HAFCO WOODMASTER

HSS BLADES

HELICAL CUTTERHEAD

Edition : 2.0
Date: (12/25)

Instruction Manual

THICKNESSERS
T-406, T-406S, T-508S

Order Code: (W832, W834, W838)

MACHINE DETAILS

MACHINE.	THICKNESSER
MODEL NO.	T-406, T-406S, T-508S
SERIAL NO.	
DATE OF MANF.	

IMPORTED BY

AUSTRALIA

HARE&FORBES MACHINERYHOUSE

www.machineryhouse.com.au

NEW ZEALAND

MACHINERYHOUSE

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NOTE:
This manual is only for your reference. At the time of the compiling of this manual every effort to be exact with the instructions, specifications, drawings, and photographs of the machine was taken. Owing to the continuous improvement of the HAFCO WOODMASTER machine, changes may be made at any time without obligation or notice. Please ensure the local voltage is the same as listed on the specification plate before operating any electric machine.

SAFETY SYMBOLS:
The purpose of safety symbols is to attract your attention to possible hazardous conditions

⚠WARNING	*Indicates a potentially hazardous situation causing injury or death*
⚠CAUTION	*Indicates an alert against unsafe practices.*
Note:	*Used to alert the user to useful information*

NOTE:
In order to see the type and model of the machine, please see the specification plate. Usually found on the back of the machine. See example (Fig.1)

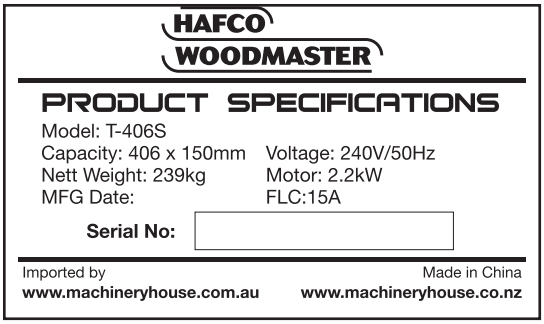


FIG.1

CONTENTS:

1.1 SPECIFICATIONS

Order Code	W832	W834	W838
Model	**T-406**	**T-406S**	**T-508S**
Maximum Planing Width (mm)	406	406	508
Maximum Planing Height (mm)	150	150	204
Minimum Planing Height (mm)	4.7	4.7	6.35
Maximum depth of cut @ 406mm (mm)	1.0	1.0	3.3
Maximum depth of cut @ 300mm (mm)	2.0	2.0	4.0
No. HSS Blades	3	N/A	N/A
Helical Cutter (Rows)	N/A	5	6
Inserts fitted (no.)	N/A	80	130
Two Speed Gearbox with Feed Rates (mpm)	3.9 / 4.9	3.9 / 4.9	4.2 / 5.1
Dust Chute (mm)	100	100	100
Voltage (V / Hz)	240 / 50	240 / 50	415 / 50
Amps (A)	15	15	15
Motor Power (kW / hp)	2.25 / 3	2.25 / 3	3.75 / 5
Cutter Head Speed (rpm)	4000	4000	5000
Cutter Head Diameter (mm)	72.5	72.5	80
Dimensions (mm)	648 x 930 x 1058	648 x 930 x 1058	660 x 930 x 1058
Weight (kg)	239	239	290

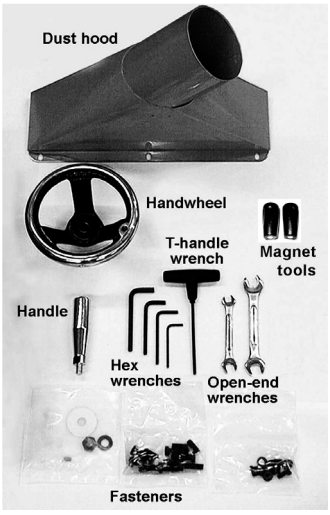
1.2 PACKING LIST

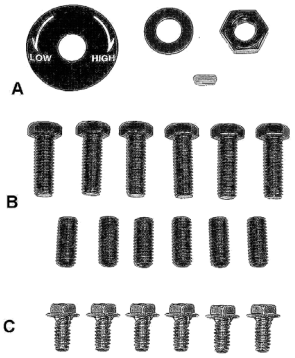
1 Dust Head
1 Hand Wheel
1 Handle
2 Magnetic Tools
4 Hex Wrenches 3, 4, 5, 6mm
1 T-Handle Wrench 4mm
3 Open End Spanners 8-10, 12-14, 14-17.
3 Bag Of Fasteners

A – (for installing Hand wheel)
1 Direction Label 1 Hex Nut
1 Flat Washer 1 Key

B – (for installing Extension Tables)
6 Hex Cap Screws, M8x25 6 x Socket Set Screws, M8x20

C – (for installing Dust Hood)
6 Hex Washer Head Screws, M6x12





1.3 IDENTIFICATION

Become familiar with the names and locations of the controls and features shown below to better understand the instructions when mentioned later in this manual.

T-406S shown

A	Control Panel	**E**	Feed Control Handle
B	Return Rollers	**F**	Base
C	Height Adjustment Handle	**G**	Lifting Handles
D	Digital Height Readout	**H**	Extension Table

2. SAFETY INFORMATION

2.1 GENERAL SAFETY REQUIREMENTS

DO NOT use this machine unless you have read this manual or have been instructed in the use of this machine in its safe use and operation.

WARNING

This manual provides safety instructions on the proper setup, operation, maintenance, and service of this machine. Save this manual, refer to it often, and use it to instruct other operators.

Failure to read, understand and follow the instructions in this manual may result in fire or serious personal injury—including amputation, electrocution, or death.

The owner of this machine is solely responsible for its safe use. This responsibility includes, but is not limited to proper installation in a safe environment, personnel training and authorization to use, proper inspection and maintenance, manual availability and comprehension of the application of the safety devices, integrity, and the use of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

Exposure to the dust created by power sanding, sawing, grinding, drilling and other construction activities may cause serious and permanent respiratory or other injury, including silicosis (a serious lung disease), cancer, and death. Avoid breathing the dust, and avoid prolonged contact with dust. Some examples of these chemicals are:

- ❑ Lead from lead-based paints.
- ❑ Crystalline silica from bricks, cement and other masonry products.
- ❑ Arsenic and chromium from chemically-treated timber.

Always operate tool in well ventilated area and provide for proper dust removal. Use a dust collection system along with an air filtration system whenever possible. Always use properly fitting approved respiratory protection appropriate for the dust exposure, and wash exposed areas with soap and water.

Safety glasses must be worn at all times in work areas. Earmuffs should be worn if the work area is noisy.

Sturdy footwear must be worn at all times in work areas.

Gloves should NOT be worn when operating machinery. Should only be worn when handling the material.

Long and loose hair must be contained with a net or under a hat.

2.1 GENERAL SAFETY REQUIREMENTS CONT.

DISCONNECT POWER FIRST. If using power, always disconnect the machine from power supply before making adjustments, or servicing the machine. This prevents any risk of injury from unintended startup or contact with live wires.

HEARING PROTECTION. Always wear hearing protection when operating or observing loud machinery. Extended exposure to this noise without hearing protection can cause permanent hearing loss.

REMOVE ADJUSTING TOOLS. Tools left on machinery can become dangerous projectiles upon startup. Never leave hex keys, wrenches, or any other tools on machine. Always verify removal before starting!

USE CORRECT TOOL FOR THE JOB. Only use this tool for its intended purpose. Do not force the machine or its attachments to do a job for which they were not designed. Never make unapproved modifications. Modifying the machine or using it differently than intended may result in malfunction or mechanical failure that can lead to personal injury or death!

AWKWARD POSITIONS. Keep proper footing and balance at all times when operating machine. Do not overreach! Avoid awkward hand positions that make operating control difficult. This could increase the risk of accidental injury.

GUARDS & COVERS. Guards and covers reduce accidental contact with moving parts or flying debris. Make sure they are properly installed, undamaged and working correctly.

MENTAL ALERTNESS REQUIRED. Full mental alertness is required for safe operation of machinery. Never operate under the influence of drugs or alcohol, when tired, or when distracted.

TRAINED OPERATORS ONLY. Only allow trained or supervised people to use this machine. When the machine is not being used, disconnect the power, to the machine to prevent unauthorized use—especially around children. Make the workshop safe.

FORCING MACHINERY. Do not force the machine. It will do the job safer and better at the rate for which it was designed.

NEVER STAND ON MACHINE. Serious injury may occur if the machine is tipped or if the cutting tool is unintentionally contacted

STABLE MACHINE. Unexpected movement during operation greatly increases risk of injury or loss of control. Before starting, verify the machine is stable and if using a mobile base it is locked in position.

UNATTENDED OPERATION. To reduce the risk of accidental injury, turn the machine OFF and ensure all moving parts have completely stopped before walking away. Never leave the machine running while unattended.

MAINTAIN WITH CARE. Follow all the maintenance instructions and lubrication schedules to keep the machine in good working condition. A machine that is improperly maintained could malfunction, leading to serious personal injury or death.

CHECK DAMAGED PARTS. Regularly inspect the machine for any condition that may affect the safe operation. Immediately repair or replace damaged or parts that are incorrectly fitted before operating.

CHILDREN & BYSTANDERS. Keep children and bystanders at a safe distance from the work area. Stop using machine if they become a distraction.

WARNING!

Before operating any machine, take time to read and understand all safety signs and symbols. If not understood seek explanation from your supervisor or an experienced operator.

2.2 SPECIFIC SAFETY FOR THICKNESSERS

DO NOT use this machine unless you have been instructed
in its safe use and operation and have read the instruction manual.

Safety glasses must be worn at all times in work areas to protect the eyes from flying shavings.

Appropriate footwear with substantial uppers must be worn. No open toe shoes should be worn.

Rings and jewellery must not be worn when operating this machine.

Long and loose hair must be contained while operating the machine.

Close fitting and protective clothing must be worn.

Hearing protection must be worn when using this machine.

PRE-OPERATIONAL SAFETY CHECKS

1. Check workspaces are clear and no slip/trip-hazards are present.
2. Check safety guards are adjusted and operate to give maximum protection.
3. Where a bridge guard is fitted adjust the guard to ensure a maximum of 2mm clearance between guard and the timber.
4. Do not plane stock with structural defects.
5. Locate and ensure you are familiar with the operation of the ON/OFF starter and E-Stop (if fitted).
6. Set depth of cut and lock table. Never make a single cut greater than 2mm.
7. Check and lock fence in position.
8. Start the dust extraction unit before using the machine.

OPERATIONAL SAFETY CHECKS

1. Hands must not be closer than 100mm from the cutter head when it is rotating.
2. Use push blocks wherever possible.
3. Never leave the machine while it is running.
4. Place cupped boards with the concave side against the table.
5. Plane with the grain. Hold the workpiece firmly and apply even feed rate.
6. Operator should stand to side of in-feed table to avoid possible kickbacks.
7. Before making any adjustments switch off and wait for the cutter head to completely stop.

HOUSEKEEPING

1. Switch off and reset all guards to a fully closed position after use.
2. Reset the depth of cut to zero after use.
3. Leave the machine in a safe, clean and tidy state.

DON'T

- Do not surface stock less than 300mm long x 20mm wide x 15mm thick

3. POWER SUPPLY

3.1 ELECTRICAL INSTALLATION

Place the machine near an existing power source. Make sure all power cords are protected from traffic, material handling, moisture, chemicals, or other hazards. Make sure there is access to a means of disconnecting the power source. The electrical circuit must meet the requirements for the power used by the machine.

NOTE : The use of an extension cord is not recommended as it may decrease the life of electrical components on your machine.

ELECTRICAL REQUIREMENTS

Nominal Voltage (T-406/S).....240V
Nominal Voltage (T-508S).....415V
Cycle.....50 Hz

(Full load current rating is also on the specification plate on the motor.)

3.2 FULL-LOAD CURRENT RATING

The full-load current rating is the amperage a machine draws when running at 100% of the output power. Where machines have more than one motor, the full load current is the amperage drawn by the largest motor or a total of all the motors and electrical devices that might operate at one time during normal operations.

Full-Load Current Rating for these machine can be found on the motor plate.

It should be noted that the full-load current is not the maximum amount of amps that the machine will draw. If the machine is overloaded, it will draw additional amps beyond the full-load rating and if the machine is overloaded for a long period of time, damage, overheating, or fire may be caused to the motor and circuitry.

This is especially true if connected to an undersized circuit or a long extension lead. To reduce the risk of these hazards, avoid overloading the machine during operation and make sure it is connected to a power supply circuit that meets the requirements.

4 SET-UP

4.1 UNPACKING

This machine was carefully packaged for safe transport. When unpacking, separate all enclosed items from packaging materials and inspect them for shipping damage. If items are damaged, please contact your distributor.

NOTE: Save all the packaging materials until you are completely satisfied with the machine and have resolved any issues with the distributor, or the shipping agent.

When unpacking, check the packing list to make sure that all parts shown are included. If any parts are missing or broken, please contact your distributor.

4.2 CLEAN - UP

The unpainted surfaces of the machine have been coated with a waxy oil to protect them from corrosion during shipment. Remove the protective coating with a solvent cleaner or a citrus based degreaser.
Optimum performance from your machine will be achieved when you clean all moving parts or sliding contact surfaces that are coated with rust preventive products.
It is advised to avoid chlorine based solvents, such as acetone or brake parts cleaner, as they will damage painted surfaces and strip metal should they come in contact. Always follow the manufacturer's instructions when using any type of cleaning product.

4.3 SITE PREPARATION

When selecting the site for the machine, consider the largest size of workpiece that will be processed through the machine and provide enough space around the machine for operating the machine safely. Consideration should be given to the installation of auxiliary equipment. Leave enough space around the machine to open or remove doors/covers as required for the maintenance and service as described in this manual.
The planer should be operated in a well-lit area with good ventilation. It can be rolled on its casters to the desired location. Turn the foot Lock Knob to lock the casters during operation or adjustments.

4.4 LIFTING INSTRUCTIONS

⚠WARNING ***This machine is extremely heavy. Serious personal injury may occur if safe moving methods are not followed. To be safe, you will need assistance and power equipment when moving the shipping crate and removing the machine from the crate.***

Remove the screws holding the planer to the pallet and use a forklift or hoist to lift the planer off the pallet. Forks and straps should always be placed under the four lifting handles when lifting this machine (Fig. 4.1). The lifting handles can be pushed back in when not in use.

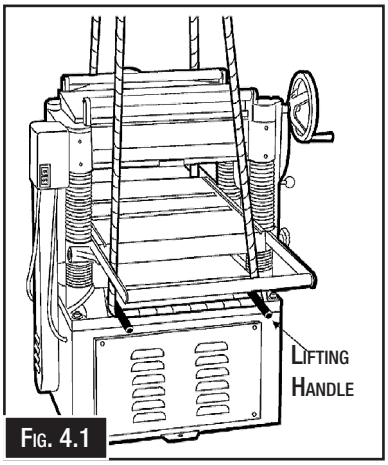


FIG. 4.1

4.5 ASSEMBLY

The machine must be fully assembled before it can be operated. First clean any parts that are coated in rust preventative to ensure the assembly process can proceed smoothly.

HAND WHEEL

1. Place the key into the slot on the shaft (Fig. 4.2) and mount the hand wheel to the shaft, making sure it is oriented so that it slips over the key.
2. Mount the handle in the threaded hole in the hand wheel and tighten.

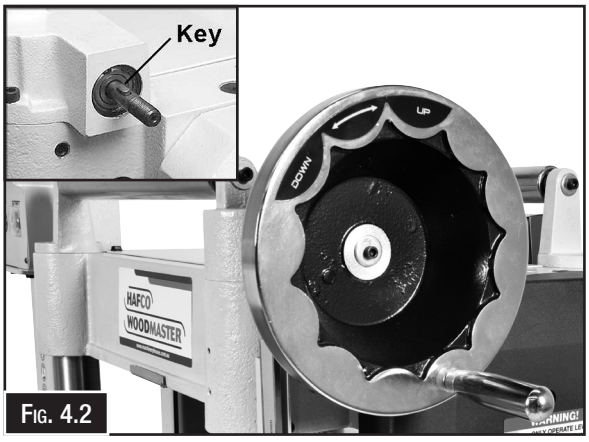


FIG. 4.2

CONTROL BOX

The control box is shipped facing sideways and must be rotated to the front as shown in (Fig. 4.3). Use a 5 mm hex wrench to remove the four socket head cap screws, turn the control box 90°, then reinstall and tighten the screws.

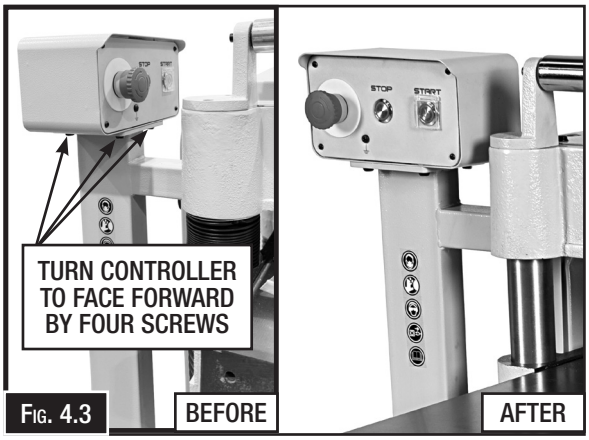


FIG. 4.3

Extension Tables:

1. Mount a cast iron table to the edge of the main table with three M8 x 25 hex cap screws (Fig 4.4). Do not fully tighten yet.
2. The extension table must be leveled with the main table. Place a straight edge (such as a jointed board) across both tables.
3. Insert three socket set screws with a hex wrench, and screw them in or out as needed until tables are level.
4. Securely tighten the hex cap screws.
5. Mount the second extension table to the opposite side of the planer table, using the same procedure.

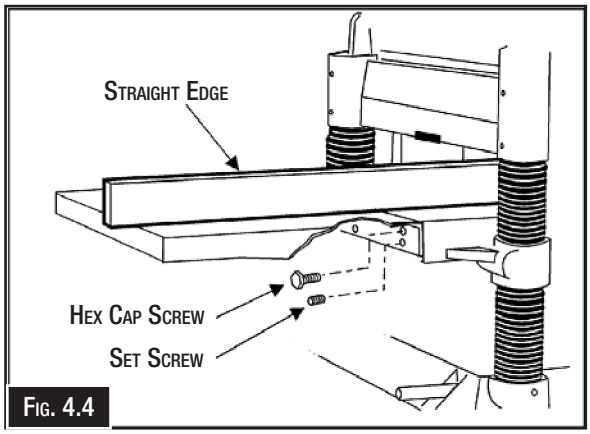


FIG. 4.4

Dust Hood:

Mount the hood to the rear of the head casting with six M6 x 12 hex washer head screws. (A,& B Fig. 4.5).

DO NOT operate these thicknessers without an adequate **Dust Collection System**. This thicknesser creates substantial amounts of wood dust while operating. Failure to use a dust collection system could result in short and long-term respiratory illness. HAFCO recommends that a Dust Extractor with a minimum of 680CFM. Fit the hose to the dust hood and clamp. (Fig.4.5A)

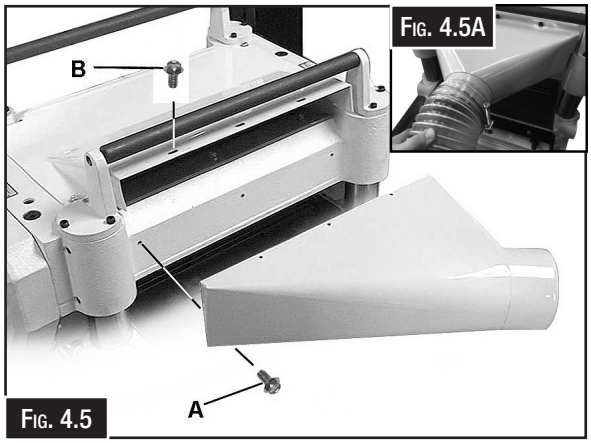


FIG. 4.5

FIG. 4.5A

4.5 ASSEMBLY CONT.

Install the Digital Height Gauge

1. Secure the Digital Height Gauge by tightening the cap hex screw (A) through the bottom bracket, then fasten the two screws (B) into the top bracket as shown in (Fig. 4.6).

