For Earth, For Life
Kubota

L

KUBOTA DIESEL TRACTOR

L1361

The L1361 is a versatile and easy to operate utility tractor with a powerful engine and a choice of manual or HST transmission.

The New Standard i

in Compact Tractors

Introducing Kubota's all-new L1361, providing high performance, outstanding durability, easy operations and enhanced comfort. The L1361 not only performs but features a refreshed design with smooth, rounded contours from front to rear that also improve visibility so you can get the job done better and faster. Add to that, Kubota's new state-of-the-art front loader and parallel lift or quick attach bucket simplify even tough tasks. Work hard, but do it with ease with the new L1361.

KUBOTA DIESEL TRACTOR

L1361

With more horsepower than ever before, the L1361 will drive you to a higher level of performance.

ENGINE

Powerful Engines to Take On Tough Projects

The L1361 models put out 27.3 kW (36.6HP).

Live Continuous-running PTO

The L1361 HST model and the gear-drive models include a live, continuous-running rear PTO for easier operation. The HST models also feature an over-running clutch on the PTO shaft to protect the transmission. Finally, a stationary PTO feature enables the use of various implements, such as chippers and log splitters.

Bevel Gear Front Axle

A superior feature that delivers an extremely tight turning radius with full power transfer to the wheels at every steering angle.

Wet-disc Brakes

Responsive and smooth, our long-life wet-disc brakes are immersed in oil, and require only the slightest foot pressure to activate.

Large Fuel Tank

An ample 38-litre fuel tank lets you fill up with more fuel so you can operate longer.

Smooth Power Steering

To reduce fatigue, 4-wheel drive models come equipped with a smooth, easy-turn, integral power steering.

HYDROSTATIC TRANSMISSION

HST Pedal

Range Shift Lever and Cruise Control

3-range Shift for Optimal Speed Selection

An in-line shifting pattern enables easy range shifting from low to medium to high. The shift is also conveniently located on the left side of the operator's seat for simple operation.

Cruise Control (Optional)

To keep your working speed constant, simply set the infinite, mechanical cruise control lever on the L1361 HST model to your desired speed—and go.

GEAR-DRIVE TRANSMISSION

Main Shift Lever

Range Shuttle Lever

Powerful and Versatile Means Getting the Job Done Faster.

You'll finish the big jobs easily with the mechanical shuttle transmission featuring inline shifting in the low and reverse ranges for faster direction changes. Moreover, the transmission offers 8 forward and 4 reverse speeds (8F/4R), enabling you to select the right speed for higher productivity.

The L1361 gives you more of what the most popular compact tractors should provide.

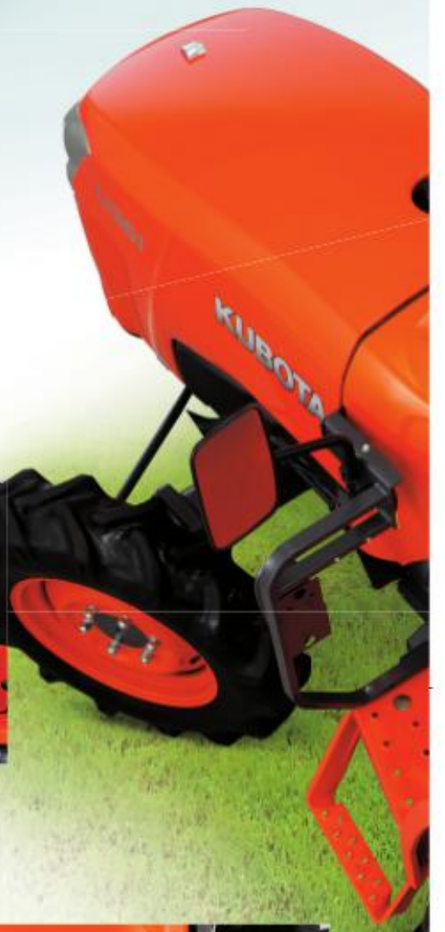
DESIGN

The L1361 offers a smooth and rounded look that's eminent from the front bonnet to the rear fenders. This design not only looks advanced, but offers better visibility to help ease operations as well. The sleek and slanted bonnet provides a greater field of vision, which becomes handy for front loader operations. Furthermore, the one-piece front bonnet can be fully opened for easier access to the engine to make routine inspections and maintenance a breeze.

Slide-out radiator screen / Gas-strut open bonnet

Newly Designed headlights

Rounded Fender



COMFORT

The L1361 brings more comfort, with a spacious and ergonomic operator layout, suspension seat and more.

Spacious Operator's Deck

To provide maximum comfort, the L1361 features a spacious operator platform. Its semi-flat design also makes getting on and off the tractor easier.

Conveniently Located PTO Lever

To further enhance access and entry/exit, the PTO lever is located on the right side of the operator's seat (HST models), or to the right side of the deck center cover (gear-drive models).

Suspension Seat

The suspension seat offers a high level of comfort. This contoured seat is ergonomically designed to reduce fatigue, even after long workdays.

Tool Box

A handy toolbox is located right behind the driver's seat for easy access.

Roll-Over Protective Structure (ROPS)

For maximum protection, all models come with foldable ROPS as a standard feature.

Cup Holder

This convenient holder securely fits a cup or a mug so you can always quench your thirst.

Choice of Tyres

Tyres designed for specific jobs enable the L1361 to perform even better. Select from AG and Turf.

Radiator Screen

Thanks to the full-open bonnet, the radiator screen easily slides in and out to simplify its cleaning.

3-point Hitch

The large capacity hydraulic pump and cylinder provide powerful lifting capacity, allowing you to use a wider range of implements.

Maximise the L1361's versatility with quick attach/detach implements.

LA525 FRONT LOADER

The new LA525 Front Loader with curved boom design is specially designed to handle the big tasks that the new L1361 is made for, providing improved lifting power and height as well as exceptional durability.

Easy Operation

A single-lever joystick provides easier operation. A regenerative dump circuit allows for fast bucket dumping, and the series circuit provides for simultaneous operation of the boom and bucket.

Curved Boom Design

The LA525's curved boom design matches the slanted hood with all hydraulic lines enclosed in the loader arms, providing a better field of vision during front loader operations. It also gives the loader, a modern and sleek appearance.

n Kubota's performance-matched

Quick Attaching / Detaching

Thanks to Kubota's innovative attaching/detaching system, you can attach and detach mounting pins and hose couplers from the driver's seat, quickly and easily. As a result, you can move from job to job with greater efficiency. Boom-mounted loader stands make access easy and allow the loader to stand alone when detached.

Optional 2-lever Quick Coupler

Unique Kubota Rod Indicator Link

A unique and innovative Kubota feature, the rod indicator link precisely detects boom height so that the operator can easily confirm the horizontality of the bucket attachment at any height whether raised or lowered.

High Quality Cylinders

The LA525 Front Loader features high-quality, heavy-duty cylinders to bring more muscle to your loader work. The durable plating offers impressive pressure resistance and achieves superior rust protection.

Thick Steel Frames

The front loader's thick single piece steel frames provide better durability as well as creating a better view between the tractor and the boom.

Protected hydraulic lines

SPECIFICATIONS

Model				L1361 Series	
				HST model	Gear model
				Rear ROPS	
Engine					
Model				D1803-M-E2	
Type				Indirect injection, Vertical, Water-Cooled 4 cycle diesel	
Number of cylinders / Aspiration				3	
Total displacement			ℓ	1.826	
Engine Gross power			kW (HP)	27.3 (36.6)	
Engine net power [97/68/EC]			kW (HP)	26.9 (36.1)	
Engine net power [ECE-R24]			kW (HP)	26.2 (35.1)	
Maximum torque			N-m	122.9	
Battery capacity				12V, RC : 123 min, CCA : 490A	
Fuel tank			ℓ	38.0	
Travelling system					
Transmission				HST	Gear-Drive T/M
No. of speeds				3 range speed	F8-R4
Max travelling speed	Forward		km/h	24.6	24.5
	Reverse		km/h	22.1	7.6
Cruise Control				Opt	-
Clutch				Dry type single stage	Dry type dual stage
Steering				Integral type power steering	
Braking system				Mechanical, Wet disk type	
Standard tyre	Farm tyre A	[Front]	[Rear]	[7-16]	[11.2-24]
	Turf tyre A	[Front]	[Rear]	[215/80D15]	[355/80D20]
Dimensions					
Overall length	w/o 3p		mm	2 810	
	w/ 3P		mm	3 025	
Overall width (min. tread)	:Farm tyre A / B / C		mm	1 290	
Overall height (with ROPS)	:Farm tyre A / B / C		mm	2 460	
Overall width (min. tread)	:Turf tyre A / B		mm	1 450	
Overall height (with ROPS)	:Turf tyre A / B		mm	2 447	
Wheel base			mm	1 610	
Min. ground clearance	:Farm tyre A / B / C		mm	345	
Tread :Farm tyre A / B / C		Front	mm	1 085	
		Rear	mm	1 015, 1 115, 1 195, 1 295	
Tread :Turf tyre A / B / C		Front	mm	1 084	
		Rear	mm	1 105	
Min. turning radius (with brake)			m	2.5	
Weight (with ROPS)			kg	1 260	1 240
Hydraulic unit					
Draft control				Opt	
Hydraulic control system				Position control	
Pump capacity	Main		ℓ / min	28.3	
	Ps		ℓ / min	17.2	
3-point hitch				SAE Category 1	
Max. lift force	At lift points		kg	906	
	24in. behind lift points		kg	651	
System pressure			MPa (kgf / cm²)	15.7 (160)	
PTO					
Rear PTO			rpm	540	

IMPLEMENTS

Loader Specifications

Loader model			LA525EC
Tractor model			L1361
Wheel base		mm	1610
Front tires			7 – 16
Rear tires			11.2 – 24
Boom cylinder	Bore x stroke	mm	45 x 476
Bucket	Bore x stroke	mm	45 x 476
Control valve	3 position bucket control valve type		One detent float position, single bucket dump, power beyond circuit
Rated flow		L/min	28.3
Maximum pressure		Mpa (kg/cm^2)	16.2 (165)
Net weight (approximate)		kg	365

Bucket type		Rigid	Quick
Maximum Lift Height (Pivot Pin)	mm	2403	
Clearance with bucket dump	mm	1943	1879
Reach @ maximum height	mm	633	707
Maximum Dump Angle	deg.	40	
Reach with attachment on ground	mm	1612	1712
Maximum Roll Back Angle	deg.	31	
Square Bucket Width / Capacity	mm / m^3	–	–
Lift Capacity (Pivot pin)	kg	513	439
Breakout Force (Pivot pin)	N	10951	10174
Attachment Rollback Time	sec.	1.9	
Attachment Dumping Time	sec.	2.7	

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TB216

COMPACT EXCAVATOR

PROTECTED BY TAKEUCHI SECURITY SYSTEM

TAKEUCHI®
Japanese for Reliability

TB216 compact mini excavator

The Takeuchi TB216,1.6 tonne mini excavator is one of the most popular mini excavators worldwide.

A compact machine packed full of proven Takeuchi features including expanding tracks, smooth hydraulics and powerful breakout force. A firm favourite with tool hirers, utilities, jobbing builders and ground workers.

Designed for maximum dig depth and dump height the TB216 has excellent working ranges and a powerful engine for 1.6 tonne machine weight class.

Now with added anti-theft security; new on the TB216 is the TSS Takeuchi Security System with programmed key start only.

ROBUST FOR SITE

The top mounted hydraulic boom cylinder and internally routed hoses helps avoid potential site damage.

Simple lever from single to dual flow at the front of the cab.

OPERATOR COMFORT

The large best in-class spacious cab has an easy gas strut assisted window, simply slides into the roof space.

Large adjustable arm rests help minimise operator fatigue.

PROVEN EXPANDABLE TRACK FRAME

With double flanged rollers for reliable track retention. A unique expanding track frame adjusts from 980 to 1300mm getting access in narrow openings. Added track width gives greater operating stability.

The TB216 is a very well protected mini digger built for the toughest site conditions.

