

MINNICH

HONDA GX50 GAS BACKPACK OPERATOR/SERVICE MANUAL



MINNICH MANUFACTURING

1444 ST RT 42
Mansfield, OH 44903

CONTACT

Phone: (419)-903-0010
Email: sales@minnich-mfg.com

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NOTICE

It is Minnich’s policy to constantly strive to improve our products. The information, specifications, and illustrations in this publication are based on the information in effect at the same time as approval for printing and publishing. Minnich therefore reserves the right to make changes in design and improvements whenever it is believed the efficiency of the machine which has been shipped or curring any obligation to incorporate such improvements in any machine which has been shipped or is in service. It is recommended that users contact Minnich or a Minnich Dealer for latest revisions.

NOTICE

See engine manual for information pertaining to the engine.

NOTICE

If there are any questions regarding the machine or its application which are not covered in this manual or in other literature accompanying this unit, please contact your Minnich Dealer or Minnich Manufacturing at 419-903-0010 or sales@minnich-mfg.com

⚠ 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 lumbar.

Your risk from these exposures varies, 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 improved safety equipment, such as dust masks that are specifically 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 mist containing crystalline silica.

Silica is a basic components 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 respiratory disease, including silicosis. In addition, California and some authorities have listed repairable crystalline silica as a substance known to cause cancer. When cutting such materials, always follow the respiratory precautions mentioned above.

⚠ WARNING

RESPIRATORY 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 manufactures 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, mist and fumes cannot be eliminated, the operator and any bystanders should always wear a respirator approved by OSHA/NIOSH for the materials being used.

GENERAL SAFETY

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.

This operation manual has been developed to provide complete instruction for the safe and efficient operation. Refer to the engine manufactures instructions for data relative to its safe operation. **Before using, ensure that the operating individual has read and understood all instructions in the manual.** The surrounding environment and you, could be damaged if you do not follow instructions.

SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER, WARNING, CAUTION** or **NOTICE**.

DANGER

Indicates a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**

WARNING

Indicates a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**

CAUTION




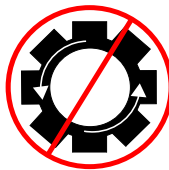
Indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE INJURY**

NOTICE

Addresses practices not related to personal injury

SAFETY SYMBOLS

Potential hazards associated with the operation of this equipment will be referenced with hazards symbols which may appear throughout this manual in conjunction with safety messages.

SYMBOL	SAFETY HAZARD
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazard
	Factory Settings

WARNING

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

GENERAL SAFETY

⚠ CAUTION

Δ NEVER operate this equipment without proper protective clothing, shatter proof glasses, respirator protection, hearing protection, steel-toes boots and other protective devices required by the job or city and state regulations.



Δ Never operate this equipment when not feeling well due to fatigue, illness or when under medication.



Δ NEVER operate this equipment under the influence of drugs or alcohol.



Δ ALWAYS check the equipment for loosened threads or bolts before starting.

Δ NEVER operate around corrosive chemicals or water containing toxic substances. These fluids could create serious health and environmental hazards. Contact local authorities for assistance.

Δ DO NOT use the equipment for any purpose other than its intended purpose or applications.

NOTICE

Δ This equipment should only be operated by trained and qualified personnel 18 years of age and older.

Δ This equipment is for industrial use only. Whenever necessary, replace nameplate, operation and safety decals when they become difficult to read.

Δ Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modifications will void all warranties. Any modification which it could lead to change in the original characteristics of the machine should be made only by the manufacturer who shall

confirm that the machine is in comfortability with appropriate safety regulations.

Δ Never use accessories or attachments that are not recommended by Minnich for the equipment. Damage to the equipment and/or injury to user may result.



Δ Always know the location of the nearest fire extinguisher.

Δ ALWAYS know the location of the nearest first aid kit.



Δ ALWAYS know the location of the nearest phone or keep a phone on the job site. Also, know the phone numbers of the nearest ambulance, doctor and fire department. This information will be invaluable in the case of an emergency.



⚠ DANGER

Δ NEVER operate the equipment in an explosive atmosphere, near combustible materials, or near flammable or low flash point fluids. An explosion or fire could result causing severe bodily harm or even death.



⚠ WARNING

Δ NEVER disconnect any emergency or safety devices. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these will void all warranties.

Δ NEVER operate equipment with the covers or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury. Wear clothing that will not likely become caught in the equipment or snag on any moving parts.

⚠ CAUTION

Δ ALWAYS be sure the operator is familiar with the proper safety precautions and operating techniques before using.

Δ NEVER leave the machine unattended.
Turn off when unattended

- △ DO NOT expose vibrator to rain.
- △ DO NOT use vibrator motor in damp or wet locations without proper electrical circuits.
- △ DO NOT immerse the motor part in concrete.
- △ ALWAYS keep clear of rotating or moving parts while operating.
- △ NEVER leave the machine unattended while running
- △ ALWAYS disconnect the motor from the power source when not in use, before servicing, and when changing flexible shafting and vibrator heads.

- △ Allow the machine to cool before servicing. Contact with hot components can cause serious burns.



- △ Before Each use, ALWAYS check the motor to make certain that there are no damaged parts and that all parts function properly. If any damage or malfunctioning parts are found, have them repaired or replaced by an authorized service facility.

NOTICE

- △ ALWAYS secure forms. Make sure the form work is well made and braced to withstand the stresses made by vibration.
- △ ALWAYS keep vibrator motor clean for better and safer operation.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of reach of children and unauthorized personnel.
- △ Use only factory authorized replacement parts.
- △ Store idle vibrator motor. When not in use, motor should be stored in a dry, safe storage area.

⚠ WARNING

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

NOTICE

POWER TOOL USE AND CARE

- △ DO NOT force the power tool. Use the correct power tool for your application. The correct power tool will do the job better at the rate for which it was designed.
- △ DO NOT use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- △ Disconnect the plug from the power cord source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventative safety measures reduce the risk of starting the power tool accidentally.
- △ Store idle power tools out of reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- △ Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may effect the power tools operation. If damaged, have the power tools repaired before use. Many accidents are caused by poorly maintained power tools.
- △ Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and easier to control.
- △ Use the power tool, accessories and tool bits etc. In accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation

SERVICE

- △ Have your power tool serviced by a qualified repair person using identical replacement parts. This will ensure the safety of the power tool is maintained.

- △ Store fuel in appropriate containers, in well-ventilated areas and away from sparks and flames.
- △ NEVER use fuel as a cleaning agent.

- △ DO NOT smoke around or near the equipment. Fire or explosion could result from fuel vapors or if fuel is spilled on hot engine.



TRANSPORTING

- △ ALWAYS shut down engine before transporting.
- △ Tighten fuel cap securely and close fuel cock to prevent fuel from spilling.
- △ ALWAYS use proper lifting techniques when using or moving the machine assembly.

NOTICE

Decommissioning is a controlled process used to safely retire a piece of equipment that is no longer serviceable. If the equipment poses an unacceptable and unrepairable safety risk due to wear or damage or is no longer cost effective to maintain (beyond life-cycle reliability) and is to be decommissioned (demolition and dismantlement), be sure to follow rules below.

- △ ALWAYS observe all applicable compulsory regulations relevant to environmental protection, especially fuel storage, the handling of hazardous substances, and the wearing of protective clothing and equipment. Instruct the user as a necessary, or, as the user, request this information and training.
- △ ALWAYS Dispose of hazardous waste properly. Examples of potentially hazardous waste include used motor oil, fuel, and fuel filters.
- △ DO NOT use food or plastic containers to dispose hazardous waste.
- △ DO NOT pour waste or oil directly onto the ground, down or drain or into any waste source.

EMISSIONS INFORMATION

NOTICE

The gasoline engine used in this equipment has been designed to reduce harmful levels of carbon monoxide (CO), hydrocarbons (HC) and nitrogen oxides (NOx) contained in gasoline exhaust emissions.

This engine has been certified to meet US EPA Evaporative emission requirements in the installed configuration.

Attempting to modify or make adjustments to the engine emission, system by unauthorized personnel without proper training could damage the equipment or create an unsafe condition.

Additionally, modifying the fuel system may adversely affect evaporative emissions, resulting in fines or other penalties.

EMISSION CONTROL LABEL

The emission control label is an integral part of the emission system and is strictly controlled by regulation(s).

The label must remain with the engine for its entire life.

If a replacement emission label is needed, please contact your authorized Honda Engine Distributor.

NOTICE

- △ ALWAYS keep the machine in proper running condition.
- △ ALWAYS become familiar with the components of the machine before operation.
- △ Fix damage to machine and replace any broken parts immediately.
- △ ALWAYS store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.
- △ NEVER lubricate components or attempt service on a running machine

GENERAL SAFETY

ENGINE SAFETY

DANGER

- △ The engine fuel exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled.
- △ The engine of this equipment requires an adequate free flow of cooling air. NEVER operate this equipment in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause injury to people and property and serious damage to the equipment or engine. Remember the engine gives off deadly gases.

WARNING

- △ NEVER operate the engine with heat shields or guards removed.
- △ DO NOT remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the engine crankcase and severely scald any persons in the general area of the machine.

CAUTION

- △ NEVER touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing equipment.



- △ ALWAYS place the engine ON/OFF switch in the OFF position when the machine is not in use.

- △ NEVER tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result in operation in speed ranges above the maximum allowability.



NOTICE

- △ Refer to the engine Owners Manual for engine technical questions or information (if applicable).
- △ NEVER run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction (if applicable).

- △ State health safety codes and Public Resources Code specify that in certain locations, spark arrester must be used on internal combustion engines the used hydrocarbon fuels. A spark arrester is a device designed to prevent accidental discharge of sparks or flames from the engine exhaust. Spark arrestors are qualified and rated by the United States Forest Service for this purpose. In order to comply with local laws regarding spark arresters, consult the engine distributor of the local Health and Safety Administrator (if applicable).

FUEL SAFETY

DANGER

- △ DO NOT add fuel to equipment if it is placed inside truck bed with plastic liner. Possibility exist of explosion or fire due to static electricity.
- △ DO NOT start the engine near spilled fuel or combustion fluids. Gasoline fuel is extremely flammable and its vapors can cause an explosion if ignited.
- △ ALWAYS refuel in a well-ventilated area, away from sparks and open flames.
- △ ALWAYS use extreme caution when working with flammable liquids.
- △ DO NOT fill the fuel tank while the engine is running or hot.
- △ DO NOT overfill tank, since spilled fuel could ignite if it come into contact with hot engine parts or sparks from the ignition system.

PERSONAL SAFETY

- △ Stay alert, watch what you are doing, and use common sense when operating the machine.
- △ DO NOT use the tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury or death.
- △ 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.
- △ DO NOT overreach. Keep proper footing and balance at all times. Proper footing and balance enables better control in unexpected situations.

SERVICE

- △ Tool service must be preformed only by qualified repair personnel. Service or maintained preformed by unqualified personnel could result in injury or death
- △ When servicing a tool, use only identical replacement parts. Use of unauthorized parts may create a risk of injury or death.

NOTICE

Specifications and part numbers are subject to change without notice.

NOTICE

To find the latest revision of this publication, visit our website at: www.minnich-mfg.com

NOTICE

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

NOTICE

- △ The relationship between speed and centrifugal force of a vibrator is not a straight line function. The centrifugal force varies as the square of the speed. This results in that a 10% change in RPM will be reflected by a 21% change in the centrifugal force and a 20% change in RPM will be reflected by a 44% change in the centrifugal force.
- △ When concrete, a mixture of cement, sand, aggregates and water, is placed it contains a high volume of entrapped air. If the concrete is allowed to harden in this condition, it will be porous, non-uniform in consistency and weak. Therefore, concrete must be consolidated to attain acceptable results. The most widely used method for concrete consolidation is vibration and for slip form paving this is accomplished by an internal vibrator.

CONNECT/START

NOTICE

If the vibration intensity drops, check that the filters are not clogged or that hoses are not kinked.

