

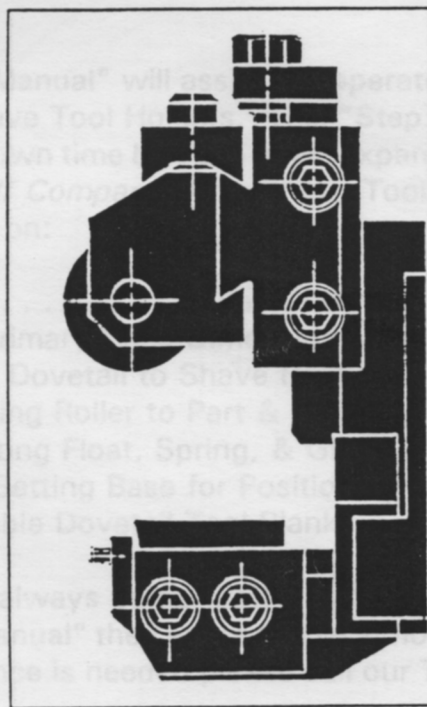
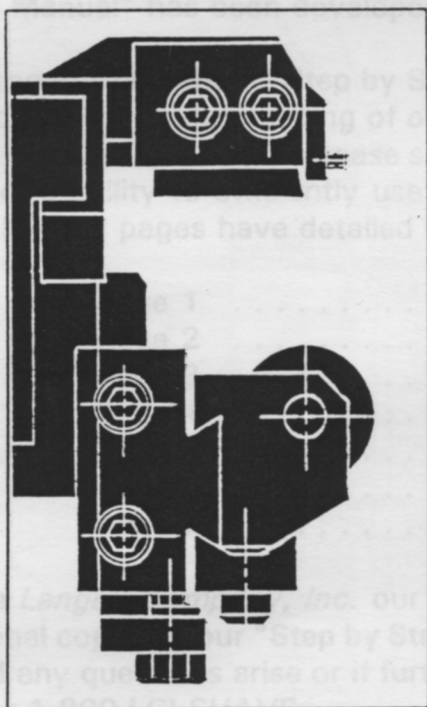
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# LANGOLF COMPANY

## INCORPORATED

*"A Commitment to Quality"*

U.S.A.

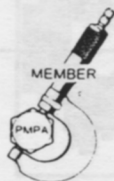


### "Step by Step User's Manual"

**THE LANGOLF COMPANY, INC.**

3125 Ravenswood ■ Port Huron, MI 48060  
Phone: (810) 364-4008 ■ Fax: (810) 364-4970

1-800-524-7428





**WELCOME  
TO THE LANGOLF COMPANY AUTO/SHAVE TOOL HOLDER  
"STEP BY STEP USER'S MANUAL"**

Through *The Langolf Company's* continuing commitment to quality this "Step by Step User's Manual" has been developed.

*The Langolf Company's* "Step by Step User's Manual" will assist the operator in the expanding their understanding of our Auto/Shave Tool Holders. This "Step by Step User's Manual" will help decrease set-up and down time by 75% while expanding the operator's ability to efficiently use *The Langolf Company* Auto/Shave Tool Holder. The following pages have detailed information on:

Page 1	.....	Parts List
Page 2	.....	Primary Head Dimensions
Page 3	.....	Introducing Dovetail to Shave Head
Page 4	.....	Locating Roller to Part & Tool
Page 5	.....	Setting Float, Spring, & Gib
Page 6	.....	Setting Base for Position
Page 7	.....	Available Dovetail Tool Blanks

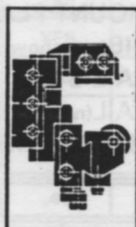
At *The Langolf Company, Inc.* our customers always come first! If you would like additional copies of our "Step by Step User's Manual" they are available at no charge. Should any questions arise or if further assistance is needed please call our Toll Free number 1-800-LCI-SHAVE.

Thank you for purchasing a *Langolf Company* Auto/Shave Tool Holder. . .We feel you have made a wise investment for better tooling.

*The Langolf Company, Incorporated*  
3125 Ravenswood ■ Port Huron, MI 48060  
Phone: (810) 364-4008 ■ Fax: (810) 364-4970

**1-800-LCI-SHAVE**

1-800-524-7428





**DEFINITION OF  
THE LANGOLF COMPANY, INC.  
AUTO/SHAVE TOOL HOLDER  
MODEL NUMBER**

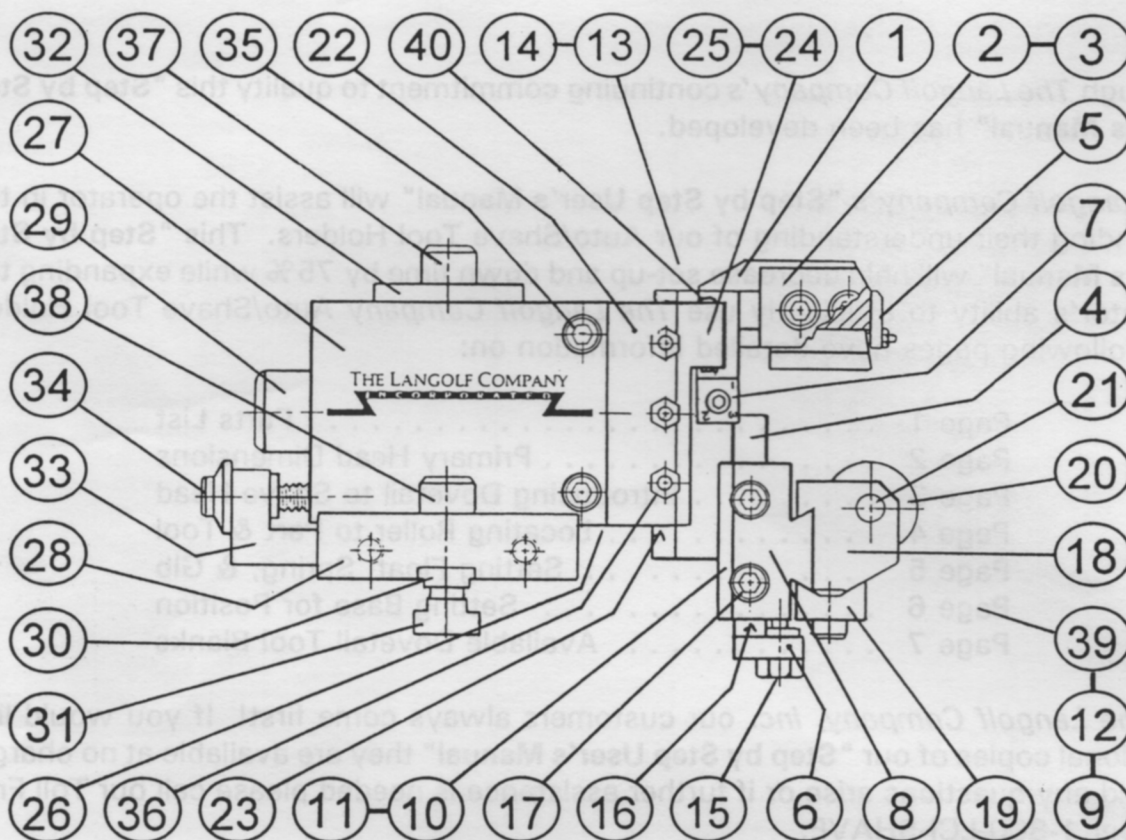
**LCS**  
LANGOLF  
COMPANY  
SHAVE

**1250**  
HEAD SIZE  
1250 = 1 1/4"  
2625 = 2 5/8"  
ETC...

**3**  
MOUNT

**A3**  
MACHINE  
A = ACME  
W = WICKMAN  
ETC...

**PARTS LIST**



**HEAD ASSEMBLY**

1. SHAVE HEAD
2. DOVETAIL CLAMP
3. HARD SIDE JAW(not shown, far side)
4. HEAD PLATE
5. TOOL STOP
6. DIA. ADJUSTING PLATE
7. PRE-SET FLOAT STOP
8. DOVETAIL REST PLATE
9. SLOTTED ADJ. SCREW(not shown)
10. RETAINER RAIL
11. RETAINER RAIL(not shown, far side)
12. SIDE BRACKET(not shown)
13. SPRING RETAINER(not shown, inside)
14. SPRING(not shown, inside)

15. DIAMETER ADJ. SCR.
16. LOCK GIB
17. RETAINER LOCK SCR.
18. ROLL REST
19. REST CLAMP
20. ROLLER
21. ROLLER PIN

**MOUNT ASSEMBLY**

22. MOUNT PLATE
23. GIB(not shown, inside)
24. RAIL STOP
25. RAIL(not shown, far side)
26. FLOAT PIN(not shown)

**BASE ASSEMBLY**

27. UPPER BASE
28. LOWER BASE
29. HEAD BOLT
30. KEY
31. "T" NUT
32. COVER PLATE
33. ADJ. BRACKET
34. ADJ. SCREW
35. TAPER ADJ.
36. GIB ADJ.
37. LONG HOLD DOWN BOLTS
38. SHORT HOLD DOWN BOLT
39. BRASS OIL LINE(not shown)
40. FLOAT ADJ. SCREW

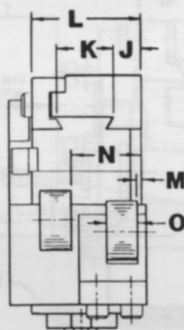
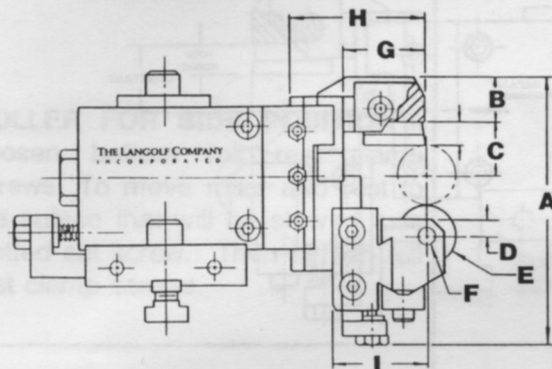
**PRIMARY HEAD DIMENSIONS  
FOR  
THE LANGOLF COMPANY, INC.  
HEAVY DUTY AUTO/SHAVE  
TOOL HOLDER**

**LCS**  
LANGOLF  
COMPANY  
SHAVE

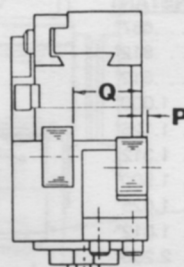
**1250**  
HEAD SIZE  
1250 = 1 1/4"  
2625 = 2 5/8"  
ETC...

**3**  
MOUNT

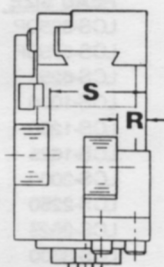
**A3**  
MACHINE  
A = ACME  
W = WICKMAN  
ETC...



**STANDARD  
ROLL REST**



**OPTIONAL  
LH OFF-SET**



**OPTIONAL  
RH OFF-SET**

HEAD SIZE	625DP	875DP	625	1000	1250	1625	2000	2250	2625	3500
MAXIMUM CAPACITY	5/8"	7/8"	5/8"	1"	1 1/4"	1 5/8"	2"	2 1/4"	2 5/8"	3 1/2"
MINIMUM CAPACITY	-0-	-0-	-0-	1/4"	1/4"	1/4"	-0-	-0-	-0-	1 1/2"
DOVETAIL	1/2"	1/2"	5/8"	1"	1"	1"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
A	3.36	3.50	3.87	4.92	5.56	5.75	6.20	6.52	7.22	8.03
B	.50	.50	.68	.87	.87	.87	.87	.87	1.00	1.00
C CONSTANT	.612	.812	.812	1.000	1.125	1.312	1.500	1.625	2.187	2.25
D	.22	.22	.22	.25	.25	.25	.25	.25	.40	.40
E ROLL DIA.	.75	.75	.75	1.12	1.25	1.25	1.25	1.25	1.25	1.25
F PIN	.312	.312	.312	.375	.375	.375	.375	.375	.500	.500
G TOOL LENGTH	1.12	1.12	1.25	1.50	1.75	1.75	1.75	1.75	1.88	1.88
H	1.87	1.87	2.00	2.50	2.87	2.87	2.87	2.87	3.50	3.50
I	1.44	1.44	1.50	1.94	2.06	2.06	2.06	2.06	2.38	2.38
J	.29	.29	.40	.73	.73	.73	.73	.73	.73	.73
K DOVETAIL SIZE	.714	.714	.912	1.288	1.288	1.288	1.554	1.554	1.787	1.787
L	1.29	1.29	1.65	2.88	2.88	2.88	2.88	2.88	3.17	3.18
M STD. REST (MIN)	-.02	-.02	.07	.07	.07	.07	.07	.07	0	0
N STD. REST (MAX)	.80	.80	1.19	1.69	1.69	1.69	1.69	1.69	2.03	2.03
O ROLL WIDTH	.375	.375	.375	.687	.687	.687	.687	.687	.687	.687

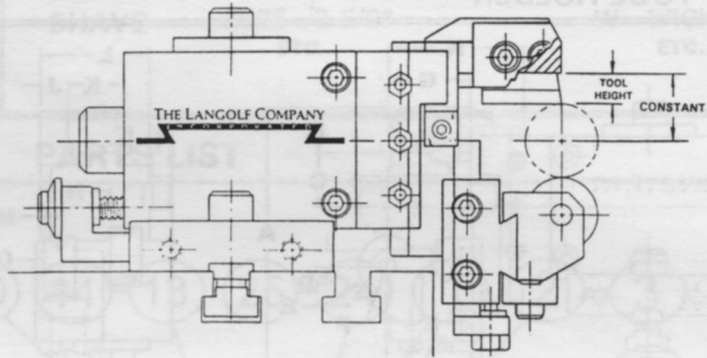
**OPTIONAL ROLL RESTS & DOVETAILS**

P LH OFF-SET (MIN)	-.12	-.12	-.12	-.12	-.12	-.12	-.12	-.12	-.18	-.18
Q LH OFF-SET (MAX)	.69	.69	.69	1.50	1.50	1.50	1.50	1.50	1.84	1.84
R RH OFF-SET (MIN)	.75	.75	1.06	.62	.62	.62	.62	.62	.62	.62
S RH OFF-SET (MAX)	1.56	1.56	1.87	2.25	2.25	2.25	2.25	2.25	2.65	2.65
1" WIDE ROLL REST	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
1 1/2" WIDE ROLL REST	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
2" WIDE ROLL REST	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
5/8" DOVETAIL	YES	YES	STD.	YES	YES	YES	YES	YES	NO	NO
1" DOVETAIL	NO	NO	NO	STD.	STD.	STD.	YES	YES	YES	YES
1 1/4" DOVETAIL	NO	NO	NO	YES	YES	YES	STD.	STD.	YES	YES
1 1/2" DOVETAIL	NO	NO	NO	YES	YES	YES	YES	YES	STD.	STD.
J OPTIONAL JAW/CLAMP	NO	NO	NO	.45	.45	.45	.45	.45	NO	NO

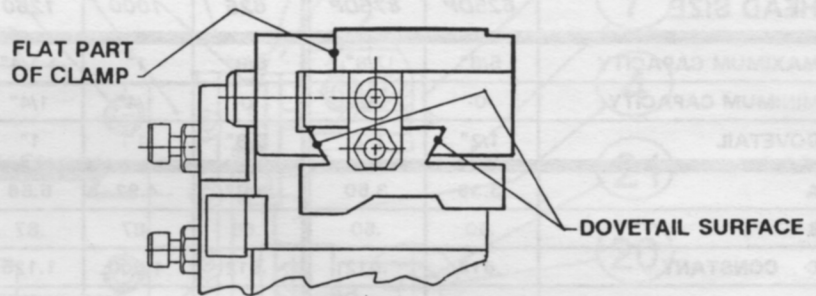
# INTRODUCING DOVETAIL TOOL TO SHAVE HEAD

**CHECK TOOL HEIGHT** - The formula for tool height is half the smallest diameter to be shaved minus the tool constant.

HEAD SIZE	CONSTANT
LCS-625DP	.687"
LCS-875DP	.812"
LCS-625	.812"
LCS-1000	1.000"
LCS-1250	1.125"
LCS-1625	1.312"
LCS-2000	1.500"
LCS-2250	1.625"
LCS-2625	1.812"
LCS-3500	2.250"

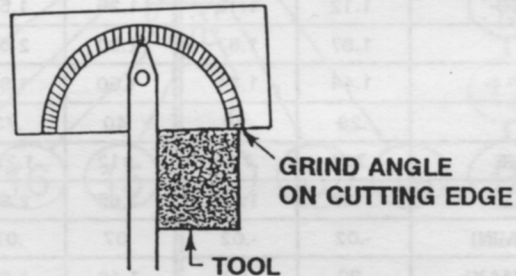


**CHECK CLAMP AND TOOL FOR TIGHTNESS** - Make sure the dovetail surface of the clamp is secured on the tool and also that the flat part of the clamp is secured on the head.

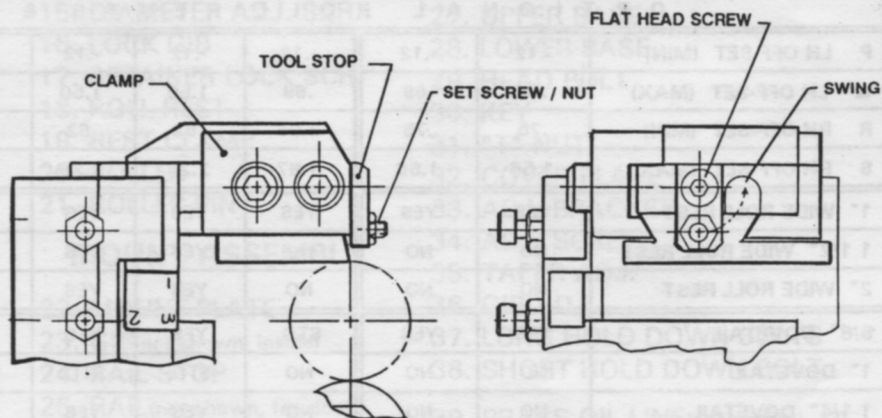


**FRONT RAKE ANGLE** - The Langolf Auto/Shave Heads has 1/2 to 1 degree back rake. Check to see if you have a minimum of 1 degree front rake on your tools (cutting edge). You may increase front rake possibly up to 10 degree depending on material. Front rake generally used is 1 to 5 degrees.

Lightly wipe the cutting edge with a piece of brass after sharpening.



**SET TOOL STOP** - Loosen flat head screw and swing tool stop out of the way. Slide tool in place, swing tool stop down and tighten flat head screw. Set the tools cutting edge to the face of the shave head this will put the tool on the centerline of the roll, then tighten clamp. Adjust set screw until it touches the tool and then lock down nut.

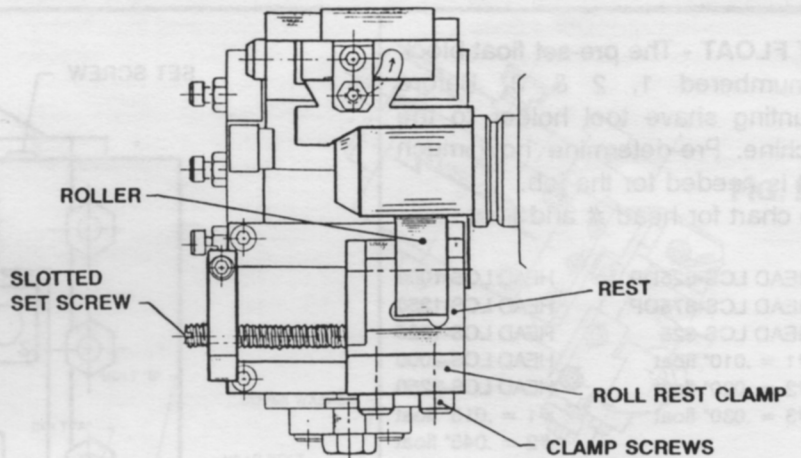




# LOCATING ROLLER TO THE PART AND TOOL

## ROLLER FOR SIDE POSITION -

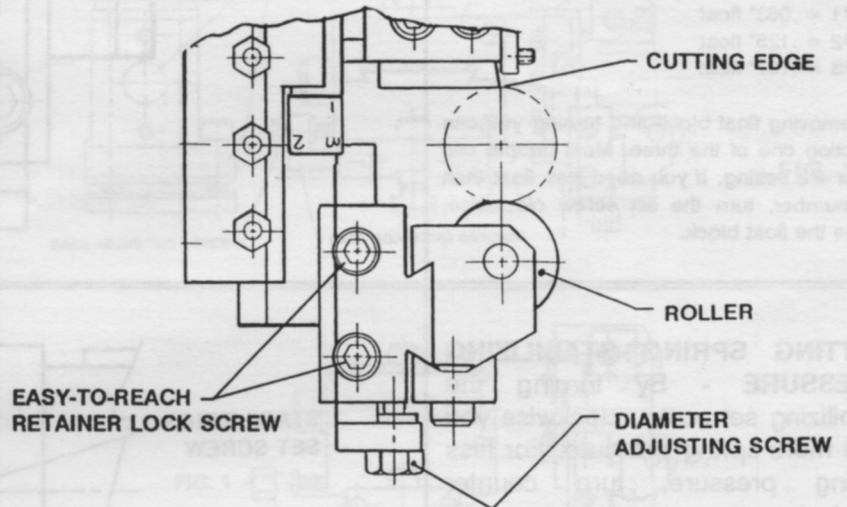
Loosen bottom roll rest clamp screws. To move roller and rest to the surface that will be shaved, use slotted set screw. Then tighten roll rest clamp screws.



## SET FOR SIZE POSITIONING - By

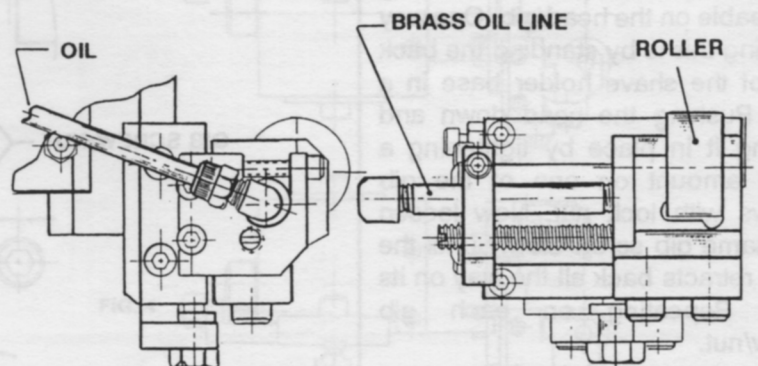
loosening the two easy-to-reach retainer lock screws on the side of bracket assembly. Adjust the lower diameter adjusting screw until size is determined (that is the distance between the shave tool cutting edge and the roller), secure the easy-to-reach retainer lock screws, *do not over tighten!!*

NOTE: Remember to loosen the easy-to-reach retainer lock screws when adjusting for diameter.



**CONNECT OIL LINE -** The Langolf Company Inc. provides a brass oil line to the roll assembly for three reasons:

1. To prevent chips from packing in behind the roller.
2. Flushes chips off the roller.
3. Lubricating the rollpin.



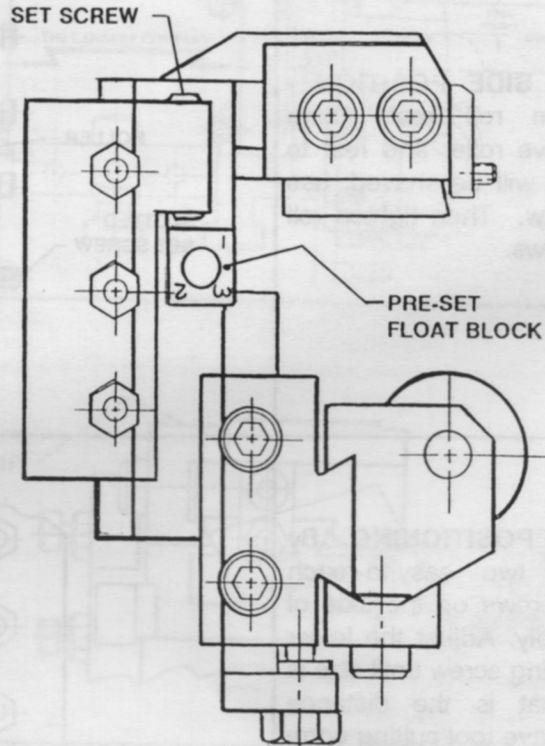


# SETTING FLOAT, SPRING, AND GIB

**SET FLOAT** - The pre-set float block is numbered 1, 2 & 3. Before mounting shave tool holder to the machine. Pre-determine how much float is needed for the job. See chart for head # and float.....

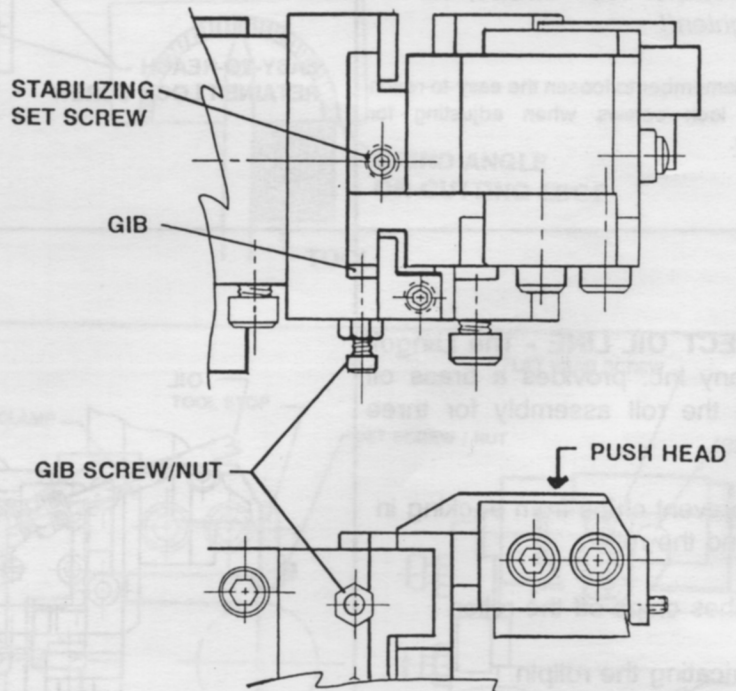
HEAD LCS-625DP	HEAD LCS-1000
HEAD LCS-875DP	HEAD LCS-1250
HEAD LCS-625	HEAD LCS-1625
#1 = .010" float	HEAD LCS-2000
#2 = .020" float	HEAD LCS-2250
#3 = .030" float	#1 = .015" float
	#2 = .045" float
	#3 = .125" float
HEAD LCS-2625	
HEAD LCS-3500	
#1 = .063" float	
#2 = .125" float	
#3 = .187" float	

By removing float block and turning you can selection one of the three. Most people use #1 or #2 setting. If you need less float than the number, turn the set screw clockwise, above the float block.



**SETTING SPRING STABILIZING PRESSURE** - By turning the stabilizing set screw, clockwise you add more spring pressure. For less spring pressure, turn counter clockwise.

**SETTING THE GIB PRESSURE** - You need to create a defined drag noticeable on the head/gib. One way of doing this is by standing the back end of the shave holder base in a vice. Pushing the head down and locking it in place by tightening a small amount on one of the gib screws with lock nut. Now loosen that same gib screw slowly until the head retracts back all the way on its own. Repeating on each gib screw/nut.





# SETTING BASE ASSEMBLY FOR POSITION

## LANGOLF AUTO/SHAVE TOOL HOLDER IS FACTORY ASSEMBLED AS IN FIG. 1

The Langolf Auto/Shave Tool Holder can be used in all normal shaving positions. The machine position, determines what side of the shave holder base is to be used.

Most screw machine cross slide positions have the same centerline, such as the Wickman, Schutte, Euroturn, Tornos, Gildemeister, Pittler (6 spindle), Mitsubishi, Warner/Swasey and some Acmes.

## TO RE-ASSEMBLY THE BASE FOR A DIFFERENT CROSS SLIDE POSITION WITH THE SAME CENTERLINE, AS IN FIG. 2

- 1) Remove hold-down bolts A & B with cover washer.
- 2) Pull lower base from upper-base.
- 3) Remove back adjusting bracket from lower base and screw on opposite side.
- 4) Remove back adjusting screw and screw into tapped hole directly above head bolt.
- 5) Take lower base and place on top of upper-base, so that back adjusting bracket lines up with back adjusting screw. Place cover washer on opposite side of lower base. Take bolt "A" (longest) and screw into hole on the outer side, place Bolt "B" into other hole.

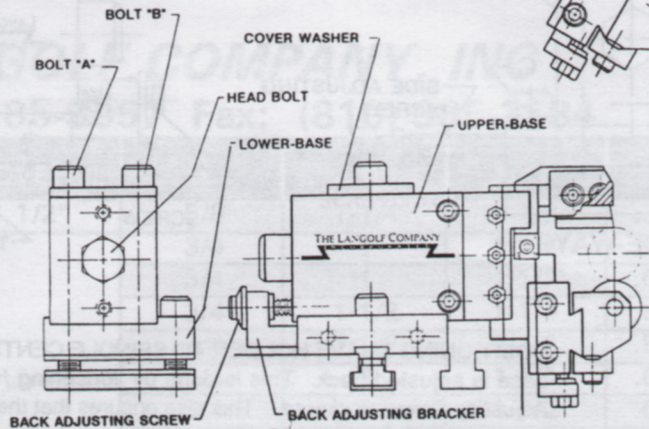


FIG. 2

FIG. 1

## LANGOLF AUTO/SHAVE TOOL HOLDER IS FACTORY ASSEMBLED AS IN FIG. 1

If your centerline in the upper front slide is difference from lower front slide. (as in FIG. 3) Use the above re-assembly instructions.

If your centerline in the upper back slide is difference from lower front slide. (as in FIG. 4) Use this instruction below.

- 1) Remove hold-down bolts, A & B with cover washer.
- 2) Pull lower base from upper base.
- 3) Remove back adjusting screw.
- 4) Remove taper-adjustment screws from this side (longer ones) and remove screws from other side from taper-adjustment screws.
- 5) Remove head bolt and pull upper base from head/mount.
- 6) Turn upper base 180 deg. and re-ass'y to head/mount with head bolt. Put taper adjustment screws (longer ones) on this side, and put the other ones on the other side of the upper base.
- 7) Put back adjusting screw into upper-base in line with bracket, now you can re-ass'y the lower-base to the upper-base with cover washer on opposite if lower base. Take bolt "A" (longest) and screw into hole on the outer side, Place bolt "B" into other hole as shown.

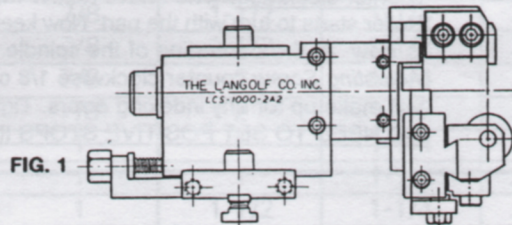


FIG. 1

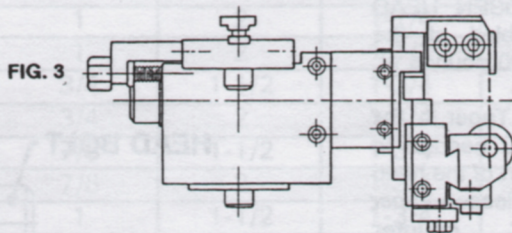


FIG. 3

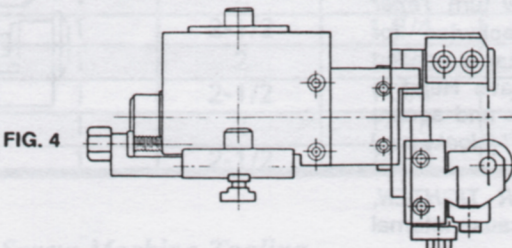
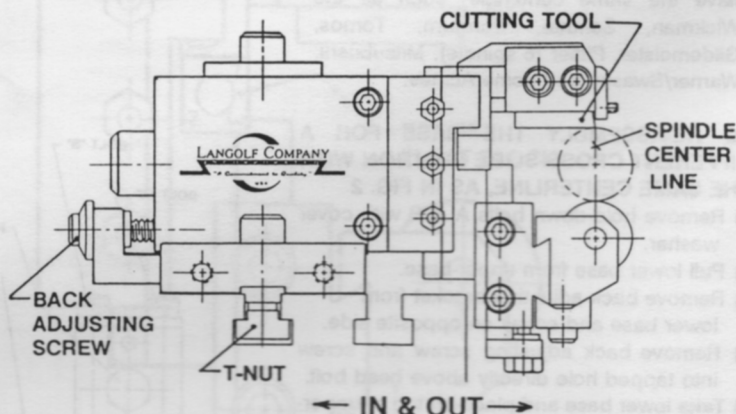
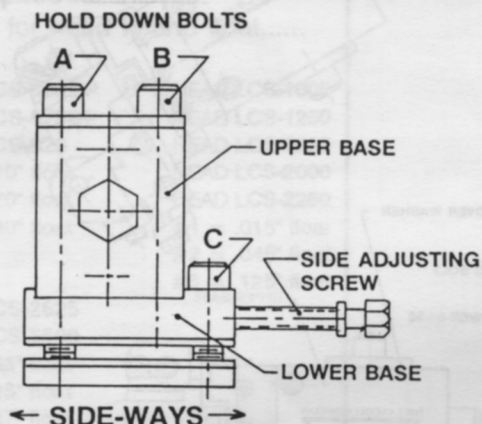


FIG. 4



# POSITIONING THE LCI AUTO/SHAVE TOOL HOLDER

**POSITIONING HOLDER ON CROSS SLIDE: SIDEWAYS** - Detach "T" nut by removing *Hold-Down Bolts "A" (longest) & "C" (shortest)* from *Lower Base* and *Upper Base*. Now insert "T"-Nut into Cross-slide "T" Slot (most of the time it's the 2nd T-Slot.) Place Shave Tool Holder on the cross slide, lining up the holes with the "T"-Nut. Return *Hold-Bolts "A" & "C"* and tighten lightly. To position Shave Tool Holder sideways use *Side Adjusting Screw* (3/8"-24.) When in position, tighten *Hold-Down Bolts "A" & "C."*

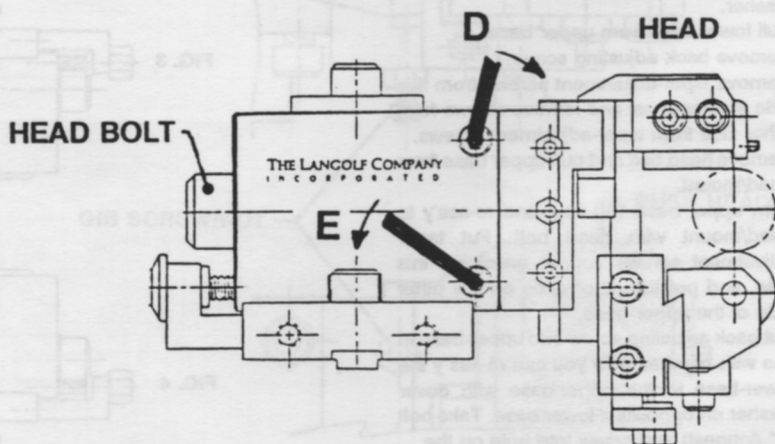


**POSITIONING SHAVE HOLDER TO SPINDLE CENTER LINE (IN & OUT)** - Be sure the shave holder base is adjusted back. This is done by loosening *Hold Down Bolts "A" & "B"* and turning the *Back Adjusting Screw* clockwise. This also ensures that the holder doesn't pass the center before running the machine to the high point of the cam (end of cross slide travel.) Now run the machine to the high point of the cam. With some pressure on *Hold Down Bolts "A" & "B"*, turn the *Back Adjusting Screw counter clockwise*. The shave holder will move in toward the spindle. Keep turning until the Shave Roller starts to turn with the part. Now keep turning until the tool stops cutting chip-shavings. The tool is now at the centerline of the spindle. It's O.K. to go a little past the center by turning the *Back Adjusting Screw counter clockwise 1/8 of a turn ( $\approx .005"$ )* now you are pass center by .005". This will make up for any indexing errors. Tighten all *Hold Down Bolts: A, B, & C.*  
NO NEED TO SET POSITIVE STOPS IN THE SHAVE POSITIONS.

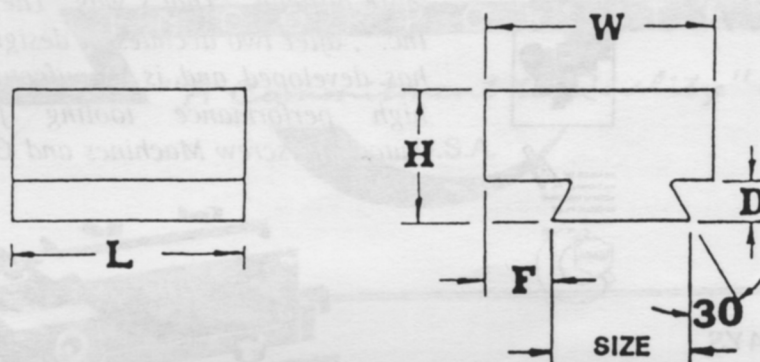
**TAPER ADJUSTMENT -**  
 "DO NOT LOOSEN HEAD BOLT," assembled at the factory with 100 pounds of torque.

To adjust for Taper, for example: if you needed to move the top part of the head away from you, loosen *Taper Screw "E"* counter clockwise. Now turn *Taper Screw "D"* clockwise for direction of the taper needed or until the Shave Head is level. Go back and secure *Taper Screw "E"* (clockwise.)

**DO NOT OVER TIGHTEN,** could possibly cause internal damage.



# DOVETAIL SHAVE TOOL BLANKS



## THE LANGOLF COMPANY, INC

Phone: (810) 985-9057 Fax: (810) 985-3534

PRODUCT NO.	SIZE	DOVETAIL	H	W	L	F	D
S-714-1	.714	1/2"	5/8	1-1/4	1-1/8	.375	.22
S-912-2	.912	5/8"	3/4	1	1-1/4	.093	.28
S-912-3	.912		3/4	1	1-1/2	.093	.28
S-912-4	.912		3/4	1-1/2	1-1/4	.562	.28
S-912-5	.912		3/4	1-1/2	1-1/2	.562	.28
S-912-6	.912		3/4	2	1-1/4	.687	.28
S-912-7	.912		3/4	2	1-1/2	.687	.28
S-912-8	.912		7/8	1	1-1/4	.093	.28
S-912-9	.912		7/8	1	1-1/2	.093	.28
S-912-10	.912		7/8	1-1/2	1-1/4	.562	.28
S-912-11	.912		7/8	1-1/2	1-1/2	.562	.28
S-912-12	.912		7/8	2	1-1/4	.687	.28
S-912-13	.912		7/8	2	1-1/2	.687	.28
S-912-14	.912		1	1	1-1/4	.093	.28
S-912-15	.912		1	1	1-1/2	.093	.28
S-912-16	.912		1	1-1/2	1-1/4	.562	.28
S-912-17	.912		1	1-1/2	1-1/2	.562	.28
S-912-18	.912		1	2	1-1/4	.687	.28
S-912-19	.912		1	2	1-1/2	.687	.28
S-1288-20	1.288	1"	3/4	1-1/2	1-3/4	.218	.28
S-1288-21	1.288		3/4	2	1-3/4	.625	.28
S-1288-22	1.288		7/8	1-1/2	1-3/4	.218	.28
S-1288-23	1.288		7/8	2	1-3/4	.625	.28
S-1288-24	1.288		1	1-1/2	1-3/4	.218	.28
S-1288-25	1.288		1	2	1-3/4	.625	.28
S-1288-26	1.288		1	2-1/2	1-3/4	.625	.28
S-1554-27	1.554	1 1/4"	1	2	1-3/4	.437	.28
S-1554-28	1.554		1	2-1/2	1-3/4	.437	.28
S-1787-29	1.787	1 1/2"	1	2	1-7/8	.218	.28
S-1787-30	1.787		1	2-1/2	1-7/8	.500	.28

Manufacturer of Screw Machine Tooling

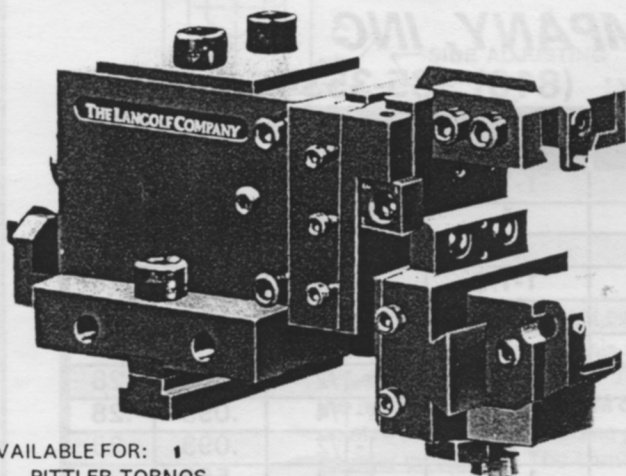
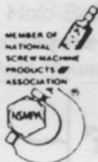
Shave Tool Holders • Recess Attachments • Form Tool Holders

Cut-Off Blade Holders • Dovetail Tool Blanks • Tool Bits



# THE AUTO/SHAVE HOLDER THAT GIVES YOU WHAT YOU WANT. . .

- ✓ HIGH PERFORMANCE
- ✓ NO CHATTER
- ✓ PRE-SET FLOAT
- ✓ QUICK CHANGE
- ✓ GIB ADJUSTMENT
- ✓ FITS ALL POSITIONS
- ✓ TAPER ADJUSTMENT
- ✓ ROLLER MOVES SIDEWAYS
- ✓ STABILIZING SPRING (HEAVY DUTY)
- ✓ REDUCES YOUR SET-UP TIME BY 75%



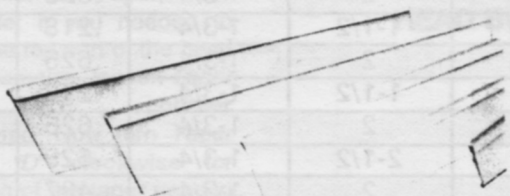
AVAILABLE FOR:

PITTLER-TORNOS,  
TORNOS BECHLER, ACME,  
NEW BRITAIN, CONE, INDEX,  
GREENLEE MACHINES, WARNER & SWASEY,  
WICKMAN, DAVENPORT, BROWN & SHARP

Patent Pending

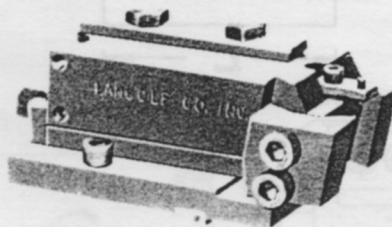
## ■ CHATTER PROOF AUTO/SHAVE TOOL HOLDERS

- This shave tool holder assures repeatability for tighter tolerances, part after part with no Chatter. The roll assembly moves sideways .001" to 1.500". This two axis roller positioning (Vertical and Horizontal) will make all job layouts easier.



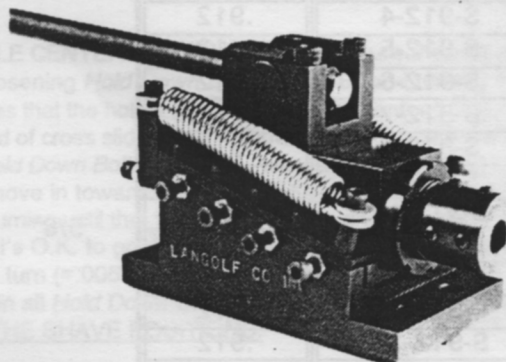
- "T" SHAPED CUT-OFF BLADES are hollow ground which reduces friction for longer tool life!! Available in M-3, Cobalt, CPM T-15, and Carbide Tipped. Available from stock in all sizes.

Without the right tools, it's tough to do any job well. The demands put on today's screw machines for tighter tolerances and for less money is getting even more difficult. That's why "The Langolf Company Inc.", after two decades of design and engineering, has developed and is manufacturing high quality, high performance tooling for Multi-Spindle Automatic screw Machines and Chuckers.



## ■ QUICK-CHANGE DOVETAIL FORM TOOL HOLDERS

AND BRIDGES - Tools can be set-up and changed by lesser skilled operators with more accuracy because of pre-set stops, taper adjustments, radial adjustments & side adjustments. The results are less down time, more production, higher efficiency and quality control with no scrap due to improper tool adjustments.



## ■ HIGH PERFORMANCE RECESSING ATTACHMENTS

Are available in two designs: Adjustable Stationary or Rotary Milling. Its high performance features make these two attachments outstanding. Easy-to-reach adjustments and are made simple and convenient for the operator. These heavy-duty attachments are precision ground to provide smooth slide action for holding closer tolerances longer on your parts with finer finishes.

FOR MORE INFORMATION CALL

**THE LANGOLF COMPANY**

INCORPORATED

(810) 364-4008

3125 Ravenswood ■ Port Huron, MI 48060

Manufacturer of Screw Machine Tooling

Auto/Shave Tool Holders

Pre-Set/Form Tool Holders

Recess Attachments

Cut-Off Blades • Dovetail Tool Blanks

**1-800-LCI-SHAVE**  
**1-800-524-7428**

Alan E. Langolf  
President