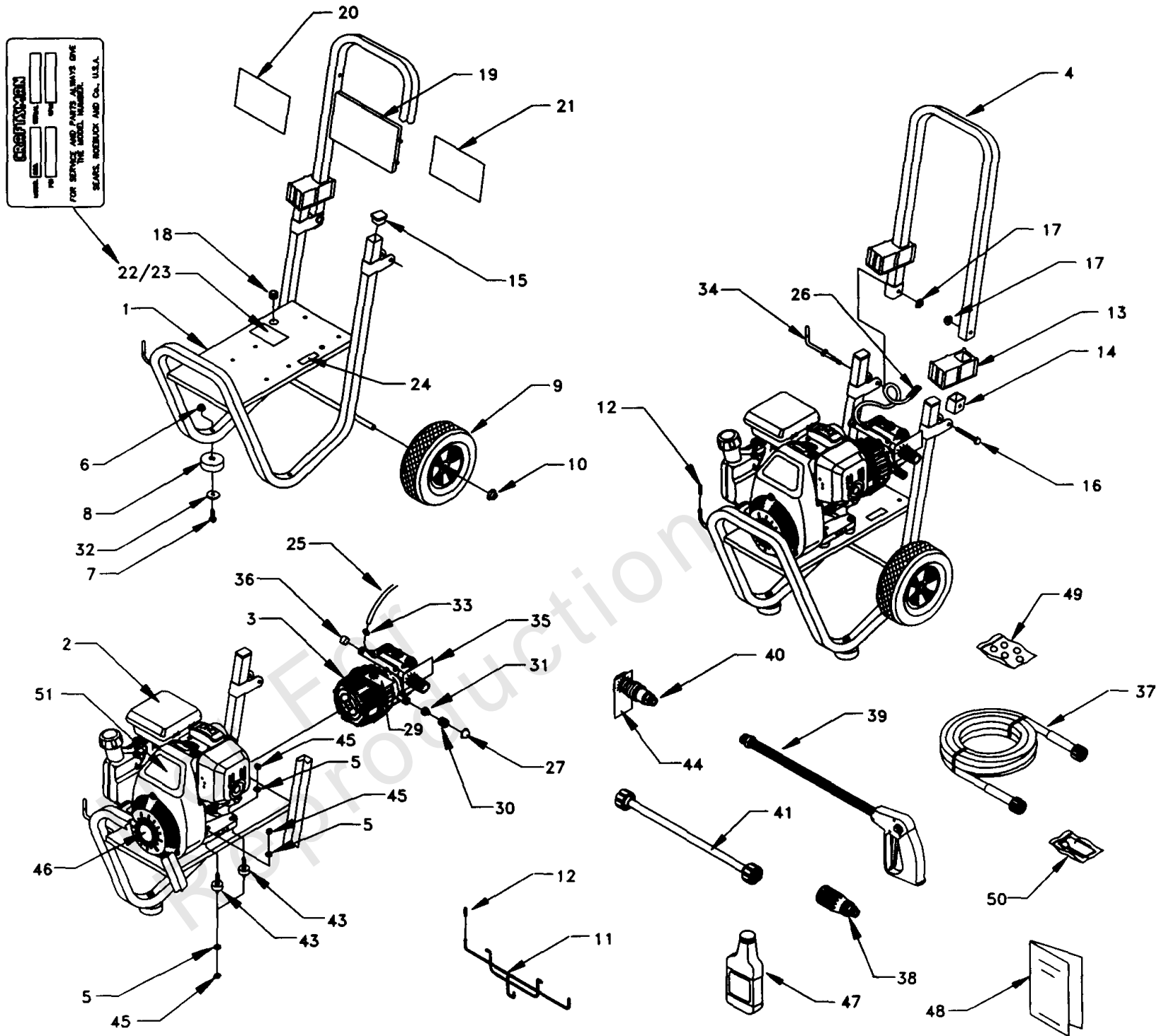
Fuel Tank

REF NO	PART NO	QTY	DESCRIPTION
1	16700ZL8003	1	Pump Assy., Fuel
2	16854ZH8000	1	Rubber, Supporter (107MM)
3	16882ZL8000	1	Tube, Diaphragm
4	16952-ZA8-800	1	FILTER, Fuel -(Honda)
5	17511ZL8000	1	Tank, Fuel
	17511ZL8800	1	Tank, Fuel
6	17516ZV0000	2	Rubber B, Tank Mounting
7	17519ZL8800	1	Joint, Fuel Tube
8	17535166000	1	Collar, Fr. Cover Setting
9	17561ZL8000	1	Stay A, Fuel Tank
10	17620ZL8003	1	Cap Assy., Fuel Tank
11	17701ZL8000	1	Tube, Fuel Tank
12	17702ZL8000	1	Tube, Fuel
13	17702ZL8800	1	Tube, Fuel
14	17703ZL8800	1	Tube, Fuel Return
15	80103MG2000	1	Rubber, RR. Fender
16	90041ZL8000	1	Bolt, Stud (F/Tank)
17	90473896000	1	Washer (8MM)
18	90501KA2640	2	Collar (14 x 6.1)
19	934040602500	2	Bolt-Washer (6 x 25)
20	938940501400	2	Screw - Washer (5 x 14)
21	9405006000	1	Nut, Flange (6MM)
23	9500202080	1	CLIP, TUBE (138)
	9500202080	3	CLIP, TUBE (138)
24	9500202100	1	CLIP, TUBE (1310)
	9500202100	5	CLIP, TUBE (1310)
25	9500250000	1	Clip, Tube (C9)
26	9500270000	1	Clip, Tube (C11)
27	950015500840M	1	Bulk Hose, Fuel (5.5 x 8000) (5.5 x 33)
28	16910ZV4015	1	Filter Comp., Fuel
29	16915ZV4000	1	Suspension, Strainer
30	17701ZL8800	1	Tube, Fuel Tank
31	17704ZL8800	1	Tube, Fuel Pump

