

OPERATING INSTRUCTIONS AND PARTS LIST

Model 1200-20" Drill Press

For Serial Numbers From 1001 Up

POWERMATIC MACHINE COMPANY

McMinnville, Tennessee

I. MACHINE DESCRIPTION AND SPECIFICATIONS

SPINDLE:	Carbon Steel, 6 spline with #2 or #3 Morse taper.
SPINDLE SPEED:	Spindle is regulated with selector speed dial mounted on front of machine giving an infinitely variable speed from 250 to 1750 RPM with an 1800 RPM motor; 170 to 900 RPM with an 1100 RPM motor.
QUILL SLIDE:	Quill is 2 $\frac{3}{4}$ " dia. with 6 $\frac{1}{2}$ " travel.
COLUMN:	4" diameter, $\frac{1}{2}$ " wall thickness.
CAPACITY:	$\frac{3}{4}$ " in steel, 1" in cast iron.
ELEVATING MECHANISM:	Rotates on ball thrust bearings, operated by rack and pinion.
TABLE WORKING SURFACE:	15 $\frac{1}{2}$ " x 18".
BASE WORKING SURFACE:	13 $\frac{1}{2}$ " x 18".
HEIGHT:	75".
WEIGHT:	Net with Motor, 500 lbs. Domestic crated 650 lbs. Export crated 800 lbs.

II. GENERAL SET-UP AND ALIGNMENT

1. RECEIVING

Uncrate and check for shipping damage. Clean all coated and greased surfaces. Read instructions thoroughly. Locate all lubrication points; adjustments; methods of drive.

2. MOUNTING

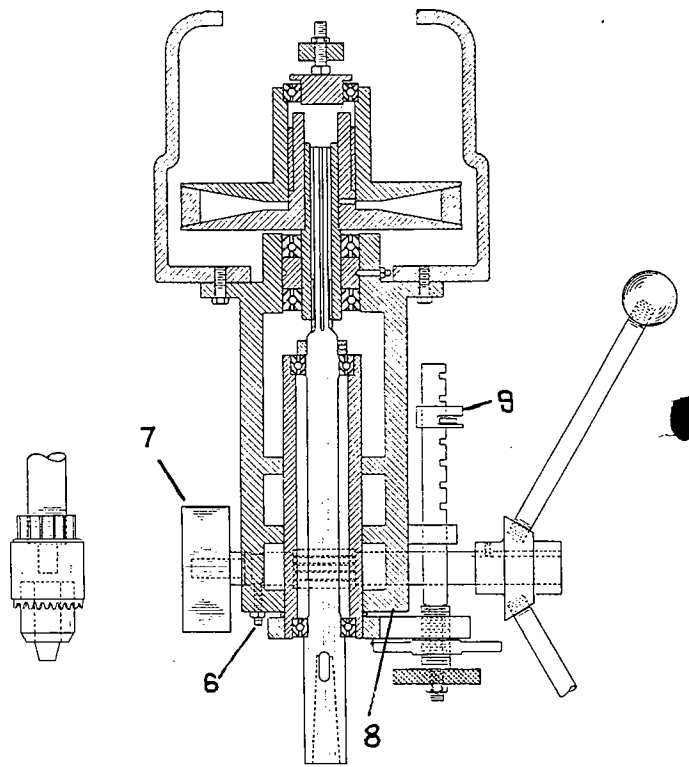
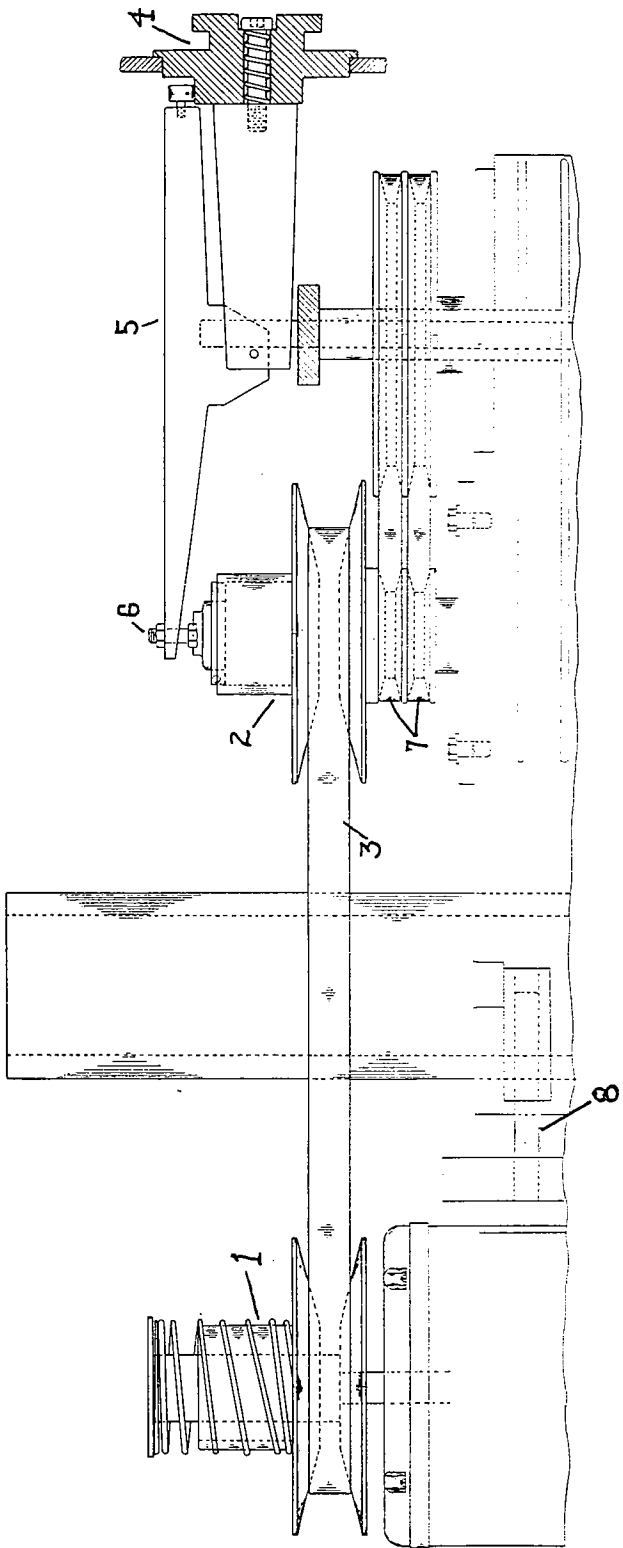
Mount machine securely to solid foundation. Concrete base mounting preferred. Locate in clean, dry and well ventilated building if possible. Motor and electrical connections should be protected when not in operation or if exposed to weather elements.

