Honda GX50 Gas Backpack Operator/Service Manual

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Section

COMPANY/DEALER NAME	SERIAL NUMBER	PART NUMBER	SHIPMENT DATE

⚠ WARNING

CALIFORNIA PROPOSITION 65

Engine exhaust and some of its constituents, and some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects and other reproductive harm. Some examples of these chemicals are:

Lead from lead-based paints.
Crystalline silica from bricks.
Arsenic and chromium from chemically treated lumber

Your risk from these exposures caries, depending on how often you do this type of work. To reduce your exposure to these chemicals:
ALWAYS work in a well ventilated area, and work with approved safety equipment, such as dust masks that are specially designed to filter out microscopic particles.

⚠ WARNING

SILICOSIS WARNING

Grinding/cutting/drilling of masonry, concrete, metal and other materials with silica in their composition may give off dust or mists containing crystalline silica. Silica is a basic component of sand, quarts, brick clay, granite and numerous other minerals and rocks. Repeated and/or substantial inhalation of airborne crystalline silica can cause serious or fatal respirator disease, including silicosis. In addition, California and some other authorities have listed respirable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

⚠ WARNING

RESPIRATIORY HAZARDS

Grinding/cutting drilling of masonry, concrete, metal and fumes containing chemicals known to cause serious or fatal injury or illness, such as respiratory disease, cancer, birth defects or other reproduction harm, if you are unfamiliar with the risks associated with the particular process and/or material being cut or the composition of the tool being used, review the material safety data sheet and/or consult your employer, the material manufacturer/supplier, governmental agencies such as OSHA and NIOSH and other sources on hazardous materials. California and some other authorities, for instance, have published lists of substances known to cause cancer, reproductive toxicity, or other harmful effects.

Control dust, mist and fumes at the source where possible. In this regard use good work practices and follow the recommendations of the manufacturers of suppliers, OSHA/NIOSH, and occupational and trade associations. Water should be used for dust suppression when wet cutting is feasible. When the hazards from inhalation of dust, mists and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by NIOSH/MSHA for the material s being used.

MINNICH MANUFACTURING CO.
WARRANTY AND SERVICE AGREEMENT

LIMITED WARRANTY, DISCLAIMER

Supplier warrants to Customer that the Services shall be provided in a workmanlike manner and that the Goods shall be free from defects in material and workmanship at the date of shipment from Supplier's facility. This warranty shall not run to any person other than Customer.
All claims under this warranty must be made in writing and delivered to Supplier prior to the expiration of one (1) year after the Goods have been delivered (or, if applicable, within one (1) year after the Services have been performed) or be forever barred. Supplier will repair or replace Goods or parts recognized and acknowledged by Supplier as being defective at the time of delivery without charge. However, Supplier will bill Customer for Goods and/or Services not covered by the warranty, including travel expenses incurred while performing warranty service calls. EQUIPMENT, COMPONENTS OR OTHER GOODS FURNISHED THAT ARE NOT MANUFACTURED BY SUPPLIER ARE ONLY COVERED TO THE EXTENT OF THE ORIGINAL MANUFACTURER'S WARRANTY, WHICH MAY VARY FROM THE ABOVE. Further, the above warranty shall not apply to any hardware or software that has been repaired or altered without Supplier's written permission by anyone other than Supplier's personnel. The foregoing states the sole and exclusive remedy for any breach of warranty or for any other claim based on any defect in, or non-performance of, the Goods or Services, whether based upon contract, warranty, negligence, tort (including strict liability) or otherwise.
NO EXPRESS WARRANTIES AND NO IMPLIED WARRANTIES, WHETHER OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR WEAR CAPACITY, OR OTHERWISE, SHALL APPLY TO THE GOODS AND SERVICES. SUPPLIER SPECIFICALLY DISCLAIMS AND EXCLUDES ALL OTHER EXPRESS AND IMPLIED WARRANTIES. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING SHALL BE VALID UNLESS MADE IN WRITING AND SIGNED BY AN EXECUTIVE OFFICER OF SUPPLIER. IN NO EVENT WILL SUPPLIER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

WHAT IS NOT COVERED

This Limited Warranty does not cover any damage, deterioration or malfunction resulting from normal wear or tear, or any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This Limited Warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Minnich to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product.

WHAT IS COVERED

This limited warranty ("Limited Warranty") covers manufacturing defects in materials and workmanship of a product.

WHO IS COVERED:

Only the original purchaser of this product is covered under this Limited Warranty. This Limited Warranty is not transferable to subsequent purchasers or owners of this product. The product must have been purchased directly from Minnich or from an authorized Minnich reseller.

GENERAL SAFETY RULES

This manual contains NOTES, CAUTIONS, and WARNINGS. These MUST be followed to prevent the possibility of improper use, incorrect servicing, damaging the equipment, or personal injury. Read and comply with all NOTES, CAUTIONS and WARNINGS included in these instructions.

NOTICE Notes contain additional information important to the operation of the equipment.

⚠ CAUTION Cautions provide important information to prevent mistakes that could result in damage to the equipment.

⚠ WARNING Warnings alert one to practices or conditions that could lead to personal injury or death!

⚠ WARNING

Read and understand all instructions.
Failure to follow all instructions listed below may result in one or all of the following: electric shock, fire, and serious injury.

⚠ WARNING

DO NOT USE TOOL IF IT IS IN NEED OF SERVICE!

SAVE THESE INSTRUCTIONS

⚠ WARNING

WHEN TRANSPORTING/STORING THIS UNIT - PLEASE DO SO IN THE UPRIGHT POSITION

- WORK AREA –

Keep your work area clean and well lit.

Cluttered and dark areas invite accidents.

DO NOT operate power tools in explosive atmospheres, such as, in the presence of flammable liquids, gases, or dust.

Power tools create sparks that may ignite the dust or fumes.

Keep bystanders, children, and visitors away while operating a power tool.

Distractions can cause you to lose control.

- PERSONAL SAFETY -

Stay alert, watch what you are doing and use common sense when operating a power tool. DO NOT use tool while tired or under influence of drugs, alcohol or medication.

A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. DO NOT wear loose clothing, or jewelry. Tie up long hair. Keep your hair, clothing, and gloves away from moving parts.

Loose clothes, jewelry, or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in.

Carrying tools with your finger on the switch or plugging in tools that have switches on invites accidents.

DO NOT overreach. Always keep proper footing and balance.

Proper footing and balance enable better control of the tool in unexpected situations.

Use safety equipment. Always wear eye protection.

Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

- TOOL USE AND CARE -

DO NOT force tool. Use the correct tool for your application.

The correct tool will do the job better and safer at the rate for which it is designed.

DO NOT use tool if switch does not turn it on or off.

Any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.

Such preventive safety measures reduce the risk of starting the tool accidentally.

Store tools out of the reach of children and other untrained persons.

Tools are dangerous in the hands of untrained users.

Maintain tools with care. Keep tools clean.

Properly maintained tools are less likely to bind and are easier to control.

Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.

Many accidents are caused by poorly maintained tools.

Use only accessories that are recommended by the manufacturer for your model.

Accessories that may be suitable for one tool may become hazardous when used on another tool.

- SERVICE -

Tool service must be performed only by qualified repair personnel.

Service or maintenance performed by unqualified personnel could result in a risk of injury.

When servicing a tool, use only identical replacement parts. Follow instructions in the maintenance section of this manual.

Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury.

Backpack Flex Shaft Specs.

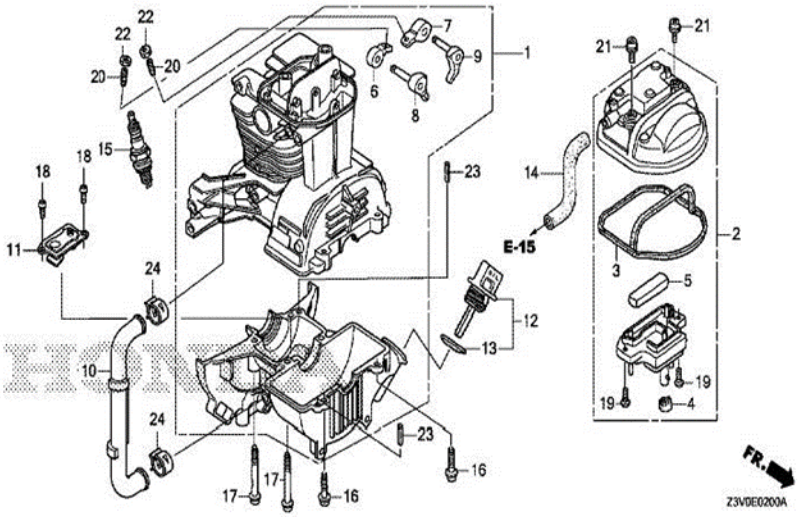
ENGINE ---------- **HONDA GX50 4-STROKE**
POWER ---------- **2.0HP**
RPM (ENGINE/HEAD) ---------- **8000-9000**
DISPLACEMENT ---------- **50CC**
FUEL CAPACITY ---------- **21.5 FL OZ)**
CLUTCH ----------**2 SHOE CENTRIFUGAL**
IGNITION ----------**PULL STRING**
CARBURETOR ---------- **ALL POSITION DIAPHRAGM/PRIMER FOR EASY START**
MOUNT ---------- **ANTI-VIBRATION**
SHAFT ---------- **7/8" (22.2mm) OD CASING**
WEIGHT ----------**20.5lbs.**

Recommended Shaft Length	7' (2.1m)	10' (3.0m)	14' (4.3m)
Recommended Head Sizes	3/4", 1", 1-3/8", 1-3/4", 2", 2-3/8"	3/4", 1", 1-3/8", 1-3/4"	3/4", 1", 1-3/8"

See Honda Engines Owner's Manual for use and care of GX50NT Engine

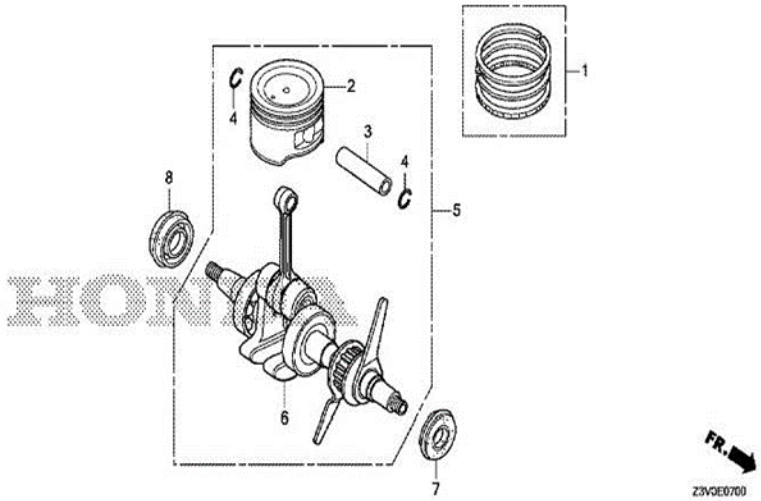
Specifications are nominal values and will vary depending on the size and range of aggregate, and the slump of the concrete. Specifications taken at 10,500VPM.

