



ENLC52HC

Endura Gas Powered Lawn Comber Operator's Manual

Technical Support Hotline

English Service
T : 1-888-332-4012
F : 1-866-567-0956

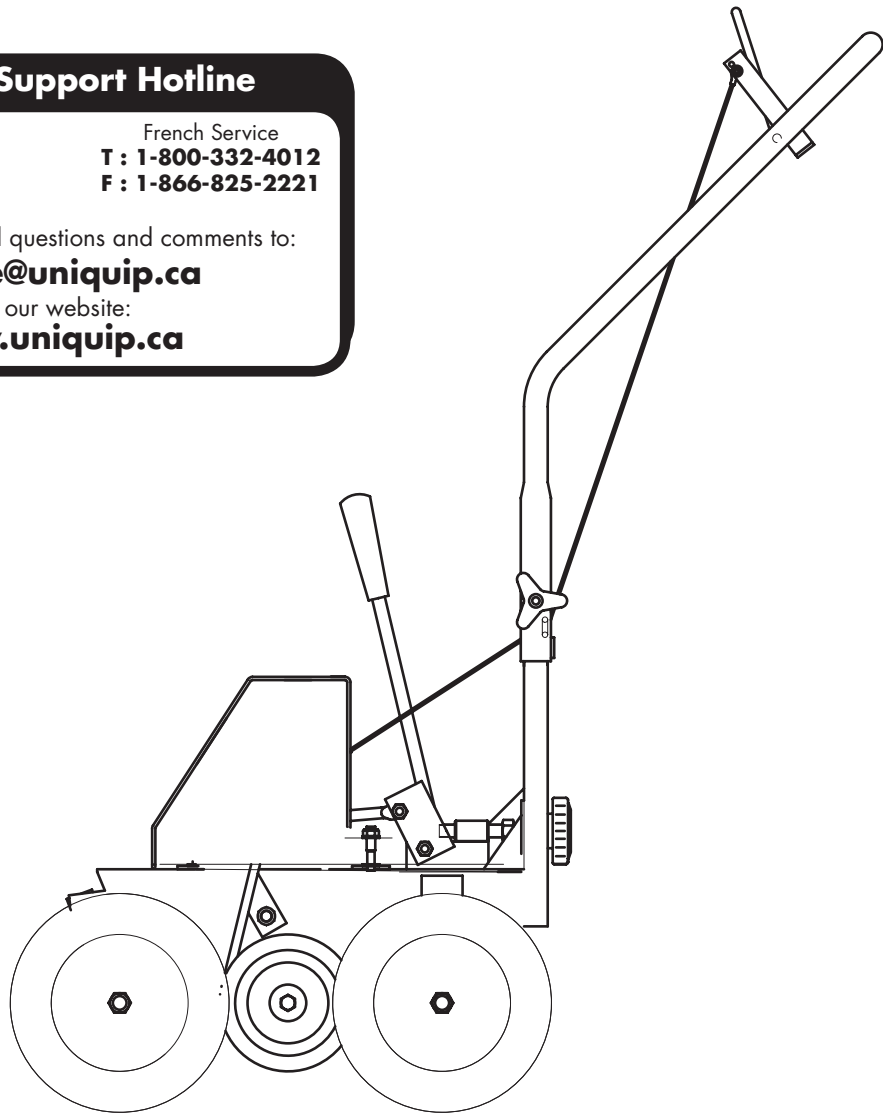
French Service
T : 1-800-332-4012
F : 1-866-825-2221

email your technical questions and comments to:

service@uniquip.ca

visit our website:

www.uniquip.ca



DO NOT operate this equipment until you have read and understood all the enclosed Operator's Manual.

READ ALL the sections in this manual PRIOR to attempting to service, maintain or operate this equipment.

Endura Warranty Statement

Uniquip Canada Inc. guarantees all Uniquip Endura Professional Lawn Combers to be free from any manufacturer's defects in material and workmanship for a period of one (1) year from the date of purchase. This warranty is exclusive of the engine (please consult the accompanying engine manual with your unit for details), and any normal wear and tear and/or consumable parts, such as, but not limited to, flails, spacers, clutch, clutch lining, drive belt, and throttle cable. All normal wear and tear and/or consumable parts are protected from manufacturer's defects in material and workmanship for a period of thirty (30) days from the date of purchase.

Endura Warranty Summary	Protection
1. Uniquip Endura Professional Lawn Comber Unit	1 year parts and labour
2. Uniquip Endura normal wear and tear parts or consumable parts	30 days parts and labour
3. Engine	Consult with engine manufacturer

To make a warranty claim within this time period, please contact the Service Manager at Uniquip Canada Inc., 1-888-332-4012, who will advise the validity and claim procedure. Once the claim has been accepted by Uniquip Canada, the unit and/or parts should be shipped to Uniquip Canada or the specified Authorized Service Centre at the customer's expense. Be sure to securely pack the unit and parts in a strong container. Damage in transit is not covered by this warranty. All approved repairs under this warranty will be returned by Uniquip Canada free of charge.

Warranties expressed in this document are void if repairs are attempted by anyone other than an Authorized Service Centre or Uniquip Canada or if the unit has been modified from original factory design in any way. This warranty is expressly conditional upon the customer's compliance with all precautions and instructions contained in this manual and excludes any claims made as a result of abuse, neglect, accident, normal wear and tear and misuse. This warranty is non-transferable.

Uniquip Canada Inc.'s liability under warranty is limited to repair of the product and/or replacement of parts and is given to the purchaser in lieu of all other remedies including incidental and consequential charges. There are no expressed warranties other than those specified herein.

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Endura Warranty Registration

Congratulations for choosing an Endura product to meet all your tough jobsite needs! Please file your original bill of purchase for this unit in a safe place. For warranty service of your Endura product, you will need to provide a copy of this document to confirm your warranty status.

Product registration is a key step toward enjoying your new Endura product! While registration is not necessary to enjoy our manufacturer's warranty, there are many benefits to participating in this program. Registration helps to facilitate warranty service, and notify you of any updates, changes, and service advisories on your product. Complete this Warranty Registration Card and fax it to 1-866-825-2221 or mail it to the address on the back of this card:

Warranty Registration Information

A. Ownership Information

Owner's Name:	
Company Name:	
Company Address:	
Company Telephone:	
Company Fax:	
Company E-Mail:	
Company Website:	

B. Machine Information

Machine Make:	
Machine Model #	
Machine Serial #	
Date of Purchase:	

C. Product Information Update

Can we contact you with any product-related news?	
Who should we contact?	
Contact Telephone:	
Contact Fax:	
Contact E-Mail:	
What is the preferred contact method?	

