

Lathe-Mizer Tenon Kit

**Safety, Operation, Maintenance, &
Parts Manual**

LMTKIT

rev .A1.00

Safety is our #1 concern!

Form #1308



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

©2024 Wood-Mizer LLC

Printed in the United States of America, all rights reserved. No part of this manual may be reproduced in any form by any photographic, electronic, mechanical or other means or used in any information storage and retrieval system without written permission from

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

Table of Contents

Section-Page

SECTION 1 SAFETY

1.1	Safety Symbols	1-1
1.2	Tenon Safety	1-1

SECTION 2 SETUP & OPERATION

2.1	Tenon Kit Installation	2-1
2.2	Operation.....	2-6


SECTION 3 REPLACEMENT PARTS


3.1	Tenon Kit	3-1
3.2	Cutter Head Assembly	3-2
3.3	Carriage Assembly	3-3
3.4	1 1/2" Tenon Assembly.....	3-5


SECTION 1 SAFETY

1.1 Safety Symbols

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

 **DANGER!** indicates an imminently hazardous situation which, if not avoided, will result in 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.


1.2 Tenon Safety


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

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

 **WARNING!** Clean sawdust from all guards, vents, control boxes, or any area where sawdust may gather **after every shift**. Failure to do so may result in fire, causing death or serious injury.



 **DANGER!** Always keep hands away from moving blades.

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

WARNING! Make sure all guards and covers are in place and secured before operating this machine.



WARNING! Keep all persons out of the path of moving equipment and logs when operating sawmill or loading and turning logs.

WARNING! Hazardous voltage at the motor and inside the on/off control box can cause shock, burns, or death. Turn off and unplug the lathe before servicing! Keep all electrical component covers closed and securely fastened during operation.



WARNING! Maintain a clean and clear path for all necessary movement around the machine.



WARNING! Provide a safe environment for operating the lathe. The area should be well lit, dry and free of flammable liquids or gases.

WARNING! Always wear eye, ear, respiration, and foot protection when operating this machine.

WARNING! Use of this machine can generate and disburse dust and other airborne particles including wood, crystalline silica and asbestos. Use a dust collection system wherever possible. Avoid breathing dust and/or prolonged contact with dust. Wear appropriate respiratory protection during operation and wash exposed skin with soap and water. Exposure to dust may cause serious and permanent respiratory damage including lung disease, cancer and death.

WARNING! Inspect the material to be worked for splits, defects and/or foreign materials. Such materials could fly apart when spinning, possibly causing injury or death.

WARNING! Secure all loose clothing, jewelry and long hair before operating the sawmill and lathe.

WARNING! Always make sure log is clamped securely before sawing.

WARNING! Before connecting the lathe to the electrical power supply, make sure the motor switch is in the OFF position.

WARNING! Only use the lathe as described in this manual. Do not attempt to use any additional tooling with this option. Serious injury may result.

WARNING! To avoid possible injury from flying debris, keep all persons clear of the area during operation.

WARNING! Use caution when handling tenon knives and/or cutter head.

SECTION 2 SETUP & OPERATION

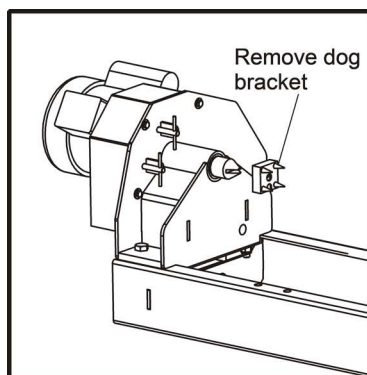
2.1 Tenon Kit Installation

These instructions assume the LatheMizer option is completely and properly installed prior to installation of the Tenon Kit option. See the LatheMizer option manual for installation instructions.

! DANGER! Unplug the LatheMizer before performing installation or service of the tenon kit option.

! WARNING! Use caution when handling tenon knives and/or cutter head

1. Remove the dog bracket from the drive end spindle, if necessary. **See Fig. 2-1.**
2. Install the tenon cutter head to the drive end spindle.
3. Be sure the cross pin of the cutter head completely engages the slot in the spindle.
4. Tighten the two locking set screws to secure the cutter head to the spindle.
5. Carefully remove the warning decals covering the tenon blades.
6. Check that the LatheMizer drive assembly is properly positioned so the guard plate is aligned with the end of the table.



TK0002-1

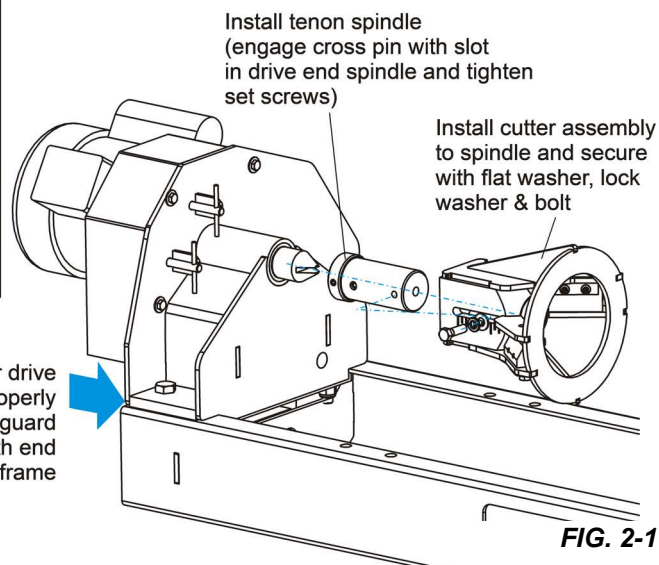


FIG. 2-1

7. Adjust if necessary.

ASSEMBLE THE SLIDE PADS, HEIGHT ADJUSTMENT STAR KNOBS AND FEED HANDLE

1. Install four slide pads and spacer plates to the bottom of the carriage frame. **See Fig. 2-2.**
2. Secure with two 5/16-18 x 2" hex head bolts, flat washers and hex nuts per pad.
3. Install two star knobs to the carriage assembly using a 3/8-16 x 4" bolt and two jam nuts per knob.
4. Insert the bolt up through the bottom of the carriage frame and install the knob and one jam nut.
5. Continue the bolt up through the angled carriage plate and install the second jam nut.

