Blade Sharpener BMS25
Safety, Operation, Maintenance, and Parts Manual

BMS25 **rev. A1.00**

Safety is our #1 concern!

Form #2448

WARNING! Read and understand this manual before using this machine.

California

Proposition 65 Warning

WARNING: Breathing gas/diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Always start and operate the engine in a well-ventilated area.
If in an enclosed area, vent the exhaust to the outside.
Do not modify or tamper with the exhaust system.
Do not idle the engine except as necessary.

For more information go to **www.P65warnings.ca.gov**.

WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection.

For more information go to **www.P65Warnings.ca.gov/wood**.

Active Patents assigned to Wood-Mizer, LLC

Wood-Mizer, LLC has received patents that protect our inventions which are a result of a dedication to research, innovation, development, and design. Learn more at: *woodmizer.com/patents*

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

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Wood-Mizer® LLC
Limited Product Warranty

Wood-Mizer

Wood-Mizer LLC ("Warrantor"), an Indiana corporation with its principal place of business at 8180 West Tenth Street, Indianapolis, IN 46214-2400 USA, warrants to the purchaser ("Purchaser") that for the time periods specifically stated herein and subject to the terms, conditions and limitations stated herein, the equipment manufactured by the Warrantor will be free from defects in material and workmanship attributable to Warrantor so long as, during the warranty periods stated herein, the equipment is installed, operated and maintained in accordance with the instructions provided by Warrantor.

PRODUCT	MODEL CLASS	LENGTH OF WARRANTY		EFFECTIVE DATE
		USA & CANADA	NON USA & CANADA	
Portable Sawmills, Resaws, Edgers	LT, LX, HR, EG	Two years	One year	Date of purchase
Portable Sawmills with Chassis	LT28, LT35, LT40, LT50, LT70, LX450	Two years, excluding the chassis, which chassis shall have a five year warranty	One year	
Industrial Sawmills, Resaws, Edgers	WM, HR, EG, TVS, SVS	One year	One year	Date of purchase or date of installation / training (if applicable), whichever occurs first, not to exceed 6 months from date of purchase
TITAN Industrial	WB, TV, HR, EG, EA, MR	One year	One year	
Material Handling	TWC, IC, TD, LD, GC, CR, CB, CC	One year	One year	
Blade Maintenance Equipment	BMS, BMT, BMST	One year	One year	Date of purchase
Options and Accessories	Various	One year*	One year*	
Moulders, Extractors	MP, MD	Two years	One year	
Kilns	KS, KD	One year	One year	
Slab Flattener	MB	Two years	One year	
Pallet Equipment	PD, PC	One year	One year	
Log Splitters	FS	One year	One year	
Replacement Parts	Various	90 days	90 days	

* Warranty on Options will match the warranty on the primary equipment when purchased on same invoice.

Exclusions from 90 Day, Limited One Year and Two Year Warranty

Warrantor shall have **no** responsibility under this warranty for any wear components, including, but not limited to: belts, blade guides, blades, electric motor brushes, drum switches, filters, fuses, hoses, bearings (excluding cylindrical drive bearings), bushings, cable carriers, and spark plugs. All wear components are furnished **"as is"**, without any warranty from Warrantor. This limited warranty does not cover any defects caused by misuse, negligence, alterations, damage due to overload, abnormal conditions, excessive operation, accident, or lack of performance of normal maintenance services.

Several components which are used in the manufacture of the equipment but not manufactured by Warrantor such as cant hooks, power plants, laser sights, batteries, tires, and trailer axles have warranties provided by the original equipment manufacturer (written copies available upon request). Warrantor does not separately warrant such items. Components or equipment manufactured by third parties are not covered by this warranty. Warrantor, however, will provide reasonable assistance to the Purchaser to make claims against any warranties applicable to such component parts as provided by such original equipment manufacturers. Components or equipment manufactured by third parties are not covered by this Warranty.

Five Year Limited Chassis Warranty

The limited five year chassis warranty described above, DOES NOT extend to (a) any damage stemming from accident, improper towing, overload, abuse, misuse, abnormal conditions, negligence, excessive operation, or lack of maintenance, (b) rust caused by exposure to corrosive atmospheric conditions, or (c) the sawmill head, carriage, axle, brakes, or any hydraulic or electrical components attached to the chassis.

Warrantor's Obligations as To Defects

In the event that the equipment fails to perform due to defective materials or workmanship attributable to Warrantor under normal use and service within the established warranty period, Purchaser's sole and exclusive remedy and Warrantor's sole liability shall be to replace or repair, in Warrantor's sole and subjective discretion, any defective part at Warrantor's principal place of business without cost to the Purchaser if such defect exists. The determination of whether a product is defective shall be made by Warrantor in Warrantor's sole and subjective discretion. The Purchaser must notify Warrantor prior to shipping any defective part. Warrantor, at its sole discretion, may cover expenses incurred in shipping the defective part to Warrantor for evaluation; provided, however, that Warrantor will not be responsible for labor, travel time, mileage, removal, installation or incidental or consequential damages. However, any part in excess of 140 pounds must be returned by the Purchaser, to the Warrantor's nearest authorized facility at the Purchaser's expense, if return is requested by Warrantor. Warrantor shall have a reasonable time within which to replace or repair the defective part. If Warrantor determines that the product is not defective under the terms of this warranty in Warrantor's sole and subjective discretion, then Purchaser shall be responsible for any expenses incurred by Warrantor in returning the equipment to the Purchaser.

Limitations and Disclaimers of Other Warranties

EXCEPT FOR THE EXPRESS WARRANTY PROVISIONS STATED ABOVE, WARRANTOR DISCLAIMS ALL WARRANTIES, EXPRESS AND/OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, NONINFRINGEMENT AND TITLE. No representation or other affirmation of fact by representatives of Warrantor, whether verbal or in writing, including photographs, brochures, samples, models, or other sales aids, shall constitute a warranty or other basis for any legal action against Warrantor. There are no other representations, promises, agreements, covenants, warranties, guarantees, stipulations or conditions, express or implied, by Warrantor except as expressly set forth herein. THE ORIGINAL PURCHASER AND ANY INTENDED USER OR BENEFICIARY OF THIS EQUIPMENT, SHALL NOT BE ENTITLED TO RECOVER ANY INDIRECT, SPECIAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, SPECIAL, OR INCIDENTIAL DAMAGES OR LOSES, INCLUDING BUT NOT LIMITED TO, DAMAGES OF LOST PRODUCTION, LOST REVENUE, LOST PRODUCT, LOST PROFITS, LOST BUSINESS, LOSS OF USE, LOSS OF GOODWILL, OR BUSINESS INTERRUPTION, FROM WARRANTOR FOR ANY REASON WHATSOEVER INCLUDING WITHOUT LIMITATION WARRANTY OR DEFECT IN THE PRODUCT REGARDLESS OF THE SOLE, JOINT AND/OR CONCURRENT NEGLIGENCE, BREACH OF CONTRACT, BREACH OF WARRANTY, STRICT LIABILITY IN TORT OR STATUTORY CLAIMS OR OTHER LEGAL FAULT OR RESPONSIBILITY OF EITHER WARRANTOR OR PURCHASER OR ITS EMPLOYEES OR AGENTS. Warrantor does not warrant that its equipment meets or complies with the requirements of any particular safety code or governmental requirements.

Defective items replaced under the terms of this warranty become the property of Warrantor.

Design Changes

Warrantor reserves the right to change the design of its products from time to time without notice and without obligation to make corresponding changes in or to its products previously manufactured.

Rights of Purchasers

The validity and effect of this limited warranty as well as its interpretation, operation and effect, shall be determined exclusively by the principles of law and equity of the State of Indiana, USA. This limited warranty gives Purchaser specific legal rights. Purchaser may also have other rights, which may vary from state to state. Some states may not allow limitations as to the duration of implied warranties or to the exclusion or limitation of incidental or consequential damages, so some of the limitations and exclusions detailed set forth above may not apply. In the event that any one or more of the provisions of this warranty shall be or become invalid, illegal or unenforceable in any respect, the validity, legality and enforceability of the remaining provisions of this warranty shall not be affected thereby.

Interpretations

This Warranty constitutes the entire warranty agreement between Warrantor and Purchaser and supersedes any prior understandings or agreements pertaining to the same subject matter. This warranty cannot be amended except in writing which refers to this warranty which is signed by both Warrantor and Purchaser.

SECTION 1 INTRODUCTION

1.1 About This Manual

This manual replaces any previous information received on your Wood-Mizer® equipment.

The information and instructions in this manual do not amend or extend the limited warranties for the equipment given at the time of purchase.

1.2 Getting Service

For contact information, sales, service, parts, and additional manuals, sign into your account on *https://woodmizer.com*, or call inside the USA: 1-800-553-0182 or from outside the USA: 317-271-1542

1.3 Specifications

Equipment specification are included in the Online Manuals, which are found at *https://apps.woodmizer.com/Manuals/Manuals.aspx?parent=0.*

1.4 Options and Accessories

Your Wood-Mizer product may have options that can be added to the machine or accessories available to purchase.

Option: Your specific product can have accessories installed at the factory, or installed in the field.

Accessory: Your specific product may have accessories added to the machine that are not available to be installed at the factory. They may only be installed in the field.

This product has the following accessories available:

Part #	Name	Type
130238	CAM KIT, BMS25, 9°/29° 0.875"TS 0.22"TH	Accessory
130239	CAM KIT, BMS25, 4°/32° 0.875"TS 0.25"TH	Accessory
130240	CAM KIT, BMS25, 7°/47° 0.875"TS 0.35"TH	Accessory
130241	CAM KIT, BMS25, 7°/34° 0.875"TS 0.285"TH	Accessory
130242	CAM KIT, BMS25, 7°/39.5° 0.875"TS 0.33"T	Accessory

SECTION 2 SAFETY

2.1 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 serious injury or death.

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

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

NOTICE indicates vital information.

2.2 Safety Instructions

OWNER/OPERATOR'S RESPONSIBILITY

The procedures listed in this manual may not include all ANSI, OSHA, or locally required safety procedures. **It is the owner/operator's responsibility and not Wood-Mizer LLC to ensure all operators are properly trained and informed of all safety protocols.** Owner/Operators are responsible for following all safety procedures when operating and performing maintenance to the equipment.

Observe ALL Safety Instructions

NOTICE Read the entire Operator's Manual before operating this equipment.

Note all safety warnings throughout this manual and those posted on the machine.

Be able to access this manual at all times while operating this equipment.

Read additional manufacturer's manuals and observe their applicable safety instructions.

Only persons who have read and understood the entire operator's manual should operate this equipment.

This equipment is not intended for use by or around children.

It is the owner/operator's responsibility to comply with all applicable federal, state, and local laws, rules, and regulations regarding the ownership, operation, and transporting your equipment.

Operators should become thoroughly familiar with and comply with these applicable laws for operating and transporting equipment.

DANGER! Make sure all guards and covers are in place and secured before operating the sharpener.

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.

Always wear eye protection when operating the sharpener.

NEVER dress the wear area of the grinding wheel by using the dressing stone on the side surface of the wheel. Doing so could cause the wheel to explode, resulting in personal injury and/or machine damage.

Always visually check the grinding wheel for damage, cracks, or chips before using it. NEVER use a damaged, cracked, or chipped wheel. Doing so may result in severe personal injury and/or machine damage.

