

# **PARTS MANUAL**

**Model**

**EX400DS5250**

**ENGINES**

**for Miller Welder**

PUB-EP2577  
Rev. 07/09

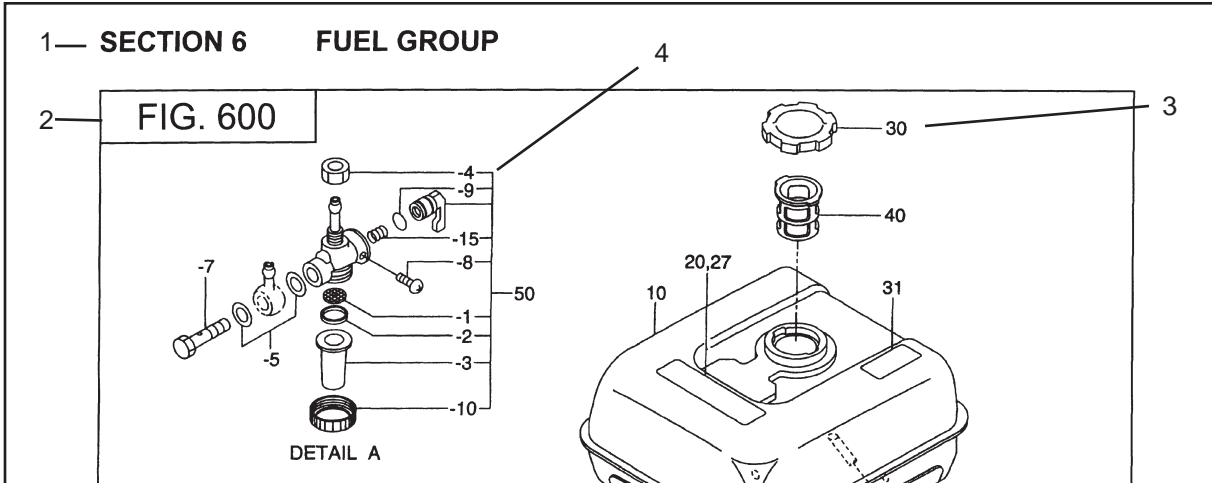
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# MANUAL LAYOUT



REF.	PART NO.	DESCRIPTION	QTY.	REMARKS	FROM-TO	FIG.
10	267-60103-01	FUEL TANK CP	1	YD, YS TYPE, BLACK		600
	267-60101-01	FUEL TANK CP	1	YELLOW		600
27	073-20039-00	LABEL, WARNING	1	YD, YS TYPE		600
30	043-04300-15	FUEL TANK CAP CP	1			600
31	267-95201-03	LABEL, EMISSION	1	YD, YS TYPE		600
40	064-13600-10	FUEL FILTER	1			600
50	064-20021-01	FUEL STRAINER AY	1			600
-1	064-20002-20	FILTER	1			600
-2	064-20002-30	GASKET	1			600
-3	064-20019-10	CUP	1			600

1. SECTION NAME Parts are broadly classified according to their functions. Refer to the Group Index (table of contents) for respective section name.
2. FIG. No. The FIG. number indexes the reference and part numbers to the illustration. Figure numbers that vary only in the tens place (i.e.: 700 and 710) are in a group of the same section (i.e.:Electrical Device Group).
3. REF. No. The Reference number identifies the part illustration with the corresponding part number in the part list.
4. SUBASSEMBLY SUBASSEMBLY parts of part assembly are listed below the assembly part. The subassembly part reference number is indicated by the number led by "-" such as "-1", "-2".
5. PART NUMBER It is the number assigned for sales unit. Use the PART No. when making an order.
6. DESCRIPTION It is designation of the part.
7. QTY. Quantity of each part used for each product.
8. REMARKS This gives a distinctive feature and/or a supplementary comment for the type, the specification, and the part concerned. It also shows part number(s) interchangeable for the part.
9. FROM-TO This section shows the CODE No. to indicate the history of progress in which improved parts have been introduced in the product. The FROM-TO CODE No. helps to identify PART No. being employed in the product concerned. See the examples below:
  - The part is used in the product irrespective of CODE No.
  - 2101- The part is used in the products with CODE No. of 2101 and after this number.
  - 2100 The part is used in the products with CODE No. of 2100 and before this number.

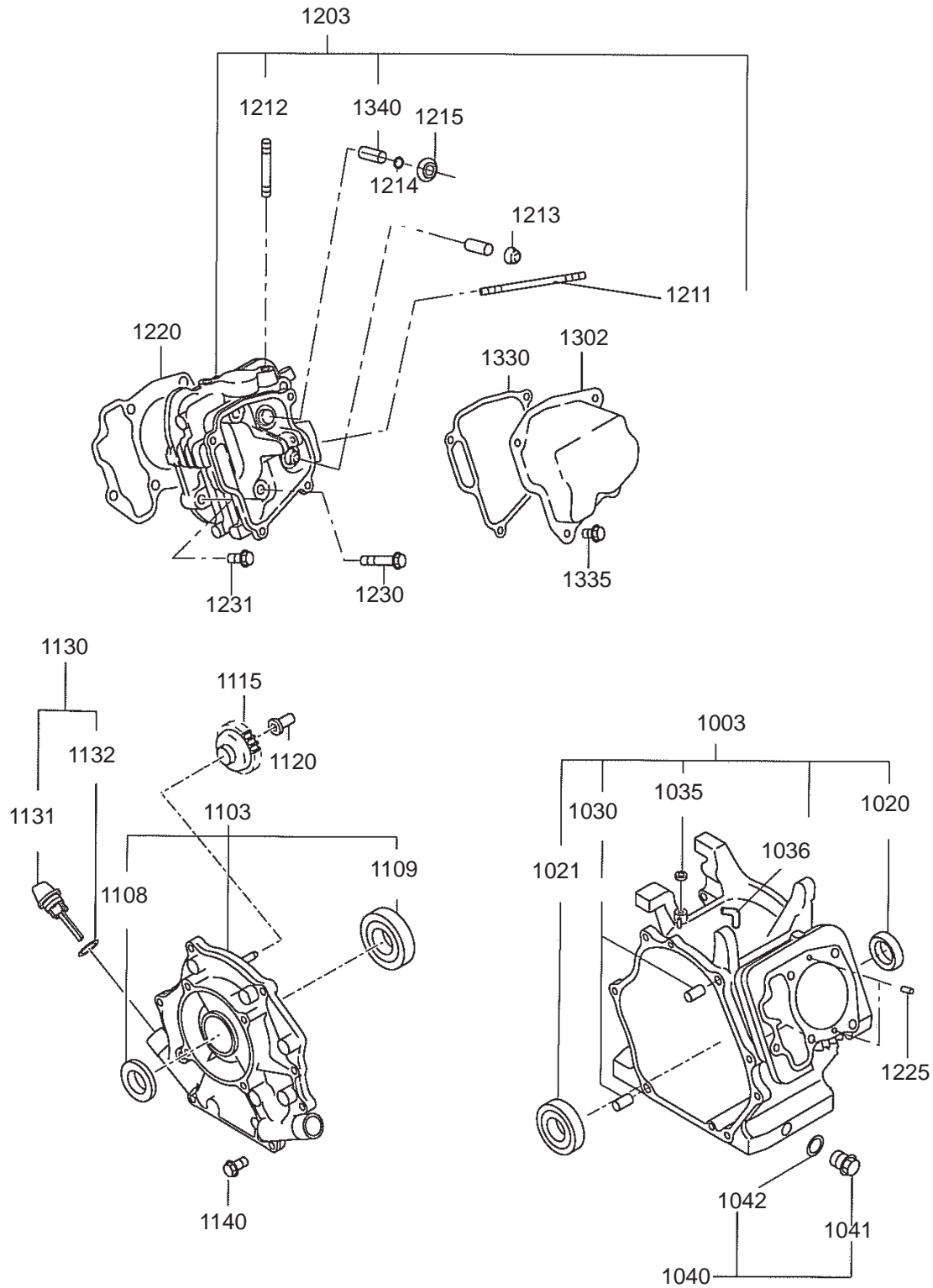
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INDEX OF DESCRIPTION SYMBOLS			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AY .....	ASSEMBLY	P= .....	PITCH (in mm)
CP .....	COMPLETE	P.T.O. (PTO) .....	POWER TAKE OFF
EX .....	EXPORT (from Japan)	REF .....	REFERENCE
FIG .....	FIGURE	R.H. (RH) .....	RIGHT HAND SIDE
FR .....	FRONT	RR .....	REAR
" .....	INCH	STD. ....	STANDARD
INCL. ....	INCLUDE	SW .....	SWITCH
~L .....	LITER	T= .....	THICKNESS (in mm)
L= .....	LENGTH (in. mm)	UN .....	UNIT
L.H. (LH) .....	LEFT-HAND SIDE	U.S. ....	UNDER SIZE
MECH .....	MECHANICAL	~V .....	VOLTAGE
NO (NON) .....	NONE	~W .....	WATT
OPT .....	OPTIONAL	W/ .....	WITH
O.S. ....	OVER SIZE	W/O .....	WITHOUT