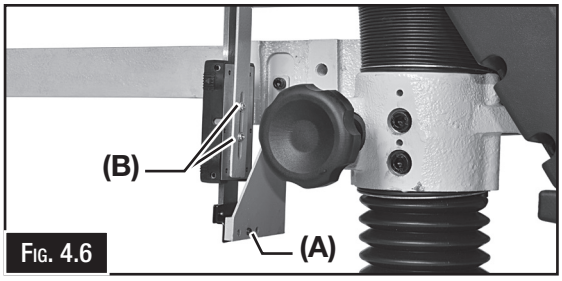


Fig. 4.6

⚠WARNING

Before attaching the wheel kit, the machine must be lifted and properly supported using suitable lifting equipment. Failure to use correct lifting and support equipment may result in serious injury.

Wheel Kit Assembly

1. Attach the rear wheels using the supplied cap head screws (see Fig. 4.7–4.8).
2. Install the front lever wheel using the provided cap head screws (see Fig. 4.9).
3 Screw in the two machine stops as shown in (Fig. 4.11).
4. Lower the machine carefully onto the ground once the wheel kit is fully installed.

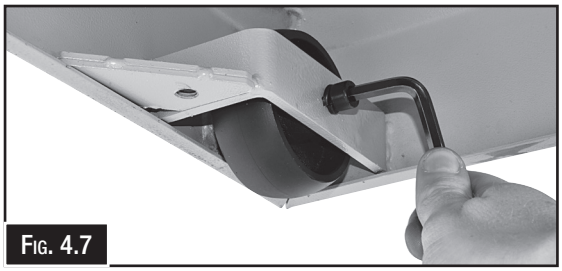


Fig. 4.7

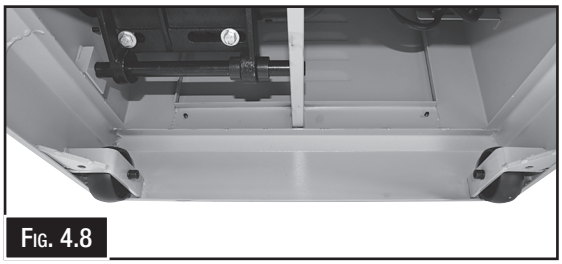


Fig. 4.8

Wheel Kit Operation (Fig 4.12)

1. Use your foot to press the front lever wheel to lift the front of the machine.
2. Carefully push the machine to move it into the desired position.
3. Release the foot lever to lower the machine back onto the ground.
4. Engage the machine stops to prevent the machine from rolling.

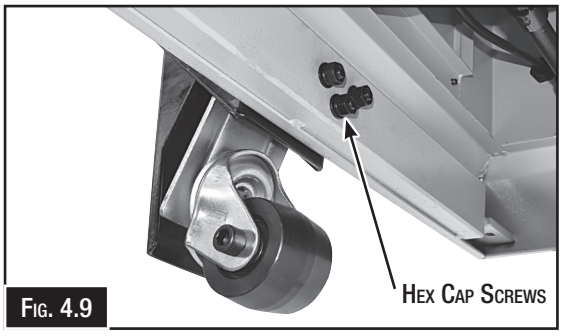


Fig. 4.9


Fig. 4.10

Fig. 4.12


Fig. 4.11

4.6 TEST RUN

Once assembly is complete, test run the machine to ensure it is properly connected to the power and safety components are functioning correctly. Check that the direction of the motor is correct and make sure that the machine rotates in the correct direction.
If the direction is incorrect, isolate the machine and have the electrician make changes to the wiring. If you find an unusual problem during the test run, immediately stop the machine, disconnect it from power, and fix the problem BEFORE operating the machine again. The Troubleshooting table in the Maintenance section of this manual may be able to help. If the problem persists then contact your dealers service technician.

To test run the machine:

1. Connect the machine to the power supply.

2. Make sure that the manual has been read and that the safety instructions at the beginning of the manual are understood. Make sure the machine has been setup correctly

3. Make sure all tools and objects used during set up have been cleared away from the machine.

4. Turn the machine ON.

5 Make sure that the motor is travelling in the correct direction.

6. Listen to and watch for abnormal noises or actions. The machine should run smoothly with little or no vibration or rubbing noises.

7. Any strange or unusual noises should be investigated and corrected before operating the machine again. Always disconnect the machine from power supply when investigating or correcting potential problems. The troubleshooting chart in the maintenance section may be helpful in rectifying a problem.

Testing The Emergency Stop Button (Fig. 5.0)

Make sure that the emergency button is working correctly

1. Twist the top of the Emergency Stop button to ensure that it is in the raised position.
2. Start the machine and then press the emergency stop button. The machine should stop and the power should be cut off. If the machine cannot be started then the emergency stop is working correctly.
3. To reset the Emergency Stop twist the red top until it pops up. The machine should now work again.

FIG. 5.0

5. OPERATION

5.1 OPERATION OVERVIEW

The purpose of this overview is to provide the novice machine operator with a basic understanding of how the machine works during operation, so the machine controls and components discussed later in this manual may be easy to understand.

Due to the generic nature of this overview, it is not intended to be an instructional guide. To learn more about specific operations, read this entire manual, seek additional training from experienced machine operators, and do additional research outside of this manual by reading “how-to” books,trade magazines, or websites.

In a typical operation, the operator does the following:

1. Examine the workpiece to make sure it is suitable for planing.
2. Put on safety glasses or face shield, a respirator,and hearing protection.
3. Place the workpiece on the table with the flat side down and correctly adjust the table height for the workpiece thickness and depth of cut.

— If workpiece is bowed, plane the surface of the workpiece on a jointer until one side is flat. Doing so ensures that it sits flat on the planer table during operation.

4. When all safety precautions have been taken, turn ON the planer.
5. Stand to one side of planer path to reduce risk of kickback injuries, then feed the workpiece into the planer until the in-feed roller grabs it.

Note: In-feed and out-feed rollers control feed rate of workpiece as it passes through planer. Operator should not push or pull on work piece.

— If the cut is too deep and bogs down immediately reduce the depth of cut.

6. Once the workpiece is clear of the out-feed roller and stops moving, remove the workpiece from the out-feed table and measure the workpiece thickness. If further planing is required, raise the table slightly (approximately 1⁄4 to 1⁄2 turn of table height hand wheel), then feed the work piece into the front of planer again.
7. Continue the process until the desired thickness is achieved, then turn the machine OFF.

5.2 INSPECTING THE WORK PIECE

Some materials are not safe to use or may require modification before they are safe to use. Before cutting, inspect all workpieces for the following:

- **Material Type:** This machine is only intended for work pieces of natural wood fiber. Attempting to use work pieces of any other material that could break apart during operation could lead to serious personal injury and property damage.
- **Foreign Objects:** Inspect lumber for defects and foreign objects (nails, staples, embedded gravel, etc,). If you have any doubts about the quality of the timber, DO NOT use it. Remember, wood stacked on a concrete floor can have small pieces of stone or concrete pressed into the surface.
- **Large/Loose Knots:** Loose knots can become dislodged during operation. Large knots can cause kickback and machine damage. Always use workpieces that do not have large/loose knots.
- **Wet or “Green” Stock:** Avoid using wood with a high water content. Wood with more than 20% moisture content or wood exposed to excessive moisture (such as rain or snow), will cut poorly and cause excessive wear to the machine. Excess moisture can also hasten rust and corrosion of the machine and/or individual components.

5.3 KNIFE SETTING OR REPLACEMENT

Properly setting all three knives is essential to achieving accurate work results. Properly set knives will last longer and also keep their edge (sharpness) longer by equally sharing the cutting workload. You may use the supplied knife setting gauge to help you set the knives to the correct height whenever re-setting or changing knives.

The cutter head on this unit is supplied with both Adjustment springs and jack screws providing you with two options for setting the knives. We suggest you try each method at least once or twice and decide for yourself which method works best and fastest for you.

1. Turn off and disconnect the machine from the power source.
2. To give yourself unimpeded access to the cutter head and knives, remove the blade guard and lower the tables as far as they go.
3. Remove the fence to have access to the upper pulley and turn it by hand to rotate the cutter head to access one of the knives.
4. Loosen (but don't remove) all the gib bolts - start in the center and alternate sides (If replacing an old or damaged knife, loosen the bolts until the knife can be removed and install a new sharpened knife). Then position the gauge over the selected knife .
5. a) To use the adjustment springs to set the knife height: Push the knife down with the gauge so that the edge of the knife is touching the center reference pads on the gauge. Hold the gauge down and tighten the bolts to secure the knife in place. Repeat for the 2 other knives. (Fig 5.2)

   b) To use the Jack Screws to set the knife height: Use an Allen wrench to turn the screws to raise or lower the knife as needed until the ideal position - both sets of feet of the gauge sitting flush on the cutter head and the knife barely touching the center reference pads on the gauge - has been achieved. Repeat for the 2 other knives.
6. Re-check the height setting on all the knives and re-set if necessary.
7. Reset the tables and replace the fence and blade guard.

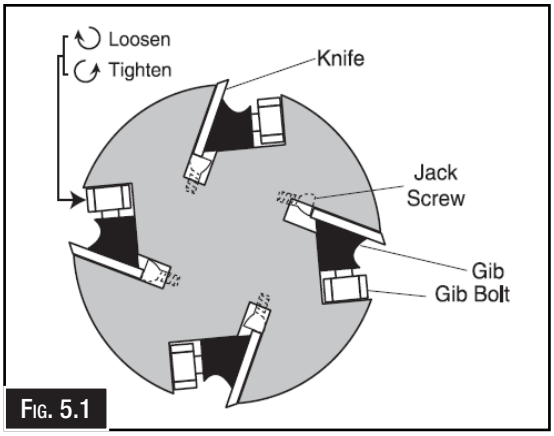


FIG. 5.1

NOTE: The 4-blade cutter head pictured is for display purposes only and may differ from the supplied part.

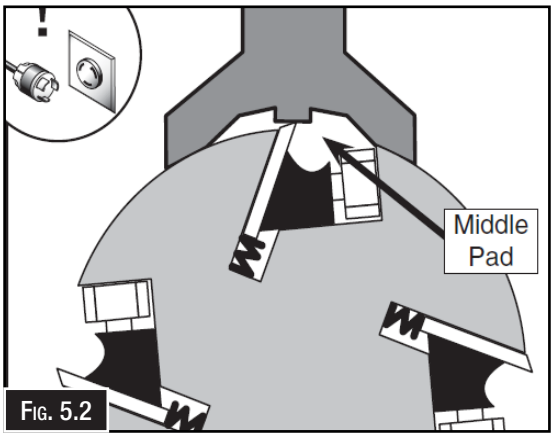


FIG. 5.2

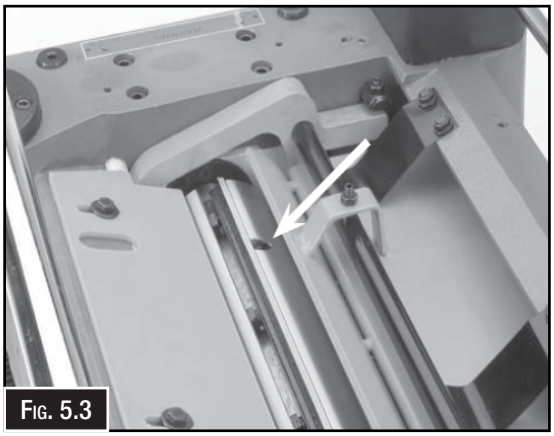


FIG. 5.3

WARNING!

Always disconnect the power to the machine before servicing or doing any maintenance

5.3 REPLACING HELICAL CUTTER HEAD CARBIDE INSERTS

The carbide inserts on the model T-406S are four-sided. When dull, simply remove each insert, (Fig. 5.4) rotate it 90° for a fresh edge, and re-install it.

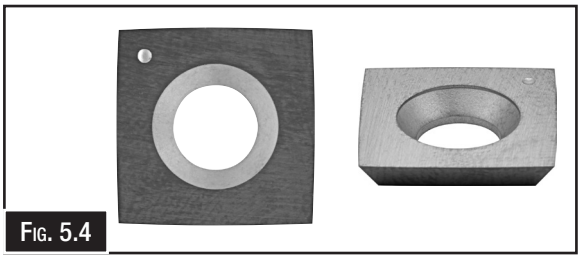


Fig. 5.4

Use the provided star point screwdriver to remove the knife insert screw. (Fig. 5.5) It is advisable to rotate all inserts at the same time to maintain consistent cutting. However, if one or more knife inserts develops a nick, rotate only those inserts that are affected.

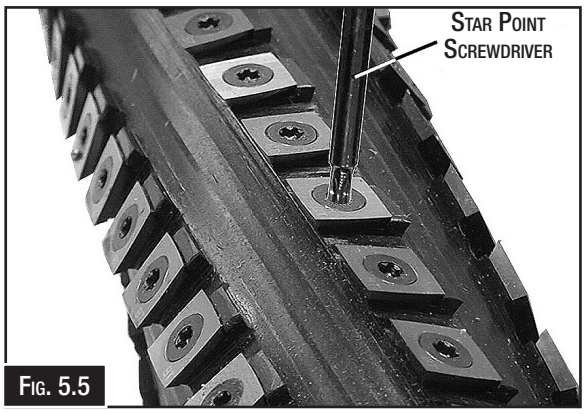


Fig. 5.5

Each knife insert has an etched reference mark so you can keep track of the rotations.

IMPORTANT: When removing or rotating inserts, clean saw dust from the screw, the insert, and the cutter head platform. Dust accumulation between these elements can prevent the insert from seating properly, and may affect the quality of the cut.

Before installing each screw, lightly coat the screw threads with machine oil and wipe off any excess.

Securely tighten each screw which holds the carbide inserts before operating the planer!

⚠WARNING ***Make sure all carbide insert screws are tightened securely. Loose inserts can be propelled at high speed from a rotating cutter head, causing injury.***

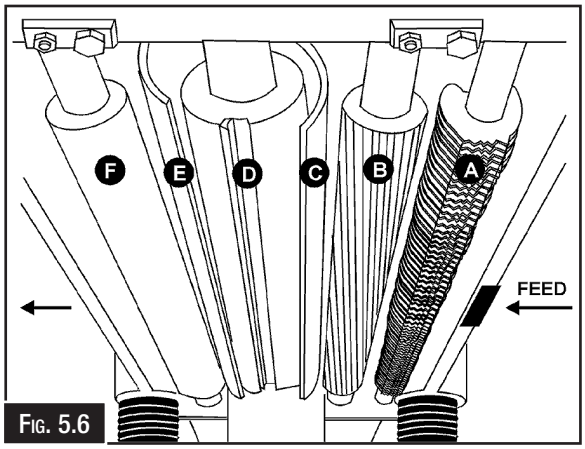


Fig. 5.6

5.4 PLANER TRANSMITTING ROLLERS

A – Anti-Kickback Fingers

B – In-feed Roller

C – Chip breaker

D – Cutter head

D – Pressure Bar

E – Out-feed Roller

WARNING!
Always disconnect the power to the machine before servicing or doing any maintenance

The in-feed roller (B), (Fig. 5.6) and out-feed roller (F), (Fig. 5.6) are those parts of your planer that feed the stock while it is being planed. The in-feed and out-feed rollers are under spring tension and this tension must be sufficient to feed the stock uniformly through the planer without slipping but should not be so tight that it causes damage to the board. The tension should be equal at both ends of each roller.

Anti-Kickback Fingers

The anti-kickback fingers (A), (Fig. 5.6) help prevent kickback of stock. They operate by gravity and it is necessary to inspect them occasionally to make sure they are free of gum and pitch, so that they move independently and operate correctly.

5.5 ADJUSTMENTS

Cutter Head

Although your planer was carefully adjusted at the factory, it should be checked before being put into operation. Any inaccuracies due to rough handling in transit can be corrected by following the directions in this manual.

To check the adjustments you will need feeler gauges, and a home-made gauge block made of hardwood. This gauge block can be made by following the dimensions shown in (Fig. 5.7).

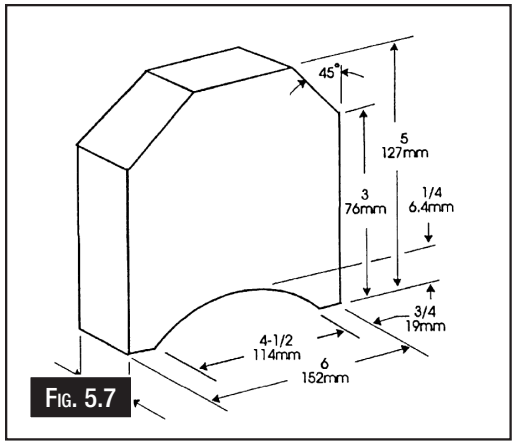


FIG. 5.7

Pulley Alignment:

1. Remove the belt guard and place a straight edge across both pulley faces.
2. If they are not flush, open the rear panel and loosen the four motor-plate hex nuts with a 12 mm wrench.
3. Shift the motor left or right until the pulleys align using a stainght edge as shown. (Fig 5.8 & 5.9 & 5.10).
4. Tighten the nuts and reinstall covers.

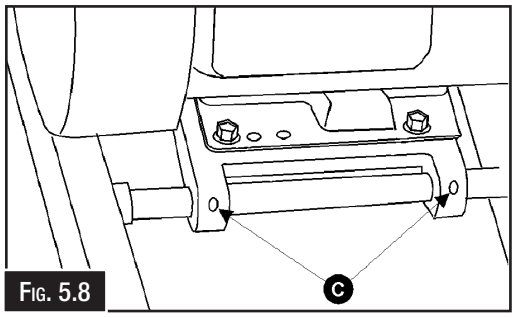


FIG. 5.8

Belt Tension:

Inspect the tension of the belts frequently during the first few times you use the planer. Belts often stretch during this trial period. If they require tightening, proceed as follows:

1. Remove the belt guard and rear panel.
2. Loosen the lower nut on the motor adjustment screw. (Fig 5.11).
3. Turn the top nut to lower the motor plate and increase belt tension. (Fig 5.11).
4. Set tension so the belt has slight mid-span deflection under moderate finger pressure. (Fig 5.12).
5. Tighten the lower nut to lock in place. (Fig. 5.11).

