Wood-Mizer®

from forest to final form

user manual

Instrukcja obsługi | Руководство полъзователя
Manuel de l'Utilisateur | Betriebsanweisung
Bruksanvisning | Manual del Usuario
Betjeningsvejledning | Gebruikershandleiding
Käyttöohjeet | Manual de utilizare | Bruksanvisning
Manuale d'uso | Příručka uživatele | Navodila
za uporabo

Retain for future use
Zachować do przyszłego użytku
Сохраните для последующего
использования
A conserver pour une utilisation future
Für zukünftige Benutzung aufbewahren
Behold for senere bruk
Säilytä nämä käyttöohjeet tulevaa tarvetta marten
Opbevar manualen til fremtidig brug
Bewaren voor gebruik in de toekomst
Conservare il presente manuale a l'uso futuro
Păstrați acest manual pentru utilizare viitoare
Conservar para futuras consultas
Behall för framtida användning
Uchovejte pro další použití
Hranite za prihodnjo uporabo

www.wood-mizer.eu

Twin Vertical Saw
TVS - HD

Safety, Operation and Maintenance

TVS-HD **rev. A1.00**

Safety is our #1 concern! Read and understand all safety information and instructions before operating, setting up and/or maintaining this machine.

Form #2506_TVSSC_5_0

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Table of Contents Section-Page

Getting Service

Wood-Mizer is committed to providing you with the latest technology, best quality and strongest customer service available on the market today. We continually evaluate our customers' needs to ensure we're meeting current wood-processing demands. Your comments and suggestions are welcome.

General Contact Information

From Europe call your local distributor or our European Headquarters and Manufacturing Facility in Koło, Nagórna 114 St, Poland at **+48-63-2626000**. From the continental U.S., call our U.S. Headquarter 8180 West 10th St.Indianapolis, IN 46214, toll-free at ***1-800-525-8100.*** Ask to speak with a Customer Service Representative. Please have your machine identification number and your customer number ready when you call. The Service Representative can help you with questions about the operation and maintenance of your machine. He also can schedule you for a service call.

Office Hours:

Country	Monday - Friday	Saturday	Sunday
Poland	7 a.m.- 3 p.m.	Closed	Closed
US	8 a.m.- 5 p.m.	8 a.m.- 12 p.m	Closed

Please have your vehicle identification number and your customer number ready when you call.

Wood-Mizer will accept these methods of payment:

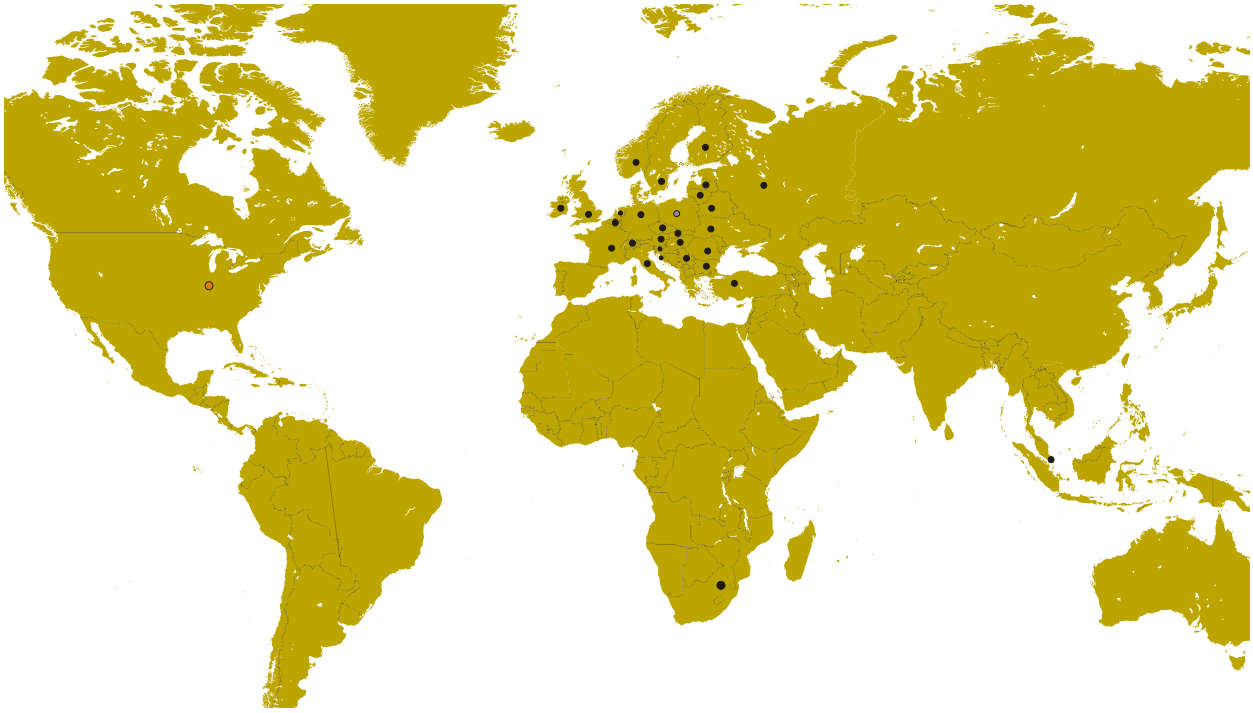
- Visa, Mastercard, or Discover
- COD
- Prepayment
- Net 15 (with approved credit)

Be aware that shipping and handling charges may apply. Handling charges are based on size and quantity of order.

Technical data are subject to change without prior notice.

Actual product may differ from product images. Some illustrations show machines with optional equipment.

Branches & Authorized Sales CentersWood-Mizer Locations (North and South America)



EUROPE		UNITED STATES
European Headquarters **Wood-Mizer Industries Sp. z o.o.** Nagórna 114, 62-600 Koło, Poland Tel.: +48-63-26-26-000 Fax: +48-63-27-22-327 www.woodmizer.eu		**World Headquarters** **Wood-Mizer LLC** 8180 West 10th Street Indianapolis,Indiana 46214-2400, USA Tel.: +1-317-271-1542 Fax: +1-317-273-1011 www.woodmizer.com
BELARUS **MOST-GRUPP** Siemashko 15, k.3 Minsk 2200116 Tel.: +375-17-270-90-08 Fax: +375-17-270-90-08 GSM: +375-29-649-90-80 e-mail: most-by@mail.ru	**SWITZERLAND Stefan Wespi** Maschinen u. Geräte Spezialarbeiten GmbH Eichistraße 4 6353 Weggis Tel.: +41-413-900-312 GSM: +41-799-643-594 info@woodmizer.ch www.woodmizer.ch	**RUSSIA Dariusz Mikołajewski** **OOO WOOD-MIZER INDUSTRIES** 141031, Moscow Reg., Mytishenski raj., pos. Veshki, Zavodskaja str., 3B Tel.Fax: +7(495) 788-72-35 Tel.Fax: +7(495) 641-51-60 e-mail: dariuszm@woodmizer-moscow.ru
BULGARIA Kalin Simeonov **Ecotechproduct** 38 Star Lozenski pat str. Sofia 1186 Tel.: +359-2-462-7035 Tel.: +359-2-963-1656 Tel:/Fax : +359-2-979-1710 **Kalin Simeonov** GSM: +3592-963-2559 e-mail: office@ecotechproduct.com	**HUNGARY Wiktor Turoczy** **Wood-Mizer Hungary K.F.T.** Szonyi Ut 67., 2921 Komárom Tel.:/Fax: +36-34-346-255 e-mail: woodmizer@woodmizer.hu	**RUSSIA Far East Wladimir Głazaczew** **"WM Service"** Krasnoretchenskaya Str.111 680006 Khabarovsk Tel.:/Fax: +7-914-541-1183 e-mail: wms-khv@mail.ru

CROATIA Krešimir Pregernik
Pregimex d.o.o.
S. Batušiæa 31, 10090 Zagreb
Tel.:/Fax: +3851-38-94-668
Krešimir Pregernik
GSM: +3851-98-207-106
e-mail: Kresimir.Pregernik@gmail.com

ITALY Pasquale Felice
Wood-Mizer Italia Srl
Cda. Capoiaccio SN
86012 Cercemaggiore
Campobasso
Tel.:/Fax: +39-0874-798-357
GSM: +39-333-281-03-79
e-mail: wmitaliasrl@gmail.com

SERBIA Dragan Markov
Wood-Mizer Balkan d.o.o.
Svetosavska GA 3/3; P. Fah 25
23 300 Kikinda
Tel.:/Fax: +381-230-25-754
Tel.:/Fax: +381-230-23-567
GSM: +381-63-568-658
e-mail: office@woodmizer.co.yu

CZECH REPUBLIC Miroslaw Greill
Wood-Mizer CZ s.r.o.
Za Kasárny 946
339 01 Klatovy
tel: +420-376-312-220
Greill Miroslav
GSM: +420 602-439-799
e-mail: woodmizer@woodmizer.cz

SLOVAKIA Wiktor Turoczy
Wood-Mizer Danubia s.r.o.
Hadovce 5, 94501 Komárno
Tel.: +421-35-77-40-316
Fax: +421-35-7740-326
GSM: +421-905-930-972
e-mail: woodmizer@woodmizer.sk

CZECH REPUBLIC Lubomir Kudlik
Wood-Mizer Moravia
Sovadinova 6
69002 Breclav
Tel.:/Fax: +420-519-322-443
Lubomir Kudlik
GSM: +420-602-734-792
e-mail: info@wood-mizer.net

LATVIA Vilmars Jansons
OBERTS Ltd
Gaujas str. 32/2
LV-2167 Marupe, Rigas Raj.
Tel.: +371-7-810-666
Fax: +371-7-810-655
Vilmars Jansons
GSM: +371-92-06-966
Andris Orols
GSM: +371-28-33-07-90
e-mail: andris@oberts.lv

TURKEY
Er-Ka Ahsap Profil Kerestecilik San. ve Tic. Ltd. Sti.
Adana Keresteciler Sitesi 191 sk No.41
ADANA
Tel.: +90-322-346-15-86
Fax: +90-322-345-17-07
GSM: +90-533-363-18-44
e-mail: info@erkaahsap.com.tr

FINLAND Howard Blackbourn
Oy Falkberg Jordbruk Ab
Falkintie 220
25610 Ylonkyla
Tel.: +358-2732-2253
Fax: +358-2732-2263
Howard Blackbourn
GSM: +358-440-424-339
e-mail: falkberg@woodmizer.fi

LITHUANIA Andrius Zuzevicius
UAB Singlis
Savanoriu pr. 187, 2053 Vilnius
Tel.: +370-5-2-32-22-44
Fax: +370-5-2-64-84-15
GSM: +370-620-28-645
e-mail: andrius.z@singlis.lt

Dmitrij Gaiduk
GSM: +370-69-84-51-91
e-mail: dmitrijus.g@singlis.lt

UKRAINE Ivan Vinnicki
MOST UKRAINA
bul. Myru 3, Bajkivtsi Ternoplskyj r-j
Ternopolska oblast
47711 Ukraine
Tel/Fax: +38 (0352) 52 37 74
GSM: +38 (067) 352 54 34
GSM: +38 (067) 674 50 68
E-mail: most-ukraina@ukr.net

FRANCE Tizoc Chavez
Wood-Mizer France
556 chemin des Embouffus,
ZAC des Basses Echarrieres
38440 SAINT JEAN DE BOURNAY
Tel: +33-4 74 84 84 44
GSM: +33-607 52 02 82
Mail: tchavez@woodmizer.fr

NORWAY Tor Bakken Flaathe
Bakken Flaathe A/S
Løkenvegen 5, 2034 Holter
Tel: + 47-638 74 989
Sales: + 47- 412 80 076
Service: +47- 975 87 588
post@woodmizer.no
www.woodmizer.no

UNITED KINGDOM & IRELAND
Wood-Mizer UK
Hopfield Barn
Kenward Road, Yalding
Kent ME18 6JP, UK
Tel.: +44-1622-813-201
Fax: +44-1622-815-534
e-mail: info@woodmizer.co.uk

SLOVENIA Jan Fale
FAMTEH d.o.o.
Gacnikova pot 2,
2390 Ravne na Koroskem
Tel.: +386-2-62-04-232
Fax: +386-2-62-04-231
Jan Fale
GSM: +386-2-62-04-230
e-mail: jan.fale@famteh.si

Matjaz Kolar
Tel.: +386-2-62-04-232
GSM: +386-31-775-999
e-mail: matjaz.kolar@famteh.si

GERMANY\AUSTRIA Klaus Longmuss **Wood-Mizer GmbH** Dorfstraße 5, 29485 Schletau **Büro** Tel: +49-5883 988 010 **Werkstatt** Tel: +49-5883 988 220 **Ersatzteilservice** Tel: +49 58 83 - 98 80 250 **Schärfservice** Tel: +49-58 83 - 98 80 270 E-mail: info@woodmizer.de www.woodmizer.de **Klaus Longmuss** Tel.: +49-5883-9880-12 GSM: +49-17-298-55-892 e-mail: KLongmuss@woodmizer.de	**Subagent:** **SWEDEN Kjell Larsson** **Mekwood AB** Slingan 14, 812 41 Gästrike-Hammarby Tel.: +46-290-515-65 **Kjell Larsson** GSM: +46-706-797-965 e-mail: kjell.larsson@mekwood.se	**IRELAND** **Wood-Mizer Ireland** Stephen Brennan Cum Lahardane Ballina County Mayo Tel:+353 96 51345 E-mail: brennanmill@ericom.net
Subagents: **DENMARK Kevin Christiansen** Kevin Christiansen's savværker PMV Arnborgvej 40, 7330 Brande- Fasterholt Mobile: +45 61468763 Mobile: +45-23495828 Info@woodmizer.dk www.woodmizer.dk	**ROMANIA Adrian Echert** **SC WOOD-MIZER RO SRL** TRANSILVANIEI Nr. 5 Sibiu, Cisnadie 555300 Tel.:/Fax: : +40-369-405-433 GSM: +40-745-707-323 e-mail: aechert@woodmizer.ro	Regional Manager - Asia Robert Moxham Regional Direction - Asia Wood-Mizer Asia Manufacturing Co., Ltd. No.2, Gongyequ 40th Rd. Xitun District, Taichung City, 40768, Taiwan, R.O.C. TEL: +886-4-2359 3022 FAX: +886-4-2359 3205 CELL: +886-9-0568 7708 EMAIL: RMoxham@woodmizer.com www.woodmizerasia.com Skype: r.g.moxham
NETHERLANDS Gerlo Breukers Breukers Houtzagerij en Bosbouwmachines Hazenweg 5, 7481 PC Haaksbergen Tel: +31-535741326 Mobile: +31-620419412 info@woodmizer.nl www.woodmizer.nl	**Subagent:** **ROMANIA M. Echert** **S.C. Echert Comprod s.r.l** Str. Schitului Nr. 6, Apt.7 etajul-1 725 70 Vatra Dornei, Romania Tel.:/Fax: +40-230-374-235 Tel. : +40-740-35-35-74	Regional Manager - Africa Gavin Prowse Regional Sales Director - Africa Wood-Mizer Africa (Pty) Ltd. Unit 1,Leader Park 20 Chariot Street Stormill Ext.5 Maraisburg, Johannesburg South Africa TEL: +27 11 473 1313 FAX: +27 11 473 2005 CELL: +27 71 398 8010 EMAIL: gprowse@woodmizer.com www.woodmizerafrica.com Skype: gavin.prowse

USA World Headquarters

Serving North & South America, Oceania, East Asia

Wood-Mizer LLC
8180 West 10th Street
Indianapolis, IN 46214

Phone: 317.271.1542 or 800.553.0182
Customer Service: 800.525.8100
Fax: 317.273.1011
Email: infocenter@woodmizer.com

Canadian Headquarters

Serving Canada

Wood-Mizer Canada
396 County Road 36, Unit B
Lindsay, ON K9V 4R3

Phone: 705.878.5255 or 877.357.3373
Fax: 705.878.5355
Email: ContactCanada@woodmizer.com

Brazil Headquarters

Serving Brazil

Wood-Mizer do Brasil
Rua Dom Pedro 1, No: 205 Bairro: Sao Jose
Ivoti/RS CEP:93.900-000

Tel: +55 51 9894-6461/ +55 21 8030-3338/ +55 51 3563-4784
Email: info@woodmizer.com.br

Europe Headquarters

Serving Europe, Africa, West Asia

Wood-Mizer Industries Sp z o.o.
Nagorna 114
62-600 Kolo, Poland

Phone: +48.63.26.26.000
Fax: +48.63.27.22.327

Branches & Authorized Sales Centers

For a complete list of dealers, visit www.woodmizer.com

SECTION 1 SAFETY

1.1 Safety Symbols

The following symbols and signal words call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

DANGER! indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING! suggests a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION! refers to potentially hazardous situations which, if not avoided, may result in minor or moderate injury or damage to equipment.

IMPORTANT! indicates vital information.

NOTE: gives helpful information.

Warning stripes are placed on areas where a single decal would be insufficient. To avoid serious injury, keep out of the path of any equipment marked with warning stripes.

1.2 Safety Instructions

IMPORTANT! The saw is intended for sawing wood only. The saw must not be used for other purposes such as cutting ice, metal or any other materials *See Section 5.2* for log size capacities of the machine.

IMPORTANT! The operator of the sawmill should get adequate training in the operation and adjustment of the machine.

NOTE: ONLY safety instructions regarding personal injury are listed in this section. Caution statements regarding only equipment damage appear where applicable throughout the manual.

Observe Safety Instructions

IMPORTANT! Read the entire Operator's Manual before operating the machine. Take notice of all safety warnings throughout this manual and those posted on the machine. Keep this manual with this machine at all times, regardless of ownership.

Also read any additional manufacturer's manuals and observe any applicable safety instructions including dangers, warnings, and cautions.

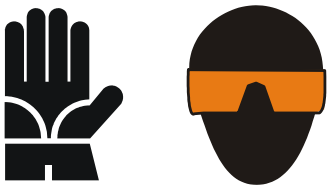
Only adult persons who have read and understood the entire operator's manual should operate the machine. The machine is not intended for use by or around children.

IMPORTANT! It is always the owner's responsibility to comply with all applicable national and local laws, rules and regulations regarding the ownership and operation of your Wood-Mizer TVS/SVS saw. All Wood-Mizer TVS/SVS owners are encouraged to become thoroughly familiar with these applicable laws and comply with them fully while using the machine.

Wear Safety Clothing

WARNING! Secure all loose clothing and jewelry before operating the machine. Failure to do so may result in serious injury or death.

WARNING! Always wear gloves and eye protection when handling bandsaw blades. Changing blades is safest when done by one person! Keep all other persons away from area when coiling, carrying or changing a blade. Failure to do so may result in serious injury.



WARNING! Always wear eye, ear, respiration, and foot protection when operating or servicing the machine.

Keep the Machine And Area Around Clean

DANGER! Maintain a clean and clear path for all necessary movement around the machine and lumber stacking areas. Failure to do so will result in serious injury.

Dispose Of Sawing By-Products Properly

IMPORTANT! Always properly dispose of all sawing by-products, including sawdust and other debris.

CAUTION! The machine work-stand should be equipped with a 4 kg/8.818 lb or bigger dry powder extinguisher.

Check the Machine Before Operation

DANGER! Make sure all guards and covers are in place and secured before operating the machine. Failure to do so may result in serious injury.

WARNING! Fasten the machine to the floor before operating.

IMPORTANT! The machine's operator should get training in operation and adjustment of the machine.

Keep Persons Away

DANGER! Keep all persons out of the path of moving equipment and lumber when operating the machine. Failure to do so will result in serious injury.

DANGER! Always be sure all persons are out of the path of the blade before starting the motor. Failure to do so will result in serious injury.

WARNING! Allow blade to come to a complete stop before opening the blade housing cover. Failure to do so will result in serious injury.

Keep Hands Away

DANGER! Always shut off the blade motor before changing the blade. Failure to do so will result in serious injury.

DANGER! Motor components can become very hot during operation. Avoid contact with any part of a hot motor. Contact with hot motor components can cause serious burns. Therefore, never touch or perform service functions on a hot motor. Allow the motor to cool sufficiently before beginning any service function.

DANGER! Always keep hands away from moving bandsaw blade. Failure to do so will result in serious injury.

DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

WARNING! Use extreme caution when spinning the blade wheels by hand. Make sure hands are clear of blade and wheel spokes before spinning. Failure to do so may result in serious injury.

CAUTION! Before installation of the blade, inspect it for damage and cracks. Use only properly sharpened blades. Always handle the blade with extreme caution. Use suitable carrier equipment for transporting blades.

Use Proper Maintenance Procedures

DANGER! Make sure all electrical installation, service and/or maintenance work is performed by a qualified electrician and is in accordance with applicable electrical codes.

DANGER! Hazardous voltage inside the electric boxes and at the motor can cause shock, burns, or death. Disconnect and lock out power supply before servicing! Keep all electrical component covers closed and securely fastened during machine operation.

WARNING! Consider all electrical circuits energized and dangerous.

WARNING! Disconnect and lock out power supply before servicing! Failure to do so may result in serious injury.

WARNING! Never assume or take the word of another person that the power is off; check it out and lock it out.

WARNING! Do not wear rings, watches, or other jewelry while working around an open electrical circuit.

WARNING! Remove the blade before performing any service to the motor. Failure to do so may result in serious injury.

DANGER! The operator must not for any reason perform any laser maintenance or repair work.

DANGER! Never clean the blade or the blade wheels using a brush or a scraper whilst the blade is in motion.

CAUTION! Before installation of the blade, inspect it for damage and cracks. Use only properly sharpened blades. Always handle the blade with extreme caution. Use suitable carrier equipment for transporting the blades.

IMPORTANT! No exchange with a different type of laser is permitted, that no additional optical equipment shall be used.

Keep Safety Labels In Good Condition

IMPORTANT! Always be sure that all safety decals are clean and readable. Replace all damaged safety decals to prevent personal injury or damage to the equipment. Contact your local distributor, or call your Customer Service Representative to order more decals.

IMPORTANT! If replacing a component which has a safety decal affixed to it, make sure the new component also has the safety decal affixed.

Fire-Fighting

CAUTION! The machine's work-stand should be equipped with a 4 kg/8.818 lb or bigger dry powder extinguisher.

Safety Labels Description

See Table 1-1. Pictogram decals used to warn and inform the user about danger in the saw.

TABLE 1-1

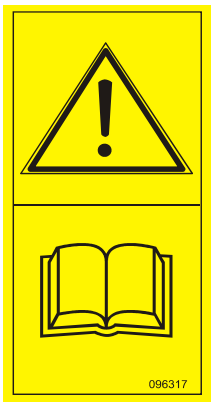
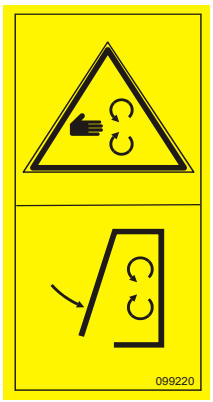
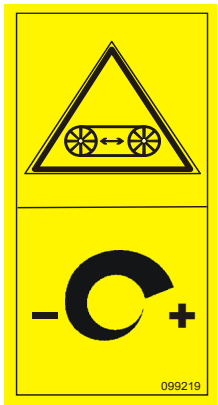
Decals View	Decal No.	Description
	096317	Carefully read the operator's manual before operating the machine. Observe all safety instructions and rules when operating.
	099220	Close all guards prior to operating the machine
	099219	Blade tension adjustment. Turn right to tighten; turn left to release.

TABLE 1-1

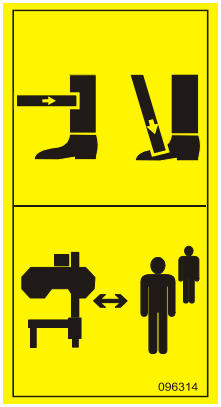
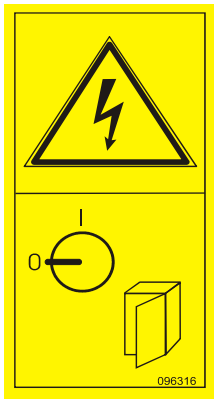
	099221	Keep all persons at a safe distance from work area when operating the machine.
	096314	Keep all persons at a safe distance from work area when operating the machine.
	096316	Opening of the electric box is possible only when the switch is in the ”0” position.

TABLE 1-1

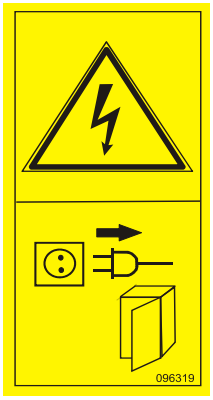
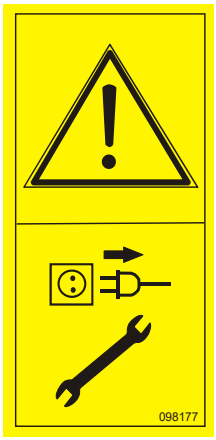
	096319	Always disconnect the power cord before opening the electric box.
	098177	Always disconnect the power cord before performing any service.
	099540	CAUTION! Gear train - Keep a safe distance!

TABLE 1-1

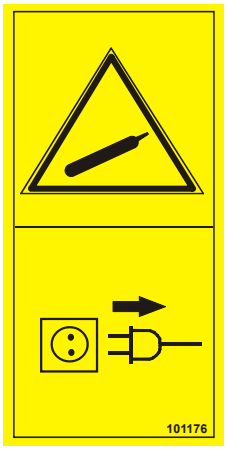
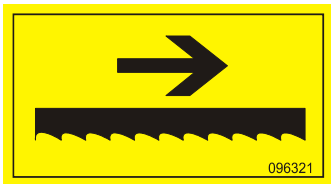
	101176	CAUTION! Compressed air in the system even after electric power disconnection.
	096321	Blade movement direction
	500031	CAUTION! Do not adjust the turnbuckles!
	S12004G	Always wear eye protection equipment when operating this machine.

TABLE 1-1

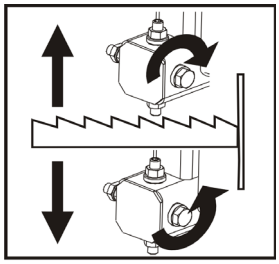
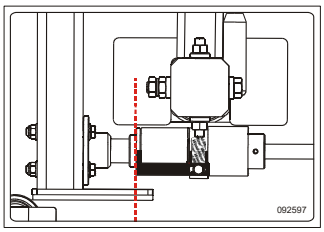
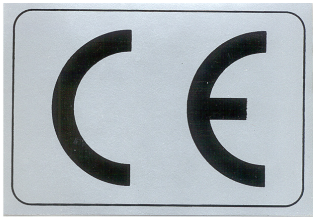
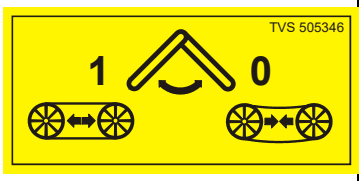
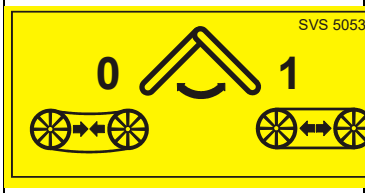
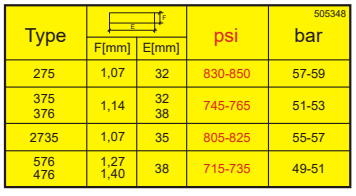
	S12005G	Always wear ear protection equipment when operating this machine.
	501465	CAUTION! Always wear safety boots when operating this machine.
	501467	Lubrication point
	P11789	Blade alignment. Turn right to move the blade out on the wheel; turn left to move the blade in on the wheel.
	092597	Blade tension adjustment (*See Section 2.5*)

TABLE 1-1

	P85070	CE sign
	S20097	Motor rotation direction
	099504	Visible and/or invisible laser radiation. Avoid eye or skin exposure to direct or scattered radiation.
	505346	Tensioner Valve Handle Placement, TVS
	505347	Tensioner Valve Handle Placement, SVS
	505348	Blade Tension Values

Type	F[mm]	E[mm]	psi	bar
275	1,07	32	830-850	57-59
375 376	1,14	32 38	745-765	51-53
2735	1,07	35	805-825	55-57
576 476	1,27 1,40	38	715-735	49-51

SECTION 2 SETUP

2.1 General Information

Thank you for choosing Wood-Mizer wood processing equipment!

Wood-Mizer is committed to providing you with the latest technology, best quality and strongest customer service available on the market today. We continually evaluate our customers' needs to ensure we're meeting current wood-processing demands. Your comments and suggestions are welcome

The present documentation contains information that should be used when preparing the machine for operation, working with it and when servicing or repairing it, as well.

The TVS-HD saw is intended for sawing wood only. The machine must not be used for other purposes such as cutting ice, metal or other materials.

Using the machine correctly, you will obtain a material of the highest quality and high degree of accuracy

The TVS-HD saw should be operated only by an adult who has read and understood the entire operator's manual.

The machine is built to be durable and easy to operate and maintain.

See Figure 2-1. The major TVS-HD saw components are shown below.