3. INSPECTION

The above machine requires the minimum amount of attention in service. Periodic or regular inspections are recommended to insure machine is in proper adjustment, positive electrical connections; worn or loose "V" belts or bearings heating or loose.

4. BEFORE OPERATING

Check motor nameplate data or wiring diagram of motor and switch for proper voltage connection before wiring into line. Run motor without load to check the connections and direction of rotation. Always refer to motor nameplate for rotation connections.



OPERATING INSTRUCTIONS

- STEP PULLEY DRIVE:** Mount motor on motor base and slip motor pulley on to shaft with small pulley groove pointing downward. Place drive belt in top groove of driving and driven pulleys and level drive by adjusting motor pulley. Set motor mount bars until belt has enough tension to keep from slipping under load.
- VARIABLE DRIVE ADJUSTMENT:** Variable speed is achieved by means of two variable speed sheaves; one spring loaded and the other operated by a cam. Speed range is changed by turning variable speed cam (4) to the right to increase speed and to the left to decrease speed. When cam (4) is turned to the right, sheave (2) is forced together, overcoming spring tension on sheave (1), causing belt (3) to run on the small diameter of the motor drive sheave and the large diameter of the driven sheave, thus reducing speed. To get maximum speed from the variable speed range, turn speed dial (4) to slowest speed. Adjust screw (6) until belt (3) runs to the outside of driven sheave (2). Adjust motor mount bars (8) until belt (3) runs at the bottom of the top on driving sheave (1).
- QUILL ASSEMBLY:** To remove and or replace Quill assembly—Release spring tension on rack pinion by loosening lock screw (9), letting spring housing turn slowly until tension is relieved. Remove pinion lock screw (11). Remove the feed depth stop (12), holding hand under spindle. Remove pinion shaft and the entire quill assembly will slide out of the head. When re-assembling parts, be sure pinion shaft slot fits into the return spring properly. To adjust spring tension on rack pinion, turn spring housing (10) to the left until pinion will return to the "up" position quickly and positively.
- TABLE & HEAD ADJUSTMENT:** Table is raised and lowered by means of a worm gear and rack, supported with a ball bearing thrust ring which permits swiveling of table. To raise the head, loosen head clamp bolts and place a wooden block between table and head. Turn table raising handle. When head has been raised to the proper height, re-set safety collar under head and tighten head clampbolts.
- LUBRICATION:** Quill bearings are sealed and lubricated for life. Quill and rack pinion shaft should be lubricated with a few drops of SAE 20 oil once a day. When the drill is not in use, column, base and table should be covered with oil.