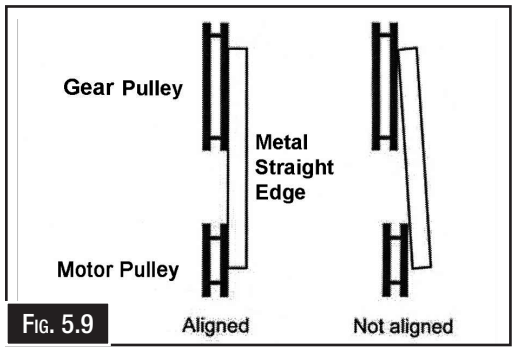


FIG. 5.9

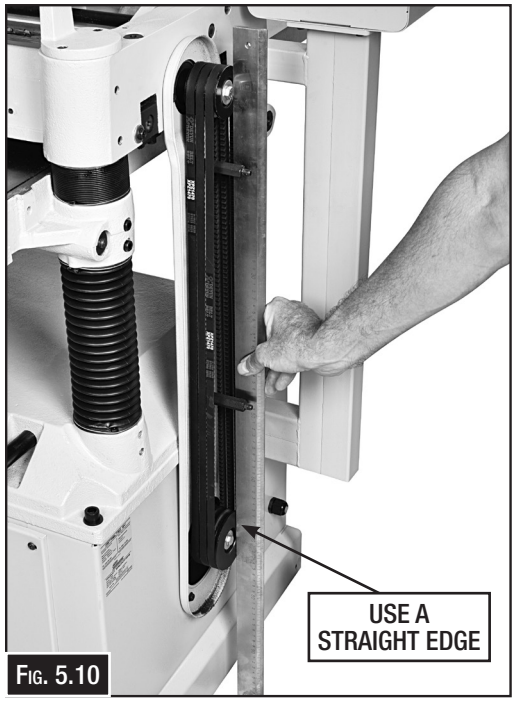


FIG. 5.10

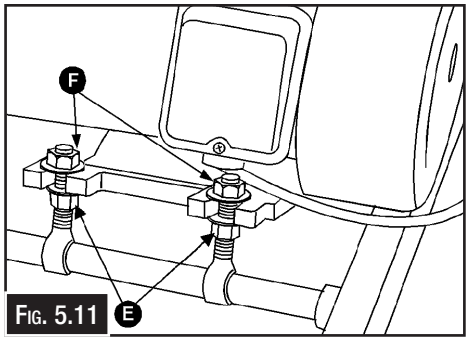


FIG. 5.11

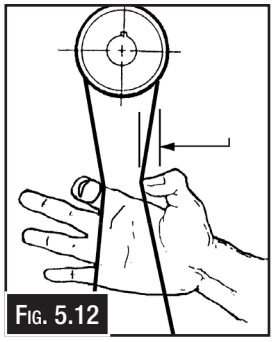


FIG. 5.12

Feed Rate

The infeed and outfeed rollers move the workpiece through the thicknesser while keeping it flat and providing a consistent rate of movement.

Use the two feed rates as stated below:

Low Feed Rate.....Roughing Pass

High Feed Rate.....Finishing Pass

The three different positions of the feed rate control knob are as follows. (Fig 5.13)

- Push the knob in to use the high feed rate
  T406, T-406S 4.9 mpm
  T-508S 5.1 mpm
- Pull the knob out to use the low feed rate
  T-406, T-406S 3.9 mpm
  T-508S 4.2 mpm
- Move the knob to the center position to place the gearbox in neutral.

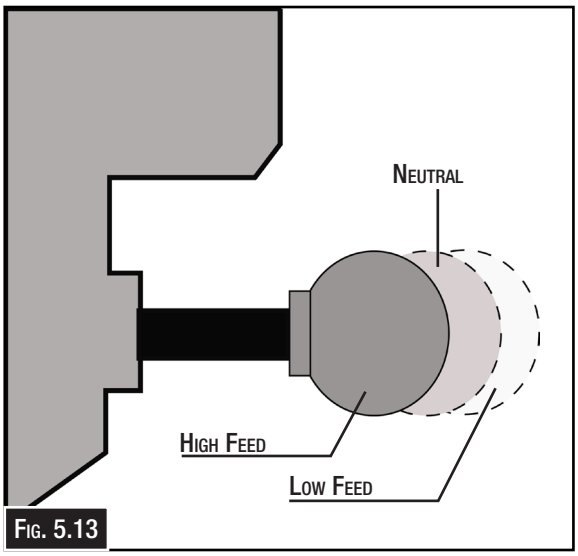


FIG. 5.13

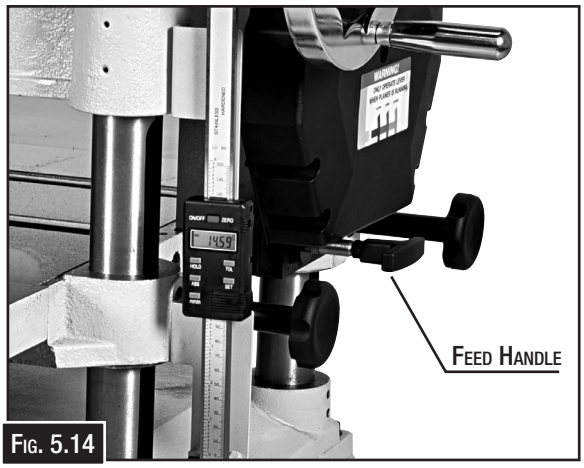


FIG. 5.14

Table Rollers:

The thicknesser planer is supplied with two table rollers (Fig. 5.15) which turn as the stock is fed into the machine, thus reducing friction. It is not possible to give exact dimensions on the proper height setting of the table rollers because each type of wood behaves differently. As a general rule, however, when planing rough stock the table rollers should be set at high position. When planing smooth stock the rollers should be set at low position.

NOTE: When raising the roller higher above the table, the range is from zero to 0.06" (Fig. 5.16).

The table rollers are factory set for average planing and are parallel to the table surface. If you desire to adjust the table rollers higher or lower, proceed as follows:

1. Disconnect machine from power source.
2. Lay a straight edge across both rollers.
3. On one side of the table, loosen the setscrews (A) (Fig. 5.15) with a 3mm hex wrench, and turn the eccentric shafts (B) (Fig. 5.15) to raise or lower the rollers.
4. When proper height is achieved, tighten set screws.
5. Adjust the rollers from the opposite side of the table in the same manner.

IMPORTANT: Be sure that the height of front and rear rollers are the same. And the table rollers must always be set parallel to the table.

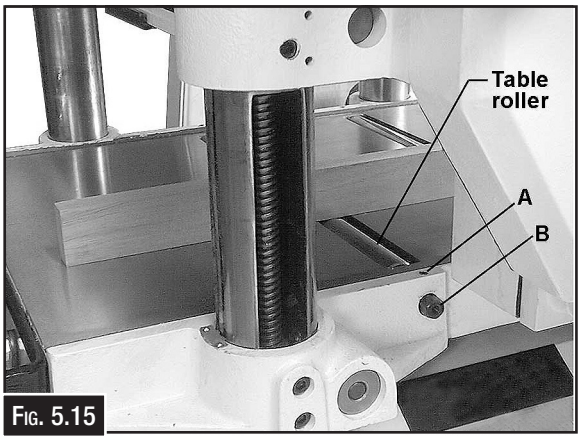


FIG. 5.15

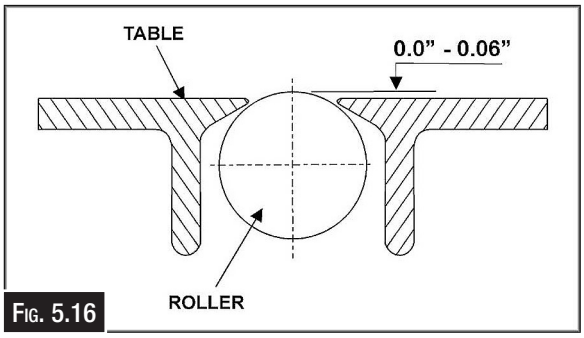


FIG. 5.16

Inspect Work Table Parallel to Cutter Head:

The work table is set parallel to the cutter head at the factory and no further adjustment should be necessary. If the machine is planing a taper, first check to see if the knives are set properly in the cutter head. Then check to see if the work table is set parallel to the cutter head.

Proceed as follows:

1. Disconnect machine from power source.
2. Place the gauge block (Fig 5.17) on the work table directly under the edge of a knife as shown. Make slight contact by gently raising table.

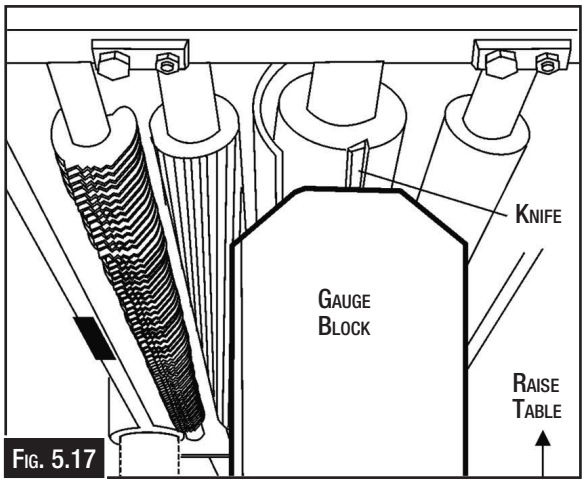


FIG. 5.17

3. Move the gauge block to the opposite end of the work table.

NOTE: Distance from the work table to edge of knife should be the same at both ends.

Adjusting Work Table Parallel to Cutter Head (Fine Adjustment)

If the gap difference determined in the previous section is greater than 0.004” and less than 0.016”, perform the adjustment procedure as follows:

1. Determine which side of the table must be raised to correct the gap.
2. Locate the two socket head cap screws in the table casting for each of the columns (Fig. 5.18). Loosen both sets of screws for each column on the side you wish to adjust. (Fig. 5.18)

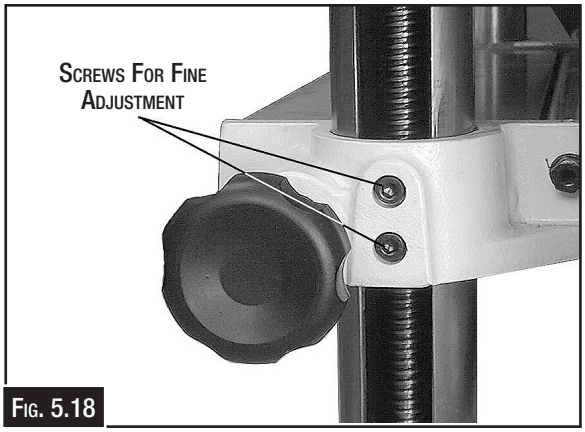


Fig. 5.18

3. Push down or pull up the cutter head assembly in the desired direction. Hold the assembly in position and re-tighten the cap screws.
4. Re-check the table-to-cutter head parallelism again as described in the previous section, then repeat steps 1 through 3 until the deviation is less than 0.004”

Adjusting Work Table Parallel to Cutter Head (Major Adjustment)

If the work table is not parallel to the cutter head, perform the adjustment procedure as follows:

1. Disconnect machine from power source.
2. Remove bolts holding the planer to the stand. Carefully tilt planer on its side to expose underside of base (Fig. 5.19).
3. Remove bolt (A) (Fig. 5.19) and loosen bolt (B) (Fig. 5.19) which will allow you to move the idler sprocket assembly (C) (Fig. 5.19) far enough to release tension on the chain.
4. Remove the chain from the particular sprocket on the corner of the base that you need to adjust.
5. Turn the sprocket by hand to bring that corner into adjustment with the other three corners.

NOTE: Turning sprocket clockwise will increase the distance between the working table and the head casting; counterclockwise will decrease the distance.

This adjustment is very sensitive and it should not be necessary to turn the sprocket more than one or two teeth.

6. When adjustments are correct, replace chain around corner sprocket, slide idler sprocket (C) (Fig. 5.19) back to re-tension chain, tighten bolt (B) (Fig. 5.19) and insert and tighten bolt (A) (Fig. 5.19).

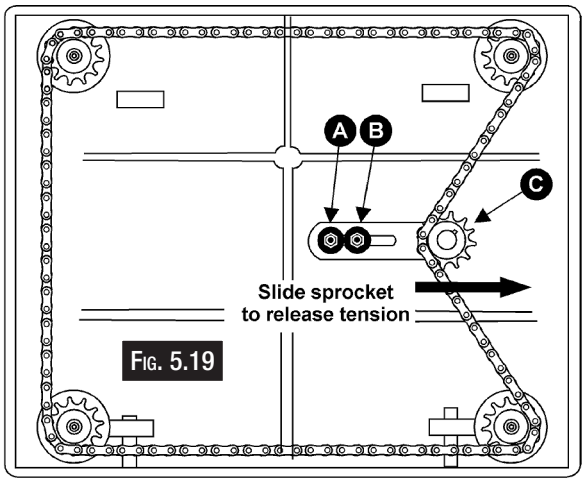


Fig. 5.19

In-feed and Out-feed Roller Spring Tension

The in-feed roller (B) (Fig. 5.6) and out-feed roller (E) (Fig. 5.6) are those parts of your planer that feed the stock while it is being planed.

The in-feed and out-feed rollers are under spring tension and this tension must be sufficient to feed the stock uniformly through the planer without slipping but should not be so tight that it causes damage to the board. The tension should be equal at both ends of each roller.

To adjust the spring tension of the in-feed and out-feed rollers, turn screws (H & G) (Fig. 5.20) with a hex wrench. A clockwise turn increases tension on the pressure spring. (Fig. 5.21)

A counterclockwise turn decreases tension. Adjust the screws at the other end of the rollers with the same number of turns.

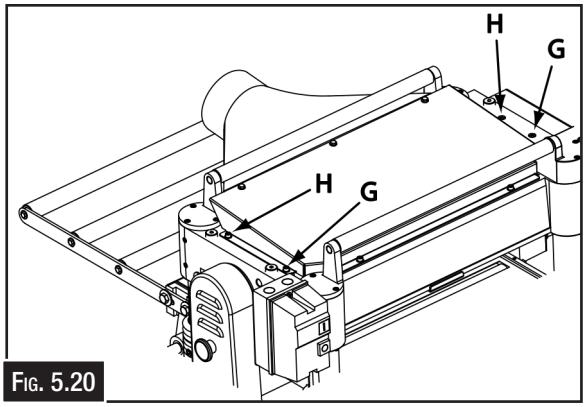


Fig. 5.20

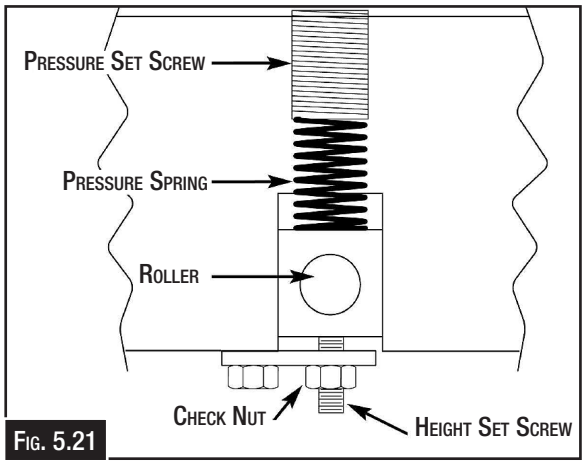


Fig. 5.21

Height of In-feed Roller, Chip-breaker and Out-feed Roller

The in-feed roller, chip breaker and out-feed roller are adjusted at the factory. The height relationship between these items and the cutter head is crucial for accurate and safe planing.

The in-feed roller, chip breaker, and out-feed roller should each be set at 0.02” (0.5mm) below the cutting circle. (Fig. 5.22).

If any adjustments are necessary for the in-feed roller, chip breaker, or out-feed roller, they should be done carefully. Use the following steps as an example of procedure.

NOTE: This procedure uses a home-made gauge block and feeler gauges, which should be sufficient for most planer operations. If very precise measurements are desired, however, use a dial indicator device.

NOTE: The 4-blade cutter head pictured is for display purposes only and may differ from the supplied part.

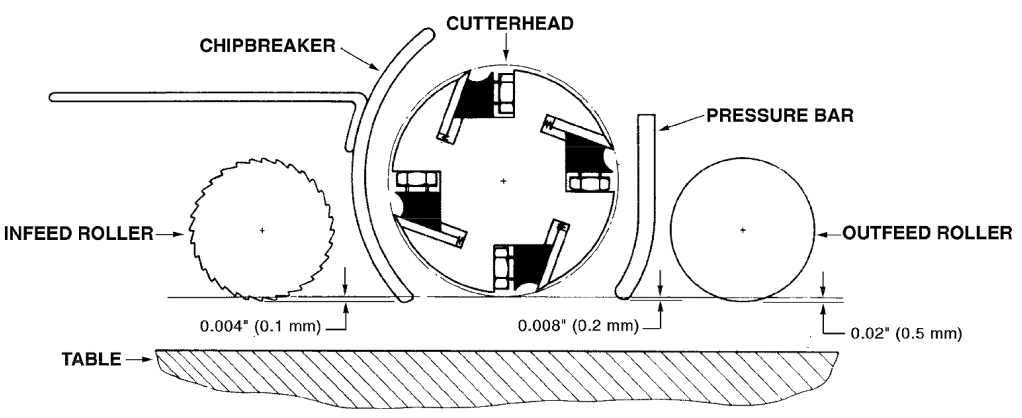


Fig. 5.22

6. MAINTENANCE

Before doing maintenance on this machine, disconnect it from the electrical supply by pulling out the plug or switching off the main switch! Failure to comply may cause serious injury.

Periodic inspections are required to ensure that the machine is in proper adjustment, that all screws are tight, that belts are in good condition and properly tensioned, that dust has not accumulated in the electrical enclosures, and that there are no worn or loose electrical connections.

Buildup of sawdust and other debris can cause your machine to plane inaccurately. Periodic cleaning is not only recommended but mandatory for accurate operation.

Close-fitting parts, such as the cutter head slots and gibs, should be cleaned with a cloth or brush and non-flammable solvent, and freed from clinging foreign matter.

Remove resin and other accumulations from feed rollers and table with a soft rag and non-flammable solvent.

Periodically check all the chains for proper tension and adjust accordingly if needed.

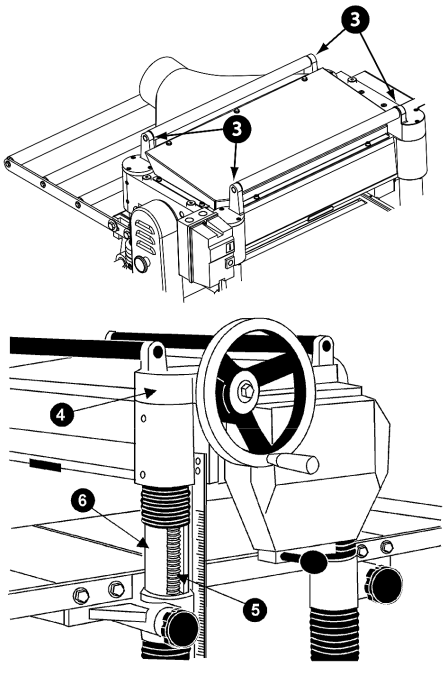
The table should be kept clean and free of rust. Some users prefer a wax paste on exposed steel and cast iron surfaces.

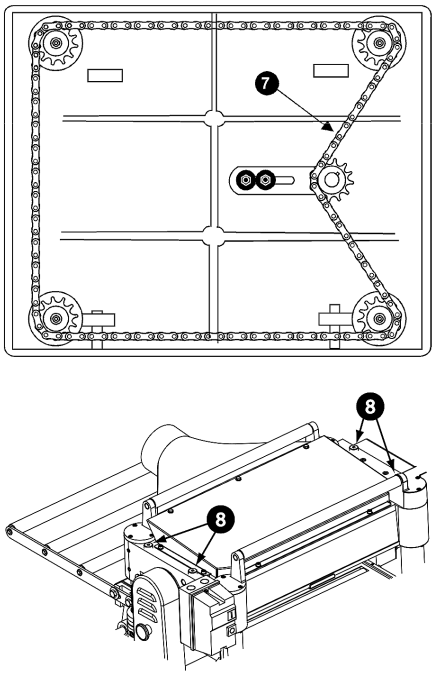
The wax provides a layer of protection as well as reducing friction between lumber and the table, making cuts faster and smoother. Avoid any wax that contains silicone or other synthetic ingredients. These materials can find their way into lumber and can make staining and finishing difficult.

Another option is talcum powder applied with a blackboard eraser rubbed in vigorously once a week; this will fill casting pores and form a moisture barrier. This method provides a table top that is slick and allows rust rings to be easily wiped from the surface. Important also is the fact that talcum powder will not stain wood or mar finishes as wax pickup does.