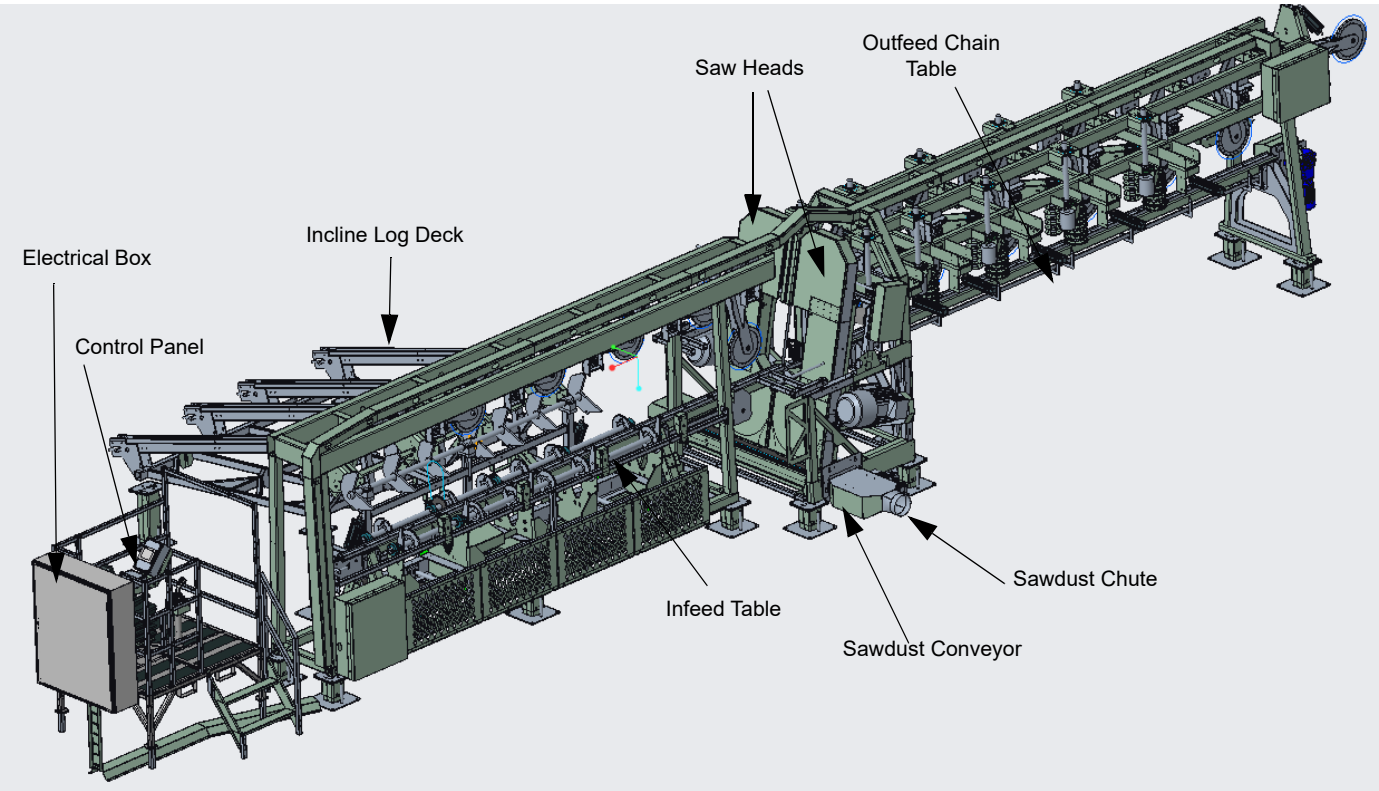


FIG. 2-1. TVS-HD MAIN COMPONENTS

2.2 TVS Saw Setup

IMPORTANT! Before starting to use the TVS-HD saw you have to meet the following conditions:

- Set up the machine on firm and level ground.
- The machine can be operated with the sawdust exhaust system only.
- The saw can be used under roof only.
- The machine can be used in the temperature range of -15° C to 40° C.
- The intensity of light at the operator's work-place must be at least 300 lx[1].

See Figure 2-2. The figure below shows the operator's position.

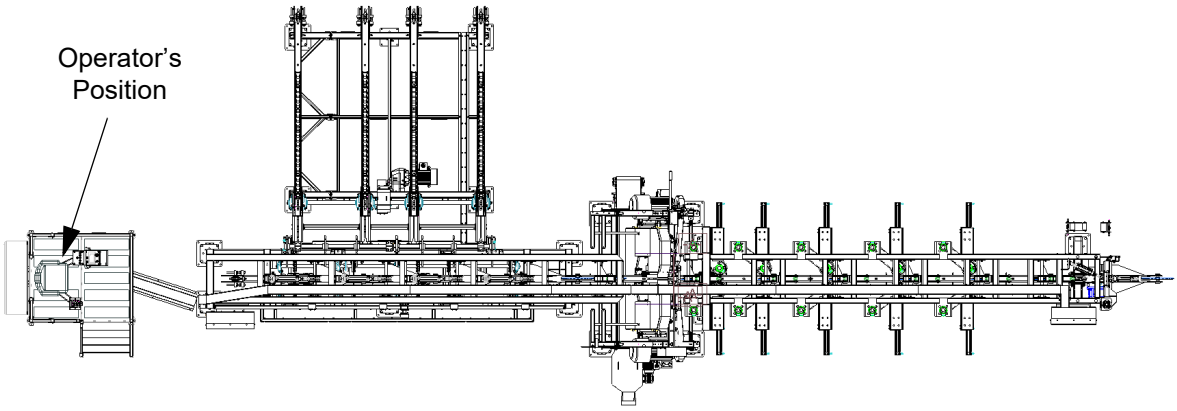


FIG. 2-2.

- Have a qualified electrician install the power supply (according to EN 60204 Standard). The power supply must meet the specifications given in the table below.

See table 2-1. See the table below for the power supply specifications.

3-Phase Volts	Circuit Breaker	Recommended Wire Size
400 VAC	40 A	4 mm^2, maximum length: 15 m

TABLE 2-1

1. The light source cannot cause stroboscopic effect.

IMPORTANT! When starting the machine for the first time, check that the blade rotation direction is as indicated by the arrow located on the blade covers. If the rotation direction is incorrect, invert the phases in the phase inverter in the power socket (electrical box). Setting the phases in the phase inverter correctly will ensure correct rotation directions of all saw motors (machines that are not equipped with a phase failure relay).

IMPORTANT! When starting the machine for the first time, let it run without load for one to two hours. It will let the infeed and outfeed table drive components break in.

DANGER! It is recommended that a 30mA Ground Fault Interrupter (GFI) be applied.

- The TVS-HD saw can be lifted with a forklift only. The forklift must be rated for at least 2000 kg (4409 lbs). The machine is equipped with forklift pockets.

2.3 Conveyor mounting

See Figure 2-3. Mount the Conveyor (A) using fasteners (B).

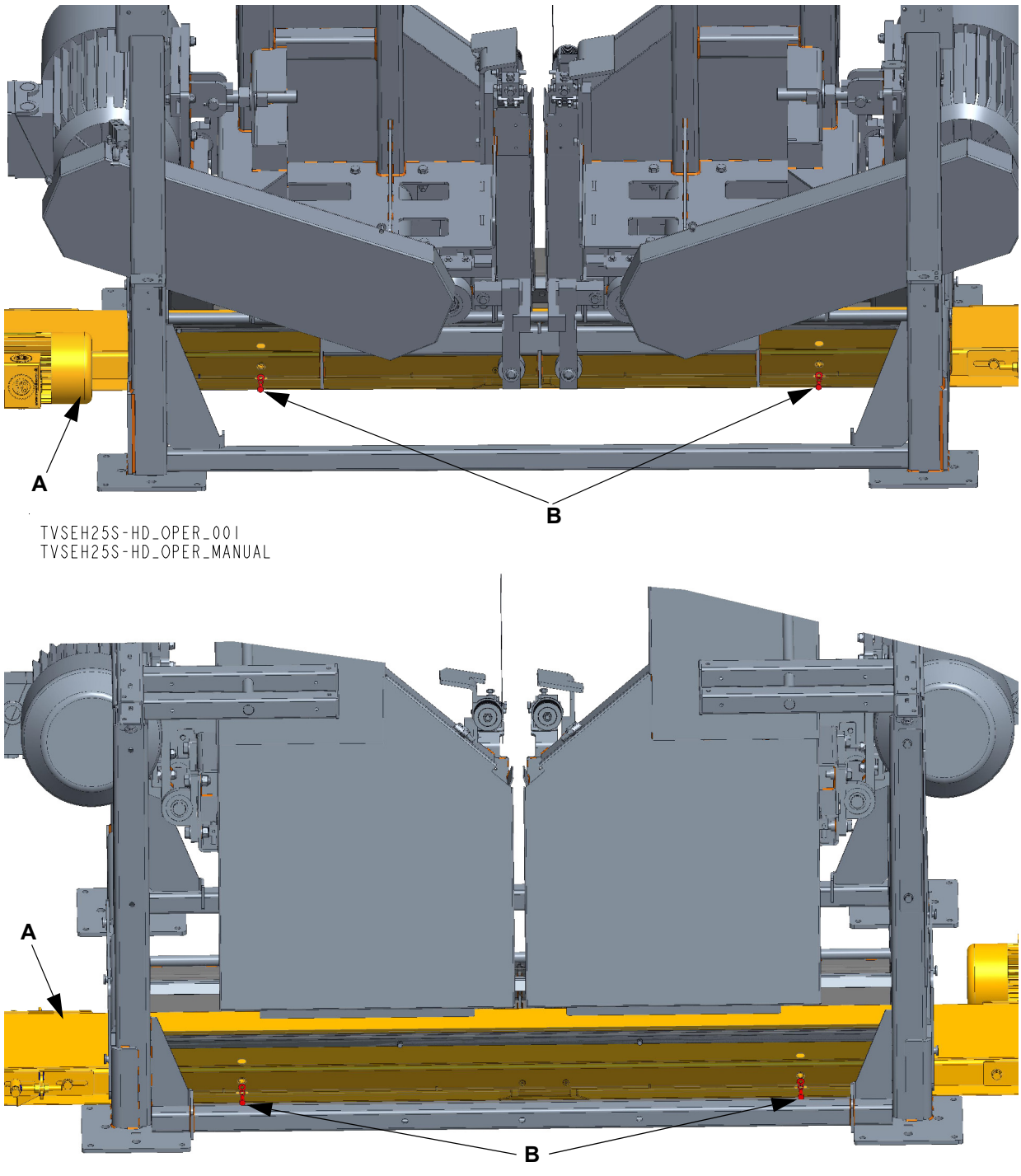


FIG. 2-3.

2.4 Blade Replacement

DANGER! Always shut off the machine motors before changing the blades. Failure to do so may result in serious injury.

WARNING! Always wear gloves and eye protection whenever handling a bandsaw blade. Changing blades is safest when done by one person! Keep all other persons away from work area when changing blades. Failure to do so may result in serious injury.

Move the control box arm out and open the blade housing cover. Set the blade tensioner valve in the ”0” position to release the blade tension until the wheel is pulled in and the blade is lying loose in the blade housing. Lift the blade out of the blade housing.

See Figure 2-4.

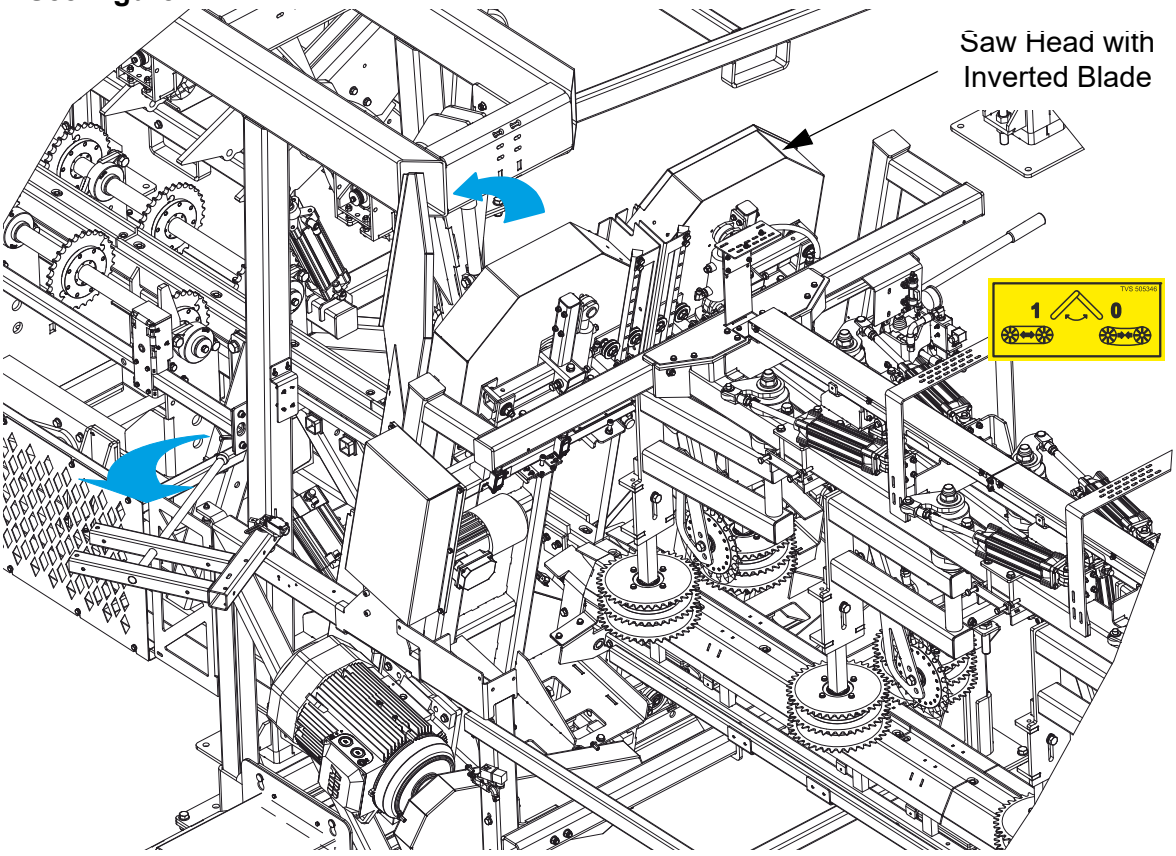


FIG. 2-4.

Install a new blade around both blade wheels so that the teeth located between the blade guide assemblies point towards the infeed table. Make sure the teeth are pointing the correct direction.

Position a 1 1/4” (31.75 mm) wide blade on the wheels so the gullet is 3.0 mm (0.12”) ± 1.0 mm/0.04” out from the front edge of the wheel.

Close the blade housing.

Next, adjust the blade tension according to the instructions below.

> **NOTE:** Before installing the blade on the left (when facing the control box) saw head, invert the blade *(See Section 4.3 Inverting The Blade in Blade Handbook)*.

2.5 Tensioning the Blade

See Figure 2-5. Place the provided handle in the blade tensioner socket and secure with a screw. Set the tensioner valve in the ”1” position. Move the tensioner handle up and down to tension the blade. Depending on the installed blade type, tension the blade to the value indicated on the decal located below the blade tensioner valve. The ”F” and ”E” letters denote the blade thickness and the blade width respectively. Check the blade tension occasionally when adjusting the cant control or while cutting and adjust if necessary. As the blade and belts heat up and stretch, the blade tension will change. Also, ambient temperature changes can cause it to change. To release the blade tension, set the tensioner valve in the ”0” position.

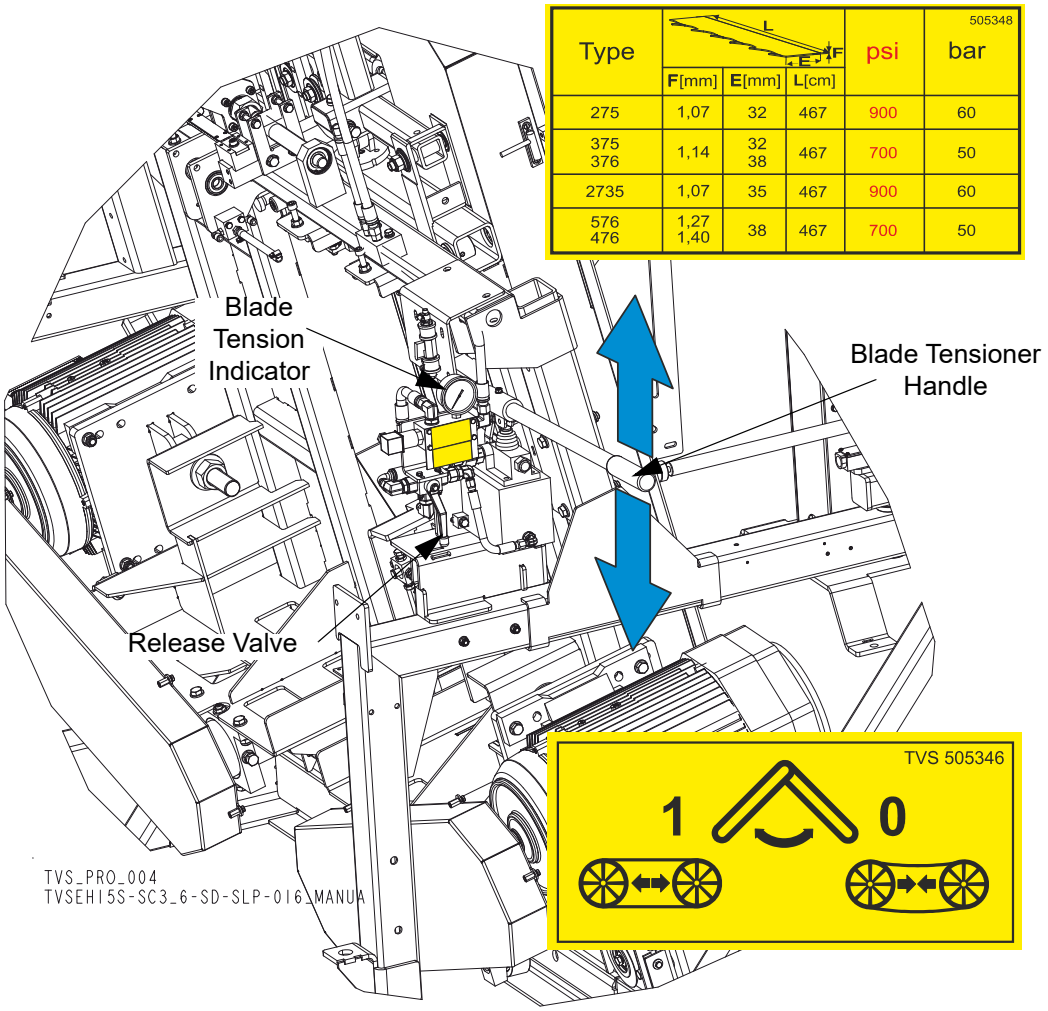


FIG. 2-5.

CAUTION! Always release the blade tension after you have finished sawing for the day. Tension the blade again before starting the saw.

2.6 TVS Saw Startup

DANGER! Before starting the machine, perform these steps to avoid injury and/or damage to the equipment:

- Close the blade housing covers and reinstall any guards and covers removed for service.
- Check the feed chain and remove all loose objects such as tools, wood, etc..
- Check that the blades are properly tensioned.
- Make sure all persons are a safe distance from the machine.
- Check that the emergency stops are released.

NOTE: The machine cannot be started up if either of the emergency stops is not released.

CAUTION! If the blade breaks during saw operation, push the emergency stop button to stop the blade and wait at least 10 seconds before opening the blade housing.

2.7 LubeMizer System

The Lube Mizer system is used to lubricate the blade during sawing. It applies lubricant to both sides of the blade while you are sawing to reduce resin buildup on the blade. The LubeMizer controls allow you to adjust the volume of lubricant for various wood types. The LubeMizer option uses less volume than the standard Water Lube, helping to reduce lubricant/sawdust mess and waste, and to prevent stained boards.

Usual flow will be between 2.6 - 9.5 liters (0.687 - 2.5 gallon) per hour.

1. If you are sawing or storing the machine in freezing temperatures, use windshield washer fluid to help prevent the water from freezing.

CAUTION! Add windshield washer fluid to the water tank and prime as recommended when sawing or storing the machine in below-freezing temperatures. Use windshield washer fluid with a freezing point of at least -20°F (-29°C). Failure to do so will cause damage to the LubeMizer system may result.

Lube Additives

For further benefits, add one bottle of Wood-Mizer Lube Additive (340ml) to a 5-gallon (18.9 l) jug of water. The Wood-Mizer Lube Additive enables some previously impossible timbers to be cut by significantly reducing resin buildup on the blade. It helps to reduce heat buildup, wavy cuts, and blade noise. This biodegradable and environmentally friendly pre-mix includes a water softener additive, so it also works with hard water.

WARNING! Use ONLY water, Wood-Mizer Lube Additive or windshield washer fluid with the water lube accessory. Never use flammable fuels or liquids such as diesel fuel. If these types of liquids are necessary to clean the blade, remove it and clean with a rag. Failure to do so can damage the equipment and may result in serious injury or death.

See table 2-2. Use windshield washer fluid as an antifreeze to prevent the water from freezing and damaging the LubeMizer system. See the chart below for recommended mixture levels depending on the temperature where you are sawing or storing the machine.

Run the LubeMizer system on the “Continuous” setting for 30 seconds after adding the windshield washer fluid to the system. This will insure the water throughout the system will not freeze and damage the check valves.

CAUTION! Add windshield washer fluid to the water tank and prime as recommended when sawing or storing the machine in below-freezing temperatures. Use windshield washer fluid with a freezing point of at least -20°F (-29°C). Failure to do so may cause damage to the LubeMizer system.

Ratio WWF [1]:Water to fill 5 Gal. Tank	Freezing Point of Solution	
	(°F)	(°C)
5:0	-22	-30
4:1	-3	-19
3:2	7	-14
2.5:2.5	13	-10
1:4	24	-4
0:5	32	0

TABLE 2-2

[1] WWF = Windshield Washer Fluid with a freezing point of -20°F (-29°C)

2.8 Log Deck Operation

CAUTION! The minimum length of a log that can be loaded with the Log Deck is 1200 mm.

DANGER! If there are many logs on the Log Deck, be extremely carefull when removing them. First, remove the top logs and be carefull not to release the limit switch as it will cause the Log Deck to start and may result in serious injury.

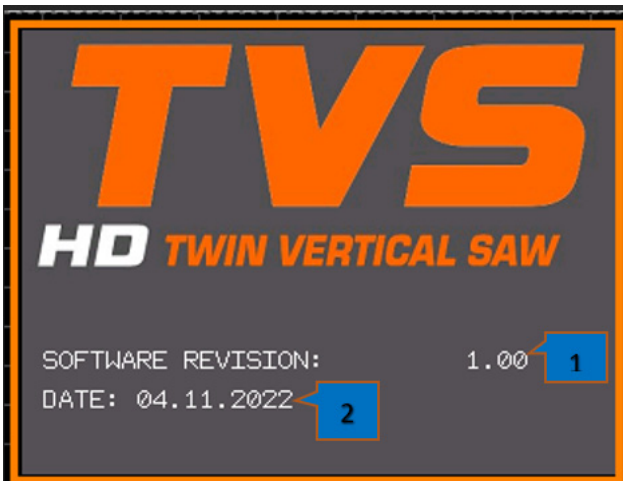
WARNING! Securely fasten the Log Deck feet to the floor before operating the machine. Failure to do so may result in serious injury or death.

CAUTION! When loading a log, never drop it onto the Log Deck from a height of over 20 cm (7.874”). Doing so may result in damage to the Log Deck.

SECTION 3 OPERATION

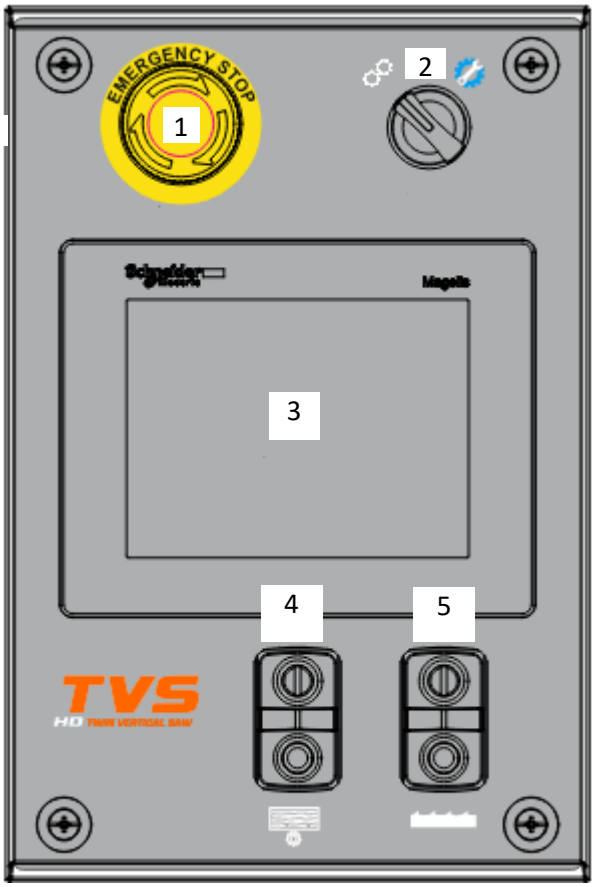
3.1 TVS-HD Control Panel

After turning on the power supply, the display window shown below appears on the HMI panel.



1. Software version
2. Program creation date

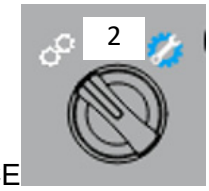
3.1.1 Control Panel



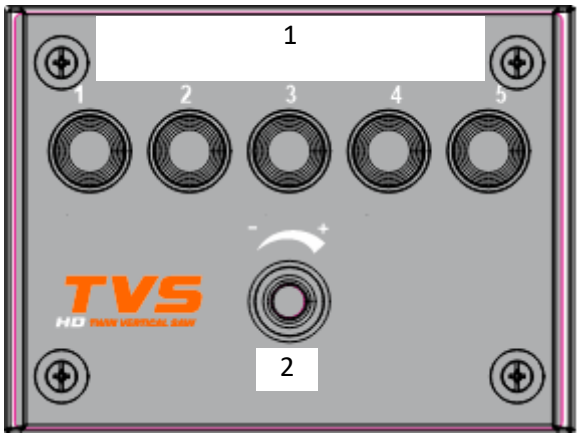
1. Emergency stop button,
2. OPERATION/SERVICE mode switch,
3. HMI panel,
4. Feed Motor START/STOP,
5. Blade Motor START/STOP.

The emergency stop button ("1") is used to immediately stop the machine by disconnecting power supply to the motor control circuits, AC drives, air valves, and PLC output modules.

After setting the mode selection switch ("2") to the Operation or Service mode position, the selected mode screen will automatically appear.

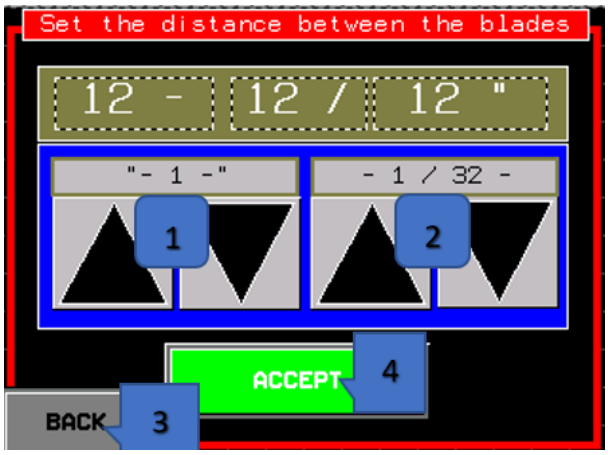
Modes = OPERATION or SERVICE 

3.1.2 Cutting Width Selection Keys and Feed Rate Dial



1. Five programmable keys the operator can use to automatically set the desired distance between the blades

2. Feed rate dial

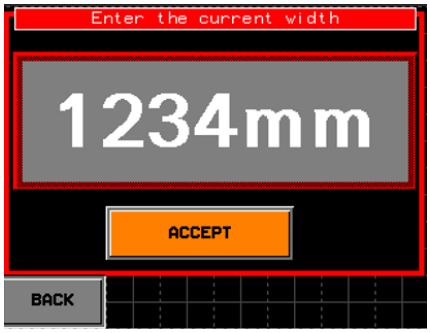


1. Arrow keys - 1"
2. Arrow keys - 1/32"
3. Accept and save key
4. Return to previous window

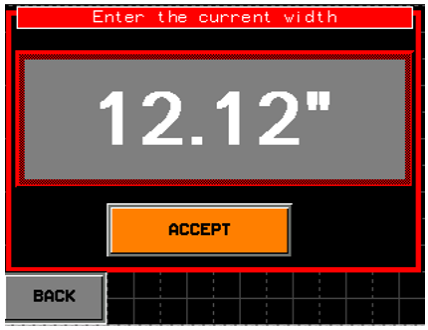
3.2 Operating Parameters Setting

After the PLC controller has properly comunicated with the HMI panel, the window shown below will be diplayed. The operator can enter the current distance between the blades in this window (in inches or millimetres, depending on what unit of measure has been selected).

Values in millimetres

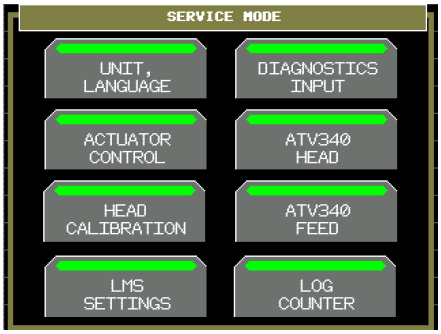


Values in inches

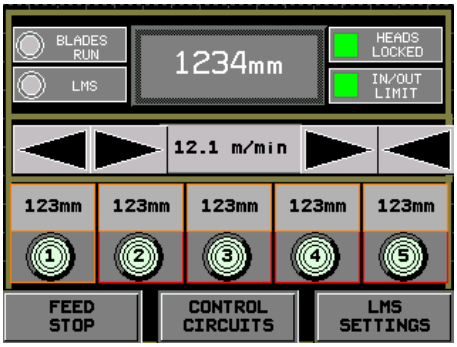


After accepting the displayed distance, one of the following screens will automatically appear, depending on the selected unit of measure and mode (Service or Operation).