Operators enjoy the smooth operation and powerful digging force from a compact portable machine.

With a maximum dig depth up to 2390mm and dump height of 2705 alongside a maximum reach at ground level as far as 4035mm the TB216 outperforms for its compact size.

Precise proportional control valves achieve the smoothest digging operation vital in critical dig sites working around live cables and pipes.

A 1.6 tonne Takeuchi has become the most popular choice of digger for all types of application - landscaping, utilities, groundworks and street works.

With a reputation for reliability, Japanese build quality makes all the difference.

ENHANCED VISUAL DISPLAY UNIT

Enhanced VDU displays key operator information and machine maintenance alerts.

EASY ACCESS & MAINTENANCE

Service door for easy radiator access, fuel filter and maintenance. The battery is positioned below the seat.

Takeuchi have introduced simple quick release side panels getting maximum access.

PROTECT YOUR INVESTMENT

The TB216 now comes with the new **TSS Takeuchi Security System** as standard.

- Only programmed keys for start-up
- Un-programmed keys alert the operator via the VDU and alarm
- Standard - 1 red master key and 3 black users keys
- Can programme up to 13 black user keys

PERFORMANCE

- Proven strong track frame design offers excellent balance and stability with a longer than average track frame (1520mm).
- Simultaneous operation of cab swing and digging function, and gives two-speed travel gives fast cycle times.
- Auxiliary hoses are easy to attach and well positioned high up the dipper arm or added protection.

OPERATION

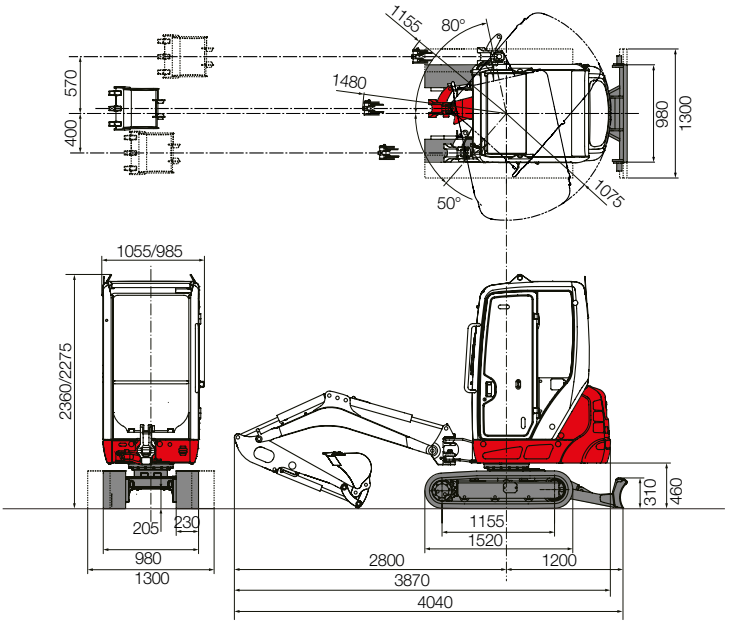
- Added offset position RH 80° and LH 50°.
- Cushioned main boom and swing cylinders for smooth operation.
- Boom and cab mounted work light give options for all types of working conditions.
- Well positioned enhanced VDU - warning indicators, rpm, hour meter, fuel, battery charge, temperature, oil pressures and maintenance alerts.

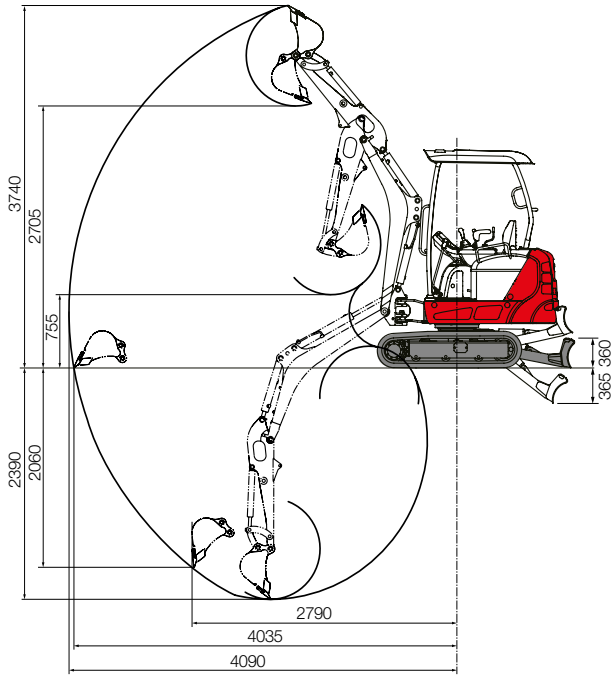
SAFETY & SERVICE

- Enhanced 100% steel wraparound frame protects key components. Flat glass panels make replacement an affordable option.
- Standard service features include; Safe Drain engine oil system, hydraulic and fuel gauges in cab and at filler, fuel drain system, hydraulic oil cooler, maintenance-free battery.
- Fitted with anti-theft Takeuchi Security System as standard.

OPTIONS

- TKB52-S Breaker
- Auger
- Quick Hitch
- Bucket sizes from 150-1000mm





TB216

Standard UK Specification - Long Dipper

Engine	
Make	YANMAR
Model	3TNV70
Rated Output (kW)/rpm	11.5/2400
Maximum Torque (Nm)	51.8
Cylinders	3
Displacement (cc)	854
Electrical System	12V
Dimensions & Weight	
Operating Weight inclusive of bucket and fuel: cab/canopy (kg)	1800/1680
Overall Length (mm)	3870
Width cab/canopy (mm) with extended track (mm)	1055/985 1300
Height cab/canopy (mm)	2360/2280
Ground Clearance (mm)	205
Min. Front Swing Radius (mm)	1155
Tail Swing Radius (mm)	1075
Dozer Blade (W x H) (mm)	900/1300 x 310
Operating Information	
Max Digging Depth (mm)	2390
Max Dump Height (mm)	2705
Max Reach at Ground Level (mm)	4035
Max Vertical Digging Depth (mm)	2060
Max Bucket Digging Force (kN)	14
Max Arm Digging Force (kN)	8.2
Hydraulic System	
Set Pressure (bar)	210
Pump Type	Variable
Hydraulic Flow Aux Port (l/min)	33
Swing System	
Boom Swing Angle (R/L)	50°/80°
Slew Speed (rpm)	9.2
Undercarriage	
Traction Motor	Piston
Traction Drive	Epicyclic Gearing
Traction Brake	Friction Brake
Track Width (mm)	230
Ground Contact Length (mm)	1155
Ground Pressure (kpa)	31/29.4
Travel Speed (km/h)	2.2-4.2
Maximum Gradeability	15°
Capacities	
Hydraulic System (l)	24.5
Fuel Tank (l)	22
Engine Lubrication (l)	2.8
Cooling System (l)	3.8

All dimensions unless otherwise stated are in millimetres.

For more information locally

call us direct, or contact:

05/2017

Takeuchi machines come with a 2 year/2000 hours warranty as standard. Warranty exceptions to 1 year; fuel injection systems, electrical components, paint work.

In accordance with our established policy of constant improvement, we reserve the right to amend these specifications at any time without notice. Photographs shown may feature non-standard equipment.

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Tel: 01706 657 722 Fax: 01706 657 744

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Tel: 01635 877 196 Fax: 01635 877 195

www.takeuchi-mfg.co.uk **Email: sales@takeuchi-mfg.co.uk**

TAKEUCHI® *Japanese for Reliability*

Fleming

1, 2, 4, 6, 8 & 10 Tonne Trailer
Operators Manual

Fleming Agri-Products Ltd
Newbuildings Industrial Estate
Newbuildings
Northern Ireland
BT47 2SX
Tel: (028) 7134 2637
Fax: (028) 7134 4735
Email:info@fleming-agri.co.uk
www.fleming-agri.co.uk

'Quality, Strength & Personal Service'

This manual is provided to assist you in getting the best results from your machine and ensure that you do so safely. If you have any queries about the use of the machine contact your dealer before use. Please keep this manual for future reference.

1.1 FUNDAMENTAL PRECAUTIONS

On delivery, your dealer gave you an explanation of the operation and maintenance of this Fleming trailer. Please read and understand these operating instructions before operating the machine for the first time. It is essential that you observe all safety instructions.

Incorrect use or mishandling of the machine can endanger:

- Life and Limb of the operator, other persons or animals within the vicinity of the machine.
- The machine and other material assets of the owner or third persons.
- The performance of the machine.

Anyone who is involved in the commissioning, operation or maintenance of the trailer must read and understand these instructions very carefully and observe them at all times.

NEVER DISTRACT ANYONE WHO IS USING A MACHINE.

1.2 AUTHORISED OPERATORS

Youths under the age of 16 must not operate this implement. The owner of the trailer must provide the operator with the operating instructions and make sure they have read and understood them. Only then may the trailer be put into operation.

The owner must ensure that only authorised persons operate/work on this trailer. He is responsible for keeping any third persons or animals out of the working area of the trailer.

THE OPERATOR MUST BE FULLY TRAINED BEFORE USING THE TRAILER

A SAFE DISTANCE OF AT LEAST 10M MUST BE OBSERVED BY ANY PERSON OR ANIMAL WITHIN THE VICINITY OF THE TRAILER.

1.3 GENERAL SAFETY AND ACCIDENT PREVENTION REGULATIONS

•**NEVER** attach to a tractor which would be rendered unstable when the trailer is operated at its full capacity. Take note of the maximum load permissible on tractor pick up hitch. The unloaded weight and maximum load are listed in table 1.

•Take extra care when operating machinery on sloping ground. The tractor-trailer combination is at particular risk when turning down slopes. **NEVER** operate on ground where there is a risk of the tractor becoming unstable.

•When detaching the trailer from the tractor always ensure that it is stable and safely positioned on a level surface.

•The attaching and detaching of the trailer to a tractor must be carried out by only one operator. There should not be any other people in the vicinity of the trailer or in the tractor.

•Before operation make yourself familiar with all elements and controls of the trailer as well as their functions.

•Before operation inspect the area around you. Keep children away. All visitors and unauthorised persons should be kept well away from work area.

•**Under NO circumstances** should anyone, authorised or otherwise attempt to use the trailer as a means of personal transport. It is designed as a specialist purpose farm trailer and is unsuitable for the safe transportation of passengers. **NEVER** allow anyone especially children to travel on the drawbar or anywhere between the tractor and trailer.

•Never stand with your feet under or near the trailer drawbar.

•**NEVER** overload the trailer with a load that is greater than the maximum capacity of the trailer. (See Table 1). Any attempt to overload the trailer will risk life and limb of the operator and immediately invalidate warranty.

•Ensure that the load is evenly distributed on the trailer deck and that the balance of the trailer is not compromised by an unevenly distributed load.

•To avoid personal injury keep hands and limbs well away from the moving parts.

•**NEVER** attempt to move this trailer manually.

•**EXTREME CAUTION** must be taken if operating the trailer near overhead power lines. All tipping, loading and unloading areas should be well away from overhead power lines. If a trailer does come into contact with a power cable and it is necessary to leave the tractor, leave the vehicle by jumping well clear. Do not make contact with the ground and the vehicle at the same time, as this will complete the electrical circuit. Prevent anyone else from coming into contact with the vehicle while it is touching any power cable and contact the electrical supply company immediately.

•1.4 GENERAL OPERATING INSTRUCTIONS

•Before beginning work ensure that the length, width and height of the trailer as well as the overall height when tipped is made known to the operator. These can be found in Table 1.

•Check the tyres are in good condition and at the correct pressures. Check that all wheel nuts are tight and inspect the hitch hook ring for wear.

•When coupling the trailer ensure that if fitted the trailer parking brake is firmly in the "ON" position or that the wheels are securely chocked.

•Ensure the trailer is correctly and securely attached to the operating vehicle using the tractor pick up hitch.

• Connect the tipping hydraulics and if fitted attach the brake line hydraulics and lighting cable. Before moving off check both systems for operation.

•Ensure the lift arms are positioned above the drawbar.