6.1 LUBRICATION SCHEDULE

Below is a lubrication schedule to maintain the machine in an optimum operation condition. Failure to maintain the machine could effect the warranty.





No.	Lubricant	Interval
1	Grease	M
2	70-90 Oil	Y
3	S.A.E. 30	W
4	Grease	M
5	Grease	M
6	S.A.E. 30	M
7	Grease	M
8	S.A.E. 30	W

Lubrication Table Above
M = Monthly
Y = Yearly
W = Weekly

6.2 TROUBLESHOOTING

Review the troubleshooting and procedures in this section if a problem develops with your machine. If you need replacement parts then follow the procedure in the beginning of the spare parts section or if additional help with a procedure is required, then contact your distributor.
Note: Make sure you have the model of the machine, serial number,and manufacture date before calling.

Symptoms	Possible Cause	Possible Solution
	ELECTRICAL	
Uneven depth of cut side to side	Knives are worn.	Replace knives.
	Cutter head not level with bed.	Level the bed.
Board thickness does not match depth of cut scale.	Depth of cut scale incorrect.	Adjust depth of cut scale.
Chain is jumping.	Inadequate tension.	Adjust chain tension.
	Sprockets misaligned.	Align sprockets.
	Sprockets worn.	Replace sprockets.
Machine will not start/ restart or repeatedly trips circuit breaker or blows fuses.	No incoming power.	Verify unit is connected to power.
	Overload automatic re-set has not reset.	When the planer overloads on the circuit breaker built into the motor starter, it takes time for the machine to cool down before restart. Allow unit to adequately cool before attempting restart. If problem persists, check amp setting on the motor starter inside the electrical box.
	Planer frequently trips.	One cause of overloading trips which are not electrical in nature is too heavy a cut. The solution is to take a lighter cut. If too deep a cut is not the problem, then check the amp setting on the overload relay. Match the full load amps on the motor as noted on the motor plate. If amp setting is correct then there is probably a loose electrical lead. Check amp setting on motor starter.
	Building circuit breaker trips or fuse blows.	Verify that planer is on a circuit of correct size. If circuit size is correct, there is probably a loose electrical lead. Check amp setting on motor starter.
	Loosen electrical connections.	Go through all the electrical connections on the planer including motor connections, verifying the tightness of each. Look for any signs of electrical arcing which is a sure indicator of loose connections or circuit overload.
	Motor starter failure.	Examine motor starter for burned or failed components. If damage is found, replace motor starter. If motor starter looks okay but is still suspect, you have two options: Have a qualified electrician test the motor starter for function, or purchase a new starter and establish if that was the problem on change out. If you have access to a voltmeter, you can separate a starter failure from a motor failure by first, verifying incoming voltage and second, checking the voltage between starter and motor. If incoming voltage is incorrect, you have a power supply problem. If voltage between starter and motor is incorrect, you have a starter problem. If voltage between starter and motor is correct, you have a motor problem
	Motor failure.	If electric motor is suspect, you have two options: Have a qualified electrician test the motor for function, or remove the motor and take it to a qualified electric motor repair shop and have it tested.
	Incorrect wiring of the machine.	Double check to confirm all electrical connections are correct and tight. Refer to wiring diagram in the spare parts section and make any needed corrections.

6.2 TROUBLESHOOTING Cont.

Symptoms	Possible Cause	Possible Solution
Machine will not start/ restart or repeatedly trips circuit breaker or blows fuses. (continued)	On/off switch failure.	If the on/off switch is suspect, you have two options: Have a qualified electrician test the switch for function, or purchase a new on/off switch and establish if that was the problem on change out.
PERFORMANCE PROBLEMS		
Snipe. (NOTE: Snipe can be minimized until negligible, but not eliminated.)	Table rollers not set properly.	Adjust rollers to proper height.
	Uneven feed roller pressure front to back.	Adjust feed roller tension.
	Dull knives.	Replace knives.
	Lumber not butted properly.	Butt end to end each piece of stock as they pass through machine.
Fuzzy grain.	High moisture content in wood.	Remove moisture by drying, or use different stock.
	Dull knives.	Replace knives.
Torn grain.	Too heavy a cut	Adjust proper depth of cut.
	Knives cutting against grain.	Cut along the grain.
	Dull knives	Replace knives.
Rough/Raised grain.	Dull knives.	Replace knives.
	Too heavy a cut.	Adjust proper depth.
	Moisture content too high.	Remove moisture by drying, or use different stock.
Rounded, glossy surface.	Dull knives.	Replace knives
	Feed speed too slow.	Increase speed.
	Cutting depth too shallow	Increase depth.
Poor feeding of lumber.	Inadequate feed roller pressure	Adjust feed roller tension. If proper tension cannot be achieved, replace feed rollers.
	Planer table rough or dirty	Clean pitch and residue, and apply paste wax to planer table.
	V-belt is slipping.	Tighten v-belt
	Surface of feed roller is clogged	Clear pitch and residue out of teeth

6.3 CHANGING GEARBOX OIL

All ball bearings are factory lubricated and sealed for life. They require no further lubrication.

The lubricant in the gear box must be drained and replaced every 2,500 hours. Multi-purpose gear box lubricant will be suitable.

To replace the lubricant:

1. Remove the drain plug (A, Fig. 6.1) with a 14mm wrench. Drain dirty oil thoroughly.
2. Insert and tighten the drain plug. (A, Fig. 6.1).
3. Remove filler cap (B, Fig. 6.1) and fill with clean lubricant through the hole. Fill until the oil reaches the top of the filler plug port for correct oil level.
4. Install and tighten filler cap (B, Fig. 6.1).

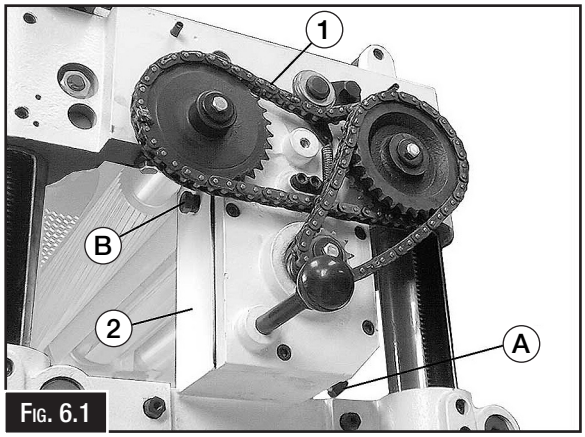


FIG. 6.1

THICKNESSER
T-406, T-406S, T-508S

Order Code: (W832, W834, W838)

Edition : 2.0
Date: (12/25)

The following section covers the spare parts diagrams and lists that were current at the time this manual was originally printed. Due to continuous improvements of the machine, changes may be made at anytime without notification.

HOW TO ORDER SPARE PARTS

1. Have your machines model number, serial number & date of manufacture on hand, these can be found on the specification plate mounted on the machine.
2. A scanned copy of your parts list/diagram with required spare part/s identified.

NOTE: SOME PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

3. Go to www.machineryhouse.com.au/contactus and fill out the inquiry form attaching a copy of scanned parts list.

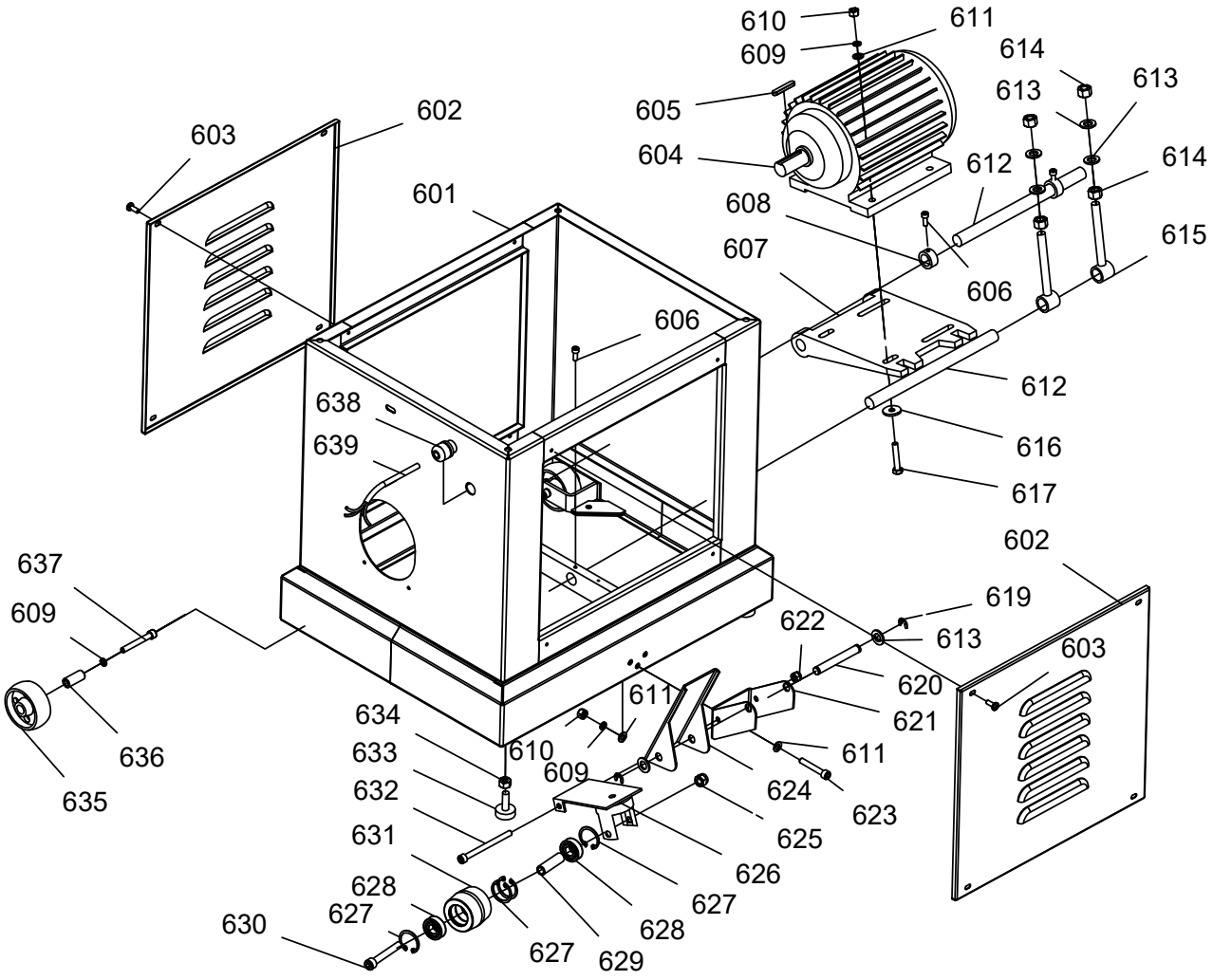
WARNING!
Electricity is dangerous and could cause death.
All electrical work must be carried out by a qualified electrician.

CAUTION!
It is impossible to cover all possible hazards Every workshop environment is different. These are designed as a guide to be used to compliment training and as a reminder to users prior to equipment use. Always consider safety first, as it applies to the individual working conditions.

CABINET C/W TROLLEY WHEELS - PARTS LIST

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
601	STAND	1	612	PLATE CONNECTING ROD	2
602	BACK COVER	2	613	FLAT WASHER 12	4
603	PHI HEAD SCREW M6*16	8	614	HEX NUT M12	4
604	MOTOR	1	615	ADJUST BOLT	2
605	KEY 8*40	1	616	FENDER WASHER 8	4
606	CAP SCREW M6*16	4	617	HEX BOLT M8*40	4
607	MOTOR MOUNT PLATE	1	618	LOCK SCREW M8*25	2
608	COLLAR	2	619	CAP SCREW M8*60	4
609	LOCK WASHER 8	8	620	WHEEL	4
610	HEX NUT M8	4	621	STRAIN RELIEF M20*1.5	1
611	FLAT WASHER 8	4	622	POWER CORD	1

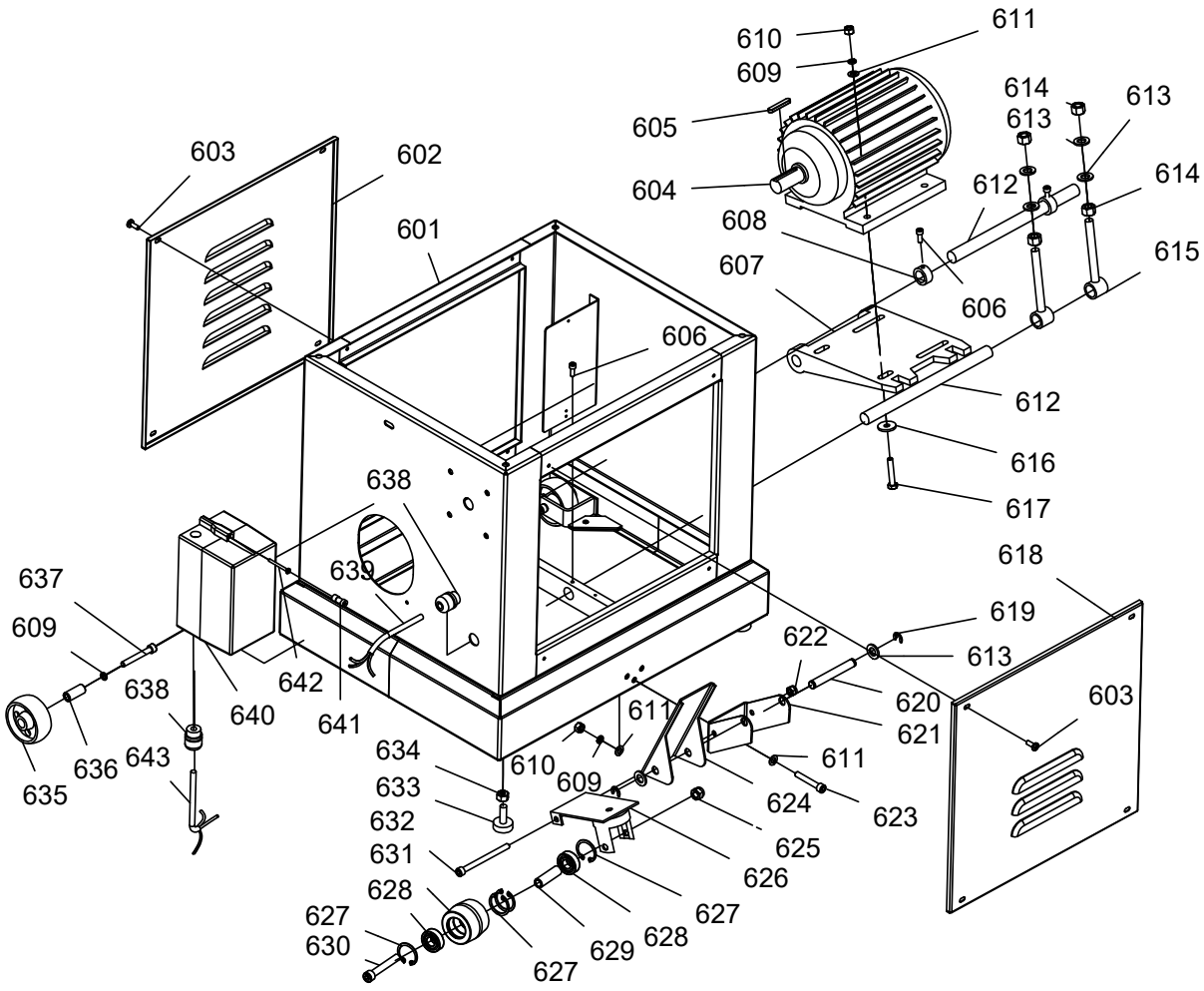
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



CABINET C/W TROLLEY WHEELS - PARTS LIST

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
601	STAND	1	623	CAP SCREW M8*50	3
602	BACK COVER	2	624	PEDAL	1
603	PHI HEAD SCREW M6*16	8	625	LOCK NUT M10	1
604	MOTOR	1	626	TROLLEY UNIVERSAL KIT	1
605	KEY 8*40	1	627	INT RET RING 35	4
606	CAP SCREW M6*16	4	628	BEARING 6202	2
607	MOTOR MOUNT PLATE	1	629	TROLLEY WHEEL SLEEVE	1
608	COLLAR	2	630	CAP SCREW M10*70	1
609	LOCK WASHER 8	8	631	TROLLEY WHEEL	1
610	HEX NUT M8	4	632	CAP SCREW M8*100	1
611	FLAT WASHER 8	4	633	RUBBER FOOT	2
612	PLATE CONNECTING ROD	2	634	HEX NUT M10	2
613	FLAT WASHER 12	4	635	UNIVERSAL WHEEL	2
614	HEX NUT M12	4	636	UNIVERSAL WHEEL SLEEVE	2
615	ADJUST BOLT	2	637	CAP SCREW M8*60	2
616	FENDER WASHER 8	4	638	STRAIN RELIEF M20*1.5	3
617	HEX BOLT M8*40	4	639	POWER CORD	1
618	LOCK SCREW M8*25	2	640	SWITCH	1
619	CAP SCREW M8*60	4	641	BOLT	2
620	WHEEL	4	642	PHI HEAD SCREW M4*40	2
621	STRAIN RELIEF M20*1.5	1	643	MOTOR POWER CORD	1
622	POWER CORD	1			

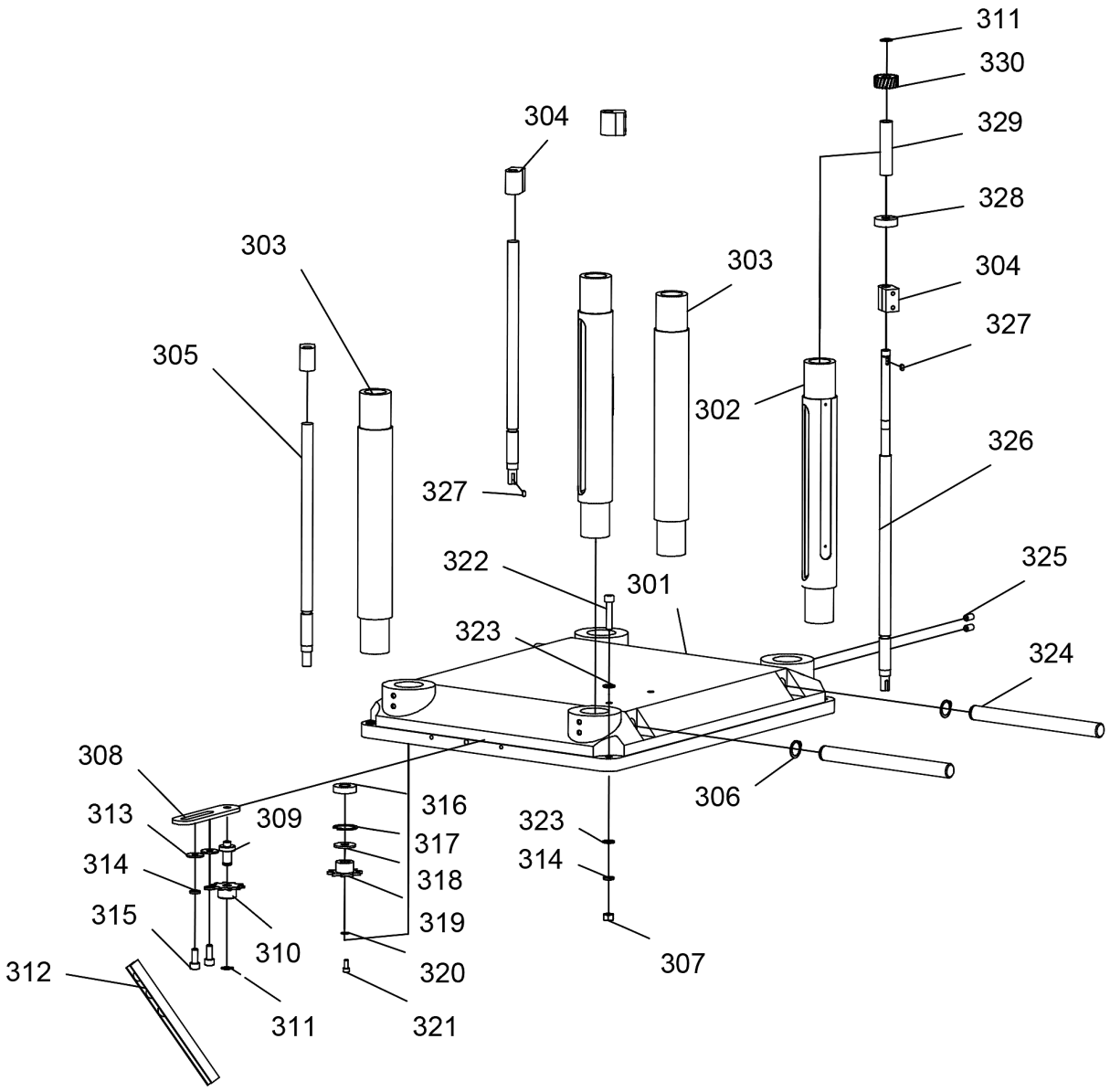
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



