

OPERATOR'S MANUAL POWER SPRAYER

SHR-210



WARNING  **DANGER**

**READ INSTRUCTIONS CAREFULLY AND FOLLOW RULES FOR
SAFE OPERATION.**

FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY.

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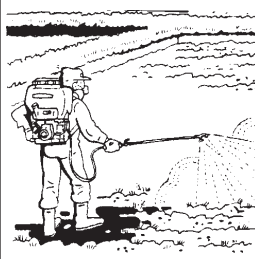
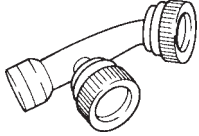
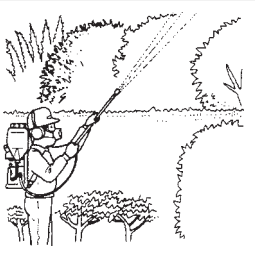
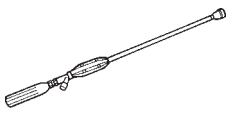
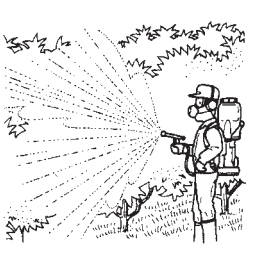
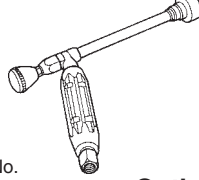
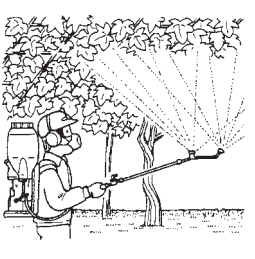
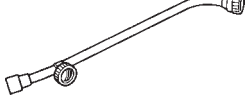
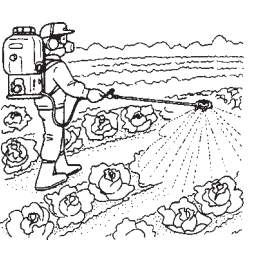
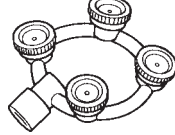

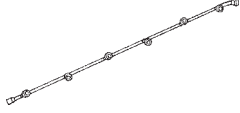
WARNING



The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

VARIETY OF NOZZLE FOR ECHO POWER SPRAYER SHR-210

Convenient to use and reliable, the go anywhere SHR-210 power sprayer is highly versatile with a large variety of optional nozzles which adapts it to a wide range of applications. The use of this power sprayer at home, on the farm or in a commercial environment are limitless. Most importantly, what used to take hours takes only minutes with the SHR-210, making it an unequaled value for the homeowner and professional alike.

	<p>2-head nozzle (Standard line type)</p>  <p>Part No. 224 203-1061 0 Standard</p>		<p>Adjustable jet nozzle (Long distance type)</p>  <p>Part No. E025-000260 Optional</p>
	<p>Adjustable jet nozzle (Pistol grip type)</p>  <p>Part No. 224 000-1061 0 Optional</p>		<p>2-head nozzle (Line type)</p>  <p>Part No. 224 202-1061 0 Optional</p>
	<p>4-head nozzle (Ring type)</p>  <p>Part No. 224 101-1061 0 Optional</p>		<p>7-head nozzle (Line type)</p>  <p>Part No. 224 104-1061 1 Optional</p>

Nozzle specifications (At 1.0 MPa [10kgf/cm²]: 142.2 psi)

Nozzle	Discharge volume		Spraying distance	
	L/min	Fl oz US/min	m	ft
2-head nozzle (Standard line type)	2.4	81.2		
Adjustable jet nozzle (Pistol grip type)	Mist: 2.4	81.2	3	10
	Spray: 5.0	169	5	16.7
Adjustable jet nozzle (Long distance type)	Mist: 2.4	81.2	3	10
	Spray: 5.0	169	5	16.7

* Optional nozzles are available at extra cost
 • For some country, a optional nozzle is supplied as standard part.

Nozzle	Discharge volume	
	L/min	Fl oz US/min
2-head nozzle (Line type)	4.2	142
4-head nozzle (Ring type)	1.5	50.8
7-head nozzle (Line type)	2.0	67.6

IMPORTANT

RULES FOR SAFE OPERATION

1. Handle gasoline with care. It is highly inflammable.
 - Refuel before starting work.
 - Do not smoke while handling fuel.
 - Do not refuel a hot engine.
 - Avoid spilling fuel or oil. Always wipe unit dry before using.
 - Move at least 3 m (10 feet) away from the fueling point before starting engine.
 - Always store gasoline in an approved container.
2. Do not operate in unventilated area.
3. Do not allow bystanders in work area.
4. Do not point the nozzle in the direction of people.
5. Always wear safety glasses and gloves.
6. Avoid wearing loose clothing or loose scarf.
7. Always use a face filter mask to avoid breathing chemicals.
8. Handle agricultural chemicals with care. It is poisonous.
 - Always remove chemicals from the tank when not in use.
 - Store chemicals in a safety container.



WARNING

Moving parts can amputate fingers or cause severe injuries. Keep hands, clothing and loose objects away from all openings.

- **ALWAYS** stop engine, disconnect spark plug, and make sure all moving parts have come to a complete stop before removing obstructions, clearing debris, or servicing unit.
- **DO NOT** start or operate unit unless all guards and protective covers are properly assembled to unit.
- **NEVER** reach into any opening while the engine is running. Moving parts may not be visible through openings.



