MODEL 450AN DDX
SCRAP CHOPPER

*Picture may not reflect actual chopper detail. Modification may be added for customer specifics or customization add-ons.

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Revision	Date	Written By	Description of Change	Reviewed By
0	5/31/2019	JOE S.	ORIGINAL ISSUE OF MACHINE SPECIFICATIONS	JTS
1	6/8/2022		Revised to new standards per marketing	DAL

FOREWORD

The purpose of this manual is to familiarize qualified individuals with the operational procedures of SWEED Machinery equipment.

The manufacturer recommends that users familiarize themselves with the applications and uses of SWEED Machinery equipment prior to operation. SWEED Machinery equipment should not be used for any purpose other than that for which it is was designed.

To provide dependable and safe service, this machinery must be operated by trained personnel wearing eye protection and gloves. Personnel operating the equipment must understand the type of material that it is capable of processing.

Any misuse of SWEED Machinery equipment can be dangerous. All operators should be familiar with the general operating instructions and warnings.

It is the owner's responsibility to install the SWEED Machinery equipment in conformance with applicable federal, state, and local laws and to instruct personnel in safe operating procedures.

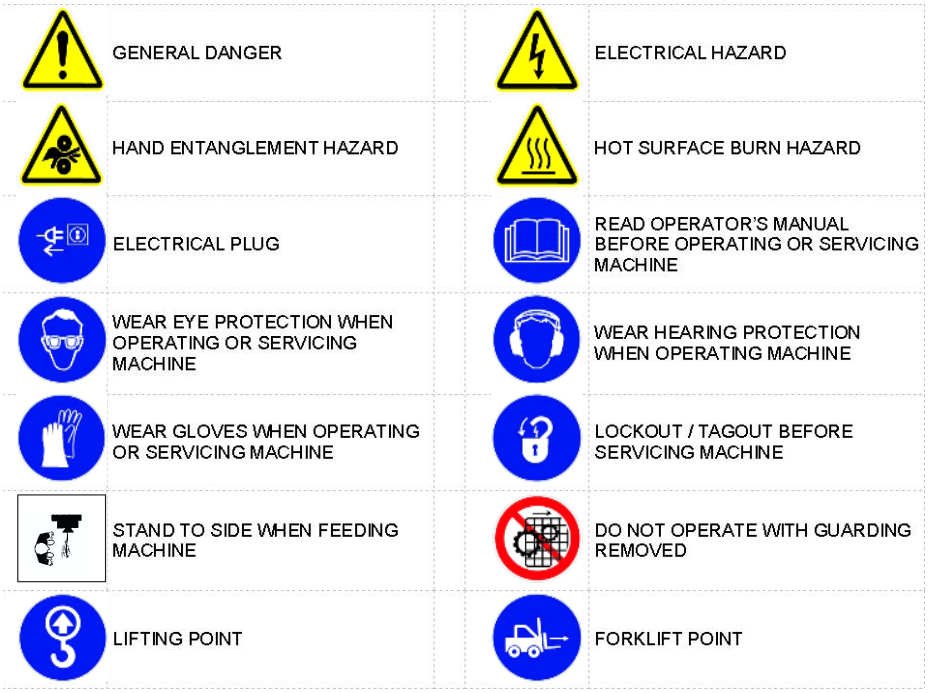
SAFETY

01	**Scope**	This manual covers all information and requirements to operate the SWEED Chopper 450AN DDX

02	**Standards / Environment**	
02.A	Electrical	Machine is built in accordance with all N.E.C and local requirements.
02.B	Mechanical	Machine/System is design and tested before shipment at SWEED's Facility to ensure correct machine tolerance and electrical integration and operation.
02.C	Machine Location	Designed to be mounted/bolted to sturdy stand and not welded. Must be placed on level surface protected from elements. Machine to only be lifted using lifting eye located on top of machine. Machine is easily portable on a stand with casters; however, the machine should never be moved if it is powered on, or in motion.
02.D	Machine Clearances	Suitable clearance must be present around all sides of machine. Install machine at ergonomically suitable infeed height. All controls should be between 36" and 72" high.
02.E	Defects	Machine will be free from defects; small paint discontinuities may be present prior to receiving from testing machine at facility.
02.F	Weather Exposure	No Rain; No Direct Sunlight on UV sensitive rubber components or synthetic components.
02.G	Welding	Do not weld to machine or add components to machine of any kind; may result in voiding warranty. Could damage machine or result in bodily injury.

