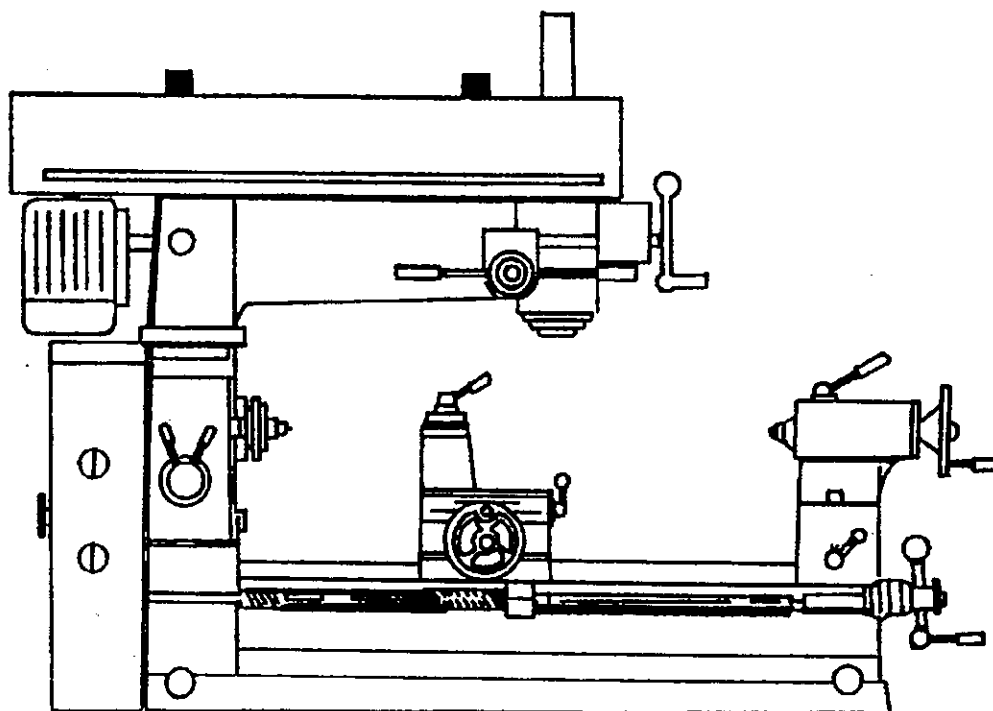


NOTE: THIS IS A SCANNED COPY OF A MANUAL PRINTED IN 1991
SO THE PARTS PRICES ARE NOT ACCURATE.

SHOPTASK

17-20 XMTC



OWNER'S MANUAL

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SAFETY RULES FOR THE SHOPTASK LATHE-MILL-DRILL

WARNING -- DO NOT ATTEMPT TO OPERATE UNTIL YOU HAVE READ THOROUGHLY AND UNDERSTAND COMPLETELY ALL INSTRUCTIONS AND RULES CONTAINED IN THIS MANUAL. FAILURE TO COMPLY CAN RESULT IN ACCIDENTS INVOLVING FIRE, ELECTRIC SHOCK, OR SERIOUS PERSONAL INJURY. MAINTAIN YOUR OWNERS MANUAL AND REVIEW FREQUENTLY FOR CONTINUING SAFE OPERATION AND INSTRUCTING POSSIBLE THIRD-PARTY USER.

1. KNOW YOUR SHOPTASK MACHINE

For your own safety, read the owner's manual carefully. Learn it's application and limitation as well as the specific potential hazards peculiar to this tool.

2. NEVER ATTEMPT ANY OPERATION OR ADJUSTMENT IF THE PROCEDURE IS NOT UNDERSTOOD.

3. KEEP GUARDS IN PLACE AND IN WORKING ORDER.

4. REMOVE ADJUSTING KEYS AND WRENCHES.

Form habits of checking to see that keys and adjusting wrenches are removed from the Shoptask before turning on the machine.

5. DON'T USE IN DANGEROUS ENVIRONMENT.

Don't use the Shoptask in damp or wet locations or expose it to rain. Keep work area well illuminated.

6. DO NOT REMOVE DRIVE COVERS WHILE IN OPERATION.

7. DON'T FORCE TOOLS.

It will do the job better and be safer at the rate for which it was designed .

8. WEAR PROPER APPAREL.

No loose clothing, gloves, neckties, rings, bracelets, or jewelry to get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

9. ALWAYS USE SAFETY GLASSES.

Every day eyeglasses only have impact-resistant lenses. They are NOT safety glasses.

10. SECURE WORK.

Use clamps or a vise to hold work when practical. It's safer than using your hand and frees both hands to operate your machine.

11. DON'T OVERREACH

Keep your balance and proper footing at all times.

12. MAINTAIN TOOLS IN TOP CONDITION.

Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

13. DISCONNECT TOOL FROM POWER SOURCE.

Before servicing and when changing accessories such as bits or cutters .

14. AVOID ACCIDENTAL STARTING.

Make sure switch is in "OFF" position before plugging in cord.

15. USE RECOMMENDED ACCESSORIES.

Consult the owner's manual for recommended accessories. Use of Improper accessories may be hazardous.

16. CHECK DAMAGED PARTS.

Before further use of the Shoptask, a guard or other part that is damaged should be carefully checked to ensure that it will operate properly and perform its intended function-check for alignment of moving parts, binding of moving parts, breakage of parts and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

17. DIRECTION OF FEED.

Only feed work into a cutter against the direction or rotation of the cutter.

18. NEVER LEAVE SHOPTASK RUNNING UNATTENDED. TURN POWER OFF.

Don't leave the machine until it comes to a complete stop.

19. NEVER PERFORM AN ABNORMAL OR LITTLE USED OPERATION WITHOUT STUDY AND USE OF ADEQUATE BLOCKS, JIGS OR FIXTURES.

Thank you and congratulations for purchasing the Shoptask Lathe-Mill-Drill: The finest 3-in-1 machine on the market today. If properly cared for and operated, the Shoptask can provide you with years of accurate service. Please read this manual carefully before using your machine.

S H O P T A S K
IS A PRODUCT OF
SHOPTASK MANUFACTURING INC.

PO BOX 64268
TACOMA, WA 98464

7006 27TH ST. W. UNIT D
TACOMA, WA 98466

SERIAL NUMBER AND WARRANTY REGISTRATION

SERIAL #
DATE OF PURCHASE
DEALER NAME
METHOD OF PAYMENT
DATE OF DELIVERY

CUSTOMER -- PLEASE TAKE TIME TO RECORD THE ABOVE INFORMATION. IT WILL MAKE SPARE PARTS ORDERING MUCH FASTER.

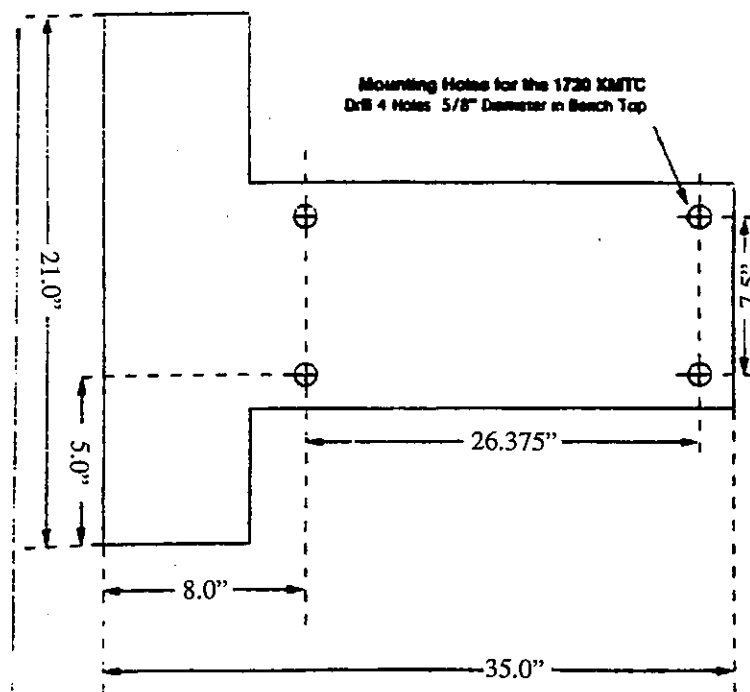
limited warranty

For 12 months from date of purchase. Shop Task or its authorized representatives will replace any part free of charge a defective in material or workmanship. The replacement of free parts does not include oils, greases, belts or cutting tools worn during the normal course of operation. This limited warranty also does not include cleaning, or any damage caused by accident, neglect, or misuse and ceases when you sell, rent otherwise dispose of this machine. The machine or its components must be shipped freight prepaid to the address shown below along with this completed warranty form and proof of purchase. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Serial# _____ date of purchase --
Dealer _____

1. Inventory the standard accessories and any optional items ordered. Check them against your packing list for accuracy. Claims for loss or damage must be made **WITHIN 10 DAYS** of delivery. Claims made after this time period unfortunately cannot be honored.
2. Save your crate-in case of shipping damage or other problems you may need it to return the unit.
3. The best way of beginning the assembly process is to remove the four sides of the crate where access to the machine is easiest. Please note if any structural damage has occurred to the machine. If damage has occurred please notify the Shoptask office for information to file a claim. Please note: minor paint scrapes may have occurred due to shipping. This is likely considering the great distance of ocean and overland travel the machine has moved. However these minor scratches should not affect the operation of the machine.
4. Please note drawing A-1. This is the footprint of your Shoptask. Follow exactly the measurements to drill the holes in your benchtop. Please note the bottom of the machine has 4 tapped holes so your machine can be securely fastened to a bench. Use the bolts that fastened the lathe bed to the bottom of the crate to secure your machine to your workbench. The machine may be used freestanding, but for maximum performance it should be bolted down. Carefully unpack the lathe portion of the machine and use the carrying handles to sling the lathe onto your workbench. Be careful not to hit the lead screw, spindle or the hand wheels when the machine is unloaded. A do it yourself workbench design can be found on page 63 of this manual.

ILLUSTRATION A-1



5. The unpainted areas of your machine have been coated with a heavy grease to protect it in shipping. This coating should be completely removed before operating the machine. Commercial degreaser, kerosene, diesel or similar solvent may be used to remove the grease from the machine, but avoid getting solvent on belts or other rubber parts.

6. After cleaning, coat all bright machined surfaces with 10W machine oil. Lubricate all points as shown on the oiling diagram on page 32.

7. It should now be much easier to go over the machine. Be sure to tighten any loose screws or nuts. Some may have vibrated loose during shipping.

PLEASE NOTE: OWNERS OF GOLD SERIES MACHINES MAY SKIP 1-10 AS THIS HAS BEEN DONE AT THE FACTORY. HOWEVER IT IS A GOOD IDEA TO CHECK THE OIL LEVEL.

MOUNTING THE MILLING HEAD

1. Remove the Allen bolts holding the cover band.

2. Remove the bolts holding the mill head to the transport stands.

3. Thoroughly clean the mating surfaces of the mill head and lathe column.

4. Apply a very light film of silicone gasket cement to the lathe column.

5. With the help of one or two assistants, lift the mill head onto the lathe column.

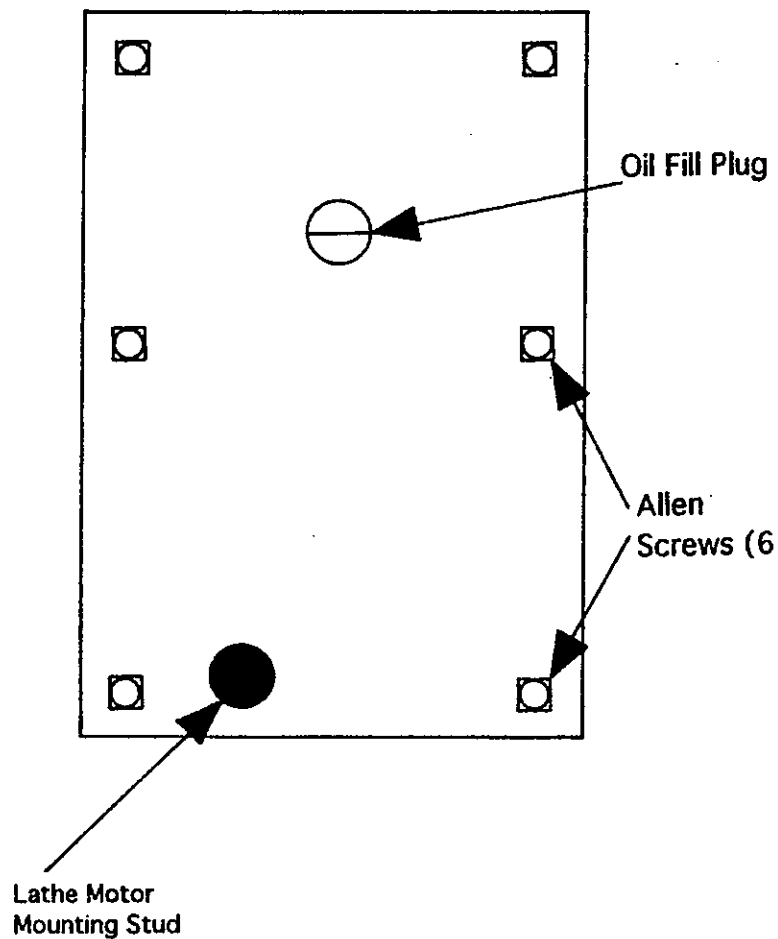
PLEASE NOTE: Do not try this yourself. The Shoptask was designed to be heavy to insure accuracy, therefore the mill head weighs approximately 175 lbs. Severe injury could result to you, or damage to the machine itself if the millhead slipped and fell to the ground.

6. Tighten the holding nuts to approximately 25 ft/lbs torque.

7. Replace the cover band.

8. **GEARBOX LUBRICATION:** All precautions have been taken to ensure the quality of your machine. However due to the long ocean travel, possibly long truck haul, or residue from the casting process, some accumulation of foreign material may have settled in the gearbox of your machine. Therefore, thoroughly inspect the gearbox and remove all foreign matter such as dust, grit or sand that is present. This is easily performed by removing the rear inspection plate (see illustration A-2) on the back side of the mill column. This precautionary step should be completed before adding the lubrication oil. Failure to do so may result in damage to the lathe power feed drive.

ILLUSTRATION A-2



GEARBOX INSPECTION PLATE

9. Remove the slotted screw on the back of the lathe column and fill with 10W oil until it shows on the plastic sight glass. Please refer to the lubrication section of the owners manual for further information.

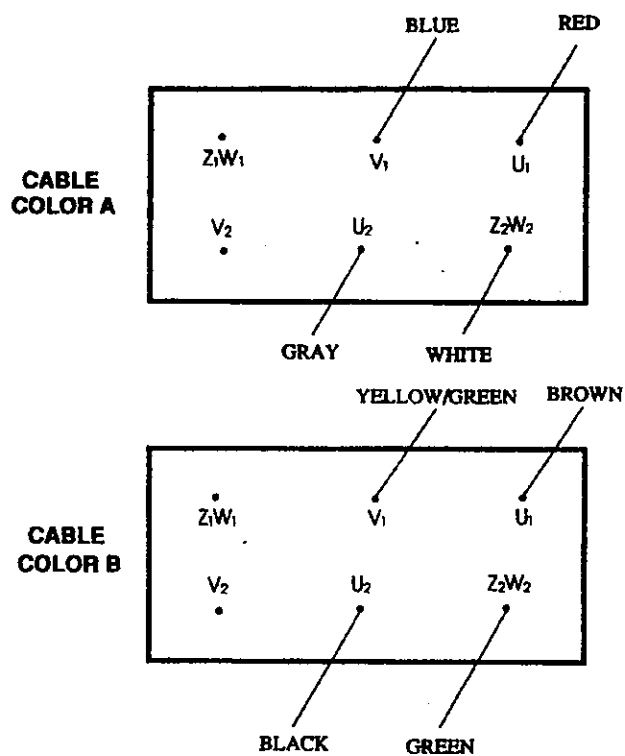
10. Attach the mill motor cable to motor according to the following diagrams.