STORAGE

NOTICE

To properly store unit after use, hang the vibrator with the head up and set the handle (variable control assembly) in the open position to permit the discharge of possible impurities, contaminants and water.

PLACEMENT AND CONSOLIDATION

NOTICE

The force exerted by an internal concrete vibrator is controlled by the weight and the speed at which the eccentric rotates. The centrifugal force exerted can be arrived at by various combinations of weight (size of eccentric weight) and the speed at which the weight rotates. For years the most favorable working speed for a vibrator was considered to be around 10,200 RPM (VPM) and consequently this figure is used in many vibrator comparisons. More recently, the optimum speed for compaction has been accepted as being between 7500 and 9000 RPM.

ENVIRONMENTAL SAFETY/DECOMMISSIONING

NOTICE

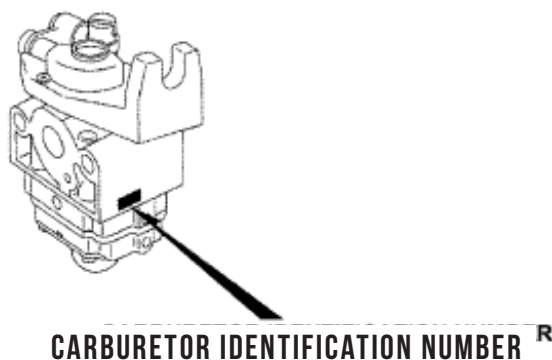
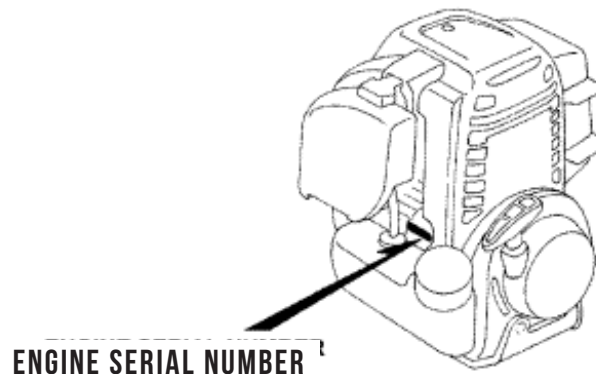
- Δ DO NOT pour waste or oil directly into the ground, down a drain or into any water source.
- Δ Contact you country department of Public Works or recycling agency in your area and arrange for proper disposal of any electrical components, waste or oil associated with this equipment.
- Δ When the life-cycle of this equipment is over it is recommended that the head casing and all other metal parts be sent to a recycling center.



NOTICE

All safety labels on Minnich Manufacturing units have been carefully placed so they can be easily seen at all times. There are several different types of labels on the units. Always keep these warnings free of dirt, concrete, or anything else that restricts visibility. Never remove the labels for any reason. If the label on your machine become worn or in any way difficult to read, call our parts department for replacements.

LOCATION OF SERIAL NUMBER



HONDA BACKPACK SPECS.



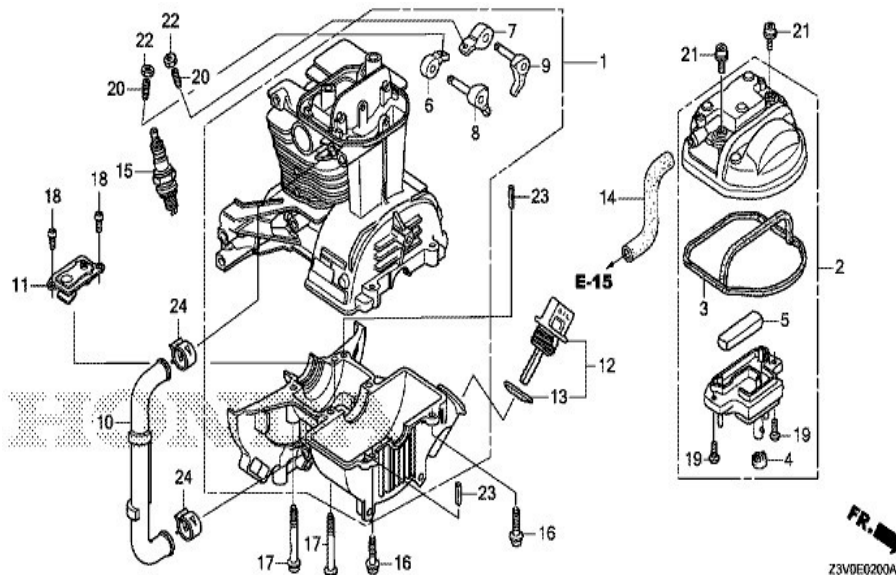
ENGINE	HONDA GX50 MINI 4-STROKE
POWER	2.0 HP (1.49kw)
DISPLACEMENT	50CC
FUEL CAPACITY	21.5 FL OZ (.64L)
CLUTCH	2 SHOE CENTRIFUGAL
IGNITION	PULL START
CARBURETOR	ALL POSITION DIAPHRAGM/PRIMER FOR EASY START
MOUNT	ANTI-VIBRATION
SHAFT	7/8" (22.2mm) OD CASING
WEIGHT	20.5lbs. (9.30kg)

HEAD DIAMETER	CENTRIFUGAL FORCE	AMPLITUDE	DIAMETER OF INFLUENCE
3/4" (19mm)	105lbs. (467N)	.050" (1.27mm)	4"-6" (101mm-152mm)
1" (25mm)	150lbs. (671N)	.056" (1.42mm)	5"-7"- (127mm-177mm)
1-3/8" (35mm)	424lbs. (1886N)	.070" (1.77mm)	8"-14" (203mm-355mm)
1-3/4" (45mm)	795lbs. (3536N)	.102" (2.59mm)	16"-20" (406mm-508mm)
2" (50mm)	1000lbs. (4448N)	.090" (2.28mm)	20"-124" (2508mm-609mm)
2-3/8" (60mm)	1186lbs. (5275N)	.092" (2.33mm)	23"-27" (584mm-685mm)
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 OWNERS MANUAL FOR USE AND CARE OF GX50 ENGINE

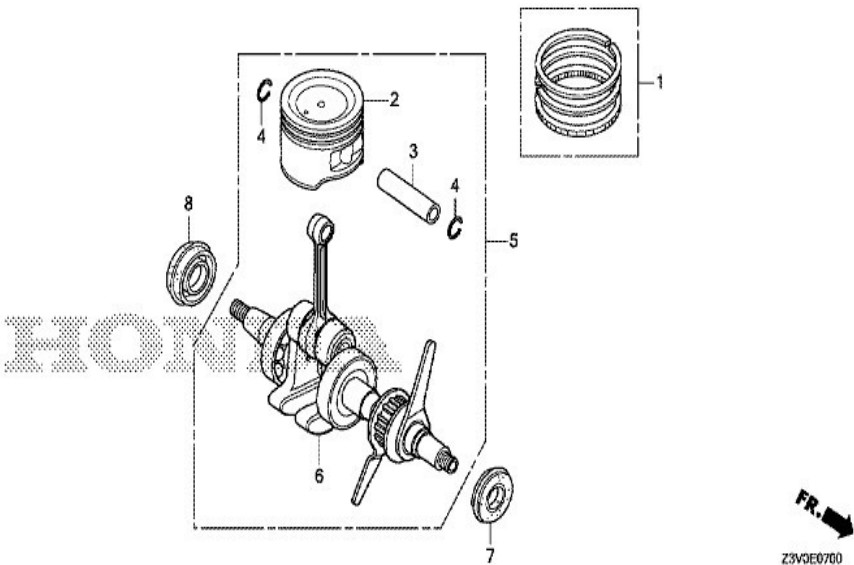
Specifications are nominal values and will vary depending on the size and range of aggregate, and the slump of the concrete. Specifications taken at 10,500VPM.

GX50NT(S3) E-2 CRANKCASE SET



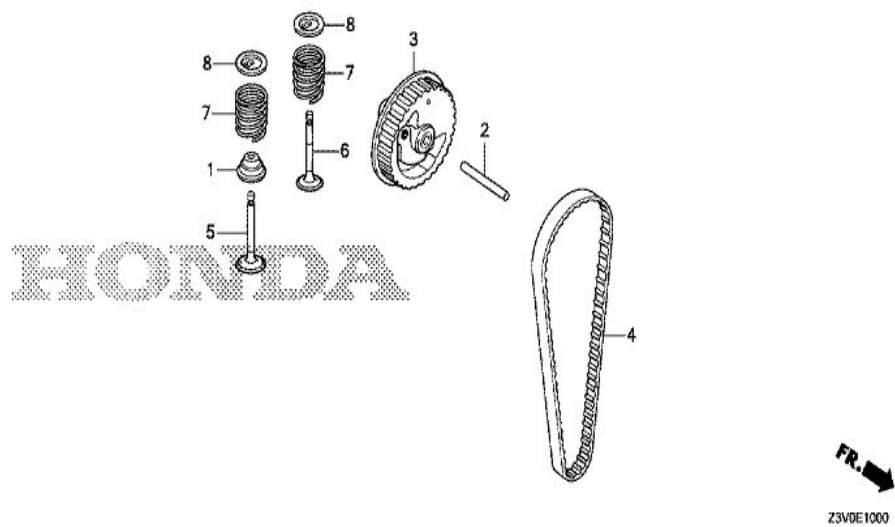
REF	PARTNUMBER	DESCRIPTION	GX50NT
001	012106-00002	CRANKCASE SET	1
002	012106-00003	COVER COMP., CYLINDER HEAD	1
003	012106-00004	SEAL, HEAD COVER	1
004	012106-00005	GROMMET, HEAD COVER	1
005	012106-00006	FILTER, BREATHER	1
006	012106-00007	ARM, IN. VALVE ROCKER	1
007	012106-00008	ARM, EX. VALVE ROCKER	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



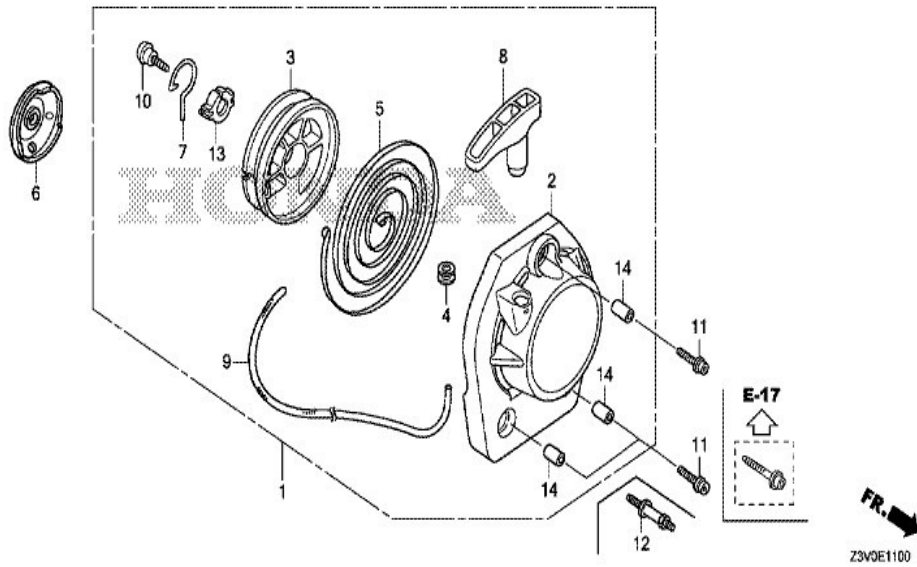
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00028	RING SET, PISTON	1
002	012106-00029	PISTON	1
003	012106-00030	PIN, PISTON	1
004	012106-00031	CLIP, PISTON PIN, 9MM	2
005	012106-00032	CRANKSHAFT COMP.	1
006	012106-00033	CRANKSHAFT COMP.	(1)
007	012106-00034	OIL SEAL, 10X20X5	1
008	012106-00035	OIL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

