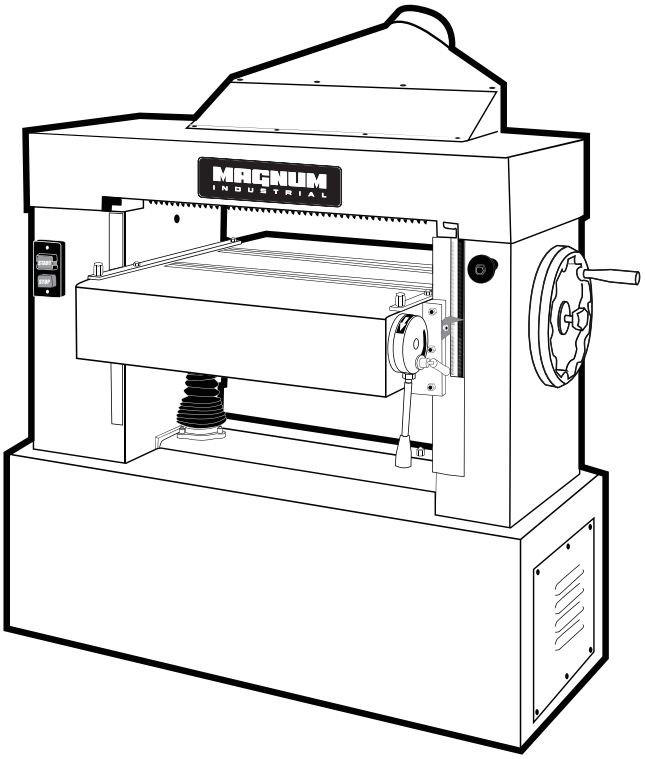
MAGNUM INDUSTRIAL

MODEL NO.: MI-31662



FEATURES

- •Cast-iron breaker system .
- •Large control knob of variable speed feed system to increase or decrease speed when the planer is in operation.
- •Metric and SAE graduation scale to indicate workpiece thickness on the front of the machine.
- •The anti-kickback finger system at the front of the machine eliminates any risk of stock being forcibly ejected.
- •A dust chute with its 6" outlet to receive a dust collector.
- •Magnetic control with overload protection.

SPECIFICATIONS

•TABLE SIZES	25-1/4”x 28" (660x711 mm)
•MAXIMUM PLANING WIDTH	24" (610mm)
•MAXIMUM PLANING THICKNESS	8" (203mm)
•MINIMUM PLANING THICKNESS	3/16”(4.75mm)
•MINIMUM PLANING LENGTH	8" (203mm)
•MAXIMUM PLANING DEPTH	5/16 " (8mm)
•CUTTERHEAD DIAMETER	3-1/8" (80mm)
•KNIVES	3/HELICAL
•CUTTERHEAD SPEED	4800RPM
•FEEDING SPEED (VARIABLE)	20 TO 38 FPM (6 TO 11.6M/MIN)
•CUTS PER INCHE (25.4mm)	62.5/20 FPM TO 33/38 FPM / —
•MOTOR	10HP/208V/3PH
•WEIGHT	1100 LBS (500kg)

OPERATING MANUAL

SAFETY RULES

READ CAREFULLY BEFORE OPERATING THE MACHINE

1. Learn the machine's applications and limitations, as well as the specific potential hazards particular to this machine. Follow available safety instructions and safety rules carefully.

2. Keep working area clean and be sure adequate lighting is available.

3. Do not wear loose clothing, gloves, bracelets neck– laces, or ornaments. Wear face, eye, ear, respiratory and body protection devices, as indicated for the operation or environment.

4. Keep hands well away from cutterhead and all moving parts. Do not clear chips and sawdust away with hands. Use a brush.

5. Make sure the cutters are moving at operation speed before planning.

6. Do not push the cutterhead too hard. The planer will perform better and be safer working at the rate for which it was deigned.

7. Whenever possible use a dust collector with shaving hood to minimize health hazards.

8. Never leave the machine with the power on.

9. Never use a power feeder with the planer.

10. Keep children away. Make sure that visitors are kept at a safe distance from the work area.

11. Use recommended speed cutters accessory, and workpiece material.

12. Never stand on tool. Serious injury could occur if the tool is tipped or if the cutters are unintentionally contacted.

13. Be sure planer blades are seriously locked in the machine.

14. Use suitable support if stock is too long.

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

16. Keep guards in place and in working order. If a guard must be removed for maintenance or cleaning make sure it is properly attached before using the tool again.

17. Be sure that key and adjusting wrenches have been removed before turning power on.

18. Use only accessories designed for the machine.

19. Make sure tool is properly grounded. If tool is equipped with three-prong plug, it should be plugged into a three-pole electrical receptacle. Never remove the third prong.

20. Always disconnect tool before servicing and when changing accessories such as planer blades.

21. Make sure that switch is in "OFF" position before plug–ging in cord.

22. Place material firmly against the table.

23. Use ONLY recommended accessories. Use of accessories NOT recommended by KMS-TOOLS EQUIPMENT may result in a risk of injury.

24. Do not use this planer for other than it's intended use. If used for other purposes, KMS-TOOLS EQUIPMENT disclaims any real or implied warranty and holds itself harmless for any injury, which may result from that use.

24” INDSUTRIAL PLANER
VARIABLE FEED SPEED

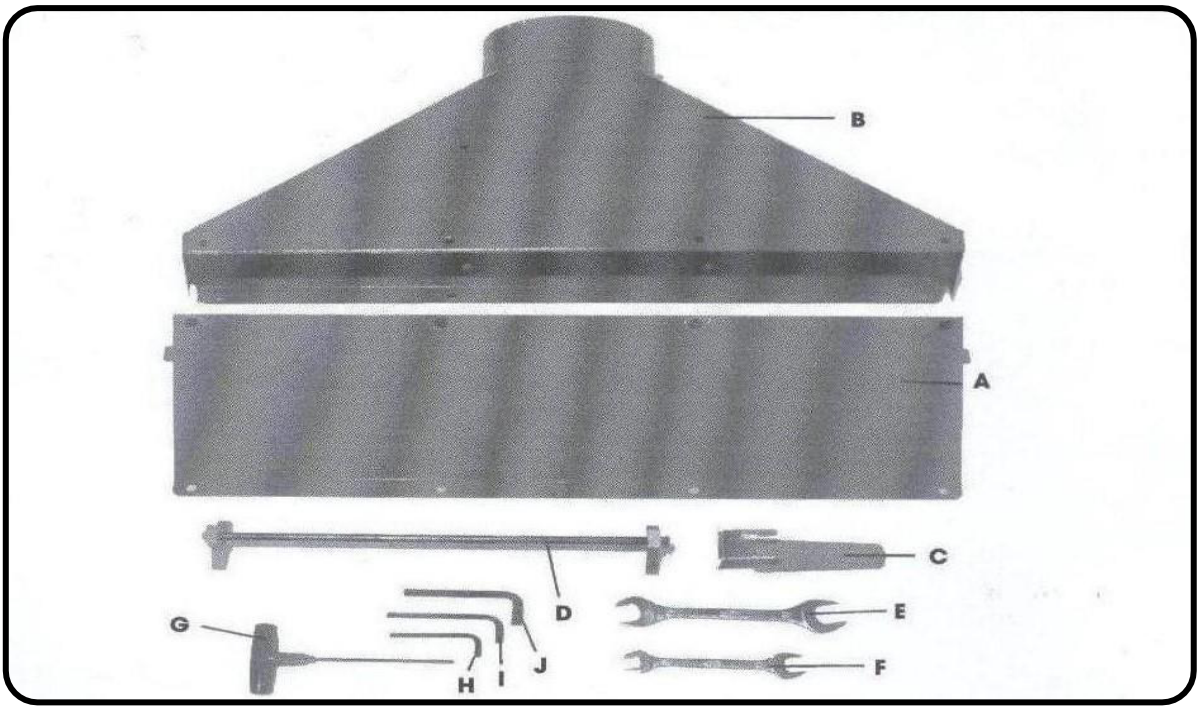
KMS-TOOLS EQUIPMENT industrial planers are carefully tested and inspected before shipment and if properly used will give perfect result. However, a reasonable amount of care and attention is necessary to ensure perfect performance and accurate work. It is imperative that you take a few moments to familiar yourself with these instructions, as they will no doubt save you a lot of time and trouble.

UNPACKING AND CLEANUP

To ensure maximum performance from your 24” industrial planer , clean it properly; and install it accurately before use. As soon as you receive the planer, we recommend you follow these procedures:

1. The 24” planer is shipped in one container mounted to a shipping skid. Remove the wooden crate from around the machine. The planer is shipped with the motor, motor pulley and belts assembled to the machine.
2. Finish removing the contents of the shipping crate and compare with the contents list. (Fig.2)
3. Report damage, if any to your local distributor.
4. Clean all rust protected surfaces with a mild solvent or kerosene. Do not use lacquer thinner; paint thinner, or gasoline. These will damage painted surfaces.
5. To prevent rust. Apply a light coating of paste wax to surface

CONTENT LIST – Fig.2



A. CUTTERHEAD GUARD
B. DUST HOOD
C. SAFETY HANDLE
D. KNIFE SETTING GAUGE
E. 12 X 14MM OPEN END WRENCH
F. 10 X 8MM OPEN/ END WRENCH
G. T-HANDLE WRENCH
H. ALLEN WRENCH (4MM)
I. ALLEN WRENCH (5MM)
J. ALLEN WRENCH (6MM)

INSTALLATION

1. Remove the fastening bolts from the machine to the shipping skid.

2. Two lifting lugs are built into the machine, one of which is illustrated in (Fig.3, A). These lugs can be used to mechanically lift the machine using a forklift and lifting straps.

Note: The second lifting lug is at the back opposite end of the machine.

3. Table can be lowered (Fig.3,B) to facilitate cleaning, loosen lock knob (C) and turn handwheel (D) counter-clockwise until the table (B) is at the desired height for cleaning.

4. Loosen and remove screw from the top edge of the machine (Fig.4, E). Rise the top cover as illustrated in (Fig.5, F) this step will expose the chipbreakers, and the cutterhead. Note: The top cover of the machine is hinged to facilitated cleaning and adjustment procedure.

5. Carefully remove the protective coating from the table, table rollers, infeed rollers, anti-kickback fingers, cutterhead and cutterhead knives. This protection coating may be removed with a soft cloth moistened with kerosene.

- ***Never attempt to use Gasoline, Acetone or Lacquer thinner, these products will damage any painted area.***

- ***Caution: Extreme care should be taken when cleaning the knives, as the cutterhead knives are extremely sharp.***

6. After cleaning, cover the table surfaces with a layer of quality paste wax.

7. Lower top cover and replace locking screw that was removed in step 4.

FIG.3

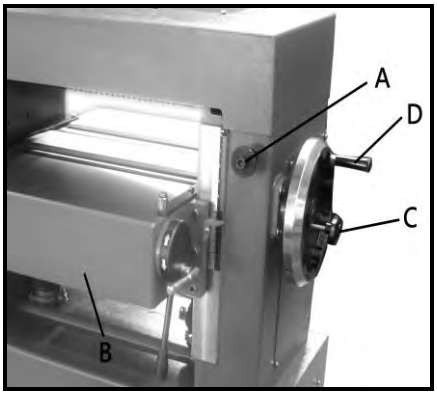


FIG.4

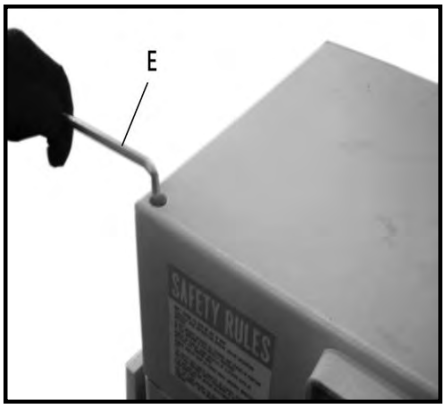
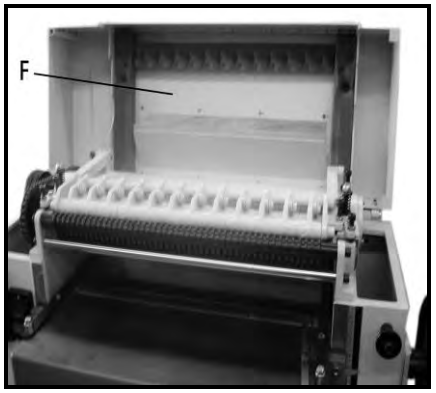


FIG.5



ASSEMBLING HANDWHEEL HANDLE

Thread handle assembly (A) Fig.6 into handwheel (B) and tighten locknut (C).

CUTTERHEAD GUARD

Position the cutterhead guard (A) Fig.7, on the top cover of machine. Align holes in cutterhead guard with holes in the top cover and fasten with (six) 6mm-button head screws (B) as illustrated in Fig.7

FIG.6

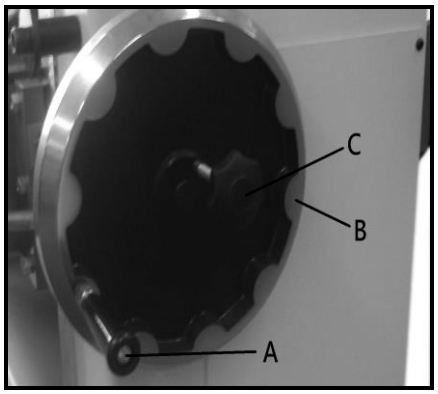
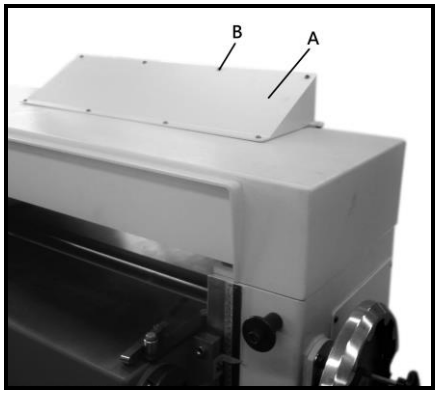


FIG.7



ASSEMBLING DUST HOOD

A dust hood with a 5" opening is supplied with your machine and is to be used when connecting the planer to a dust collector or a central dust collection system.

Position dust hood (A) Fig.8, against the rear of the machine and on the top of cutterhead guard (B). Align the holes and fasten the dust hood (A) Fig.9, to the cutterhead guard (B) using eight 6mm-button head screws (C) as illustrated in Fig.9.

FIG.8

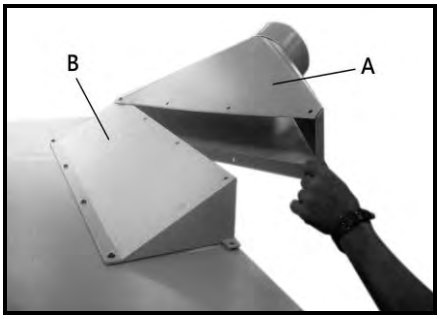
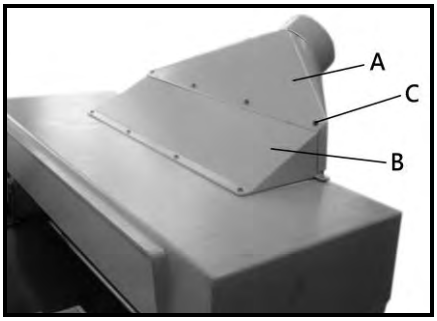


FIG.9



• • • • • CAUTION ! • • • • •

NEVER ATTEMPT TO CONNECT TO AN OUTLET WITH A GREATER POWER SOURCE VOLTAGE REQUIRED !

