

Twins Sharpening System

110 Volt, 1Ø, 60 Hz
Operator's Manual

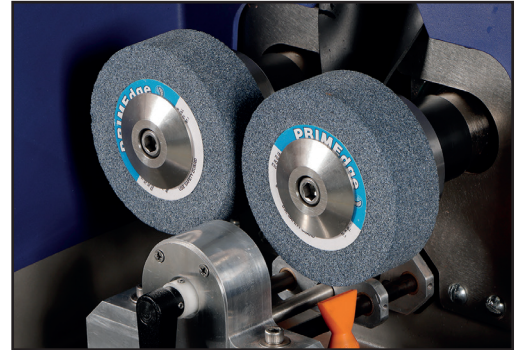


Introduction Statement

A unique hollow grinder and edge honing machine. Two look-alike machines that produce sharp edges in a matter of seconds. A pair of machines specifically designed to accept knife blades up to 10 inches (254mm) in length.

PRIMEEdge HG4S Hollow Grinder

Prepares the blade for honing/edging by utilizing two 4-inch straight grinding wheels. The hollow grinder thins the blade to a precise tapered dimension. The hollow grinder, in effect, is a thinning machine that prepares the blade for the honing/edging machine.



PRIMEEdge HE4 Honer/Edger

Edger utilizes two precision 4-inch spiral threaded honing wheels. The wheels overlap allowing for a fine point with adjustable angle. Hollow grinding and honing are done under a flow of coolant to ensure clean, smooth, burr-free edges time after time without scorching or burning. A few passes of the blade across the specially designed honing wheels produces a keen, sharp, cutting edge.



O.S.H.A. and Warranty Statements

The **PRIME**Edge Twins are well-constructed machines that will provide you with many years of satisfactory service.

This booklet explains:

- Installation and set-up instructions
- Correct usage of the machines
- Detailed maintenance and repair procedures
- Cleaning, lubrication and oiling procedures

Important: This manual comes with instructions that will give you step-by-step directions for all operational and maintenance procedures. Please review the manual before setting up the machines.

As part of our obligation and commitment to each customer, **PRIME**Edge has taken every step available to make their hollow grinder and honer/edger machines as free as possible from any recognizable hazards which may cause harm or injury to anyone who may operate or perform maintenance on the HE4 and the HG4S machines. At any time and for any reason the machines are being worked on, the plugs should be removed from the receptacles, the main electrical disconnect switch must be in the off position, and the proper O.S.H.A. lock-out procedures must be followed.

Every effort has been made to comply with applicable sections of the occupational safety and health standards published by the U.S. Department of Labor.

Warranty. Knife Sharpening System parts of its own manufacture against defects in workmanship or materials for 90 days from the customer's invoice date.

The seller's obligation is limited solely to the replacement of defective parts, which are to be returned to the seller's plant FOB. The seller shall not be liable for any damage to the machine caused by misuse or abuse.

Machine parts that are not manufactured by the seller shall carry the warranty of the manufacturer thereof. Deterioration of parts caused by misuse or abuse, or improper operation of the machine, does not constitute defects.

This warranty of machine merchantability and fitness constitutes the only warranty made by the seller. Use of any parts on this machine that are not approved by the seller as authorized replacement parts shall void all warranties and guarantees.

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- This is a non-contractual document.
- This document voids and replaces any previous documents.
- All images are for illustrative purposes only.

PRIMEEdge, Inc., in the constant improvement and updating of products, reserves the right to modify, at any time, designs, materials, dimensions and characteristics without prior notice.

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Preparing the Stand

The stands are shipped fully assembled. Remove the stands from their cartons and set them on the floor. Remove the coolant tanks from the stands and remove the items packed in the coolant tanks.

Twins Standard Items (Inside the coolant tanks)

- Two pints coolant fluid
- Two coolant pumps
- Four lengths of plastic tubing with hose clamps
- Tools
 - 5/16" Allen offset wrench
 - 1/4" Allen offset wrench
 - 7/16" offset dresser wrench
 - One diamond wheel dresser unit
 - One set-center pointers
 - One wheel ruler/overlap gauge
 - One pair of safety glasses
 - One measuring cup
 - One wheel dresser stick
 - One operation and maintenance book
 - One Angle Gauge

Next, carefully remove the honing and hollow grinding machines from their cartons and place them on top of the stands.

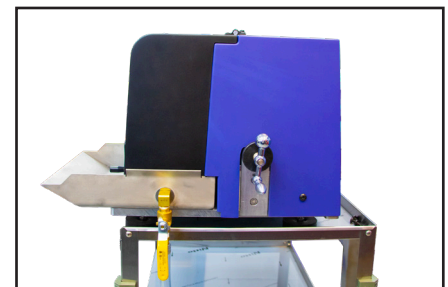
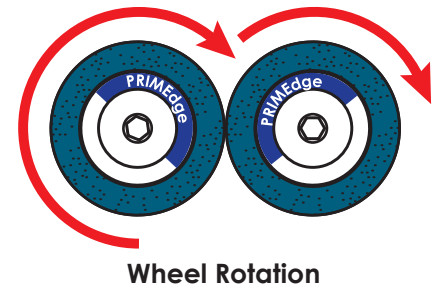
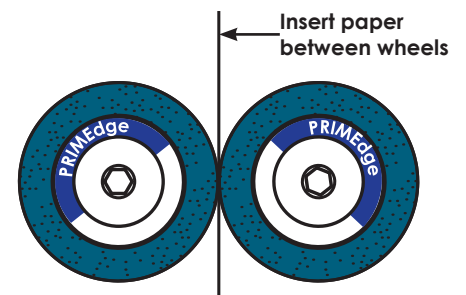
Recommended Twins Spare Parts Items

Description	Part No.	Qty.
Coolant Fluid/Case (4-1 gallon bottles)	HZ-473-C	1
4" Straight Honing Wheels 60 Grit/Pair	HG4S-760	1Pr.
4" Spiral Wheel 400 Grit w/Discs /Pr.	HE4-7400N	1 Pr.
4" Honer Guard Discs 3-3/4"/Pr.	HE4-729	1Pr.
Timing Belt (HE4)	HE4-404	1
Timing Belt (HG4S)	HG4S-404	1

Setting Up the Hollow Grinder

⚠ DO NOT PLUG IN THE MACHINE ⚠

1. Lift the front wheel housing cover up. The 4-inch grinding wheels are separated for shipment, and you must bring them together until they are almost touching to begin hollow grinding.
2. Turn the hand crank on the right side of the machine to the right (clockwise). This will move both the left and right wheels together.
3. To do this, hold a piece of paper between the wheels and continue to turn the hand crank to the right until the paper can be moved up and down with a slight resistance.
4. Check the coolant pipe position to be sure that coolant flow will hit underneath the right wheel. There should be $\frac{1}{4}$ " to $\frac{3}{8}$ " of clearance between the pipe and the wheel.
5. Check the $\frac{3}{8}$ " hex bolts that hold each grinding wheel in place to be sure they are tight.
6. Check the $\frac{5}{16}$ " set screws that secure the wheel drive hubs to be sure they are tight.
7. Rotate the grinding wheels by hand to be certain that they turn freely and are not too closely positioned against one another, which would cause them to bind.
8. Close the front wheel housing cover. Plug the power cord into an appropriate receptacle and start the motor by pushing the "SYSTEM" On (green Button) switch.
9. Observe the rotation of the grinding wheels. Both wheels should be turning to the right (clockwise).
10. Turn on the pump switch and adjust the coolant flow by opening the valve slightly. If more coolant is needed, open the valve; if less coolant is needed, close the valve.
11. Turn off the hollow grinder by pushing the "SYSTEM" off (red button) switch.



Coolant flow valve

Setting Up the Honer/Edger

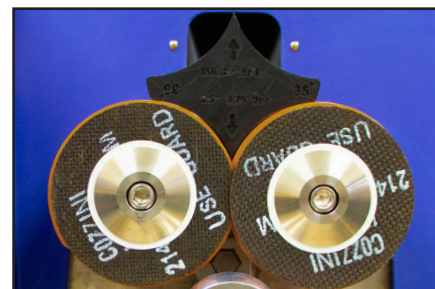
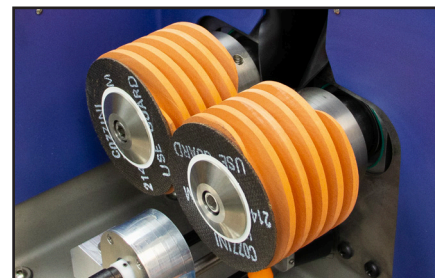
Installation

1. Remove the front wheel cover and check the tightness of the 3/8" wheel retaining bolts
2. Check the tightness of the 5/16" set screws on the collars behind the right and left wheels.
3. The collar on the right wheel, when loosened, allows the right grinding wheel to be turned freely so the spiral threads can be timed and will mesh correctly. The wheels have been dressed and timed at the factory and are ready for use.
4. To set angle, turn the hand crank on the right side of the machine slowly to the right (clockwise) and bring the wheels together.
5. Hold a piece of paper between the wheels as you turn the crank until the paper can be moved up and down with a slight resistance.
6. Remove the paper.
7. Put one center pointer into the wheel retaining screw on each wheel and measure the distance between the centers of the wheels.
8. Refer to the chart on Page 21.
9. Refer to the dimensions in the 35-degree column B opposite the A measurement.
11. Turn the hand crank to the right slowly with your right hand as you hold a ruler on the center points until the 35-degree dimension is reached.

The wheels will now be overlapped to form a 35-degree edge angle. A 35-degree edge angle is standard for boning and trimming applications. A 40-degree edge angle is also acceptable for boning applications.