GX50NT(S3)	E-2 CRANKCASE SET



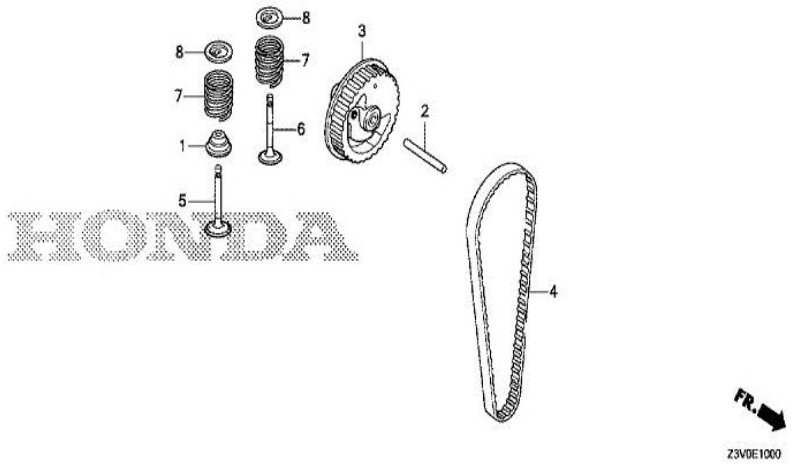
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00002	CRANKCASE SET	1	
002	012106-00003	COVER COMP., CYLINDER HEAD	1	
003	012106-00004	SEAL, HEAD COVER	1	
004	012106-00005	GROMMET, HEAD COVER	1	
005	012106-00006	FILTER, BREATHER	1	
006	012106-00007	ARM, IN. VALVE ROCKER	1	
007	012106-00008	ARM, EX. VALVE ROCKER	1	
008	012106-00009	LIFTER COMP., IN. VALVE	1	
009	012106-00010	LIFTER COMP., EX. VALVE	1	
010	012106-00011	TUBE, OIL	1	
011	012106-00012	PLATE ASSY., OIL OUTLET VALVE	1	
012	012106-00013	CAP ASSY., OIL FILLER	1	
013	012106-00014	PACKING, OIL FILLER CAP	1	
014	012106-00015	TUBE, BREATHER	1	
015	012106-00016	PLUG, SPARK (CMR4H) (NGK)	(1)	
015	012106-00017	PLUG, SPARK (CMR5H) (NGK)	1	
015	012106-00018	PLUG, SPARK (CMR6H) (NGK)	(1)	
016	012106-00019	BOLT, SOCKET, 5X20	2	
017	012106-00020	BOLT, SOCKET, 5X39	4	
018	012106-00021	SCREW, PAN, 4X8	2	
019	012106-00022	SCREW, PAN, 4X8	2	
020	012106-00023	SCREW, TAPPET ADJUSTING	2	
021	012106-00024	BOLT, SOCKET, 5X12	2	
022	012106-00025	NUT, TAPPET ADJUSTING	2	
023	012106-00026	PIN, SPRING, 4X10	2	
024	012106-00027	CLAMP, TUBE (D12)	2	

GX50NT(S3)	E-7 CRANKSHAFT/PISTON



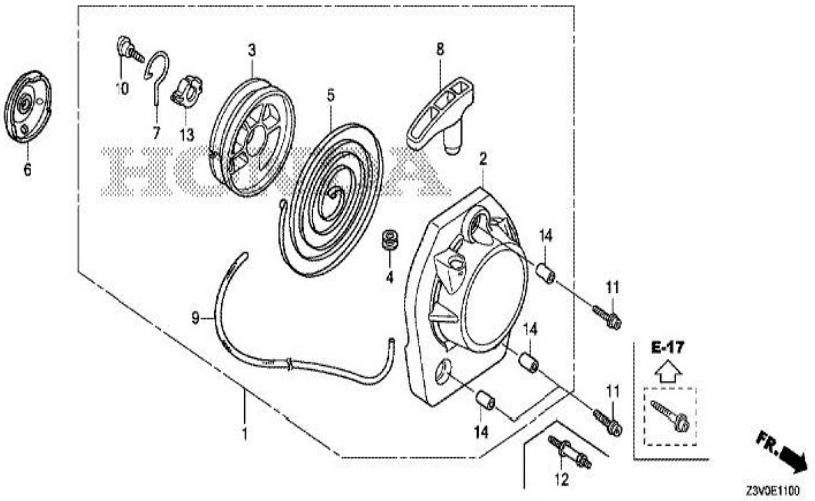
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00028	RING SET, PISTON	1	
002	012106-00029	PISTON	1	
003	012106-00030	PIN, PISTON	1	
004	012106-00031	CLIP, PISTON PIN, 9MM	2	
005	012106-00032	CRANKSHAFT COMP.	1	
006	012106-00033	CRANKSHAFT COMP.	(1)	
007	012106-00034	OIL SEAL, 10X20X5	1	
008	012106-00035	OIL SEAL, 15X25X6	1	

GX50NT(S3)	E-10 CAMSHAFT PULLEY



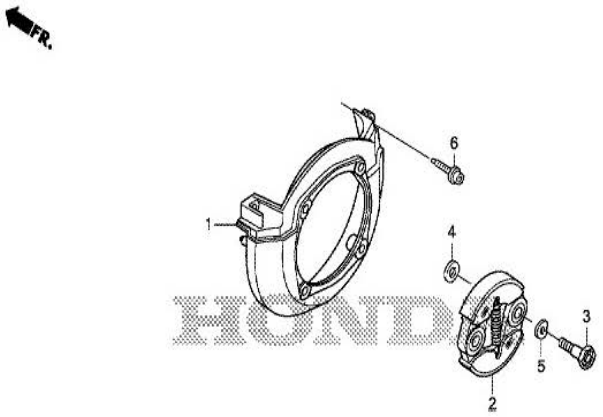
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00036	SEAL, VALVE STEM	1	
002	012106-00037	ROLLER, 4X31.8	1	
003	012106-00038	PULLEY COMP., CAMSHAFT	1	
004	012106-00039	BELT, TIMING (78ZU5 G-310)	1	
005	012106-00040	VALVE, IN.	1	
006	012106-00041	VALVE, EX. (ZE/ZZE)	1	
006	012106-00042	VALVE, EX. (FE)	1	
007	012106-00043	SPRING, VALVE	2	
008	012106-00044	RETAINER, VALVE SPRING	2	

GX50NT(S3)	E-11 RECOIL STARTER



Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00045	STARTER ASSY., RECOIL	1	
002	012106-00046	CASE, RECOIL STARTER	1	
003	012106-00047	REEL, RECOIL STARTER	1	
004	012106-00048	GUIDE, ROPE	1	
005	012106-00049	SPRING, RECOIL STARTER	1	
006	012106-00050	PULLEY, RECOIL STARTER	1	
007	012106-00051	ARM, SWING	1	
008	012106-00052	KNOB, RECOIL STARTER	1	
009	012106-00053	ROPE, RECOIL STARTER	1	
010	012106-00054	SCREW, SETTING	1	
011	012106-00055	BOLT, SOCKET, 5X16	3	
013	012106-00056	COLLAR	1	
014	012106-00057	COLLAR A, HEAD COVER	3	

GX50NT(S3)	E-12 FAN COVER/CLUTCH



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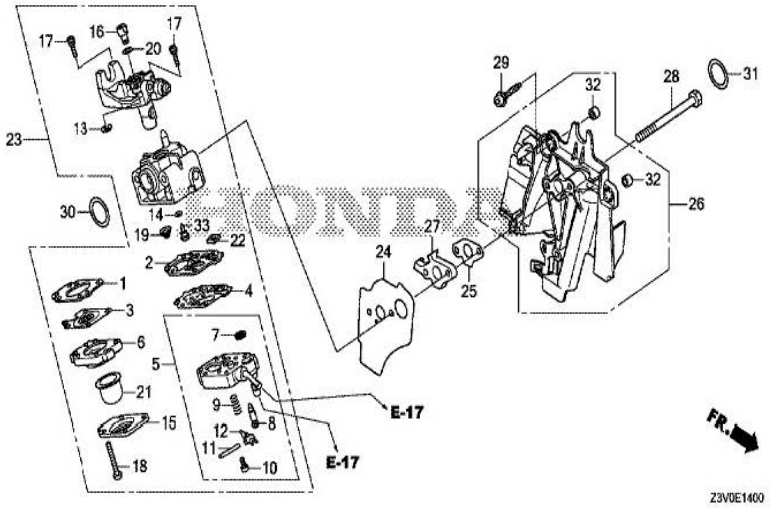
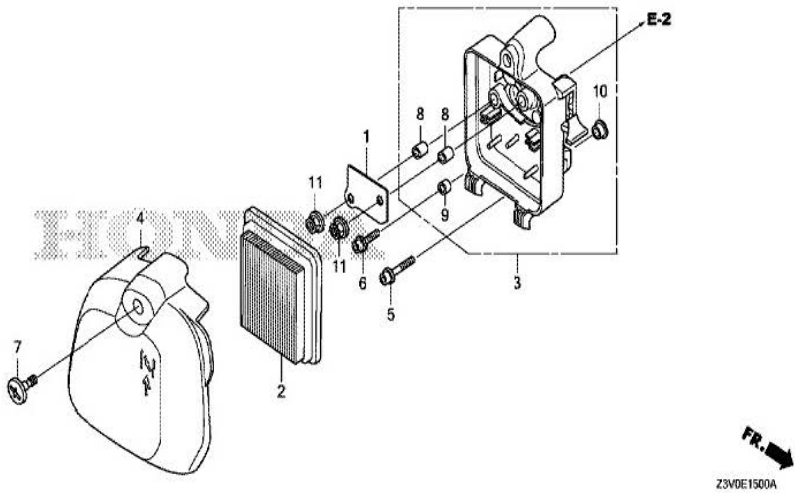
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00058	COVER, FAN	1	
002	012106-00059	CLUTCH ASSY.	1	
003	012106-00060	BOLT, CLUTCH (8MM)	2	
004	012106-00061	WASHER, CLUTCH (8X17)	2	
005	012106-00062	WASHER, WAVE (10MM)	2	
006	012106-00063	BOLT, SOCKET, 5X20	3	



