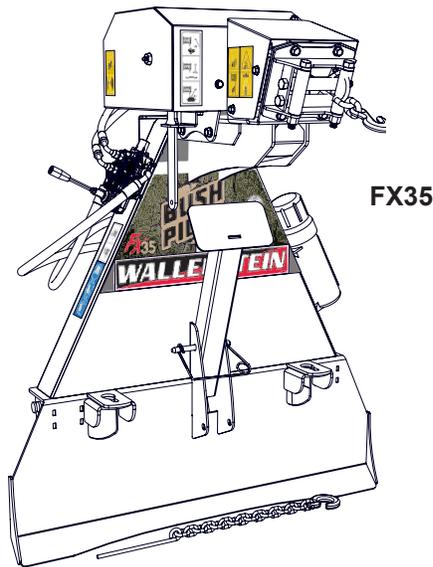


# WALLENSTEIN

BY EMB MFG INC.

EMB Manufacturing Inc.  
4144 Boomer Line · St. Clements, On · N0B 2M0 · Canada  
Ph: (519) 699-9283 · Fax: (519) 699-4146  
www.embmfg.com



## FX35 HYDRAULIC SKIDDING WINCH OPERATOR'S MANUAL



**Before putting the Skidding Winch into service:**  
Do not attempt to operate the Skidding Winch without receiving full safety training and instruction in its features, operation and maintenance. See page 4 for Pre-Delivery Procedure.

**Keep this manual with the  
Skidding Winch at all times**



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## WARRANTY

Effective on products retailed on or after January 1, 2015.

**Register your product online at [www.embmfg.com](http://www.embmfg.com)  
within 30 days of purchase to activate warranty.**

This product is warranted to be free of defects in materials and workmanship under normal use and service, for a period of

**Five (5) Years for Consumer  
Two (2) Year for Commercial/Rental**

from the date of purchase, when operated and maintained in accordance with the Operating and Maintenance Instructions supplied with this unit. Warranty is limited to the repair of the product and/or replacement of parts.

**This warranty does not cover the following items:**

- 1) Machines or parts lost or damaged during shipment,
- 2) Normal maintenance or adjustments after initial pre-service and set up is completed
- 3) Normal replacement of service items.
- 4) Accessory items / parts not supplied by EMB MFG INC.
- 5) Damages resulting from:
  - misuse, negligence, accident, theft or fire
  - use of improper or insufficient fuel, fluids or lubricants
  - use of parts or after market accessories other than genuine EMB MFG INC. parts
  - modifications, alteration, tampering or improper repair performed by parties other than an authorized dealer
  - any device or accessories installed by parties other than an authorized EMB dealer or distributor

Engines are covered by the manufacturer of the engine and covered by the warranty period specified by that manufacturer. **Engine warranty must be registered at the engine manufactures website.** For service contact your local engine dealer.

Under no circumstances will the manufacturer be liable for any consequential damage or expense of any kind, including loss of profits. The manufacturer is under no circumstances liable for tow vehicle of any kind. The manufacturer is not liable for the maintenance of the product.

This warranty is extended only to the original purchaser and is not transferable. Warranty is void if repairs are attempted by anyone other than a Wallenstein Authorized Service Centre.

If a difficulty develops with the product, contact the local dealer from which you purchased the unit. Only Wallenstein authorized dealers are authorized to make repairs to the product or affect the replacement of defective parts, which will be done at no charge within a reasonable time after the receipt of the product. Unit or parts shall be returned at the customer's expense to the Authorized Service Centre. Damage in transit is not covered by warranty. Include the original purchase receipt with any claim (keep a copy of the receipt for your files).

The distributor's liability under warranty is limited to the 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 warranties, expressed or implied, other than those specified herein.

EMB MFG Inc  
4144 Boomer Line, St Clements, ON N0B 2M0 Canada  
Phone: 519-699-9283 Fax: 519-699-4146 : attention to Warranty Dept  
Email: [warranty@embmfg.com](mailto:warranty@embmfg.com)

rev.230115

**WARRANTY IS VOID IF NOT REGISTERED**

**WALLENSTEIN  
FX BUSHPILOT SERIES SKIDDIING WINCH**

**DELIVERY INSPECTION REPORT**

To activate warranty, register your product online at  
**www.embmfg.com**

Customer's Name \_\_\_\_\_

Contact Name \_\_\_\_\_

Dealer Name \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_  
Phone Number

Serial Number \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Delivery Date

I have thoroughly instructed the buyer on the equipment care, adjustments, safe operation and applicable warranty policy and reviewed the manual.

Dealer's Rep. Signature \_\_\_\_\_

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date

The product manuals have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

Owner's Signature \_\_\_\_\_

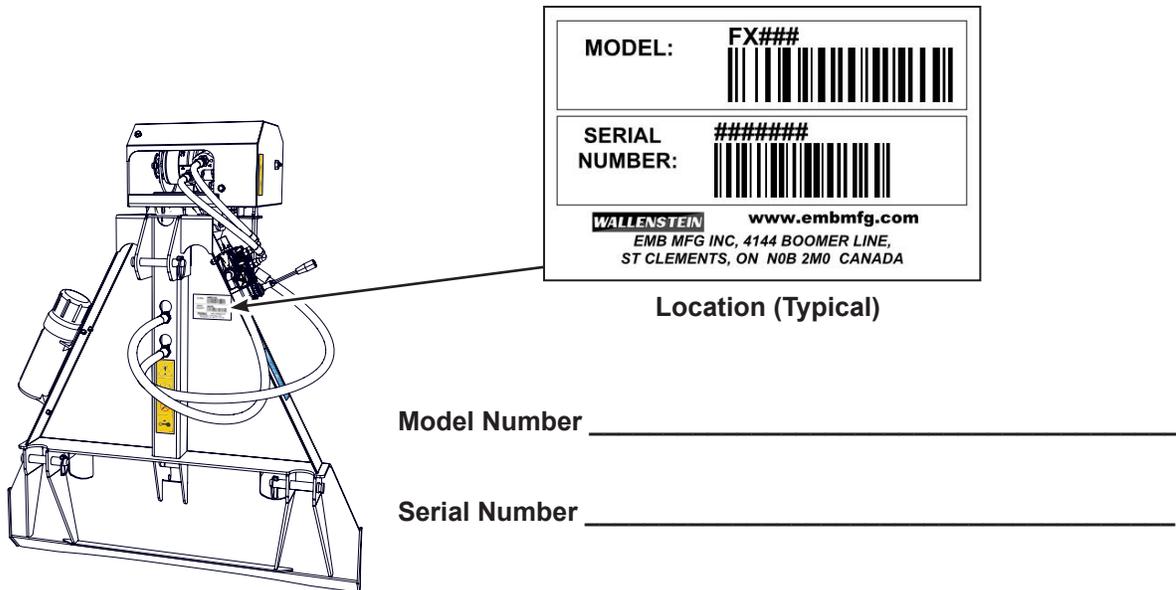
\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date

✓	<b>Pre-Delivery Inspection</b>
	Inspect for damage from shipping, immediately contact the shipping company if damage is found.
	FX35 Skidder Winch
	Check Condition of Rope
	Hydraulic Hoses are not damaged
	Fasteners Tight
	Grease Zerks / Lubricate Pivot Points
	Hydraulic Control is not Damaged
	Winch Control Works Properly
	Review Operating and Safety Instructions
	<b>Safety Checks</b>
	All Safety Decals Installed
	Guards and Shields Installed and Secured
	Retainers Installed Through Mounting Pins
	Review Operating and Safety Instructions

# SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Wallenstein Skidding Winch when ordering parts or requesting service or other information.

The serial number plates are located where indicated. Please mark the numbers in the spaces provided for easy reference.



# LABEL INFORMATION

As you begin to get familiar with your Wallenstein product, you will notice that there are numerous labels located on the machine. Here is a brief explanation of what they are for and how to read them.

There are three different types of labelling: safety, informative and product labels.

**Safety Labels** are pictorial with a yellow background and generally 2 panel. The top panel shows the safety alert (the potential hazard) and the bottom panel shows the message (how to avoid the hazard).

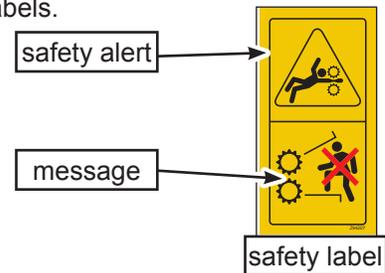
**Safety Notice Labels** are pictorial with a blue background and generally rectangular with single or multiple symbols. The label illustrates requirements for safe operation (safety equipment, housekeeping etc). These labels are accompanied by detailed instructions in the owners manual, with the label illustrated along side.

**Informative Labels** are generally pictorial with a white background and can vary to the number of panels. The label will illustrate the function of a feature and is accompanied by detailed instructions in the owners manual, with the label illustrated along side.

**Product Labels** are associated with the product and carry various messages (model, serial, etc).

**Maintenance Labels** are associated with the product and carry various messages. They are generally pictorial. They may be round or rectangular, have a green background and can vary to the number of panels. The label may illustrate the type maintenance and frequency in time between services. Labels are accompanied by detailed instructions in the owners manual, with the label illustrated along side.

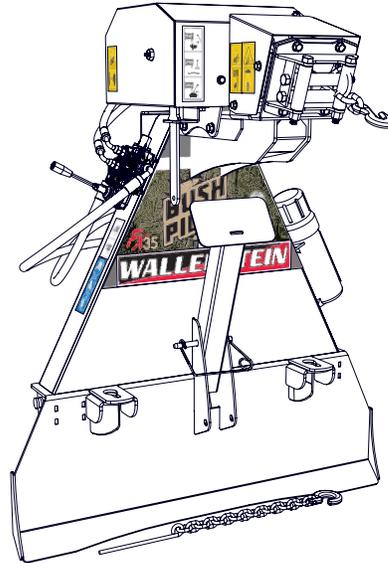
See the section on safety signs for safety label definitions. For a complete illustration of labels and label locations, download the parts manual for your model product at [www.embmfg.com](http://www.embmfg.com).



# 1 INTRODUCTION

Congratulations on your choice of the Wallenstein BushPilot Skidding Winch to compliment your operation. This equipment has been designed and manufactured to meet the needs of a discerning land owner, timber or landscaping industry.