•Before road driving the operator should first take time to become familiarised with the turning circle of the tractor-trailer combination.

•During road driving take into account the effect that extra weight from a loaded trailer will have on the handling of the tractor and drive safely for the given conditions. Think ahead to make best use of use of engine revs, gear shifting and brakes for smooth control and make sure you give an early indication before turning.

•Remember that high loads on the trailer may impair rearward visibility. In such cases ensure tractor side mirrors are properly adjusted in good repair.

•Whilst in the field, plan your route carefully to best avoid uneven and sloping ground. **NEVER** turn down a slope especially with a fully laden trailer or when the surface is wet. Check that livestock which may be in the field at the time is well clear from the trailer before reversing or tipping.

•Use caution when tipping. **NEVER** tip near overhead power lines and only ever tip on firm level ground. Open the back door catch **BEFORE** tipping and never permit anyone to stand behind or beside trailer whilst tipping. If necessary drive forward slowly to spread the load taking care not to jerk the tractor suddenly.

•**NEVER** enter the area between the trailer chassis and deck.

•After the load is clear lower the deck and close the back door securely before moving off.

•Take extra care when reversing the trailer and check the area for obstructions which may not be seen from the tractor cab before reversing. Ensure that no children are in the area and that any helpers are kept within view. **NEVER** permit anyone to stand behind the trailer when reversing.

•When detaching the trailer ensure that it is parked on a level surface and apply if appropriate the parking brake or chock the wheels. Detach all hydraulic couplings, brake line hydraulics and lighting cable. Finally unhitch the tractor and drive clear of the drawbar.

1.5 TRAILER SPECIFICATIONS

Table 1. Trailer Dimensions and Weights

	Height of Standard Box Sides (mm)	Height With Grain Sides (mm)	Tipping Height Standard Box Sides (mm)	Tipping Height With Grain Sides (mm)
1 Tonne	1005	1120	2060	4870
2 Tonne	1170	N/A	2880	N/A
4 Tonne	1495	2055	3405	3725
6 Tonne	1560	2120	3880	4240
8 Tonne	1670	N/A	4555	N/A
10 Tonne	1790	N/A	4695	N/A

	Total Length (mm)	Width (mm)	Unloaded Trailer Weight (kg)	Max Load (kg)
1 Tonne	2800	1275	347	1500
2 Tonne	3700	1370	496	2000
4 Tonne	4200	1900	975	4000
6 Tonne	5100	2150	1465	6000
8 Tonne	5400	2210	2120	8000
10 Tonne	5860	2285	3050	10000

•1.6 HYDRAULIC SAFETY

•**CAUTION** The hydraulic system is under high pressure.

•Ensure that only high-pressure hoses are used to connect supply to the trailers hydraulic cylinder. Check hoses regularly and renew any that are damaged or worn.

•Before working on the hydraulics lower the trailer, release the pressure from the system and stop the tractor engine.

•When connecting hydraulic rams make sure that the hydraulic hoses are coupled correctly. Pressure should be released from the system both on the tractor and on the trailer side prior to coupling the hoses to the tractor hydraulics.

•**CAUTION** Hydraulic oil forced out under pressure can break the skin and cause severe injury. In the event of a hydraulic oil leak stop the tractor flow immediately. **DO NOT PUT HANDS NEAR A LEAKING PIPE.**

1.7 MAINTENANCE

•As a rule, disengage the driving system and stop the engine prior to carrying out maintenance, servicing, cleaning or repair work. **ALWAYS** remove the ignition key.

•Prop the trailer with appropriate supports and ensure the wheels are suitably chocked before carrying out any maintenance work. If it is necessary to carry out maintenance on the trailer with the deck in the tipped position always prop the trailer deck using a secure mechanical means. **DO NOT RELY ON HYDRAULIC SUPPORT ALONE.**

•The manufacturer will not be responsible for any damages or injuries caused by unauthorised repair, alterations or mishandling of the product.

•Maintain product with care. Check periodically for damage that would affect the safe operation of the trailer.

•**ALWAYS** ensure all warning stickers are kept clean and in good condition.

•Regularly check all bolts including wheel nuts and tighten if necessary.

•Regularly lubricate the hydraulic cylinder and hinges using clean grease.

•Cover the chromed area of the hydraulic cylinder with a layer of grease during prolonged periods of inactivity.

NOTES

It is recommended that two persons (minimum) are required to remove and re-fit trailer sides and optional grain sides.

The maximum recommended speed that the trailer can be operated at is 30 k/hr.

Tyre pressures for TR6/8 should be 5.8 Bar and wheels should be torqued to 330NM.

Please note the trailer must not exceed speeds of 40km/h.

DECLARATION OF CONFORMITY

CONFORMING TO EC Machinery Directive 2006/42/EC

We:

Fleming Agri-Products Ltd
Newbuildings Industrial Estate
Newbuildings
Northern Ireland
BT47 2SX

CE

declare in sole responsibility, that the product

Type: **1 Tonne Trailer**
2 Tonne Trailer
4 Tonne Trailer
6 Tonne Trailer
8 Tonne Trailer
10 Tonne Trailer

to which this certificate applies, conforms to the basic safety and health requirements of the EC Machinery Directive 2006/42/EC, and the Transposed Harmonised Standards:

BS EN 4254-1 (2015)

Jonathan Lecky
Production Director

D. W. Tomlin

OLD LEAKE, BOSTON, LINCS PE22 9JS
TEL: 01205 870535
EMAIL: sales@dwtomlin.co.uk

E.C DECLARATION OF CONFORMITY

MANUFACTURER	D. W. TOMLIN
PRODUCT DESCRIPTION	PALLET FORK
MODEL	1000KG LA525
SERIAL NUMBER	PF19130

DIRECTIVES COMPLIED WITH

THE SUPPLY OF MACHINERY (SAFETY) REGULATIONS 1992.
EEC DIRECTIVES 89/392 AS MODIFIED BY DIRECTIVES 91/368 EEC, 93/386 EEC & 93/44 EEC & 2006/42/CE

AUTHORISED REPRESENTATIVE MR R TOMLIN (PARTNER)

SIGNATURE R. Tomlin..... **DATE 25 / 02 / 2019**

CLOVER
嘉耘机械

BX42

3 POINT HITCH WOOD CHIPPER MODELS BX42

OPERATOR'S MANUAL

PRINTED IN CANADA
REV 121011

PART NUMBER: Z97032

SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Wallenstein 3 Point Hitch Wood Chipper and Feed Hopper 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.

Fig. 1 BX42S

SERIAL NUMBER LOCATION

Model Number _____

Chipper Serial Number _____

1 INTRODUCTION

Congratulations on your choice of a Wallenstein 3 Point Hitch Wood Chipper to compliment your operation. This equipment has been designed and manufactured to meet the needs of a discerning timber or landscaping industry.

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

BX42

This manual covers the Wallenstein 3 Point Hitch Wood Chipper BX42Use the Table of Contents or Index as a guide to locate required information.

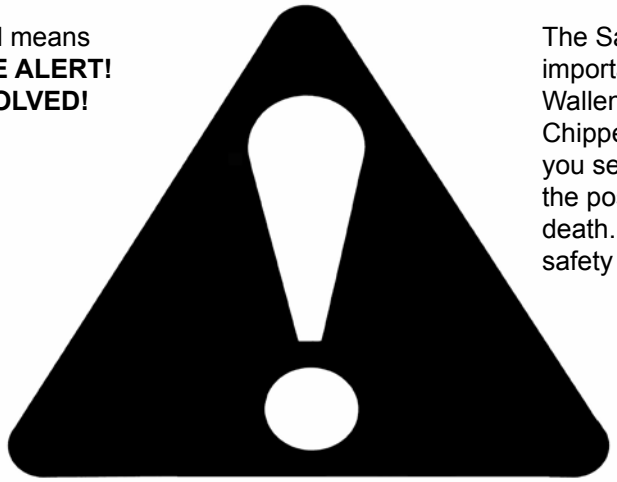
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Wallenstein dealer or the Distributor if you need assistance, information or additional copies of the manuals.

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 in the direction of travel.

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 3 Point Hitch Wood Chipper 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

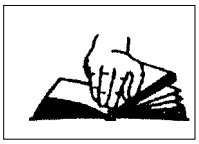
YOU are responsible for the SAFE operation and maintenance of your Wallenstein 3 Point Hitch Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the 3 Point Hitch Wood Chipper be familiar with the using and maintenance procedures and related **SAFETY** 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 3 Point Hitch Wood Chipper.

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 using 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.

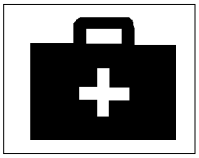
- 3 Point Hitch Wood Chipper owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- 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.
- Think SAFETY! Work SAFELY!

2.1 GENERAL SAFETY

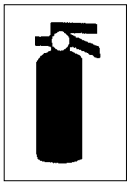
1. Read and understand the Operator's Manual and all safety signs before using, maintaining, adjusting or cleaning the 3 Point Hitch Wood Chipper.



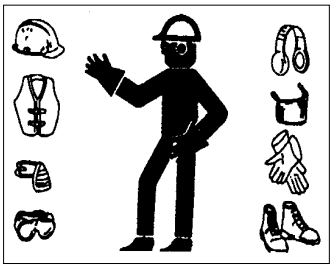
2. Have a first-aid kit available for use should the need arise and know how to use it.



3. Have a fire extinguisher available for use should the need arise and know how to use it.

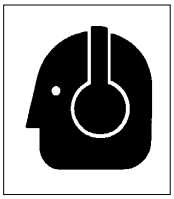


4. Do not allow riders.
5. Wear appropriate protective gear. This list includes but is not limited to:



   - A hard hat
   - Protective shoes with slip resistant soles
   - Protective glasses, goggles or face shield
   - Heavy gloves
   - Wet weather gear
   - Hearing Protection
   - Respirator or filter mask

6. Install and secure all guards before starting.
7. Wear suitable ear protection for prolonged exposure to excessive noise.



8. Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Clear the area of people, especially small children, before using the unit.
10. Review safety related items annually with all personnel who will operating or maintaining the 3 Point Hitch Wood Chipper.

2.2 EQUIPMENT SAFETY GUIDELINES

1. 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.

2. 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.

3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.

4. 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.

5. **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.

6. 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.

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.**

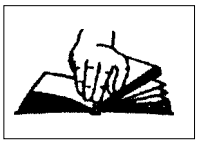
8. Do not modify the equipment in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the equipment.

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.

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:**

   a. Read and understand the operator's manuals.

   b. Is instructed in safe and proper use.

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

6. 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 using 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.

2.4 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 displayed in Section 3 each have a part number in the lower right hand corner. Use this part number when ordering replacement parts.

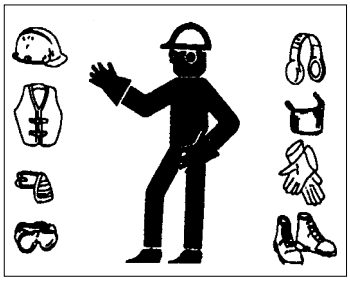
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

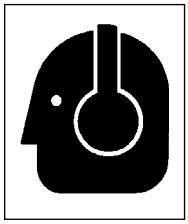
How to Install Safety Signs:

- 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.

2.5 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 jewellery 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.

2.6 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 towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.

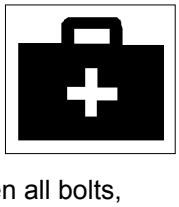
4. Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.

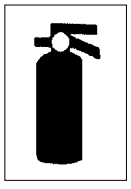
5. Never work under equipment unless it is blocked securely.

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 blades.

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.





9. 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.

10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

2.7 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the 3 Point Hitch Wood Chipper. 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 3 Point Hitch Wood Chipper 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 rotor cover before operating.

4. Close and secure all guards, deflectors and shields before starting and operating.

5. Read and understand operator's manual before starting. Review safety instructions annually.

6. 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.

7. Keep hydraulic lines and fittings tight, in good condition and free of leaks.

8. 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.

9. Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

10. Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.

11. Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.

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. Never allow children or unauthorized people to operate or be around this machine.

15. Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.

16 Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.

17 Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

18. Do not move or transport chipper when the rotor is turning.

19. Do not exceed a safe travel speed when transporting.

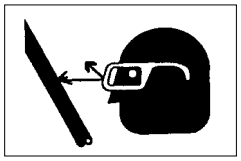
2.8 HYDRAULIC SAFETY

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.

2.9 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.

2.10 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. Fold up and secure feed hopper before moving or transporting.

5. Be sure the machine is hitched positively to the tractor and a retainer is used through the mounting pins.

6. Do not drink and drive.

7. 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.

8. Never allow riders on the machine.

2.11 SIGN-OFF FORM

Wallenstein follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be using and/or maintaining the 3 Point Hitch Wood Chipper must read and clearly understand ALL Safety, Usage and Maintenance information presented in this manual.

Do not use or allow anyone else to use this chipper until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to use this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

SIGN-OFF FORM

DATE	EMPLOYEES SIGNATURE	EMPLOYERS SIGNATURE

3 SAFETY SIGN LOCATIONS

3.1 THREE PANEL SAFETY SIGNS

The types of safety signs and general 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!

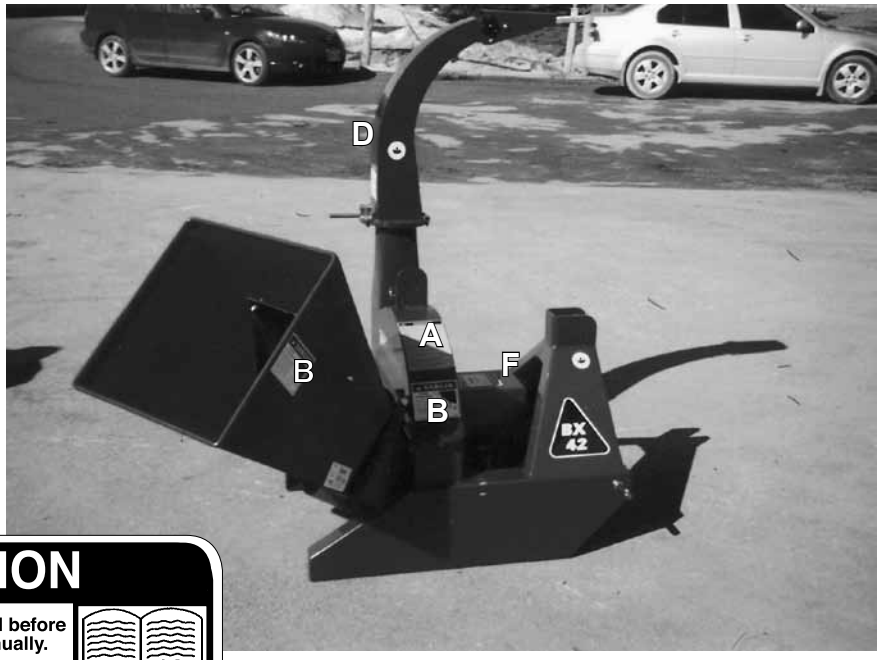
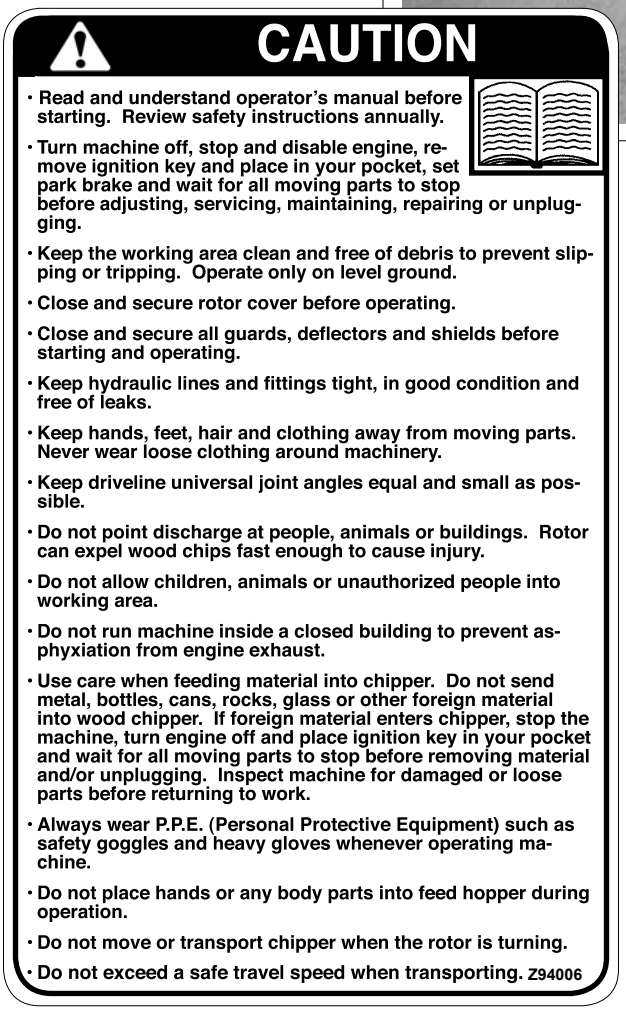


Fig. 4

A



B

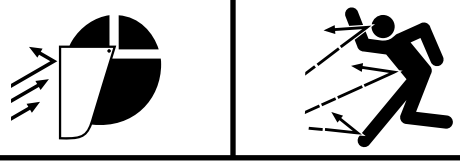
REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

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.

Fig. 6

D

DANGER



THROWN OBJECT HAZARD

To prevent serious injury or death from thrown objects:

- **Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before adjusting, servicing, maintaining, repairing or unplugging.**
- **Do not direct discharge duct towards people, animals or property. Always wear appropriate safety gear. Keep hands and feet out of discharge openings.**
- **Keep others away.**

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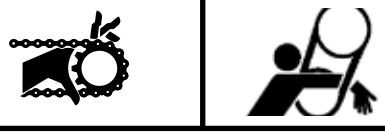
E

DANGER



MISSING GUARD HAZARD

- **Close and secure all guards and shields before operating.**
- **Do not operate without guards and shields.**

Z94013

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.

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.

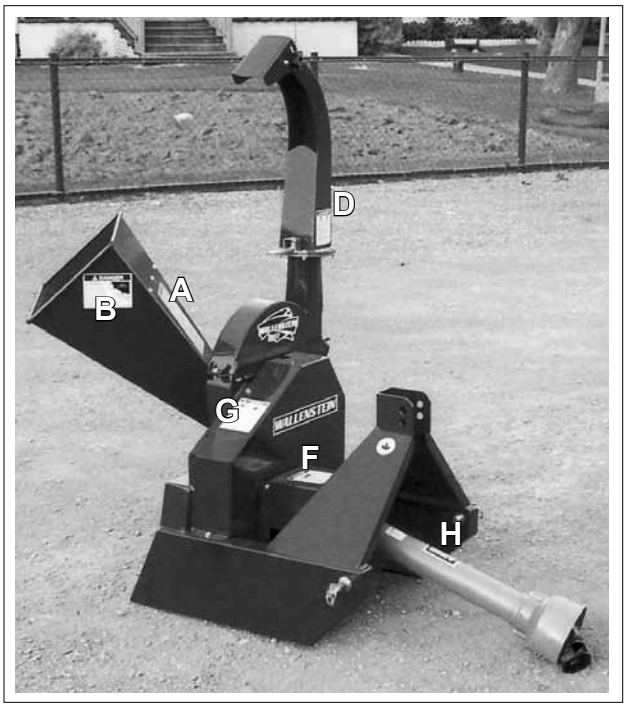


Fig. 8

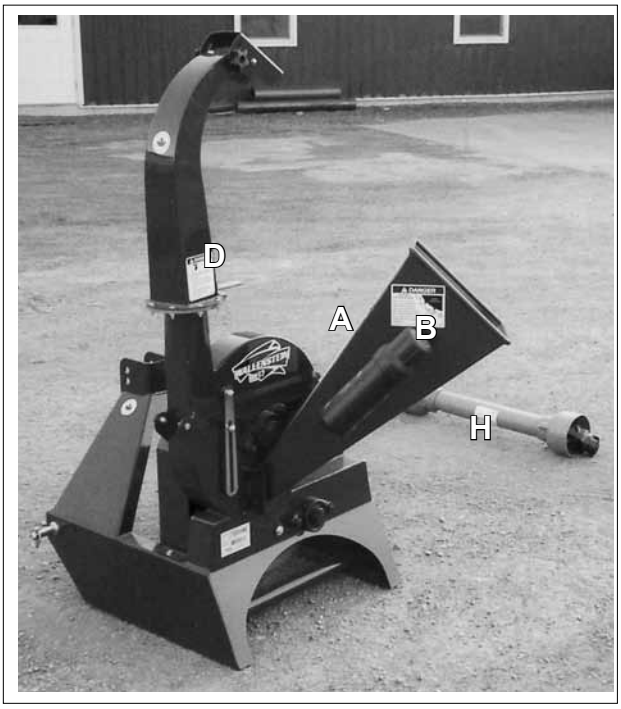


Fig. 9

Fig. 10

G

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.

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.

Fig. 11

H

J

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.

3.2 TWO PANEL SAFETY SIGNS

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!

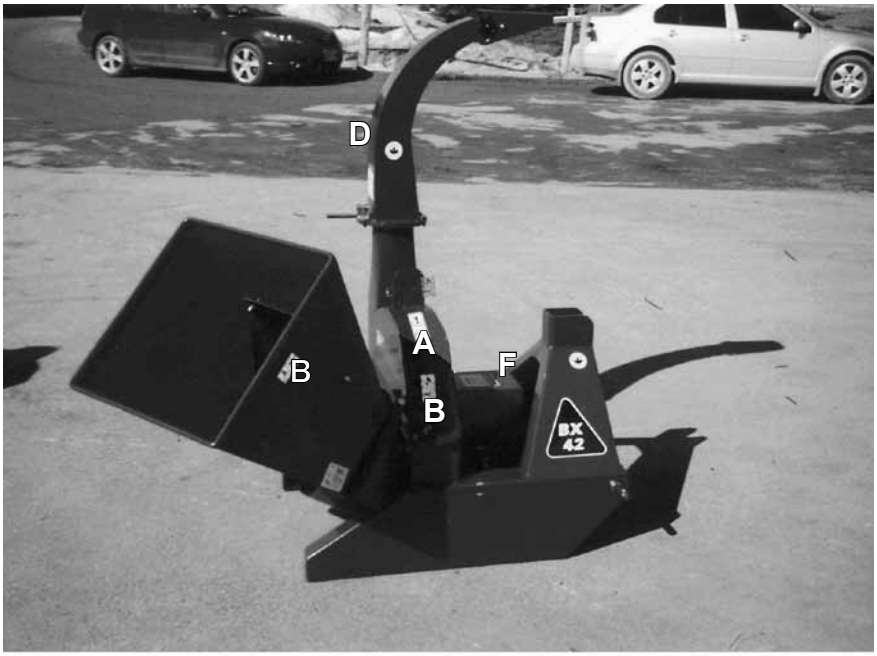
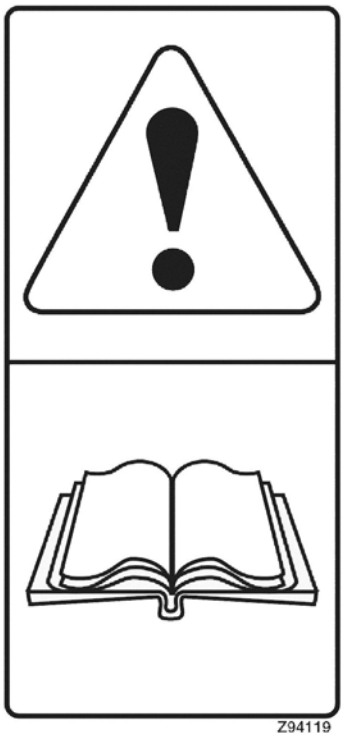


Fig. 12

A



B

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.

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.

Fig. 14

D

E

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.

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.