03	**Operating Personnel**	
03.A	Requirements	Trained operators and maintenance technicians who have read and understand manual only.
03.B	Req. Clearance	Operators should stay in safe zones outline by company standards and guidelines (if applicable).
03.C	Warning Labels	See *Figure* below for all labels used on SWEED equipment; familiarize yourself with them and their meanings before operation.

SWEED Machinery Machine Labels



04	**Operating Risk / Safety**	
04.A	E-Stops	Located on manual motor starter at front of machine. When pressed, will de-energize entire system. Once pressed, button must be pulled to reset system.
04.B	Lockout	Never operate or remove any system components that are secure unless the system is electrically locked out and all moving parts are motionless.
04.C	Material Discharge	Do not place hands or stand near material discharge area of machine, as the material is ejecting at high velocities.
04.D	Machine Infeed Opening	While rare, it is possible for processed material to kick out of infeed funnel. Stand to the side when feeding material into machine. Do not look in the infeed funnel when the machine is running. Keep hands out of infeed funnel, as it presents a pinch/crush hazard.
04.E	Entanglement Hazard	When feeding material into the system, be cautious of entanglements in the scrap material as it is draw into the infeed funnel. This material can hook on clothing and wrap around body parts, pulling the operator towards the machine. If entangled, pull on feedworks handle to open feedworks mechanism.

04.F	Types of Material to be Processed	Plastic/Poly Banding: ¾" wide x .050" thick; Steel Banding: 1" wide x .031" thick
04.G	Machine Exhaust Hopper	Hopper must be suitable for the material being processed; strong enough to hold material when full, not damaged from impact of chopped material, non-flammable where applicable. Do not allow the hopper to become too full and backup material into the machine. This will cause the machine to stall out and can damage the machine.
04.H	Machine Safe-Guards	The infeed funnel contains a restrictor plate which impedes direct access to the machines feedrolls while still allowing easy feeding of material into the chopper. If equipped, the machine may come with a safety exhaust chute underneath the machine. The chute allows material to fall out of the cutting chamber, but partially covers the open cutting chamber for safety requirements.
04.I	Material Jams	Do not attempt to remove any jams until the flywheel mechanism has coasted to a stop and dissipated all energy. Prior to clearing a jam or performing any maintenance, all motors should be turned off and electrically locked out.
04.J	Machine Guards	Never operate the system unless all guards and covers are in place and secure; do not circumvent the safety switches connected to these guards. Do not remove any guarding until the flywheel mechanism has coasted to a stop and dissipated all energy. Guards should not be removed unless all motors are turned off and electrically locked out.
04.K	Belts	Ensure V-Belts are properly aligned, and that tension is within tolerance. See independent machine manuals for specifications and proper installation/maintenance.
04.L	Fasteners	Extreme care should be taken to see that all bolts are always properly tightened. During operation of the system, bolts may come loose from vibration and should be checked on a weekly basis.
04.M	Dull knives	For safe operation, do not operate with dull knives.
04.N	Feed Material	This machine is designed to chop multiple strands of plastic banding and steel banding. Do not feed any other materials into the machine without first consulting SWEED Machinery Inc. If a jam should occur, pull back on the feedworks handle to release the pressure on the feedrolls to pull the material back out of the infeed opening.
04.O	Cleanliness	The system work area must be kept clean and uncluttered during the periods of operation or maintenance. Clean up any fluid spillages immediately. No tools or other metal objects should be left on or around the machines. Any tools or metal objects that mistakenly fall into the hopper feed opening can