Safe, efficient and trouble free operation of your Wallenstein Skidding Winch requires that you and anyone else who will be using or maintaining the Winch, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



**FX35**

This manual covers the FX35 Wallenstein BushPilot Skidding Winch. Use the Table of Contents or Index as a guide to locate required information.

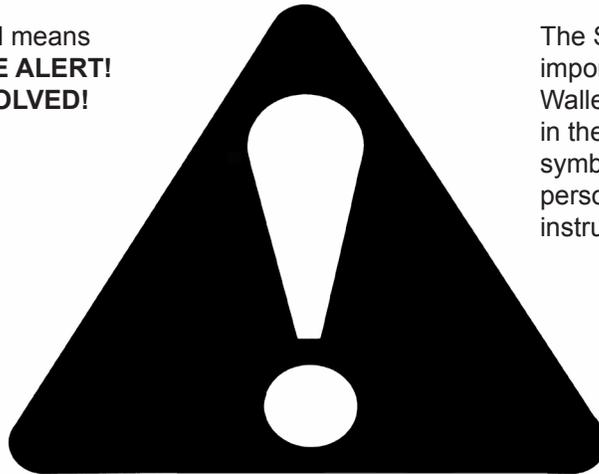
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Wallenstein dealer or the Distributor if you need assistance, information or additional copies of the manuals.

**OPERATOR ORIENTATION** - The directions left, right, front and rear, as mentioned throughout this manual, are determined when sitting in the tractor driver's seat and facing over the winch.

## 2 SAFETY

### SAFETY ALERT SYMBOL

This Safety Alert symbol means **ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!**



The Safety Alert symbol identifies important safety messages on the Wallenstein Skidding Winch and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

#### 3 Big Reasons

**Accidents Disable and Kill**  
**Accidents Cost**  
**Accidents Can Be Avoided**

#### SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

**DANGER** - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

**WARNING** - Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

**CAUTION** - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

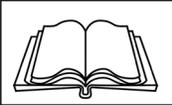
If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Wallenstein, 4144 Boomer Line, St. Clements, ON, N0B 2M0. Phone (519) 699-9283 or Fax (519) 699-4146.

# SAFETY

**YOU** are responsible for the SAFE operation and maintenance of your Wallenstein FX Series Skidding Winch. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the skidding winch be familiar with the use and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the skidding winch.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** using this equipment is familiar with the recommended use and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

## 2.1 SAFETY DO'S & DON'TS'

- **DO** give operating instructions to operators or employees before allowing them to operate the machine, and **REVIEW** annually thereafter.
- **DO** read and understand ALL Safety and Operating instructions in the manual and follow them. Most accidents can be avoided. The most important safety device on this equipment is a SAFE operator. 
- **DO NOT** expect a person who has not read and understood all use and safety instructions to operate the machine. An untrained operator is not qualified and exposes himself and bystanders to possible serious injury or death. It is the owners responsibility to the operator to ensure familiarity and understanding of the machine.
- **DO** wear suitable ear protection for prolonged exposure to excessive noise. 
- **DO NOT** modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- **DO NOT** allow riders.
- **DO NOT** risk injury or death by ignoring good safety practices.
- **DO** review safety related items annually with all personnel who will operating or maintaining the FX Skidding Winch.
- **DO** have a first-aid kit available for use should the need arise and know how to use it. 

- **DO** have a fire extinguisher available for use should the need arise and know how to use it. 
- **DO** read and understand all safety signs located on the machine before using, maintaining, adjusting or cleaning the skidding winch.
- **DO** inspect and secure all guards before starting.
- **DO** wear appropriate protective gear. This list includes but is not limited to:
  - A hard hat
  - Heavy gloves
  - Wet weather gear
  - Hearing Protection
  - Respirator or filter mask
  - Protective shoes with slip resistant soles
  - Protective glasses, goggles or face shield
- **DO** set Safe Condition procedure before any service, maintenance work or storage preparation.

**Safe Condition** involves the following procedure:

  - Shut off hydraulics
  - shut off the engine
  - ensure all components have stopped moving
  - rope is free and no tension applied
  - remove and pocket the ignition key
  - set the parking brake
  - block & chock the tractor wheels
- **DO** check cables, chains and pulley's, that they are clear of debris prior to starting the machine
- **DO** think SAFETY! Work SAFELY!

## 2.2 EQUIPMENT SAFETY GUIDELINES

Safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you to follow them.

1. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be used in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
  2. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
  3. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this equipment. Consult your doctor about using this machine while taking prescription medications.
  4. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to use or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
  5. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
  6. Operate the machine only with a tractor equipped with an approved Roll-Over-Protective-Structure (ROPS). Always wear your seat belt when operating the tractor. Serious injury or even death could result from falling off the tractor - - particularly during a turnover when the operator could be pinned under the ROPS or the tractor.
- 
7. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
  8. Do not modify the equipment in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the equipment.
  9. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the tractor and machine manuals. Pay close attention to the Safety Signs affixed to the tractor and the machine.
  10. **Safe Condition** involves the following procedure:
    - Shut off hydraulics
    - shut off the engine
    - ensure all components have stopped moving
    - rope is free and no tension applied
    - remove and pocket the ignition key
    - set the parking brake
    - block & chock the tractor wheels
- Safe Condition procedure should be performed before any service, maintenance work or storage preparation.

## 2.3 SAFETY TRAINING

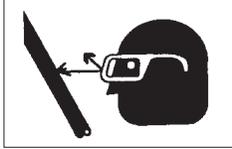
1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Using instructions in the manual and to follow these. Accidents can be avoided.  

4. **Working with unfamiliar equipment can lead to careless injuries. Read this manual before assembly or using, to acquaint yourself with the machine. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to using:**
  - Reads and understands the operator's manuals.
  - Is instructed in safe and proper use of the equipment.
  - Understands and knows how to perform the "Safe Condition" procedure:
    - Shut off hydraulics
    - shut off the engine
    - ensure all components have stopped moving
    - rope is free and no tension applied
    - remove and pocket the ignition key
    - set the parking brake
    - block & chock the tractor wheels
5. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will use the machinery. A person who has not read and understood all use and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.

6. Know your controls and how to stop tractor and machine quickly in an emergency. Read this manual and the one provided with tractor.

## 2.4 HYDRAULIC SAFETY

1. Make sure that all the components in the hydraulic system are kept in good condition and are clean.  

2. Before applying pressure to the system, make sure all components are tight, and that lines, hoses and couplings are not damaged.  

3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tapes, clamps or cements. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe Condition.
4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
6. Relieve pressure on hydraulic system before maintaining or working on system.

## 2.5 STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not children to play on or around the stored machine.
3. Store the unit in a dry, level area. Support the frame with planks if required.

## 2.6 PREPARATION

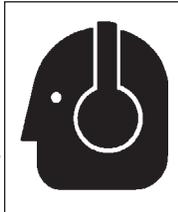
1. Never use the machine until you have read and completely understand this manual, the tractor Operator's Manual and each of the Safety Messages found on the safety signs on the tractor and machine.

2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the unit. Do not allow long hair, loose fitting clothing or jewelry to be around equipment.



3. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Power equipment with or without equipment attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on



a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.

4. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
5. Use only in daylight or good artificial light.
6. Be sure machine is properly mounted, adjusted and in good operating condition.
7. Ensure that all safety shielding and safety signs are properly installed and in good condition.

## 2.7 MAINTENANCE SAFETY

1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.



3. Make sure there is plenty of ventilation. Never operate the engine of the tractor in a closed building. The exhaust fumes may cause asphyxiation.
4. Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.
5. Never work under equipment unless it is blocked securely.
6. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy or leather gloves when handling rope or clutch.
7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.



## 2.8 OPERATING SAFETY

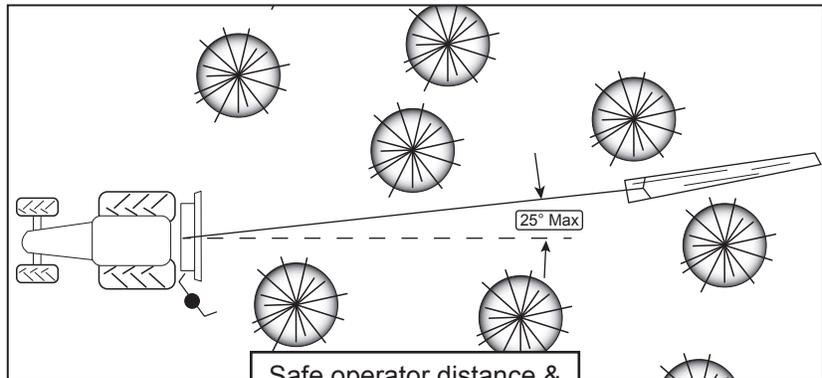
1. Please remember it is important that you read and heed the safety signs on the Skidding Winch. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this Skidding Winch to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.
3. Close and secure all guards, deflectors and shields before starting and operating.
4. Read and understand operator's manual before starting. Review safety instructions annually.
5. Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
6. Do not allow anyone within 6m (20 ft) of machine or logs during operation. Keep children away.
7. Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, repairing, unplugging or moving.
8. Set **Safe Condition** before servicing, repairing or maintaining.
  - Shut off hydraulics
  - shut off the engine
  - ensure all components have stopped moving
  - rope is free and no tension applied
  - remove and pocket the ignition key
  - set the parking brake
  - block & chock the tractor wheels
9. Stand at least 3m (10 ft) to the side of winch to pull control rope or activate the remote when operating winch.
10. Do not touch and never stand directly in line with rope during operation.
11. Check rope condition before using winch. Rope may break during operation if it is knotted, or has broken strands or otherwise damaged. Replace rope if damaged.
12. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
13. Do not allow riders on this machine at any time. There is no safe place for any riders.
14. Operate only on level ground and lower winch blade when winching to provide stability.
15. Do not exceed winching angle of more than  $\pm 25^\circ$ .
16. Always winch up a slope. Do not winch across a slope.
17. Do not operate on hillsides or when working area is cluttered, wet, muddy or icy to prevent slipping and tripping.
18. Keep working area clean and free of debris to prevent tripping. Operate only on level ground.
19. Stop engine when leaving unattended.
20. Do not exceed a safe travel speed when transporting.
21. Ensure your tractor unless it is equipped with a ROPS.
22. Be sure the tractor is equipped with a full complement of suitcase weights on the front frame or a front end loader for added stability.