• • • • ATTENTION ! • • • •

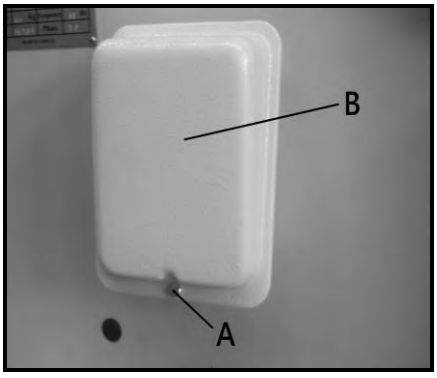
ALWAYS VERIFY THAT THE MACHINE IS PROPERLY GROUNDED TO AVOID ELECTRIC SHOCK TO THE WORK OPERATOR !

ELECTRICAL CONNECTIONS & REQUIREMENTS

Before connecting the planer to the power source verify that the voltage supplied corresponds as specified on the nameplate of the machine. A power source with greater voltage than needed can result in serious injury to the user as well as damage the machine. If in doubt, contact a qualified electrician before connecting to the power source.

NOTE: Power cord and plug is not shipped with the planer. The standard machine shipped wired for 220/440 or 575 volt operation.

FIG.10



To wire the planer follow the following steps:

1. Loosen screw (A) Fig.10, and remove cover (B) from the terminal box located at the back of the machine. Bring the power line up through hole (C) Fig.11, in the terminal box.

NOTE: Strain relief and power cord clamps are not supplied with the machine. Remove the plastic shield (D) Fig.11, from terminal strip (E)

2. Connect the three power lines to terminals, F, G, & K Fig.12, along with the green ground wire to terminal H. After applying power to the machine, turn the power off to check if the machine is rotating correctly. If the cutterhead is not rotating correctly, interchange any two of three power lines connected to terminal F, G, & K.

FIG.11

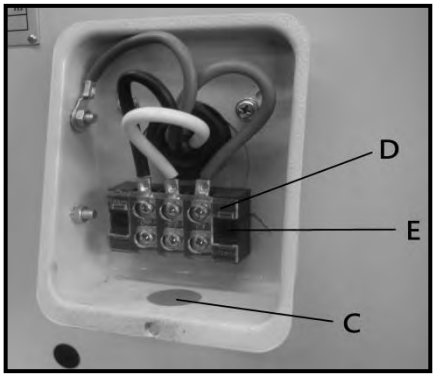
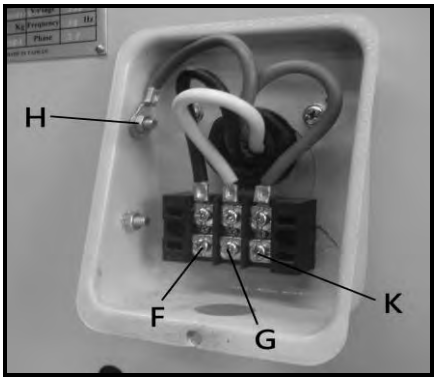


FIG.12



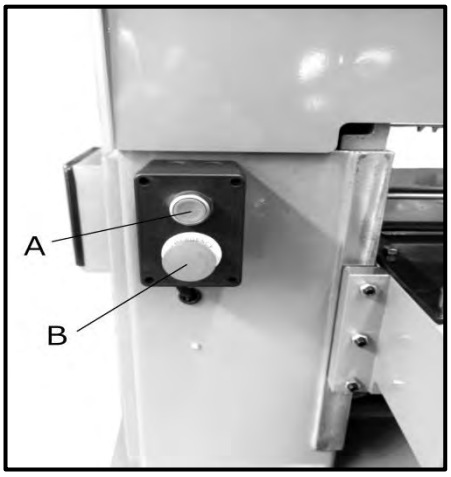
CHANGING VOLTAGE

If you must reconnect for 220 or 440-volt operation, please contact or have a certified electrician connect the machine to the power source.

GROUNDING

Machine must be properly grounded in order to avoid electric shock to the work operator. The use of an extension cord is not recommended. If necessary use a three-prong extension cord and outlet (immediately replace the extension cord if worn out, cut or damage). If in doubt, contact a qualified electrician.

FIG.13



OPERATING CONTROLS & ADJUSTMENTS

START / STOP SWITCH (Fig.13)

The power switch is located on the left side of the machine. Press the green button to start the machine (A)

Press the red button “Emergency” to stop the machine (B)

FIG.14

RAISING & LOWERING THE TABLE (Fig.14)

Adjustment to the table height can be made by loosening lock knob (A) and rotating the raising lowering of table with handwheel (B).

To raise table: turn the handwheel (B) clockwise.

To lower table: turn the handwheel (B) counter-clockwise.

Tighten lock knob (A), after table height adjustment is made in order to lock in position.

The metric table height scale (C) will indicate the table height setting.

Note: For best result, setting of the table should always be made from the bottom to upward position.

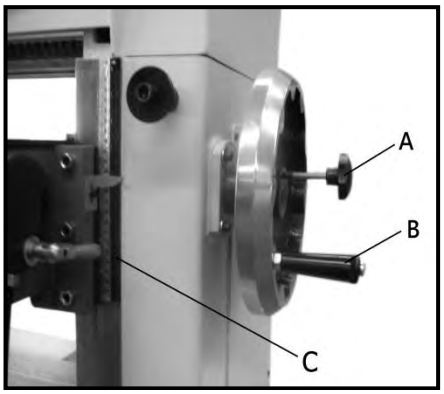
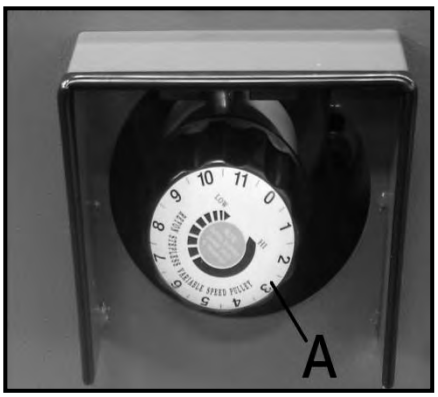


FIG.15



ADJUSTING FEED SPEED (Fig.15)

1. The feed speed for the planer is variable from 20 to 38.7 FPM.
2. Use the speed selector knob (A); in order to change the feed speed
3. Turn he speed selector knob clockwise to decrease the feed speed. Turn counter-clockwise to increase feed speed.

Important: Never change the feed speed when machine is stopped; change the feed speed only while the machine is running.

TABLE ROLLERS (Fig.16)

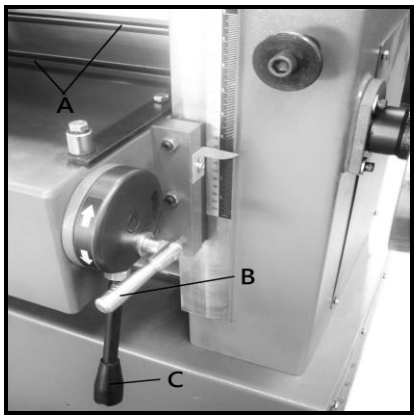
The planer is equipped with two-table rollers (A); which aid infeeding the stock. This will reduce friction between the stock and the table and will rotate as the stock is fed through the planer.

1. To raise the table rollers, loosen locking level (B) as illustrated in Fig.16 and pull control lever (C) upward to the required height setting.

2. To lower the table rollers, loosen locking lever (B) and push thecontrol lever (C) downward to required height setting.

3. After adjusting height of the table rollers, tighten the lock lever (C) in order to lock in position.

FIG.16



CHECKING AND ADJUSTING TABLE ROLLERS'S HEIGHT

It is not possible to give the exact dimensions on the proper height setting of table rollers because each type of wood has different behavioral patterns. As a general rule, when planning rough stock, the table rollers should be set high (.003" to .005") above the table surface. When planning finish stock, the table rollers should be set low (.001") above or level with the table surface.

To verify and adjusting the height of the table rollers, proceed as follows:

1. Disconnect the machine from the power resource.

2. With the table rollers in the lowest position, place a straight edge (A) Fig.17, across both table rollers (B) or the left side of the table as shown.

3. With a feeler gauge (B) Fig.18, measure the gap between the table surface and straight edge (A) near the infeed roller.

4. If adjustment to the infeed table roller is necessary, loosen the locknut (D) Fig.19; located under the table and below the infeed roller and rotate adjustment nuts (E) as required to raise or lower the height of the infeed roller.

NOTE: It will be necessary to raise the table in order to gain access to the adjustment nuts. Tighten locknut (D) after adjustment is made.

5. Verify and adjust the height if the infeed table roller or the other side of the table in the same manner.

6. To check the height of the outfeed table roller, proceed as follows: with a feeler gauge (B) Fig.20, measure the gap between the table surface and straight edge (A) near the outfeed roller (F).

FIG.17

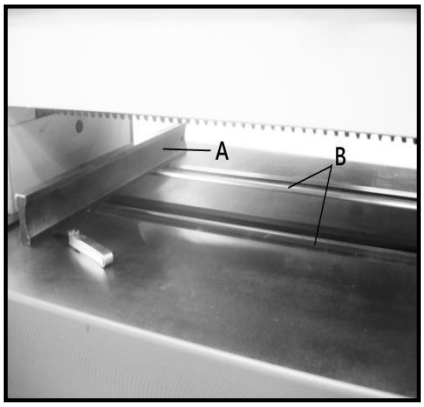


FIG.18

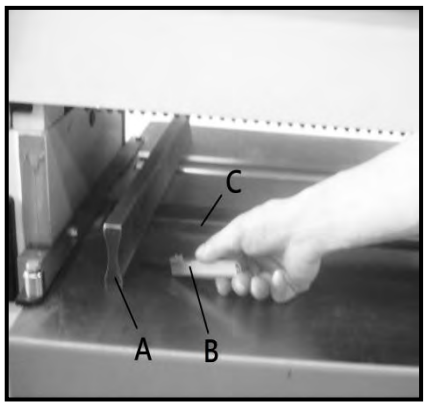


FIG.19

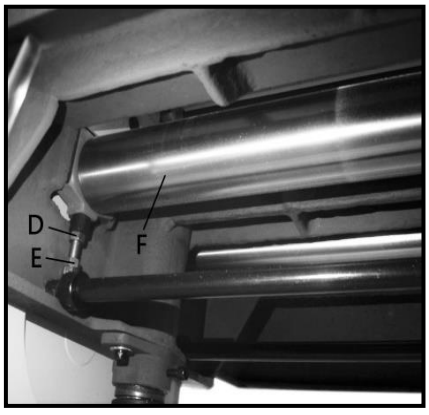
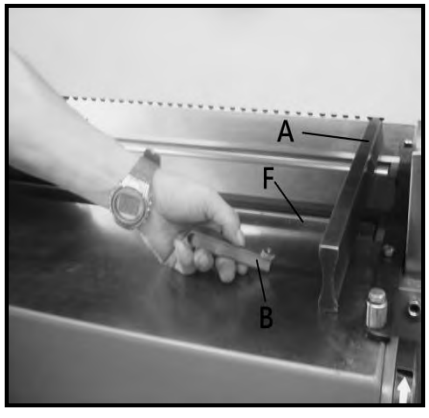


FIG. 20

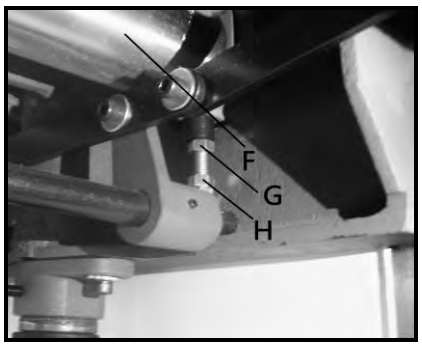


7. If an adjustment to the outfeed table roller is necessary loosen lock-nut (G) Fig.21, located under the table below the outfeed table roller (F). Rotate the adjustment nuts (H) as required; in order to raise or lower the height of the outfeed roller.

NOTE: It will be necessary to raise the table in order to gain access to the adjustment nuts. Tighten locknut (G) once adjustment are completed.

8. Verify and adjust the height of the outfeed table roller on the other side of the table in the same manner.

FIG. 21

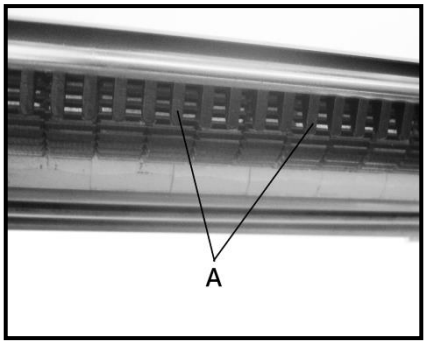


ANTI-KICKBACK FINGERS (Fig.22)

A series of anti-kickback fingers (A), are provided on the infeed end of the planer to prevent kickback of the workpiece during planning operations. These anti-kickback fingers operate by gravity and no adjustment is required. It is necessary, however to inspect them occasionally to make sure they are free of gum and pitch and that they are operated independently and freely.

WARNING: When inspecting or cleaning the anti-kickback fingers; make sure the machine is turned "OFF" and disconnected from the power source.

FIG. 22



VERIFY AND ADJUST DRIVE BELT TENSION (Fig.23)

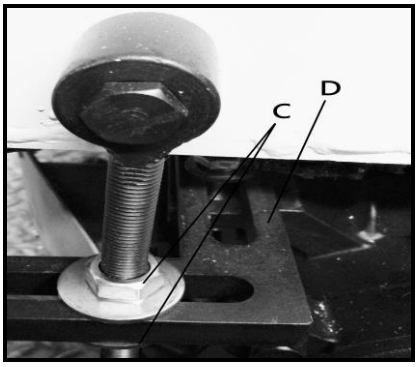
Proper belt tension is correct when there is approximately 1/4" deflection, using light finger pressure on the drive belt, midway between pulleys. If adjustment are required proceed as follows:

1. Disconnect the machine from the power source.

2. Loosen and tighten the two adjustment nuts (C) Fig.23, in order to move motor plate up or down as needed to increase or decrease the drive belt tension. Tighten both adjustment nuts (C) against plate (D) once adjustment is completed.

3. Close both side panels.

FIG. 23



• • • • • • • • • CAUTION ! • • • • • • • • •

KNIVES ARE EXTREMELY SHARP, PLEASE PROCEED WITH CAUTION WHEN REPLACING OR REMOVING !

CHECKING, RESETTING AND REPLACING KNIVES

When checking, resetting and replacing knives, proceed as follow:

1. Disconnect the machine from the power source.

2. Remove the locking screw and raise top cover (A) Fig.24, to reveal cutterhead (B)

3. Carefully place knife setting gauge (C) Fig.25 & 26, in order to position the gauge on the radius section of cutterhead (B). When set correctly, knife (D) Fig.25 &26, should slightly contact the bottom of the insert section (E) Fig.26 of knife gauge (C) which is set at ".070". Verify the remaining knives in the same manner.