CAUTION! Remove the grinding wheel while transporting the sharpener to prevent damage due to jarring or bumping of the unit.

Handle and store wheels in a careful manner.

Make sure machine speed does not exceed the operating speed marked on the wheel or on its container.

CAUTION! Check mounting flanges for equal and correct diameter.

Make sure work is held firmly in place. Clamp work when using wheels that are not reinforced.

Allow newly mounted wheels to run at operating speed, with the guard in place, for at least one minute before cutting.

Do not force a wheel on to the machine or alter the size of the mounting hole. If the wheel will not fit the machine, get one that will.

Do not use mounting flanges on which the bearing surfaces are not clean, flat and free from burrs.

Do not tighten the mounting nut excessively.

Do not stand directly in front of a cutoff wheel whenever machine is started.

Do not cut material for which the wheel is not designed.

Do not jam, cock, bend or pinch the wheel.

Do not cut without proper ventilation and personal protective equipment.

NOTICE Always properly dispose of all by-products, including debris.

USE CAUTION WHEN WORKING WITH BATTERIES

DANGER! Batteries expel explosive gases; keep sparks, flames, burning cigarettes, or other ignition sources away at all times. Failure to follow this will result in serious injury or death.

WARNING! Always wear safety goggles and a face shield when working near batteries. Failure to follow this could result in serious injury or death.

Wash hands after handling batteries to remove possible lead, acid, or other contaminants. Failure to follow this could result in serious injury or death.

Charge the battery in a well ventilated area. Failure to follow this could result in serious injury or death.

Do not attempt to charge a frozen battery. Failure to follow this could result in serious injury or death.

Do not place the battery around flammable objects such as fuel or sawdust. Failure to follow this could result in serious injury or death.

Do not attempt to charge a frozen battery. Failure to follow this could result in serious injury or death.

NOTICE When connecting a battery, first connect to the positive terminal, then connect the negative lead to a chassis or an electrical ground.

NOTICE When working with batteries, use extreme care to avoid spilling or splashing electrolyte (dilute sulfuric acid) as it can destroy clothing and burn the skin.

SECTION 3 ASSEMBLY

The Wood-Mizer® BMS25 is shipped preassembled. Additional assemblies and parts include:

- Three Upper Legs
- Three Lower Legs
- Three Compression Couplings
- Three Blade Support Arms (with one bolt and two nuts attached to each)
- One Wiring Harness
- One Grinding Wheel
- One Dressing Stone
- One Multi-Angle Template
- Blade Support Bag Assembly

Blade Support Bag Assembly Contents	Qty.
Bolt, M6-1.0x35mm Class8 HH	6
Guide, Blade Support W/ Post	3
Ring, 1/4 Pushnut	3
Wheel, Blade Support	3
Nut, M6-1.0 Flange Hex Nylock Zinc	3
Nut, Wing M6x1 Zinc	3
Guide, Blade Support W/O Post	3

- Leg Bag Assembly

Leg Bag Assembly Contents	Qty.
Bolt, M6-1.0 x 40 Carriage	6
Nut, Wing M6x1 Zinc	6

3.1 Stand Assembly

The sharpener can be used directly on a surface or the ground. Alternatively, it can be used at a standing height. When used at a standing height, the sharpener is elevated by three legs that are fastened to the base of the sharpener. The stand is composed of these parts:

- Six carriage bolts
- Six wing nuts
- Three upper legs
- Three compression couplings
- Three lower legs

Assemble the stand:

1. Assemble the lower and upper legs with the compression coupling.

a. Fasten the lower leg into one end of the compression coupling by inserting the leg into the coupling and twisting the ring on the coupling until it tightens onto the leg.

b. Fasten the upper leg into the other end of the compression coupling by inserting the leg into the coupling and twisting the ring on the coupling until it tightens onto the leg.

NOTE: Ensure that the end of the upper leg with holes is not inserted into the coupling.

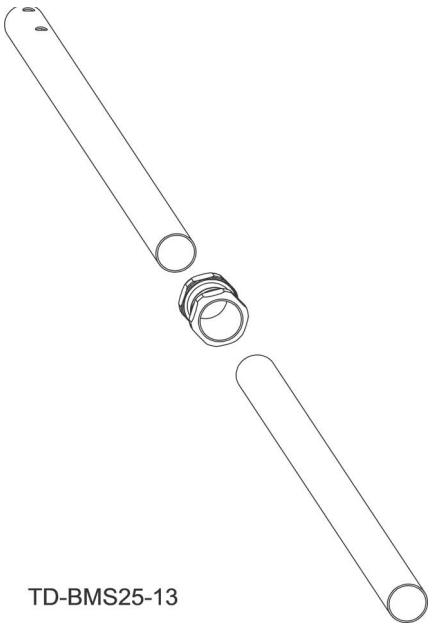


FIG. 3-1

NOTE: Hand tightening the compression couplings is sufficient. It is only necessary to use enough force to make the ring clamp onto the leg. However, the gauge used to set the hook angle has a wrench built into it that will fit these compression fittings. You may use it to tighten them.

2. Fasten the upper leg to the base of the sharpener using two carriage bolts and wing nuts. **See Fig. 3-2.**

a. Place the top of the upper leg against the inside of the pan weldment.

b. Align the holes at the top of the upper leg with the holes in the pan weldment.

c. Insert a carriage bolt from the outside of the pan weldment, through each of the aligned holes.

Fasten a wing nut onto the inside of the leg.

3. Repeat the previous steps for the other two legs.

4. Tighten all of the wing nuts.

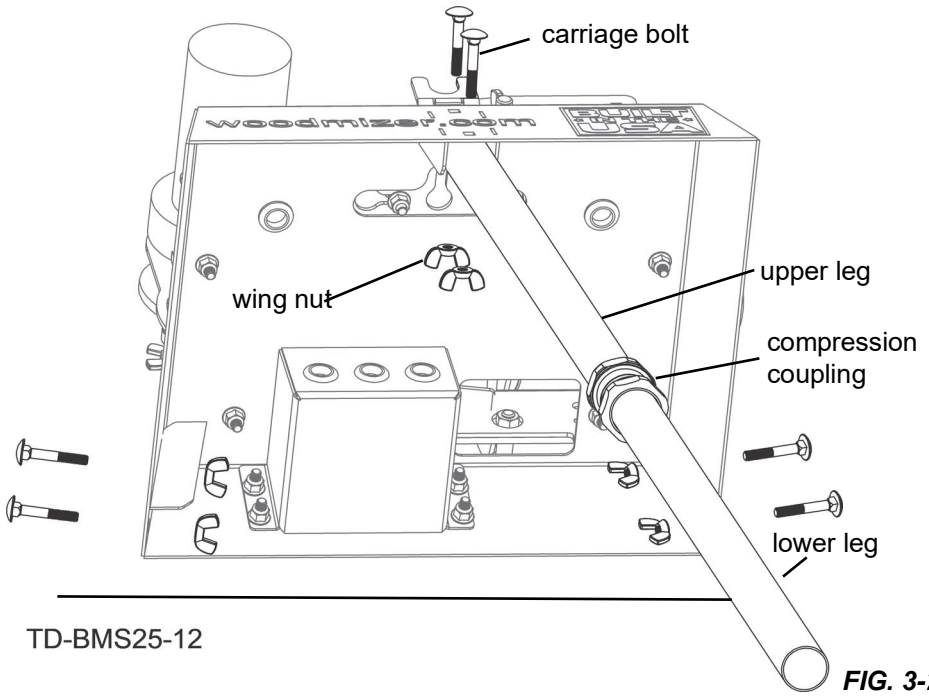


FIG. 3-2

3.2 Electrical Installation

The control box is mounted on the front of the sharpener, under the mount pan. Electrical connections to the control box from the cam motor and sharpener motor come preassembled.

A wiring harness is provided to connect to a power source. This must be a battery capable of sustaining a 10 amp load or higher.

WARNING! Use only the provided wire harness to connect the sharpener to the power source. (It is protected by a built-in 20 amp fuse.)

The sharpener has three controls on the front panel. The up position is “on” for each of them, and the down position is “off”. From left to right, these are:

- jog switch
- cam motor switch
- grinder motor switch

Test the control mechanisms of the sharpener:

1. Ensure that the switches are in the “off” position to avoid starting the motors when power is applied.
2. Raise the sharpener head to avoid contacting the frame with the grinding wheel.
3. Connect power to the sharpener. Connect the red wire from the harness to the positive terminal on the battery and the black wire to the negative terminal on the battery.
4. Use the jog switch to rotate the cam.This should move the pusher to index the blade forward.

   NOTE: When the jog switch is pressed, the cam motor will rotate the cam assembly counter-clockwise, so that the pusher can index the blade forward manually.

5. Set the cam motor switch to the “on” position. The cam motor should turn on. Confirm that the motor rotates in the direction indicated by the directional decals on the sharpener.

   NOTE: When the cam switch set to the “on” position, the cam motor will rotate the cam assembly counter-clockwise repeatedly, so that the pusher can index the blade forward automatically.

Set the grinder motor switch to the “on” position. The grinder motor should come on. Confirm that the motor rotates in the direction indicated by the directional decals on the sharpener.

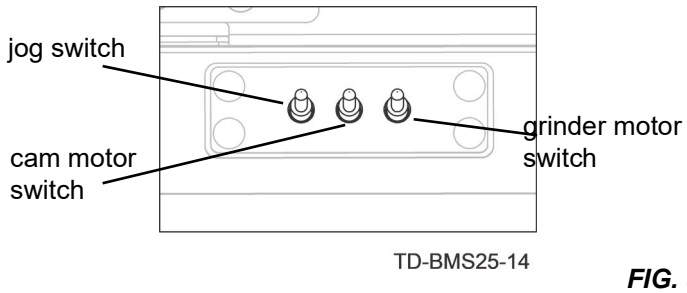


FIG. 3-3

Troubleshoot the electrical installation with these tips:

- If a switch in the control box does not work properly, check the connections listed above. Also, check the fuse in the wiring harness near the positive battery alligator clip.
- To replace the fuse, use a 20 amp ATO type (Wood-Mizer part #P667).
- If a control still does not operate properly, contact your nearest service dealer for assistance.

3.3 Blade Support Installation

Each of the three pre-assembled support arm assemblies attach to the sharpener and include:

- a support tube
- a bolt
- two nylok nuts

Install the support tubes:

1. Insert the assembled blade support arm by sliding the bolt into the larger section of the slot in the support bracket and mount pan, ensuring that one nylok hex nuts is tight against the support tube, and that the other is below the mount pan.
2. Slide the support tube away from the sharpener, guiding the bolt into the smaller section of the slot.
3. Rest the support arm into the support bracket.

Repeat the steps for each of the other support tubes.**See Fig. 3-4.**

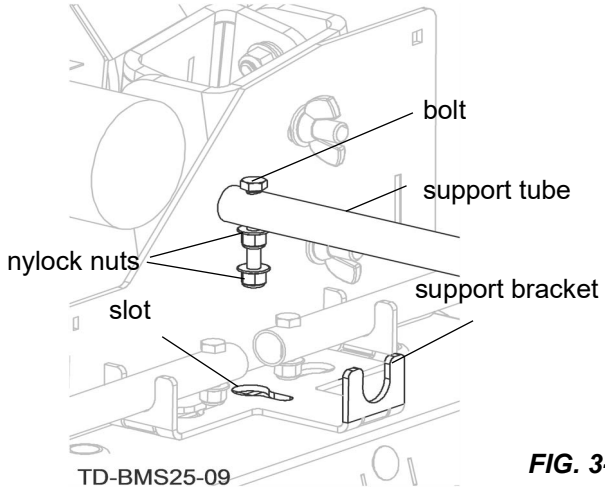


FIG. 3-4

Each support arm assembly also includes:

- a blade support guide with a blade support post
- a blade support guide without a post
- two bolts
- a flanged hex nylok nut
- a wing nut
- a blade support wheel
- a pushnut ring

Attach a blade support guide to a tube:

NOTE: The left and right blade guide supports must be assembled with the post away from the outer end of the support tube.