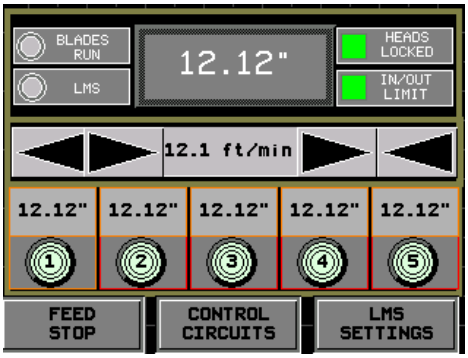
SERVICE Mode



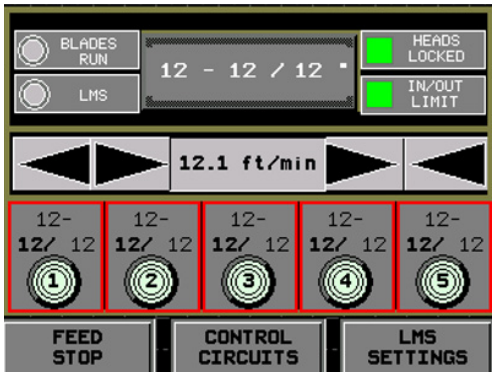
OPERATION Mode - Metric Units of Measure

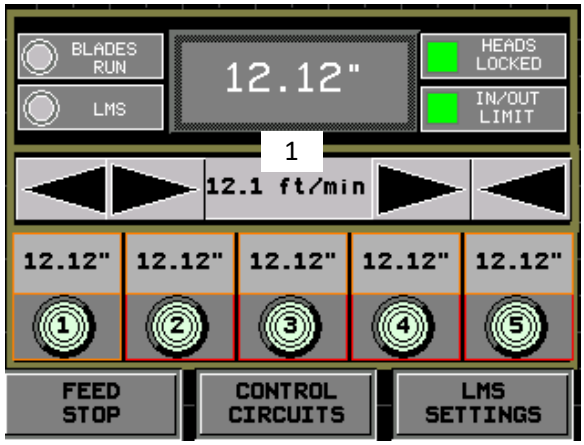


OPERATION Mode - Imperial Units of Measure



Imperial fractional division system

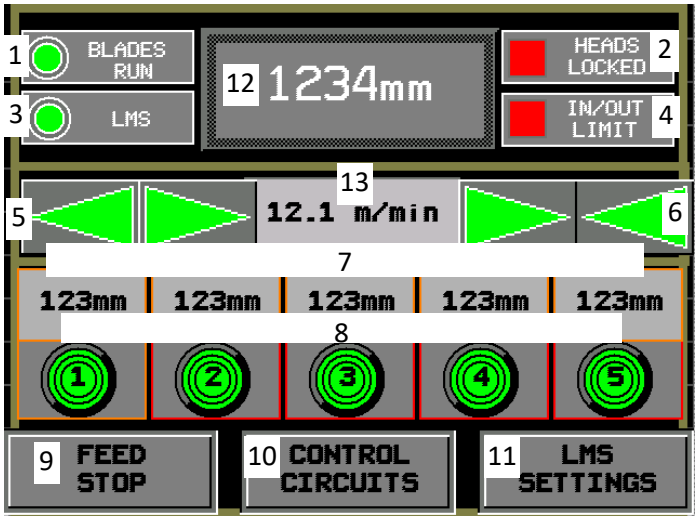




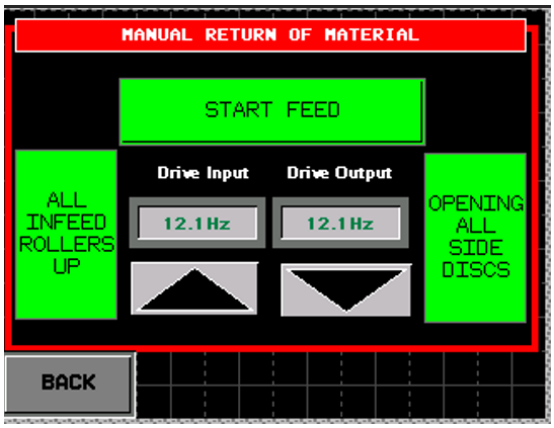
1. When imperial units of measure are selected, the feed rate is displayed in ft/min.

3.2.3 Display Windows

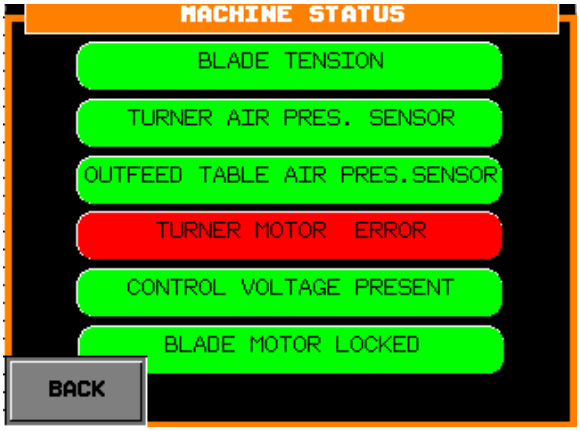
3.2.3.1 Main Window



1. Green control light: the blade motors are turned on,
2. Red control light: saw head positioning is locked - the blades are in the log,
3. Green control light: the blade lubrication system (LMS) is activated,
4. Red light: the saw head has reached the maximum or minimum distance limit,
5. Arrow keys that can be used to manually move the saw heads out,
6. Arrow keys that can be used to manually move the saw heads in,
7. Five memory keys that can be used to store the desired distance between the blades,
8. Green light: the selected distance between the blades has been reached,
9. This key stops the feed operation and activates the manual feed control window. It stops the infeed and outfeed table chains, the conveyor located below the saw head, but does not stop the CC4 conveyor and the main motors. In the manual feed control mode, the operator can reverse the material, move it forward as well as raise all rollers on the infeed table and open all disks on the outfeed table. It is not necessary to restart the machine after using the FEED STOP key.

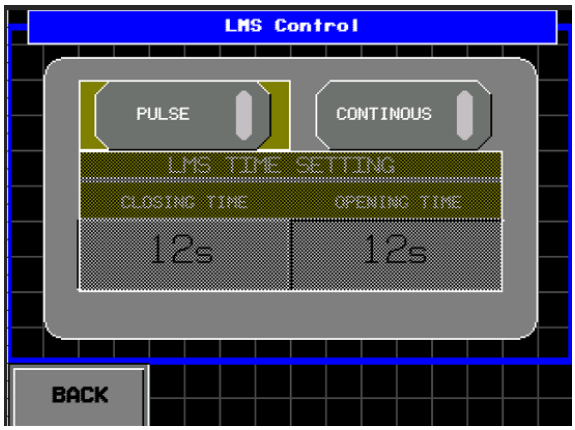


10. After pressing this key, the MACHINE STATUS window is displayed.



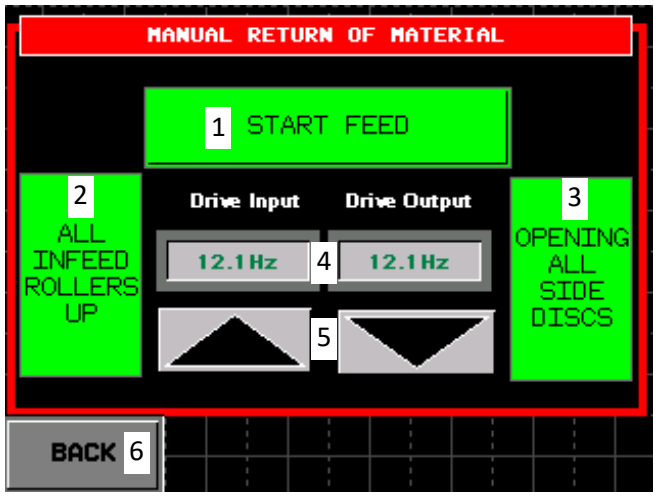
11. After activating this function, the LubeMizer system control window is displayed. The LMS system can work in one of two modes of operation: Continuous and Pulse, or it can be disabled.

A - Pulse mode
B - Continuous mode
C - LMS turned off



12. Current distance between the blades
13. Current feed rate

3.2.3.2 Feed Stop Window



1. Feed START key,
2. Raising all infeed table rollers,
3. Opening all side disks on the outfeed table,
4. Displays the preset speed - left side (the frequency is factory-set to 10Hz) and the speed coming from the AC drive to the motor - right side,
5. Manual forward/backward movement,
6. Return to the previous window.

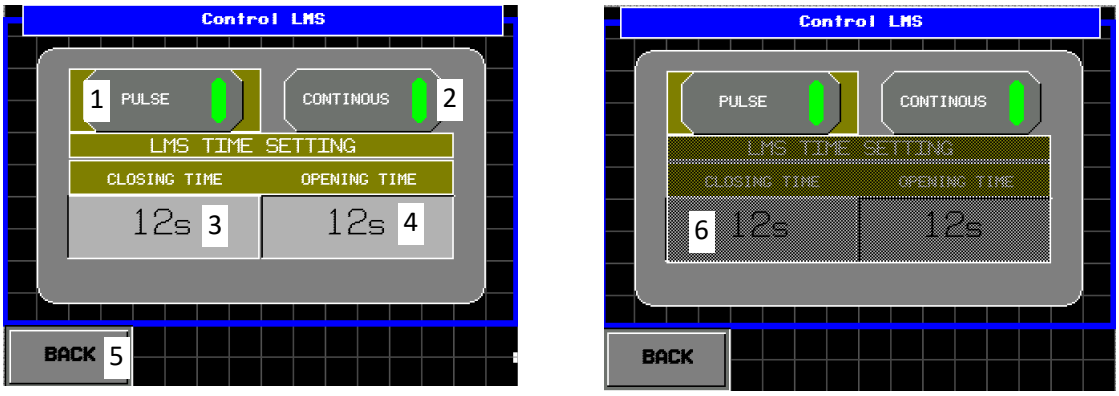
3.2.3.3 Machine Status Checking

Green colour: the machine is ready for starting the main motors. Red colour: it is not possible to turn on the blade motors.

1. Blade tension sensor,
2. Air pressure sensor on the infeed table,
3. Air pressure sensor of the side disks and the material turning roller,
4. Turner motor controller error,
5. Control voltage is present,
6. Main motor starting is locked,
7. Return to the previous screen.

The blade motors are locked as soon as any of the errors listed in steps 1-5 occurs.

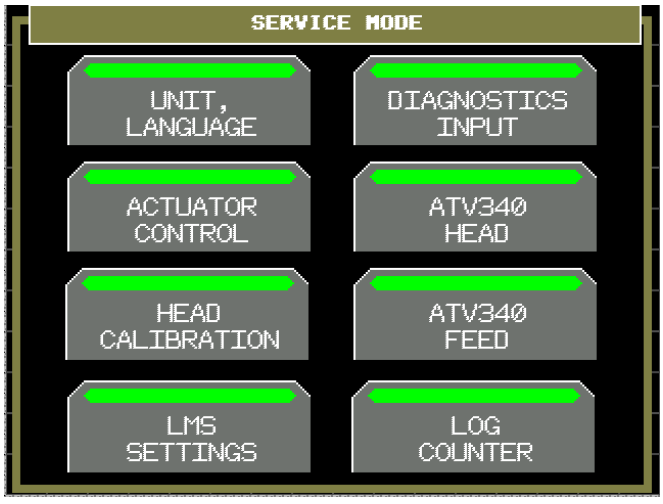
3.2.3.4 LMS Control Window



The green lighting indicates that the function is active.

1. LMS Pulse mode (active after engaging the feed operation),
2. LMS Continuous mode (active after engaging the feed operation),
3. Time of lubricant flow interval (the LMS valve is closed),
4. Time of lubricant flow (the LMS valve is open),
5. Return to the previous screen,
6. This field is inactive in the Continuous LMS mode and when the LMS valve/pump is turned off.

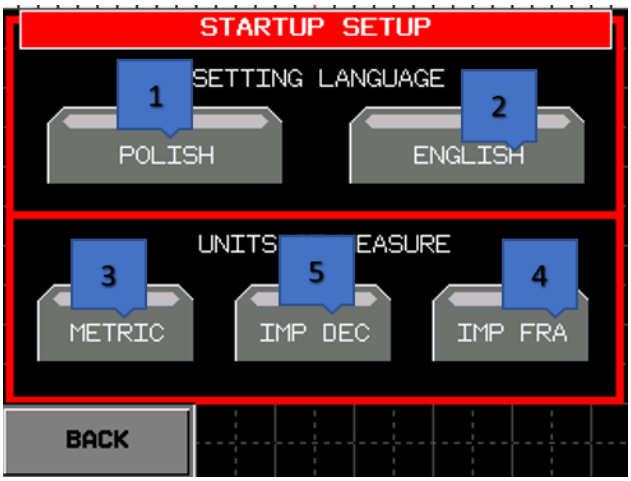
3.2.3.5 Service Mode Window



1. Setting the unit of measure and language used for the display.
2. PLC controller input diagnostics.
3. Manual control of the rollers, setting the closing and opening positions of the first disk on the outfeed table, the opening positions of all disks on the outfeed table and the speed of positioning the saw head to the preset position when the head is at the end of its travel (less than 6 millimetres left to the preset position. Above 6 millimetres, the positioning speed is 30Hz).
4. Saw head AC drive diagnostics,
5. Entering the current distance between the blades,

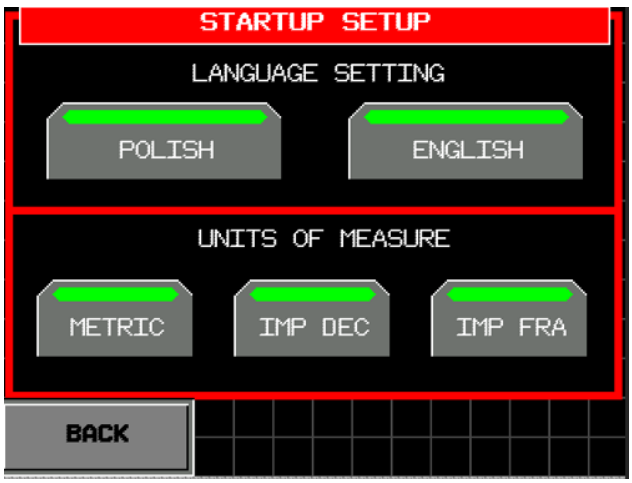
6. Feed AC drive diagnostics,
7. LMS system settings,
8. Sawn log counter.

3.2.3.6 Language Version and Unit of Measure

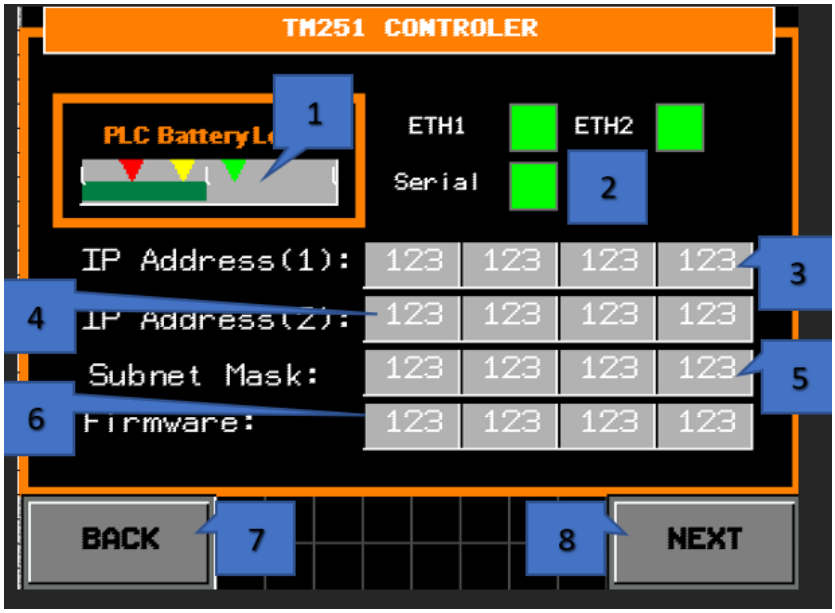


1. Language version - Polish,
2. Language version - English,
3. Metric units of measure,
4. Imperial units of measure (imperial fractional).
5. Imperial units of measure (imperial decimal).

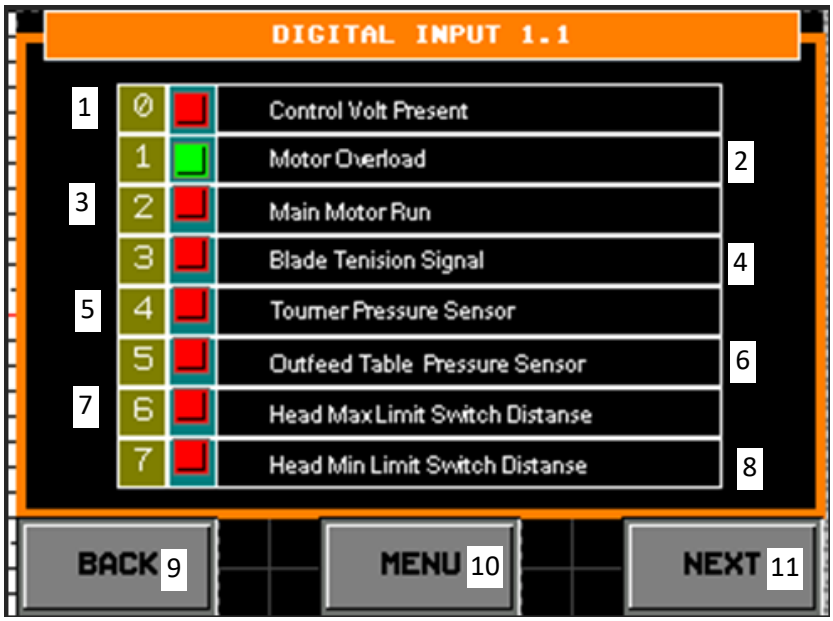
The green lighting indicates that the function is active.



3.2.3.7 Input Signals Diagnostics



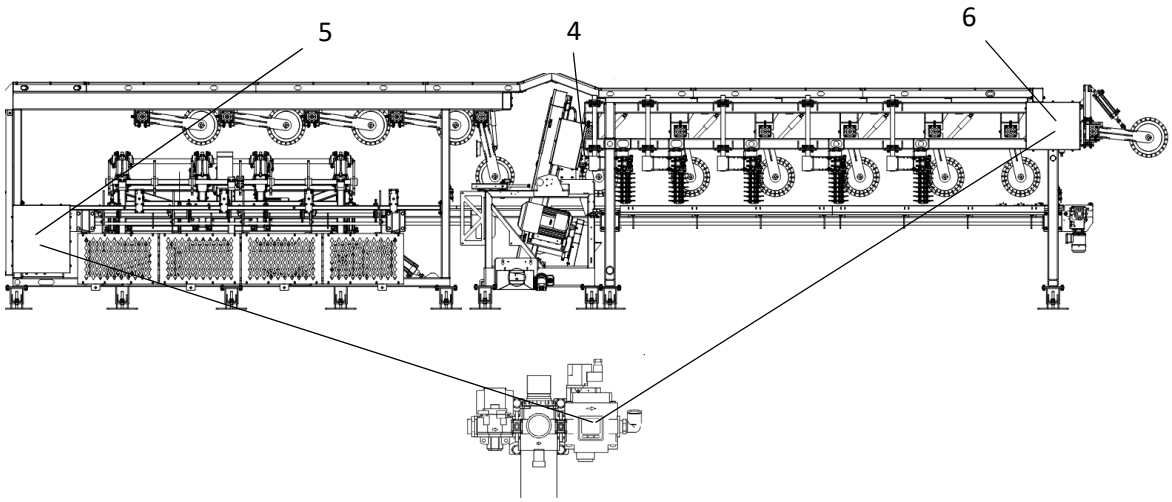
1. PLC battery level
2. RJ45 socket's statuses (green: communication present, red: no communication
3. Ethernet 1 IP adress
4. Ethernet 2 IP adress
5. Ethernet 1 subnet mask
6. Firmware version
7. Return to previous window
8. Next page

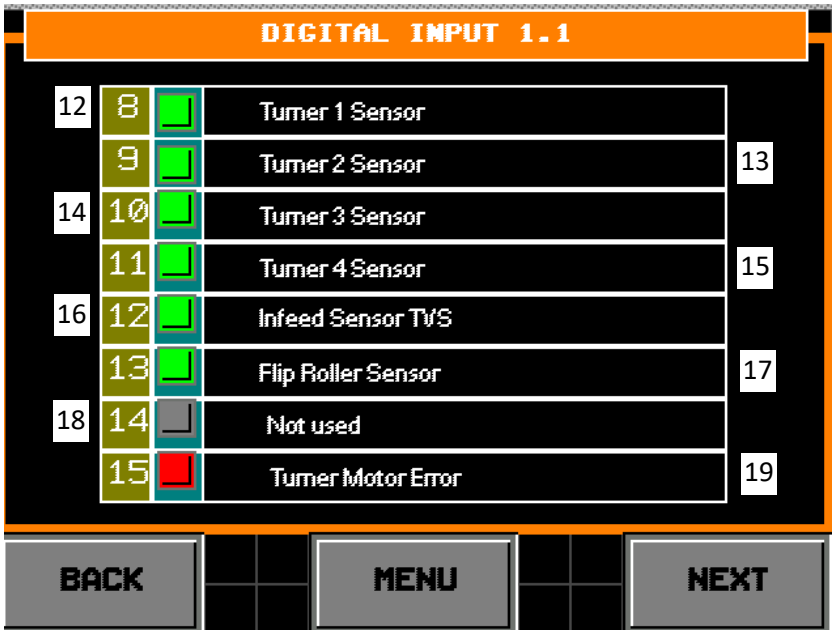


Green: a signal provided to the input, red: no signal, gray: not used

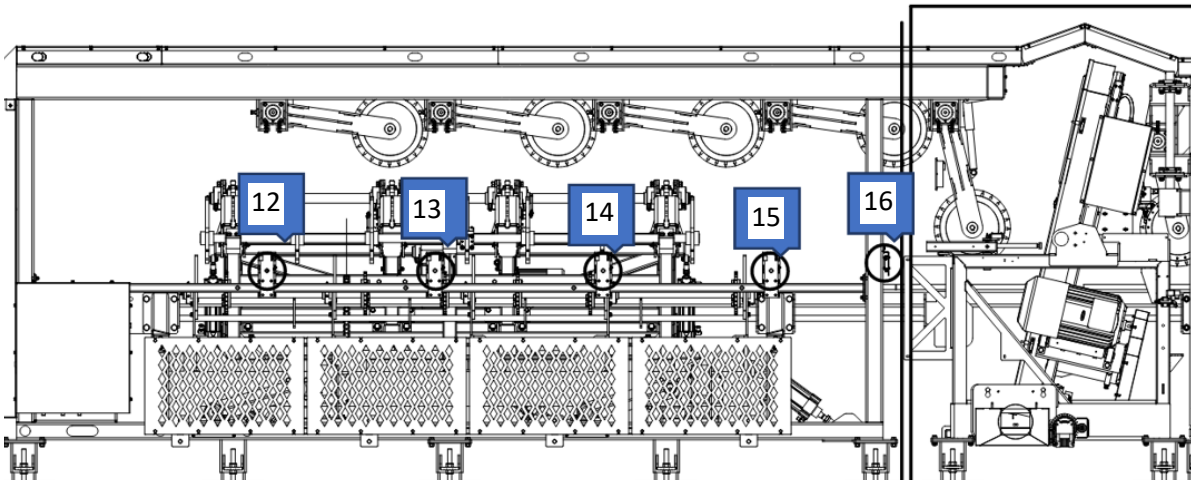
1. Supply voltage inspection,
2. Motor protection inspection,
3. Main motor operation,
4. Blade tension sensor,
5. Air pressure sensor on the infeed table,
6. Air pressure sensor of the disks and material turning roller located on the outfeed table,
7. Limit switch (maximum distance between the blades),
8. Limit switch (minimum distance between the blades),
9. Return to the previous screen,
10. Return to the SERVICE window,
11. Next screen.

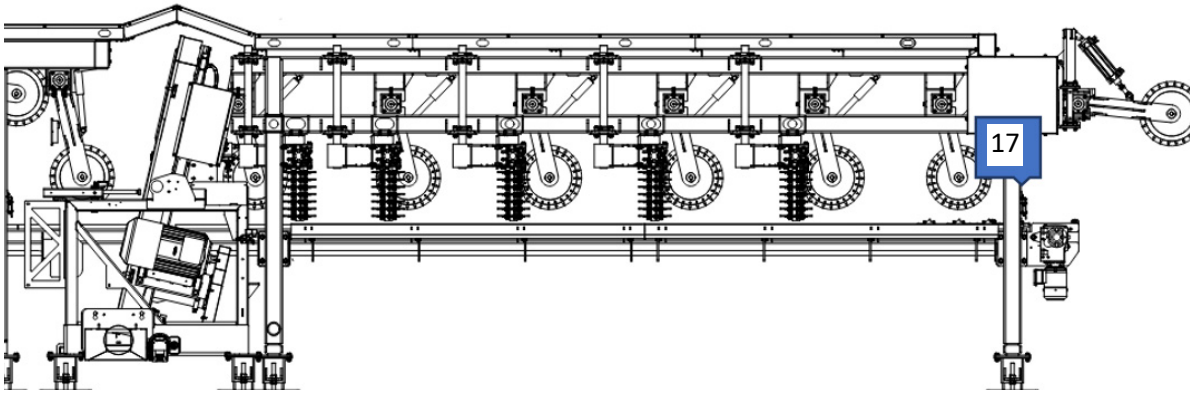
Locations of the air pressure sensors and blade tension sensor

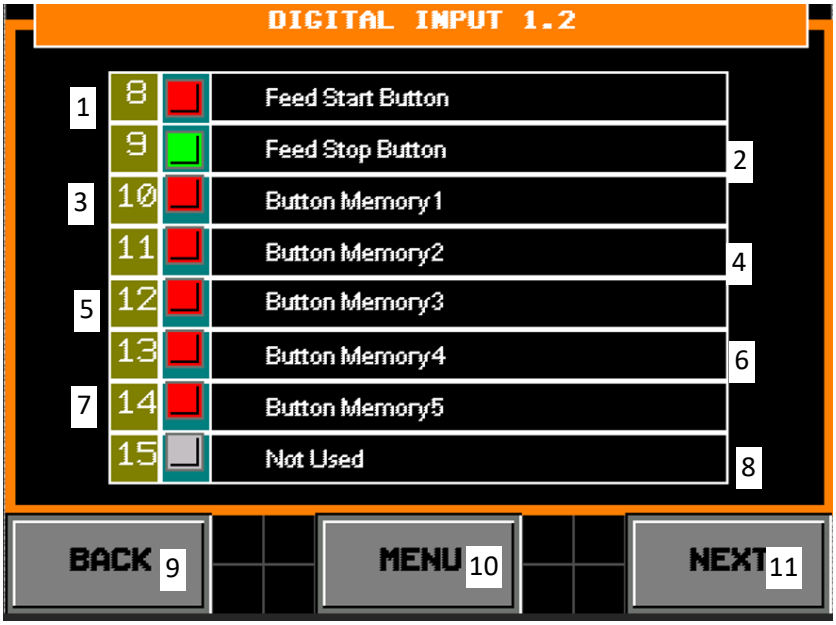




12. Log turner sensor (1),
13. Log turner sensor (2),
14. Log turner sensor (3),
15. Log turner sensor (4),
16. TVS infeed sensor,
17. Material turning roller sensor,
18. Nod used,
19. Turner motor error.