FIG. 24

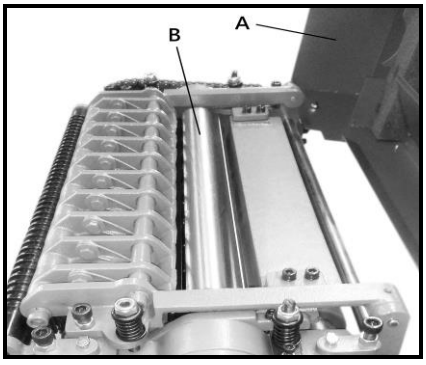
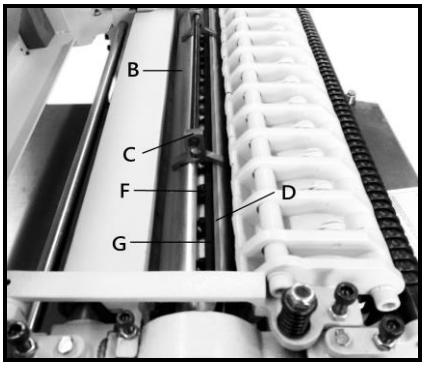


FIG. 25



4. If an adjustment to one or all three knives is necessary, slightly loosen the 10 locking screws, 10 of which are shown in Fig.25 & Fig.26 (F) loosen just enough to relieve stress in the cutterhead (B) and do not disturb the knife setting.

5. With the knife setting gauge (C) Fig.25 &26 still in place on the cutterhead, continue to adjust the knife that must be reset by turning the 10 knife locking screws (F) CLOCKWISE until knife locking bar (G) becomes loose. The lifter springs (not shown) located under the knife will automatically raise the knife until it comes in contact with gauge (C). Then tighten up the knife bar (G) Fig.25 &26, by turning the 10 knife locking screws (F) COUNTER-CLOCKWISE.

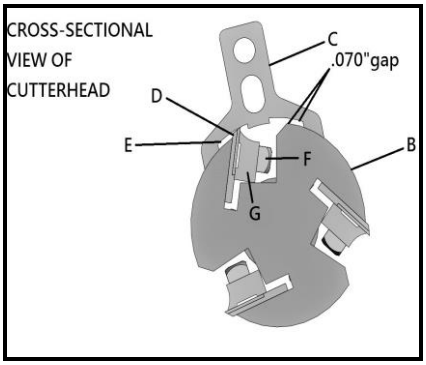
IMPORTANT: At this time, only tighten the knife locking bar (G) just enough to hold the knife (D) in position inside the cutterhead slot.

6. If other knives need adjustment, repeat step 5.

7. After all knives are positioned in the cutterhead with knife locking screws tighten and, turn each of the 10 locking screws (F) Fig.25, COUNTER-CLOCKWISE until the knives are secure in the cutterhead.

IMPORTANT: If the knives are to be removed for sharpening or replacement, extreme caution must be taken as knifes are very sharp and dangerous

FIG. 26



<u>To remove: Knives proceed as follows:</u>

8. Disconnect the machine from the power source.

9. Carefully place knife setting gauge (C) Fig.25, in order to position the gauge on the radius section of the cutterhead (B) Fig.26.

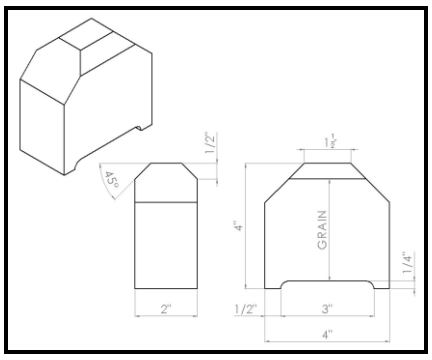
10. Loosen the knife locking bar (G) Fig.25 & Fig.26, by turning the 10 knife locking screws; 10 of which are shown in (F). Turn the screws CLOCKWISE and carefully remove the locking bar (G) and knife (D) along with the springs located under the knife from the cutterhead (not shown). Remove the remaining knives in the same manner.

11. Thoroughly clean the knife slots, knife locking bars, and locking screws. Verify the screws; if the threads appear worn or stripped, or if the heads are damaged replace immediately.

12. Carefully replace the springs (not shown), the knives (D) Fig.26, and the knife locking bars (G) into the three slots in the cutterhead (B).

IMPORTANT: When replacing the knife locking bars (G) Fig.26 against knives (D) as illustrated in the cross section diagram. Be sure that the knife locking bars (G) are installed as shown, with the locking screws (F) holding knives (D) properly inside the cutterhead slots. Turn all knife locking screws (F), COUNTER-CLOCKWISE just enough to hold the knives in the cutterhead.

FIG. 27



13. Adjust the knives as explained in Step 3 through 7.

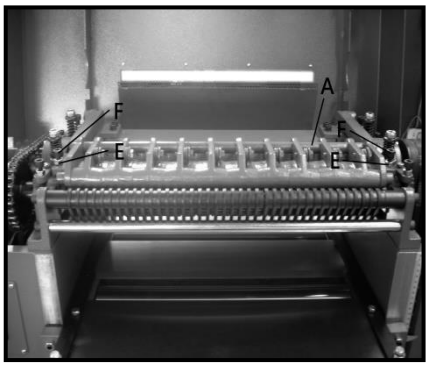
14. Replace the top cover on the machine.

CHECKING, RESETTING AND REPLACING KNIVES

In order to check and adjust the height of chipbreaker, pressure bar, infeed and outfeed rollers and adjust the cutterhead parallel to the table, you will need a gauge block made of hard wood. The gauge block can easily be constructed by following the dimensions illustrated to you in Fig.27.

ADJUSTING CHIPBREAKERS

FIG. 28



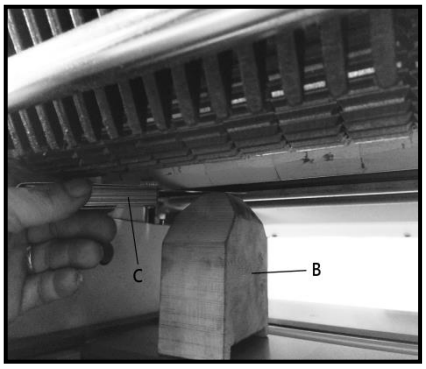
The chipbreakers (A) Fig.28 are located on the top of the planer and extend downward around the front of the cutterhead. The chipbreakers will rise as stock is fed through the planer and "breaks or cuds" the wood chips. The bottom of the chipbreakers must be parallel to the knives and set .40" below the cutting circle. To check and adjust the chipbreakers, proceed as follow:

1. Disconnect the machine from the power source.

2. Make certain the knives are adjusted properly as explained in section "Checking, Replacing and Resetting Knives".

3. Place the gauge block (B) Fig.29, on the table surface and directly under the cutterhead as illustrated. Using a .040" feeler gauge (C) Fig.29, position on top of the gauge block, raise the table untilcutterhead knife (D) touches the feeler gauge when the knife is at its lowest point.

FIG. 29

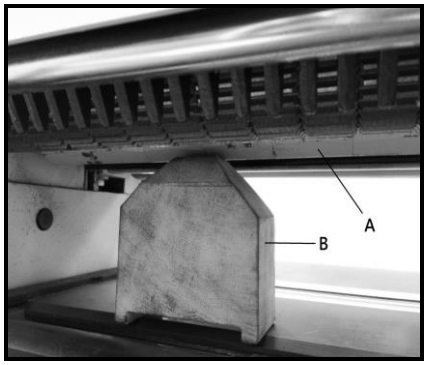


NOTE: Do not move the table any further until the adjustment has been completed.

4. Move gauge block (B) Fig.30, directly under the chipbreakers (A) as illustrated. The bottom of the chipbreakers (A) Fig.30 should slightly touch the gauge block (B).

5. If an adjustment to the chipbreaker is necessary, loosen the two hex nuts (E) Fig.28, and turn the adjustment screws (F) until the chipbreaker slightly touches the gauge block at both sides of the table.

FIG. 30



ADJUSTING PRESSURE BAR

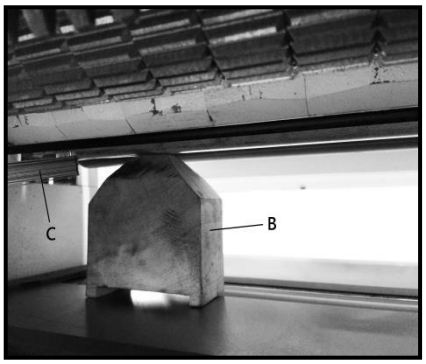
The pressure bar is located directly behind the cutterhead and rides on the planed surface of the stock, pressing the stock downward on the table. The pressure bar must be parallel to the knives and in contact to the table and set .0.10" below the cutting circle. To verify and adjust the pressure bar, proceed as follows:

1. Disconnect the machine from the power source.

2. Verify that the knives are adjusted properly as explained in section "Checking, Adjusting and Replacing knives"

3. Position the gauge block (B) Fig.31, on the able surface directly under the cutterhead as illustrated. Use a .010" feeler gauge (C) Fig.31, place on the top of the gauge block, and raise the table until the cutterhead knife (D) touches the feeler gauge when the knife is at its lowest point. Do not move the table any further until the adjustment has been completed.

FIG. 31



4. Move gauge block (B) Fig.32, under the pressure bar (D) as illustrated. The bottom of the pressure bar (D) Fig.32 should slightly touch the top of the gauge block (B). Verify the opposite end of the pressure bar in the same manner.

5. If an adjustment to the height of the pressure bar is necessary; loosen lock nut (E) Fig.33, and turn adjustment screw (F) until the bottom of the pressure bar (D) Fig.32, slightly touches the top of the gauge block (B). Repeat the adjustment at the other end of the pressure bar in the same manner.

FIG. 32

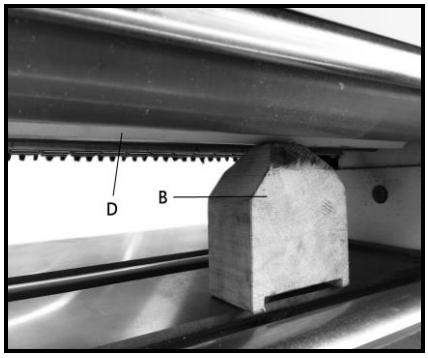
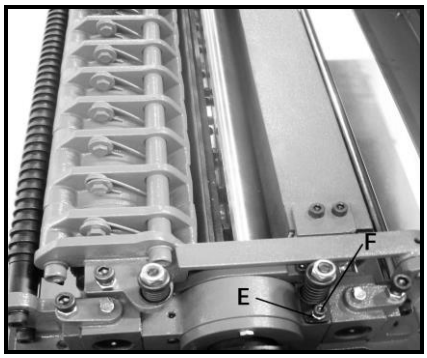


FIG. 33



ADJUSTING OUTFEED ROLLER

The outfeed roller continues to feed the stock out of the machine after the planning operation is completed and should be set at .030" below the cutting circle.

To check and adjust the setting of the outfeed roller, proceed with the following:

1. Disconnect the machine from the power source.

2. Verify that the knives are adjusted properly as explained in "Checking, Adjusting and Replacing Knives".

3. Place the gauge block (A) Fig.34 on the table, directly under the cutterhead (B). Using a .030" feeler gauge (C) place on the top of the gauge block (A), raise the table until the cutterhead knife slightly touches the feeler gauge (A) when the knife is at its lowest point.

NOTE: Do not move the table any further until the adjustment is complete

4. Place the gauge block (A) Fig.35, under the outfeed roller (D), the bottom of the roller (D) should slightly touch the gauge block (A).

5. If an adjustment is necessary, loosen locknut (E) Fig.36 and turn adjustment screw (F) until the outfeed roller slightly touches the top of the gauge block (A) Fig.35.

6. Repeat adjustment on the opposite end of the outfeed roller in the same manner.

7. Tighten locknut (E) Fig.36 after adjustments are completed.

FIG. 34

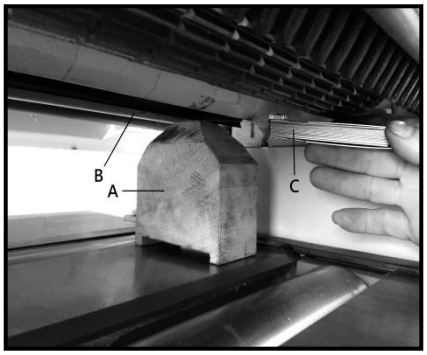
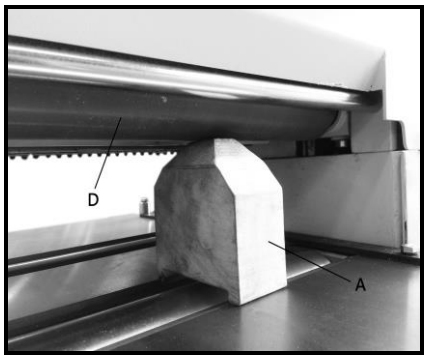


FIG. 35



ADJUSTING INFEED ROLLER

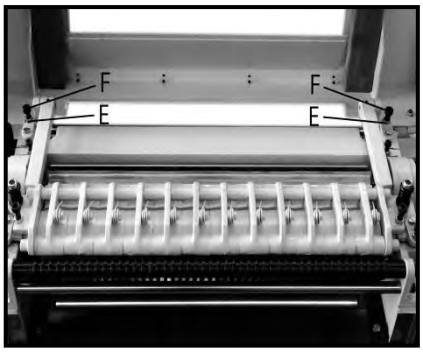
The infeed roller feeds the stock into planer while the stock is being surfaced. The infeed roller must be positioned uniformly across the planer and .040" below the cutting circle in order to feed stock without slipping.

To check the setting of the infeed roller, proceed with the following steps:

1. Disconnect the machine from the power source

2. Check that the knives are adjusted properly as explained in section "Checking, Adjusting and Replacing Knives".

FIG. 36



3. Place the gauge block (A) Fig.37 on the table, directly under the cutterhead (B). Use a .040" feeler gauge (C) and place on top of the gauge block (A), raise the table until the cutterhead knife slightly touches the feeler gauge (A) when the knife is at its lowest point *NOTE: Do not move the table any further until the adjustment is complete.*

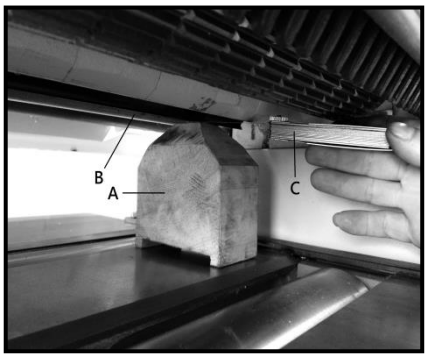
4. Place the gauge block (A) Fig.38, under infeed roller (D). The bottom of the roller (D) should slightly touch gauge block (A).

5. If adjustments are necessary, loosen locknut (E) Fig.39, and turn adjustment screw (F) until the infeed roller slightly touches the top of the gauge block (A).

6. Repeat the adjustments on the opposite end of the infeed roller in the same manner.

7. Tighten locknut (E) Fig.39, after adjustments are completed.

FIG. 37



LEVELING THE TABLE

The table is set parallel to the cutterhead at the factory and no further adjustment should be necessary.

To check if the table is level with cutterhead, proceed with the following Steps:

1. Disconnect the machine from the power source.

2. Check if the cutterhead knives are correctly set as explained in "Checking, Adjusting and Replacing Knives".

3. Verify that the table is set parallel to the cutterhead by placing a gauge block (A) Fig.40 directly under the cutterhead on the left hand side of the table as illustrated. Raise the table until the gauge block (A) Fig.40, slightly touches the cutthead.

4. Carefully move the gauge block (A) Fig.41, to the right hand side of the table directly under the cutterhead. The gap between the table and the cutterhead should be identical with left hand side.

5. If the table is not parallel to the cutterhead, lower boot (B) Fig.42, which is located underneath the table. *NOTE: Table elevating handwheel must be unlocked when making this adjustment.*

6. Loosen lock screw (C) Fig.42, and with large pliers (D) turn adjustment sleeve (E) as required until table is parallel with the cutterhead. Tighten lock screw (C) after adjustment is completed and replace Boot (B).