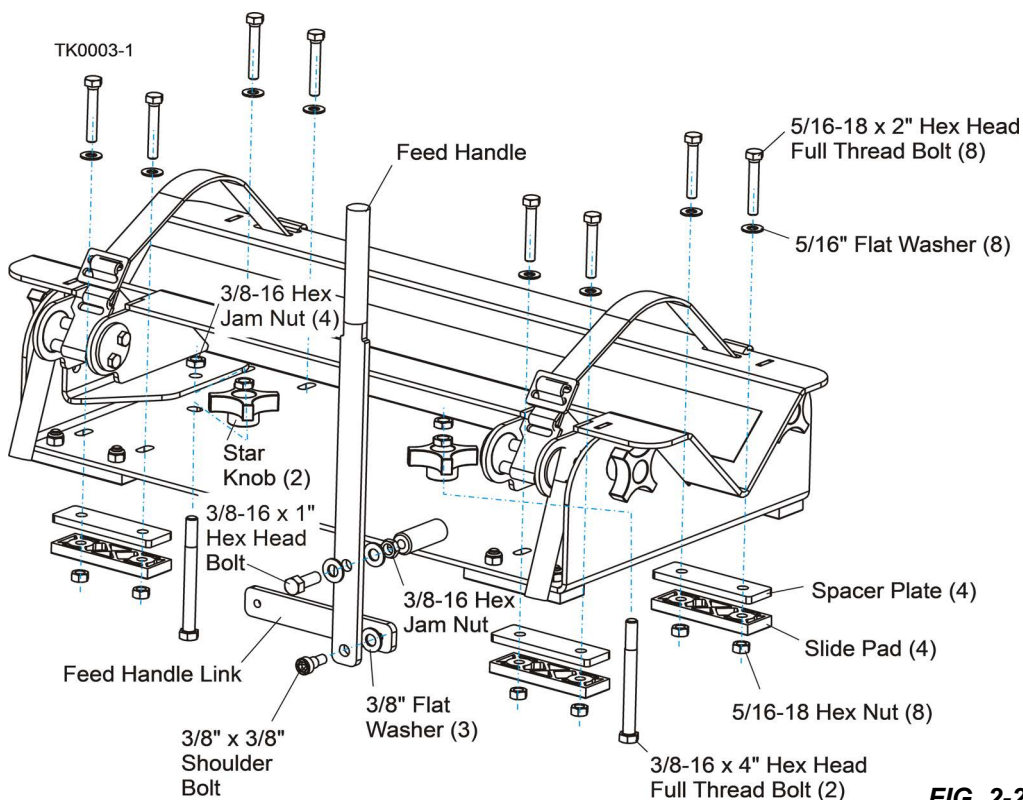


FIG. 2-2

6. Be sure both knob bolts are adjusted equally to ensure the carriage height will be level.
7. Install the feed handle to the threaded receiver on the carriage frame.
8. Secure with a 3/8-16 x 1" bolt, two flat washers and one jam nut.
9. Install the link plate to the feed handle with a 3/8" shoulder bolt and one flat washer between the handle and link plate.

FEED HANDLE

1. Position the tenon carriage assembly on the LatheMizer frame and secure the feed handle to the lathe frame using the provided shoulder bolt and 3/8" flat washers. See Fig. 2-3.
2. Use as many washers as necessary to eliminate slop between the feed handle linkage and lathe frame.

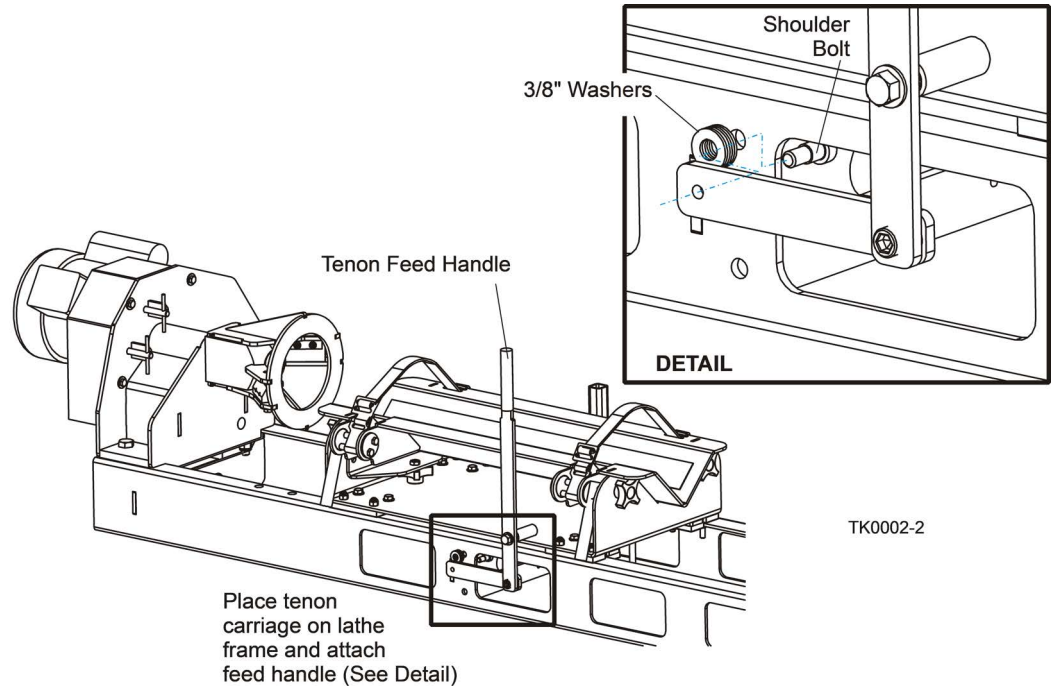


FIG. 2-3

SLIDE PADS

The four inner slide pads should touch the lathe frame, but not be so tight that the carriage will be difficult to move back and forth.

1. Loosen the mounting bolts and reposition the pads.
2. Be sure the bottom of the carriage 'V' is centered with the cutter head and retighten the inner pad mounting bolts.