12. Turn the wheels by hand to be sure they mesh together without touching one another.

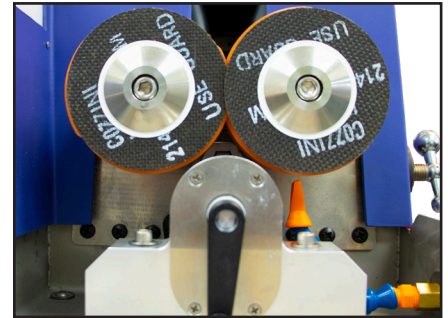
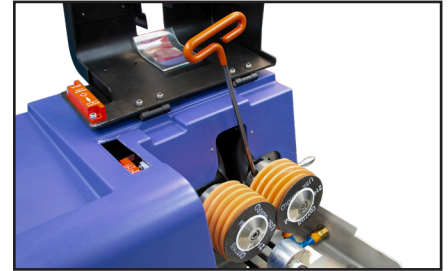
If they are touching, use the following procedure to time the spiral wheels.



Timing the Honing/Edging Wheels

Installation

1. Open the spiral wheels by turning the hand crank to the left (counter-clockwise) and then loosen the retaining screw on the right wheel with the 5/16" Allen wrench.
2. Loosen the set screw on the collar behind the right wheel using the 1/4" Allen wrench.
3. Hold the left wheel stationary with your left hand as you rotate the right wheel with your right hand until the threads are lined up to mesh without the threads touching. This is called timing the wheels.
4. When the wheels are in the correct position tighten the set screw on the collar and tighten the wheel retaining screw while holding the right wheel stationary.
5. Slowly turn the hand crank to the right (clockwise) as you watch the wheels interlock. Overlap them the amount required to achieve the center-to-center distance that will provide a 35- or 45-degree edge angle (pg. 21) and then tighten the hand crank lock securely.
6. Check the position of the coolant pipe to be sure it is under the right wheel. Close the wheel housing cover.



Power ON

Installation

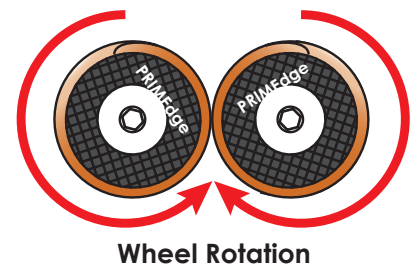
Plug the power cord into an appropriate receptacle and turn on the motor switch.

Observe the rotation of the grinding wheels. They should both be turning upward as they meet in the center. This causes the grinding to be done toward or into the edge.

The right wheel should turn to the right (clockwise) and the left wheel should turn to the left (counter-clockwise).

Turn on the coolant pump switch and adjust the flow with the coolant valve.

You are now ready to sharpen your knives!



Hollow Grinding Procedure

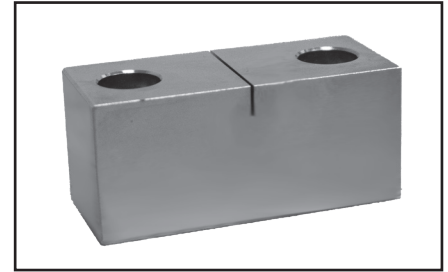
Operation

The hollow grinding process is required for every knife blade that is too thick to fit into the .022" slot in the Go/No-Go gauge.

The Go/No-Go gauge is a control device that lets you know when to hollow grind and how much material to remove from the sides of the knife.

The gauge is mounted on the main cover, to the left of the wheel cover. If the blade will not drop into the gauge slot 1/16" to 1/8" deep, you must hollow grind until the blade is thin enough to fit easily between the honing wheels.

The machines will accept knives with blades up to 10" in length.



GO-NO GO gauge

Before Hollow Grinding or Honing/Edging Knives...



Wear safety glasses when grinding



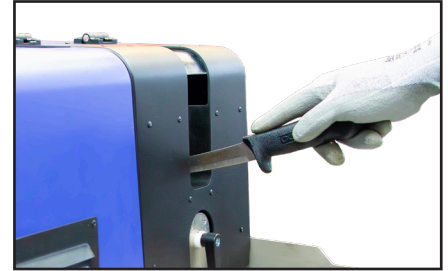
Have a good flow of coolant on the wheels



How to Hollow Grind Your Knives

Operation

1. Hold the knife firmly and keep the blade in an upright 90-degree position to the center of the grinding wheels.
2. Start at the tip of the blade and move the knife forward through the wheels up to the handle, being careful not to touch the handle against the wheels.
3. Use light pressure at the tip of the blade and more pressure toward the heel of the blade. Keep the knife moving to avoid scorching or burning the blade.



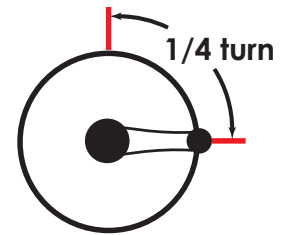
If you burn the blade, lighten up the pressure and/or increase the coolant flow.

4. When the blade is thin enough along its entire edge, including the tip, to drop 1/16" to 1/8" into the thickness gauge slot, you have finished hollow grinding and you are ready to move to the honing machine.

During hollow grinding, the grinding wheels will continually wear down and periodically require adjusting in order to keep them close together.

After hollow grinding a number of knives, you must turn the hand crank about one quarter turn to the right (clockwise), which will bring the wheels .023" closer together.

The wheels should be barely touching one another to provide the best hollow grind.



WARNING: Make this adjustment carefully so the wheels are not crushed together.



Edging and Honing Procedure

Operation



Wear safety glasses when grinding



Have a good flow of coolant on wheels & have angle set for 35 or 40-degrees

The honing process is performed in much the same way as the hollow grinding procedure.

1. Starting at the tip, place the knife in the center of the wheels.
2. Hold the knife in a straight upright 90-degree position to the center of the wheels and keep the knife blade moving at a steady pace across the spiral wheels.
3. Usually two or three forward and reverse passes are sufficient to hone a keen, sharp edge on the blade.
4. The final reverse stroke should be made very lightly, being sure to hone the entire edge from heel to the tip of the blade. The guard discs protect the first thread from being damaged by the handle of the knife. After some practice, you will stop the forward stroke before the handle strikes the guard discs.



Note: You should follow the contour of the blade and be sure you have honed the blade completely. Lift the knife to hone the tip of the blade.

Once your knives have been properly thinned, you will find that they will require hollow grinding approximately **every third sharpening**.

Gauge each knife before hollow grinding. When the blade drops 1/16" to 1/8" into the slot in the GO-NO GO gauge, it is not necessary to hollow grind or thin the blade further.

Excessive hollow grinding of your knives will thin them down more quickly than is necessary. If you follow the procedure as directed, your knives will last longer.

Wheel Dressing Procedure

Operation

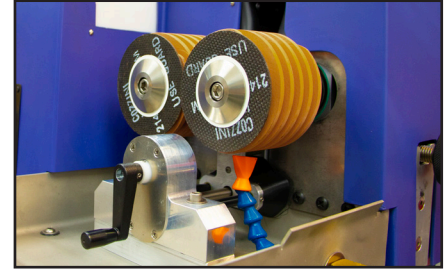


WARNING: Remember to always use good safety practices when you work with the PRIMEEdge Twins Machines.



- Protect your eyes by wearing safety glasses.
- Never use grinding wheels that are cracked or damaged.
- Always unplug the machines when you are changing wheels or making repairs.

After you have hollow ground a number of knives, the wheels will begin to feel rough or bumpy. That is an indication that the wheels have gone out of round and require dressing to straighten out the high spots and round out the wheels.

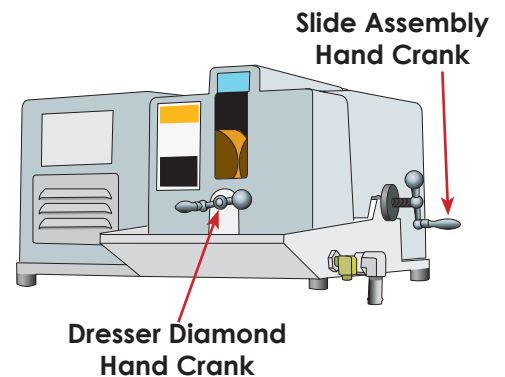


When operating the TWINS the dressing diamond MUST be kept at the REAR of the machine.



Both the HG4S and HE4 use the same dressing procedure.

1. To dress the stones perform the following steps:
2. Turn the machine and coolant off.
3. Turn the slide assembly hand crank counter- clockwise to spread the sharpening stones apart.
4. Turn the dresser hand crank clockwise to bring
5. the dressing stone to the front of the machine.
6. Start the coolant and sharpening stones.
7. Turn the slide assembly hand crank clockwise to bring the sharpening stones together until they just touch the dresser diamond.
8. Lock the slide assembly hand crank in place.
9. Slowly turn the dresser hand crank counter-clockwise to move the dresser stone to the rear of the machine.
10. When the dresser stone contacts both wheels across the entire width of the wheels dressing is complete.
11. If more passes are needed, bring the dresser stone to the front of the machine
12. then bring the sharpening stones together until they just touch the dresser stone, then slowly move the dresser stone to the rear of the machine.
13. Continue to dress the sharpening stones until they are uniform.

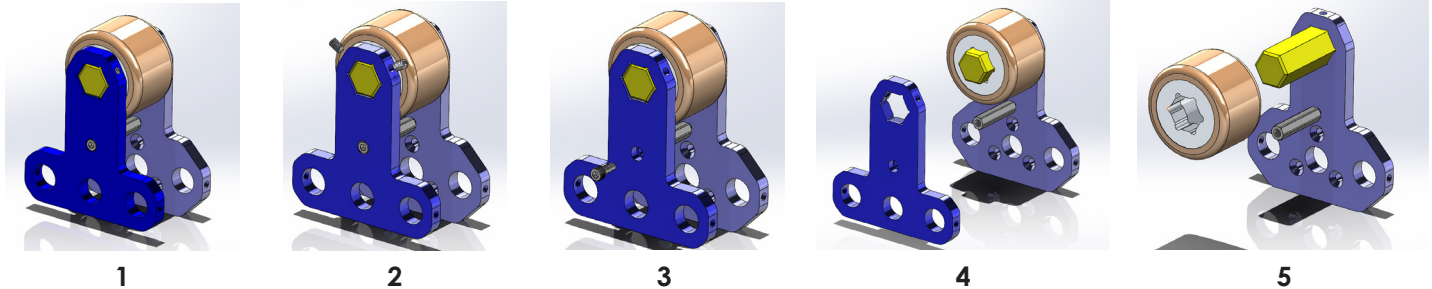


The wheel guards on the HE4 must be dressed down so that they are approximately 1/8" smaller diameter than the Honer/edger stones. Use the 1" x 1" x 6" hand-held truing stick (Part No. X109-1) to grind down the wheel guards. Start the HE4 and coolant flow. Bring the honer/edger stones close together, then use the truing stick to grind down the wheel guards.