The rear blade guide support must be assembled with the post closer to the outer end of the support tube.
See Fig 3-5 and Fig. 3-6

1. Assemble a blade support guide with a post and a blade support guide without a post onto the end of a support tube, opposite of the end with the hole for the bolt and nylok nuts.
2. Insert the two bolts into the support guide with a post.

NOTE: The hex-shaped holes will keep the bolts from turning once in place.

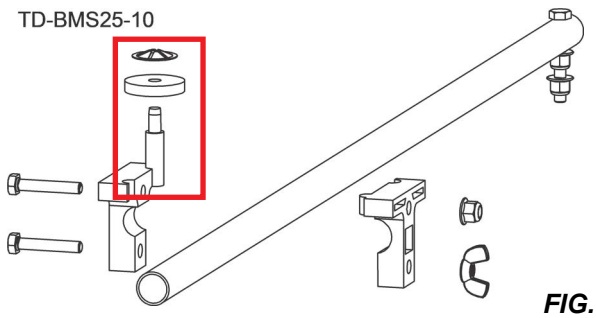


FIG. 3-5

3. Fasten a flanged nylock nut to the top bolt.
4. Fasten a wing nut to the bottom bolt.
5. Slide the blade support guide to the desired position on the support tube.
6. Tighten the top and bottom bolts, using the flanged nylock nut and wing nut.
7. Place the blade support wheel over the blade support post.
8. Place the pushnut ring on top of the wheel to lock it in place.
9. Repeat the steps for each of the other tubes.

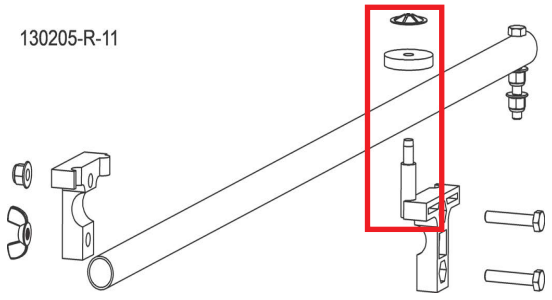


FIG. 3-6

3.4 Grinding Wheel Installation

Use a 5" (12.5 cm) diameter, 1/4" (6.5 mm) wide grinding wheel with a 1/2" (12.5 mm) bore.

WARNING! Check the grinding wheel for cracks or chips before using it. NEVER use a cracked or chipped wheel.

NOTE: The wrench built into the gauge can be used to hold the motor arbor while installing/removing the grinding wheel

1. Remove power and lock out the circuit before beginning work.
2. While supporting the motor:
   - **a.** Remove the wing nut that attaches the top rod end to the motor mount.
   - **b.** Slide the turnbuckle assembly off the head.
   - **c.** Rotate the sharpener head back so that it rests in the most upright position.

CAUTION! Support the sharpener head when disconnecting or reattaching it. Do not allow the sharpener to fall.

3. Remove the wing nuts on the top and side of the cover.
4. Remove the cover.
5. Remove the jam nut and washer from the motor shaft.
6. Slide a grinding wheel onto the shaft.
7. Replace the washer.
8. Replace the jam nut with the machined, or grooved, side toward the grinding wheel.
9. Replace the cover.

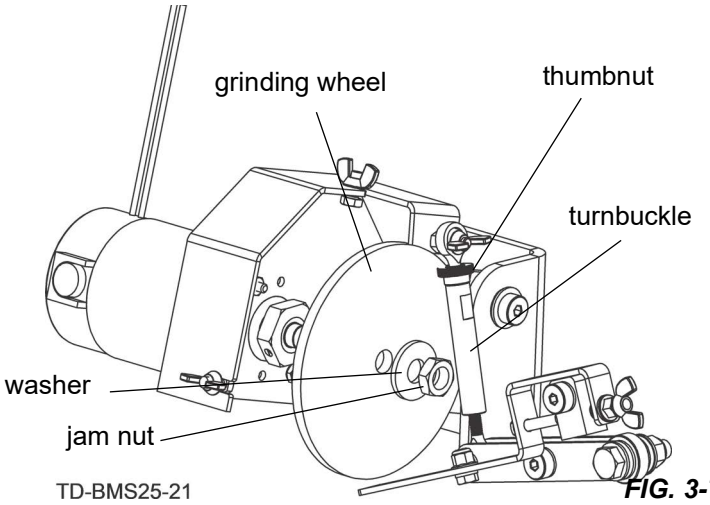


FIG. 3-7

10. Replace the wing nuts on the top and side of the cover.

CAUTION! When disconnecting or reattaching the sharpener head, be sure to keep it supported. Do not allow the sharpener to fall. It may damage the grinding wheel or the blade, and may cause personal injury.

11. While supporting the motor:
    - **a.** Rotate the sharpener head back into the previous position.
    - **b.** Re-attach the turnbuckle assembly to the sharpener head.
    - **c.** Replace the wing nut that attaches the turnbuckle to the head.
12. Loosen the thumbnut.
13. Twist the turnbuckle to adjust the position of the sharpener head so that the grinding wheel does not contact the blade.
14. Tighten the thumbnut to lock the turnbuckle into place.

DANGER! Replace and secure all guards and covers before operating the sharpener.

SECTION 4 SHARPENER ADJUSTMENTS

4.1 Hook Angle Adjustment

A multi-angle gauge, which includes angles for 10 degrees and 7 degrees, is provided to check or adjust the hook angle. Refer to the *Wood-Mizer® Blade Handbook* for recommended hook angle specifications for your sawing application.

NOTE: A blade should be installed before performing this adjustment. See Section 5.2 Blade Installation.

Check the current hook angle:

1. Ensure that the switches are in the “off” position to avoid starting the motors when power is applied.
2. Remove the cover by removing the wing nut on the top and sides of the cover.
3. Raise the sharpener head to avoid contacting the frame with the grinding wheel, if installed.

NOTE: If a grinding wheel is installed, do not remove grinding wheel.

NOTE: If there is no grinding wheel installed, install a grinding wheel. (See Section 3.4 Grinding Wheel Installation)

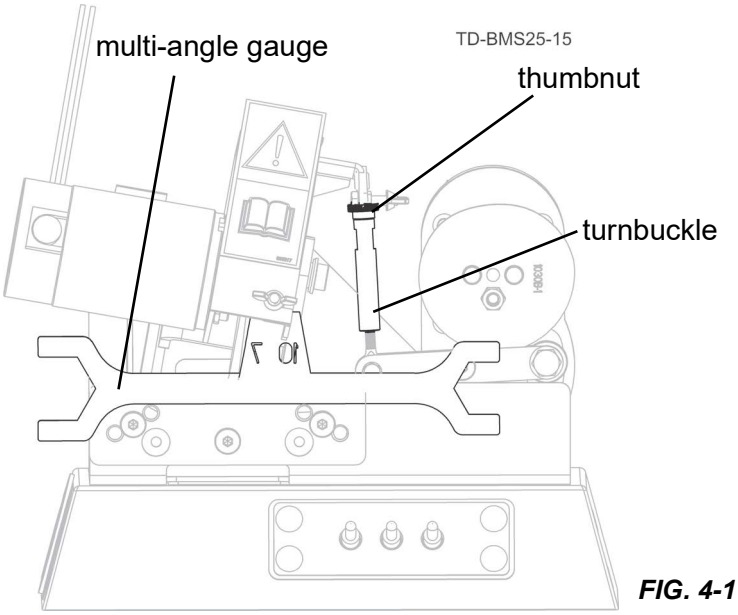


FIG. 4-1

4. Connect power to the sharpener.
5. Use the jog switch to cycle the cam until it is at the highest point.
6. Install the gauge into the clamp, against the blade height bolts, with the correct angle measuring edge toward the grinding wheel face. **See Fig. 4-1.**
7. Use the turnbuckle and/or the thumbnut to adjust the height of the grinding wheel until it rests approximately halfway between the top and bottom of the angled edge of the gauge.

Compare the angle of the grinding wheel with the gauge.

If needed, adjust the hook angle:

8. Loosen the wing nuts on the sharpener head to allow the head to rotate. (Do not remove the wing nuts.) **See Fig. 4-2.**

NOTE: The top wing nut and the position in the slot controls the angle of the sharpener head rotation.

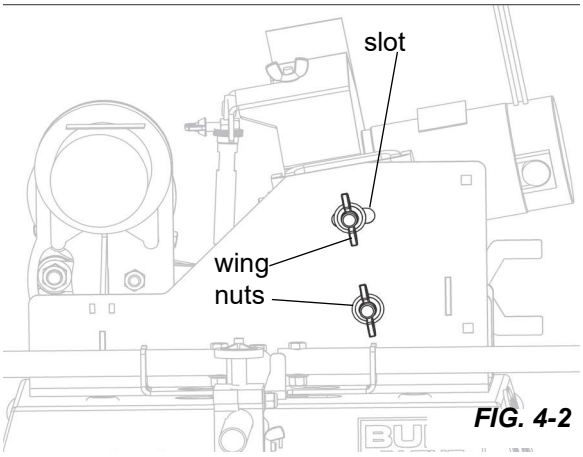


FIG. 4-2

9. Rotate the sharpener head so that the face of the grinding wheel is parallel with the edge of the hook angle gauge.
10. Tighten the wing nuts on the sharpener head.
11. Remove the gauge.

For a different hook angle, remove, reorient, and replace the gauge on the clamping fixture, and repeat the previous steps.

Replace the cover and tighten the wing nuts on the top and side.

4.2 Blade Rest Bolt Adjustment

The sharpener can hold different sizes of blades by adjusting the rest bolts. Use the upper set of holes for 1” blades, the middle set of holes for 1-1/4” blades, and the bottom set of holes for 1-1/2” blades.

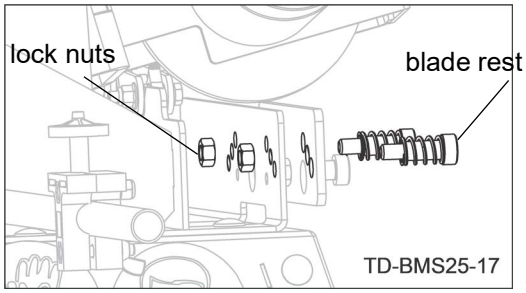


FIG. 4-3

Adjust the blade rest bolts for different size blades:

1. Identify the current position of the blade rest bolts and the desired size of blade.
2. Remove the lock nuts fastened to the blade rest bolts. **See Fig. 4-3.**
3. Remove the rest bolts and springs from the current hole locations.
4. Reposition the rest bolts and springs in the desired hole locations. **See Fig. 4-4.**

Fasten the lock nuts to the blade rest bolts.