GX50NT(S3) E-10 CAMSHAFT PULLEY



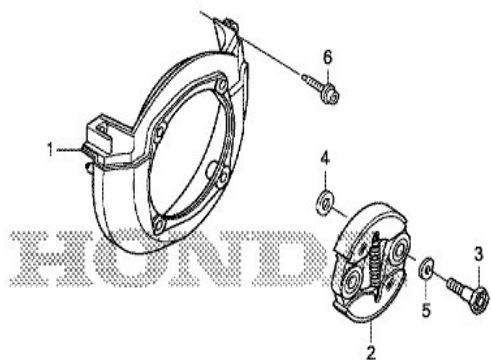
REF	PART NUMBER	DESCRIPTION	GX50 NT
001	012106-00036	SEAL, VALVE STEM	1
002	012106-00037	ROLLER, 4X31.8	1
003	012106-00038	PULLEY COMP., CAMSHAFT	1
004	012106-00039	BELT, TIMING (78ZU5 G-310)	1
005	012106-00040	VALVE, IN.	1
006	012106-00041	VALVE, EX. (ZE/ZZE)	1
006	012106-00042	VALVE, EX. (FE)	1
007	012106-00043	SPRING, VALVE	2
008	012106-00044	RETAINER, VALVE SPRING	2

GX50NT(S3) E-11 RECOIL STARTER



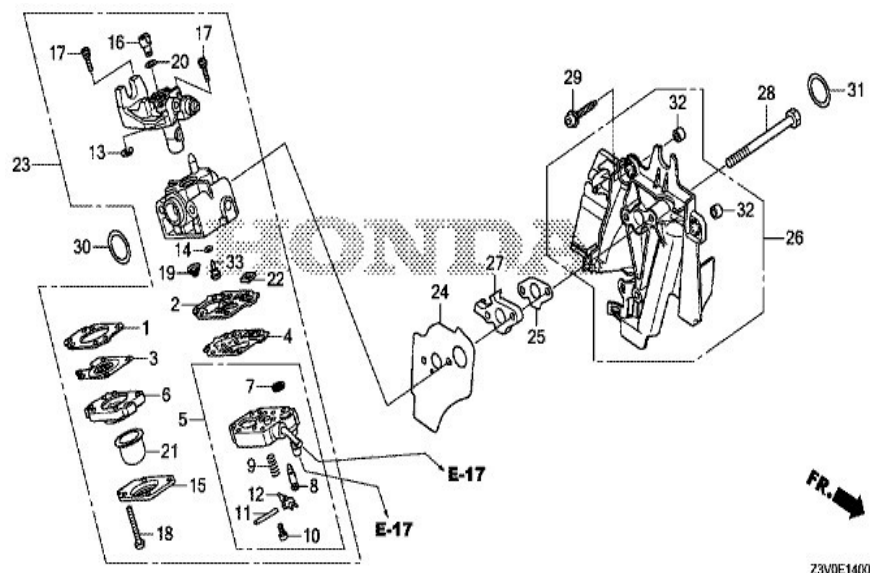
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00045	STARTER ASSY., RECOIL	1
002	012106-00046	CASE, RECOIL STARTER	1
003	012106-00047	REEL, RECOIL STARTER	1
004	012106-00048	GUIDE, ROPE	1
005	012106-00049	SPRING, RECOIL STARTER	1
006	012106-00050	PULLEY, RECOIL STARTER	1
007	012106-00051	ARM, SWING	1
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



REF	PART NUMBER	DESCRIPTION	GX50NT
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

GX50NT(S3) E-14 CARBURETOR

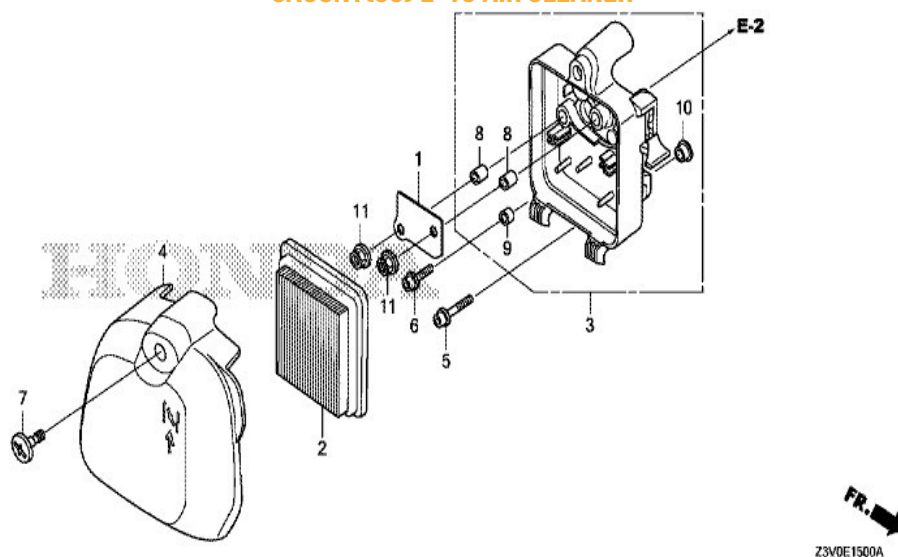


REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00064	GASKET, METERING DIAPHRAGM	1
002	012106-00065	GASKET, PUMP	1
003	012106-00066	DIAPHRAGM ASSY., METERING	1
004	012106-00067	DIAPHRAGM, PUMP	1
005	012106-00068	BODY ASSY., PUMP	1
006	012106-00069	BODY ASSY., AIR PURGE	1
007	012106-00070	SCREEN, INLET	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

GX50NT(S3) E-14 CARBURETOR - CONT.

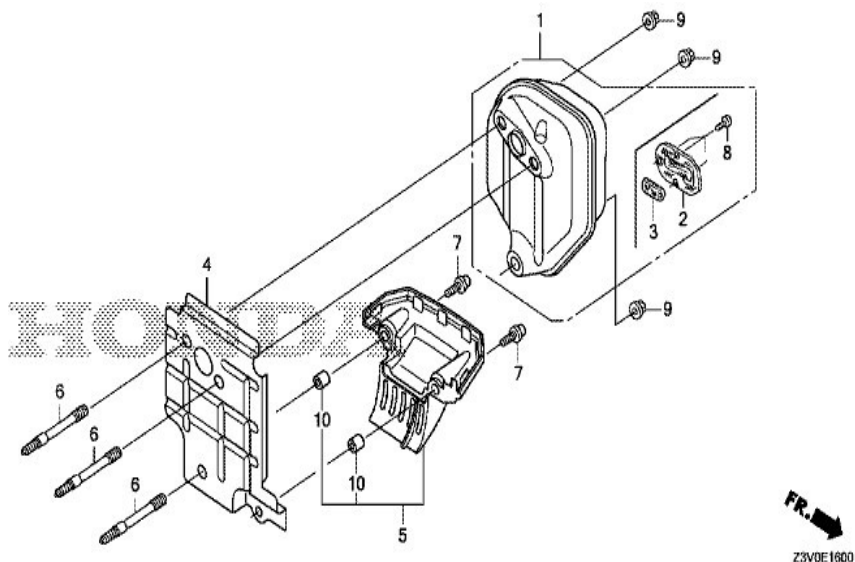
024	012106-00087	PACKING, CARBURETOR	1
025	012106-00088	PACKING, SHROUD	1
026	012106-00089	SHROUD	1
027	012106-00090	SPACER,SHROUD	1
028	012106-00091	BOLT, 5X58	2
029	012106-00092	BOLT, SOCKET, 5X16	2
030	012106-00093	O-RING, 14.8X2.4	1
031	012106-00094	O-RING, 14.8X2.4	1
032	012106-00095	COLLAR A, HEAD 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



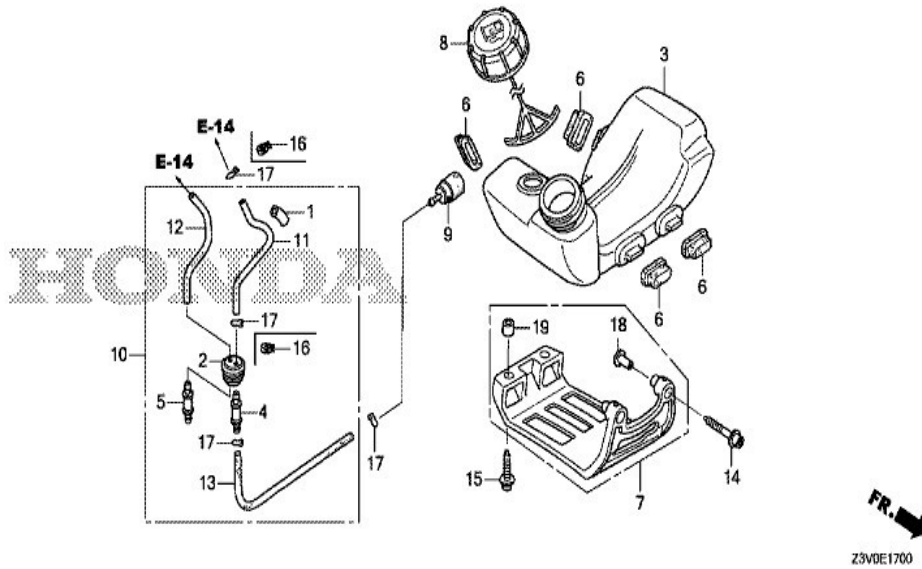
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00099	PLATE, OIL TRAP	1
002	012106-00100	ELEMENT, AIR CLEANER	1
003	012106-00101	CASE COMP., AIR CLEANER	1
004	012106-00102	COVER, AIR CLEANER	1
005	012106-00103	BOLT, SOCKET, 5X25	1
006	012106-00104	BOLT, SOCKET, 5X16	1
007	012106-00105	SCREW, SPECIAL, 6X16	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



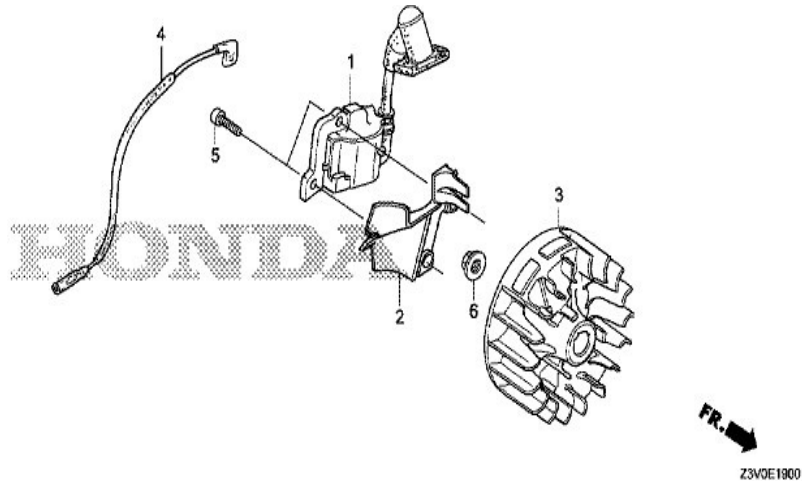
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00110	MUFFLER COMP.	1
002	012106-00111	ARRESTER COMP., SPARK	1
003	012106-00112	FILTER, EXHAUST	1
004	012106-00113	GUIDE, AIR	1
005	012106-00114	GUIDE COMP., UNDER AIR	1
006	012106-00115	BOLT, STUD, 5X56.5	3
007	012106-00116	BOLT, SOCKET, 5X16	2
008	012106-00117	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