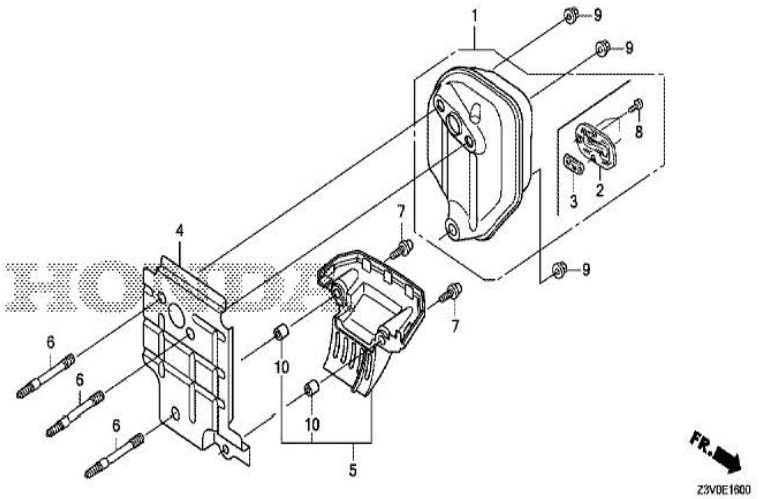
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00064	GASKET, METERING DIAPHRAGM	1	
002	012106-00065	GASKET, PUMP	1	
003	012106-00066	DIAPHRAGM ASSY., METERING	1	
004	012106-00067	DIAPHRAGM, PUMP	1	
005	012106-00068	BODY ASSY., PUMP	1	
006	012106-00069	BODY ASSY., AIR PURGE	1	
007	012106-00070	SCREEN, INLET	1	
008	012106-00071	VALVE, INLET NEEDLE	1	
009	012106-00072	SPRING, METERING LEVER	1	
010	012106-00073	SCREW, METERING LEVER PIN	1	
011	012106-00074	PIN, METERING LEVER	1	
012	012106-00075	LEVER, METERING	1	
013	012106-00076	RING, RETAINING	1	
014	012106-00077	O-RING	1	
015	012106-00078	COVER, PRIMER PUMP	1	
016	012106-00079	SWIVEL	1	
017	012106-00080	SCREW, THROTTLE COLLAR	2	
018	012106-00081	SCREW, PUMP COVER	4	
019	012106-00082	SPRING, PUMP	1	
020	012106-00083	WASHER	1	
021	012106-00084	PUMP, PRIMER	1	
022	012106-00085	FILTER, FUEL INLET	1	
023	012106-00086	CARBURETOR ASSY. (WYB 53)	1	
024	012106-00087	PACKING, CARBURETOR	1	
025	012106-00088	PACKING, SHROUD	1	
026	012106-00089	SHROUD	1	
027	012106-00090	SPACER, SHROUD	1	
028	012106-00091	BOLT, 5X58	2	
029	012106-00092	BOLT, SOCKET, 5X16	2	
030	012106-00093	O-RING, 14.8X2.4	1	
031	012106-00094	O-RING, 14.8X2.4	1	
032	012106-00095	COLLAR A, HEAD COVER	2	
033	012106-00096	JET (#42)	(1)	
033	012106-00097	JET (#43)	(1)	
033	012106-00098	JET (#44)	1	

GX50NT(S3)	E-15 AIR CLEANER



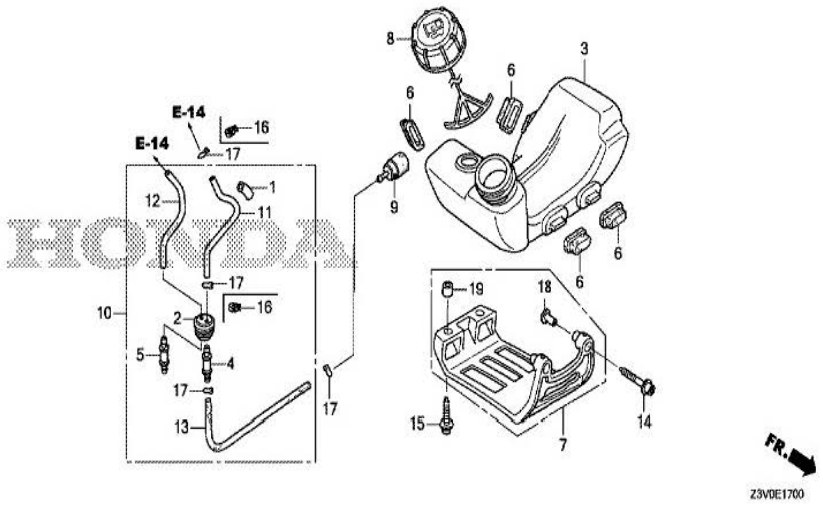
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00099	PLATE, OIL TRAP	1	
002	012106-00100	ELEMENT, AIR CLEANER	1	
003	012106-00101	CASE COMP., AIR CLEANER	1	
004	012106-00102	COVER, AIR CLEANER	1	
005	012106-00103	BOLT, SOCKET, 5X25	1	
006	012106-00104	BOLT, SOCKET, 5X16	1	
007	012106-00105	SCREW, SPECIAL, 6X16	1	
008	012106-00106	COLLAR, AIR CLEANER CASE (A)	2	
009	012106-00107	COLLAR, AIR CLEANER CASE (B)	1	
010	012106-00108	COLLAR, AIR CLEANER CASE (C)	1	
011	012106-00109	NUT, FLANGE, 5MM	2	

GX50NT(S3)	E-16 MUFFLER



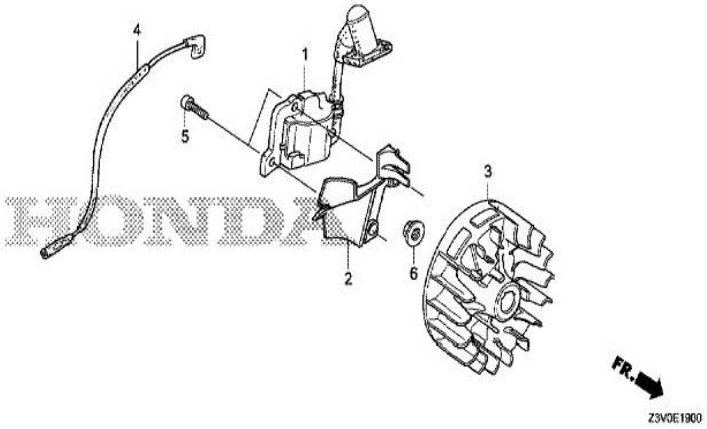
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00110	MUFFLER COMP.	1	
002	012106-00111	ARRESTER COMP., SPARK	1	
003	012106-00112	FILTER, EXHAUST	1	
004	012106-00113	GUIDE, AIR	1	
005	012106-00114	GUIDE COMP., UNDER AIR	1	
006	012106-00115	BOLT, STUD, 5X56.5	3	
007	012106-00116	BOLT, SOCKET, 5X16	2	
008	012106-00117	SCREW, TAPPING, 4X6	3	
009	012106-00118	NUT, SELF-LOCK, 5MM	3	
010	012106-00119	COLLAR A, HEAD COVER	2	

GX50NT(S3)	E-17 FUEL TANK



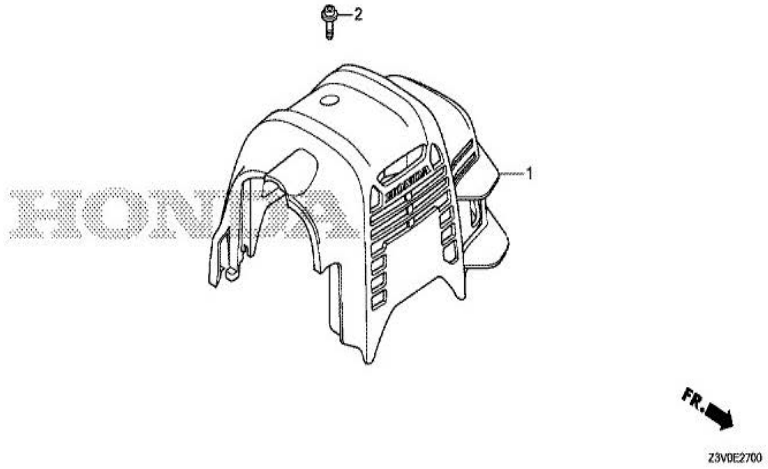
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00120	PROTECTOR, TUBE	1	
002	012106-00121	GROMMET, FUEL TUBE	1	
003	012106-00122	TANK, FUEL	1	
004	012106-00123	JOINT, FUEL TANK	1	
005	012106-00124	FITTING	1	
006	012106-00125	RUBBER, TANK MOUNTING	4	
008	012106-00126	CAP ASSY., FUEL TANK	1	
009	012106-00127	FILTER, FUEL	1	
010	012106-00128	GROMMET ASSY., FUEL TANK	(1)	
011	012106-00129	TUBE, FUEL (FKM)	1	
012	012106-00130	TUBE, FUEL RETURN	1	
013	012106-00131	TUBE A, FUEL	1	
016	012106-00132	CLAMP, TUBE (D5.5)	2	
017	012106-00133	CLIP, TUBE (B1 5)	2	

GX50NT(S3)	E-19 FLYWHEEL



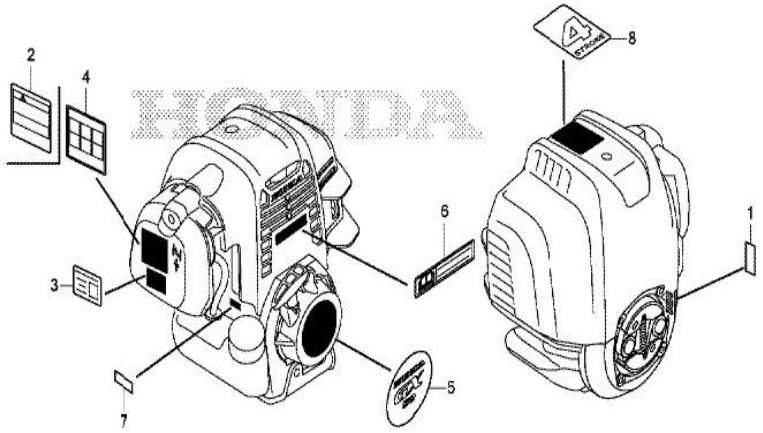
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00134	COIL ASSY., IGNITION	1	
002	012106-00135	CLIP, AIR GUIDE	1	
003	012106-00136	FLYWHEEL COMP.	1	
004	012106-00137	CORD, STOP SWITCH	1	
005	012106-00138	BOLT, SOCKET, 4X14	2	
006	012106-00139	NUT, FLANGE, 8MM	1	