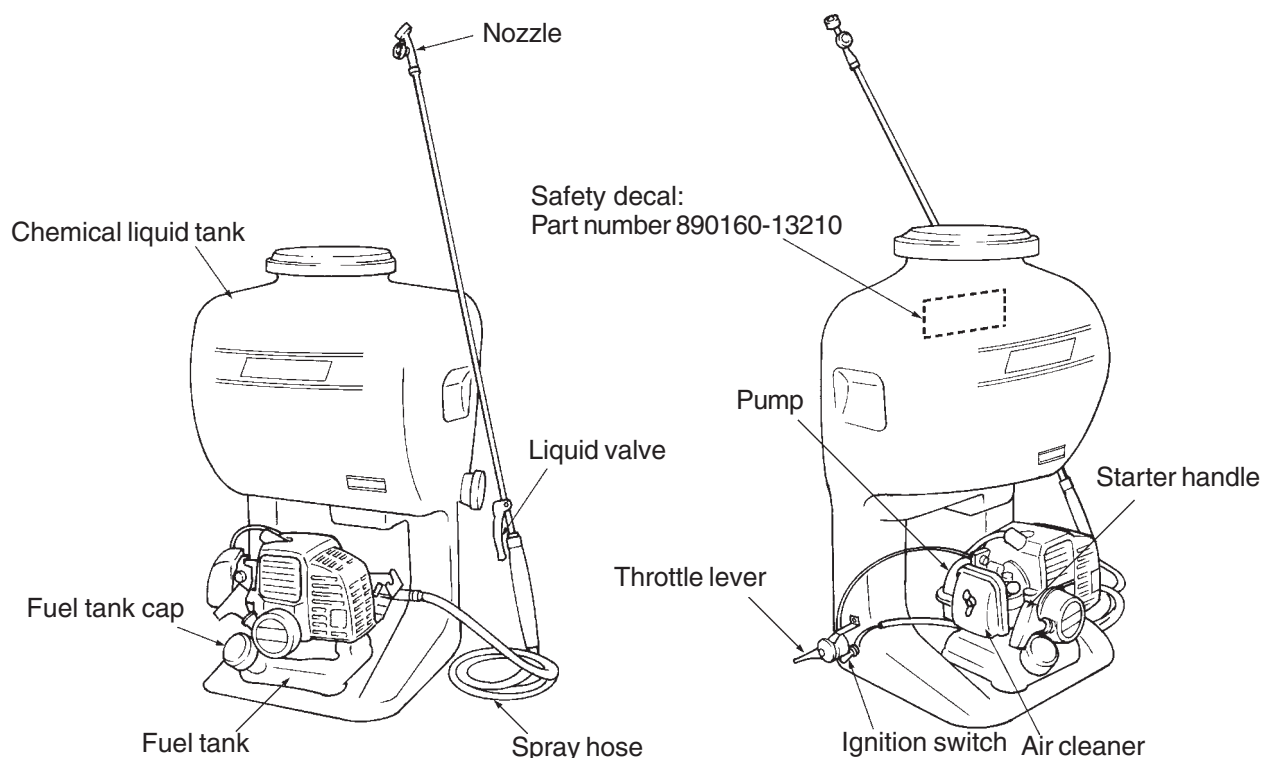
WARNING

Check fuel system for leaks due to fuel tank damage, especially if the unit is dropped. If damage or leaks are found, do not use unit, otherwise serious personal injury or property damage may occur. Have unit repaired by an authorized servicing dealer before using.

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NOMENCLATURE



Locate this safety decal on your unit. The complete unit illustration found in the "NOMENCLATURE" section, will help you locate them. Make sure the decal is legible and that you understand and follow the instructions on them. If a decal cannot be read, a new one can be ordered from your ECHO dealer.

WARNING  **DANGER**

This sprayer is operated with liquid under pressure. Failure to observe safety precautions or follow instructions for operating and cleaning can cause tank, hose and other parts to be weakened and or rupture under pressure. This can result in **SERIOUS INJURY** from high pressure discharge of liquids or forceable ejection of parts.

WARNING  **DANGER**

DO NOT use flammable materials in this sprayer. Material could ignite or explode causing **SERIOUS INJURY**.
DO NOT use caustics or acids. Either can cause corrosion and weaken hose and gaskets.
DO NOT use hot water. Excess heat can weaken plastic and rubber components.
DO NOT use sprayer if hose is frayed, cracked or shows signs of swelling.
ALWAYS read and understand directions supplied by manufacturer/packager of product to be sprayed.
ALWAYS wear goggles that meet ANSI Z87.1 specification and protective clothing when using sprayer.
ALWAYS use ECHO replacement parts. Use of improper parts may lead to a failure and serious injury.
ALWAYS KEEP SPRAYER AND SPRAY MATERIALS OUT OF THE REACH OF CHILDREN.

IMPORTANT

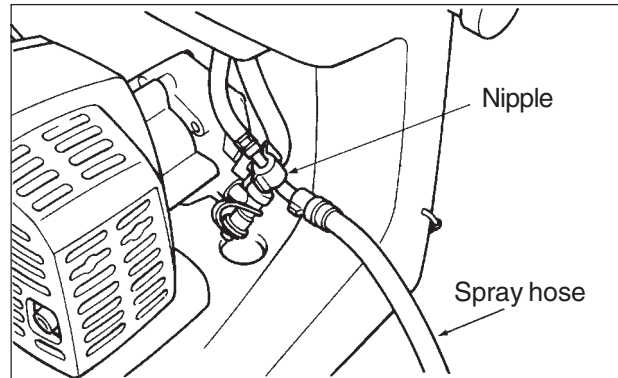
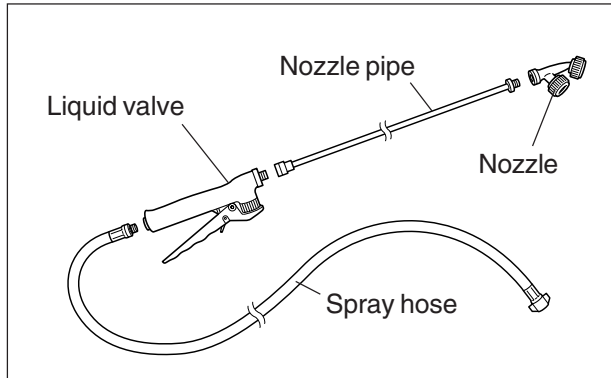
DO NOT operate without liquid in the chemical tank. Damage to the pump will occur.

Safety decal: Part number 890160-13210

ASSEMBLING

SPRAY HOSE AND NOZZLE

- Install spray hose, liquid valve, nozzle pipe and nozzle to the machine.



SHOULDER STRAPS

- Shoulder straps are adjustable to fit any operator.
- Adjust straps so that pads rest comfortably on the operator's shoulders.

OPERATION

GENERAL CHECK

- Ensure that all nuts, screws and bolts installed are properly tightened.



WARNING

Alternative fuels, such as E-20 (20 % ethanol), E-85 (85 % ethanol) or any fuels not meeting above requirements are NOT approved for use in ECHO 2-stroke gasoline engines. Use of alternative fuels may cause performance problems, loss of power, overheating, fuel vapor lock, and unintended machine operation, including, but not limited to, improper clutch engagement. Alternative fuels may also cause premature deterioration of fuel lines, gaskets, carburetor and other engine components.

FUEL STATEMENT

GASOLINE - Use 89 Octane [(R+M)/2] (mid grade or higher) gasoline or gasohol known to be good quality. Gasohol may contain up to 10 % Ethyl (grain) alcohol or 15 % MTBE (methyl tertiary-butyl ether). Gasohol containing methyl (wood) alcohol is **NOT** approved.

TWO-STROKE OIL - A two-stroke engine oil meeting ISO-L-EGD (ISO/CD 13738) and JASO M345-FC/FD Standards must be used. ECHO brand premium Power Blend X™ Universal 2-Stroke Oil meets these standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD (ISO/CD 13738) and JASO M345-FC/FD certified oil, such as ECHO premium Power Blend X™, will void the two-stroke engine warranty.

Fuel mix chart (50 : 1)

US		METRIC	
GAS	OIL	GAS	OIL
GAL.	FL.OZ.	L	mL
1	2.6	4	80
2	5.1	8	160
5	12.8	20	400

IMPORTANT

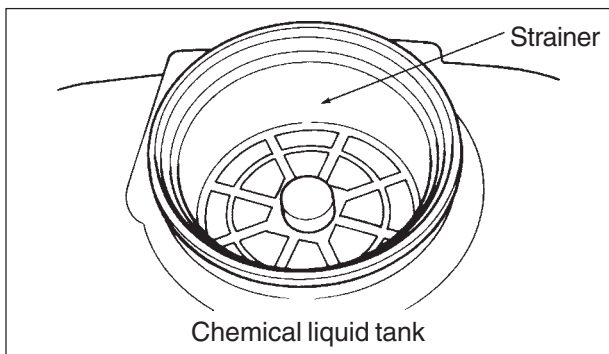
- ECHO premium Power Blend X™ Universal 2-Stroke Oil may be mixed at 50 : 1 ratio for application in all ECHO engines sold in the past regardless of ratio specified in those manuals.
- Use of unmixed, improperly mixed, or fuel older than 90 days, (stale fuel), may cause hard starting, poor performance, or severe engine damage and void the product warranty. Read and follow instructions in the Storage section of this manual.



