

# **OPERATING INSTRUCTIONS AND PARTS LIST**

**Model 10 Hollow Chisel Mortiser**



**For Serial Numbers From 2100 Up**



**POWERMATIC MACHINE COMPANY**

**McMinnville, Tennessee**

### I. MACHINE DESCRIPTION AND SPECIFICATIONS

**FRAME:** Heavy, re-inforced castings, designed to make machine rigid and eliminate vibration.

**TABLE:** The table is a compound Rack and Pinion table, 6" x 36" with a 4" back fence. Tilts 45° either right or left. In addition to operating in and out as well as vertical, it also has a rack and pinion feed which enables the operator to make a series of mortises in alignment, without unclamping stock. The work is held in place with a quick acting adjustable eccentric clamp. Table has a vertical adjustment of 22", operated by handwheel on front of machine.

**FOOT LEVER AND STROKE:** The stroke of the bit is operated by the foot lever. Maximum stroke is 4", which is also the depth of the deepest mortise. The foot lever linkage is so arranged that it may be changed for shortening the stroke. Shortening the stroke gives greater leverage and so adapts the machine for heavier work without exerting an excessive strain on the operator.

**BITS:** The machine is recommended for any size chisel up to 3/4" in soft woods. Boring bit 9" over-all is used, with a twist of 6". Shank may be any size diameter up to and including 1/2".

**MOTOR:** The Mortiser can be equipped with either single 110/220 volt 60 cycle, or 3 phase 220 or 440 volt 60 cycle motors. Sizes 1 HP for light and medium work and 1 1/2 HP for heavy duty mortising and boring recommended. Motor spindles operate in high speed ball bearings and are built for years of trouble free service. Motors are operated with an "across the line" switch mounted on front of machine.

**CAPACITY:**

Vertical adjustment of table	22"
Lateral travel of table	4"
Longitudinal travel of table	12"
Max. distance between chisel and table top	22"
Max. distance, center of chisel to back stop	4"
Maximum width of stock acceptable	14"
Adjustment of depth stop	4"
Depth of bore	4"