Main Unit

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



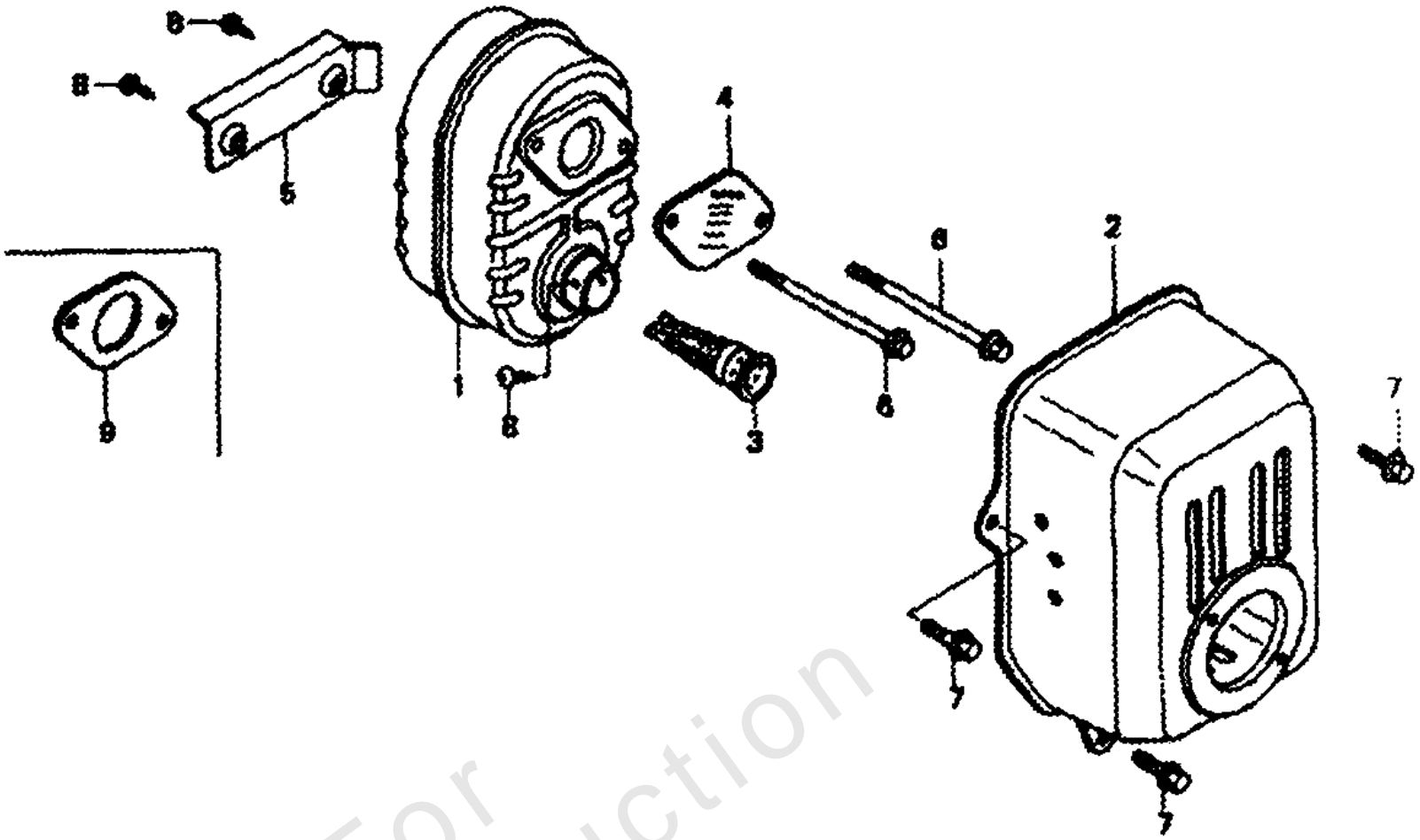
Main Unit

REF NO	PART NO	QTY	DESCRIPTION
1	EB2789	1	BASE, HSPW
2	B2393	1	ENGINE, Honda 5HP
3	-----	1	PUMP, Medium Frame -(For Replacement, order 198347GS)
3	198347GS	1	REPLACEMENT PUMP ASSEMBLY
4	EB2534	1	HANDLE
5	22129	8	LOCKWASHER, M8
6	52858	2	NUT, M8 Locking Flange
7	51731	2	HHCS, M8 x 50
8	27007	2	MOUNT, Rubber Foot
9	B2142	2	WHEEL, 2" x 9" Black Mag
10	75402	2	PUSHNUT, 1/2"
11	B2168	1	HANGER, Hose
12	B1460	3	CAP, Vinyl
13	B1779	2	COVER, Hinge
14	B2347	2	CAP, End
15	46476	2	CAPLUG
16	31669	1	BOLT, 1/4" - 20 x 1-3/4" Carriage
17	B2071	2	NUT, 1/4" - 20 Locking Flange
18	92235	1	GROMMET, Turbo Nozzle
19	B1631A	1	BILLBOARD
20	B1851	1	DECAL, Craftsman 2000 PSI
21	B2796	1	DECAL, Instructions