## 2.9 TRANSPORT SAFETY

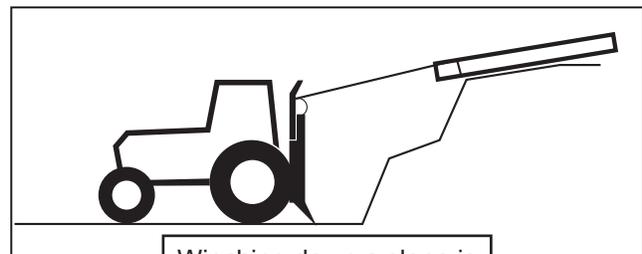
1. Comply with state and local laws governing safety and transporting of machinery on public roads.
2. Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
3. Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
4. Be sure the machine is hitched positively to the tractor and a retainer is used through the mounting pins.
5. Do not drink and drive.
6. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.
7. Never allow riders on the machine.

## 2.8 WINCHING SAFETY

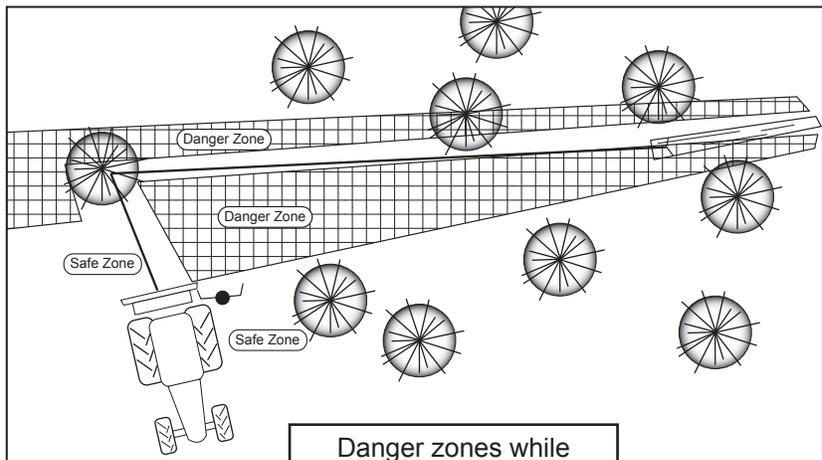
1. Do not exceed winching angle of more than  $\pm 25^\circ$ , and operate only on level ground with the winch blade lowered.
2. Do not winch down a slope, always winch up a slope, winching down a slope could result in crushing injuries resulting from a log rolling down hill.
3. When using snatch blocks to winch at difficult angles, be aware of danger zone created between the snatch block, log and tractor.
4. Do not allow anyone within 6 m (20 ft) of machine or logs during operation. Keep children away. Logs could roll in unpredictable ways.
5. Always lower frame blade to the ground when operating to provide stability.
6. Always wind the rope under load, rope will not wind properly if not under load.
7. Check rope condition before using winch. Rope may break during operation if it is corroded, knotted, has broken strands or sharp kinks. Replace rope if damaged.
8. Do not winch across a slope and do not operate on hillsides or when working area is cluttered, wet, muddy or icy to prevent slipping and tripping. Winching across a slope could cause your tractor to roll over.
9. Do not use a tractor unless it is equipped with a ROPS.
10. Do not touch rope during operation.



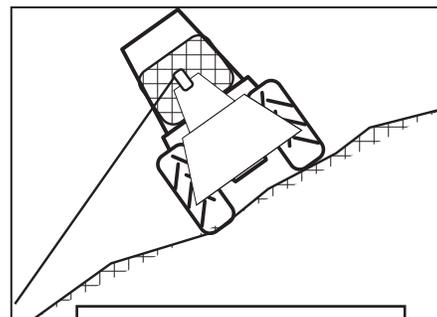
Safe operator distance & winch angle



Winching down a slope is dangerous



Danger zones while winching



It is dangerous to winch across a slope



### 3 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs in Section 3 each have a part number displayed with it. Use this part number when ordering replacement parts.
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

#### 3.1 HOW TO INSTALL SAFETY SIGNS:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

#### 3.2 SAFETY SIGN EXPLANATIONS:



**Caution:** read and understand ALL **safety and operating instructions** in the manual, read and understand ALL **safety labels** located on the machine. The most important safety device on this equipment is an informed SAFE operator.



**Caution:** Hydraulic fluid under pressure, do not check for leaks with you hand or fingers when the system is pressurized. Serious injury will result. Concealed hydraulic connection: use caution when removing panels or guards.



**Caution:** rollover danger! Do not winch at angles greater than 25°. Use snatchblocks when winching at angles more than 25°.



**Caution:** winch line, entanglement danger present, keep hands, loose clothing, and long hair away from winch line while it is operating.



**Caution:** Do not perform any maintenance or repairs with the tractor running. Shut the tractor off.

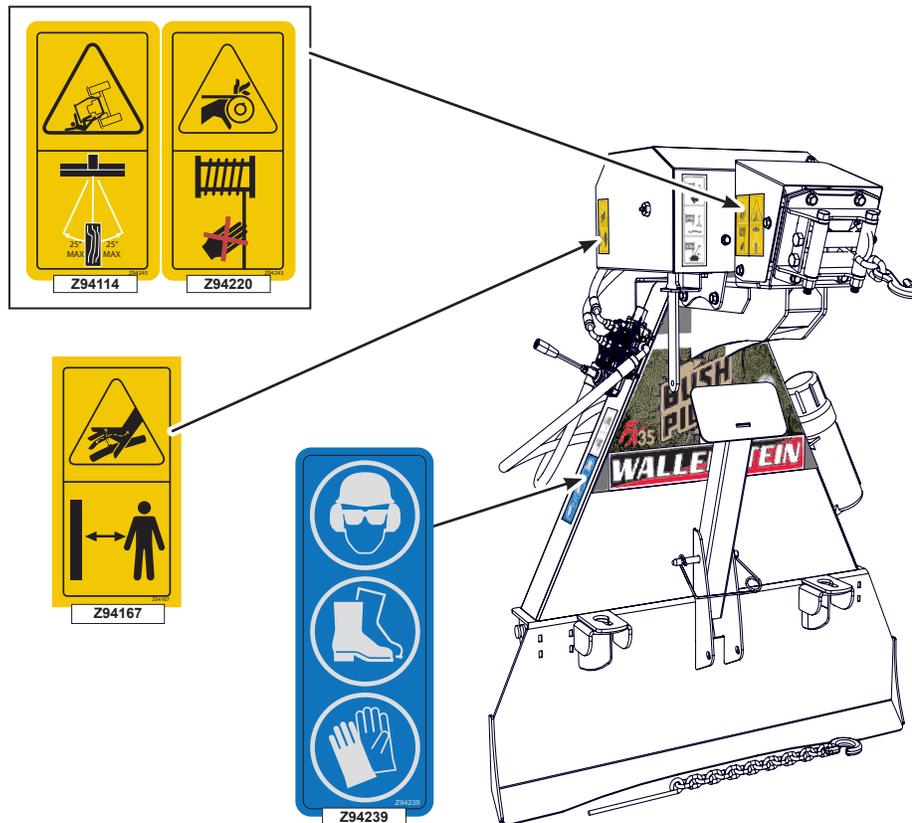
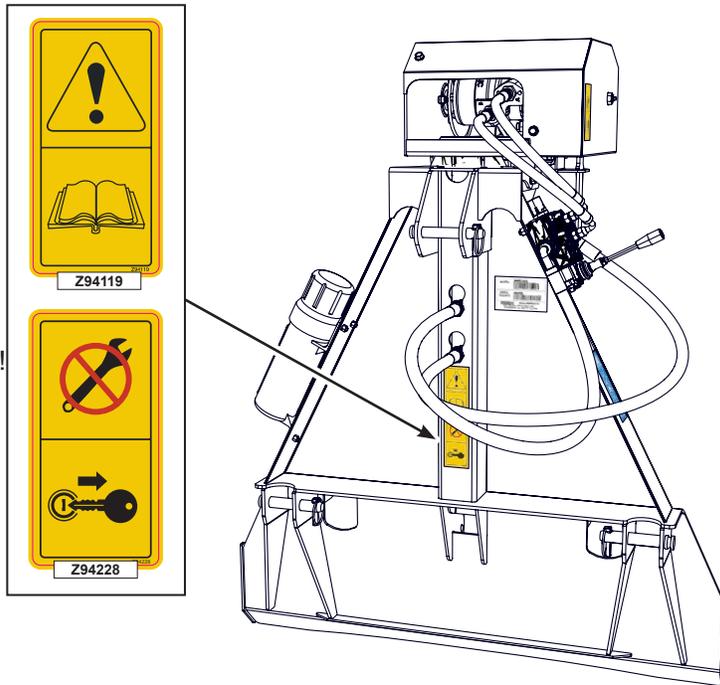


**Caution:** Personal Protection Equipment (PPE) is required when operating this machine. Failure to wear PPE will result in personal injury

### 3.3 SAFETY SIGN LOCATION

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

## 4 OPERATION



# OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
- Do not allow anyone within 6 m (20 ft) of machine or logs during operation. Keep children away.
- Move controls to neutral or OFF position, stop engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, repairing or maintaining.
- Always lower frame blade to the ground when operating to provide stability.
- Never stand directly in line with rope while pulling.
- Check rope condition before using winch.
- Rope may break during operation if it is cut, or has broken strands. Replace rope if damaged.
- Do not touch rope during operation.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Operate only on level ground and lower winch blade when winching.
- Do not exceed winching angle of more than  $\pm 25^\circ$ .
- Always winch up a slope.
- Do not winch across a slope.
- Do not operate on hillsides or when working area is cluttered, wet, muddy or icy to prevent slipping and tripping.
- Keep working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not use a tractor unless it is equipped with a ROPS.
- Be sure the tractor is equipped with a full complement of suitcase weights on the front frame or a front end loader for added stability.
- Always wind the rope under load, rope will not wind properly if not under load.
- Always keep a minimum of 3 rope wraps on the drum.
- Always skid loads from the chain keyholes to lower the pulling point, making skidding safer, more stable, and less likely to tip the tractor.

### 4.1 TO THE NEW OPERATOR OR OWNER

The Wallenstein Skidding Winches are designed to connect to and pull logs to the machine. The operator should be familiar with the machine prior to starting.