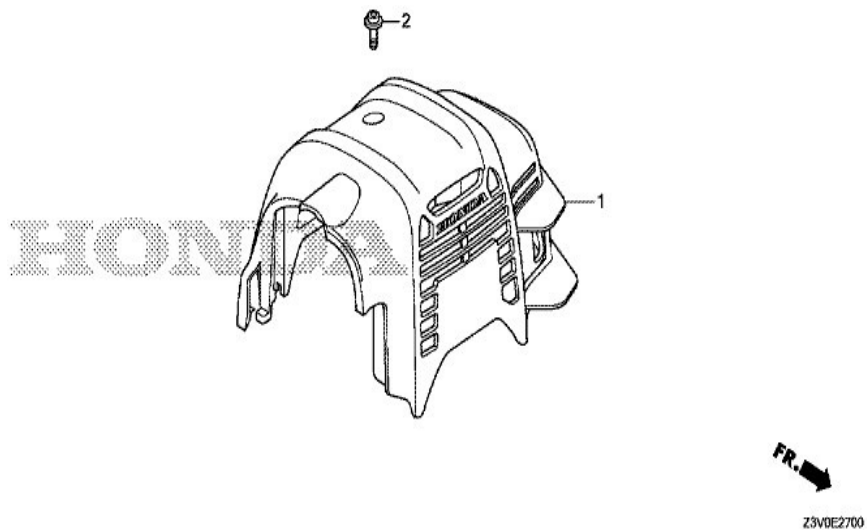
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00120	PROTECTOR, TUBE	1
002	012106-00121	GROMMET, FUEL TUBE	1
003	012106-00122	TANK, FUEL	1
004	012106-00123	JOINT, FUEL TANK	1
005	012106-00124	FITTING	1
006	012106-00125	RUBBER, TANK MOUNTING	4
008	012106-00126	CAP ASSY., FUEL TANK	1
009	012106-00127	FILTER, 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



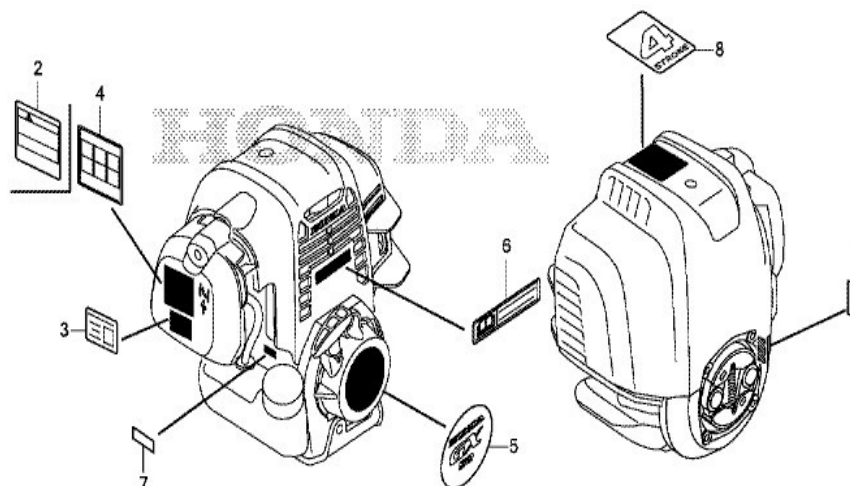
REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00134	COIL ASSY., IGNITION	1
002	012106-00135	CLIP, AIR GUIDE	1
003	012106-00136	FLYWHEEL COMP.	1
004	012106-00137	CORD, STOP SWITCH	1
005	012106-00138	BOLT, SOCKET, 4X14	2
006	012106-00139	NUT, FLANGE, 8MM	1

GX50NT(S3) E-27 TOP COVER



REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00140	COVER COMP., TOP *R280*	1
001	012106-00141	COVER COMP., TOP *NH1*	1
002	012106-00142	BOLT, TOP COVER	1

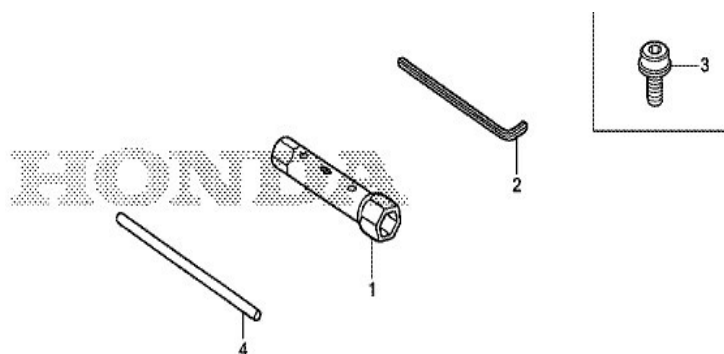
GX50NT(S3) E-28 LABEL



Z3VDE2800

REF	PART NUMBER	DESCRIPTION	GX50NT
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

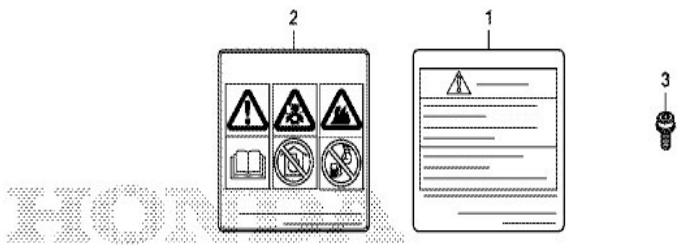
GX50NT(S3) -29 TOOL



Z3VDE2900

REF	PART NUMBER	DESCRIPTION	GX50NT
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)

GX50NT(S3) E-40 OTHER PARTS

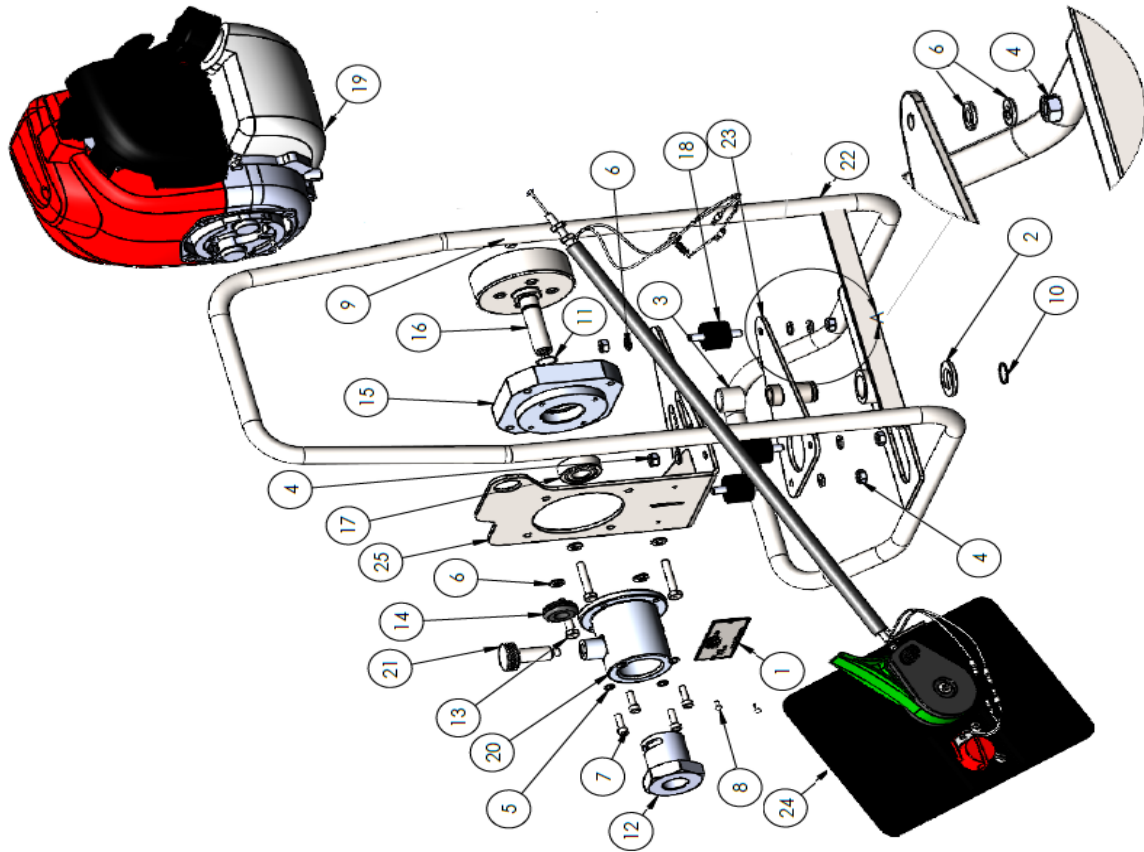


Z3V3E4000A

REF	PART NUMBER	DESCRIPTION	GX50NT
001	012106-00153	MARK, OPERATOR CAUTION (FRENCH)	1
002	012106-00154	MARK, OPERATOR CAUTION (PICTOGRAPH)	1

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	047980-00006	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

NOT SHOWN: A13180-00003 ASSEMBLY, BACKPACK HARNESS



Drilled Hole Size	Tolerance
1/8" (3.175 mm)	+0.004/-0.001
3/16" (4.75 mm)	+0.004/-0.001
1/4" (6.35 mm)	+0.004/-0.001
5/16" (7.94 mm)	+0.004/-0.001
3/8" (9.52 mm)	+0.004/-0.001
1/2" (12.7 mm)	+0.004/-0.001
5/8" (15.87 mm)	+0.004/-0.001
3/4" (19.05 mm)	+0.004/-0.001
1" (25.4 mm)	+0.004/-0.001

TOLERANCES	Dimension in accordance with ANSI Y14
(EXCEPT AS NOTED)	
FRACTIONS	$\pm .000$
DECIMALS	$\pm .005$
ANGLES	$\pm 1^\circ$