22	91373	1	DECAL, Data
23	79552	1	OVERLAMINATE
24	96307	1	DECAL, 1-800 #
25	A1040A	1	HOSE, Chemical
26	A1041	1	FILTER, Chemical Hose
27	A1408	1	CAP, Garden Hose Inlet
29	B1288	1	TAG, Breather Cap
30	23782	1	QUICK DISCONNECT, Female
31	21781	1	QUICK DISCONNECT, Male
32	50190	2	WASHER, M8 Flat
33	48031G	1	CLAMP, Hose 3/16"
34	B2759	1	HOOK, Square Neck 1/4" - 20
35	97054	1	TAG, Pressure Adjust
36	97100	1	CAP, High Pressure
37	B1969	1	HOSE, 1/4" x 25'
38	95529	1	TURBO, Nozzle
39	B2370	1	GUN, High Pressure
40	95587E	1	NOZZLE, Adjustable
41	97123	1	WAND, Extension
43	21217	4	MOUNT, Vibration
44	97566	1	TAG, Nozzle
45	45771	8	NUT, M8 - 1.25 Hex
46	B2517	1	DECAL, Recoil Honda
47	96382	1	OIL, Engine SAE 30
48	B1849	1	MANUAL, Owners
49	B2730	1	KIT, O-Ring Maintenance
50	97009	1	KIT, Nozzle Cleaning
51	B3095	1	DECAL, 5.0 HP