		cause severe damage to internal cutting chamber, knives, or overall machine.
04.P	Increased Wear	Possible due to allowing material to spin on feedworks for extended time. Ensure material is not slipping during operation. To large of a knife gap can also contribute to increased knife wear as well as cause structural fatigue of the machine.
04.Q	Electrostatic Buildup	If necessary, measures must be taken to dissipate electrostatic build-up on machine, containment bin, or processed material.
04.R	Flammable Material	DO NOT cut flammable material.
04.S	Access by climbing	DO NOT climb on machines. Use aids or stepladders when repairing/cleaning components out of reach.
04.T	Fall/Trip Hazard	User is to ensure utility connections from electrical wiring, pneumatic hoses and hydraulic lines do not present a slip, trip or fall hazard.
04.U	Decibel Rating	This machine operates at 73 dB when idling with no material being fed. The decibel rating will increase when material is fed, and will fluctuate depending on type of material, quantity being fed, as well as the location the machine is operating at.

05	**PPE Requirements**	
05.A	Eye Protection	Required when operating or maintaining machines.
05.B	Hand Protection	Required when handling material being processed or maintaining machines.
05.C	Hearing Protection	Required when operating machines.
05.D	Breathing Protection	May be required if processed material creates airborne dust / fiber when processed.

OPERATION

This section outlines the machine operation and functions.		
06	**Machine Operation**	
06.A	Power	Connect machine to the appropriate voltage power source.
06.B	Starting Machine	To start the machine, press the start button located under the clear rubber seal on the starter.
06.C	Stopping Machine	To stop the machine, compress the large red Stop button. This will cut power to the flywheel and feedworks. Be aware that the flywheel and feedworks will take a short amount of time to coast to a stop after the power has been turned off.
06.D	Resetting Machine	To reset the machine, pull the large red Stop button outwards.

06.E	Manually Feeding Machine	With the machine running, introduce material into the infeed funnel. The feedworks mechanism should grab the material and pull it into the machines cutting chamber
06.F	Slitter Applications	If being used in a slitter application, the chopper can be tied into an existing controller. The chopper runs faster than the line speed to keep material in tension as material is being automatically fed into the chopper.
06.G	Utilizing Feedworks Handle	Sometimes material can be of awkward shape/size and the feedworks mechanism will not automatically pull the material into the machine. In this instance, introducing material into the infeed funnel up to the feedworks, and then pulling back on the feedworks handle to insert the material further in will solve this problem. Once the material is placed further in, release the handle and the material will be pulled into the chopper.
06.H	Timed Shutoff	If equipped with a Timed shutoff starter, the chopper will shut down automatically after the allotted time has expired.

MAINTENANCE

This section outlines the machine maintenance and upkeep. Maintenance to only be performed by trained personnel and if the machine has been electrically locked out. SWEED Machinery Inc. recommends end user should establish and maintain a maintenance log that includes the following: bolt check/tightening schedule, lubrication schedule and knife rotation/replacement schedule. All Figure #'s located in Appendix A.		
07	**Lubrication**	All machine components come pre-lubricated from the factory and do not require any supplemental grease before service.
07.A	Bearing Lubrication	#2 NLGL or Multipurpose ball bearing grease, add slowly to prevent damage to bearing seals. Add grease until slight leakage seeps past seals.
07.B	Lubrication Time Interval	
	Run Time:	**Lubrication Frequency:**
	8 hrs./day	All bearings every 12 weeks.
	16 hrs./day	All bearings every 7 weeks.
	24 hrs./day	All bearings every 5 weeks.