SECTION 1 CRANKCASE GROUP

FIG. 100

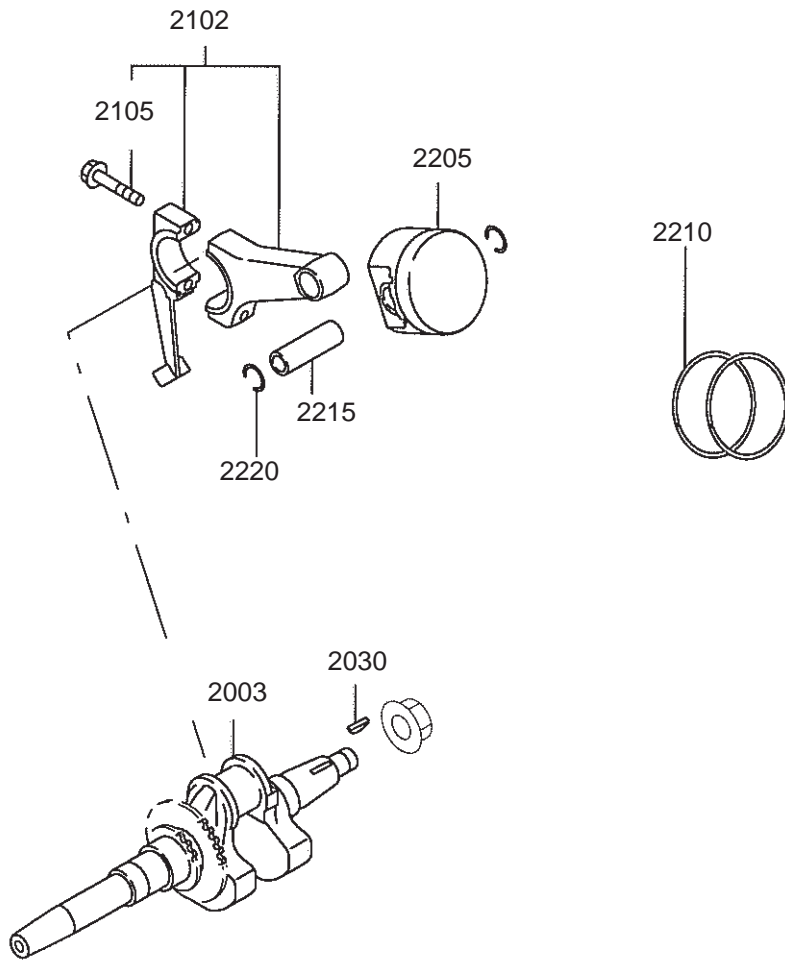


## SECTION 1      CRANKCASE GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
1003	20B-10105-11	CRANKCASE CP	1			100
1020	044-03500-90	OIL SEAL	1			100
1021	060-03502-40	BALL BEARING	1			100
1030	277-15001-03	PIPE KNOCK	2			100
1035	044-00800-10	OIL SEAL	1			100
1036	251-63301-01	ELBOW	1			100
1040	277-17001-01	PLUG CP	2			100
1041	040-11400-30	PLUG	1			100
1042	021-11400-20	GASKET, OIL DRAIN	1			100
1103	20B-11005-11	MAINBEARING COVER CP	1			100
1108	044-03500-90	OIL SEAL	1			100
1109	060-03502-40	BALL BEARING	1			100
1115	20B-45003-01	GOVERNOR GEAR CP	1			100
1120	277-41901-03	GOVERNOR SLEEVE	1			100
1130	224-63601-01	OIL GAUGE CP	2			100
1131	224-63601-03	OIL GAUGE	2			100
1132	021-32000-50	GASKET	2			100
1140	011-00803-40	FLANGE BOLT	8			100
1203	20B-13001-01	CYLINDER HEAD CP	1			100
1211	010-50603-51	STUD	2			100
1212	010-50802-90	STUD	2			100
1213	132-07AA0-50	SEAL, INTAKE VALVE	1			100
1214	056-51000-50	CLIP	1			100
1215	263-35341-03	RETAINER PLATE	1			100
1220	20B-15001-03	GASKET, HEAD	1			100
1225	031-00600-20	DOWEL PIN	2			100
1230	011-01000-40	FLANGE BOLT	4			100
1231	001-04083-50	FLANGE BOLT	2			100
1302	20B-15501-01	ROCKER COVER CP	1			100
1330	20B-16001-03	GASKET, ROCKER COVER	1			100
1335	011-00600-20	FLANGE BOLT	4			100
1340	20B-14202-03	VALVE GUIDE	2			100
	20B-99001-07	GASKET SET	1			100