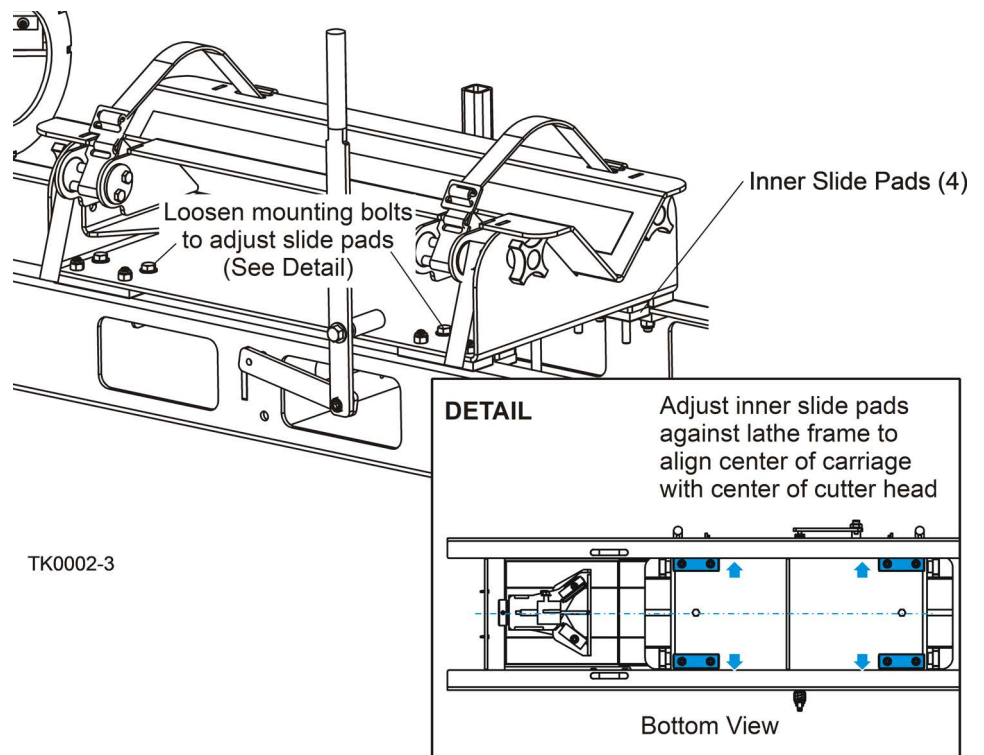


FIG. 2-4

LOWER CLAMPING PLATES

1. Install the carriage lower clamping plates to secure the carriage to the lathe frame.
2. Use four 5/16" flat washers and lock nuts per clamp plate.
3. Tighten the nuts just so the carriage is snug as possible, but still slides back and forth using the feed handle.

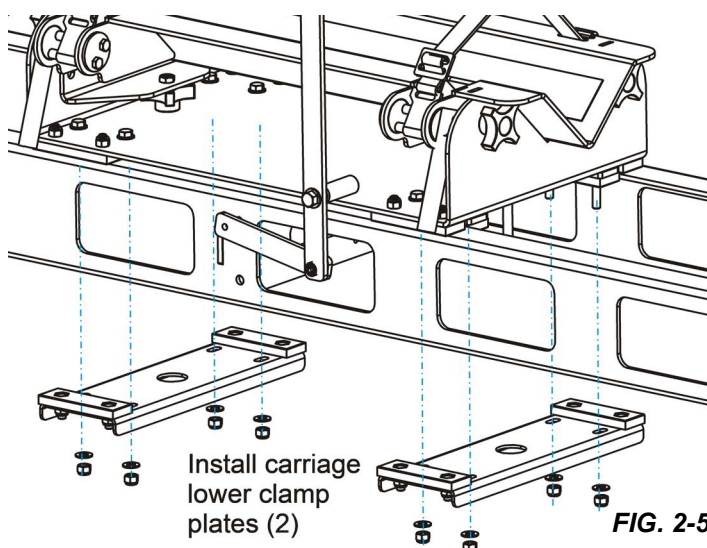


FIG. 2-5

TENON KNIVES

The tenon kit is supplied with the 2" tenon knives installed.

For 2" tenons, skip to "To Adjust Tenon Knives" (See Page 2-8).

For 1 1/2" tenons, install the adaptor kit as described below.



WARNING! Use caution when handling tenon knives and/or cutter head.

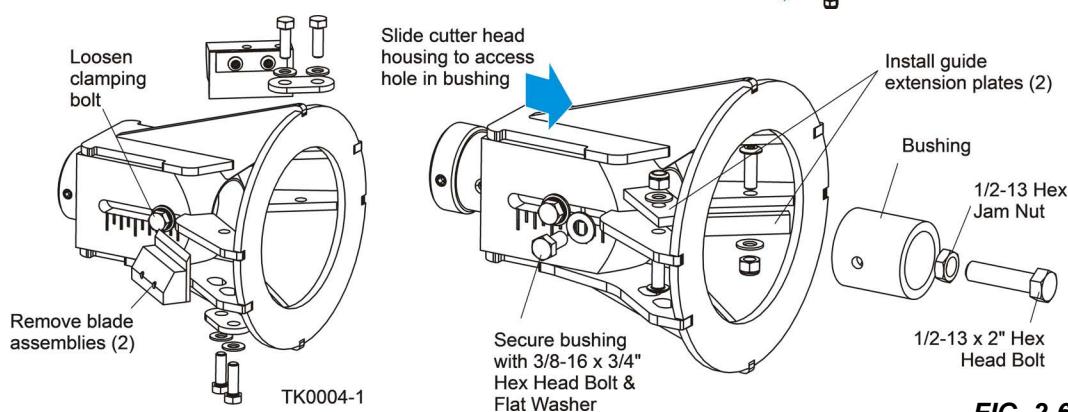


FIG. 2-6

1. Check and adjust the tenon knives.
2. Remove the knife mounting bolts, washers, mounting block and knives from the cutter head.
3. Loosen the clamping bolt securing the cutter head housing to the spindle.
4. Install the 1 1/2" tenon bushing into the housing, against the end of the spindle.
5. Be sure the bushing is oriented with the threaded hole toward the cutter head as shown.
6. Slide the cutter head housing forward until you can access the bushing hole and secure with the 3/8-16 x 3/4" hex head bolt and flat washer.
7. If tenons shorter than 2" are desired, install the 1/2-13 hex jam nut and 2" hex head bolt to the threaded hole in the end of the tenon spindle.
This bolt is used as a stop when creating 1 1/2" tenons less than 2" long and will be adjusted later.
8. Install two guide extension plates to the cutter head housing using one 5/16-18 x 1" button head screw, flat washer and nylon lock nut per plate.
9. Disassemble the tenon knives from the mounting blocks.
10. Place one thin and one thick spacer plate between the knife and block and reinstall the washer plate and screws.
11. Reassemble the knife assemblies to the cutter head.