DANGER

Fuel is **VERY flammable**. Use extreme care when mixing, storing or handling or serious personal injury may result.

- Use an approved fuel container.
- **DO NOT** smoke near fuel.
- **DO NOT** allow flames or sparks near fuel.
- Fuel tanks/cans may be under pressure. Always loosen fuel caps slowly allowing pressure to equalize.
- **NEVER** refuel a unit when the engine is **HOT!**
- **NEVER** refuel a unit with the engine running.
- **DO NOT** fill fuel tanks indoors. **ALWAYS** fill fuel tanks outdoors over bare ground.
- Securely tighten fuel cap after refueling.
- Inspect for fuel leakage. If fuel leakage is found, do not start or operate until leakage is repaired.
- Move at least 3 m (10 feet) from refueling location before starting the engine.



HANDLING FUEL

MIXING INSTRUCTIONS -

1. Fill an approved fuel container with half of the required amount of gasoline.
2. Add the proper amount of two-stroke oil to gasoline.
3. Close container and shake to mix oil with gasoline.
4. Add remaining gasoline, close fuel container, and remix.

IMPORTANT

- Spilled fuel is a leading cause of hydrocarbon emissions. Some states may require the use of automatic fuel shut-off containers to reduce fuel spillage.
- Stored fuel ages. Do not mix more fuel than you expect to use in thirty (30) days, ninety (90) days when a fuel stabilizer is added.
- Stored two-stroke fuel may separate. **ALWAYS** shake fuel container thoroughly before each use.

AFTER USE -

DO NOT store a unit with fuel in its tank. Leaks can occur. Return unused fuel to an approved fuel storage container.

STORAGE -

Fuel storage laws vary by locality. Contact your local government for the laws affecting your area. As a precaution, store fuel in an approved, unoccupied building, away from sparks and flames.

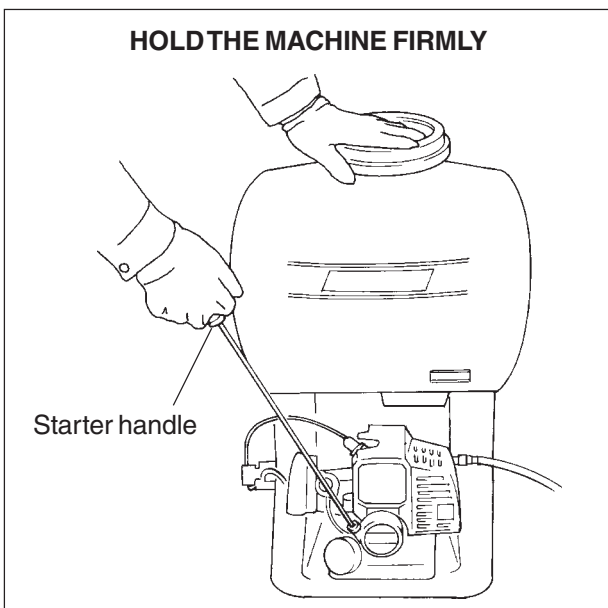
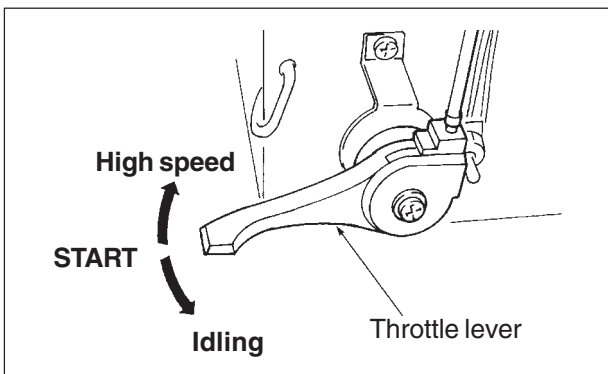
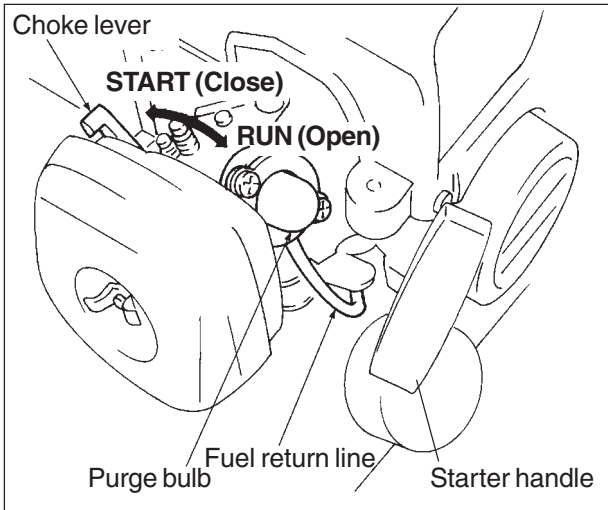
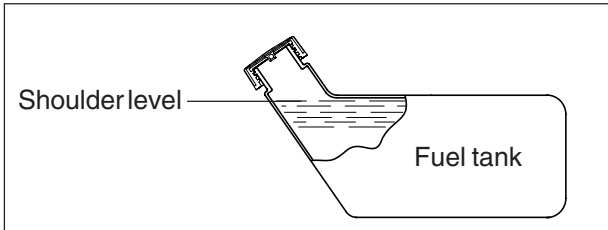
CHEMICAL (Liquid) TANK

- Fill the tank with liquid chemical through the strainer. Do not fill without strainer. (Dust in the tank may cause clogging of the liquid line or pump.)
- The tank contains 19 L (5.0 gal. US) of liquid.

(NOTE)

Each mark on the side of the tank indicates the 5, 10, and 15 L levels.

- Ensure that tank cap is on tightly to avoid chemical leak.
- **It is not necessary to apply grease / oil to pump.**



STARTING ENGINE

Never start and operate engine before filling chemical tank to avoid damage to pump.

WARNING DANGER

- WHEN ENGINE IS STARTED, CONFIRM IF THERE IS NOT ANY ABNORMAL VIBRATION OR SOUND. IF THERE IS ABNORMAL VIBRATION OR SOUND, ASK YOUR DEALER TO REPAIR.
- AFTER REFUELING TIGHTEN FUEL CAP FIRMLY AND CHECK FOR LEAKAGE. IN CASE OF FUEL LEAKAGE REPAIR BEFORE STARTING OPERATION SINCE THERE IS A DANGER OF FIRE.

- Fill fuel tank with fuel.
- It is not permitted to fill fuel above the shoulder level of fuel tank.
- Place ignition switch in START/RUN position.
- Turn choke lever to CLOSE (START) position.
- Keep throttle lever at idle position (in the middle of scale).
- Operate the carburetor's purge bulb several times with your finger (press←→release) to make sure that fuel flows from the fuel return line.
- Pull starter handle until engine starts.

(NOTE)

- Recoil starter: Use short pulls - Do not pull starter rope all the way out, and rewind it back gradually.
- Pull back choke lever (OPEN position) slowly after engine starts, and keep at idle speed for a while to warm it up.
- If temperature is high or engine is warm, keep choke lever half opened or totally opened.