NOTE: The same adjustment can also be made on the other side of the planer if necessary.

FIG. 38

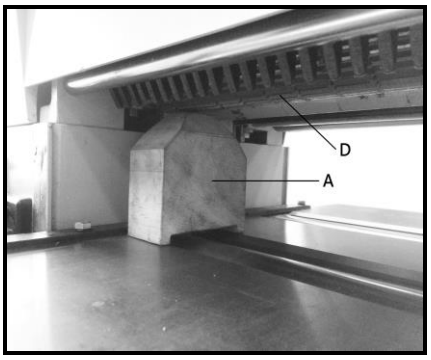


FIG. 39

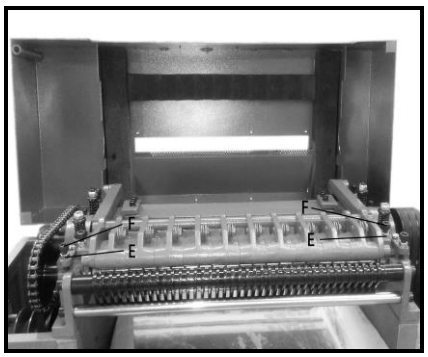


FIG. 40

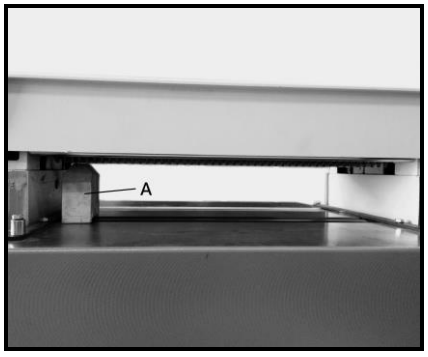
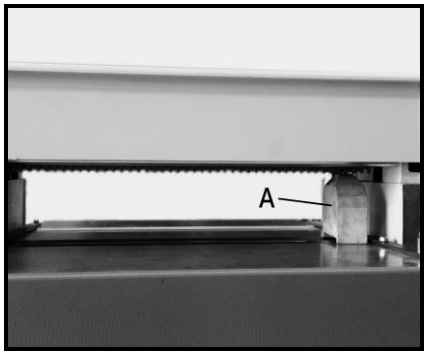
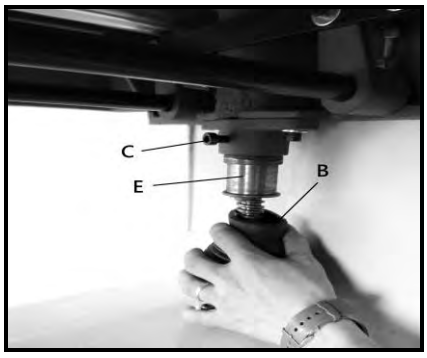


FIG. 41



ADJUSTING TABLE HEIGHT SCALE

FIG. 42



The table height scale indicates the distance the table is from the cutting circle (depth of cut). To verify and adjust the pointer, proceed with the following steps:

1. Run a piece of wood through the planer and stop the machine.

2. Measure the thickness of planed end of the stock as illustrated In Fig.43. If adjustment is required, loosen screw (A) Fig.44, adjust pointer (B) and re-tighten screw (A).

ADJUSTING TABLE GIBS

In the unlikely event of the table developing unwanted movement during planning operation, the table can be checked and adjusted by following these steps:

1. With the table in the locked position, and a feeler gauge; measure the gap between table gib (A) Fig.45 and table bracket (B). when set properly the gap should be .005”

2. If adjustment is required, loosen the three locknuts (C), and turn three adjustment screws (D) Fig.45, as necessary to set the correct gap.

3. Check and adjust the gap on the other side of the table in the same manner. After adjustments are completed, tighten the six locknuts, three of which are illustrated in (C) Fig.45.

4. Raise and lower the table to its fullest range and check to see if the table moves up and down without binding.

FIG. 43

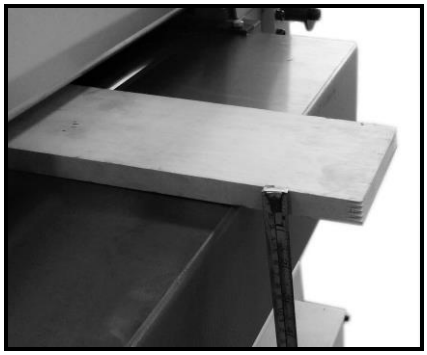


FIG. 45

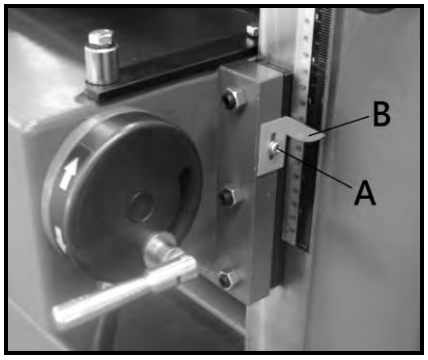
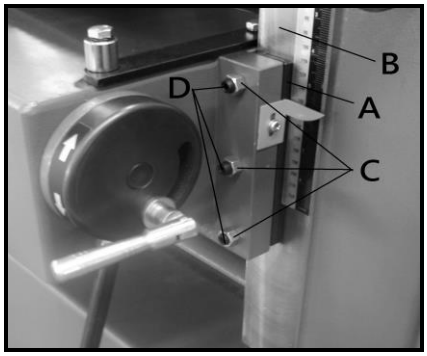


FIG. 44

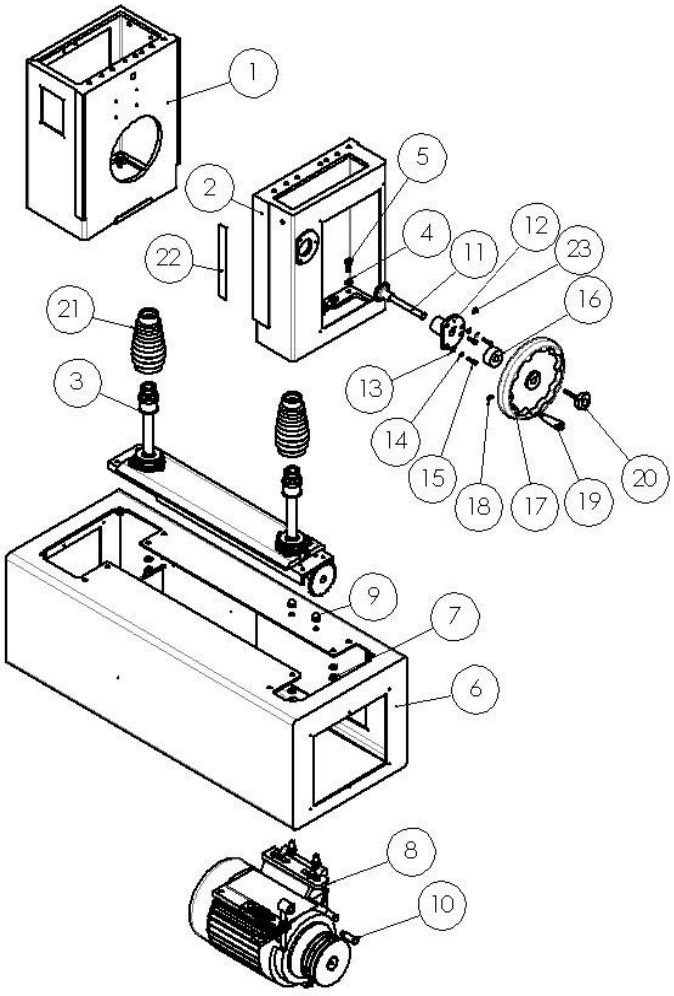


MAINTENANCE

- Disconnect the machine from the power source.
- Planer knives must be sharpened when use after numerous projects.
- Periodic lubrication should be performed with grease or machine oil to assure the durability and accuracy of the use of machine.
- Always dust off dirt, chips, or any other particles left bqehind after operations have been completed.

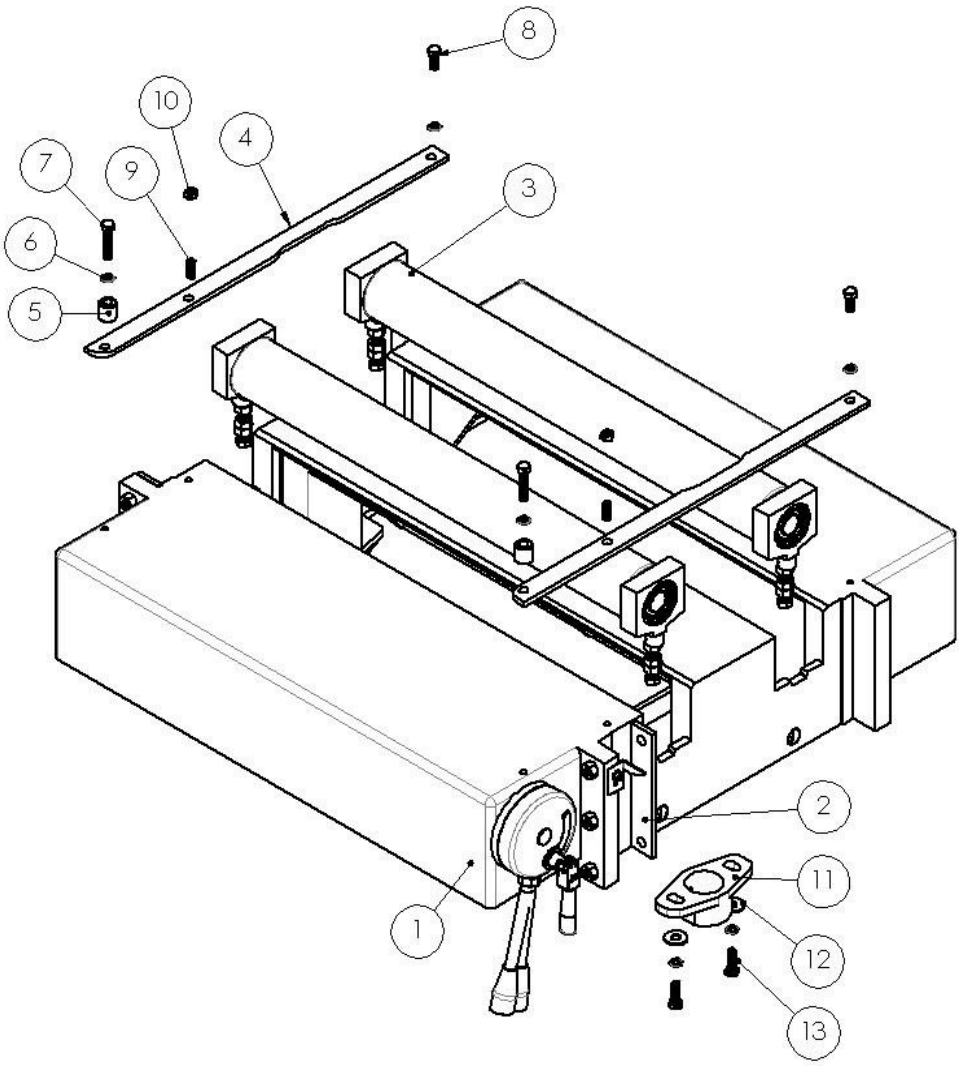
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-001	C003016	Column Base (L)		1
2	MI-31662-002	C003017	Column Base (R)		1
3	MI-31662-003	G002008	Elevating Screw		1
4	MI-31662-004	S284008	Spring Washer	∮10.2x∮18.4x3.7x2.5T	28
5	MI-31662-005	S137030	Hex. Head Screw	M10-P1.5x30L	16
6	MI-31662-006	C002024	Base		1
7	MI-31662-007	S273010R	Nut	M10-P1.5 (RH)	12
8	MI-31662-008	T004034	Motor Assembly		1
9	MI-31662-009	S277006	Cap Nut	M12-P1.75 (RH)	2
10	MI-31662-010	C034031	Shaft		1
11	MI-31662-011	C067064	Sprocket Shaft		1
12	MI-31662-012	C015017	Handle Support		1
13	MI-31662-013	S282009	Washer	∮6.4x∮13x1.0T	3
14	MI-31662-014	S284006	Spring Washer	∮6.1x∮12.2x2.7x1.5T	3
15	MI-31662-015	S201025	Hex. Socket Head Screw	M6-P1.0x25L	3
16	MI-31662-016	C051080	Collar		1
17	MI-31662-017	P025158G	Handwheel	(∮8") ∮203.2	1
18	MI-31662-018	S213014	Set Screw	M8-P1.25x14L	1
19	MI-31662-019	P028014N	Handle	3/8"-16NCx91L	1
20	MI-31662-020	P031006	Knob	3/8"x90L	1
21	MI-31662-021	C078003	Boot		2
22	MI-31662-022	P108101	Depth Scale		1
23	MI-31662-023	S319201	Oil Fitting	3/16"	1
24	MI-31662-024	S307086	Chain	#40-P86	1
25	MI-31662-025	S307002	Link, Chain		1



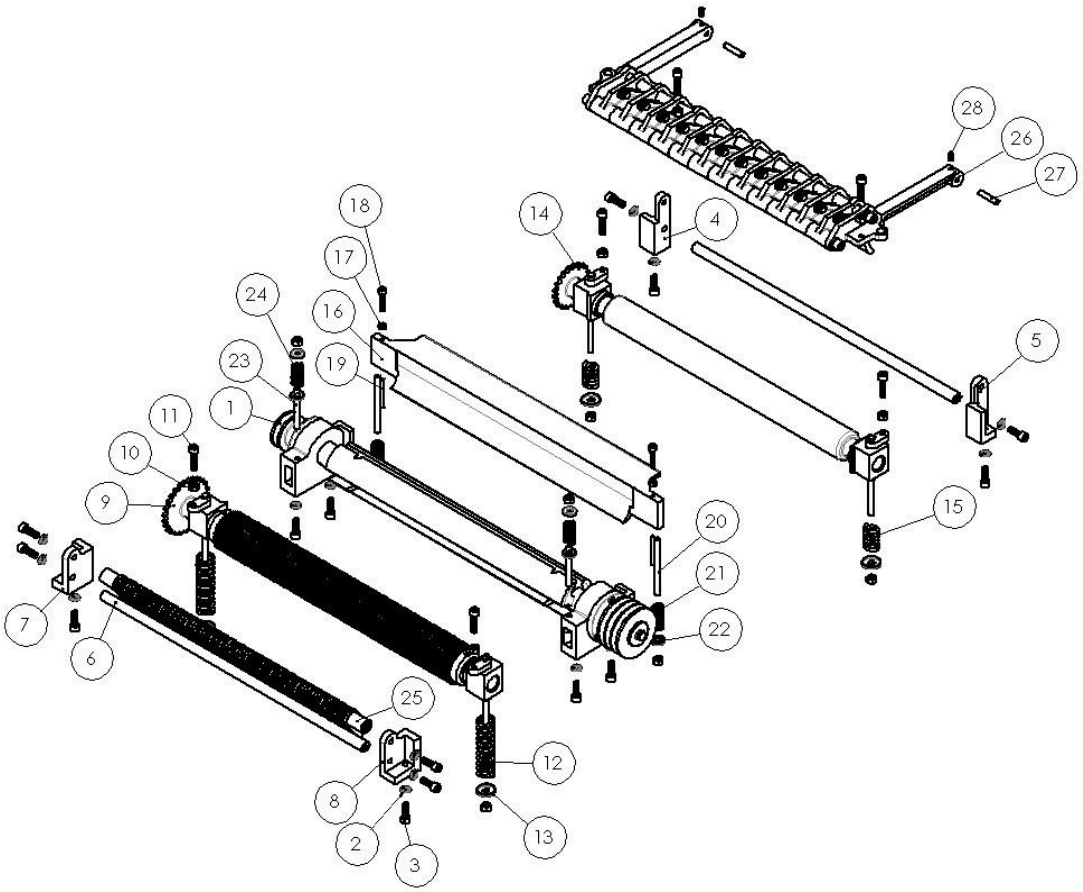
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-026	G003013	Work Table		1
2	MI-31662-027	C007001	Table Gib		2
3	MI-31662-028	T013027	Table Roller Assembly		2
4	MI-31662-029	C020003	Datum Plank		2
5	MI-31662-030	C051019	Collar		2
6	MI-31662-031	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	8
7	MI-31662-032	S136040	Hex. Head Screw	M8-P1.25x40L	2
8	MI-31662-033	S136020	Hex. Head Screw	M8-P1.25x20L	4
9	MI-31662-034	S213005	Set Screw	M8-P1.25x20L	2
10	MI-31662-035	S273008R	Nut	M8-P1.25 (RH)	2
11	MI-31662-036	C015022	Support		2
12	MI-31662-037	S282011	Washer	∮10.5x∮25x2.0T	4
13	MI-31662-038	S136025	Hex. Head Screw	M8-P1.25x25L	4