Rotating the Dresser Diamond

Operation

The dressing stone used to straighten your wheels will wear over time or in instances of aggressive dressing. To extend the life of your stone, it is recommended to rotate the dressing stone periodically or when wear is present. Once all sides of stone are worn, it is recommended to order a replacement stone, **TWN-07-0001**.



1. Power off machine, unplug and open main cover exposing dresser assembly
2. Loosen and remove 2x Set Screw
3. Loosen and remove 1x Socket Head Cap Screw
4. Slide Front Plate forward on rails
5. Slide Dressing Stone forward and rotate to an un-used section
6. Reverse instructions for re-assembly

Note: Ensure all parts are sitting flush and square, that all screws are tightened down fully.

Changing the Hollow Grinder Wheels

Maintenance

When the wheels have been worn down to a diameter of $2\frac{7}{8}$ ", they must be replaced.

1. With the machine motor and coolant switches turned off and the power cord unplugged, remove the top wheel cover.
2. Open the grinding wheels fully to their stop.
3. Remove the $\frac{3}{8}$ " retaining screws and flanges from each wheel and take the used blotters from the shafts.
4. Wipe them down with a clean cloth. Take a new set of 4" hollow grinding wheels from their box.
5. Lubricate the shafts and install the wheels on the shafts with the locating hole lined up with the pins on the wheel collars.
6. Push the wheels all the way onto the shafts.
7. Check to see that the front faces of both wheels are even. If they are not even, adjust the collar on the wheel that needs to be brought forward.
8. Coat the retaining screws with anti-seize compound, or grease and put the screws and retaining flanges in place.
9. Tighten the screws securely with the $\frac{5}{16}$ " Allen wrench.
10. Bring the wheels together until they are barely touching one another. Plug in the power cord and you are ready to hollow grind knives.



Follow the assembly order shown on page 22



When the wheels have worn down to a diameter of 27/8", they must be removed and replaced.

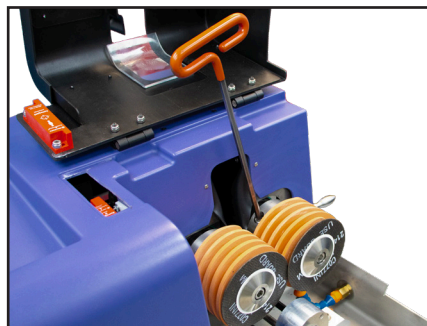
1. With the power cord unplugged and the honing wheels fully opened to their stop position, remove the top wheel cover.
2. Remove the retaining screws and flanges from both wheels.
3. Remove the worn guard discs, the right wheel metal spacer, the grinding wheels and the blotters.
4. Dispose of everything except the metal spacer.
5. Take a new set of honing wheels and guard discs and prepare to assemble them on the wheel shafts.
6. Coat the left shaft with anti-seize compound or grease and place a blotter on the back of the left wheel, then slide the wheel onto the shaft.
7. Line up the hole in the wheel with the locating pin on the spacing collar and push the wheel all the way back on the shaft.
8. Put another blotter and then a guard disc on the shaft.
9. Coat the retaining screw with anti-seize compound or grease and insert the retaining screw and retaining flange onto the wheel and tighten securely.



Follow the assembly order shown on page 22



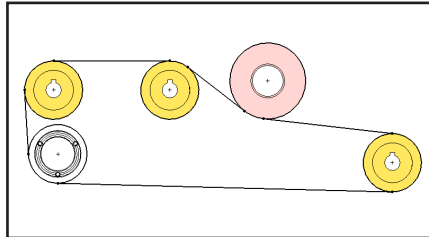
10. Coat the right shaft with anti-seize compound or grease.
12. Put a blotter on the back of the right wheel and slide it onto the right shaft.
13. Line up the locating pin with the hole in the wheel and push the wheel all the way back so that it is flush with the collar.
14. Put 4 blotters on the front of the wheel, next the metal spacer and then 2 more blotters and the guard disc.
15. Apply anti-seize compound or grease to the retaining screw and start the retaining screw and flange into the right shaft. Do not tighten the screw yet.
16. Bring the wheels together by turning the wheel crank to the right (clockwise). When they meet, check the timing of the threads.
18. If the threads are not in time, loosen the set screw in the wheel collar with the 1/4" Allen wrench.
19. Rotate the right wheel until the threads of both wheels are lined up correctly. There must be clearance on both sides of each thread so they do not touch when meshed together or overlapped.
20. When this is accomplished, tighten the wheel collar set screw and the wheel retaining screw securely.
21. Follow the procedure for setting the edge angle (see pg. 20).



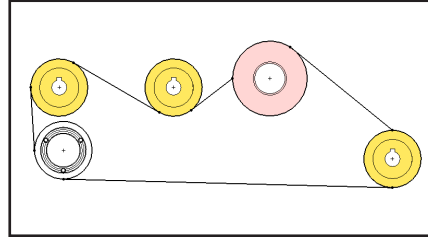
Checking the Timing Belts

Every week, an inspection of the timing belts on both machines should be done to be sure they are tight enough and have not stretched or do not appear to be worn.

Change the timing belts every 6 months whether it is needed or not. Don't risk a broken belt, which will result in broken spiral wheels.



Hollow Grinder timing belt



Honer/Edger timing belt

Changing Coolant Fluid

The grinding grit must be removed from the coolant tank and the coolant fluid changed weekly.

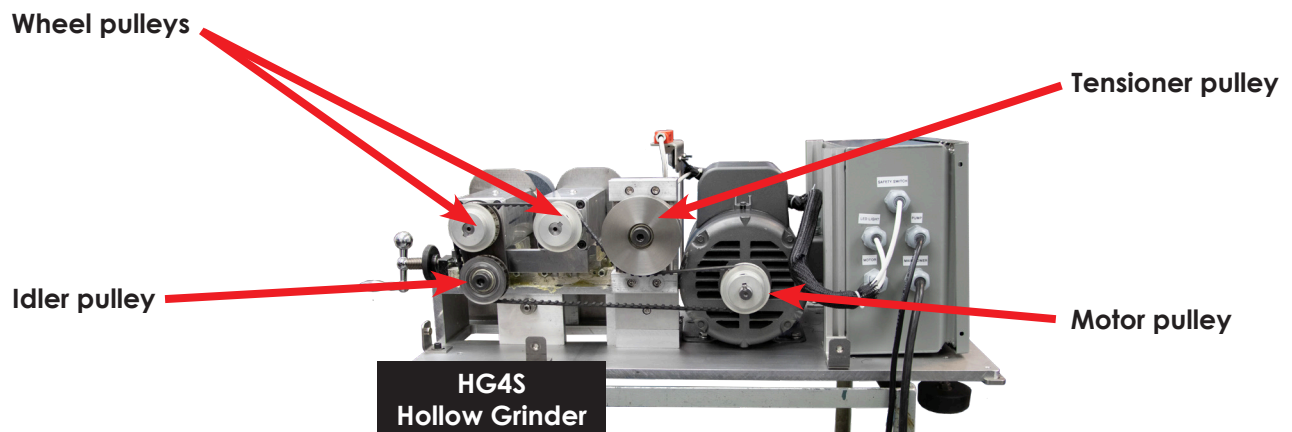
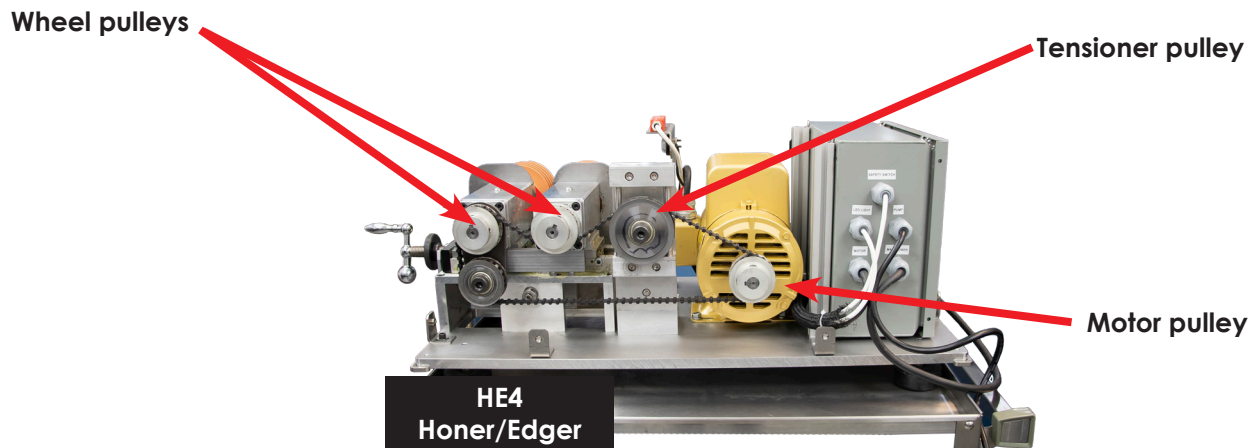
1. With the pump and machine switches off, remove the hose from the coolant valve fitting and hold the end of the hose over a suitable container.
2. Turn on the pump switch and pump the coolant mixture out of the coolant tank.
3. Dispose of the used coolant in accordance with state and local regulations.
4. Remove the tank, clean out any sediment on the bottom and flush clean water through the pump.
5. Fill the tank with five gallons (19 l.) of clean water and add 8 oz. (237 ml.) of coolant fluid.
6. Replace the hoses and the pump and you are ready to pump clean coolant onto the wheels.