WARNING

Engine exhaust IS HOT, and contains Carbon Monoxide (CO), a poison gas. Breathing CO can cause unconsciousness, serious injury, or death. Exhaust can cause serious burns. ALWAYS blow exhaust away from your face and body.

SPRAYING

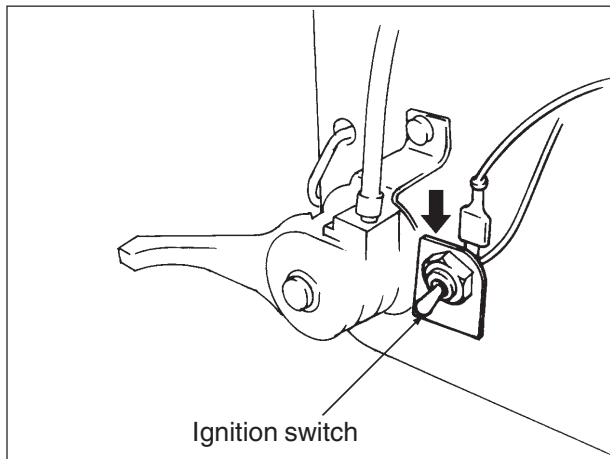
- Ensure that chemical liquid valve is closed before starting engine.
- After engine is warmed up, turn throttle lever to the high speed position (Upper position) and open liquid valve.

(NOTE)

Since this unit is equipped with a centrifugal clutch, sprinkling is not possible when the engine is running at low speeds (idling).

- FOR SAFE OPERATION -

1. Secure the chemical tank cap.
2. Check all connections to avoid chemical leak. (Nozzle, Nozzle pipe, hose etc.)
3. Avoid wearing loose clothing and always wear safety glasses and gloves.
4. Use a face filter mask to avoid breathing chemical.
5. Check wind direction before spraying.
6. Do not point nozzle in the direction of people.
7. Stop the engine when refueling and / or replacing parts.
8. Close fuel chemical liquid valve when not in use.
9. Avoid using at engine speeds where the clutch slips.

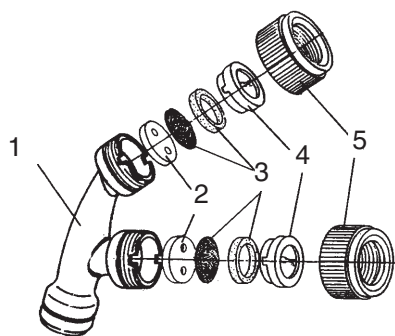


STOPPING ENGINE

- Turn throttle lever to the lowest position and the ignition switch to STOP position.

(CAUTION)

When misting liquid is over, stop the engine. Do not keep engine running, when chemical tank has been emptied.



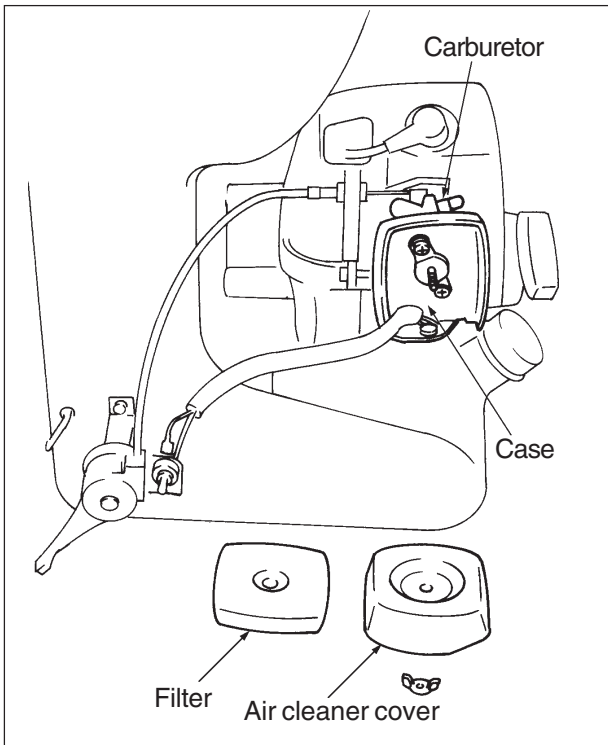
1. Nozzle body
2. Guide
3. Strainer
4. Nozzle
5. Cap

(NOTE)

- You can use a nozzle other than standard nozzle discharges liquid under 7.0 L at nozzle pressure: 1.0 MPa (10 kgf/cm²) as required.
- Long hose (approx. 100 m) is available as required.
- In this case, use standard nozzle indicated above or less discharge volume nozzle.
- As for variety of optional nozzles, please refer to Page 1.

MAINTENANCE AND CARE

- ALWAYS KEEP THE MACHINE CLEAN -



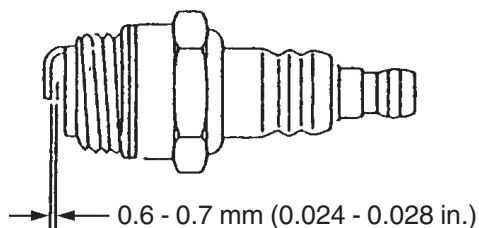
AIR FILTER

- Check before every use.
- Remove filter cover.
 - Remove wing nut.
- Brush off dust lightly or wash in a non-inflammable solvent if necessary. Dry well before reinstalling.

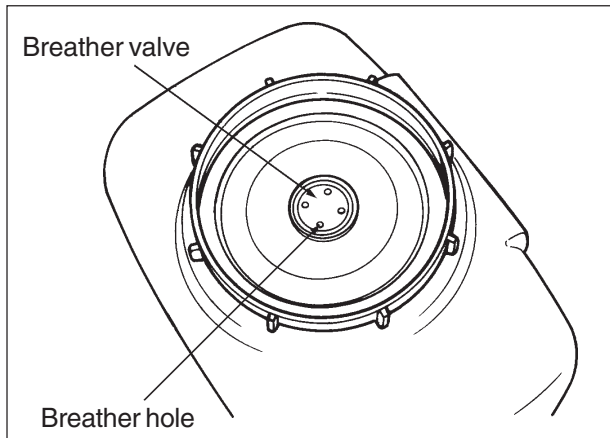
CHECK FUEL SYSTEM

- Check before every use.
- After refueling make sure fuel does not leak or exude from around fuel pipe, fuel grommet or fuel tank cap.
- In case of fuel leakage or exudation there is a danger of fire. Stop using the machine immediately and request your dealer to inspect or replace.

SPARK PLUG

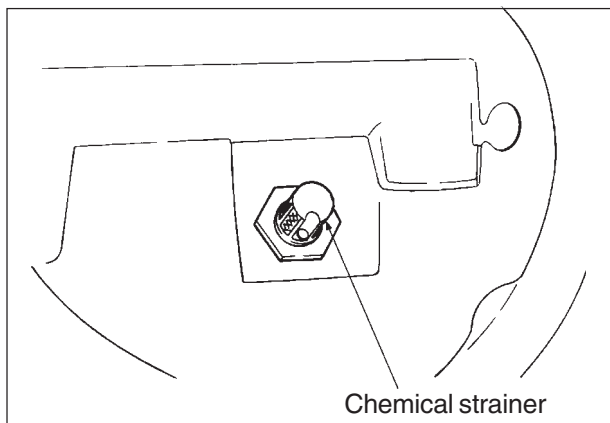


- Clean or replace the plug if fouled with heavy or oily deposits. Replace the plug if the center electrode is worn or rounded at the end.
 - The standard spark gap is 0.6 to 0.7 mm (0.024 to 0.028 in.).
 - Correct the spark gap if it is wider or narrower than the standard gap.
- Fastening torque = 15 to 17 N•m (130 to 145 in•lb.)