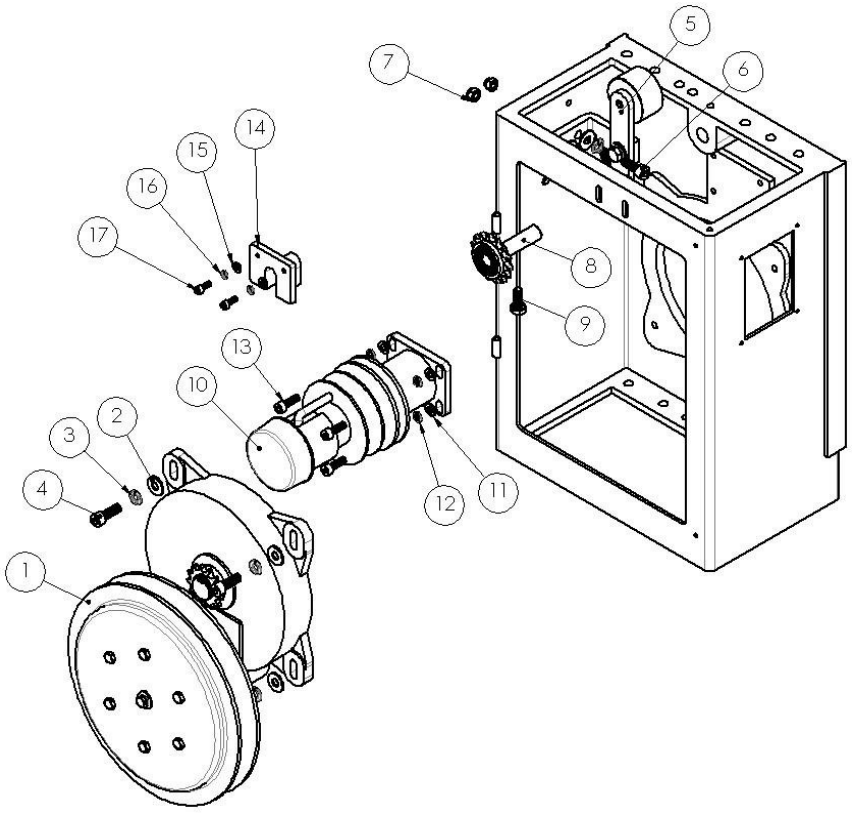
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-039-1	T001034	Cutterhead Assembbly		1
	MI-31662-039-2	P24GT002	Helical Cutterhead		1
2	MI-31662-040	S284008	Spring Washer	§ 10.2x § 18.4x3.7x2.5T	14
3	MI-31662-041	S203030	Hex. Socket Screw	M10-P1.5x30L	14
4	MI-31662-042	C015029	Bracket(L)		1
5	MI-31662-043	C015096	Bracket(R)		1
6	MI-31662-044	C046073	Shaft		2
7	MI-31662-045	C015032	Bracket(L)		1
8	MI-31662-046	C015097	Bracket(R)		1
9	MI-31662-047	T010015	Infeed Roller Assembly		1
10	MI-31662-048	S273010R	Nut	M10-P1.5 (RH)	14
11	MI-31662-049	S203040	Hex. Socket Screw	M10-P1.5x40L	6
12	MI-31662-050	C060007	Infeed Roller Spring		2
13	MI-31662-051	C053022	§ 35 Concave Washer		4
14	MI-31662-052	T011007	Outfeed Roller Assembly		1
15	MI-31662-053	C060012	Outfeed Roller Spring		2
16	MI-31662-054	C042035	Rear Pressure Bar		1
17	MI-31662-055	S273008R	Nut	M8-P1.25 (RH)	2
18	MI-31662-056	S202040	Hex. Socket Screw	M8-P1.25x40L	2
19	MI-31662-057	C046055	Shaft		2
20	MI-31662-058	C034023	Bolt		2
21	MI-31662-059	C060009	Spring		2
22	MI-31662-060	C053023	§ 25 Concave Washer		6
23	MI-31662-061	C034021	Bolt		2
24	MI-31662-062	C060040	Spring		2
25	MI-31662-063	T009034	Anti-Kickback Assembly		1
26	MI-31662-064	T009032	Chipbreaker Assembly		1
27	MI-31662-065	C046016	Shaft		2
28	MI-31662-066	S213014	Set Screw	M8-P1.25x14L	2



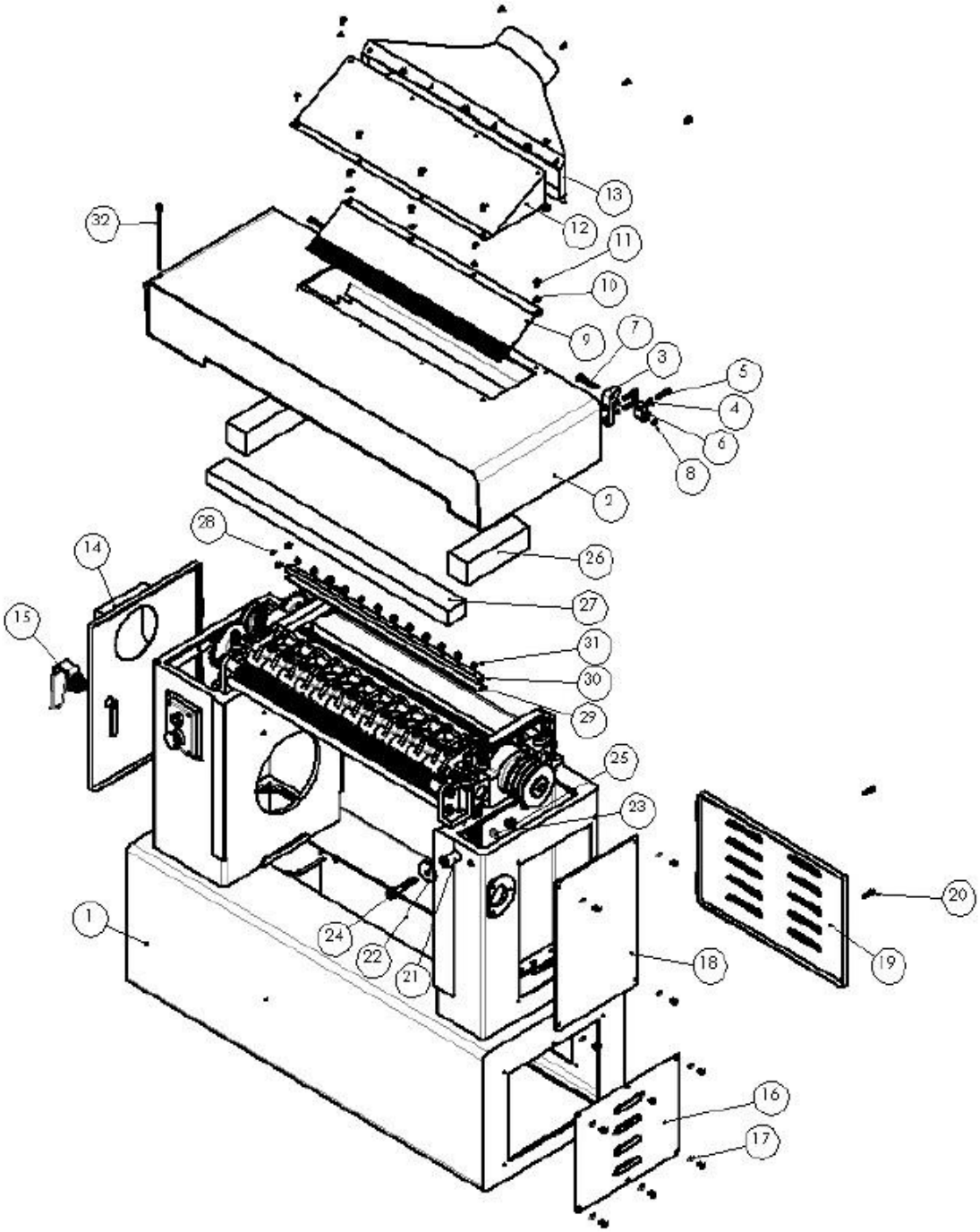
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-067	G006011	Gear Box Assembly		1
2	MI-31662-068	S282011	Washer	∮10.5x∮25x2T	6
3	MI-31662-069	S284008	Spring Washer	∮10.2x∮18.4x3.7x2.5T	6
4	MI-31662-070	S203030	Hex. Socket Head Screw	M10-P1.5x30L	4
5	MI-31662-071	T017006	Link Assembly		1
6	MI-31662-072	S203025	Hex. Socket Head Screw	M10-P1.5x25L	2
7	MI-31662-073	S277010R	Cap Nut	M10-P1.5	2
8	MI-31662-074	T013003	Chain Gear Assembly		1
9	MI-31662-075	S137025	Hex. Head Screw	M10-P1.5x25L	1
10	MI-31662-076	T004035	Variable Speed Feeding Assembly		1
11	MI-31662-077	S282010	Washer	∮8.4x∮16x1.5T	4
12	MI-31662-078	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	4
13	MI-31662-079	S202025	Hex. Socket Screw	M8-P1.25x25L	4
14	MI-31662-080	C023069	Support		1
15	MI-31662-081	S282009	Washer	∮6.4x∮13x1.0T	2
16	MI-31662-082	S284006	Spring Washer	∮6.1x∮12.2x2.7x1.5T	2
17	MI-31662-083	S201016	Hex. Socket Screw	M6-P1.0x16L	2



PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-084	T020038	Electric Wire Assembly		1
2	MI-31662-085	C073079	Top Cover		1
3	MI-31662-086	C061001	Bottom Knuckle		2
4	MI-31662-087	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	4
5	MI-31662-088	S202030	Hex. Socket Head Screw	M8-P1.25x30L	4
6	MI-31662-089	C061002	Top Knuckle		2
7	MI-31662-090	S136050	Hex. Head Screw	M8-P1.25x50L	2
8	MI-31662-091	S273008R	Nut	M8-P1.25 (RH)	2
9	MI-31662-092	C078011	Chip Discharge Cover		1
10	MI-31662-093	S282009	Washer	∮6.4x∮13x1.0T	20
11	MI-31662-094	S233012	Rounded Head Screw	M6-P1.0x12L	36
12	MI-31662-095	C023051	Dust Chute		1
13	MI-31662-096	C077024	Dust Hood		1
14	MI-31662-097	C073082	Cover(L)		1
15	MI-31662-098	P027101	Safety Handle		1
16	MI-31662-099	C073010	Base Cover(R)		1
17	MI-31662-100	S284006	Spring Washer	∮6.1x∮12.2x2.7x1.5T	18
18	MI-31662-101	C073017	Cover(R)		1
19	MI-31662-102	C074214	Rear Cover		1
20	MI-31662-103	S201020	Hex. Socket Head Screw	M6-P1.0x20L	2
21	MI-31662-104	C039005	Bushing		2
22	MI-31662-105	C053021	Washer		2
23	MI-31662-106	S284009	Spring Washer	∮12.2x∮21.5x4.2x3.0T	4
24	MI-31662-107	S204070	Hex. Socket Head Screw	M12-P1.75x70L	2
25	MI-31662-108	S273012R	Nut	M12-P1.75 (RH)	2
26	MI-31662-109	S326003	Sponge	60x60x200L	2
27	MI-31662-110	S326009	Sponge	60x40x760L	1
28	MI-31662-111	S246010	Flat Head Socket Screw	M5-P0.8x10L	6
29	MI-31662-112	P054010	Knife	3tx30x24”	3
30	MI-31662-113	P056011	Knife Locking Bar		3
31	MI-31662-114	P056105	Square Head Screw	5/16”-18NCx1/2”L	36
32	MI-31662-115	S202160	Hex. Socket Head Screw	M8-P1.25x160L	1
33	MI-31662-116	P104002	Motor Plate		1
34	MI-31662-117	T027027	Tool Set		1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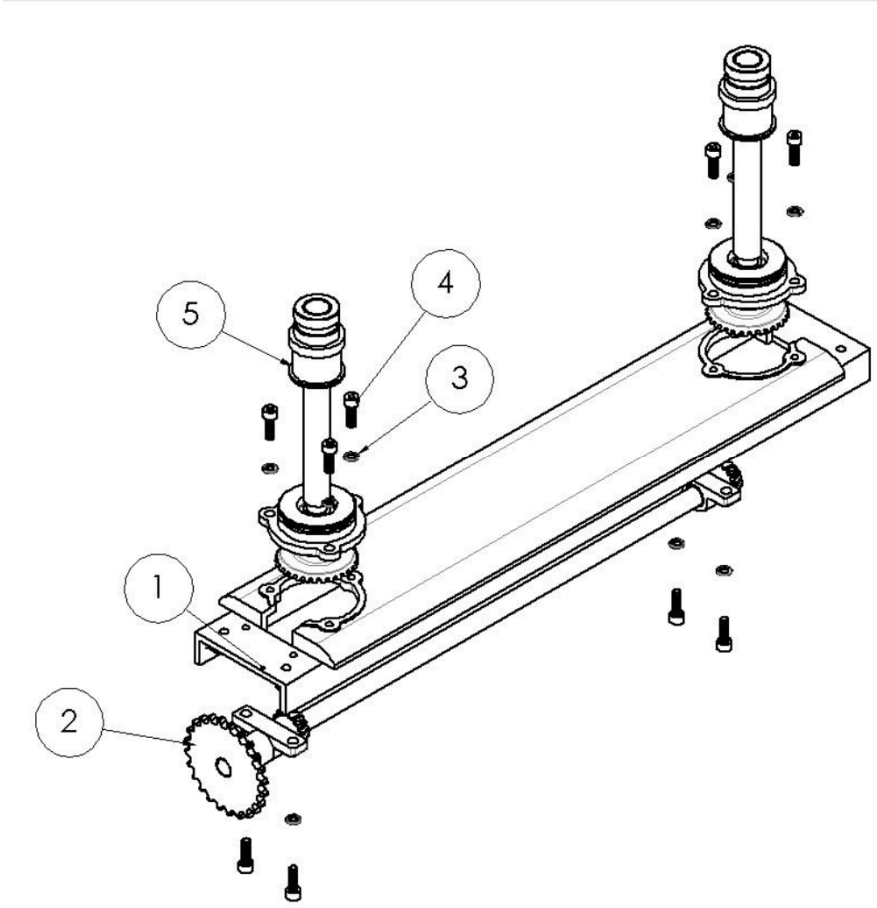
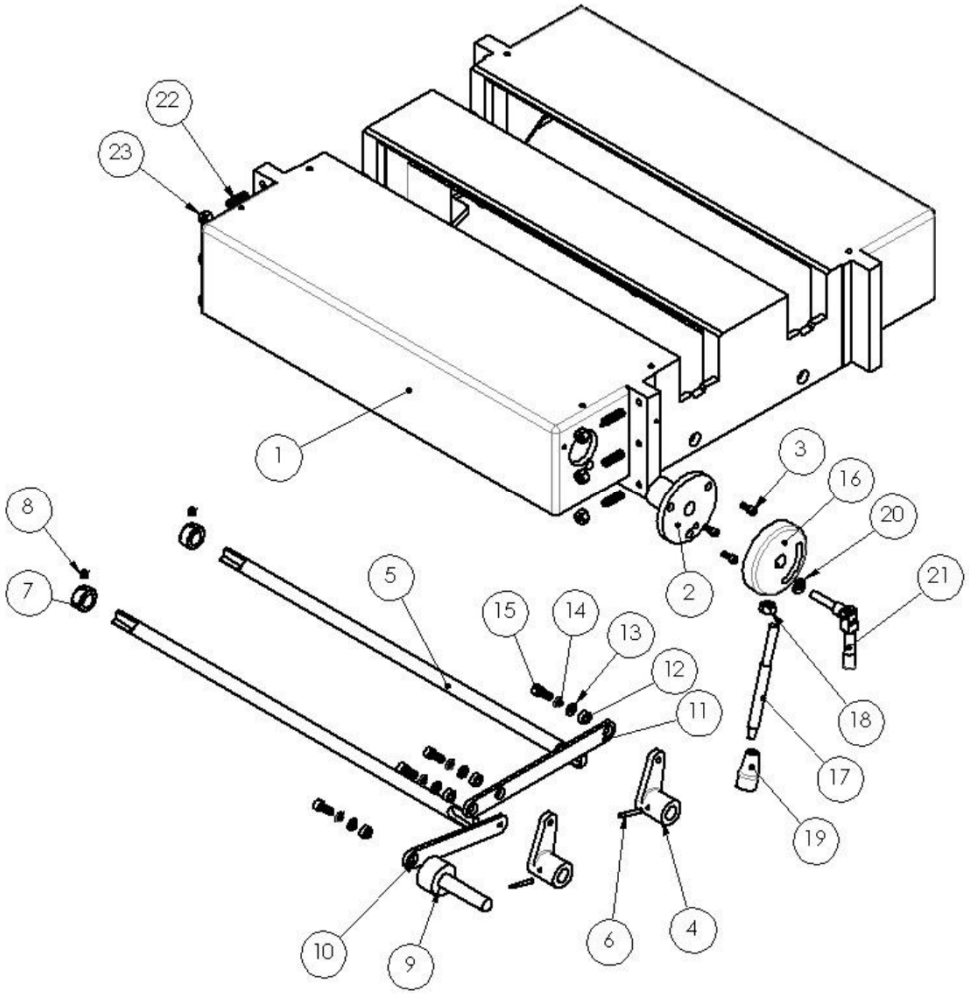
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-118	C015094	Plate		1
2	MI-31662-119	T016008	Level Gear		1
3	MI-31662-120	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	10
4	MI-31662-121	S202025	Hex. Socket Head Screw	M8-P1.25x25L	10
5	MI-31662-122	T003003	Level Screw		2