The machines have sealed bearings in the spindle housings and in the motor. There is no greasing required for these parts. You should, however, put a few drops of oil on the wheel pulleys and motor pulley each week.

Always lubricate the spindle shafts when changing wheels and lubricate the wheel retaining screws before inserting them into the spindles.

If any water has gotten into the back of the machine, you must dry it out and spray a light coat of oil on the base.

 **Do Not Spray Oil On The Timing Belts.** 



Problem	Causes and Remedies
Can't get a good edge on Honer	• Edge is too thick to fit completely between honer wheels <i>Thin edge on hollow grinder and use GO-NO GO thickness gauge to measure thickness of blade.</i> • Honer wheels need cleaning up <i>Dress honer wheels.</i> • Finish stroke is too heavy <i>Lighten final reverse stroke and finish entire edge on honer.</i>
Knife isn't sharp at toe or tip	• Front of edge is too thick to fit between honer wheels <i>Thin toe and tip until they drop 1/16" to 1/8" into thickness gauge slot; also raise the knife handle to allow the toe and tip of the blade to be honed on the final reverse stroke.</i>
Burned or scorched edges	• Too much pressure being applied when hollow grinding <i>Lighten pressure while hollow grinding.</i> • Knife being hollow ground too slowly <i>Move blade more quickly while hollow grinding.</i> • Not enough coolant flow on hollow grinder wheels <i>Increase coolant flow on hollow grinder and check position of coolant pipe under right wheel.</i>
Hollow grinder won't produce a good, even bevel	• Wheels are bumpy and out of round <i>Dress wheels and move wheels together more often.</i> • Knife is being held on an angle <i>Hold knife upright at 90-degrees to wheel center.</i>
Vibration noises in the machine	• Check position of wheel cover and motor cover <i>Be sure covers are fully in place.</i> • Check motor cord position <i>Should be under cut-out in cover.</i> • Check tightness of motor and wheel pulleys <i>Be sure set screws are tight.</i>
Screeching or scraping sounds when running	• Check timing pulley, check slingers on wheel shafts, check position of bulkhead plate and knife length guard plate <i>Make necessary adjustments to above.</i>

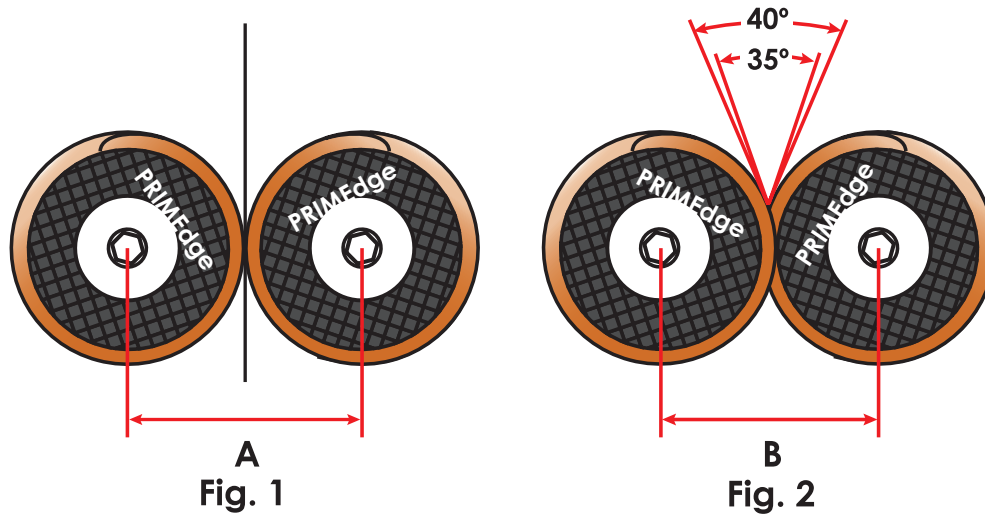
Problem	Causes and Remedies
Knife edges chipping or breaking	Knife blade too thin at edge <i>Grind down knife edge to thicken cutting edge and strengthen it.</i> <i>Check blade with the GO-NO GO gauge.</i> <i>Refer to grinding and honing procedures.</i>
Knife bounces on wheels when grinding	- Wheels are worn out of round and require dressing <i>Dress wheels.</i> - Too much pressure applied when grinding, causing unevenness of wheel surface <i>Lighten up on pressure.</i>
Coolant pump not pumping coolant	Coolant pump clogged with grit <i>Remove pump from tank and pump clear water through it.</i> <i>Drain coolant tank and clean out grit.</i> <i>Clean coolant tank more often.</i>
Honing wheels jump time and break	Timing belt has stretched or broken, causing the wheels to jump time <i>Inspect timing belt more often and adjust tension as required.</i> <i>Replace timing belt every 6 months.</i> <i>Inspect wheel pulleys and be certain they are tight on the shafts.</i>
Using too many grinding wheels	- Dressing wheels too often <i>Only dress wheels when required.</i> <i>Lighten up on pressure.</i> - Crushing wheels when dressing <i>Take less cut when dressing (.001" is maximum cut).</i>
Motor overheating	- Running motor for too long a period continuously <i>Give motor a rest every hour for 5 or 10 minutes.</i> - Putting too much pressure on knives when hollow grinding, causing excessive stress on the motor <i>Lighten up on pressure.</i>

Maintenance Frequency Schedule

The recommended maintenance procedures are important in helping to keep your **PRIMEEdge Twins** in good operating condition. Your **Twins** represent a sizable investment and following the recommended maintenance schedule will give you many years of satisfactory use.

Item	Daily	Weekly	Monthly	Quarterly	Semi-Annually	As Required
Dress Wheels						▼
Change Coolant Fluid		▼				
Check Timing Belts		▼				
Change Timing Belts					▼	
Lubricate Wheel Crank						▼
Lubricate Slide Mechanism						▼
Lubricate Dresser Hand Wheel						▼
Lubricate Belt Pulleys						▼
Replace Spindle Bearings						▼
Replace Idler Pulley						▼
Replace Timing Pulleys						▼
Clean Outside Of Machine	▼					
Lubricate Casters & Caster Locks On Stand						▼

The edge angle is determined by the amount of overlap of the threaded honing wheels. The distance between wheel centers (**fig. 1**) will determine the amount of overlap required to form a 35 or 40-degree edge angle (**fig. 2**).



Procedure for setting wheel overlap to obtain an edge angle of **35 or 40-degrees**.

1. With the grinding wheels apart, insert a thin piece of paper between the wheels. Bring the wheels together by turning the wheel crank to the right (clockwise) until the wheels lightly touch the paper and you can move the paper up and down with a slight resistance.
2. Insert the center pointers in the wheel retaining screws and measure the distance between the centers of the wheels as shown in Fig. 1, dimension A. Find that measurement (as close as possible) in the left-hand A column of the setup chart on Page 21.
3. The grinding wheels must be adjusted to overlap until the measurement between the wheel centers is as shown in Fig. 2, dimension B is the measurement listed on the set-up chart in the B column opposite the measurement used for dimension A.
4. The edge formed at the center of the overlap will be a 35 or 40-degree included angle.