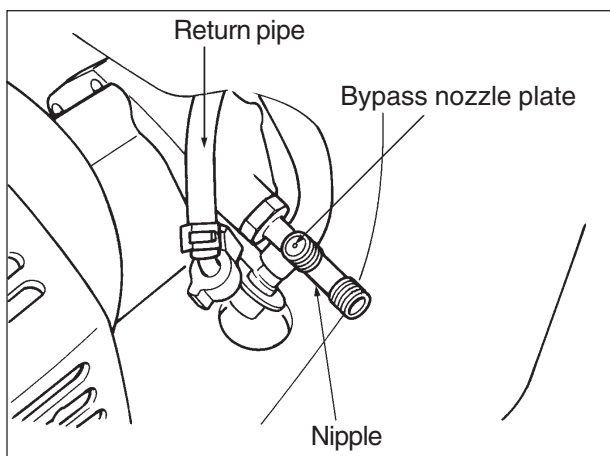
CHEMICAL TANK BREATHER

- Clean breather valve and breather hole periodically.
- Bad sealing of the breather valve may cause a leakage of the chemical. Clogging of the breather hole may cause a “dent” or a breakage of the chemical tank.



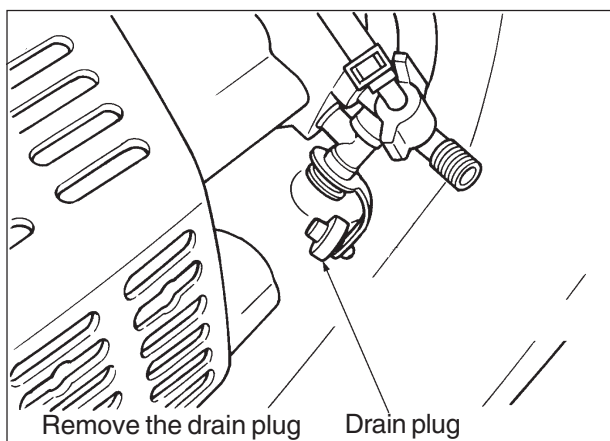
CHEMICAL STRAINER

- Clean chemical strainer periodically.
- Clogging of the chemical strainer may cause insufficient discharge of the chemical.



BYPASS NOZZLE PLATE

- Clean bypass nozzle plate, if liquid chemical is not well stirred-up in the tank.



WHEN SPRAYING IS FINISHED

- Fill chemical tank with water and spray through nozzle for 2 to 3 minutes for cleaning.
- Drain water from the machine through misting nozzle and remove pump drain plug.
- Wipe off the liquid chemical on the machine after use.

EMISSION DATA

EMISSION CONTROL

(EXHAUST) EPA 2010 and/or C.A.R.B. TIER III

The emission control system for the engine is EM/TWC (Engine Modification and 3-way Catalyst)

An Emission Control Label is located on the engine. (This is an example only, information on label varies by engine family).

PRODUCT EMISSION DURABILITY (EMISSION COMPLIANCE PERIOD)

The 300 hours emission compliance period is the time span selected by the manufacturer certifying the engine emissions output meets applicable emissions regulations, provided that approved maintenance procedures are followed as listed in the Maintenance Section of this manual.

EMISSION CONTROL INFORMATION

ENGINE FAMILY: E3EHXS.0214EE DISPLACEMENT: 21.2cc
EMISSION COMPLIANCE PERIOD: 300Hours
THIS ENGINE MEETS U.S.EPA EXH REGS FOR MODEL YEAR E3E3
REFER TO OWNER'S MANUAL FOR MAINTENANCE
SPECIFICATIONS AND ADJUSTMENTS.

YAMABIKO CORP. * * * * * 

High Altitude Operation

This engine has been factory adjusted to maintain satisfactory starting, emission, and durability performance up to 1100 feet above sea level (ASL) (96.0 kPa). To maintain proper engine operation and emission compliance above 1100 feet ASL the carburetor may need to be adjusted by an authorized ECHO service dealer.

IMPORTANT

If the engine is adjusted for operation above 1100 feet ASL, the carburetor must be readjusted when operating the engine below 1100 feet ASL, otherwise severe engine damage may result.

TROUBLE SHOOTING

Poor performance of the engine and/or spraying mechanism can normally be prevented by carefully following the above instructions.

Poor performances can easily be corrected even by a beginner.

When the engine does not function properly check the following three (3) points first.

- Is engine compression adequate?
- Is fuel system in good condition and is enough fuel being supplied?
- Is electrical system in good condition and is spark plug operating normally?

When there is serious trouble with the unit, do not try to repair it yourself but have your distributor or dealer do it for you. For detailed **TROUBLE SHOOTING** refer to tables 1 and 2. Locate the problem on the following charts and repair as necessary.

