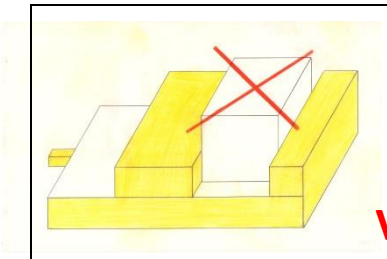
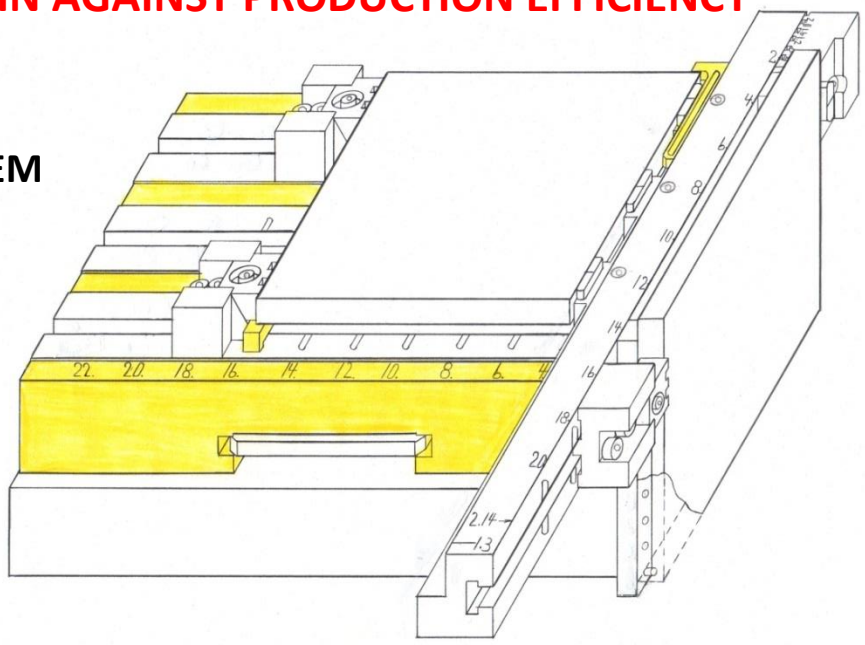


BAYER INSTANT SETUP SYSTEM

VISES ARE A SIN AGAINST PRODUCTION EFFICIENCY



THE BAYER INSTANT SETUP SYSTEM ENABLES MULTIPLE PARTS TO BE MACHINED WITH KNOWN LOCATIONS IN THREE AXES.

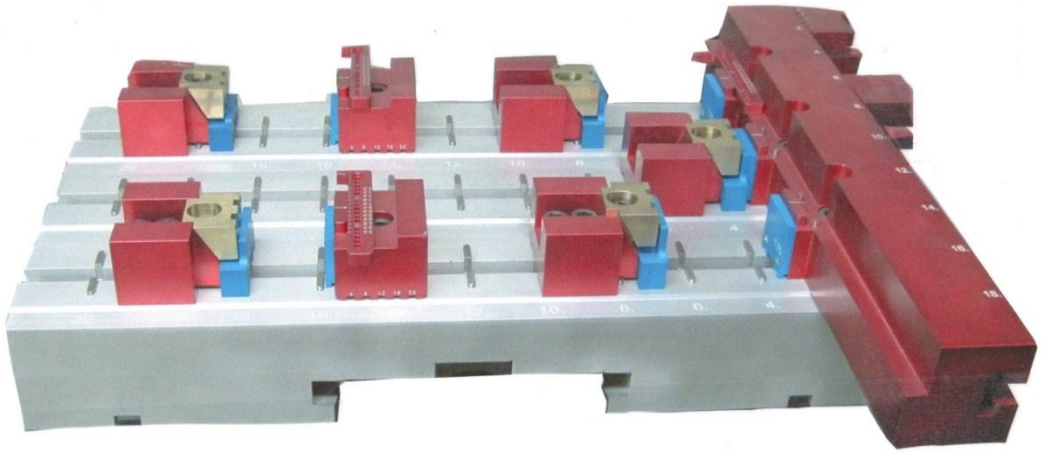
THIS SAVES:

1. **SETUP TIME**
2. **PROGRAMING TIME**
3. **TOOL CHANGE TIME**
4. **RE SETUP TIME**

PAT. #8002254

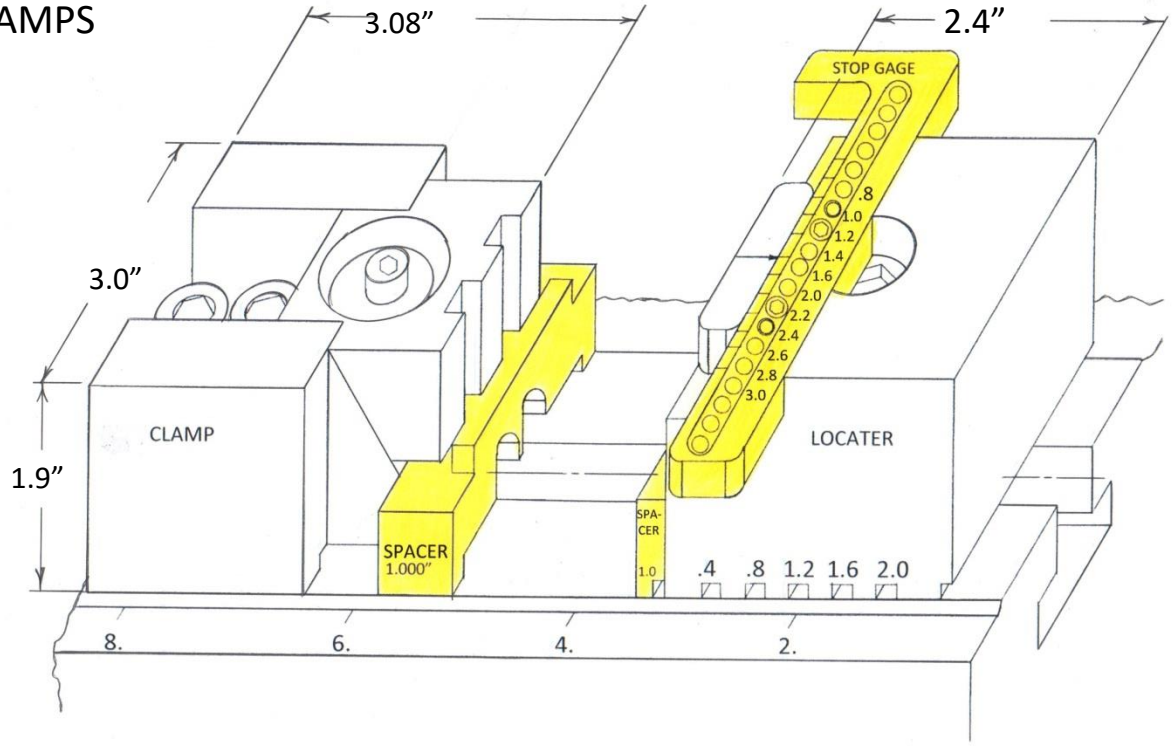
Six sides of this part were setup in five minutes

Clamp large, small and tall work pieces.



1. **Log pallets, pallets and clamps are light and mobile.**
2. **They are made from 7075-T651 aluminum.**
3. **They are as hard as cold rolled steel.**
4. **Wedges are made from wear resistant aluminum bronze.**

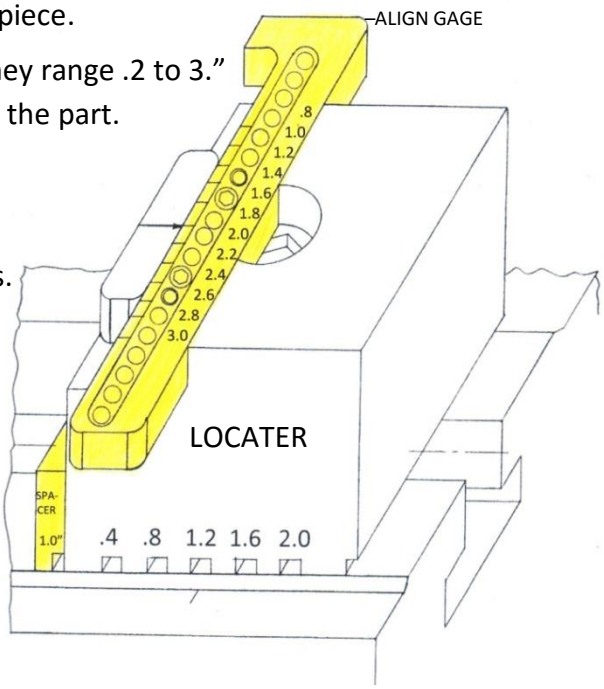
BAYER CLAMPS



1. The Locater has slots every .4 inches. The pallets have keys located every two inches. The location of the work piece locating surface can be determined by adding the number marked on the Locater to the number marked on the pallet or log that corresponds to the engaged slot.

2. The Clamp can be located at any position for clamping a work piece.

3. The stop Gage is used for locating the end of a work pieces**.** They range .2 to 3.” in .2” increments**.** They may be removed if necessary to machine the part.



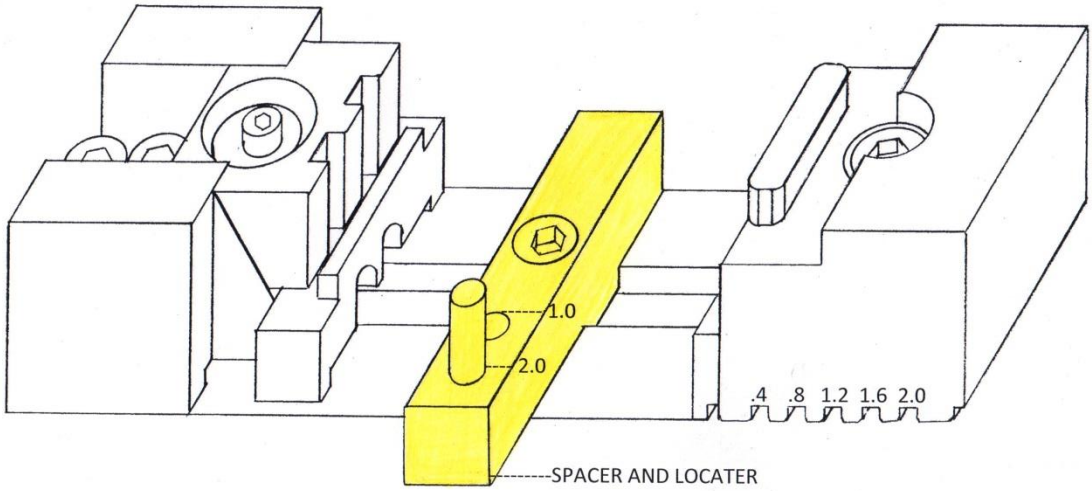
4. The Align Gage is used to roughly locate the work piece beyond the gage so that it can be machined without interference with the gage. They range 1.T0 3.2” in .2 increments.

5. The CLAMP AND LOCATER SPACERS are used for locating the work piece above the Base to permit through machining. They are provided in various increments.

6. The wedge clamp moves down and against the work piece for accurate location.

7. Seventy inch pounds torque provides five thousand pounds clamping force. The typical six inch machine vice requires about five hundred inch pounds for the same clamping.

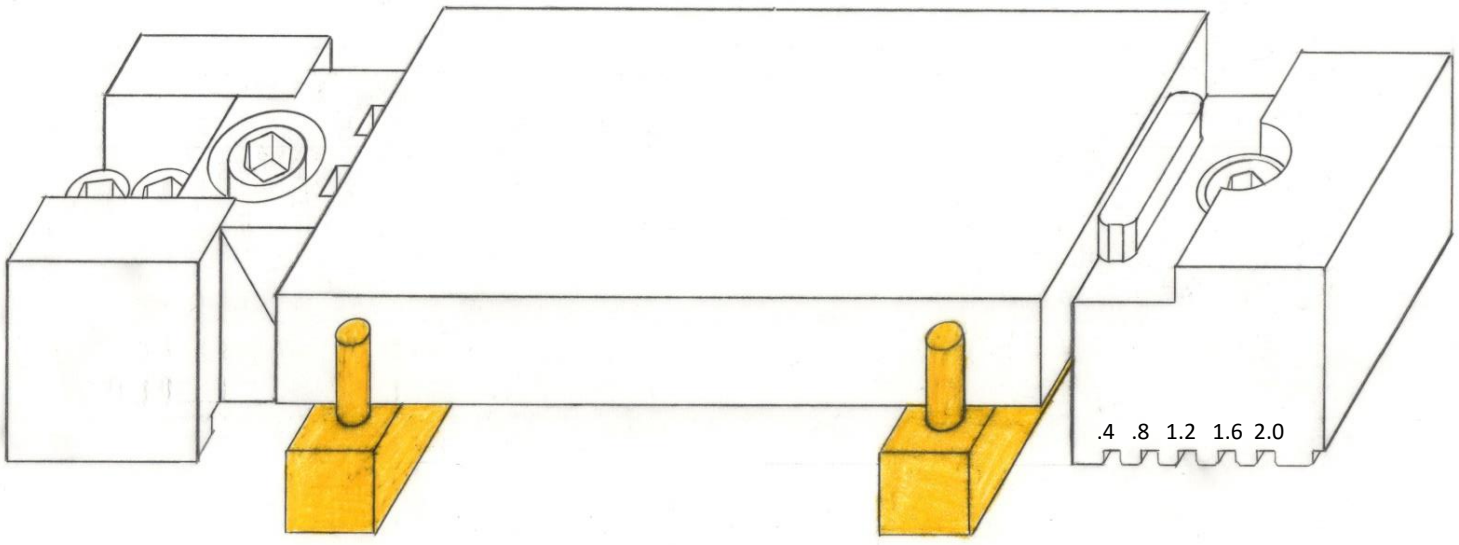
8. Location accuracy of the fixture locating surfaces is +/- .002”. This does not include thermal expansion errors or machine error. When greater accuracy is required it is recommended that pitch error compensation be used and the spacer height be machined.



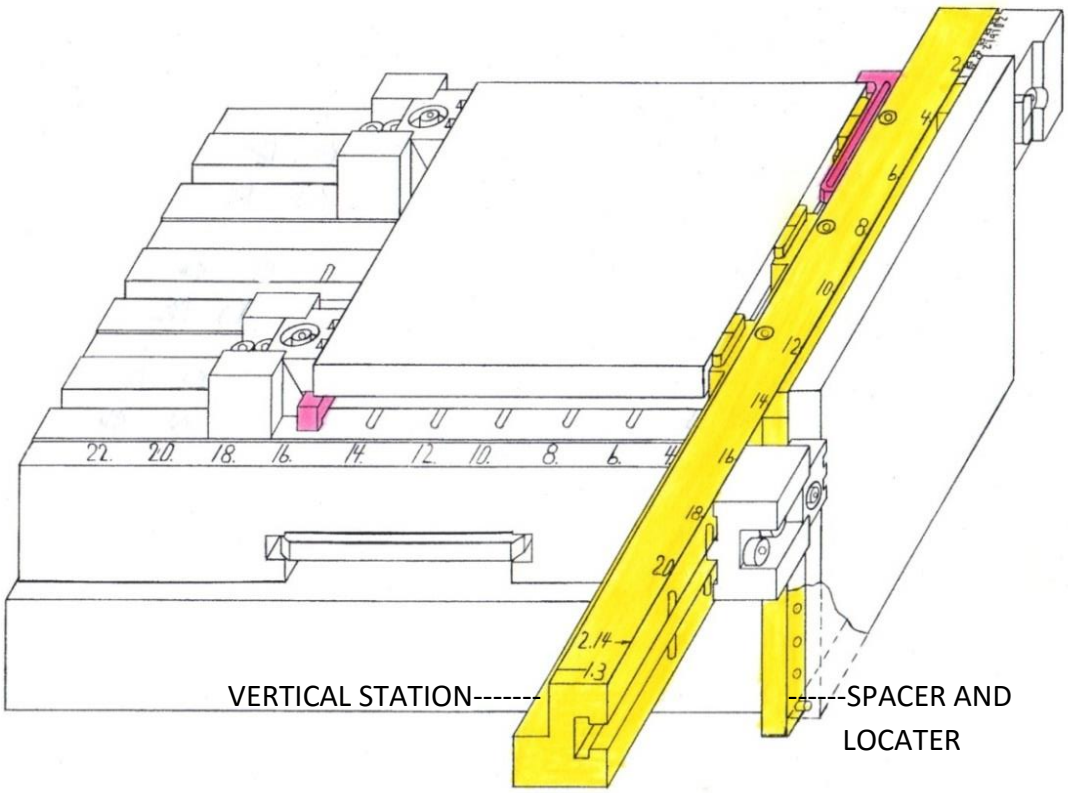
The spacer and locater may be used to locate parts at any point along the axis.

The Spacer and Locater may also be used on the Vertical Station to locate the end of the work piece and space it above the station.

Two Spacers and Locaters may be used to locate long work pieces.



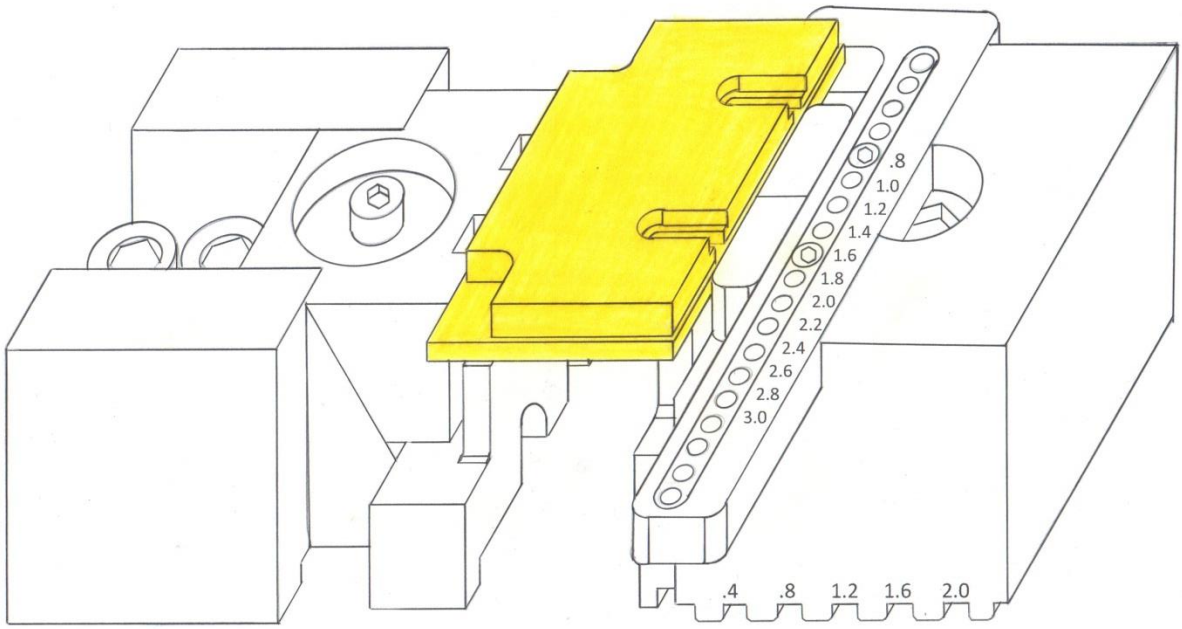
VERTICAL STATION



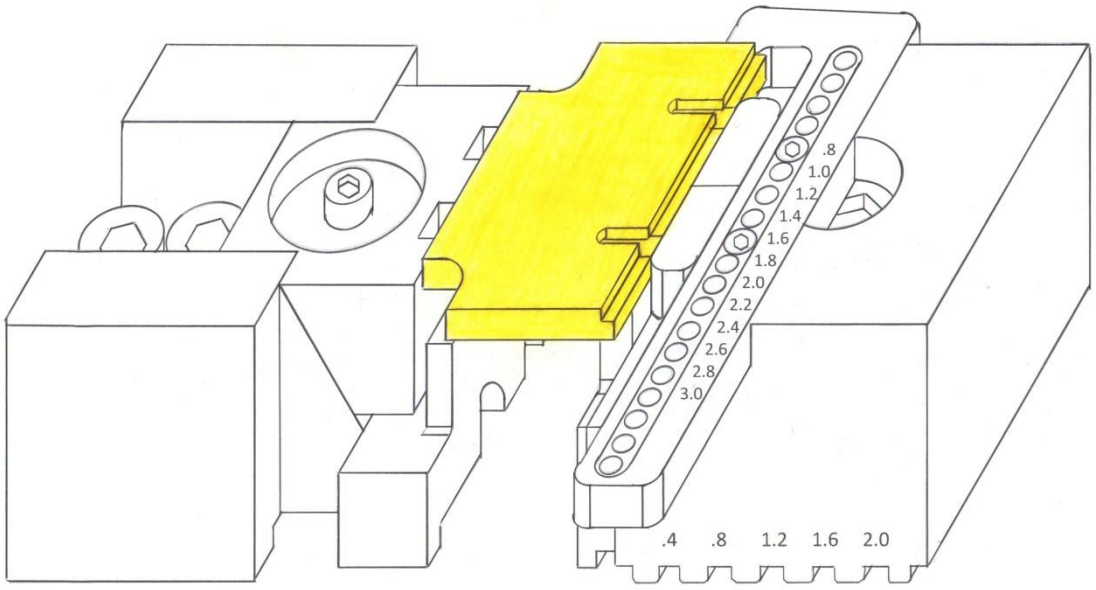
Vertical stations can be mounted to flat pallets and used for locating tall work pieces.

THE INSTANT SETUP SYSTEM IS IDEAL FOR SACRIFICAL MACHINING.

Sacrificial material is often used to hold the work piece while machining five sides.

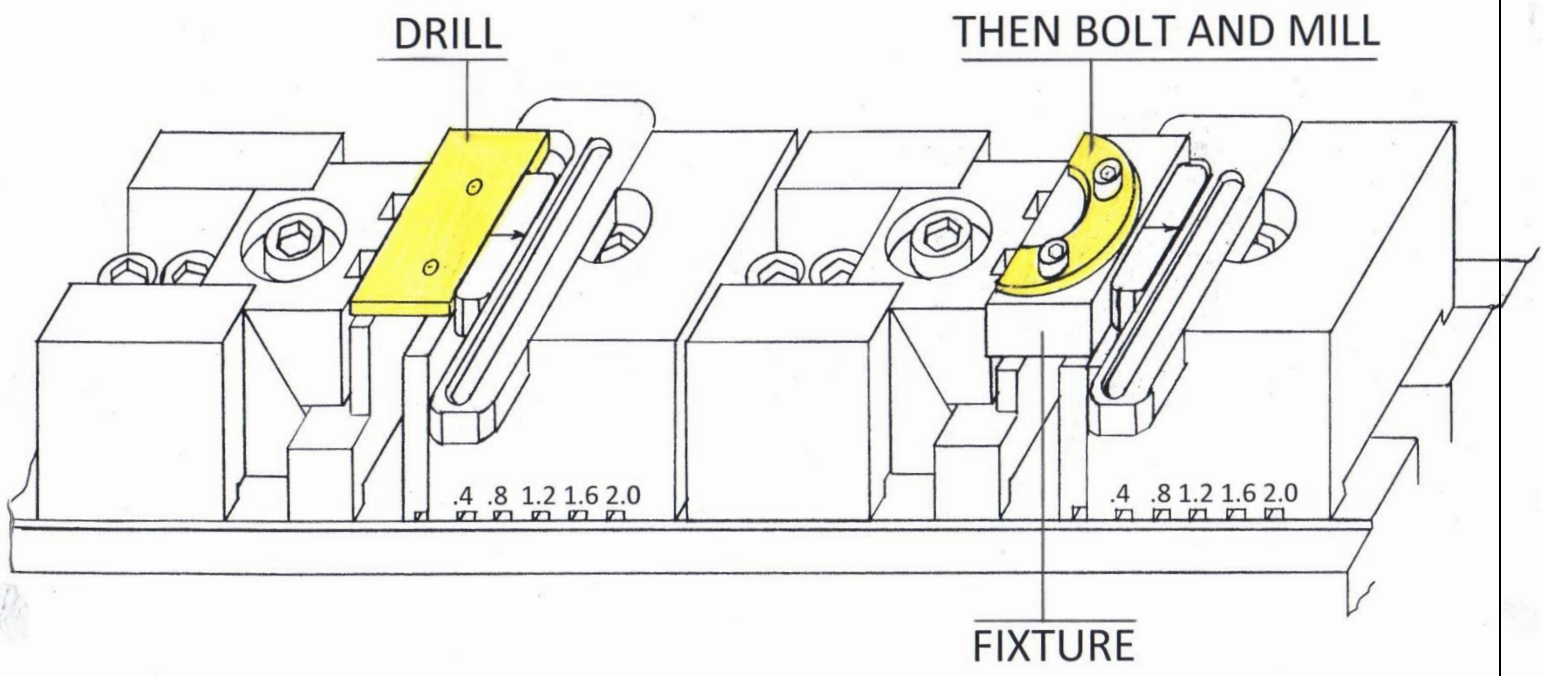


The work piece is then rotated and the sacrifical material is removed and the work piece is completed.



DRILL THEN BOLT AND MILL IN A SINGLE SETUP

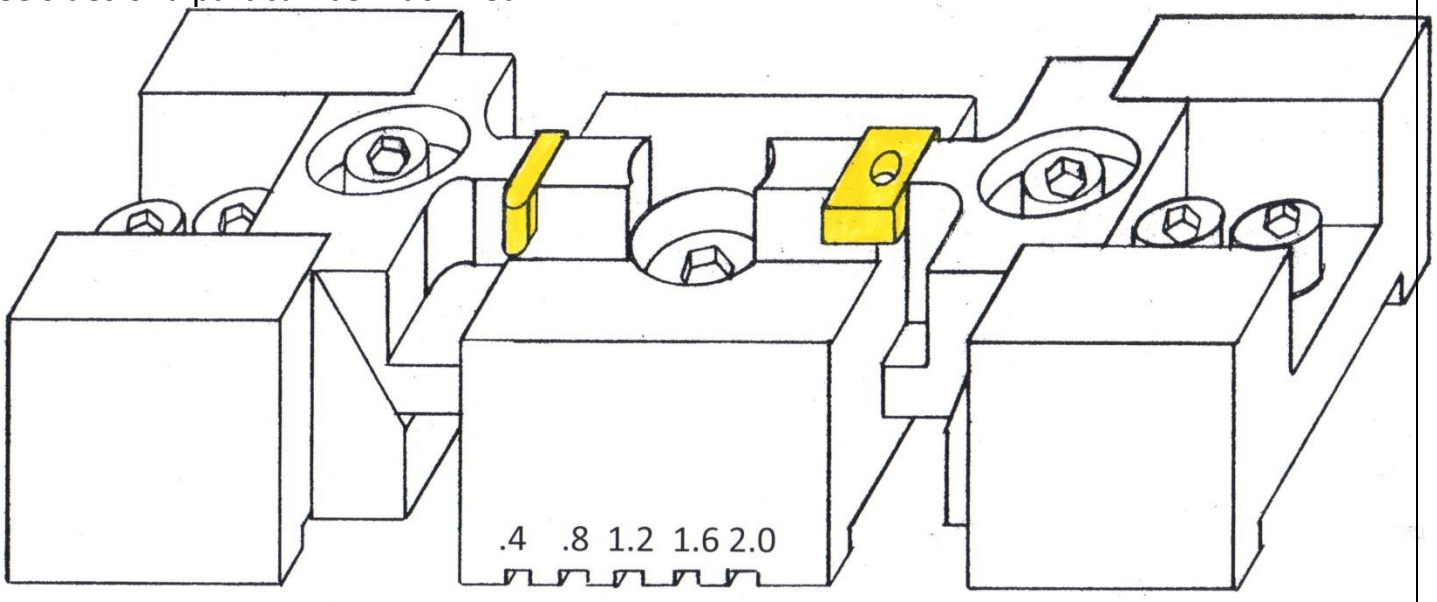
Saves material and machining compared to sacrificial machining.



SPECIAL FIXTURES CAN BE MACHINED FROM LOCATER BODIES AND WEDGE BODIES.

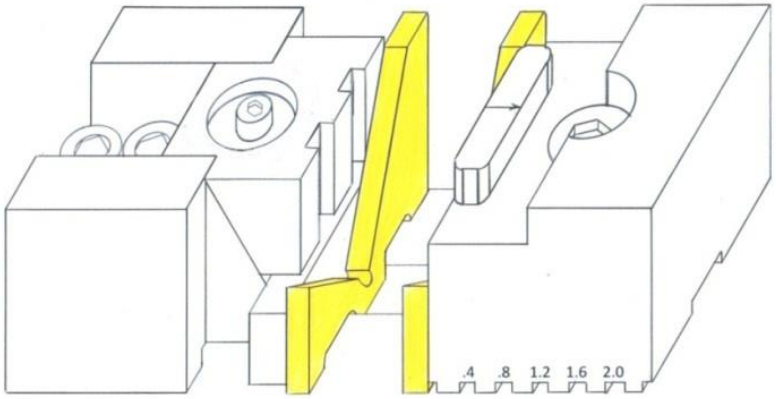
Material can be located past the fixture edge to permit machining.

Three sides of a part can be machined.

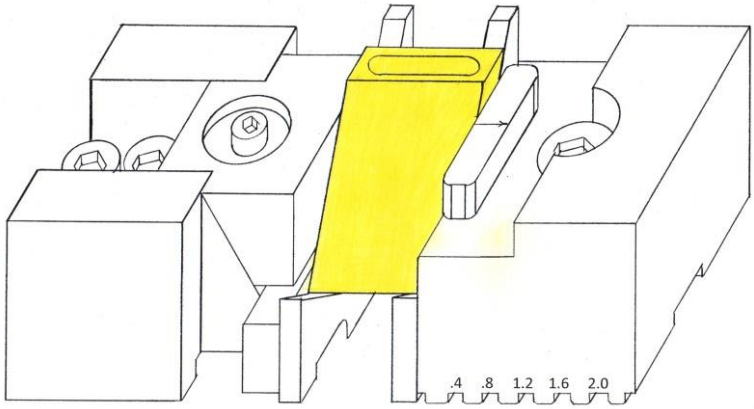


EXAMPLE: SPECIAL FIXTURE MADE FROM LOCATER BODY AND WEDGE BODY

ANGLED SPACERS CAN BE USED TO LOCATE PARTS FOR SPECIAL NEEDS.

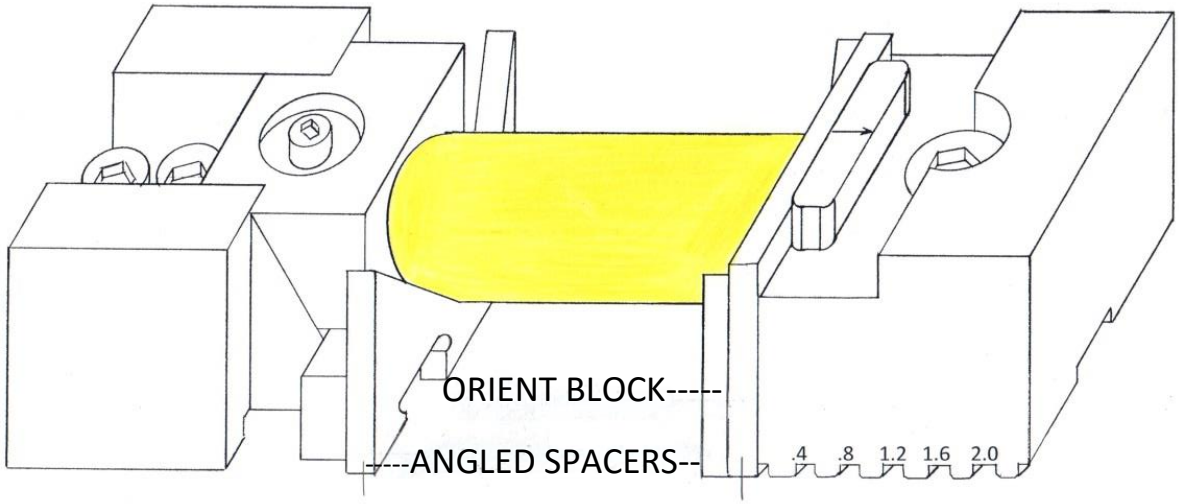


Angled spacers can be used for locating parts for angular machining.

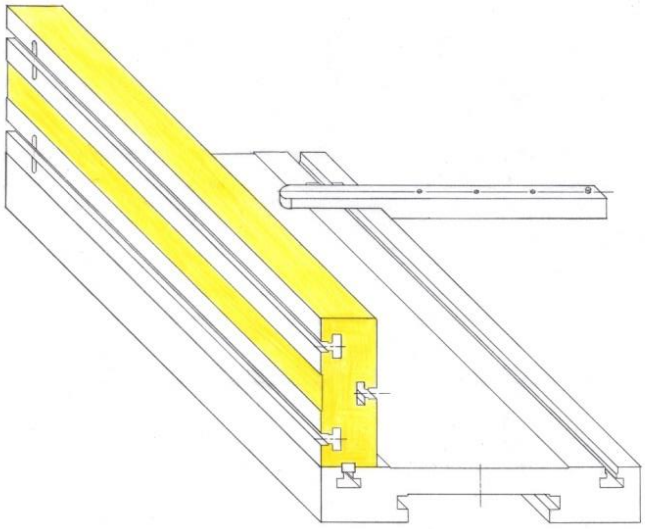


Angled spacers can be used for locating round parts.

An orient block can be used to orient the part.

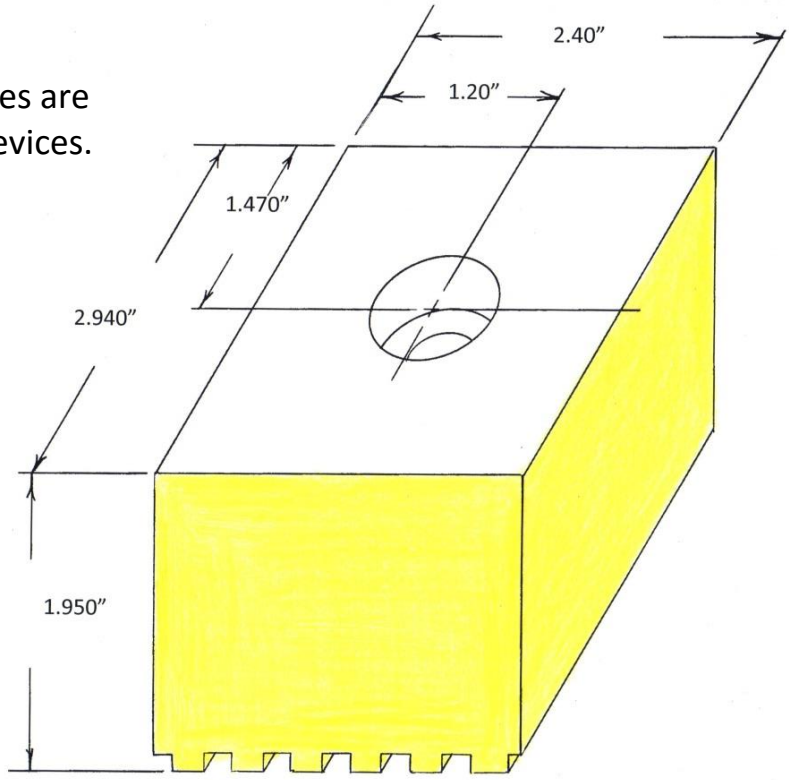


Special structures can be mounted to machine the ends of very tall parts.



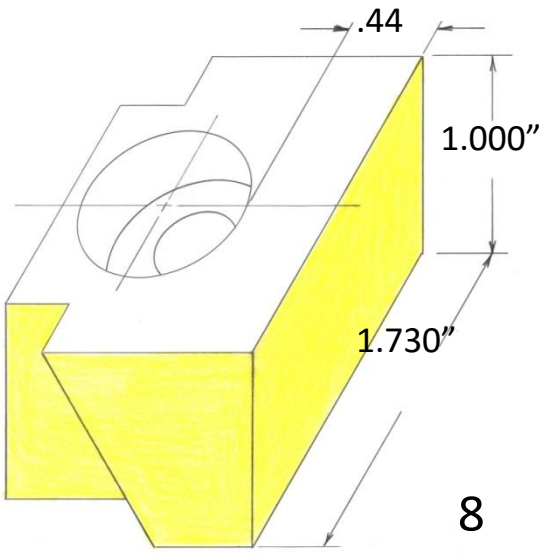
Partly completed Locater bodies and wedges are available for machining special clamping devices.

The locater body is not hard anodized.



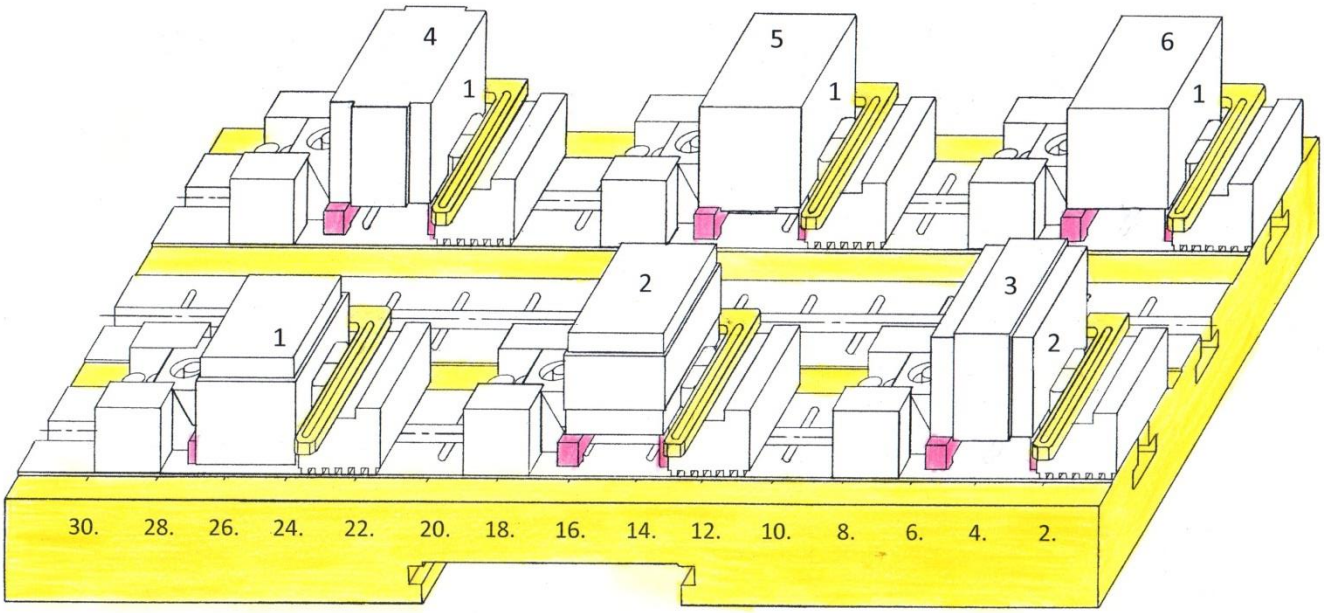
LOCATER BODY

P/N LGS

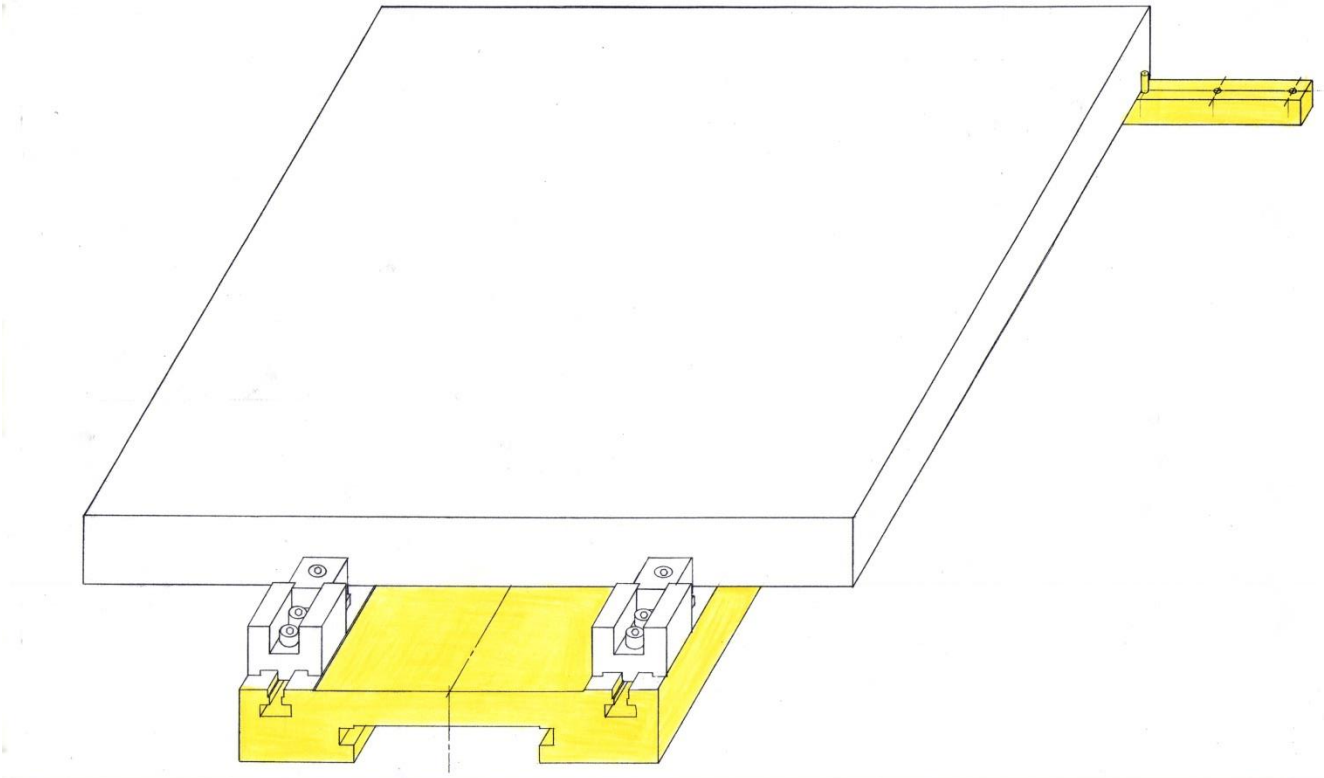


WEDGE BODY
P/N WB

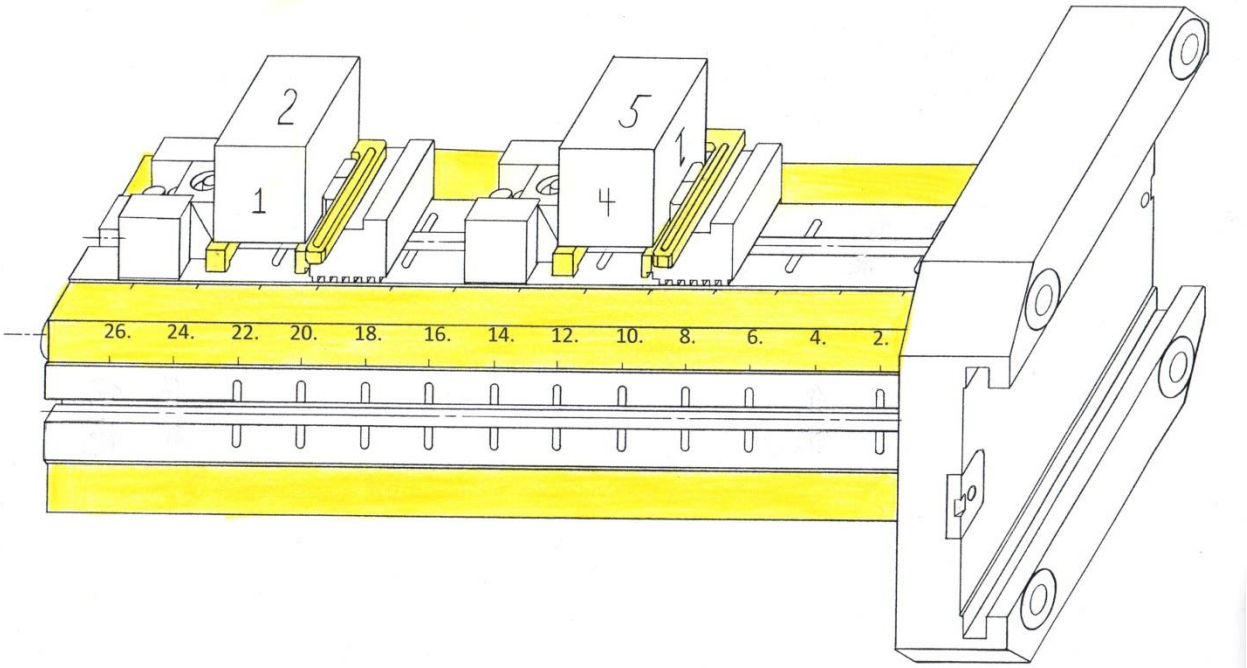
Six sides of a work piece can be machined with surfaces perpendicular and parallel in one set up. This is achieved by machining a face and four adjacent sides to locate from subsequent operations.
Each cycle completes one part.



The Y flat pallet enables large work pieces to be machined.



While a flat pallet may require the work piece to be clamped six times to machine six sides. A log pallet requires the work piece to be clamped two times to machine six sides.



Advantages of rotary motion for machining more than one side.

1. Three sides can be machined without removing the work piece from the fixture.
   A. This reduces material handling and increases accuracy.
   B. Any angle about the center of rotation can be machined.

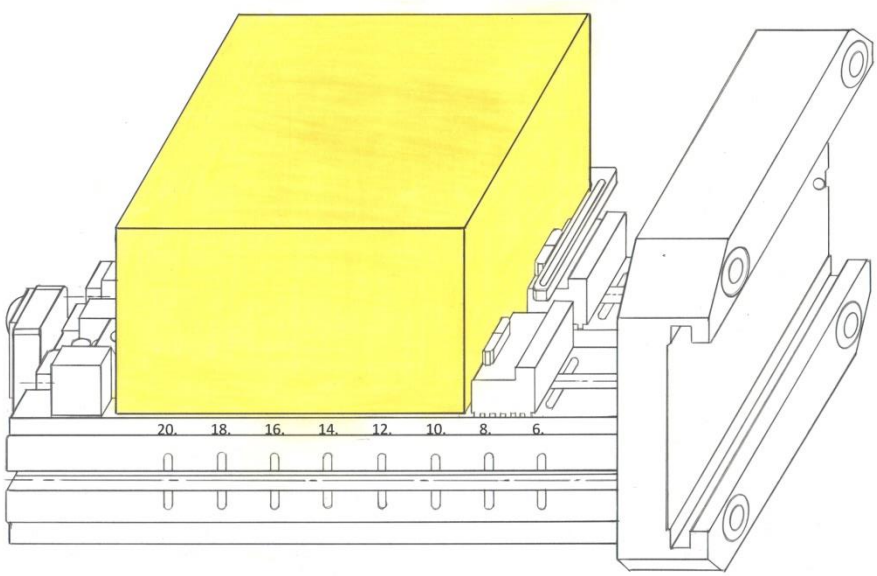
Advantages of a log supported at both ends:

1. The rigidity is 38 times greater than a log supported at one end such as found with horizontal machining centers.
   A. Longer and or thinner logs can be used to permit improved cutter access to the work piece.
   B. More or longer work pieces can be clamped.

Advantages of logs located on vertical machining centers.

A. Logs are horizontal. Their load height is constant.

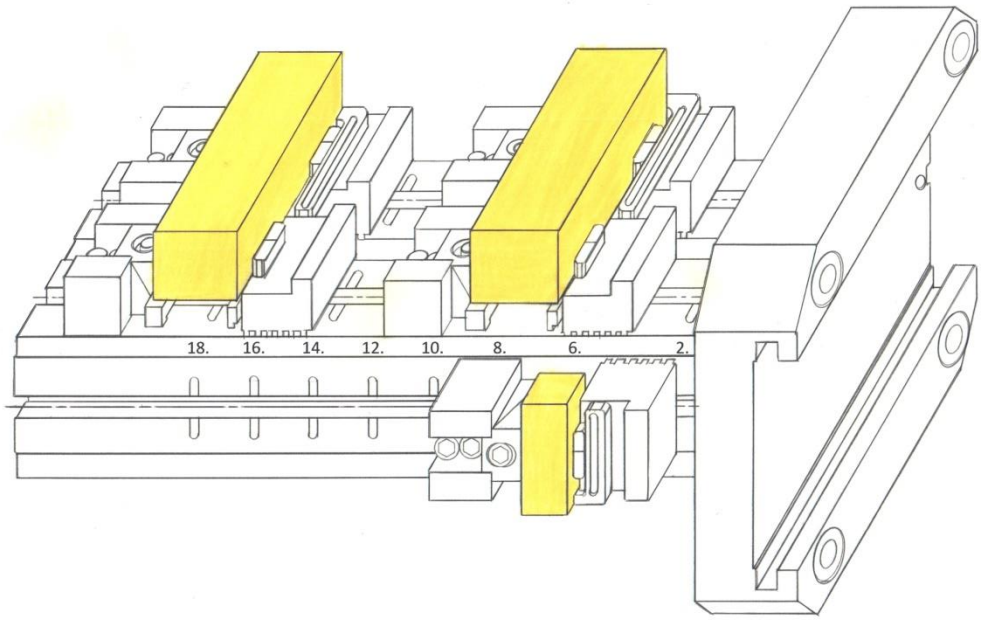
OFF SET LOG PALLETS CAN BE USED FOR TALL PARTS



The first operation is located against raw stock.

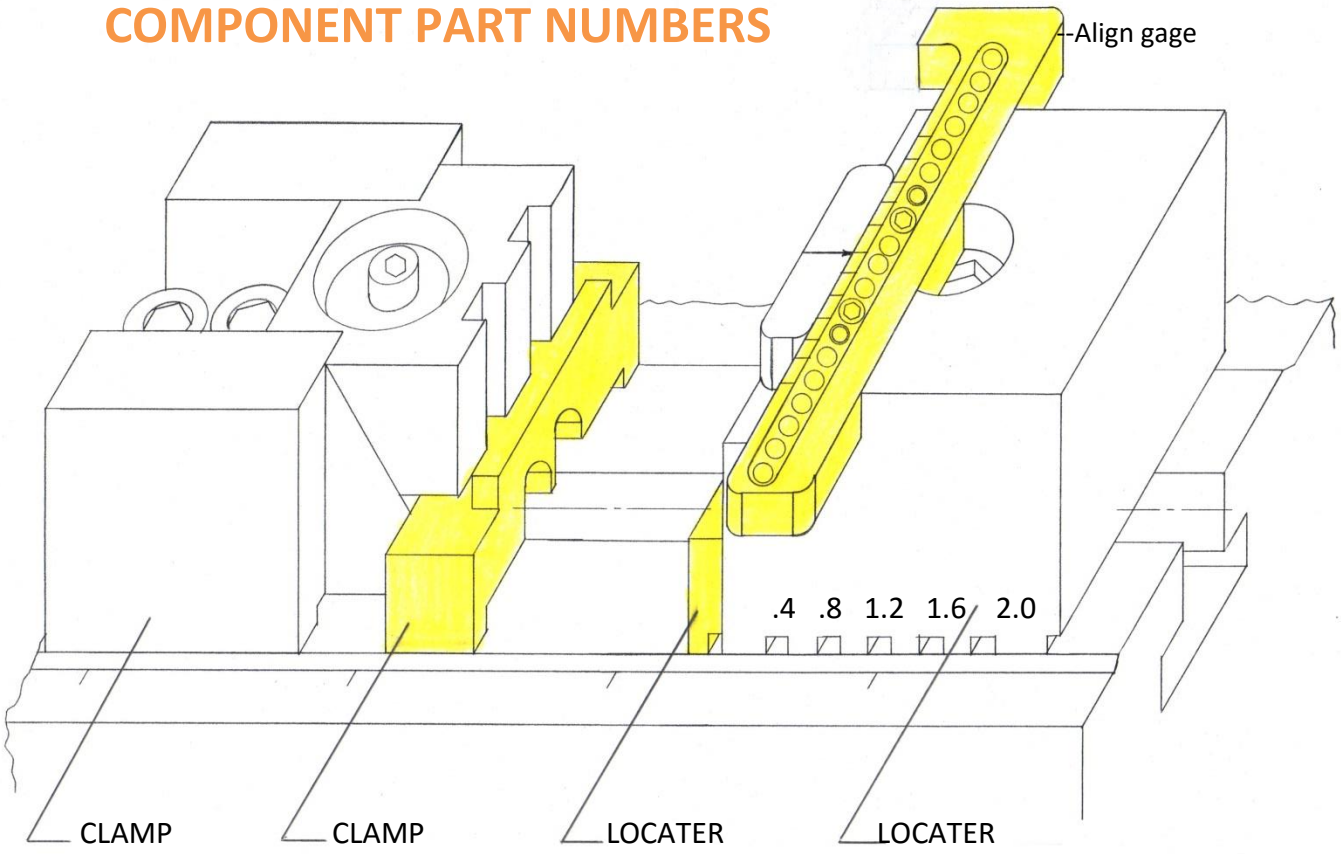
Subsequent operations are located from previously machined surfaces.

This provides accurate location of all features.



CENTERED LOG PALLETS ARE USED FOR SMALLER PARTS

COMPONENT PART NUMBERS

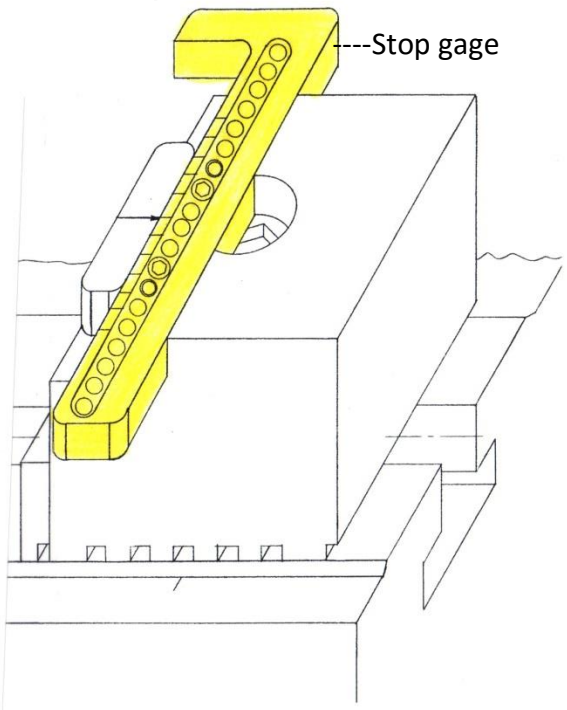


P/N	NAME
ECL	CLAMP
LOC	LOCATER

GS -1.-2.4	1.0 TO 2.4" ALIGN GAGE
GA -1.-3.2	1.0 TO 3.2" ALIGN GAGE
GS-.2-1.4	.20 TO 1.4" STOP GAGE
GS-.8-3.0	.80 T0 3.0" STOP GAGE

CS-.6	.60" CLAMP SPACER
CS-1.0	1.00" CLAMP SPACER
CS-1.5	1.50" CLAMP SPACER
CS-1.7	1.70" CLAMP SPACER
CS-1.85	1.85" CLAMP SPACER

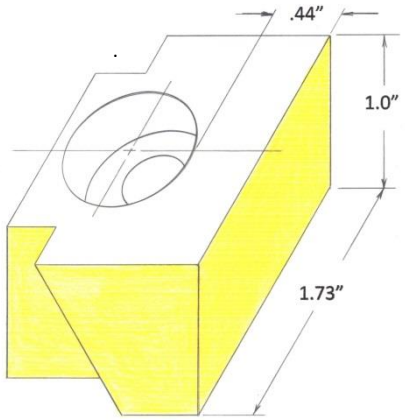
LS -.6	.60" LOCATER SPACER
LS -1.0	1.00" LOCATER SPACER
LS-1.5	1.50" LOCATER SPACER
LS-1.7	1.70" LOCATER SPACER
LS-1.85	1.85" LOCATER SPA CER



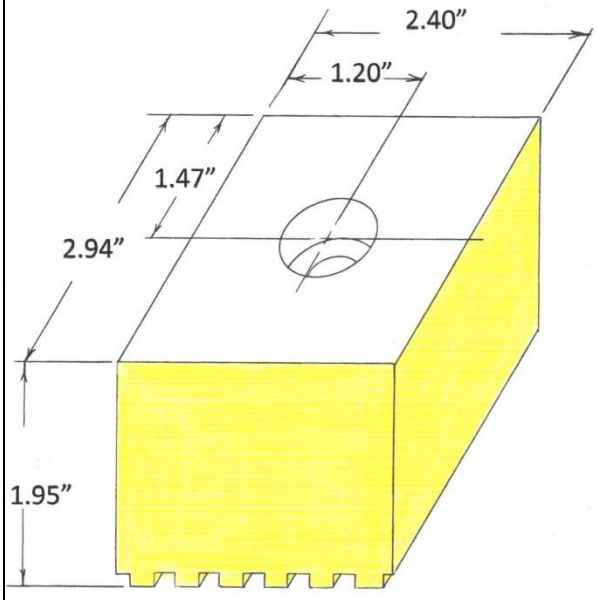
COMPONENT PART NUMBERS

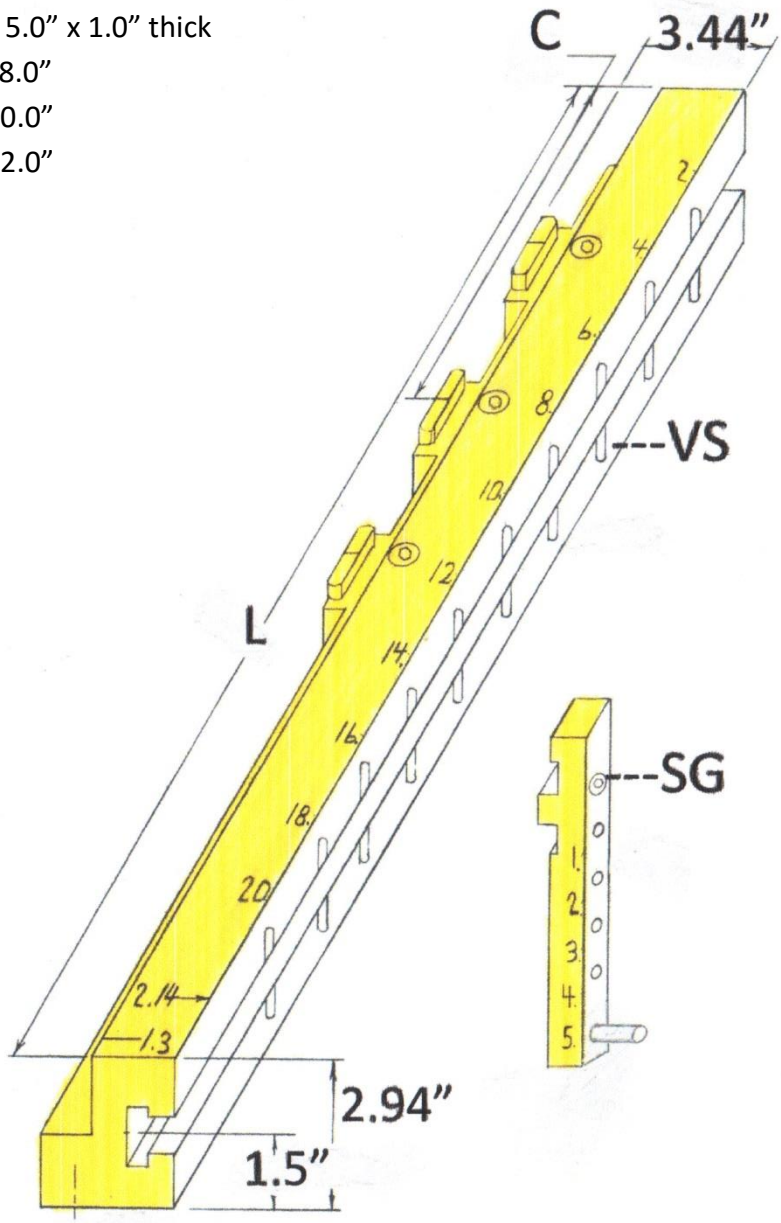
P/N	NAME
SG-2.0	SPACER & LOCATER, RANGE 1.0 TO 2.0” x 1.0” thick
SG-5.0	SPACER & LOCATER, RANGE 1.0 TO 5.0” x 1.0” thick
VS-20	VERTICAL STATION L = 20.0” C = 8.0”
VS-24	VERTICAL STATION L = 24.0” C = 10.0”
VS-28	VERTICAL STATION L = 28.0” C = 12.0”

WB WEDGE BODY

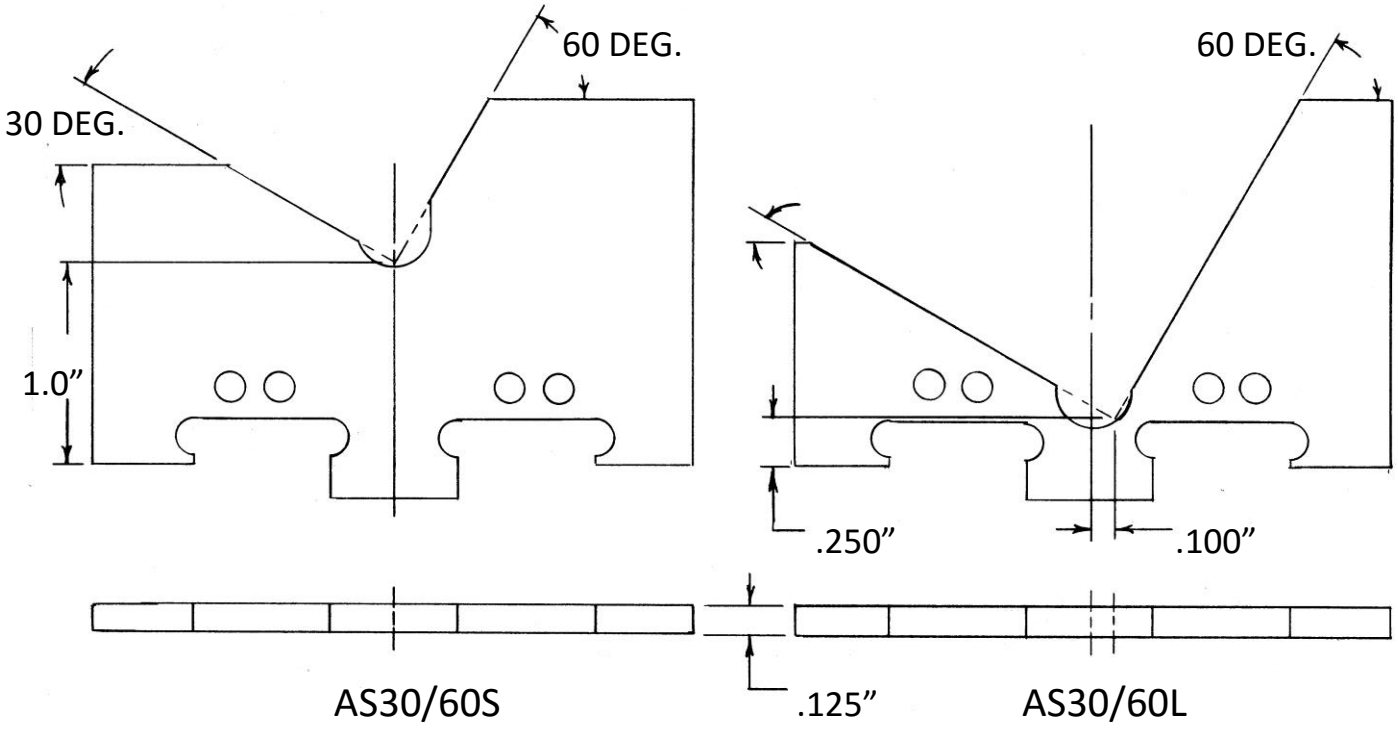


LOCS LOCATER BODY





ANGLED SPACERS

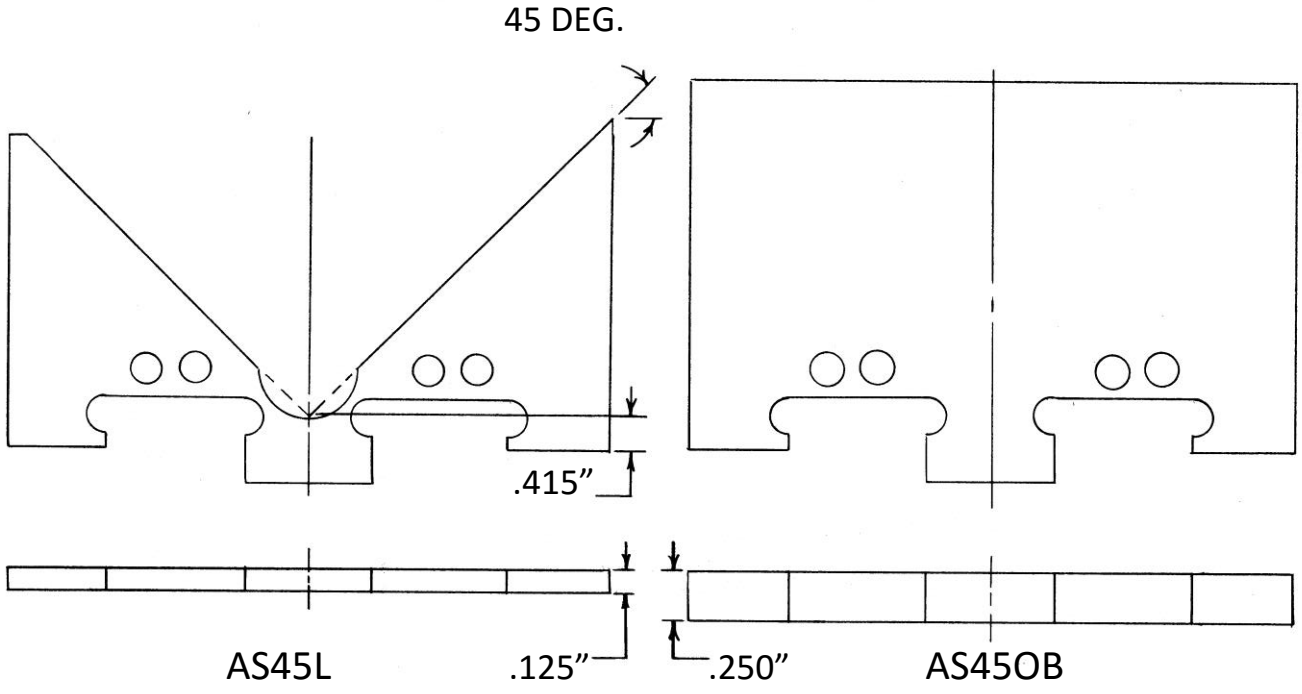


AS30/60S AS30/60L

Angled spacers rotate parts to enable angular surfaces to be machined.

They can clamp long slender parts for machining. Round parts can be oriented by features in the ends or radius by using an orient block modified by the customer.

Special angled spacers can be machined to clamp irregular shaped parts.



AS45L AS45OB

CUTTER SETUP

Cutter setup can be reduced by locating preset cutters in tool holders that are marked with the cutter diameter, flute length and extended length.

Tool holders can be stored on commercially available carts containing plastic boards with machined holes, marked with the same information as the tool holder.

Cutters that are most frequently used should remain in the machining center leaving sufficient number of pockets for tools that are infrequently used.

This procedure can greatly reduce cutter setup.

The number of cutters can be reduced by milling counter bores and counter sinks with end mills. Where possible the number of drills and taps can be reduced by using either fine or coarse pitch threads or metric threads that can serve for either fine or coarse pitch threads.