**It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to use the machine.**

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to use the winch safely and how to set it to provide

maximum field efficiency. By following the using instructions in conjunction with a good maintenance program, your Skidding Winch will provide many years of trouble-free service.

#### 4.1.1 IMPORTANT

**Ensure all operators understand how to put the machine in Safe Condition before working with this machine,**

- Shut off hydraulics
- shut off the engine
- ensure all components have stopped moving
- rope is free and no tension applied
- remove and pocket the ignition key
- set the parking brake
- block & chock the tractor wheels

## 4.2 MACHINE COMPONENTS

The Wallenstein Skidding Winch consists of a hydraulic winch mounted in a frame to pull or winch logs.

Power to drive the winch is provided through the hydraulic lines, which connect to the tractors rear hydraulic ports. Optimum flow is 6 GPM (GPM range: 2-12)

The three position hydraulic valve controls the winch motor to pull in the synthetic rope.

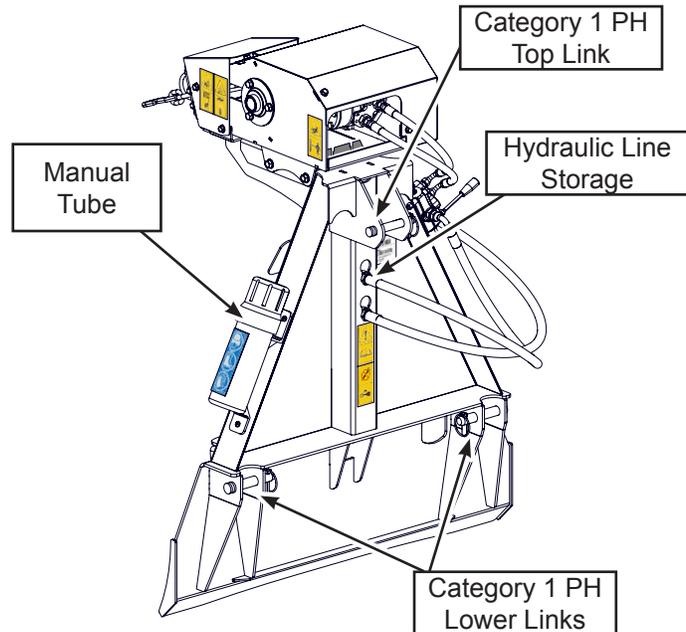
The winch engaging lever on the winch body, controls fast and slow winch speed as well as a neutral position. Rope speed varies between 7-79 meters per min (22-260 feet per minute).

- Fast Speed Capacity: 827 kg (1825 lbs)
- Slow Speed Capacity: 1587 kg (3500 lbs)

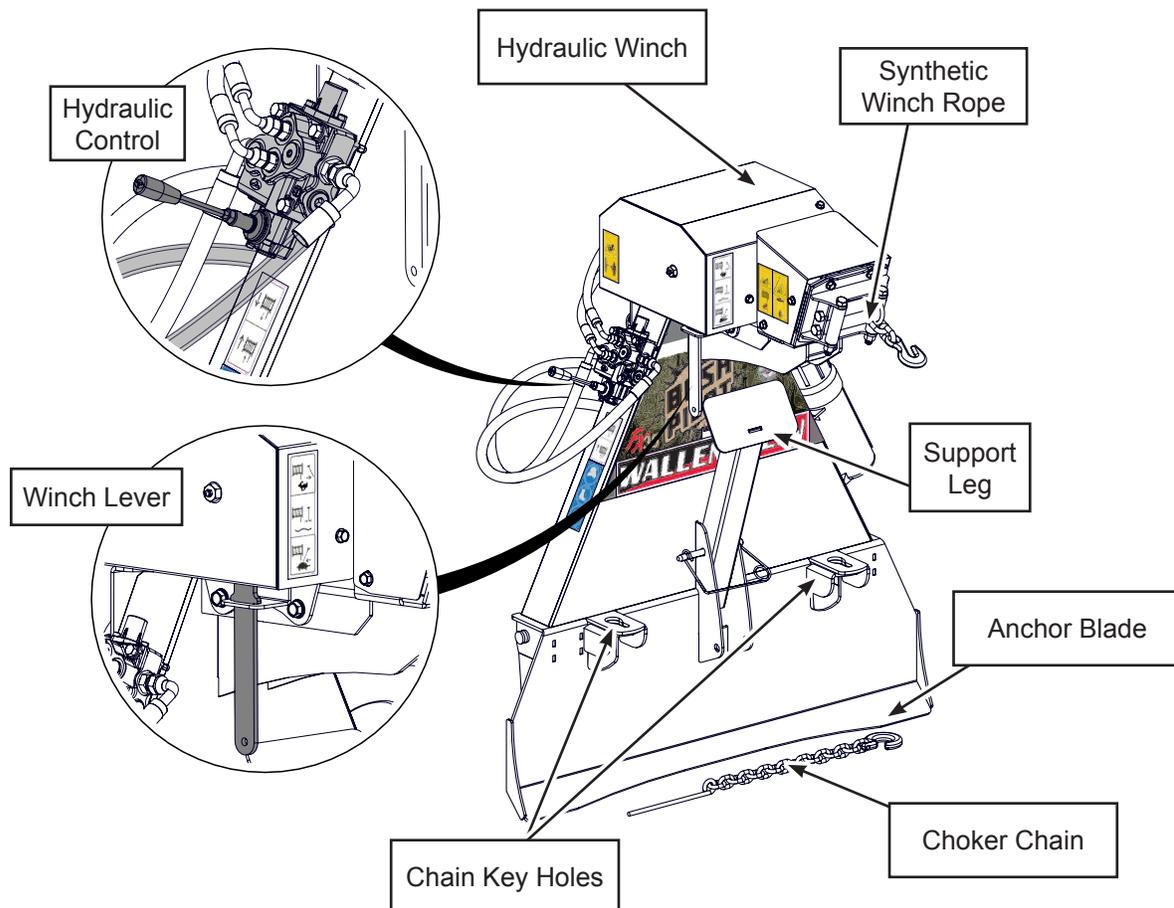
**Capacity is dependant upon PSI rating of the tractor hydraulics.**

A blade on the bottom back of the frame is used to anchor the machine when winching.

Two chain keyholes have been designed into the rear frame to attach more logs when skidding.



The FX35 features 7.93mm x 24.38m (5/16 x 80') high strength braided polyurethane UHMW rope. This rope features a 12 strand braided, light weight construction. Abrasion resistant & low stretch this flexible rope will also float on water.



### 4.3 MACHINE BREAK-IN

Although there are no operational restrictions on the Skidding Winch when used for the first time, it is recommended that the following mechanical items be checked:

**A. After operating for 1 hour:**

1. Torque all fasteners and hardware.
2. Check condition of hydraulic winch.
3. Check the condition of the synthetic rope. Replace if, frayed or if it has any broken strands.
4. Check for entangled material. Remove all entangled material before resuming work.
5. Lubricate all grease fittings.

**B. After operating for 10 hours:**

1. Repeat steps 1 through 5 listed above. (Section A)
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.



**Use Your Personal Protection Equipment**

### 4.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Wallenstein Skidding Winch requires that each operator reads and understands the using procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining good mechanical condition that this checklist is followed.

Before operating the Winch and each time thereafter, the following areas should be checked off:

Pre-Operation Checklist	✓
Check and lubricate the machine per the schedule outline in the Maintenance Section.	
Check the condition of the synthetic rope. Replace if frayed or if it has any broken strands	
Check the condition of the hydraulic winch. It must be in good condition to operate properly.	
Check condition of all hydraulic components. Keep all components in good condition. (see "Hydraulic Fitting Torque" specification chart)	
Check that all bearings turn freely. Replace any that are rough or seized.	
Check and ensure that all covers, guards and shields are in place, secured and functioning as designed	
Check all fasteners and tighten, and ensure your equipment is working and in good repair.	
Check that personal protection equipment including hard hat, safety glasses, safety shoes, safety vest, hearing protection and gloves are used and in good repair.	
Check that all loose fitting clothing or jewellery is not worn and loose long hair is tied back.	

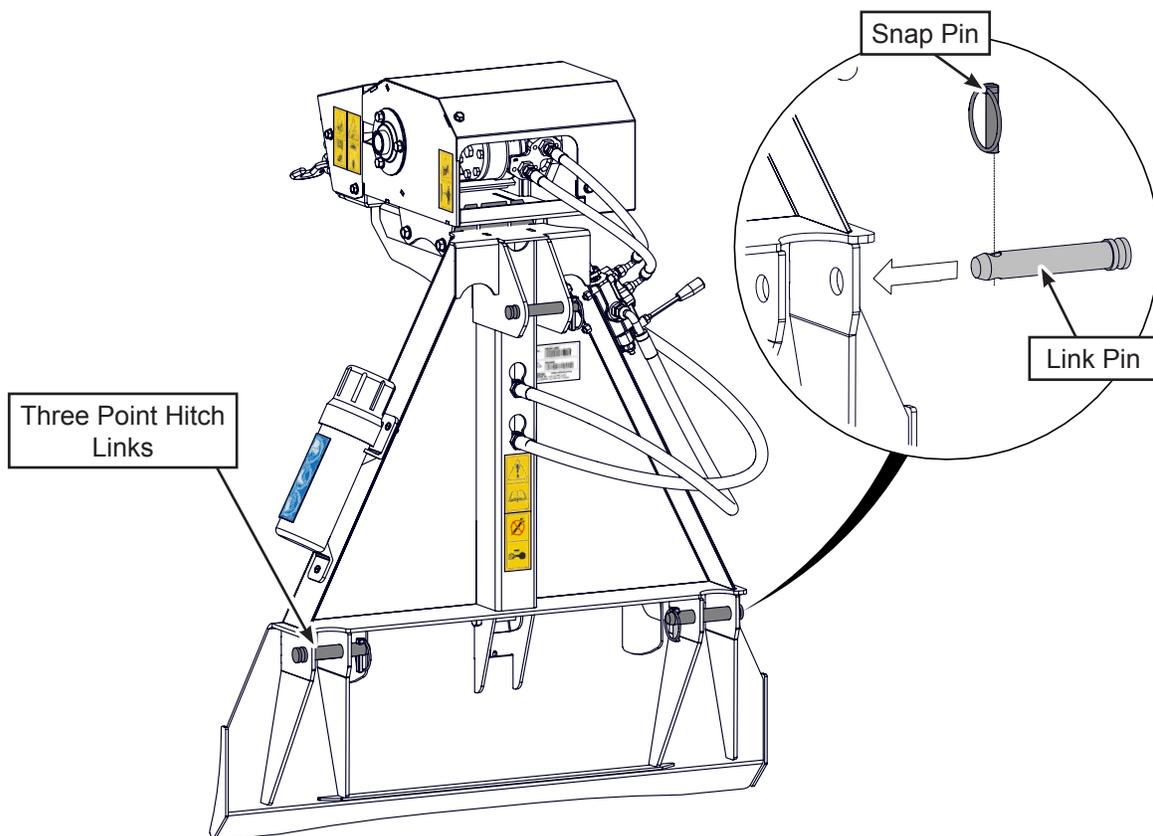
## 4.5 ATTACH TO TRACTOR

This section describes the 3 point hitch attachment.

