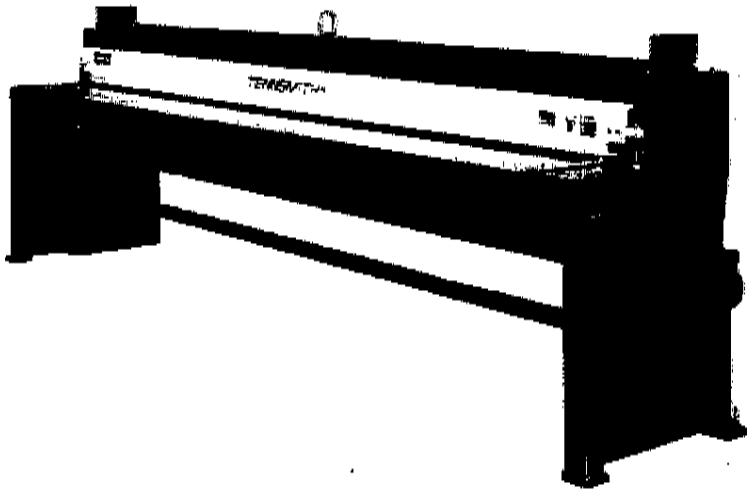
TENNSMITH® USA



manual 5ppa

Operation, Parts and Maintenance Manual
Model SK1020

Model:	**Prepared for:**
Serial #:	**Date of Manufacture:**
Options:	**Inspected By:**
	Notes:

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A Family Tradition Since 1928

