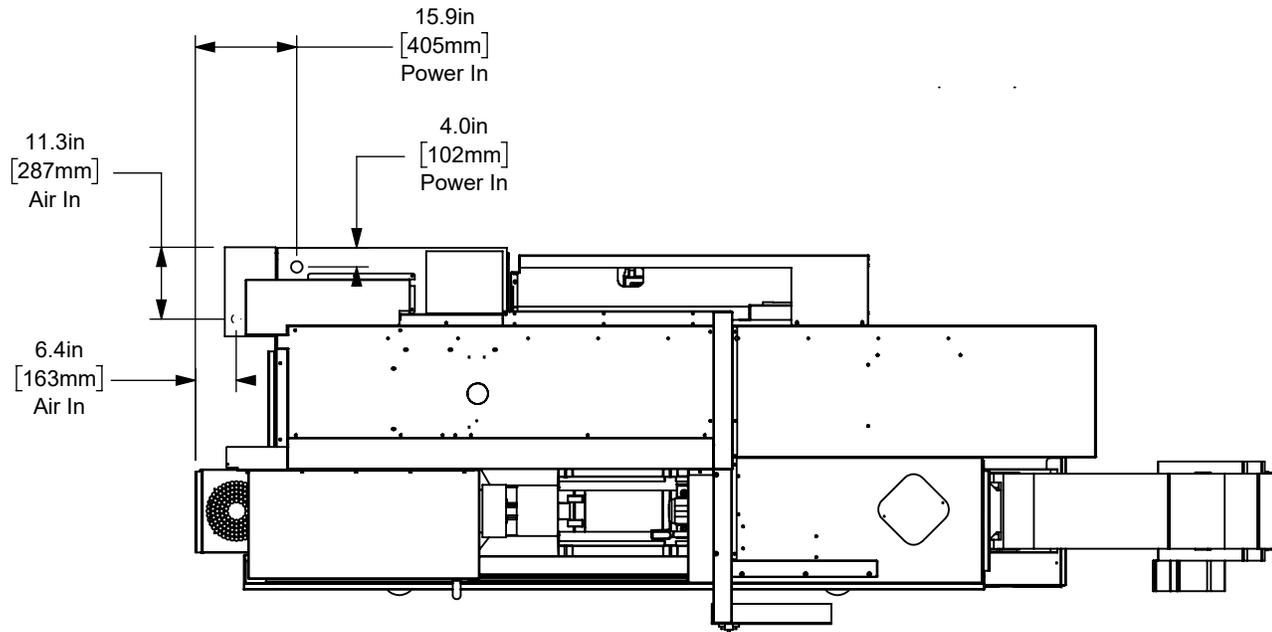
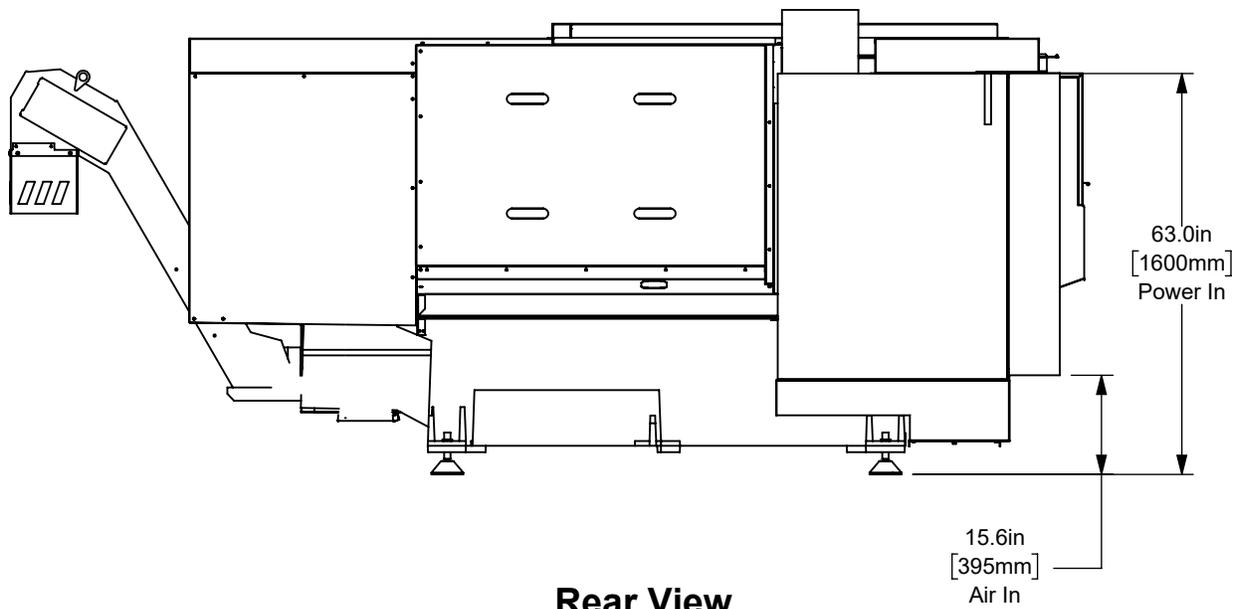