Table 1

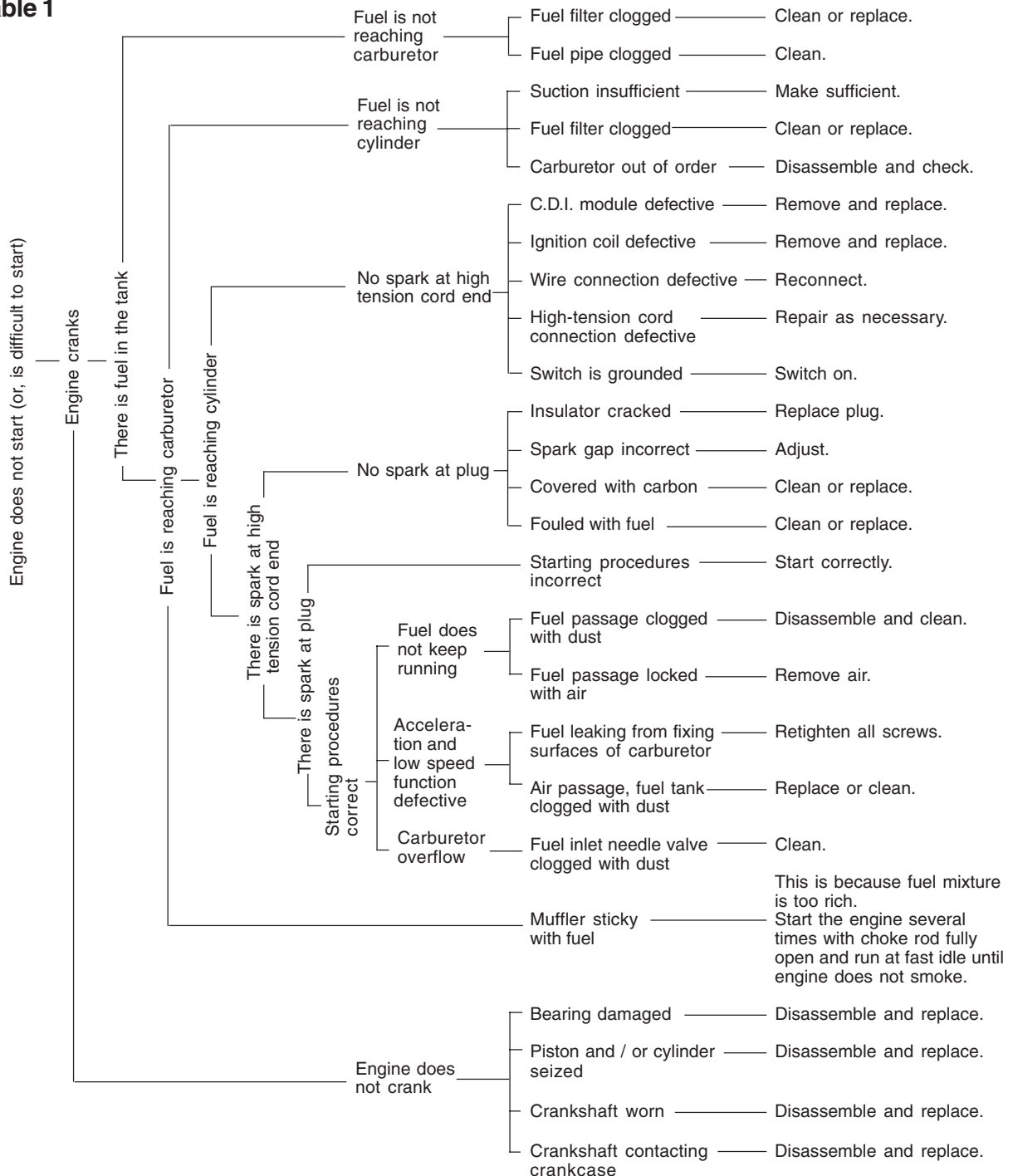
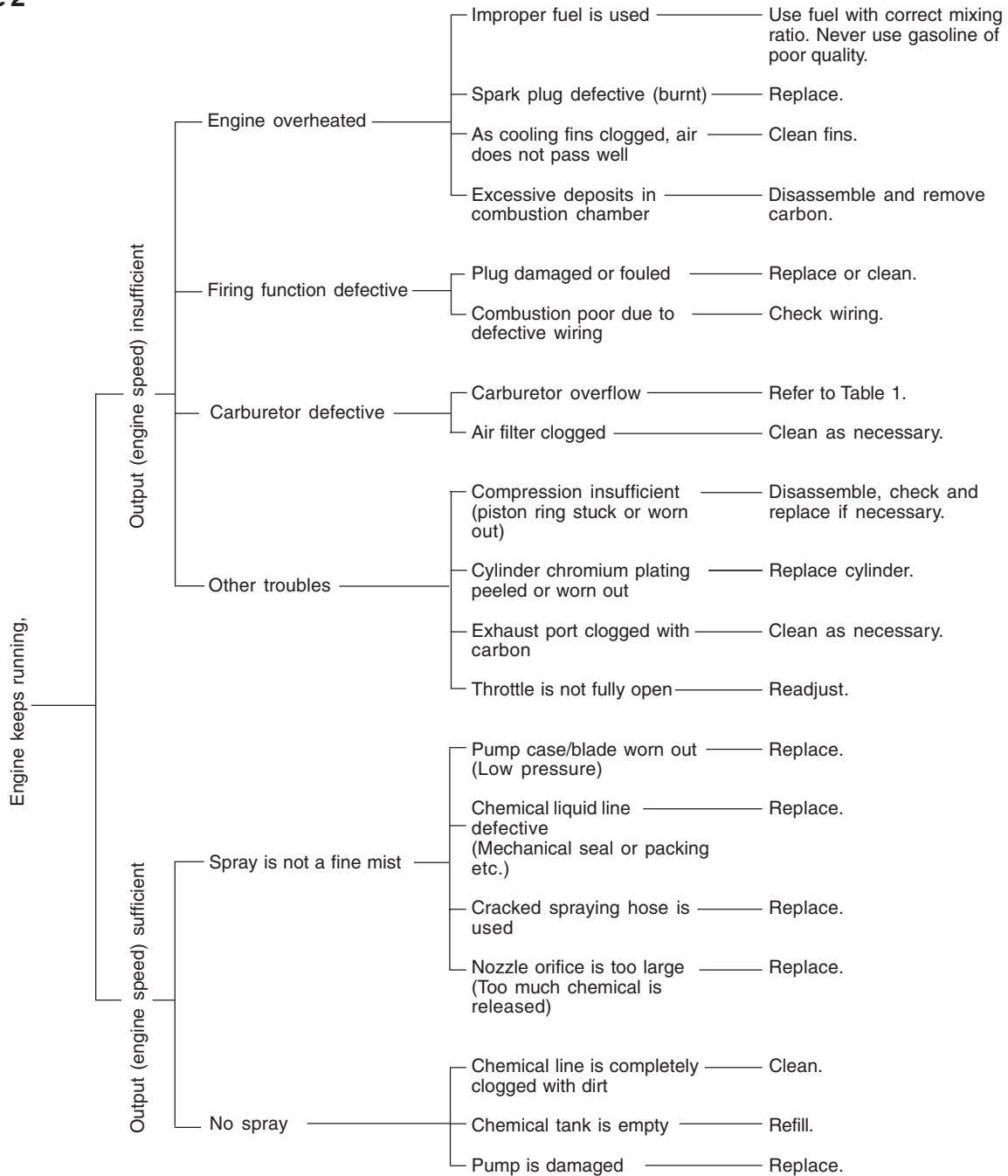


Table 2



WARNING DANGER

FUEL VAPORS ARE EXTREMELY FLAMMABLE AND MAY CAUSE FIRE AND/OR EXPLOSION. NEVER TEST FOR IGNITION SPARK BY GROUNDING SPARK PLUG NEAR CYLINDER PLUG HOLE, OTHERWISE SERIOUS PERSONAL INJURY MAY RESULT.

STORAGE AFTER USE

- Drain remaining liquid out of the chemical tank.
- Inspect and adjust every part of the sprayer.
 - Completely clean every part, and repair, if necessary.
 - Apply thin coating of oil on metal parts to prevent rust.
 - Remove spraying hose and pipe.
- Drain fuel tank, pull starter slowly a few times to drain fuel from carburetor.
- Pour a small amount of clean motor oil into spark plug hole, pull starter and crank the engine until the TOP DEAD CENTER.
- Store in a dry area, free from dust.

TECHNICAL DATA

Dimension	L × W × H	mm (in.)	330 × 405 × 590 (13.0 × 15.9 × 23.2)
Mass	w/o Spraying hose and nozzle	kg (lb)	7.4 (16.3)
Capacity	Chemical liquid tank	L (gal.US)	19.0 (5.0)
Engine	Type Displacement Rated speed Carburetor Ignition Spark plug Starter	mL (cu.in.) r/min	Air cooled, two stroke single cylinder 21.2 (1.3) 7500 ZAMA diaphragm type Flywheel magneto : CDI (Capacitor discharge ignition) system NGK BPM8Y Recoil starter
Fuel	Mixing ratio Tank capacity	L (fl.oz.US)	Mixture of gasoline (unleaded, 89 octane minimum) and specially blended 50 : 1 ECHO two cycle engine oil. 0.5 (16.9)
Pump	Type Discharge volume (Nozzle) Pressure	L/min (fl.oz.US/min) MPa kgf/cm ² (psi.)	Regenerative pump 0.8 - 7.0 (27 - 236.7) 0.6 - 1.0 6 - 10 (85.3 - 142.2)
Nozzle Spraying hose			2-head nozzle* 7.5 mm φ (Inner diameter)

* Technical data may be changed without advance notice.