Fold along dotted line

Place
Stamp
Here

**Uniquip Canada Inc.
4101 boul. Industriel
Laval QC
H7L 6G9**

ATTN: SERVICE DEPARTMENT

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ENLC52HC

Endura Gas Powered Lawn Comber Operator's Manual

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i. Greater effort and physical exertion may be required to maneuver and control the balance of the machine.	13
ii. Uneven raking results from the shift in gravity leading to downhill flails working at a lower raking depth than the uphill flails which are working at a higher setting.	13
DO NOT operate this equipment until you have read and understood all the sections of the Operator's Manual for greater control and safety above for explanation and Diag. 1 below for diagram). Angle Lawn Comber such as service, maintain or operate this equipment.	13
READ ALL the sections in this manual PRIOR to attempting to	13



Pre-Operation Note

Thank you for your purchase of the Uniquip Endura ENLC52HC Professional Lawn Comber. This lawn comber has been designed and manufactured to our highest quality demands for durability and performance.

Uniquip Canada Inc. is committed to offering durable products and quality after-market service. The ENLC52HC Professional Lawn Comber is warranted to be free from manufacturer's defects in material and workmanship for a **period of one (1) year** from the date of purchase. This warranty will be void if the machine has not been operated and maintained in the manner prescribed in this Operator's Manual. Any machine malfunctions, and/or warranty claims that arise from the misinterpretation or the misunderstanding of the instructions and cautions discussed in this booklet **will not** be eligible for warranty protection.

In order for the lawn comber to perform at its optimum capabilities, the operator **must read this manual thoroughly before using this unit.** This Operator's Manual contains important product operation procedures, safety precautions, maintenance and troubleshooting tips as well as other advisories. Please keep this manual nearby when operating the lift as a reference should any questions arise.

The Endura ENLC52HC is a self-propelled lawn comber designed for dethatching established lawns and large grass covered areas. **DO NOT USE LAWN COMBER ON ANY OTHER SURFACE EXCEPT REAL GRASS LAWNS.** The machine should not be used for any other purpose than that stated above. The inappropriate use of any machine can cause serious damage and/or bodily harm to the environment and operator. It is **imperative** that the operator of this equipment **be responsible** for the operational environment of the lawn comber. Please be prepared and well-informed for all specific requirements precautions and work hazards that may and/or do exist at the jobsite.

Powered by a 5.5 hp Honda engine, the Endura ENLC52HC is a powerful unit driving 52 replaceable spring steel flails on a reel for thorough dethatching. For optimum results, ensure that the lawn is mowed to its normal cut height, and allowed to dry before commencing work. Power raking can damage wet grass, particularly young growth. Inspect your jobsite for any debris such as rocks, wiring, string or any other items that can become hazardous during work. Identify and mark all fixed objects to be avoided during work, such as sprinkler heads, water valves, buried cables, or clothes line anchors etc. The jobsite environment, soil conditions, job specifications and operator experience will all be factors that must be considered to select the proper tool for the job. Failure to maintain the lawn comber in a proper manner will lead to decreased productivity of the tool and hazards to the operator and bystanders. **Do not use the machine if it has been modified or improperly maintained.**

All jobsites are different. Please ensure that when using the Endura Lawn Comber, all local bylaws and codes are followed. All operators and mechanics of this machine should be trained in general machine use and safety.

Every care and effort has been made to ascertain the accuracy and completeness of procedures described in this document to ensure your enjoyment and satisfaction. If you have any questions or concerns, please contact the Service Department at Uniquip Canada Inc. at 1-888-332-4012.

Safety Precautions

1. READ AND UNDERSTAND OPERATOR'S MANUAL PRIOR TO USE OF LAWN COMBER

2. Before operating lawn comber, ensure that it is structurally and mechanically safe by checking the following:
 - a. Are all engine controls and the clutch action functioning within acceptable tolerances?
 - b. Is the drive belt in good condition?
 - c. Is the protective rubber skirt in place?



If any of the above checks fail, please take necessary steps to maintain or repair the unit before operating it in any environment.

3. Before using the lawn comber on proposed jobsite, perform the following environmental checks:
 - a. Inspect the entire work area for unexpected buried hazards, such as boulders, foundations, and fencing
 - b. Clean work area of any litter or debris, such as wire, boards, rocks, or any other potential hazards
 - c. Know and mark the location of any and all buried utility lines or sprinkler systems. If in doubt, always check with your local utilities provider for survey information and assistance.



Call your local utility company so that they can locate and mark these lines for you. Any cut electrical cable or gas line can result in injury or fatality.

- d. Check for ventilation in area. Do not operate the lawn comber or run the engine in unventilated areas.
ALWAYS OPERATE LAWN COMBER OUTDOORS!!

4. When operating the lawn comber, follow these guidelines for operator's personal safety:
 - a. Always wear proper safety clothing and equipment for the job. These can and should include eye and ear protection, gloves, dust mask and any other items that are appropriate for the job and jobsite requirements
 - b. Never wear any jewelry, neck ties, or other loose or hanging items that can be caught on any part of the machine
 - c. Tie back or remove any loose hair, clothing and any other potential hazards and obstructions
 - d. Keep all hands, loose clothing, hair, jewelry and all other personal parts and belongings away from moving parts of the machine.
 - e. Avoid coming in contact with the muffler and other engine parts after the engine is started and the time immediately after the machine is turned off. Machine and engine temperatures may exceed 150°F or 66°C. Machine must be allowed to cool before touching it or attempting to perform any maintenance!
5. For the safety of others and that of the operator, observe the following precautions:
 - a. Keep observers and bystanders away from the lawn comber and its immediate working environment (i.e.: the turf that is being dethatched etc.) while the machine is in use.
 - b. Stop operations or if anyone or anything (i.e.: humans, animals, debris etc.) approaches from the front or the sides while the machine is in operation.
 - c. Stop work and turn off the lawn comber if it hits any debris that jams the machine or causes it to labour unnecessarily. Inspect the lawn comber and surrounding environment for any possible causes.
 - d. If the machine is jammed, stop the engine and remove the sparkplug wire before attempting to clear any jams in the unit.
 - e. Never leave machine unattended
 - f. DO NOT, under any circumstances, operate machine if any of the following conditions are applicable:
 - i. Any impairment (i.e.: medical conditions, medicinal side-effects, alcohol, drugs etc.) of the operator.
 - ii. The operator has not read or understood the operator's manual for this machine.
 - iii. The operator does not clearly understand the operations of the machine.
 - iv. The machine is in need of repair
 - v. The operator is inappropriately attired to operate the machine.