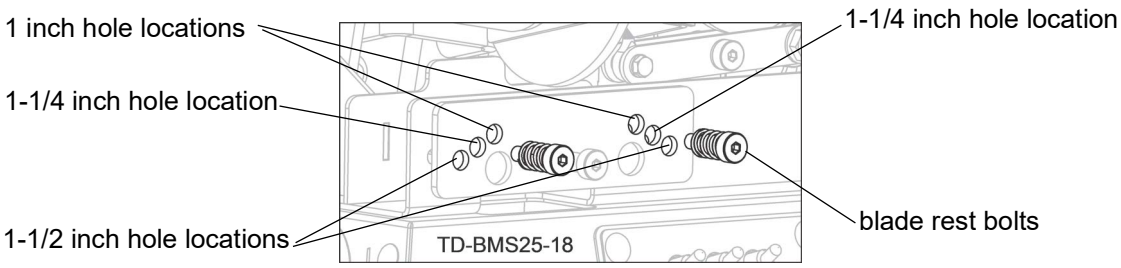


FIG. 4-4

4.3 Grinding Wheel Shape

WARNING! Wear eye protection when operating the sharpener.

The following sections explain how to:

- dress a new grinding wheel
- maintain the shape of the wheel as you use it to sharpen blades

NOTE: A blade should be installed before performing this adjustment. See Section 5.2 Blade Installation.

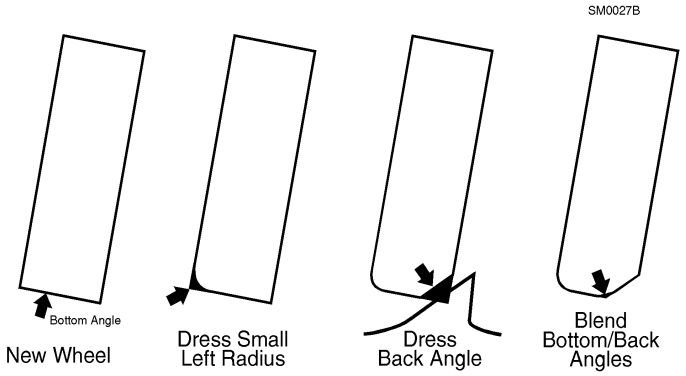


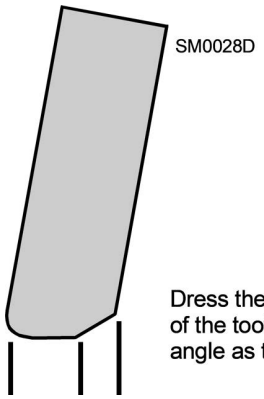
FIG. 4-5

Dress the grinding wheel (**See Fig. 4-5.**):

1. Turn the grinder motor switch to the "on" position to start the grinding wheel spinning.
2. Using a flat side of the provided dressing stone:
   - **a.** Dress a small radius on the left corner.
   - **b.** Blend the radius with the bottom of the wheel.
   - **c.** Dress the right 1/3 of the wheel at the same angle as the back of the tooth. (**See Fig. 4-6.**)
   - **d.** Blend the back and bottom angles.

Turn the grinder motor switch to the "off" position.

The shape of the wheel will be refined after the sharpener has been adjusted to grind the blade.



Dress the right 1/3 of the tooth at the same angle as the back of the tooth.

FIG. 4-6

The shape at which you have dressed the wheel must be maintained. It is especially important to maintain the small radius on the left corner of the wheel. This is the section that wears quickest. As the radius increases during sharpening, it starts to grind into the tooth face and leaves little or no hook angle in the tooth. (**See Fig. 4-7.**)

Maintain the shape of the wheel. If the radius becomes too large, redress the grinding wheel:

1. Redress the bottom angle.
2. If necessary, redress the left radius and the back angle.
3. Blend the left radius and right back angle with the bottom angle.

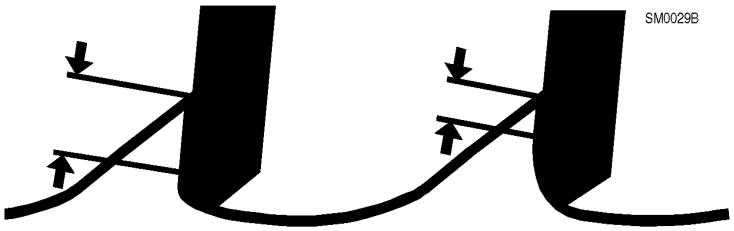


FIG. 4-7

WARNING! NEVER dress the wear area of the grinding wheel by using the dressing stone on the side surface of the wheel. Doing so could cause the wheel to explode, resulting in personal injury and/or machine damage.

NOTE: As the wheel becomes smaller in diameter, it has less surface area to grind with and will wear down more quickly. Check the wheel regularly and redress as necessary.

IMPORTANT: When sharpening a blade, particles can become lodged in the grinding wheel that can burn or groove the gullet of the blade. Burns or grooves in the gullet create microscopic stress fractures which will eventually cause the blade to break prematurely. Lightly dress the wheel to remove lodged particles and prevent the wheel from burning or grooving the blade.

4.4 Face Grind Adjustment

As the sharpener operates, the cam will rotate, causing the pusher arm to contact a tooth and move it into a position under the grinding wheel. The pusher arm can be adjusted to leave the tooth closer to or further away from the grinding wheel so that the tooth face is ground more lightly or more heavily.

Before adjusting the face grind, ensure all motors are turned off.

> **NOTE:** A blade should be installed before performing this adjustment. See Section 5.2 Blade Installation.

Adjust the face grind:

1. Raise the sharpener head by loosening the thumbnut and twisting the turnbuckle until the grinding wheel clears the blade tooth.
2. Using the jog switch, move the blade until the next tooth is underneath the grinding wheel and the pusher is pulled away from the tooth.
3. Lower the sharpener head by twisting the turnbuckle until the bottom of the grinding wheel reaches the midpoint of the tooth face
4. Tighten the thumb nut to lock the turnbuckle.
5. Spin the grinding wheel by hand to check the amount of face grind on the tooth. The grinding wheel should lightly contact the face of the tooth all the way up to the tip.
6. Adjust the wing nut (See Fig. 4-8) to make the face grind lighter or heavier by doing one of the following:
   - If the face grind is too light, make the face grind heavier, by turning the wing nut counter-clockwise.
   - If the face grind is too heavy, make the grind lighter, by turning the wing nut clockwise.

Advance the blade and recheck the face grind. If necessary, repeat the procedure.

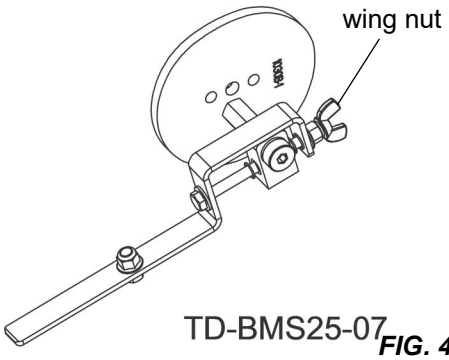


FIG. 4-8

4.5 Tooth Height Adjustments

Tooth height is determined by how much material is removed from the gullet of the blade. The pusher wing nut controls how far the grinding head comes down and therefore controls the gullet grind.

It is important to understand that any adjustments of the depth/back grind for gullet grind will also affect the back grind and face grind:

- Lowering the wheel for more gullet grind will require more dressing from the back angle of the wheel to prevent grinding the back of the teeth too heavy.
- Dressing the wheel for less back grind will require readjustment of the depth/back grind for the gullet grind.

Note: Refer to the *Wood-Mizer® Blade Handbook* for recommended tooth height specifications for your sawing application.

4.6

4.7 Gullet Grind Adjustment

The amount you need to grind from the gullet will be determined by how much tooth height you need (See the *Wood-Mizer® Blade Handbook* for tooth height recommendations). Use the turnbuckle to control how much material is removed from the gullet.

Before adjusting the gullet grind, ensure all motors are turned off.

Adjust the gullet grind:

1. Remove the cover so that you can see how the grinding wheel contacts the blade.
2. Advance the blade by using the jog switch until the grinding wheel is positioned over the lowest point of the gullet between teeth.
3. Spin the grinding wheel by hand and check how hard the wheel contacts the gullet of the blade.
4. Raise or lower the sharpener head so that the grinding wheel lightly touches the gullet by first loosening the thumbnut, and then using the turnbuckle (**See Fig. 4-9.**) to do one of the following:
   - If the wheel is too close to the blade, twist the turnbuckle clockwise to raise the wheel.

   If the wheel is too far from the blade, twist the turnbuckle counter-clockwise to lower the wheel.
5. Lock the turnbuckle by tightening the thumbnut against it.
6. Replace the cover before operating the sharpener.

CAUTION! Be sure the rod end of the rocker assembly stays seated against the motor mount. The grinding wheel will damage the blade if the tip becomes unseated.

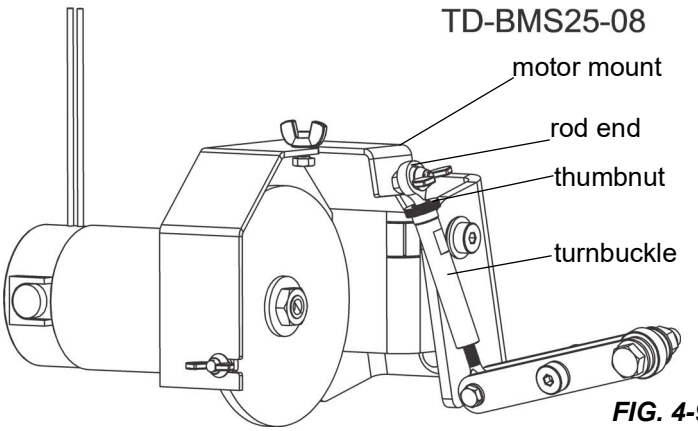


FIG. 4-9

4.8 Back Grind Adjustment

When combined with a light face grind, back grind should remove enough material from the tooth to regain a sharp tip (See the *Wood-Mizer® Blade Handbook* for details concerning blade maintenance). With the face grind and gullet grind adjusted, now dress the back angle of the wheel to provide the desired back grind.

> **NOTE:** It is possible to grind a blade and not sharpen the teeth. Closely inspect the tips of the teeth for a new, sharp tip.

> **NOTE:** A blade should be installed before performing this adjustment. See Section 5.2 Blade Installation.

Adjust the back grind:

1. Raise the sharpener head by loosening the thumb nut and twisting the turnbuckle until the grinding wheel clears the blade tooth.
2. Using the jog switch, advance the blade until the grinding wheel is above the back of a tooth.
3. Lower the sharpener head by twisting the turnbuckle until the bottom of the grinding wheel contacts the back of a tooth.
4. Tighten the thumbnut to lock the turnbuckle.
5. Dress the angle (See Fig. 4-10) by doing one of the following:
   - If the back grind is too heavy, dress the angle on the back side of the grinding wheel larger.

   If the back grind is too light, redress the bottom angle of the wheel, reset the gullet grind, then recheck the back grind.
6. Check the contact of the grinding wheel against the back of the tooth, and if necessary, repeat the procedure.