GX50NT(S3)	E-27 TOP COVER



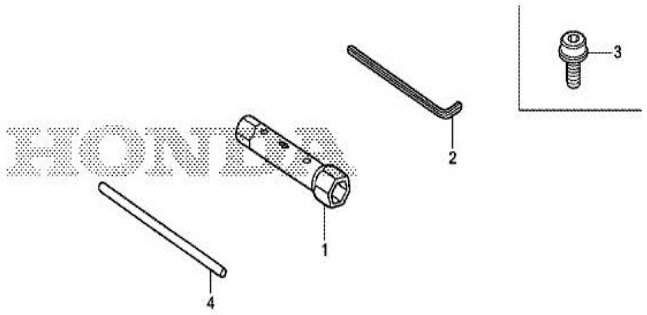
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00140	COVER COMP., TOP *R280*	1	
001	012106-00141	COVER COMP., TOP *NH1*	1	
002	012106-00142	BOLT, TOP COVER	1	

GX50NT(S3)	E-28 LABEL



Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00143	LABEL, WARNING (NOT CERTIFIED FOR SALE)	1	
002	012106-00144	MARK, OPERATOR CAUTION (ENGLISH)	1	
003	012106-00145	LABEL, QR CODE (SERVICE)	1	
005	012106-00146	MARK, EMBLEM	1	
007	012106-00147	MARK, TYPE (S3)	1	
008	012106-00148	MARK (4-STROKE)	1	

GX50NT(S3)	E-29 TOOL



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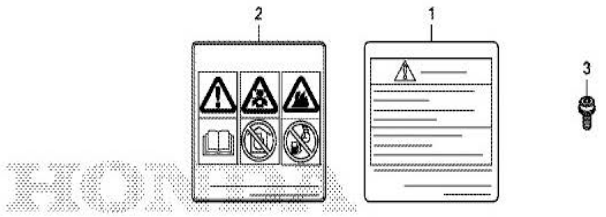
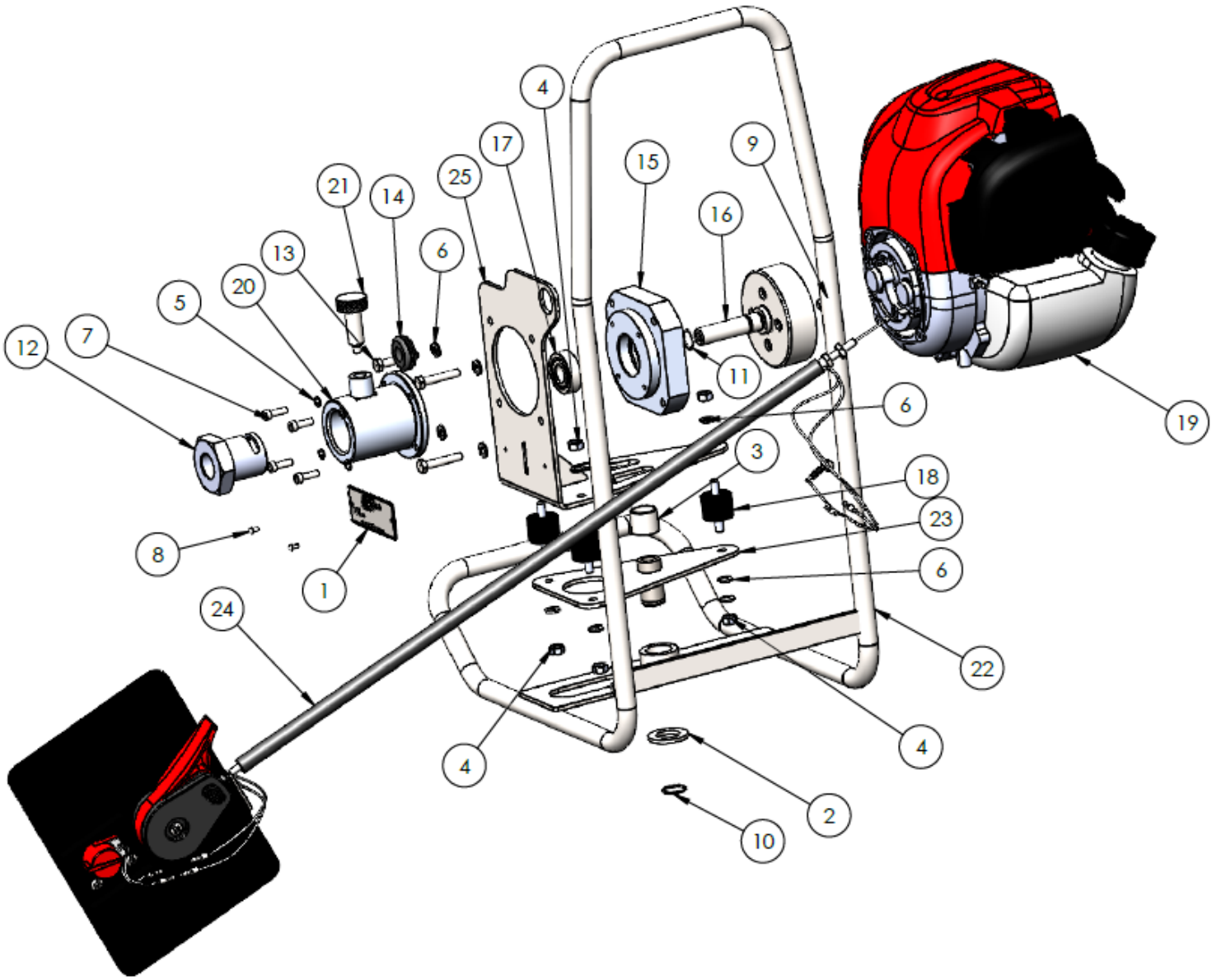
Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00149	WRENCH, PLUG (16X19)	(1)	
002	012106-00150	WRENCH, HEX., 4MM	(1)	
003	012106-00151	BOLT, SOCKET, 5X9	(1)	
004	012106-00152	BAR A, HANDLE	(1)	



Z3V0E4000A

Ref	Partnumber	Description	GX50NT	Serial Numbers
001	012106-00153	MARK, OPERATOR CAUTION (FRENCH)	1	
002	012106-00154	MARK, OPERATOR CAUTION (PICTOGRAPH)	1	

GX50 BACKPACK ASSEMBLY

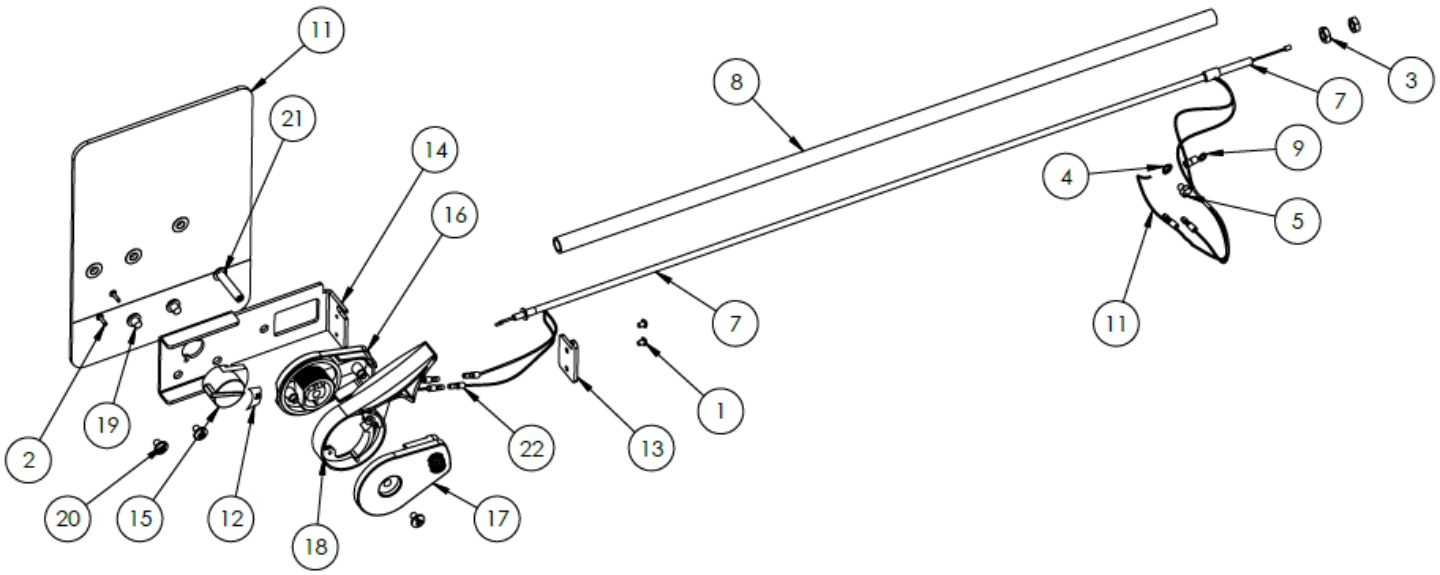


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	000708-00004	MODEL & SERIAL # NAME PLATE	1
2	004674-00000	AXLE WASHER	1
3	005541-00000	BEARING	1
4	006070-00000	1/4"-20 HEX NUT	6
5	006145-00000	LOCKWASHER, #10	4
6	006147-00000	LOCKWASHER, 1/4	11
7	006213-0.625	#10 X 0.625" N.C. THREAD S.H.C.S.	4
8	006262-00001	SCREW, DRIVE HD RD. #4 X 1/4"	2
9	006323-0.375	3/8"-16 X 3/8" CUP POINT S.H.S.S.	1
10	006377-00004	0.693" FREE DIAMETER EXTERNAL RETAINING RING (SERIES 5100)	1
11	006377-00013	0.550" FREE DIAMETER EXTERNAL RETAINING RING (SERIES 5100)	1
12	007976-00004	CFV CASING ADAPTOR	1
13	009185-00035	M6 X 1.00 X 35 MM H.H.C.S.	4
14	009371-00001	PUSH-IN GROMMET	1
15	010146-00001	HOUSING ADAPTOR	1
16	010147-00000	CORE ADAPTOR	1
17	010148-00000	BALL BEARING	1
18	010261-00000	ISOLATOR	3
19	012106-00001	HONDA ENGINE GX50NT S3	1
20	0A7980-00006	ASSEMBLY, QUICK RELEASE	1
21	402-00-02-00008	RETRACTABLE PLUNGER W/KNOB	1
22	A10269-00002	WELDMENT, GAS POWERED BACKPACK FRAME	1
23	A10270-00001	WELDMENT, SWIVEL MOTOR MOUNT	1
24	A10283-00005	ASSEMBLY, THROTTLE	1
25	A12110-00002	WELDMENT, BOTTOM PLATE	1
26	A13180-00003	ASSEMBLY, BACKPACK HARNESS WITH LOGO	1