ADJUST TENON KNIVES



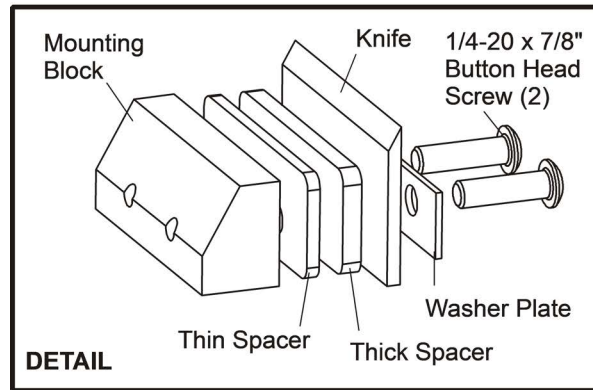
WARNING! Use caution when handling tenon knives and/or cutter head.

1. Adjust the tenon knives as necessary.

NOTE: Each knife should extend slightly past the guide plate (or guide extension plate for 1 1/2" tenon). The knives should extend no more than .010" when working with hardwoods and .020" when working with softwoods.

A template is provided to help you adjust the knives.

TK0004-2



Install spacer plates between knife and mounting block (See Detail)

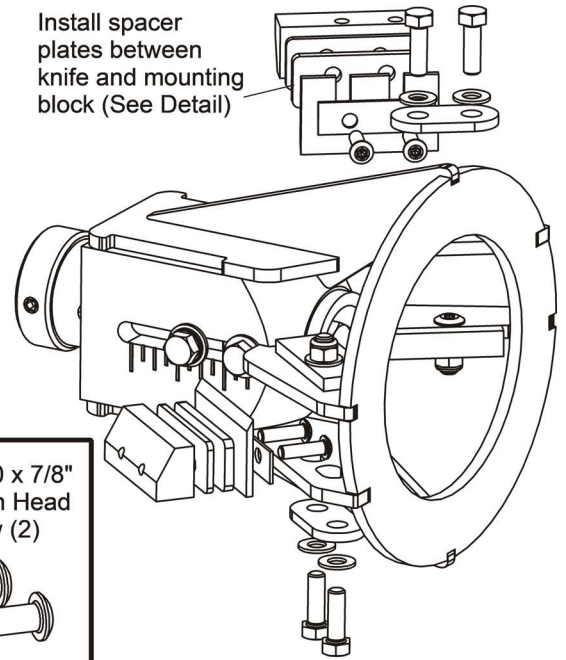


FIG. 2-7

2. Place the raised portion of the template flat against the guide plate with the desired .010" or .020" end of the template over the knife.
3. Loosen the knife mounting bolts and adjust the knife until it touches the template.
4. Retighten the mounting bolts and repeat for the other knife.

ADJUST THE CUTTER HEAD DEPTH.

2" tenon only:

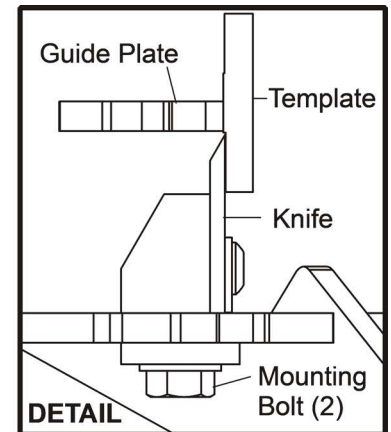
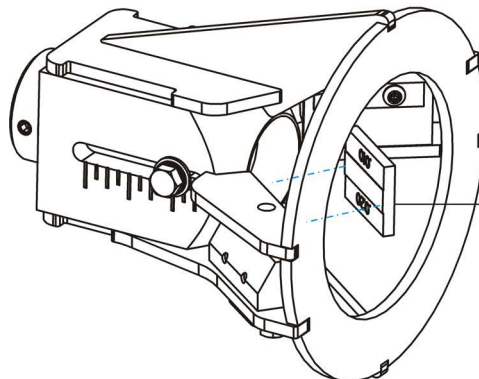
1. Loosen the depth adjustment bolt and adjust the cutter head housing so the end of the spindle is aligned at the desired tenon depth indicator (each mark represents 1/4").
2. Tighten the adjustment bolt.

1 1/2" tenon only:

When using the 1 1/2" tenon kit for 2" or longer tenons,

1. Loosen the depth adjustment bolt and measure the distance from the end of the bushing to the spindle.
2. Adjust the cutter housing until the desired depth is achieved and tighten the adjustment bolt.