SECTION 2 CRANKSHAFT GROUP

FIG. 200



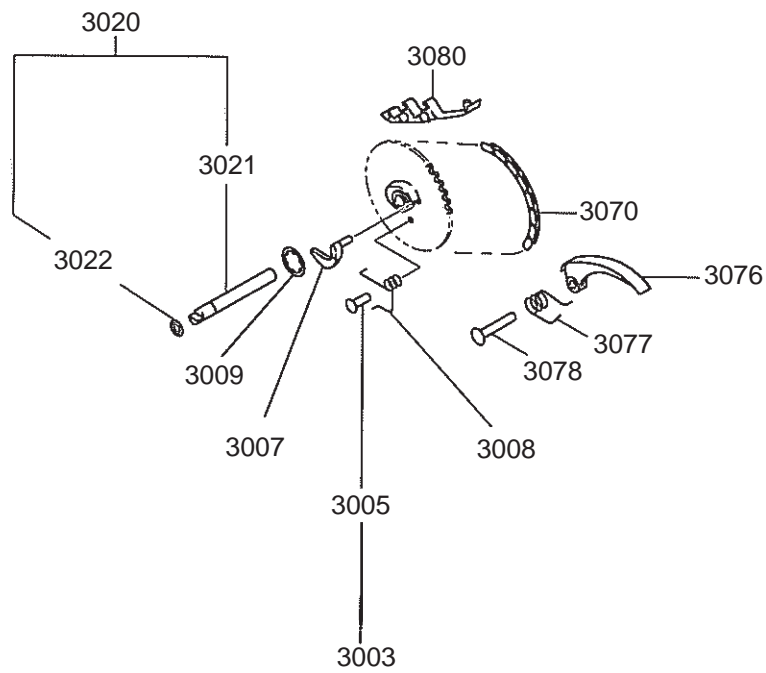
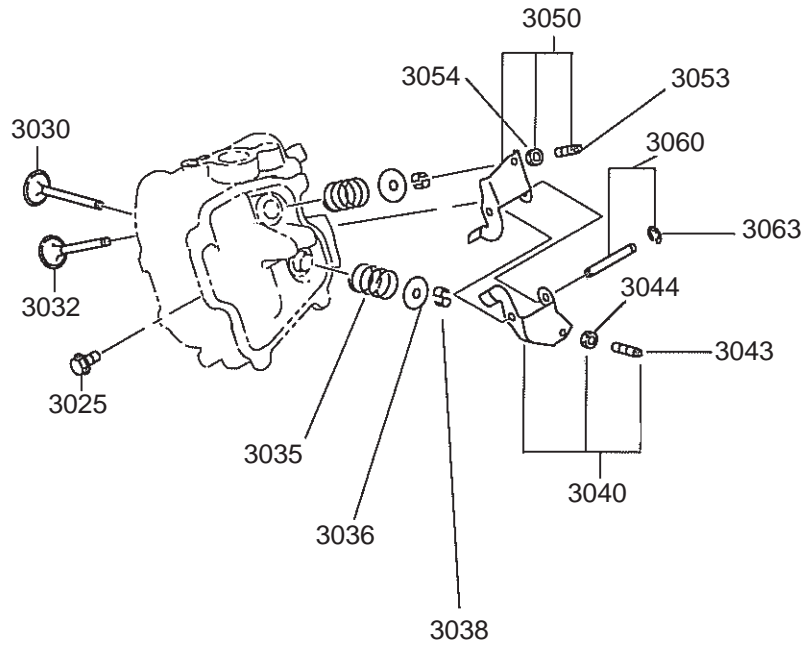


## SECTION 2      CRANKSHAFT GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
2003	20B-21201-11	CRANKSHAFT CP	1			200
2030	005-32054-01	WOODRUFF KEY	1			200
2102	20B-22501-00	CONNECTING ROD AY	1			200
2105	001-05084-00	FLANGE BOLT	2			200
2205	20B-23401-H3	PISTON	1	STD		200
2205	20B-23403-H3	PISTON	1	OVERSIZE 0.25mm		200
2205	20B-23404-H3	PISTON	1	OVERSIZE 0.50mm		200
2210	20B-23501-07	PISTON RING SET	1	STD		200
2210	20B-23502-07	PISTON RING SET	1	OVERSIZE 0.25mm		200
2210	20B-23503-07	PISTON RING SET	1	OVERSIZE 0.50mm		200
2215	263-23301-33	PISTON PIN	1			200
2220	056-52100-20	CLIP	2			200