11. Attach the power cord according to the following diagram.

IF YOUR WIRING COLORS DO NOT MATCH THE DIAGRAMS, PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY!

ILLUSTRATION A-3

WIRING DIAGRAM FOR SWITCH TO MOTOR CABLE

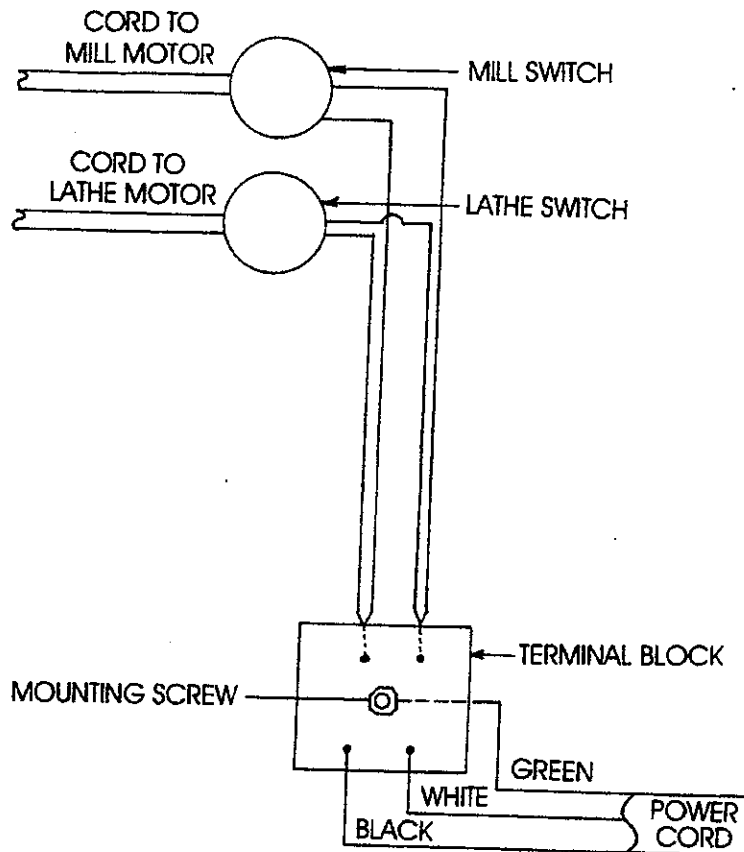


TO REVERSE MOTOR DIRECTION, SWITCH POSITION OF WIRES AT V_1 AND Z_2W_2 .

your wires are marked with number tags to correspond with the proper terminal on the motor.

ILLUSTRATION A-4

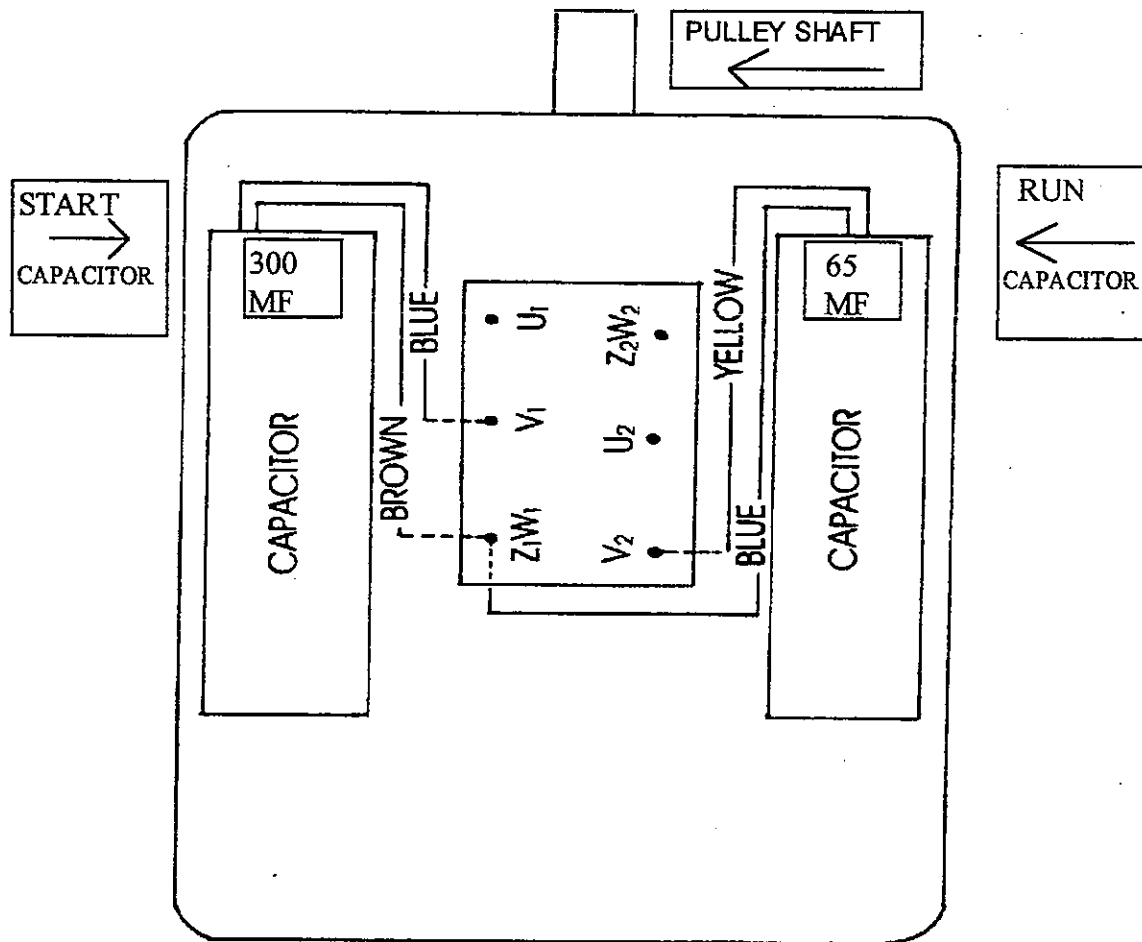
WIRING DIAGRAM FOR POWER CORD

**CAUTION ON MOTORS ! ! ! !**

THE MOST COMMON FAILURE OF AN INDUCTION MOTOR IS THE START CAPACITOR. THIS IS EASILY FIXED, BY REPLACING THE CAPACITOR. HOWEVER, ALLOWING THE MOTOR TO RUN SLOWLY DUE TO CAPACITOR FAILURE WILL OVERHEAT THE WINDINGS AND BURN THEM OUT. THIS WILL VOID YOUR WARRANTY. THEREFORE, IF YOU HAVE A MOTOR PROBLEM, STOP AND CALL FOR ASSISTANCE IMMEDIATELY.

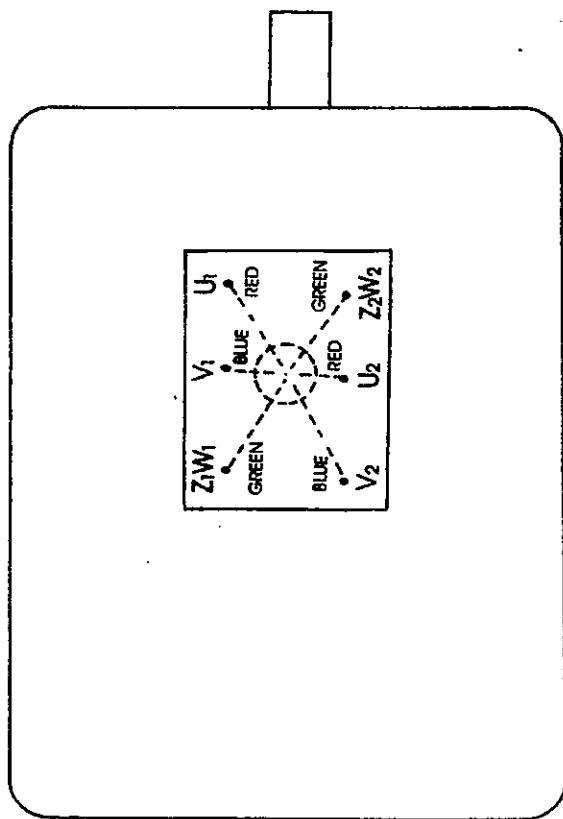
ILLUSTRATION A-5

WIRING DIAGRAM FOR MOTOR CAPACITORS



PLEASE NOTE!

THE CAPACITOR WIRES ARE ATTACHED TO THE BOTTOM SIDE OF THE JUNCTION BLOCK, IN SOME CASES, THE WIRE COLORS MAY BE DIFFERENT, IF SO, MAKE A NOTE OF THEIR LOCATION AND CALL SHOPTASK FOR THE PROPER REPLACEMENT. CAPACITORS ARE NOT POLAR, THEREFORE THE COLORS MAY BE SWITCHED. IT IS ONLY IMPORTANT THAT THEY GO TO THE PROPER TERMINALS.

ILLUSTRATION A-6
MOTOR WIRING DIAGRAM

OHM TEST (with motor off)

Internal switch V_1 - V_2 closed.

Start winding Z_1W_1 - Z_2W_2 : 2.2 OHMS

Run winding U_1 - U_2 : 1.2 OHMS

PLEASE NOTE!

SOME MOTORS MAY HAVE DIFFERENT COLOR WIRES, NOTICE THAT U_1 and U_2 ARE THE SAME COLOR, V_1 AND V_2 ALSO THE SAME, AS ARE Z_1W_1 AND Z_2W_2 .

**FOR OLDER MACHINES WITH ROTARY SWITCHES
FOLLOW ILLUSTRATION 1-A
FOR MACHINES WITH PUSH BUTTON SWITCHES
FOLLOW ILLUSTRATION 1-B**

ILLUSTRATION 1-a

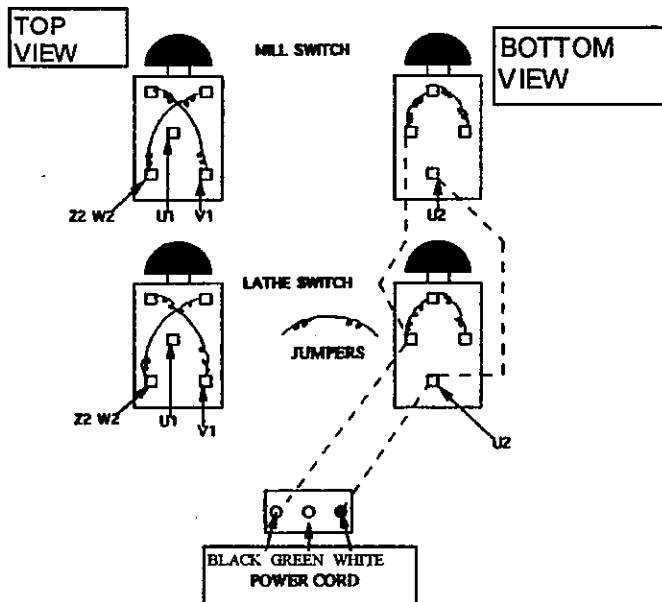
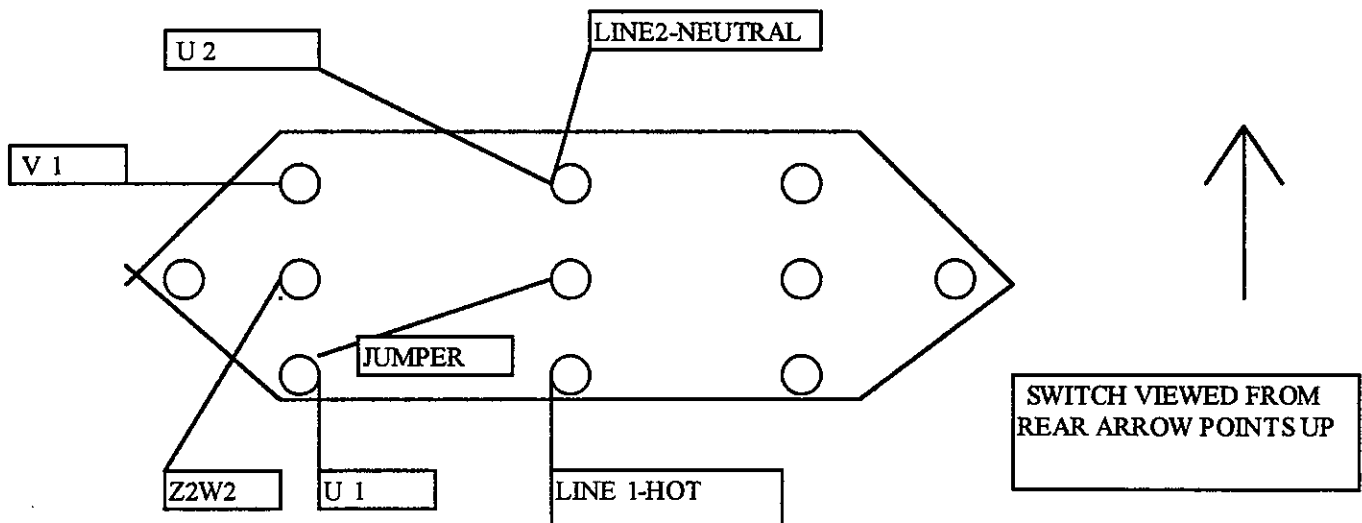


ILLUSTRATION 1-B

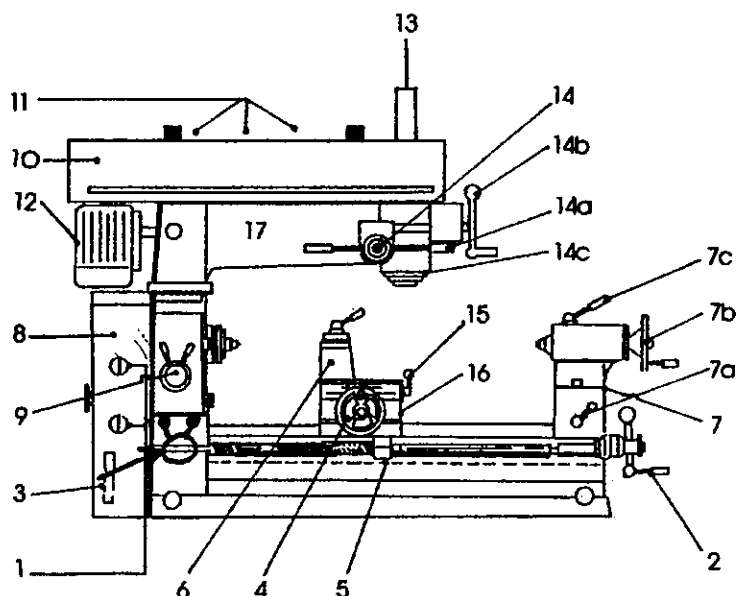


SHOPTASK CONTROLS

Take a few minutes to familiarize yourself with the control levers and knobs that operate the Shoptask's many functions. This will make using the Shoptask much easier when you first operate the machine.