Safety Precautions cont'd ...

6. Due to the nature of the machine and the tasks that it is designed to perform, the lawn comb may behave in the following manner:
 - a. Always start dethatching a safe distance away from any object such as a fence, foundation or any other structural obstructions. The flails could possibly catch and climb on the object.
 - b. Use extreme caution when operating lawn comb on uneven terrain. Do not risk the possibility of tipping over the machine or causing it to rollover.

SAVE THESE INSTRUCTIONS!!

Guide to Parts Breakdown

Regular maintenance and parts replacement are important steps to extending the life of your equipment and enjoying its optimum performance. When performing or conducting any maintenance or repairs, always check that your working surroundings are safe and well-ventilated and that the technician is familiar and comfortable with all aspects of the machine and required procedures.

This guide aims to serve as a representational guide to the ENLC52HC. Any other uses or application beyond the scope of this document are strictly prohibited. While every attempt has been made to maintain its accuracy, Uniquip Canada Inc. reserves the right to update and modify the equipment without prior notification. Prior to undertaking to perform any maintenance or repair procedures, please contact our Technical Support Hotline for clarification and to acquire appropriate parts.

To order spare parts, please provide the following information:

1. Machine Make
2. Model Number
3. Machine Serial Number
4. Quantity Required of Each Part
5. Part Numbers
6. Part Descriptions.

All Endura parts are guaranteed by a thirty (30) day warranty against any manufacturer's defects in workmanship and material. Consult page A in the Operator's Manual for further details on our Warranty Policy.

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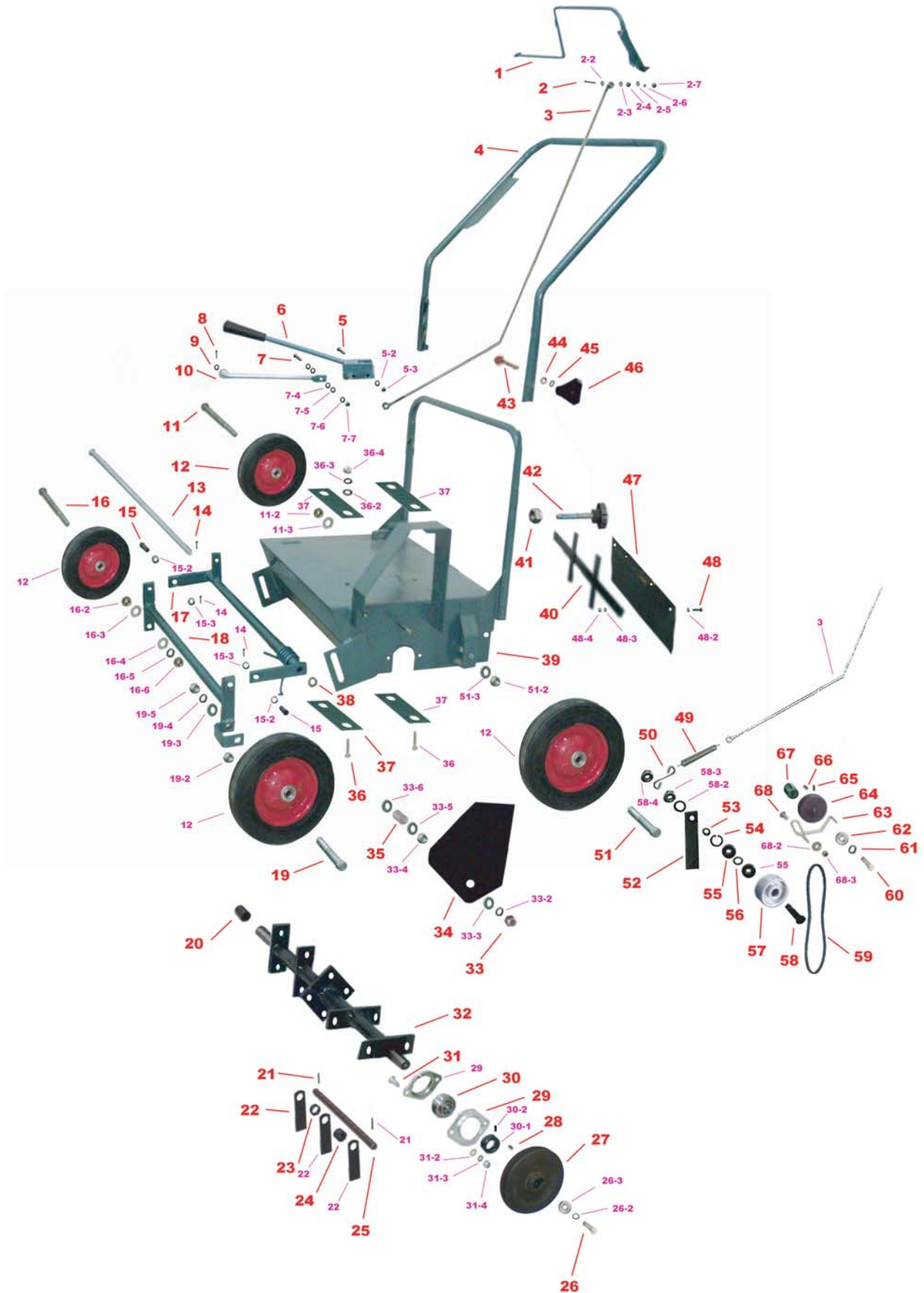
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Machine Parts Breakdown