The FX35 is category 1 only, and is not quick hitch & imatch compatible.

When attaching the winch to a tractor, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Make sure there is enough room and clearance to safely back up to the winch.
3. Place the tractor arms in their full sway position.
4. At the slowest speed possible, back the tractor towards the winch with the tractor "square" to the winch.
5. Engage the tractor park/lock brake, dismount the tractor and inspect the link and pin alignment (vertical and horizontal).
6. Raise or lower the lower link arms to align them to the pins on the winch.
7. Return to tractor, make any necessary adjustments (up/down)
8. Slowly back up the tractor until the lower arm holes are lined up with the link pin holes.
9. Engage the tractor park/lock brake, dismount the tractor, make any final adjustments, and slide link pin through the left and right lower arm holes onto the link pin holes.
10. Install the snap pins on the link pins.
11. Remove the top pin and install the top link.
12. Use the turnbuckle to align the top link. Insert the pins and install the retainers.
13. Return the turnbuckle to its original length and lock.
14. Lift and securely pin the support leg.
15. To detach skidder from the tractor, reverse the above procedure. Always park the machine in a dry, level area. **Ensure support legs are lowered and locked in position.**



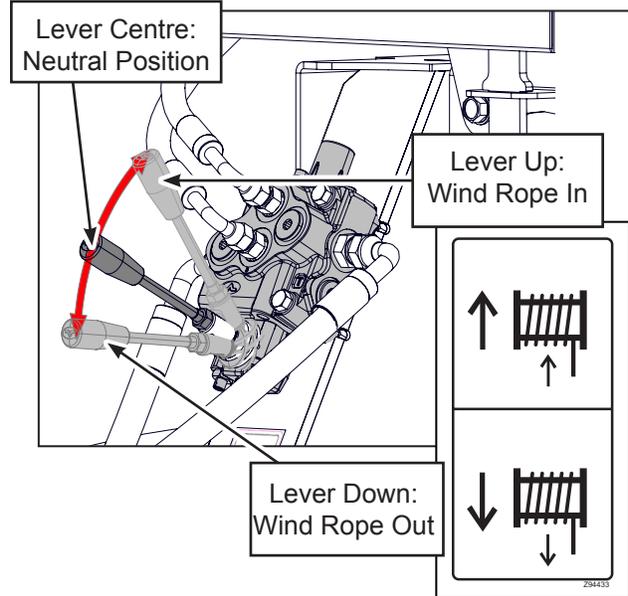
## 4.6 CONTROLS

Please review this section to familiarize yourself with the location and function of each control before starting. Familiarizing yourself with the controls will enable you to take advantage of all the features available on the FX35 Winch and apply them as conditions demand.

### 4.6.1 HYDRAULIC WINCH CONTROL

This 3-position "spring-loaded-to-center neutral" valve controls the flow of oil to the hydraulic motor powering the rope winch.

1. Pull the lever up and hold to start the winch and wind the rope.
2. Release the lever and it will return to neutral to stop winding the rope.
3. Push the lever down to allow the rope to unwind under power.
4. Release the lever and it will return to neutral and stop unwinding the rope.

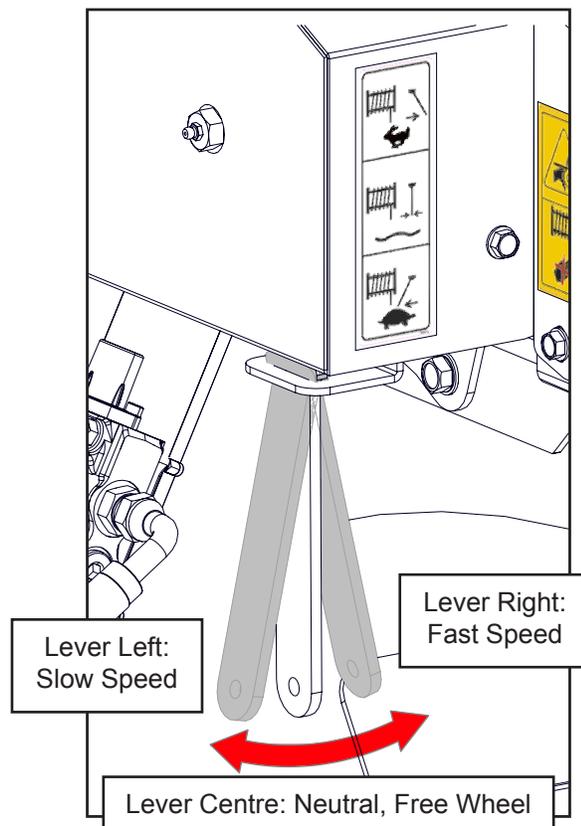
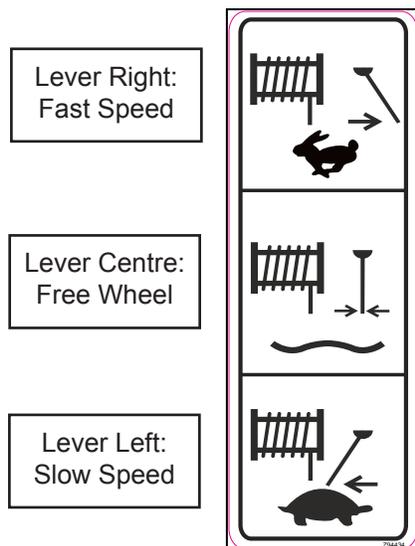


Hydraulic Motor Control

### 4.6.2 WINCH GEAR LEVER

This three-position lever controls the gears on the winch drive system.

1. Slow Speed: Pull the lever to the left to engage the winch gear to the hydraulic motor.
2. Fast Speed: Push the lever to the right to engage the winch gear to the hydraulic motor.
3. Position the lever to the neutral centre to disengage the winch gear from the hydraulic motor, allowing the gear free-wheel. The synthetic rope can then be easily pulled out to attach to a log.



Gear Lever

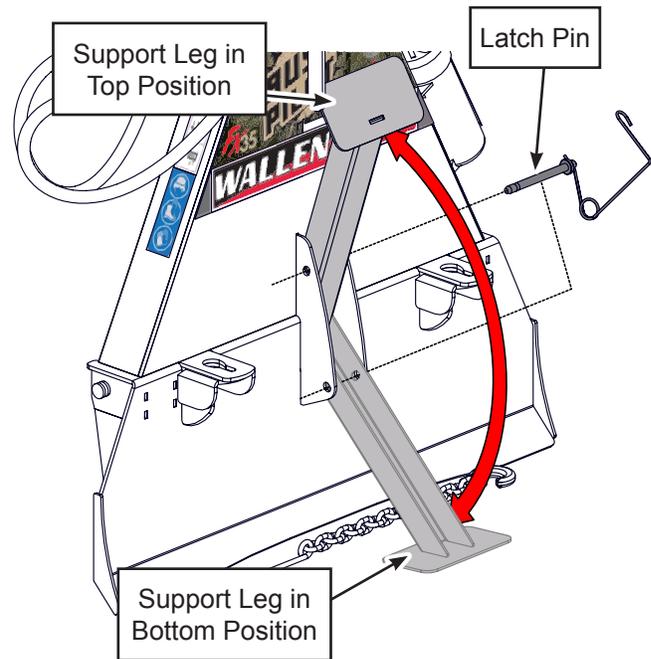
### 4.6.3 SUPPORT LEG

This two-position support leg, supports the FX35 in an upright position when in storage and not attached to a tractor.

1. **Lower Support Leg:** before detaching the FX35 from the tractor, remove the snap lock pin and carefully lower the support leg to the bottom position. Insert and secure the snap pin.
2. It is now safe to detach the FX35 from the tractor.
3. **Raise Support Leg:** attaching the FX35 to the tractor, remove the snap lock pin and carefully raise the support leg to the top position. Insert and secure the snap pin.

#### NOTE:

Ensure the snap pin is secured after moving the support leg.

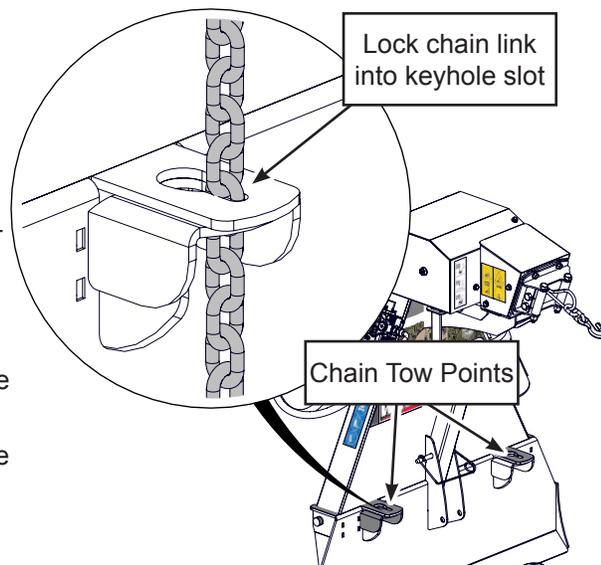


### 4.6.4 CHAIN KEY HOLES

Two chain key holes (tow points) are included with the FX35. The keyholes are designed be used with chains, and must be used while skidding logs.

The main use of the chain key holes is to lower the pulling point, allowing bigger loads while making skidding more stable, and less likely to tip the tractor.

1. Winch the load up to the FX35
2. Detach the load from the winch and move the tractor to align keyhole with the load.
3. Lock the choker chain to the keyhole on the FX35 (see diagram).