Please refer to illustration# 2 as you go down this list.

ILLUSTRATION #2



CONTROL DIAGRAM

- | | |
|----------------------|-------------------------------|
| 1. ON/OFF SWITCHES | 9. HIGH - LOW GEARBOX CONTROL |
| 2. MANUAL FEED | 10. MILL DRIVE ADJUSTMENT |
| 3. AUTO FEED | 11. THE MILL BELTS |
| 4. CROSS SLIDE | 12. MILL MOTOR |
| 5. LEAD SCREW COVER | 13. THE DRAW BAR |
| 6. TOOL POST | 14. MILL ADJUSTMENT |
| 7. TAILSTOCK | 14a DRILLPRESS |
| 7a LOCKING HANDLE | 14b FINE ADJUSTMENT |
| 7b HAND CRANK | 14c SPINDLE LOCK |
| 7c TOP LOCK | 15. CROSSSLIDE LOCK |
| 8. LATHE DRIVE BELTS | 16. TABLE ROTATION LOCK |

CONTROL 1. ON/OFF SWITCHES

- A. The LATHE SWITCH regulates the direction of spindle rotation, either clockwise or counter-clockwise, (NOTE! Carriage travel is engaged by CONTROL 3.)
- B. The MILL SWITCH regulates the rotation of the MILL. (Clockwise or counter-clockwise rotation).
- C. If the LATHE or MILL do not run properly, see the TROUBLESHOOTING section.

CONTROL 2. MANUAL FEED HAND CRANK

- A. Turning this LEAD SCREW HAND CRANK moves the carriage manually. Clockwise rotation moves the carriage to the left; counter-clockwise moves it to the right.

CONTROL 3. AUTOMATIC FEED AND THREADING

This lever engages your lead screw to drive your carriage left and right. When in the neutral position you can move the carriage by hand with the handle (2). Moving the lever to the left feeds your carriage toward the chuck and cuts right hand threads. Moving the lever to the right moves the carriage away from the chuck and cuts left hand threads. the control can be used with the motor running. However we recommend care when running at the higher spindle speeds. The gears for various ratios are located inside the main drive compartment, please see illustration 5 for details.

CONTROL 4. MILL TABLE CROSS SLIDE CONTROL

- A. The MILL TABLE CROSS SLIDE CONTROL moves the milling table toward and away from the operator laterally across the lathe bed and perpendicular to the lathe spindle axis. The movement is measured in thousands of an inch by the dial located just in front of the CROSS SLIDE HAND WHEEL.
- B. The CROSS SLIDE can be locked by using the LOCKING HANDLE (Control 15) to tighten the center locking screw. If more firmness is needed, tighten the GIB ADJUSTMENT SCREWS at either end.
- C. The locking handle below the CROSS SLIDE HANDWHEEL is used to retard longitudinal travel along the lead screw.
- D. The CROSS SLIDE regulates the position of the TOOL POST (Control 6) and consequently the position of the tool itself.

CONTROL 5. LEAD SCREW COVER

A. This used to protect the lead-screw from metal shavings and other debris that may jam the carriage or damage the lead-screw. **DO NOT REMOVE!**

CONTROL 6. FOUR WAY TOOL POST

A. This indexing TOOL POST can be adjusted to any of the four (4) positions by loosening the lock lever on top of the tool post, and rotating the tool to one of the four indexed positions. Tighten the locking lever firmly after choosing the appropriate tool. The turret may also be adjusted to any position between the indexed positions.

B. This tool post is made to accept 1/2" tool bits. If you have trouble centering the tool on the work, it is suggested you use a 7/16" bit and shim to center. For other sizes, shim to center or grind to fit.

CONTROL 7. TAIL STOCK

A. This OFF-SETTING TAIL STOCK is of conventional design and function. To off-set the tail stock, simply loosen the 8 mm socket-head screw on the each side of the tail stock base. Slide the tail stock into position and tighten the 8 mm screws. It is suggested that a center punch be used to mark the center position as backup to the sticker system.

B. The locking handle (7a) locks the tail-stock to the lathe bed.

C. The handcrank (7b) moves the tail-stock spindle (quill) into position.

D. The top handle (7c) locks the spindle (ram) into position.

CONTROL 8. LATHE DRIVE BELTS

NOTE! The drawing and chart shown on Illustration #3 are of the pulley and belt arrangements as you will see them from an overhead position above the belt compartment. To adjust the belt speeds follow this procedure:

A. Turn the power off and disconnect from the power source.

B. Open the compartment door.

C. Loosen the sliding idler lock nut that is located on the back side of the compartment housing. This will allow you to adjust the belts to the various positions.

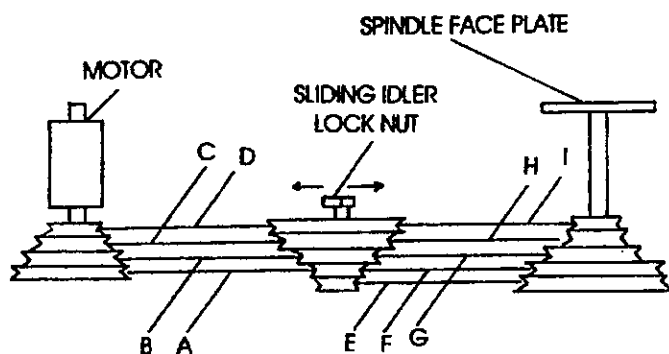
D. Select the suitable R.P.M. from the BELT POSITION-RPM CHART.
For example: if you want the spindle face plate to rotate at a speed

of 640 RPM, you need only to engage the belts in the "C-G" position.

E. Tighten the sliding idler lock nut.

F. Close the compartment door and turn power on.

ILLUSTRATION No. 3



PULLEY/BELT DIAGRAM

DE	120
CE	230
DF	280
BE	320
DG	360
DH	420
AE	460
CF	540
CG	640
BF	800
BH	1000
CI	1200
AG	1300
AH	1450
BI	1800
AI	2400

CONTROL 9. HIGH - LOW GEARBOX CONTROL



A. There are three positions for the HIGH - LOW GEARBOX CONTROL to move in order to cut threads OR FOR POWER FEEDING THE CARRIAGE IN EITHER LATHE OR MILL MODE.

1. When the lever is vertical, it is in NEUTRAL.
2. When the lever is turned to the left (Position 1), nine different metric threads or ten different English threads can be cut.
3. When the lever is turned to the right (Position 2), nine different metric threads or ten different English threads can be cut.

B. The thread cutting combinations available are shown on ILLUSTRATION #4 on the ENGLISH CHART and METRIC CHART. These charts show the gear combinations necessary to cut various threads as well as the position of the HIGH - LOW GEARBOX CONTROL.

CAUTION: ALWAYS LEAVE THE GEARBOX ENGAGED IN EITHER HIGH OR LOW WHEN RUNNING THE LATHE SPINDLE, AS THIS LUBRICATES YOUR GEARBOX AND BEARINGS. USE YOUR LEAD SCREW ENGAGEMENT (CONTROL 3) TO ENGAGE AND DISENGAGE THE FEEDS.

ILLUSTRATION # 4

CONTROL LEVER		GEAR POSITIONS			
		A	B	C	D
22	11	60	33	50	27
24	12	60	36	50	27
26	13	60	39	50	27
28	14	60	42	50	27
30	15	56	42	50	27
32	16	60	48	50	27
34	17	60	51	50	27
36	18	50	54	60	27
38	19	50	57	60	27
40	20	50	36	56	42



THE ENGLISH SYSTEM

This system is measured in TPI (threads per inch), i.e., if you want to cut a 22 tpi piece you would mount the 60-tooth gear on axle A, 33 on axle B, 50 on axle C and 27 on axle D. With the THREAD CONTROL LEVER at (I) position you can cut 22 tpi; WHEN at the (II) position 11 tpi.

THE METRIC SYSTEM

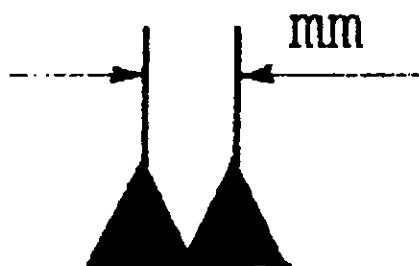
LEVER

POSITIONS

		A	B	C	D
0.075	0.15	30	60	27	63
0.5	1	50	40	49	42
0.6		60	40	42	36
0.7		56	42	49	32
0.75	1.5	60	36	42	32
0.8		56	32	48	36
	1.75	60	36	49	32
1	2	60	36	56	32
1.25	2.5	63	32	50	27
1.5	3	63	32	60	27

This system is measured by thread pitch in millimeters and is set up exactly as explained above .

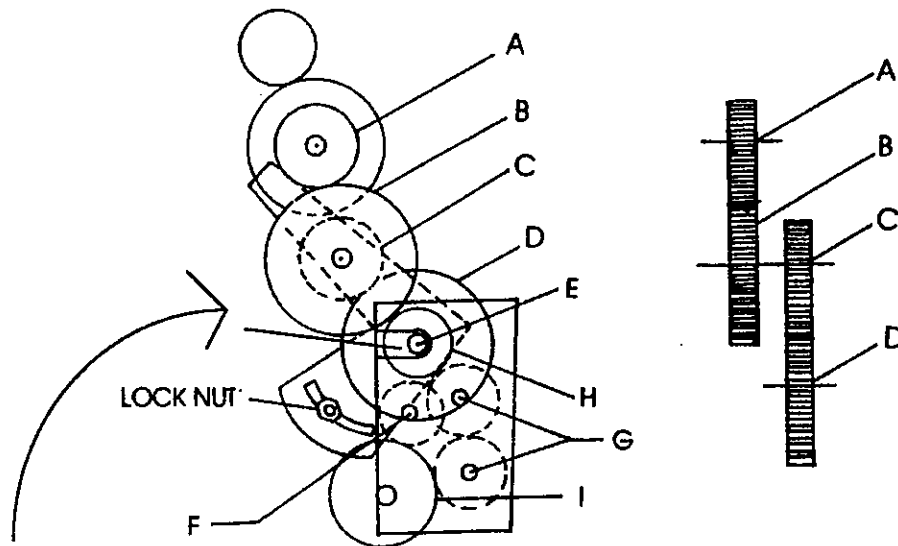
Note !



C. To change gears, follow these instructions and refer to ILLUSTRATION #5. This is how the gearbox will appear when you face the BELT/GEAR COMPARTMENT.

1. Loosen the lock nut.
2. Remove the retainer clips on the gear shafts and slide the gears (A,B, C, or D) forward and off the shaft.
3. Mount the desired replacement gear on the shafts with the GEAR NUMBERS FACING YOU!
4. When you have the combination you want, replace the clips on the shafts, engage the gears and tighten the lock nut.
5. Turn the spindle by hand to insure all gears are properly meshed before turning on machine.

ILLUSTRATION # 5



note: gears e,f,g,h,i inside the box are part of the lead screw shifter mechanism and remain in place, only a,b,c,d are changed.

CONTROL 10. MILL DRIVE

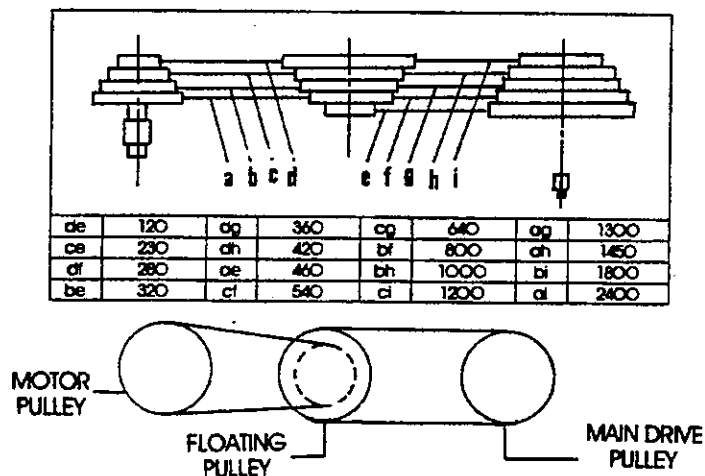
A. The MILL DRIVE is adjusted by loosening the locking knobs (Control 17) and sliding the motor in and out on the mounting plate pins. The center pulley is on a free floating idler to adjust to the various belt combinations.

CONTROL 11. THE OPERATION OF THE MILL

A. To obtain the proper MILL SPEEDS based upon ILLUSTRATION #6, perform the following:

1. Turn the power off and disconnect from the power source.
2. Remove the hand-nuts on the MILL BELT HOUSING and lift straight up.
3. Loosen the locking knobs on the MILL DRIVE (see CONTROL 10) and slide the motor to loosen the belts. Slide the floating idler pulley to gain enough slack to move the belts to the desired position on the pulley. NOTE: The idler pulley should be closest to the front of the machine to prevent vibration of the belts.
4. Diagram 11 shows the various MILL speeds possible and the belt positions that make those speeds attainable. For example: if you want to turn the mill at 800 RPM, you would engage MILL belts in the "B-F" position.
5. Move the MILL DRIVE (CONTROL 11) back to its original position to tighten both belts.

ILLUSTRATION # 6



B. The MILL HEAD can turn a full 360 degrees, but is limited by the length of the power cord. The MILL rotation lock secures the MILL HEAD from drifting away from your cutting position. This is located on the rear of the machine and operates a friction clamp around the swivel pin. The smaller pin lock on the front of the swivel is designed to help you re-locate your milling head in the event you swing it out of the way during an operation. It IS NOT designed to lock the head in position. We recommend both locks be in place while milling.

CONTROL 12. THE MILL MOTOR

A. See the comments on Control 10 (The Mill Drive).

CONTROL 13. THE DRAW BAR

A. Two DRAW BARS are supplied to accept the necessary holders which accept the various end mills (end mill adaptors) and drill sleeves. The sizes supplied are:

- 12- 1/4" long 3/8- 16 Thread

- 18- 1/4" long 3/8- 16 Thread

These drawbars can be used in either the lathe or mill spindles. The longer drawbar has a special bushing to keep it centered in the lathe spindle and avoid vibrations.

CONTROL 14. ADJUSTING THE MILL SPINDLE

A. The large black knob centered between the drill press handles (Control 14a) is used to free or lock the spindle. When the knob is pulled toward you, the spindle is free and may be moved by the large drill press handles immediately behind it. These handles are used when operating the mill as a drill press or when possibly plunge milling.

B. When the black knob is pushed in toward the mill, the drill press handles are locked and the spindle can only be moved by the "fine adjustment" hand knob (Control 14b).

C. PLEASE NOTE! As is almost always the case, do not depend completely upon the accuracy of the chrome plated dial that is provided behind the drill press handles as an absolutely accurate measuring device. It is accurate and will measure very close, but should only be used for heavy cuts. Final cuts should be made with use of a dial indicator.