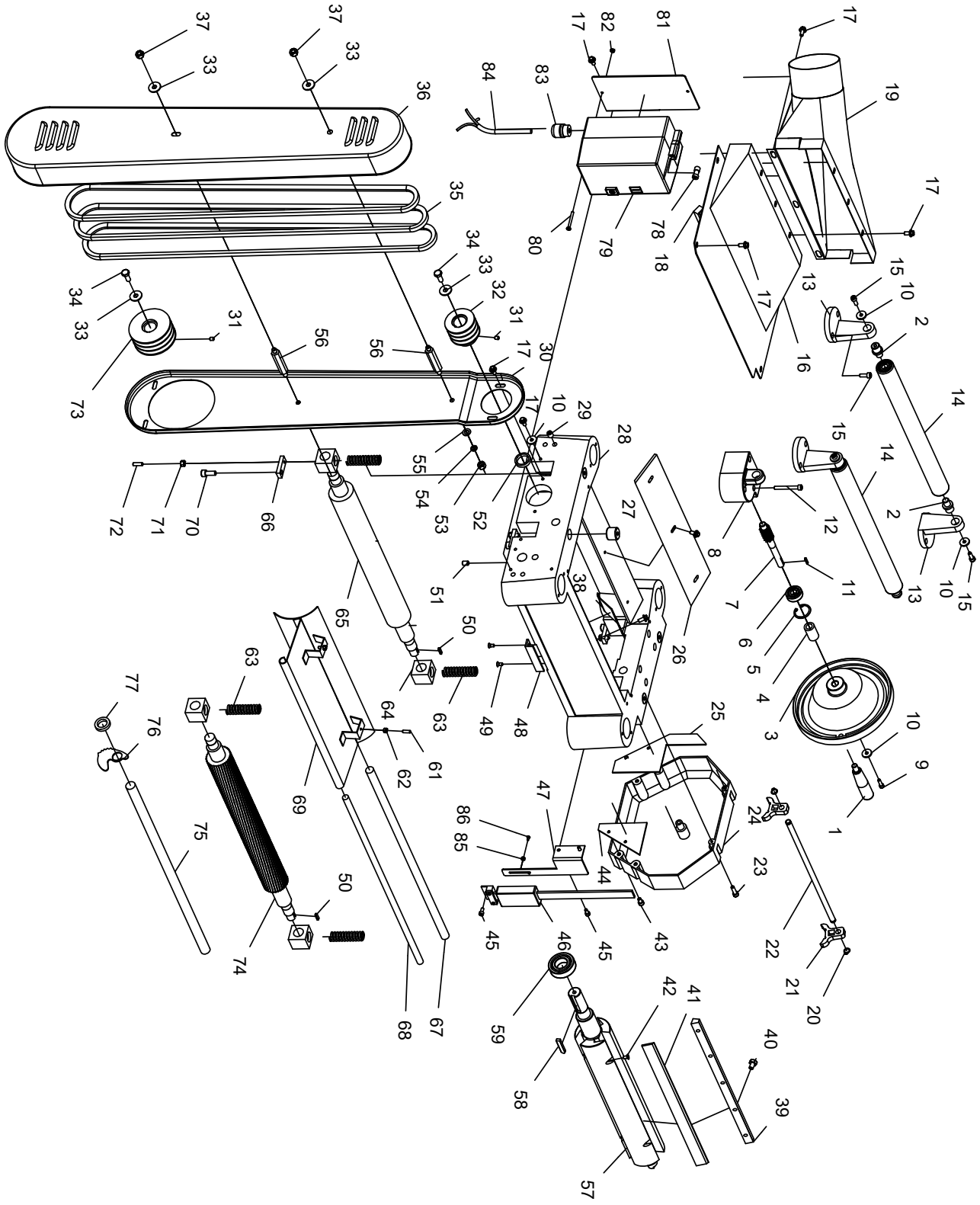
BASE - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
301	BASE	1	316	BEARING 6002	4
302	SCALE COLUMN	1	317	INT RETAINING RING 32	4
303	COLUMN	3	318	WASHER	4
304	LEAD SCREW NUT	4	319	GEAR	4
305	LEAD SCREW	3	320	WASHER	4
306	EXT RET RING 20	4	321	CAP SCREW M5*12	4
307	HEX NUT M8	4	322	CAP SCREW M8*40	4
308	BRACKET	1	323	FIAT WASHER 8	8
309	GEAR SHAFT	1	324	CRANE POST	4
310	GEAR	1	325	SET SCREW M8*16	8
311	EXT RETAINING RING 12	2	326	LEAD SCREW	1
312	CHAIN 081-1*134	1	327	KEY 4*12	5
313	FENDER WASHER 8	2	328	BEARING 6201	1
314	LOCK WASHER 8	6	329	BUSHING	1
315	CAP SCREW M8*20	2	330	GEAR	1

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



HEADSTOCK - PARTS DIAGRAM

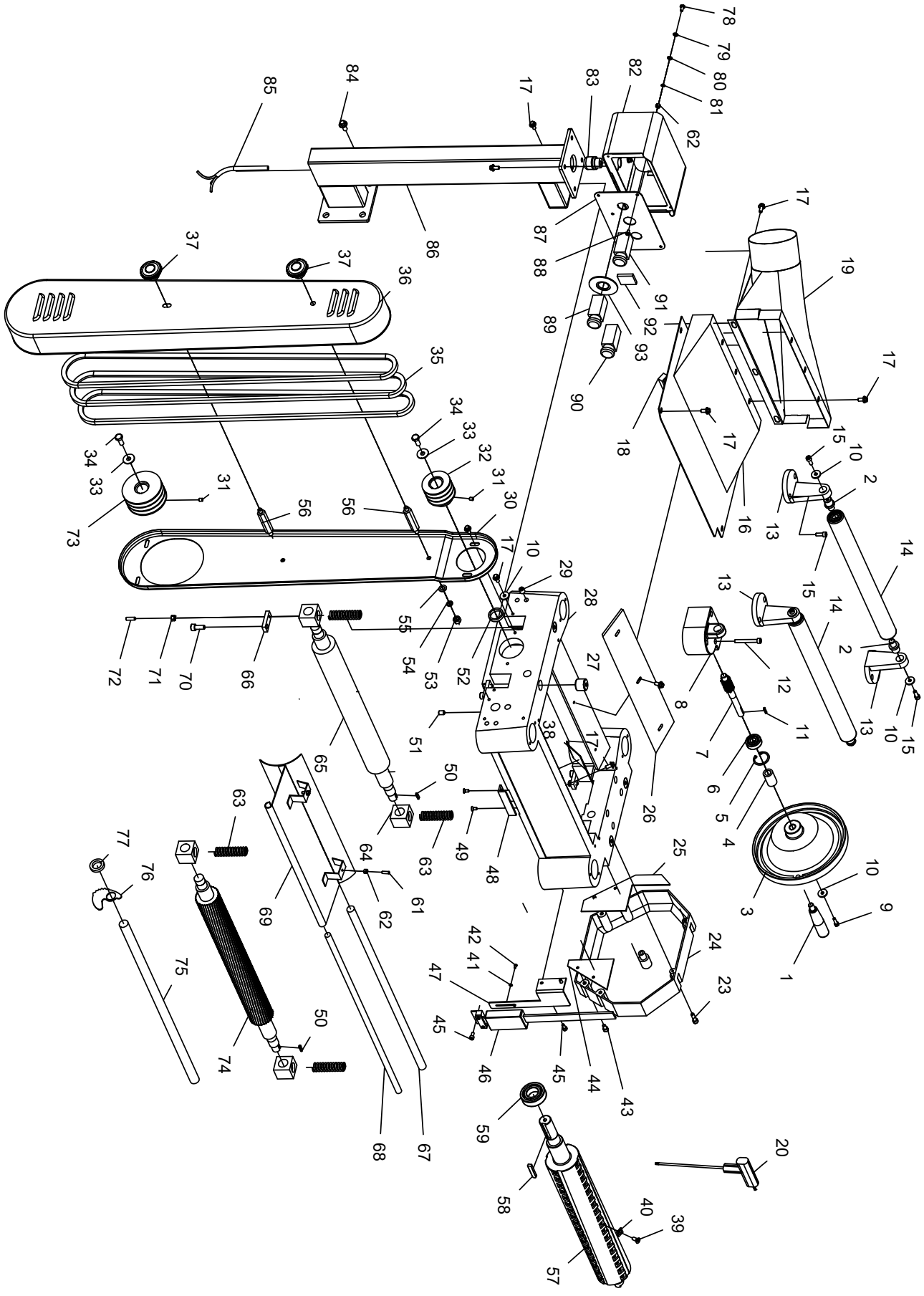


HEADSTOCK - PARTS LIST

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
1	HANDLE	1	44	SAFETY HATCH-1	1
2	ROLLER SHAFT	4	45	CAP SCREW M5*10	3
3	HAND WHEEL	1	46	DIGITAL SCALE	1
4	COLLAR	1	47	DIGITAL SCALE SET PLATE	1
5	INT RETAINING RING Ø32	1	48	CUT LIMIT PLATE	1
6	BEARING 6201	1	49	FLAT HEAD SCREW M5*10	2
7	WORM GEAR	1	50	KEY 5*15	2
8	WORM HOUSING	1	51	SET SCREW M8*12	1
9	CAP SCREW M5*16	1	52	PULLEY RETAINER	1
10	WASHER	9	53	HEX NUT M8	2
11	KEY 4*16	1	54	LOCK WASHER 8	2
12	CAP SCREW M6*55	3	55	FLAT WASHER 8	2
13	ROLLER STAND	3	56	SPECIAL BOLT	2
14	ROLLER	2	57	CUTTER HEAD	1
15	CAP SCREW M6*16	10	58	KEY 8*45	1
16	UPPER COVER	1	59	BEARING 6205	1
17	FLANGE BOLT M6*12	29	61	SET SCREW M5*16	2
18	GASKET	1	62	NUT M5	2
19	DUST HOOD	1	63	SPRING	4
20	EXT RETAINING RING Ø10	2	64	BUSHING	4
21	KNIFE GAUGE	2	65	OUT-FEED ROLLER	1
22	KNIFE GAUGE SHAFT	1	66	PLATE	4
23	CAP SCREW M6*20	3	67	UPPER SHAFT	1
24	GEAR BOX COVER	1	68	MIDDLE SHAFT	1
25	SAFETY HATCH	1	69	CHIP BREAKER	1
26	CHIP DEFLECTOR PLATE	1	70	CAP SCREW M8*20	4
27	SPECIAL SET SCREW	4	71	HEX NUT M6	4
28	MACHINE HEAD	1	72	SET SCREW M6*16	4
29	SET SCREW M10*12	8	73	MOTOR PULLEY	1
30	BELT GUARD	1	74	IN-FEED ROLLER	1
31	SET SCREW M6*8	4	75	SHAFT	1
32	CUTTER HEAD PULLEY	1	76	ANTI-KICKBACK FINGER	47
33	FLAT WASHER Ø8*28	4	77	SPACER	49
34	HEX BOLT M8*20	2	78	BOLT	2
35	V-BELT XPZ 1470	3	79	SWITCH	1
36	BELT COVER	1	80	PHI HEAD SCREW M5*20	2
37	HEX NUT M8	2	81	SWITCH BRACKET	1
38	PLATE SPRING	3	82	HEX NUT M5	2
39	GIB	3	83	STRAIN RELIEF M20*1.5	2
40	GIB SCREW M8*10	15	84	POWER CORD	1
41	KNIFE	3	85	FLAT WASHER 3	4
42	FLAT CAP SCREW M5*10	6	86	PHI HEA SCREW M3*6	2
43	CAP SCREW M6*10	4			

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

HEADSTOCK - PARTS DIAGRAM



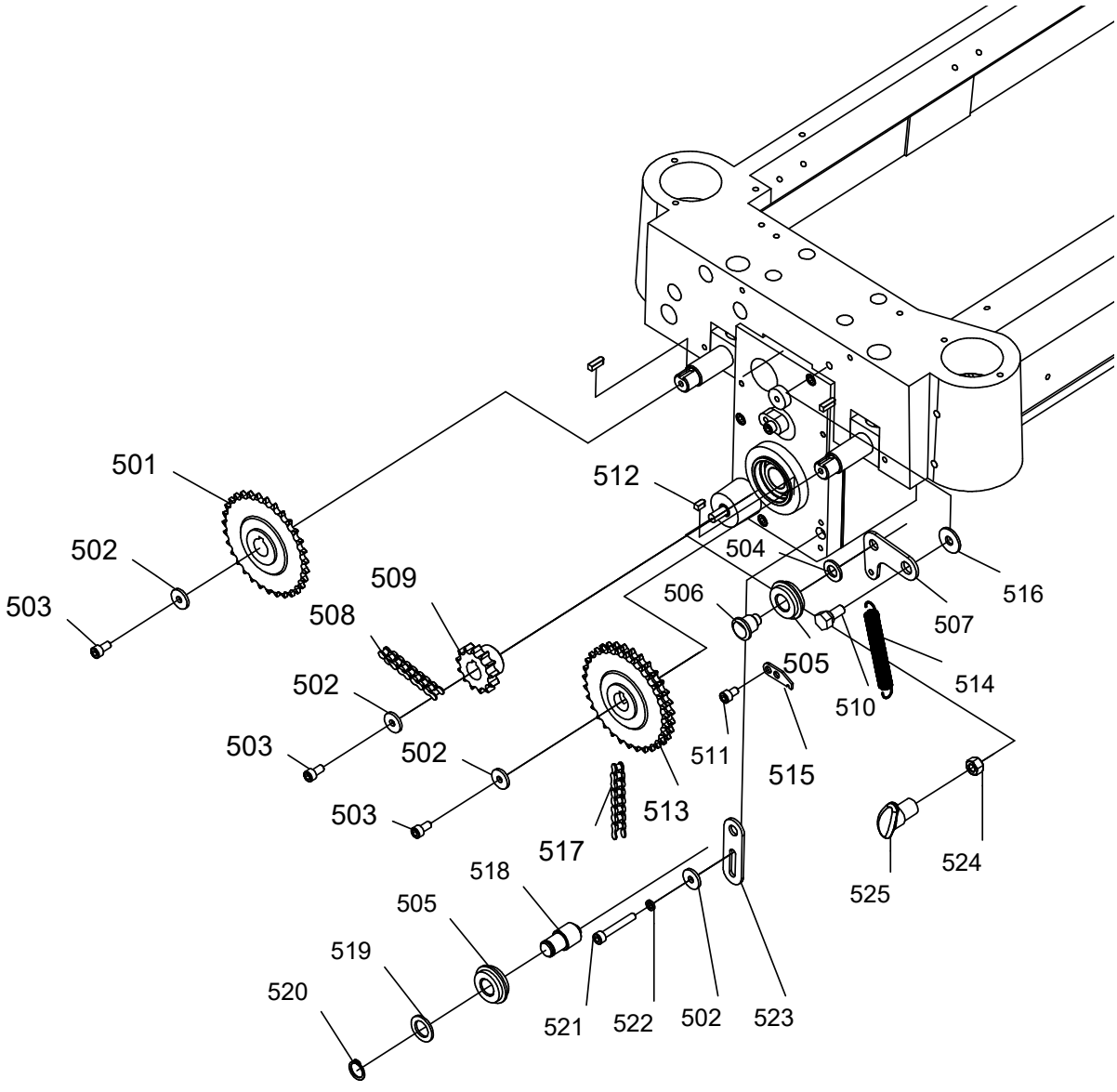
HEADSTOCK - PARTS LIST

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
1	HANDLE	1	49	FLAT HEAD SCREW M5*10	2
2	ROLLER SHAFT	4	50	KEY 5*15	2
3	HAND WHEEL	1	51	SET SCREW M8*12	1
4	COLLAR	1	52	PULLEY RETAINER	1
5	INT RETAINING RING Ø32	1	53	HEX NUT M8	2
6	BEARING 6201	1	54	LOCK WASHER 8	2
7	WORM GEAR	1	55	FLAT WASHER 8	2
8	WORM HOUSING	1	56	SPECIAL BOLT	2
9	CAP SCREW M5*16	1	57	CUTTER HEAD	1
10	WASHER	9	58	KEY 8*45	1
11	KEY 4*16	1	59	BEARING 6205	1
12	CAP SCREW M6*55	3	60	SCALE	1
13	ROLLER STAND	3	61	SET SCREW M5*16	2
14	ROLLER	2	62	HEX NUT 5	4
15	CAP SCREW M6*16	10	63	SPRING	4
16	UPPER COVER	1	64	BUSHING	4
17	FLANGE BOLT M6*12	32	65	OUT-FEED ROLLER	1
18	GASKET	1	66	PLATE	4
19	DUST HOOD	1	67	UPPER SHAFT	1
20	L-WRENCH TORX	2	68	MIDDLE SHAFT	1
23	CAP SCREW M6*20	3	69	CHIP BREAKER	1
24	GEAR BOX COVER	1	70	CAP SCREW M8*20	4
25	SAFETY HATCH	1	71	HEX NUT M6	4
26	CHIP DEFLECTOR PLATE	1	72	SET SCREW M6*16	4
27	SPECIAL SET SCREW	4	73	MOTOR PULLEY	1
28	MACHINE HEAD	1	74	IN-FEED ROLLER	1
29	SET SCREW M10*12	8	75	SHAFT	1
30	BELT GUARD	1	76	ANTI-KICKBACK FINGER	47
31	SET SCREW M6*8	4	77	SPACER	49
32	CUTTER HEAD PULLEY	1	78	PHI HEAD SCREW M5*10	2
33	FLAT WASHER Ø8*28	2	79	SERRATED SPACER 5	2
34	HEX BOLT M8*20	2	80	FLAT WASHER 5	2
35	V-BELT XPZ1470	3	81	LOCK WASHER 5	2
36	BELT COVER	1	82	CONTROL BOX	1
37	STAR KNOB M8	2	83	STRAIN RELIEF M20*1.5	1
38	PLATE SPRING	3	84	FLANGE BOLT M8*16	4
39	FLAT HEAD SCREW M5*12	85	85	CORD	1
40	INDEXABLE INSERT	85	86	SUPPORT ARM	1
41	FLAT WASHER 3	4	87	CONTROL PANEL	1
42	PHI HEAD SCREW M3*6	2	88	PHI HEAD SCREW M4*8	4
43	CAP SCREW M6*10	4	89	EMERGENCY STOP BUTTON	1
44	SAFETY HATCH-1	1	90	START BUTTON	1
45	CAP SCREW M5*10	3	91	STOP BUTTON	1
46	DIGITAL SCALE	1	92	DUST COVER	1
47	DIGITAL SCALE SET PLATE	1	93	EMERGENCY STOP LABEL	1
48	CUT LIMIT PLATE	1			