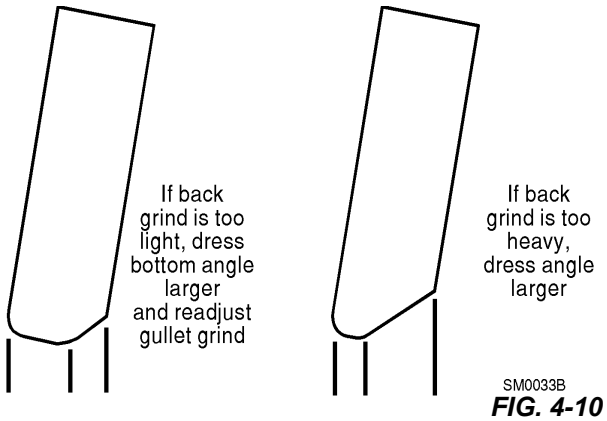


FIG. 4-10

4.9 Overview Of Adjustments

At this point in the instructions, you should have your sharpener completely assembled and operational. The sharpener head should be set at the proper hook angle.

At this point in the instructions, you should have:

- your sharpener completely assembled and operational.
- the sharpener head set at the proper angle.
- a blade installed around the supports and clamped firmly.
- a grinding wheel installed and dressed properly.

NOTICE The sharpener is equipped with a cam to sharpen standard Wood-Mizer blades with a “10/30” profile.

There are three important areas to monitor when sharpening blades:

- Hook Angle
- Tooth Height
- Sharpness of Teeth

The hook angle has already been set and, assuming you maintain proper grinding wheel shape, should remain constant.

The remaining areas, tooth height and sharpness, are controlled by using the face and depth/back grind adjustment knobs.

You are ready to proceed to face and depth/back grind adjustments. To make these adjustments, inspect the blade carefully with proper lighting.

SECTION 5 SHARPENER OPERATION

5.1 Operation

WARNING! Wear eye protection when operating the sharpener.

After the sharpener has been assembled and properly adjusted, and a blade has been installed, you are ready to sharpen the blade.

1. Ensure power is connected to the sharpener.
2. Set the grinder switch to the “on” position to start the grinder motor.
3. Set the cam motor switch to the “on” position to start the cam motor.
4. As a final check before sharpening the entire blade, grind a single tooth and check its shape.
    a. Turn off the grinder motor and cam motor setting the switches to the “off” position.
    b. Check the radius, tooth height and ensure that the tip is completely sharp.
5. Make adjustments with the turnbuckle and pusher wing nut or redress the wheel to provide the desired results.
    a. Adjust the turnbuckle so the entire tooth face is lightly ground from the tip to the base of the tooth.
    b. Adjust the pusher wing nut so enough gullet is removed to provide the desired tooth height.
6. Dress the back angle of the wheel larger to lighten the back grind. Grind enough from the back of the tooth to sharpen the entire tip of the tooth.
7. Push the start button and turn the grinder switch on.

To reduce the risk of premature blade fatigue from hairline cracks, it is important to thoroughly clean the gullet during resharpening. It may be necessary to lightly grind the blade twice (using a light face, back and gullet grind each time) to thoroughly clean the gullet.

For heavy grinds, use two light passes rather than one heavy pass. A heavy pass may blow the fuse.

Any adjustments of the pusher wing nut will affect gullet grind, face grind and back grind. If you use the turnbuckle to lower the wheel for more gullet grind, you will have to dress more from the back angle of the wheel to prevent grinding the back of the teeth too heavy. If you dress the bottom angle of the wheel larger for less back grind, you will have to readjust the gullet grind with the pusher wing nut.

5.2 Blade Installation

Before installing a blade, use the jog switch to move the pusher into the highest position that allows the blade to be installed.

Install a blade:

1. Uncoil a blade and position it above the three support assemblies around the sharpener.
2. Check to be sure the teeth on the portion of blade that will be under the grinding wheel point to the right as you face the sharpener. **See Fig. 5-1.** If not, remove the blade and invert it.

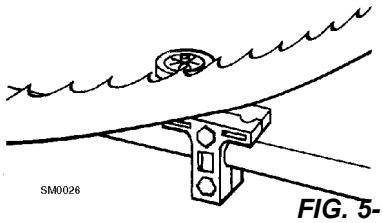


FIG. 5-1

Position the blade outside of the left and right blade support posts. **See Fig. 5-1.**

Position the blade inside of the rear blade guide wheel. **See Fig. 5-2.**

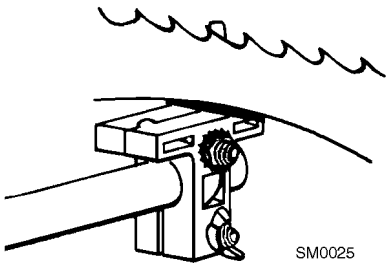


FIG. 5-2

3. While supporting the motor:
   - **a.** Remove the wing nut that attaches the top rod end to the motor mount.
   - **b.** Slide the turnbuckle assembly off the head.
   - **c.** Rotate the sharpener head back so that it rests in the most upright position.
   - **d.** Lift the indexing arm.

CAUTION! When disconnecting or reattaching the sharpener head, be sure to keep it supported. Do not allow the sharpener to fall. It may damage the grinding wheel or the blade, and may cause personal injury.

4. Press the blade between the clamping plates.
5. Lower the indexing arm.
6. Reposition the sharpener head by replacing the wing nut that attaches the top rod end to the motor mount.
7. Make final adjustments to the blade support arms and guide assemblies to assure that the blade band rests evenly on both the right and left hardened dowel pins located in the blade clamp assembly.

NOTE: The blade should not touch the bottom of either side guide assembly.

NOTE: All three guide assemblies should lean slightly in the direction the blade travels through them.

5.3 Blade Removal

Blade removal is similar to blade installation. Before removing a blade, ensure all motors are turned off.

Remove a blade:

1. Use the jog switch to move the pusher into the highest position that allows the blade to be removed.
2. While supporting the motor:
   - **a.** Remove the wing nut that attaches the top rod end to the motor mount.
   - **b.** Slide the turnbuckle assembly off the head.
   - **c.** Rotate the sharpener head back so that it rests in the most upright position.
   - **d.** Lift the indexing arm.

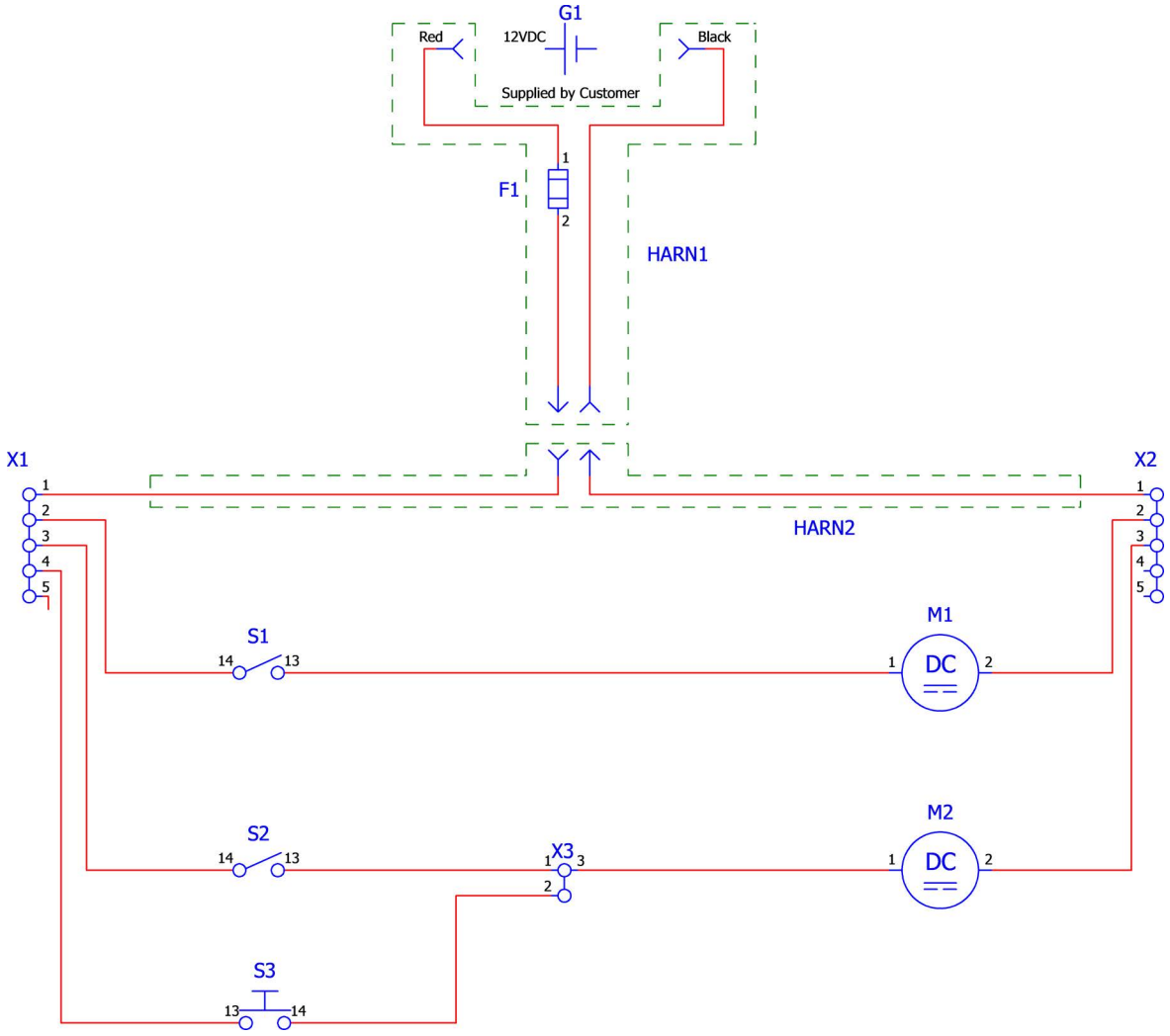
CAUTION! When disconnecting or reattaching the sharpener head, be sure to keep it supported. Do not allow the sharpener to fall. It may damage the grinding wheel or the blade, and may cause personal injury.

3. Remove the blade from the sharpener.
4. Lower the indexing arm.
5. Reposition the sharpener head by replacing the wing nut that attaches the top rod end to the motor mount.
6. Turn on the grinder motor by setting the switch to the “on” position.
7. Lightly dress the grinding wheel to remove particles that may have embedded in the wheel.
8. Turn off the sharpener.

CAUTION! Always turn off the sharpener after you have finished sharpening for the day.

SECTION 6 MAINTENANCE & TROUBLESHOOTING

6.1 Wiring Diagram



6.2 Sharpener Maintenance

- Wipe the sharpener dry after each day's use.
- Keep the sharpener clean of dirt, rust, and metal filings.
- Remove the clamp regularly and clean out any buildup that might cause it to not clamp the blade firmly. When replacing clamp, replace it flat against the stop block.
- Use the alignment tool to achieve accurate alignment between the blade clamp and the grinding wheel. See *Section 4.1 Hook Angle Adjustment*.

6.3 Blade Sharpening Tips

Before removing from the saw, clean the blade. If possible, remove the sap buildup before it dries. Otherwise the sap will have to be scraped off of the blade.

Sharpen the blade when it first shows signs of dullness. The blade may become extremely dull from hitting a rock or foreign matter. If this happens, sharpen the blade twice lightly, instead of trying to remove too much in one grind. Grinding too much material at once may cause the fuse to blow, premature wheel wear, or improper tooth shape.