D. Please also note that the drill quill uses a metric thread, therefore the dial will read in millimeters, therefore one increment on the dial will equal 0.04 of an inch. There is a second dial on the fine feed shaft which reads in inch (0.001) increments for your finer work.

E. Control 14e (locking handle) locks the spindle firmly in place when you have determined the proper depth of cut.

F. USING THE DRILL PRESS.

1. After installing the drill chuck on the arbor, press the assembled unit into the headstock spindle hole. Never use a hammer to set the chuck. Place a block of wood on the mill table and put pressure on it with the drill press handles.

2. Insert the proper drawbar through the top of the quill and tighten until the arbor is firmly set inside the Morse Taper #3 headstock.

3. To remove the drill chuck arbor, loosen the drawbar a few turns and with a hammer, tap down on the drawbar until the arbor drops down. With just a few more turns, the arbor should be free of the drawbar.

4. To remove the drill chuck from the arbor itself, open the jaws of the chuck and using a brass or aluminum drift, tap the arbor loose.

CONTROL 15. CROSS SLIDE LOCK

A. Use this to lock the CROSS SLIDE after the depth of cut has been set during a milling or drilling process.

CONTROL 16. COMPOUND LATHE/MILL MOVEMENT

A. When cutting at an angle, loosen the recessed locknuts and turn the table to the desired angle. Then tighten the locknuts and proceed.

B. It is suggested that you use a center punch to mark where the table is at absolute zero in correspondence with its 90 degree, perpendicular angle with the lathe bed. This is to be used as a backup in case the labels fail.

NOTES ON THE THREE JAW CHUCK.

Your Shoptask comes with a conventional 3-jaw chuck. Some also come with a 4-jaw chuck as an option. See the notes on the 4-jaw chuck in the next section. The normal 3-jaw chuck has three inside jaws and three outside jaws. Be sure to take careful note that all bolts that hold the chuck to its face plate are tight and that the chuck fits properly in the face-plate recess made for it. The various parts of the chuck are an integral part of that particular chuck and should always be maintained as a unit. Each chuck is manufactured as a unit and is dialed in with the jaws that are provided with the chuck. The serial number of each individual chuck is stamped on the body and on each of the jaws (see following illustration). The order in which the jaws go into the chuck is also critical to maintain accuracy. Note that the jaws are numbered 1, 2 and 3 as well as stamped with the serial number.

THE NUMBER ON THE CHUCK JAW, BOTH INSIDE AND OUTSIDE, INDICATE THE POSITION THAT THEY SHOULD BE PLACED IN THE CHUCK BODY. Jaw NO. 1 must go in the slot stamped NO. 1 on the chuck body. The same NO. 1 slot will also typically have the chuck serial number stamped immediately after the slot number. Make certain you follow the instructions for installation exactly.

INSTALLATION OF THE CHUCK JAWS

1. Using the chuck key provided, scroll to where the beginning of the scroll thread is visible in the NUMBER ONE slot, then back the thread off until the beginning of the thread is no longer visible in the slot (one-half turn counter clockwise will usually do it).
2. Next, insert the jaw numbered NO. 1 in the slot and firmly push it toward the center of the chuck.
3. Scroll the chuck until the thread becomes visible in the second slot; at this point pull out on the previously installed jaw to ensure that the scroll has engaged the teeth on the back of the jaw. If the jaw comes out, repeat steps 1 & 2. If the jaw holds proceed to step 4.
4. With the beginning of the thread visible in the second slot, again back it off one-half turn and insert the jaw. Push it firmly toward the center of the chuck.
5. Scroll the chuck until the thread becomes visible in the third slot;

pull out on 2nd jaw to ensure the scroll has engaged the teeth.

6. Repeat the steps for the third jaw.

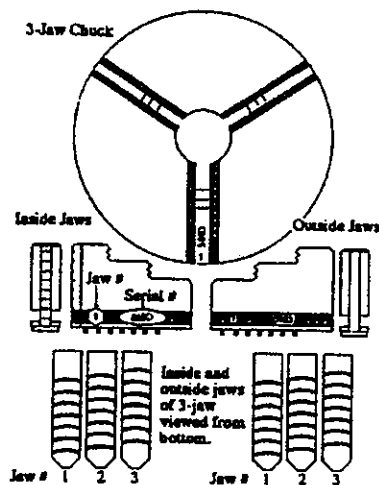
WHEN ALL THE JAWS ARE INSTALLED AS INSTRUCTED ABOVE,
THEY WILL MEET AT THE CENTER OF THE CHUCK SIMULTANEOUSLY.

TO RECAP THE PROCEDURE...

1. Jaws are inserted in numerical order 1-3.
2. Always begin with slot No. 1.
3. Scroll until the beginning of the thread is visible.
4. Install jaw, pushing it firmly toward center of chuck.
5. Scroll until the beginning of the thread is visible in the next slot.
6. Test the jaw just installed by pulling out.
7. Repeat from STEP 4 until all the jaws are firmly installed.
8. Scroll the chuck until all jaws meet in the center of the chuck.

IMPORTANT! IF ALL THE JAWS DO NOT MEET AT THE CENTER, REPEAT THE STEPS ABOVE AFTER REMOVING THE INCORRECTLY INSTALLED JAWS.

ILLUSTRATION # 7



NOTE!

IF YOU LOSE THE JAWS YOU WILL HAVE TO BUY A COMPLETE NEW CHUCK-
PARTS ARE NOT INTERCHANGABLE.

NOTES ON THE FOUR-JAW CHUCK

The 4-jaw chuck can be purchased as an option. Whether or not you need the extreme accuracy offered by a 4-jaw chuck is a decision that you need to make. Also, some units come with a machined installation plate while others come with plate which must be machined by you (this depends upon our suppliers). The diagram and instructions included at the back of this owner's manual will tell you how the plate must be machined to fit properly. It is not a very difficult procedure and might well qualify for your first serious project after you get set up and take a few practice cuts to familiarize you with your machine.

!!!CAUTION!!!

When performing any lathe work, please be sure to remove the chuck key from chuck **BEFORE TURNING ON THE MACHINE!** Serious injury can result if you carelessly leave the chuck key in the machine. It becomes a flying object of great speed due to the centrifugal force generated by the fast turning chuck.

A NOTE ON FEED RATES

For any machining exercise, certain parameters must first be calculated and set up on the machine, including RPM, FEED RATE, etc.. FEED is described as the machine movement that causes a tool to cut into or along the surface of a work piece. The amount of FEED is usually measured in thousandths of an inch when cutting metal. The most frequent recommendations regarding FEED RATES are .010 to .020 inches per revolution for rough machining and .003 to .005 inches per revolution for finish machining. Consultation of professional machinist manuals such as the **Machinist's Ready Reference** (ST 39) is highly recommended for detailed descriptions and tables that prove invaluable for nearly any machining operation. Contact the Shoptask technical line for any other additional support you may need. See appendix for feed rate charts.

ELECTRICAL TROUBLESHOOTING

**!!!When Checking Electrical System,
Always Disconnect Unit From The Power Source!!!**

1. Neither motor will run-
 - A. Be sure unit is plugged in.
 - B. Check your outlet with an electrical tester to be sure it is "hot".
 - C. Ensure electrical breaker hasn't been tripped.
 - D. Check the cord connections to the machine.
 - E. Check the connections from the junction block to the switches.
2. Only one motor runs-
 - A. Check all connections on inoperable motor junction block both top and bottom sides.
 - B. Check connections of wires on switch.
 - C. Check connections of wires from switch to cord junction block.
3. Motor runs only one direction-
 - A. Check all connections on junction box.
 - B. Check connections from switch to motor.
 - C. Check switch contacts.
 - D. If it is the MILL motor which only runs in one direction, check to see if the chrome jumper tabs were removed from the terminal block.
4. Motor runs slowly-
 - A. Check capacitor connections. If all are secure, switch capacitors from other motor. If this solves the problem, then the capacitors are faulty and should be replaced. Call Shoptask technical line for assistance.
5. Motor hums but does not turn-
 - A. Check capacitor connections.
6. Motor starts and stops constantly-
 - A. Check capacitor connections.
 - B. Check capacitor for damage, if all appears fine, switch capacitors from other motor. If this solves the problem, then the capacitors are faulty and should be replaced. Call Shoptask technical line for assistance.
 - C. Check spindle pre-load. Loosen if it appears too tight. Remember it works on the same principle a car wheel bearing does.

!!!CAUTION!!!

Do not allow motor to run slowly or intermittently. This can cause windings to burn out and then the motor must be returned to Shoptask for repair.

7. Motor runs but makes noise-

- A. Check housing around the cooling fan for looseness or dents.
- B. Check drive pulley and belts for tightness.
- C. Check motor mount and bolts for tightness.

8. Motor runs fine, but seems too hot-

Note! Motors are designed for 110V current. In normal systems, the current can vary from 105 to 125 volts. If your line is on the "high" side (over 110V) then the motor will run hotter. Use of a voltage regulator can solve this problem. These are sold in hardware stores and often referred to as "green plugs". They are used to reduce consumption on appliances such as refrigerators.

MACHINE TROUBLESHOOTING

1. Too much backlash on table-

- A. Check brass nuts on the lead screw for adjustment and tightness.
- B. Check the set screws holding the lead screw nuts on the carriage and cross slide.
- C. Check tightness of Cross Slide Handle.

2. Table loose on ways-

- A. Adjust gibs.
- B. Check compound lock nuts for tightness.

3. Spindle works on low speed but stalls on high-

- A. Check pre-load on spindle bearings.
- B. Check bearings for proper lubrication.
- C. Check belt tension.

LUBRICATION OF THE UNIT

For accurate work, machinery must be properly lubricated. To achieve this, it is important to use the proper oil (10W Machine oil) at the proper time intervals. The lubrication diagram gives the minimum requirements but might need some clarification. For example, ITEM 1 HEAD STOCK, is probably the most important as well as the most complicated. Take time to examine the CLEAR PLASTIC PORT located below the lathe spindle. It is called the GEAR BOX SIGHT GLASS. It is important to add only enough oil to become visible in the sight glass when the lathe is running. If needed, add oil by unscrewing the slotted plug that is located on the gearbox inspection plate which is just above the LATHE motor on the back of the machine. DO NOT OVERFILL. Another important item is to make sure the lathe bed ways are lubricated each time you use the unit. Oil all "button" oilers daily. Use a lightweight lithium grease on gears. The lead screws for the lathe and the cross slide must not be ignored. Using an oil can, lubricate both lead screws while they are in motion. To easily oil the cross slide, move the table toward you as far as it

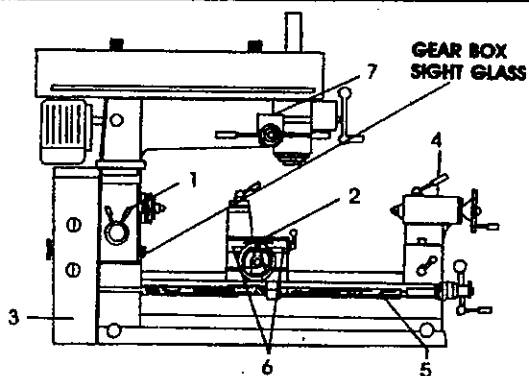
reaches and squirt a generous amount onto the screw as you turn the handwheel to move the table back away from you.

Annually the machine should be disassembled to the point where the lathe and mill taper bearings can be re-packed in grease. We recommend a durable wheel bearing grease that is obtained at any auto parts store. Remember to adjust the pre-load carefully upon reassembly.

Please also note that grease may collect metal shavings and could cause excessive wear to the gearbox assembly. This may be true if the chips can enter the gear area. We suggest using tape to block all holes which would allow chips to enter the gear area.

ILLUSTRATION # 8

Lubrication Chart:					
Item	Name	Location	Method	Lubrication	How Often
1	Head Stock	Gears and Bearings	Oil Splash	Machine Oil	Constant
2	Cross Slide	Lead Screw	Oil Gun	Machine Oil	Daily
3	Change Gears	Gears	Oil Gun	Machine Oil	Daily
4	Tailstock	Barrel	Oil Gun	Machine Oil	Daily
5	Lead Screw	Screw	Oil Gun	Machine Oil	Daily
6	Carriage	Cross Feed Screw	Oil Gun	Machine Oil	Daily
7	Lathe/Mill Headstock	Worm Gear	Oil Gun	Machine Oil	Daily



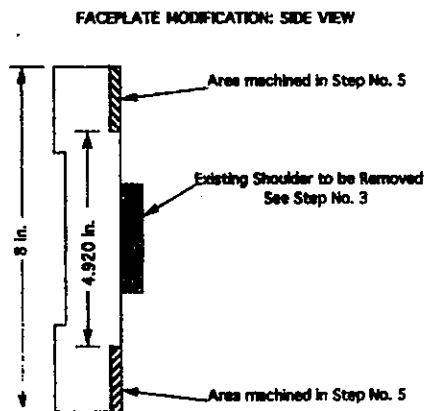
FACEPLATE MODIFICATION FOR THE FOUR JAW CHUCK.

Due to factory specification changes, please modify your faceplate according to the following instructions. Please refer to the following diagram for assistance.

1. Remove the three jaw chuck from the spindle.
2. Bolt the 8" face plate that came with your standard accessories to the spindle.
3. Cut away the existing shoulder that exists on your faceplate. This was used as a centering boss for an old-style chuck that is no longer available.
4. Make a cut across the surface of the face plate to true it to the spindle. Be sure to work slow to attain a ultra-smooth surface.
5. Cut away the face plate on the outside edge to create a new shoulder 0.200" high and 4.920" (125 mm) in diameter.
6. Test the fit of the 4-Jaw chuck to the face plate.
7. When the fit is snug, remove the face plate from the spindle.
8. Clamp the chuck to the face plate and mark the position of the four mounting holes.
9. Drill and tap holes to accept 5/16"-18 bolts supplied or any of your choice.

As always, do not be afraid to call the Shoptask technical line for assistance.