Air & Power

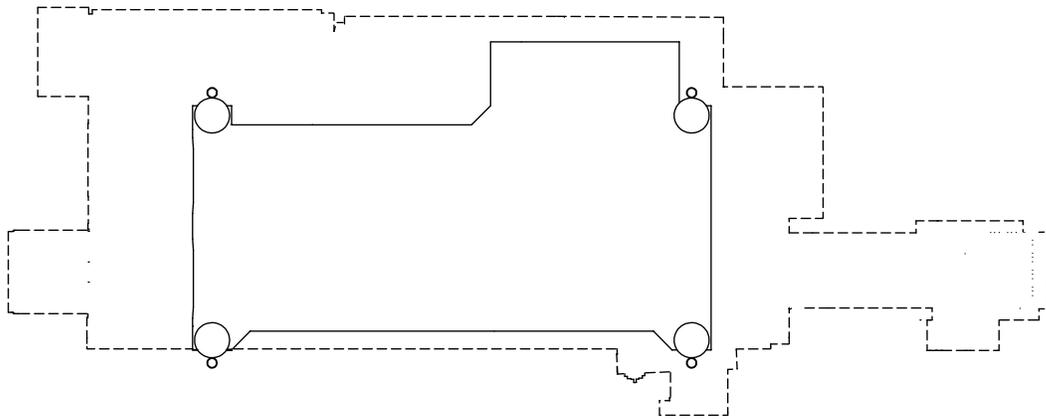


Top View



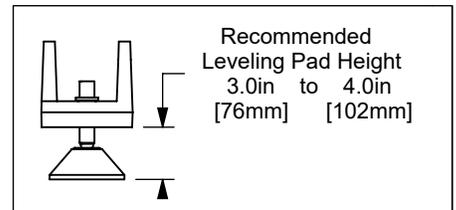
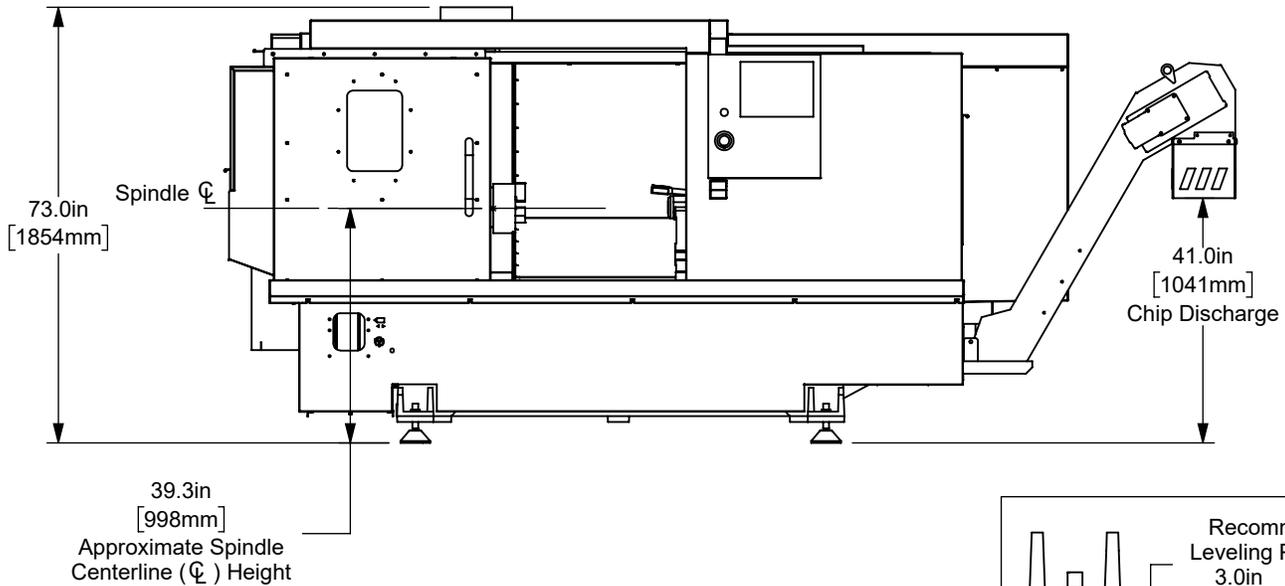
Rear View

All dimensions based on stackup of sheetmetal, subject to variation of 1/2" (13 mm)



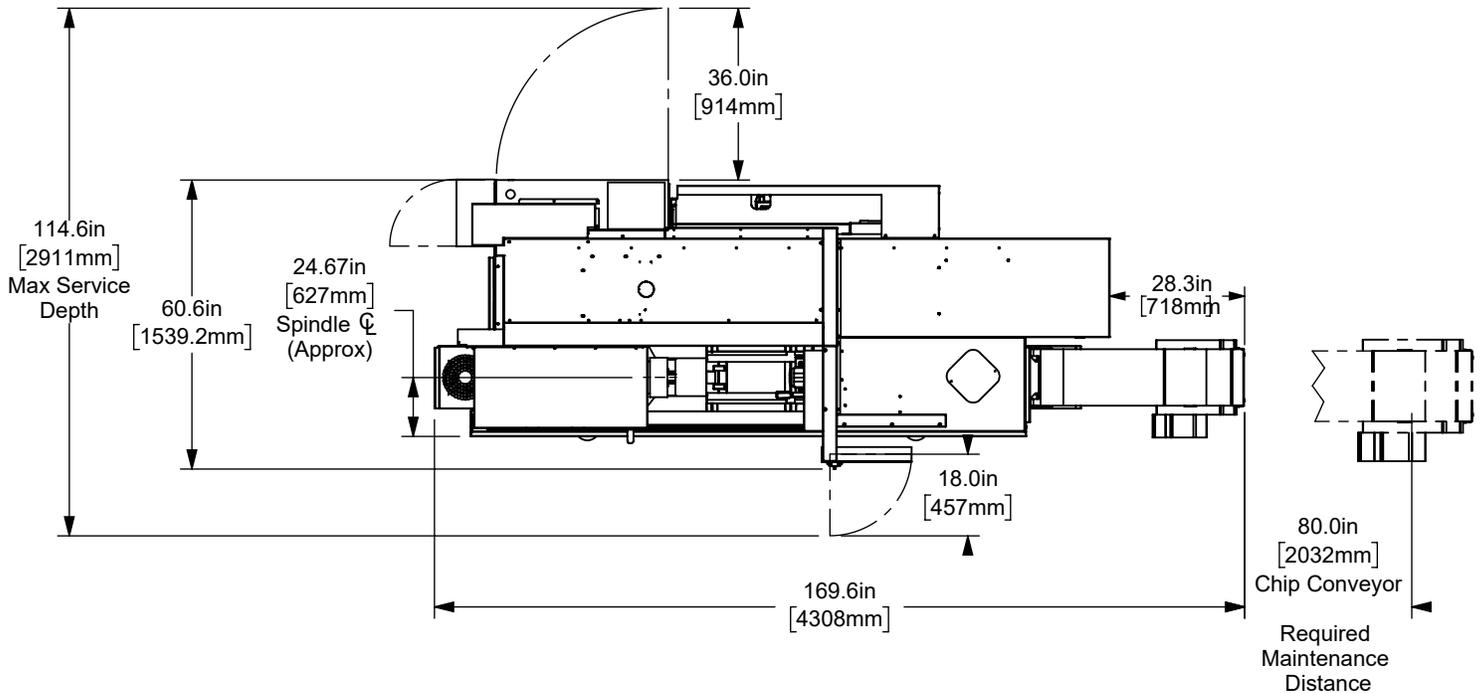
Anchor Pattern Provided with Purchase of Haas Anchoing Kit

