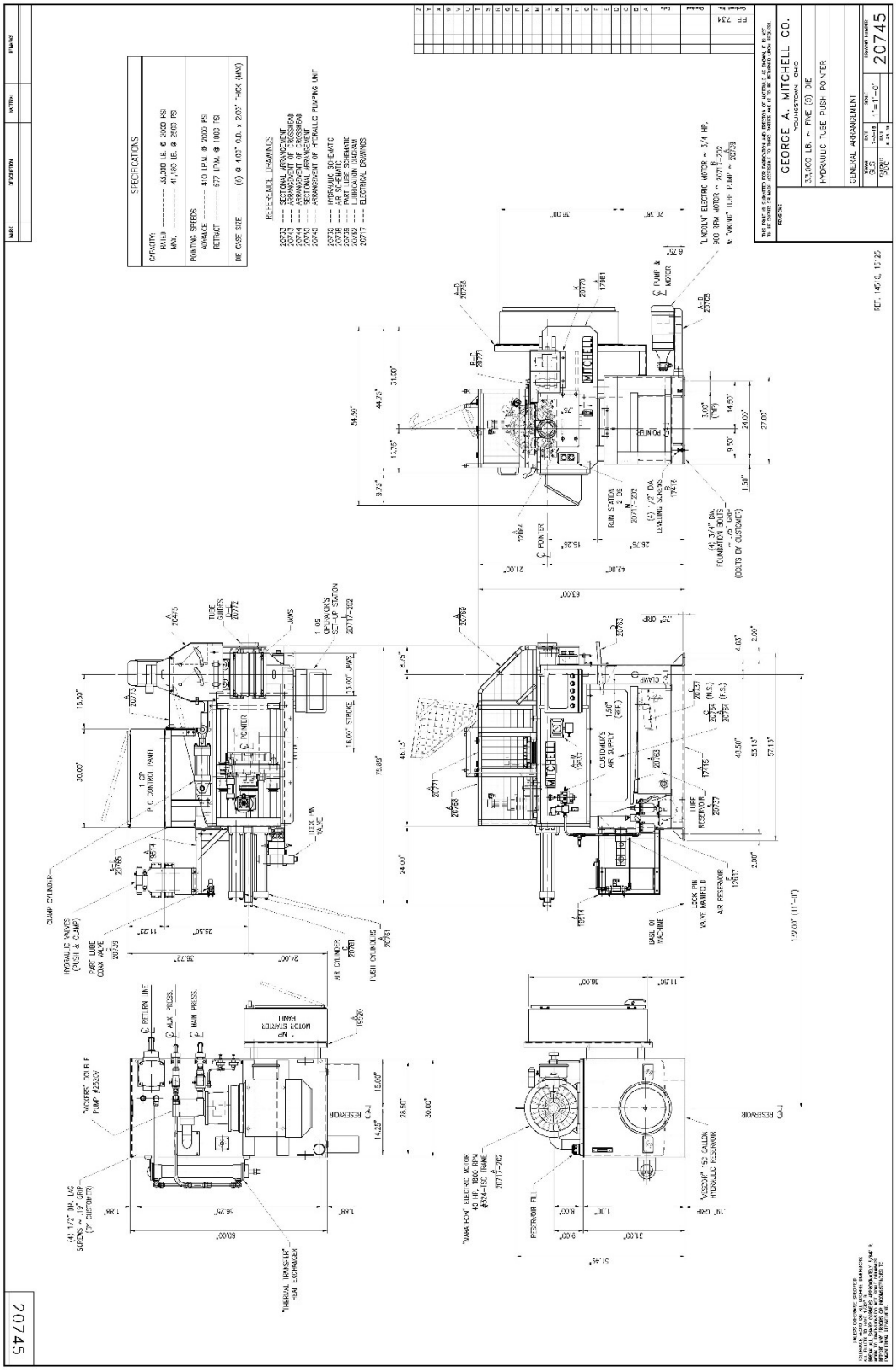
2.1 GENERAL ARRANGEMENT – DRAWING 20745



3 MACHINE SPECIFICATIONS

3.1 PUSH POINTER SPECIFICATIONS

GENERAL	
Material	Hard Drawn & Light Annealed Copper Tubes
Tube Size Range	2.75" O.D. & Smaller
Normal Percentage of Diametral Reduction of Tube	Reduction Per Die Up to 15% for Soft and Up to 20% (25% Max.) for Hard Depending Upon Column Strength of Tube and Pushing Force Required
Rated Pointing Force (Lbs.)	33,000 Lbs. @ 1989 PSI
Maximum Pointing Force	41,480 Lbs. @ 2500 PSI
Pointing Speeds:	
Die Crosshead Advance Speed (IPM)	410 IPM @ 2000 PSI
Die Crosshead Retract Speed (IPM)	577 IPM @ 1000 PSI
Automatic Cycle	One (1), Two (2), Three (3), Four (4) or Five (5) Push
Pointing Dies	4.000" O.D. x 2.000" Thick
Die Holder	Circular Indexing Head with Five (5) 4.020" Diameter x 2.030" Deep U-Shaped Cavities Indexed by Servo Motor
Linear Die Crosshead Positioning	Infinite Balluff Linear Displacement Transducer setting through HMI
Die Index Positioning	Automatic by Servo Drive System
Maximum Travel of Dies	16.00"
Rear Die Stroke Positions	By IFM effector Laser Distance Sensor (Auto Cycle)
Tube Gripper Jaws:	
Two (2) Sided Fixed	2.750" O.D. Tube and Under
Four (4) Sided Fixed	2.375" O.D. Tube and Under
Six (6) Sided Rotary	1.625" O.D. Tube and Under
Eight (8) Sided Rotary	1.125" O.D. Tube and Under
Length of Gripper Jaws	13" Lg
Maximum Opening Between Gripper Jaws	2-1/2"
Clamping Mechanism	Hydraulic Cylinder and Double Toggle
Machine Centerline (Inches)	42.00"
Method of Applying Grease to Machine Lubrication Points	Manual by Operator with Grease Gun
HYDRAULIC SYSTEM	
Main Hydraulic Pump (Push and Clamp)	Vickers Vane Type – Approximately 29 GPM @ 2000 PSI @ 1800 RPM
Auxiliary Hydraulic Pump (Die Locking Pin)	Vickers Vane Type – Approximately 8 GPM @ 1000 PSI @ 1800 RPM
Hydraulic Reservoir	100 U.S. Gallons
Hydraulic Fluid	Petroleum Oil 150-315 SUS @ 100° F
Heat Exchanger	Water / Oil Type w/ Automatic Thermostat (10 GPM Flow Rate Required)

ELECTRIC	
Hydraulic Pump Drive Motor	40 HP, 1800 RPM, 460 Volt, 60 Hz., 3 Ph.,T.E.F.C., 1.15 S.F., C-Face, Frame #364TSC
Main Power Supply	460 Volt, 3 Ph., 60 Hz.
Control Circuit Power	24 Volt DC
Solenoid Power	24 Volt DC
Push Button, Sensor and PLC Input/Output Power	24 Volt DC