ILLUSTRATION # 9
FACEPLATE MODIFICATION: SIDE VIEW

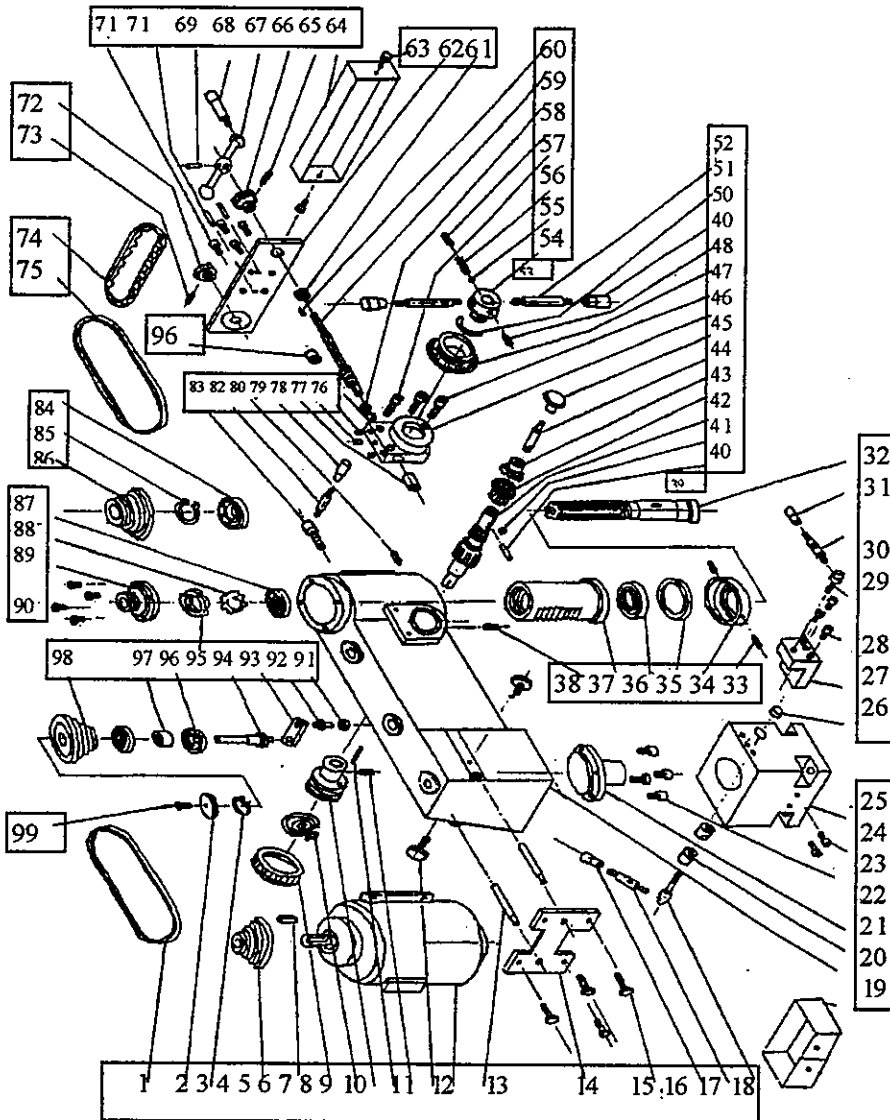


**SHOPTASK
17-20 XMT
PARTS MANUAL**

PLEASE NOTE!!!

**PARTS PRICES ARE CURRENT AS OF PRINTING; PLEASE CONTACT
SHOPTASK FOR UPDATED PRICING.**

FIGURE 1. DRILLING MILLING HEAD



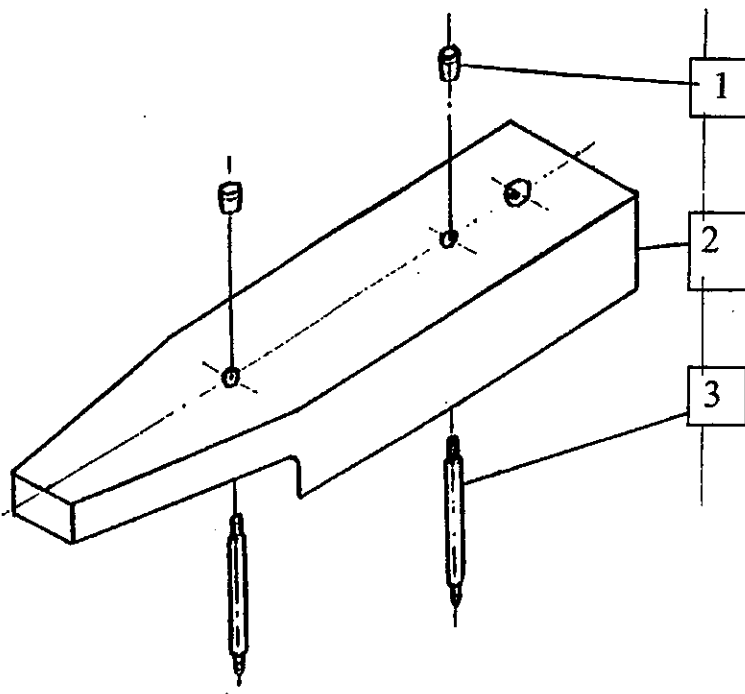
SHOPTASK PARTS
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FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 1	1	V BELT	02-02	\$18.00
FIGURE 1	2	LOCK RING	02-51	\$1.50
FIGURE 1	3	CIRCLIP	86-42	\$1150
FIGURE 1	4	MOTOR PULLEY	02-02	\$29.93
FIGURE 1	5	PARALLEL KEY	6X25	\$1.50
FIGURE 1	6	SPRING CAP	02-34	\$1.50
FIGURE 1	7	SPRING LAMINATION	02-31	\$1.50
FIGURE 1	8	SPRING SEAT	02-33	\$4.44
FIGURE 1	9	PARALLEL PIN	5X25	\$1.50
FIGURE 1	10	CONE SET SCREW	6X10	\$1.50
FIGURE 1	11	SCREW	02-47	\$1.50
FIGURE 1	12	MOTOR	YL8014	\$149.93
FIGURE 1	13	SHAFT	02-48	\$2.49
FIGURE 1	14	MOTOR MOUNT	02-49	\$28.43
FIGURE 1	15	HEAD BOLT	8X30	\$1.50
FIGURE 1	16	HANDLE KNOB	01-21	\$1.50
FIGURE 1	17	HANDLE LEVER	01-22	\$1.50
FIGURE 1	18	SCREW	02-10	\$1.50
FIGURE 1	19	CLOSE BOARD	02-30	\$1.50
FIGURE 1	20	MILL HEAD	02-01	\$299.93
FIGURE 1	21	LOCKING SLEEVE	02-11	\$4.98
FIGURE 1	22	TURNING SHAFT	02-27	\$74.93
FIGURE 1	23	CAP SCREW	10X25	\$1.50
FIGURE 1	24	CAP SCREW	6X10	\$1.50
FIGURE 1	25	BASE	02-29	\$74.93
FIGURE 1	26	HOLE PLUG	02-13	\$1.50
FIGURE 1	27	POSITIONAL SEAT	02-28	\$3.14
FIGURE 1	28	CAP SCREW	6X35	\$0.05
FIGURE 1	29	HANDLE SEAT	02-46	\$1.46
FIGURE 1	30	HANDLE LEVER	01-22	\$0.54
FIGURE 1	31	LONG SLEEVE KNOB	01-21	\$0.08
FIGURE 1	32	MILL SPINDLE	02-08	\$69.95
FIGURE 1	33	SET SCREW	5X6	\$0.06
FIGURE 1	34	BEARING CAP	02-18	\$4.50
FIGURE 1	35	FELT COLLAR		\$8.96
FIGURE 1	36	ROLLER BEARING	2007107	\$5.97
FIGURE 1	37	SPINDLE SLEEVE	02-16	\$74.93
FIGURE 1	38	SET SCREW	8X16	\$1.50

FIGURE 1 39	PARALLED PIN	B5X16	\$1.50
FIGURE 1 40	PLN PARALLED PIN	BsX16	\$1.50
FIGURE 1 41	GEAR SHAFT	02-32	\$29.93
FIGURE 1 42	WORM GEAR	02-45	\$28.43
FIGURE 1 43	CLUTCH SLEEVE	02-38	\$19.59
FIGURE 1 44	SMALL SHAFT	02-41	\$1.50
FIGURE 1 45	CONE KNOB	02-42	\$1.50
FIGURE 1 46	WORM SEAT	02-37	\$22.43
FIGURE 1 47	CAP SCREW	M5X50	\$1.50
FIGURE 1 48	DIAL	02-44	\$13.42
FIGURE 1 49	SL SCREW WITH CONE	M6X10	\$1.50
FIGURE 1 50	LG SLEEVE KNOB	01-26	\$1.50
FIGURE 1 51	SPRING LAMINATION	01-18	\$1.50
FIGURE 1 52	HANDLE LEVER	02-26	\$2.25
FIGURE 1 53	HANDLE SEAT	02-40	\$11.93
FIGURE 1 54	STEEL BALL	04	\$1.50
FIGURE 1 55	SPRING	02-43	\$1.50
FIGURE 1 56	CAP SCREW	M5X40	\$1.50
FIGURE 1 57	SOCKET FL SET SCR	M5X6	\$1.50
FIGURE 1 58	WASHER	02-23	\$1.50
FIGURE 1 59	WORM	02-25	\$11.25
FIGURE 1 60	SL SCREW WITH CONE	M4X6	\$1.50
FIGURE 1 61	COPPER SLEEVE	02-50	\$3.75
FIGURE 1 62	BOARD	02-12	\$29.93
FIGURE 1 63	CAP SCREW	M5X16	\$1.50
FIGURE 1 64	SHELL	02-36	\$11.25
FIGURE 1 65	SOCKET FL SET SCR	M5X16	\$1.50
FIGURE 1 66	TOOTH PRO PULLEY	02-39	\$27.00
FIGURE 1 67	HANDLE SEAT	01-25	\$11.25
FIGURE 1 68	HANDLE WT SLEEVE	01-24	\$3.75
FIGURE 1 69	TAPER PIN	B5X25	\$1.50
FIGURE 1 70	TANDLE SEAT	B5X20	\$1.50
FIGURE 1 71	CAP SCREW	M8X16	\$1.50
FIGURE 1 72	TOOTH PRO PULLEY	01-96	\$27.00
FIGURE 1 73	SOCKET FL SET SCR	M5X8	\$1.50
FIGURE 1 74	TOOTH BELT	200XL037	\$28.50
FIGURE 1 75	V-BELT	0-900	\$5.93
FIGURE 1 76	SLEEVE	02-14	\$1.50
FIGURE 1 77	SL SCREW WITH CONE	M5-16	\$1.50
FIGURE 1 78	OIL CUP	6	\$1.50
FIGURE 1 79	SLEEVE	02-24	\$1.50
FIGURE 1 80	LONG SLEEVE KNOB	01-21	\$1.50

FIGURE 1 81	SET SCREW	M8X 16	\$1.50
FIGURE 1 82	HANDLE LEVER	01-22	\$1.50
FIGURE 1 83	SCREW	02-35	\$3.75
FIGURE 1 84	RAD. BALL BEARING	108	\$22.50
FIGURE 1 85	EX.SNAP RING	86-40	\$1.50
FIGURE 1 86	MAIN SHAFT PULLEY	02-09	\$44.93
FIGURE 1 87	TAPER ROLLER BR	2007 106	\$22.50
FIGURE 1 88	LOCK WASHER	-30	\$1.50
FIGURE 1 89	BEARING SEAT	02-05	\$6.75
FIGURE 1 90	CAP SCREW	M5X20	\$1.50
FIGURE 1 91	SLEEVE	02-21	\$1.50
FIGURE 1 92	SHAFT	02-20/2	\$1.50
FIGURE 1 93	ROCKER ARM	02-20/1	\$3.75
FIGURE 1 94	SHAFT	02-19	\$6.75
FIGURE 1 95	ROUND NUT	M30X 15	\$1.50
FIGURE 1 96	RAD. BALL BEARING	104	\$22.50
FIGURE 1 97	SLEEVE	01-08	\$2.25
FIGURE 1 98	MIDDLE PULLEY	02-22	\$44.93
FIGURE 1 99	COUNTERSUNK SCREW	M5X 10	\$1.50

Fig. 2 Drilling -- milling spindle pulley shell



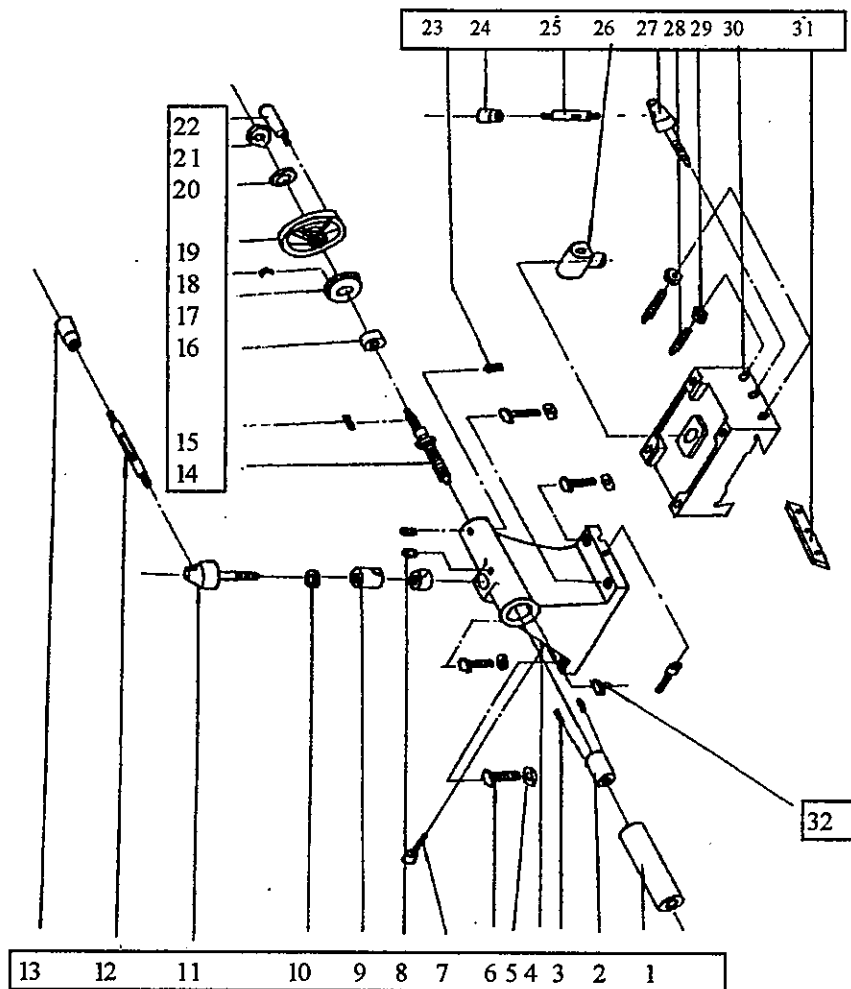
Ser. no	GB	Description
1		Drilling-milling spindle pulley shell Long Sleeve knob
2		Pulley shell
3		stud

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FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 2	1	LONG SLEEVE KNOB	01-26	\$1.50
FIGURE 2	2	PULLEY SHELL	02-04	\$59.93
FIGURE 2	3	STUD	02-03	\$6.75