* Other nozzles are available as optional supply.

WARRANTY STATEMENTS

ECHO LIMITED WARRANTY STATEMENT FOR PRODUCT SOLD IN USA AND CANADA BEGINNING 01/01/2010

ECHO'S RESPONSIBILITY

ECHO Incorporated's Limited Warranty, provides to the original purchaser that this ECHO product is free from defects in material and workmanship. Under normal use and maintenance from date of purchase, ECHO agrees to repair or replace at ECHO's discretion, any defective product free of charge at any authorized ECHO servicing dealer within listed below application time periods, limitations and exclusions. **THIS LIMITED WARRANTY IS ONLY APPLICABLE TO ECHO PRODUCTS SOLD BY AUTHORIZED ECHO DEALERS. IT IS EXTENDED TO THE ORIGINAL PURCHASER ONLY, AND IS NOT TRANSFERABLE TO SUBSEQUENT OWNERS EXCEPT FOR EMISSION RELATED PARTS.** Repair parts and accessories replaced under this warranty are warranted only for the balance of the original unit or accessory warranty period. Any damage caused by improper installation or improper maintenance is not covered by this warranty. All parts or products replaced under warranty become the property of ECHO, Inc. This warranty is separate from the Emission Control Warranty Statement supplied with your new product. Please consult the Emission Control Warranty Statement for details regarding emission related parts. For a list of Authorized ECHO Dealers refer to WWW.ECHO-USA.COM or call **1-800-432-ECHO**.

OWNER'S RESPONSIBILITY

To ensure trouble free warranty coverage it is important that you register your ECHO equipment on-line at WWW.ECHO-USA.COM or by filling out the warranty registration card supplied with your unit. Registering your product confirms your warranty coverage and provides a direct link if we find it necessary to contact you.

The owner shall demonstrate reasonable care and use, and follow preventative maintenance, storage, fuel and oil usage as prescribed in the operator's manual. Should a product difficulty occur, you must, at your expense, deliver or ship your ECHO unit to an authorized ECHO servicing dealer for warranty repairs (within the applicable warranty period), and arrange for pick-up or return of your unit after the repairs have been made. For your nearest authorized ECHO servicing dealer, call ECHO's Dealer Referral Center, at 1-800-432-ECHO or you can locate an ECHO servicing dealer at WWW.ECHO-USA.COM. Should you require assistance or have questions concerning ECHO's Warranty Statement, you can contact our Consumer Product Support Department at 1-800-673-1558 or contact us through the web at WWW.ECHO-USA.COM.

PRODUCT WARRANTY PERIOD

RESIDENTIAL APPLICATION

- **5 YEAR WARRANTY** - All units for residential, or non-income producing use will be covered by this limited warranty for **five (5) years** from date of purchase.

EXCEPTIONS:

- For two-stroke engine powered products, the electronic ignition module, flexible drive cables, SRM solid drive shafts, and TC tines are warranted for the **life*** of the product on parts only.
- Cutting attachments such as, but not limited to, bars, chains, sprockets, blades, and nylon trimmer heads for residential or non-income producing use will be covered for failures due to defects in material or workmanship for a period of **60 days** from original product purchase date. Any misuse from contact with concrete, rocks, or other structures is not covered by this warranty.
- ECHO's Rapid Loader String Head carries a lifetime warranty on the line locking system, parts only; no labor. Refer to your operator's manual for string head installation and maintenance instructions.
- All SB-Series and PRO ATTACHMENT SERIES Split Shaft attachments carry the same warranty duration as the units they are designed to fit.

COMMERCIAL APPLICATION

- **1 YEAR WARRANTY** - All Chain Saws, QuikVent Saws, and Cut-Off Saws for commercial, institutional, agricultural, industrial, or income producing use will be covered by this limited warranty for a period of **one (1) year** from the date of purchase.
- **2 YEAR WARRANTY** - All other units for commercial, institutional, agricultural, industrial, or income producing use will be covered by this limited warranty for a period of **two (2) years** from the date of purchase.

EXCEPTIONS:

- For two-stroke engine powered products, the electronic ignition module, flexible drive cables, SRM solid drive shafts and TC tines, are warranted for the **life*** of the product on parts only.
- Cutting attachments such as, but not limited to, bars, chains, sprockets, blades, and nylon trimmer heads for commercial, institutional, agricultural, industrial, rental, or income producing will be covered for failures due to defects in material or workmanship for a period of **30 days** from original product purchase date. Any misuse from contact with concrete, rocks, or other structures is not covered by this warranty.
- ECHO's Rapid Loader String Head carries a lifetime warranty on the line locking system, parts only; no labor. Refer to your operator's manual for string head installation and maintenance instructions.
- All SB-Series and PRO ATTACHMENT SERIES Split Shaft attachments carry the same warranty duration as the units they are designed to fit.

RENTAL APPLICATION - 90 DAYS WARRANTY

- Units for rental use will be covered against defects in material and workmanship for a period of 90 days from the date of purchase.

* ECHO's liability under the "Lifetime" coverage is limited to furnishing parts specified under the PRODUCT WARRANTY PERIOD section of this Warranty Statement for "**Life**" free of charge for a period of ten (10) years after the date of the complete unit's final production.

PURCHASED REPAIR PARTS, SHORT BLOCKS AND ACCESSORIES

- 90-day residential, or non-income producing warranty
- 30-day commercial, institutional, agricultural, industrial, income producing, or rental application warranty

ATTENTION TWO-STROKE ENGINE POWER PRODUCT OWNERS

This ECHO two-stroke engine power product is a quality-engineered unit which has been manufactured to exact tolerances to provide superior performance. To help ensure the performance of the unit, it is required to use two-stroke oil which meets the ISO-L-EGD Standard per ISO/CD 13738 and JASO M345-FC/FD Standards. **ECHO Power Blend X™ Two-Stroke Oil** is a premium two-stroke oil specifically formulated to meet ISO-L-EGD (ISO/CD 13738) and JASO M345-FC/FD Standards. The use of two-stroke oils designed for other applications, such as for outboard motors or lawnmowers can result in severe engine damage, and will void your two-stroke engine limited warranty.

