

## INSTALLATION AND SETUP INSTRUCTIONS

Ref.: Dwg. 21888-01

### INSTALLATION

#### ASSEMBLY

Holomatic units are shipped from the factory assembled except for motors, motor pulleys and belts. Motors should be mounted to the belt housings and the pulleys to the motor shafts in that order. Care in aligning pulleys and adjusting motor positions for proper belt tension will assure maximum life of belts and motor and drive bearings.

#### MOUNTING

Holomatic units have a standardized and interchangeable mounting design that incorporates side flanges for clamping strips, screw holes for fixed position mounting and a central one-inch wide key on the bottom for alignment purposes. The use of a matching keyway in the machine base or in an adapter plate secured to the machine base simplifies initial alignment and subsequent service efforts.

#### ELECTRIC POWER INPUT

Spindle drive motors operate on three phase, 50 or 60 Hertz, 230 or 460 volts electricity depending on the user's requirements. Motor nameplates should always be checked for motor characteristics before hookup.

#### REMOTE CYCLE AND INTERLOCK CONTROLS

A lead screw control panel, Bul. 21913-01, is connected to the switch box control assembly on the unit as shown, to command the tapping motion sequence. A reversing controller and a plug stop are included for the spindle motor. 110 Volt, 60 Hertz, single phase current is standard for the control circuit.

#### LUBRICATION

Spindles, drive and motors incorporate sealed-for-life type ball bearing assemblies and no further lubrication is required. Lead screw and nut should be lubricated daily as indicated on the unit. (Use MOBIL DTE #24 or EQUIN)

REFER TO BUL. 21873-00 FOR LEAD SCREW AND NUT CHANGE INSTRUCTIONS.

#### SETUP PROCEDURE

(Tapping and threading with solid tools)

The spindle motor power should be off.

The lead screw should be at a "stand out" position of  $\frac{3}{8}$ " minimum as shown.

Secure the Holomatic unit at approximate desired distance from work.

Manually rotate spindle forward to the desired depth of thread. Set advance depth adjustment knob to de-actuate depth switch at this point.

Manually rotate spindle in reverse to the desired retract position. Set retract position adjustment knob to actuate retract position switch at this point.

With the control panel connected according to the diagram and the motor drive belt removed, depress the cycle button. The motor should start and run in the direction to advance the spindle.

When the spindle is manually rotated forward to the set depth, the motor should reverse.

When the spindle is manually rotated in reverse to the desired retract position, the motor should "plug stop."

Notice which way the motor coasts after the plug stop action. If forward, decrease the setting on the time delay relay in the control panel. If the motor coasts in reverse, increase the setting. A minimum rolling stop is desired.

The unit should now be ready to operate with spindle power. Final adjustments, if required, can be made with tools in place.

#### SAFETY FEATURES

If a "no hole" condition occurs in tapping or an obstruction to forward motion of the lead screw feed is encountered during normal operation, the motor will automatically reverse and return the spindle to the normal retract position. This automatic action interrupts the cycle and usually avoids tool breakage and other damage.

The proper functioning of this automatic emergency retract circuit can be verified by blocking the forward motion of the spindle.

If the spindle motor fails to reverse or stop due to a switch malfunction or a power failure, the lead screw may run out of the nut either forward or back with no damage.

If lead screw and nut are dis-engaged, disconnect the spindle motor power first, then re-engage the nut and screw manually by urging them together as the spindle is rotated, thereby avoiding damage to the end threads.

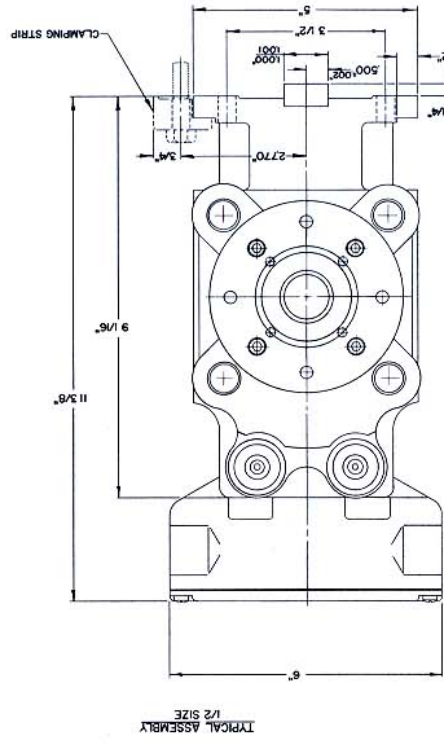
Re-connect the spindle motor and cycle with caution. If a power interruption was not apparent, inspect the depth switch and the retract position switch.