Fig. 3 Tailstock

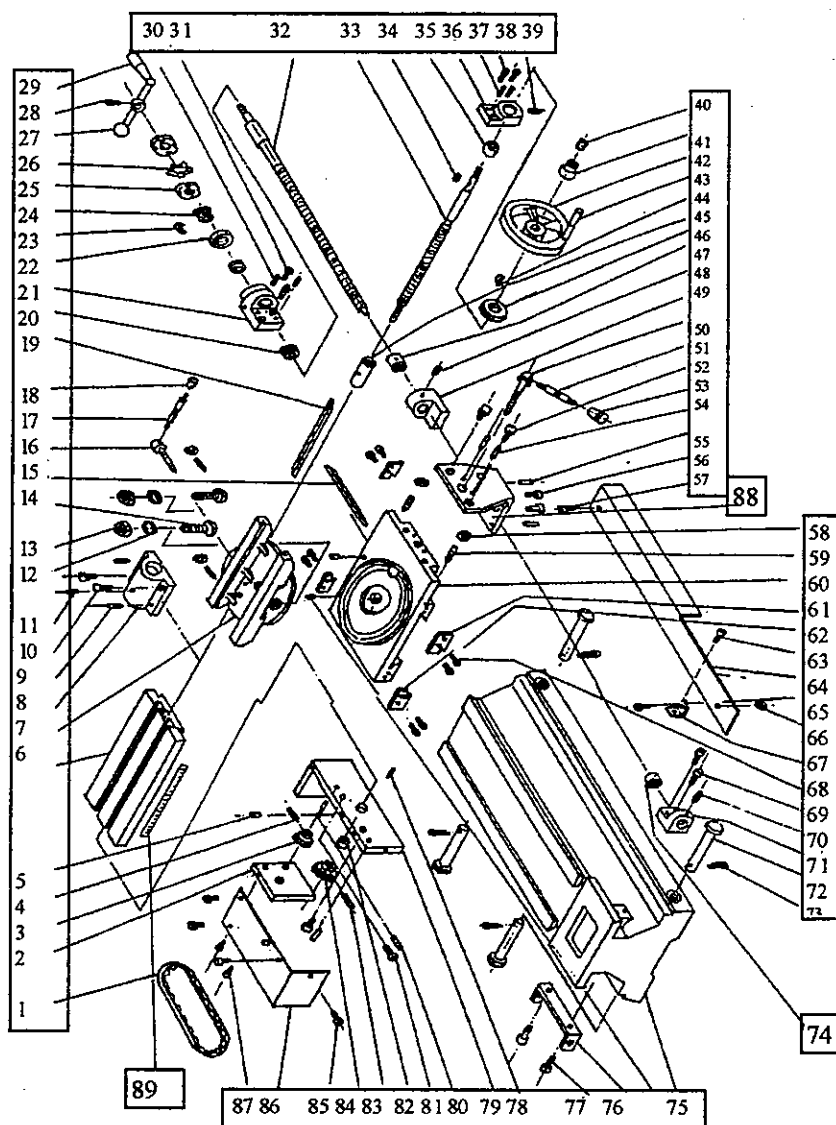


SHOPTASK PARTS

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FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 3	1	TAILSTK SLEEVE	01-12	\$14.92
FIGURE 3	2	TAILSTOCK NUT	01-14	\$7.43
FIGURE 3	3	SET SCREW	M4X6	\$1.50
FIGURE 3	4	TAILSTOCK	01-13	\$74.93
FIGURE 3	5	WASHER	-8-140HV	\$1.50
FIGURE 3	6	HEAD BOLT	-M 8X40	\$1.50
FIGURE 3	7	CAP HEAD SCREW	M10X85	\$1.50
FIGURE 3	8	OIL CAP	6	\$1.50
FIGURE 3	9	LOCKING SLEEVE	01-30	\$3.00
FIGURE 3	10	WASHER	01-29	\$1.50
FIGURE 3	11	HANDLE SEAT	01-28	\$3.75
FIGURE 3	12	HANDLE LEVER	01-27	\$1.50
FIGURE 3	13	LONG HANDLE KNOB	01-26	\$1.50
FIGURE 3	14	SCREW STEM	01-15	\$7.43
FIGURE 3	15	PLAIN KEY	4X12	\$1.50
FIGURE 3	16	SLEEVE	01-16	\$1.50
FIGURE 3	17	DIAL	01-17	\$5.93
FIGURE 3	18	SPRING LAMINATION	01-18	\$1.50
FIGURE 3	19	HAND WHEEL	01-19	\$5.93
FIGURE 3	20	PLAIN WASHER	-10-140HV	\$1.50
FIGURE 3	21	HEXAGON NUT	-M10	\$1.50
FIGURE 3	22	HANDLE W/SLEEVE	01-20	\$1.50
FIGURE 3	23	SE SCREW	M6X10	\$1.50
FIGURE 3	24	LONG HANDLE KNOB	01-21	\$1.50
FIGURE 3	25	HANDLE LEVER	01-22	\$1.50
FIGURE 3	26	ADJUST NUT	01-72	\$1.50
FIGURE 3	27	HANDLE	01-23	\$7.43
FIGURE 3	28	SET SCREW	-M5X50	\$1.50
FIGURE 3	29	HEX NUT	M8	\$1.50
FIGURE 3	30	TAILSTOCK CARRIAGE	01-97	\$26.07
FIGURE 3	31	CHOCK	01-82	\$2.25
FIGURE 3	32	T-KEY	01-11	\$1.50

FIG. 4 LATHE BED



SHOPTASK PARTS

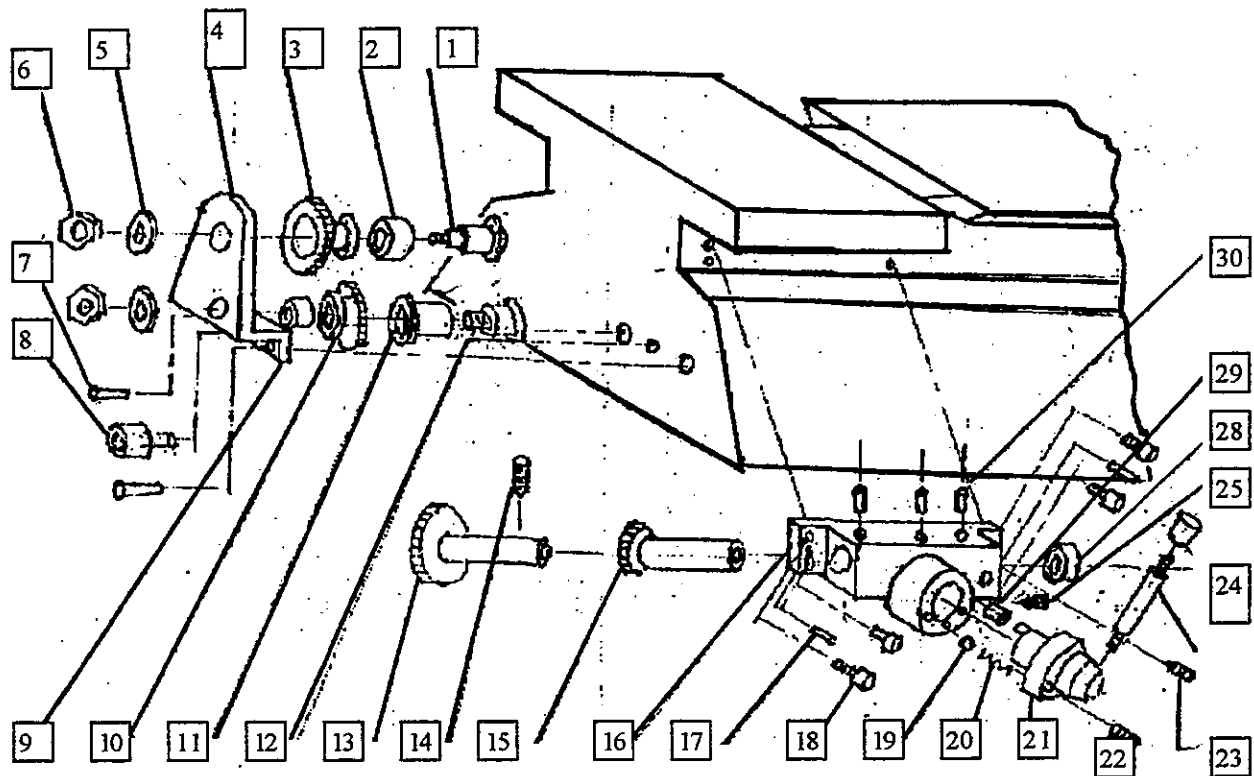
17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 4	1	TOOTH BELT	120X L037	\$28.50
FIGURE 4	2	MOTOR BACK PLATE	03-24	\$29.93
FIGURE 4	3	TOOTH PRO PULLEY	01-96	\$27.00
FIGURE 4	4	SOCKET SET SCR	MX8	\$1.50
FIGURE 4	5	OIL CUP	6	\$1.50
FIGURE 4	6	UPPER CARRIAGE	03-03	\$149.93
FIGURE 4	7	MIDDLE CARRIAGE	03-05	\$134.93
FIGURE 4	8	NUT SEAT	03-12	\$7.43
FIGURE 4	9	TAPER PIN	B5X18	\$1.50
FIGURE 4	10	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 4	11	SOCKET SET SCR	M5X8	\$1.50
FIGURE 4	12	PLAIN WASHER	-10-140HV	\$1.50
FIGURE 4	13	HEX NUT	-M10	\$1.50
FIGURE 4	14	HEX HEAD BOLT	M10X35	\$1.50
FIGURE 4	15	CHOCK	03-18	\$3.75
FIGURE 4	16	LOCK HANDLE SEAT	03-15	\$3.75
FIGURE 4	17	HANDLE LEVER	03-30	\$1.50
FIGURE 4	18	LONG SLEEVE KNOB	01-21	\$1.50
FIGURE 4	19	CHOCK	03-14	\$1.50
FIGURE 4	20	TRUST BEARING	8102	\$22.50
FIGURE 4	21	BEARING SEAT	01-86	\$11.93
FIGURE 4	22	DIAL	01-85	\$7.43
FIGURE 4	23	SPRING COMBINATION	01-81	\$1.50
FIGURE 4	24	SLEEVE	01-84	\$2.25
FIGURE 4	25	ROUND NUT	M14X1.5	\$1.50
FIGURE 4	26	LOCK WASHER	14	\$1.50
FIGURE 4	27	HANDLE SEAT	01-25	\$10.43
FIGURE 4	28	TAPER PIN	B4X25	\$1.50
FIGURE 4	29	HANDLE WITH SLEEVE	01-24	\$3.75
FIGURE 4	30	TAPER PIN	B5X20	\$1.50
FIGURE 4	31	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 4	32	LONG FEED SCR	01-87	\$74.93
FIGURE 4	33	CROSS FEED SCR	03-04	\$59.93
FIGURE 4	34	PL PARALLELED KEY	4X10	\$1.50
FIGURE 4	35	COPPER SLEEVE	03-02	\$29.93
FIGURE 4	36	SCREW SEAT	03-01	\$29.93
FIGURE 4	37	TAPER PIN	B5X20	\$1.50
FIGURE 4	38	SOCKET HEAD SCR	M8X16	\$1.50

FIGURE 4	39	SOCKET SET SCR/W FT	M5X16	\$1.50
FIGURE 4	40	SOCKET SET SCR/W PLM	10X10	\$1.50
FIGURE 4	41	NUT	03-26	\$1.50
FIGURE 4	42	HANDLE WHEEL	01-19	\$14.92
FIGURE 4	43	HANDLE	01-20	\$1.50
FIGURE 4	44	SPRING COMBINATION	01-18	\$1.50
FIGURE 4	45	COPPER NUT	03-13	\$29.93
FIGURE 4	46	DIAL	01-17	\$10.43
FIGURE 4	47	NUT	03-21	\$19.95
FIGURE 4	48	SOCKET SET SCR/W PT	M5X8	\$1.50
FIGURE 4	49	SCREW SEAT	03-20	\$10.43
FIGURE 4	50	LOCK HANDLE SEAT	03-22	\$7.43
FIGURE 4	51	HANDLE LEVER	03-30	\$3.75
FIGURE 4	52	SOCKET HEAD SCR	M8X20	\$1.50
FIGURE 4	53	LONG SLEEVE KNOB	01-21	\$1.50
FIGURE 4	54	TAPER PIN	B6X20	\$1.50
FIGURE 4	55	TAPER PIN	B5X20	\$1.50
FIGURE 4	56	SOCKET CAP SCR	M6X10	\$1.50
FIGURE 4	57	SOCKET CAP SCR	M6X10	\$1.50
FIGURE 4	58	HEX NUT	M8	\$1.50
FIGURE 4	59	SOCKET SET SCR/W PT	M8X40	\$1.50
FIGURE 4	60	LOWER CARRIGE	03-17	\$134.93
FIGURE 4	61	SHELL	03-29	\$1.50
FIGURE 4	62	SHELL	03-28	\$1.50
FIGURE 4	63	SOCKET CAP SCR	M6X10	\$1.50
FIGURE 4	64	PROTECT SHELL	01-88	\$11.93
FIGURE 4	65	SOCKET CAP SCR	M6X10	\$1.50
FIGURE 4	66	HEX NUT	76-M6	\$1.50
FIGURE 4	67	ANGLE IRON	01-94	\$1.50
FIGURE 4	68	SOCKET CAP SCR	M5X12	\$1.50
FIGURE 4	69	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 4	70	SOCKET SET SCR/W PT	M6X16	\$1.50
FIGURE 4	71	SCREW SEAT	01-04	\$7.43
FIGURE 4	72	SHAFT	01-83	\$14.92
FIGURE 4	73	STRAIGHT PIN	4X30	\$1.50
FIGURE 4	74	COPPER SLEEVE	01-05	\$7.43
FIGURE 4	75	BED	01-01	\$299.93
FIGURE 4	76	PEDESTAL	01-80	\$7.43
FIGURE 4	77	SOCKET CAP SCR	M8X16	\$1.50
FIGURE 4	78	SL SET SCR/W PT	M4X5	\$1.50
FIGURE 4	79	BK PLATE OF MOTOR	03-25	\$29.93
FIGURE 4	80	TAPER PIN	B5X25	\$1.50

FIGURE 4	81	SOCKET CAP SCR	M8X16	\$1.50
FIGURE 4	82	COPPER SLEEVE	03-23	\$7.43
FIGURE 4	83	SOCKET SET SCR/W FL	M5X16	\$1.50
FIGURE 4	84	TOOTH PRO PULLEY	02-39	\$27.00
FIGURE 4	85	SOCKET CAP SCR	M5X10	\$1.50
FIGURE 4	86	PULLEY SHELL	03-19	\$14.92
FIGURE 4	87	SOCKET CAP SCR	M8X16	\$1.50
FIGURE 4	88	FRAME	03-27	\$29.93
FIGURE 4	89	GRADUATED SCALE		\$5.00