TABLE OF CONTENTS

TENNSMITH

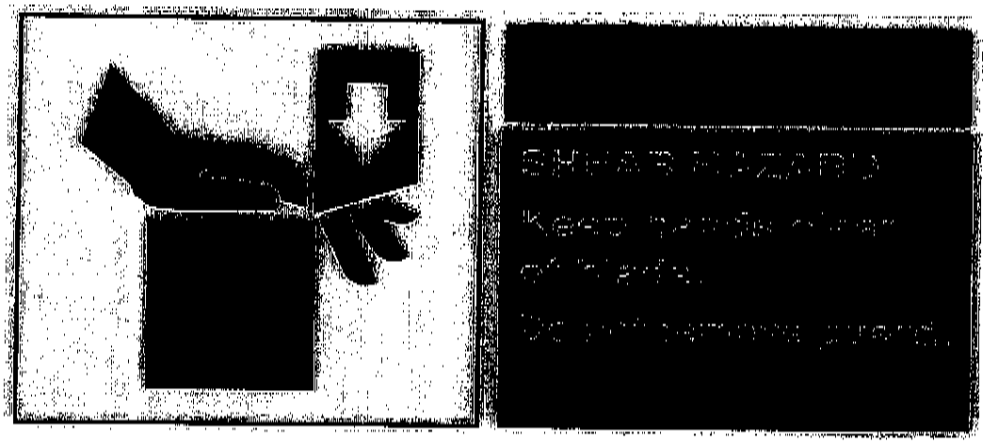
SK1020 SHEAR SPECIFICATIONS

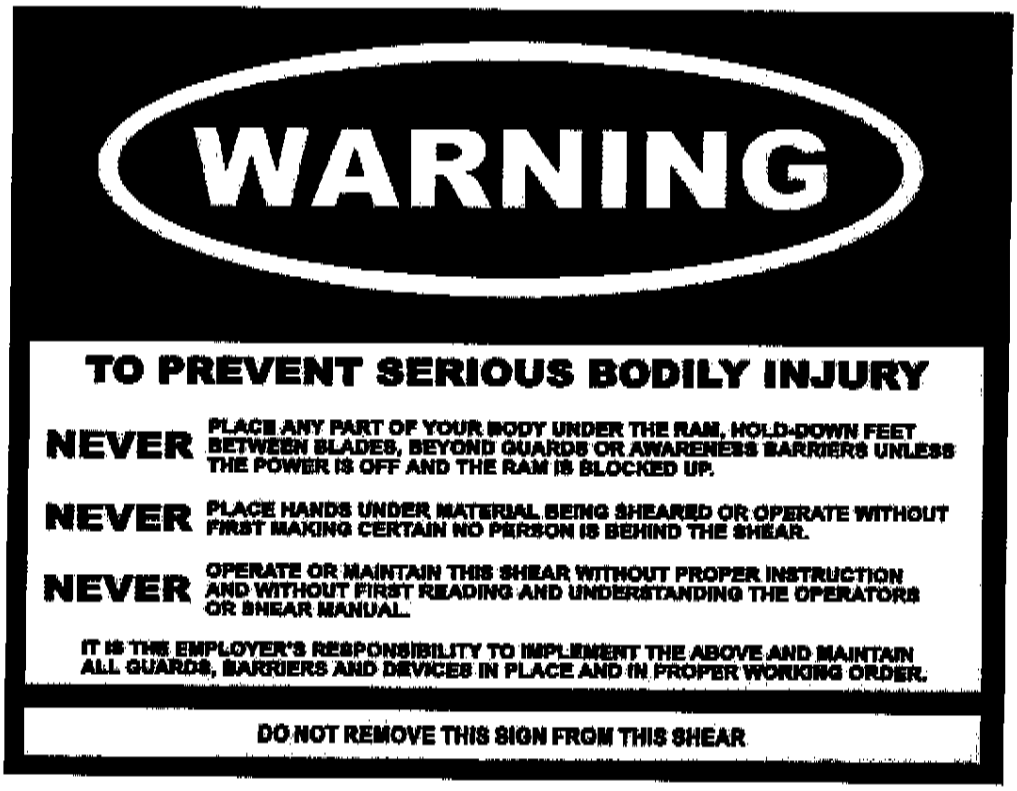
Maximum Shearing Capacity, Mild Steel	20 gauge/1,0mm
Maximum Capacity of Mild Steel is rated at 80,000 psi tensile 44,000 yield	
Maximum Shearing Capacity, Stainless Steel	24 gauge/ 0.61mm
Maximum Capacity of Stainless Steel is rated at 90,000 psi tensile 55,000 yield	
Maximum Cutting Length	121 in/ 3073 mm
Back gauge Range	24 in/610 mm
Number of Hold downs	single bar
Overall Dimensions, Less Gauges, LxWxH	132x 27 x 55-1/2 in
Floor Space, Gauges in Position	132 x 60 x 55-1/2 in
Machine Weight	2,900 lbs

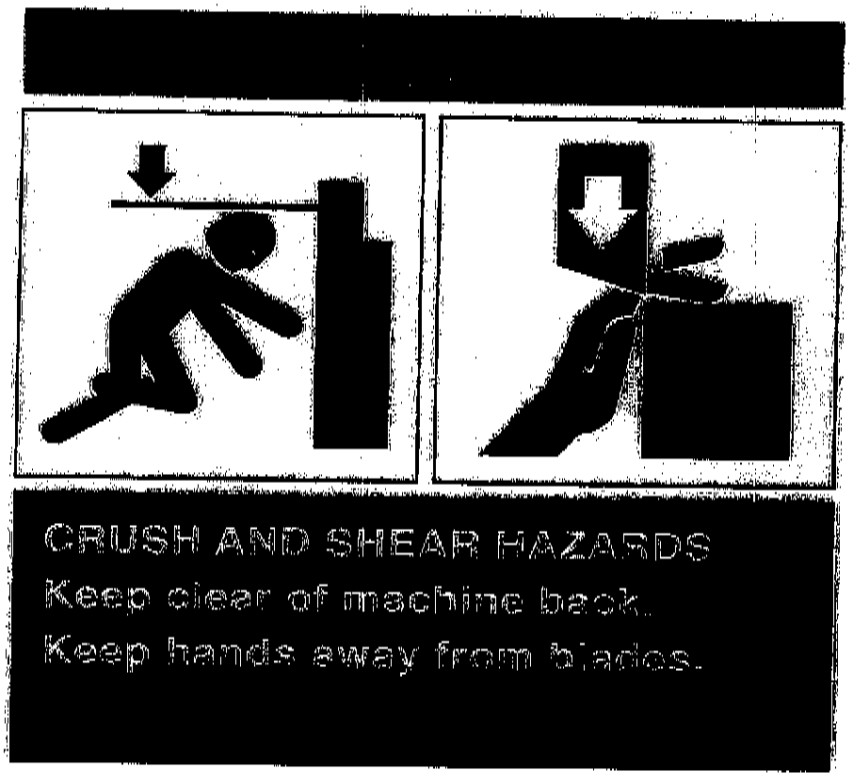
ATTENTION

Please verify that the following safety decals are attached to the SK Shear. If you do not locate all of the decals, please contact Tennsmith to replace any missing or unreadable safety labels.