## 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.

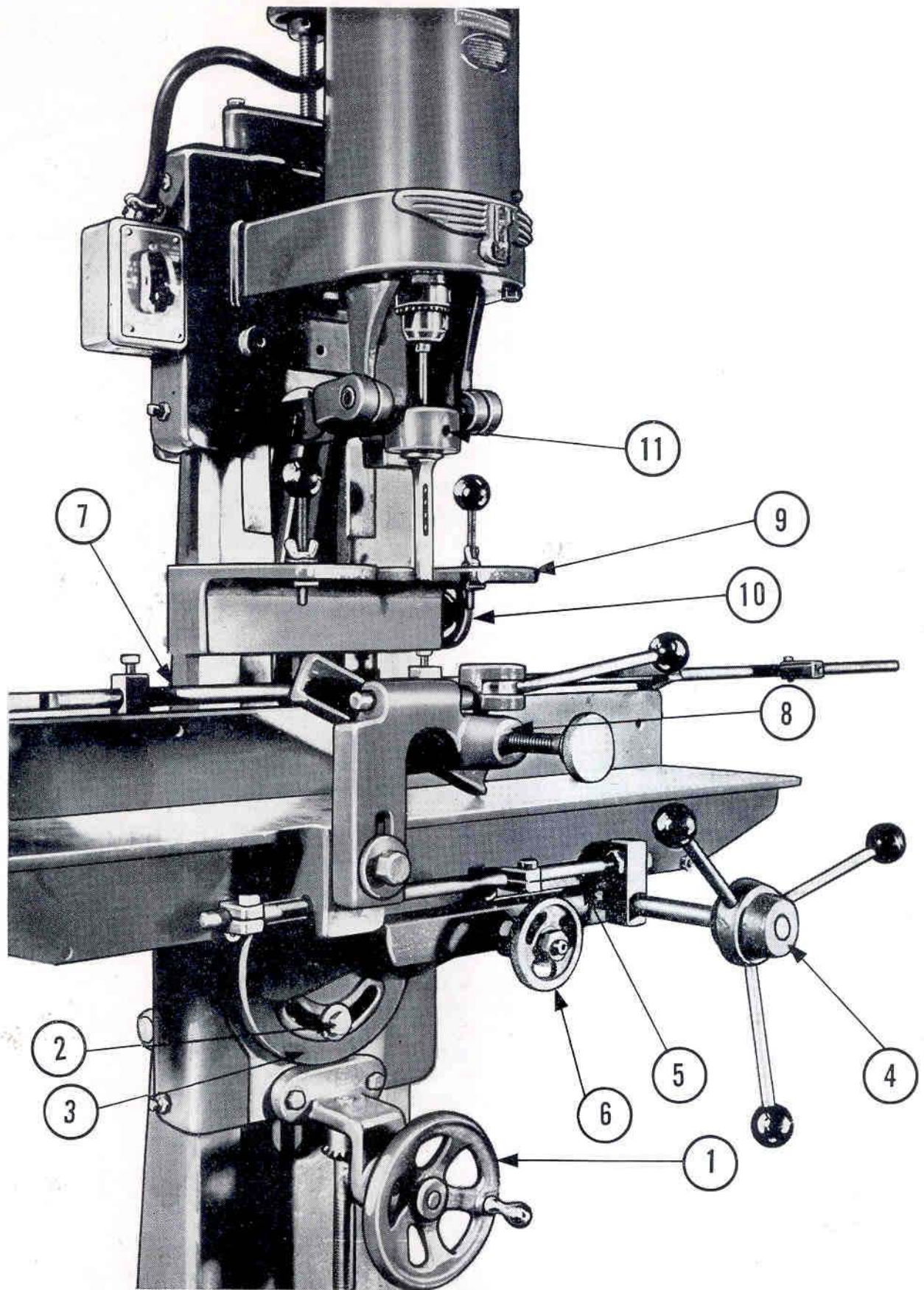


Figure 1

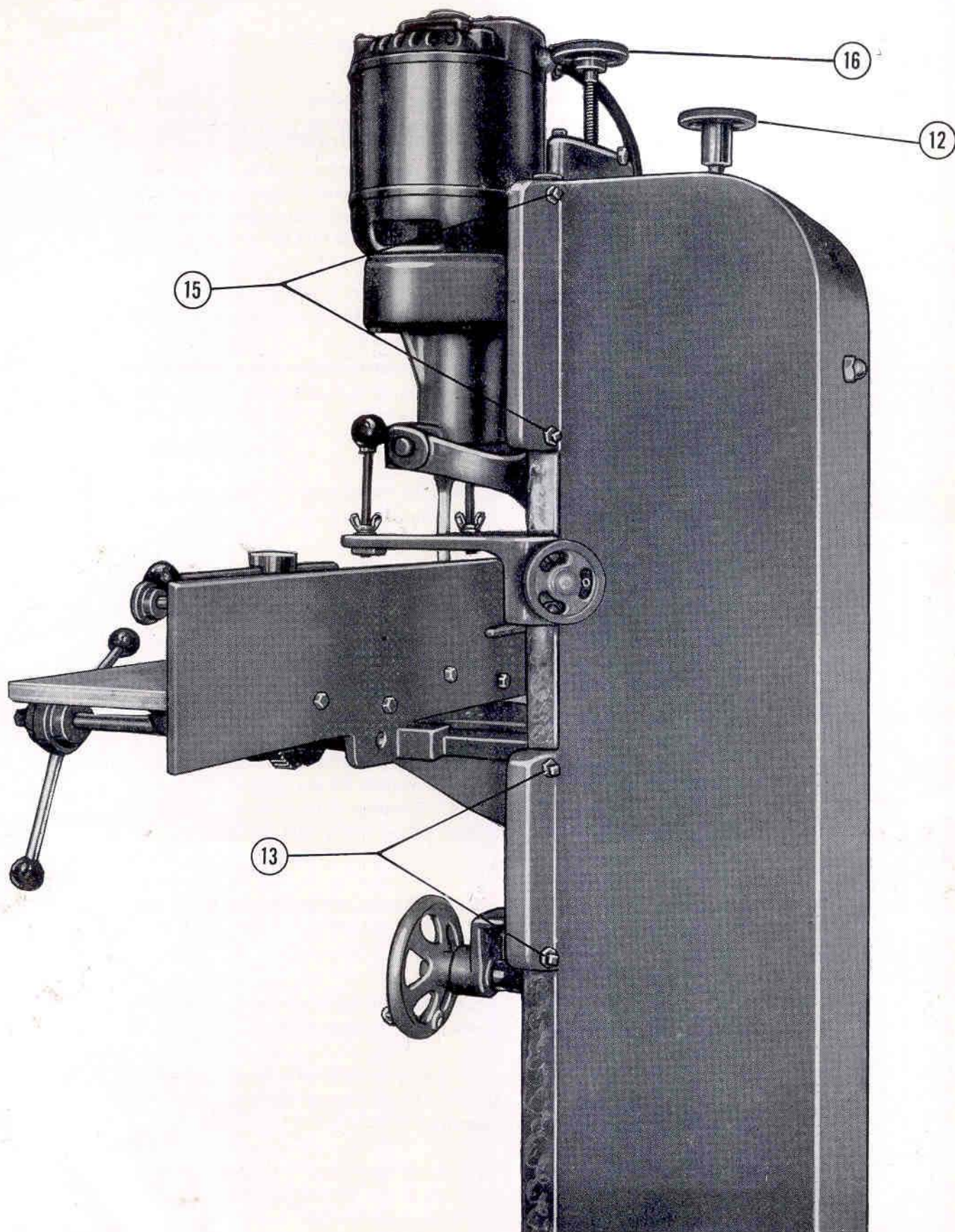


Figure 2

**OPERATING ADJUSTMENTS**

- TABLE:** The table is raised and lowered with handwheel (1) mounted under the table on front of machine. Table can be tilted 45° to the right or left for angle mortising. To tilt table, loosen locking bolt (2) and set to right angle with gauge (3), then tighten locking bolt (2). Longitudinal travel is operated with turret handle (4) and is regulated from 0" to 12" with stop rod (5). The cross adjustment, which regulates the center of the mortise to the back fence, is adjusted with hand wheel (6).
- STOCK STOP:** Stock length stops adjustment for uniform mortising is done with stop rod and spring stops (7), by setting spring stops for any given length.
- STOCK CLAMP:** Stock Clamp (8) is an eccentric type clamp with an adjustable screw for different thickness material. When clamp is adjusted to the right thickness material, the stock can be clamped or removed by the simple action of the clamp handle.
- STOCK HOLDDOWN:** Stock holddown (9) is gibbed to the Mortise column and can be adjusted to any height with holddown handwheel (10).