TK0005

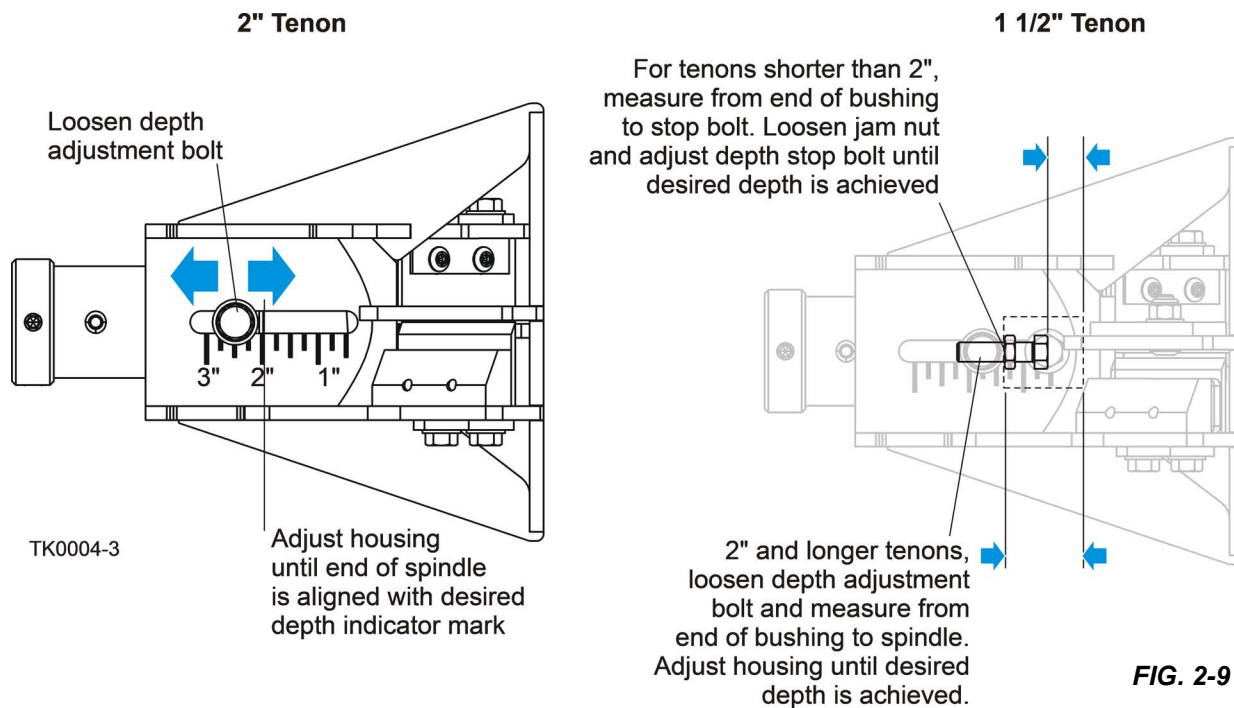


Place raised portion of template against guide plate with desired thickness over knife (See Detail)

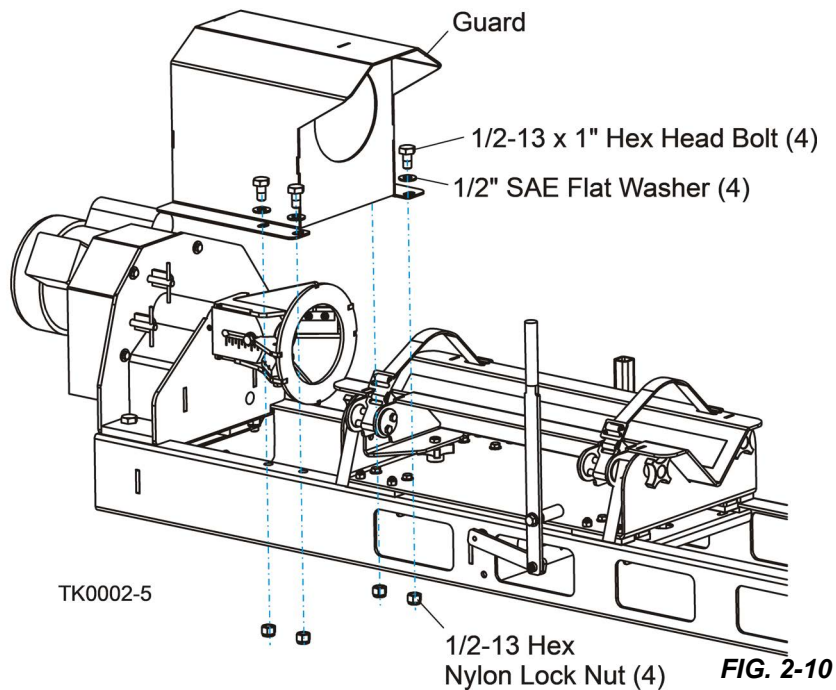
FIG. 2-8

3. If tenons shorter than 2" are desired, install and adjust the depth stop bolt and jam nut.
4. Loosen the depth adjustment bolt and move the housing all the way forward against the bushing.

5. Tighten the adjustment bolt and measure from the end of the bushing to the head of the stop bolt.
6. Loosen the jam nut and adjust the stop bolt for the desired depth. **See Fig. 2-9.**



7. Install the tenon guard to the lathe frame using four 1/2-13 x 1" hex head bolts, flat washers and nylon lock nuts. **See Fig. 2-10.**



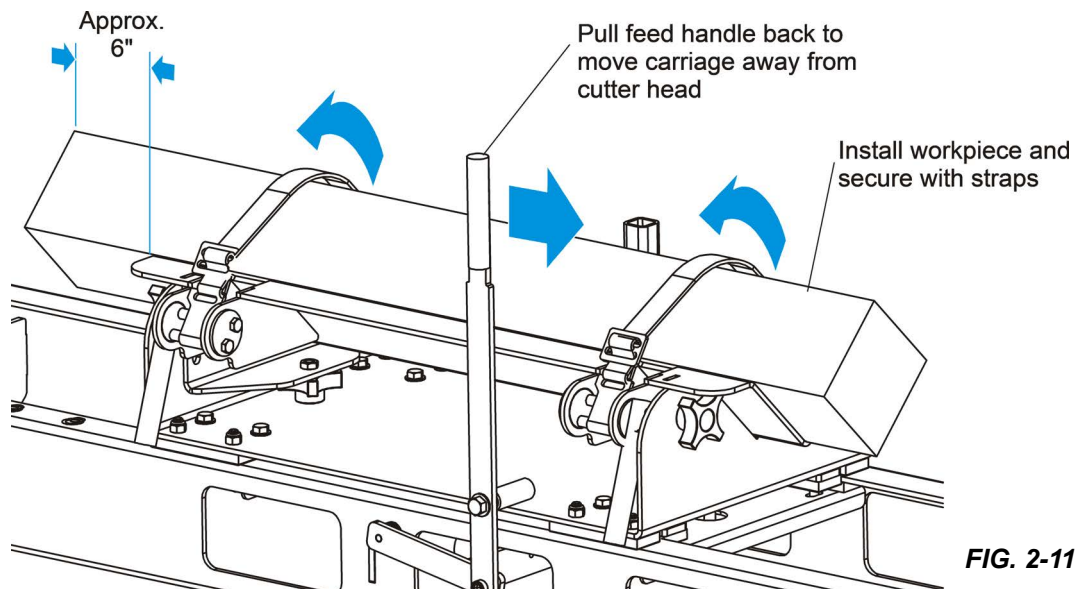
2.2 Operation

DANGER! Always keep hands away from moving blades.