Setup Chart to Obtain 35 or 40-Degree Edge Angle

Maintenance

A

**If Fig. 1 (A)
Measurement is:**

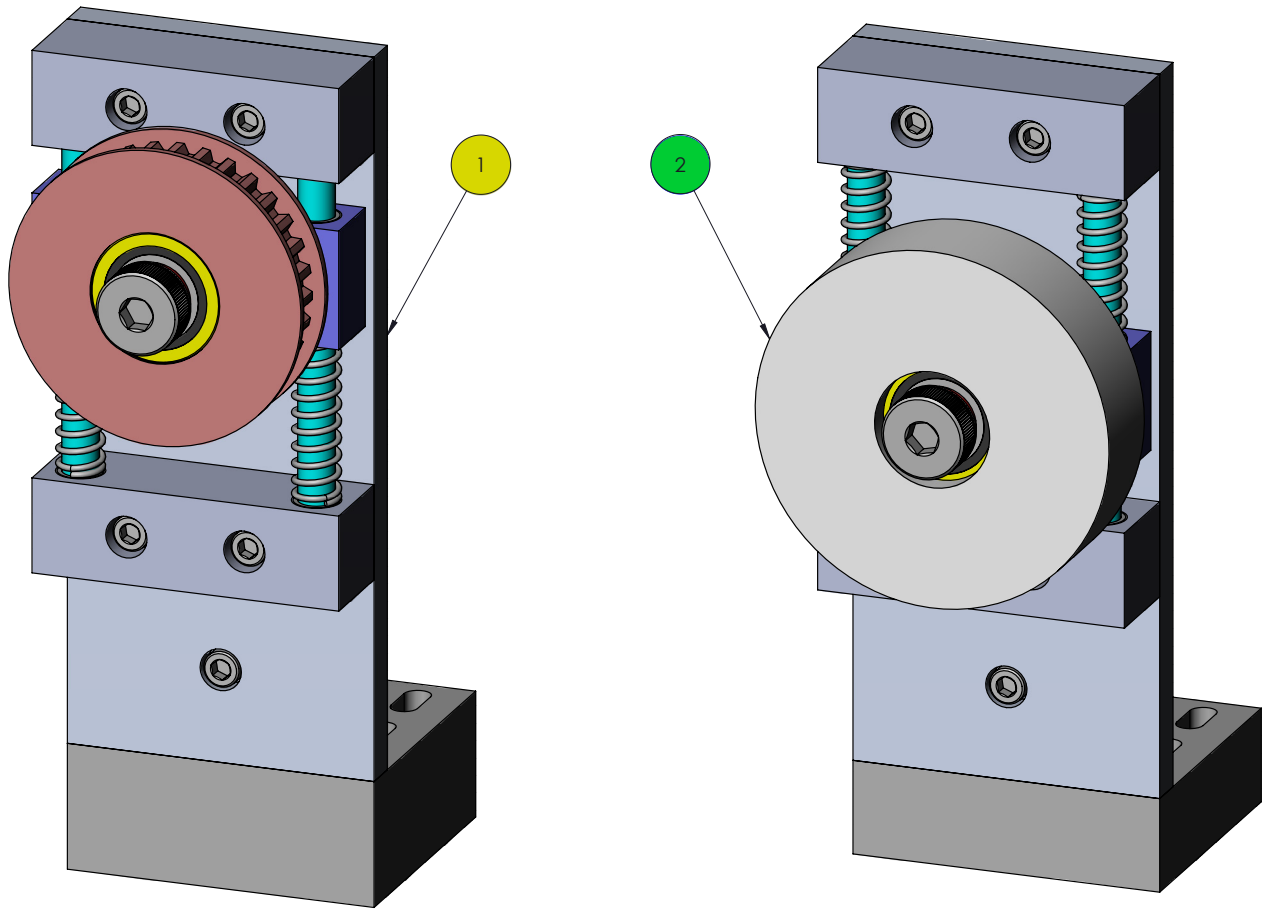
B

**Adjust Fig. 2 (B)
Measurement to:**

	35-Degree	40-Degree
4 Inches	$3^{13}/_{16}$ "	$3^{3}/_{4}$ "
$3^{15}/_{16}$ "	$3^{3}/_{4}$ "	$3^{11}/_{16}$ "
$3^{7}/_{8}$ "	$3^{11}/_{16}$ "	$3^{5}/_{8}$ "
$3^{13}/_{16}$ "	$3^{5}/_{8}$ "	$3^{9}/_{16}$ "
$3^{3}/_{4}$ "	$3^{9}/_{16}$ "	$3^{1}/_{2}$ "
$3^{11}/_{16}$ "	$3^{1}/_{2}$ "	$3^{7}/_{16}$ "
$3^{5}/_{8}$ "	$3^{7}/_{16}$ "	$3^{3}/_{8}$ "
$3^{9}/_{16}$ "	$3^{3}/_{8}$ "	$3^{11}/_{32}$ "
$3^{1}/_{2}$ "	$3^{11}/_{32}$ "	$3^{9}/_{32}$ "
$3^{7}/_{16}$ "	$3^{9}/_{32}$ "	$3^{7}/_{32}$ "
$3^{3}/_{8}$ "	$3^{7}/_{32}$ "	$3^{5}/_{32}$ "
$3^{5}/_{16}$ "	$3^{5}/_{32}$ "	$3^{3}/_{32}$ "
$3^{1}/_{4}$ "	$3^{3}/_{32}$ "	$3^{1}/_{32}$ "
$3^{3}/_{16}$ "	$3^{1}/_{32}$ "	3 Inches
$3^{1}/_{8}$ "	3 Inches	$2^{15}/_{16}$ "

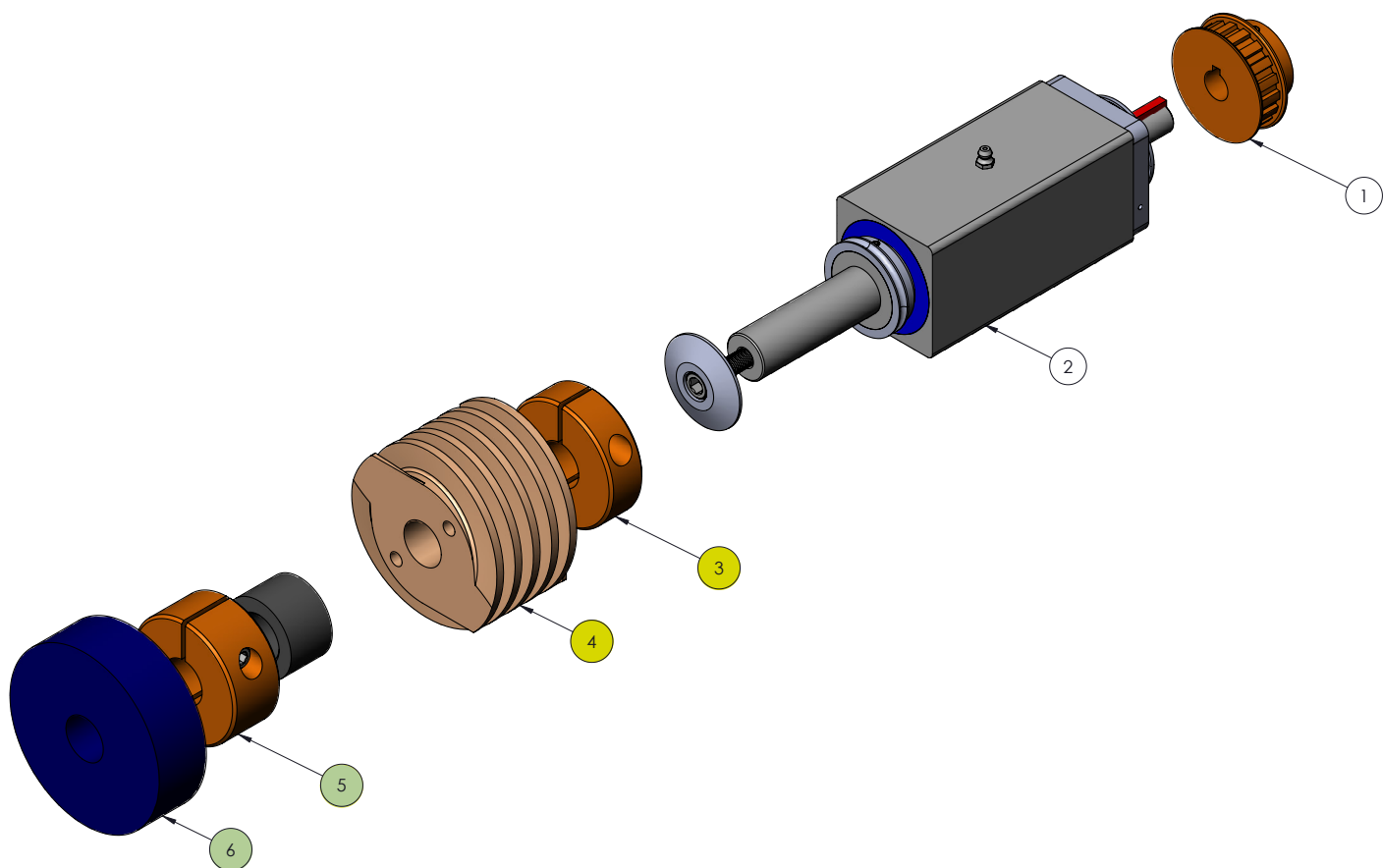
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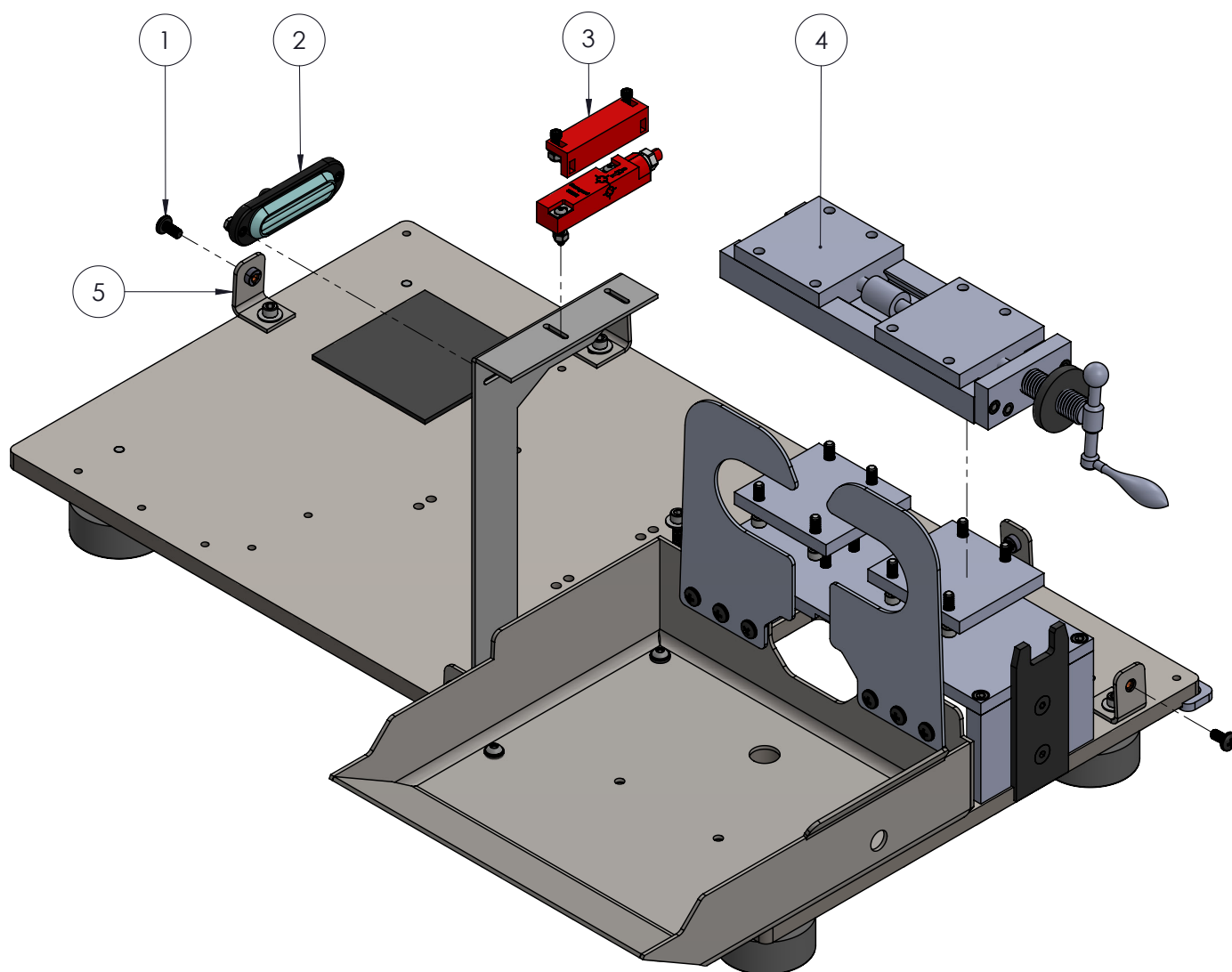
HG4S Hollow Grinder & HE4 Honer/Edger Tensioner