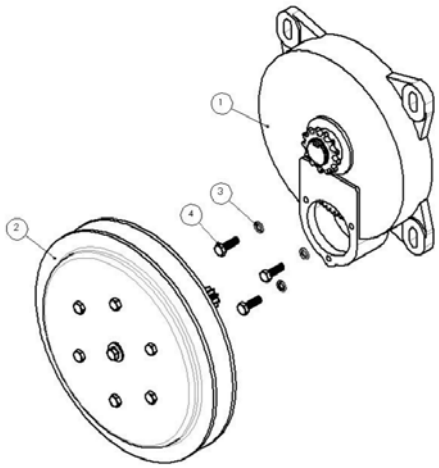
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-123	C006054	Work Table		1
2	MI-31662-124	C015018	Support		1
3	MI-31662-125	S201016	Hex. Socket Head Screw	M6-P1.0x16L	3
4	MI-31662-126	C017013	Elevating Arm		2
5	MI-31662-127	C046076	Rod		2
6	MI-31662-128	S267512V	Spring Pin	∮5∮5.2x40L	2
7	MI-31662-129	C051008	Bushing		2
8	MI-31662-130	S213015	Set Screw	M8-P1.25x8L	2
9	MI-31662-131	C046010	Shaft		1
10	MI-31662-132	C049011	Short Plate		1
11	MI-31662-133	C049010	Long Plate		1
12	MI-31662-134	C051022	7L Bushing		4
13	MI-31662-135	S282108	Washer	∮8.4x∮15.8x2.2T	4
14	MI-31662-136	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	4
15	MI-31662-137	S202020	Hex.Socket Head Scrwe	M8-P1.25x20L	4
16	MI-31662-138	C017014	Hub		1
17	MI-31662-139	C057006	Lever		1
18	MI-31662-140	S273012R	Nut	M12-P1.75	1
19	MI-31662-141	P029214Y	Knob	3/8-16NC "	1
20	MI-31662-142	S282110	Washer	∮10.5x∮20x3T	1
21	MI-31662-143	P028001	Lever Locker		1
22	MI-31662-144	S214030	Set Screw	M10-P1.5x30L	6
23	MI-31662-145	S273010R	Nut	M10-P1.5	6



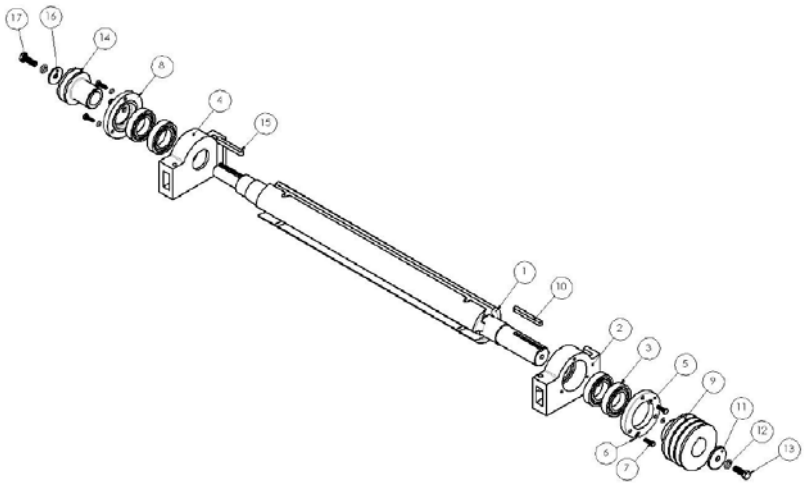
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-146	T014002	Reduce Gear Box Assembly		1
2	MI-31662-147	T015008	Gear Pulley Assembly		1
3	MI-31662-148	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	3
4	MI-31662-149	S136025	Hex.Head Screw	M8-P1.25x25L	3



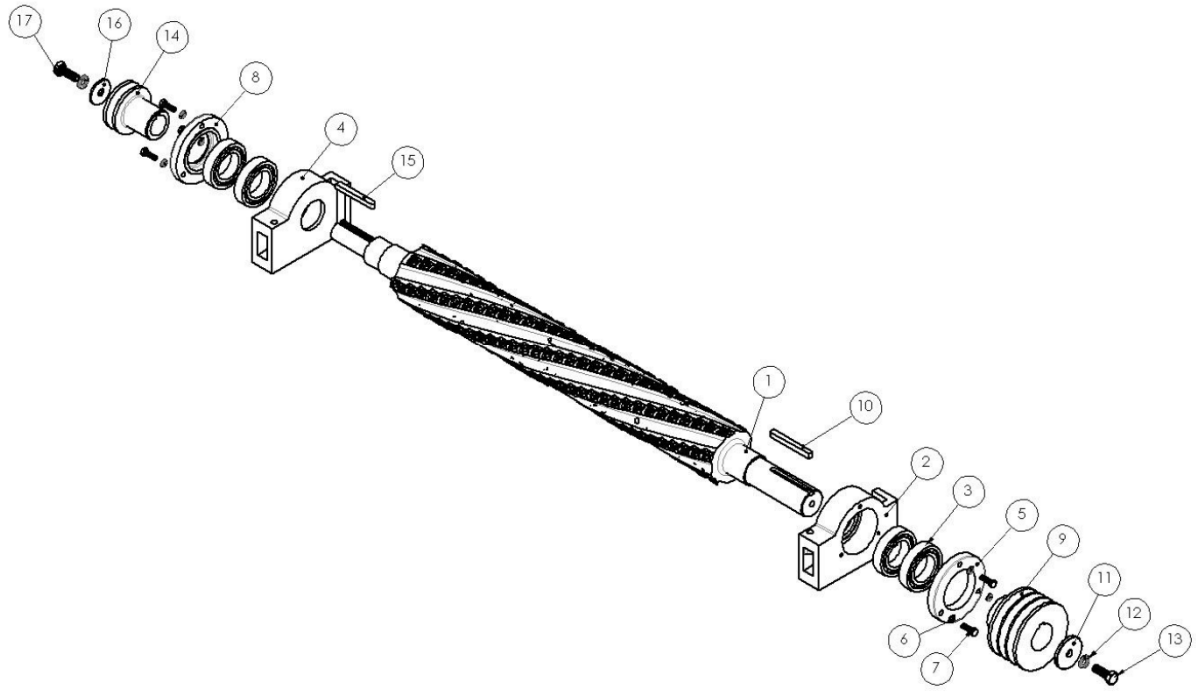
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-150	C011023	Cutterhead		1
2	MI-31662-151	C009054	Support(R)		1
3	MI-31662-152	S026008ZZ	Ball Bearing	6008ZZ ∮40x∮68x15	4
4	MI-31662-153	C009053	Support(L)		1
5	MI-31662-154	C010026	Cover(R)		1
6	MI-31662-155	S284006	Spring Washer	∮6.1x∮12.2x2.7x1.5T	6
7	MI-31662-156	S135020	Hex.Head Screw	M6-P1.0x20L	6
8	MI-31662-157	C010028	Cover(L)		1
9	MI-31662-158	C064124	Pulley		1
10	MI-31662-159	S003181	Key	8x8x75L	1
11	MI-31662-160	C053003	Washer	∮48x∮11x5.0T	1
12	MI-31662-161	S284008	Spring Washer	∮10.2x∮12.2x3.7x2.5T	2
13	MI-31662-162	S137630	Hex.Head Screw	M10-P1.5x30L	1
14	MI-31662-163	C064128	Pulley		1
15	MI-31662-164	S003180	Key	8x8x70L	1
16	MI-31662-165	S282113	Washer	∮10.5x∮37x3T	1
17	MI-31662-166	S137030	Hex.Head Screw	M10-P1.5x30L	1



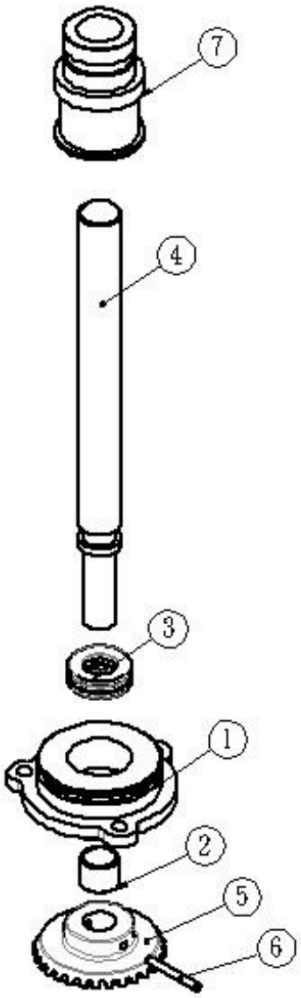
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-167	P24GP052	Helical Cutterhead		1
2	MI-31662-168	C009054	Support(R)		1
3	MI-31662-169	S026008ZZ	Ball Bearing	6008ZZ ∮40x∮68x15	4
4	MI-31662-170	C009053	Support(L)		1
5	MI-31662-171	C010026	Cover(R)		1
6	MI-31662-172	S284006	Spring Washer	∮6.1x∮12.2x2.7x1.5T	6
7	MI-31662-173	S135020	Hex.Head Screw	M6-P1.0x20L	6
8	MI-31662-174	C010028	Cover(L)		1
9	MI-31662-175	C064124	Pulley		1
10	MI-31662-176	S003181	Key	8x8x75L	1
11	MI-31662-177	C053003	Washer	∮48x∮11x5.0T	1
12	MI-31662-178	S284008	Spring Washer	∮10.2x∮12.2x3.7x2.5T	2
13	MI-31662-179	S137630	Hex.Head Screw	M10-P1.5x30L	1
14	MI-31662-180	C064128	Pulley		1
15	MI-31662-181	S003180	Key	8x8x70L	1
16	MI-31662-182	S282113	Washer	∮10.5x∮37x3T	1
17	MI-31662-183	S137030	Hex.Head Screw	M10-P1.5x30L	1



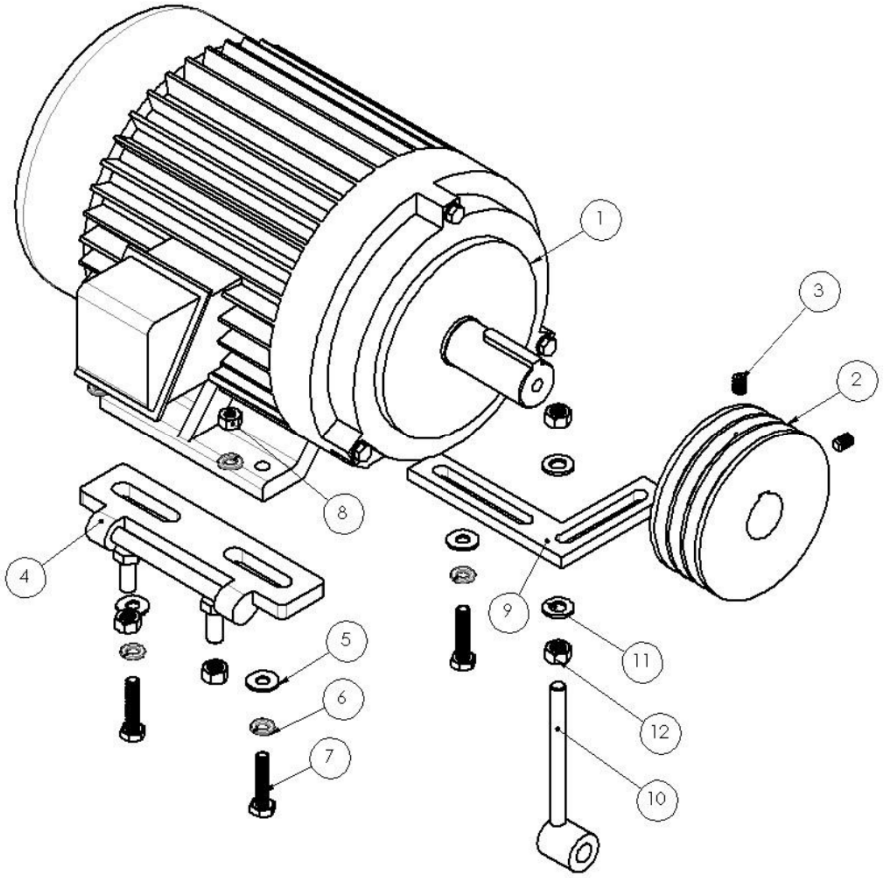
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-184	C009021	Support		1
2	MI-31662-185	P051001	Brass Bearing	§ 19.05x § 22.225x18L	1
3	MI-31662-186	S043004	Thrust Bearing	2904 20x35x10	1
4	MI-31662-187	C035001	Shaft		1
5	MI-31662-188	C028001	Gear		1
6	MI-31662-189	S267512V	Spring Pin	§ 5 § 5.2x40L (V)	1
7	MI-31662-190	C037002	Collar		1