Throttle Kit A10283-00006 Contains:
009371-00001 Push-in Grommet x 1
010265-00004 Throttle Support Bracket (Adaptor) x 1
A10283-00005 Throttle Assembly x1

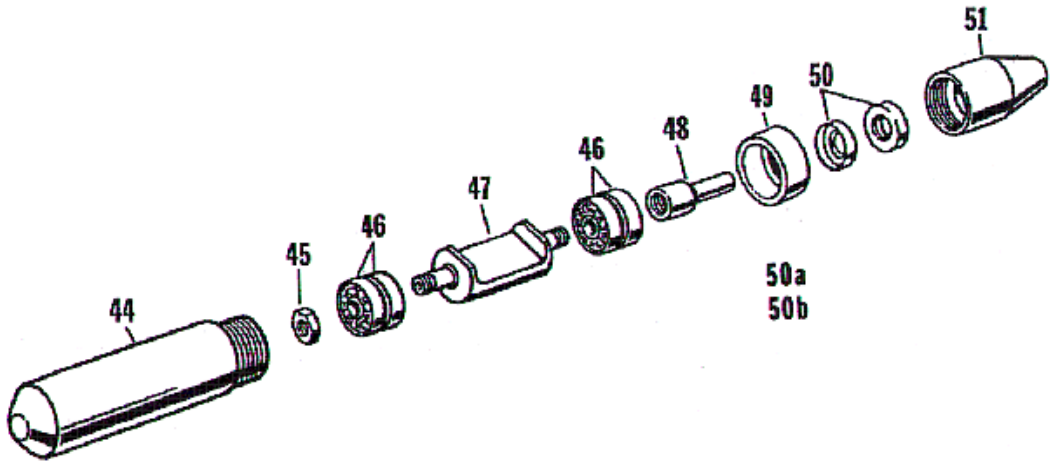
NOT SHOWN: A13180-00003 Assembly, Backpack Harness

THROTTLE ASSEMBLY



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	001632-00006	6-32 X 1/4" BUTTON SOCKET CAP SCREW	2
2	002044-0.375	#4 X 3/8" THREAD CUTTING PHILLIPS PAN HEAD SCREW	2
3	006469-00001	1/4"-28 HEX JAM NUT	2
4	006765-00000	#10 EXTERNAL TOOTH LOCKWASHER	1
5	009184-00006	M5 X 0.80 X 6MM H.H.C.S.	1
6	009222-12.00	1/4" O.D. HEAT SHRINK TUBING X 12.00"	24
7	010278-00002	D.C. FTG WIRE "Z" BEND	1
8	010281-25.00	PLASTIC CONDUIT X 25"	25
9	010284-00000	RING TERMINAL	1
10	011951-0018B	#18 GA. WIRE - BLACK	1
11	012009-00001	VELCRO STRAP BRACKET	1
12	012287-00178	ON/OFF DECAL	1
13	013233-00002	THROTTLE CABLE SUPPORT BRACKET	1
14	013233-00001	BACKPACK CONTROLLER BRACKET	1
15	013320-00002	THROTTLE KILL SWITCH	1
16	013320-00011	THROTTLE HANDLE SIDE 1	1
17	013320-00012	THROTTLE HANDLE SIDE 2	1
18	013320-00013	THROTTLE HANDLE	1
19	013620-0.250	#10-24 X 0.25" BINDING SCREW	2
20	013620-0.313	BINDING SCREW	3
21	013620-1.250	#10-24 X 1.25" BINDING POST	1
22	030013-00010	WRISTLOCK CONNECTOR	6

VIBRATOR HEADS AND SHAFTS MAINTENANCE



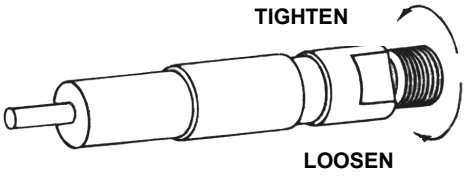
HEADS							
	0A2231-00001	0A2232-00002	0A2233-00001	0A2234-00001	0A2235-00001	0A2236-00001	
Fig. No.	3/4" Dia.	1 1/8" Dia.	1 3/8" Dia.	1 3/4" Dia.	2" Dia.	2 3/8" Dia.	Complete Head Assy.
44	0A2158-00001	0A2026-00001	0A2046-00001	0A2018-00002	0A2146-00001	00A745-00002	Housing
45	006362-00000	002023-00000	002023-00000	006345-00000	000651-00000	000651-00000	Lock nut, Bearing
46	002156-00000	013579-00000	002039-00000	002040-00000	002041-00000	002041-00000	Bearing (4)
47	002153-00000	002025-00001	002032-00001	001241-00001	002142-00001	006542-00001	Weight, Eccentric
48	0A2679-00000	002676-00000	002021-00000	002021-00000	002028-00000	002028-00000	Core Adapter
50		002681-00000	020451-00000	020451-00000	020221-00000	020221-00000	Seal (2)
50a	002681-00000						Seal (Oil)
50b	002677-00000						Seal (Grease)
51	002192-00000	002193-00001	002194-00002	002195-00002	002196-00001	002197-00001	Casing Adapter

ASSEMBLY

⚠ CAUTION Turn off the motor before performing any maintenance or fitting any components to the motor.

ASSEMBLING SHAFT TO MOTOR

1. The end of casing with the strain relief spring goes into the motor casing adapter.
2. Insert inner core of the shaft into the core adapter on motor. Make sure the core is fully inserted.
3. Coat threads on casing coupler with Permatex Form-A-Gasket #1 MINNICH #000688-00000.
4. Thread casing coupler counterclockwise into adapter on power unit and tighten securely using open end wrenches on the flats. **NOTE:** These are Left-Hand Threads.



ASSEMBLING VIBRATOR HEAD TO SHAFT.

1. Coat threads on casing coupler with Permatex Form-A-Gasket #1 MINNICH #000688-00000.
2. Push core toward motor end to make certain it is still engaged in the motor. Insert exposed end of core into head core adapter.
3. Holding casing coupler with an open-end wrench on the flats, thread the head on counterclockwise and securely tighten with a pipe wrench.

⚠ CAUTION Put pipe wrench only on the very end of the head to which the flexible shaft is being attached.

FLEXIBLE SHAFTS

LUBRICATION – After every 50 hours of operation, remove the inner core and wipe it clean. Coat core with a 1/16" layer of MINNICH #002120-00000 high temperature grease.

⚠ CAUTION **DO NOT** use solvents. Solvents trapped in the core or casing will breakdown the new grease and risk premature failure.

Reverse the core in the casing at every lubrication to even the wear and extend service life.

Replace worn or broken casing to prevent damage to core and head.

To ensure long life of flexible shafts, avoid putting undue bends in them. Whenever a casing becomes kinked, or worn to extreme, replace with original equipment.

Never install a new core in a kinked casing or a kinked core in a new casing. This will cause the new parts to fail prematurely.

Core and casing assemblies are shipped from the factory pre-lubricated. However, separate cores and casings are shipped without lubrication and must be lubricated with MINNICH #002120-00000 high temperature grease at assembly as noted above.

Always apply Permatex Form-A-Gasket #1 MINNICH #000688-00000 to the threads of the casing adapter when reassembling the core and casing assembly to the vibrator head and motor.

Break in a newly lubricated core and casing assembly before putting it to work. During this break-in the core will turn slower than normal, could rattle a little bit and draw the motor speed down, causing the motor to draw more current. After this break-in period, the unit will run smoothly.

VIBRATOR HEADS

The vibrator heads require very little maintenance since they are lubricated with oil and sealed at the factory.
Wash concrete and dirt from heads after each job or at the end of a workday – whichever occurs first.
To extend the bearing life in the head, change the oil in the head after every 100 hours of operation.

TO CHANGE OIL IN HEADS:

1. Secure tip of vibrator head in vise and use a chain or pipe wrench on the casing adapter, rotating adapter counterclockwise for a right-hand thread. Remove head from vise and drain out old oil in a container and dispose properly.
2. Insert open end of head into the appropriate size bump tube. With open end facing down, strike bottom end of bump tube on a block of wood until eccentric weight assembly drops out.
3. Flush eccentric weight assembly and housing with clean solvent and wipe all parts clean.
4. Inspect bearings, core adapter and seals for signs of wear. If parts pass inspection, reassemble eccentric weight assembly into the housing. Clamp head vertically in a vise and refill with proper amount of MINNICH #002119-00000 long life oil (see chart below).
   NOTICE If there are signs of wear (grooving) from the seals on the core adapter, worn seals or looseness in the bearings see the service portion of the manual for further instructions.
5. Put oil on core adapter for ease of assembly of casing adapter containing the two (2) seals. Start thread of adapter into housing for a turn or two. Stop and apply a generous coating of Permatex Form-A-Gasket #1 all around the threads on the casing adapter.
   NOTICE It is very important that the casing adapter fits tightly against the housing. In order to guarantee a waterproof seal, allow 15 minutes for sealant to set up.

Grease - Flexible Shaft ----------Part No. 002120-00000
Oil - Lubricating ----------Part No. 002119-00000

Lubricating Oil Capacities

Head Dia.	Oil Capacity
3/4"	1/4 oz.
1"	1/2 oz.
1 3/8"	1/2 oz.
1 3/4"	3/4 oz.
2"	1 oz.
2 3/8"	1 oz.

MAINTENANCE SCHEDULE

ITEM		REGULAR SERVICE PERIOD (1) Perform at every indicated operating hour interval						
		Before each use	10 hrs.	25 hrs.	50 hrs.	100 hrs.	300 hrs.	Refer to page
Engine oil	Check level	○ (2)						29
	Change		○		○			29
Air cleaner	Check	○ (2)						30
	Clean			○ (3)				
	Replace					○		
Spark plug	Check–Adjust					○		31
	Replace						○	
Timing belt	Check	Every 300 hrs. (4)						
Engine cooling fins	Check				○			–
Spark arrester	Clean					○		31
Exhaust filter	Clean					○		34
Nuts, bolts, fasteners	Check (Retighten if necessary)	○						–
Clutch shoes	Check				○			35
Idle speed	Check–Adjust					○		32
Valve clearance	Check–Adjust					○		33
Fuel tank	Clean					○		32
Fuel filter	Clean					○		32
Fuel tubes	Check	Every 2 years (Replace if necessary)						

(1) For commercial use, log hours of operation to determine proper maintenance intervals.