No	Part No.	Description
1	TWN-09-0001	HONER EDGER TENSIONER
2	TWN-09-0015	HOLLOW GRINDER TENSIONER



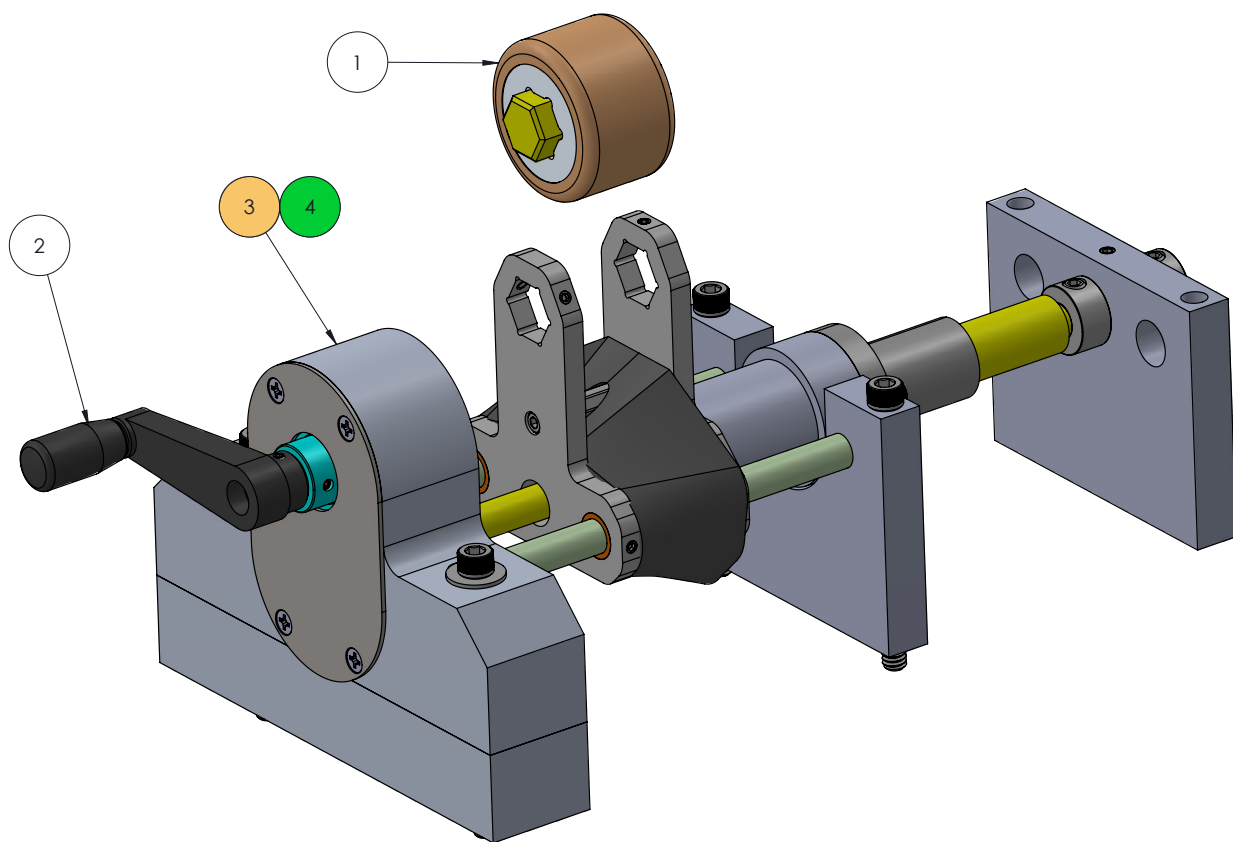
HG4S Hollow Grinder & HE4 Honer/Edger Bearing House

No	Part No.	Description
1	TWN-05-0033	PULLEY
2	TWN-09-0011	BEARING HOUSE ASSEMBLY
HE4 - HONER EDGER ONLY		
3	HZS-508	HONER EDGER CLAMPING SHAFT COLLAR
4	HE4-700N	HONER EDGER SPIRAL GRINDING STONES
HG4S - HOLLOW GRINDER ONLY		
5	HE2-509	HOLLOW GRINDER CLAMPING SHAFT COLLAR
6	HG4S-760	HOLLOW GRINDER GRINDING STONES



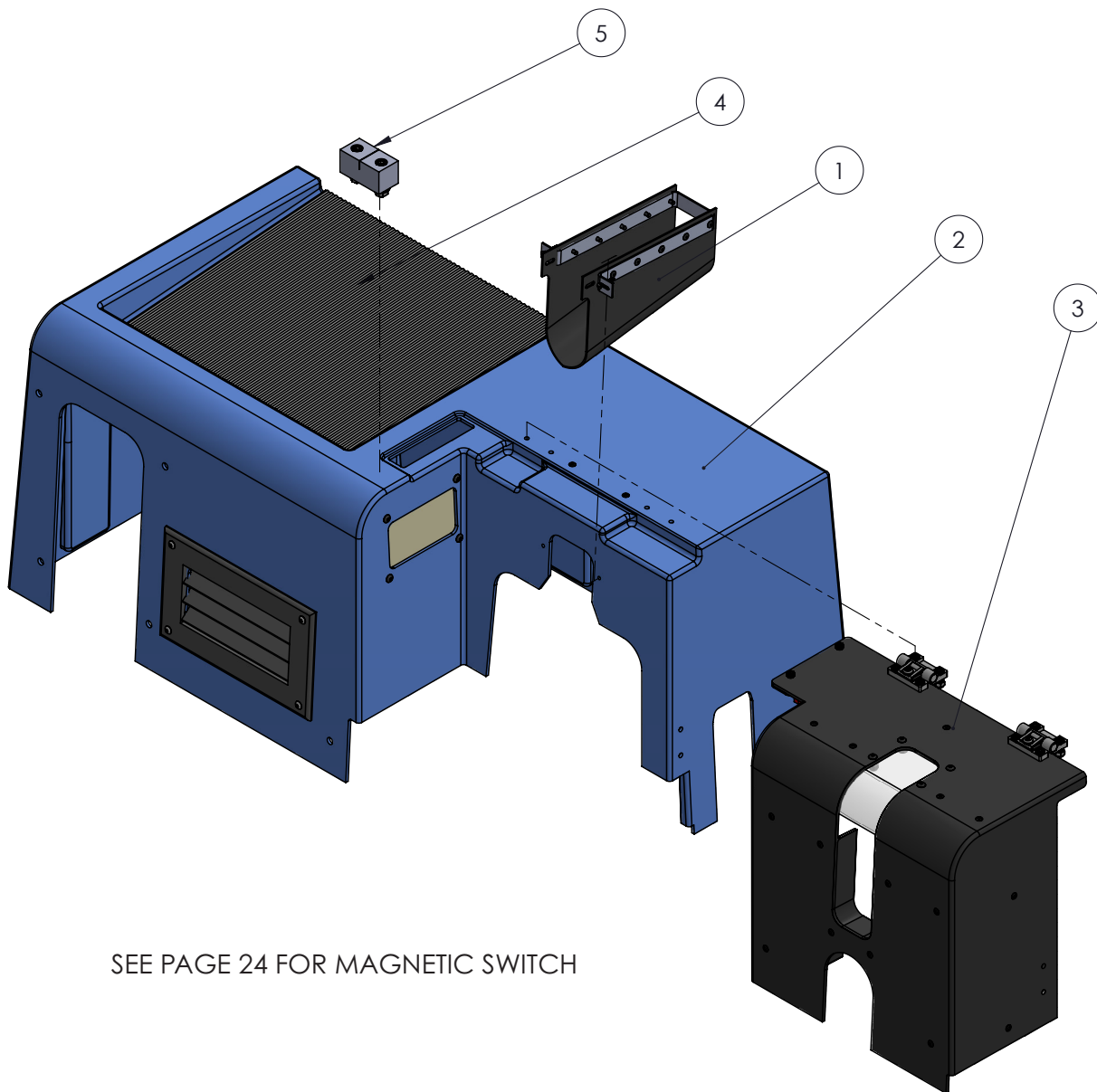
HG4S Hollow Grinder & HE4 Honer/Edger Base Plate

No	Part No.	Description
1	TWN-01-0038	COVER SCREWS
2	TWN-09-0016	LED LIGHT WITH FASTENERS
3	TWN-09-0017	MAGNETIC SAFETY SWITCH WITH FASTENERS
4	HZS-570	SLIDE ASSEMBLY
5	TWN-08-0004	COVER MOUNT BRACKET