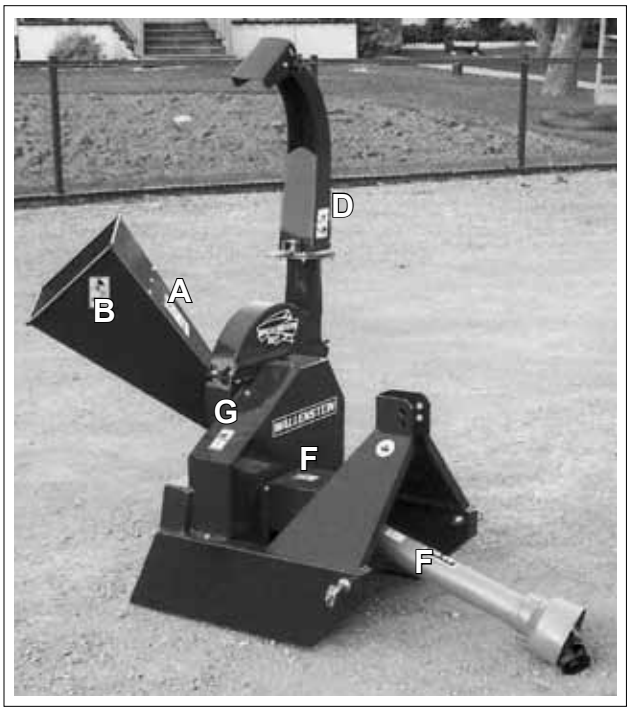


Fig. 17

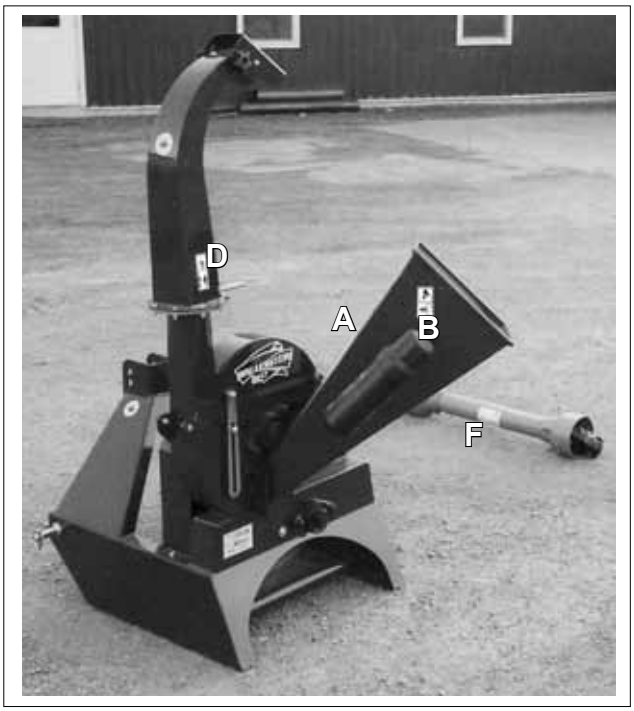


Fig. 18

Fig. 19

Fig. 20

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

- Please remember it is important that you read the operator's manual and heed the safety signs on the 3 Point Hitch Wood Chipper. 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.
- Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, or plugging. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- 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.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Never allow children or unauthorized people to operate or be around this machine.
- Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
- Do not move or transport chipper when the rotor is turning.
- Do not exceed a safe travel speed when transporting.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

4.1 TO THE NEW OPERATOR OR OWNER

The 3 Point Hitch Wood Chippers are designed to chip or chop scrap lumber, small trees, brush, limbs and other wood debris. The chipped material is fine enough to be composted or used in a variety of ways.

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.

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 operate the machine.

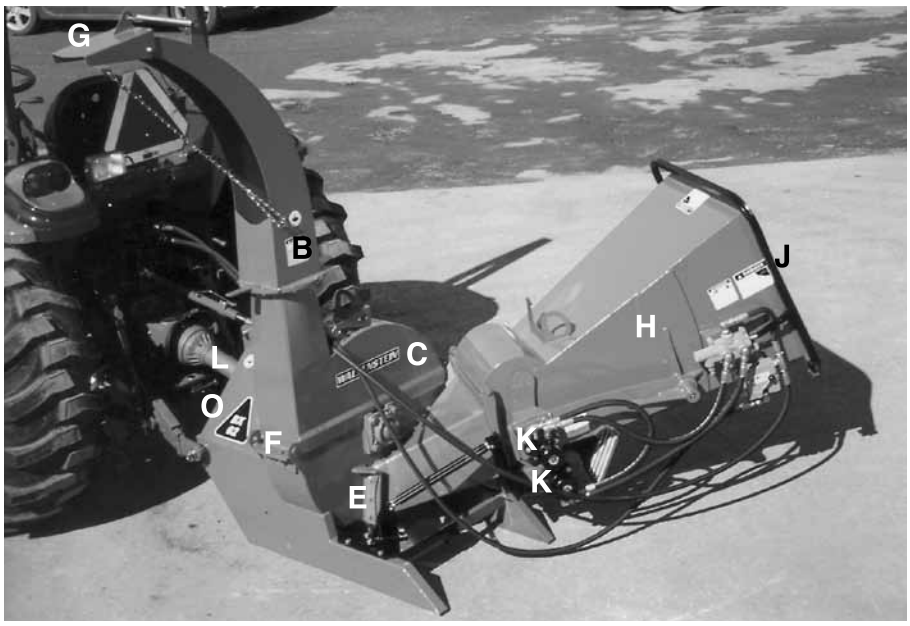
Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to use the chipper safely and how to set it to provide maximum field efficiency. By following the using instructions in conjunction with a good maintenance program, your 3 Point Hitch Wood Chipper will provide many years of trouble-free service.

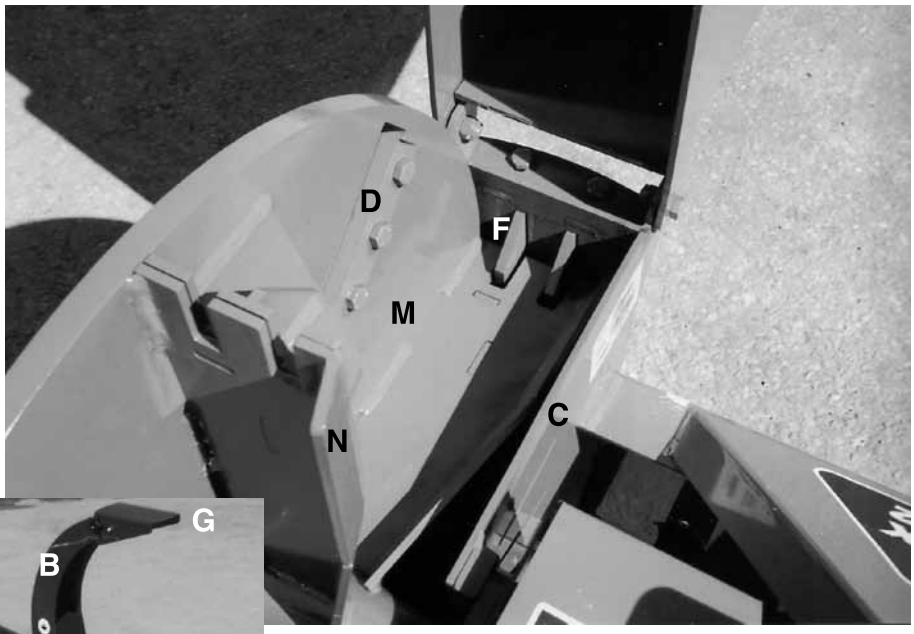
4.2 MACHINE COMPONENTS

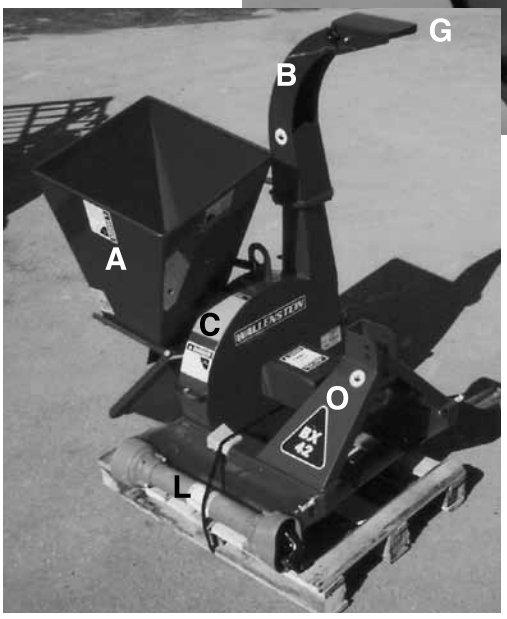
The Wallenstein 3 Point Hitch Wood Chipper is a rotor with blades for chipping wood. A hinged feed hopper moves the wood material into the rotor. Each rotor is designed with 4 blades and a twig-breaker to generate the small pieces of wood. A stationary knife at the rear of the rotor housing is placed by the moving knives to shear, chip or chop the material.

The tractor provides rotational power through a PTO shaft on the front of the frame and hydraulic power for the hydraulic feed hopper.

A Manual Feed Hopper
B Discharge Hood
C Rotor Housing
D Rotor Blade
E Stationary Blade
F Twig Breaker
G Hood Deflector
H Hydraulic Feed Hopper
J Hydraulic Feed Control
K Hydraulic Motor
L PTO Drive line
M Rotor
N Paddle
O 3 Point Hitch







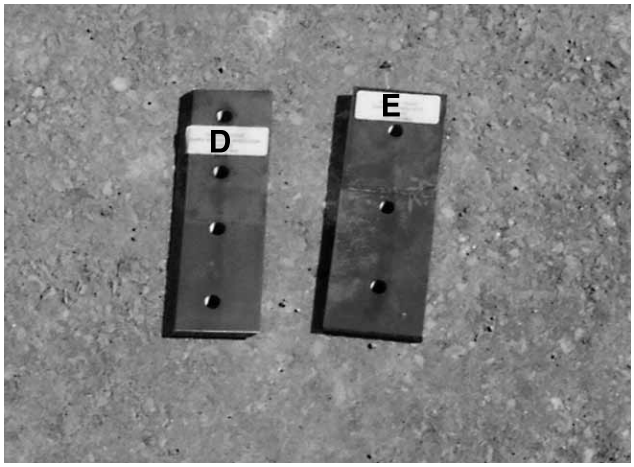


Fig. 21 PRINCIPLE COMPONENTS

4.3 MACHINE BREAK-IN

Although there are no operational restrictions on the Wood Chipper 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 rotor bearings.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
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.

4.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Wallenstein 3 Point Hitch Wood Chipper 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 Wood Chipper and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outline in the Maintenance Section.
2. Check the rotor, blades and twig-breaker. Remove any twine, wire or other material that has become entangled.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
4. Check that all bearings turn freely. Replace any that are rough or seized.
5. Make sure that all guards and shields are in place, secured and functioning as designed.
6. Check the condition of the curtain in the feed hopper. It must be in good condition to prevent chips from flying out.

4.5 DRIVELINE DIMENSION

A PTO drive line is supplied with the machine. To accompany the variety of 3 point hitch geometry available today, the drive line can be too long for most machines or too short for others. It is very important that the drive line be free to telescope but not to bottom out when going through its working range. If the drive line bottoms out, the bearings on both the machine and tractor PTO shaft will be overloaded and fail in a short time.