Height Breakdown

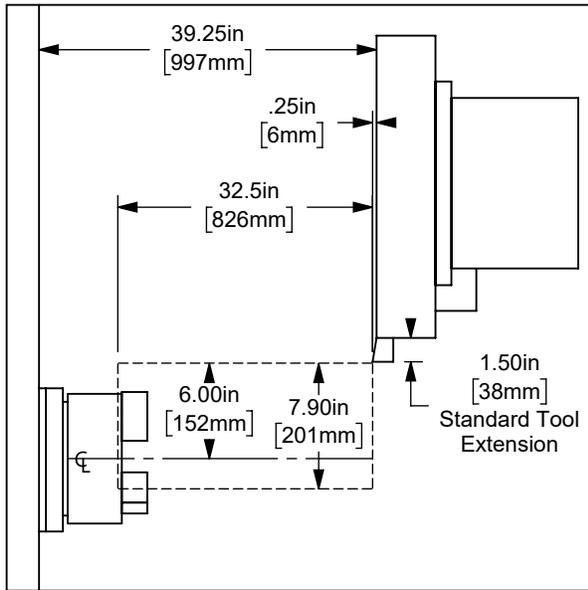


All dimensions based on stackup of sheetmetal, subject to variation of 1/2" (13 mm)

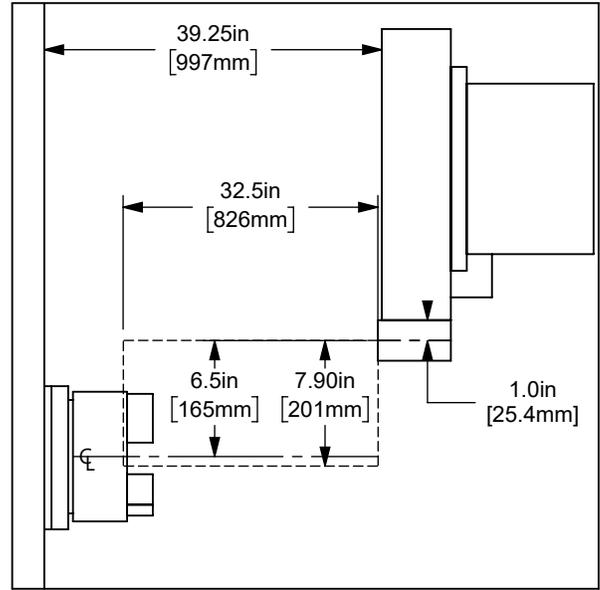
Width Breakdown



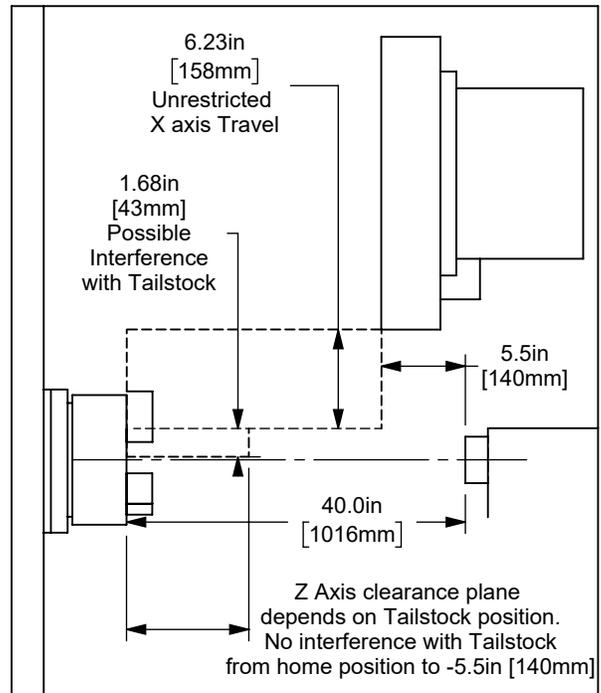
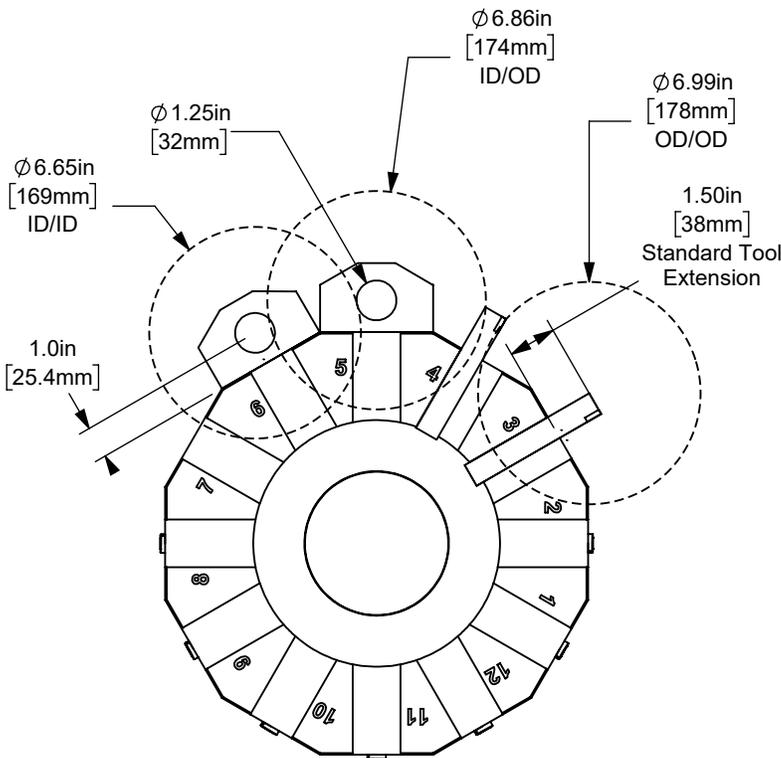
All dimensions based on stackup of sheetmetal, subject to variation of 1/2" (13 mm)