(2) Clean or replace when it appears dirty.

(3) Service more frequently when used in dusty areas.

(4) Check that there are no cracks or abnormal wear. Replace if any damage is found.

*Consumable parts: Honda does not warranty normal wear parts - Spark plug, fuel filter, air cleaner element, clutch disc, or recoil starter rope.

ENGINE OIL LEVEL CHECK

Check the oil level with the engine stopped and place the engine on a level surface.

Remove the oil filler cap [1].

Check the oil level [2].

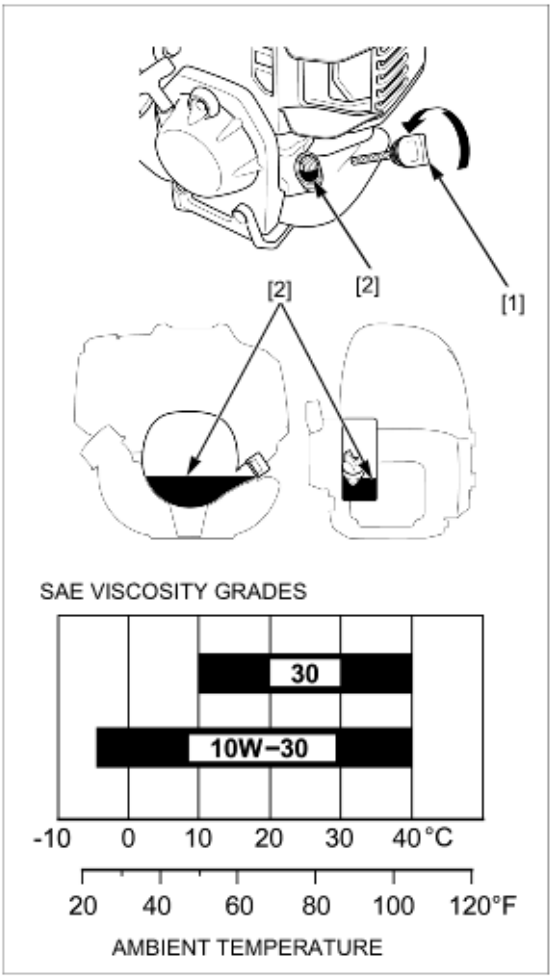
If the oil level is lower than the bottom of the oil filler neck (upper level), fill to the upper level with the recommended oil.
Do not overfill.

RECOMMENDED ENGINE OIL:
SAE 10W-30
API Service classification SJ or later

Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.

Tighten the oil filler cap.



ENGINE OIL CHANGE

Drain the oil in the engine while the engine is warm. Warm oil drains quickly and completely.

Check that the fuel tank cap [1] is tightened securely.

Remove the oil filler cap [2].
Tilt the engine toward the oil filler cap side and drain the used oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it into the ground, or down a drain.

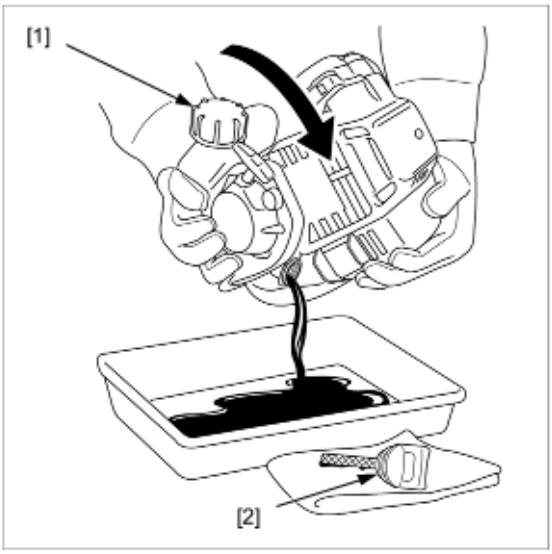
⚠CAUTION

Used engine oil contains substances that have been identified as carcinogenic. If repeatedly left in contact with the skin for prolonged periods, it may cause skin cancer. Wash your hands thoroughly with soap and water as soon as possible after contact with used engine oil.

Fill with recommended oil to the upper level.

ENGINE OIL CAPACITY:
0.13 Liters (0.14 US qt, 0.11 Imp qt)

Tighten the oil filler cap.

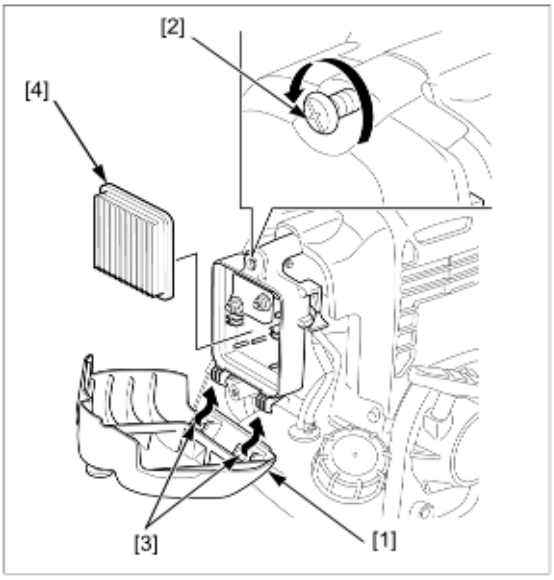


AIR CLEANER ELEMENT CHECK/CLEANING

A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. If the engine is operated in dusty areas, clean the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

Remove the air cleaner cover [1] by loosening the screw [2] on the top of the cover and unhooking its two lower tabs [3].
Remove the air cleaner element [4].

Inspect the air cleaner element, and replace if damaged.



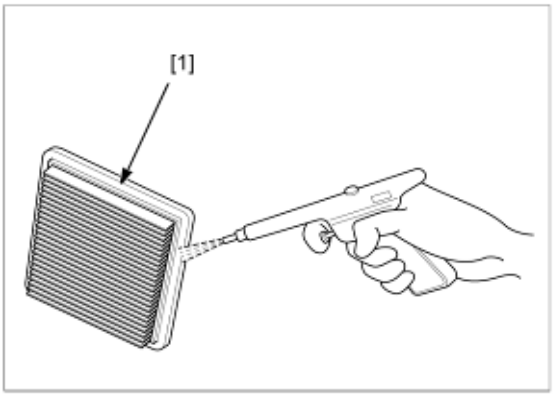
ELEMENT CLEANING

Tap the element [1] several times on a hard surface to remove dirt, or blow compressed air (not exceeding 200 kPa, 2.0 kgf/cm^2, 29 psi) through the element from the inside.

Never try to brush off dirt; brushing will force dirt into the paper fibers.

Wipe dirt from the inside of the air cleaner cover and air cleaner case, using a moist rag.
Be careful to prevent dirt from entering the air duct that leads to the carburetor.

Install the air cleaner element and air cleaner cover.



FUEL TUBES CHECK

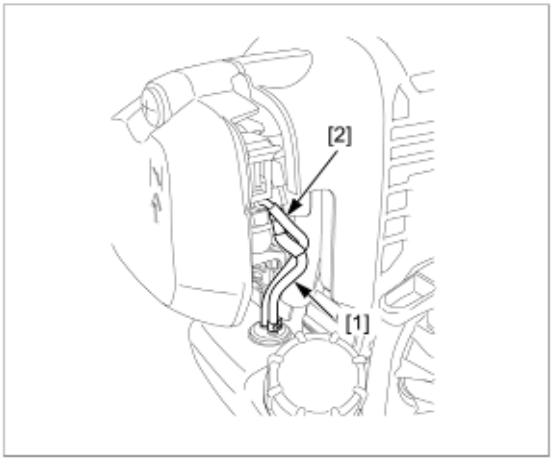
⚠WARNING

Gasoline is highly flammable and explosive.
You can be burned or seriously injured when handling fuel.
- Stop the engine and allow it to cool.
- Keep heat, sparks, and flame away.
- Wipe up spills immediately.
- Handle fuel only outdoors.

Check the fuel tube [1] and fuel return tube [2] for damage, fuel leakage, corrosion, and other abnormalities. Check that the tubes are not interfering with the neighboring parts.

Start the engine and check for fuel leakage.

Replace the tube if there is damage, fuel leakage, corrosion, etc.



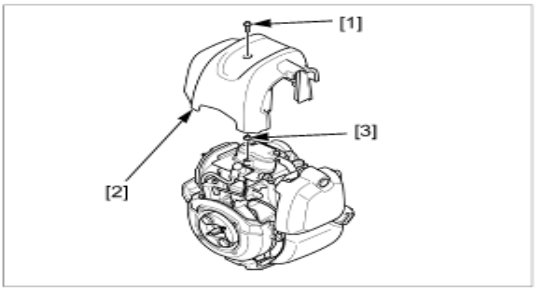
SPARK PLUG CHECK/ADJUSTMENT/REPLACEMENT

⚠CAUTION

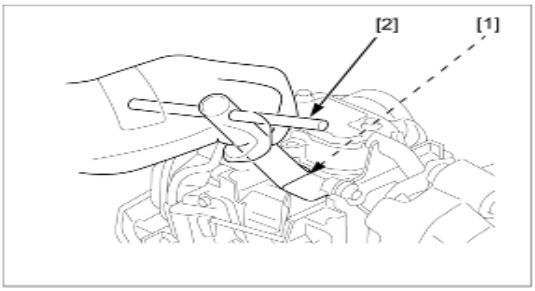
If the engine has been running, the engine will be very hot. Allow it to cool before proceeding.

Remove the bolt [1] and top cover [2].

The collar [3] holds the bolt.



Disconnect the spark plug cap and remove the spark plug [1] using a spark plug wrench [2].



Visually inspect the spark plug. Replace the plug if the insulator [1] is cracked or chipped.

Remove carbon or other deposits with a wire brush.

Check the sealing washer [2] for damage.

Replace the spark plug if the sealing washer is damaged.