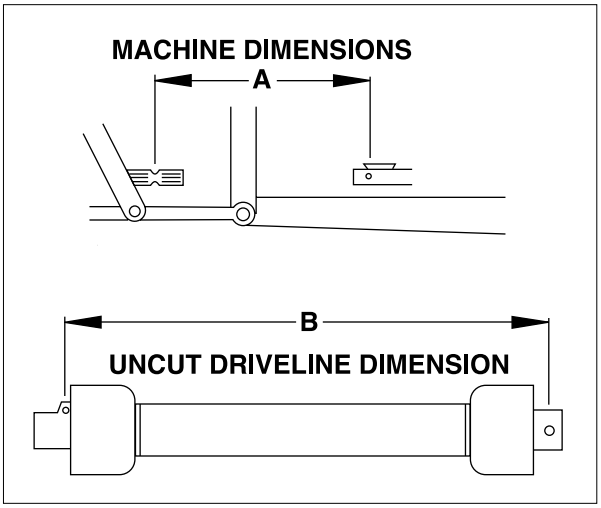


Fig. 22 DRIVELINE DIMENSIONS

1. **To determine the proper length of the drive line, follow this procedure:**

   a. Clear the area of bystanders, especially small children.

   b. Attach the chipper to the tractor (see section 4.8) but do not attach the drive line.

   c. Raise the machine until the input shaft is level with the tractor PTO shaft.

   d. Measure the dimension between the locking grooves on the tractor PTO shaft and the machine input shaft.

   e. Measure the same dimensions on the compressed drive line.

   f. If the compressed drive line dimension exceeds the machine dimension, the drive line will have to be cut.

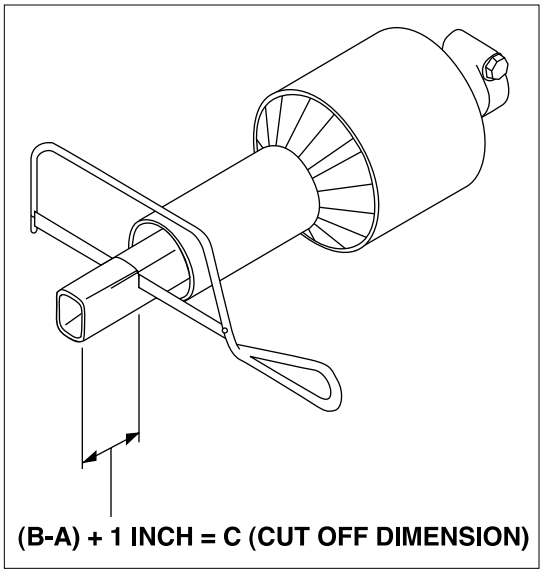


Fig. 23 CUT OFF DIMENSION

2. **When cutting the drive line, follow this procedure:**

   a. Subtract the machine dimension (A) from the uncut drive line dimension (B) or (B-A). This dimension determines how much too long the drive line is.

   b. Add another inch (25 mm) to the dimension to be sure it doesn't bottom out, to determine (C) the cut off dimension.

   c. Use a hacksaw to cut dimension (C) from both ends. Cut both the plastic tubes and the metal cores.

   d. Use a file to remove the burrs from the edges that were cut.

   e. Assemble the 2 ends of the shaft.

   f. Make sure the shaft can telescope freely. If it does not, separate the 2 parts and inspect for burrs or cuttings on the shaft ends. Be sure it telescopes freely before installing.

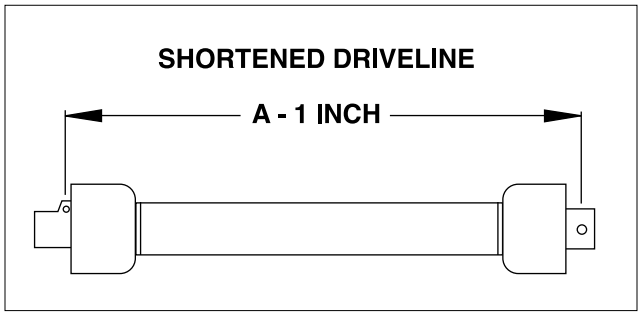


Fig. 24 SHORTENING

4.6 MOUNTING AND UNHOOKING TRACTOR

When attaching chipper 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 chipper.

3. Place the tractor arms in their full sway position.

4. Back up slowly and align the lower link arms to the pins on the machine.

5. Mounting without a Quick Hitch

   a. Align the left lower link with the left chipper pin.

   IMPORTANT

   It may be necessary to add weight to the lower lift arms to bring them to the required height.

   b. Insert the left pin through the ball and install the retainer.

   c. Align the right arm to the pin by turning the jackscrew on the arm.

   d. Insert the right pin through the ball and install the retainer. Return the jackscrew to its starting position.

   e. Remove the top pin and install the top link. Use the turnbuckle to align the top link. Insert the pins and install the retainers. Return the turnbuckle to its original length and lock.

Fig. 25 TRACTOR LOWER LINKS

Aligned

Pinned

Fig. 26 LOWER ARMS

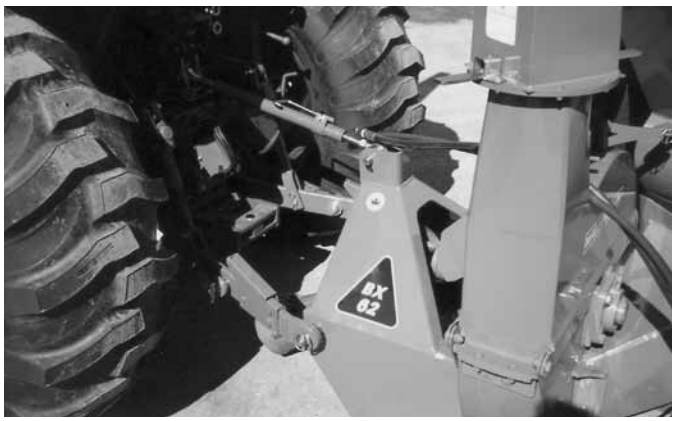


Fig. 27 TOP LINK

5. Mounting with a Quick Hitch.

   a. Align the claws on the Quick Hitch slightly below the mounting pins on the chipper.

IMPORTANT

It may be necessary to add weight to the lower lift arms to bring them to the required height.

   b. Back up until the pins are above the claws.
   c. Use the turnbuckle on the top link to adjust the position of the top claw.

   d. Raise the 3 point hitch until the pins seat in the claws.

   e. Be sure the retainers are released to hold the pins in the claws.

6. Set the 3 point hitch in the non-sway position (see tractor manual for details).

7. Install the PTO drive line:

NOTE

Be sure the telescoping portion of the shaft is greased and free of dirt.

   a. Slide the collar back on the yoke, align the splines and slide the yoke on the tractor.

   b. Release the collar and make sure the locking pin clicks into position.

Fig. 28 PTO SHAFT

NOTE

The drive line should already have been cut to the required length.

4.8 FIELD OPERATION

OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the 3 Point Hitch Wood Chipper. 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.
- Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, or plugging. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- 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.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Never allow children or unauthorized people to operate or be around this machine.
- Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
- Do not move or transport chipper when the rotor is turning.
- Do not exceed a safe travel speed when transporting.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

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

1. Clear the area of bystanders, especially small children.
2. Review and follow the Pre-Operation Checklist (see Section 4.4).
3. Attach the machine to the tractor (see Section 4.6).
4. Drive to the work area and position at the worksite.
5. Set park brake.
6. Stop engine.
7. Remove ignition key and place in your pocket.
8. Move the feed hopper down into its working configuration and secure with the anchor nuts.
9. Turn discharge hood to its working position.

5. Starting the Machine:

a. Start the tractor engine.

b. Move the throttle to its low idle position.

c. With the engine at low idle, slowly engage the PTO control.

d. Slowly increase the engine speed until the PTO is at rated speed.

e. With the manual feeding model, start feeding material into the hopper.

f. With the hydraulic feeding model:
- Place the tractor hydraulic lever into its detent position.
- Move the control lever into the feed position.
- Start feeding material into the hopper.

6. Stopping:

a. Stop feeding material into the hopper.

b. Place the hydraulic feed control in off/ neutral.

c. Slow engine RPM.

d. Place hydraulic lever in its OFF position.

e. Disengage PTO.

f. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop.

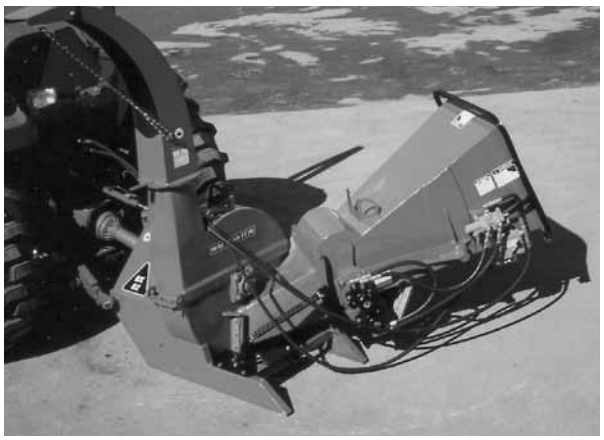


Fig. 34 FEED HOPPER/DISCHARGE HOOD

Hydraulic Feed

Working

Fig. 35 STARTING/STOPPING

7. Emergency Stopping:

Stop tractor engine if an emergency occurs. Correct emergency situation before starting engine and resuming work.

8. Feeding:

a. **Self Feed Hopper:**

- Slowly slide the wooden material into the feed hopper and move it into the rotor.
- Do not push the material with a lot of force into the rotor.
- Do not push the material too fast into the rotor. Stop and slow down if the engine starts to slow down.
- Do not reach into the feed hopper further than the curtain to be sure not to contact the blades on the rotor.
- Use a stick or branch to push any piece of material into the rotor that does not move on its own and stops in the hopper. Do not take a chance with getting your hand caught in the rotor.

b. **Hydraulic Feed Hopper:**

- Slowly slide the wooden material into the feed hopper until the roller grabs the material and move it into the rotor.
- Use the flow divider on the side of the feed hopper to set the feeding speed.
- Do not reach into the feed hopper further than the curtain to be sure not to contact the feed roller or the blades on the rotor.
- Use a stick or branch to push any piece of material into the feed roller that does not move on its own and stops in the hopper. Do not take a chance with getting your hand caught in the feed roller.

Fig. 36 OPERATING

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

10. Do not place metal, bottles, cans, rocks, glass or other solid material into the wood chipper. If something like this gets into the machine, stop the machine immediately for a detailed inspection. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop before inspecting or unplugging. Inspect machine for damaged or loosened parts before resuming work.

11. Blades:

There are 2 types of blades used on the Wood Chipper. They work together to cut, shear and shred the wood as it moves through the machine.

a. **Rotor blades:**
The rotor is equipped with 4 blades placed at 90° to each other to keep the rotor in balance. If one needs to be changed, the one opposite should be changed.

b. **Stationary blade:**
Each machine is equipped with a stationary blade that acts as a stop for the moving rotor blades.

WARNING

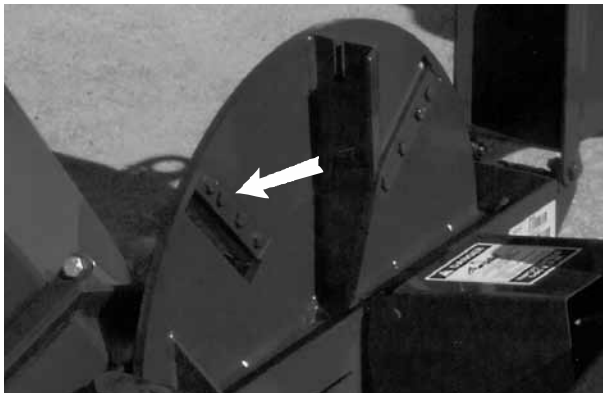
Machine is shown with guard opened or rotor cover opened for illustrative purposes only. Do not operate machine with guard opened or cover opened.

12. Sharpening Blades:

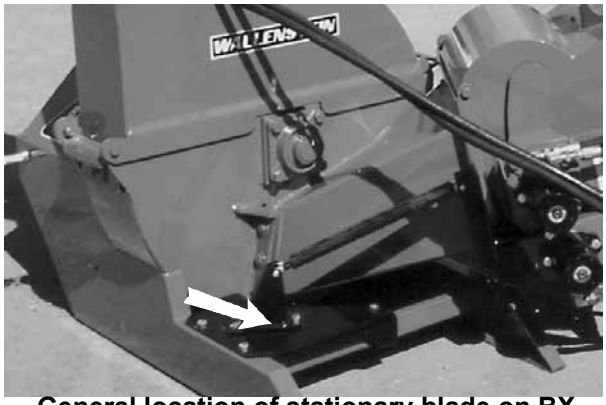
The rotor and stationary blades need to be sharp for the chipper to perform as expected. It is recommended that the rotor blades be removed from the rotor when sharpening. Always sharpen the blades at a 45° angle to provide the best cutting effect as it meets the stationary blade. Be sure to tighten the blade mounting bolts to their specified torque when re-installing the blades to the rotor.
The stationary blade is designed with 4 sharp corners that can be utilized. When the corner facing the rotor blade rounds over, remove the blade and re-install with a different corner facing the rotor blade. Use the stationary blade to set the clearance to the rotor blade when re-installing. Be sure to tighten mounting bolts to their specified torque.