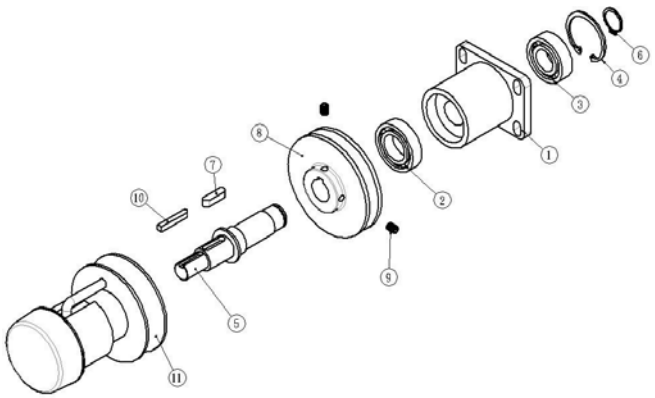
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-191-1	P041207R	Motor	2P 7 1/2HP(5.5KW) .R	1
	MI-31662-191-2	P041208R	Motor	2P 10HP(7.5KW) .R	1
2	MI-31662-192	C064125	Pulley		1
3	MI-31662-193	S214012	Set Screw	M10-P1.5x12L	2
4	MI-31662-194	C063003	Motor Bracket		1
5	MI-31662-195	S282011	Washer	∮10.5x∮25x2T	3
6	MI-31662-196	S284008	Spring Washer	∮10.2x∮18.4x3.7x2.5T	6
7	MI-31662-197	S137045	Hex. Head Screw	M10-P1.5x45L	6
8	MI-31662-198	S273010R	Nut	M10-P1.5	6
9	MI-31662-199	C049001	Bracket		1
10	MI-31662-200	C034030	Adjustable Screw		1
11	MI-31662-201	S282012	Washer	∮13x∮21x2.5T	2
12	MI-31662-202	S273012R	Nut	M12-P1.75	4



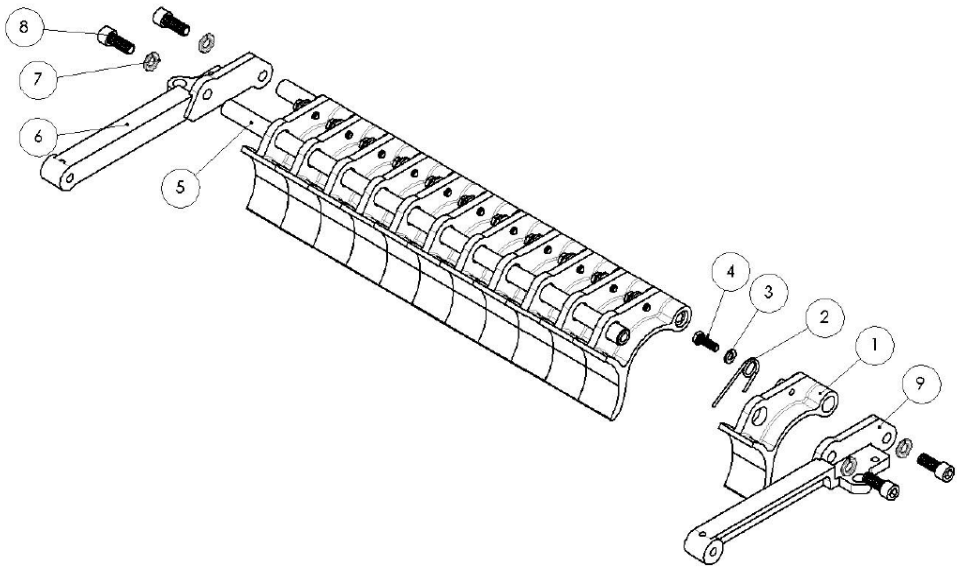
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-203	C009067	Housing		1
2	MI-31662-204	S026006ZZ	Ball Bearing	6006ZZ. ∮30x∮55x13	1
3	MI-31662-205	S026205ZZ	Ball Bearing	6205ZZ. ∮25x∮52x15	1
4	MI-31662-206	S298131	C-Ring	#52 ∮56.2x2.0t (2.2)	1
5	MI-31662-207	C047078	Pulley Shaft		1
6	MI-31662-208	S298015	C-Ring	#25 ∮23.2x1.2t (1.35)	1
7	MI-31662-209	S004172	Key	8x8x30L	1
8	MI-31662-210	C064129	Pulley		1
9	MI-31662-211	S213001	Set Screw	M8-P1.25x10L	2
10	MI-31662-212	S003077	Key	6x6x40	1
11	MI-31662-213	P050014	Variable Pulley		1



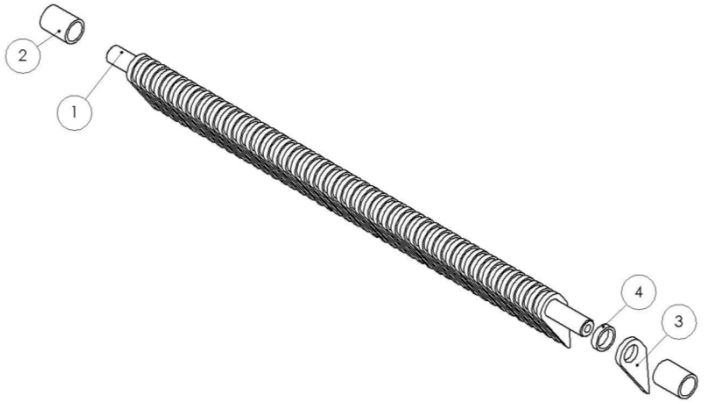
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-214	C042009	Chipbreaker		12
2	MI-31662-215	C060008	Spring		12
3	MI-31662-216	S282010	Washer	∮8.4x∮15.5x1.6T	12
4	MI-31662-217	S136025	Hex. Head Screw	M8-P1.25x25L	12
5	MI-31662-218	C048037	Shaft		2
6	MI-31662-219	C015095	Support(L)		1
7	MI-31662-220	S284009	Spring Washer	∮12.2x∮21.5x4.2x3.0T	4
8	MI-31662-221	S204030	Hex. Socket Head Screw	M12-P1.75x30L	4
9	MI-31662-222	C015031	Support(R)		1



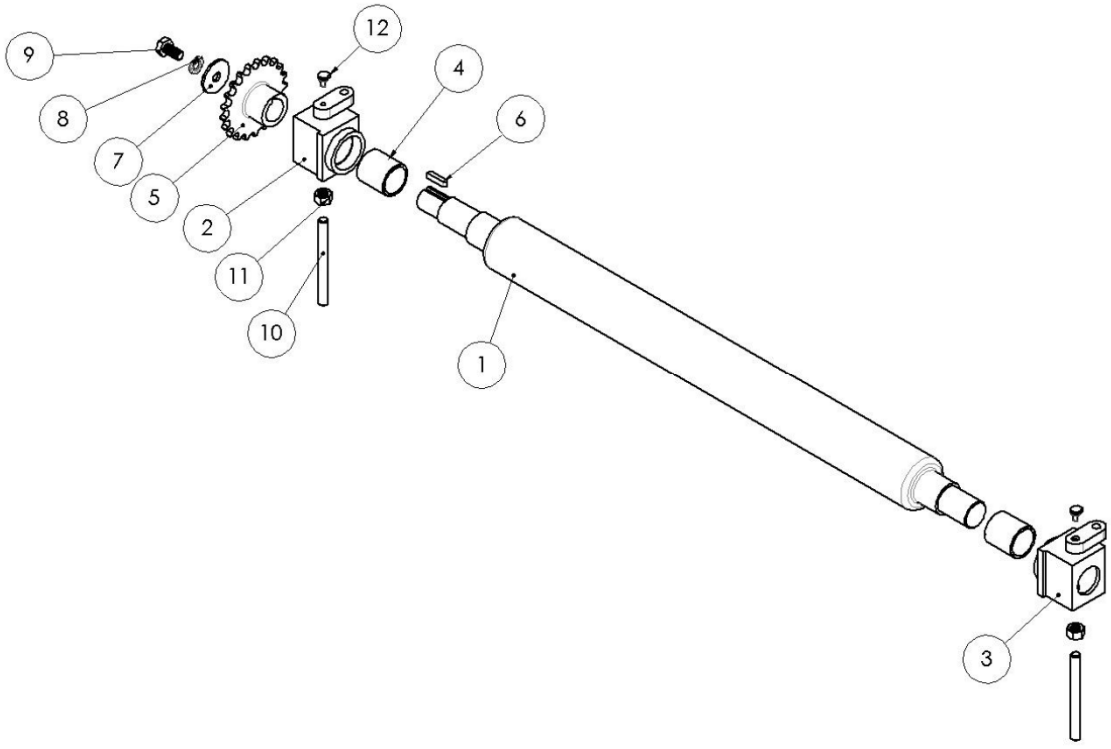
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-223	C046128	Rod	∮ 19.05x678L	1
2	MI-31662-224	C052077	Bushing		2
3	MI-31662-225	C045012	Finger		46
4	MI-31662-226	C052014	Bushing		45



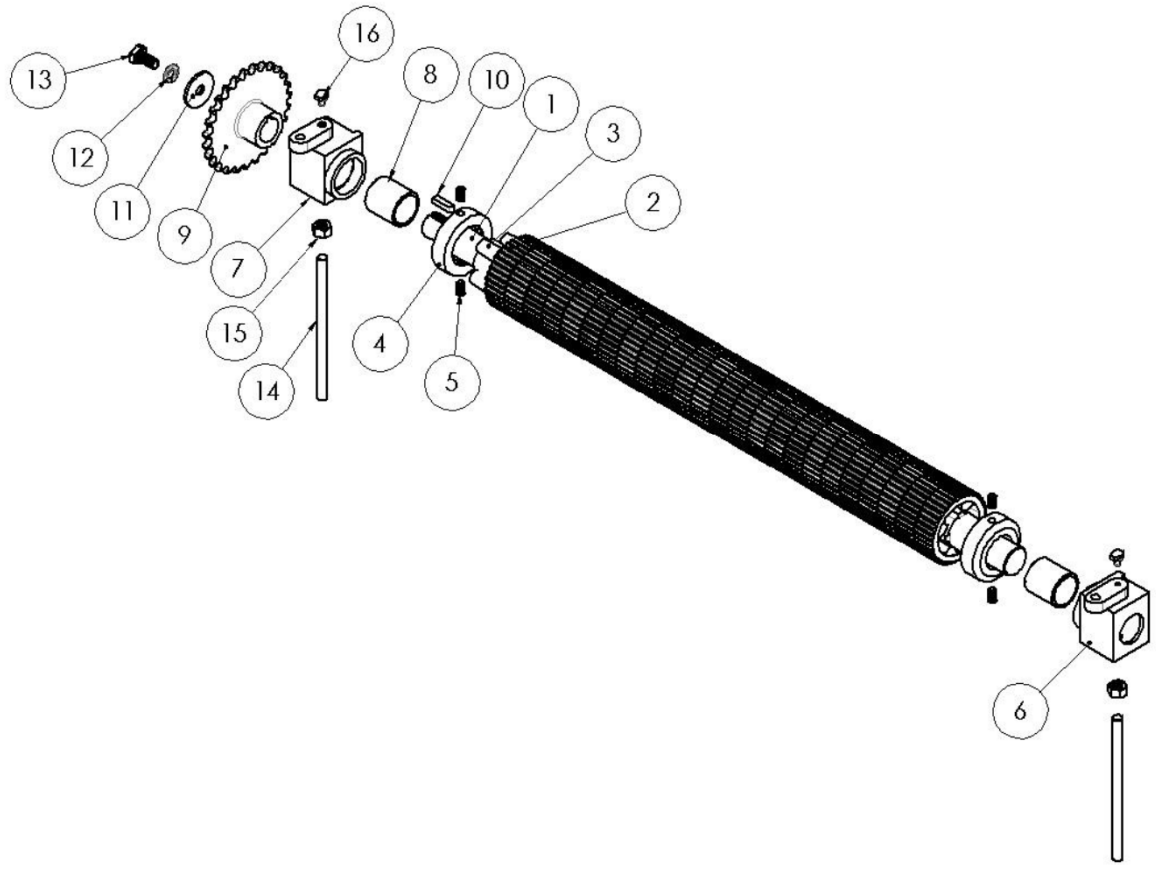
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-227	C039028	Outfeed Roller		1
2	MI-31662-228	C009017	Bearing Block(L)		1
3	MI-31662-229	C009049	Bearing Block(R)		1
4	MI-31662-230	P051002	Brass Bearing	∮ 30x ∮ 36x38L	2
5	MI-31662-231	C067015	Sprocket		1
6	MI-31662-232	S003073	Key	6x6x25L	1
7	MI-31662-233	S282113	Washer	∮ 11x ∮ 38x2T	1
8	MI-31662-234	S284008	Spring Washer	∮ 10.2x ∮ 18.4x3.7x2.5T	1
9	MI-31662-235	S137020	Hex.Head Screw	M10-P1.5x20L.	1
10	MI-31662-236	C034087	Stud		2
11	MI-31662-237	S273010R	Nut	M10-P1.5	2
12	MI-31662-238	S319201	Oil Fitting	3/16	2



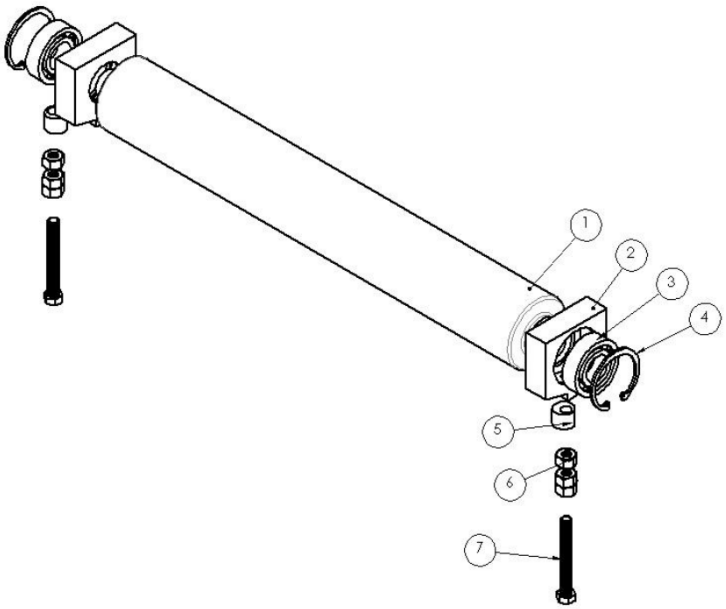
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-239	C039027	Infeed Shaft		1
2	MI-31662-240	C038006	Infeed Roller		24
3	MI-31662-241	P063004	Rubber Bushing		96
4	MI-31662-242	C051023	Bushing		2
5	MI-31662-243	S213012	Set Screw		4
6	MI-31662-244	C009017	Bearing Block(R)		1
7	MI-31662-245	C009049	Bearing Block(L)		1
8	MI-31662-246	P051002	Brass Bearing		2
9	MI-31662-247	C067014	Sprocket		1
10	MI-31662-248	S003073	Key	6x6x25L	1
11	MI-31662-249	S282113	Washer	§ 10.5x § 37x3T	1
12	MI-31662-250	S284008	Spring Washer	§ 10.2x § 18.4x3.7x2.5T	1
13	MI-31662-251	S137020L	Hex.Head Screw	M10-P1.5x20L	1
14	MI-31662-252	C034022	Stud		2
15	MI-31662-253	S273010R	Nut	M10-P1.5	2
16	MI-31662-254	S319201	Oil Fitting	3/16 "	2