Knife Rotation and Replacement

08	**Dynamic Knife**	**When replacing or rotating knives, always use new knife bolts (See replacement parts list). Failure to do so can result in knife damage and or injury. Rotating knives is on a visual inspection basis. If a knife edge becomes dull or a knife gap is out of spec, it is time to rotate the knives and reset the knife gap.**
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Unscrew bolt holding the housing lid in place. Slide lid forward and lift off to expose cutting chamber.
	Step 4	Loosen and remove the two bolts holding the knife in the flywheel assembly. If the machine is equipped with knife shims on the flywheel assembly, **DO NOT** remove as these are custom ground for the machine.
	Step 5	Be sure to blow off knife pockets and wipe clean. Wipe down the knives with suitable solvent. Place knife back in knife pocket with the new edge exposed and snug down the bolts.
	Step 6	Tap the knife with a brass hammer to ensure the knife is seated properly (Fig. 1). Draw the knife bolts down evenly and torque each bolt to **25 ft-lb** (Fig. 2). Tap the knife once again with a brass hammer to seat the knife and torque the bolts to a final torque of **38 ft-lb**. Check the gap between the dynamic and stationary knives using a feeler gauge. The gap should be a minimum of .002” and a maximum of .003” (Fig 6). See “Knife Gap” section.

09	**Stationary Knife**	**When replacing or rotating knives, always use new knife bolts (See replacement parts list). Failure to do so can result in knife damage and or injury. Rotating knives is on a visual inspection basis. If a knife edge becomes dull or a knife gap is out of spec, it is time to rotate the knives and reset the knife gap.**
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Unscrew bolt holding the housing lid in place. Slide lid forward and lift off to expose cutting chamber.
	Step 4	Remove material guide which straddles the stationary knife.
	Step 5	Lift chain off sprockets by first depressing the chain tensioning arm (Fig. 3).
	Step 6	Unbolt the bolts securing the feedworks assembly to the machine housing and swing open the feedworks assembly.

	Step 7	Loosen and remove the two bolts holding the stationary knife in the housing. If machine is equipped with a knife shim, **DO NOT** remove as these are custom ground for the machine.
	Step 8	Be sure to blow off knife pockets and wipe clean. Wipe down the knives with suitable solvent. Place knife back in knife pocket with the new edge exposed and snug down the bolts.
	Step 9	Tap the knife with a brass hammer to ensure the knife is seated properly (Fig. 1). Draw the knife bolts down evenly and torque each bolt to **25 ft-lb** (Fig. 2). Tap the knife once again with a brass hammer to seat the knife and torque the bolts to a final torque of **38 ft-lb**. Check the gap between the dynamic and stationary knives using a feeler gauge. The gap should be a minimum of .002” and a maximum of .003” (Fig 6). See “Knife Gap” section.

Gap Adjustments

10	**Knife Gap**	
	Function	This is the gap between the knife edges. Needs to be checked with a gauge to the recommended tolerances below.
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Unscrew bolt holding the housing lid in place. Slide lid forward and lift off to expose cutting chamber.
	Step 4	Check the knife gap using a feeler gauge (Fig. 6). The gap should be a minimum of .002” and a maximum of .003”.
	Step 5	To adjust the knife gap, loosen the nuts holding the main bearings to the housing. Do not totally remove tension on the bearing bolts but leave snug. Using a brass rod and hammer or brass hammer, strike the bearing mounting flanges to adjust the gap (Fig. 7). After each strike, check the knife gap with a .002” or .0025” feeler gauge. After desired gap is obtained, evenly torque down nuts to **38 ft-lb.**
	Step 6	Once bearing nuts have been fully torqued, check the knife gap once more to verify no movement occurred. If movement occurred, repeat the knife gap process to obtain the knife gap tolerance of .002” to .003”.