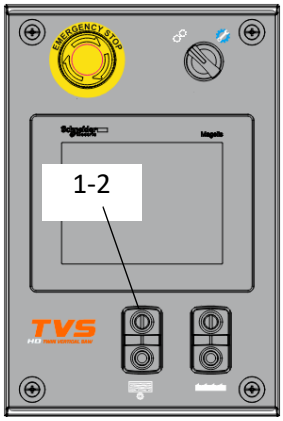


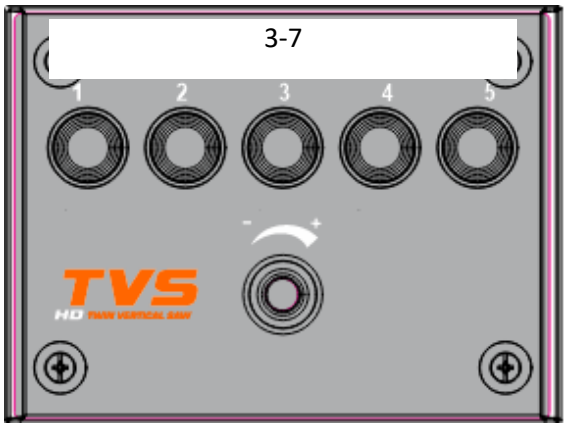




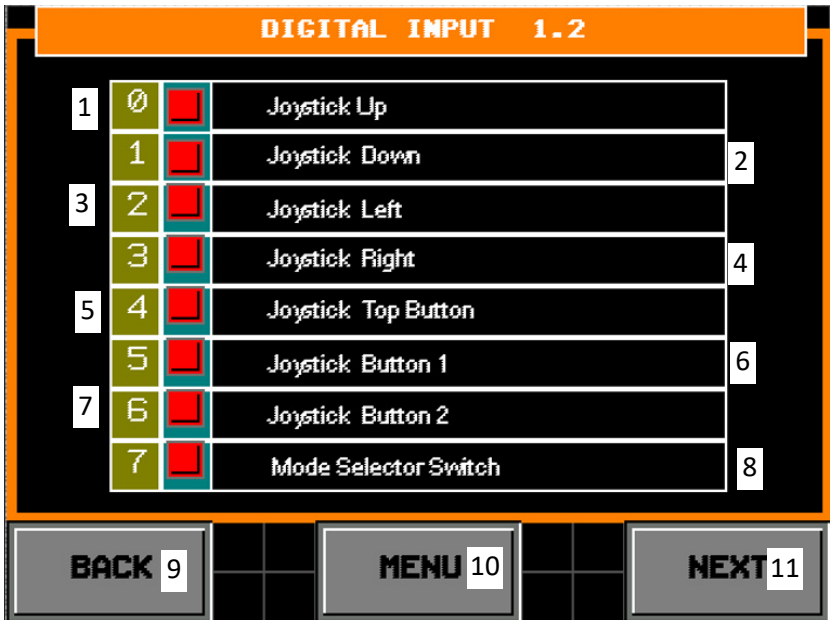
1. Feed operation START,
2. Feed operation STOP,
3. Memory key (1),
4. Memory key (2),
5. Memory key (3),
6. Memory key (4),
7. Memory key (5),
8. Not used,
9. Return to the previous screen,
10. Return to the SERVICE window,

11. Next screen.



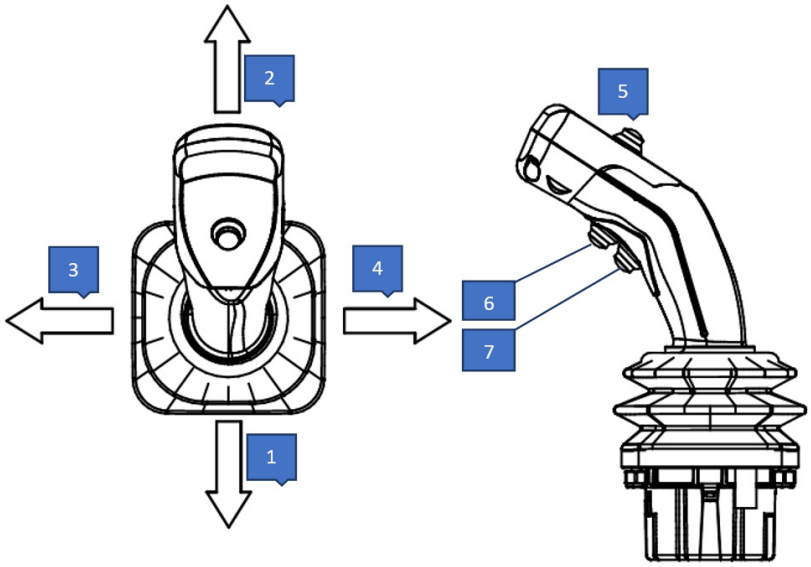


3.2.3.8 Joystick Input Signals Diagnostics

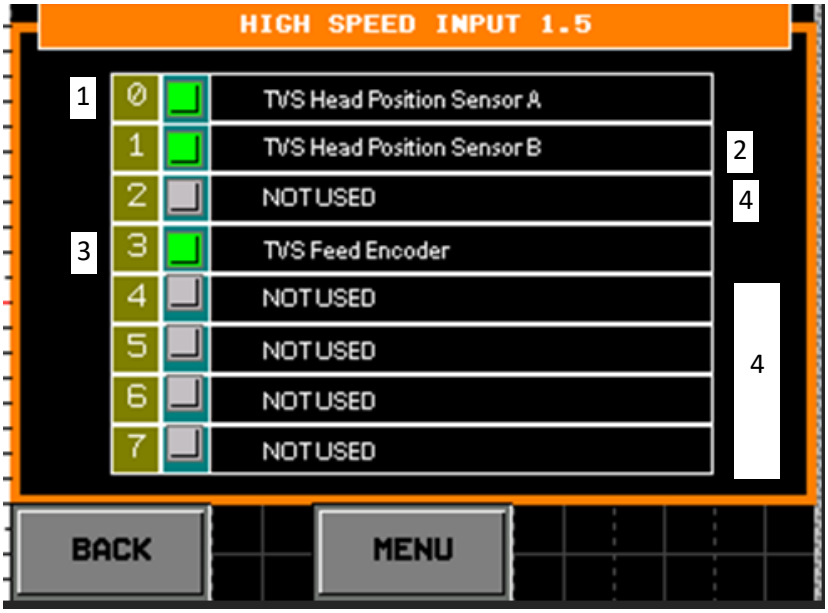


1. Joystick up - log turner raising,
2. Joystick down - log turner lowering,
3. Joystick left - the log is turned left,
4. Joystick right - the log is turned right,
5. Joystick top button - log loading,
6. Joystick button #1 - incline log deck,
7. Joystick button #2 - flat log deck,

8. OPERATION/SERVICE mode selection switch.

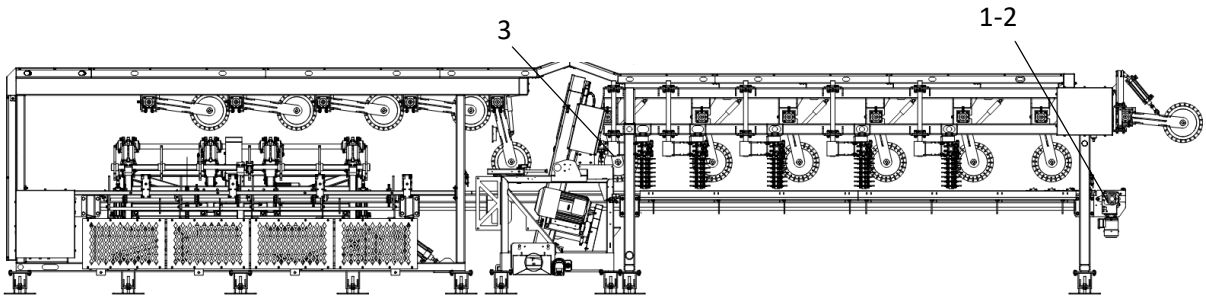


3.2.3.9 Hight Speed Input Signals



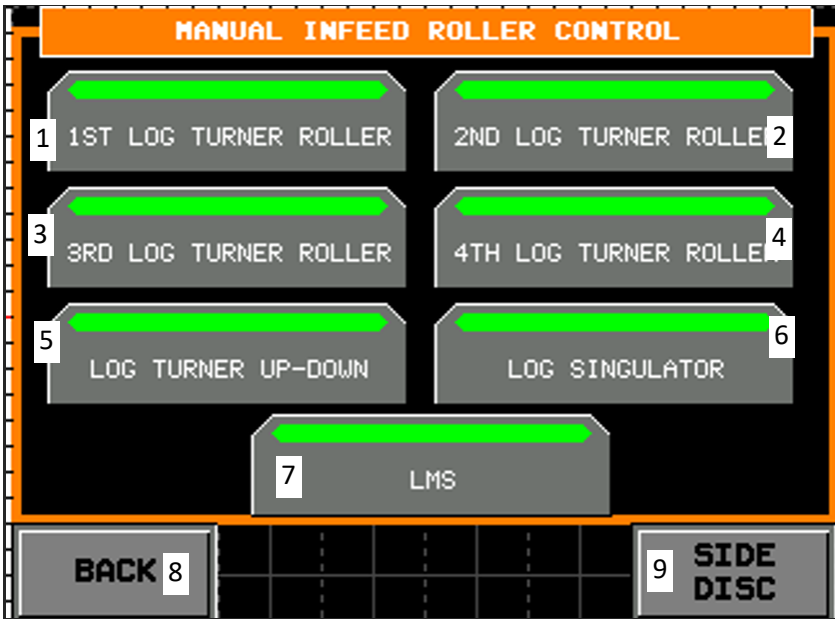
1. TVS saw head position sensor - A,
2. TVS saw head position sensor - B,
3. Feed encoder sensor,
4. Not used

.



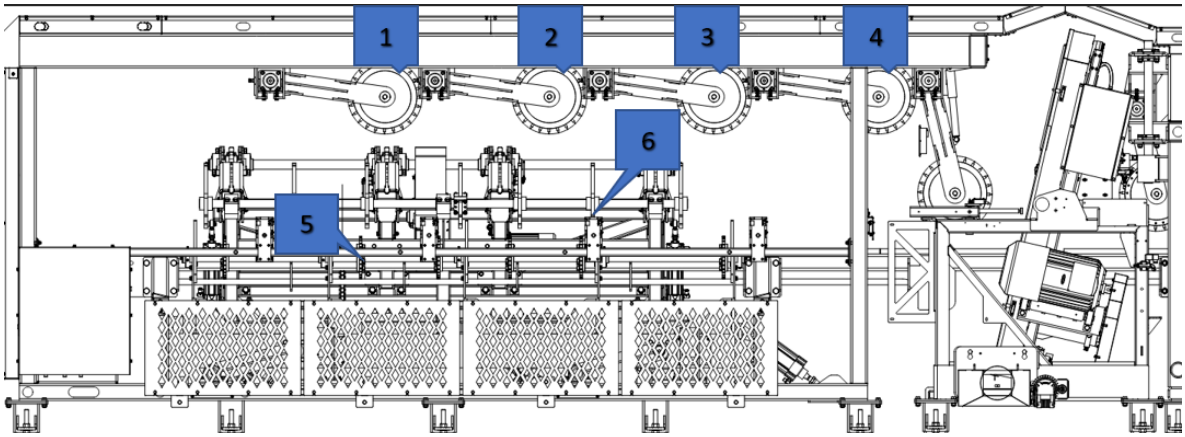
3.2.3.10 Output Signals Diagnostics

3.2.3.10.1 Manual Control of the Infeed Rollers

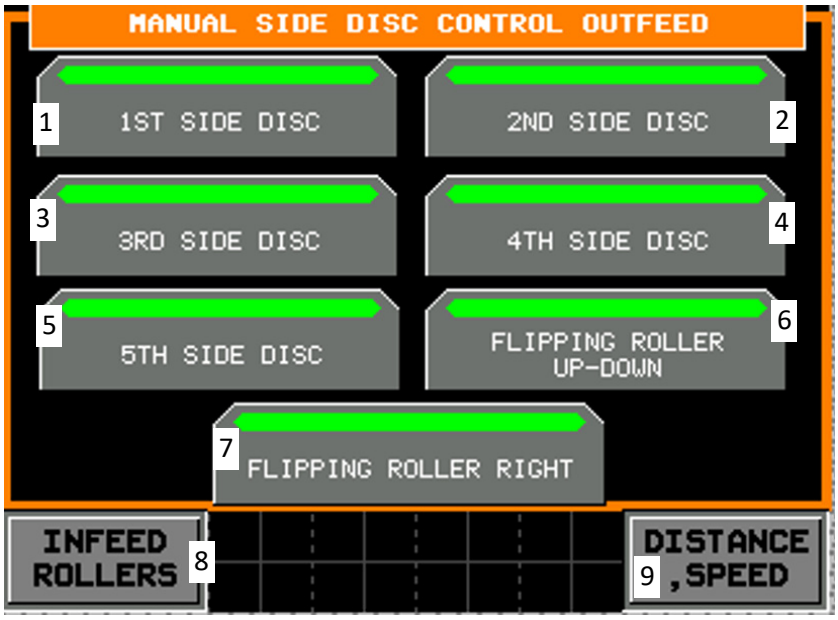


The green lighting indicates that the function is active.

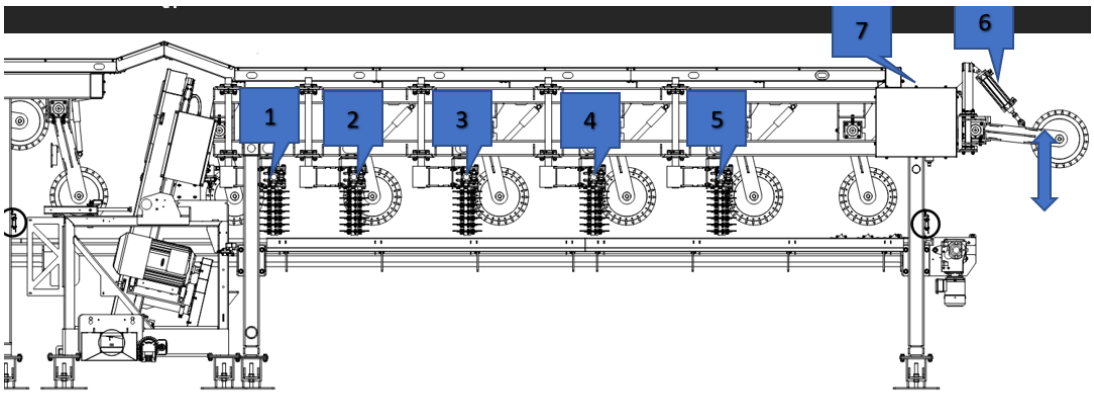
1. Manual control of the first turner roller,
2. Manual control of the second turner roller,
3. Manual control of the third turner roller,
4. Manual control of the fourth turner roller,
5. Manual control of log turner raising,
6. Manual control of loading a log onto the turner,
7. Manual control of the LMS valve/pump,
8. Return to the previous screen,
9. Next screen.

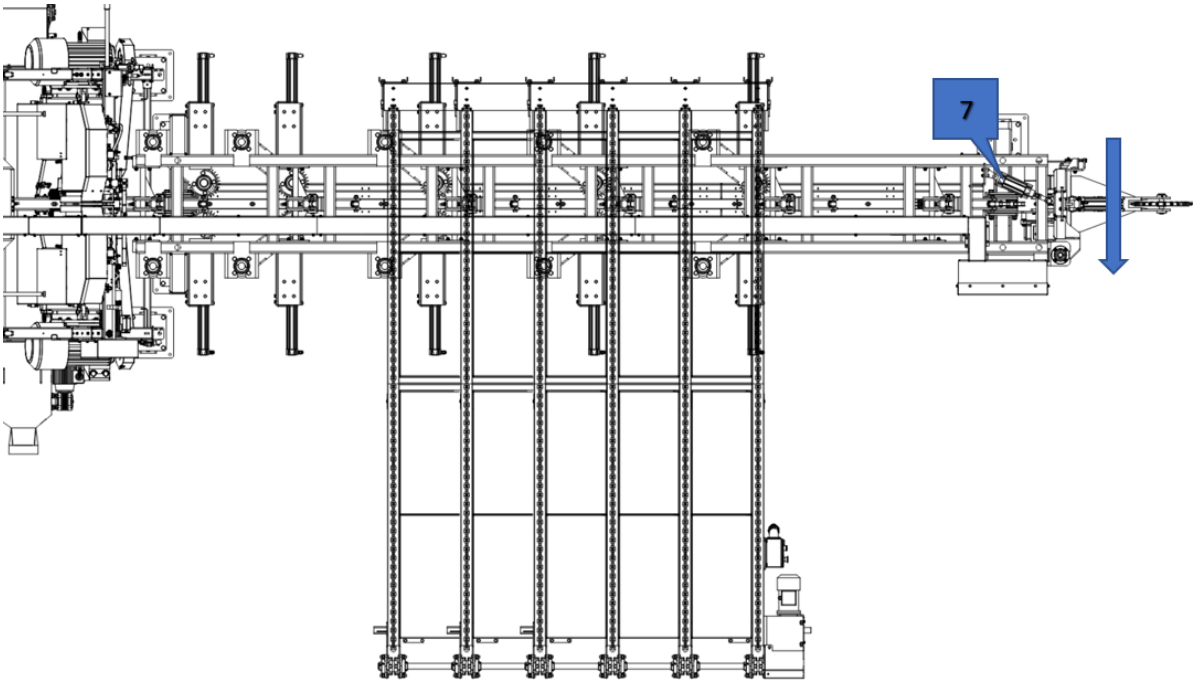


3.2.3.10.2 Manual Control of the Outfeed Side Disks

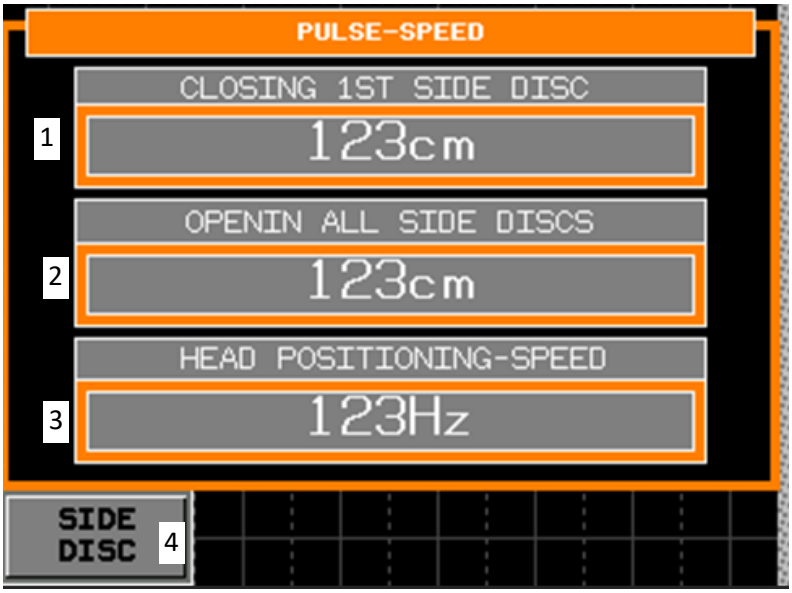


1. Manual control of the first side disk,
2. Manual control of the second side disk,
3. Manual control of the third side disk,
4. Manual control of the fourth side disk,
5. Manual control of the fifth side disk,
6. Manual control of the material turning roller (up/down),
7. Manual control of the material turning roller (right/left),
8. Return to the previous screen,
9. Next screen.


7
6
1
2
3
4
5

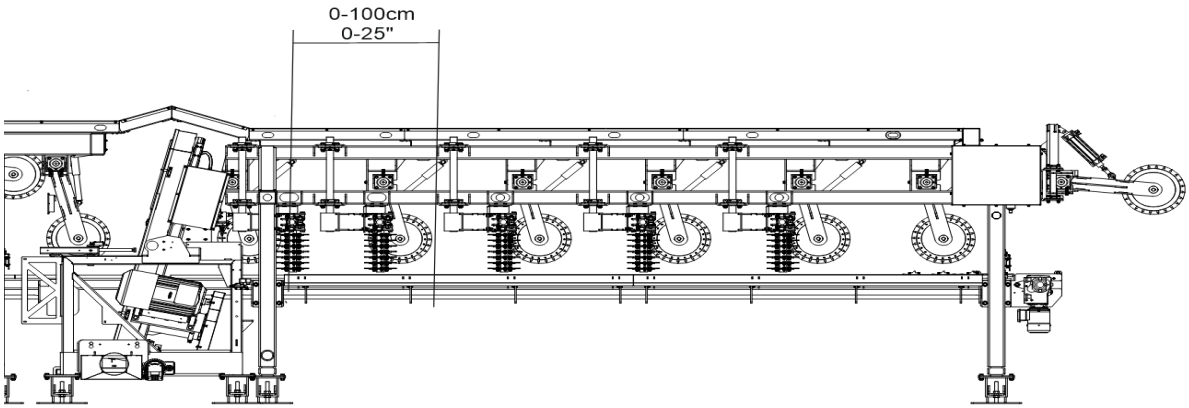

7

3.2.3.10.3 Pulse - Speed Window

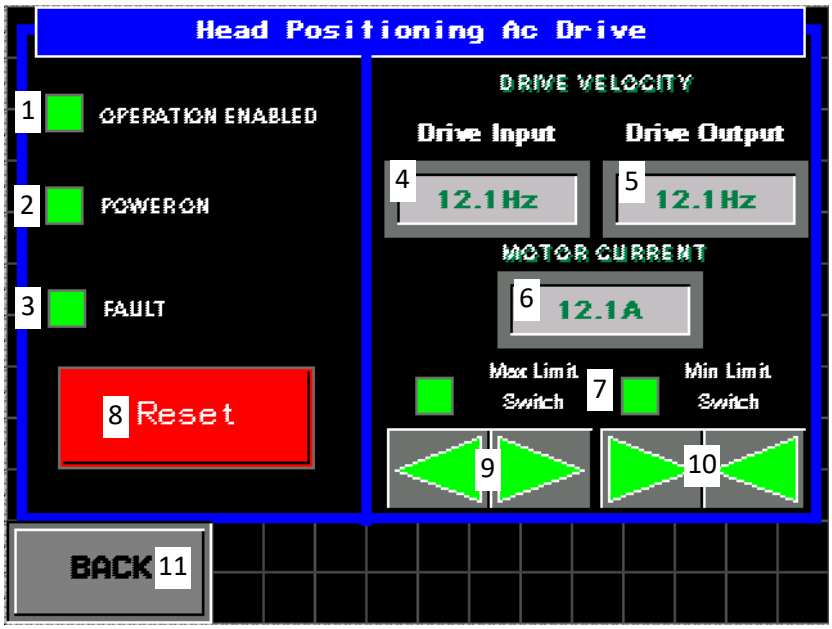


1. Setting the closing position of the first side disk on the outfeed table,
2. Setting opening of all side disks on the outfeed table,
3. Setting the speed of positioning the saw head to the preset position when the head is at the end of its travel (less than 6 millimetres left to the preset position. Above 6 millimetres, the positioning speed is 30Hz).
4. Return to the previous screen,

The operator can set the automatic closing of the first side disk and opening of all side disks in the zone ranging from 0 to 100 cm (0 - 25").

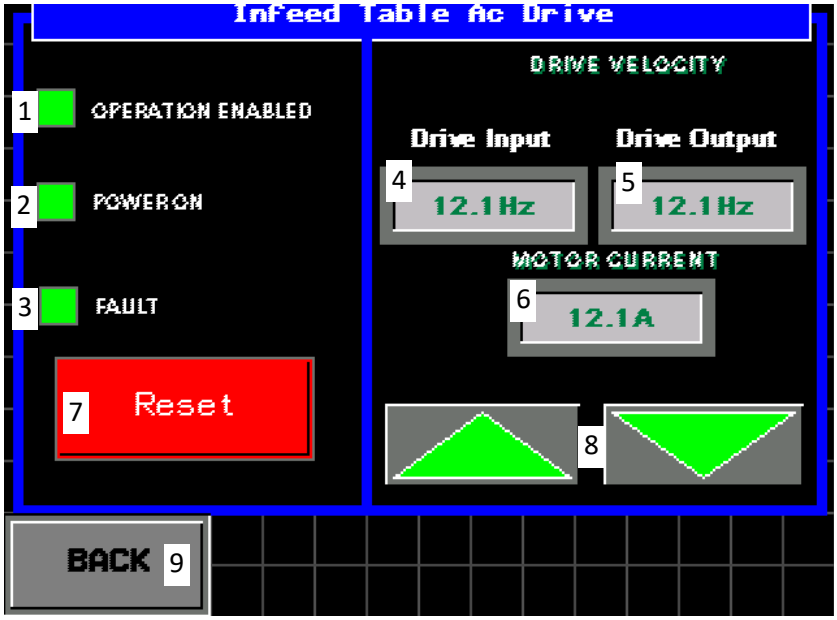


3.2.3.10.4 Saw Head Positioning



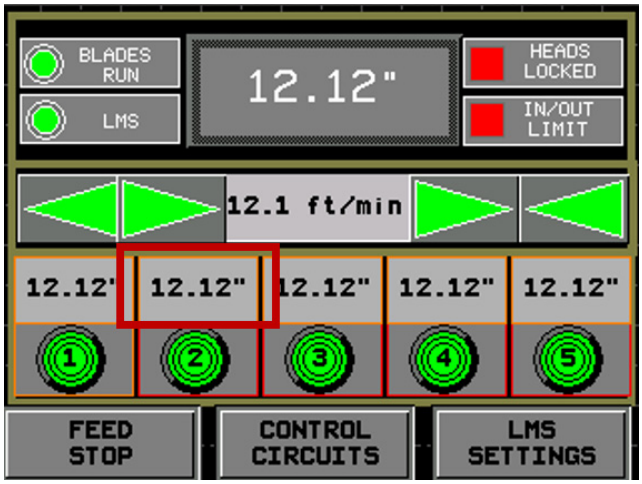
1. AC drive is ready for operation,
2. AC drive power supply is turned on,
3. Saw head AC drive fault,
4. Input frequency set to 10Hz,
5. Output frequency during manual saw head positioning,
6. Motor current during positioning,
7. Saw head distance limit switches,
8. Resetting the AC drive (red colour: error, green colour: no error),
9. Used to manually move the saw heads out,
10. Used to manually move the saw heads in,
11. Return to the previous screen "Service".

3.2.3.10.5Feed Diagnostic Window

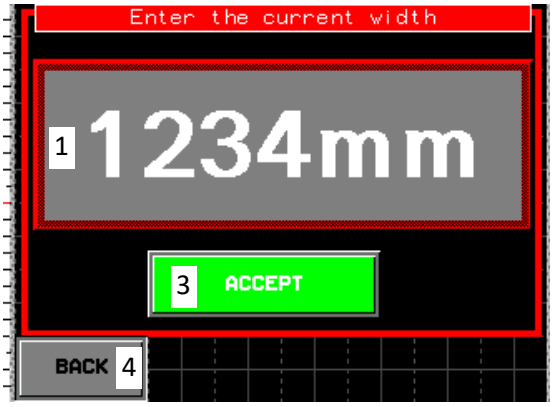


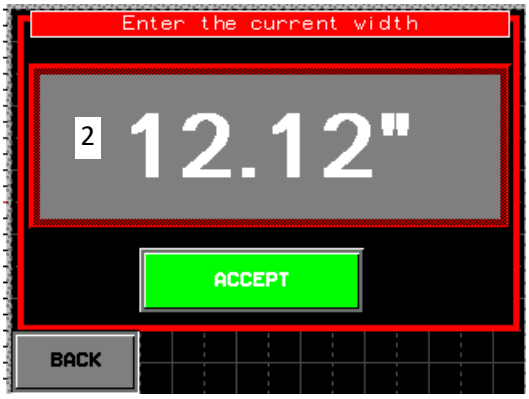
1. AC drive is ready for operation,
2. AC drive power supply is turned on,
3. AC drive fault,
4. Input frequency set to 10Hz,
5. Output frequency after manual feed controlling,
6. Motor current during forward/backward movement of the chain,
7. AC drive resetting (red colour: error; green colour: no error),
8. Arrow keys used to manually move the table chain forward/backward,
9. Return to the previous screen ("Service").

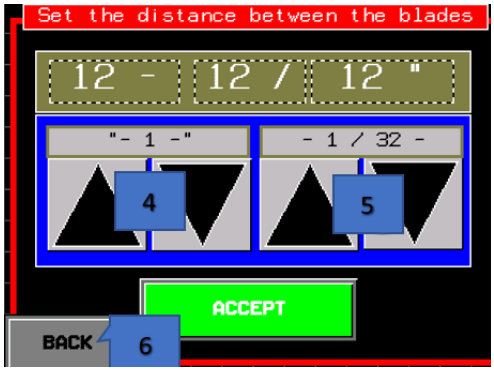
3.2.3.11 Cutting Width Dimension Calibration



After pressing any of the five fields (shown above) with stored cutting width value, a window will automatically appear where the operator can enter the real cutting width.

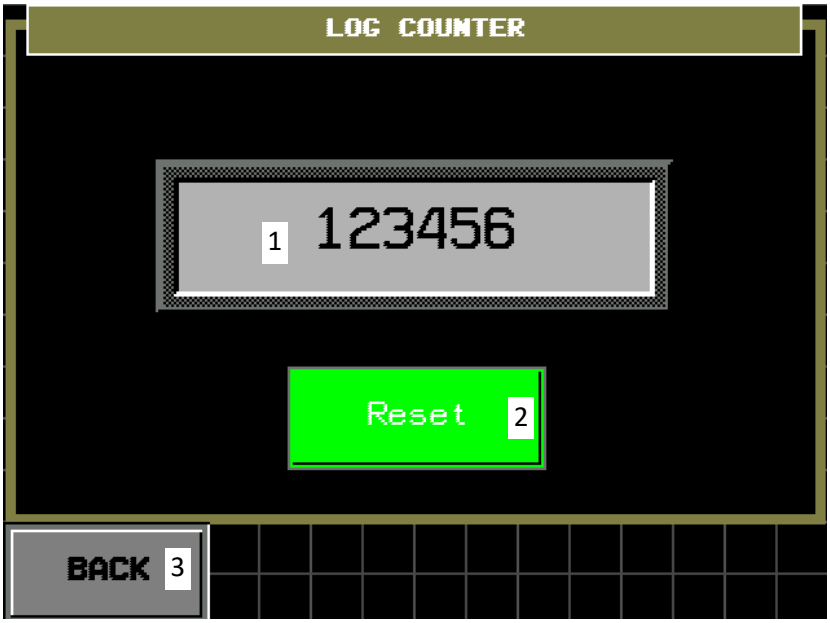






1. Distance between the blades in millimetres,
2. Distance between the blades in inches (decimals),
3. Confirming the entered value,
4. Arrow keys - 1"
5. Arrow keys - 1/32"
6. Return to the previous screen ("Service").

3.2.3.12 Sawn Log Counter Window



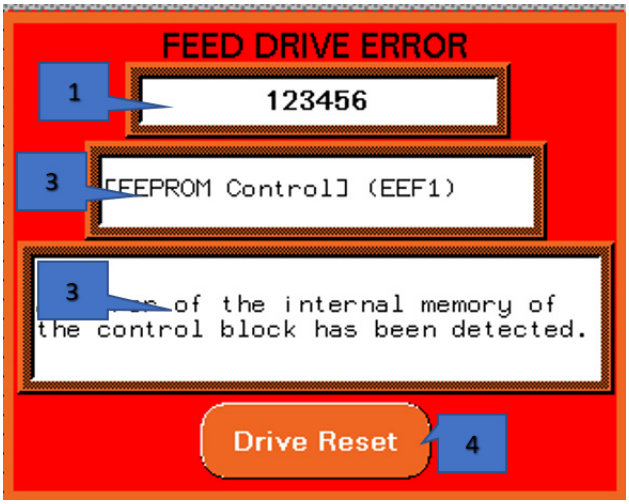
The number of sawn logs is calculated as soon as the feed operation is started (the log is behind the B5 infeed sensor).

1. A number of sawn logs,
2. Counter resetting,
3. Return to the previous screen ("Service").

3.2.4 Error Messages

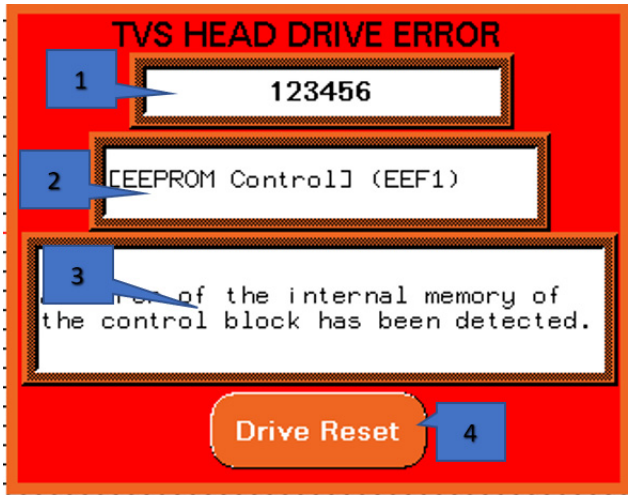
When any error is detected, an error message will automatically appear on the HMI panel.