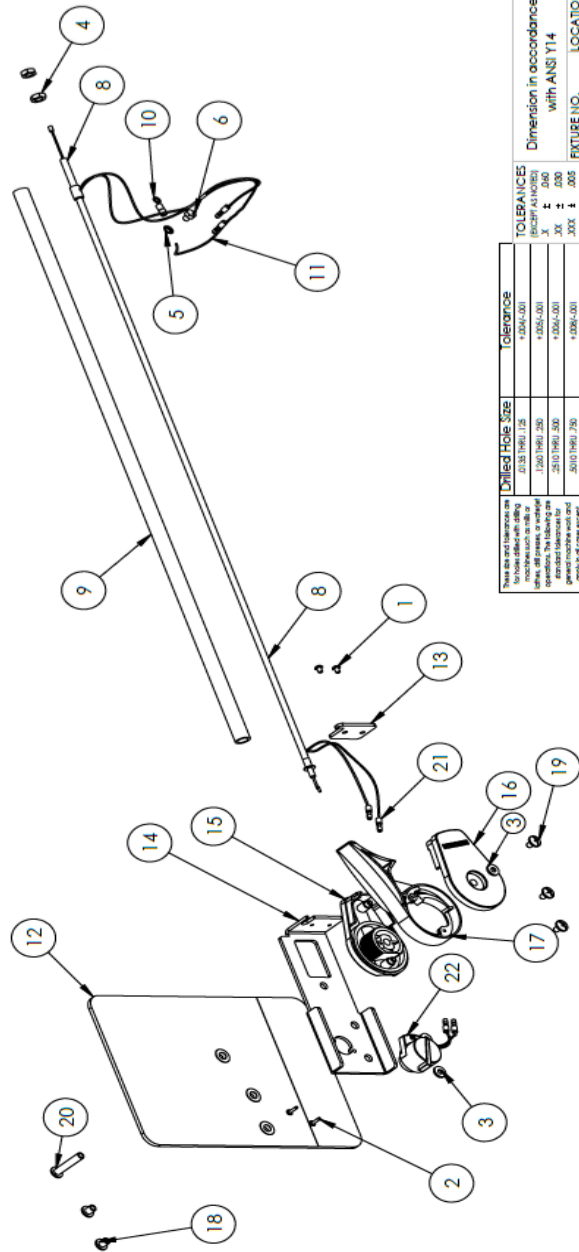
FEATURE NO.	LOCATION
1	1

TITLE	ROUTING NO.	DRAWING NUMBER
DO NOT SCALE DRAWING		A10275-00005

DATE	BY	APPROVED BY
01/21/2023	AB	AB

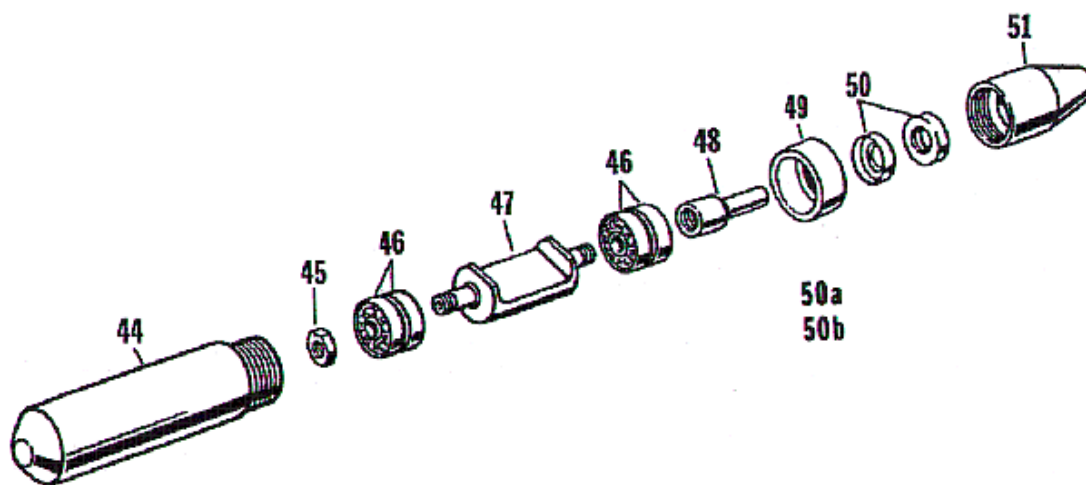
DATE	BY	APPROVED BY
01/21/2023	AB	AB

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	006099-00000	#8 FLAT WASHER	3
4	006469-00001	1/4"-28 HEX JAM NUT	2
5	006765-00000	#10 EXTERNAL TOOTH LOCKWASHER	1
6	009184-00006	M5 X 0.80 X 6MM H.H.C.S.	1
7	009222-00000	1/4" O.D. HEAT SHRINK TUBING X 12.00"	24
8	010278-00002	D.C. FTG WIRE "Z" BEND	1
9	010281-00000	PLASTIC CONDUIT X 25"	25
10	010284-00000	RING TERMINAL	1
11	011951-00188	#18 GA. WIRE - BLACK	1
12	012009-00001	VELCRO STRAP BRACKET	1
13	013233-00002	THROTTLE CABLE SUPPORT BRACKET	1
14	013233-00001	BACKPACK CONTROLLER BRACKET	1
15	013320-00011	THROTTLE HANDLE SIDE 1	1
16	013320-00012	THROTTLE HANDLE SIDE 2	1
17	013320-00013	THROTTLE HANDLE	1
18	013620-0.250	BINDING SCREW, #10-24 X .3125	2
19	013620-0.312	BINDING SCREW, #10-24 X .3125	3
20	013620-1.250	BINDING SCREW, #10-24 X .3125	1
21	030013-00010	WRISTLOCK CONNECTOR	4
22	A13320-00010	KILL SWITCH ASSEMBLY	1