Refer to Hause machining computer for suggested spindle speeds in various materials.

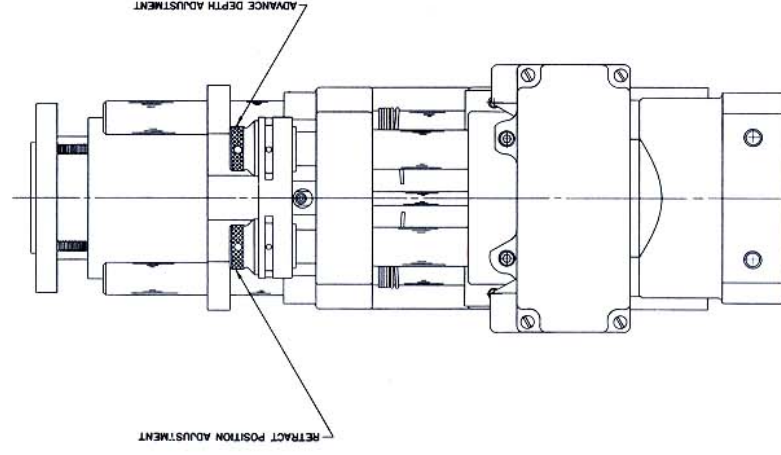
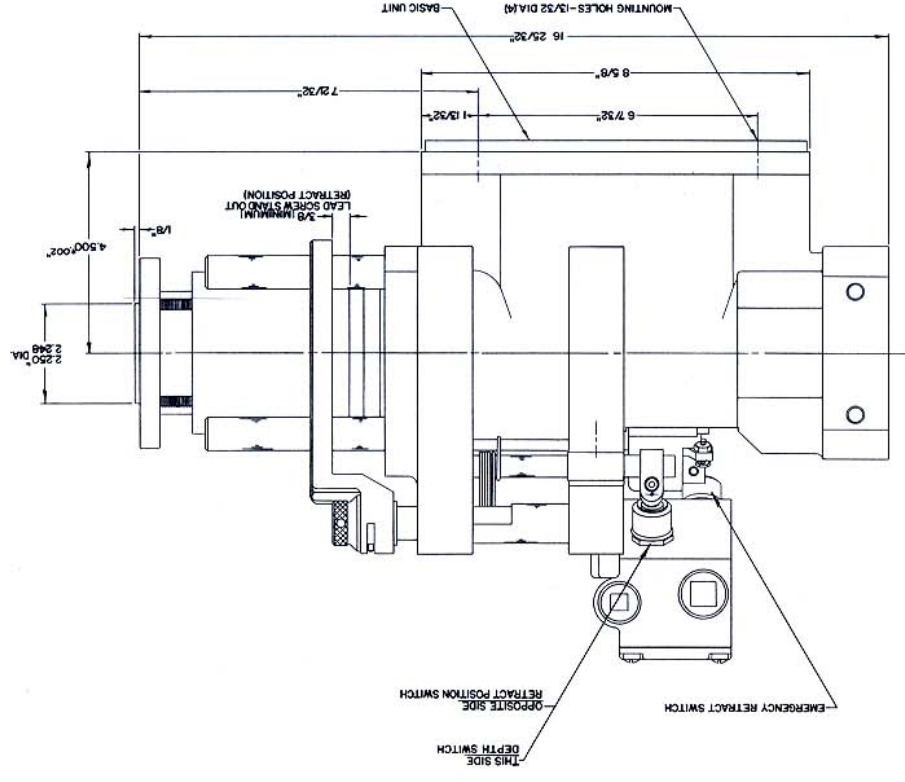
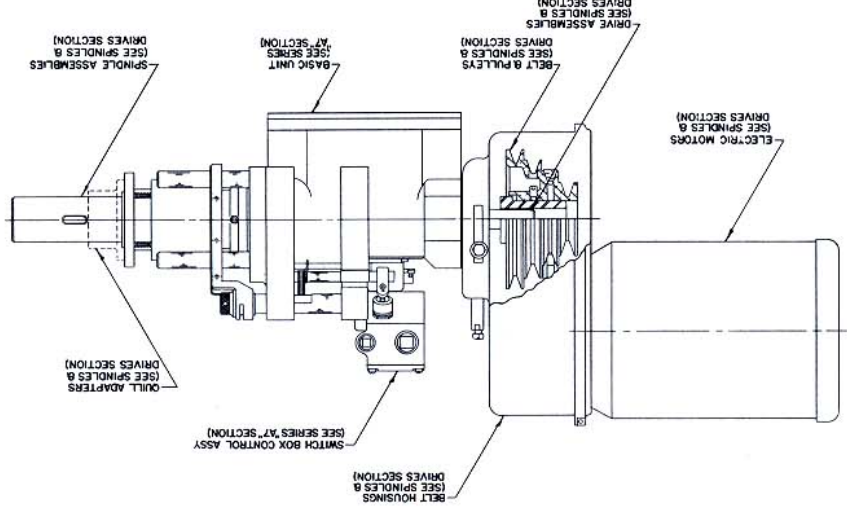
For basic unit sub-assembly descriptions, refer to Bul. 21878-01.