FIG. 5 LEAD SCREW SHIFTER MECHANISM

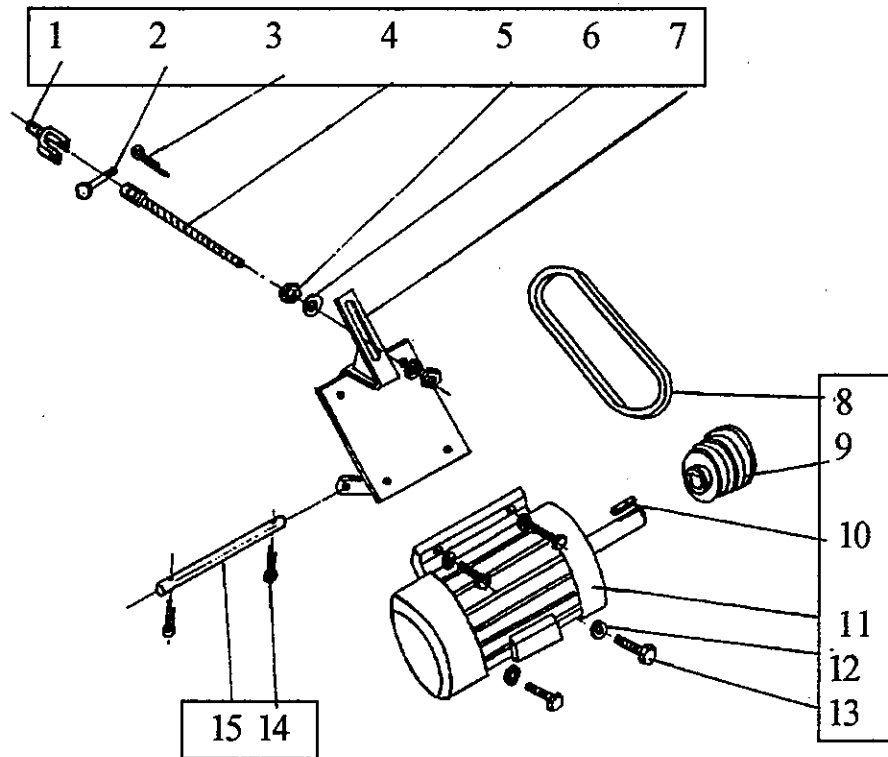


SHOPTASK PARTS

17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 5	1	CHANGE GEAR SHAFT	D 01 101	\$7.43
FIGURE 5	2	SPACER	D 01 102	\$ 4.50
FIGURE 5	3	GEAR	D 01 103	\$27.50
FIGURE 5	4	MOUNTING BRACKET	D 01 113	\$17.50
FIGURE 5	5	WASHER		\$ 1.50
FIGURE 5	6	NUT	8X1.25	\$1.50
FIGURE 5	7	TAPER PIN	6MM	\$1.50
FIGURE 5	8	ALLEN BOLT	8X30	\$3.50
FIGURE 5	9	SPACER	D 01 100	\$4.50
FIGURE 5	10	GEAR	D 01 103	\$27.50
FIGURE 5	11	SPACER	D01 102	\$4.50
FIGURE 5	12	CHANGE GEAR SHAFT	D 01 99	\$7.43
FIGURE 5	13	TOOTH PRO PULLEY	D 01 55	\$27.00
FIGURE 5	14	SET SCREW	5MMX5MM	\$1.50
FIGURE 5	15	SLIDING GEAR	D 01 110	\$35.50
FIGURE 5	16	SHIFTING HOUSING	D 01 108	\$49.95
FIGURE 5	17	TAPER PIN	5MMX12	\$1.50
FIGURE 5	18	ALLEN BOLT	6MMX12	\$1.50
FIGURE 5	19	DETENT BALL	6MM	\$2.50
FIGURE 5	20	DETENT SPRING	.6X.6X20	\$2.50
FIGURE 5	21	SHIFTING BLOCK	D 01 109	\$ 27.50
FIGURE 5	22	SET SCREW	8MMX8MM	\$1.50
FIGURE 5	23	SET SCREW	5MMX6MM	\$1.50
FIGURE 5	24	HANDLE LEVER	01-22	\$1.50
FIGURE 5	25	LONG SLEEVE KNOB	01-21	\$1.50
FIGURE 5	26	KEY	5MMX20	\$2.50
FIGURE 5	27	LEAD SCREW	01-87	\$74.93
FIGURE 5	28	SET SCREW	6MM	\$1.50
FIGURE 5	29	BUSHING	D 01 106	\$7.50
FIGURE 5	30	BRASS SLEEVE	D 01 107	\$3.50
FIGURE 5	31	OILERS (3)	6MM	\$4.50

Fig. 6 HEAD MOTOR

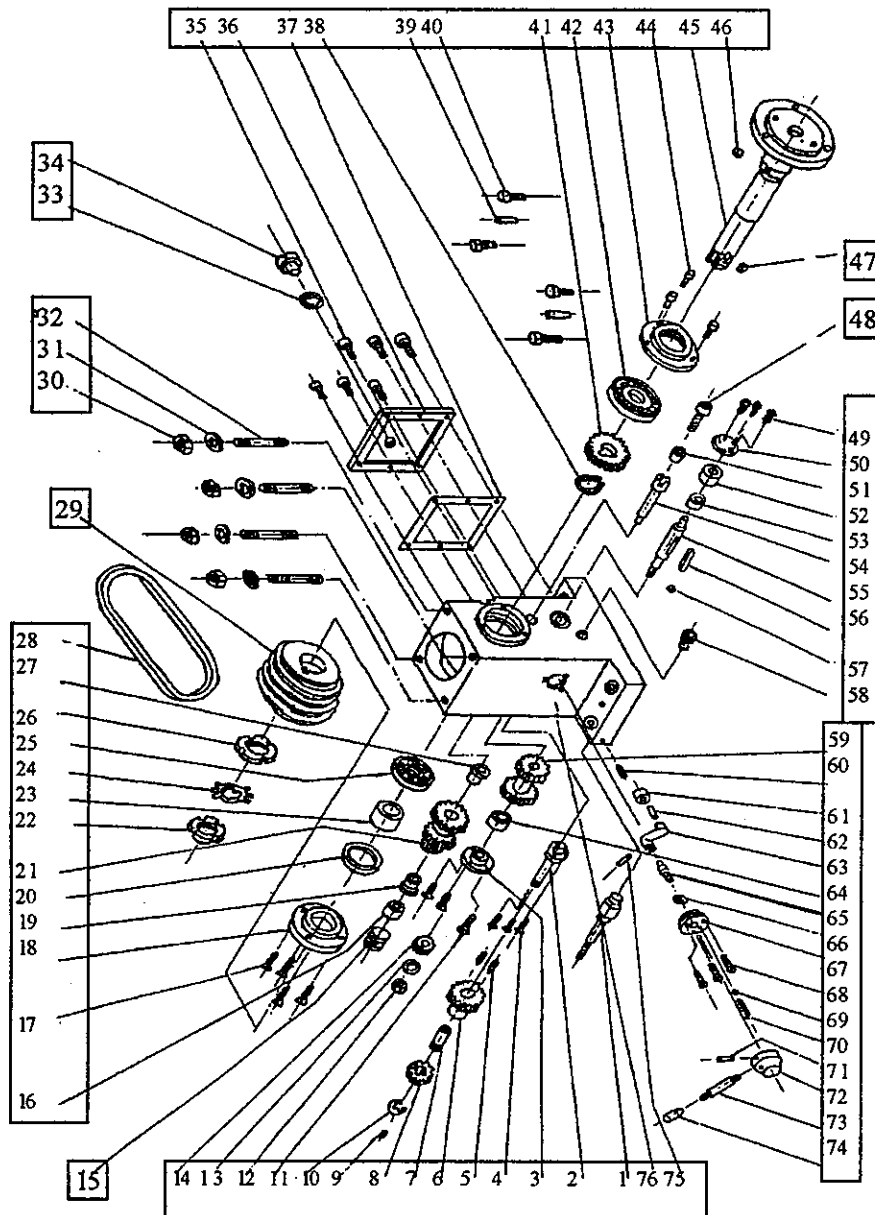


SHOPTASK PARTS

17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 6	1	FORKED STANDARD	01-75	\$7.43
FIGURE 6	2	PIVOT PIN	01-76	\$4.43
FIGURE 6	3	SPLIT PIN	-3X25	\$1.50
FIGURE 6	4	DOG BOLT	01-77	\$4.43
FIGURE 6	5	HEX NUT	M10	\$1.50
FIGURE 6	6	PLAIN WASHER	10-100HV	\$1.50
FIGURE 6	7	BK PLATE OF MOTOR	01-78	\$29.93
FIGURE 6	8	V-BELT	0-7 10	\$19.43
FIGURE 6	9	MOTOR PULLEY	01-03	\$29.93
FIGURE 6	10	PL PARALLED KEY	B6X25	\$1.50
FIGURE 6	11	MOTOR	YL8014	\$149.93
FIGURE 6	12	PLAIN WASHER	-8-100HV	\$1.50
FIGURE 6	13	HEX HEAD BOLT	86-M8X30	\$1.50
FIGURE 6	14	SPLIT PIN	-3X30	\$1.50
FIGURE 6	15	STRAIGHT PIN	01-79	\$1.50

Fig. 7 HEADSTOCK

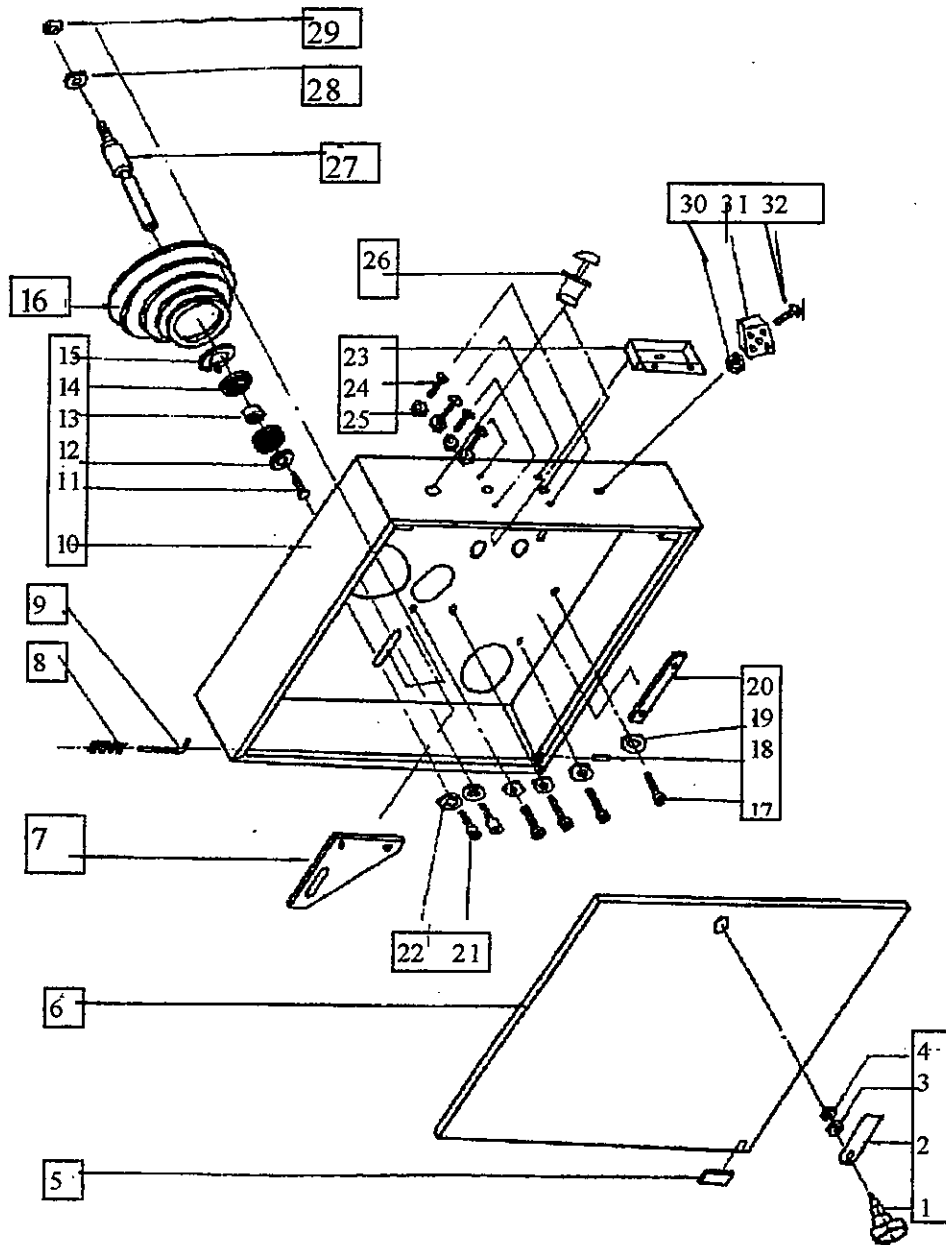


SHOPTASK PARTS
17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 7	1	SHAFT	01-60	\$7.43
FIGURE 7	2	SHAFT	01-48	\$13.42
FIGURE 7	3	END CAP	01-67	\$5.93
FIGURE 7	4	COUNTER SUNK SCR	M5X10	\$1.50
FIGURE 7	5	SOCKET SET SCR/W FL	M4X6	\$1.50
FIGURE 7	6	GEAR	01-49	\$27.00
FIGURE 7	7	SHAFT SLEEVE	01-65	\$7.43
FIGURE 7	8	CHANGE GEAR	05-04/30	\$27.00
FIGURE 7	9	OIL CUP	79-6	\$1.50
FIGURE 7	10	"E" RING	-9	\$1.50
FIGURE 7	11	COUNTER SUNK SCR	M5X10	\$1.50
FIGURE 7	12	HEX NUT	M10	\$1.50
FIGURE 7	13	PLAIN WASHER	-10-140HV	\$1.50
FIGURE 7	14	GEAR	01-66	\$27.00
FIGURE 7	15	SOCKET SET SCR/WFL	M24X20	\$4.43
FIGURE 7	16	SHAFT SLEEVE	01-35	\$4.43
FIGURE 7	17	COUNTER SUNK SCR	M6X16	\$1.50
FIGURE 7	18	R BEARING OIL SEAL	01-34	\$7.43
FIGURE 7	19	SLEEVE	01-41	\$4.43
FIGURE 7	20	FELT COLLAR	-79	\$19.43
FIGURE 7	21	TRIPLE GEAR	01-39	\$74.93
FIGURE 7	22	ROUND NUT	M35X1.5	\$1.50
FIGURE 7	23	SLEEVE	01-33	\$3.75
FIGURE 7	24	LOCK WASHER	16	\$1.50
FIGURE 7	25	TAPERED BEARING	2007107	\$22.50
FIGURE 7	26	ROUND NUT	M35X1.5	\$1.50
FIGURE 7	27	SLEEVE	01-41	\$4.43
FIGURE 7	28	V-BELT	0-800	\$9.95
FIGURE 7	29	SPINDLE PULLEY	01-32	\$44.93
FIGURE 7	30	HEX NUT	M10	\$14.92
FIGURE 7	31	PLAIN WASHER	-10-140HV	\$1.50
FIGURE 7	32	TWO START SCREW	M10X35	\$1.50
FIGURE 7	33	RUBBER RING	01-70	\$8.93
FIGURE 7	34	PLUG SCREW	01-71	\$7.43
FIGURE 7	35	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 7	36	BLIND FLANGE	01-74	\$14.92
FIGURE 7	37	PACKING PAPER	01-69	\$7.43
FIGURE 7	38	EXTERNAL SNAP RING	36	\$1.50