These are dimensions for holes drilled with drilling machines such as with a reamer or a twist drill operations. The labeling indicates the tolerance for standard tolerances for ground inactive work and applied in fit of close snug fits where greater or lesser tolerances are required by customer and/or design.	Drilled Hole Size	Tolerance
	.0315 (.0015)	+0.004 (-0.001)
	.0625 (.0025)	+0.005 (-0.001)
	.1250 (.0050)	+0.006 (-0.001)
	.1875 (.0075)	+0.008 (-0.001)
	.2500 (.0100)	+0.009 (-0.001)
	.3125 (.0125)	+0.010 (-0.001)
	.3750 (.0150)	+0.012 (-0.001)
	.4375 (.0175)	+0.014 (-0.001)
	.5000 (.0200)	+0.016 (-0.001)
	.5625 (.0225)	+0.018 (-0.001)
	.6250 (.0250)	+0.020 (-0.001)
	.6875 (.0275)	+0.022 (-0.001)
	.7500 (.0300)	+0.024 (-0.001)
	.8125 (.0325)	+0.026 (-0.001)
	.8750 (.0350)	+0.028 (-0.001)
	.9375 (.0375)	+0.030 (-0.001)
	1.0000 (.0400)	+0.032 (-0.001)
	1.0625 (.0425)	+0.034 (-0.001)
	1.1250 (.0450)	+0.036 (-0.001)
	1.1875 (.0475)	+0.038 (-0.001)
	1.2500 (.0500)	+0.040 (-0.001)
	1.3125 (.0525)	+0.042 (-0.001)
	1.3750 (.0550)	+0.044 (-0.001)
	1.4375 (.0575)	+0.046 (-0.001)
	1.5000 (.0600)	+0.048 (-0.001)
	1.5625 (.0625)	+0.050 (-0.001)
	1.6250 (.0650)	+0.052 (-0.001)
	1.6875 (.0675)	+0.054 (-0.001)
	1.7500 (.0700)	+0.056 (-0.001)
	1.8125 (.0725)	+0.058 (-0.001)
	1.8750 (.0750)	+0.060 (-0.001)
	1.9375 (.0775)	+0.062 (-0.001)
	2.0000 (.0800)	+0.064 (-0.001)
	2.0625 (.0825)	+0.066 (-0.001)
	2.1250 (.0850)	+0.068 (-0.001)
	2.1875 (.0875)	+0.070 (-0.001)
	2.2500 (.0900)	+0.072 (-0.001)
	2.3125 (.0925)	+0.074 (-0.001)
	2.3750 (.0950)	+0.076 (-0.001)
	2.4375 (.0975)	+0.078 (-0.001)
	2.5000 (.1000)	+0.080 (-0.001)
	2.5625 (.1025)	+0.082 (-0.001)
	2.6250 (.1050)	+0.084 (-0.001)
	2.6875 (.1075)	+0.086 (-0.001)
	2.7500 (.1100)	+0.088 (-0.001)
	2.8125 (.1125)	+0.090 (-0.001)
	2.8750 (.1150)	+0.092 (-0.001)
	2.9375 (.1175)	+0.094 (-0.001)
	3.0000 (.1200)	+0.096 (-0.001)
	3.0625 (.1225)	+0.098 (-0.001)
	3.1250 (.1250)	+0.100 (-0.001)
	3.1875 (.1275)	+0.102 (-0.001)
	3.2500 (.1300)	+0.104 (-0.001)
	3.3125 (.1325)	+0.106 (-0.001)
	3.3750 (.1350)	+0.108 (-0.001)
	3.4375 (.1375)	+0.110 (-0.001)
	3.5000 (.1400)	+0.112 (-0.001)
	3.5625 (.1425)	+0.114 (-0.001)
	3.6250 (.1450)	+0.116 (-0.001)
	3.6875 (.1475)	+0.118 (-0.001)
	3.7500 (.1500)	+0.120 (-0.001)
	3.8125 (.1525)	+0.122 (-0.001)
	3.8750 (.1550)	+0.124 (-0.001)
	3.9375 (.1575)	+0.126 (-0.001)
	4.0000 (.1600)	+0.128 (-0.001)
	4.0625 (.1625)	+0.130 (-0.001)
	4.1250 (.1650)	+0.132 (-0.001)
	4.1875 (.1675)	+0.134 (-0.001)
	4.2500 (.1700)	+0.136 (-0.001)
	4.3125 (.1725)	+0.138 (-0.001)
	4.3750 (.1750)	+0.140 (-0.001)
	4.4375 (.1775)	+0.142 (-0.001)
	4.5000 (.1800)	+0.144 (-0.001)
	4.5625 (.1825)	+0.146 (-0.001)
	4.6250 (.1850)	+0.148 (-0.001)
	4.6875 (.1875)	+0.150 (-0.001)
	4.7500 (.1900)	+0.152 (-0.001)
	4.8125 (.1925)	+0.154 (-0.001)
	4.8750 (.1950)	+0.156 (-0.001)
	4.9375 (.1975)	+0.158 (-0.001)
	5.0000 (.2000)	+0.160 (-0.001)
	5.0625 (.2025)	+0.162 (-0.001)
	5.1250 (.2050)	+0.164 (-0.001)
	5.1875 (.2075)	+0.166 (-0.001)
	5.2500 (.2100)	+0.168 (-0.001)
	5.3125 (.2125)	+0.170 (-0.001)
	5.3750 (.2150)	+0.172 (-0.001)
	5.4375 (.2175)	+0.174 (-0.001)
	5.5000 (.2200)	+0.176 (-0.001)
	5.5625 (.2225)	+0.178 (-0.001)
	5.6250 (.2250)	+0.180 (-0.001)
	5.6875 (.2275)	+0.182 (-0.001)
	5.7500 (.2300)	+0.184 (-0.001)
	5.8125 (.2325)	+0.186 (-0.001)
	5.8750 (.2350)	+0.188 (-0.001)
	5.9375 (.2375)	+0.190 (-0.001)
	6.0000 (.2400)	+0.192 (-0.001)
	6.0625 (.2425)	+0.194 (-0.001)
	6.1250 (.2450)	+0.196 (-0.001)
	6.1875 (.2475)	+0.198 (-0.001)
	6.2500 (.2500)	+0.200 (-0.001)
	6.3125 (.2525)	+0.202 (-0.001)
	6.3750 (.2550)	+0.204 (-0.001)
	6.4375 (.2575)	+0.206 (-0.001)
	6.5000 (.2600)	+0.208 (-0.001)
	6.5625 (.2625)	+0.210 (-0.001)
	6.6250 (.2650)	+0.212 (-0.001)
	6.6875 (.2675)	+0.214 (-0.001)
	6.7500 (.2700)	+0.216 (-0.001)
	6.8125 (.2725)	+0.218 (-0.001)
	6.8750 (.2750)	+0.220 (-0.001)
	6.9375 (.2775)	+0.222 (-0.001)
	7.0000 (.2800)	+0.224 (-0.001)
	7.0625 (.2825)	+0.226 (-0.001)
	7.1250 (.2850)	+0.228 (-0.001)
	7.1875 (.2875)	+0.230 (-0.001)
	7.2500 (.2900)	+0.232 (-0.001)
	7.3125 (.2925)	+0.234 (-0.001)
	7.3750 (.2950)	+0.236 (-0.001)
	7.4375 (.2975)	+0.238 (-0.001)
	7.5000 (.3000)	+0.240 (-0.001)
	7.5625 (.3025)	+0.242 (-0.001)
	7.6250 (.3050)	+0.244 (-0.001)
	7.6875 (.3075)	+0.246 (-0.001)
	7.7500 (.3100)	+0.248 (-0.001)
	7.8125 (.3125)	+0.250 (-0.001)
	7.8750 (.3150)	+0.252 (-0.001)
	7.9375 (.3175)	+0.254 (-0.001)
	8.0000 (.3200)	+0.256 (-0.001)
	8.0625 (.3225)	+0.258 (-0.001)
	8.1250 (.3250)	+0.260 (-0.001)
	8.1875 (.3275)	+0.262 (-0.001)
	8.2500 (.3300)	+0.264 (-0.001)
	8.3125 (.3325)	+0.266 (-0.001)
	8.3750 (.3350)	+0.268 (-0.001)
	8.4375 (.3375)	+0.270 (-0.001)
	8.5000 (.3400)	+0.272 (-0.001)
	8.5625 (.3425)	+0.274 (-0.001)
	8.6250 (.3450)	+0.276 (-0.001)
	8.6875 (.3475)	+0.278 (-0.001)
	8.7500 (.3500)	+0.280 (-0.001)
	8.8125 (.3525)	+0.282 (-0.001)
	8.8750 (.3550)	+0.284 (-0.001)
	8.9375 (.3575)	+0.286 (-0.001)
	9.0000 (.3600)	+0.288 (-0.001)
	9.0625 (.3625)	+0.290 (-0.001)
	9.1250 (.3650)	+0.292 (-0.001)
	9.1875 (.3675)	+0.294 (-0.001)
	9.2500 (.3700)	+0.296 (-0.001)
	9.3125 (.3725)	+0.298 (-0.001)
	9.3750 (.3750)	+0.300 (-0.001)
	9.4375 (.3775)	+0.302 (-0.001)
	9.5000 (.3800)	+0.304 (-0.001)
	9.5625 (.3825)	+0.306 (-0.001)
	9.6250 (.3850)	+0.308 (-0.001)
	9.6875 (.3875)	+0.310 (-0.001)
	9.7500 (.3900)	+0.312 (-0.001)
	9.8125 (.3925)	+0.314 (-0.001)
	9.8750 (.3950)	+0.316 (-0.001)
	9.9375 (.3975)	+0.318 (-0.001)
	10.0000 (.4000)	+0.320 (-0.001)
	10.0625 (.4025)	+0.322 (-0.001)
	10.1250 (.4050)	+0.324 (-0.001)
	10.1875 (.4075)	+0.326 (-0.001)
	10.2500 (.4100)	+0.328 (-0.001)
	10.3125 (.4125)	+0.330 (-0.001)
	10.3750 (.4150)	+0.332 (-0.001)
	10.4375 (.4175)	+0.334 (-0.001)
	10.5000 (.4200)	+0.336 (-0.001)
	10.5625 (.4225)	+0.338 (-0.001)
	10.6250 (.4250)	+0.340 (-0.001)
	10.6875 (.4275)	+0.342 (-0.001)
	10.7500 (.4300)	+0.344 (-0.001)
	10.8125 (.4325)	+0.346 (-0.001)
	10.8750 (.4350)	+0.348 (-0.001)
	10.9375 (.4375)	+0.350 (-0.001)
	11.0000 (.4400)	+0.352 (-0.001)
	11.0625 (.4425)	+0.354 (-0.001)
	11.1250 (.4450)	+0.356 (-0.001)
	11.1875 (.4475)	+0.358 (-0.001)
	11.2500 (.4500)	+0.360 (-0.001)
	11.3125 (.4525)	+0.362 (-0.001)
	11.3750 (.4550)	+0.364 (-0.001)
	11.4375 (.4575)	+0.366 (-0.001)
	11.5000 (.4600)	+0.368 (-0.001)
	11.5625 (.4625)	+0.370 (-0.001)
	11.6250 (.4650)	+0.372 (-0.001)
	11.6875 (.4675)	+0.374 (-0.001)
	11.7500 (.4700)	+0.376 (-0.001)
	11.8125 (.4725)	+0.378 (-0.001)
	11.8750 (.4750)	+0.380 (-0.001)
	11.9375 (.4775)	+0.382 (-0.001)
	12.0000 (.4800)	+0.384 (-0.001)
	12.0625 (.4825)	+0.386 (-0.001)
	12.1250 (.4850)	+0.388 (-0.001)
	12.1875 (.4875)	+0.390 (-0.001)
	12.2500 (.4900)	+0.392 (-0.001)
	12.3125 (.4925)	+0.394 (-0.001)
	12.3750 (.4950)	+0.396 (-0.001)
	12.4375 (.4975)	+0.398 (-0.001)
	12.5000 (.5000)	+0.400 (-0.001)
	12.5625 (.5025)	+0.402 (-0.001)
	12.6250 (.5050)	+0.404 (-0.001)
	12.6875 (.5075)	+0.406 (-0.001)
	12.7500 (.5100)	+0.408 (-0.001)
	12.8125 (.5125)	+0.410 (-0.001)
	12.8750 (.5150)	+0.412 (-0.001)
	12.9375 (.5175)	+0.414 (-0.001)
	13.0000 (.5200)	+0.416 (-0.001)
	13.0625 (.5225)	+0.418 (-0.001)
	13.1250 (.5250)	+0.420 (-0.001)
	13.1875 (.5275)	+0.422 (-0.001)
	13.2500 (.5300)	+0.424 (-0.001)
	13.3125 (.5325)	+0.426 (-0.001)
	13.3750 (.5350)	+0.428 (-0.001)
	13.4375 (.5375)	+0.430 (-0.001)
	13.5000 (.5400)	+0.432 (-0.001)
	13.5625 (.5425)	+0.434 (-0.001)
	13.6250 (.5450)	+0.436 (-0.001)
	13.6875 (.5475)	+0.438 (-0.001)
	13.7500 (.5500)	+0.440 (-0.001)
	13.8125 (.5525)	+0.442 (-0.001)
	13.8750 (.5550)	+0.444 (-0.001)
	13.9375 (.5575)	+0.446 (-0.001)
	14.0000 (.5600)	+0.448 (-0.001)
	14.0625 (.5625)	+0.450 (-0.001)
	14.1250 (.5650)	+0.452 (-0.001)
	14.1875 (.5675)	+0.454 (-0.001)
	14.2500 (.5700)	+0.456 (-0.001)
	14.3125 (.5725)	+0.458 (-0.001)
	14.3750 (.5750)	+0.460 (-0.001)
	14.4375 (.5775)	+0.462 (-0.001)
	14.5000 (.5800)	+0.464 (-0.001)
	14.5625 (.5825)	+0.466 (-0.001)
	14.6250 (.5850)	+0.468 (-0.001)
	14.6875 (.5875)	+0.470 (-0.001)
	14.7500 (.5900)	+0.472 (-0.001)
	14.8125 (.5925)	+0.474 (-0.001)
	14.8750 (.5950)	+0.476 (-0.001)
	14.9375 (.5975)	+0.478 (-0.001)
	15.0000 (.6000)	+0.480 (-0.001)
	15.0625 (.6025)	+0.482 (-0.001)
	15.1250 (.6050)	+0.484 (-0.001)
	15.1875 (.6075)	+0.486 (-0.001)
	15.2500 (.6100)	+0.488 (-0.001)
	15.3125 (.6125)	+0.490 (-0.001)
	15.3750 (.6150)	+0.492 (-0.001)
	15.4375 (.6175)	+0.494 (-0.001)
	15.5000 (.6200)	+0.496 (-0.001)
	15.5625 (.6225)	+0.498 (-0.001)
	15.6250 (.6250)	+0.500 (-0.001)
	15.6875 (.6275)	+0.502 (-0.001)
	15.7500 (.6300)	+0.504 (-0.001)
	15.8125 (.6325)	+0.506 (-0.001)
	15.8750 (.6350)	+0.508 (-0.001)
	15.9375 (.6375)	+0.510 (-0.001)
	16.0000 (.6400)	+0.512 (-0.001)
	16.0625 (.6425)	+0.514 (-0.001)
	16.1250 (.6450)	+0.516 (-0.001)
	16.1875 (.6475)	+0.518 (-0.001)
	16.2500 (.6500)	+0.520 (-0.001)
	16.3125 (.6525)	+0.522 (-0.001)
	16.3750 (.6550)	+0.524 (-0.001)
	16.4375 (.6575)	+0.526 (-0.001)
	16.5000 (.6600)	+0.528 (-0.001)
	16.5625 (.6625)	+0.530 (-0.001)
	16.6250 (.6650)	+0.532 (-0.001)
	16.6875 (.6675)	+0.534 (-0.001)
	16.7500 (.6700)	+0.536 (-0.001)
	16.8125 (.6725)	+0.538 (-0.001)
	16.8750 (.6750)	+0.540 (-0.001)
	16.9375 (.6775)	+0.542 (-0.001)
	17.0000 (.6800)	+0.544 (-0.001)
	17.0625 (.6825)	+0.546 (-0.001)
	17.1250 (.6850)	+0.548 (-0.001)
	17.1875 (.6875)	+0.550 (-0.001)
	17.2500 (.6900)	+0.552 (-0.001)
	17.3125 (.6925)	+0.554 (-0.001)
	17.3750 (.6950)	+0.556 (-0.001)
	17.4375 (.6975)	+0.558 (-0.001)
	17.5000 (.7000)	+0.560 (-0.001)
	17.5625 (.7025)	+0.562 (-0.001)
	17.6250 (.7050)	+0.564 (-0.001)
	17.6875 (.7075)	+0.566 (-0.001)
	17.7500 (.7100)	+0.568 (-0.001)
	17.8125 (.7125)	+0.570 (-0.001)
	17.8750 (.7150)	+0.572 (-0.001)
	17.9375 (.7175)	+0.574 (-0.001)
	18.0000 (.7200)	+0.576 (-0.001)
	18.0625 (.7225)	+0.578 (-0.001)
	18.1250 (.7250)	+0.580 (-0.001)
	18.1875 (.7275)	+0.582 (-0.001)
	18.2500 (.7300)	+0.584 (-0.001)
	18.3125 (.7325)	+0.586 (-0.001)
	18.3750 (.7350)	+0.588 (-0.001)
	18.4375 (.7375)	+0.590 (-0.001)
	18.5000 (.7400)	+0.592 (-0.001)
	18.5625 (.7425)	+0.594 (-0.001)
	18.6250 (.7450)	+0.596 (-0.001)
	18.6875 (.7475)	+0.598 (-0.001)
	18.7500 (.7500)	+0.600 (-0.001)
	18.8125 (.7525)	+0.602 (-0.001)
	18.8750 (.7550)	+0.604 (-0.001)
	18.9375 (.7575)	+0.606 (-0.001)

VIBRATOR HEADS AND SHAFTS MAINTENANCE



HEADS

	A2231-1	A2232-1	A2233-1	A2234-1	A2235-1	A2236-1	
FIG #	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	013579-00001	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
49						000655-00001	Housing Bearing
50			020451-00000	020451-00000	020221-00000	020221-00000	Seal (2)
50a	002681-00000	002681-00000					Seal (Oil)
50b	002677-00000						Seal (Grease)
51	002192-00000	002193-00001	002194-00002	002195-00002	002196-00001	002197-00001	Casing Adapter

Grease-Flexible Shaft.....Part No. 002120-00000

Oil-Lubricating.....Part No. 002119-00000

MINNICH <small>CONCRETE VIBRATORS AND SNOW PLOW DRILLS</small>	
LUBRICATING OIL CAPACITIES	
HEAD DIAMETER	OIL CAPACITY
3/4"	1/4" OZ
1-1/8"	1/2 OZ
1-3/8"	1/2 OZ
1-3/4"	3/4 OZ
2"	1 OZ
2-3/8"	1 OZ
TILT UP	3/4 OZ

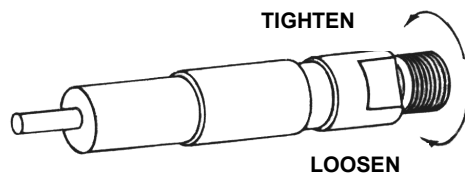
ASSEMBLY

⚠ CAUTION

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

ASSEMBLING SHAFT TO MOTOR

1. Choose an end of the casing that 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.
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.
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 insure 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 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.

GENERAL MAINTENANCE

MAINTENANCE SCHEDULE

ITEM		REGULAR SERVICE PERIOD (1)						
		Perform at every indicated month or operating hour interval, whichever comes first.						
		Before each use	First month or 10 hrs.	Every 3 months or 25 hrs.	Every 6 months or 50 hrs.	Every year or 100 hrs.	Every 2 years or 300 hrs.	Refer to page
Engine oil	Check level	○ (2)						3-3
	Change		○		○			3-3
Air cleaner	Check	○ (2)						3-4
	Clean			○ (3)				
	Replace					○		
Spark plug	Check-Adjust					○		3-4
	Replace						○	
Timing belt	Check	Every 300 hrs. (4)						10-5
Engine cooling fins	Check				○			-
Spark arrester	Clean					○		8-2
Exhaust filter	Clean					○		8-2
Nuts, bolts, fasteners	Check (Retighten if necessary)	○						-
Clutch shoes	Check				○			9-3
Idle speed	Check-Adjust					○		3-7
Valve clearance	Check-Adjust					○		3-8
Combustion chamber	Clean	Every 300 hrs.						10-10
Fuel tank	Clean					○		3-6
Fuel filter	Clean					○		3-7
Fuel tubes	Check	Every 2 years (Replace if necessary)						3-9
Oil tube	Check	Every 2 years (Replace if necessary)						11-4

(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.