11	**Feedroll Gap**	
	Function	This is the gap between the roll contact surfaces. **DO NOT** allow the upper roll and lower roll to contact one another for an extended period. If the rolls are touching, turn off the machine immediately and adjust the feedroll gap. Operating the machine with the rolls in contact will rapidly erode the knurling on the rolls, reducing material feeding efficiency.
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Loosen the two adjustment screw jam nuts located on the top of the upper feedworks.
	Step 4	Turn the screw counterclockwise (**Fig. 8**) to lower the upper feed roll until it contacts the lower feedroll.
	Step 5	Now turn the screws in the clockwise direction to raise the upper feedroll until a .010” gap is achieved between the two rolls.
	Step 6	Tighten down the jam nuts while holding the adjustment screws stationary.

12	**Material Guide Gap**	
	Function	The Material Guides prevent material from feeding around the roll and tangling. They are located behind the upper and lower feedrolls. A small gap must be maintained between the guides and the rolls. The gap needs to be at most, ½ the thickness of the thinnest material being fed into the machine. The gap will widen overtime as the knurling on the feedrolls wear down and will require the material guide gap to be adjusted.
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Lift chain off sprockets by first depressing the chain tensioning arm (**Fig. 3**).
	Step 4	Remove the bolts holding the lid in place and slide forward to remove. Rotate the upper feedworks assembly forward.
	Step 5	The upper and lower material guides are each fastened with two screws. Loosen the screws holding the guide in place and adjust the gaps to half the thickness of the thinnest material being processed. Use a feeler gauge to verify the gap.
	Step 6	Once gap is achieved, tighten the screw. Double check the gaps and rotate the feedrolls to make sure the material guides do not contact the feedrolls.

13	Chain Tensioning	
	Function	The chain tensioner is needed to maintain adequate tension on the drive chain to provide consistent material feeding into the machine. The tensioner must be tensioned with the drive chain installed.
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	To set tension, place wrench on the tensioning hex (Fig. 10) and turn in the direction which adds tension to the chain.
	Step 4	Turn until the position mark lies between reference marks 2 and 3 (Fig. 11).
	Step 5	While holding the tensioner in place, lock tension by tighten the locking nut. This should provide adequate tension for the chain drive to the feedrolls.

14	Clutch Adjustment	Only applicable if machine is equipped with optional clutch.
	Function	The choppers pulling force can be changed by tuning the knurled black ring on the side of the clutch.
	Step 1	Lockout/tag out power.
	Step 2	Unbolt the guard and remove from machine.
	Step 3	Loosen the two set screws on the outside of the clutch (Fig 12).
	Step 4	Move the rings white indicator line to correspond to the desired setting. The higher the number results in increased pull force, likewise, the lower the number results in decreased pull force.
	Step 5	Tighten the set screws once the adjustment has been made.

15	Tightening Schedule	**Failure to do so may result in damage to the machine, injury to the operator and/or voiding of the machine's warranty.**
	Function	Due to the vibratory impact associated with the SWEED Machinery Inc machines, it is imperative to follow a strict bolt tightening schedule. Failure to do so may result in damage to the machine, injury to the operator and/or voiding of the machine's warranty.
	Shipping	Inspect the machine after shipping before operating; fasteners may have loosened during shipping.

	Break-In Period	Inspect and tighten loose fasteners after a break-in period of 8 hours.
	60 Hours Operation	Inspect and tighten loose fasteners every 60 hours of machine operation after break-in period.
	Incrementally	Always tighten fasteners incrementally in a pattern up to the torque specifications where applicable.
	Table	Critical fasteners and their required torque specs are listed in the table below:

16	**Bolt Torque Specifications**	
	Knife Bolts Initial Torque	25 ft-lb (0.15 max friction coefficient lubricant req.)
	Knife Bolts Final Torque	38±5 ft-lb
	Flywheel Bearing Bolts Torque	38±5 ft-lb
	Flywheel Bushing Bolts Torque	9 ft-lb