SECTION 3 INTAKE and EXHAUST GROUP

FIG. 300

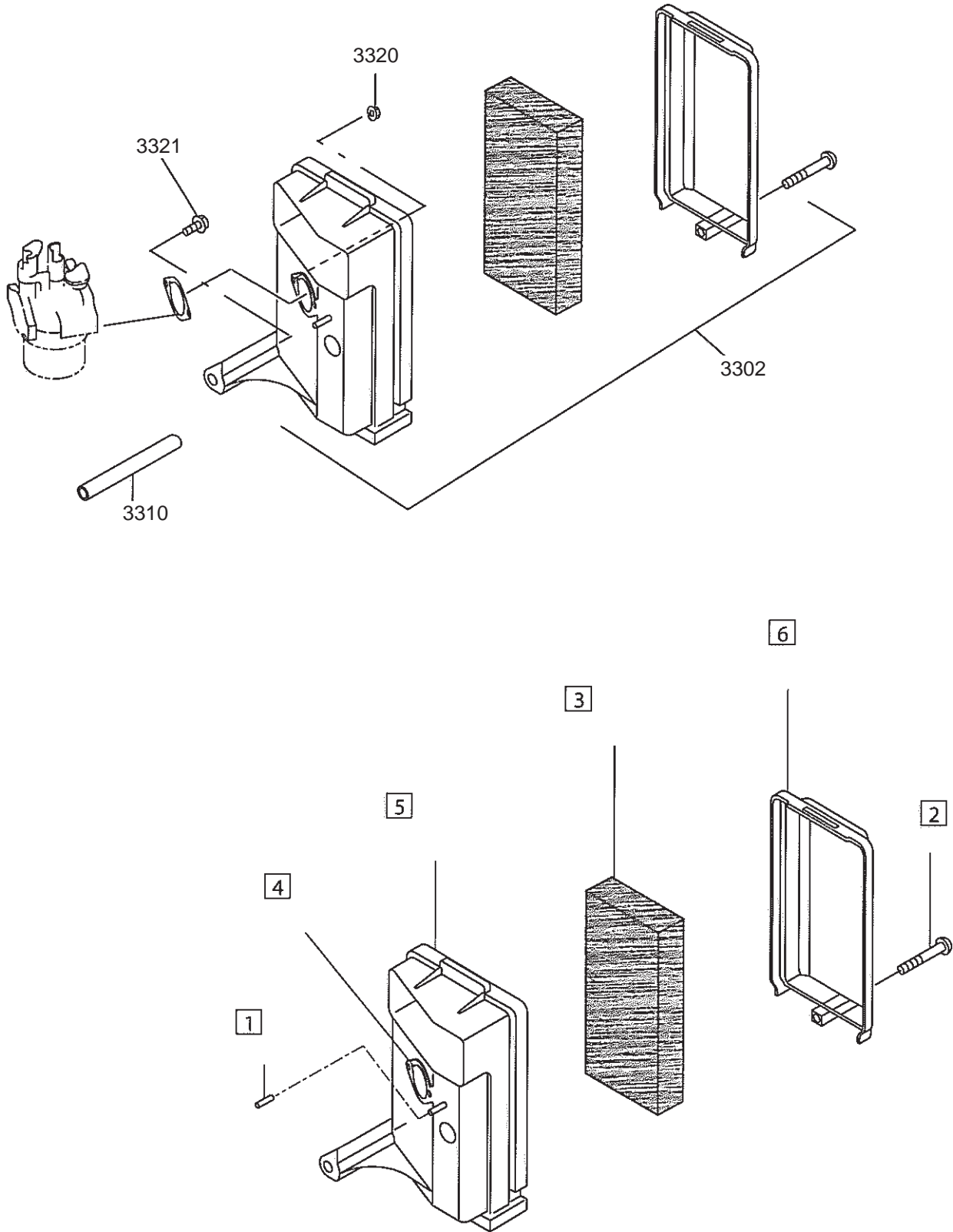


### SECTION 3 INTAKE and EXHAUST GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
3003	20B-31601-01	CAMSHAFT CP	1			300
3005	005-19041-00	SPRING PIN	2			300
3007	277-36401-03	RELEASE LEVER	1			300
3008	277-38702-03	RETURN SPRING	1			300
3009	20B-36501-03	CLIP	1			300
3020	20B-35101-11	PIN CP, CAMSHAFT	1			300
3021	20B-35101-03	PIN, CAMSHAFT	1			300
3022	024-00700-20	O RING	1			300
3025	011-00600-20	FLANGE BOLT	1			300
3030	20B-33401-H3	INTAKE VALVE	1			300
3032	20B-33501-H3	EXHAUST VALVE	1			300
3035	246-33611-03	VALVE SPRING	2			300
3036	246-33711-13	SPRING RETAINER	2			300
3038	246-35501-03	COLLET VALVE	4			300
3040	20B-36101-00	ROCKER ARM AY, INTAKE	1			300
3043	014-90500-20	ADJUST SCREW	1			300
3044	017-00500-30	NUT	1			300
3050	20B-36102-10	ROCKER ARM AY, EXHAUST	1			300
3053	014-90500-20	ADJUST SCREW	1			300
3054	017-00500-30	NUT	1			300
3060	20B-35001-01	PIN CP, ROCKER	1			300
3063	003-13060-00	CLIP	1			300
3070	20B-35601-H1	TIMING CHAIN CP	1			300
3076	277-36911-03	TENSIONER	1			300
3077	277-37101-03	SPRING, TENSIONER	1			300
3078	277-36902-03	PIN, TENSIONER	1			300
3080	277-36913-13	CHAIN GUIDE	1			300