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:

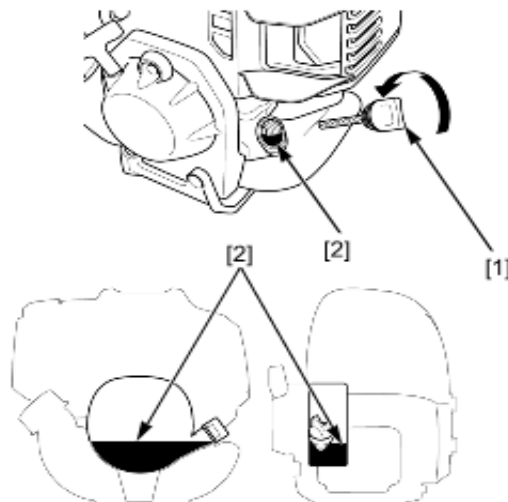
SAE 10W-30

API Service classification SJ or later

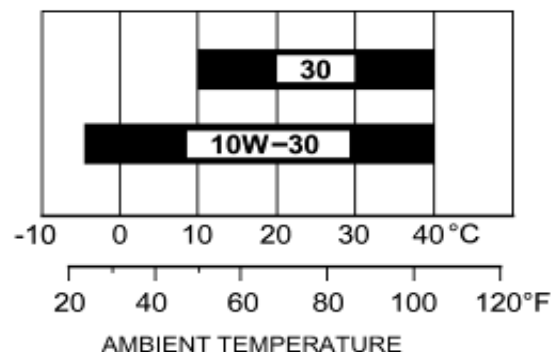
Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

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.



SAE VISCOSITY GRADES



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

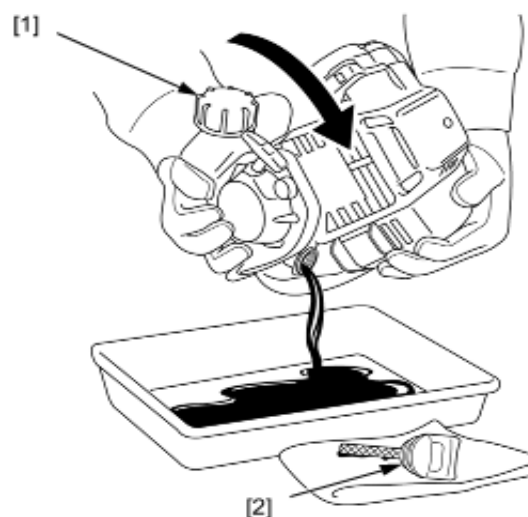
Used engine oil contains substances that have been identified as carcinogenic. If repeatedly left in contact with the skin for prolonged periods, it may cause skin cancer. Wash your hands thoroughly with soap and water as soon as possible after contact with used engine oil.

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.



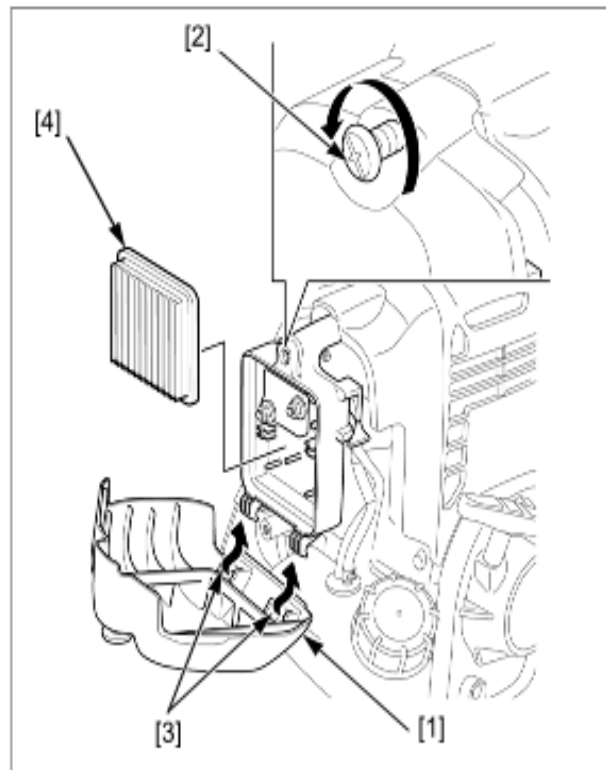
AIR CLEANER ELEMENT CHECK/CLEANING

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

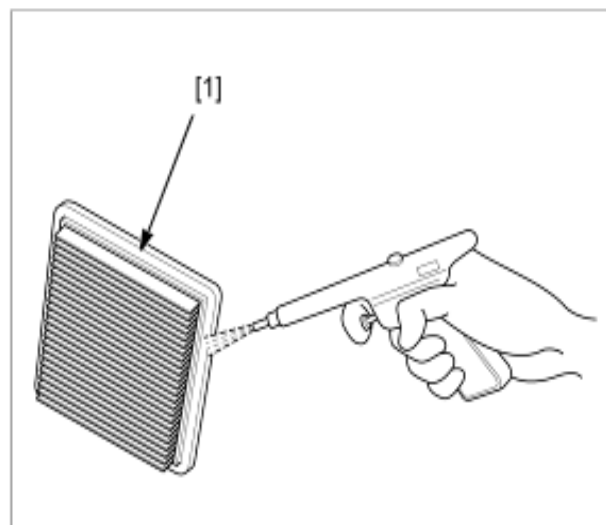
Tap the element [1] several times on a hard surface to remove dirt, or blow compressed air (not exceeding 200 kPa, 2.0 kgf/cm², 29 psi) through the element from the inside.

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

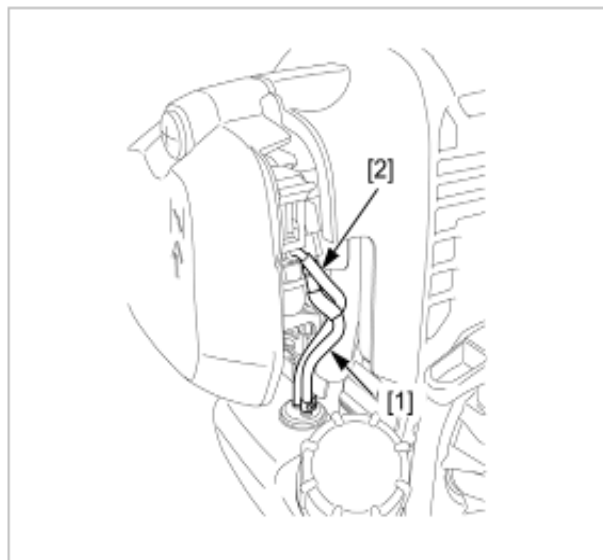
Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- 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.



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.

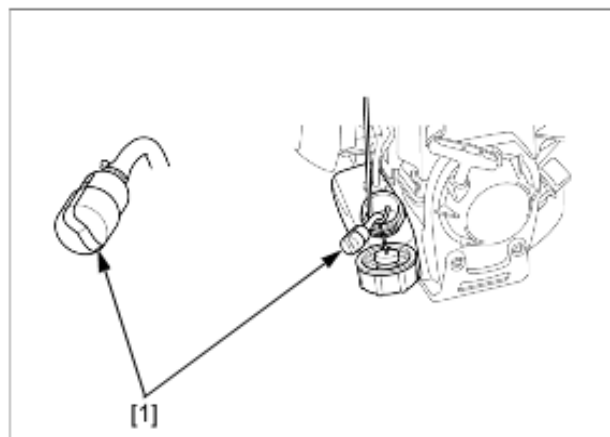
Pull out the fuel filter [1] with mechanic's wire from the fuel filler neck gently.

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.



GENERAL MAINTENANCE

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.

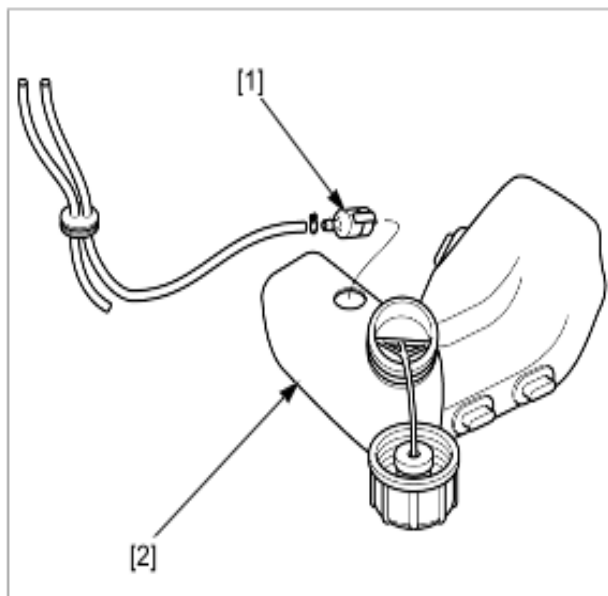
Check that the engine oil filler cap is tightened securely. Drain the fuel.

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.

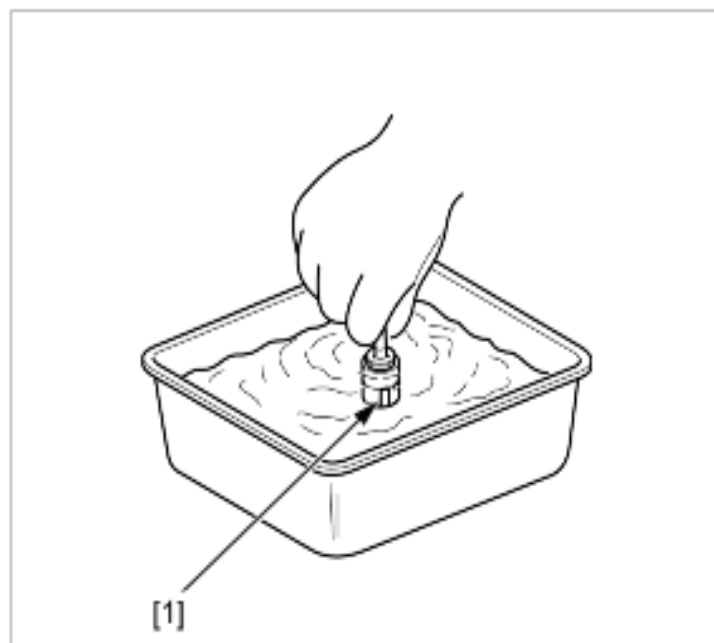


Clean the fuel filter [1] with nonflammable solvent and allow it to dry thoroughly. Replace the fuel filter if it is contaminated.

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)



VALVE CLEARANCE CHECK/ADJUSTMENT

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

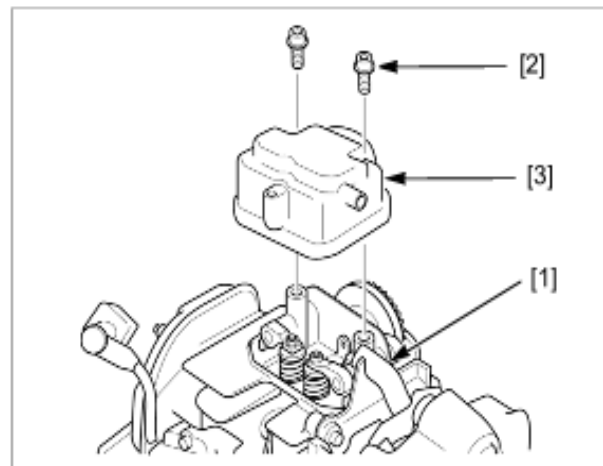
Remove the top cover (page 3-4).

Disconnect the spark plug cap from the spark plug.