NEVER operate this machine without the proper safety labeling.






CRUSH AND SHEAR HAZARDS
Keep clear of machine back.
Keep hands away from blades.

SAFETY INSTRUCTIONS

1. Do not operate service or perform maintenance prior to reading and understanding the instruction manual. Become familiar with and understand the hazards and limitations of your shear.
2. Wear approved eye protection and protective footwear while operating the machine.
3. Keep hands and body parts clear of the hold down, cutter head and blade area.
4. Do not exceed the rated capacity of the machine.
5. Do not remove guards unless required to service the machine. Replace all protective covers prior to operation.
6. Always wear gloves to protect your hands when handling the shear blades.
7. Insure that the point of operation safeguarding is provided, used and maintained for any applicable use or service which exposes bodily hazards. For more details please refer the ANSI Standards for Shear Operations.
8. Keep the Work area around this machine clear and clean to avoid tripping or slipping.

INSTALLING THE SHEAR

The unit is shipped with a lifting bolt attached on the top of the cutter head. The shear should be lifted and positioned by using a sling or chain passed through the lifting bolt.

CAUTION: The shear weighs approximately 3,000 lbs. net. Be sure to verify the maximum load permissible for a given chain or sling.

Locate the machine in a well lighted area on a solid level floor. Use lag screws or bolts with expandable shields or similar holding devices through the mounting holes on each of the unit's side panels (22,51) The center line dimensions for the foundation holes can be found on the diagram supplied with the manual on page (22).

The shear must be securely anchored to the floor and leveled before operating. Check the level of the shear with a machinist level both along the length and depth of the machine. Use the leveling screws (35) provided with the machine to achieve proper level. It may be advisable to slip a small section of light gauge sheet metal under the leveling screws so that their adjustment will not penetrate the floor.

OPERATING THE SHEAR

First install the two pull down levers (30). Locate the levers at either end of the machine. Secure each lever in the handle hub (25). Using the set screw secure the levers in place. To operate the shear simply pull the lever (30) towards the front of the machine. The cutter head will now lower. To raise the cutter head push the lever (30) towards the rear of the machine. This will raise the cutter head to the top position.

Note: The maximum shearing capacity of the Model SK1020 is 20 gauge mild steel. Shearing any material beyond the rated capacity can damage the shear.

Operating the shear at maximum capacity should be performed by two operators.

BLADE CLEARANCE

The blade clearance on the SK1020 was set at the factory to .003 in. on the ends of the blades with a .002 gap in the center of the machine. At this setting, your shear should provide satisfactory results over a broad range of materials and thickness. However, when shearing lighter gauge materials a tighter blade gap may be desired. Also, upon turning the blades to a new edge or after re-sharpening the blades, the blade clearance must be reset.

CAUTION: Checking the blade gap will require removing the hold down / finger guard (57). Do not operate the shear without the guard in place. To check the blade clearance, set the machine to the jog mode and jog the cutter head down so that the blades just overlap at the point at which the inspection is to take place.

WARNING: Use a feeler gauge to make the measurement.

Section 1.01 The blade clearance adjustment is made in the following manner:

1. Loosen the two table locking bolts (49) located near the mid-section of each side panel and then retighten the bolts hand tight.

2. Loosen the four table bolts (43), again reasserting only a slight amount of pressure back to each one.

3. The table positioning screws (20) located at both ends of the table are the means used to achieve the proper blade clearance. The forward screw pushes the table and bottom blade toward the cutter head. Likewise, the rear screw adjusts the blade back, thus increasing the clearance. To set the clearance, place a feeler gauge of the same thickness as the desired clearance between the two blades. Adjust the forward screw outward until the feeler gauge is locked between the blades and cannot be removed. Then adjust the rear screw in the opposite direction until the gauge stock is freed. The opposing actions of the screws serve to attain a tight, positive setting.

4. After setting the clearance on both ends of the machine, retighten the four table bolts and the two locking bolts.

5. The blade clearance in the center of the machine controlled by adjusting the center truss located at the rear of the cutter head. The blade clearance in the center of the shear should be set at least .001 closer than the dimension chosen for the ends of the blade.

6. Reposition all protective guards and covers.

Please contact the factory if you have any question regarding this procedure.