SECTION 3 INTAKE and EXHAUST GROUP

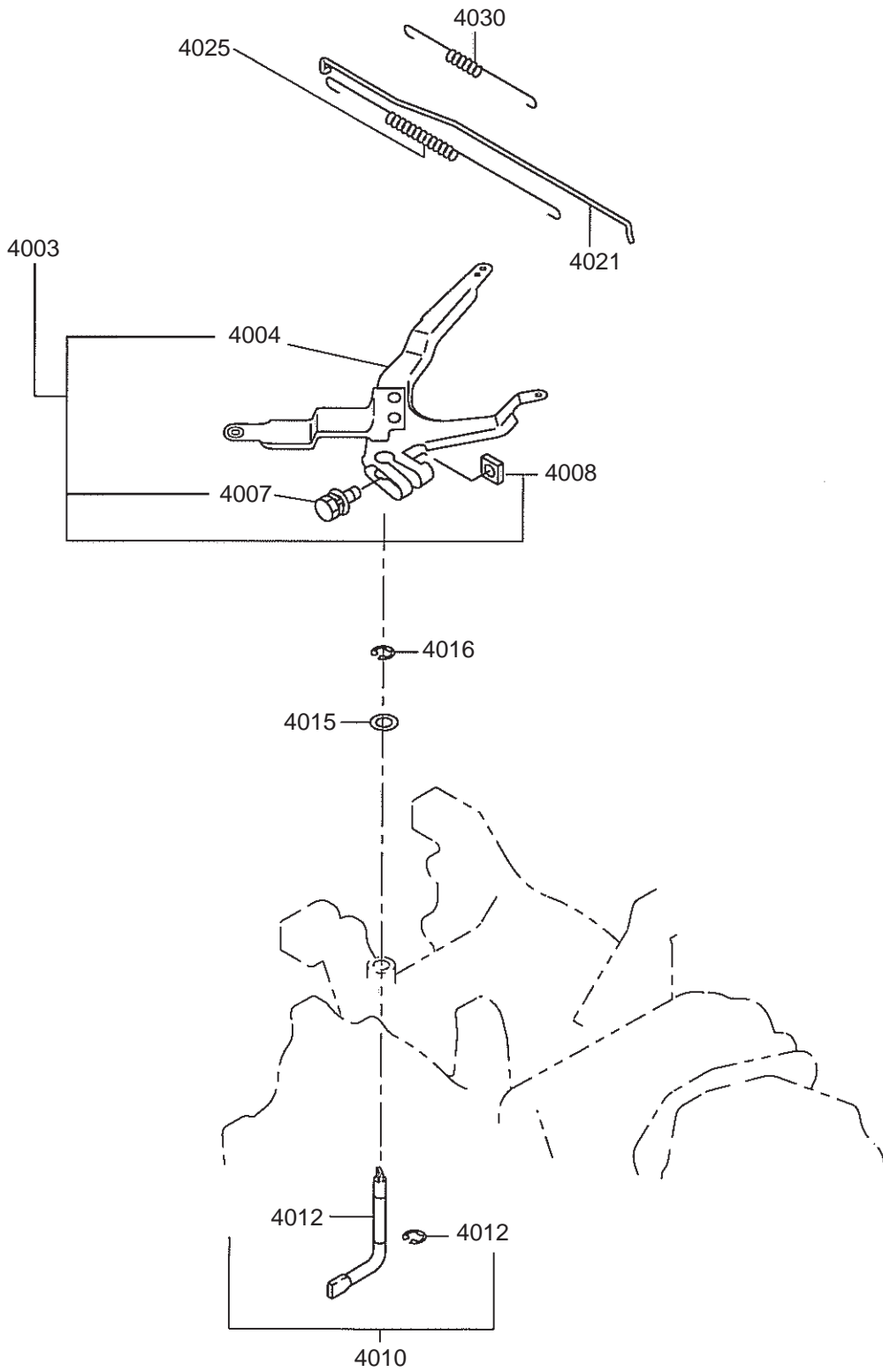
FIG. 310





SECTION 4 GOVERNOR GROUP

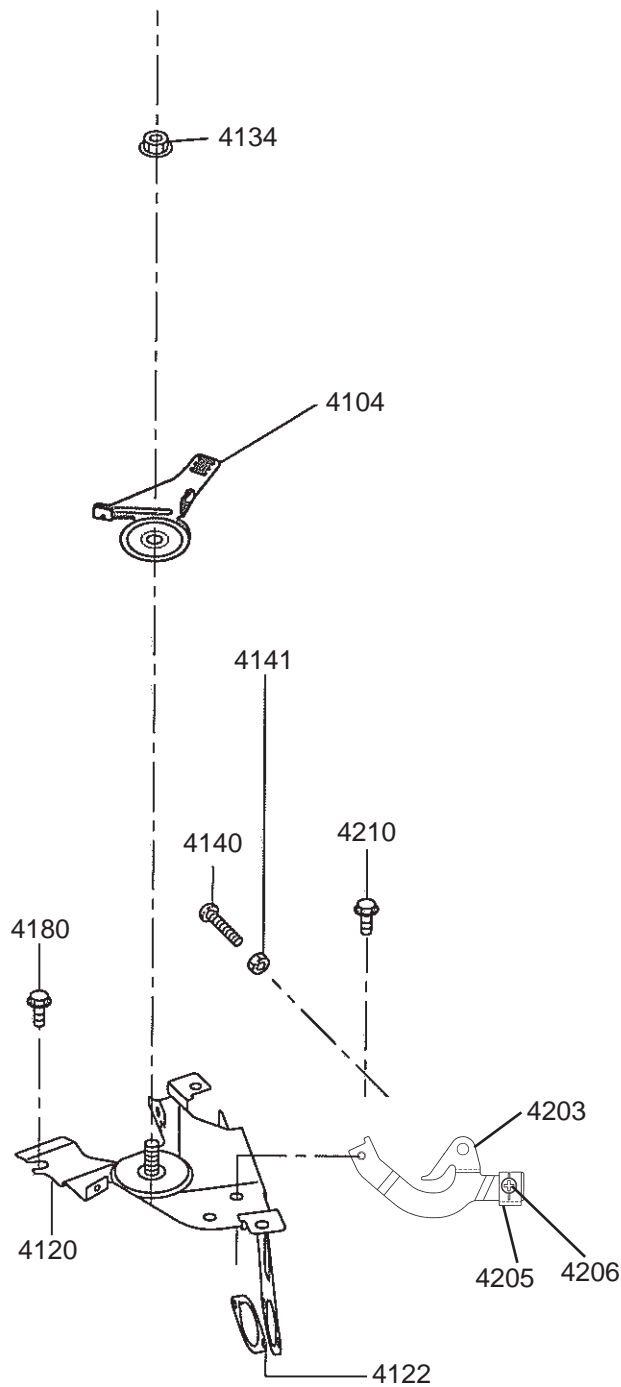
FIG. 400





SECTION 4 GOVERNOR GROUP

FIG. 400



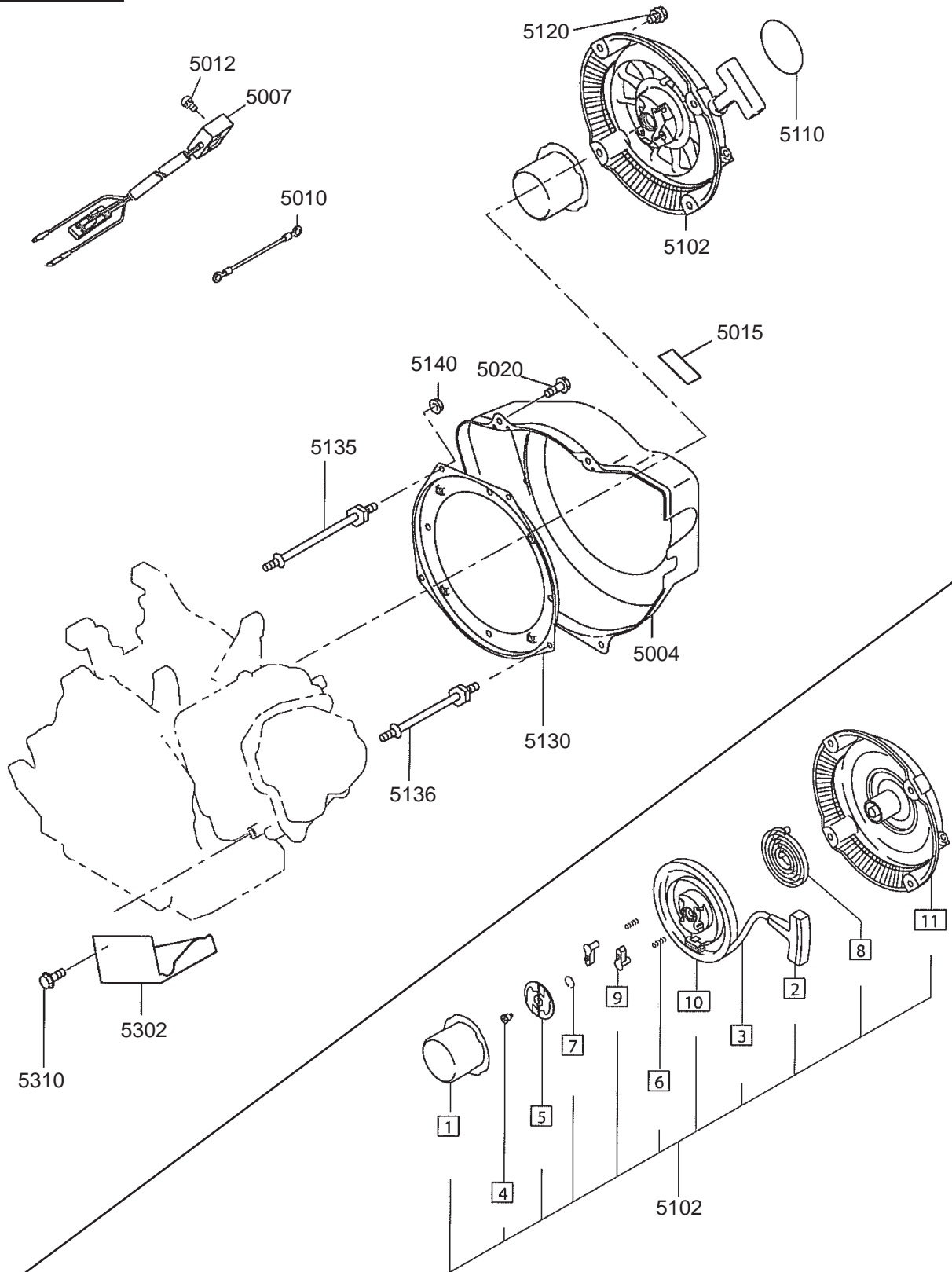


## SECTION 4 GOVERNOR GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
4104	20B-43351-03	SPEED CONTROL LEVER	1			400
4120	20B-46001-21	SPEED CONTROL BRACKET CP	1			400
4122	20B-35903-03	GASKET 3	1	choke bracket to carburetor		400
4134	002-35060-00	SELF LOCK NUT	1			400
4140	004-31064-00	SCREW	1			400
4141	002-27060-00	NUT	1			400
4180	011-00600-20	FLANGE BOLT	1			400
4203	20B-45201-03	BRACKET, CHOKE	1			400
4205	277-43902-03	CLAMP	1			400
4206	013-10500-30	SCREW AND WASHER AY	1			400
4210	011-00600-20	FLANGE BOLT	1			400