3.2.4.1 Feed AC Drive Error



1. Error number,
2. Short error description,
3. Detailed error description,
4. Error resetting key.

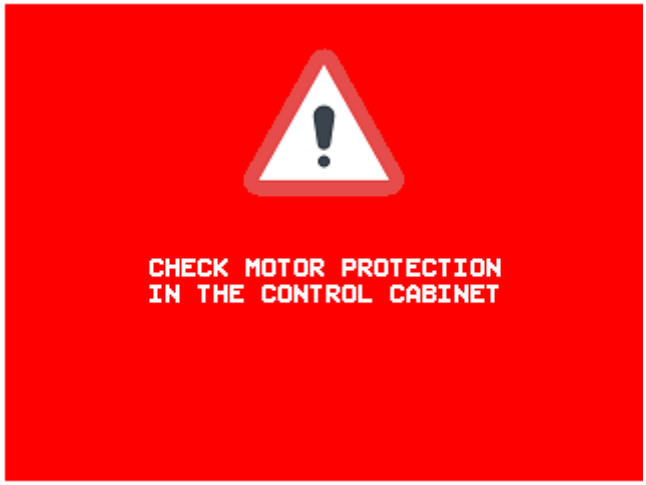
3.2.4.2 Saw Head AC Drive Error



1. Error number,
2. Short error description,
3. Detailed error description,
4. Error resetting key.

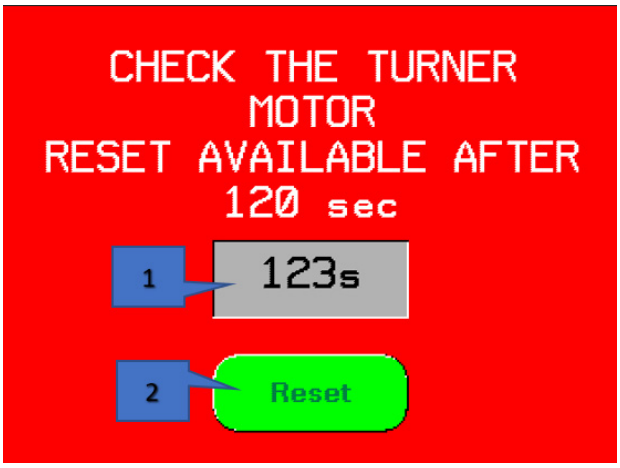
3.2.4.3 Motor Errors

The window shown below is automatically displayed when any of the following protections is activated: protection of the main motors, log deck motor, sawdust conveyor motor, slab conveyor motor, and AC drive protection.



3.2.4.4 Turner Motor Fault

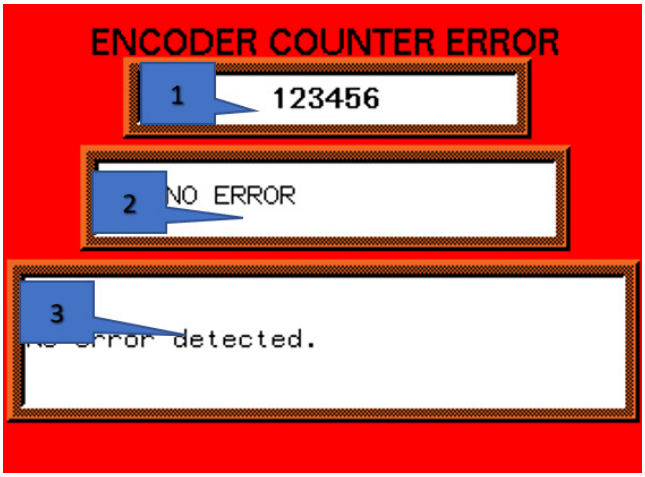
The window shown below will appear automatically when a turner motor fault occurs.



1. A counter that calculates the time since the error occurred. After 120 seconds, the key "2" changes from gray to green allowing the operator to reset the motor controller.
2. Turner motor controller resetting (gray colour: it is not possible to reset the controller).

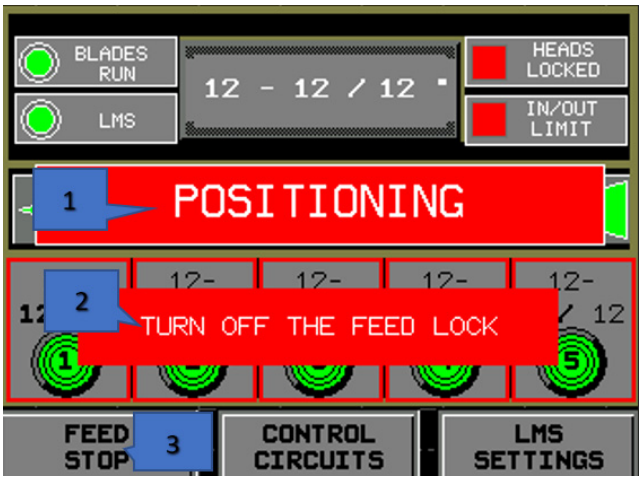
3.2.4.5 Saw Head Position Saving Error

The window shown below is displayed automatically when an error occurs during saving any saw head position value.



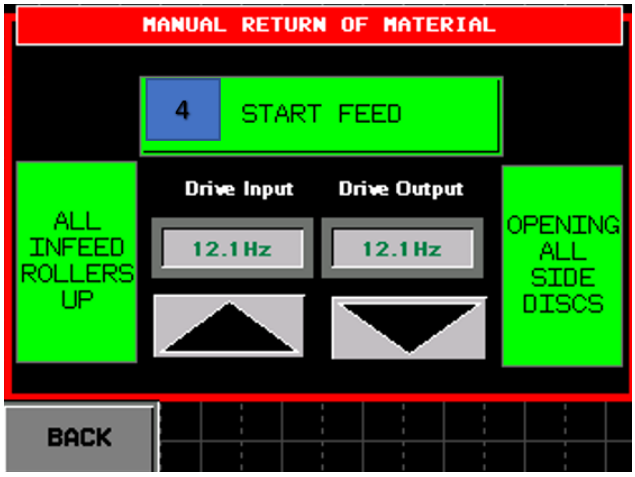
1. Error number,
2. Short error description,
3. Detailed error description.

3.2.5 Other displayed messages



1. This message appears while the saw heads are positioned. Then all position selection keys on the operator panel are locked.

2. This message is displayed after stopping the feed with the "3" key. The message is displayed on the screen in the OPERATION mode. To unlock the feed, it is necessary to return to the window and use the "4" key.



SECTION 4 MAINTENANCE

This section lists the maintenance procedures that need to be performed.

This symbol identifies the interval (hours of operation) at which each maintenance procedure should be performed.

Be sure to refer to the motor manual for maintenance procedures concerning the blade motors.

4.1 Wear Life

See table 4-1. This chart lists estimated life expectancy of common replacement parts if proper maintenance and operation procedures are followed. Due to the many variables which exist during saw operation, actual part life may vary significantly. This information is provided so that you may plan ahead in ordering replacement parts.

Part Description	Estimated Life
Blade Wheel Belts	500 hours
Blade Guide Rollers	1000 hours
Drive Belt	1250 hours

TABLE 4-1

4.2 Blade Guides

1. Check the blade guide rollers for performance and wear every blade change. Make sure the rollers are clean and are spinning freely. If not, rebuild them. Replace any rollers which have worn smooth or have become cone shaped. See the Parts manual for blade guide parts.

4.3 Sawdust Removal

1. Remove the excess sawdust from the blade wheel housing, the sawdust chute and the lower rollers of the saw heads every blade change.

   See Figure 4-1.

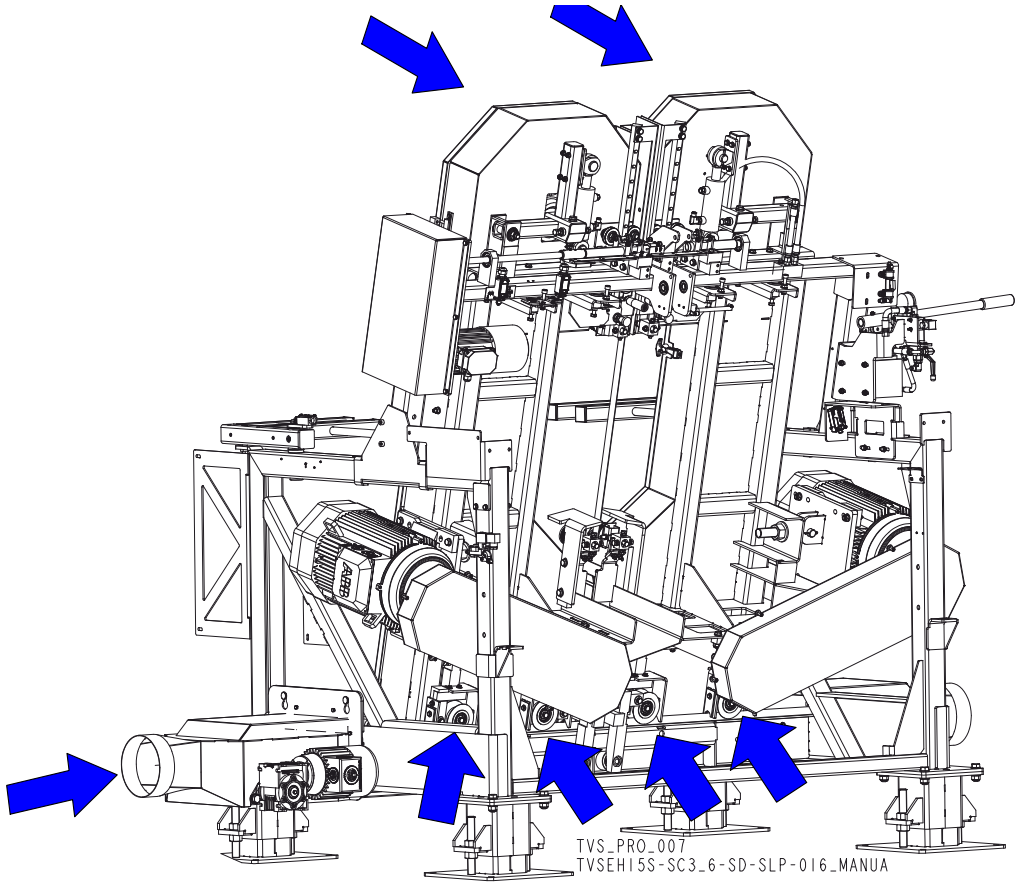


FIG. 4-1

CAUTION! Never use grease on the lower rollers of the saw heads as it will collect sawdust.

2. Remove the excess sawdust and the slabs from the infeed and outfeed tables, the Log Deck and the Cross Transfer Deck.

4.4 Miscellaneous Lubrication

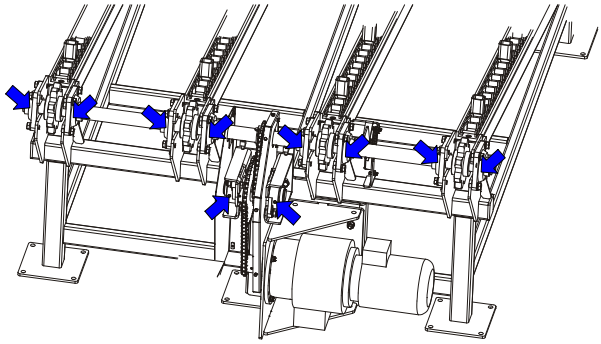
50 **1.** Apply a thin film of a lithium grease to the saw head distance adjustment screw to help prevent it from rusting.

50 **2.** Using the grease nipples, apply a lithium grease to the chain drive shaft bearings, the bearing of the infeed table hold-down roller and the bearing of the saw head distance adjustment screw with a lithium grease.

CAUTION! Never apply grease to the feed chain. It causes sawdust buildup in chain links.

50 **3.** If your TVS is equipped with a Log Deck and/or Cross Transfer Deck, lubricate the chain drive bearing shaft using the grease nipples.

LOG DECK



CROSS TRANSFER DECK

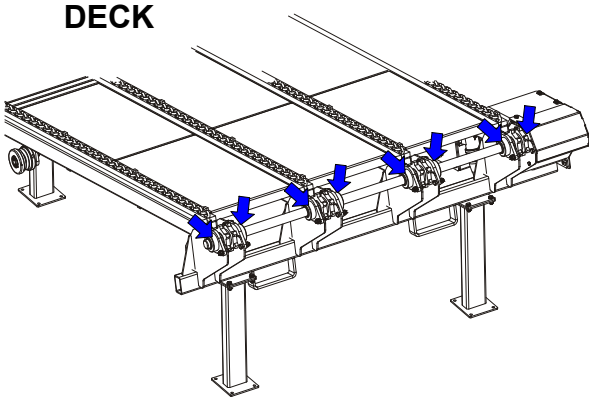


FIG. 4-1

4. Make sure all safety warning decals are readable. Remove sawdust and dirt from them. Replace any damaged or unreadable decals immediately. Order decals from your Customer Service Representative.

4.5 Belts

50

1. Check the blade wheel belts for wear every 50 hours of operation. Replace as needed.
2. Periodically check all belts for wear. Replace any damaged or worn belts as needed.

4.6 Drive Belt Adjustment

WARNING! Do not for any reason adjust the drive belt with the motor running. Doing so may result in serious injury.

50

See table 4-2. Check the drive belt tension after the first 20 hours of operation, and every 50 hours thereafter. See the table below for drive belt tension specifications for your saw.

Motor	Belt Tension
E15/25	Deflection: L = 23mm with a 5 kG deflection force

TABLE 4-2

To adjust the drive belt tension:

1. Dismount the belt guard.
2. Use the adjustment bolts shown below to adjust the blade drive belt tension.

3. Reinstall the belt guard.

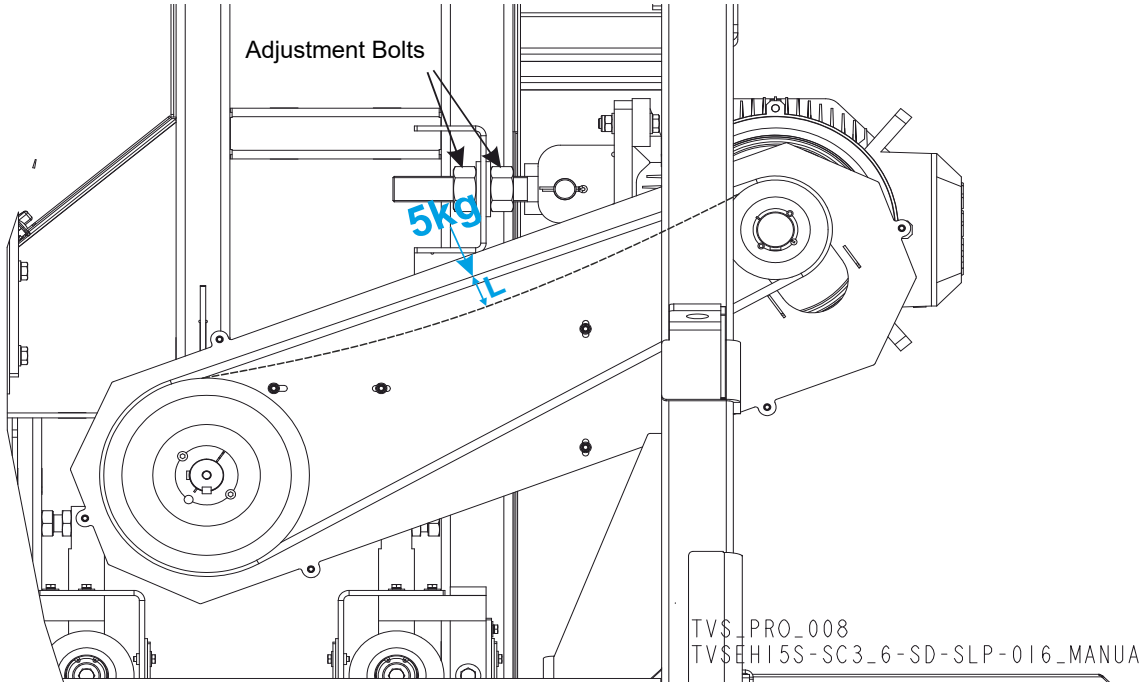
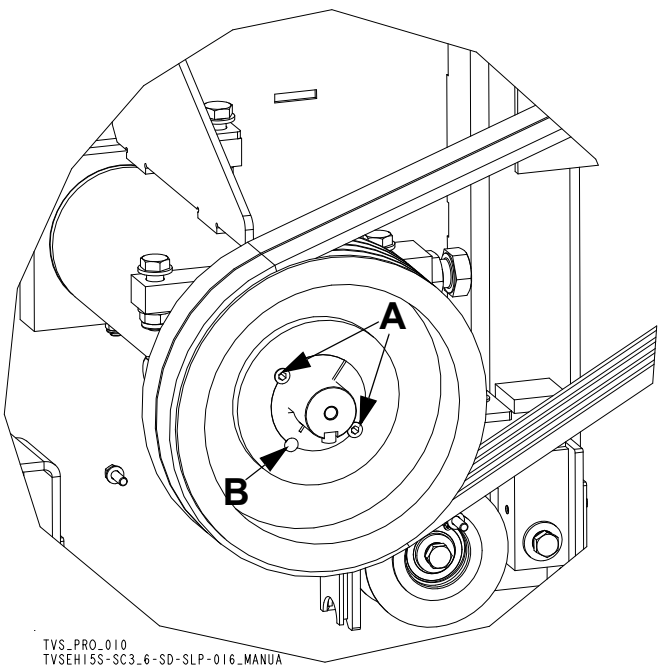


FIG. 4-1

AR

Periodically check the belt for wear. Replace if damaged or worn.

See Figure 4-2. Keep the motor and drive pulleys aligned to prevent premature belt wear. To align the motor pulley to the drive pulley, loosen the taper lock bushing on the blade wheel drive shaft by removing two hex socket head cap screws from the holes ”A” and placing the screw in the free hole (B) in the bushing. After aligning the pulleys, tighten the taper lock bushing by reinstalling the removed hex socket head cap screws to the holes ”A”. Recheck the belt tension.


A
B
TVS_PRO_010
TVSEHI5S-SC3_6-SD-SLP-016_MANUA

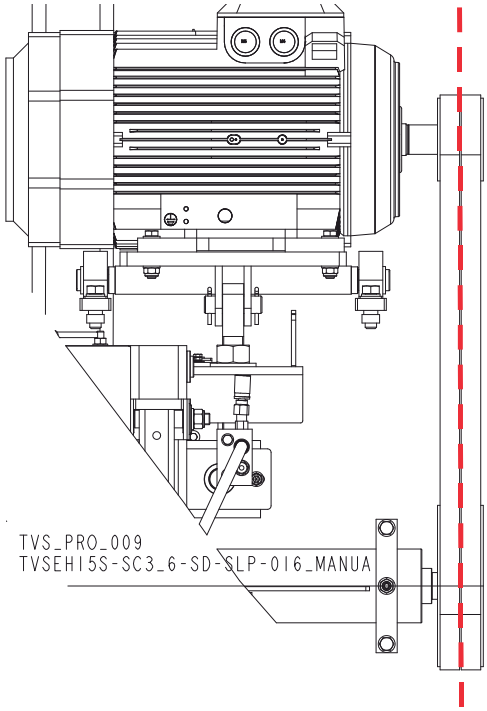

TVS_PRO_009
TVSEHI5S-SC3_6-SD-SLP-016_MANUA

FIG. 4-2

4.7 Feed Chain Tension

See Figure 4-3. If necessary, use the adjustment bolts shown below to adjust the feed chain tension. The chain should lie freely on the upper and lower guides.

> **CAUTION!** Do not overtension the chains of TVS tables, Log Deck and Cross Transfer Deck. Overtensioning may lead to early failure of the gear, bearings, rollers and chains.

See Figure 4-4. See the figure below for locations of the chain tension adjustment bolts. The chains must be adjusted evenly.

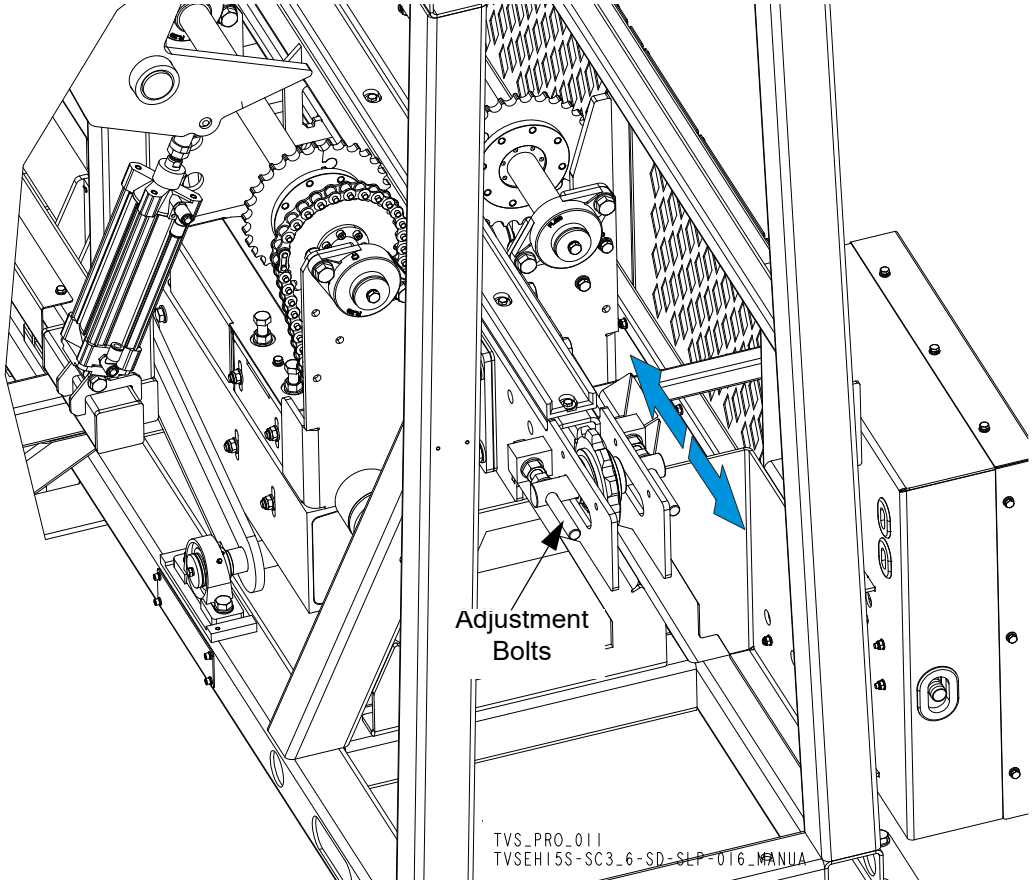


FIG. 4-4

See Figure 4-5. The figure below shows how the Log Deck chain tension should be adjusted.

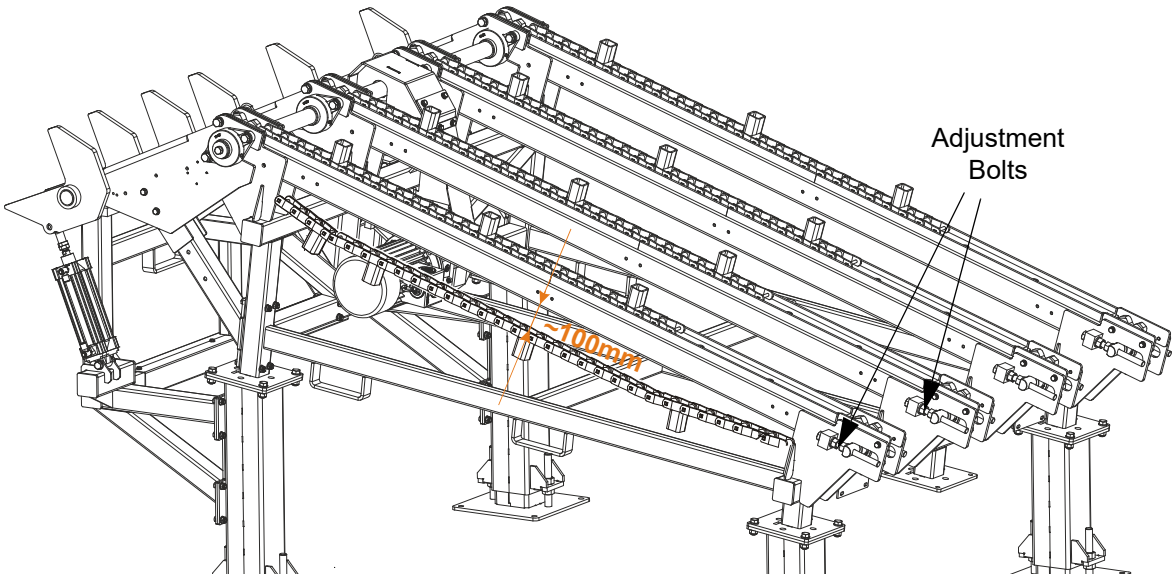


FIG. 4-5

4.8 Log Deck Drive Chain Tensions

Check the drive chains for tension every 40 hours of operation and adjust as needed. The chains should have a slack of ca. 15mm (0.59”).

See Figure 4-6. Log Deck: loosen the mounting bolt and use the adjustmebnt bolt to tension the drive chain.

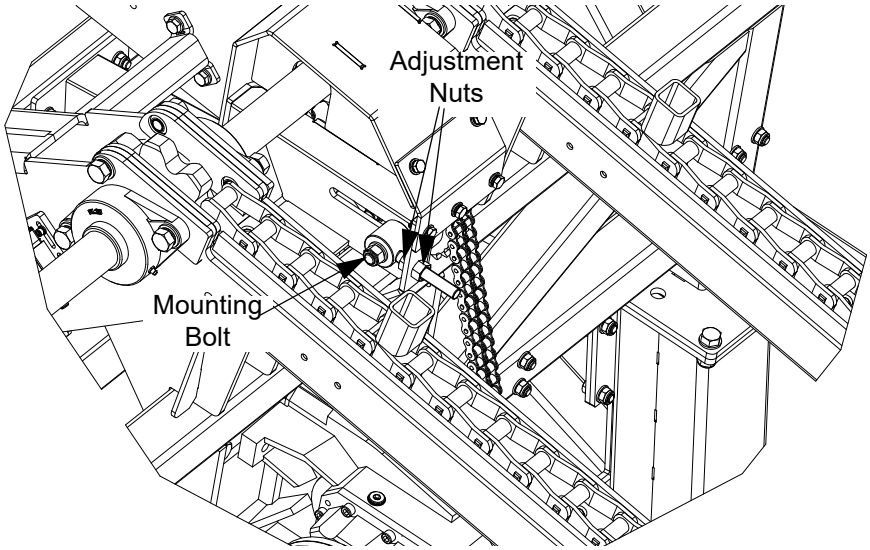


FIG. 4-6

4.9 LubeMizer System

1. Clean the lube filter as needed.

   To do this, perform the following steps:

   - Make sure the button on the control panel is in the OFF position and the lube bottle valve is closed completely.
   - Unscrew the filter reservoir and flush it with water.
   - Remove the cylindrical mesh filter and gently flush it with water.
   - Replace the filter and the reservoir.

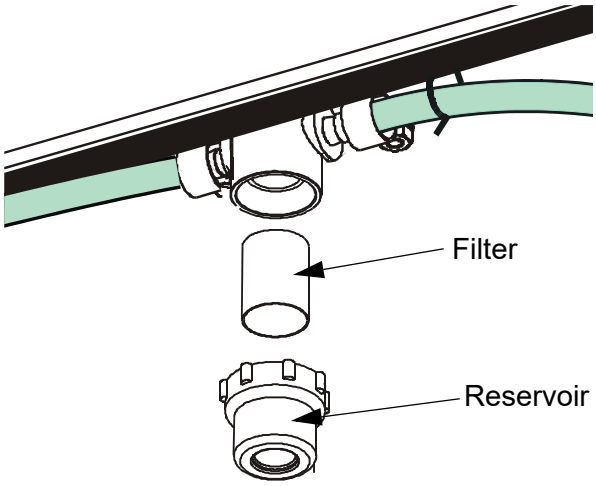


FIG. 4-6

2. Periodically check the lube hoses and lines for any buildup. Remove and flush with water as needed.

3. Periodically check the blade guide bracket nozzles for any buildup. Remove and flush with water as needed.

4.10 Safety Devices Inspection

TVS – Safety Devices Inspection

Before each working shift, the following safety devices of the TVS saw should be inspected:

- E-STOP button circuit inspection - control box,
- Safety switch circuit - arm #1,
- Safety switch circuit - arm #2,
- Left saw head movement limit switch circuit,
- Right saw head movement limit switch circuit,
- Motor brake and its circuit.

1. E-STOP Circuit Inspection - Control Box

- Turn on the main motor;
- Press the E-STOP button located on the control box. The motor should be stopped. It should not be possible to start the motor until the E-STOP button is released.

3. Safety Switch Circuit Inspection - Arm #1

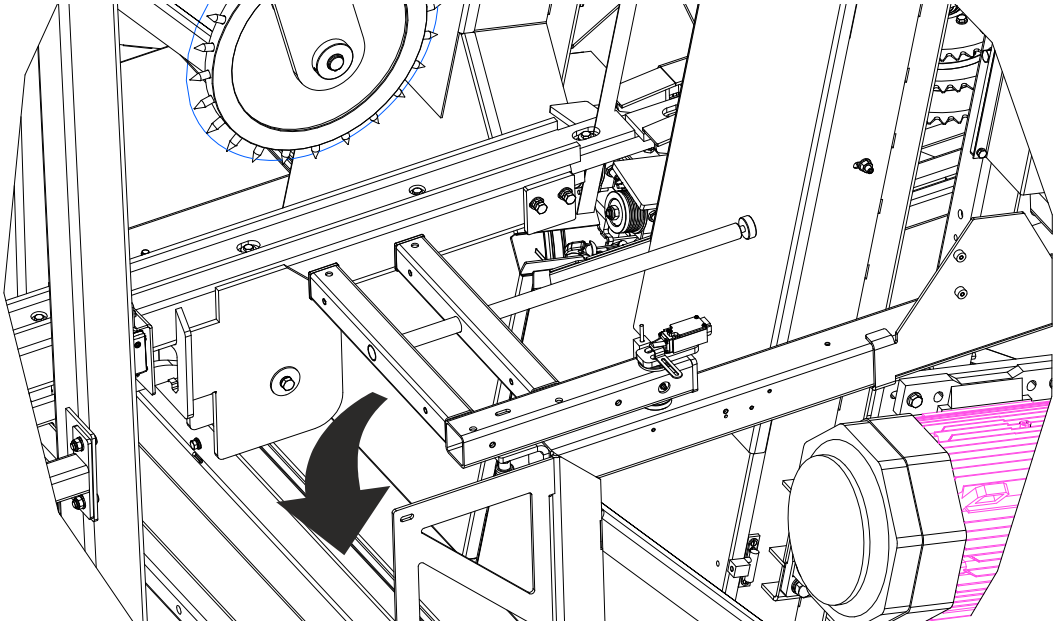


FIG. 4-6

- Turn on the main motor;
- Move the arm # 1 out;
- The main motor should be stopped;
- Try to start the motor using the START button. It should not be possible to start the motor.
- Close the arm # 1.
- The motor should remain turned off.