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

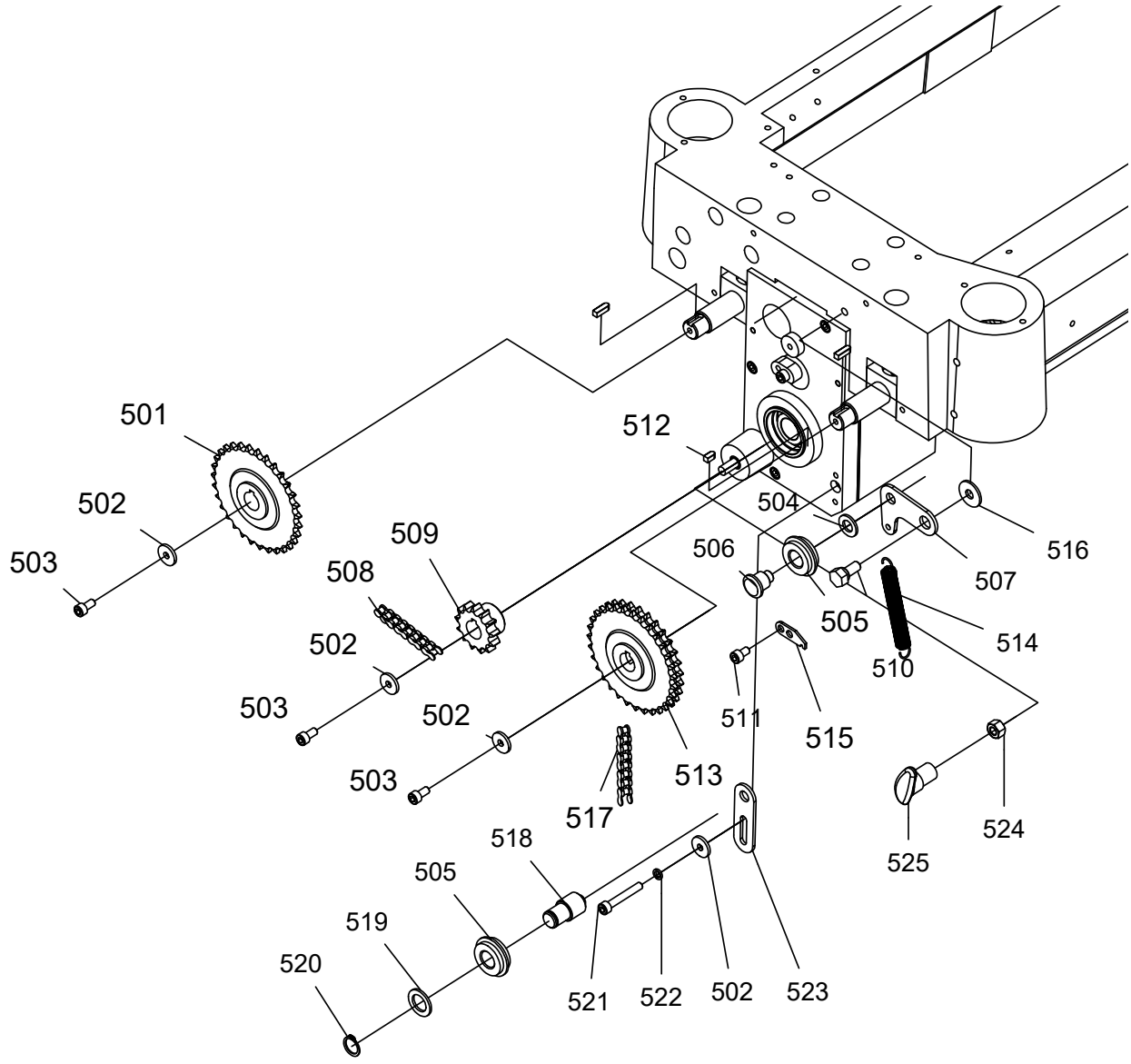
FEED GEARING - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
501	SPROCKET	1	518	SHAFT	1
502	WASHER	4	519	WASHER	1
503	CAP SCREW M6X16	3	520	EXT RETAINING RING 15	1
504	FLAT WASHER Ø10	1	521	CAP SCREW M6*40	1
505	CHAIN TENSIONER	2	522	LOCK WASHER 6	1
506	SHAFT	1	523	BRACKET	1
507	BRACKET	1	524	NUT M8	1
508	CHAIN 06B-1*48	1	525	KNOB	1
509	SPROCKET	1			
510	SPECIAL BOLT	1			
511	CAP SCREW M6*10	2			
512	KEY 5X15	1			
513	FEED SPROCKET	1			
514	SPRING	1			
515	BRACKET	1			
516	WASHER Ø8*Ø28*3	2			
517	CHAIN 06B-1*64	1			



FEED GEARING - PARTS

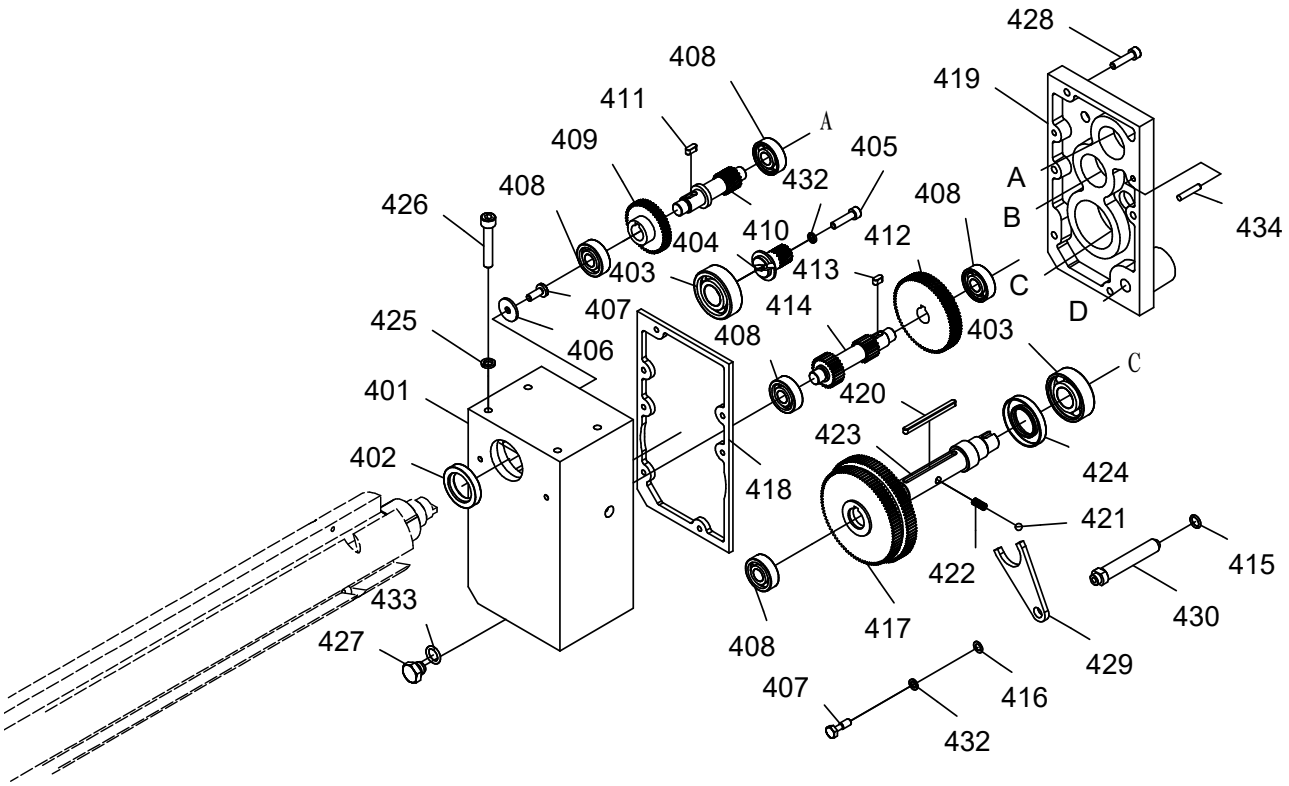
ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
501	SPROCKET	1	518	SHAFT	1
502	WASHER	4	519	WASHER	1
503	CAP SCREW M6X16	3	520	EXT RETAINING RING 15	1
504	FLAT WASHER Ø10	1	521	CAP SCREW M6*40	1
505	CHAIN TENSIONER	2	522	LOCK WASHER 6	1
506	SHAFT	1	523	BRACKET	1
507	BRACKET	1	524	NUT M8	1
508	CHAIN 06B-1*51	1	525	KNOB	1
509	SPROCKET	1			
510	SPECIAL BOLT	1			
511	CAP SCREW M6*10	2			
512	KEY 5X15	1			
513	FEED SPROCKET	1			
514	SPRING	1			
515	BRACKET	1			
516	WASHER Ø8*Ø28*3	2			
517	CHAIN 06B-1*68	1			



GEARBOX - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
401	GEAR BOX	1	418	GASKET	1
402	OIL SEAL 25*40*7	1	419	GEAR CASE	1
403	BALL BEARING 6204	2	420	KEY A5*40	1
404	GEAR	1	421	STEEL BALL Ø6	1
405	CAP SCREW M6*25(LEFT)	1	422	TENSION SPRING	1
406	FLAT WASHER 6	1	423	SHAFT	1
407	FLANGE BOLT M6*12	2	424	OIL SEAL 25*47*7	1
408	BEARING 6201	5	425	LOCK WASHER Ø8	4
409	GEAR	1	426	CAP SCREW M8*45	4
410	GEAR AND SHAFT	1	427	HEX BOLT M12*1.25*16	2
411	KEY A5*12	1	428	CAP SCREW M6*25	4
412	GEAR	1	429	SHIFTER	1
413	KEY A5*10	1	430	SHIFTING SHAFT HANDLE	1
414	GEAR 2-SPEED	1	432	LOCK WASHER Ø6	2
415	OIL SEAL 11.8*2.65	1	433	OIL SEAL 9*1.8	2
416	FLAT WASHER 6	1	434	ROLL PIN 5*25	2
417	DOUBLE GEAR	1			

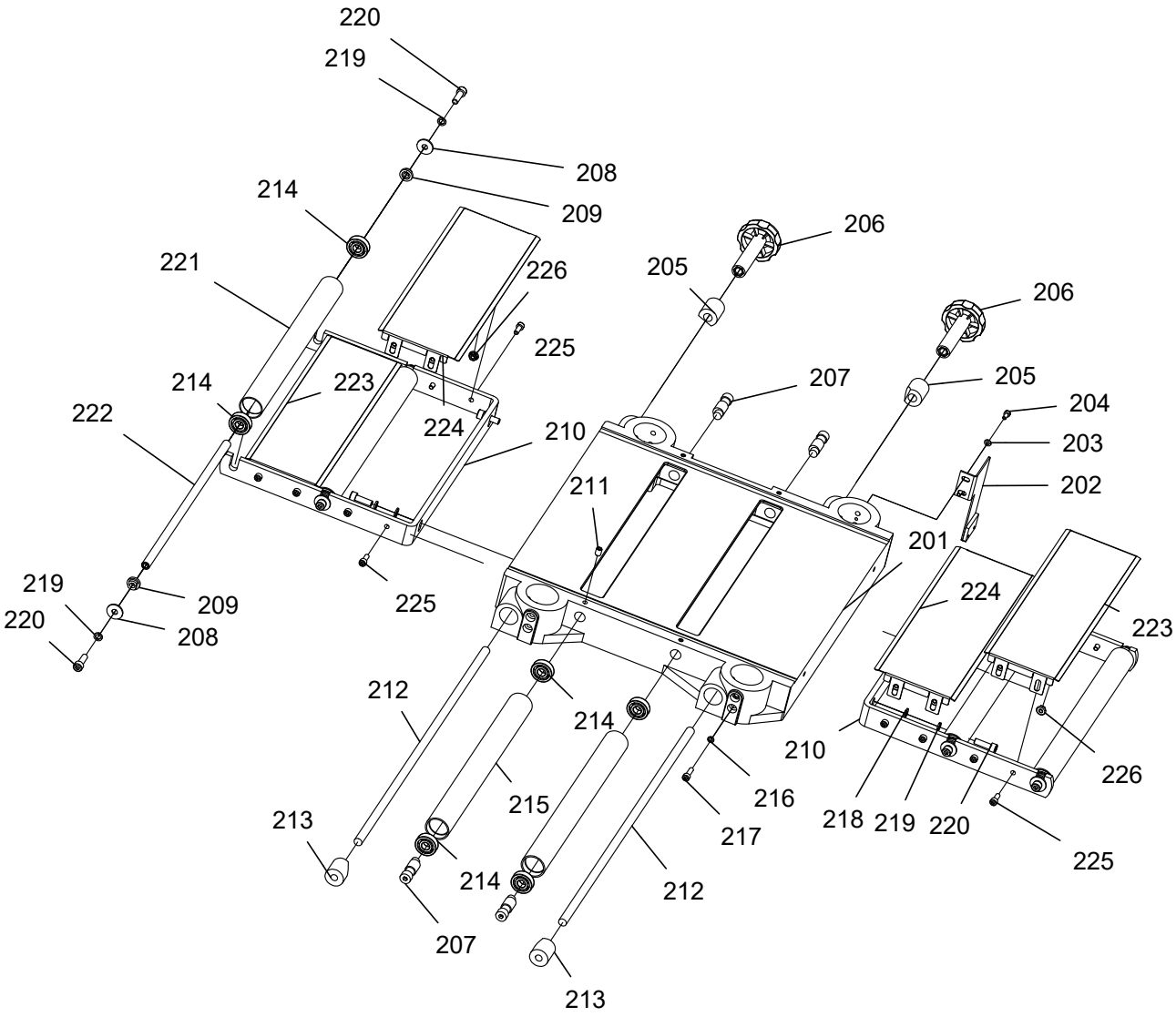
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



CAST IRON EXT TABLE - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
201	MAIN TABLE	1	214	BEARING 6201	12
202	DIGITAL SCALE BACKING PLATE	1	215	BED ROLLER	2
203	FLAT WASHER 5	2	216	LOCK WASHER 6	8
204	CAP SCREW M5*10	2	217	CAP SCREW M6*20	8
205	GIB	2	218	FLAT WASHER 8	4
206	STAR KNOB M12	2	219	LOCK WASHER 8	12
207	ECCENTRIC SHAFT	4	220	CAP SCREW M8*25	12
208	FENDER WASHER 8	8	221	ROLLOR	4
209	BRACKET LID	8	222	SHAFT	4
210	WORKING BRACKET	2	223	LINING PLATE	2
211	SET SCREW M8*12	4	224	FRONT LINING PLATE	2
212	LOCKING ROD	2	225	CAP SCREW M6*16	16
213	LOCK SLEEVE	2	226	FLANGE NUT M6	16

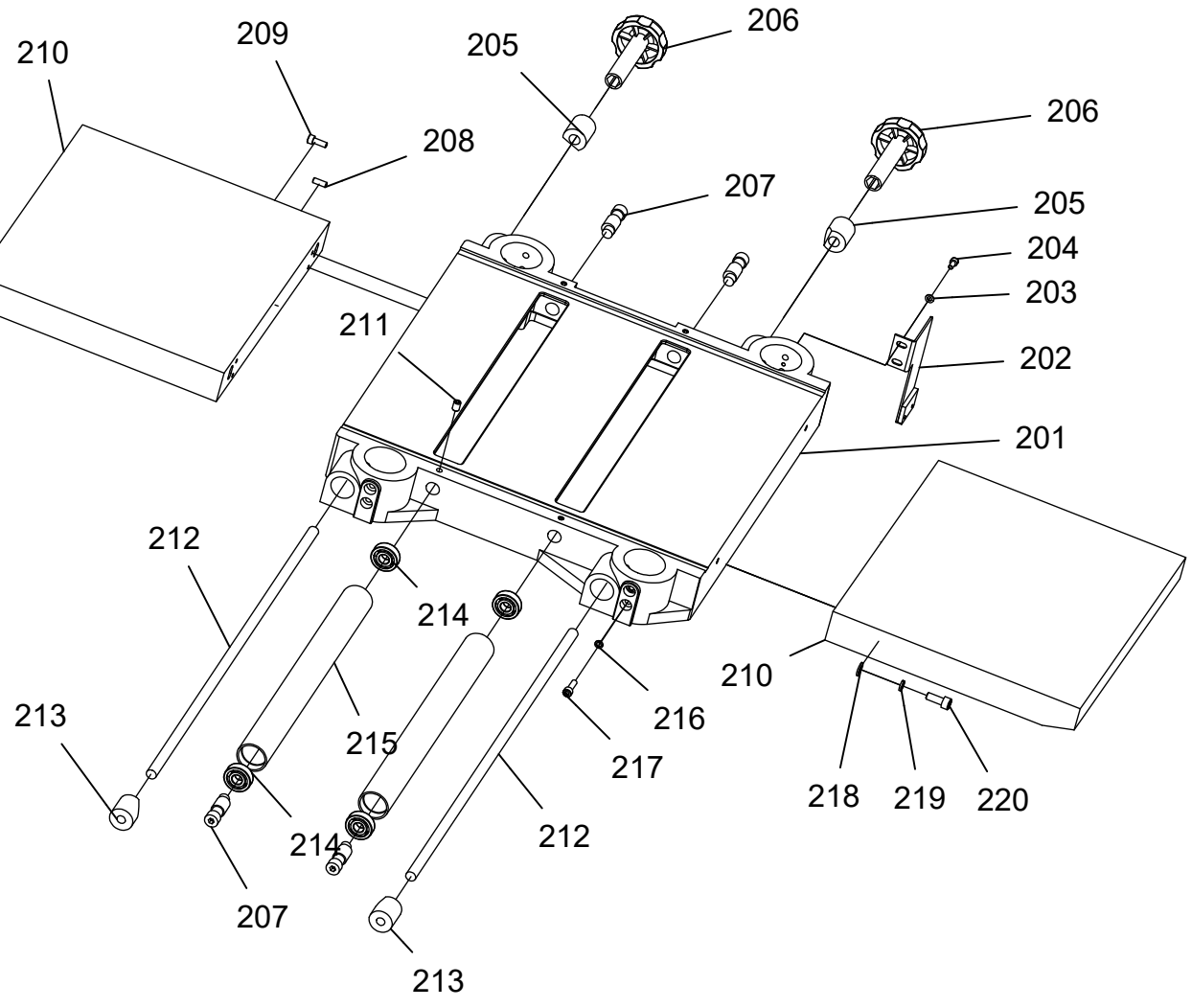
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