SECTION 5 COOLING and STARTING GROUP

FIG. 500

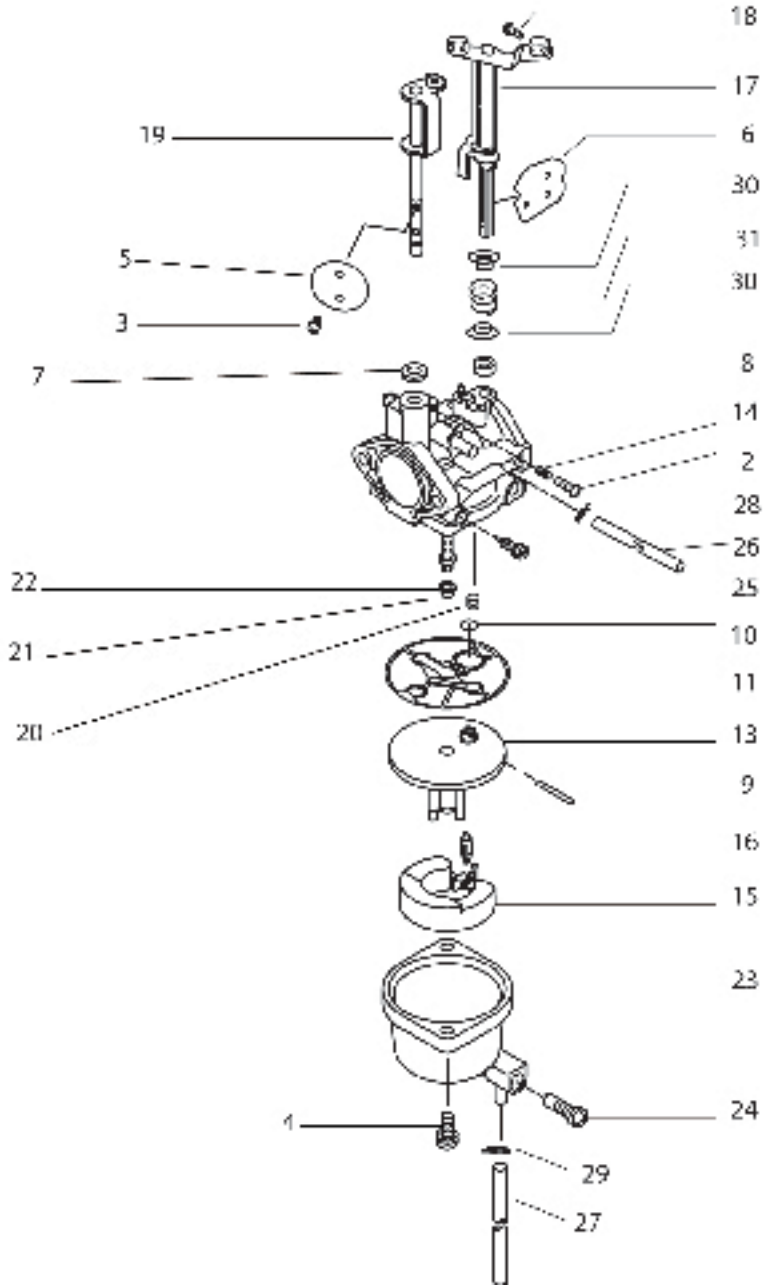


**SECTION 5          COOLING and STARTING GROUP**

<b>Ref.</b>	<b>Part Number</b>	<b>Description</b>	<b>Qty</b>	<b>Remarks</b>	<b>To-From</b>	<b>Fig.</b>
5004	20B-51201-H1	BLOWER HOUSING CP	1			500
5007	KU3-11076-01	FLOAT C/U CP10	1			500
5010	20B-73102-01	WIRE 2 CP	1			500
5012	004-36041-20	SCREW AND WASHER AY	2			500
5015	073-20051-81	LABEL, WARNING	1			500
5020	001-04061-60	FLANGE BOLT	5			500
5102	20B-50301-00	RECOIL STARTER AY	1			500
1	20B-50145-08	STARTER PULLEY	1			500
2	261-50100-08	STARTER KNOB	1			500
3	20B-50110-08	STARTER ROPE	1			500
4	20B-50101-08	SET SCREW	1			500
5	161-50150-08	RATCHET GUIDE	1			500
6	227-50135-08	RETURN SPRING	2			500
7	227-50131-08	FRICTION SPRING	1			500
8	277-50155-08	SPIRAL SPRING	1			500
9	161-50125-08	RATCHET GUIDE	2			500
10	20B-50120-08	REEL	1			500
11	20B-50150-08	STARTER CASE	1			500
5110	073-20054-70	LABEL, TRADEMARK	1			500
5120	013-00602-81	BOLT AND WASHER AY	4			500
5130	20B-55101-02	RECOIL BRACKET UN	1			500
5135	010-00804-40	BOLT	2			500
5136	010-00804-50	BOLT	2			500
5140	002-38060-00	FLANGE NUT	4			500
5302	20B-52702-H1	BAFFLE 2 CP, HEAD	1			500
5310	011-00600-20	FLANGE BOLT	3			500