Muffler

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Not For
Reproduction

Muffler

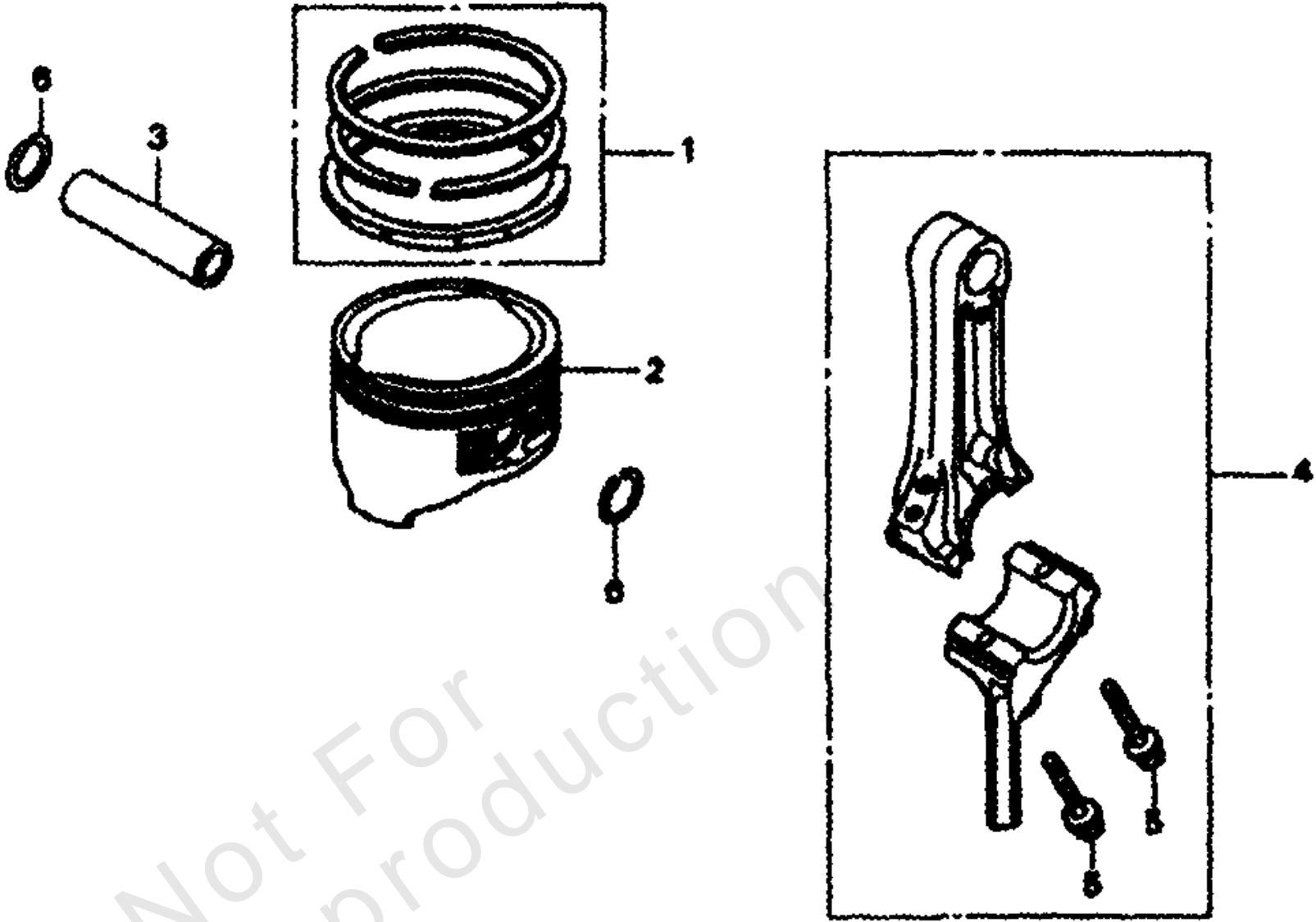
REF NO	PART NO	QTY	DESCRIPTION
1	18310ZL8010	1	Muffler Comp.
2	18321ZL8A00	1	Protector, Muffler
	18321ZL8000	1	Protector, Muffler
3	18350ZL8000	1	Arrestor Comp., Spark
4	18356ZL8000	1	Plate, Arrester Number
5	19664ZL8000	1	Shroud, Muffler
6	900042L8000	2	Bolt, Flange (6 x 79) (CT 200)
7	90013883000	3	Bolt, Flange (6 x 12)
8	90055ZE1000	2	Screw, Tapping (4 x 6)
	90055ZE1000	3	Screw, Tapping (4 x 6)
9	-----		UNKNOWN