For maintenance information, refer to individual sub-assembly bulletins.

21888-01  
REV. 11-69  
SERIES 77 HOLOMATIC  
2 LEAD SCREW  
HAUSE MACHINES INC.  
MONTREAL, Q.B.C.  
CANADA



TYPICAL ASSEMBLY  
1/2 SIZE



**ENGINEERING DATA**

Series A7, Model 7204 Lead Screw Feed Holomatic Unit  
Screw Feed only — 2" maximum

**SPECIFICATIONS**  
Ref.: Dwg. 21888-01

**GENERAL**

A Model 7204 Holomatic unit ready for operation consists of the following elements, chosen to provide suitable physical and operational characteristics.

**BASIC UNIT** — Lead screw feed assembly in housing and switch control elements. Ref.: Bul. No. 21878-01

**ACCESSORY**

**DESCRIPTION**

**Spindle and Spline Tube Assembly** Sockets for 1 3/8" and 1 1/2" dia. tool shanks and standard slotted spindle.  
Ref.: spindles and drives section

**Quill Adapters** Non-rotating clamp-on type and flange adapters for multiple spindle heads.  
Ref.: spindles and drives section

**Drive Assemblies** Direct, belted or belted reductions.  
Ref.: spindles and drives section

**Belt Housings** Supported by the unit and mount NEMA flange and foot frame motors, either extended or overhead.  
Ref.: spindles and drives section

**Motors (Reversing Type)** NEMA flange and foot frame motors in 1/2, 3/4, 1, 1 1/2, 2, 3, and 5 HP with 900, 1200, 1800 and 3600 RPM speeds for use with 3 phase, 60 Hertz, 230/460 volt current for spindle rotation.  
Ref.: spindles and drives section

**Pulleys and Belts** Step vee pulleys and belts with and without gear reductions provide combinations for all spindle speed requirements.  
Ref.: spindles and drives section

Speed and Horsepower Table.

Ref.: Bul. 21606-0

**Control Panel** Includes spindle motor reversing controller, plug stop and relays to monitor the tapping motion sequence in correspondence with the switch settings.  
Ref.: controls section

**Capacity**

Taps and threads 48 to 7 straight threads per inch and 1 1/2 taper pipe threads per inch.

**Stroke**

1/8" to 2" maximum, lead screw feed only.

**Stroke Control**

Positive screw action. Feed per revolution results from turning lead screw attached to spindle thru a stationary nut. Spindle is advanced and retracted by drive motor turning forward and reverse. When recommended electric power and cycle system is used, motor is started by energizing cycle circuit, reversed by a built-in stroke end limit switch, and plugged to a stop by a built-in retract position limit switch thru an electric motor reversing relay.

**Feed Rate**

Selective by interchanging lead screws and nuts. Standard pitches are 7, 8, 9, 10, 11, 1 1/2, 12, 13, 14, 16, 18, 20, 24, 27, 28, 32, 36, 40 and 48—all right hand. Left hand and metric available.

**Depth Repeatability**

1/8 revolution of spindle at 1000 R.P.M.

**Thrust Overload Safety**

Built-in safety limit switch causes spindle reversal if forward motion is obstructed.

**Mounting**

Unlimited, mount in any position at any angle.

**Weight**

Average, less spindle motor, 40 lbs.

**PROCEDURE TO CONFIRM PROPER SWITCH & CAM BAR ADJUSTMENTS**

As viewed from the front of the unit—

Advance cam bar should be assembled with stop pin in the cam bar knob in line with the straight side of the spiral groove in the cam bar.

Retract cam bar should be assembled with stop pin in the cam bar knob one hex notch counterclockwise from the straight side of the spiral groove in the cam bar.

Set the advance depth knob counterclockwise as far as it will go (for maximum depth) and the retract position knob clockwise as far as it will go.

When the unit is cycled, the spindle should travel out 2 1/2" including 3/8" stand-off, then reverse and stop at the 3/8" position. The switch levers can be adjusted to obtain this condition.