6.4 Grinding Wheel Maintenance

An important part of blade maintenance is grinding wheel dressing. To dress the grinding wheel:

1. Dress a small radius on the left corner.
2. Dress the back 2/3 of the wheel at the same angle as the back of the teeth.
3. Blend the back and bottom angles together.
4. If more gullet grind is desired, dress back angle further across wheel.
5. If shorter tooth height is desired, dress bottom angle larger and reblend.

Sharpening a blade with a worn wheel will do more damage to the blade than good. The shape at which you have dressed the wheel must be maintained. The small radius on the left corner of the wheel is especially important to maintain. This is the section that does the most grinding. The radius will increase during sharpening. As it becomes larger, it starts to grind into the tooth face and leaves little or no hook angle in the tooth.

To maintain grinding wheel shape, redress the wheel when it becomes worn. Also redress the wheel when it becomes "loaded up" with metal and no longer sharpens teeth properly. To redress, dress the bottom angle of the wheel. Blend this area with the small left corner radius. Redress the back angle if necessary.

Abnormal wear on the grinding wheel may be caused by:

- Improper dressing
- Grinding too fast
- Grinding too heavy
- Grinding too many blades without redressing

When sharpening a blade, particles can become lodged in the grinding wheel that can burn or groove the gullet of the blade. Burns or grooves in the gullet create microscopic stress fractures which will eventually cause the blade to break prematurely.

> **IMPORTANT:** Lightly dress the wheel after sharpening each blade to remove particles and prevent burning or grooving the blade.

Replace the grinding wheel when it is worn to less than 4” in diameter.

6.5

SECTION 7 REPLACEMENT PARTS

7.1 How To Use The Parts List

- Use the table of contents to locate the assembly that contains the part you need.
- Go to the appropriate section and locate the part in the illustration.
- Use the number pointing to the part to locate the correct part number and description in the table.
- Parts shown indented under another part are included with that part.

To Order Parts

- From the continental US, call **1-800-525-8100** to order parts. Have your customer number, vehicle identification number, and part numbers ready when you call.
- From other international locations, contact the Wood-Mizer distributor in your area for parts.

7.2 Sample Assembly

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	012345	SAMPLE ASSEMBLY, COMPLETE	INCLUDES ITEMS 1-6	1
1	F02222-22	Sample Part		1
2	F03333-33	Sample Part		2
	098765	Sample Subassembly	Includes items 3-6	1
3	S04444-44	Subassembly Sample Part		1
4	K55555	Subassembly Sample Part		1
	054321	Sample Sub-Subassembly	Includes items 5-6	2
5	022222	Sub-Subassembly Sample Part		1
6	F10234-56	Sub-Subassembly Sample Part		1

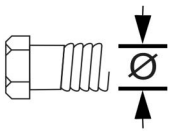
The Sample Assembly, Complete, part number 02345 (top level assembly) includes two parts (F0222-22 and F0333-33) and the 098765 subassembly.

Subassembly 098765 contains two parts(S04444-44 and K55555) and two copies of sub-subassembly 054321.

Each sub-subassembly 054321 contains two parts (022222 and F10234-56).

7.3 Torque Values

Grade		Units	SAE 5	SAE 8
Grade Mark				
Bolt Dia.	**Threads. Per In.**	**Units**	**SAE 5**	**SAE 8**
6	32	in-lbs (Nm)	20 (2.3)	-
8	32	in-lbs (Nm)	24 (2.7)	30 (3.4)
10	24	in-lbs (Nm)	35 (4.0)	45 (5.1)
10	32	in-lbs (Nm)	40 (4.5)	50 (5.7)
12	24	in-lbs (Nm)	50 (5.7)	65 (7.3)
1/4	20	in-lbs (Nm)	95 (10.7)	125 (14.1)
1/4	28	in-lbs (Nm)	95 (10.7)	150 (17.0)
5/16	18	ft-lbs (Nm)	17 (22.6)	23 (31.2)
5/16	24	ft-lbs (Nm)	20 (27.1)	25 (33.8)
3/8	16	ft-lbs (Nm)	30 (40.7)	40 (54.2)
3/8	24	ft-lbs (Nm)	35 (47.5)	45 (61.0)
7/16	14	ft-lbs (Nm)	50 (67.8)	65 (88.1)
7/16	20	ft-lbs (Nm)	55 (74.6)	70 (94.9)
1/2	13	ft-lbs (Nm)	75 (101.7)	100 (135.6)
1/2	20	ft-lbs (Nm)	85 (115.3)	110 (149.2)
9/16	12	ft-lbs (Nm)	105 (142.4)	135 (183.1)
9/16	18	ft-lbs (Nm)	115 (155.9)	150 (203.4)
5/8	11	ft-lbs (Nm)	150 (203.4)	195 (264.4)
5/8	18	ft-lbs (Nm)	160 (217.0)	210 (284.8)
3/4	10	ft-lbs (Nm)	170 (230.5)	220 (298.3)
3/4	16	ft-lbs (Nm)	175 (237.3)	225 (305.1)
7/8	9	ft-lbs (Nm)	302 (409.5)	473 (640.9)
7/8	14	ft-lbs (Nm)	300 (406.8)	400 (542.4)
1	8	ft-lbs (Nm)	466 (631.8)	714 (967.4)



Metric Bolt Head Identification

Metric Grade 8.8

Metric Grade 10.9

COARSE THREAD					FINE THREAD					Wrench Size
Diameter & Thread Pitch	Metric 8.8		Metric 10.9		Diameter & Thread Pitch	Metric 8.8		Metric 10.9		
	N-m	lbs-ft	N-m	lbs-ft		N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	8	6	11	8						10 mm
8 x 1.25	20	15	27	20	8 x 1.0	21	16	29	22	13 mm
10 x 1.5	39	29	54	40	10 x 1.25	41	30	57	42	16 mm
12 x 1.75	68	50	94	70	12 x 1.25	75	55	103	76	18 mm
14 x 2.0	109	80	151	111	14 x 1.5	118	87	163	120	21 mm
16 x 2.0	169	125	234	173	16 x 1.5	181	133	250	184	24 mm
18 x 2.5	234	172	323	239	18 x 1.5	263	194	363	268	27 mm
20 x 2.5	330	244	457	337	20 x 1.5	367	270	507	374	30 mm
22 x 2.5	451	332	623	460	22 x 1.5	495	365	684	505	34 mm
24 x 3.0	571	421	790	583	24 x 2.0	623	459	861	635	36 mm
30 x 3.0	1175	867	1626	1199	30 x 2.0	1258	928	1740	1283	46 mm

7.4 Torque Values

Grade		Units	SAE 5	SAE 8
Grade Mark				
Bolt Dia.	**Threads. Per In.**	**Units**	**SAE 5**	**SAE 8**
6	32	in-lbs (Nm)	20 (2.3)	-
8	32	in-lbs (Nm)	24 (2.7)	30 (3.4)
10	24	in-lbs (Nm)	35 (4.0)	45 (5.1)
10	32	in-lbs (Nm)	40 (4.5)	50 (5.7)
12	24	in-lbs (Nm)	50 (5.7)	65 (7.3)
1/4	20	in-lbs (Nm)	95 (10.7)	125 (14.1)
1/4	28	in-lbs (Nm)	95 (10.7)	150 (17.0)
5/16	18	ft-lbs (Nm)	17 (22.6)	23 (31.2)
5/16	24	ft-lbs (Nm)	20 (27.1)	25 (33.8)
3/8	16	ft-lbs (Nm)	30 (40.7)	40 (54.2)
3/8	24	ft-lbs (Nm)	35 (47.5)	45 (61.0)
7/16	14	ft-lbs (Nm)	50 (67.8)	65 (88.1)
7/16	20	ft-lbs (Nm)	55 (74.6)	70 (94.9)
1/2	13	ft-lbs (Nm)	75 (101.7)	100 (135.6)
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9/16	12	ft-lbs (Nm)	105 (142.4)	135 (183.1)
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5/8	18	ft-lbs (Nm)	160 (217.0)	210 (284.8)
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3/4	16	ft-lbs (Nm)	175 (237.3)	225 (305.1)
7/8	9	ft-lbs (Nm)	302 (409.5)	473 (640.9)
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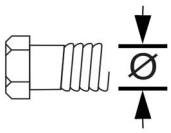
1	8	ft-lbs (Nm)	466 (631.8)	714 (967.4)