HG4S Hollow Grinder & HE4 Honer/Edger Dresser

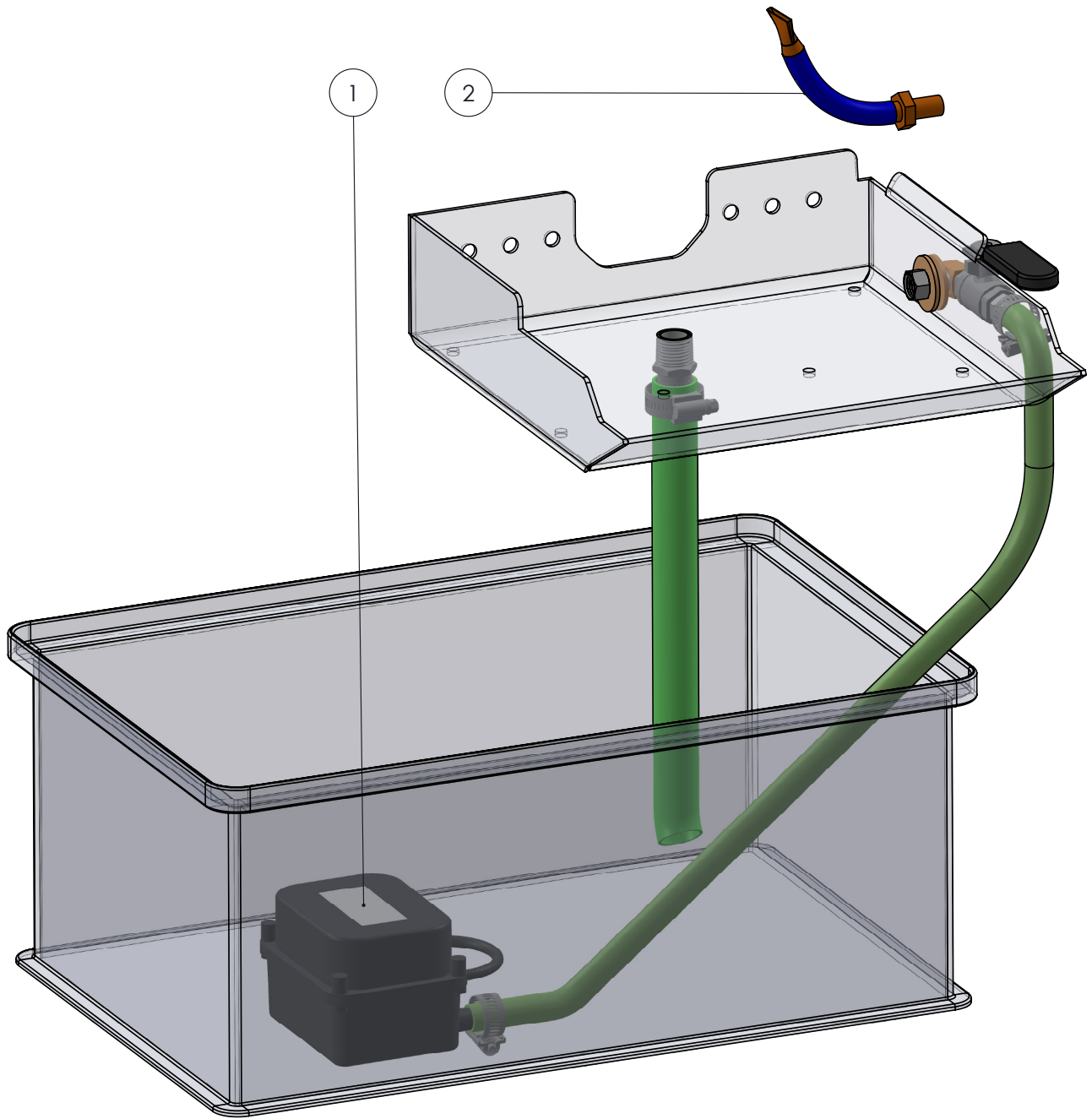
No	Part No.	Description
1	TWN-09-0018	DIAMOND DRESSER WITH HEX
2	TWN-09-0025	HANDLE FOR DRESSER
3	TWN-09-0019	HONER EDGER DRESSER ASSEMBLY
4	TWN-09-0020	HOLLOW GRINDER DRESSER ASSEMBLY



SEE PAGE 24 FOR MAGNETIC SWITCH

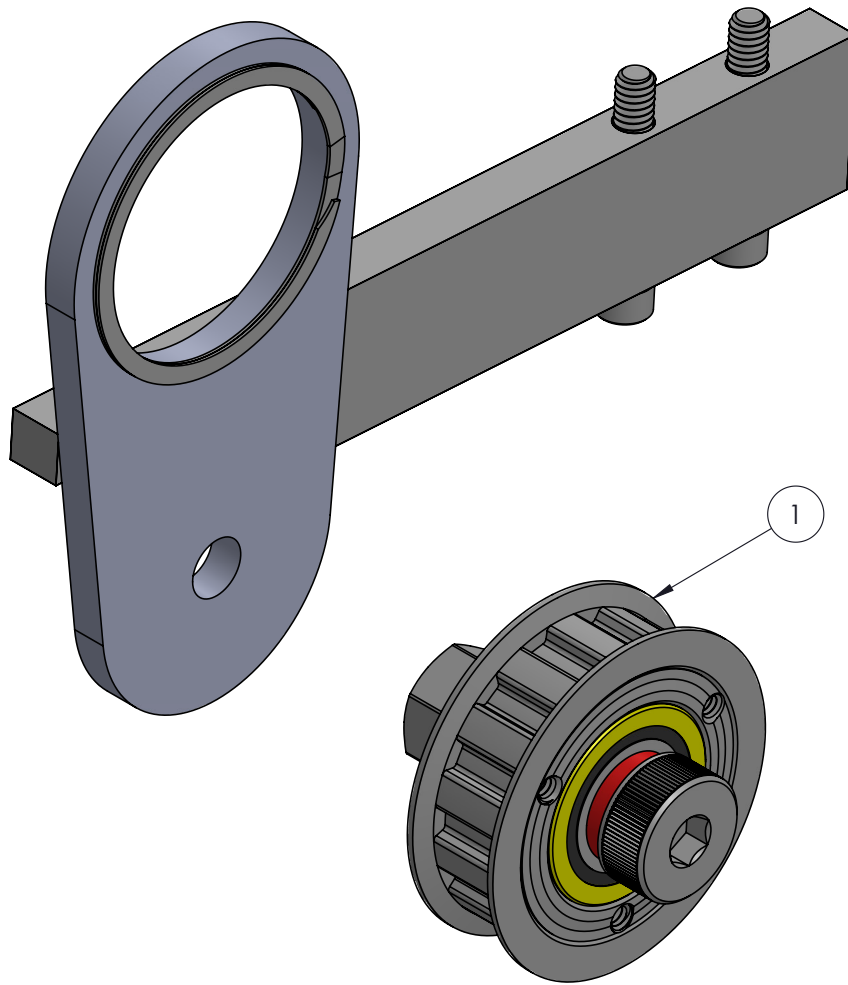
HG4S Hollow Grinder & HE4 Honer/Edger Cover

No	Part No.	Description
1	TWN-09-0026	DRAIN TROUGH WITH FASTENERS
2	TWN-09-0021	MAIN COVER ASSEMBLY
3	TWN-09-0022	WHEEL HOUSE COVER ASSEMBLY
4	HZ-548R	CORRUGATED RUBBER PAD
5	TWN-09-0023	GO-NO-GO GAUGE WITH FASTENERS



HG4S Hollow Grinder & HE4 Honer/Edger Coolant Control

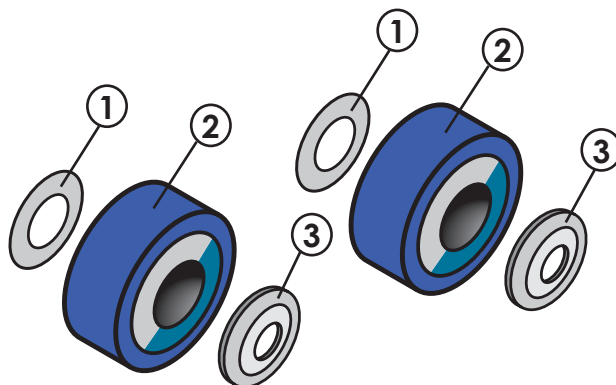
No	Part No.	Description
1	HZS-412	PUMP
2	TWN-09-0024	LOC-LINE COOLANT NOZZLE



HG4S Hollow Grinder & HE4 Honer/Edger Coolant Control

No	Part No.	Description
1	TWN-09-0025	IDLER PULLEY ASSEMBLY

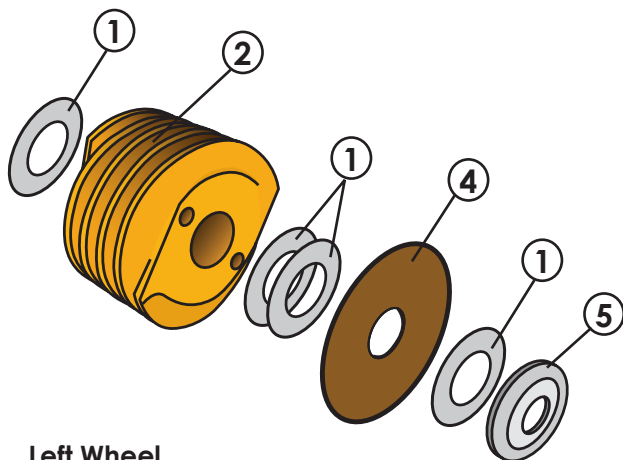
Wheel Assembly Order – HG4S Hollow Grinder



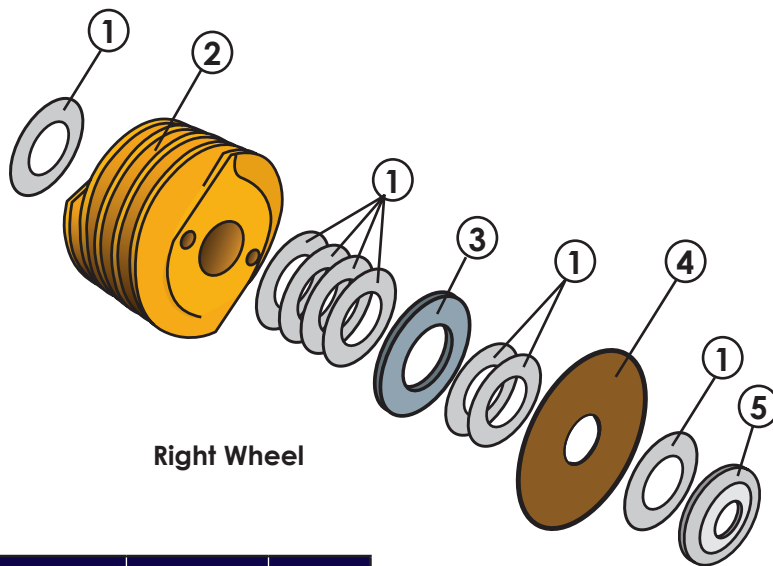
No	Description	Part No.	Qty.
1	Paper Blotter	HZS-400	2
2	Straight Wheel	HG4S-760	1 Pr.
3	Retaining Flange	HZS-509	4

Both Wheels are assembled the same way. The HG4S Wheels (HG4S-760) have a paper blotter already applied to them. This paper blotter faces out from the machine.