- CHISEL AND BIT ADJUSTMENTS:** The Hollow Chisel is held in Mortise head with set screw (11) which clamps against hollow chisel bushing. Bit is held with gear type self centering chuck, mounted direct on motor shaft. Before inserting bit in chuck, the bit should be checked for burrs or loose particals that might keep bit from centering properly. The end of the bit should be set approximately 1/16" below the end of the chisel to give chip clearance and eliminate any friction between chisel and bit.
- FOOT PEDAL SPRING TENSION:** The head is operated with a foot pedal, and tension is applied by a spring mounted in side of the mortiser column. The spring tension is regulated with handwheel (12) on top of the mortiser. The spring tension may be increased by turning to the right and decreased by turning to the left.
- TABLE SLIDE ADJUSTMENT:** Table slides are adjusted with adjusting screws (13) and should have adequate tension to keep the table rigid without restricting movement up and down.
- SLIDING HEAD ADJUSTMENT:** The sliding head operates on machined gibs on the main column, and can be adjusted with screws (15) to compensate for any wear.
- STROKE:** The stroke of the head is 4", but can be adjusted to operate from 0" to 4" with handwheel (16). By turning handwheel clockwise, stroke may be shortened. Counterclockwise will lengthen.
- LUBRICATION:** The slides and gibs should be lubricated every 4 hours of continuous operation. Lubricate with S.A.E. 20 Oil. The foot operating Mechanism should be lubricated every 8 hours of operation.