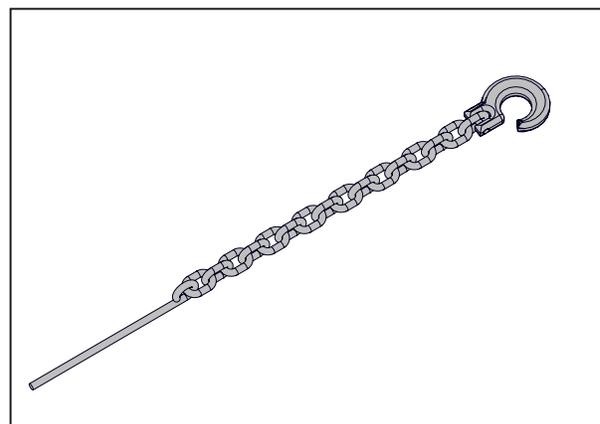


### 4.6.5 CHOKER CHAINS:

FX35 winch is shipped with a choker chain, for use when winching or skidding logs. The heavy duty 5/16 chain choker chain is 2.3m (7.5 ft) long with a steel probe for sliding under logs.

Different length & material chokers are available, see accesorie section and call your dealer.

1. Push the probe end of the choker chain under the log.
2. Pull the ends together, and connect the hook over the choker chain.
3. Attach the free end of the choker chain to the winch rope hook
4. Start tractor, start the winch to start winching.



## 4.7 FIELD OPERATION



# OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
  - Do not allow anyone within 6m (20 ft) of machine or logs during operation. Keep children away.
  - Move controls to neutral or OFF position, stop engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, repairing or maintaining.
  - Operate on level ground and always lower frame blade to the ground when operating to provide stability.
  - Check rope condition before using winch
  - Rope may break during operation if it is cut, or has broken strands. Replace rope if damaged.
  - Never stand directly in line with rope while pulling.
  - Do not touch rope during operation.
  - Do not allow riders on this machine at any time.
- There is no safe place for any riders.
- Do not exceed winching angle of more than  $\pm 25^\circ$ .
  - Do not operate on hillsides, always winch up a slope, do not winch across a slope.
  - Keep working area clean and free of debris, be cautious of wet, muddy or icy conditions to prevent slipping and tripping.
  - Do not use a tractor unless it is equipped with a ROPS.
  - Be sure the tractor is equipped with a full complement of suitcase weights on the front frame or a front end loader for added stability.
  - Always wind the rope under load, rope will not wind properly if not under load.
  - Always keep a minimum of 3 rope wraps on the drum.
  - Always skid loads from the chain keyholes to lower the pulling point, making skidding safer, more stable, and less likely to tip the tractor.

**The operator has the responsibility of being familiar with all operating and safety procedures and following them.**

Although the FX35 3 Point Hitch Winch is easy to use, each operator should review this section to familiarize himself with the detailed safety and operating procedures. When preparing this machine for use, follow this procedure:

### 4.7.1 PREPARE

- Clear the area of bystanders, especially small children.
  - Each operator must be trained and familiar with the set up and operation of the Winch and its components.
  - Review the machine components (see Section 4.2)
  - Review and follow the Pre-Operation Checklist (see Section 4.4).
  - Review operation and function of the controls (see section 4.7)
  - Survey the work site, move to a clear, level work area and position at the work site. Do not start the winch until it is in position.
  - Set up the machine (see section 4.9).
- Each person must wear appropriate **Personal Protective Equipment (PPE)** whenever operating the Winch or working in the vicinity. This equipment is designed to prevent injury to any personnel in the area. This list includes but is not limited to:
    - Safety shoes with slip resistant soles.
    - Safety goggles or face shield.
    - Hearing protection.
    - Heavy or leather gloves

## 4.8 STARTING PROCEDURE

These procedures can be applied to all versions of the FX Winch.

After following all operating safety and preparation procedures the Winch should be set up and ready to run (4.8). Tractor manual should also be reviewed.

### 4.8.1 TRACTOR

- a. Ensure all the winch access covers are secured
- b. Inspect hydraulic connectors (remote models only) for positive connection.
- c. Start tractor.
- d. Run the engine for a few minutes to allow it to warm.
- e. Ensure machine is stable, with no unusual vibration and proceed with work.

### 4.8.2 STOPPING:

- a. Release the hydraulic control, so it auto returns to neutral.
- b. Ensure the winch gear leaver is engaged, to prevent unwanted unspooling.
- c. Slow engine RPM.
- d. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop.

### 4.8.3 EMERGENCY STOPPING:

If an emergency occurs:

- **Release the hydraulic control, so it auto returns to neutral.**
- **Disengage the winch gear (set to neutral)**
- **Shut off the engine**
- **Correct emergency situation before restarting engine and resuming work.**

**Ensure all operators understand how to** put the machine in Safe Condition before working with this machine,

- shut off hydraulics
- shut off the engine
- ensure all components have stopped moving
- rope is free and no tension applied
- remove and pocket the ignition key
- set the parking brake
- block & chock the tractor wheels

#### 4.8.4 WINCHING OPERATION:

The FX35 winch is a strong, rugged machine that built to a straight-forward design which provides a strong, reliable tool for winching and hauling logs out of your woodlot.

Capacity:

**FX35** - 1587 kg (3500 lb)

Always wear personal protective equipment (PPE) whenever operating the machine. This includes but is not limited to a hard hat, protective shoes with slip resistant soles, protective goggles or face shield, heavy gloves, hearing protection and protective clothing.

Inspect machine for damaged or loosened parts, repair or replace parts as required before beginning work.

If opening up any guards for inspection, always put the machine in **Safe Condition**:

- Shut off hydraulics
- shut off the engine
- ensure all components have stopped moving
- rope is free and no tension applied
- remove and pocket the ignition key
- set the parking brake
- block & chock the tractor wheels

Follow this procedure when all your logs are trimmed and ready to be winched.

Choose a flat, solid skidding route for the tractor. Avoid steep slopes, especially when winching from the side.

Check that the winching trail is clear to avoid damaging other tree's, and that the logs can be winched freely.

Ensure the winch is lowered and that the tractor's parking brake is on.

The logs are winched in with the hydraulic winch. This lifts the logs and they tend to dig less into the ground.

The weight of the load also pushes the blade into the ground, anchoring the winch and the tractor to the ground.

Several logs can be hooked up and winched in at one time by means of keyhole sliders on the rope. (#Z92301 - available from your dealer)

Choker Chain: the choker chain has a probe on the end, which makes it easier to pass the chain underneath the tree. Different lengths & materials chokers are available, see accesorie section and call your dealer.

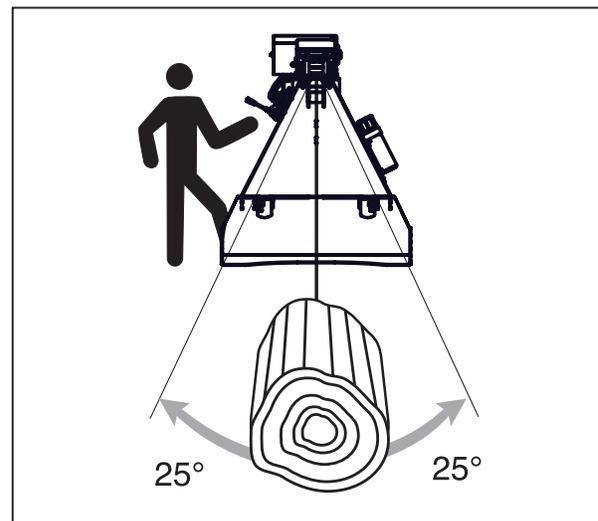
It is recommended that the pull angle of the rope not exceed  $\pm 25^\circ$  from the longitudinal axis of the tractor. Exceeding that angle can subject the tractor to a tipping load and tip the machine over. Use the Wallenstein self releasing snatch block (#5089A100) if winching sideways at angles exceeding 25 degrees.

#### Start Work:

- Lower the frame and the blade to the ground.
- Set the park brake and stop engine.
- Hitch the choker chain to the log.
- Set the winch gear to neutral, and pull the synthetic rope out and attach to the choker chain.
- Start tractor engine, engage the winch gear in the appropriate speed.
- Move the hydraulic lever to the winch position to winch up the log.
- Unhitch the log and winch up additional logs as required.

#### NOTE

Always keep a minimum of three rope wraps on the drum. Make certain rope is winding in properly onto top side of drum.



#### Caution: Avoid Serious Injury

Do not stand between the log and skidder, stand off to the side and behind the skidder when winching logs.

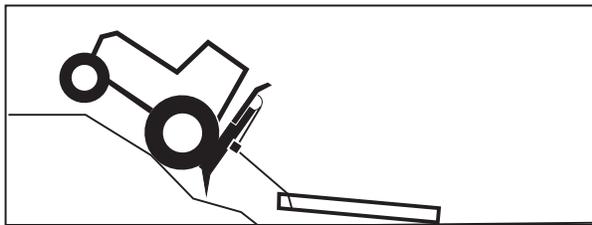
#### 4.8.5 SKIDDING:

Follow this procedure when all your logs are winched up to the tractor,

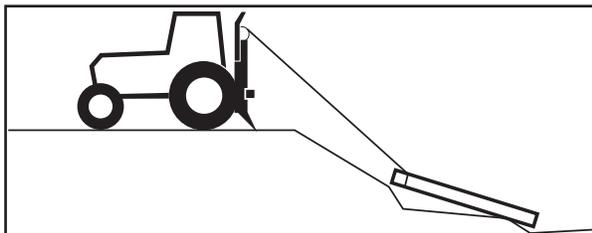
- Attach the load to the chain keyholes on the FX35 with the choker chain. Raise the winch with the three point hitch.
- Move forward and pull the load to the desired location.
- To detach the logs, back the tractor slightly to relieve pressure on the logging chain and detach the chain.

Be cautious of hills & rough terrain.

- Drop the load before driving through.
- Drive through the rough terrain.
- Pull the winch rope back to the load.
- Winch the load thru the rough terrain, up to the winch.
- Attach the load to the chain keyholes, and continue skidding



Do not skid over rough terrain



Winch over rough terrain

#### IMPORTANT

It is recommended that while skidding, the load always be attached to the chain keyholes on the FX35. This will bring the loading force into the machine as low as possible. Skidding from the top of the mast can create a loading condition that can tip over the machine and tractor. Always ensure the load is attached to the chain keyholes on the FX35 when in use.