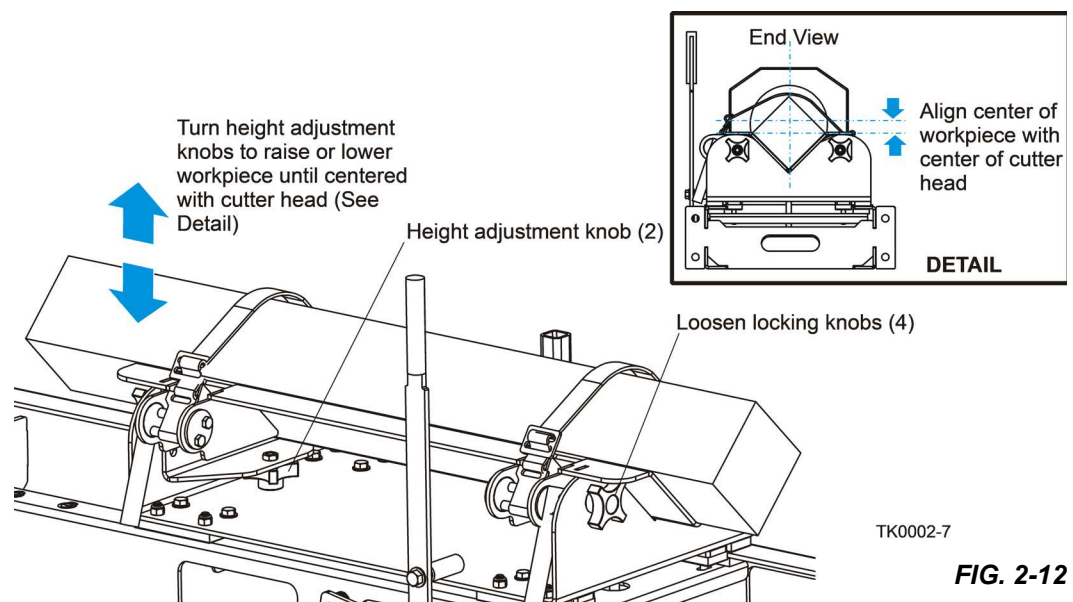
DANGER! Always be aware of and take proper protective measures against rotating shafts, pulleys, fans, etc. Always stay a safe distance from rotating members and make sure that loose clothing or long hair does not engage rotating members resulting in possible injury.

DANGER! Make sure all guards and covers are in place and secured before operating this machine.

1. Pull the feed handle to move the tenon carriage away from the cutter head. **See Fig. 2-11.**
2. Load the workpiece onto the tenon carriage (up to 5" diameter maximum for 2" tenons; 4 1/2" for 1 1/2" tenons) and position so the front end extends past the carriage about six inches.
3. Secure the workpiece to the carriage with the carriage straps.
4. Adjust the straps if necessary to hold the workpiece securely on the carriage.
5. Loosen the four locking knobs and adjust the carriage height so the workpiece is centered with the cutter head. **See Fig. 2-12.**



6. Turn the height adjustment knobs evenly to raise or lower the workpiece.
7. Tighten the locking knobs.
8. Be sure both LatheMizer locking pins are disengaged so the spindle spins freely.
9. Plug the LatheMizer in and turn the power on to start the cutter head spinning.



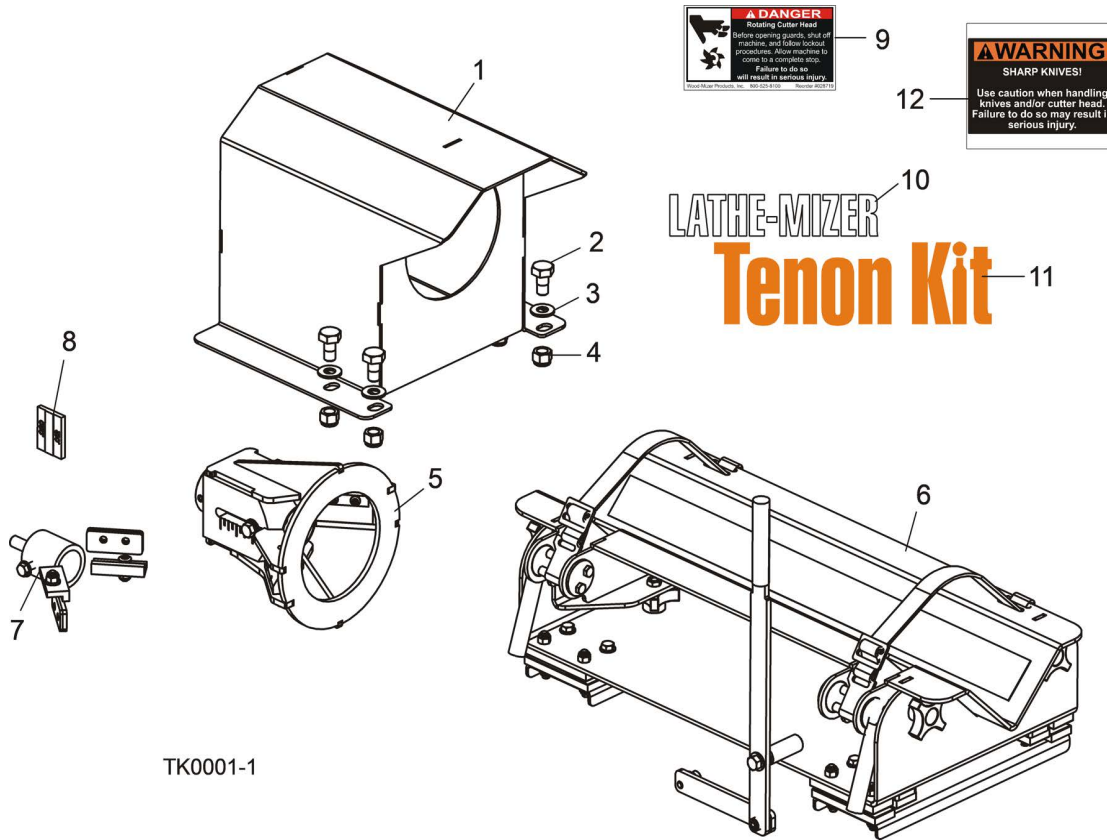
10. Slowly push the feed handle forward until the knives just make contact with the end of the workpiece.
11. Turn the LatheMizer off and inspect the end of the workpiece.
12. Make sure the knives have contacted the workpiece evenly around the workpiece.
13. Adjust the carriage horizontally or vertically if necessary to center the workpiece with the cutter head.
14. Loosen the inner slide pads to adjust the carriage horizontally.
15. Loosen the locking knobs and turn the height adjustment knobs to raise or lower the carriage vertically.

16. Retighten the inner pads and/or locking knobs.
17. Turn the LatheMizer on and start the workpiece into the cutter head.
18. Recheck the evenness of the cut.
19. Repeat horizontal and vertical adjustments until the knives contact the workpiece evenly.
20. Feed the workpiece slowly into the cutter head.
21. Continue feeding until the depth stop is reached.