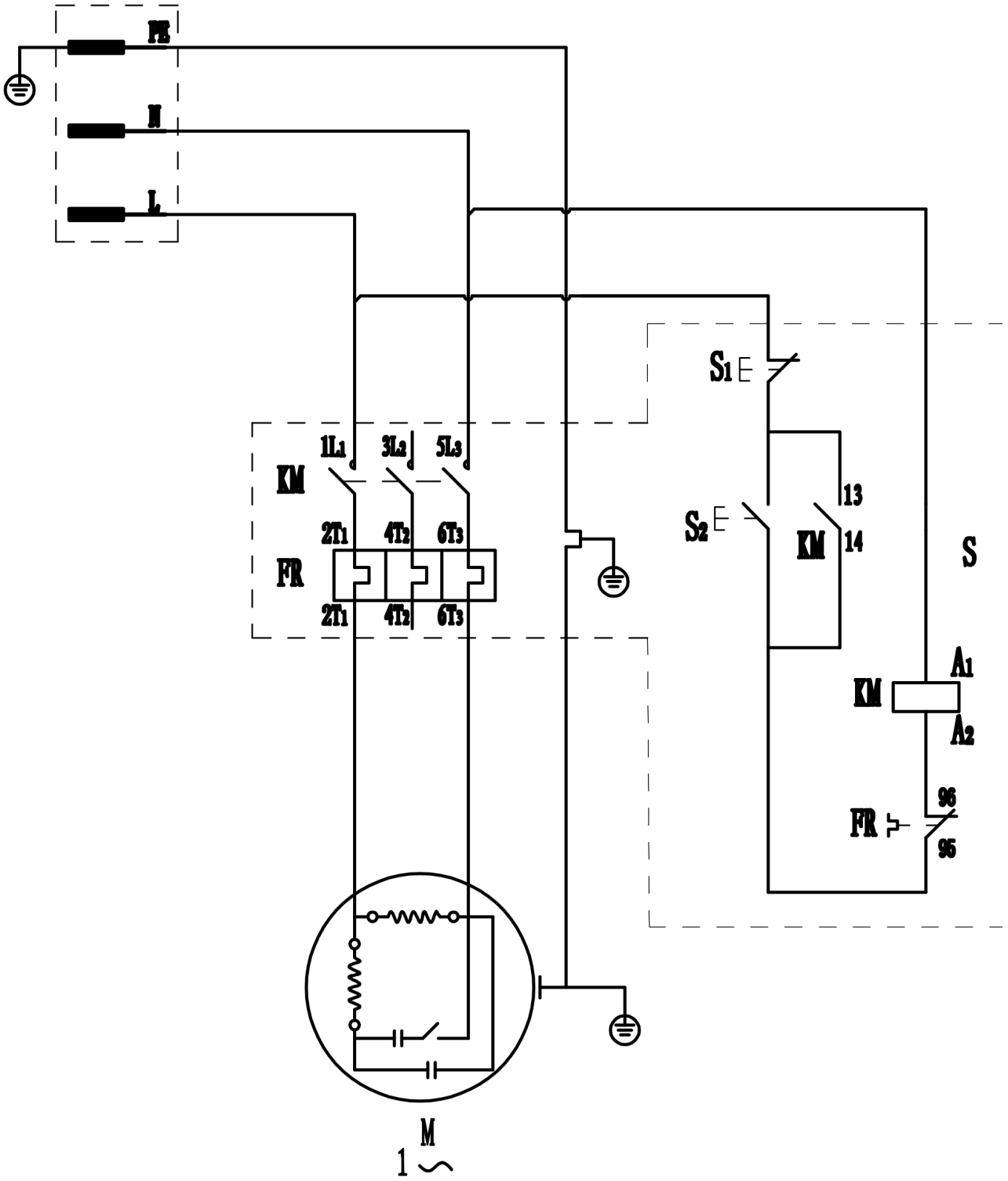
CAST IRON EXT TABLE - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
201	MAIN TABLE	1	211	SET SCREW M8*12	4
202	DIGITAL SCALE BACKING PLATE	1	212	LOCKING ROD	2
203	FLAT WASHER 5	2	213	LOCK SLEEVE	2
204	CAP SCREW M5*10	2	214	BEARING 6201	4
205	GIB	2	215	BED ROLLER	2
206	STAR KNOB M12	2	216	LOCK WASHER 6	8
207	ECCENTRIC SHAFT	4	217	CAP SCREW M6*20	8
208	SET SCREW M6*16	4	218	FLAT WASHER 8	4
209	CAP SCREW M6*16	4	219	LOCK WASHER 8	4
210	TABLE EXTENSION WING	2	220	CAP SCREW M8*25	4

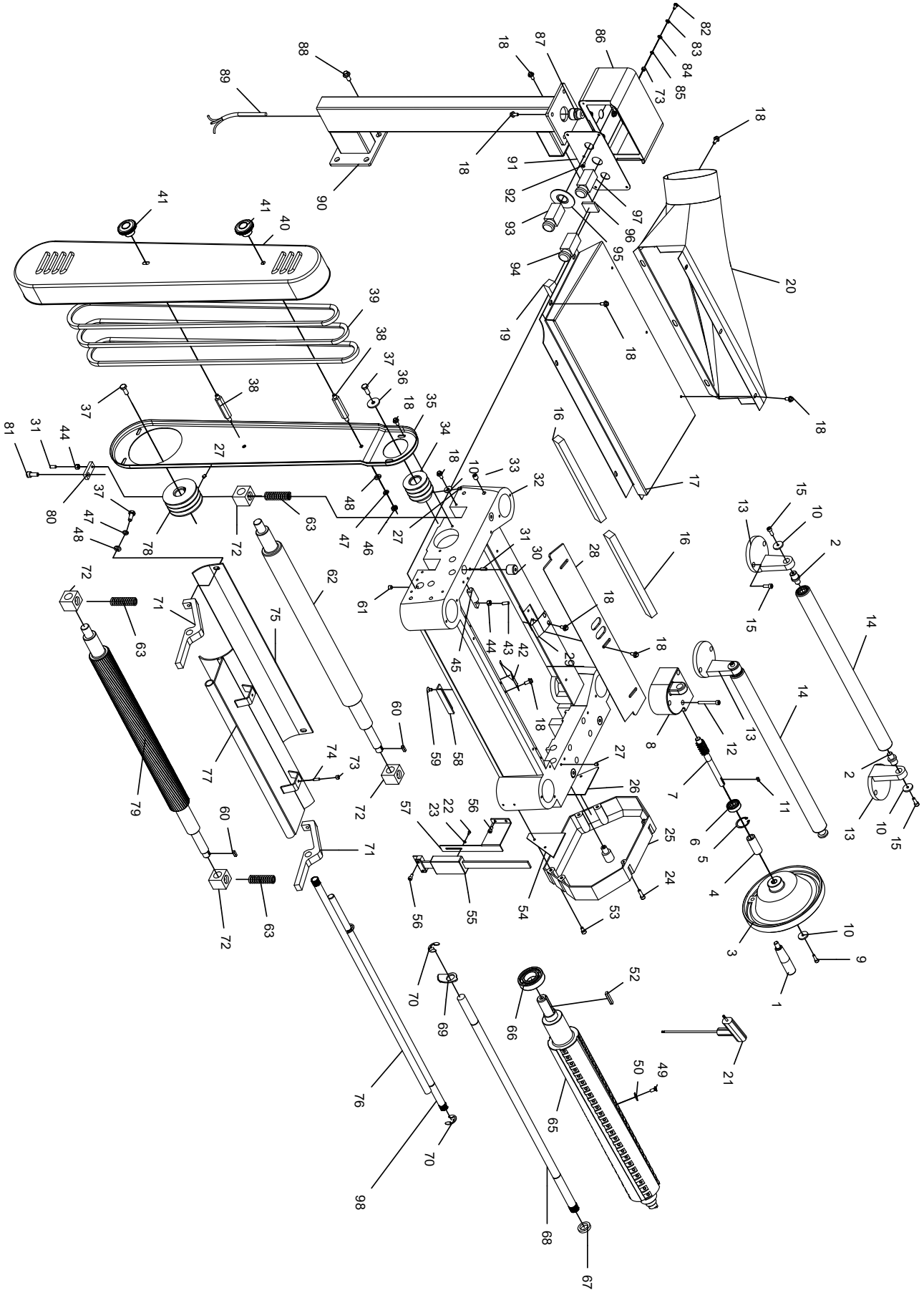
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



WIRING DIAGRAM



HEADSTOCK - PARTS DIAGRAM



HEADSTOCK - PARTS LIST

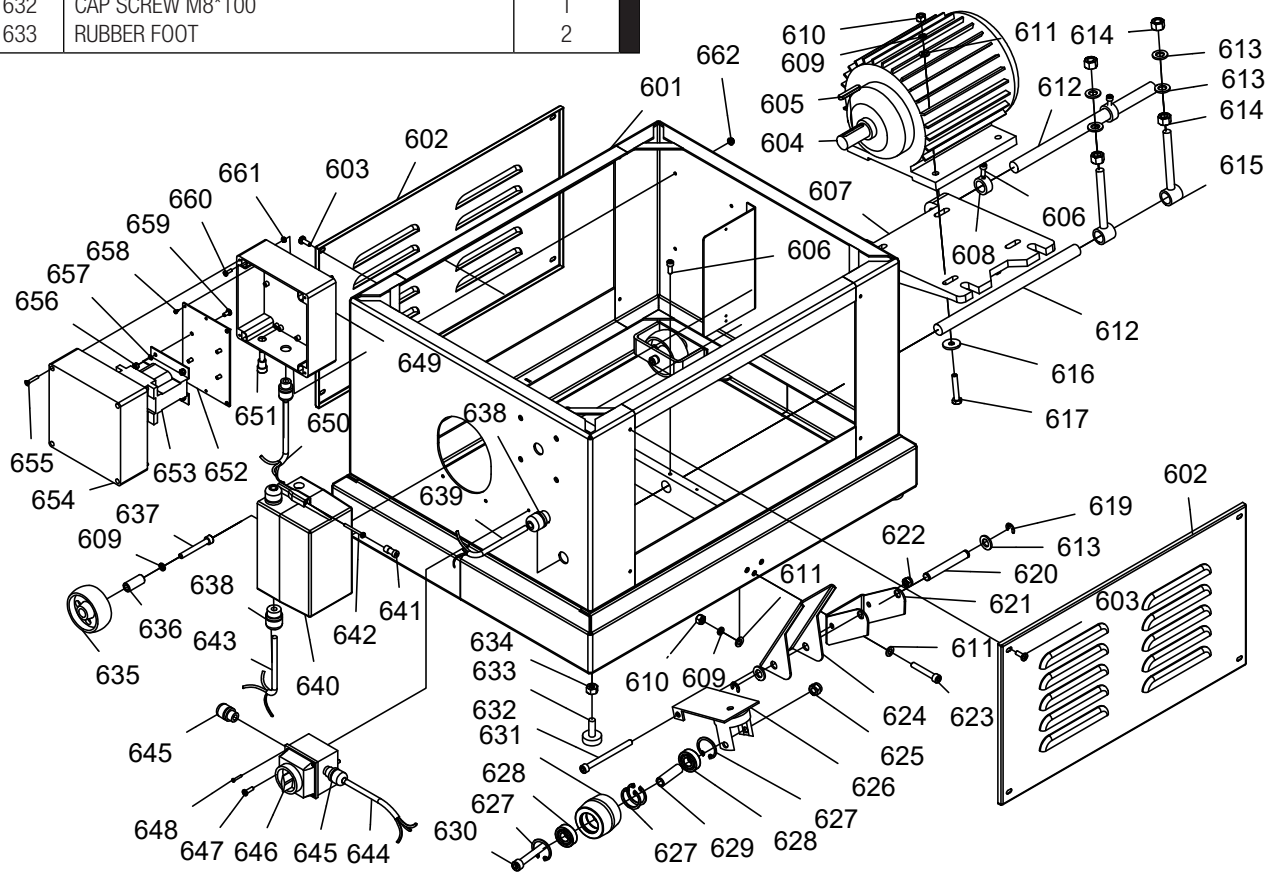
ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
1	HANDLE	1	49	FLAT HEAD SCREW M5*12	130
2	ROLLER SHAFT	4	50	INDEXABLE INSERT	130
3	HAND WHEEL	1	52	KEY 8*45	1
4	COLLAR	1	53	CAP SCREW M6*10	4
5	INT RETAINING RING Ø32	1	54	SAFETY HATCH-1	1
6	BEARING 6201	1	55	DIGITAL SCALE	1
7	WORM GEAR	1	56	CAP SCREW M5*10	3
8	WORM HOUSING	1	57	DIGITAL SCALE SET PLATE	1
9	CAP SCREW M5*16	1	58	CUT LIMITER PLATE	1
10	FLAT WASHER	5	59	FLAT HEAD SCREW M5*10	2
11	KEY 4*16	1	60	KEY 5*15	2
12	CAP SCREW M6*55	3	61	SET SCREW M8*8	1
13	ROLLER STAND	3	62	OUT-FEED ROLLER	1
14	ROLLER	2	63	SPRING	4
15	CAP SCREW M6*16	10	65	CUTTER HEAD	1
16	GASKET-1	2	66	BEARING 6206	1
17	UPPER COVER	1	67	SPACER	57
18	FLANGE BOLT M6*12	36	68	SHAFT	1
19	GASKET	1	69	ANTI-KICKBACK FINGER	56
21	L-WRENCH TORX	2	70	E-CLIP 15	4
22	PHI HEAD SCREW M3*6	2	71	BRACKET	2
23	FLAT WASHER 3	2	72	BUSHING	4
24	CAP SCREW M6*20	3	73	HEX NUT M5	4
25	GEAR BOX COVER	1	74	SET SCREW M5*16	2
26	SAFETY HATCH	1	75	PRESSURE PLATE	1
27	SET SCREW M6*8	6	76	LOCKING ROD	2
28	CHIP DEFLECTOR PLATE	1	77	CHIP BREAKER	1
29	SPRING PLATE	1	78	MOTOR PULLEY	1
30	SPECIAL SET SCREW	4	79	IN-FEED ROLLER	1
31	SET SCREW M6*16	5	80	PLATE	4
32	MACHINE HEAD	1	81	CAP SCREW M8*20	4
33	SET SCREW M10*12	8	82	PHI HEAD SCREW M5*10	2
34	CUTTER HEAD PULLEY	1	83	SERRATED SPACER 5	2
35	BELT GUARD	1	84	FLAT WASHER 5	2
36	FLAT WASHER Ø8*30	2	85	LOCK WASHER 5	2
37	HEX BOLT M8*20	4	86	CONTROL BOX	1
38	SPECIAL BOLT	2	87	STRAIN RELIEF .M20*1.5	1
39	V-BELT XPZ1470	3	88	FLANGE BOLT M8*16	4
40	BELT COVER	1	89	CORD	1
41	STAR KNOB M8	2	90	SUPPORT ARM	1
42	PLATE SPRING	3	92	PHI HEAD SCREW M4*8	4
43	SET SCREW M6*20	2	93	EMERGENCY STOP BUTTON	1
44	HEX NUT M6	6	94	START BUTTON	1
45	ADJUSTING SHAFT	2	95	EMERGENCY STOP LABEL	1
46	HEX NUT M8	2	96	DUST COVER	1
47	LOCK WASHER 8	2	97	STOP BUTTON	1
48	FLAT WASHER 8	2	98	SHAFT	1

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY

CABINET C/W TROLLEY - PARTS

ITEM	DESCRIPTION	QTY
601	STAND	1
602	BACK COVER	2
603	PHI HEAD SCREW M6*16	8
604	MOTOR 5HP	1
605	KEY 8*40	1
606	CAP SCREW	4
607	MOTOR MOUNT PLATE	1
608	COLLAR	2
609	LOCK WASHER 8	9
610	HEX NUT M8	7
611	FLAT WASHER 8	10
612	PLATE CONNECTING ROD	2
613	FLAT WASHER 12	6
614	HEX NUT M12	4
615	ADJUST BOLT	2
616	FENDER WASHER 8	4
617	HEX BOLT M8*45	4
619	E-CLIP 9MM	2
620	SHAFT	1
621	PEDAL BRACKET	1
622	LOCK NUT M8	1
623	CAP SCREW M8*50	3
624	PEDAL	1
625	LOCK NUT M10	1
626	TROLLEY UNIVERSAL KIT	1
627	INT RET RING 35	4
628	BEARING 6202	2
629	TROLLEY WHEEL SLEEVE	1
630	CAP SCREW M10*70	1
631	TROLLEY WHEEL	1
632	CAP SCREW M8*100	1
633	RUBBER FOOT	2

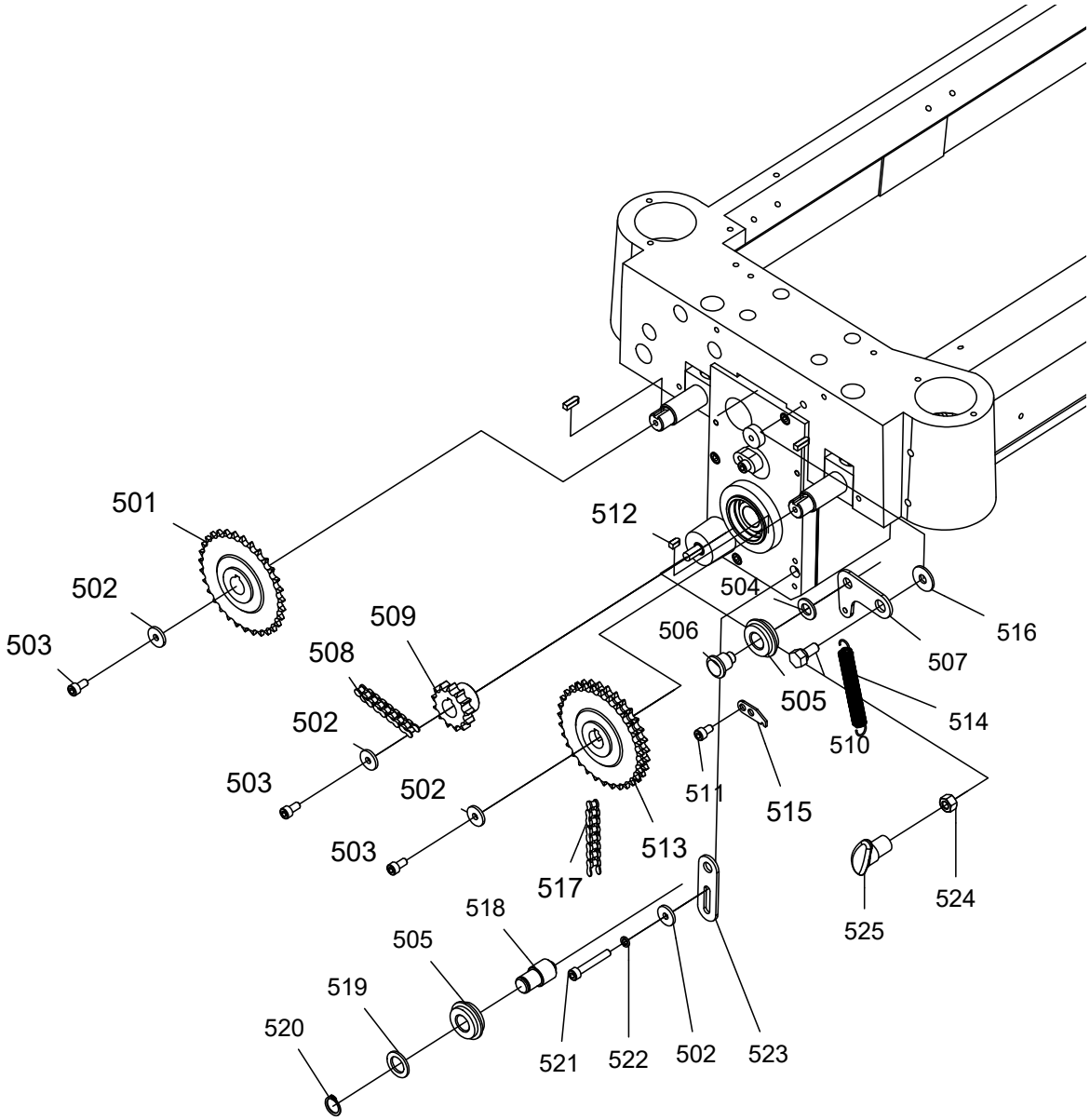
ITEM	DESCRIPTION	QTY.
634	HEX NUT M10	2
635	UNIVERSAL WHEEL	2
636	UNIVERSAL WHEEL SLEEVE	2
637	CAP SCREW M8*60	2
638	STRAIN RELIEF M20*1.5	3
639	POWER CORD	1
640	SWITCH	1
641	BOLT	2
642	PHI HEAD SCREW M4*40	2
643	MOTOR POWER CORD	1
644	POWER CORD	1
645	STRAIN RELIEF M16	3
646	CHANGEOVER SWITCH	1
647	PHILLIPS HEAD SCREW M5*16	2
648	TAP SCREW ST2.9*18	4
649	BOX	1
650	TRANSFORMER CORD	1
651	FUSE HOLDER	1
652	FIXED PLATE	1
653	TRANSFORMER	1
654	BOX LID	1
655	FLAT HEAD SCREW M4*25	1
656	HEX NUT M5	4
657	LOCK WASHER 5	4
658	TAP SCREW ST2.9*8	4
659	PHILLIPS HEAD SCREW M5*10	4
660	PHILLIPS HEAD SCREW M4*12	4
661	HEX NUT M4	4
662	FLANGE NUT M4	4