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

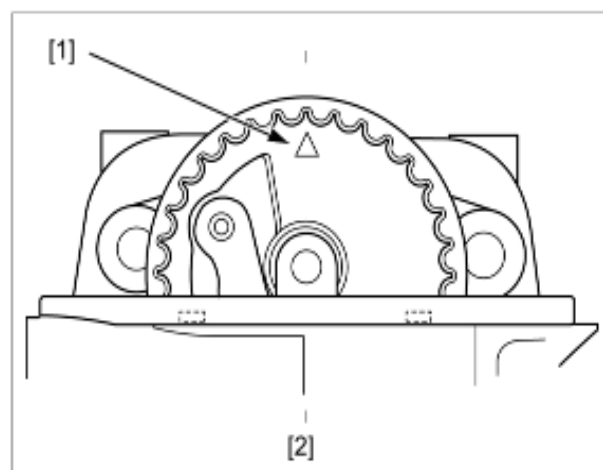
Remove the two socket bolts [2] and head cover [3].

- 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 " \triangle " 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.

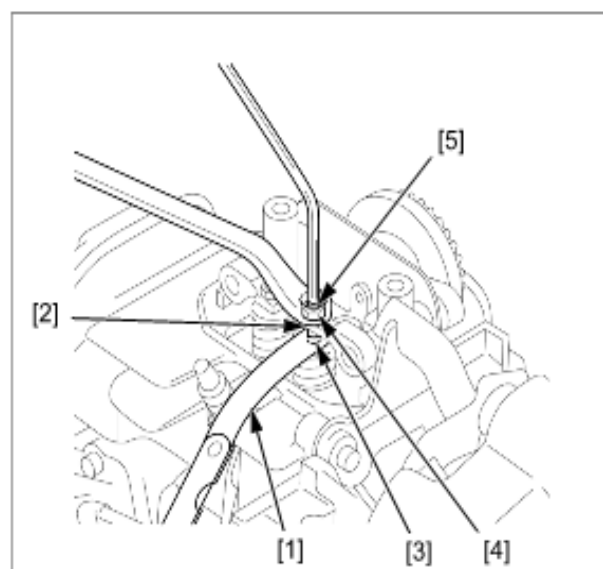
TORQUE: 4.9 N·m (0.50 kgf·m, 3.6 lbf·ft)

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)



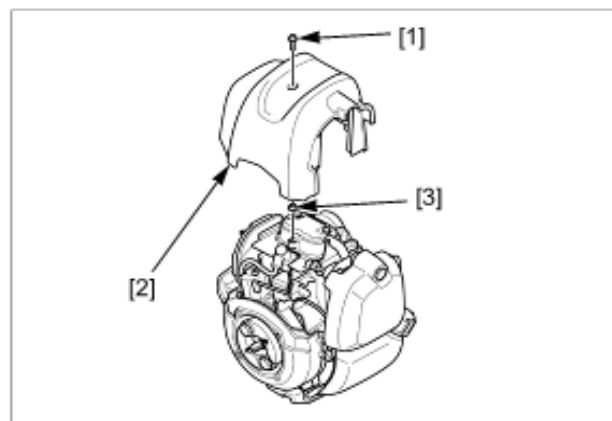
SPARK PLUG CHECK/ADJUSTMENT/REPLACEMENT

CAUTION

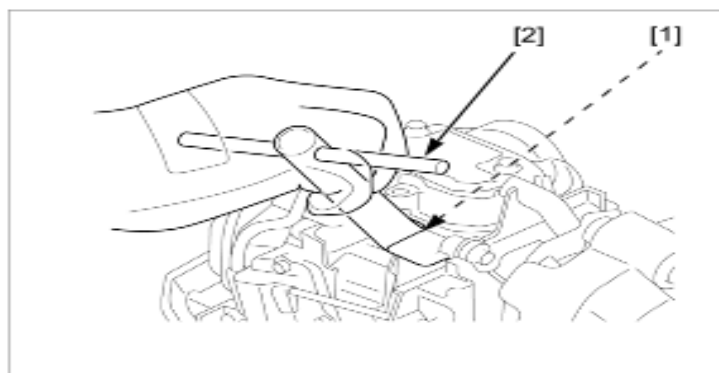
If the engine has been running, the engine will be very hot. Allow it to cool before proceeding.

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)

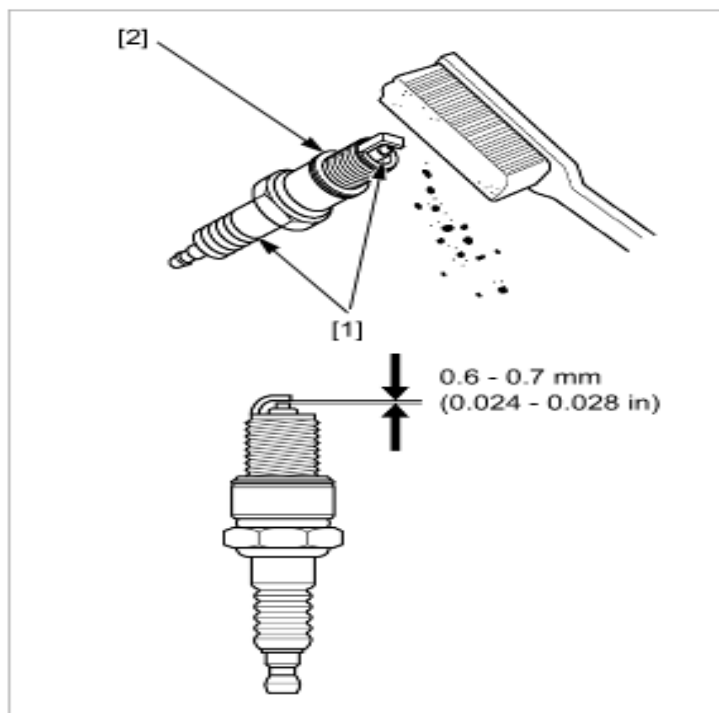
NOTICE

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

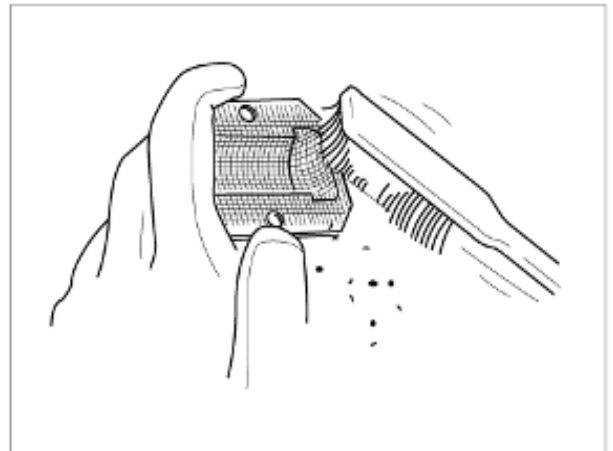
⚠ CAUTION

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.



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).

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.

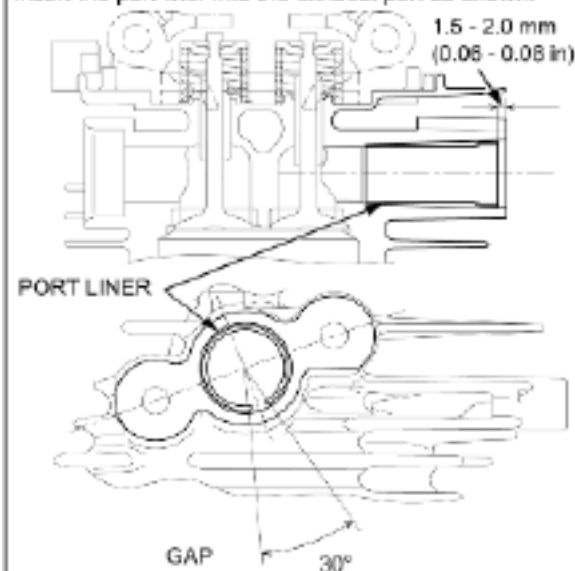
MUFFLER SEAL FLANGE



PORT LINER

INSTALLATION:

Insert the port liner into the exhaust port as shown.



SELF-LOCKING NUT (5 mm) (3)
6.4 N·m (0.7 kgf·m, 4.7 lbf·ft)

TAPPING SCREW (4 x 6 mm) (3)

UNDER AIR GUIDE

SOCKET BOLT
(CT BOLT; 5 x 16 mm) (2)

COLLAR (2)

AIR GUIDE

STUD BOLT (5 mm) (3)

4.4 N·m (0.4 kgf·m, 3.2 lbf·ft)

SPARK ARRESTER

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



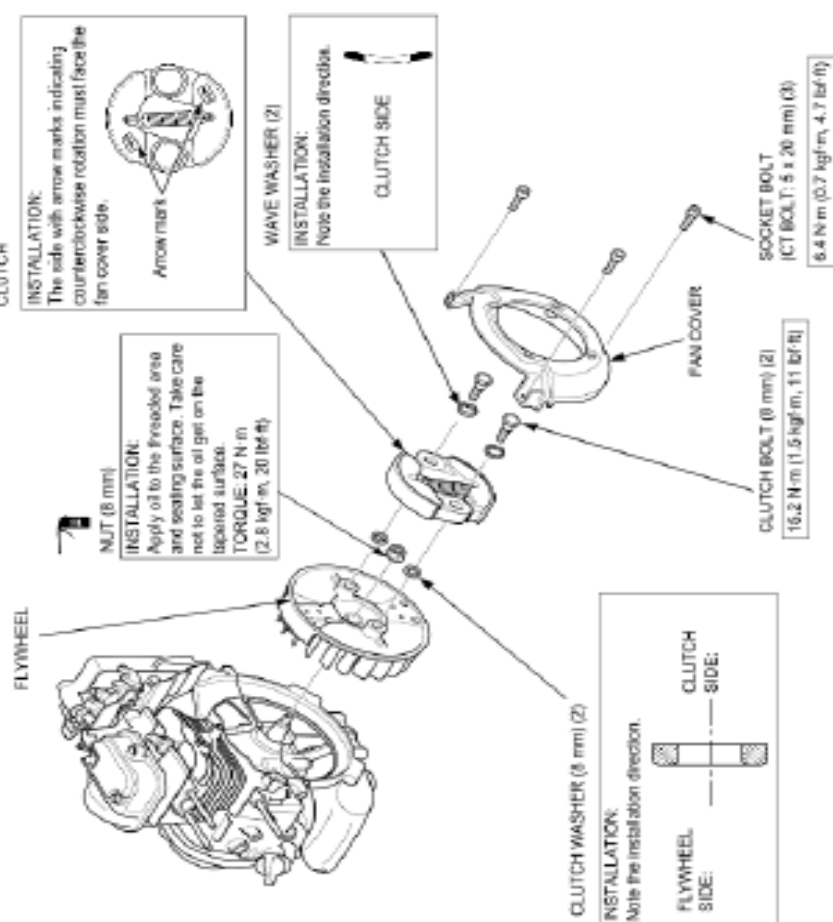
EXHAUST FILTER

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)

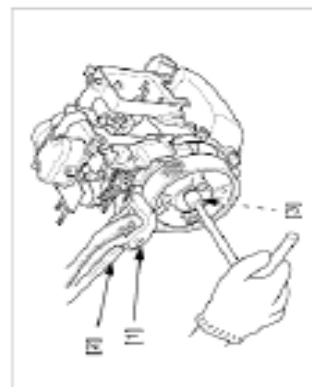
FLYWHEEL REMOVAL

NOTICE

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

Remove the clutch (page 6-2).

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.



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.

Handwriting practice lines with the word MINNICH centered across the middle.

LIMITED WARRANTY, DISCLAIMER AND REMEDIES

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 nonperformance of, the Goods or Services, whether based upon contract, warranty, negligence, tort (including strict liability) or otherwise.

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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.

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SCAN FOR HELPFUL VIDEOS!



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Contact Minnich Manufacturing through the following number to locate a dealer near you.
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NOTICE

All orders are treated as Standard Orders and will ship the same day if received prior to 3PM EST