Parts List

Part #	Diagram Reference #	Name	QTY Required	Qty incl. per Endura Kit
ENLC52-01	1	Clutch Handle	1	1
ENLC52-02	2	Clutch cable with hardware	1	1
	2-1		1	1
	2-2		1	1
	2-3		1	1
	2-4		1	1
	2-5		1	1
	2-6		1	1
	2-7		1	1
	3		1	1
ENLC52-03	4	Folding Handle	1	1
ENLC52-04	5	Lever Kit with Hardware	1	1
	5-1		1	1
	5-3		1	1
	5-2		1	1
	6		1	1
ENLC52-05	7	Push Rod Kit	1	1
	7-1		1	1
	7-2		1	1
	7-3		1	1
	7-4		1	1
	7-5		1	1
	7-6		1	1
	7-7		1	1
	8		1	1
	9		1	1
10	1	1		
ENLC52-06	11	Right Rear Wheel Pin Kit	1	1
	11-1		1	1
	11-2		1	1
	11-3		1	1
	11-4		1	1
	11-5		1	1
	11-6		1	1
ENLC52-07	51	Left Rear Wheel Bolt Kit	1	1
	51-1		1	1
	51-2		1	1
	51-3		1	1
	51-4		1	1
	51-5		1	1
	51-6		1	1

Parts List cont'd ...

Part #	Diagram Reference #	Name	QTY Required	Qty incl. per Endura Kit
ENLC52-08	12	8" Semi-Pneumatic Wheel	4	1
ENLC52-09	13	Torque Arm Assembly with Trunnion Kit	1	1
	14		1	1
	15		2	2
	15-1		2	2
	15-2		2	2
	15-3		4	4
	17		1	1
	38		1	1
ENLC52-10	18	Front Wheel Axle	1	1
ENLC52-11	16	Right Front Wheel Pin Kit	1	1
	16-1		1	1
	16-2		1	1
	16-3		1	1
	16-4		1	1
	16-5		1	1
	16-6		1	1
ENLC52-12	19	Left Front Wheel Pin Kit	1	1
	19-1		1	1
	19-2		1	1
	19-3		1	1
	19-4		1	1
	19-5		1	1
ENLC52-13	20	3/4" Plastic End Cap	1	1
ENLC52-14	21	Spring Clips (set of 8) for Rotor Shaft	8	1
ENLC52-15	21	Shaft Set with Spring Clips	8	8
	25		4	4
ENLC52-16	22	Flail Blade (4 sets of 13)	52	13
ENLC52-17	23	Small Rubber Blade Spacers	4	1
ENLC52-18	24	Large Rubber Blade Spacers	44	11
ENLC52-19	26	5" V-pulley with Bushing Kit	1	1
	26-1		1	1
	26-2		1	1
	26-3		1	1
	27		1	1
ENLC52-20	28	3/4" Bearing with Locking Collar	1	1
	30		2	2
	30-1		2	2
	30-2		2	2

Parts List cont'd ...

Part #	Diagram Reference #	Name	QTY Required	Qty incl. per Endura Kit
ENLC52-21	29	3/4" Bearing Kit	2	2
	31		4	4
	31-1		4	4
	31-2		4	4
	31-3		4	4
	31-4		4	4
ENLC52-22	32	Rotor Assembly	1	1
ENLC52-23	33	Shield Assembly	1	1
	33-1		1	1
	33-2		1	1
	33-3		1	1
	33-4		1	1
	33-5		1	1
	33-6		1	1
	34		1	1
	35		1	1
ENLC52-24	36	Engine Bolt Kit	4	4
	36-1		4	4
	36-2		4	4
	36-3		4	4
	36-4		4	4
	37		4	4
ENLC52-25	39	Housing	1	1
ENLC52-26	41	Height Adjustment Kit	1	1
	42		1	1
ENLC52-27	43	Handle Attachment Kit	2	1
	44		2	1
	45		2	1
	46		2	1
ENLC52-28	40	Rear Deflector Support Kit (includes Support Bar and Attachment Kit)	1	1
	47		1	1
	48		1	1
	48-1		4	4
	48-2		4	4
	48-3		4	4
	48-4		4	4

Parts List cont'd ...

ENLC52-29	49	Complete Pulley and Clutch Kit	1	1
	50		1	1
	52		1	1
	53		1	1
	54		1	1
	55		2	2
	56		1	1
	57		1	1
	58		1	1
	58-1		1	1
	58-2		1	1
	58-3		1	1
	58-4		1	1
ENLC52-30	59	31" V-belt	1	1
ENLC52-31	60	Belt Keeper Kit	1	1
	61		1	1
	62		1	1
	63		1	1
	68		1	1
	68-1		1	1
	68-2		1	1
68-3	1	1		
ENLC52-32	64	2.5" V-pulley Kit	1	1
	65		1	1
	66		1	1
	67		1	1

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Information on Safety Decals

Below are the decals available for re-ordering to facilitate maintenance. All decals are available for replacement except that with the serial number of the unit for each number serves as a unique identifier for warranty and support purposes.

If you have any questions, please do not hesitate to contact Uniquip Canada at 1-888-332-4012 for further assistance.



ENLC52HC-CAL: Qty Required = 1



ENLC52HC-SERVICE: Qty Required = 1



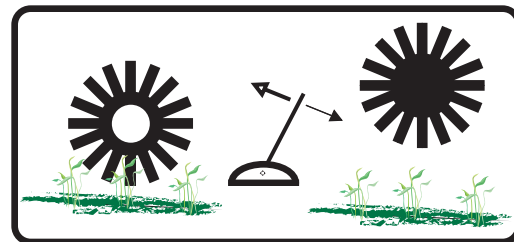
ENLC52HC-FOOT: Qty Required = 1



ENLC52HC-NAME: Qty Required = 1

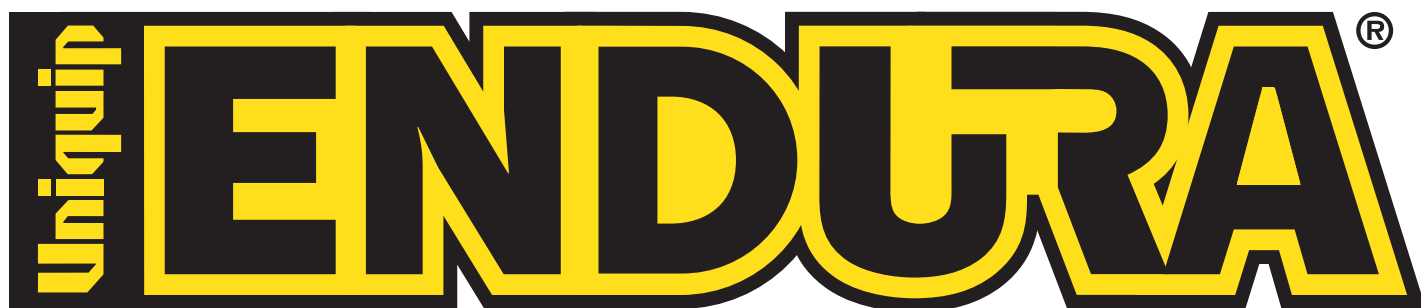


ENLC52HC-OPERATOR:
Qty Required = 1



ENLC52HC-LEVER: Qty Required = 1

ENLC52HC-LOGO:
Qty Required = 1



Contents List



Prior to setting up the ENLC52HC Professional Lawn Comber, check that the following items are enclosed:

Item	Quantity	Check if enclosed
ENLC52HC Endura Professional Lawn Comber Unit	1	___Yes ___No
ENLC52HC Endura Professional Lawn Comber Unit Handle & Clutch Handle (ENLC52-03 & ENLC52-01)	1	___Yes ___No
Uniquip ENLC52HC Endura Professional Lawn Comber Operator's Manual	1	___Yes ___No
Original Engine Manufacturer's Manual	1	___Yes ___No

If any of these items are missing, please contact 1-888-332-4012 and ask for the Service Manager at Uniquip Canada Inc. at once.

DO NOT ATTEMPT ASSEMBLY OR OPERATION WITHOUT ANY OF THESE LISTED PARTS!

Setting Up the ENLC52HC Lawn Comber

1. Cut away and remove box from lawn comber.
 - a. The Lawn Comber is a heavy unit. **DO NOT ATTEMPT TO MANUALLY LIFT FROM BOX ALONE!**



MAKE sure that **BOTH** people lifting the machine are capable of lifting at least 100 lbs/45.36 kgs individually!!
NEVER ATTEMPT TO LIFT THE MACHINE WITH ONLY ONE PERSON!!

2. Fold handle into upright position.
3. Verify that all bolts are tightened to secure handle to unit.
4. Attach clutch cable to handle.
5. Ensure that clutch cable is connected correctly by testing the clutch spring. It should stretch from $\frac{3}{4}$ " (1.9 cm) to 1" (2.54 cm) maximum and releases easily.
6. Check engine to ensure that it is filled with oil.
7. Verify with Engine Manufacturer's Manual for any further procedures to prepare engine for use.

Pre-Operation Procedures

Before using the Endura ENLC52HC Professional Lawn Comber, please perform the following procedures for the personal and property safety of the operator and jobsite and for optimal performance.

1. Before operating the lawn comber ensure that it is structurally and mechanically safe by checking the following:
 - a. Perform a detailed visual inspection on the machine with particular attention to the following:
 - i. Are there any loose, worn or damaged parts? If so, **DO NOT ATTEMPT TO OPERATE THE MACHINE**. Make note of required parts, and contact Uniquip Canada for replacement parts and further assistance to service the unit **PRIOR** to any further use.
 - ii. Is the machine, particularly the flails and rotor, clean and free of debris? Small rocks and other foreign objects can jam machine and cause the unit to malfunction, leading to serious injury to the operator and property damage on the jobsite.
 - iii. Are there any cracks or damage on the engine? Consult with the engine manufacturer's manual for guidelines and instructions on service. **DO NOT ATTEMPT TO OPERATE THE MACHINE** until engine is refurbished to engine factory standards.

Pre-Operation Procedures cont'd ...

- iv. Are the flails engaged in the traveling position (i.e: raised from the working surface)? Ensure that the rotor is securely raised away from the working surface until arrival at jobsite. Moving the lawn comber with the flail and rotor in the lowered working position can damage the unit and jobsite.
- b. Inspect the handle for the following:
 - i. Is the handle properly and securely attached to the machine?
 - ii. Is the handle set in the correct operating position?
- c. Consult the "Recommended Maintenance Schedule" section of this manual and verify that:
 - i. The wheels, zerks and carriage are lubricated and in good condition.
 - ii. The rotor and flails are clean and not in need of replacement. Consult the "Maintenance and Service" section of this manual for guidelines and instructions on when and how to change the flails.
 - iii. The drive belt is in good condition and set to the appropriate tension. Consult the "Maintenance and Service" section of this manual for guidelines and instructions on taking care of the belt.



If any of the above checks fail, please take necessary steps to maintain or repair the unit before operating it in any environment.

- 2. Before operating the lawn comber, perform the following environmental checks:
 - a. Is the ground where the lawn comber will be operating level and solid? If it is a slope of more than 35% grade, please refer to "Dethatching on Inclined Surfaces" under the "Operation Procedures" section of this manual.
 - b. Has the lawn been cleared of debris such as string, wire, rocks, metal and other materials? Such items could cause malfunction or damage to the lawn comber that could also be potentially hazardous to the machine and operator.
 - c. Are all obstructions such as sprinkler lines, electrical boxes, fences etc. clearly marked?

Operation Procedures

A. Transporting the ENLC52HC

- 1. Loosen bolt on handle until handle folds over the engine and rests against the machine.
- 2. Working with a partner, lift the unit to the transportation vehicle.
 - a. ALWAYS use safe lifting techniques to avoid back or muscle injury! Consult your local health and safety organization for tips and best practices for moving heavy machinery.
 - b. The ENLC52HC is a HEAVY machine. The net weight is 138 lbs/62.60 kgs.



MAKE sure that **BOTH** people lifting the machine are capable of lifting at least 100 lbs/45.36 kgs individually!!
NEVER ATTEMPT TO LIFT THE MACHINE WITH ONLY ONE PERSON!!

B. Preparing to dethatch

- 1. For optimum results, make sure that the ground is dry. Dethatching a wet lawn can damage grass roots, thus adversely affect lawn growth and health
- 2. Mow the lawn to its normal cut height. Check for depth of thatch by removing several sample plugs from the work area. If thatch is deeper than ¾" (1.9 cm), two separate rakings are recommended (once in the spring and again in the fall) so as not to traumatize established lawn growth.
- 3. Check for the slope of any inclined area. This machine is not recommended on use on slopes with more than 35% grade.
- 4. Before operating the Lawn Comber, check that the engine is in good order in accordance with the engine manufacturer's handbook.