Computer Receptacle for Maintenance Power	120 Volt, 60 Hz.
RECIRCULATING LUBE SYSTEM	
Die Lube Reservoir	Approx. 30 Gallons Under Base of Pointer
Lube Pump	"Viking" Adjustable up to 1.0 GPM Output of Lube with Viscosity up to 7500 SUS @ 100° F
Lube Control Valve	COAX (Solenoid Operated)
Lube Pump Drive Motor	0.75 HP, 900 RPM, 460 Volt, 3 Ph., 60 Hz, TEFC
APPROXIMATE DIMENSIONS AND WEIGHTS	
Pointer Dimensions and Weight	80" Long x 55" Wide x 64" High ~ 6,500 Lbs.
Hydraulic Pumping Unit Dimensions and Weight	47" Long x 57" Wide x 52" High ~ 1,600 Lbs.
Die Crosshead Hydraulic Push Cylinders	(2) – 3.25" Bore x 16.00" Stroke ~ 1.75" Diameter Rod
Hydraulic Clamp Cylinder	4.00" Bore x 4.00" Stroke ~ 1.75" Diameter Rod
Air Follower Cylinder	2.00" Bore x 20.00" Stroke ~ 1.38" Diameter Rod
Hydraulic Die Locking Pin Cylinder	1.50" Bore x 1.50" Stroke ~ 0.63" Diameter Rod

3.2 PURCHASE COMPONENT MANUFACTURERS

The following is a list of purchase component brands. Detailed information for each component can be found on the supplied Maintenance Manual CD in PDF format.

40 HP Pump Drive Motor	MARATHON
Motor Starter for 40 HP Pump Drive Motor	Allen Bradley IEC Type in NEMA 12 Enclosure With Fused Disconnect
Programmable Controller	Allen Bradley CompactLogix
Operator Interface	Allen Bradley PanelView Plus 7 Standard
Proximity Limit Switches	Allen Bradley
Pressure Transducers	ProSense
Push Buttons	Allen Bradley
Safety Guard Limit Switch	Allen Bradley
Terminals	Allen Bradley
Electrical Enclosures	Saginaw Control Engineering NEMA 12
Sensor For Auto Start of Pointing Cycle and Rear Die Stroke Positioning Device	IFM efector Laser
Linear Displacement Transducer	Balluff
Air Filter, Lubricator, Regulator	Watts
Air Valve	Numatics, SMC
Air Cylinder	Parker Hannifin
Hydraulic Pumps	Vickers Vane Type
Hydraulic Valves	Vickers
Hydraulic Cylinders	Parker Hannifin
Hydraulic Fluid Filters	Hydac
Heat Exchanger	Thermal Transfer Water/Oil Type
Lubrication Pump	Viking
Lubrication Valves	Nupro, Apollo, COAX

3.3 CYCLE TIMES

The following time intervals given are the approximate times required to produce a 7” long point not including any time handling the part.

One Die Reduction	4 Seconds
Two Die Reduction	8 Seconds
Three Die Reduction	12 Seconds
Four Die Reduction	15 Seconds
Five Die Reduction	19 Seconds