**POWERMATIC MACHINE COMPANY**

**Model 10 Mortiser**

*State Mortiser Serial Number When Ordering Parts*

PARTS LIST

Part No.	Description	No.	Part No.	Description	No.
400-101	Pedal, Operating	1	400-153	Nut, table shim screw, 5/8"	1
400-102	Pin, Pedal	1	400-154	Hanger, table travel stop rod	1
400-103	Pin, Turnbuckle	3	400-155	Collar, rack pinion shaft	1
400-104	Column, Operating	1	400-156	Rack, table	1
400-105	Pin, Spring anchor	1	400-157	Set screw, Pinion, 7/16" allen	1
400-106	Turnbuckle, Operating rod	4	400-158	Pinion, table travel rack	1
400-107	Jam nut, Turnbuckle	4	400-159	Washer, rack pinion shaft	1
400-108	Operating rod	2	400-160	Slide, compound table	1
400-109	Spring	1	400-161	Set screw, Compound slide, 5/16" x 1 1/2"	3
400-110	Nut, Spring	1	400-162	Nut, compound slide set screw, 1/16"	1
400-111	Pin, tension rod	1	400-163	Shim, compound slide	1
400-112	Thrust bearing, Tension rod	1	400-164	Screw, horizontal adjusting	1
400-113	Head operating fork	1	400-165	Thrust bearing, Horizontal adjusting screw	1
400-114	Tension rod	1	400-166	Handwheel, Horizontal adjusting screw	1
400-115	Handwheel	2	400-167	Set screw, handwheel	1
400-116	Handwheel set-screw	2	400-168	Nut, handwheel lock	1
400-117	Head-stop bracket	1	400-169	Shaft, rack pinion operating	1
400-118	Head-stop adjusting screw	1	400-170	Hub, table operating turret	1
400-119	Stop-bracket cap screws	2	400-171	Handle, turret	3
400-120	Base	1	400-172	Knob, turret handle	3
400-121	Column cap-screw	4	400-173	Set screw, table operating turret knob	1
400-122	Bushing, set-screw	1	400-174	Handwheel, table raising	1
400-123	Chisel bushing	1	400-175	Set screw, table raising handwheel	1
400-124	Head operating pins	2	400-176	Shaft, table raising pinion	1
400-125	Switch mounting-bracket	1	400-177	Gear, table screw miter	1
400-126	Mortiser head	1	400-178	Set screw, table screw miter gear, 3/8" allen	1
400-127	Head, gib shim	1	400-179	Thrust Bearing, table screw	1
400-128	Gib screw jam nut	1	400-180	Screw, table raising	1
400-129	Gib adjusting screw	1	400-181	Nut, table raising screw	1
400-130	Head-stop shock spring	1	400-182	Bracket, table raising screw nut mounting	1
400-131	Spring plunger	1	400-183	Lock Washer, mounting bracket, 7/16"	2
400-132	Chuck	1	400-184	Cap screw, mounting bracket, 7/16" x 1"	2
400-133	Blower fan pin	1	400-185	Knee, table adjusting	1
400-134	Blower fan	1	400-186	Cap screw, table adjusting knee, 3/8" x 1 1/4"	2
400-135	Fence table	1	400-187	Lock washer, table adjusting knee cap screw, 3/8"	2
400-136	Screw, Fence mounting, 3/8" x 3/4"	5	400-188	Indicator, table tilting	1
400-137	Block, stop rod	1	400-189	Screw, table tilting indicator mounting, 1/4" x 1/2"	3
400-138	Set Screw, stop rod block, 1/16" x 1/2"	2	400-190	Scale, table tilting	1
400-139	Rod, Stock stop, 19"	1	400-191	Pin, scale mounting	3
400-140	Rod, Stock, stop, 8"	1	400-192	Cap screw, swivel mounting, 3/4" x 1 1/2"	1
400-141	Bracelet, stock stop mounting	1	400-193	Cap screw, swivel lock, 1/2" x 1 1/2"	1
400-142	Set Screw, Stock stop bracelet, 5/16" x 3/4"	1	400-194	Lock washer, swivel lock cap screw, 1/2"	1
400-143	Cap Screw, stock stop bracelet mounting, 5/16" x 1 1/4"	2	400-195	Swivel, table	1
400-144	Stop, table travel	2	400-196	Slide, table height adjusting	1
400-145	Rod, table travel stop	1	400-197	Set screw, table height adjusting slide, 3/8" x 1 1/4"	2
400-146	Shim, table	1	400-198	Cap screw, table height adjusting shim, 5/16" x 7/8"	2
400-147	Nut, table travel stop rod, 1/2"	2	400-199	Shim, table height adjusting	1
400-148	Table	1	400-200	Knob, eccentric clamp handle	1
400-149	Cover, table (Wood)	1	400-201	Handle, eccentric clamp	1
400-150	Screw, table cover, 1/4" x 1" Flat Head	2			
400-151	Screw, Rack, 1/4" x 1/2"	2			
400-152	Screw, Table shim, 5/16" x 7/8"	1			

Part No.	Description	No.
400-202	Screw, eccentric clamp handle	1
400-203	Cam, eccentric	1
400-204	Guide, eccentric clamp cam	1
400-205	Set screw, stock clamp bar	1
400-206	Bar, stock clamp	1
400-207	Bracket, eccentric clamp mounting	1
400-208	Screw, eccentric clamp adjusting	1
400-209	Set screw, handwheel, 5/16" allen	1
400-210	Handwheel, eccentric clamp adjusting screw	1

Part No.	Description	No.
400-211	Nut, screw adjusting	1
400-212	Washer, bracket mounting screw, 5/8"	1
400-213	Cap screw, bracket mounting, 5/8" x 2"	1
400-214	Holddown bracket	1
400-215	Cap screws, holddown bracket	2
400-216	Bracket bars	2
400-217	Set screws, bracket bars	2
400-218	Holddown fingers	2
400-219	Set screws, holddown fingers	2