4. Safety Switch Circuit Inspection - Arm #2

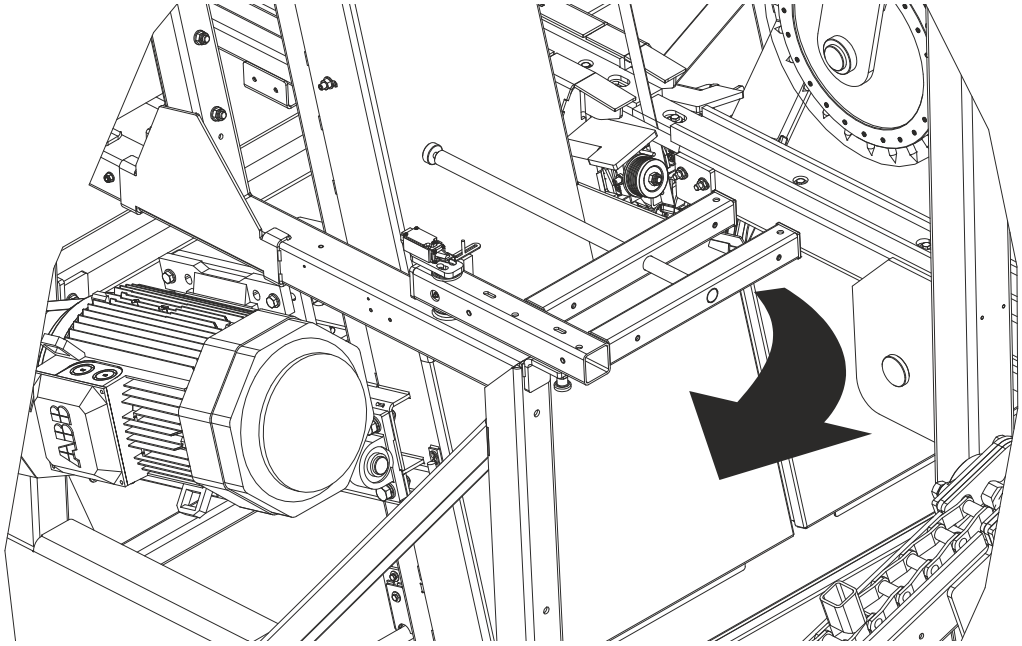


FIG. 4-6

- Turn on the main motor;
- Move the arm out;
- The main motor should be stopped;
- Try to start the motor with the START button. It should not be possible to start the motor.
- Close the arm # 2.

5. Inspection of the Left Saw Head Movement Limit Switch

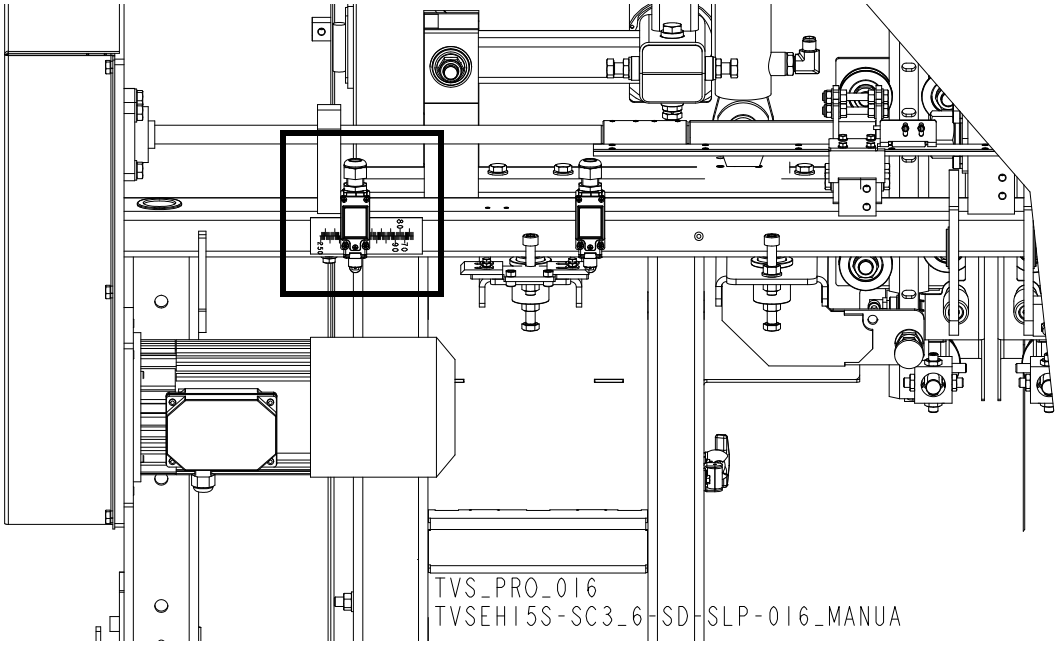


FIG. 4-6

6.Right Saw Head Movement Limit Switch Inspection

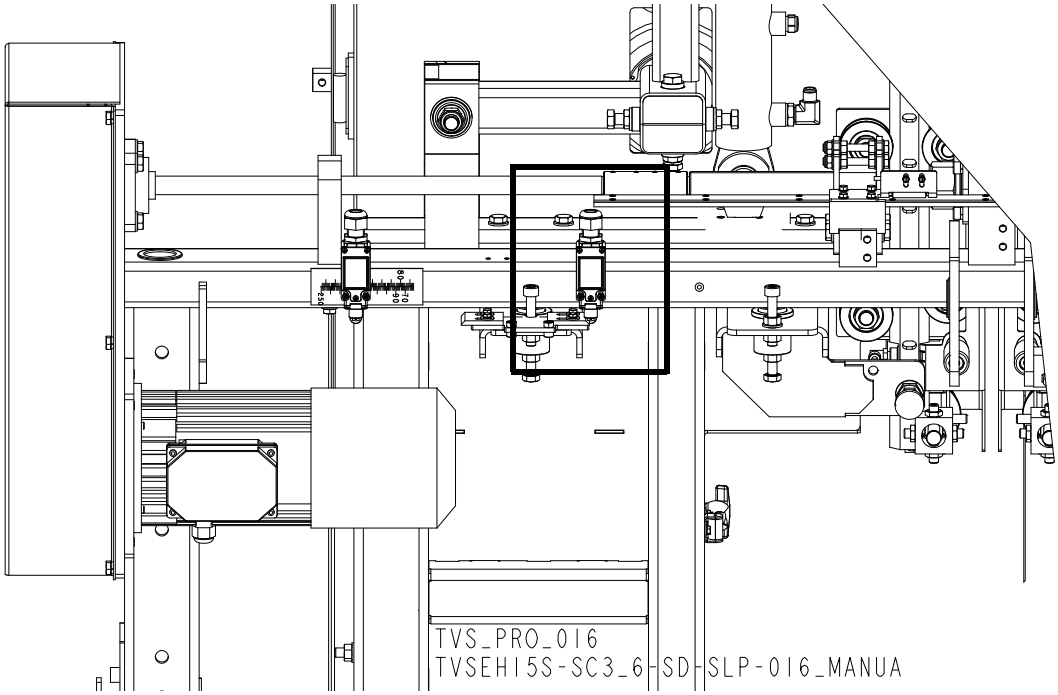


FIG. 4-6

7. Main Motor Brake Inspection

- Turn on the main motor;
- Turn off the main motor using the STOP button. Check the main motor stopping time.
- The motor braking time should be shorter than 10 seconds. If it is longer, adjust or replace the brake linings. See the motor manual.

SECTION 5 ALIGNMENT

The Wood-Mizer resaw is factory aligned. This section includes routine alignment instructions and also how to realign the resaw completely. Be scrupulous when performing all alignment steps because resaw alignment determines accuracy of your cuts. The routine alignment procedure should be performed approximately every 1500 hours of operation. The complete alignment should be performed after the first resaw setup or any general repairs.

5.1 Routine Alignment Procedure

5.1.1 Blade Installation And Tracking

See Figure 5-1. Install blades and apply the proper tension as shown below. .

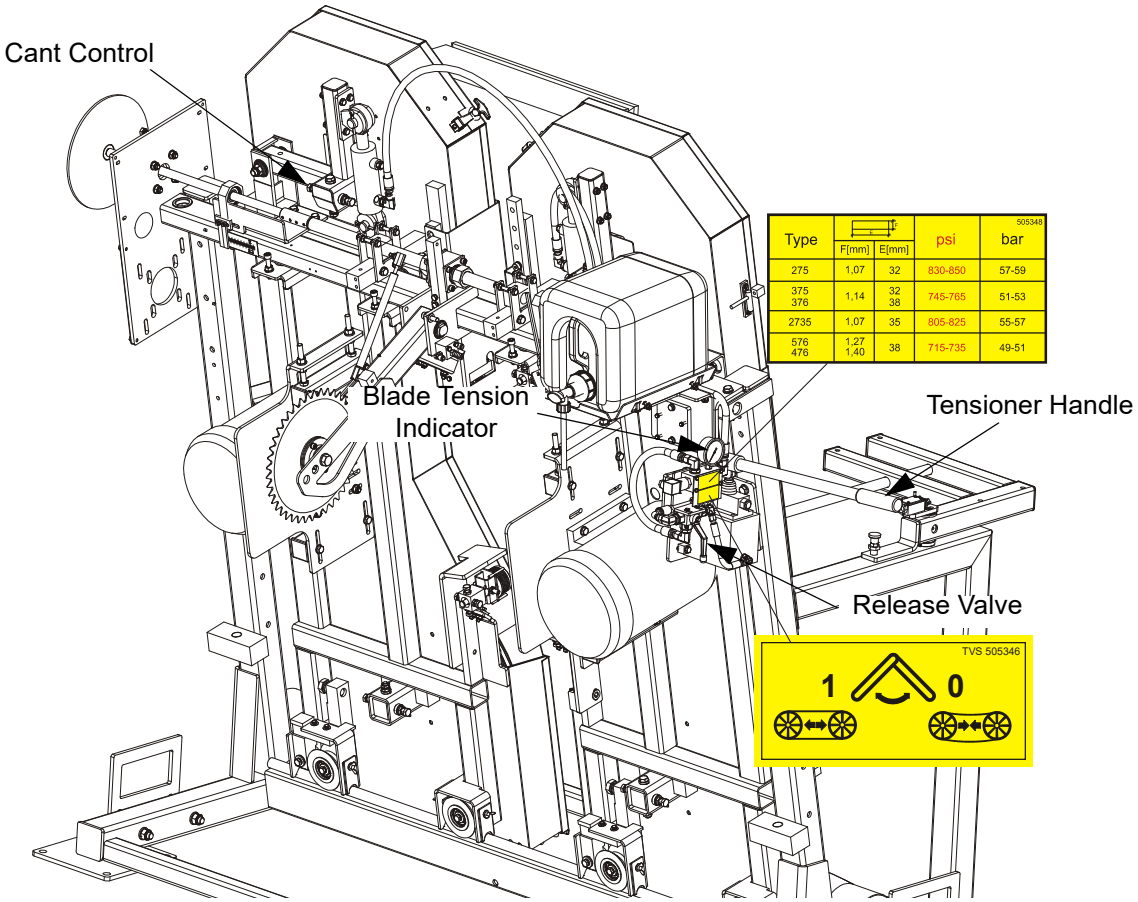


FIG. 5-1

1. Turn the key switch to the "H" position.

2. Open the blade housing covers.

3. Manually spin one of the blade wheels until the blade positions itself on the wheels.

   See Figure 5-2. The blade wheels should be adjusted so that the gullet of 1 1/4" blades rides 3.0 mm (0.12") out from the front edge of the wheels (± 1.0 mm [0.04"]). The gullet of 1 1/2" blades should ride 4.5 mm (0.18") from the front edge of the wheels (± 1.0 mm [0.04"]). Do not let the teeth ride on the belt.

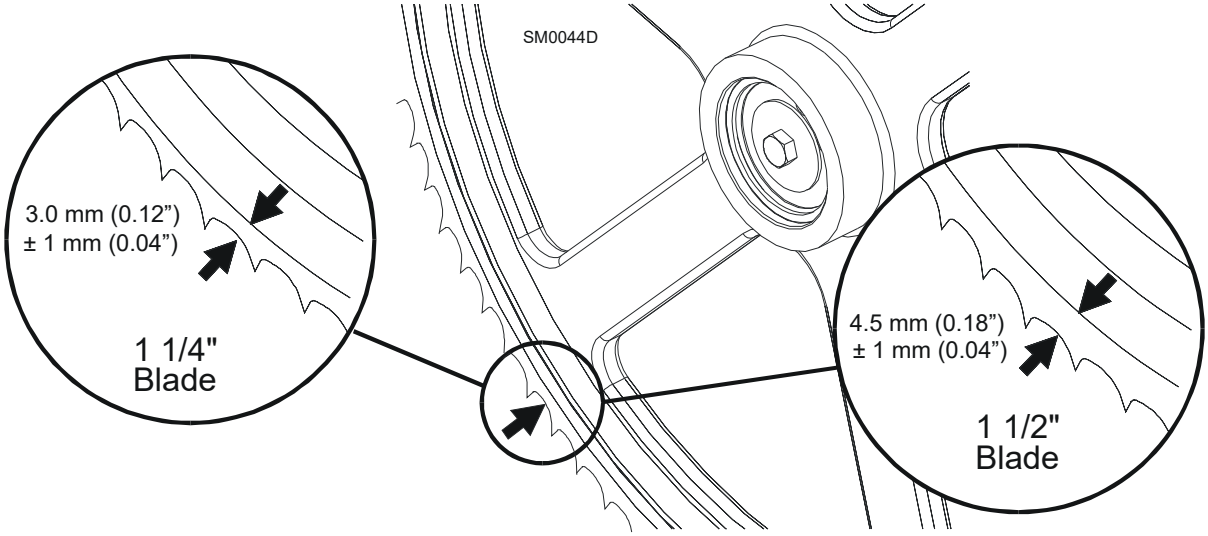


FIG. 5-2

To adjust where the blade travels on the idle-side blade wheel, use the cant control shown in **Figure 5-1**.

To move the blade out on the blade wheel, turn the cant adjustment bolt clockwise. To move the blade in on the blade wheel, turn the bolt counterclockwise.

Some adjustment in blade tension may be needed to compensate for adjustments made with the cant control.

Adjustment with the cant control is usually all that is required to track the blade properly on both blade wheels. The drive-side blade wheel will usually not have to be adjusted. If necessary, the drive-side wheel can be adjusted as follows:

Locate the adjusting bolt with lock nuts on the drive-side of the cutting head. Turn the bolt clockwise to move the blade out on the wheel; turn it counterclockwise to move the blade in on the blade wheel. Make sure to tighten the lock nuts when adjustment is complete.

5.1.2 Blade Wheel Alignment

The blade wheels should be adjusted so they are level in the vertical and horizontal planes. If the blade wheels are tilted vertically, the blade will want to move in the tilted direction. If the blade wheels are tilted horizontally, the blade will not track properly on the wheels. The blade guide rollers should not touch and deflect the blade when the blade wheels are adjusted.

1. Use the blade guide alignment tools to check the vertical alignment of each blade wheel. Attach the tools to the blade near the lower blade guide mounts as shown. Be sure the tools do not rest on a tooth or burr, and are lying flat against the blades.

   See Figure 5-3.

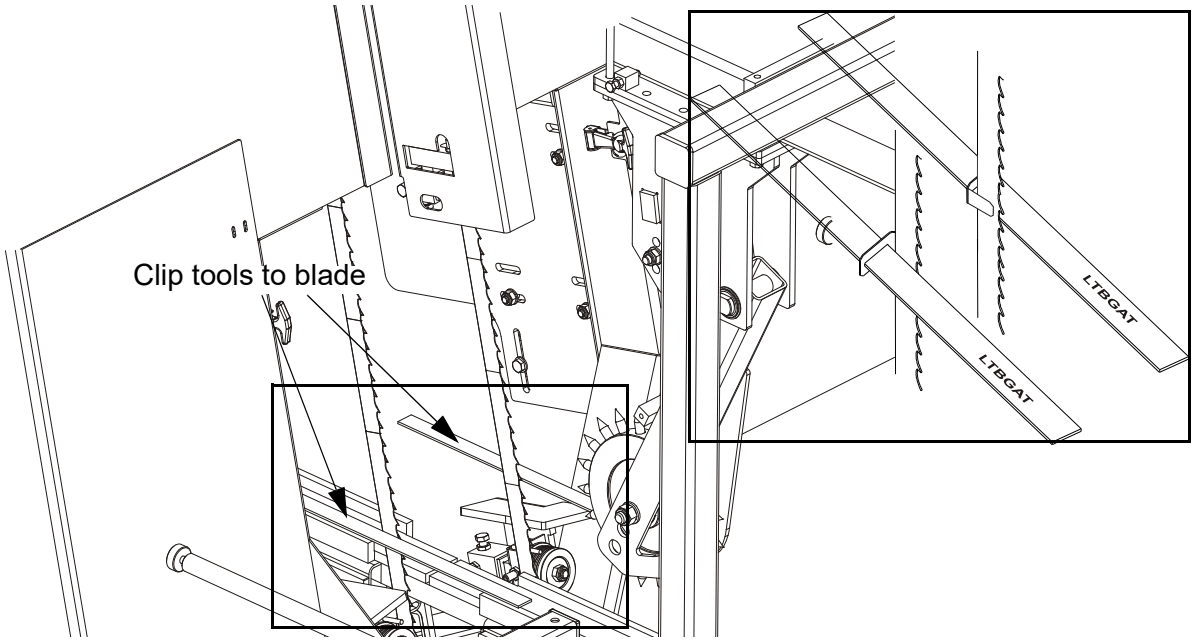


FIG. 5-3

2. Mount the alignment brackets to the infeed and outfeed tables. Attach the rope to the alignment brackets.

See Figure 5-4.

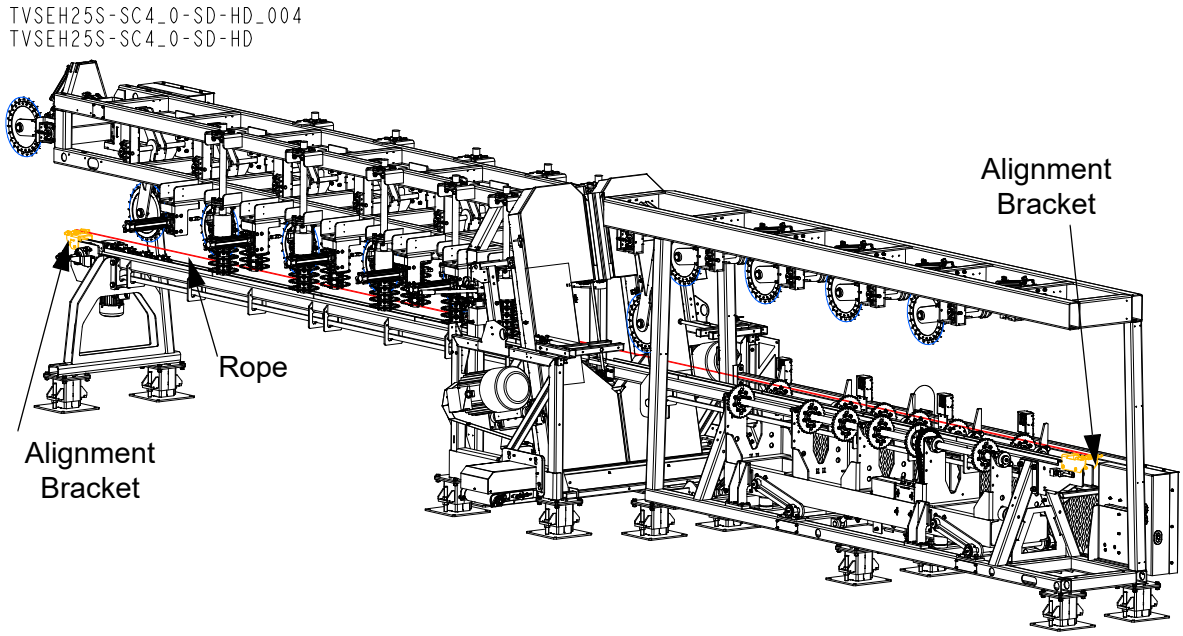


FIG. 5-1

3. Measure the distance from the rope to the top surface of the chain guide of the infeed and outfeed tables in the places shown below. The dimensions marked A, B and C must be equal. If they are not, correct this using the table leg adjustment bolts.

See Figure 5-5.

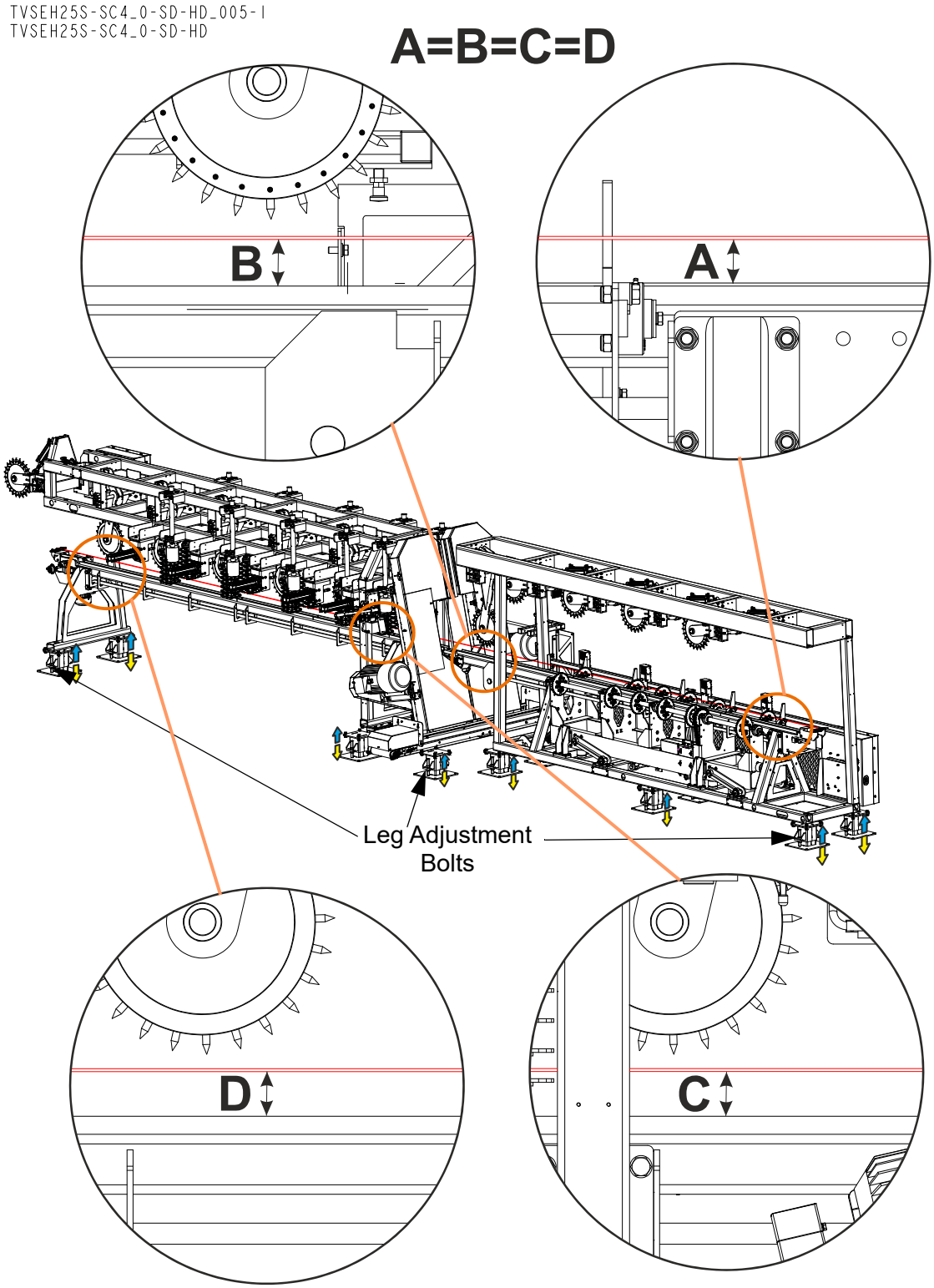


FIG. 5-5

4. Check if the ropes are aligned with the top surface edge of the chain guide of the infeed and outfeed tables. Move the appropriate table end if necessary.

   See Figure 5-6.

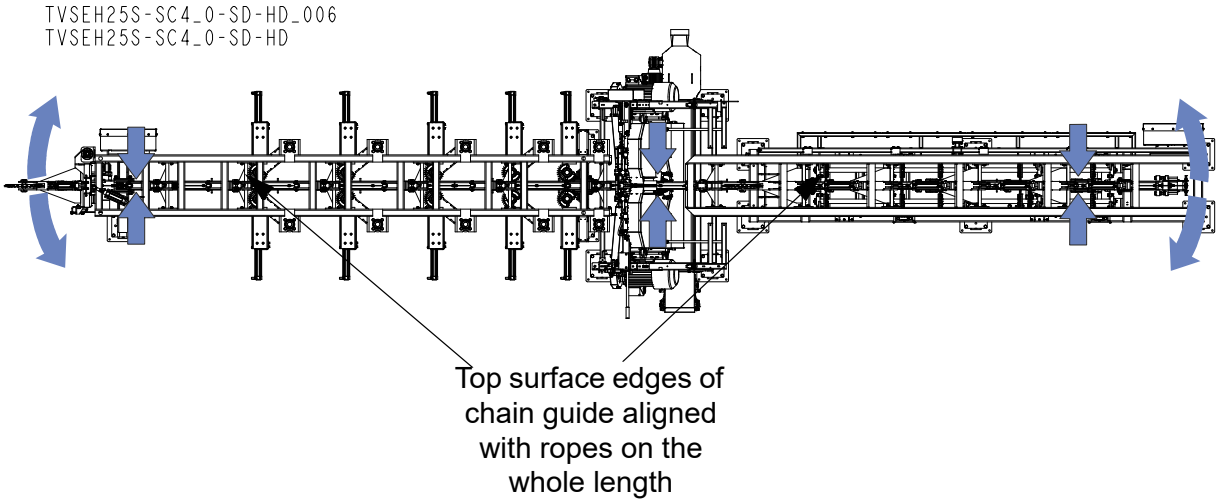


FIG. 5-6

5. Measure the distance from the edge of the LTBGAT tool to the rope. The distances marked A, B, C and D must be equal. If the measurements are different, correct this using the drive-side blade wheel adjustment bolts.

   IMPORTANT! Before adjusting the drive-side wheel, loosen the drive belt.

See Figure 5-7.

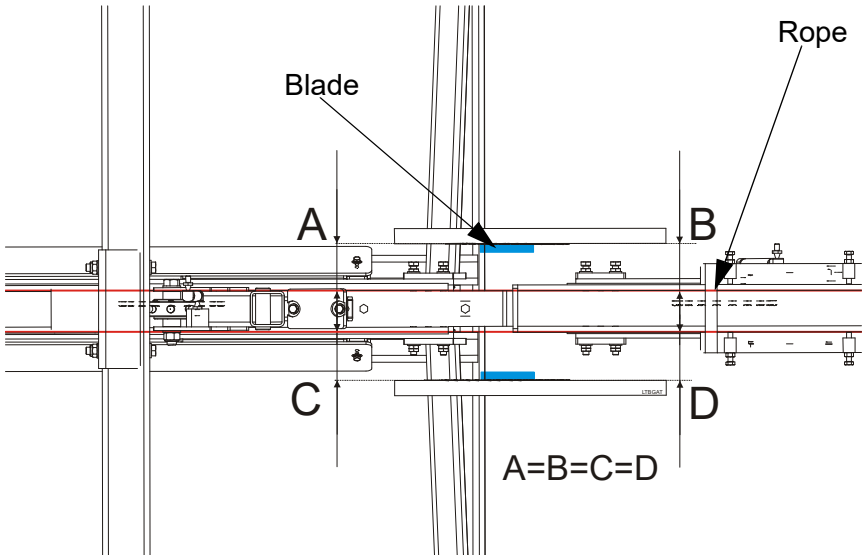


FIG. 5-7

See Figure 5-8. Loosen the lock nuts on the horizontal plane adjustment bolt. Next, use the vertical plane adjustment bolts to adjust the drive-side wheel so that the adjustment tool is parallel to the rope.

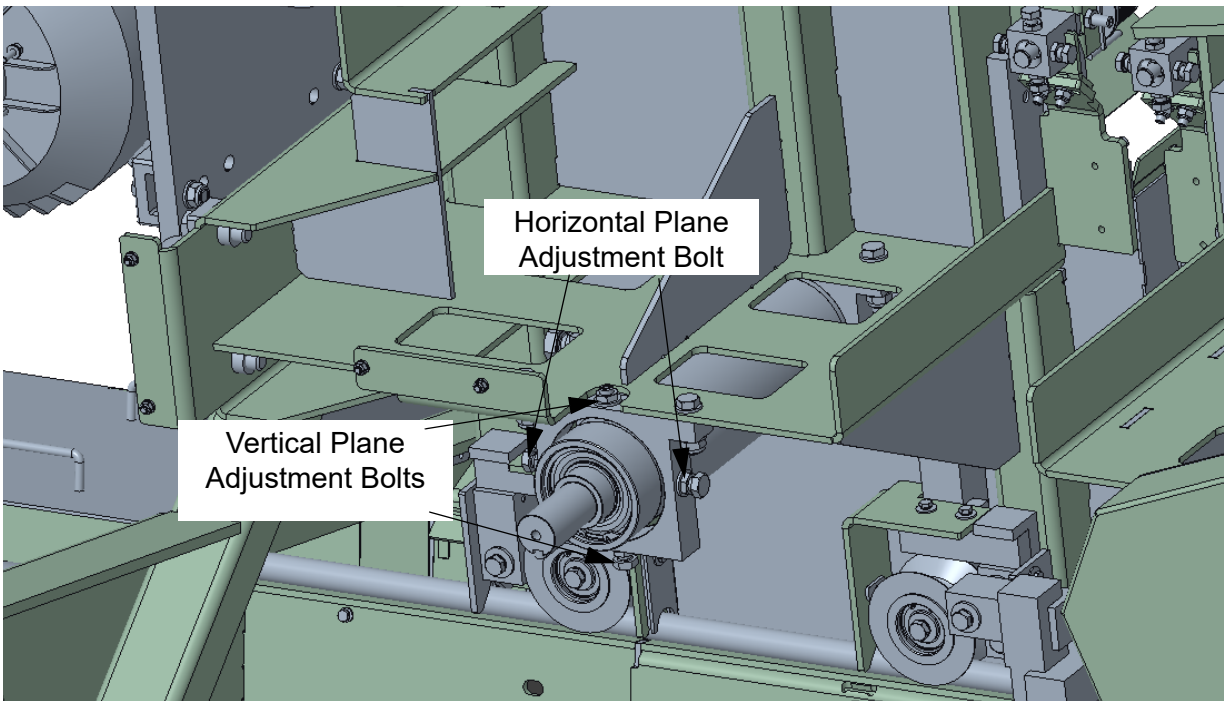


FIG. 5-8

See Figure 5-9.