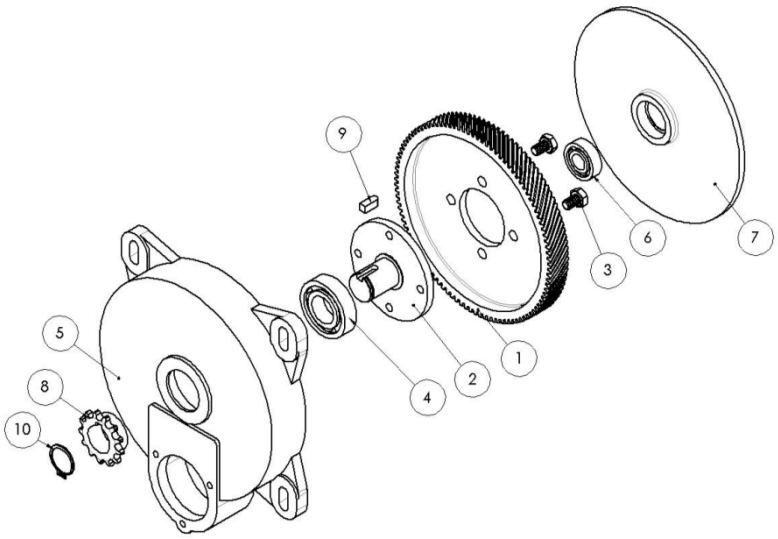
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-255	C040039	Roller		1
2	MI-31662-256	C009008	Support		2
3	MI-31662-257	S026205ZZ	Ball Bearing	6205ZZ ∮25x∮52x15	2
4	MI-31662-258	S298131	C-Ring	#52 ∮56.2x2.0t (2.2)	2
5	MI-31662-259	C051020	Collar	M6-P1.0x10L	2
6	MI-31662-260	S273010R	Nut	M10-P1.5	6
7	MI-31662-261	S137320	Hex.Head Screw	M10-P1.5x75L	2



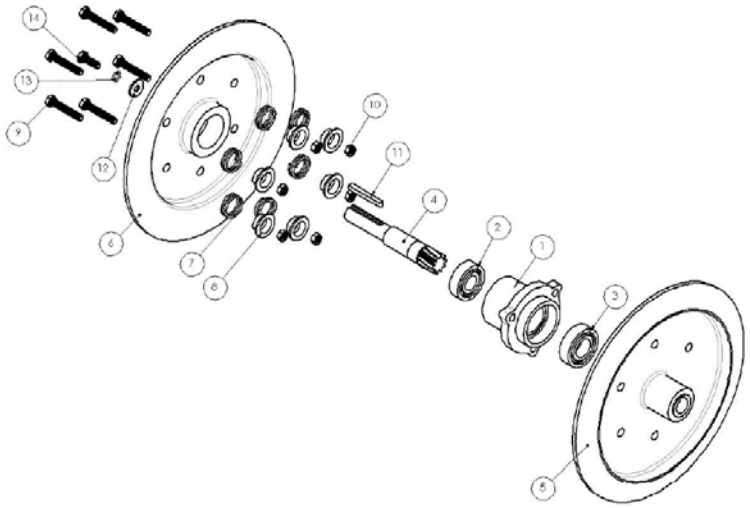
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-262	C029003	Large Gear		1
2	MI-31662-263	C039003	Gear Shaft		1
3	MI-31662-264	S137016	Hex. Head Screw	M10-P1.5x16L	4
4	MI-31662-265	S026206ZZ	Ball Bearing	6206ZZ ∮30x∮62x16	1
5	MI-31662-266	C031001	Gear Housing		1
6	MI-31662-267	S026203ZZ	Ball Bearing	6203ZZ ∮17x∮40x12	1
7	MI-31662-268	C009022	Gear Housing Cover		1
8	MI-31662-269	C067016	Sprocket		1
9	MI-31662-270	S003169	Key	8x8x20L	1
10	MI-31662-271	S298019	C-Ring	#30 ∮27.9x1.5t (1.65)	1



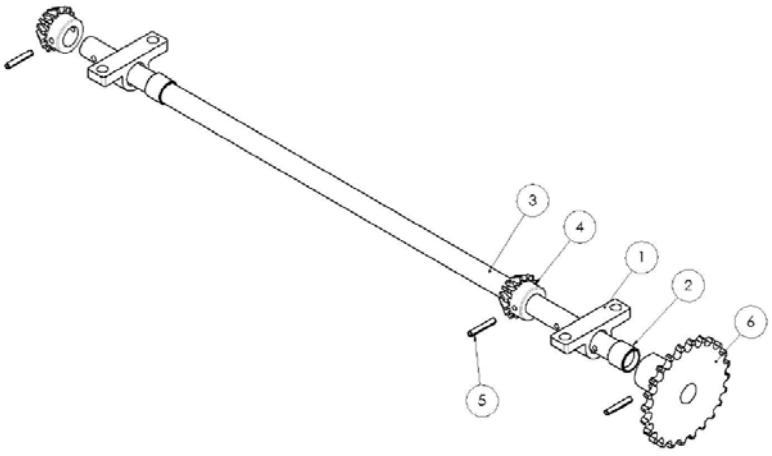
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-272	C009005	Bearing Housing		1
2	MI-31662-273	S026204ZZ	Ball Bearing	6204ZZ. ∮20x∮47x14	1
3	MI-31662-274	S026205ZZ	Ball Bearing	6205ZZ. ∮25x∮52x15	1
4	MI-31662-275	C029007	Pinion		1
5	MI-31662-276	C064017	Rear Pulley		1
6	MI-31662-277	C064016	Front Pulley		1
7	MI-31662-278	C060020	Spring		6
8	MI-31662-279	C051013	Collar		6
9	MI-31662-280	S136050	Hex. Head Screw	M8-P1.25x50L	6
10	MI-31662-281	S273008R	Nut	M8-P1.25	6
11	MI-31662-282	S003080	Key	6x6x55L	1
12	MI-31662-283	S282109	Washer	∮8.2x∮23x2.2T	1
13	MI-31662-284	S284007	Spring Washer	∮8.2x∮15.4x3.2x2.0T	1
14	MI-31662-285	S136025	Hex. Head Screw	M8-P1.25x25L	1



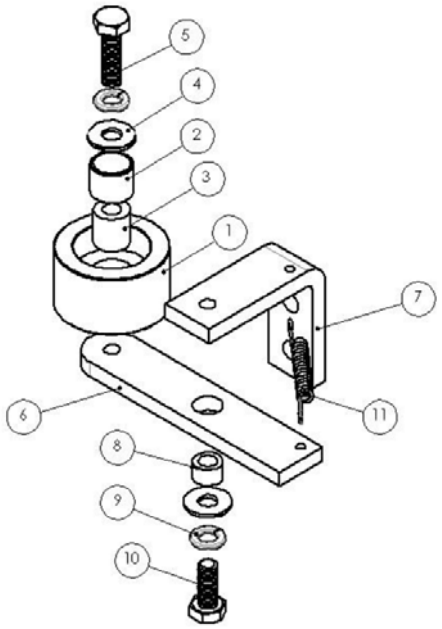
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-286	C015015	Support		2
2	MI-31662-287	P051001	Brass Bearing	∮19.05x∮22.225x18L	2
3	MI-31662-288	C039026	Shaft	∮19.05x662L	1
4	MI-31662-289	C028002	Bevel Gear		2
5	MI-31662-290	S267510V	Pin		3
6	MI-31662-291	C067018	Sprocket		1



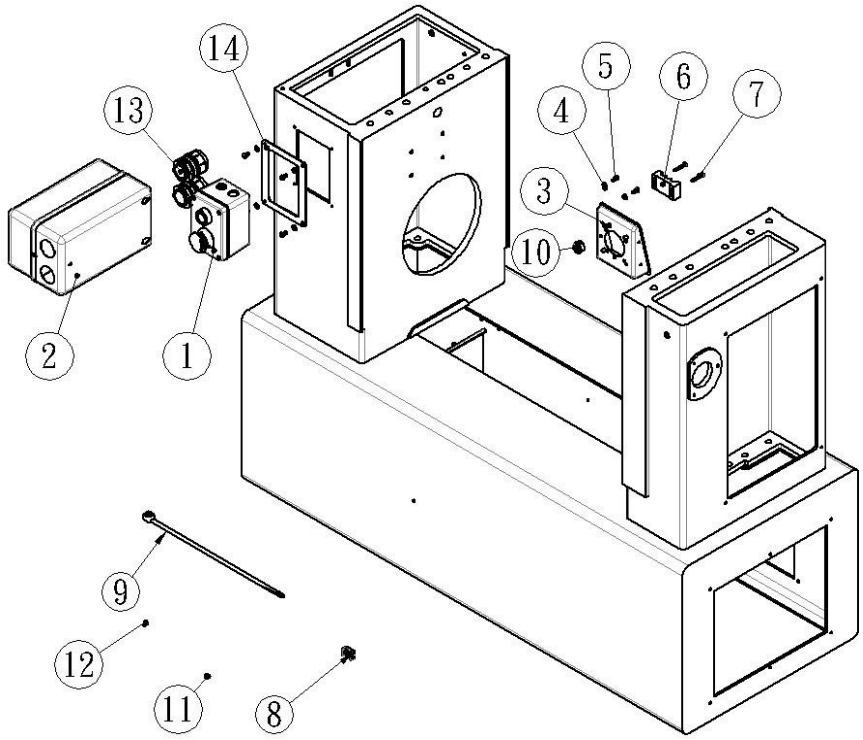
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-292	C066004	Wheel		1
2	MI-31662-293	P051001	Brass Bearing	§ 19.05x § 22.225x18L	1
3	MI-31662-294	C052016	Bushing		1
4	MI-31662-295	S282111	Washer	§ 10.5x § 25x2.0T	2
5	MI-31662-296	S137035	Hex.Head Screw	M10-P1.5x35L	1
6	MI-31662-297	C049018	Linked Plate		1
7	MI-31662-298	C015030	Linked Support		1
8	MI-31662-299	C051024	10L Bushing		1
9	MI-31662-300	S284008	Spring Washer	§ 10.2x § 18.4x3.7x2.5T	2
10	MI-31662-301	S137025	Hex.Head Screw	M10-P1.5x25L	1
11	MI-31662-302	C060011	Spring		1



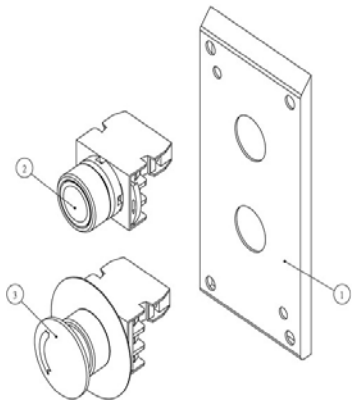
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-303-1	P082026	Switch		1
	MI-31662-303-2	T075007	Switch Plate (new)		1
2	MI-31662-304	P074014K25	Magnetic Switch	HK-25.	1
3	MI-31662-305	S312003	Junction Box		1
4	MI-31662-306	S282008	Washer	§ 5.3x § 10x1.0T	6
5	MI-31662-307	S225010	Rounded Head Screw	M5-P0.8x10L	6
6	MI-31662-308	S313001	Terminal Strip	30A	1
7	MI-31662-309	S225025	Rounded Head Screw	M5-P0.8x25L	2
8	MI-31662-310	P091003	Tie Mounts	ATM-2	3
9	MI-31662-311	P090005CV	Cable Ties	CV-150 3.5x150L	5
10	MI-31662-312	P089006	Bushing	NB-1419	3
11	MI-31662-313	S224006	Rounded Head Screw	M4-P0.7x6L	1
12	MI-31662-314	S283004	Toothed Washer	§ 4.3x § 8.5x0.45t/AW-4	3
13	MI-31662-315	P092105A32	Strain Relief Clamp	MG-32A	3
14	MI-31662-316	P24GC082	Switch Plate		1



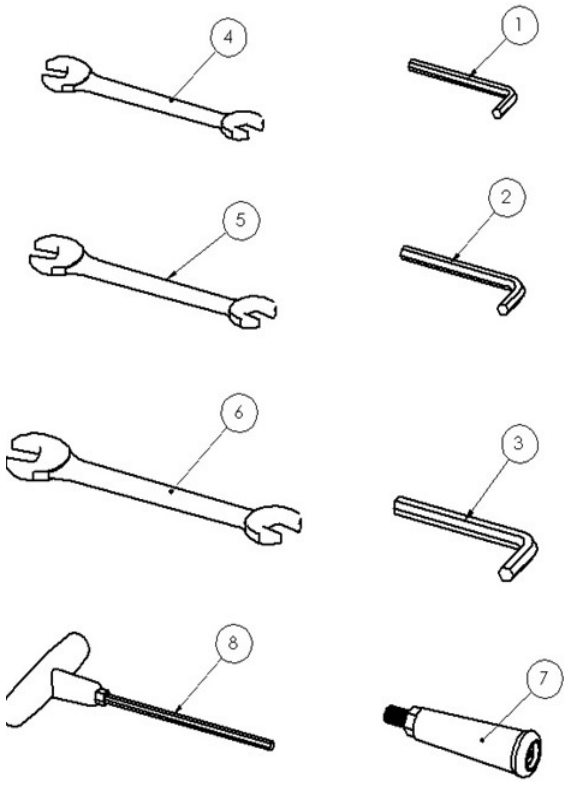
PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-317	C085048	Cover		1
2	MI-31662-318	P082710	Button, Green		1
3	MI-31662-319	P082711	Stop Button, Red		1



PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-320	S296006	Allen Wrench	M5	1
2	MI-31662-321	S296007	Allen Wrench	M6	1
3	MI-31662-322	S296008	Allen Wrench	M8	1
4	MI-31662-323	S290071	Open-End Wrench	10x12	1
5	MI-31662-324	S290073	Open-End Wrench	12x14	1
6	MI-31662-325	S290074	Open-End Wrench	17x19	1
7	MI-31662-326	P028014N	Knob, 3/8"-16NC		1
8	MI-31662-327	S292304	T-Type Allen Wrench	4.0mm	1
9	MI-31662-328	S296004	Allen Wrench	M3	1
10	MI-31662-329	P031006	Plastic Knob		1



PARTS LIST FOR MI - 31662

NO.	ITEM NO.	REFERENCE NO.	DESCRIPTION	SPECIFICATION	Q'ty
1	MI-31662-330	C057008	Handle, Adjusting Plate		1
2	MI-31662-331	C057009	Adjusting Plate		2
3	MI-31662-332	S298050	C-Ring		2