Wheel Assembly Order – HE4 Honer/Edger



Left Wheel

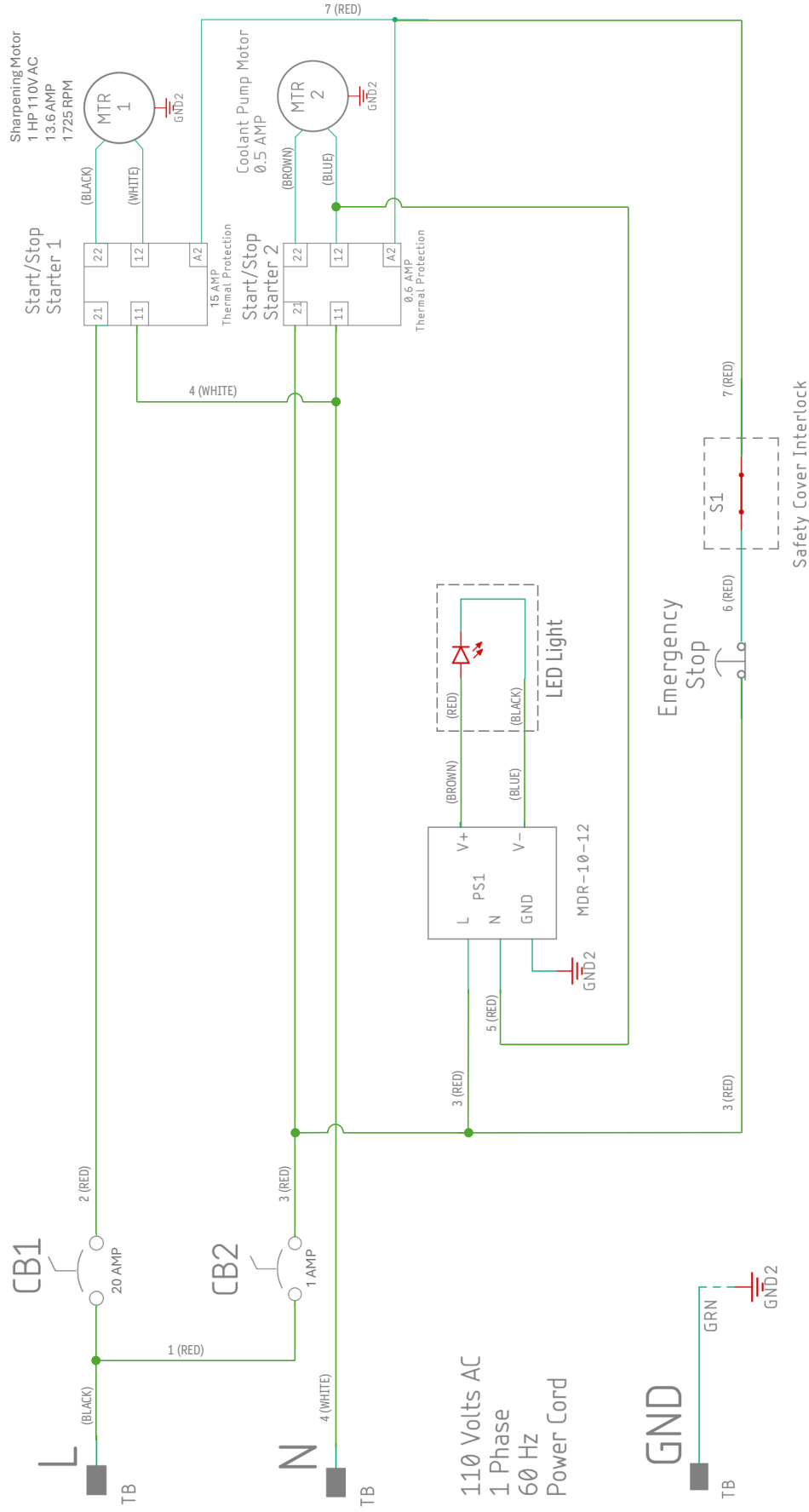


Right Wheel

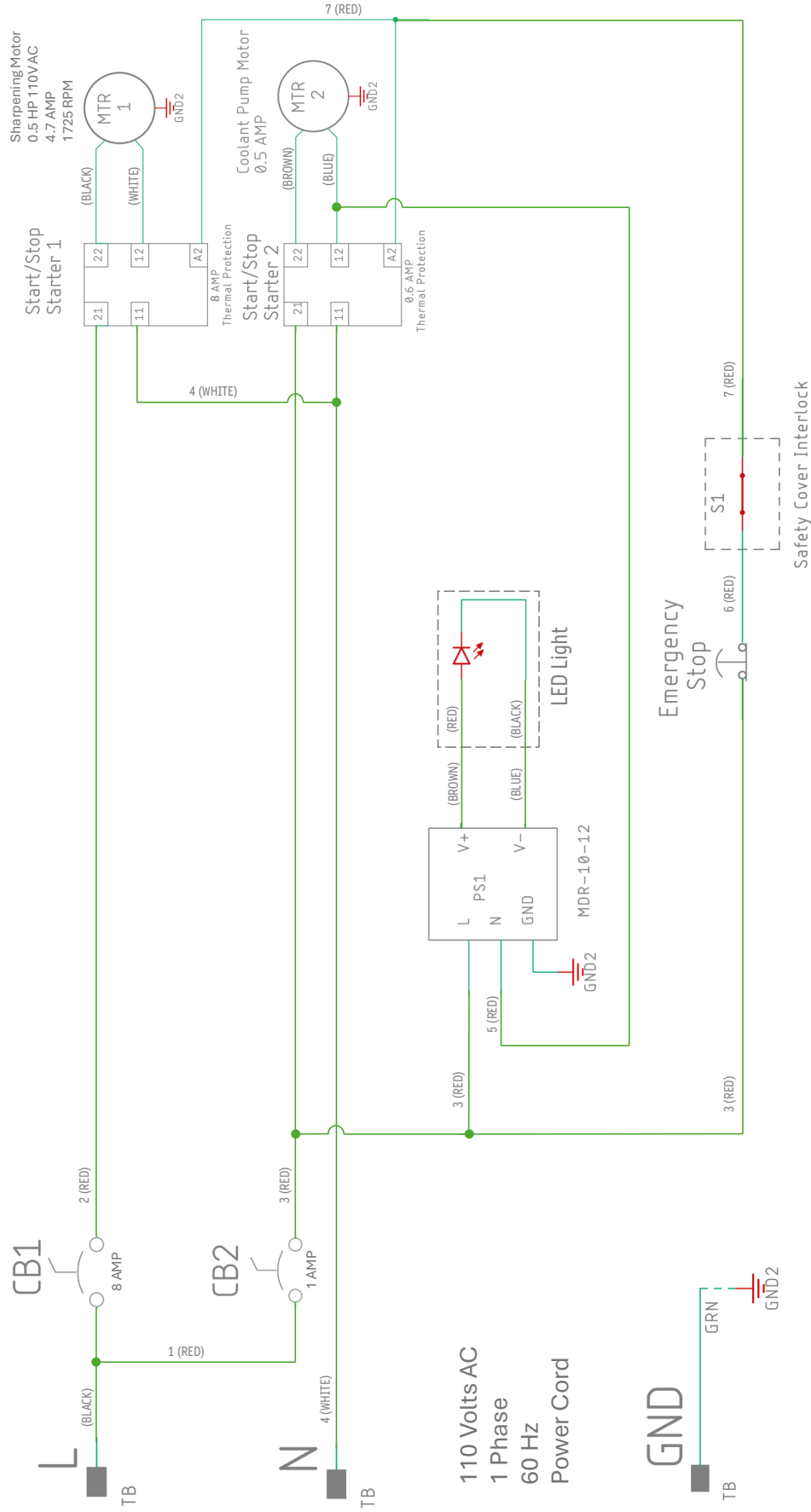
No.	Description	Part No.	Qty.
1	Paper Blotter	HZS-400	12
2	Spiral Wheel	HE4-7400N	1 Pr.
3	Spacer (Right Wheel Only)	HE4-100	1
4	Guard Disc	HE4-729	2
5	Retaining Flange	HZS-509	4

The left and right wheel are assembled differently. The right wheel uses a total of 8 paper blotters and a spacer (HE4-729). The left wheel uses a total of 4 paper blotters and NO spacer

Hollow Grinder 110V

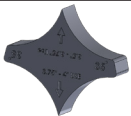


Honer Edger 110V



Recommended "Twins" Spare Parts

One Model HE4 Honer/Edger
One Model HG4S Hollow grinder

Qty.	Part No.	Description	
1 PR.	HE4-7400N	4" Spiral wheel 400 grit w/discs	
1 PR.	HG4S-760	4" Straight wheel 60 grit/pair	
1 EA.	HE4-404	Timing belt - HE4	
1 EA.	TWN-04-0025	Timing belt - HG4S	
1 EA.	X109-1	1" x 1" x 6" wheel dresser stick	
1 CS.	HZ-473-C	1 case (4 Gallons) White Sol Coolant	
1 EA.	TWN-09-0018	Twins Diamond Dresser	
1 EA.	HZS-412	120V Pump	
1 CS.	TWN-04-0024	Drop in Gage for Wheel Angle 35 degrees	



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