BOT OD*



BOT ID / Drill / Bore **

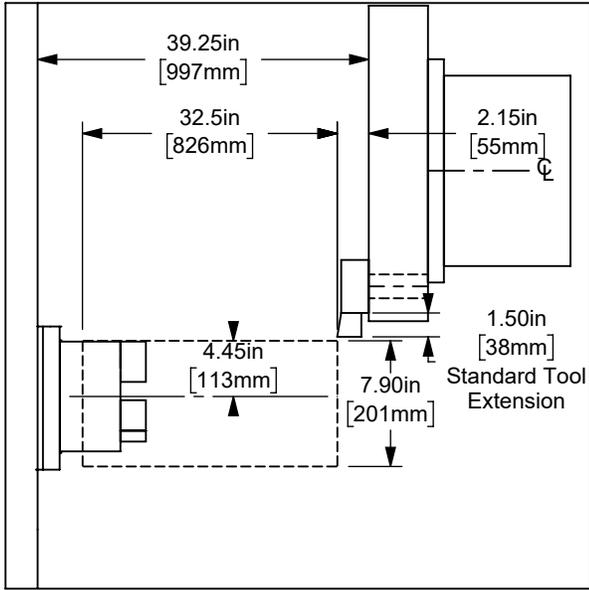


Tailstock

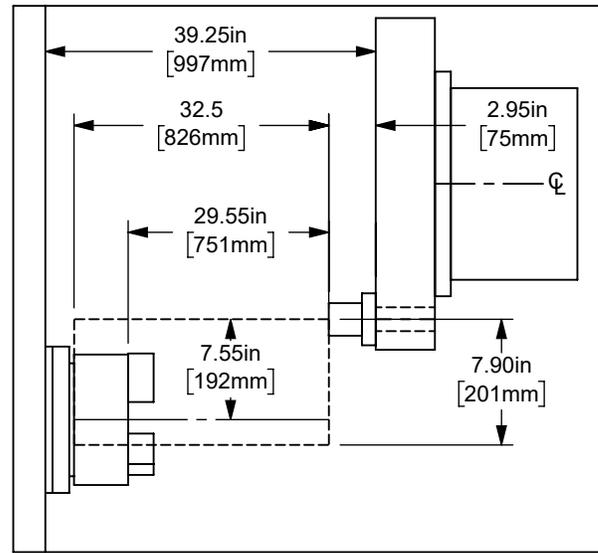
* Shift the work envelope in X by the tool protrusion length

** Shift the work envelope in Z by the tool protrusion length

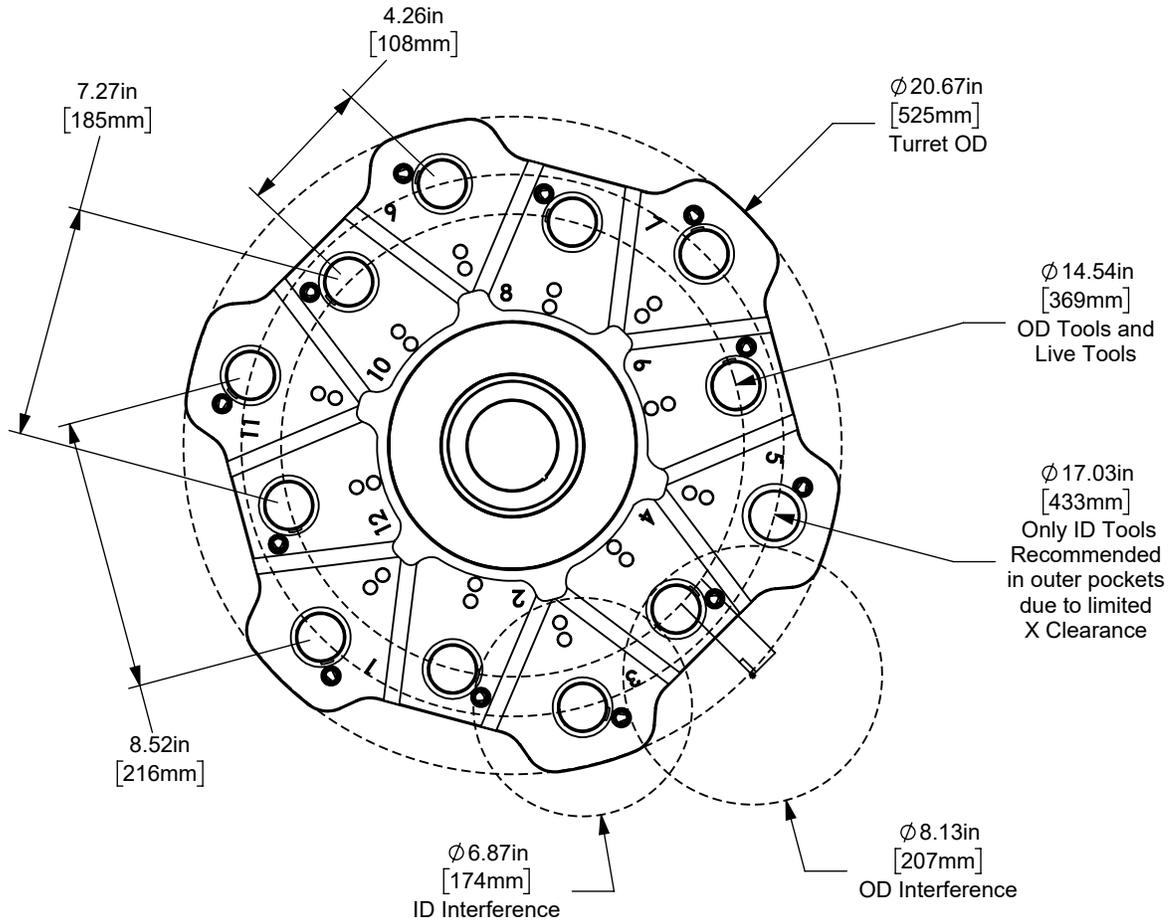
Note - **Sub Spindle not compatible with BOT Turret**



VDI OD
Short Holder
Even # Pockets (Inner Circle)

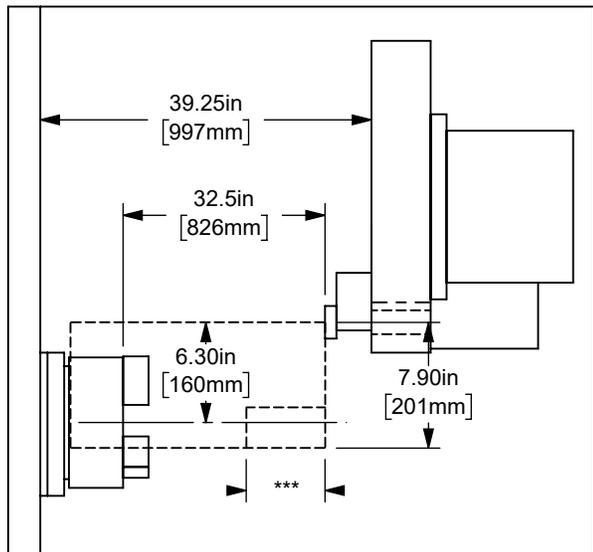


VDI ID
Odd # Pockets (Outer Circle)

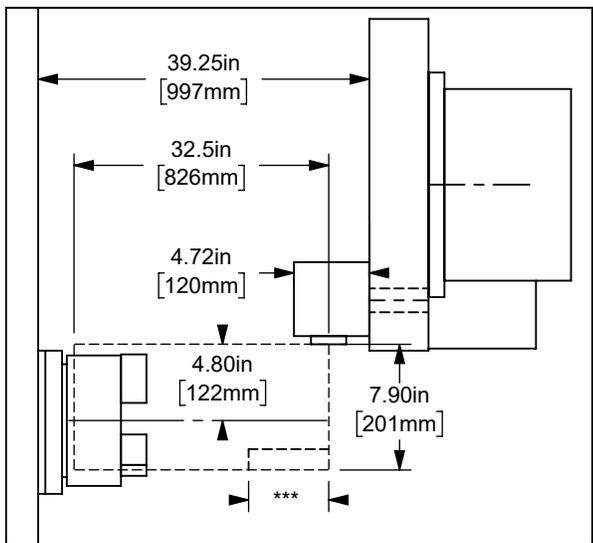


Note

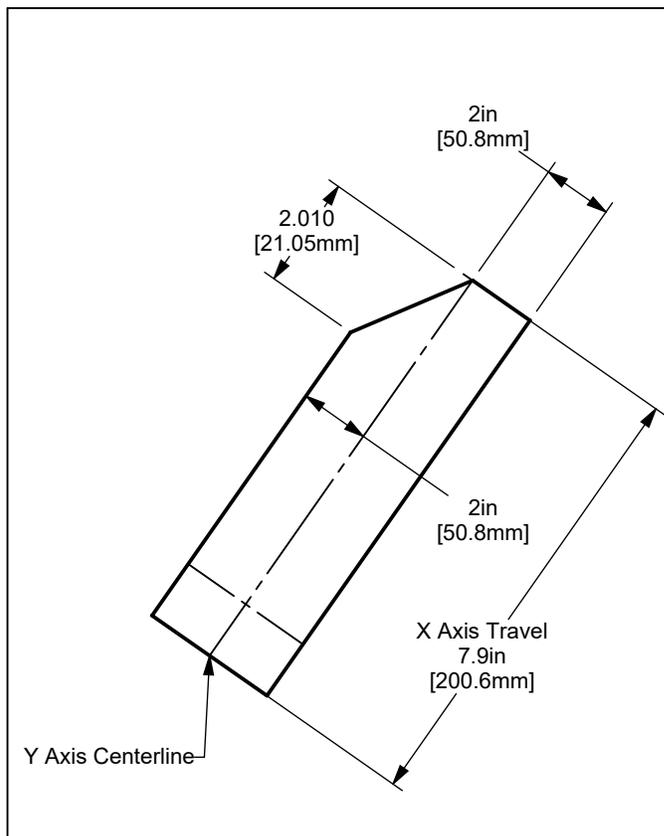
1. Live tools (optional) **must** be installed on the inner pockets
2. If live tooling is not needed, the BOT turret offers a larger turning diameter
3. ID Tools such as drills or boring bars are recommended on the outer pockets, but may be placed in any pocket
4. Outside turning tool holders are only recommended on the **inner** ring of pockets (due to limited X Axis clearance if installed on the outer pockets)



Axial Live Tool (Inner Pocket) */**



Radial Live Tool (Inner Pocket) */**

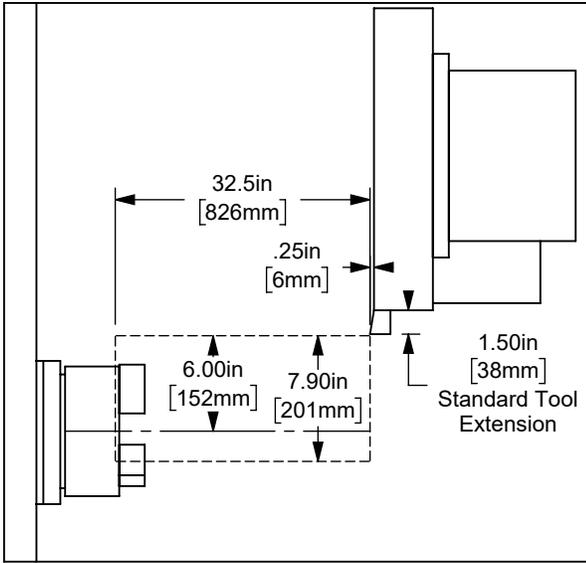


Y Axis Envelope
Machine Travel

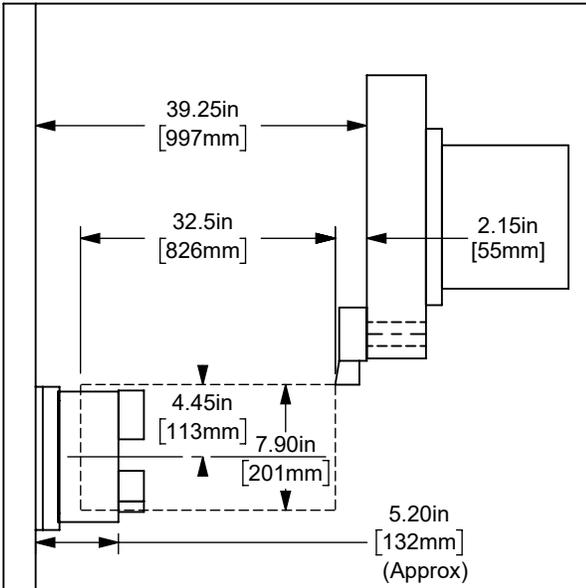
Note

1. Live tools (optional) **must** be installed on the inner pockets
2. If live tooling is not needed, the BOT turret offers a larger turning diameter
3. Outside turning tool holders are only recommended on the inner ring of pockets
4. ID Tools such as drills or boring bars are recommended on the outer pockets, but may be placed in any pocket

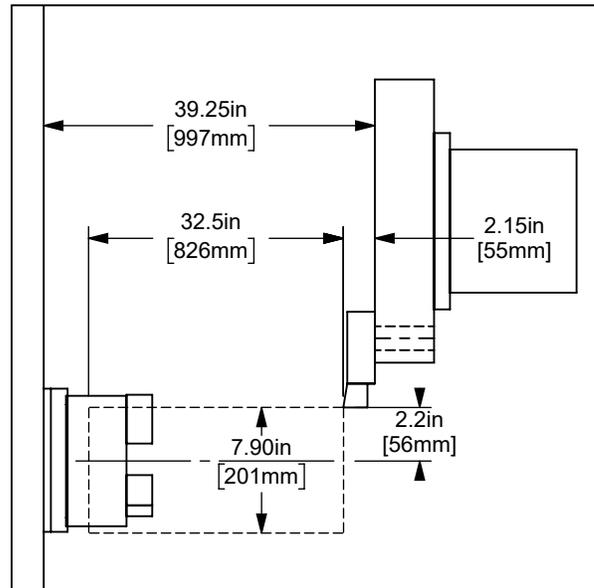
- * Shift the work envelope in X by the tool protrusion length
- ** Shift the work envelope in Z by the tool protrusion length
- ***Possible Tailstock Interference zone - see interference diagram



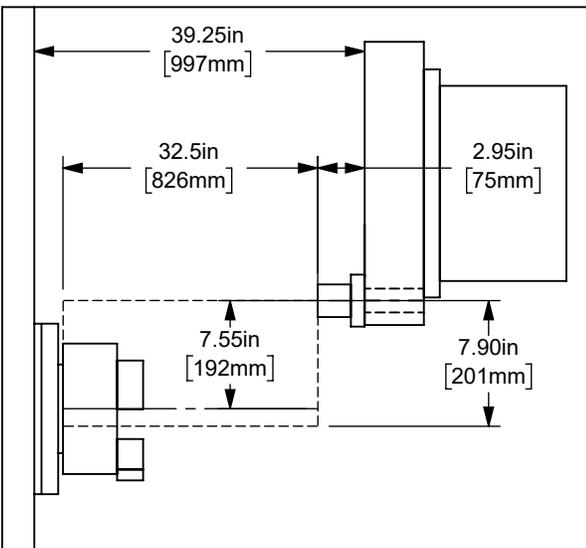
OD Stick Tool Slots on Face of Hybrid Turret*



VDI OD Short



VDI OD Long

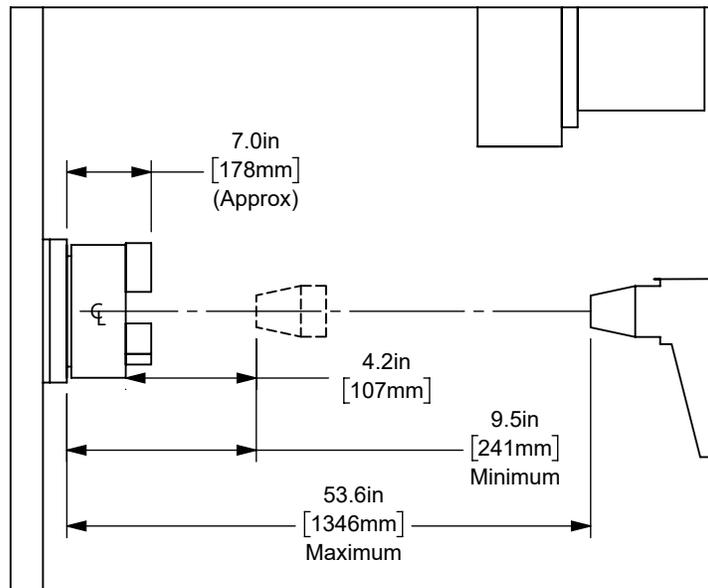


VDI ID */**

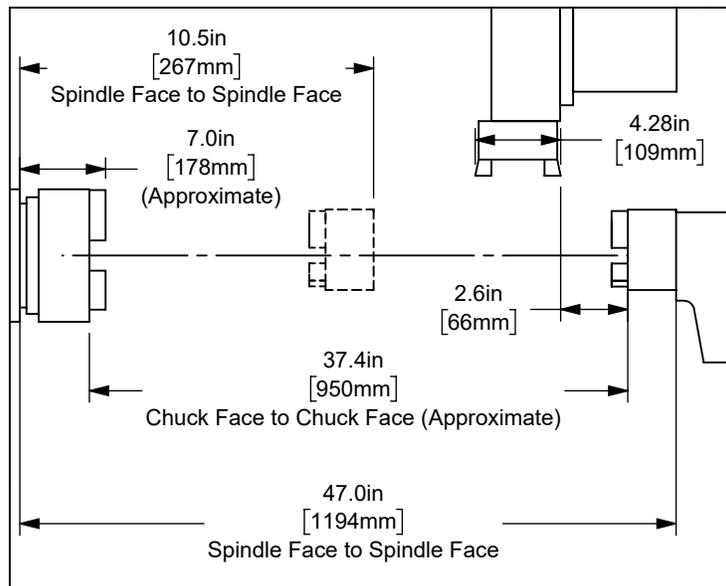
Note - Hybrid Turret travel diagrams do not show interference zone created by the combination of machine options. If Sub Spindle or Tailstock with Live Tool options are both selected, see next page for turret interference zone

* Shift the work envelope in X by the tool protrusion length

** Shift the work envelope in Z by the tool protrusion length

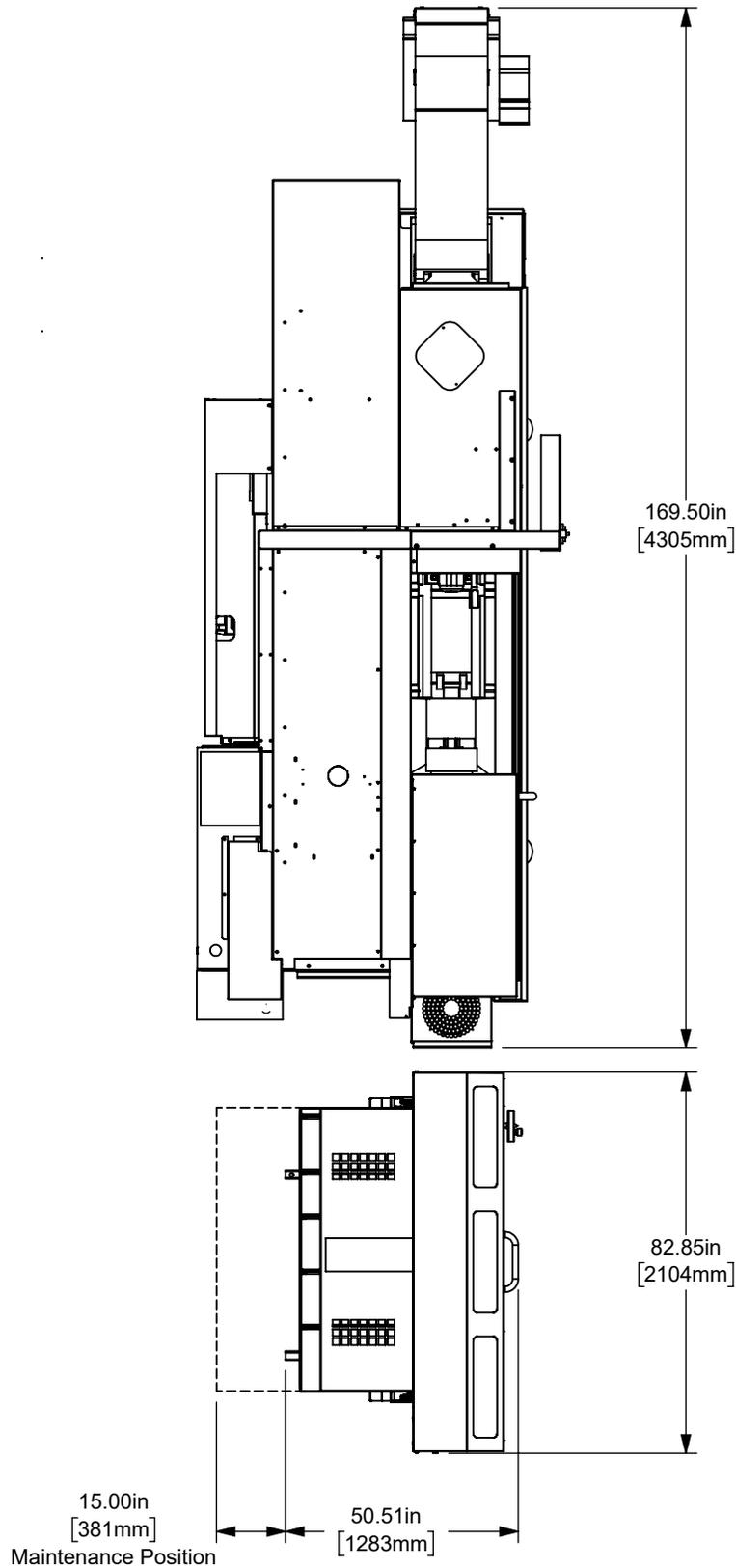


Tailstock Option

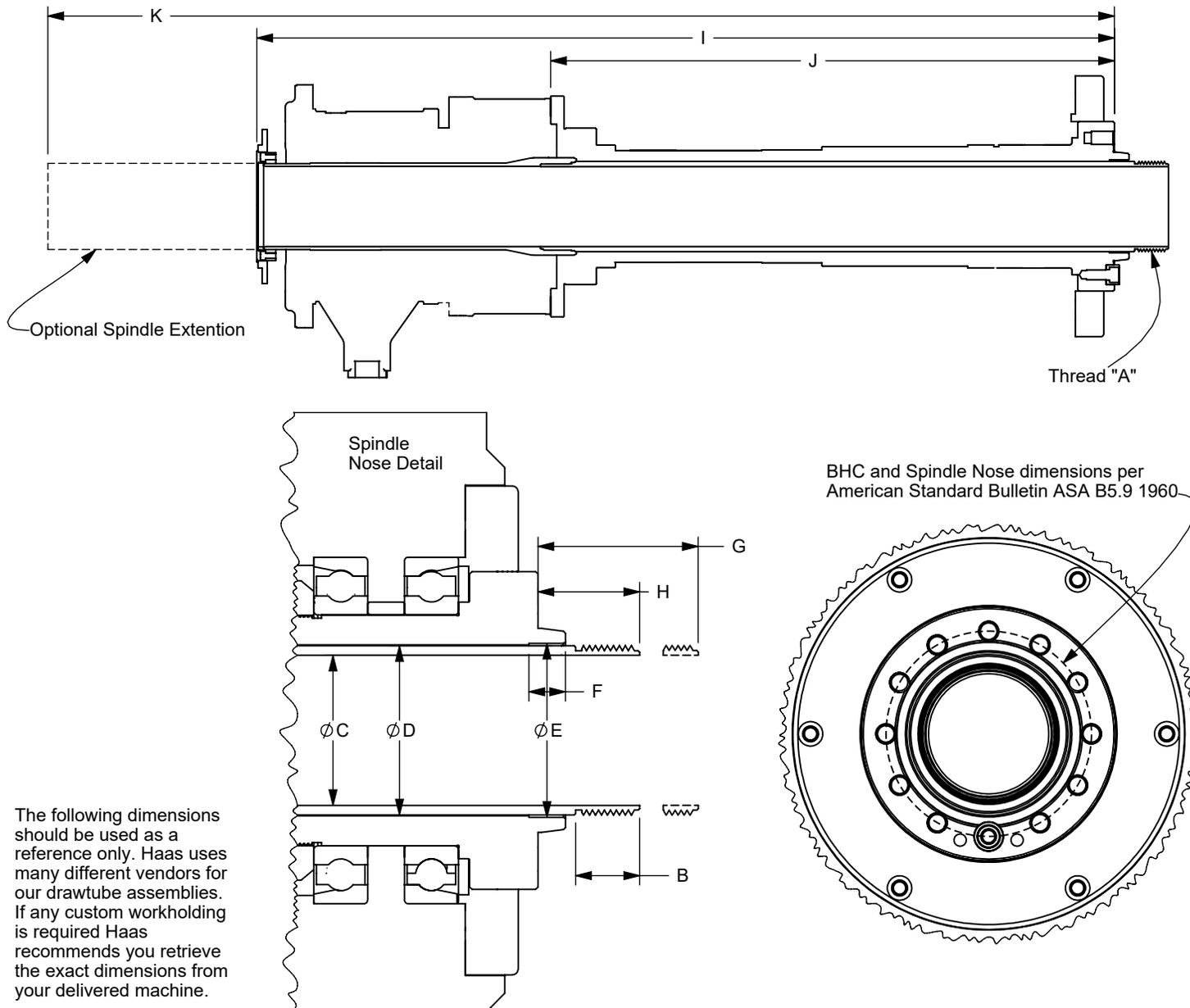


Sub Spindle Option

Bar Feeder Layout

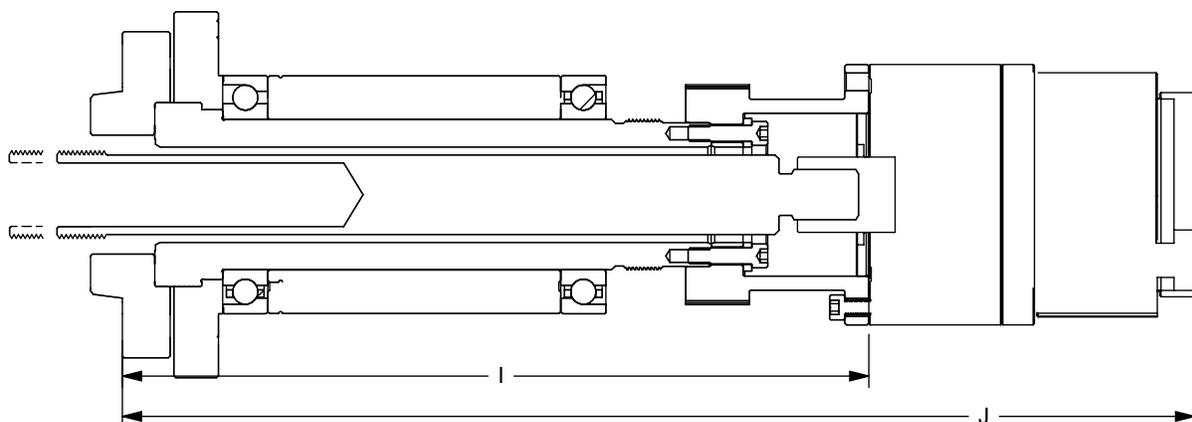


All dimensions based on stackup of sheetmetal, subject to variation of 1/2" (13 mm)

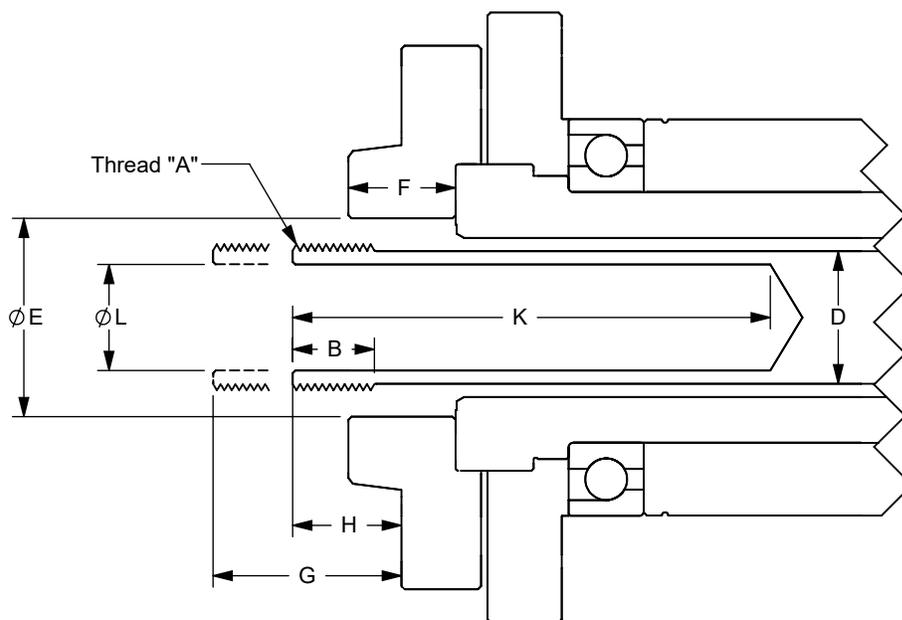
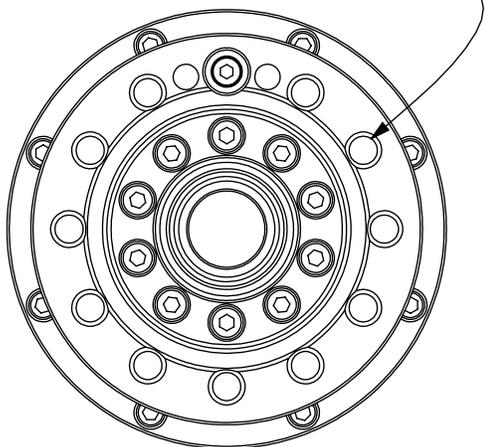


The following dimensions should be used as a reference only. Haas uses many different vendors for our drawtube assemblies. If any custom workholding is required Haas recommends you retrieve the exact dimensions from your delivered machine.

ST-10L/15L/LY					
DESCRIPTION	DIMENSION	ST-10/Y		ST-15/Y	
		SAE	METRIC	SAE	METRIC
MAIN OR SUB SPINDLE & TYPE		Main / A2-5		Main / A2-6	
DIAMETER OF THREAD	A	2.165"	55 MM	2.95"	75 MM
THREAD PITCH	A	0.0787"	2.0 MM	.0787"	2.0 MM
INTERNAL OR EXTERNAL	A	External		External	
LENGTH OF THREAD	B	0.70"	17.78 MM	1.36"	34.54 MM
DRAWTUBE INTERNAL DIAMETER	C	1.81"	45.98 MM	2.56"	65 MM
DRAWTUBE EXTERNAL DIAMETER	D	2.25"	57.15 MM	3.03"	76.96 MM
COUNTERBORE INTERNAL DIAMETER	E	2.50"	63.50 MM	3.52"	89.40 MM
COUNTERBORE DEPTH	F	0.62"	15.75 MM	0.75"	19.05 MM
DRAWTUBE EXTENDED	G	1.45"	36.88 MM	2.50"	63.42 MM
DRAWTUBE RETRACTED	H	0.94"	23.88 MM	1.37"	34.85 MM
SPINDLE FACE TO BACK OF UNION	I	30.78"	781.80 MM	33.53"	851.67 MM
SPINDLE FACE TO UNION ADAPTOR	J	22.75"	578 MM	22.53"	572.3 MM
TO BACK OF EXTENTION (OPTION)	K	48.0"	1219 MM	48.0"	1219 MM



BHC and Spindle Nose dimensions per American Standard Bulletin ASA B5.9 1960



The following dimensions should be used as a reference only. Haas uses many different vendors for our drawtube assemblies. If any custom workholding is required Haas recommends you retrieve the exact dimensions from your delivered machine.

SUB-SPDL-A2-5 for ST-10 to ST-25			
DESCRIPTION	DIMENSION	SAE	METRIC
MAIN OR SUB SPINDLE & TYPE		Sub-Spindle / A2-5	
DIAMETER OF THREAD	A	1.378"	35 MM* or 40 MM
THREAD PITCH	A	0.059"	1.5 MM
INTERNAL OR EXTERNAL	A	External	
LENGTH OF THREAD	B	0.50"	12.7 MM
DRAWTUBE INNER DIAMETER	C	N/A - SOLID DRAWBAR	
DRAWTUBE OUTER DIAMETER	D	1.25"	31.75MM
COUNTERBORE INNER DIAMETER	E	1.870"	47.5 MM
COUNTERBORE DEPTH	F	1.01"	25.65MM
EXTENDED DISTANCE TO NOSE	G	1.465"	37.2 MM
RETRACTED DISTANCE TO NOSE	H	0.874"	22.2 MM
FROM SPINDLE FACE TO BACK OF UNION	I	11.72	297.7MM
FROM SPINDLE FACE TO UNION ADAPTOR	J	16.84	427.7MM
EJECTOR POCKET DEPTH	K	4.5"	114.3MM
EJECTOR POCKET DIAMETER	L	1.0"	25.4MM

*M35 applies to Sub-Spindles made after July 2019 - M40 applies to older vintages