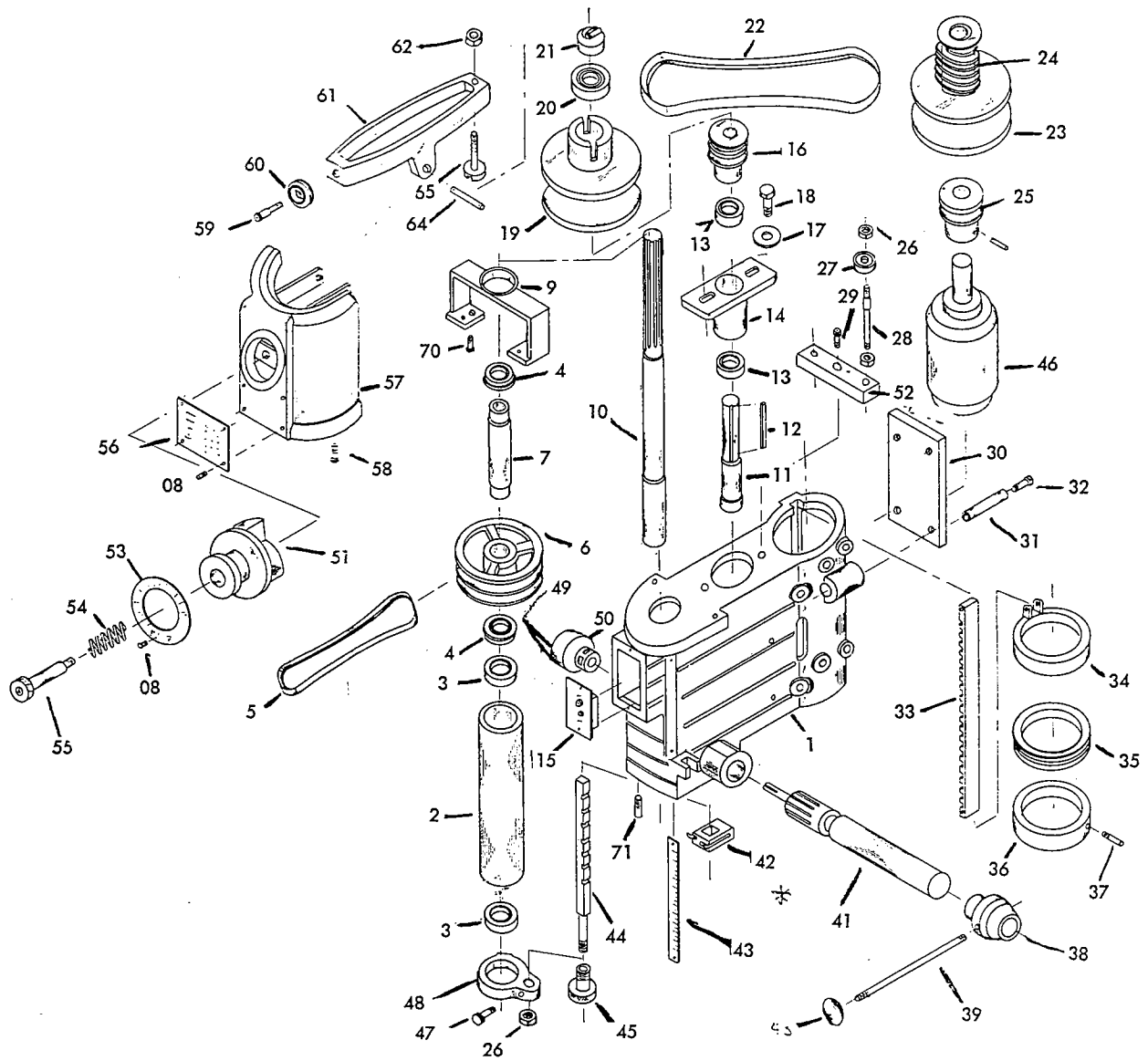
DRILL SPEEDS: Proper drill speed depends upon the material to be drilled and the diameter of hole. A chart on the front of the drill head gives suggested speeds for different size drills. It is important that drill be properly sharpened for best performance. When placing drill in chuck, be sure the chuck is properly tightened and that the drill runs true in the chuck. If drill press has a morse taper, be sure drill chuck adapter and spindle taper are free from burrs and dirt before inserting adapter.