#### 4.8.6 OPERATING HINTS:

Follow this procedure when all your logs are winched up to the tractor,

##### Engine RPM:

The Winch is designed to operate with an hydraulic flow between 7.5-83 LPM (2-12 GPM). Optimum operating flow is 22 LPM (6 GPM), it is recommended that the tractor be run at a at no less than 1/4 throttle.

##### Winch Blade:

When the winch is being used, the frame should be lowered to the ground with the blade biting into the ground to help anchor the machine.

##### Tractor Weights:

It is recommended that the tractor be equipped with a full complement of suitcase weights on the front or a loader to provide the required ballast for stability. This will reduce the chance of the tractor tipping back or to the side.

##### Tractor Brakes:

The tractor parking brakes should always be set whenever the machine is being used or the operator is leaving the seat. On steep slopes it is also recommended that chocks be placed behind all the tires to prevent the tractor from moving.

##### Rough Terrain:

When moving the logs over rough terrain, drop the load and drive across the rough condition. Re-attach the load and winch the load across the rough conditions. Re-attach the load and drive away.

##### Chain Keyholes:

Always skid loads from the chain keyholes. The main use of the chain key holes is to lower the pulling point, making skidding safer, more stable, and less likely to tip the tractor.

##### Points to Remember:

- When operating the winch, always stay to the side of the of machine and slightly behind the winch for safety.
- Lower frame to the ground to allow the blade to engage the ground when operating the winch.
- Raise frame above the ground to clear the ground when skidding.
- Use a log chain or optional choker chain to connect to the chain keyholes or winch rope. Do not use a regular rope or other fabric attaching device to prevent breakage from abrasion or snagging.

## 5 TRANSPORTING

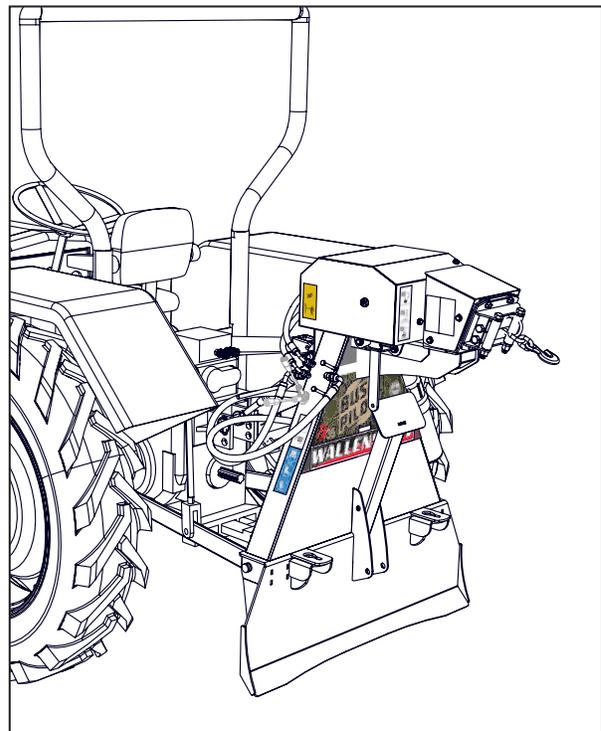


### TRANSPORT SAFETY

- Comply with state and local laws governing safety and transporting of machinery on public roads.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
- Never allow riders on the machine.
- Be sure the winch is hitched positively to the tractor and retainers are used through the mounting pins.
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.

When transporting the machine, review and follow these instructions:

1. Clear the area of bystanders, especially small children.
2. Check that all the lights and reflectors required by the highway authorities are in place, clean and working.
3. Insure that the machine is securely attached to the pick-up with retainers through the mounting pins.
4. Do not allow riders.
5. Never exceed a safe travel speed. Slow down when encountering rough road conditions and cornering.
6. Do not drink and drive.
7. Raise frame before transporting.
8. Ensure the support leg is up and locked.



**Ready for Transport**

## 6 STORAGE



### OPERATING SAFETY

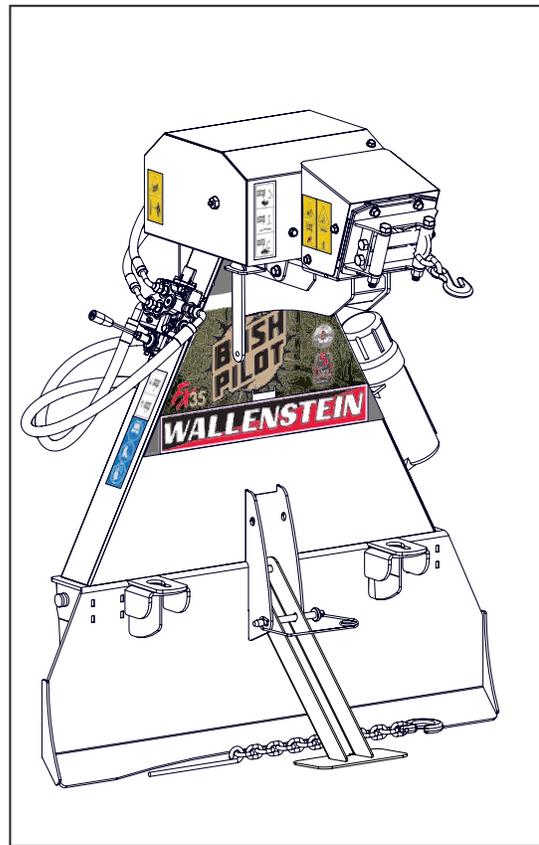
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Store the unit in a dry, level area. Place the machine on a skid / planks if required.

### 6.1 PLACING IN STORAGE

After the season's use or when the machine will not be used for a period of time, completely inspect all major systems of the Skidding Winch. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow this procedure before storing:

1. **Ensure support legs are lowered and locked in position.**
2. Detach skidder winch from tractor Remove all material from the machine.
3. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
4. Inspect all rotating parts for entangled material. Remove all entangled material.
5. Check the condition of synthetic rope, hooks, chain and sprockets. Replace or adjust as required.
6. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.



STORED

### 6.2 REMOVING FROM STORAGE

When removing this machine from storage, follow this procedure:

1. Remove the tarpaulin if covered.
2. Review and follow the pre-operation checklist.

# 7 SERVICE AND MAINTENANCE



## MAINTENANCE SAFETY

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
  - Keep service area clean and dry.
  - Be sure electrical outlets and tools are properly grounded.
  - Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine of the tractor in a closed building. The exhaust fumes may cause asphyxiation.
- Put the machine in **Safe Condition**
  - Shut off hydraulics
  - shut off the engine
  - ensure all components have stopped moving
  - rope is free and no tension applied
  - remove and pocket the ignition key
  - set the parking brake
  - block & chock the tractor wheels
- Never work under equipment unless it is blocked securely.
- Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling sharp components.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a Safe Condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

## 7.1 SERVICE

### 7.1.1 FLUIDS AND LUBRICANTS

- 1. Grease:**  
Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium base grease.
- 2. Storing Lubricants:**  
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.
- 3. Hydraulic Oil:** Use SL1503 Dual Purpose Hydraulic Fluid for all operating conditions.

### 7.1.2 GREASING

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Use a hand-held grease gun for all greasing.
2. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
3. Replace and repair broken fittings immediately.
4. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.

### 7.1.3 SERVICING INTERVALS

See service record and service illustration for service interval information. The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication or oil changes.

**IMPORTANT** Do Not over grease.  
One shot of grease is sufficient

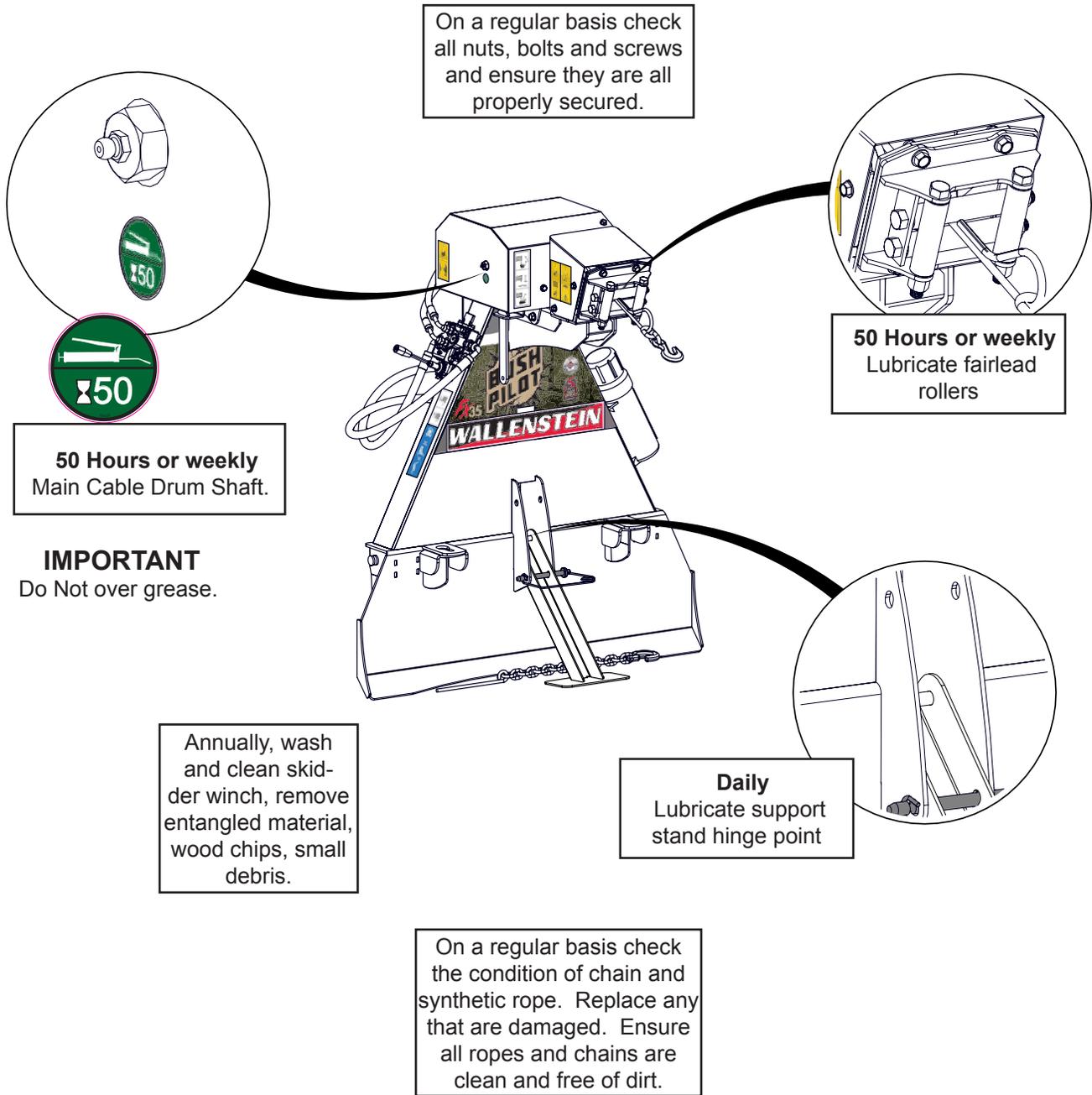


Look for this label on your machine, it indicates a grease point and the number of hours between greasing.