13. Clearance:

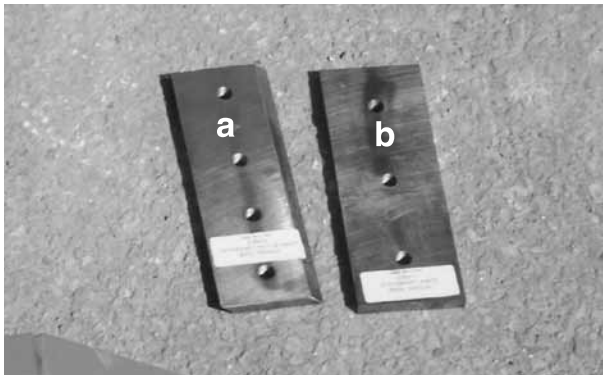
It is recommended that the clearance between the rotor and stationary blades be set and maintained at 1/32 to 1/16 inch to obtain the best performance. Use the stationary blade mounting bolts to set the clearance as required.



General location of rotor blades on BX model chippers



General location of stationary blade on BX model chippers



Example of Rotor (a) and Stationary (b) blades

Fig. 37 BLADES

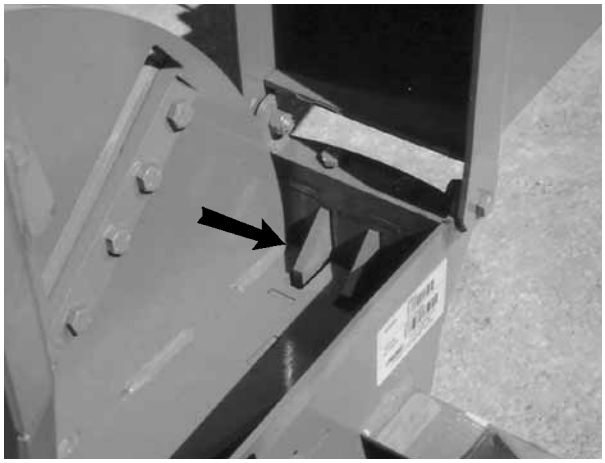
14. Twig Breaker:

Each machine is equipped with a twig breaker to break up twigs or other long material as it moves through the rotor compartment. Open the rotor cover and check the condition of the breaker on a weekly basis. Also check for any entangled material when the rotor cover is opened. Remove this material prior to closing the cover and resuming work.

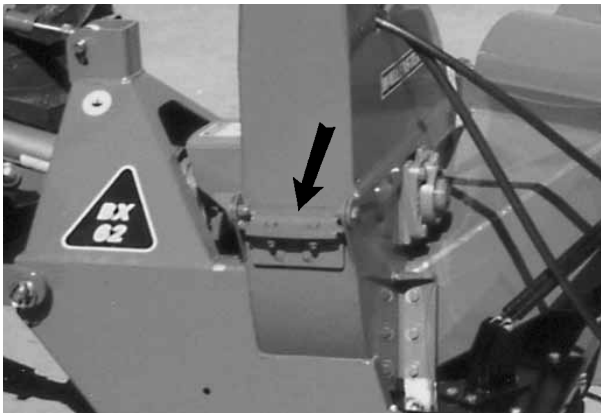
twig breaker: dual prong shown, some models will have single tooth

WARNING

Machine is shown with guard opened or rotor cover opened for illustrative purposes only. Do not operate machine with guard opened or cover opened.



View of twig breaker teeth inside rotor compartment

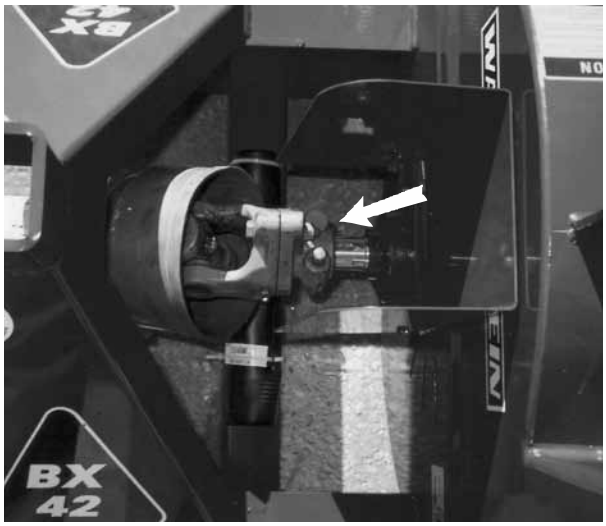


Exterior mounting of twig breaker

Fig. 38 TWIG BREAKER

15. Shear Pin:

The PTO drive line is designed with a shear pin at the input yoke to prevent overloading the drive system. Remove the broken parts from the yoke when the pin shears and replace with genuine Wallenstein parts.
The drive system is designed to function well without failing the shear pin. If it does fail, generally it is being fed too fast or something very hard has been jammed into the rotor or between the blades. Always unplug the system and determine the cause of the problem and correct it before resuming work.



General location of shear pin on BX models

Fig. 39 SHEAR PIN

16. Unplugging:

Although the machine is designed to handle a wide variety of material without any problem, it may occasionally plug up. When the machine plugs, follow this procedure to unplug:

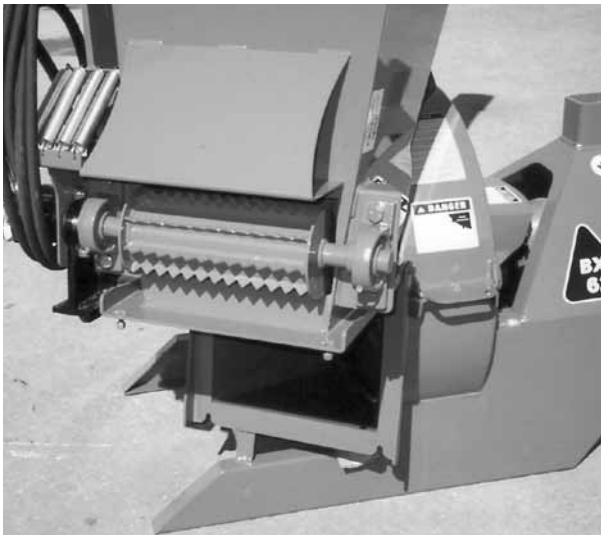
1. Clear the area of bystanders, especially small children.
2. Reverse the hydraulic feed hopper to work loose any plugged material.
3. Next stop the engine, remove the ignition key and place it in your pocket and wait for all moving parts to stop before unplugging.
4. Pull the material out of the **feed hopper**. Be sure all the material is out and nothing is jammed or wedged between the input opening and the rotor.
5. Pull the material out of the discharge hood. Use a stick to poke loose any material jammed into the **discharge hood**. Do not allow anything to remain in this area.

17. Severe plug:

1. Ensure the engine is off and you have pocked the key to prevent unintentional startup.
2. Loosen the feed hopper anchor nuts and raise the feed hopper. Remove material from inside the rotor compartment.
3. Clean out the discharge area/rotor.
4. Open the **rotor cover** and clean out the housing. Be sure to turn the rotor by hand to be sure there is nothing jammed between the rotor and stationary blades.
5. Close, install and fold down all components opened to unplug. Tighten fasteners to their specified torque.
6. Check that everyone is clear of machine before restarting engine.
7. Start the engine, engage the PTO and resume working.

WARNING

Machine is shown with guard opened or rotor cover opened for illustrative purposes only. Do not operate machine with guard opened or cover opened.



Feed Hopper

Discharge Hood

Rotor Cover

Fig. 40 SEVERE PLUG

18. Cleaning:
Clean the machine frequently to prevent a build-up of dust, chips and trash on the frame. A clean machine reduces the chance of rusting.

19. Curtains:
Each feed hopper is designed with an internal rubber/belting curtain to prevent chips and debris from coming out of the hopper when working. Check the condition of the curtain each day prior to starting. Replace the curtain if torn, damaged or missing to minimize the chance of material coming out of the feed hopper.

Example of curtain found in all BX model chippers

Fig. 41 CURTAIN

20. Personal Protective Equipment (PPE):
Each person must wear appropriate personal protective equipment whenever operating the chipper 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.

PERSONAL PROTECTIVE EQUIPMENT

21. Operating Hints:

a. Keep the working area clean and free of debris to prevent slipping or tripping. Operate only on level ground.

b. Do not place hands or any body parts into the feed hopper during operation. Use a stick or branch to push material into the rotor when it goes past the curtain in the feed hopper.

c. Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

d. Use care when feeding material into the chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into the wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.

4.9 TRANSPORTING

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. Fold up and secure feed hopper before moving or transporting.
5. Be sure the trailer is hitched positively to the towing vehicle and a retainer is used through the mounting pins.
6. Do not drink and drive.
7. 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.
8. Never allow riders on the machine.

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 tractor with a retainer 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 and secure the feed hopper before transporting.
8. Turn the discharge hood and point toward the rotor to reduce the width of the machine.

Fig. 42 TRANSPORT CONFIGURATION

4.10 STORAGE

STORAGE 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. Support the frame with planks if required.

4.10.1 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 3 Point Hitch Wood Chipper. 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. Remove all material from the machine.
2. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
3. Inspect all rotating parts for entangled material. Remove all entangled material.
4. Run the machine a few minutes to dry the moisture from inside the machine.
5. Move the feed hopper up and lock.
6. Touch up all paint nicks and scratches to prevent rusting.
7. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.
8. Store in an area away from human activity.
9. Do not allow children to play around the stored unit.

4.10.2 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.

Fig. 43 HOPPER IN UP, STORED POSITION

5 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 towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.
- 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.

By following a careful service and maintenance program for your machine, you will enjoy many years or trouble-free operation.

5.1 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.

5.2 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.

5.3 SERVICING INTERVALS

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

IMPORTANT Do Not over grease.