Operation Procedures cont'd ...

C. Dethatching on Flat Surfaces

1. Set flail depth such that they just touch a flat surface, such as pavement.



DO NOT SET FLAILS LOWER THAN NECESSARY!

Lower flail settings will produce **neither** better results **nor** speed up the dethatching process. Inappropriate flail settings will cause premature wear on the unit, such as failed drive belts.

2. Start engine and engage clutch to comfortable walking speed for the operator to maintain control of the lawn comber at all times.
3. Test the setting of the flails by dethatching a small area. Raise the depth setting if the following conditions occur:
 - a. Engine RPM suddenly drops to extremely low levels
 - b. Unit pulls forward, bounces roughly or otherwise becomes difficult to control
 - c. Grooves are left in the lawn by the lawn comber
4. Thatch should be easily raked and deposited on top of healthy grass. If significant amounts of healthy grass are also removed in the process, adjust flail depth to decrease damage. If the lawn is covered by heavy thatch, lean on handle to raise front wheel slightly, engage the clutch, then SLOWLY lower dethatcher into ground.
5. Once appropriate flail depth is set, push the lawn comber in one constant direction and dethatch.
6. Engage clutch control and release to stop lawn comber.



ALWAYS keep flails RAISED where there is any possibility of crossing hard objects or surfaces such as rocks, pavement, etc.)

7. To turn the lawn comber, push down on handle to raise rotor and flails from turf and pivot on back wheels.
8. Remove and dispose of thatch after raking prior to any further lawn treatments

D. Dethatching on Inclined Surfaces

1. When operating on inclines, note the following:
 - a. THIS MACHINE IS NOT DESIGNED FOR USE ON INCLINES OF MORE THAN 35% GRADE.

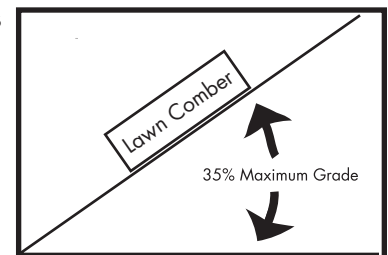


IF MACHINE IS USED ON EXTREME INCLINES, THE MACHINE MAY BECOME UNBALANCED TO THE POINT OF PRESENTING THE DANGER OF ROLLING OVER.

- b. Dethatching on inclines will cause the centre of gravity of the unit to shift to the downward side of the machine. The following conditions may occur as a result:
 - i. Greater effort and physical exertion may be required to maneuver and control the balance of the machine.
 - ii. Uneven raking results from the shift in gravity leading to downhill flails working at a lower raking depth than the uphill flails which are working at a higher setting.
2. Consider the following tips for dethatching on inclines:
 - a. Move machine across hills rather than up and down on the hill for greater control and even dethatching. (see above for explanation and Diag.1 below for diagram). Angle Lawn Comber such that it is 45° to the slope. Raking across hills helps to prevent water runoff, and allows the lawn to hold more seed, fertilizer and water to encourage healthy growth.



Disengage tines from ground only when machine is on a flat surface.
NEVER DISENGAGE TINES WHEN TRAVELLING UP OR DOWN INCLINES.



Diag.1: Dethatching on inclined site

Storing the ENLC52HC

1. Ensure that the area in which the machine will be stored is well-ventilated and free of any potential fire hazards such as open flames, gas appliances, furnaces, water heaters, and other appliances.
2. Clean and lubricate machine prior to storage.
3. Lightly lubricate flails and rotor to inhibit rusting.
4. Touch-up any scratches or damaged area exposing metal to the elements.
5. Order and re-apply any safety labels. Refer to "Information on Safety Decals" in "Parts Breakdown Section" of the manual for placement and parts numbers.
6. Verify with engine manufacturer's handbook for guidance on preparing engine for storage.
7. Store unit in transport position (see "Transporting the ENLC52HC" in "Operation Procedures" section)
8. Store the machine in a covered or indoor storage area for increased protection and longevity.

Maintenance Procedures

This section encompasses two general types of maintenance: 1. Preventative Maintenance and 2. General Service. The first refers to regularly scheduled routine care of the lawn comb, such as cleaning and lubrication. The second provides information on common procedures, such as changing flails, and adjusting the drive belt that are to be performed as needed.

By following the Inspection Schedule below BEFORE and AFTER each use of the lawn comb, appropriate actions can be taken to extend the service life of the machine and reduce any costly repairs and unnecessary downtime for the unit.



All service should be performed by trained technicians.

A. Inspection Schedule

The following list aims offer some basic guidelines to performing a detailed inspection BEFORE and AFTER each use. Certain checks will require some disassembly, i.e. the removal of the drive guard, to perform. Depending on various environmental conditions and frequency of use, other inspection points may have to be added for each machine.

Item	Yes	No
Is the engine oil filled to recommended levels? Consult Engine Manufacturer's Manual.		
Is the engine air cleaner properly attached and clean? Consult Engine Manufacturer's Manual.		
Is the clutch cable properly attached? Refer to p.11 "Setting up the Lawn Comber" for details.		
Is the clutch cable worn or visibly damaged? Replace if necessary.		
Is the drive belt tension set properly? Refer to p.17 "Replacing Drive V-Belt and Pulley" for details.		
Does the drive belt show signs of wear and tear? Replace if necessary.		
Are all the flails in good condition? Are any flails worn down to minimum length of 3"/7.6 cm? If so, have they been replaced?		
Are the spring clips which secure the flails and rotor shaft in good condition? If so, make sure that the sprockets will be replaced before any further use as worn sprocket can lead to chain slippage and other mechanical issues that may cause serious harm to the jobsite and/or bodily damage to the operator.		
Is the carriage securely fastened and free of all debris? Lingering debris may lead to premature wear on the machine and shorten performance life.		
Are the safety warning labels and other decals clearly identifiable and legible? If not, ensure that fresh decals will be re-applied prior to use for operator safety.		
Is the frame and handle in good condition with no visible damage or rusting? If not, contact Uniquip Canada to replace machine prior to further use.		

Maintenance Procedures cont'd ...

B.Preventative Maintenance Procedures

Maintaining a regular cleaning and lubrication schedule as well as taking time to perform preventative maintenance procedures will prolong the service life of the ENLC52HC. The following are guidelines to setting up a regular maintenance routine for the lawn comber.