If excessive vibration occurs, stop and unplug the LatheMizer and adjust the knives to cut less material ([See Page 2-4](#)).

SECTION 3 REPLACEMENT PARTS

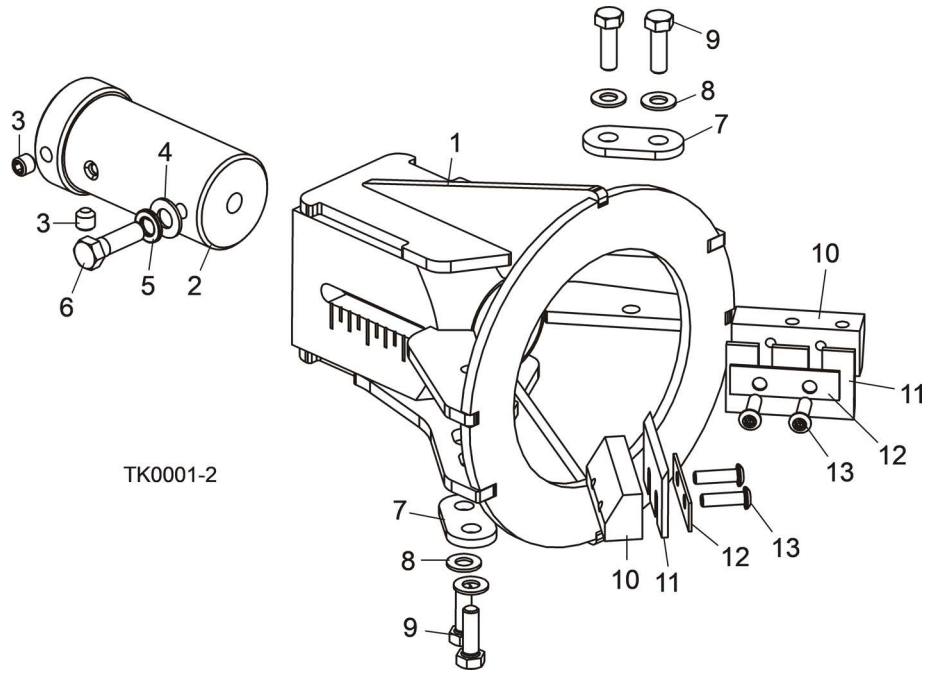
3.1 Tenon Kit



TK0001-1

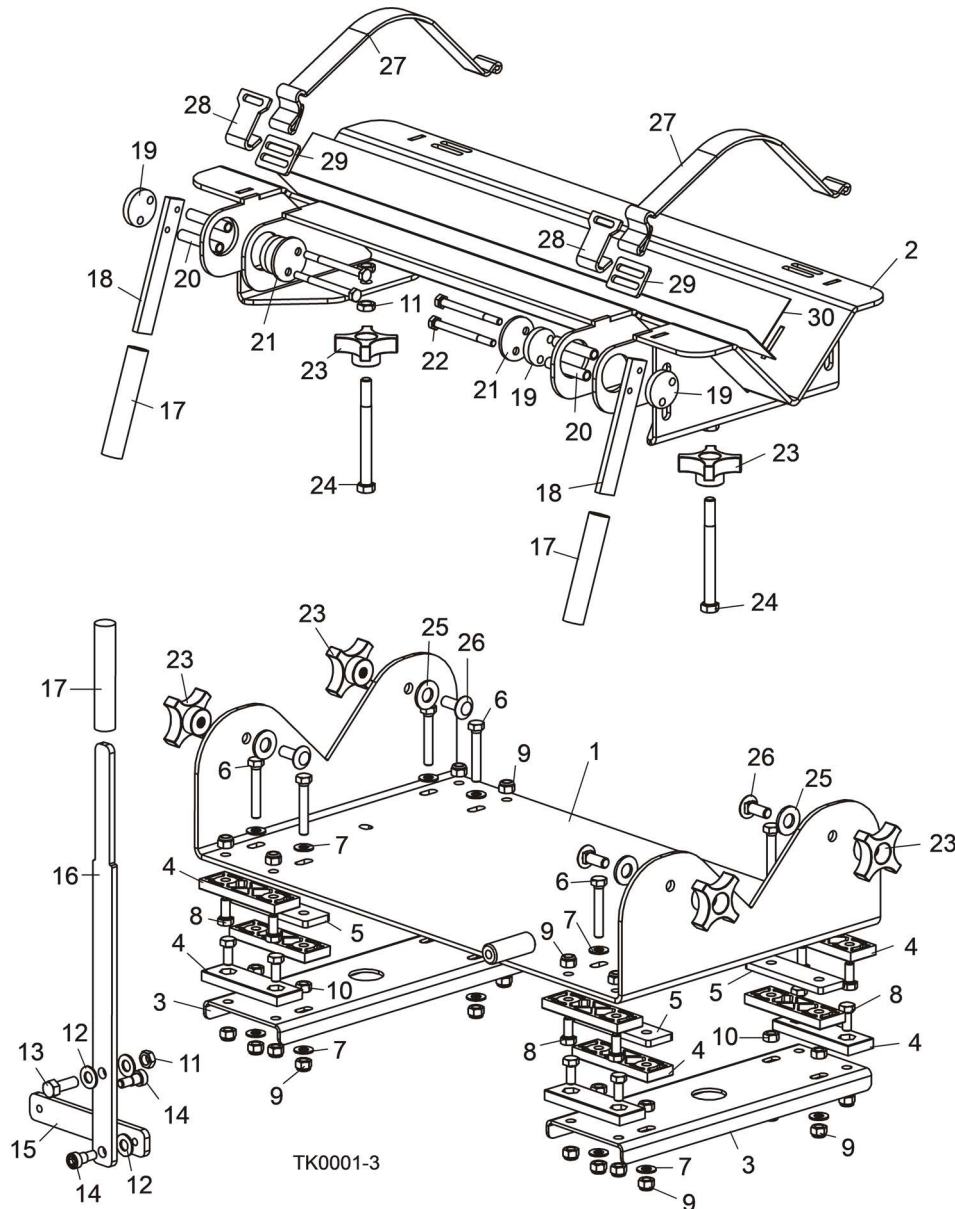
REF	PART #	DESCRIPTION	COMMENTS	QTY.
	LMTKIT	TENON KIT, LATHE-MIZER		1
1	055990	Guard Weldment, Tenon		1
2	F05008-50	Bolt, 1/2-13 x 1" Hex Head		4
3	F05011-2	Washer, 1/2" SAE flat		4
4	F05010-8	Nut, 1/2-13 Hex Nylon Lock		4
5		Cutter Head Parts	(See Section 3.2)	
6		Carriage Parts	(See Section 3.3)	
7		1 1/2" Tenon Parts	(See Section 3.4)	
8	056363	Gauge, Tenon Knife		1
9	028719	Decal, Cutter Head Danger		1
10	003336	Decal, Lathe-Mizer Logo Small		2
11	003335	Decal, Tenon Kit Logo		2
12	003665	Decal, Tenon Knife Warning		2
	LMTKIT-1308	Manual, Tenon Kit Option		1