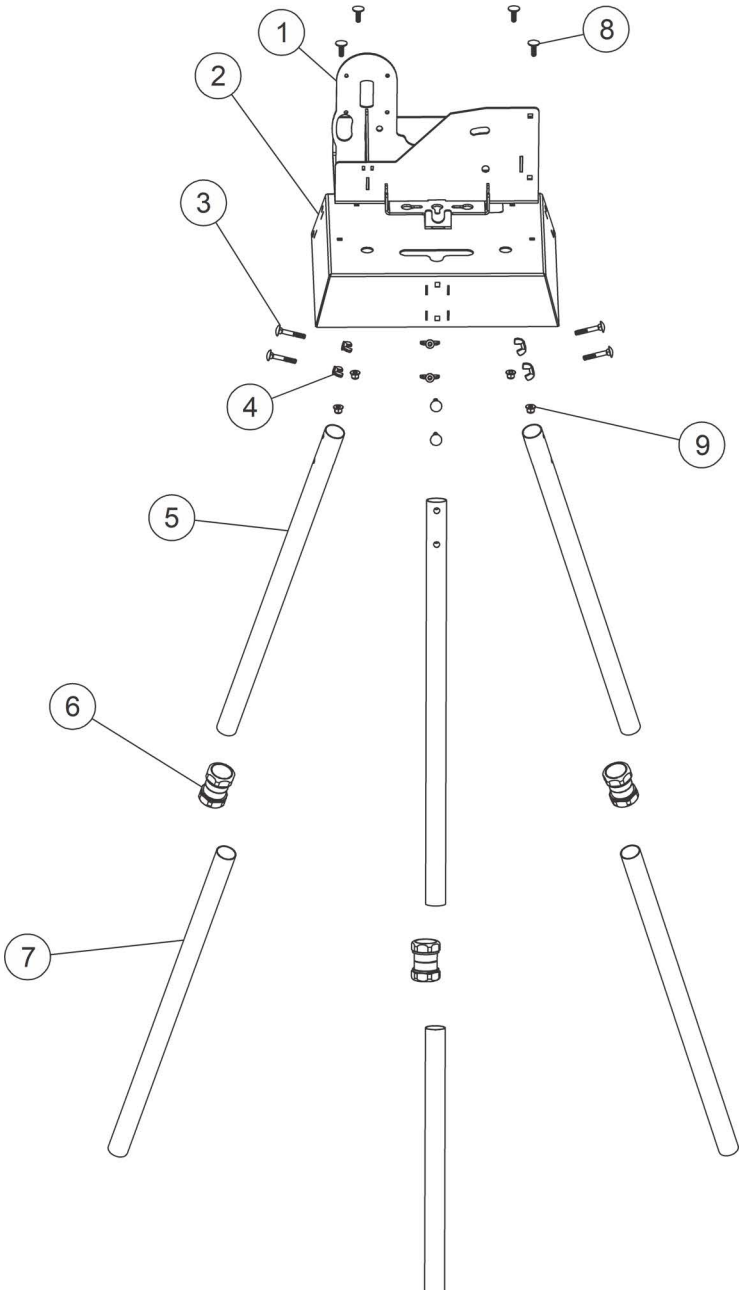
Metric Bolt Head Identification

Metric Grade 8.8

Metric Grade 10.9

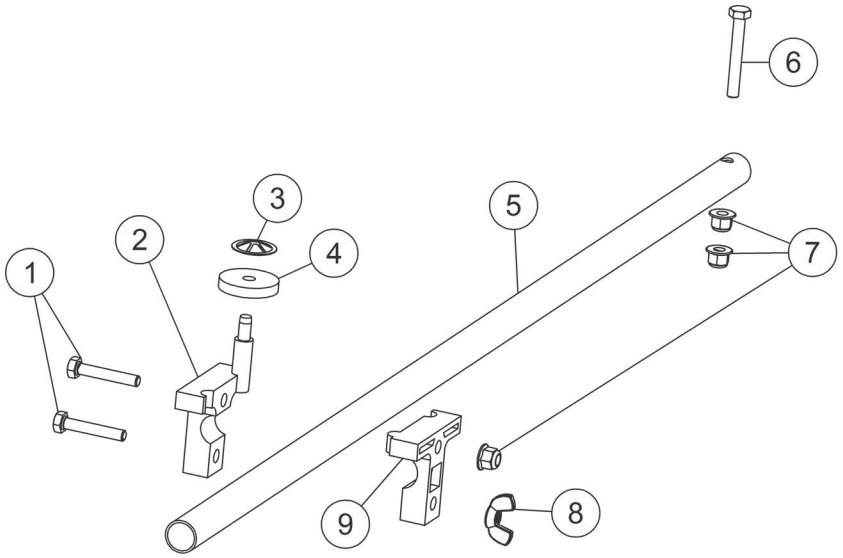
COARSE THREAD					FINE THREAD					Wrench Size
Diameter & Thread Pitch	Metric 8.8		Metric 10.9		Diameter & Thread Pitch	Metric 8.8		Metric 10.9		
	N-m	lbs-ft	N-m	lbs-ft		N-m	lbs-ft	N-m	lbs-ft	
6 x 1.0	8	6	11	8						10 mm
8 x 1.25	20	15	27	20	8 x 1.0	21	16	29	22	13 mm
10 x 1.5	39	29	54	40	10 x 1.25	41	30	57	42	16 mm
12 x 1.75	68	50	94	70	12 x 1.25	75	55	103	76	18 mm
14 x 2.0	109	80	151	111	14 x 1.5	118	87	163	120	21 mm
16 x 2.0	169	125	234	173	16 x 1.5	181	133	250	184	24 mm
18 x 2.5	234	172	323	239	18 x 1.5	263	194	363	268	27 mm
20 x 2.5	330	244	457	337	20 x 1.5	367	270	507	374	30 mm
22 x 2.5	451	332	623	460	22 x 1.5	495	365	684	505	34 mm
24 x 3.0	571	421	790	583	24 x 2.0	623	459	861	635	36 mm
30 x 3.0	1175	867	1626	1199	30 x 2.0	1258	928	1740	1283	46 mm

7.5 Stand Assembly



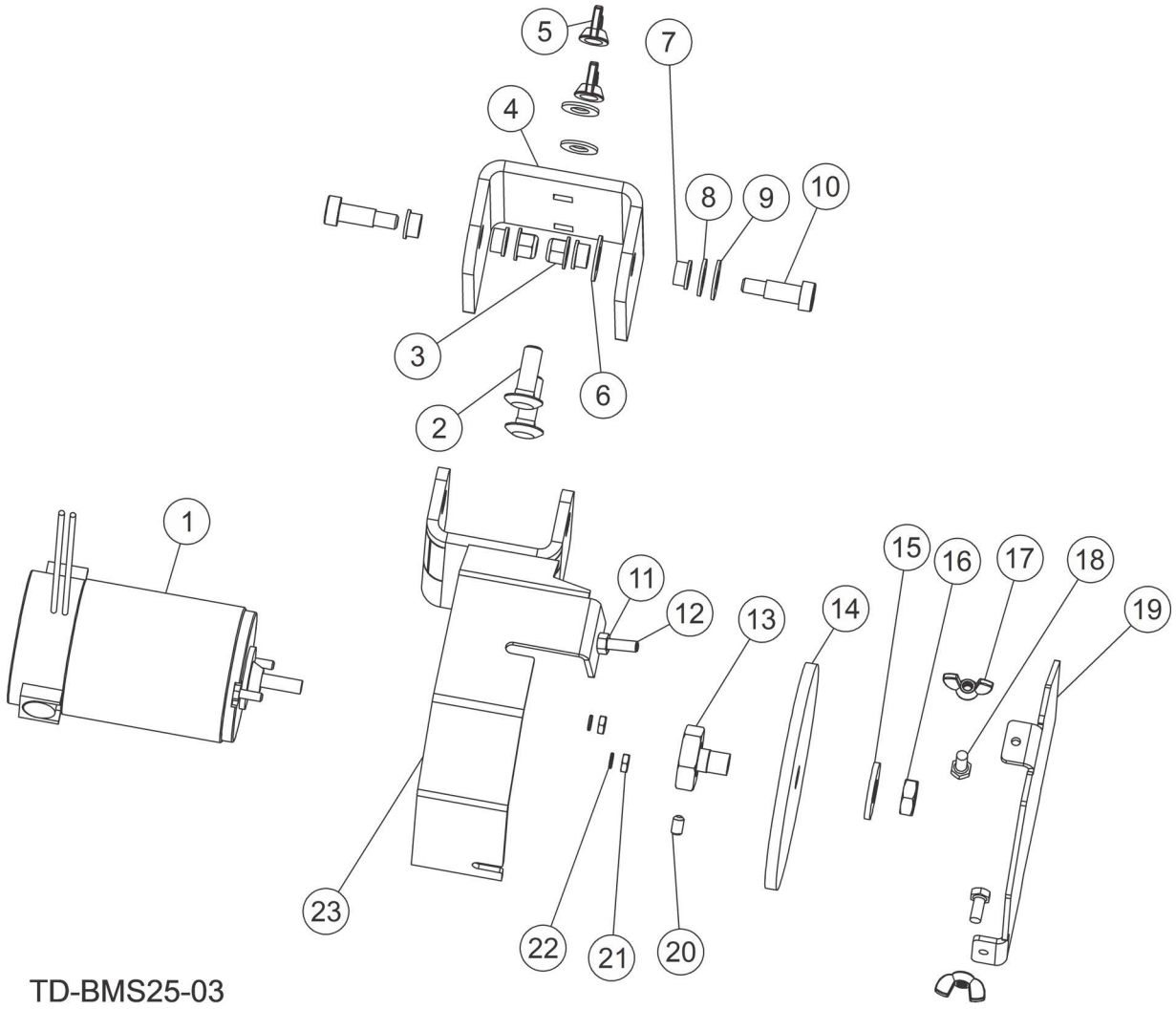
REF	PART #	DESCRIPTION	COMMENTS	QTY.
1	128284	BASE WLDMNT, BMS25		1
2	130209	PAN WELDMENT, BMS25		1
3	F05020-56	BOLT, M6-1.0 X 40 CARRIAGE		6
4	F05027-27	NUT, WING M6X1 ZINC		6
5	130207	LEG, BMS25, UPPER		3
6	130221	COUPLING, 1" EMT COMPRESSION		3
7	130219	LEG, BMS25, LOWER		3
8	F05020-58	BOLT, M6-1.0 X 20 CARRIAGE		4
9	F05027-34	NUT, M6-1.0 FLANGE HEX NYLOCK ZINC		4

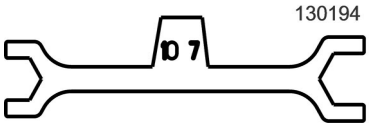
7.6 Blade Support Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	130205	**SUPPORT ARM ASSY, BMS25**		3
1	F05020-9	Bolt, M6-1.0x35mm Class8 HH		2
2	S10611	Guide, Blade Support W/ Post		1
3	F04254-54	Ring, 1/4 Pushnut		1
4	S10539	Wheel, Blade Support		1
5	130203	Tube, BMS25 Support		1
6	F05020-28	Bolt, M6-1.0x45 HH Class 8.8		1
7	F05027-34	Nut, M6-1.0 Flange Hex Nylock Zinc		3
8	F05027-27	Nut, Wing M6x1 Zinc		1
9	S10612	Guide, Blade Support W/O Post		1