SECTION 6 FUEL, LUBRICATION GROUP

FIG. 600

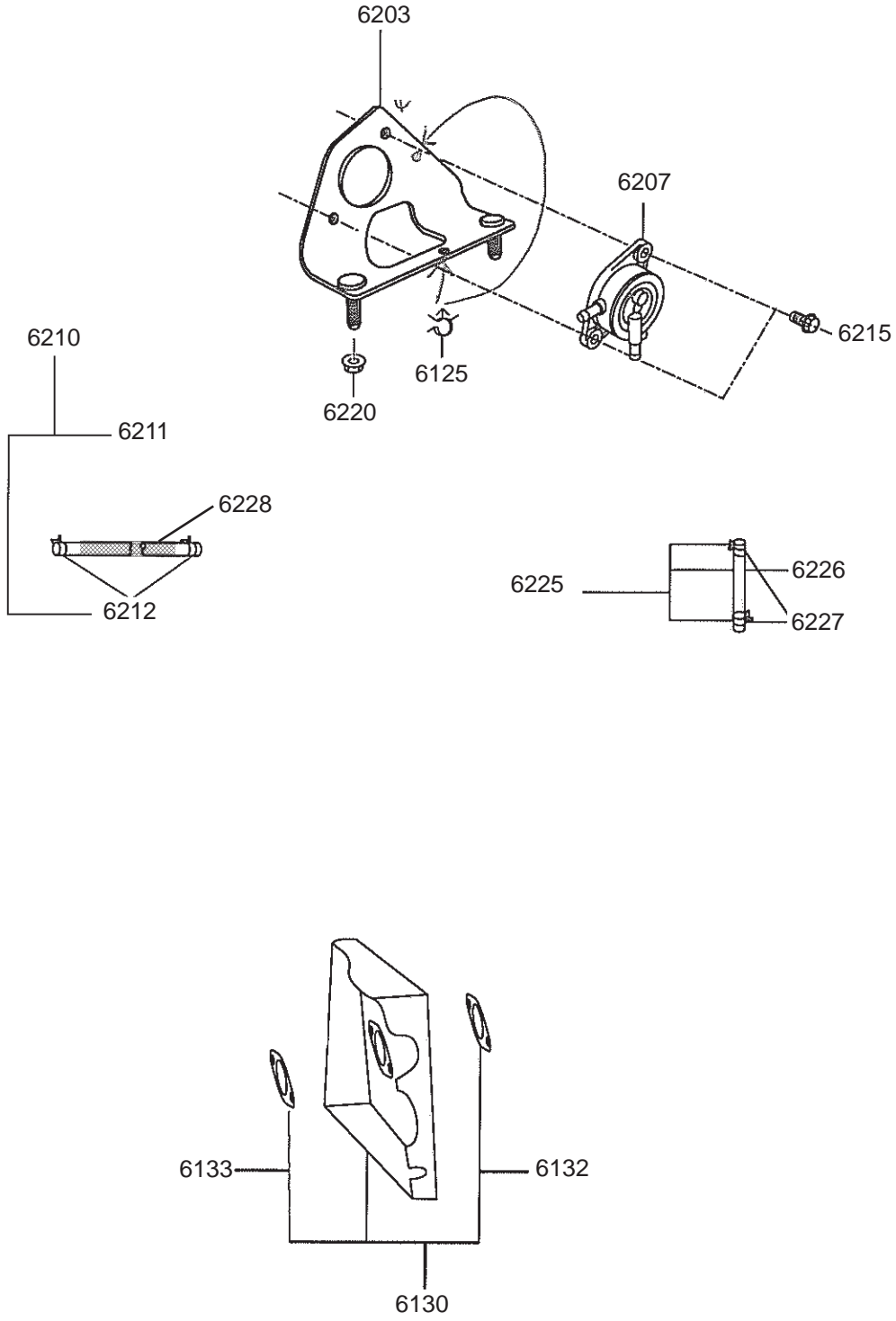


## SECTION 6 FUEL, LUBRICATION GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
6102	20B-62308-00	CARBURETOR AY	1			600
2	20B-62353-08	SCREW, THROTTLE ADJUST	1			600
3	261-62352-08	SCREW, VALVE SET	4	for throttle and choke valves		600
4	20B-62453-08	SCREW, FLOAT CHAMBER	2			600
5	20B-62535-08	VALVE, THROTTLE	1			600
6	20B-62525-08	VALVE, CHOKE	1			600
7	226-62580-08	AIR FILTER	1	dust seal for throttle shaft		600
8	263-62574-08	SEAL, LIP	1	for choke shaft		600
9	263-62515-08	PIN, FLOAT	1			600
10	20B-62541-08	O RING	1			600
11	20B-62540-08	O RING, SPACER	1			600
13	20B-62521-08	SPACER, CARB	1			600
14	20B-62445-08	SPRING, THROTTLE ADJUST	1			600
15	20B-62505-08	FLOAT AY	1			600
16	20B-62500-08	VALVE AY, FLOAT	1			600
17	20B-62552-08	SHAFT, CHOKE	1			600
18	20B-62524-08	SCREW, TERMINAL	2			600
19	20B-62530-08	SHAFT AY, THROTTLE	1			600
20	20B-62421-08	SLOW JET	1			600
21	20B-62437-08	MAIN JET	1			600
22	20B-62542-08	O RING	1	seal for main jet		600
23	20B-62550-08	CHAMBER CP, FLOAT	1			600
24	20B-62354-08	SCREW, DRAIN	1			600
25	20B-62357-08	NEEDLE CP, IDLE ADJUST	1			600
26	20B-62310-08	HOSE	1			600
27	20B-62311-08	HOSE	1			600
28	20B-62320-08	CLAMP	1			600
29	20B-62321-08	CLAMP	1			600
30	20B-62522-08	COLLAR	2			600
31	20B-62523-08	SPRING, CHOKE RETURN	1			600
*	261-62358-08	PLUG, EXPANSION	1	not shown, covers item 25		