FIGURE 7	39	TAPERPIN	B8X35	\$1.50
FIGURE 7	40	SOCKET CAP SCR	M10X40	\$1.50
FIGURE 7	41	SPINDLE GEAR	01-36	\$27.00
FIGURE 7	42	TAPERED BEARING	2007108	\$22.50
FIGURE 7	43	F BEARING OIL SEAL	01-37	\$7.43
FIGURE 7	44	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 7	45	LATHE SPINDLE	01-38	\$104.93
FIGURE 7	46	PLAIN PARALLED KEY	-6X10	\$1.50
FIGURE 7	47	PLAIN PARALLED KEY	-6X20	\$1.50
FIGURE 7	48	SOCKET CAP SCR	M8X25	\$1.50
FIGURE 7	49	COUNTER SUNK SCR	M5X10	\$1.50
FIGURE 7	50	END CAP	01-43	\$7.43
FIGURE 7	51	SHAFT NOSE	01-42	\$1.50
FIGURE 7	52	SHAFT SLEEVE	01-46	\$4.43
FIGURE 7	53	ADJUST SLEEVE	01-45	\$4.43
FIGURE 7	54	SHAFT	01-40	\$4.43
FIGURE 7	55	GEAR SHAFT	01-44	\$13.42
FIGURE 7	56	PLAIN PARALLED KEY	-6X45	\$1.50
FIGURE 7	57	PLAIN PARALLED KEY	-4X10	\$1.50
FIGURE 7	58	OIL LV INDICATOR	M16X1.5	\$7.43
FIGURE 7	59	DUPLEX GEAR	01-47	\$59.93
FIGURE 7	60	SOCKET SET SCR/WPT	M6X10	\$1.50
FIGURE 7	61	LOOSE PIECE	01-93	\$4.43
FIGURE 7	62	PARA PIN	B8X26	\$1.50
FIGURE 7	63	SHIFTING YOKE	01-92	\$4.43
FIGURE 7	64	SHAFT SLEEVE	01-68	\$4.43
FIGURE 7	65	CONTROL SHAFT	01-91	\$4.43
FIGURE 7	66	O-RING SEAL	10.6X2.65	\$4.43
FIGURE 7	67	END CAP	01-90	\$2.93
FIGURE 7	68	COUNTER SUNK SCR	M5X16	\$1.50
FIGURE 7	69	STEEL BALL	06	\$1.50
FIGURE 7	70	SPRING	-2	\$1.50
FIGURE 7	71	TAPER PIN	B5X45	\$1.50
FIGURE 7	72	HANDLE SEAT	01-89	\$5.93
FIGURE 7	73	HANDLE LEVER	01-21	\$2.93
FIGURE 7	74	LONG SLEEVE KNOB	01-21	\$1.50
FIGURE 7	75	TAPER PIN	B3X20	\$1.50
FIGURE 7	76	LATHE HEAD	01-06	\$149.93

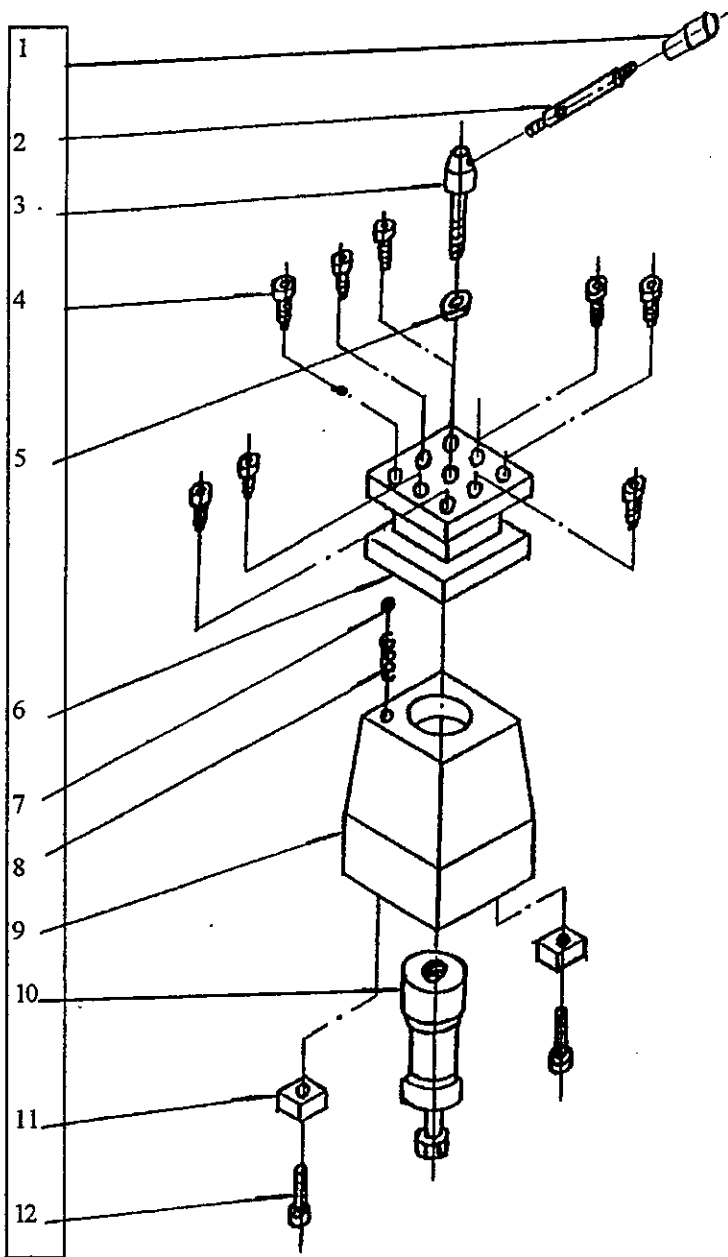
fig. 8 COMPOUND BOX



SHOPTASK PARTS
17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 8	1	HANDLE BAR	01-02/12	\$1.50
FIGURE 8	2	CHOKE	01-02/14	\$1.50
FIGURE 8	3	PLAIN WASHER	-4-140HV	\$1.50
FIGURE 8	4	HEX NUT	M4	\$1.50
FIGURE 8	5	APRON	01-02/8	\$0.00
FIGURE 8	6	BOX BLIND	01-02/7	\$0.00
FIGURE 8	7	FACIA	01-02/11	\$0.00
FIGURE 8	8	SPRING	01-02/4	\$0.00
FIGURE 8	9	DOOR PIN	01-02/6	\$0.00
FIGURE 8	10	BOX	01-02/1	\$0.00
FIGURE 8	10.5	BOX ASSEMBLY	01-02/1-10	\$224.92
FIGURE 8	11	COUNTER SUNK SCR	M5X5	\$1.50
FIGURE 8	12	LOCK RING	01-09	\$1.50
FIGURE 8	13	SLEEVE	01-08	\$4.43
FIGURE 8	14	BALL BEARING	104	\$22.50
FIGURE 8	15	CIR CLIP	-42	\$1.50
FIGURE 8	16	MIDDLE PULLEY	01-07	\$44.93
FIGURE 8	17	SOCKET CAP SCR	M6X16	\$1.50
FIGURE 8	18	DOOR PIN	01-02/9	\$5.00
FIGURE 8	19	PLAIN WASHER	-6-140HV	\$1.50
FIGURE 8	20	APRON	01-02/10	\$0.00
FIGURE 8	21	SOCKET CAP SCR	M6X10	\$1.50
FIGURE 8	22	PLAIN WASHER	-6-140HV	\$1.50
FIGURE 8	23	HEX NUT	M4	\$1.50
FIGURE 8	24	SLOTTED SCREW	M4X15	\$1.50
FIGURE 8	25	SWITCH SHELL	01-95	\$7.43
FIGURE 8	26	COMBO SWITCH	109/3	\$59.93
FIGURE 8	27	SHAFT	01-10	\$7.43
FIGURE 8	28	PLAIN WASHER	-16-140HV	\$1.50
FIGURE 8	29	HEX NUT	M16	\$1.50
FIGURE 8	30	HEX NUT	M4	\$1.50
FIGURE 8	31	CHINA JOINT	20A	\$7.43
FIGURE 8	32	SLOTTED SCREW	M4X20	\$1.50

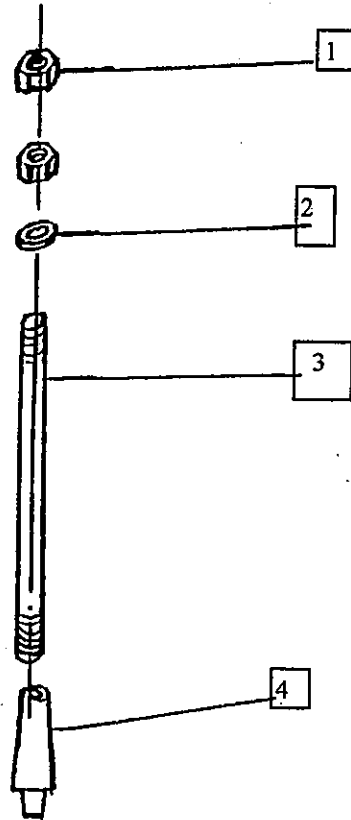
Fig. 9 TOOL POST



SHOPTASK PARTS
17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 9	1	LONG SLEEVE KNOB	01-26	\$1.50
FIGURE 9	2	HANDLE LEVER	01-27	\$1.50
FIGURE 9	3	HANDLE BED	03-09	\$5.93
FIGURE 9	4	SQUARE SCREW	M8X25	\$1.50
FIGURE 9	5	WASHER	03-10	\$1.50
FIGURE 9	6	TOOL POST	03-08	\$59.93
FIGURE 9	7	STEEL BALL	-010	\$1.50
FIGURE 9	8	SPRING	03-07	\$1.50
FIGURE 9	9	TOOL POST SEAT	03-06	\$29.93
FIGURE 9	10	LOCKING BOLT	03-11	\$7.43
FIGURE 9	11	SQUARE KEY	03-31	\$2.93
FIGURE 9	12	HEX CAP SCREW	M6X16	\$1.50

Fig. 10 BRACE

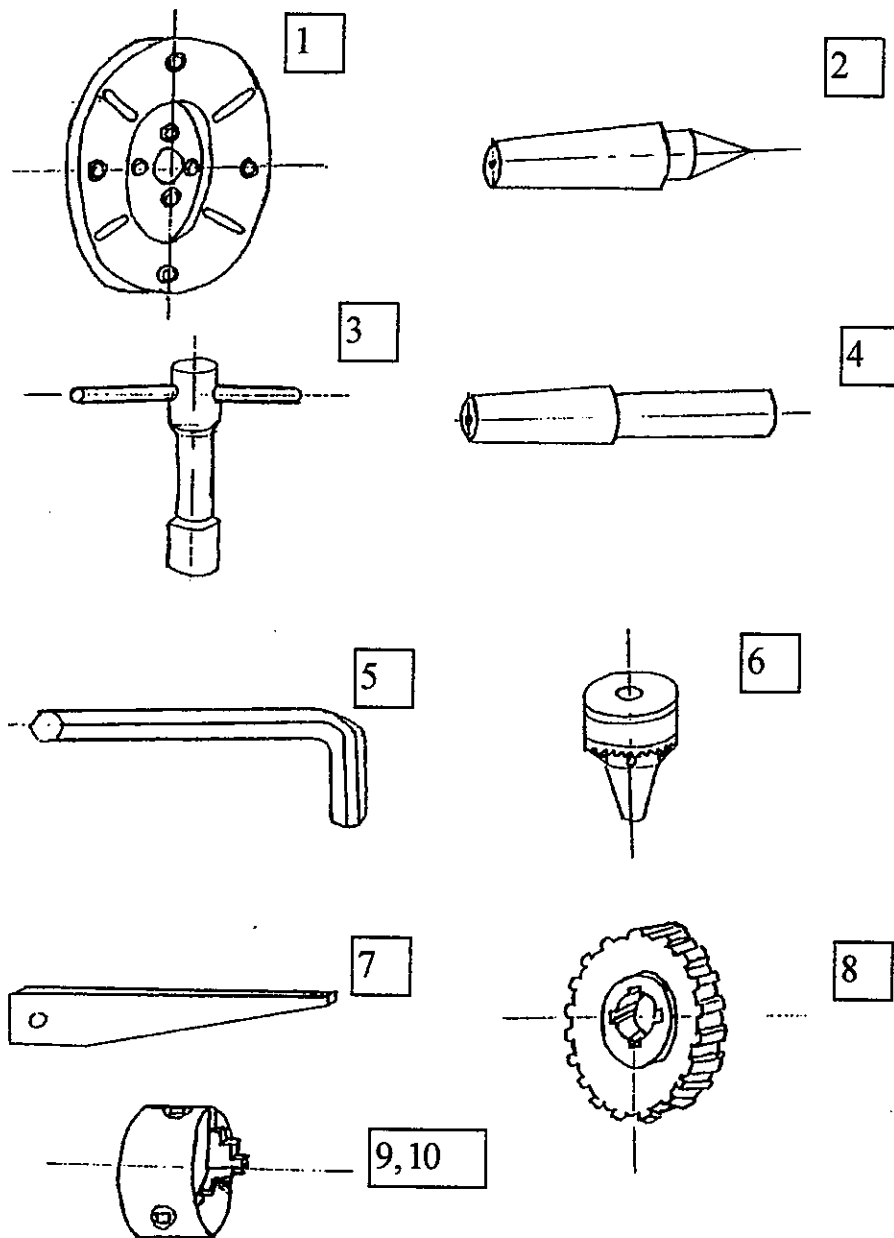


Ser. no	GB	Description
1		Brace Nut
2		Washer
3		Brace
4		Tapered Stick

SHOPTASK PARTS
17 20 XM TC

<u>FIGURE</u>	<u>REF</u>	<u>DESCRIPTION</u>	<u>PART NO</u>	<u>NET PRICE</u>
FIGURE 10	1	HEX NUT	M10	\$1.50
FIGURE 10	2	WASHER	02-06	\$1.50
FIGURE 10	3	BRACE	02-15	\$1.50
FIGURE 10	4	TAPERED STICK	02-17	\$7.43

Fig. 11 ATTACHMENTS



SHOPTASK PARTS

17 20 XM TC

FIGURE	REF	DESCRIPTION	PART NO	NET PRICE
FIGURE 11	1	FACE PLATE	05-01	\$59.93
FIGURE 11	2/1	DEAD CENTER M2	05-15/2	\$14.92
FIGURE 11	2/2	DEAD CENTER M3	05-15/3	\$14.92
FIGURE 11	2/3	DEAD CENTER M4	05-15/4	\$14.92
FIGURE 11	3	TOOL WRENCH	05-02	\$4.43
FIGURE 11	4	LONG TAPE HOLE	05-03	\$14.92
FIGURE 11	5/1	INSIDE HEX WRENCH	4	\$1.50
FIGURE 11	5/2	INSIDE HEX WRENCH	5	\$1.50
FIGURE 11	5/3	INSIDE HEX WRENCH	6	\$1.50
FIGURE 11	5/4	INSIDE HEX WRENCH	8	\$1.50
FIGURE 11	6	DRILLCHUCK	1-13	\$14.92
FIGURE 11	7	DRILL KEY	05-12	\$4.43
FIGURE 11	8/1	HANGING WHEEL	05-04/32	\$27.00
FIGURE 11	8/2	HANGING WHEEL	05-04/33	\$27.00
FIGURE 11	8/3	HANGING WHEEL	05-04/36	\$27.00
FIGURE 11	8/4	HANGINGWHEEL	05-04/39	\$27.00
FIGURE 11	8/5	HANGINGWHEEL	05-04/40	\$27.00
FIGURE 11	8/6	HANGINGWHEEL	05-04/42	\$27.00
FIGURE 11	8/7	HANGINGWHEEL	05-04/48	\$27.00
FIGURE 11	8/8	HANGINGWHEEL	05-04/49	\$27.00
FIGURE 11	8/9	HANGINGWHEEL	05-04/50	\$27.00
FIGURE 11	8/10	HANGING WHEEL	05-04/51	\$27.00
FIGURE 11	8/11	HANGINGWHEEL	05-04/54	\$27.00
FIGURE 11	8/12	HANGING WHEEL	05-04/56	\$27.00
FIGURE 11	8/13	HANGING WHEEL	05-04/57	\$27.00
FIGURE 11	9	THREE JAW 5"	130	\$224.92
FIGURE 11	10	THREEJAW 4"	100	\$104.93