RECOMMENDED SPARK PLUG: CM5H/CMR5H (NGK)

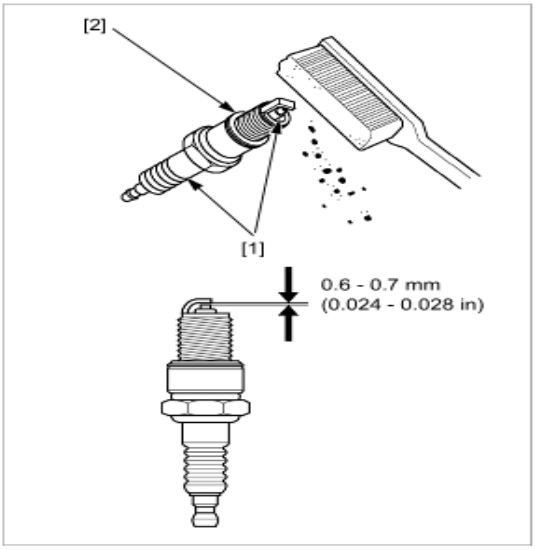
Measure the plug gap with a wire-type feeler gauge. If the measurement is out of the specification, adjust by bending the side electrode.

SPARK PLUG GAP: 0.6 – 0.7 mm (0.024 – 0.028 in)

Install the spark plug finger tight to seat the washer, then tighten with a plug wrench (an additional 1/2 turn if a new plug) to compress the sealing washer.

If you are reusing a plug, tighten 1/8 – 1/4 turn after the plug seats.

TORQUE: 11.8 N·m (1.2 kgf·m, 8.7 lbf·ft)



NOTICE

A loose spark plug can become very hot and can damage the engine. Overtightening can damage the threads in the cylinder head.

Install the spark plug cap.

Install the top cover and tighten the bolt to the specified torque.

TORQUE: 5.0 N·m (0.5 kgf·m, 3.7 lbf·ft)

SPARK ARRESTER CHECK/CLEANING/REPLACEMENT

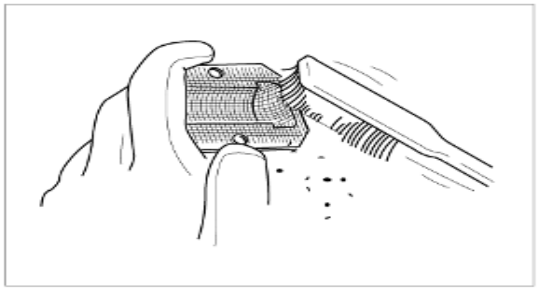
⚠CAUTION

The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Allow it to cool before proceeding.

Remove the spark arrester (page 8-2).

Check for carbon deposits around the exhaust port and spark arrester. Clean if necessary, with a wire brush.

Replace the spark arrester if there are any breaks or tears.



FUEL TANK CLEANING

⚠WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Stop the engine and allow it to cool.
- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

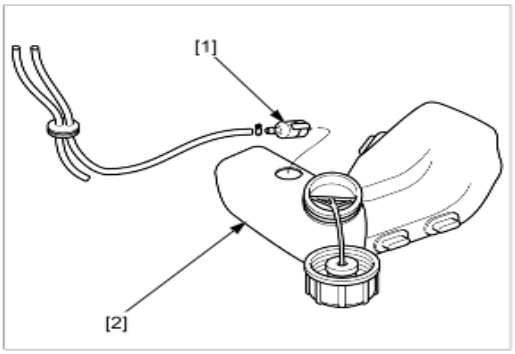
Loosen the fuel tank cap and release the pressure from the tank before operation.

Check that the engine oil filler cap is tightened securely. Drain the fuel.

Remove the following:

– Recoil starter (page 7-2)
– Fuel tank (page 5-4)

Remove the fuel filter [1] from the fuel tank [2].
Wash inside the fuel tank with nonflammable solvent to remove any foreign material and water from the tank.

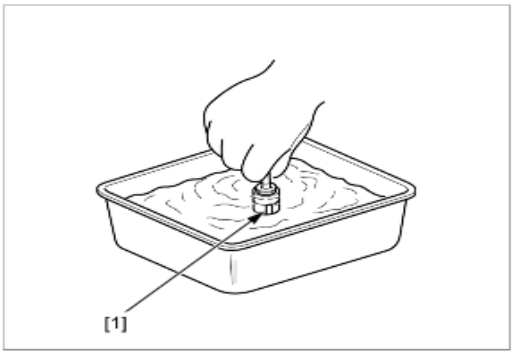


Clean the fuel filter [1] with nonflammable solvent and allow it to dry thoroughly. Replace the fuel filter if it is contaminated.

Install the fuel filter to the fuel tube. Install the fuel tube grommet in the fuel tank securely.

Install the following:

– Recoil starter (page 7-2)
– Fuel tank (page 5-4)



FUEL FILTER CHECK

⚠WARNING

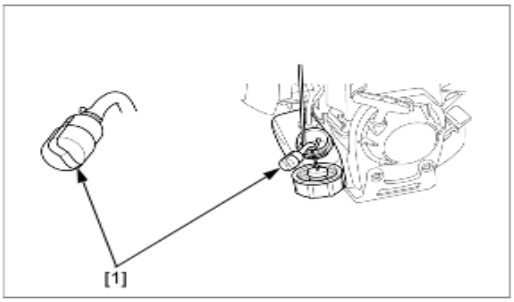
Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.
- Stop the engine and allow it to cool.
- Keep heat, sparks and flame away.
- Handle fuel only outdoors.
- Wipe up spills immediately.

Loosen the fuel tank cap and release the pressure from the tank before operation.

Check that the engine oil filler cap is tightened securely. Drain the fuel.

Pull out the fuel filter [1] with mechanic's wire from the fuel filler neck gently.
Check the fuel filter for contamination.
If the fuel filter is dirty, wash it (page 3-6).
If the fuel filter is excessively dirty, replace it.

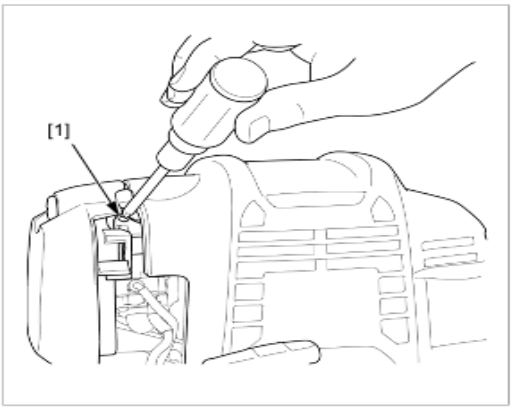
Install the fuel filter into the fuel tank and tighten the fuel tank cap.



IDLE SPEED CHECK/ADJUSTMENT

Start the engine and allow it to warm up to normal operating temperature. Then, adjust the idle speed by turning the throttle stop screw [1] right or left.

STANDARD: 3,100 ± 200 min^{-1} (rpm)



VALVE CLEARANCE CHECK/ADJUSTMENT

Valve clearance inspection and adjustment must be performed with the engine cold.

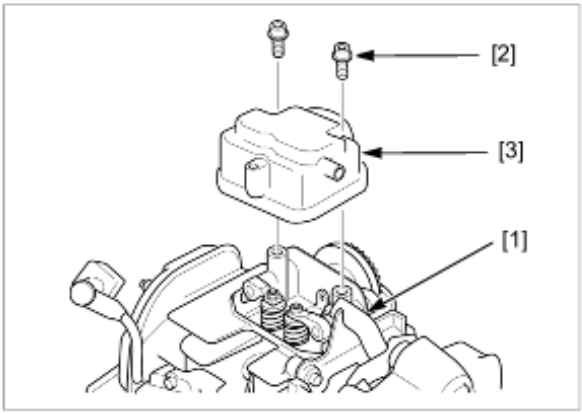
Remove the top cover (page 3-4).

Disconnect the spark plug cap from the spark plug.

Remove the breather tube [1] from the head cover.

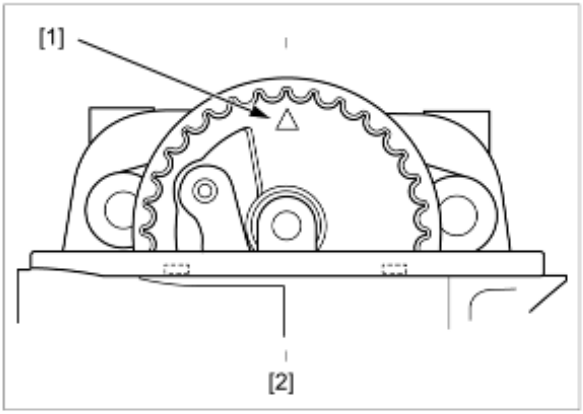
Remove the two socket bolts [2] and head cover [3].

- Engine oil can leak out when removing the head cover. Catch the leaking oil with a suitable material and wipe up the area immediately.



Set the piston at top dead center of the compression stroke. Align the " △ " mark [1] on the cam pulley with the cylinder head center [2].

If the exhaust valve and intake valve are opened, align the mark on the starter pulley with the mark on the fan cover again by rotating the engine 360°.



Insert a feeler gauge [1] between the valve rocker arm [2] and valve stem [3] to measure the valve clearance.

VALVE CLEARANCE:
IN: 0.08 ± 0.02 mm
EX: 0.11 ± 0.02 mm

If adjustment is necessary, proceed as follows.

Loosen the valve adjusting lock nut [4] and adjust the valve clearance by turning the adjusting screw [5] right or left.

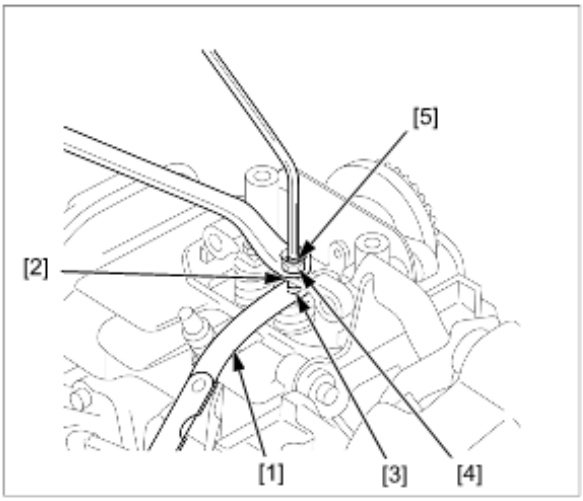
Hold the valve adjusting screw and tighten the valve adjusting screw lock nut to the specified torque.

TORQUE: 4.9 N·m (0.50 kgf·m, 3.6 lbf·ft)

Recheck the valve clearance, and if necessary, readjust the clearance.

Install the head cover and top cover.