SECTION 6 FUEL, LUBRICATION GROUP

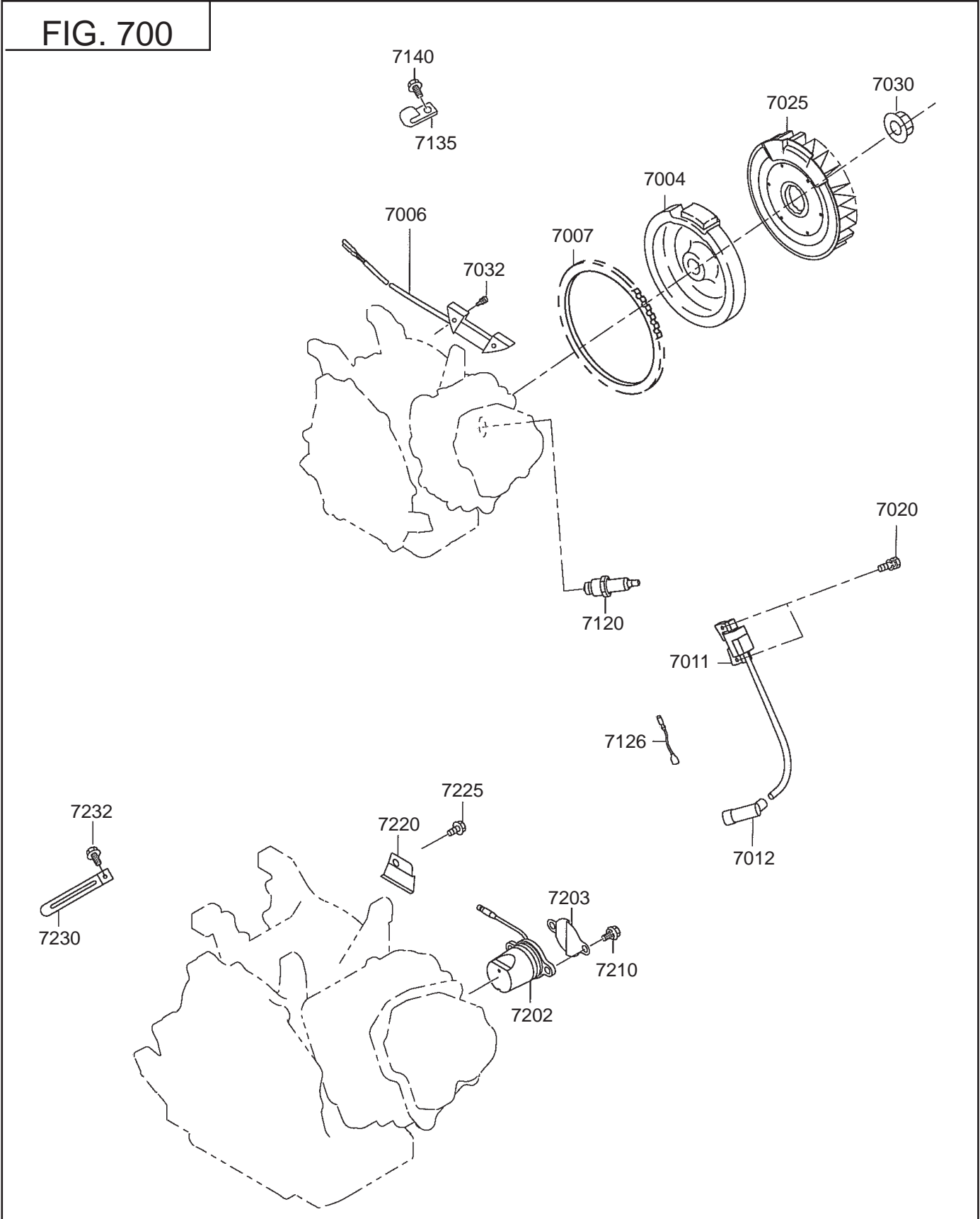
FIG. 610





SECTION 7 ELECTRIC DEVICE GROUP

FIG. 700

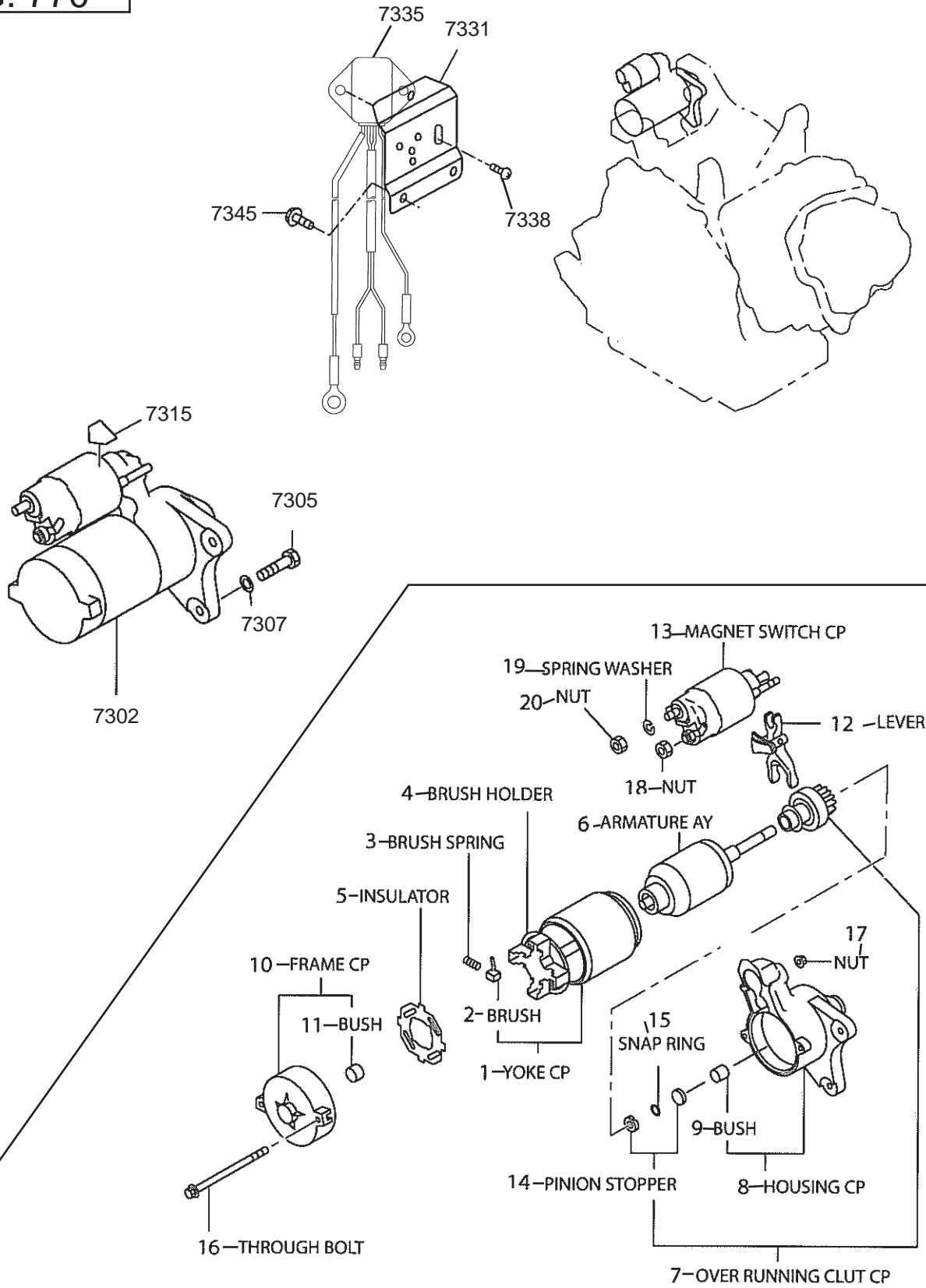




## SECTION 7 ELECTRIC DEVICE GROUP

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
7004	20B-79241-H1	FLYWHEEL CP	1			700
7006	20B-79301-H1	CHARGE COIL CP	1			700
7007	20B-71002-03	RING GEAR	1			700
7011	20B-79430-H1	IGNITION COIL CP	1			700
7012	065-50003-11	SPARK PLUG CAP	1			700
7020	001-14062-50	BOLT AND WASHER AY	2			700
7025	20B-54101-H3	COOLING BLOWER	1			700
7030	018-01800-10	FLANGE NUT	1			700
7032	004-35062-00	SCREW AND WASHER AY	2			700
7120	065-01401-50	SPARK PLUG	1	NGK BR6HS		700
7126	20B-73101-01	WIRE 1 CP	1			700
7135	214-79006-01	CLAMP CP	1			700
7140	011-00600-10	FLANGE BOLT	1			700
7202	279-76301-51	OIL SENSOR CP	1			700
7203	277-75801-03	SHIELD PLATE, OIL SENSOR	1			700
7210	013-00602-60	BOLT AND WASHER AY	2			700
7220	20B-75501-03	WIRE CLAMP	1			700
7225	015-20600-50	TAPPING BOLT	1			700
7230	056-60002-50	CLAMP	2			700
7232	011-00600-10	FLANGE BOLT	1			700

FIG. 770



## SECTION 7      ELECTRIC DEVICE GROUP - ELECTRIC STARTER

Ref.	Part Number	Description	Qty	Remarks	To-From	Fig.
7302	279-70502-00	STARTING MOTOR AY	1			770
1	209-70550-08	YOKE CP	1			770
2	209-70551-08	BRUSH	4			770
3	209-70551-08	BURSH SPRING	4			770
4	209-70545-08	BRUSH HOLDER	1			770
5	209-70552-08	INSULATOR	1			770
6	209-70554-08	ARMATURE AY	1			770
7	209-70521-08	OVER RUNNING CLUTCH	1			770
8	279-70550-08	HOUSING CP	1			770
9	209-70511-08	BUSH	1			770
10	209-70505-18	FRAME CP	1			770
11	209-70510-08	BUSH	1			770
12	209-70525-08	LEVER	1			770
13	279-70515-18	MAGNET SWITCH CP	1			770
14	234-70555-08	PINION STOPPER	1			770
15	209-70557-18	SNAP RING	1			770
16	209-70558-08	THROUGH BOLT	2			770
17	949-29970-02	NUT	2			770
18	209-70560-08	NUT	1			770
19	107-70652-08	SPRING WASHER	1			770
20	211-70584-08	NUT	1			770
7305	214-79007-01	BOLT, STARTER	2			770
7307	003-10080-00	WASHER	2			770
7315	073-20044-80	LABEL, BATTERY	1			770
7331	20B-76511-01	BRACKET CP, SEL	1			770
7335	277-71903-01	REGULATOR CP	1			770
7338	011-00600-20	FLANGE BOLT	2			770
7345	011-00600-20	FLANGE BOLT	3			770

SECTION 7 ELECTRIC DEVICE GROUP

FIG. 780

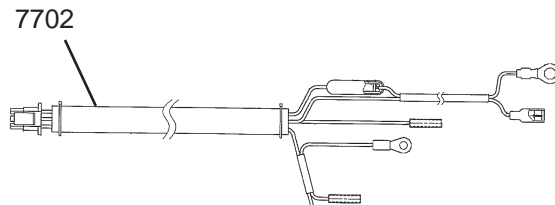
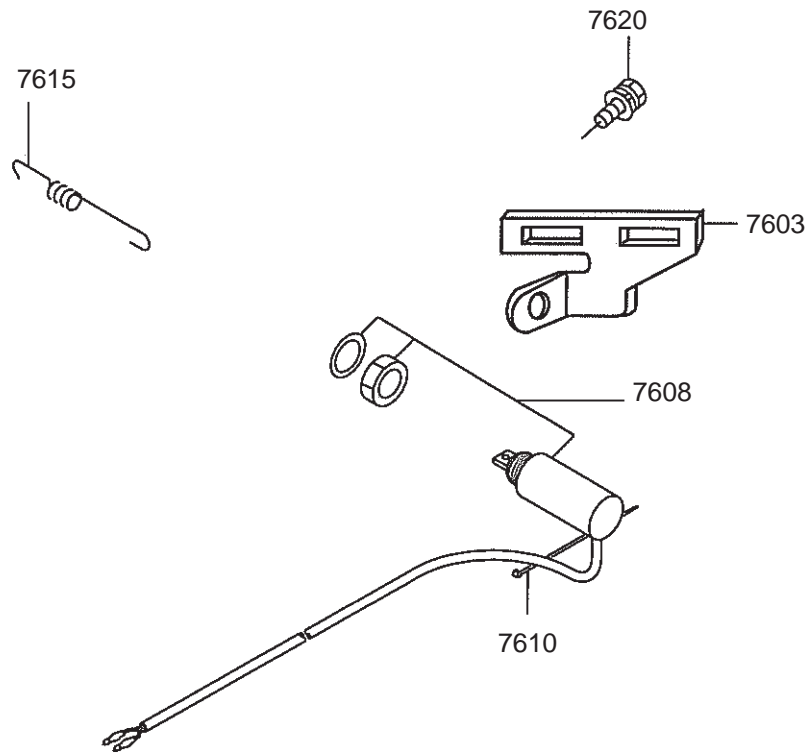
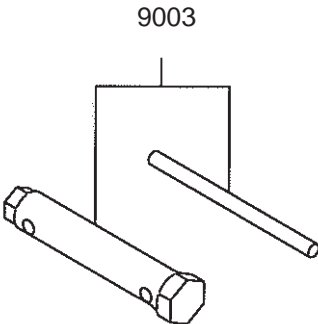




FIG. 900





SECTION 10 SHIP LOOSE

FIG. 1000







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