3.2 Cutter Head Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	056288	HEAD ASSEMBLY, TENON CUTTER		1
1	055996	Head Weldment, Tenon Cutter		1
2	056285	Shaft Weldment, Tenon Cutter		1
3	F05007-68	Screw, 3/8-16 x 3/8" Socket Head Cup Point Set		2
4	F05011-3	Washer, 3/8" SAE Flat		1
5	F05011-4	Washer, 3/8" Split Lock		1
6	F05007-123	Bolt, 3/8-16 x 1 1/4" Hex Head Grade 5		1
7	055989	Plate, Tenon Knife Mount Washer		2
8	F05011-17	Washer, 5/16" SAE Flat		4
9	F05006-27	Bolt, 5/16-18 x 1" Hex Head Grade 5		4
10	055951	Block, Tenon Knife Mount		2
11	055950	Knife, Tenon Cutter		2
12	055952	Plate, Tenon Knife Clamp		2
13	F05005-142	Screw, 1/4-20 x 7/8" Button Socket Head		4

3.3 Carriage Assembly

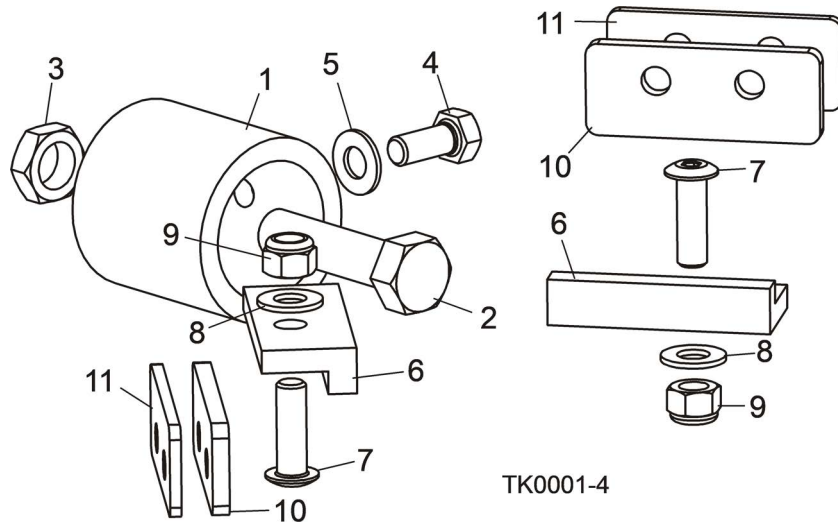


TK0001-3

REF	PART #	DESCRIPTION	COMMENTS	QTY.
	056284	CARRIAGE ASSEMBLY, TENON OPTION		1
1	056286	Carriage Weldment, Tenon Option		1
2	056287	Tray Weldment, Tenon Option		1
3	055345	Plate, Lower Tenon Mount		2
4	M04096	Pad, Delrin Slide		12
5	056290	Plate, Slide Pad Spacer		4
6	F05006-13	Bolt, 5/16-18 x 2" Hex Head Full Thread		8
7	F05011-17	Washer, 5/16" SAE Flat		16
8	F05006-102	Bolt, 5/16-18 x 3/4" Hex Head Grade 5		16
9	F05010-58	Nut, 5/16-18 Hex Nylon Lock		24
10	F05010-17	Nut, 5/16-18 Hex		8
11	F05010-29	Nut, 3/8-16 Hex Jam		5
12	F05011-3	Washer, 3/8" SAE Flat		7

REF	PART #	DESCRIPTION	COMMENTS	QTY.
13	F05007-7	Bolt, 3/8-16 x 1" Hex Head		1
14	F05007-159	Bolt, 3/8" x 3/8" Socket Shoulder		2
15	055346	Plate, Tenon Feed Link		1
16	055925	Plate, Tenon Feed Handle		1
17	004742	Grip, 5/8" ID Hand		3
18	055997	Plate, Pivot Lock Handle		2
19	055991	Bushing, Pivot Lock		4
20	055995	Tube, Pivot Lock Spacer		4
21	055994	Washer, Pivot Lock		2
22	F05005-127	Bolt, 1/4-20 x 3" Hex Head Grade 5		4
23	056294	Knob, 2 1/4" OD Star		6
24	F05007-92	Bolt, 3/8-16 x 4" Hex Head Full Thread Grade 5		2
25	F05011-2	Washer, 1/2" SAE Flat		4
26	F05007-165	Bolt, 3/8-16 x 1" Carriage Head Grade 5		4
27	056298	Strap, 17" Tenon Tie-Down		2
28	046297	Plate, Strap Adjustment		2
29	046296	Plate, Strap Hook		2
30	046295	Tape, 2" x 25" Anti-Slip		2

3.4 1 1/2" Tenon Assembly



REF	PART #	DESCRIPTION	COMMENTS	QTY.
	056321	TENON ASSEMBLY, 1 1/2"		1
1	056302	Bushing, 1 1/2" Tenon		1
2	F05008-8	Bolt, 1/2-13 x 2" Hex Head Full Thread		1
3	F05010-31	Nut, 1/2-13 Hex Jam		1
4	F05007-27	Bolt, 3/8-16 x 3/4" Hex Head		1
5	F05011-3	Washer, 3/8" SAE Flat		1
6	056301	Plate, 1 1/2" Tenon Guide		2
7	F05006-12	Bolt, 5/16-18 x 1" Button Socket Head		2
8	F05011-17	Washer, 5/16" SAE Flat		2
9	F05010-58	Nut, 5/16-18 Hex Nylon Lock		2
10	056300	Plate, 7 Ga. Knife Spacer		2
11	056299	Plate, 11 Ga. Knife Spacer		2