THIS WARRANTY DOES NOT COVER DAMAGE CAUSED BY:

- Lack of lubrication or engine failure, due to the use of two-stroke oils that do not meet the ISO-L-EGD (ISO/CD 13738) and JASO M345-FC/FD Standards. Engine problems due to inadequate lubrication caused by failure to use an ISO-L-EGD compliant and JASO M345-FC/FD registered oil, will void the two-stroke engine limited warranty. **ECHO Power Blend X™ Two-Stroke Oil** meets the ISO-L-EGD and JASO M345-FC/FD Standard. Emission related parts are covered for 5 years residential use or 2 years commercial use regardless of two-stroke oil used, per the statement listed in the EPA or California Emission Defect Warranty Explanation.
- Damage caused by use of gasohol, containing methanol (wood alcohol), or gasoline containing less than 89 octane. Only use gasoline which contains 89 octane or higher. Gasohol which contains a **maximum** 10 % ethanol (grain alcohol) or 15 % MTBE (methyl/tertiary/butyl/ether) is also approved. The prescribed mixing ratio of gasoline to oil is listed on the ECHO oil label and covered in your operator's manual.
- Engine damage caused by use of ether or any starting fluids.
- Damage caused by tampering with engine speed governor or emission components, or running engines above specified and recommended engine speeds as listed in your operator's manual.
- Operation of the unit with improperly maintained/removed cutting shield or removed/damaged air filter.
- Damage caused by dirt, pressure or steam cleaning the unit, salt water, corrosion, rust, varnish, abrasives, and moisture.
- Defects, malfunctions or failures resulting from abuse, misuse, neglect, modifications, alterations, normal wear, improper servicing, or use of unauthorized attachments.
- Incorrect storage procedures, stale fuel, including failure to provide or perform required maintenance services as prescribed in the operator's manual. Preventative maintenance as outlined in the operator's manual is the customer's responsibility.
- Failures due to improper set-up, pre-delivery service or repair service by anyone other than authorized ECHO servicing dealer during the warranty period.
- Certain parts and other items are not warranted, including but not limited to: lubricants, starter cords, and engine tune-ups.
- Use of spark plugs other than those meeting performance and durability requirements of the OEM spark plug listed in the Operator's Manuals.
- Overheating or carbon scoring failures due to restricted, clogged exhaust port or combustion chamber, including damage to spark arrester screen.
- Adjustments after the first (30) thirty days and beyond, such as carburetor adjustment and throttle cable adjustment.
- Damage to gears or gear cases caused by contaminated grease or oil, use of incorrect type or viscosity of lubricants, and/or failure to comply with recommended grease or oil change intervals.
- Damage caused by loading SHRED 'N' VAC® beyond recommended capacity.
- Damage caused by pump or sprayer running dry, pumping or spraying caustic or flammable materials, or lack of or broken strainers.
- Additional damage to parts or components due to continued use after operational problem or failure occurs. Should operational problem or failure occur, the product should not be used, but delivered as is to an authorized ECHO servicing dealer.

It is a dealer's and/or customer's responsibility to complete and return the warranty registration card supplied with your ECHO product or by visiting WWW.ECHO-USA.COM. Your receipt of purchase including date, model and serial number must be maintained and presented to an authorized ECHO servicing dealer for warranty service. Proof of purchase rests solely with the customer. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so you may also have other specific legal rights which vary from state to state. This limited warranty is given by ECHO Incorporated, 400 Oakwood Rd., Lake Zurich, IL 60047.

DISCLAIMER OF IMPLIED WARRANTIES

This limited warranty is in lieu of all other expressed or implied warranties, including any warranty of FITNESS FOR A PARTICULAR PURPOSE OR USE and any implied warranty of **MERCHANTABILITY** otherwise applicable to this product. ECHO and its affiliated companies shall not be liable for any special incidental or consequential damage, including lost profits. There are no warranties extended other than as provided herein. This limited warranty may be modified only by ECHO.

ECHO INCORPORATED EMISSION CONTROL WARRANTY STATEMENT FOR ECHO BRAND

The Environmental Protection Agency (EPA) and the California Air Resources Board (C.A.R.B.) and ECHO Incorporated (ECHO Inc.) are pleased to explain the emission control system warranty on your 2010 and later equipment/small off-road engine (SORE). New equipment/SORE must be designed, built and equipped to meet stringent EPA and C.A.R.B. anti-smog standards. ECHO Inc. must warrant the emission control system on your equipment/SORE for the periods of time listed below, provided there has been no abuse, neglect or improper maintenance of your equipment/SORE. Your emission control system may include parts such as: carburetor, fuel-injection system, ignition system, catalytic converter/muffler, fuel tank, fuel feed lines, fuel cap assembly, spark plug, air filters, and other associated components. Where a warrantable condition exists, ECHO Inc. will repair your equipment/SORE at no cost to you including diagnosis, parts and labor. The Emission Control System Warranty is extended to the original owner including all subsequent owners.

MANUFACTURER'S WARRANTY COVERAGE:

The emission control system is warranted for 2 years or the length of the ECHO Inc. warranty, whichever is longer. If any emission-related part on your equipment is defective, the part will be repaired or replaced by ECHO Inc. or its Authorized Service Representative.

OWNER'S WARRANTY RESPONSIBILITIES:

As the equipment/SORE owner, you are responsible for the performance of the required maintenance listed in your Operator's Manual. ECHO Inc. recommends that you retain all receipts covering maintenance on your equipment/SORE however, ECHO Inc. cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance. As the equipment/SORE owner, you should be aware that ECHO Inc. may deny you warranty coverage if your equipment/SORE or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your equipment/SORE to an ECHO Inc. authorized service representative as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If a warrantable condition exists and there is no Authorized Dealer within 100 miles, ECHO Inc. will pay to ship the unit to the nearest authorized dealer. If you have questions regarding your warranty coverage, you should contact ECHO Inc. at 1-800-673-1558, web site WWW.ECHO-USA.COM.

WHAT DOES THIS WARRANTY COVER?

ECHO Inc. warrants that your equipment/SORE was designed, built and equipped to conform with applicable EPA and C.A.R.B. emissions standards and that your equipment/SORE is free from defects in material and workmanship that would cause it to fail to conform with applicable requirements for 2 years or the length of the ECHO Inc. warranty, whichever is longer. The warranty period begins on the date the product is purchased by an end user.

HOW WILL A COVERED PART BE CORRECTED?

If there is a defect in a part covered by this warranty, any ECHO Inc. Authorized Service Dealer will correct the defect. You will not have to pay anything to have the part adjusted, repaired or replaced. This includes any labor and diagnosis for warranted repairs performed by the dealer. In addition, engine parts not expressly covered under this warranty but whose failure is a result of a failure of a covered part will be warranted.

WHAT PARTS ARE COVERED?

Any applicable emission related part not scheduled for "required maintenance" will be repaired or replaced within the warranty period. The repaired or replaced part will be warranted for the remaining ECHO Inc. warranty period.

Any warranted part that is scheduled only for regular inspection in the written instructions supplied is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining ECHO Inc. warranty period.

Any emission related part scheduled for replacement during "required maintenance" is warranted for the period of time prior to the first scheduled replacement point for that part. Any such part repaired or replaced under warranty shall be warranted for the remainder of the period prior to the first scheduled replacement point for that part.

Any manufacturer-approved replacement part may be used in the performance of any warranty maintenance or repairs on emission related parts, and must be provided without charge if the part is still under warranty.

Any replacement part that is equivalent in performance and durability may be used in non-warranty maintenance or repairs, and shall not reduce the warranty obligations of the manufacturer.

Throughout the equipment/SORE warranty period, ECHO Inc. will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.

SPECIFIC EMISSION RELATED WARRANTED PARTS:

- Electronic Ignition System
- Catalytic Converter / Muffler Assembly
- Choke
- Fuel Tank
- Air Filter
- Spark Plug
- Carburetor (complete assembly or replaceable components)
- Fuel-Injection Assembly (or replaceable components)
- Fuel Cap Assembly
- Fuel Feed Line (and associated clamps/connectors as applicable)

WHAT IS NOT COVERED?

Any failure caused by abuse, neglect, improper maintenance, unapproved modifications, use of unapproved add-on parts/modified parts or unapproved accessories.

This Emission Control Warranty is valid only for the U.S.A., it's Territories, and Canada.

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