6. Check the position of the blade on the idle-side blade wheel.

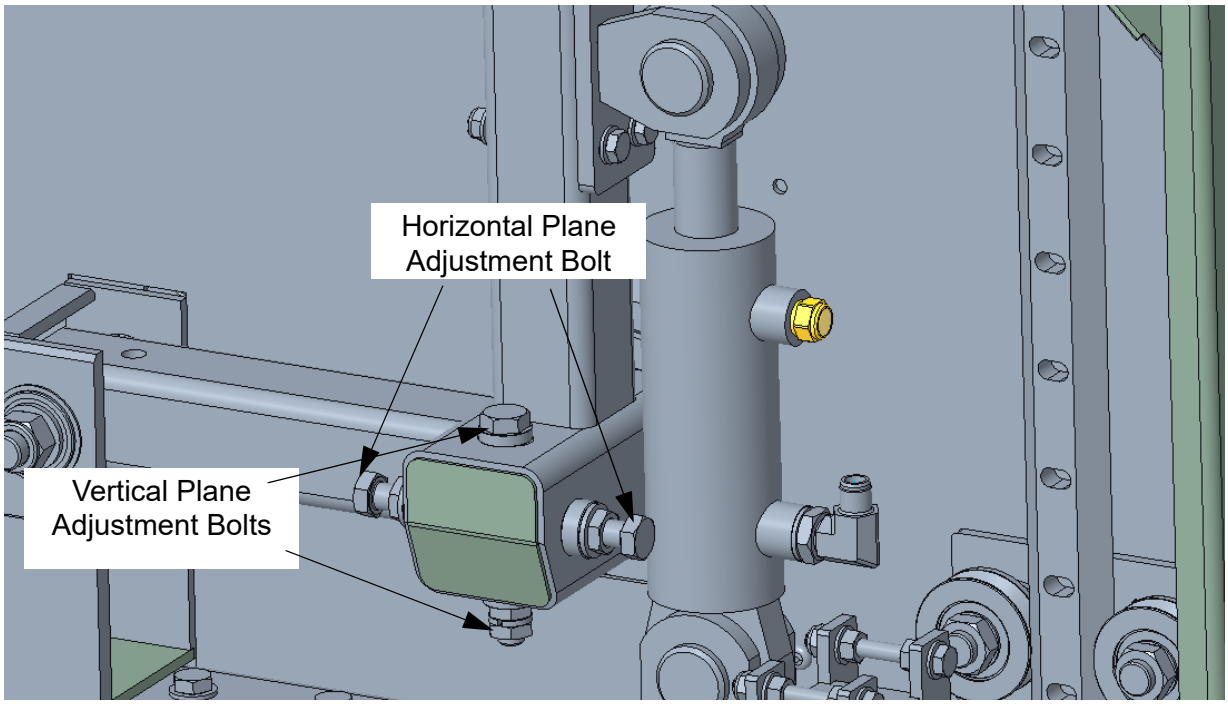


FIG. 5-9

See Figure 5-10. The vertical tilt of the blade wheel should be adjusted so that the gullet of 1-1/4" blade is 3.0 mm out from the front edge of the wheel (± 1.0 mm).

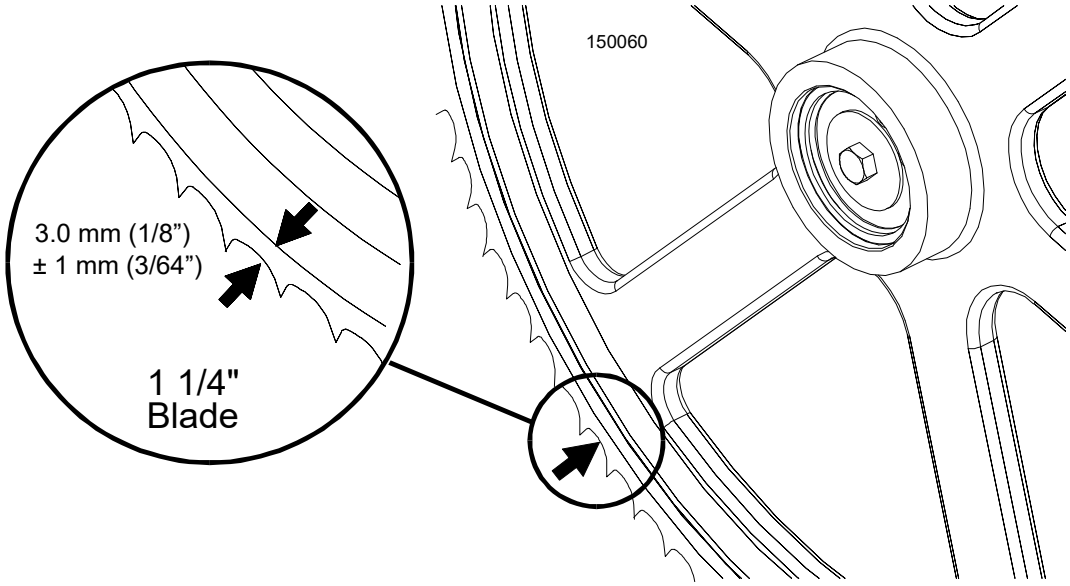


FIG. 5-10

See Figure 5-11. Use the cant control adjustment to adjust the idle-side blade wheel. If the blade is too far forward on the wheel, turn the cant control counterclockwise. If it is too far back on the wheel, turn the cant control clockwise.

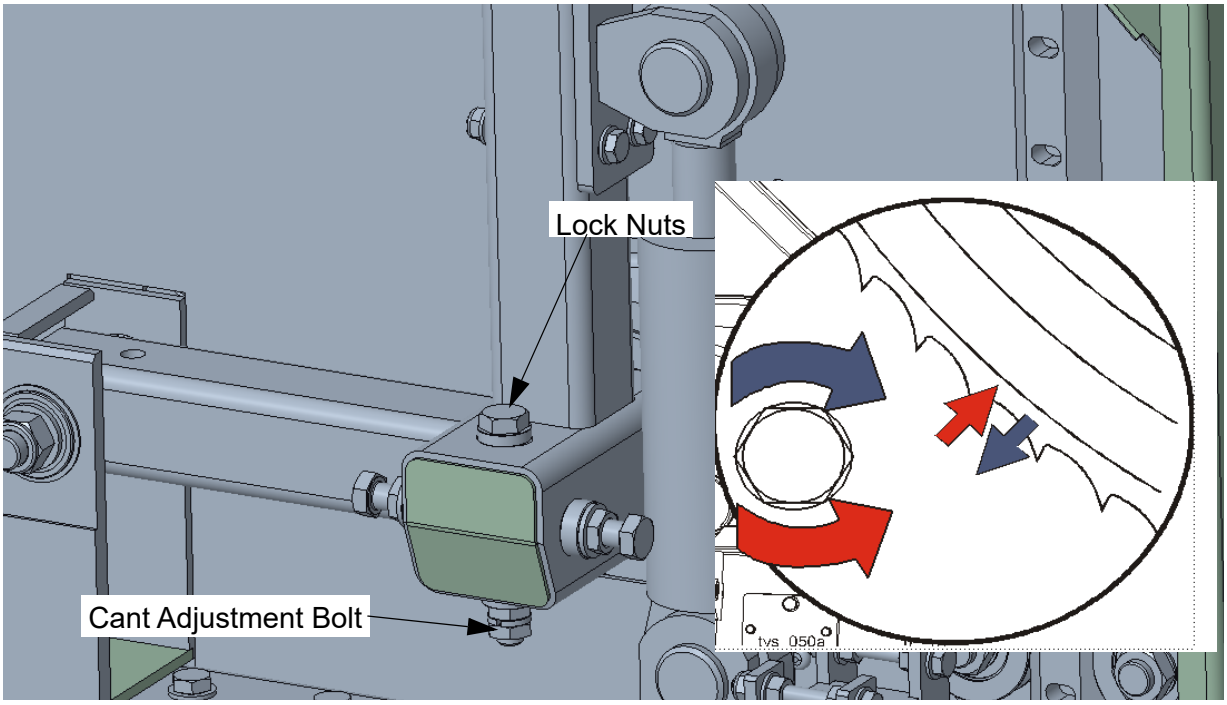


FIG. 5-11

7. Check the position of the blade on the drive-side blade wheel. The blade should be positioned on the wheel as described for the idle-side blade wheel. Adjust the drive-side blade wheel if necessary.

   See Figure 5-12. Use the cant control adjustment to adjust the drive-side blade wheel. If the blade is too far forward on the wheel, turn the cant control bolt clockwise. If it is too far back on the wheel, turn it counterclockwise.

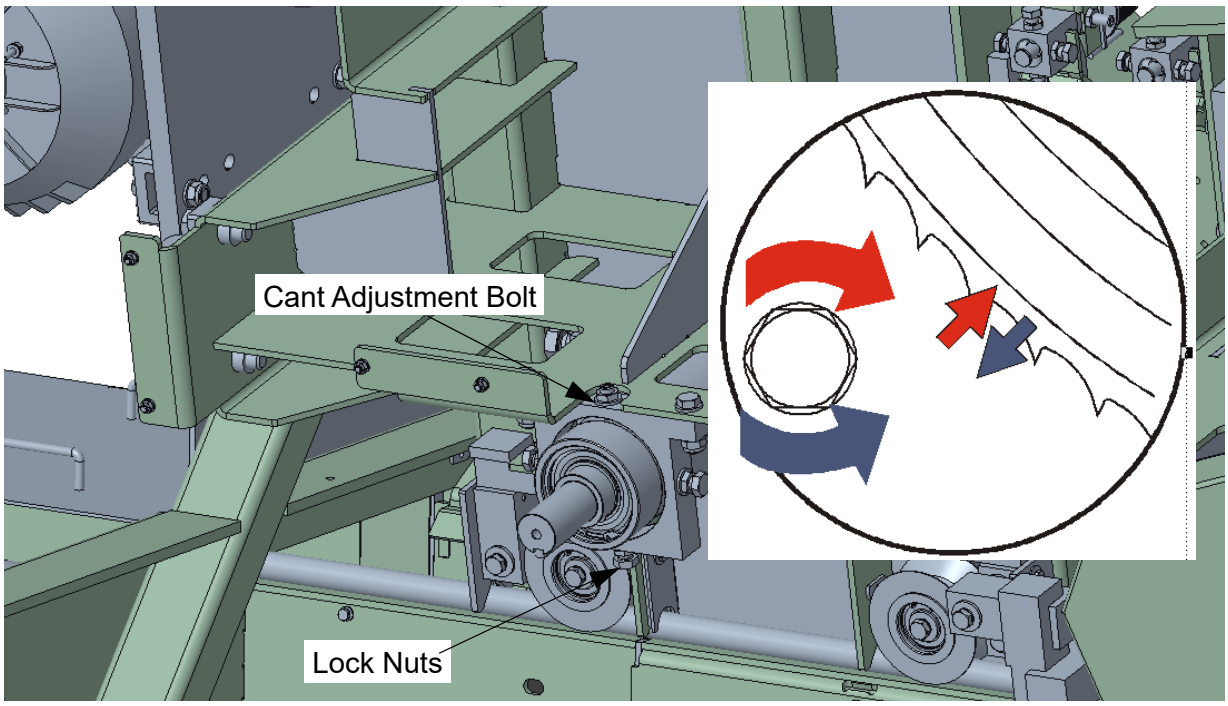


FIG. 5-12

5.1.3 Aligning the Blade Guides

See Section 5.2.3.

5.2 Complete Alignment Procedure

Perform all steps in this section to completely realign or align the resaw after the first setup.

5.2.1 Blade Wheels Alignment

The blade wheels should be adjusted so they are level in the vertical and horizontal planes. If the blade wheels are tilted vertically, the blade will want to move in the tilted direction. If the blade wheels are tilted horizontally, the blade will not track properly on the wheels. The blade guide rollers should not touch and deflect the blade when the blade wheels are adjusted.

1. Set the saw heads distance to 100mm (3.94”).

2. Attach the blade wheels alignment tool[1] to the lower blade wheels as shown in the figure below.

   See Figure 5-13.

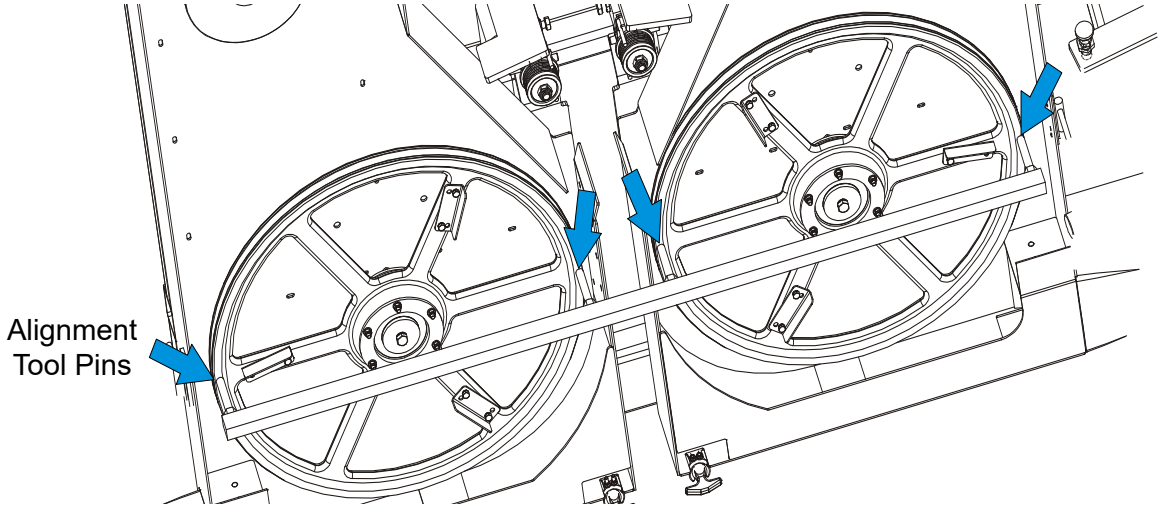


FIG. 5-13

1. The service tool can be ordered in Wood-Mizer (Part. No. 099330) or you can make it yourself according to figure 5-14.

See Figure 5-14.

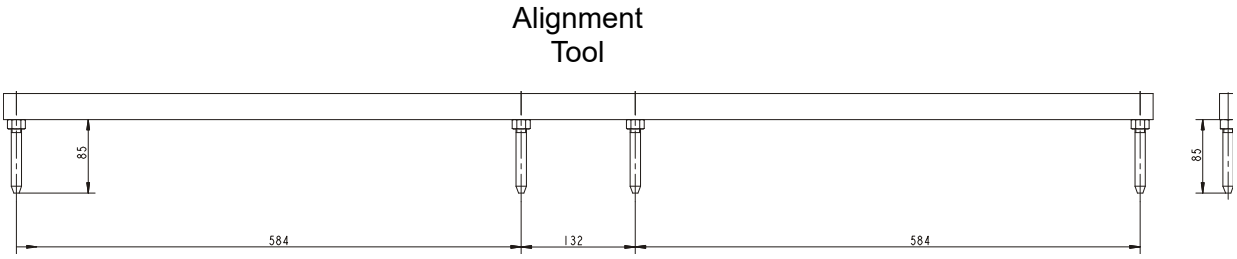


FIG. 5-14

All pins of the alignment tool must touch the blade wheels. If any of the pins does not touch the blade wheel, use the vertical plane adjustment bolts to correct alignment of the blade wheels.

See Figure 5-15. Use the vertical plane adjustment bolts of the drive wheels so that all the pins touch the blade wheels.

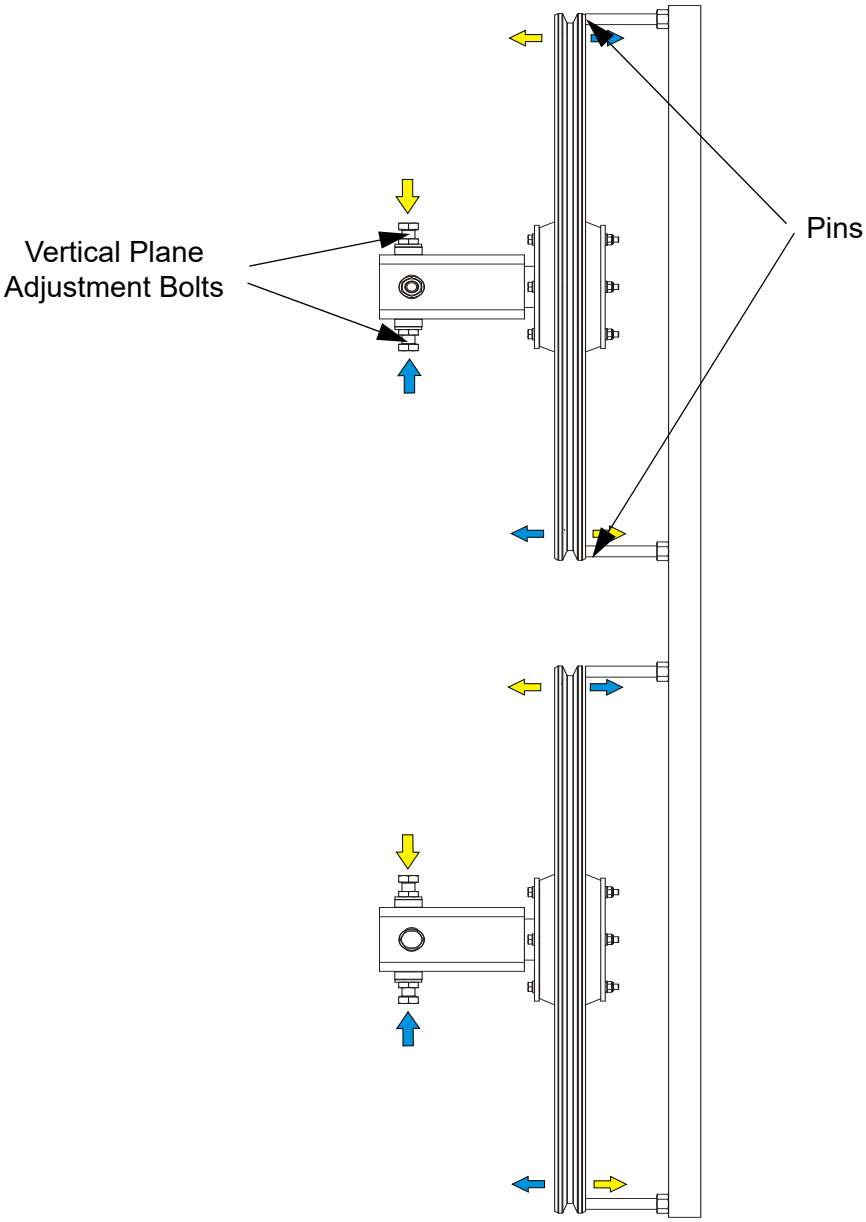


FIG. 5-15

3. Install blades and apply the proper tension.

4. Turn the key switch to the "H" position.

5. Manually spin the lower blade wheels. Watch how the blade rides on the blade wheels.

See Figure 5-16. The blade wheels should be adjusted so that the gullet of 1 1/4" blades rides 3.0 mm (0.12”) out from the front edge of the wheels (± 1.0 mm / (0.04”)).

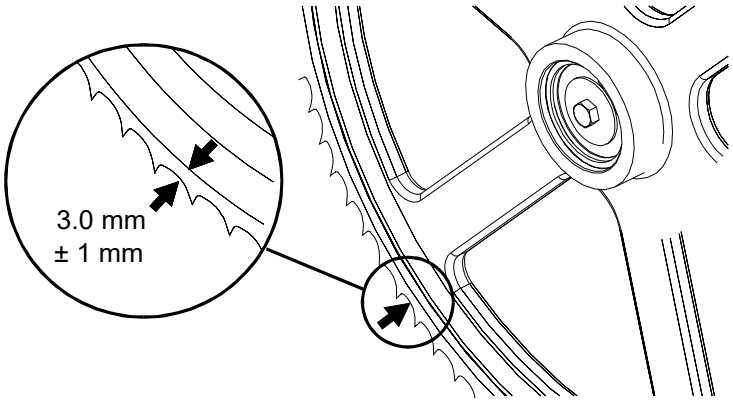


FIG. 5-16

See Figure 5-17. The arrows below show which bolts should be used to tilt the wheels in the required direction.

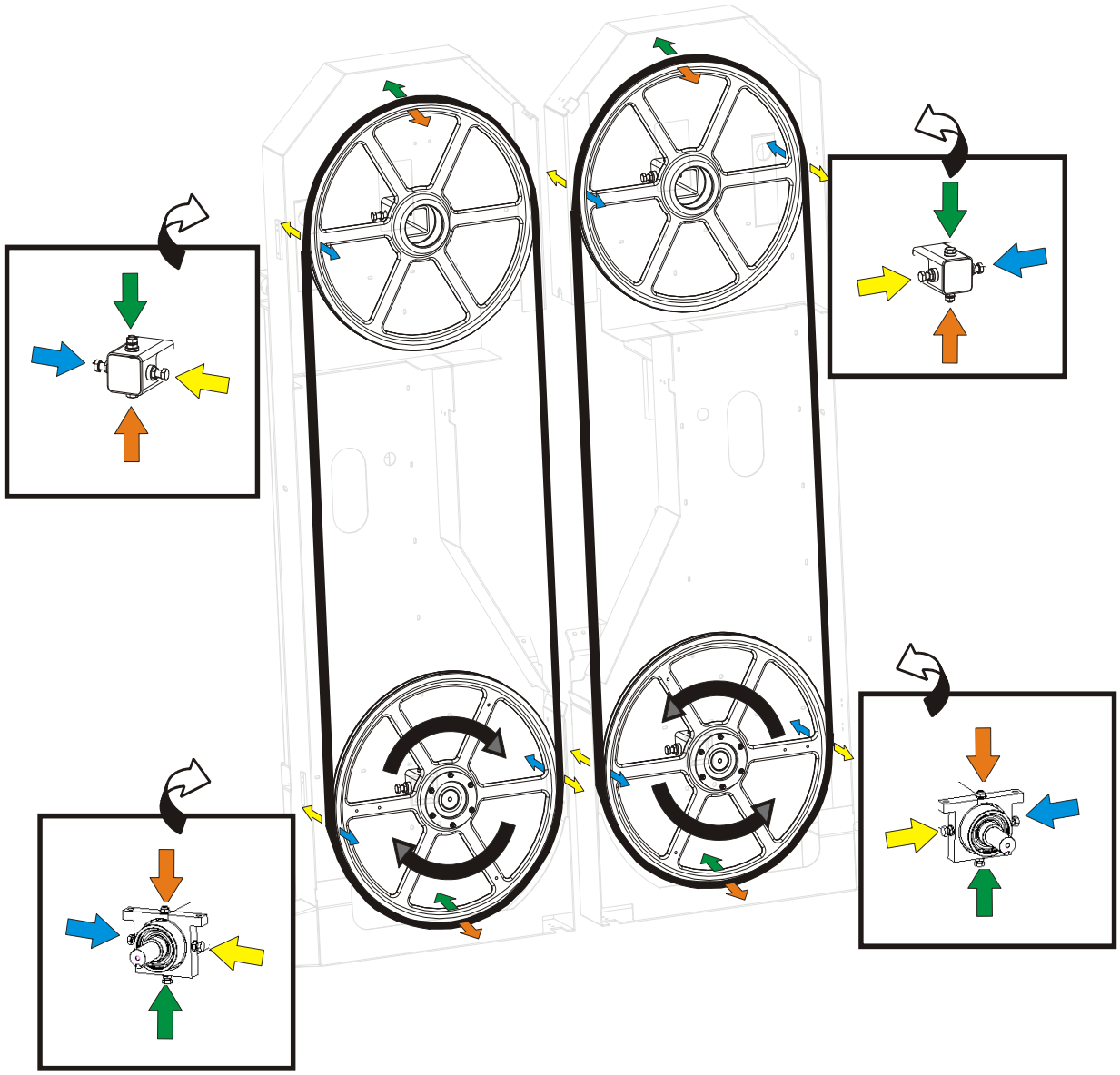


FIG. 5-17

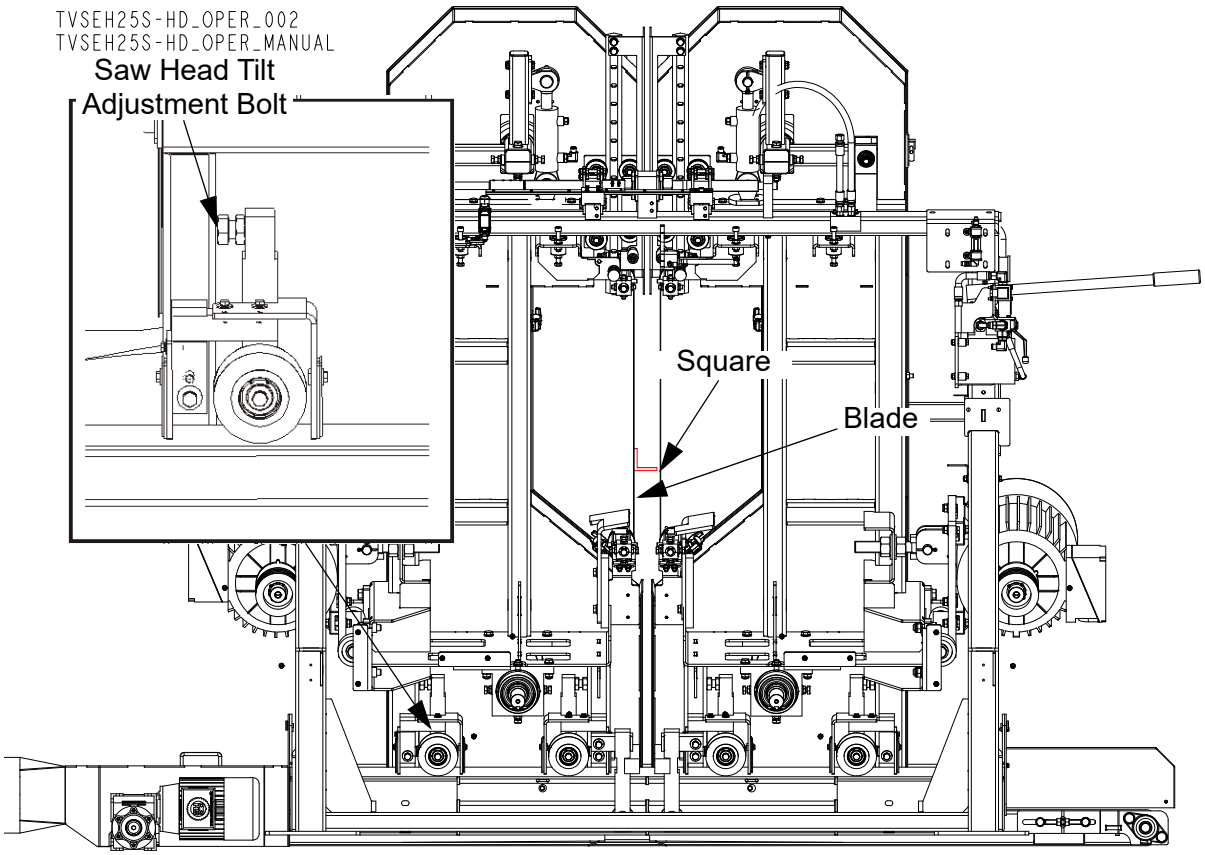
6. Remove the blades from the blade wheels.

5.2.2 Saw Head Tilt Adjustment

The saw head blades should be perpendicular to the tables and parallel to each other.

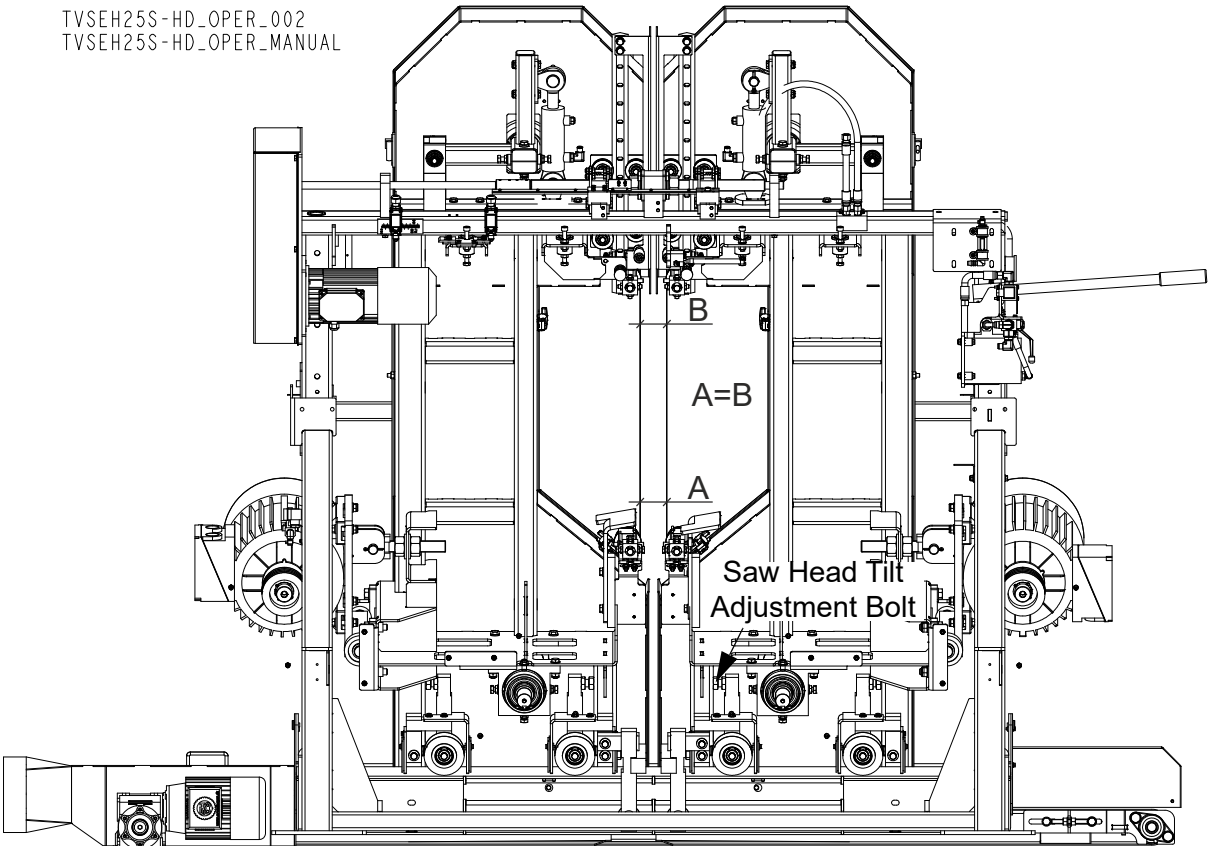
First, set one of the blades so that it is perpendicular to the table and then set the other blade in relation to the first one. To do that, perform the following steps:

1. Make sure the rollers do not touch the blade. Set the blade perpendicularly to the table using a square and adjust using the adjustment bolt.