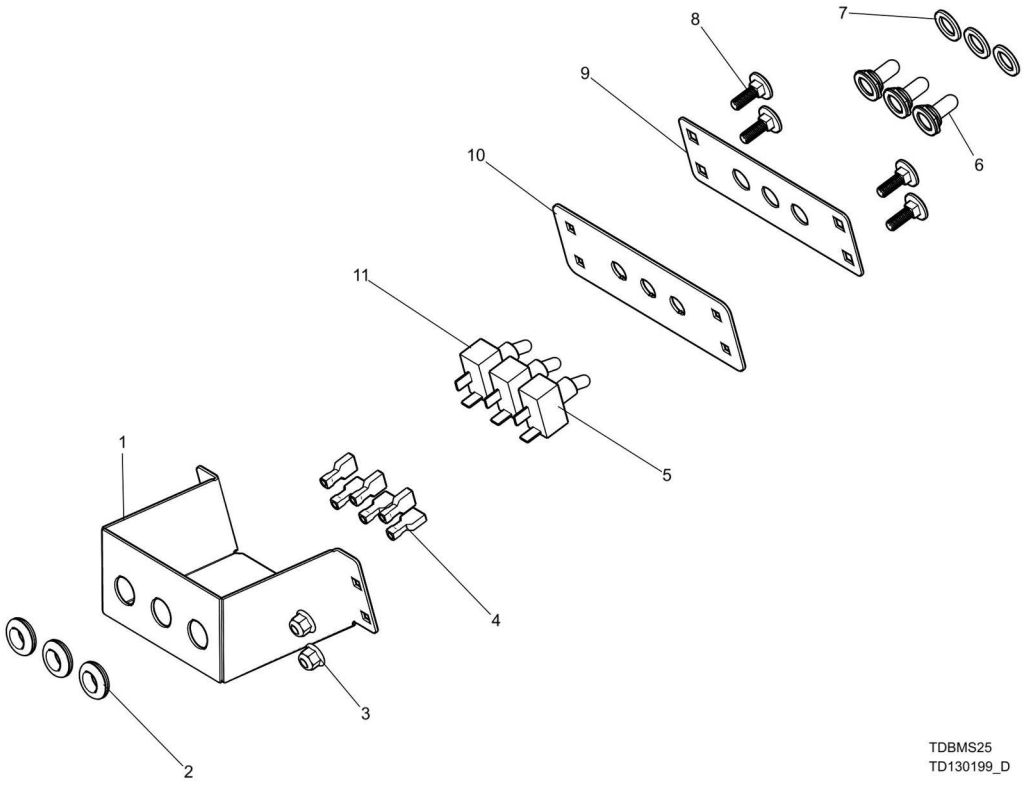
7.7 Head Assembly





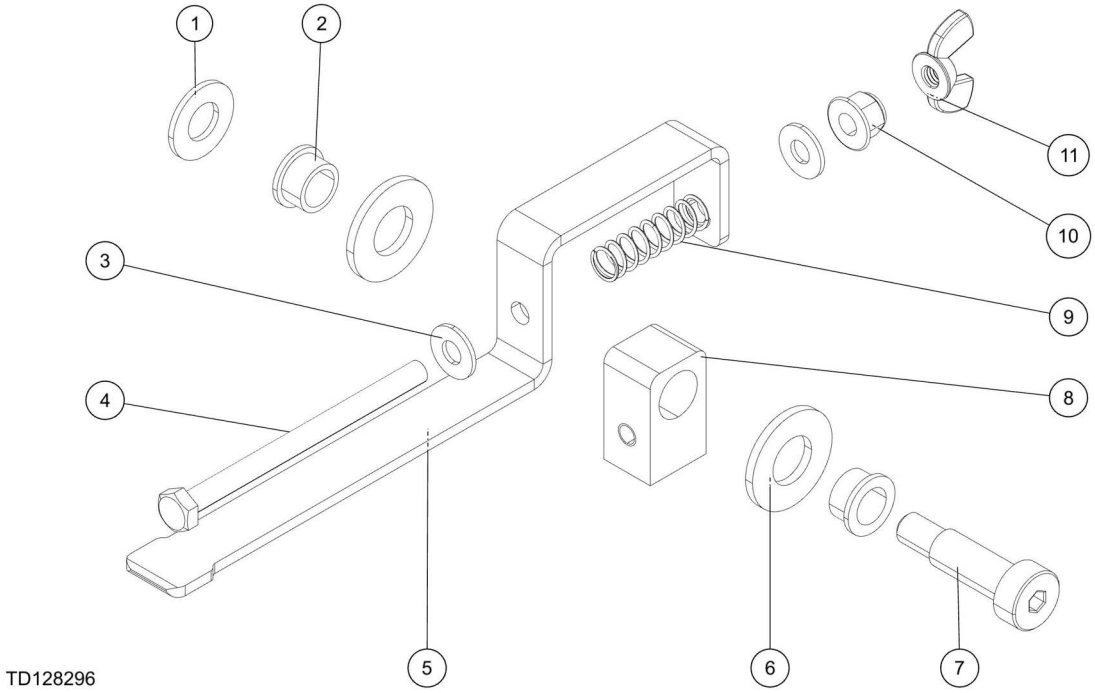
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	128298	**HEAD ASSY, BMS25**		1
1	016706	Motor, 12VDC Leeson TruTorq		1
2	F05022-19	Bolt, M10-1.5x30 Carriage Class 8.8		2
3	F05027-44	Nut, M8 x 1.25 Flanged Nylock		2
4	128275	Bracket, BMS25 Pivot		1
5	F81033-8	Nut, M10 Wing Zinc		2
6	SS20-983	Washer, Thrust Bushing .51x1x.06Thk		1
7	SS20-923	Bushing, 10mmID x 13mmODx8mmL Bronze		4
8	F05011-134	Washer, M10 Flat SAE		3
9	F05011-139	Washer, Belleville .40IDx7/8ODx.075H		1
10	f05022-27	Bolt, Shoulder 10mmDia x 20mmL Plain		2
11	F81031-1	Nut, M6-1.0 Free Nut Zinc		1
12	F05020-33	Bolt, M6-1 x 25 Class 8 HHC		1
13	128299	Adaptor, 8mm Shaft Motor		1
14	P04567-9	Wheel, 1/4 Grinding, 1/2" hole		1
15	SS20-986	Washer, .51 ID x 1-1/4OD x 1/8		1
16	F05027-19	Nut, M12-1.75 Jam		1
17	F05027-27	Nut, Wing M6x1 Zinc		2
	128277	Cover Assy, BMS25		1
18	F05020-7	Bolt, M6-1 x 14 Class 8 HH		2
19	128279	Cover, BMS25		1
20	F05020-16	Screw, M6-1 x 10 SH Cup Pt Set		1
21	F05010-27	Nut, #10-32 Hex		2
22	F05011-20	Washer, #10 Split Lock		2
23	128272	Weldment, Motor Mount, BMS25		1
	130194	**GAUGE, BMS25 HOOK ANGLE**		1
	P04570	**STONE, DRESSING 1X1X6**		1

7.8 Panel Assembly



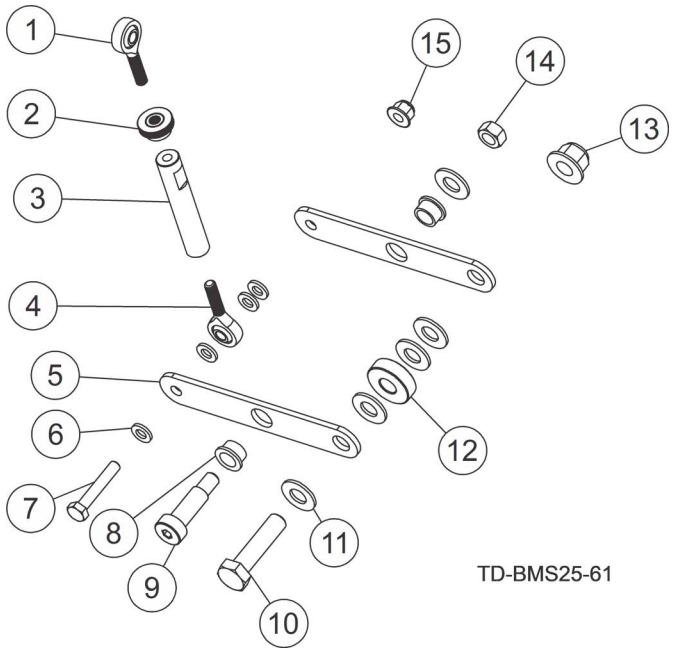
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	130199	**PANEL ASSY, BMS25 ELECTRIC**		1
1	130201	Box, BMS25 Electric		1
2	C05692	Grommet, 5/8 Hole		3
3	F05027-34	Nut, M6-1.0 Flanged Hex Nylock		4
4	F05708-3R	Terminal, 1/4 14-16Ga FI Quick Female FI		6
5	130202	Switch, SPST On/Off 15A .25 Tabs Toggle Mom		1
6	024589	Boot, Switch Sealing	Replace P02575 with 024589 ECN: 37790	3
7	P05251-1	Washer, 1/2x3/4x1/16 Nylon		3
8	F05020-58	Bolt, M6-1 x 20 CARRIAGE		4
9	068697	Decal, BMS25 Operator		1
10	130198	Plate, BMS25 Switch		1
11	P03027	Switch, SPST On/Off 15A .25 Tabs Toggle		2

7.9 Pusher Assembly



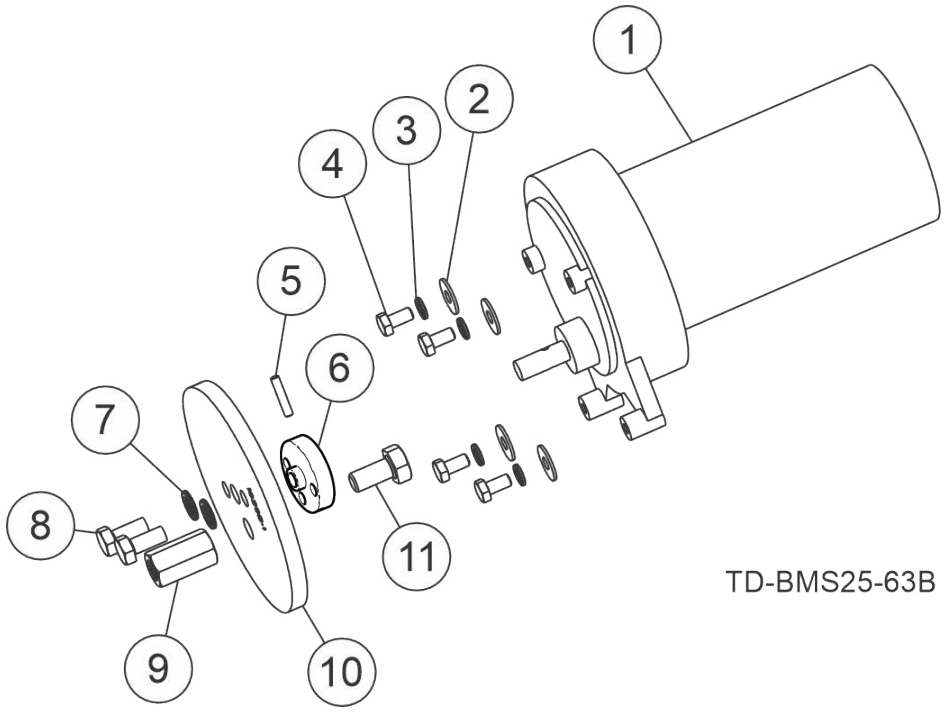
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	128296	**PUSHER ASSY, BMS25**		1
1	F05011-3	Washer, 3/8 Flat SAE		1
2	SS20-923	Bushing, 10mmIDx13mmODx8mm		2
3	F05011-22	WASHER, 1/4 .020 THICK NYLON		2
4	F05005-167	Bolt, M6-1.0x80mm HH FT Zinc		1
5	128269	Pusher, BMS25		1
6	F05011-101	Washer, 1/2 SAE Flat Gr5-8		2
7	F05022-29	Bolt,10MM x 25MM SH Shoulder Plain		1
8	128268	Block, Pusher, BMS25		1
9	P09135	Spring, .36 ODx1-1/4x .035 Comp		1
10	F05027-34	Nut, M6-1.0 Flanged Hex Nylock		1
11	F05027-27	Nut, M6x1 Wing		1

7.10 Rocker Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	128297	**ROCKER ASSY, BMS25**		1
1	128291	Rod End, M6		1
2	128292	Nut, Thumb, M6x1.00		1
3	128289	Turnbuckle, m6x1.00x70mm		1
4	130192	Rod End, M6, LH		1
5	128267	Arm, BMS25 Rocker		2
6	F05026-1	Washer, M6 Flat Class 4		4
7	F05020-9	Bolt, M6-1.0x35mm Class8 HH		1
8	SS20-923	Bushing, 10mmID x 13mmODx8mmL Bronze		2
9	F05022-29	Bolt, Shoulder 10mmDia x 25mmL Plain		1
10	F81003-16	Bolt, M10x40 8.8 Hex Head Full Thread Z		1
11	F05011-134	Washer, M10 Flat SAE		5
12	087471	Bearing, 6000 2RSR		1
13	F05027-47	Nut, M10-1.5 Flanged Nylon Lock		1
14	F05027-17	Nut, M8-1.25 Swaged Hex		1
15	F05027-34	Nut, M6-1.0 Flange Hex Nylock Zinc		1

7.11 Cam Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
1	130220	**GEARMOTOR, 31 RPM 12VDC**		1
2	F05011-18	**WASHER, #10 SAE FLAT**		4
3	F05011-20	**WASHER, #10 SPLIT LOCK**		4
4	F05004-60	**BOLT, #10-32X1/2 HH**		4
5	F05012-14	**PIN, 1/8X5/8 ROLL ZINC**		1
6	130191	**HUB, BMS25 CAM**		1
7	F05026-2	**WASHER, M6 SPLIT LOCK**		2
8	F05020-7	**BOLT, M6-1 X 14 CLASS 8 HH**		2
	128295	**CAM ASSY, SHARPENER**		1
9	128290	Nut, Coupling, M8		1
10	128288	Cam, 10/30, BMS25		1
11	F05004-47	Bolt, M8x1.25x16mm HH		1