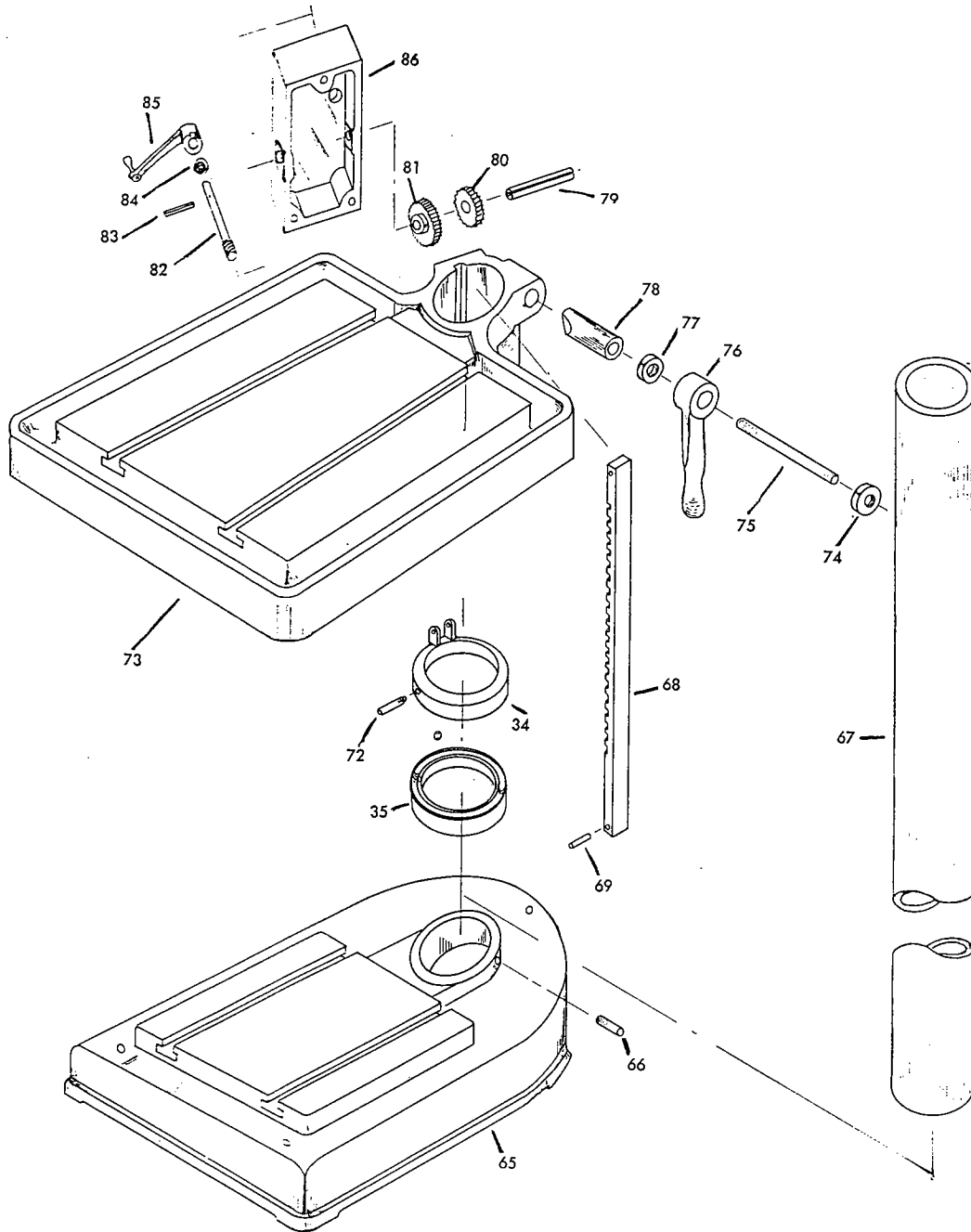
POWER FEED: Mechanical feed is used to give a uniform pressure to drill bit as it feeds into work. The feed is driven from the spindle drive pulley and varies with spindle speed. Power feed unit has a variable speed range from .002" to .012" per spindle revolution, and is regulated by a knob mounted on top of the power feed. A graduated gauge indicates feed speed and should usually be operated at .006" to .008". Oil reservoir on worm gear should be filled with SAE 30 oil or equivalent. No other Mechanical feed points require lubrication.