5.4 SERVICE ILLUSTRATION

See Service Record Chart

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

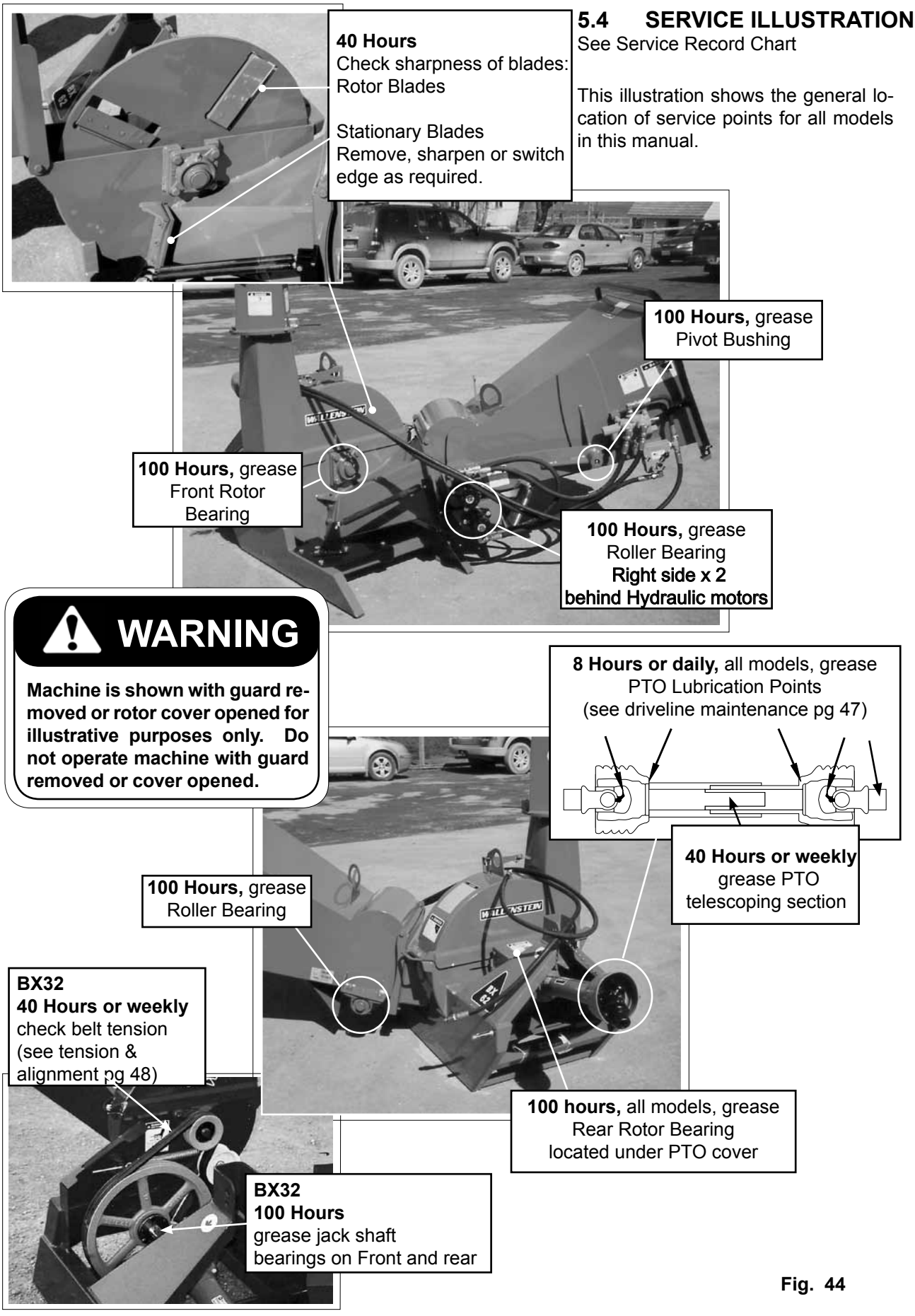


Fig. 44

5.5 SERVICE RECORD CHART

8 Hours or Daily				50 Hours or Annually			100 Hours or Annually		
	Check	Check	Check	Clean	Sharpen	Grease	Grease	Adjust	Clean
Twig Breaker, Chop Block, Blades, Knives	Secure fasteners	Belt Drive /Pulley Alignment	Inspect & Lubricate hinge	Ledger Blade, Shredder Knives	PTO Driveline	Rotor Bearings	Belt Drive	Clean Machine	

IMPORTANT Do Not over grease.

5.6 DRIVELINE MAINTENANCE

The PTO drive line is designed to telescope to allow for dimensional changes as the machine goes through its operational range. A tubular guard encloses the driving components and is designed to turn relative to the driving components. The drive line should telescope easily and the guard turn freely on the shaft at all times. Annual disassembly, cleaning and lubrication is recommended to insure that all components function as intended. To maintain the drive line, follow this procedure:

1. Remove the drive line from the machine.
2. Pull drive line apart.
3. Use a screwdriver to turn lock studs on each end. There are 2 studs per guard.
4. Pull the shaft out of the plastic tubular guard.
5. Use a solvent to clean the male and female portions of the telescoping ends.
6. Apply a light coat of grease to each end.
7. Use a solvent to wash the grooves on each end where the studs are located. Clean each end also.
8. Apply a light coat of grease to each groove.
9. Insert the shaft into its respective guard and align the studs with the holes.
10. Insert the studs through the holes and seat in the groove.
11. Turn each stud to secure guard to shaft.
12. Check that each guard turns freely on the shaft.
13. Assemble the drive line.
14. Check that the drive line telescopes easily.
15. Replace any components that are damaged or worn.
16. Install the drive line on the machine.

Guard Removal

Disassembled

Fig. 45 DRIVELINE COMPONENTS

Fig. 46 GREASE TELESCOPING SECTION

5.7 DRIVE BELT TENSION AND ALIGNMENT (MODEL BX32)

A set of V belts transmits rotational power to the rotor. They must be kept properly tensioned and the pulleys aligned to obtain the expected performance and life.

To check the tension and alignment, follow this procedure:

1. Clear the area of bystanders, especially small children.

2. Turn machine off, stop engine, remove ignition key and place in pocket and wait for all moving parts to stop.

3. Remove guard over belt.

4. Push on the belt in the center of the span. The belt should deflect approximately 1 inch (25 mm) when pushed on with about 10 lbs. force to be properly tensioned.

IMPORTANT

The belt should not slip when the chipper is being used.

5. **To adjust belt tension:**

   Use the adjusting bolt on the spring-loaded tensioning pulley to set the belt tension. The bolt should not slip when the machine is being used with a normal load.

6. **To replace belt:**

   a. Move idler pulley to its loosest position.

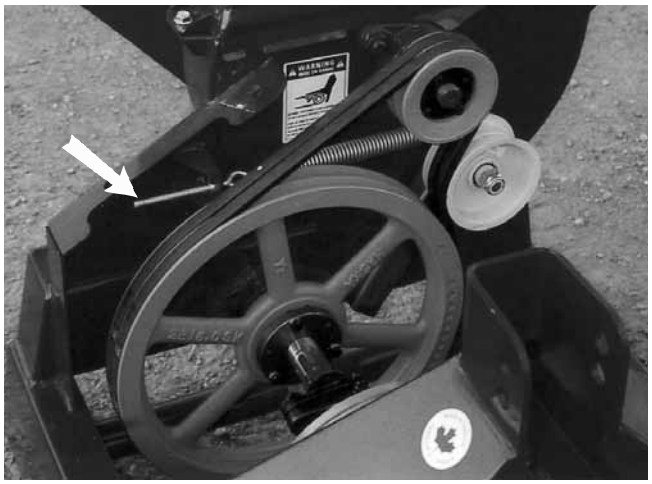
   b. Replace belt.

   c. Set pulley alignment.

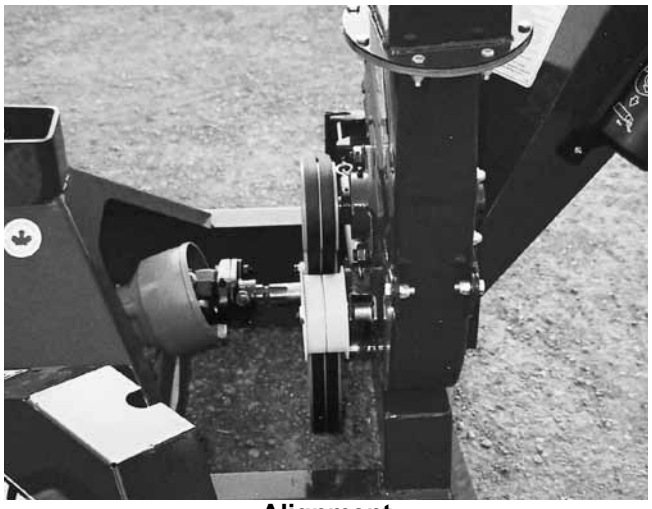
   d. Move idler pulley to set the belt tension.

   e. Check frequently during the first 10 hours and set belt tension as required.

7. Lay a straight edge across the pulley faces to check the alignment. Adjust alignment if pulley faces vary more than 1/32 inch (.7 mm).



Adjusting Bolt



Alignment

Fig. 47 BELT DRIVE SYSTEM

WARNING

Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.

6 TROUBLE SHOOTING

The Wallenstein 3 Point Hitch Wood Chipper is designed with blades on a rotor to cut, shear and chip wooden material. It is a simple and reliable system that requires minimal maintenance.

In the following section, 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
Rotor does not turn.	Obstructed discharge.	Shut down and clear debris.
	Rotor plugged.	Clear rotor.
	Broken shear pin.	Replace shear pin.
Slow feeding.	Knives are dull.	Sharpen knives.
	Blade angle wrong, improper angle.	Re-sharpen knives to specified angle.
	Discharge hood clogged.	Clear discharge hood.
Chipper requires excessive power or stalls.	Obstructed discharge.	Clear discharge hood.
	Rotor plugged.	Clear rotor.
	Green material will not discharge.	Allow material to dry or alternately feed in dry material.
	Dull knives.	Sharpen knives.
High power required	Plugged rotor.	Clear rotor.
	Dull knives.	Sharpen knives.
Vibration while running.	Drive line vibration.	Check drive line phasing.
Yokes		must be aligned.
		Check rotor to see if it wobbles.
		Check to see if rotor is assembled correctly.
Drive belts slipping or smoking.	Loose or worn belts.	Adjust or replace belts.
	Plugged rotor.	Clear rotor.

7 SPECIFICATIONS

7.1 MECHANICAL

	BX32	BX42	BX62
Drive System	PTO input, belt driven	Direct drive, pto w/shearbolt	Direct drive, pto w/shearbolt
Engine	n/a	n/a	n/a
Chipper capacity	3" Diameter, (takes up to 8" slab)	4" Diameter, (takes up to 10" slab)	6" Diameter, (takes upt ot 12" slab)
Chipper Housing Opening	3" x 6"	4" x 10"	6 1/2" x 10"
Rotor Size	17 1/2"	25"	30"
Number of Rotor Knives	2/offset	4	4
Knife Type	Hardened Tool Steel	Hardened Tool Steel	Hardened Tool Steel
Rotor Weight	45 lbs	110 lbs	180 lbs
Feeding System	Self feed	Self or Hydraulic	Self or Hydraulic
Dimensions (hopper folded)	54" L x 36" W x 60" H	40" L x 42" x 60" H	50"L x 52" x74" H
Hopper Opening	12 1/2" x 11 1/2"	20" x 20"	25" x 25"
Discharge Hood Rotation	360	360	360
Discharge Hood Height	58"	80"	74"
Rated RPM	540	540-1000	540-1000
Weight	320 lbs	BX42-425lbs/BX42R-625lbs	BX62-770lbs/BX62R-1070lbs

	BX92	
Drive System	Direct drive, pto w/shearbolt	
Engine	n/a	
Chipper capacity	10" diameter, (up to 14" slab)	
Chipper Housing Opening	10 1/2" x 14"	
Rotor Size	36"	
Number of Rotor Knives	4/offset	
Knife Type	Hardened Tool Steel	
Rotor Weight	280 lbs	
Feeding System	Self or Hydraulic	
Dimensions (hopper folded)	BX92S - 54" W x 52" x 88" H	BX92R- 64" W x 88" L x 88" L
Hopper Opening	25" x 25"	
Discharge Hood Rotation	360	
Discharge Hood Height	84"	
Rated RPM	540	
Weight	BX92-1000lbs/BX92-1375lbs	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

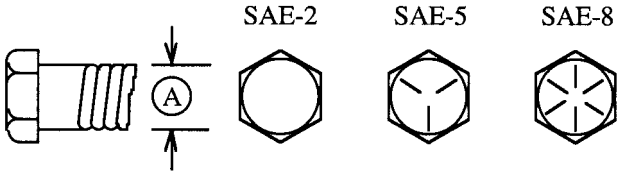
7.2 BOLT TORQUE

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.

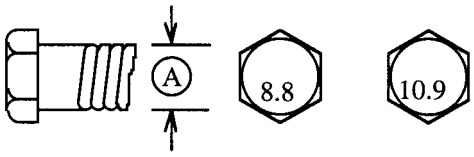
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2		SAE 5		SAE 8	
	(N.m)	(lb-ft)	(N.m)	(lb-ft)	(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



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8		10.9	
	(N.m)	(lb-ft)	(N.m)	(lb-ft)
M3	.5	.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 figures indicated above 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%.

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

7.3 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.

Tube Size OD	Nut Size Across Flats	Torque Value•		Recommended Turns To Tighten (After Finger Tightening)	
(in.)	(in.)	(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