## 7.2 SERVICE ILLUSTRATION

See Service Record Chart

This illustration shows the general location of service points for all models in this manual.





## 8 TROUBLE SHOOTING

The Wallenstein Skidding Winch is designed with a winch mounted in a frame to retract or extend a synthetic rope that attaches to a log. It is a simple and reliable system that requires minimal maintenance.

In the following chart, we have listed many of the problems, causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual from your unit and serial number ready.

PROBLEM	CAUSE	SOLUTION	CAUTION	
Cable does not retract	Cable jammed	Disengage winch, pull cable out and rewind cable on to the spool.		
	Winch gear disengaged	Engage winch gear, check gear lever, check winch gears		Ensure machine is off / Call technician
	No hydraulic pressure	Check tractor hydraulics, check hydraulic connectors, check hydraulic level		Ensure machine is off / Call technician
	Clutch out of adjustment.	Adjust clutch.		Ensure machine is off
	Broken shear pin.	Replace pin and reduce size of load.		Ensure machine is off
Cable does not pull out	Winch gear engaged	Disengage winch gear, check gear lever, check winch gears		
	Cable jammed	Disengage winch, pull cable out and rewind cable on to the spool.		
Slow cable retraction.	Slow speed.	Switch to fast winch gear		
	Hydraulic system	check tractor hydraulic pressure,		
		check hydraulic connectors,		Ensure machine is off
		check hydraulic level		Ensure machine is off / Call technician
	Reduce load.			
Winch doesn't lock.	Gear not engaged.	Engage winch gear, check gear lever, check winch gears		

# 9 SPECIFICATIONS

## 9.1 MECHANICAL

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Model	FX35	FX66	FX85 / FX85R	FX110 / FX110R	FX140 / FX140R
Pulling Capacity	3500 lb 1587 kg	6600 lb 2993 kg	8500 lb 3855 kg	11000 lb 4989 kg	14000 lb 6350 kg
Recommended Tractor Size	15-30hp 11.5-22.5 kW	30-60hp 22.5-45 kW	30-60hp 13-45 kW	45-100hp 34-75 kW	60-140hp 45-104 kW
Mounting (3 Pt Hitch)	Cat 1	Cat 1	Cat 1	Category I & II	
PTO Input Speed	n/a	540 RPM Max			
Cable Speed	22-260 feet per min 7-79 meters per min	96-238 feet per min 29-72 meters per min		98-253 feet per min 30-77 meters per min	98-246 feet per min 30-75 meters per min
Cable Specification	Synthetic Rope 80' of 5/16" dia 24 m of 8 mm	Steel Cable 165' of 3/8" dia 50 m of 9.5 mm dia		Steel Cable 165' of 7/16" dia 50 m of 11 mm dia	Steel Cable 165' of 1/2" dia 50.29 m of 12.7 mm dia
Winch Type	Hydraulic, 2 Speed Winch	Mechanical, Dry Disk Clutch - Adjustable			
Maximum Input Torque	177 ft-lbs 240 N-m	207 ft-lbs 281 N-m	265 ft-lbs 360 N-m	351 ft-lbs 476 N-m	450 ft-lbs 610 N-m
Maximum Bare Drum Pull	3564 lbs 1616 kg	6671 lbs 3025 kg	8553 lbs 3879 kg	11130 lbs 5048 kg	14053 lbs 6374 kg
Maximum Full Drum Pull	1449 lbs 657 kg	2334 lbs 1058 kg	2992 lbs 1357 kg	3673 lbs 1666 kg	4733 lbs 2146 kg
Maximum Cable Length Capacity	133 ft 40.5 m	239 ft 73 m		207 ft 63 m	165 ft 50 m
Weight	245 lbs 111 kg	450 lbs 204 kg	470 lbs 213 kg	796 lbs 361 kg	898 lbs 407 kg
Dimensions L x W x H	27.0 x 40.0 x 48.0 inches 68.5 x 101.5 x 122.0 mm	19.0 x 40.0 x 71.0 inches 48.0 x 101.5 x 180.5 mm	27.0 x 40.0 x 76.0 inches 68.5 x 101.5 x 193.0 mm	28.0 x 50.5 x 79.0 71.0 x 128.0 x 200.0 mm	28.0 x 58.5 x 80.0 71.0 x 149.0 x 203.0 mm
Hydraulic Flow- GPM (Gallons per Minute)	Optimum 6 Range 2 - 12	N/A	N/A	N/A	N/A
Standard Features	choker chain	2 x Onboard Keyhole Slots Rope Controlled Brake / Clutch System Top Cable Pulley Lower Snatch Block Heavy Duty Safety Screen	2 x Choker Chain 2 x Keyhole Sliders Trailer hitch 4 x Onboard Keyhole Slots Rope Controlled Brake / Clutch System Top Cable Pulley Lower Snatch Block - Heavy Duty Safety Screen Dual Position Lower Link	2 x Choker Chain 2 x Keyhole Sliders Trailer hitch 4 x Onboard Keyhole Slots Rope Controlled Brake / Clutch System Top Cable Pulley Lower Snatch Block - Height Adjustable Heavy Duty Safety Screen Dual Position Lower Link	
Option / Accessories	N/A	#F200 Remote Control Winch Kit Standard on Models: FX85R, FX110R & FX140R 100m (300') Range voltage: 9 - 30 VDC amperage: 35-40 mA 2 x AAA Batteries req'd (transmitter) hydraulic actuator: 1 -2 GPM flow required		#F210 Remote Control Winch Kit Standard on Model: FX140R (same features as #F200)	
	N/A	# Z92123 Synthetic Rope, 7/16"x 200ft		# Z92124 Synthetic Rope, 1/2"x 200ft	
		#Z92125 Synthetic Choker, 3/8"x 5ft,			
		#Z92126 Synthetic Choker, 7/16"x 7ft,			
		#5089A100 Self Releasing Snatch Block			
		# Z99003 Logging Tong			

## 9.2 HYDRAULIC FITTING TORQUE

### Tightening Flare Type Tube Fittings \*

1. Check flare and flare seat for defects that might cause leakage.
  2. Align tube with fitting before tightening.
  3. Lubricate connection and hand tighten swivel nut until snug.
  4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.
- The torque values shown are based on lubricated connections as in reassembly.

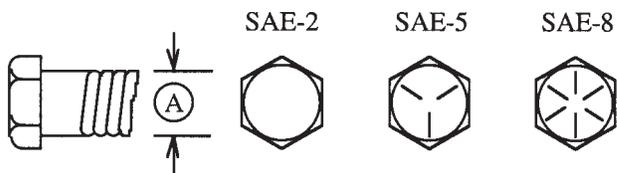
HYDRAULIC FITTING TORQUE					
Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(N.m)	(lb-ft)	(Flats)	(Turn)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

## 9.3 BOLT TORQUE

### CHECKING BOLT TORQUE

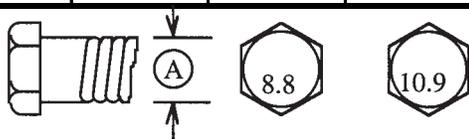
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

ENGLISH TORQUE SPECIFICATIONS						
Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



Torque figures indicated are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

METRIC TORQUE SPECIFICATIONS				
Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	0.5	0.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710

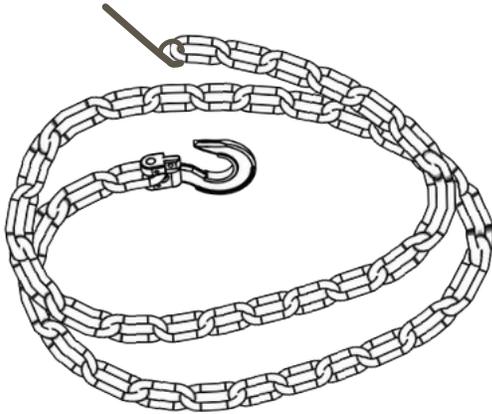


\* Torque value for bolts and capscrews are identified by their head markings.

## 10 ACCESSORIES

Call your dealer for pricing and availability

For replacement parts, go to [www.embmfg.com](http://www.embmfg.com) and click on "Parts and Manuals" to download the latest parts manual for you model skidding winch, then call your dealer to order.



#Z92318

Chokers:

**#Z92318 CHOKER CHAIN 5/16" X 7.5 FT**

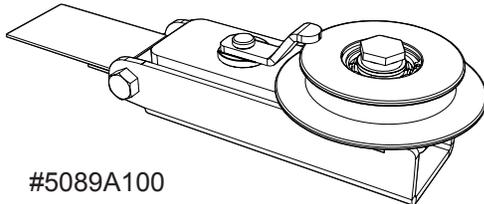
**#Z92126 SYNTHETIC CHOKER, 7/16" X 7 FT**

**#Z92125 SYNTHETIC CHOKER, 3/8" X 5 FT,**

For all FX Skidding Winches

Eases winching activities by providing a secure support when winching and skidding.

Synthetic rope chokers (braided UHMW) is a high strength polyethylene, lighter and easier to use than chain.



#5089A100

### **#5089A100 SELF RELEASING SNATCH BLOCK**

For all FX Skidding Winches

When obstacles prevent direct winching, or to prevent damage to other trees, the Wallenstein self-releasing snatchblock should be used. The snatchblock releases the rope when the keyhole slider reaches it.

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