17	**Trouble Shooting**	
	Problem	**Solution**
17.A	Material Feeding Stops	
	Too large of a gap exists between the feed rolls for the material being fed	Adjust the set screw on the top of the feedworks to close the feedroll gap
	Loose or broken drive chain	Inspect chain for adequate tension or if it is broken
	Banding is twisted or bent	Straighten out bent portion or remove it entirely
	Worn feedrolls	Replace the worn feedrolls
17.B	Machine Fails to Cut	
	Material is too large for machine	Run appropriately sized material into the machine
	Poor knife gap	Inspect knife gap to ensure it is within tolerance of .002”-.003”.
	Knife edges are dull	Rotate or replace knives
17.C	Machine will not start/stop running	

	Motor protection tripped	Reset motor
	Broken drive belt	Replace belt
	Failed electrical service	Check circuit power
	Switch failure	Replace switch

APPENDIX A.

Appendix A. includes all figures for maintenance operations for SWEED Machinery Inc's 450AN DDX

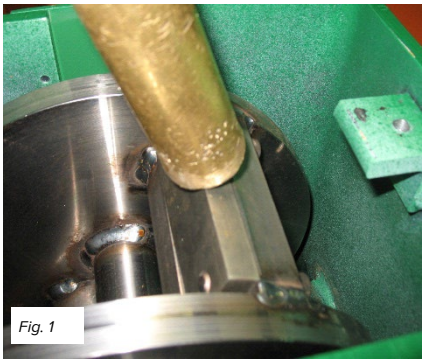


Fig. 1

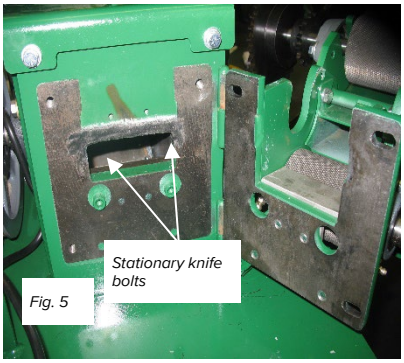
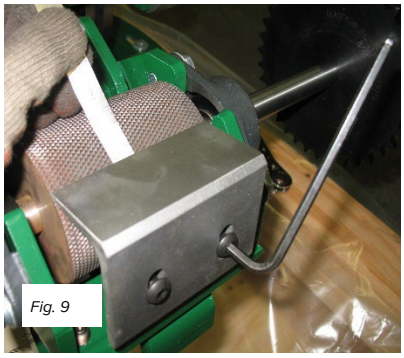


Fig. 5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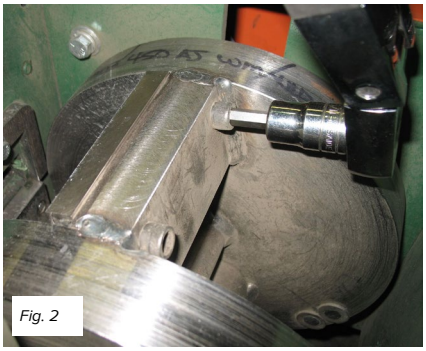
Fig. 2