FEED GEARING - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
501	SPROCKET	1	514	SPRING	1
502	WASHER	4	515	BRACKET	1
503	CAP SCREW M6X16	3	516	WASHER Ø8*Ø28*3	2
504	FLAT WASHER Ø10	1	517	CHAIN 06B-1*68	1
505	CHAIN TENSIONER	2	518	SHAFT	1
506	SHAFT	1	519	WASHER	1
507	BRACKET	1	520	EXT RETAINING RING 15	1
508	CHAIN 06B-1*51	1	521	CAP SCREW M6*40	1
509	SPROCKET	1	522	LOCK WASHER 6	1
510	SPECIAL BOLT	1	523	BRACKET	1
511	CAP SCREW M6*10	2	524	NUT M8	1
512	KEY 5X15	1	525	KNOB	1
513	FEED SPROCKET	1			

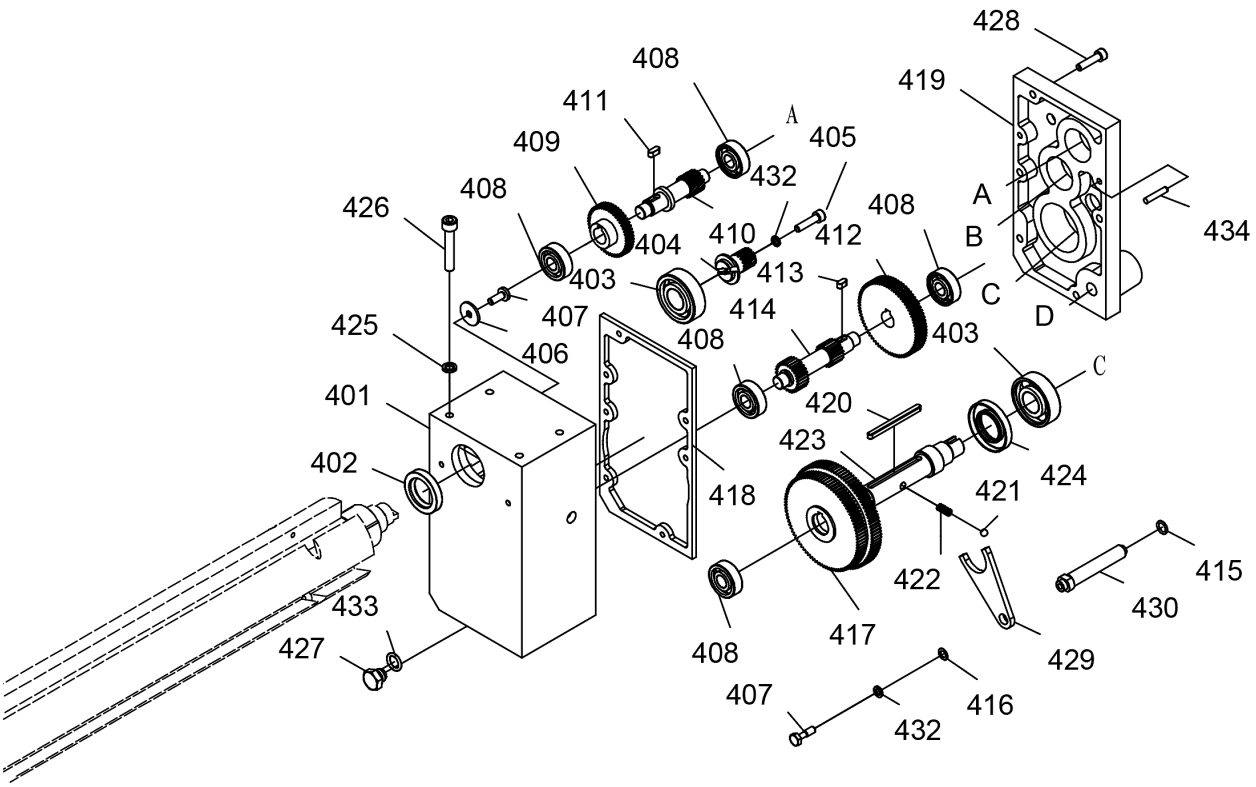
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



GEARBOX - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
401	GEAR BOX	1	418	GASKET	1
402	OIL SEAL 25*40*7	1	419	GEAR CASE	1
403	BALL BEARING 6204	2	420	KEY A5*40	1
404	GEAR	1	421	STEEL BALL Ø6	1
405	CAP SCREW M6*25(LEFT)	1	422	TENSION SPRING	1
406	FLAT WASHER 6	1	423	SHAFT	1
407	FLANGE BOLT M6*12	2	424	OIL SEAL 25*47*7	1
408	BEARING 6201	5	425	LOCK WASHER Ø8	4
409	GEAR	1	426	CAP SCREW M8*45	4
410	GEAR AND SHAFT	1	427	HEX BOLT M12*1.25*16	2
411	KEY A5*12	1	428	CAP SCREW M6*25	4
412	GEAR	1	429	SHIFTER	1
413	KEY A5*10	1	430	SHIFTING SHAFT HANDLE	1
414	GEAR 2-SPEED	1	432	LOCK WASHER Ø6	2
415	OIL SEAL 11.8*2.65	1	433	OIL SEAL 9*1.8	2
416	FLAT WASHER 6	1	434	ROLL PIN 5*25	2
417	DOUBLE GEAR	1			

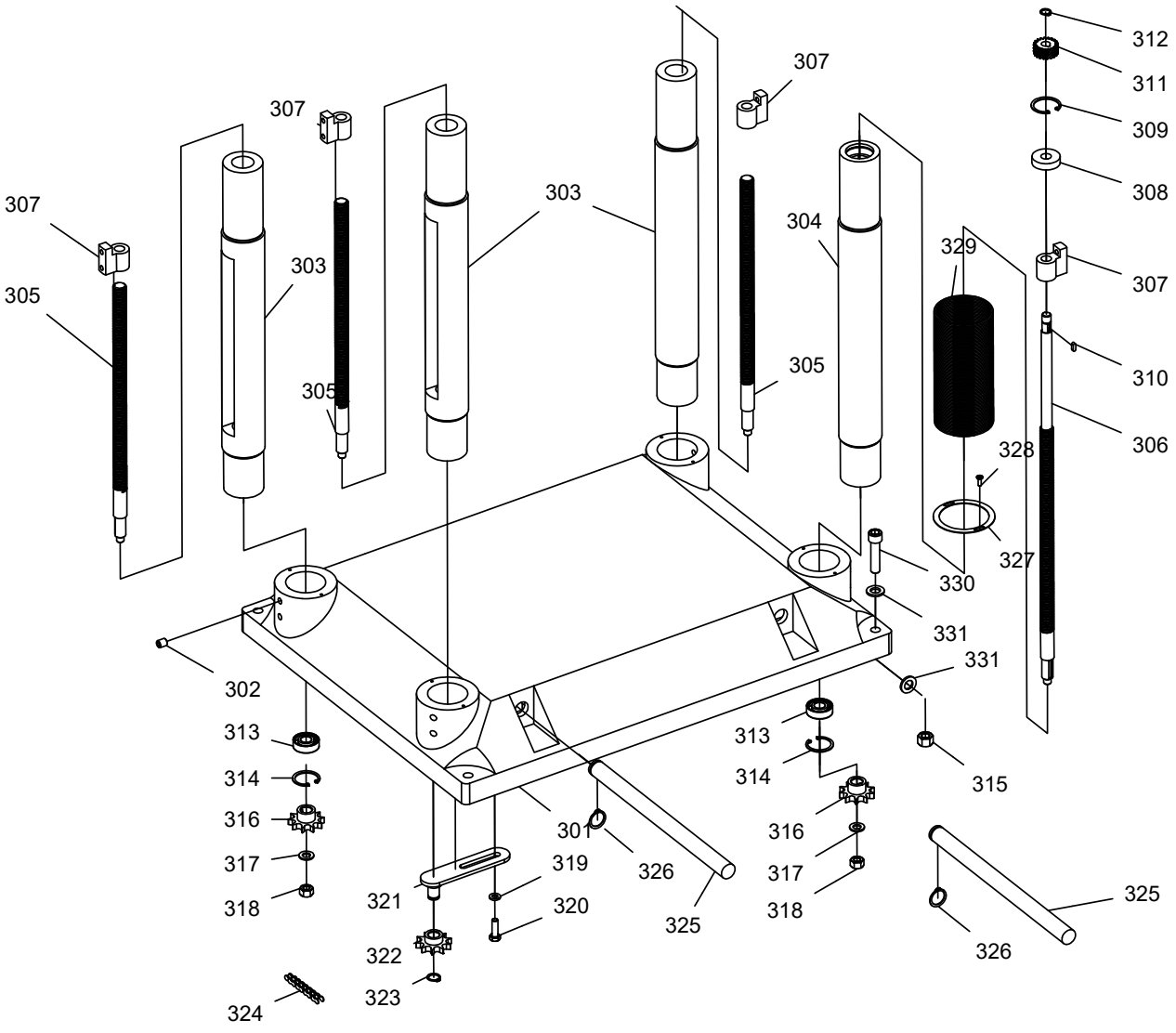
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



BASE - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
301	BASE	1	317	FLAT WASHER 10	4
302	SET SCREW M10*12	8	318	HEX NUT M10	4
303	COLUMN	3	319	FLAT WASHER 8	2
304	COLUMN	1	320	HEX BOLT M8X25	2
305	LEAD SCREW	3	321	BRACKET	1
306	LEAD SCREW	1	322	SPROCKET	1
307	LEAD SCREW NUT	4	323	EXT RET RING 15	1
308	BUSHING	1	324	CHAIN	1
309	INT RET RING 38	1	325	CRANE POST	4
310	KEY 4X12	1	326	EXT RET RING 22	4
311	GEAR	1	327	PIPE BAND	16
312	EXT RET RING 12	1	328	CAP SCREW M4*10	32
313	BALL BEARING 6202	4	329	EXPANSION BAND	8
314	INT RET RING 35	4	330	HEX BOLT M12*40	4
315	HEX NUT M12	4	331	FLAT WASHER 12	8
316	SPROCKET	4			

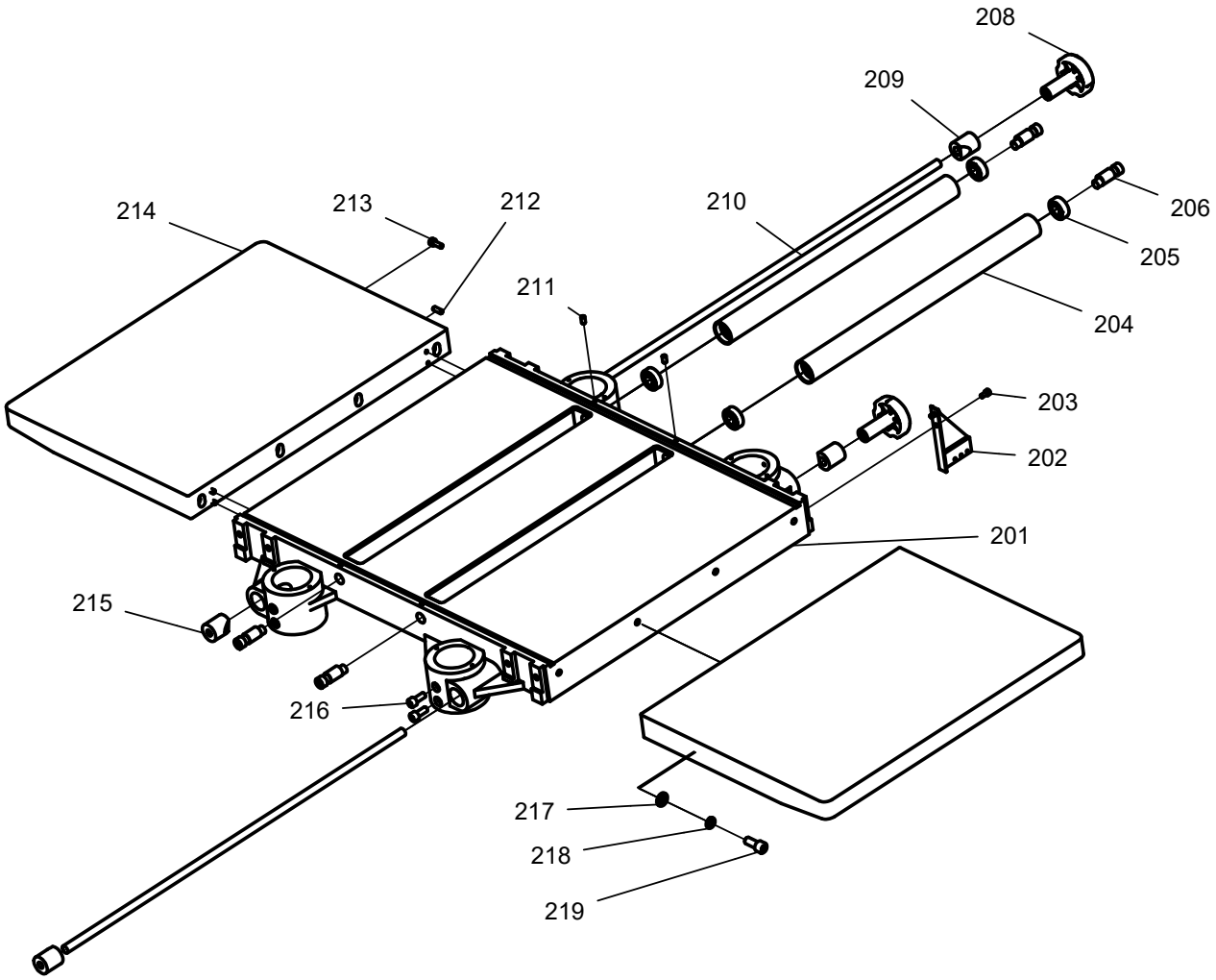
NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



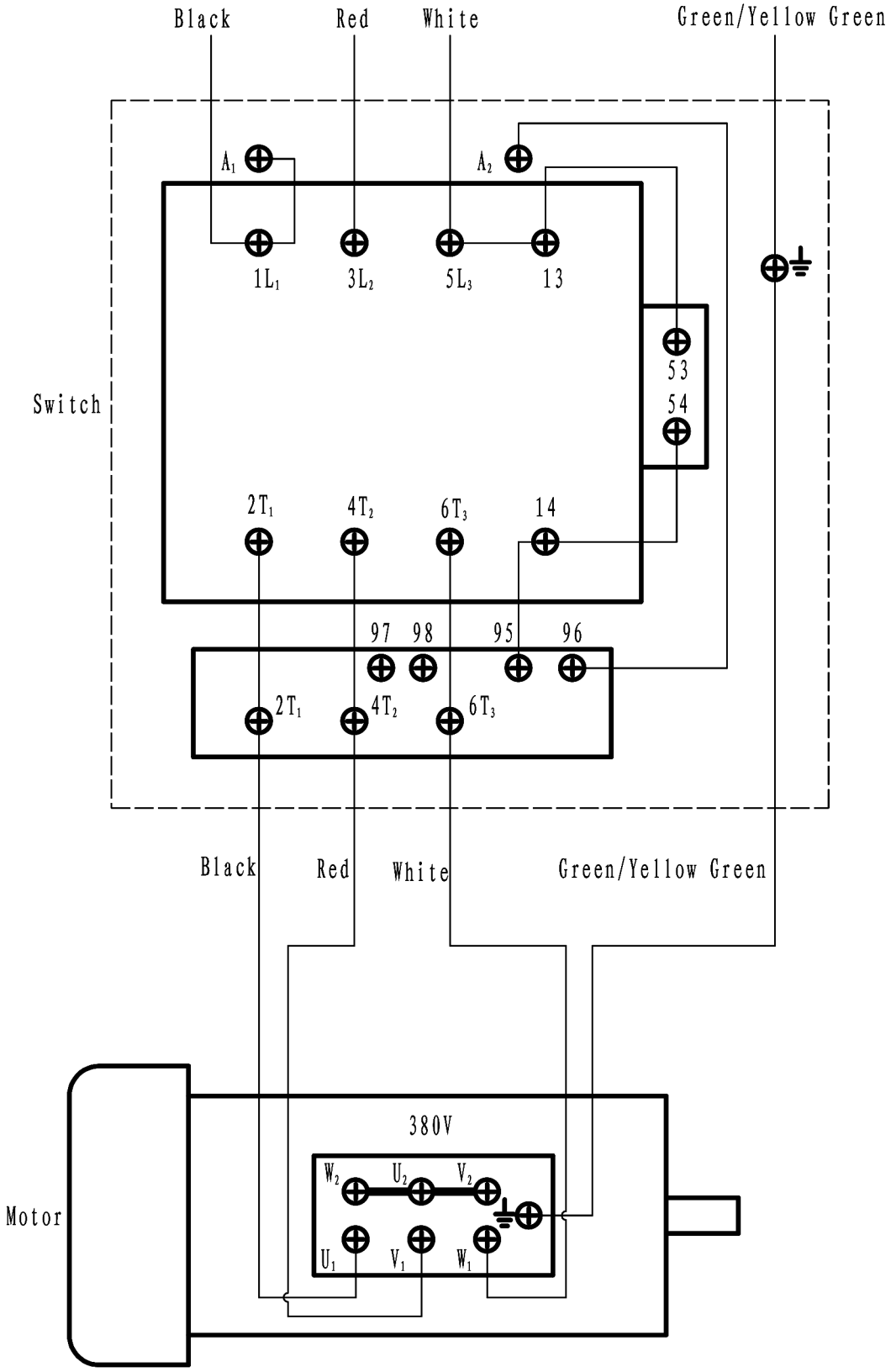
CAST IRON EXTENSION TABLE - PARTS

ITEM	DESCRIPTION	QTY	ITEM	DESCRIPTION	QTY.
201	MAIN TABLE	1	211	SET SCREW M6*12	4
202	DIGITAL SCALE BACKING PLATE	1	212	SET SCREW M6*16	4
203	CAP SCREW M5*10	2	213	CAP SCREW M6*16	4
204	ROLLER	2	214	AUXILIARY TABLE	2
205	BEARING 6201	4	215	LOCK BAR	2
206	ECCENTRIC SHAFT	4	216	CAP SCREW M8*20	8
208	STAR KNOB M12	2	217	FLAT WASHER 10	8
209	LOCK SLEEVE	2	218	LOCK WASHER 10	8
210	LOCKING ROD	2	219	CAP SCREW M10*25	8

NOTE: SOME INDIVIDUAL PARTS MAY ONLY BE AVAILABLE AS AN ASSEMBLY



WIRING DIAGRAM



ENVIRONMENT PROTECTION

Recycle unwanted materials instead of disposing of them as waste. All tools, accessories and packaging should be sorted, taken to a recycling centre and disposed of in a manner which is compatible with the environment. When the product becomes completely unserviceable and requires disposal, drain any fluids (if applicable) into approved containers and dispose of the product and fluids according to local regulations.

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