2. Measure the distances between the blades at the lowest and highest points. If the measurements

are not the same, adjust the saw heads using the tilt adjustment bolts shown below.



3. Check if the saw heads are perpendicular to the table. Adjust if necessary.

5.2.3 Aligning the Blade Guides

Each Wood-Mizer resaw has two blade guide assemblies that help the blade maintain a straight cut. The two blade guide assemblies are positioned on the cutting head to guide the blade on each side of the material being cut.

One blade guide assembly is mounted in a stationary position on the drive side of the cutting head. This assembly is referred to as the "inner" blade guide assembly.

The other blade guide assembly is mounted on the idle side of the cutting head. It is referred to as the "outer" assembly and is adjustable for various widths of materials to be processed.

Blade guide alignment includes four steps:

- Blade Deflection,
- Blade Guide Vertical Tilt,
- Blade Guide Flange Spacing,
- Blade Guide Horizontal Tilt.

Perform the blade guide alignment after you have aligned the blade on the wheels. After the blade guide alignment, check the scale indicator to make sure it is adjusted properly.

NOTE: During blade guide alignment, remove the blade guide adjusting screws and apply lubricating oil such as 10W30 or Dexron III to each screw. This will prevent the screws and threaded holes from corroding and make screw adjustments easier.

5.2.4 Blade Deflection

Perform the following steps to achieve proper blade deflection with the blade guides.

1. Set the blade guide arms fully close.
2. If the blade wheels adjustment has been performed correctly, measure the actual distance with a tape from the rope to the bottom of the blade.
3. Install the blade guides. Make sure the two set screws shown are threaded into the blade guide shaft until they touch each other.

See Figure 5-18.

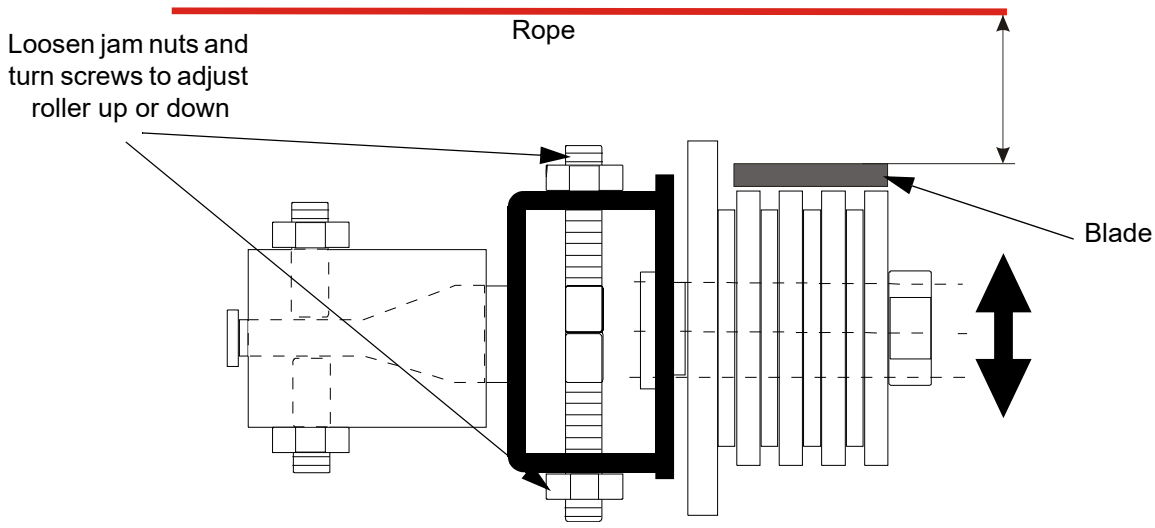


FIG. 5-18

4. Loosen the jam nut and tighten the appropriate screw until the blade guide deflects the blade 6.0 mm.

5. Repeat for the other blade guides.

> **NOTE:** Be sure that the blade guide touches the blade in both guide assemblies.

5.2.5 Blade Guide Horizontal Tilt Adjustment

1. Attach the LTBGAT tools to the blade near the upper blade guides mount as shown. Be sure the tools do not rest on a tooth or burr, and are lying flat against the blades.

See Figure 5-19.

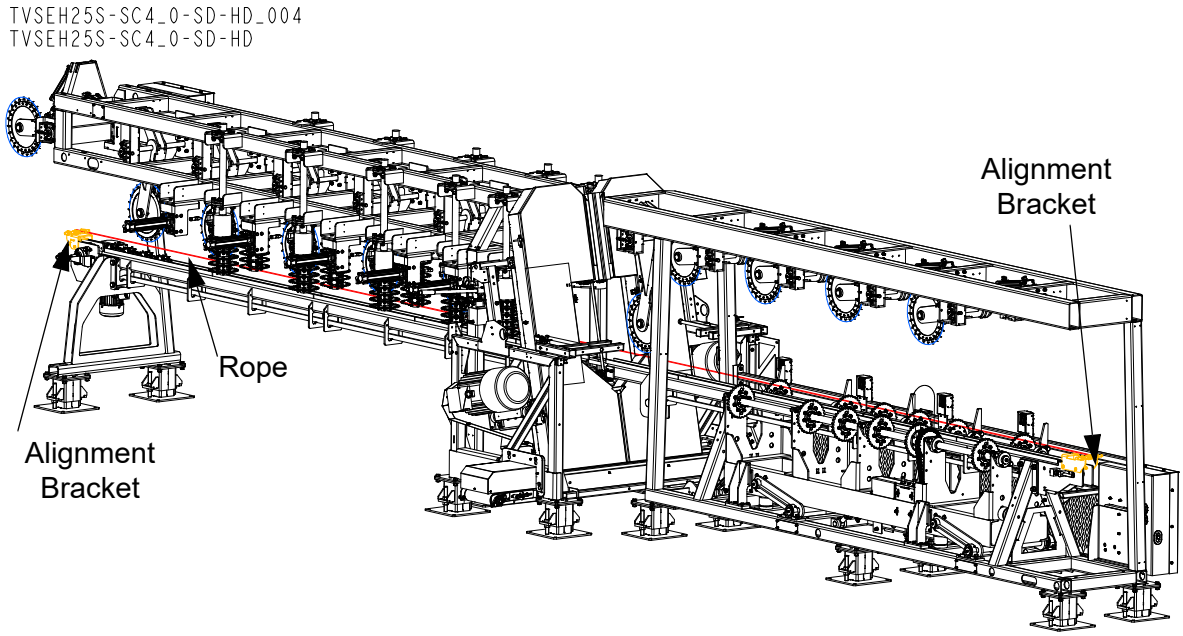


FIG. 5-1

See Figure 5-20.

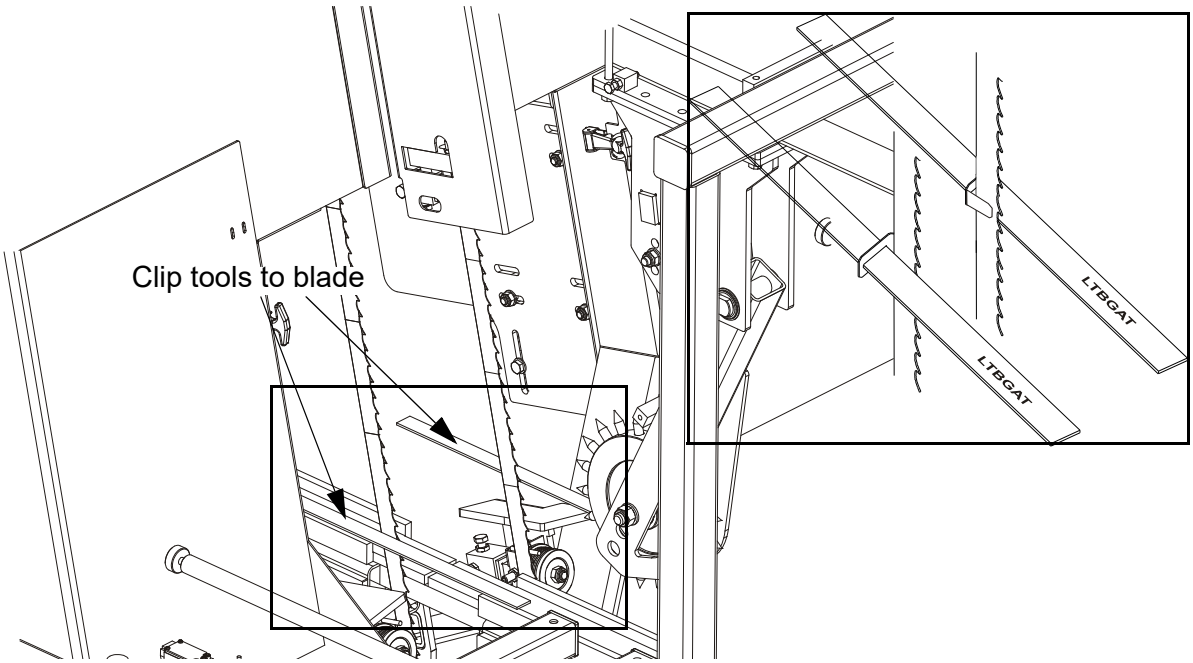


FIG. 5-20

Check that the blade guide does not tilt the blade left or right. A Blade Guide Alignment Tool (LTBGAT) is provided to help you measure the vertical tilt of the blade.

2. Position the tools near the upper blade quide.

3. Measure the distance from the edge of the tool to the ropes at the back end of the tool and then at the front end of the tool.

   See Figure 5-21.

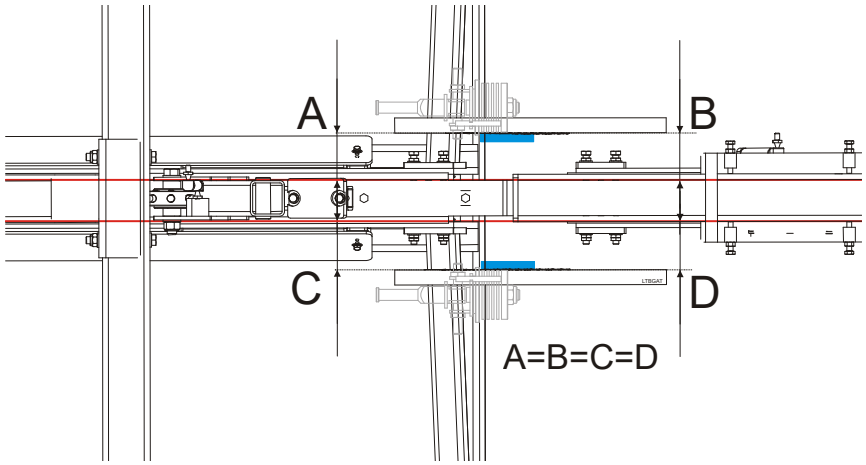


FIG. 5-21

4. The all four distances should be equal. If the distances A and C or B and D differ, it is necessary to check the saw heads centering. If the distances A and B or C and D differ, adjust the horizontal tilt of the blade guide using the adjustment screws shown in the figure below.

   See Figure 5-22. Loosen the jam nuts on the left and right horizontal tilt adjustment screws. To tilt the roller left, loosen the right screw and tighten the left screw. To tilt the roller right, loosen the left

screw and tighten the right screw. Tighten the jam nuts and recheck the tilt of the blade.

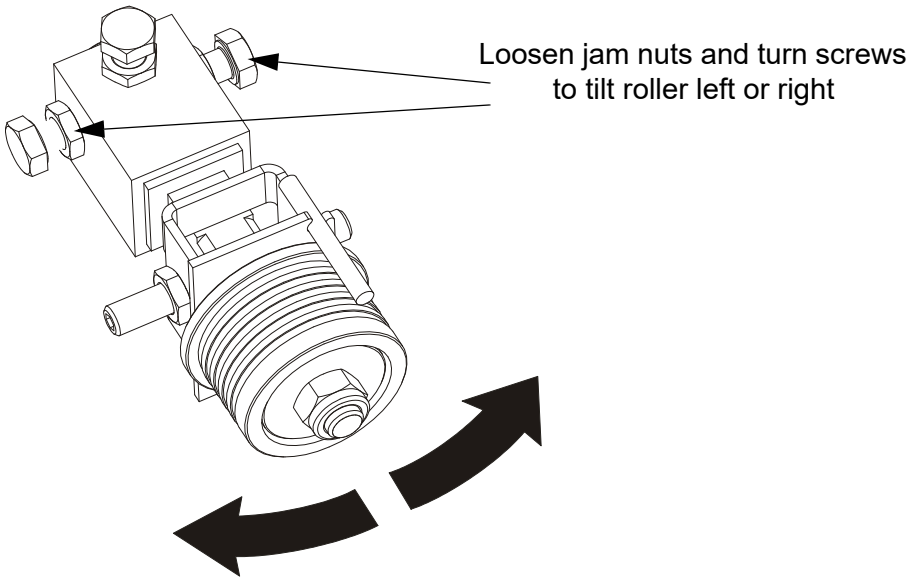


FIG. 5-22

5. Attach the tools to the blade near the lower blade guide mount blocks and repeat the above steps. Adjust the horizontal tilt of this guide if necessary.

NOTE: If major adjustments to blade guide tilt were made, measure the actual distance with a tape from the rope to the bottom of the blade again to ensure the correct 6.0 mm (0.24") blade guide deflection. Adjust if necessary.

5.2.6 Blade Guide Spacing

HINT: When adjusting blade guide spacing, loosen the top set screw and one side set screw only. This will ensure horizontal and vertical tilt adjustments are maintained when the set screws are retightened.

1. Adjust the lower blade guide so the blade guide flange is approximately 1.5 – 3.0 mm (0.06 - 0.12") from the back of the blade.

2. Loosen one side and one top set screw shown. Tap the blade guide forward or backward until properly positioned.

See Figure 5-23.

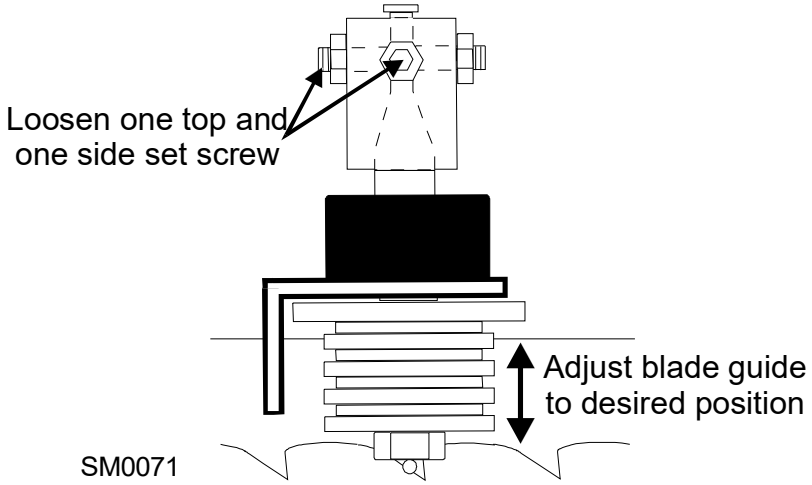


FIG. 5-23

3. Retighten the two set screws.

4. Adjust the upper blade guide in the same way so the blade guide flange is approximately 1.5 – 3.0 mm (0.06 - 0.12") from the back of the blade.

5.2.7 Blade Guide Vertical Tilt Adjustment

1. Finally, both blade guides must be tilted vertically. Adjust the blade guide arm halfway in.

See Figure 5-24.

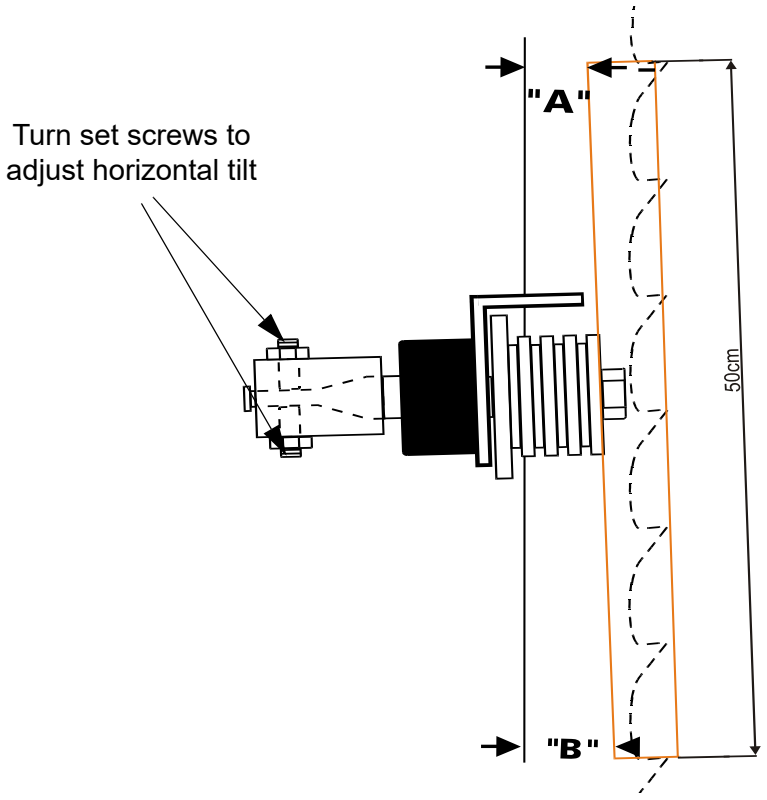


FIG. 5-24

2. Place the Blade Guide Alignment Tool against the face of the upper blade guide roller.

3. Center the tool on the roller and measure the distance between the back edge of the blade and the ruler at the end closest to the lower blade guide ("B").

4. Measure between the back edge of the blade and the other end of the ruler ("A").

5. The roller should be tilted slightly up (A = B - 6.0 mm [0.24"]).

6. Use the set screws to adjust the horizontal tilt of the roller.

7. Repeat steps 3-7 for the lower blade guide roller.

NOTE: Once the blade guides have been adjusted, any cutting variances are most likely caused by the blade. **See the Wood-Mizer® Blade Handbook, Form #600.**

5.2.8 Head Turnbuckle Bracket

CAUTION! Do not adjust the saw head turnbuckle bracket nuts. The turnbuckles are factory-set and there should be a small gap between the turnbuckle and the bracket.

See Figure 5-25.

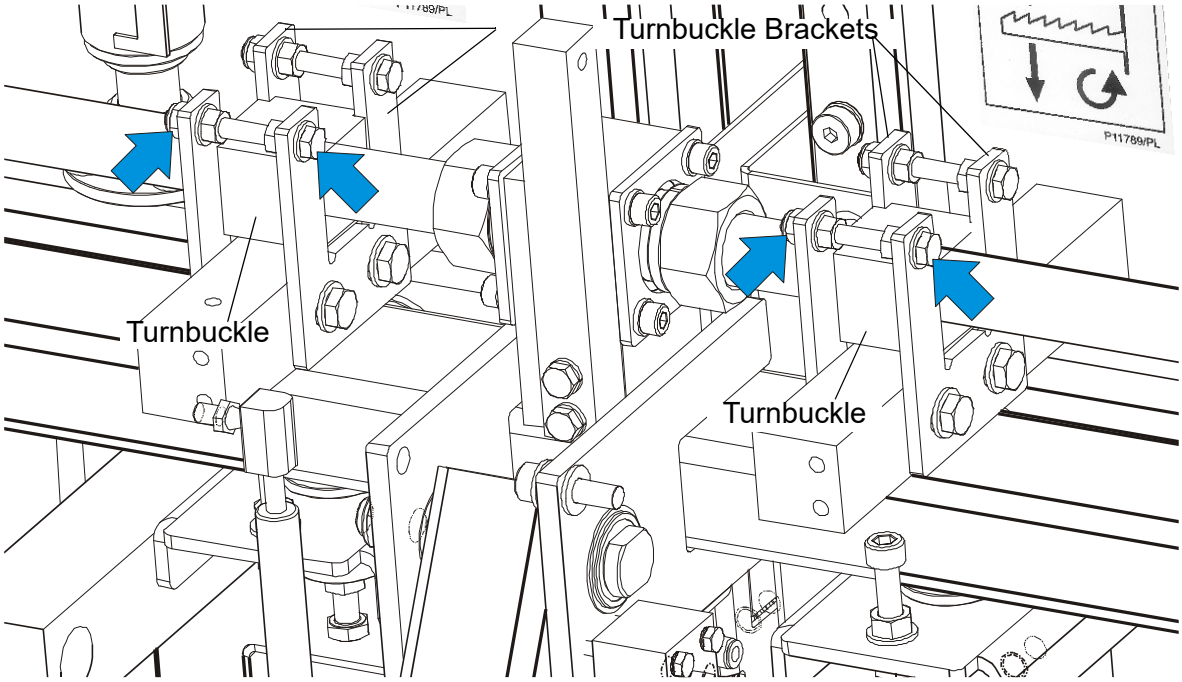


FIG. 5-25

SECTION 6 SPECIFICATIONS

6.1 Overall Dimensions

See Figure 6-1. The major dimensions of the TVS-HD SC5.0 are shown below (all dimensions are in millimeters and inches).

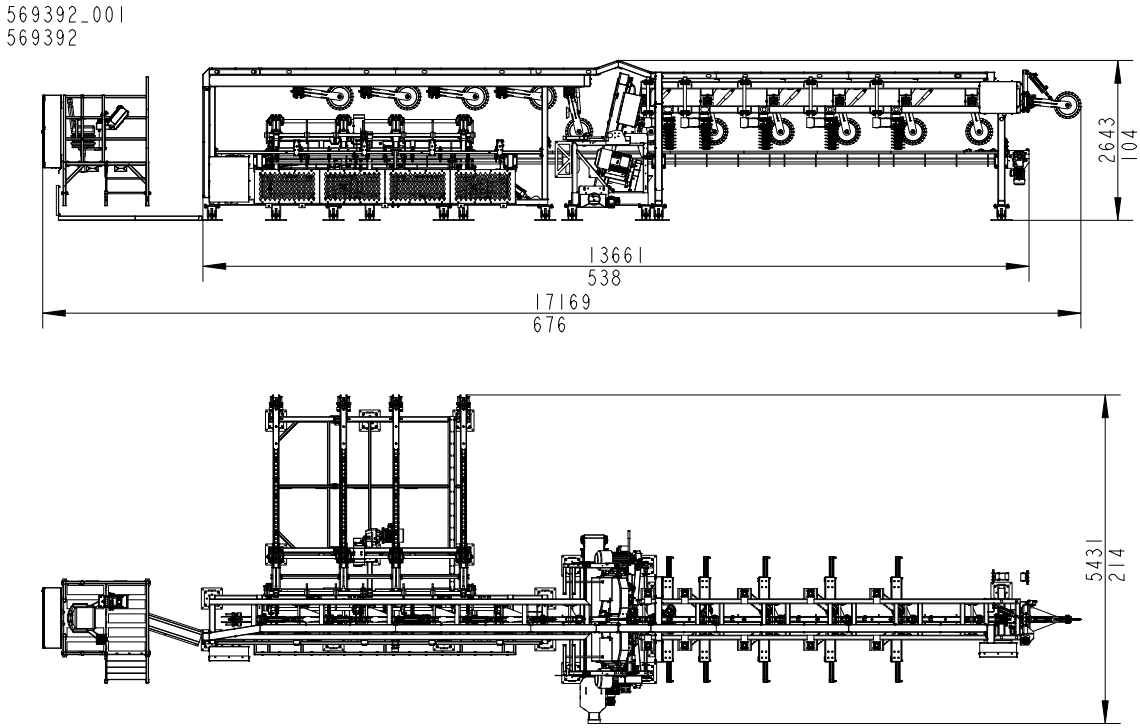


FIG. 6-1 TVS-HD_SC5.0

See table 6-1. The weight of the TVS saw is given in the table below.

Weight	Saw Heads - 936kg / 2063 lb

TABLE 6-1

6.2 Cutting Capacity

See table 6-2. The material size and performance capacities of the TVSSC5.0 are given

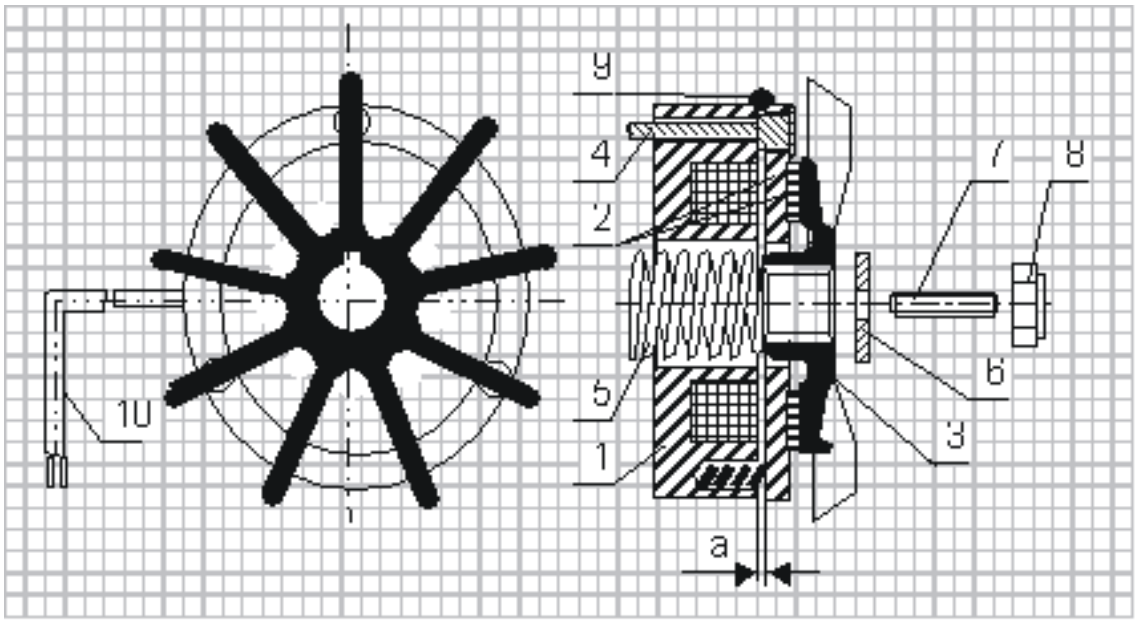
below.

Parameter	TVS-HD SC 4.0	TVS-HD SC 5.0
Cutting Width	78-250 mm / 3.07-9.87"	78-250 mm / 3.07-9.87"
Feed Speed	(0-20 m / 0-65,6 ft) /min	(0-25 m / 0-82,02 ft)/min
Log Length	1,2 - 4,0 m / 3.94 - 13.12 ft	1,2 - 5,0m / 3.94 - 16.40 ft
Minimum Log Width	120 mm / 4.73”	120 mm / 4.73 ”
Maximum Log Width	400 mm / 16” [1]	400 mm / 19.68”[1]

TABLE 6-2

[1] Straight logs only

SECTION 7 DC ELECTROMAGNETIC BRAKE (CE ONLY), SIEMENS MOTORS



1 - Electromagnet,
2 - Armature complete with brake linings,
3 - Fan,
4 - Retaining bolt
5 - Central spring,
6 - Special washer,
7 - Set screw,
8 - Self-locking nut,
9 - Sealing ring,
10 - Output cable.

7.1 Design and principle of operation

The DC electromagnetic brake type H consists of 3 main subassemblies:

- electromagnet (1),

- armature complete (2)

- cast iron fan (3).

Electromagnet (1) energised: The DC voltage from the motor applied via the rectifying circuit causes the attraction of the armature (2) releasing the brake and thus the fan (3) is free to rotate.

Electromagnet (1) de-energised: The electromagnet stops to attract the armature (2) and spring

presses the armature with brake linings (2) against the fan and the brake is thus applied.

7.2 Service

During normal operation and at the routine inspections verify the air gap and check if all screws are tight. In case when any symptoms of inefficient braking are observed, then use the self-locking nut (8) to re-adjust the air gap to the value corresponding to Table 1.

Such readjustment may be repeated until the brake linings are completely worn out. When this will occur, a complete armature with brake linings (2) must be replaced.

If the air gap of the brake is correctly adjusted and despite of it the brake does not operate properly (the brake fails to release), it may be caused by:

- the electromagnet (1): burned coil or defected output cable (10),
- rectifying circuit (installed in the electric motor terminal box).

The above mentioned subassemblies should be checked and defected part replaced.

Table 1:

TYPE	H-63	H-71	H-80	H-90	H-100	H-112	H-132	H-160
Nominal Gap „a”	0.2 **±0,05**	**0.2 ±0,05**	**0.2 ±0,05**	**0.2 ±0,05**	**0.2 ±0,1**	**0.2 ±0,1**	**0.2 ±0,1**	**0.2 ±0,1**