1.Cleaning the ENLC52HC

- i.After each use, the lawn comber, in particular the flails and rotor assembly, should be cleaned and washed of any dirt or debris that may be trapped in the unit.
- ii.When using a power pressure washer to clean the unit, **DO NOT USE ANY MACHINE RATED HIGHER THAN 1000 PSI.**
- iii.Beware of damaging any warning decals and labels, as well as the drive belt, bearings and engine. Limit direct spray on these objects to help prevent their wear and tear.
- iv. For easier access to cleaning the lawn comber, the machine may be tipped on its engine guard for **NO MORE THAN 2 MINUTES.** Engine damage may result from gasoline flowing into the crankshaft due to prolonged tipping.

2.Lubrication Schedule

Regularly scheduled lubrication of the wheels, flails & rotor assembly, and linkage joints in the carriage is essential to smooth performance and extended equipment life. The following schedule is a recommended guide to lubricating your ENLC52HC. The schedule should be adjusted for various environmental conditions and frequency of use.

Item	Suggested Lubricant	Every 20 hours	Every 60 hours	As required	After each pressure wash	Storage
Engine	Refer to Owner's Manual for Engine			✓		
Depth Adjustment Lever	General Purpose Spray Lubricant	✓		✓		
Wheels	Lithium-based Grease		✓	✓	✓	✓
Folding Handle Attachment Kits	General Purpose Spray Lubricant	✓		✓	✓	✓
Flails & Rotor	General Purpose Spray Lubricant			✓	✓	✓
Linkage	General Purpose Spray Lubricant	✓		✓	✓	✓
Zerks	General Purpose Spray Lubricant			✓	✓	✓



Technician should read and thoroughly understand all manuals pertaining to the machine to be serviced. Do NOT proceed with any service and maintenance activity until ALL questions and concerns have been addressed. Please call Uniquip Canada at 1-888-332-4012 for technical support and advice.



ALWAYS consult and verify that all local codes and bylaws are followed before performing any service or maintenance procedures.

Maintenance Procedures cont'd ...

C.General Service Procedures

The following are general guidelines for servicing common wear components on the ENLC52HC lawn comb. **ALL MAINTENANCE AND SERVICE WORK MUST BE PERFORMED BY A TRAINED AND EXPERIENCED TECHNICIAN.** Ensure that the work area is clean and free of debris prior to starting any maintenance or service work. Small particles may become trapped in key components that may lead to serious damage to the machine and cause severe bodily harm to the operator or technician.

Before performing any service and maintenance procedures, consult these general safety procedures for a safe working environment.

1. Make sure that both the engine and lawn comb are cool prior to any service or maintenance work.
2. Verify that work area is clean and free of any debris, tripping or fire hazards, and other potential sources of danger.
3. Always wear proper safety clothing and equipment for the job. These can and should include eye and ear protection, gloves, dust mask and any other items that are appropriate for the job and jobsite requirements.
4. Ensure that the technician has tied back or remove any loose hair, clothing and any other potential hazards and obstructions.
5. Disconnect spark plug.



Use Endura brand-name parts for compatibility and optimum performance. Use of any other parts prior to consulting with Uniquip Canada will void all warranties expressed herein.

1. Maintaining Flail Blades

Flails are a normal wear and tear item. There are two procedures that apply to the maintenance of flails:

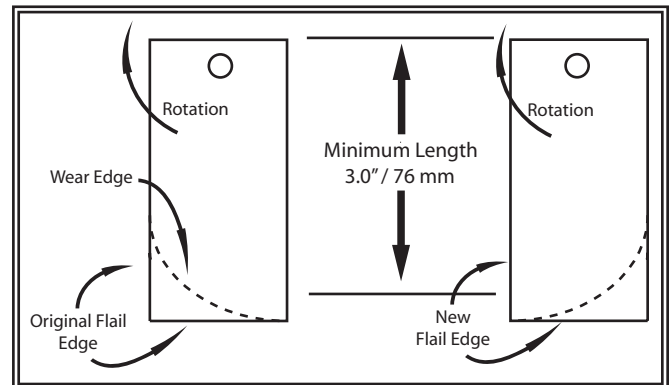
- a. If the striking edge of the flails are dulled by use (see diagram 2), rotate the rotor end to end for fresh blades.

OR

- b. Replacing the flails when they have reached the wear limits on diagram 2.

A. Rotating Rotor End to End

1. Fold handle over lawn comb and with the assistance of another person, lift lawn comb to work bench.
2. Brace wheels to prevent the machine from rolling or otherwise moving on work area.
3. Disconnect spark plug.
4. Remove drive guard. (Fig.1)
5. Remove drive pulley and drive belt. (Fig.2)
6. Remove and set aside bearing kits from either side of machine. (Fig.3)
7. Lift lawn comb away to reveal flail and rotor. (Fig.4)



Diag.2: Flail Maintenance Reference

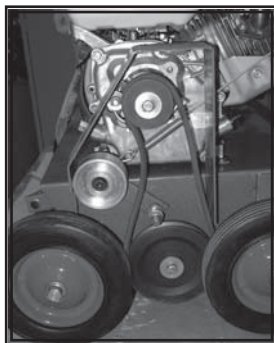


Fig.1: Remove drive guard.

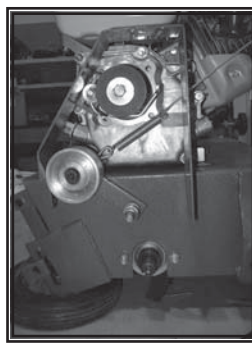


Fig.2: Remove drive pulley and drive belt

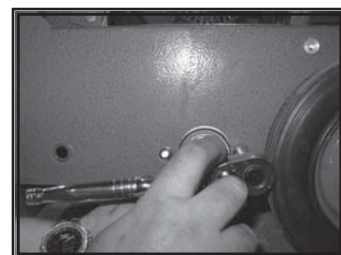


Fig.3: Remove rotor bearing kits

Maintenance Procedures cont'd ...

A. Rotating Rotor End to End cont'd

8. Inspect rotor shaft, bearings, flail length, safety clips and spacers for any sign of wear or damage.
9. If components pass inspection, rotate rotor end to end.
10. Reinstall bearing kits, taking care to tightly secure bolts.
11. Replace drive pulley, drive belt and belt guard.
12. Reconnect spark plug prior to starting lawn comb.