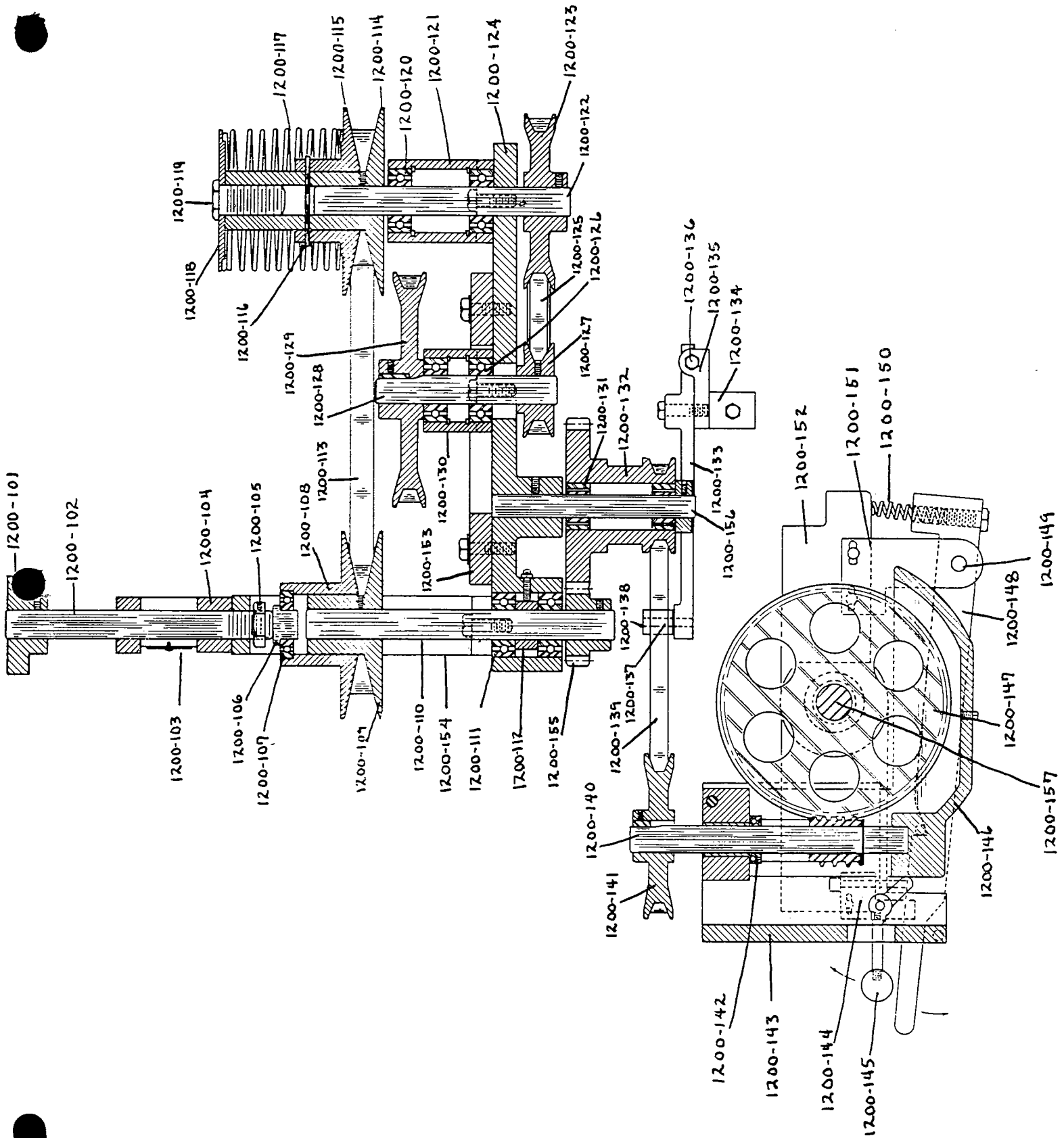
SAFETY RULES

This 20" Drill Press is one of the safest, best guarded machines available, however, the following safety precautions are necessary for your own personal protection:

1. Remove neckties and finger rings before operation.
2. Roll sleeves inward and remove any loose jackets.
3. Always keep goggles handy.
4. Always clamp work securely—do NOT attempt to hold work being drilled by hand.
5. Pull main switch when servicing machine.
6. Make SURE machine is properly grounded to water pipe, radiator or any convenient metal object.
7. NEVER try to remove loose metal shavings with your hand. Use a long object that will keep hands away from working area.







NO. 1200—20" DRILL PRESS PARTS LIST

Name	Part No.	Name	Part No.
Head casting D-4.....	1200-01	Lock screw, depth adjusting knob.....	1200-47
Quill	1200-02	Yoke, quill.....	1200-48
Bearing, quill, fafnir 206PP.....	1200-03	Spring, pinion shaft.....	1200-49
Bearing, spindle drive shaft ND4993L07.....	1200-04	Housing, pinion shaft.....	1200-50
Belt, spindle drive.....	1200-05	Cam, variable speed.....	1200-51
Pulley, spindle drive, 2 groove.....	1200-06	Dial, speed indicator.....	1200-53
Drive shaft spindle.....	1200-07	Spring, variable speed.....	1200-54
Screw, pan head No. 6— $\frac{1}{4}$ ".....	1200-08	Stud, variable speed cam.....	1200-55
Bracket, upper spindle bearing.....	1200-09	Chart, drill speed.....	1200-56
Spindle	1200-10	Housing, spindle drive.....	1200-57
Shaft, variable speed drive.....	1200-11	Cap screw, housing.....	1200-58
Key, variable speed drive.....	1200-12	Screw, shift fork bearing.....	1200-59
Bearing, variable speed shaft, fafnir 205PP.....	1200-13	Bearing, variable speed shift fork.....	1200-60
Bearing housing, variable speed shaft.....	1200-14	Fork, variable speed shift.....	1200-61
Switch assembly.....	1200-15	Nut, jam shift adjusting $\frac{1}{2}$ ".....	1200-62
Pulley, variable speed shaft.....	1200-16	Screw, variable speed adjusting.....	1200-63
Washer, $\frac{1}{2}$ ".....	1200-17	Pin, shift fork.....	1200-64
Screw, cap $\frac{1}{2}$ " x 1".....	1200-18	Base, drill press.....	1200-65
Pulley, variable speed driven.....	1200-19	Set screw, colume locking.....	1200-66
Bearing, variable speed shifting, fafnir 9106PP.....	1200-20	Colume drill press.....	1200-67
Pressure cap, bearing.....	1200-21	Rack, table elevating.....	1200-68
Belt, variable speed.....	1200-22	Pin, rack anchor.....	1200-69
Variable speed sheave assembly (DRIVING).....	1200-23	Bolt, hex $\frac{3}{8}$ " x 1".....	1200-70
Spring, variable speed sheave.....	1200-24	Screw, dog point $\frac{1}{2}$ " x $1\frac{1}{4}$ ".....	1200-71
Variable, speed sheave assembly.....	1200-25	Screw, rack collar locking.....	1200-72
Pulley, variable speed.....	1200-26	Table	1200-73
Handle, elevating crank handle.....	1200-27	Nut, jam $\frac{5}{8}$ ".....	1200-74
Head locking sleeve, plain.....	1200-28	Stud bolt, table locking.....	1200-75
Head locking sleeve, thread.....	1200-29	Handle, table locking.....	1200-76
Base, motor.....	1200-30	Spacer	1200-77
Shaft, motor base support.....	1200-31	Sleeve, table locking.....	1200-78
Screw, motor base shaft.....	1200-32	Shaft, elevating gear.....	1200-79
Rack, table elevating.....	1200-33	Gear, elevating rack.....	1200-80
Collar, elevating rack.....	1200-34	Worm gear, elevating.....	1200-81
Thrust bearing, table.....	1200-35	Worm shaft, elevating.....	1200-82
Collar, thrust bearing support.....	1200-36	Pin, crank handle.....	1200-83
Set screw, thrust collar support.....	1200-37	* Bearing, thrust, 605 NICE <i>1064001</i>	1200-84
Hub, turret handle.....	1200-38	Crankhandle, elevating.....	1200-85
Bar, turret handle.....	1200-39	Housing, elevating gear box, right.....	1200-86
Plastic knob, turret handle.....	1200-40	Housing, elevating gear box, left (NOT PICTURED).....	1200-87
Pinion shaft, quill.....	1200-41	Table Bracket—Table Model—(NOT PICTURED).....	1200-88
Stop, depth gauge.....	1200-42	Table 4 Gang—Table Model—(NOT PICTURED).....	1200-89
Scale, depth gauge.....	1200-43	Table 3 Gang—Table Model—(NOT PICTURED).....	1200-90
Stop rod, depth gauge.....	1200-44	Table 2 Gang—Table Model—(NOT PICTURED).....	1200-91
Knob, depth adjusting.....	1200-45	Table 1 Gang—Table Model—(NOT PICTURED).....	1200-92
Motor	1200-46		