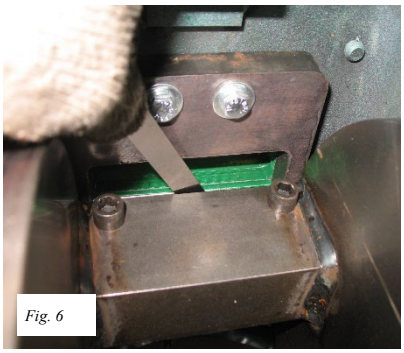
Fig. 6

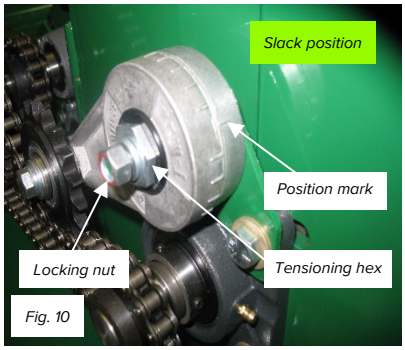

Fig. 10

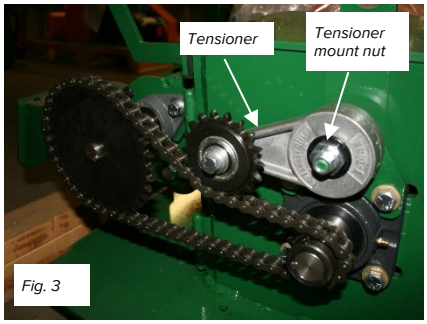

Fig. 3


Fig. 7

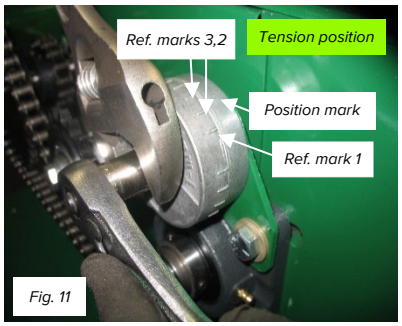

Fig. 11

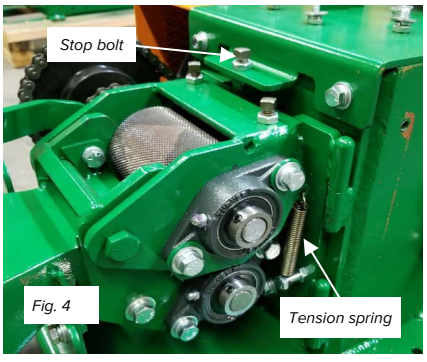

Fig. 4

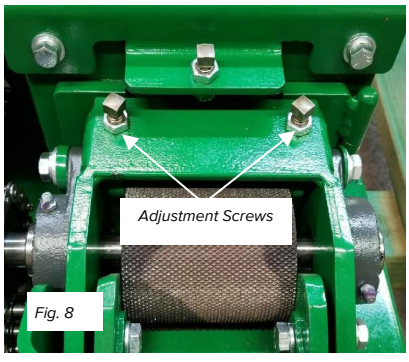

Fig. 8

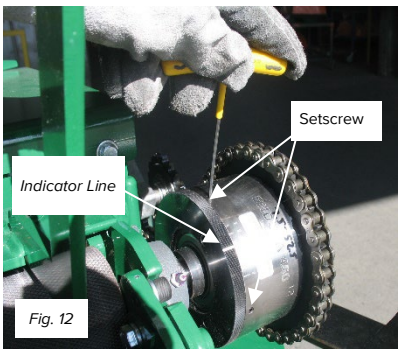

Fig. 12

WARRANTY

SWEED Machinery, Inc's equipment is warranted against defects and workmanship for a period of one year from date of shipment on all new machines and 90 days on refurbished machines. Parts claimed to be defective must be returned, freight prepaid, to our plant in Gold Hill, Oregon. Any parts determined defective due to faulty workmanship or materials will be replaced or repaired, at our option, free of charge, f.o.b. our plant. except as expressly provided herein, this warranty is in lieu of all other warranties, expressed or implied, including a warranty of merchant ability of fitness for a particular purpose. This warranty is void if the unit has been tampered with, modified, altered, or operated with parts other than supplied or recommended by SWEED Machinery, Inc. in no event shall SWEED Machinery, Inc., be liable for special, indirect, incidental or consequential damages, however arising.

SWEED Machinery, Inc does not warranty this machine to meet the requirements of any safety codes of any state, municipality, or other jurisdiction, and the purchaser assumes all risk and liability whatsoever resulting from the use thereof whether used singularly or in combination with other machinery or apparatus.

Any change in materials, design, or performance intended to improve any product of SWEED Machinery, Inc., shall not obligate SWEED Machinery, Inc. to modify any previously manufactured equipment.

SWEED Machinery, Inc.

Note: All returned material must be accompanied by a SWEED Return Material Authorization (RMA) number. Please call our customer service department at 1-800-888-1352 if you need assistance.