B. Replacing Blade Sets

1. Follow steps 1 to 7 for "Rotating Rotor End to End"
2. Remove rotor from lawn comb. (Fig 4.)
3. Remove bearing kits and spring clips (Fig 5.) from either side of rotor.
4. Slide blades and rubber spacers out. Discard worn blade and spacer sets.



For uniform performance and ease of maintenance management, it is recommended that flails (ENLC52-16) and spacers (ENLC52-17 (small) & ENLC52-18 (large)) are changed as complete sets along with the shafts and spring clip kit (ENLC52-16). Each kit contains enough parts to change 1 of 4 sections on the rotor. To completely refresh the set, order 4 of each kit.

Spring clips are available individually (ENLC52-14) for quick maintenance.

5. Inspect rotor shafts, and spring clips for any sign of wear or damage (ie: if shafts are bent). Replace with fresh sets as required.
6. Install new blades and spacers as per parts breakdown diagram.
7. Secure shaft with spring clips. (Fig 6.)
8. Verify that bearing kits (ENLC52-20) on both ends of the rotor are in good repair. Replace if necessary.
9. Follow steps 10 to 12 for "Rotating Rotor End to End" to reassemble lawn comb.

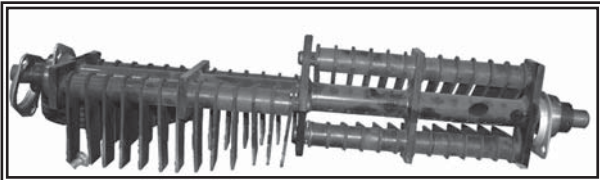


Fig.4: Flail and rotor assembly

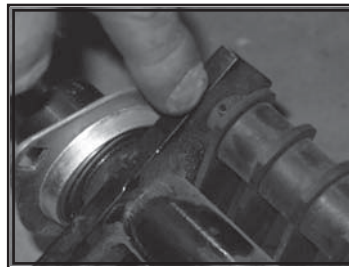


Fig.5: Spring Clip Location

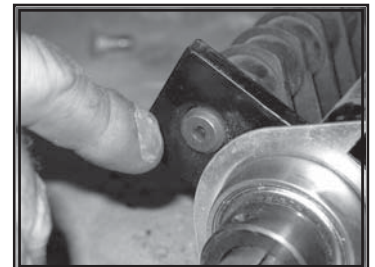


Fig.6: Secure flails, spacers and shaft after replacing components

2. Replacing Drive V-Belt and Pulley

1. Follow steps i. to iv. for "Rotating Rotor End to End"
2. Remove old v-belt and both the 2.5" V-pulley (ENLC52-32) and 5" V-pulley (ENLC52-19).
3. Discard belt and inspect both pulleys and belt keeper kit (ENLC52-31) for any wear or damage. Pivot arm should be free with no more than 0.25"/0.635 cm side play. Roller bearing should rotate smoothly and freely. Replace complete kit if necessary.
4. Check that both 2.5" and 5" pulleys are aligned with each other. Install new v-belt (ENLC52-30) by looping over 5" v-pulley on the bottom first, then over 2.5" v-pulley on top. Ensure that belt is in proper position inside both belt idler and keeper. (Fig.7 & 8)
5. Replace belt guard, reconnect spark plug and reattach handle prior to operation.

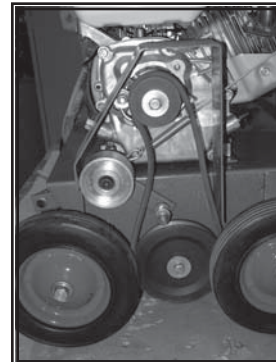


Fig.7: Correct drive belt placement

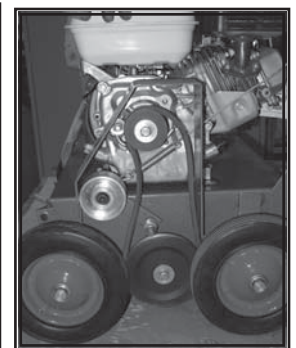


Fig.8: Incorrect drive belt placement

Troubleshooting

Often, small problems can occur in daily operation of any machine. The following troubleshooting guide aims to address common issues and offer suggestions on how to correct such problems.

Please review this guide before requesting service. Small problems can often be fixed simply by following these guidelines. If there are any further questions or concerns, please do not hesitate to contact Uniquip Canada at 1-888-332-4012 for assistance!

Problem	Possible Causes	Suggested Solutions
Engine stalls or labours when raking	Flails set too low to ground.	Raise flails such that they just skim the ground when level.
Abnormal or excessive vibration	Damaged or missing flails Loose handle bolts Loose engine bolts	STOP WORK IMMEDIATELY Replace any damaged or missing flails and tighten all bolts and nuts.
Engine will not start	Stop switch is off. Throttle in "off" position. Engine not in full choke position. Out of gasoline. Bad or old gasoline. Spark plug wire is disconnected or improperly connected. Engine oil level too low (Oil Alert). Dirty air cleaner	Check that all switches are on. Verify that throttle and choke position are in proper setting. Fill gas tank up. Empty and dispose of bad/old gasoline as per local bylaws. Refill with new gasoline. Reconnect spark plug wire. Refill engine oil. Clean or replace air filter.
Engine is locked and will not pull over	Debris locked up against rotor assembly and/or drive pulleys. Engine problem.	Disconnect spark plug wire and remove debris prior to restarting machine. Refer to engine owner's manual for instructions on any engine problems.
Unit does not move when clutch is engaged	Drive belt out of adjustment. Loose or damaged drive pulleys. Damaged or broken clutch cables.	Refer to "Maintenance Procedures" in this manual for further details. Contact Uniquip Canada at 1-800-332-4012 for further assistance.



ALWAYS MAKE SURE THAT THE MACHINE IS TURNED OFF AND ON STABLE GROUND PRIOR TO PERFORMING ANY SERVICE OR TROUBLESHOOTING PROCEDURES.

Technical Support Hotline

English Service
T : 1-888-332-4012
F : 1-866-567-0956

French Service
T : 1-800-332-4012
F : 1-866-825-2221

email your technical questions and comments to:

service@uniquip.ca

visit our website:

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