TORQUE:
Top cover bolt: 5.0 N·m (0.5 kgf·m, 3.7 lbf·ft)



MUFFLER REMOVAL/INSTALLATION

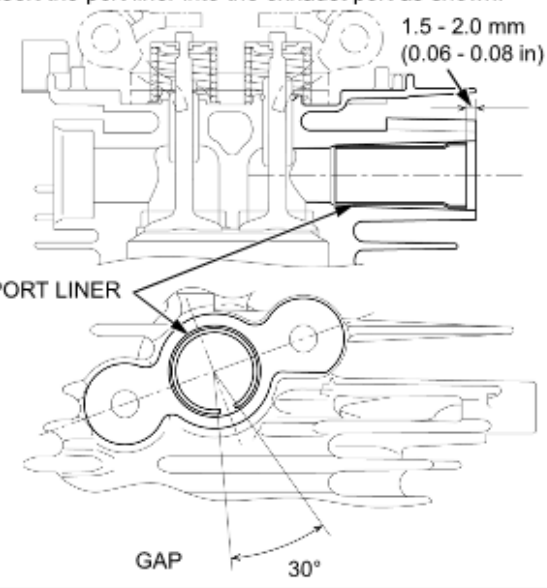
⚠CAUTION

The muffler becomes very hot during operation and remains hot for a while after stopping the engine. Be careful not to touch the muffler while it is hot. Allow it to cool before proceeding.

Remove the top cover (page 3-4).

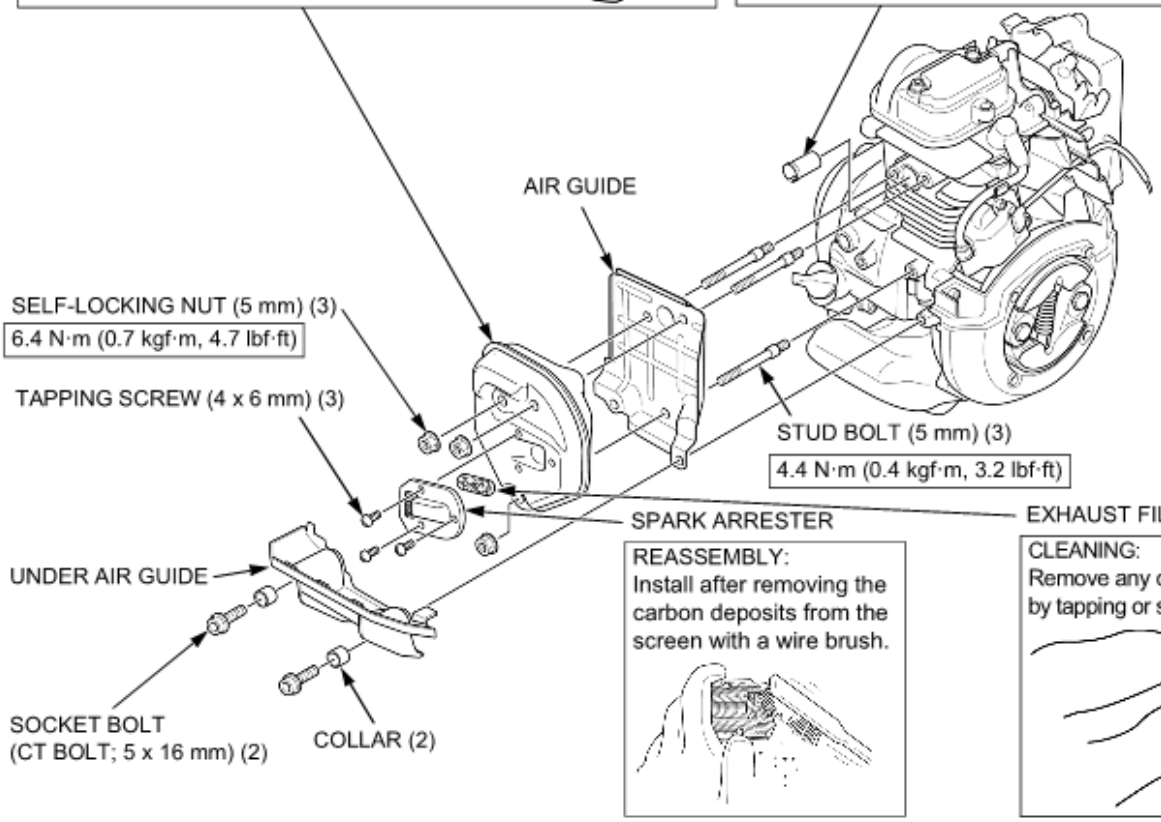
PORT LINER

INSTALLATION:
Insert the port liner into the exhaust port as shown.



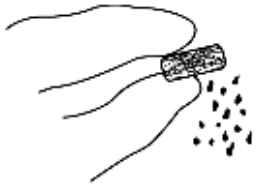
MUFFLER

- Before installation, remove any carbon deposits from the muffler, using a plastic hammer.
- Do not tap on the muffler seal flange to avoid damaging this part.
  If the seal flange is dented or damaged, replace the muffler.
- Check the cylinder exhaust port for damage.



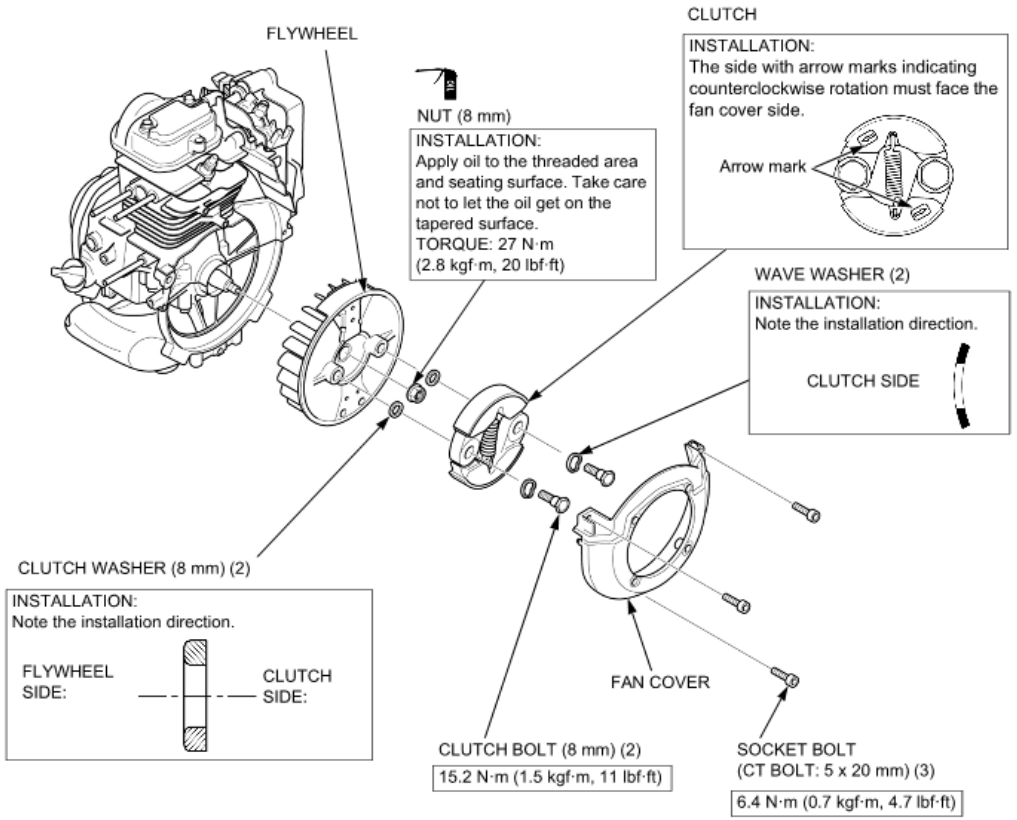
REASSEMBLY:
Install after removing the carbon deposits from the screen with a wire brush.

CLEANING:
Remove any carbon deposits by tapping or squeezing lightly.



CLUTCH SHOE/FLYWHEEL REMOVAL/INSTALLATION

Remove the ignition coil (page 6-4).

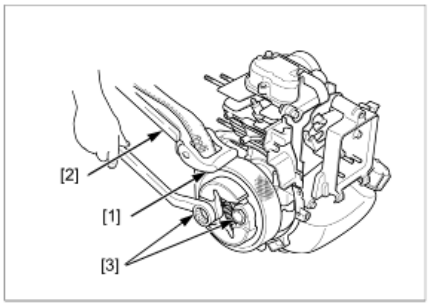


CLUTCH REMOVAL

NOTICE

To avoid flywheel fan blade damage, position the strap wrench fulcrum [1] at the flywheel magnetic parts.

Holding the flywheel with a commercially available strap wrench [2], remove the clutch bolts [3] and remove the clutch assembly.



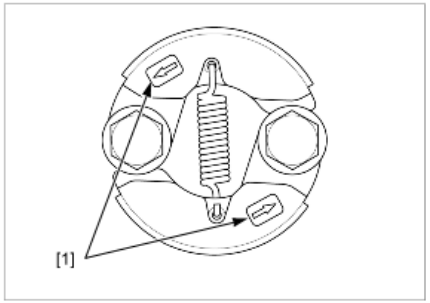
CLUTCH INSTALLATION

Install the clutch so that arrow marks indicating counterclockwise rotation [1] are visible, as shown.

Be sure to set the clutch washer between the clutch and flywheel.

Holding the flywheel with a commercially available strap wrench, tighten the 8 mm clutch bolts and wave washers to the specified torque.

TORQUE: 15.2 N·m (1.5 kgf·m, 11 lbf·ft)



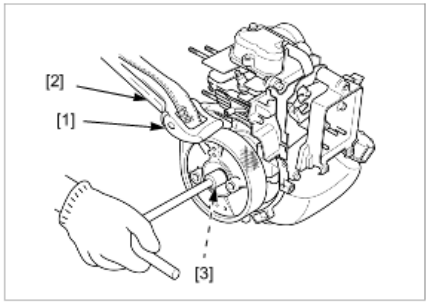
FLYWHEEL REMOVAL

NOTICE

To avoid flywheel fan blade damage, position the strap wrench fulcrum [1] at the flywheel magnetic parts.

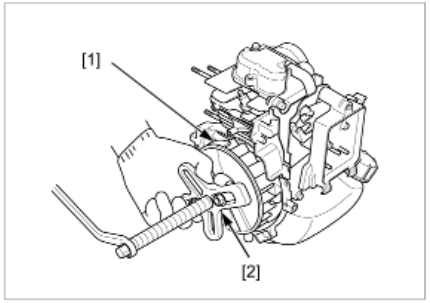
Remove the clutch (page 9-2).

Holding the flywheel with a commercially available strap wrench [2], remove the nut [3] from the flywheel.



Remove the flywheel [1] using a commercially available flywheel puller [2].

- Do not remove the flywheel by tapping it with a hammer.



NOTES: