

THE LANGOLF COMPANY

LIMITED LIABILITY COMPANY

“A COMMITMENT TO QUALITY”



“STEP BY STEP” SHAVE TOOL HOLDER USER’S MANUAL

THE LANGOLF COMPANY, LLC
3765 PLAZA DR
ANN ARBOR, MI 48108
PHONE: (810)364-4008
FAX: (810)364-4970

EMAIL: INFO@LANGOLFCO.COM

Introduction

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. It is our hope that this manual will help decrease set-up and down time while expanding the operator's ability to efficiently use The Langolf Company Auto/Shave Tool Holder. The following pages have detailed information on:

Page 2	This Introduction
Page 3	Shave Tool Holder Parts List Diagram
Page 4	Introducing Dovetail Tool to Shave Head
Page 5	Locating Roller to Part & Tool
Page 6	Setting Float, Spring & GIB
Page 7	Setting Base for Postion
Page 8	Available Dovetail Shave Tool Blanks
Page 9	Shave Head Primary Dimensions (Specifications)

At The Langolf Company, LLC our customers always come first! You can find this *Step by Step User's Manual* at the Support link of our website at www.langolfco.com. Should any questions arise or if further assistance is needed please call feel free to contact us.

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

**DEFINITION OF
LANGOLF COMPANY, LLC
AUTO/SHAVE TOOL HOLDER
MODEL NUMBERS**

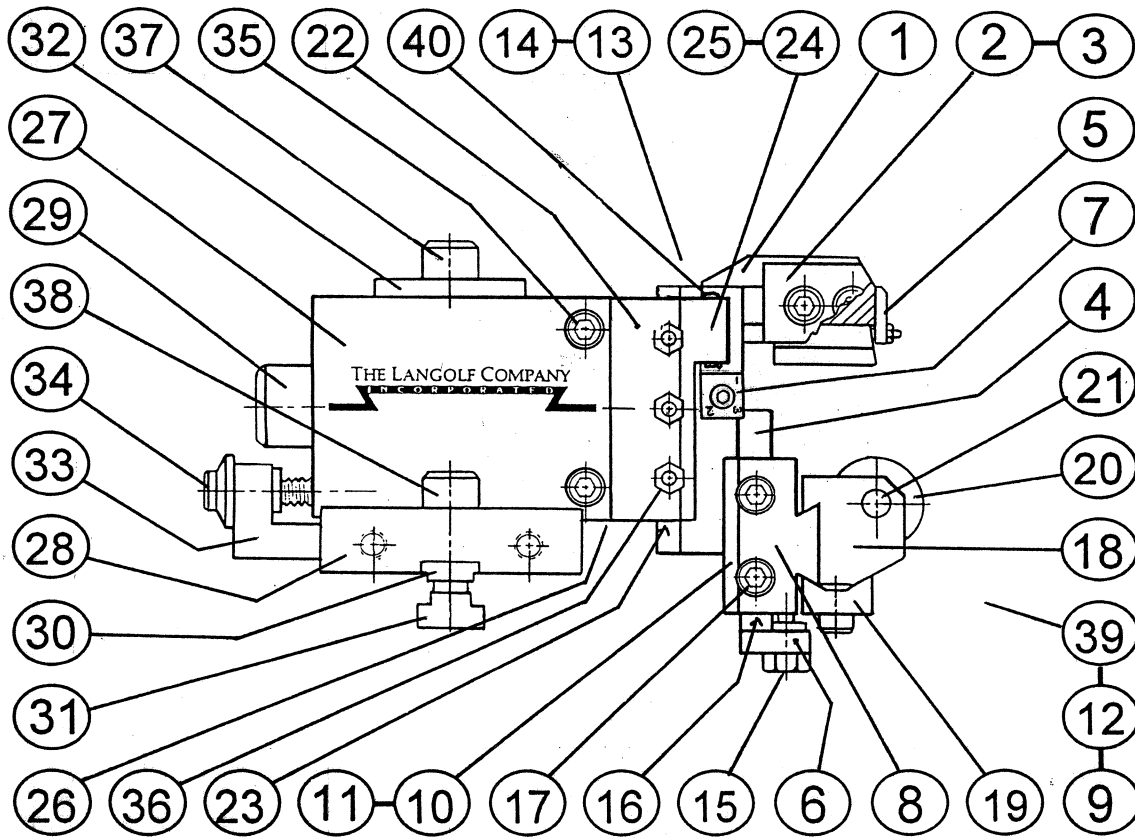
LCS — 1250 — 3 — A3

Langolf
Company
Shave

Head Size
1250 = 1 1/4"
2625 = 2 5/8"
etc.

Mount

Machine
A=Acme
E=Euroturn
etc.

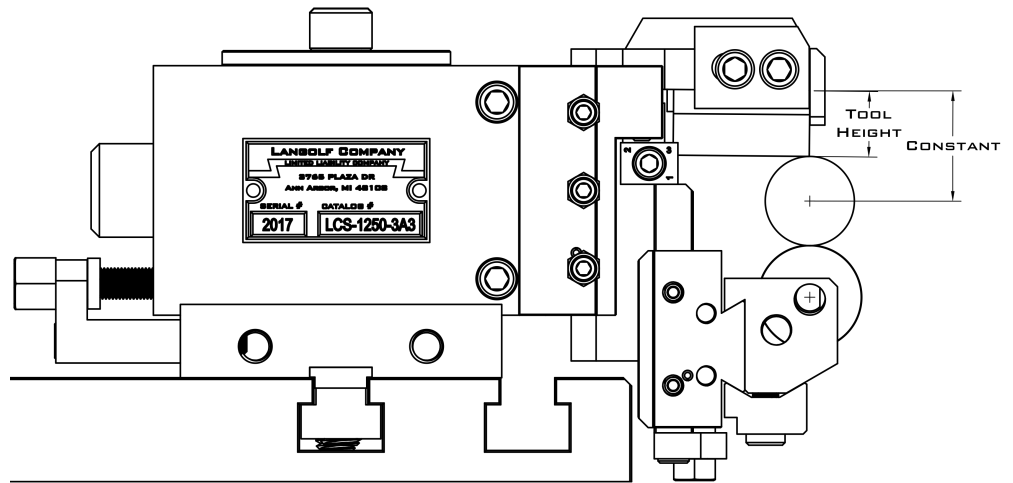


HEAD ASSEMBLY		N/S = Not Shown		BASE ASSEMBLY	
1.	Shave Head	15.	Diameter Adj. Screw	27.	Upper Base
2.	Dovetail Clamp	16.	Lock Gib	28.	Lower Base
3.	Hard Side Jaw (N/S, Far side)	17.	Retainer Lock Screw	29.	Head Bolt
4.	Head Plate	18.	Roll Rest	30.	Key
5.	Tool Stop	19.	Rest Clamp	31.	T Nut
6.	Dia. Adjusting Plate	20.	Roller	32.	Cover Plate
7.	Pre-Set Float Stop	21.	Roller Pin	33.	Adj. Bracket
8.	Dovetail Rest Plate	MOUNT ASSEMBLY		34.	Adj. Screw
9.	Slotted Adj. Screw (N/S)			35.	Taper Adj.
10.	Retainer Rail			22.	Mount Plate
11.	Retainer Rail (N/S, Far side)	23.	Gib (N/S, Inside)	37.	Long Hold Down Bolts
12.	Side Bracket (N/S)	24.	Rail Stop	38.	Short Hold Down Bolts
13.	Spring Retainer (N/S, Inside)	25.	Rail (N/S, Far side)	39.	Brass Oil Line Fitting (N/S)
14.	Spring (N/S, Inside)	26.	Float Pin (N/S)	40.	Float Adj. Screw

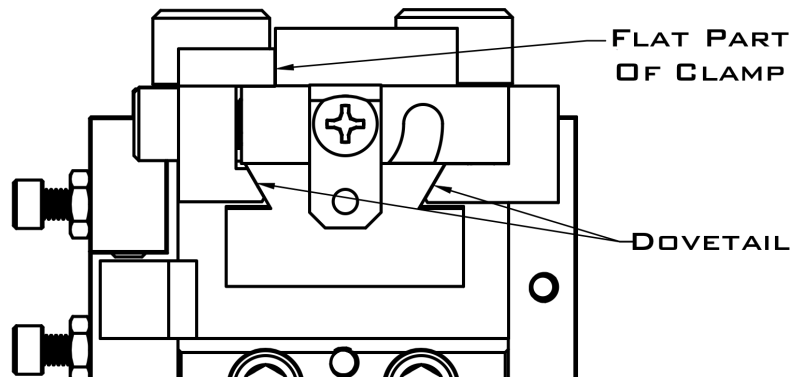
Introducing Dovetail Tool To Shave Head

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

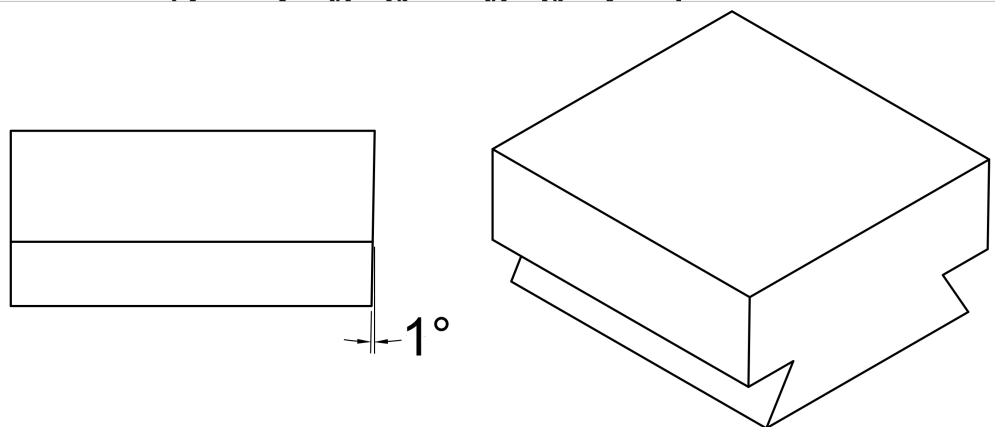
Head Size	Constant
LCS-625DP	0.687"
LCS-875DP	0.812"
LCS-625DP	0.812"
LCS-1000	1.000"
LCS-1250	1.125"
LCS-1625	1.312"
LCS-2000	1.500"
LCS-2250	1.625"
LCS-2625	1.812"
LCS-3500	2.250"



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.

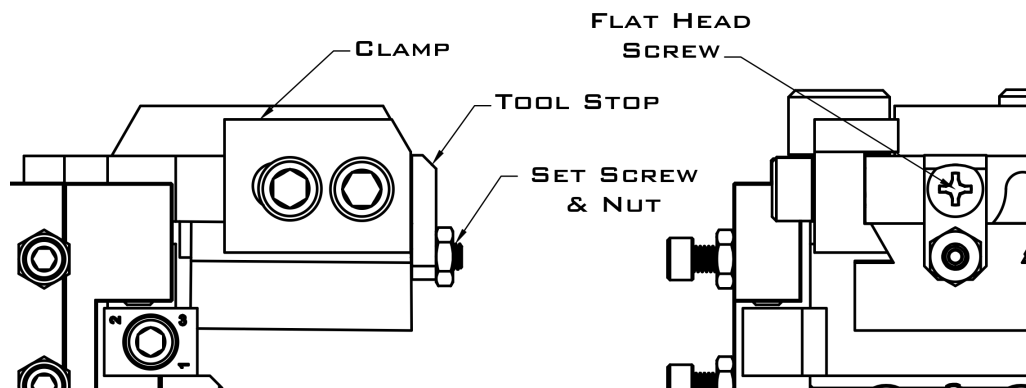


FRONT TAKE ANGLE - The Langolf Auto/Shave Head has 1/2 to 1 degree back rake. Check to see if you have a minimum of 1 degree front rake on your tools cutting edge. You may increase front rake possibly up to 10 degree depending on material. Front rake generally used is 1 to 5 degrees



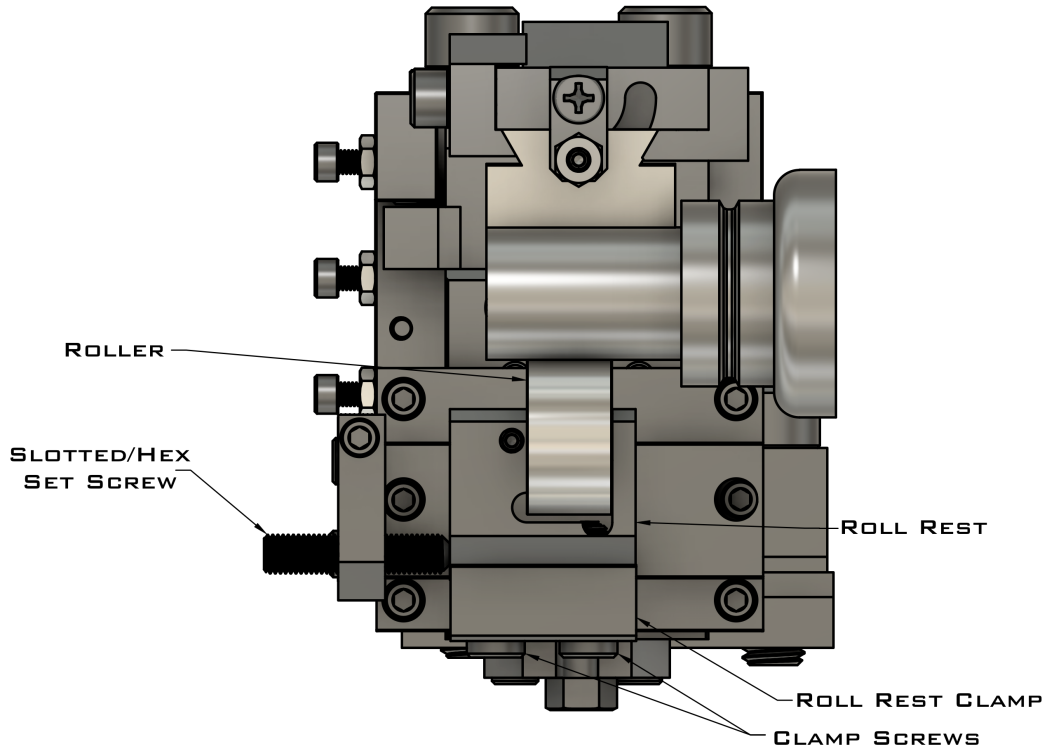
Lightly wipe the cutting edge with a piece of brass after sharpening.

SET TOOL STOP - Loosen the 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 tool's cutting edge to the face of the shave head, this will put the tool on the centerline of the roller, then tighten the clamp. Adjust set screw until it touches the tool and then lock down nut.



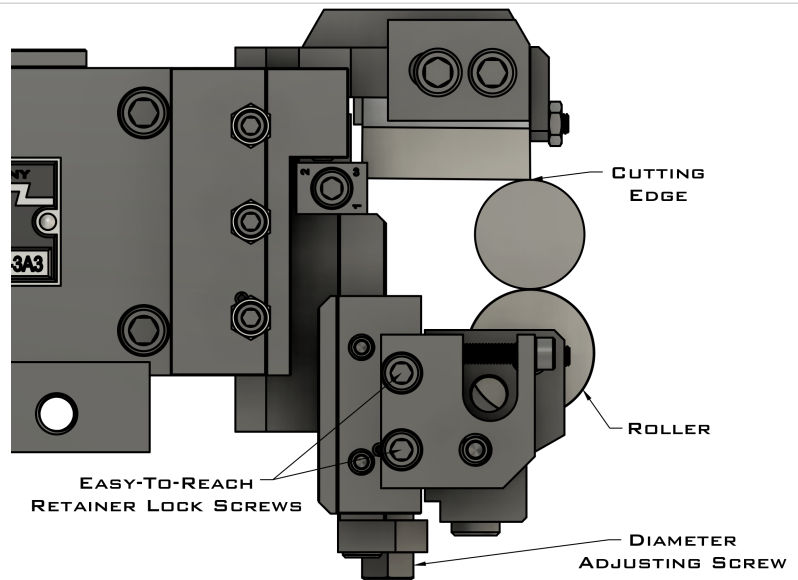
Locating Roller to the Part and Tool

ROLLER FOR SIDE POSITION - Loosen bottom roll rest clamp screws. To move roller and rest to the surface that will be shaved, use slotted (or hex) set screw. Then re-tighten roll rest clamp screws.



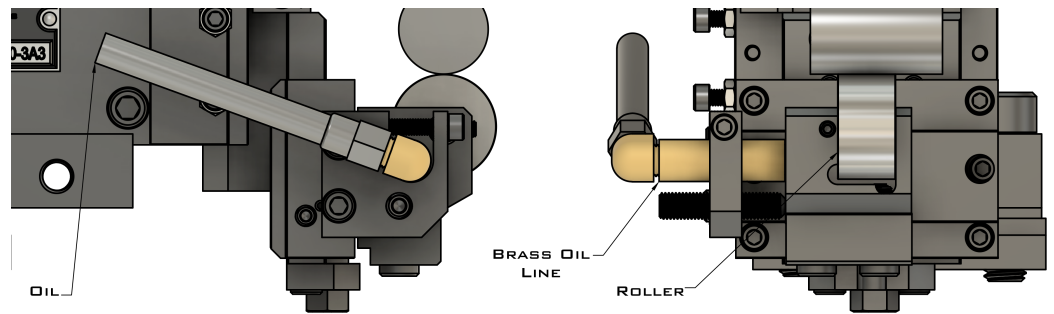
SET FOR SIZE POSITIONING - Loosen the two easy-to-reach retainer lock screws on the side bracket assembly. Adjust the lower diameter adjusting screw until size is determined. That is, the distance between the shave tool cutting edge and the roller. Secure the easy-to-reach retainer lock screws. **Do Not Over Tighten These Screws !!**

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



CONNECT OIL LINE - The Langolf Company Shave Tool Holder can accommodate a brass oil line to flood the roller assembly. This provides three advantages:

- 1) Prevents chips from packing in behind the roller.
- 2) Flushes chips off the roller
- 3) Lubricates the roll pin



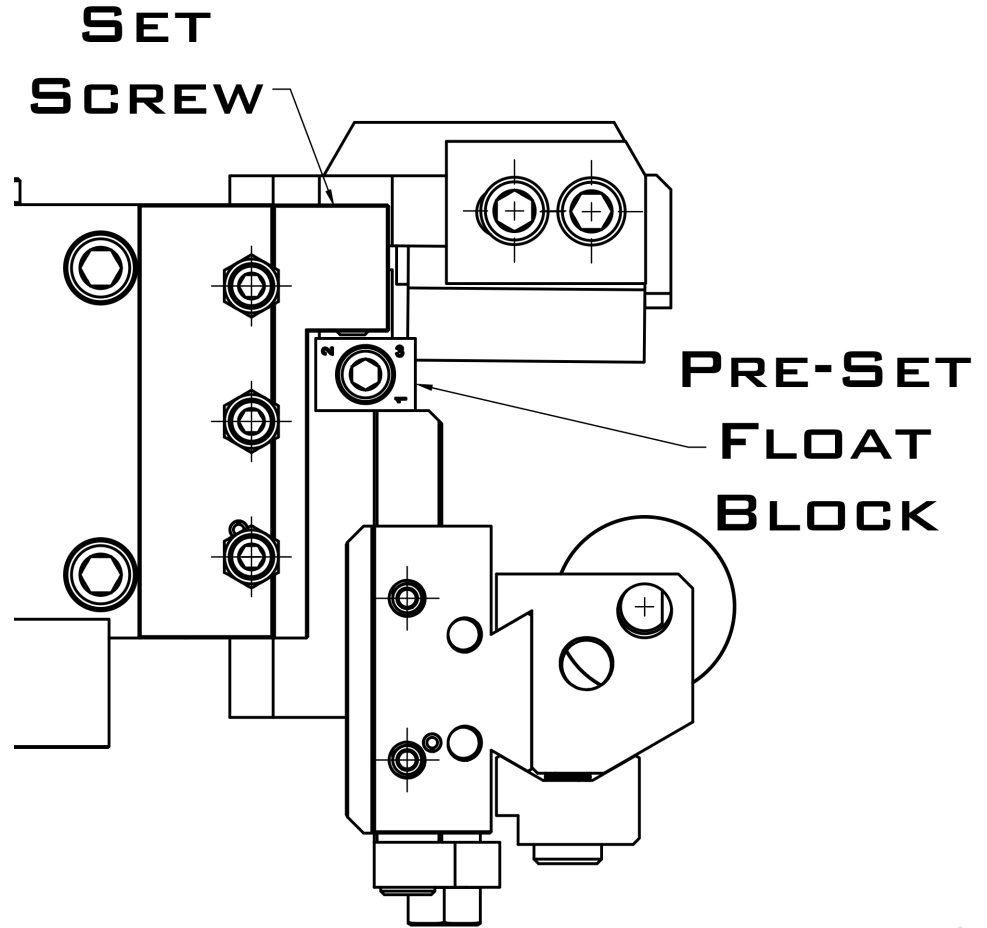
Setting Float, Spring, and GIB

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 below for Langolf Head part # and float setting....

LCS-625DP	LCS-1000
LCS-875DP	LCS-1250
LCS-625	LCS-1625
#1 = 0.010" float	LCS-2000
#2 = 0.020" float	LCS-2250
#3 = 0.030" float	#1 = 0.015" float
	#2 = 0.045" float
	#3 = 0.125" float
LCS-2625	
LCS-3500	
#1 = 0.063" float	
#2 = 0.125" float	
#3 = 0.187" float	

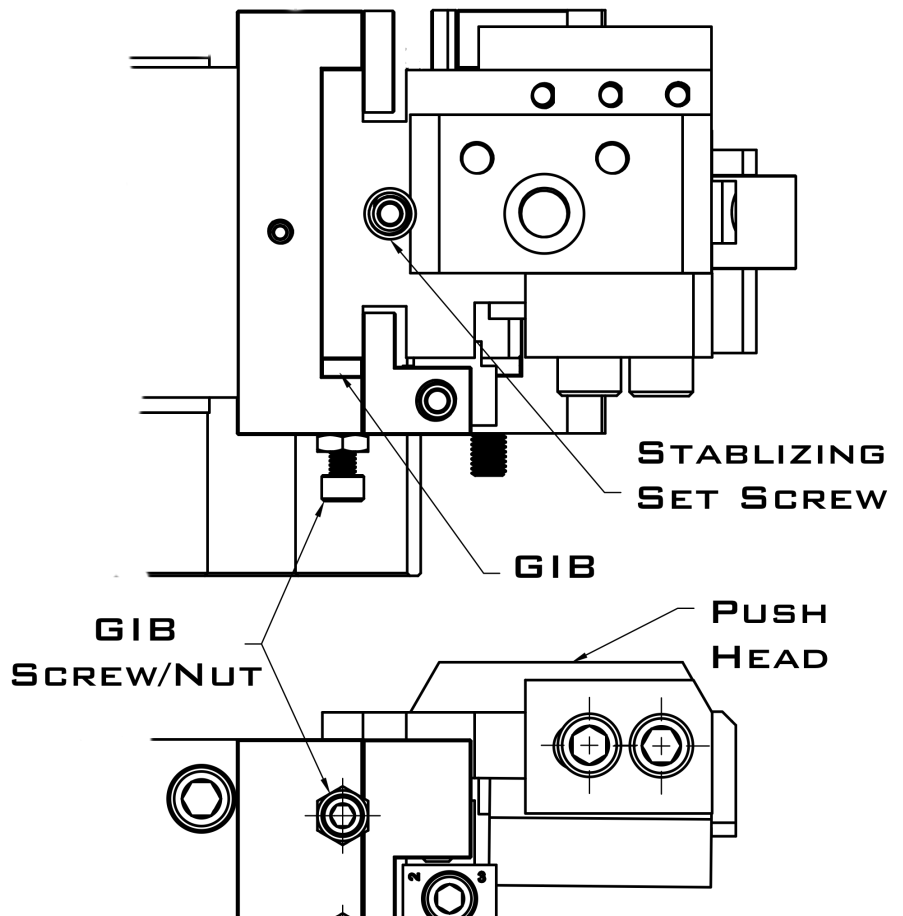
By removing the float block and turning it you can select on of the three settings. Most common use is #1 or #2 setting. If you need less float than the number, turn the set screw clockwise above the float block.



SETTING SPRING STABILIZING

PRESSURE - By turning the stabilizing set screw clockwise you add more spring pressure. For less spring pressure, turn count 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 vise. Release the lock nuts on the gib screws. Then, push the head down with force against the spring and lock it in place by tightening a small amount on ONE of the gib screws. Now, loosen that same gib screw slowly until the head retracts back all the way on it's own. Repeat this procedure on each of the gib screws/nuts. Once all gib screws are set appropriately, tighten the nuts to lock gib screws in place.



Setting Base Assembly for Position

Langolf Auto/Shave Tool Holders can be used in all normal shaving positions.

The machine position determines what side of the shave holder base is to be used.

Langolf Shave Tool Holder Is Factory Assembled as in FIG. 1.

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

TO RE-ASSEMBLE 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 onto the 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 brackets lines up with back adjusting screw. Place cover washer on opposite side of lower base. Take hold-down bolt A (longest) and screw into hole on the outer side, place bolt B into other hole.

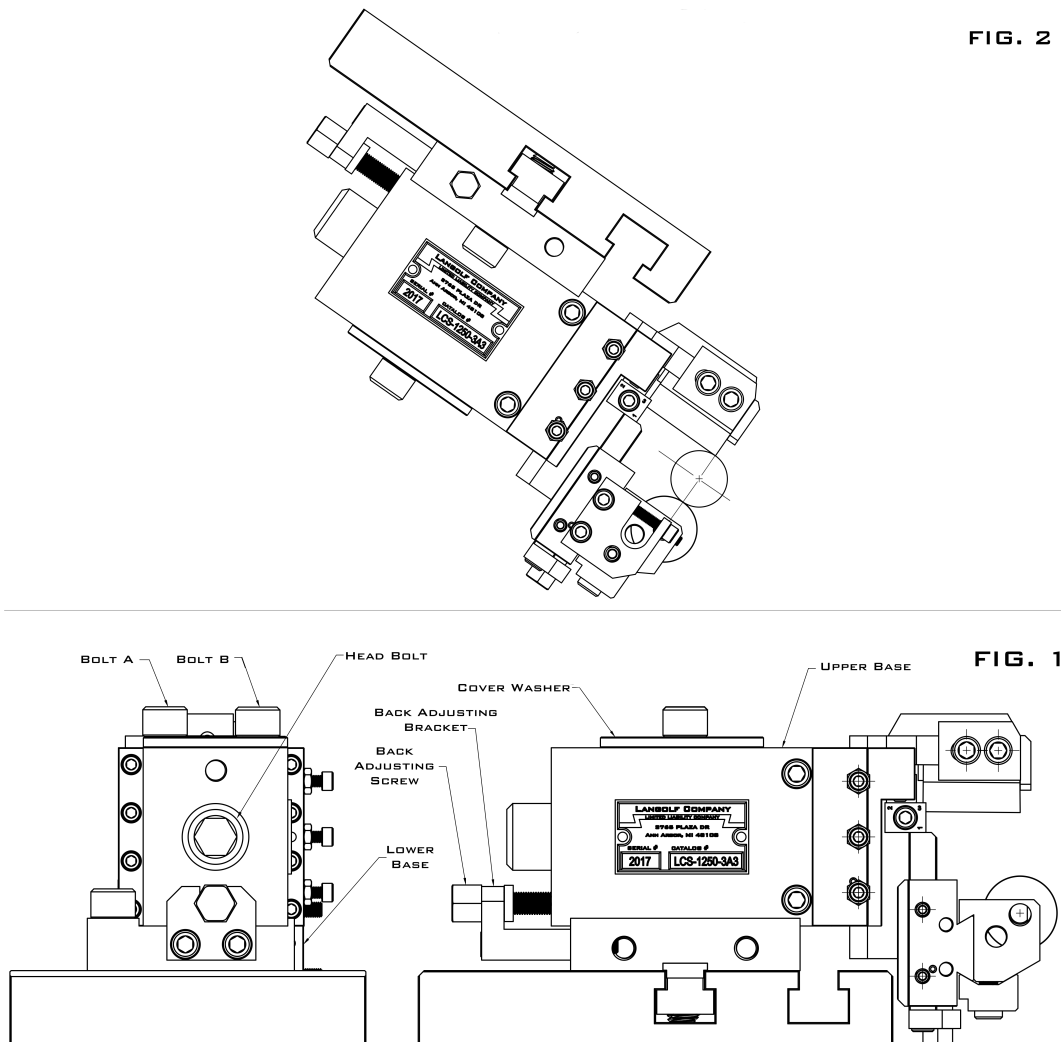


FIG. 1

USING LANGOLF SHAVE HOLDERS ON MACHINES WITH VARYING CENTERLINES

Langolf Shave Tool Holder Is Factory Assembled as in FIG. 1.

If your centerline in the upper front slide is different from the lower front slide (FIG. 3) use the re-assembly instructions in the section above.

If your centerline in the upper back slide is different from the lower front slide (FIG. 4) Re-assemble as follows:

- 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 screw from this side (longer ones) and remove screws from other side (shorter ones).
- 5) Remove head bolt and pull upper base from head/mount
- 6) Turn upper base 180 deg. and re-assemble to head/mount with head bolt. Put taper adjustment screws (longer ones) on this side, put shorter ones on the other side of upper base.
- 7) Put back adjusting screw into upper base in line with bracket. Now you can re-assemble the lower base to the upper base with cover washer opposite of lower base. Take bolt A (longest) and screw into hole on the outer side. Place bolt B into other hole.

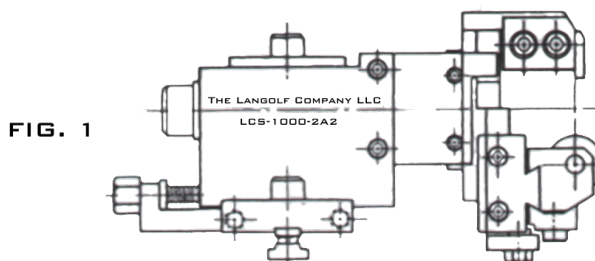


FIG. 1

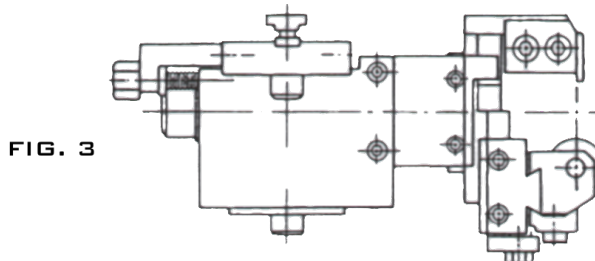


FIG. 3

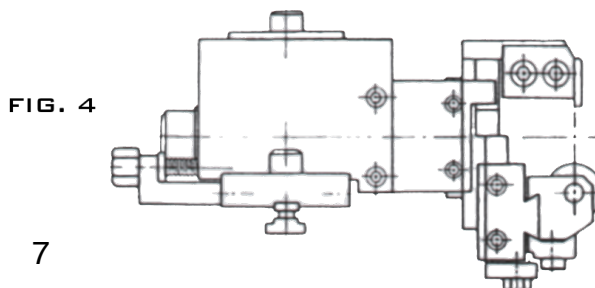
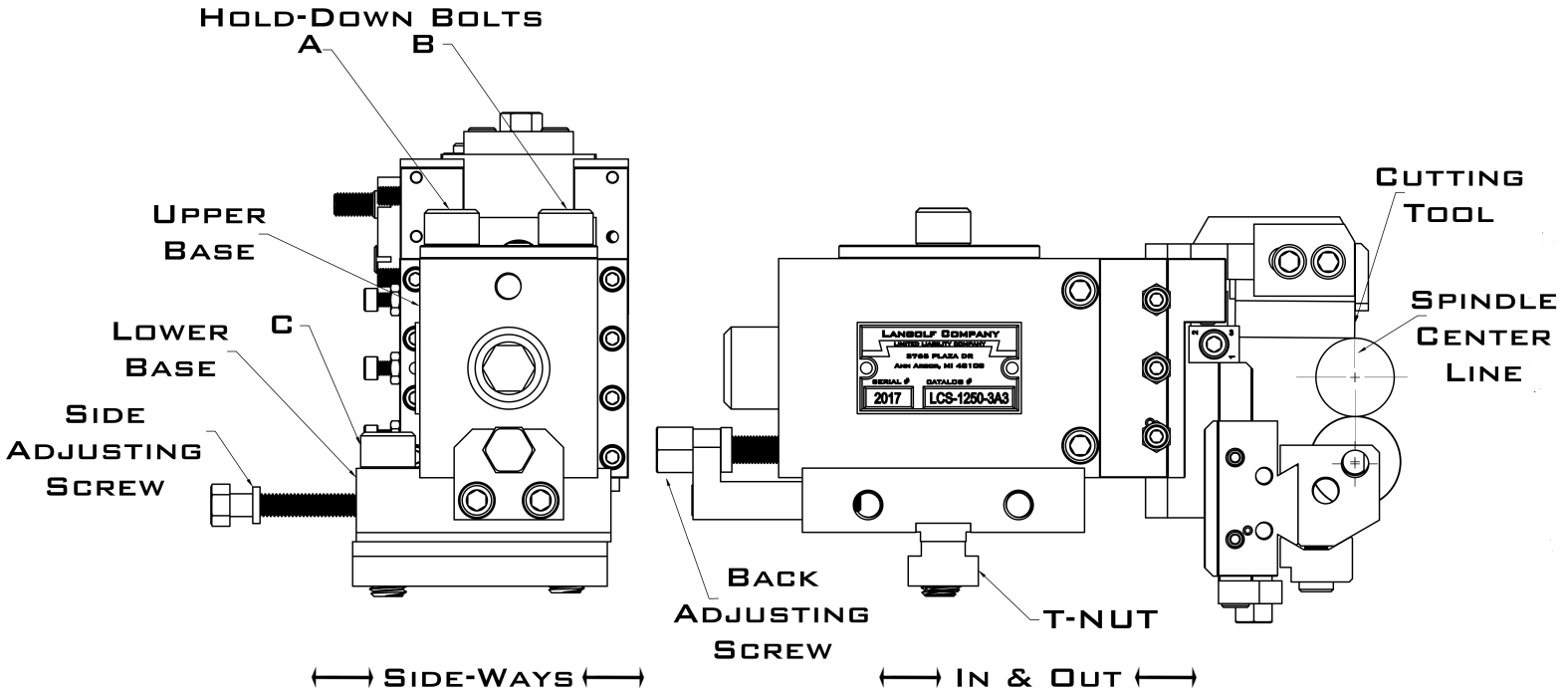


FIG. 4

Positioning the Shave Tool Holder

POSITIONING HOLDER ON CROSS SLIDE: SIDEWAYS - Detach T-Nut by removing Hold-Down Bolts "A" (longest) and "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 scross slide, lining up the holes with the T-Nut. Return Hold-Down Bolts "A" & "C" and tighten lightly. To position Shave Tool Holder sideways use Side Adjusting Scrw (3/8"-24). When in desired position, tighten Hold-Down Bolts "A" & "C".

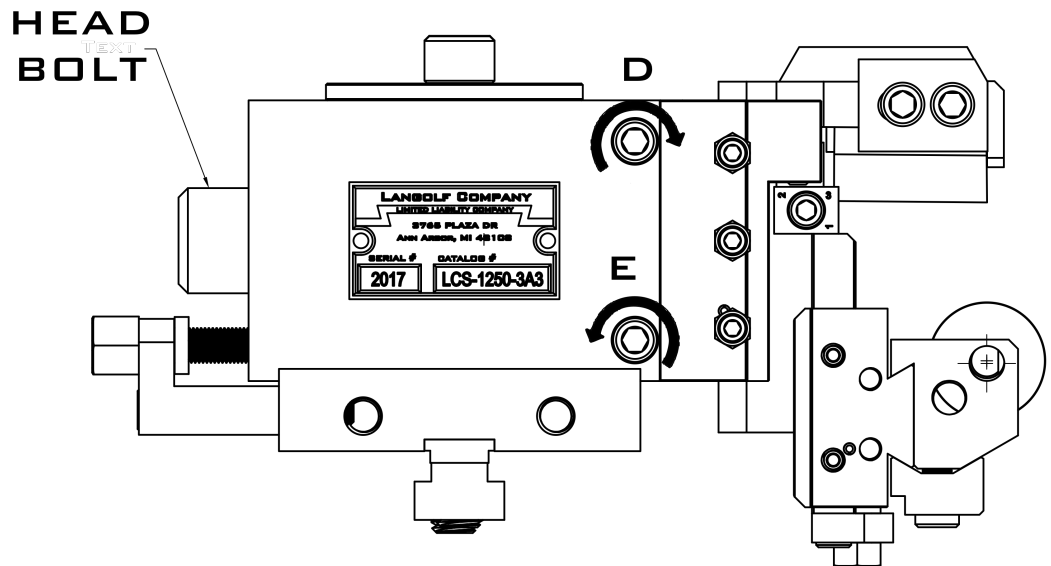


TAPER ADJUSTMENT -

!! DO NOT LOOSEN THE HEAD BOLT !!
The head bolt is assembled at the factory with 100 ft-lbs of torque.

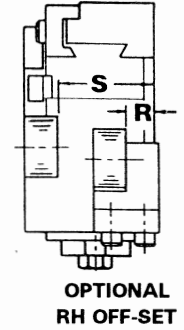
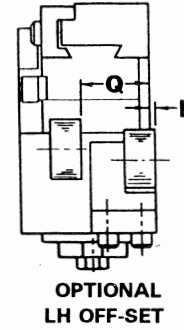
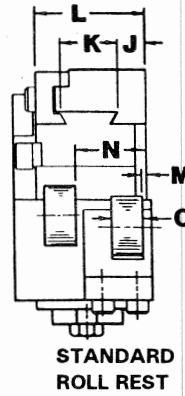
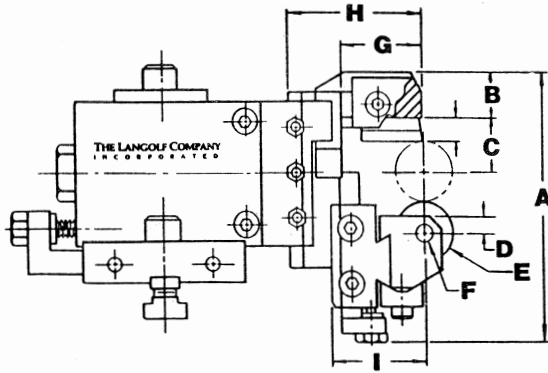
To adjust for Taper, for example if you need to move the top part of the head away from you, loosen Taper Screw "E" counter clockwise. Now turn Taper Screw "D" clockwise for direction of the taper needed or until the Shave Head is level. Go back and secure Taper Screw "E" (clockwise)

DO NOT OVER TIGHTEN Taper Screws as this could possibly cause internal damage.



**PRIMARY HEAD DIMENSIONS
FOR
LANGOLF COMPANY, LLC
AUTO/SHAVE TOOL HOLDER**

LCS		—	1250	—	3	—	A3
Langolf Company Shave		Head Size 1250 = 1 1/4" 2625 = 2 5/8" etc.		Mount		Machine A=Acme E=Euroturn etc.	



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	0.50	0.50	0.68	0.87	0.87	0.87	0.87	0.87	1.00	1.00
C Constant	0.687	0.812	0.812	1.000	1.125	1.312	1.500	1.625	1.812	2.25
D	0.22	0.22	0.22	0.25	0.25	0.25	0.25	0.25	0.40	0.40
E Roll Diameter	0.75	0.75	0.75	1.12	1.25	1.25	1.25	1.25	1.25	1.25
F Pin	0.312	0.312	0.312	0.375	0.375	0.375	0.375	0.375	0.500	0.500
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	0.29	0.29	0.40	0.73	0.73	0.73	0.73	0.73	0.73	0.73
K Dovetail Size	0.714	0.714	0.912	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	3.17
M Std. Rest (Min)	-0.02	-0.02	0.07	0.07	0.07	0.07	0.07	0.07	0	0
N Std. Rest (Max)	0.80	0.80	1.19	1.69	1.69	1.69	1.69	1.69	2.03	2.03
O Roll Width	0.375	0.375	0.375	0.687	0.687	0.687	0.687	0.687	0.687	0.687
OPTIONAL ROLL RESTS & DOVETAILES										
P LH Off-Set (Min)	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.12	-0.18	-0.18
Q LH Off-Set (Max)	0.69	0.69	0.69	1.50	1.50	1.50	1.50	1.50	1.84	1.84
R RH Off-Set (Min)	0.75	0.75	0.75	0.62	0.62	0.62	0.62	0.62	0.62	0.62
S RH Off-Set (Max)	1.56	1.56	1.56	2.25	2.25	2.25	2.25	2.25	2.65	2.65
1" W Roll Rest	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
1 1/2" W Roll Rest	NO	NO	NO	YES	YES	YES	YES	YES	YES	YES
2" W 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 OPT JAW/CLAMP	NO	NO	NO	0.45	0.45	0.45	0.45	0.45	NO	NO