1200-20" POWER FEED ASSEMBLY

1200-101	Knob, Feed Adjusting
1200-102	Shaft, Feed Adjusting
1200-103	Indicator, Feed Adjusting
1200-104	Mounting Bracket, Feed Adjusting
1200-105	Nut, Feed Adjusting Stop
1200-106	Bearing Cap, Variable Speed Driven Sheave
1200-107	Thrust bearing, Variable Speed Driven Sheave #77R10
1200-108	Slide Casting, Variable Speed Sheave
1200-109	Rigid Casting, Variable Speed Sheave
1200-110	Shaft, Variable Speed Driven
1200-111	Bearing, Variable Speed Driven Shaft, #77R10
1200-112	Lock Spacer, Shaft Bearing
1200-113	Belt, Variable Speed
1200-114	Sheave, Variable Speed Casting
1200-115	Sheave, Sliding Casting
1200-116	Pin, Variable Speed Sheave
1200-117	Spring, Variable Speed Load
1200-118	Washer, Variable Speed Retaining
1200-119	Cap Screw, Retaining Washer
1200-120	Bearing, Variable Speed Drive Shaft, #77R10
1200-121	Bearing Housing, Variable Speed Drive Shaft
1200-122	Shaft, Variable Speed Drive
1200-123	Sheave, Variable Speed Drive
1200-124	Support Bracket, Power Feed
1200-125	Belt, Compound Drive
1200-126	Bearing, Power Feed Drive Shaft, #77R10
1200-127	Sheave, Lower Power Feed Drive
1200-128	Shaft, Power Feed Drive
1200-129	Sheave, Upper Power Feed Drive
1200-130	Bearing Housing, Power Feed Drive
1200-131	Bearing, Lower Compound Drive, #77R10
1200-132	Sheave & Spur Gear, Lower Compound
1200-133	Arm, Belt Tightening
1200-134	Bracket, Belt Tightening Arm
1200-135	Bolt, Tension Arm Stop
1200-136	Spring, Belt Tension
1200-137	Wheel, Idler
1200-138	Pin, Idler Wheel
1200-139	Belt, Worm Drive
1200-140	Shaft, Worm Gear
1200-141	Sheave, Worm Gear Drive
1200-142	Bearing, Worm Gear, #77R10
1200-143	Bearing Housing, Worm Gear
1200-144	Block, Trip Mount
1200-145	Latch, Power Feed
1200-146	Housing, Worm Gear
1200-147	Gear, Worm
1200-148	Trip, Power Feed
1200-149	Pin, Trip
1200-150	Spring, Trip
1200-151	Bracket, Trip Mounting
1200-152	Bracket, Worm Gear
1200-153	Bracket, Power Feed Mounting
1200-154	Bracket, Variable Speed Mounting
1200-155	Gear, Power Feed
1200-156	Shaft, Lower Compound
1200-157	Shaft Pinion, Worm Gear
1200-160	Variable Speed Drive Sheave Complete
1200-161	Variable Speed Driven Sheave Complete