Not For Reproduction

Piston

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Piston

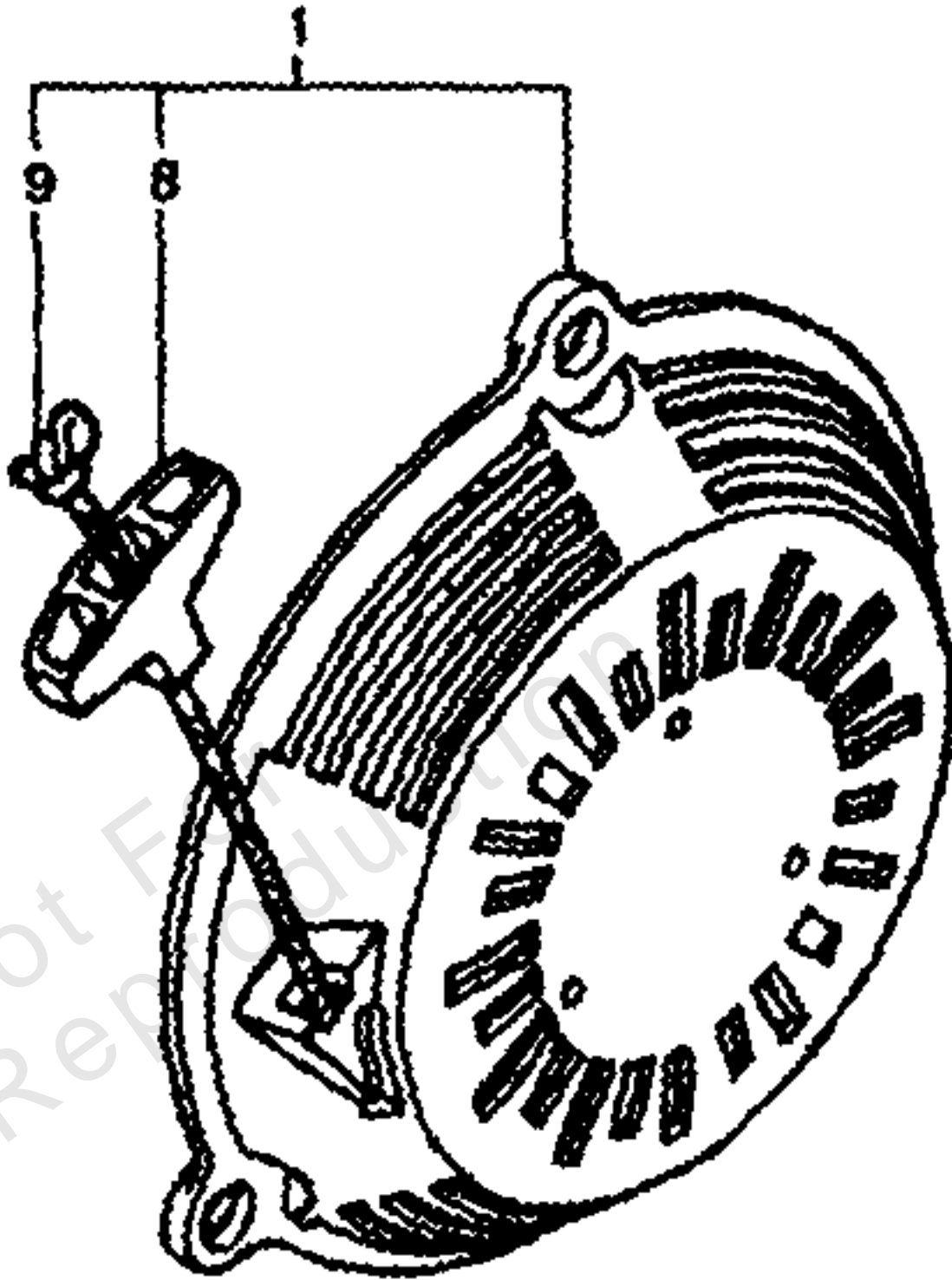
REF NO	PART NO	QTY	DESCRIPTION
1	13010ZL8003	1	Ring Set, Piston (Riken)
	13010ZL8004	1	Ring Set, Piston (Teikoku)
2	13101ZL8000	1	Piston
3	13111ZE0000	1	Pin, Piston
4	13200ZL8000	1	Rod Assembly, Connecting
5	90001ZE1000	2	Bolt, Connecting Rod
6	90551ZE0000	2	Clip, Piston Pin (13MM)

Not For Reproduction

Recoil Starter

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 1054-0



Recoil Starter

REF NO	PART NO	QTY	DESCRIPTION
1	28400ZL8003ZA	1	Starter Assy., Recoil NH1
8	28461ZL8003	1	Knob, Recoil Starter
9	28462ZL8003	1	Rope, Recoil Starter

Not For Reproduction

Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	5.6		8.8		10.9		12.9	
	Class 5.6		Class 8.8		Class 10.9		Class 12.9	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs		ft/lbs	
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks		SAE Grade 5		SAE Grade 8	
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs	
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

The guides and ruler furnished below are designed to help you select the appropriate hardware.

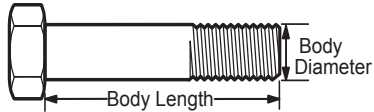


Nut, M8

Thread Diameter (mm)

Inside Diameter (in) Threads per inch

Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm) Distance between threads (mm) Body Length (mm)

Body Diameter Threads per inch Body Length (in)

Screw, 1/2- 16 x 2



Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

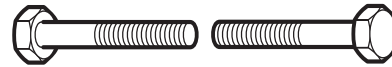
When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
 - for prevailing torque locknuts - use 65% of grade 5 torques.
 - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

Common Hardware Types

Hex Head Capscrew



Washer



Carriage Bolt



Hex Nut

Wrench & Fastener Size Guide

1/4" Bolt or Nut Wrench—7/16"	5/16" Bolt or Nut Wrench—1/2"	3/8" Bolt or Nut Wrench—9/16"	7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm

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