REPLACING/ROTATING BLADES

The blades on the SK Series shears are four edged blades constructed of high carbon, high chromium tool steel. Top and bottom blades are interchangeable. Upon utilizing all four edges of you blades, you may return the blades to the factory for re-sharpening or to a qualified blade re-sharpener, such as a blade manufacturer.

To remove and reposition the blades, the procedure is as follows:

1. Removal of the top blade. **CAUTION: Use gloves when handling the blade to protect your hands.** Place a wood block wedge between the upper and lower blades. Loosen the top blade bolts starting at the ends of the blade working toward the center. Rotate the blade to a new cutting edge and reversing the procedure, reinsert and snug the bolts working from the center out to each end.

2. With all bolts in place, securely torque the bolts while insuring that the blade is properly seated in the machined blade slot of the cutter head by using either a brass or wood pry bar.

3. Repeat the above procedures similarly to reposition the bottom blade.

4. Use the procedures outlined in the **BLADE CLEARANCE** section of this manual to reset the proper baled gap. **CAUTION: Upon repositioning the shear blades, it is imperative that the bottom blade be adjusted well clear of the top blade before attempting to jog the cutter head down to make the blade clearance adjustment. Otherwise, crashing of the blades could result in severe damage to the machine.**

5. Reposition the hold down assembly.

BACKGAUGE INFORMATION

The SK shear is fitted with a rear operated back gauge as standard equipment. The gauge was installed and calibrated at the factory and shipped intact mounted on the shear. Inspect the gauge carefully to determine any possible movement or damage in transit.

The gauge has 24 inches of travel. To verify the back gauge was not disturbed during shipping, rotate the hand wheel bringing the gauge into contact with the bottom blade. The display should now read zero. If the display has a value other than zero and gauge is in fact in contact with the bottom blade, the unit must be adjusted.

ADJUSTING the BACKGAUGE

When adjusting the back gauge, first determine that the two upper support shafts (123) are inserted into the welded collars at the rear of the cutter head at equal amounts. The factory setting is 1.5 inches from the face of the collar to each of the front two support brackets (128). Upon verifying this dimension, notice that each support bracket has a hex head bolt threaded into the body of the bracket. When the gauge is brought in to a zero reading on the display, the head of these bolts contact the adjusting blocks (127) and provide for a more definite stop for the readout. To perform the adjustment, bring the adjusting blocks in contact with the bolts and then adjust the threaded rods (109) connected to the stop (100) so that the stop is flush against the bottom blade at both ends of the shear. Be certain to retighten the lock nuts (115) of the threaded rod.

MAINTENANCE

On a monthly basis, remove the top cover (11) of each side panel and grease the gib plates (9, 10, 15). This can be best accomplished by positioning the cutter head down to the extreme down-stroke position, thus exposing a majority of the gib surface. Also each month, apply grease to the zerk fitting of the support bearings (53) of the drive linkage shaft (55). Otherwise, periodic lubrication with a good grade of machine oil to the remaining moving parts such as those associated with the linkage are of the self-lubricating, oil impregnated composition. Additionally, the manufactures recommended maintenances schedule for the power unit of the shear is included in this manual as an appendix.

SK SERIES 3-YEAR LIMITED WARRANTY

TENNSMITH machinery and component parts are carefully inspected at various stages of production and are tested and inspected prior to shipment. We agree that for a period of twelve (12) months from the date of delivery from our authorized distributor to replace, at our option, any machine (or component part thereof) proving defective within the above period. Additionally, we agree that for a period of thirty-six (36) months from date of delivery to replace component parts proving defective within the stated period. All warranty claims are made F.O.B. our plant, providing such machine (or component part) is returned freight prepaid to our plant, or a designated service center of the undersigned, for our examination. This warranty does not include repair or replacement required because of misuse, abuse, or because of normal wear and tear; or electrical components which are warranty by their manufacturer. Further, we cannot be responsible for the cost of repairs made or attempted outside our factory or designated service center without our authorization. No claims for defects will be honored if the name and data place has been remove. This warranty is made expressly in place of all other warranties or guarantees express or implied, with respect to fitness, merchantability, quality or operative ness. This warranty becomes effective only when the accompanying warranty card is fully and properly filled out returned to the factory within ten (10) days from date of delivery.

Hold Down Adjustment

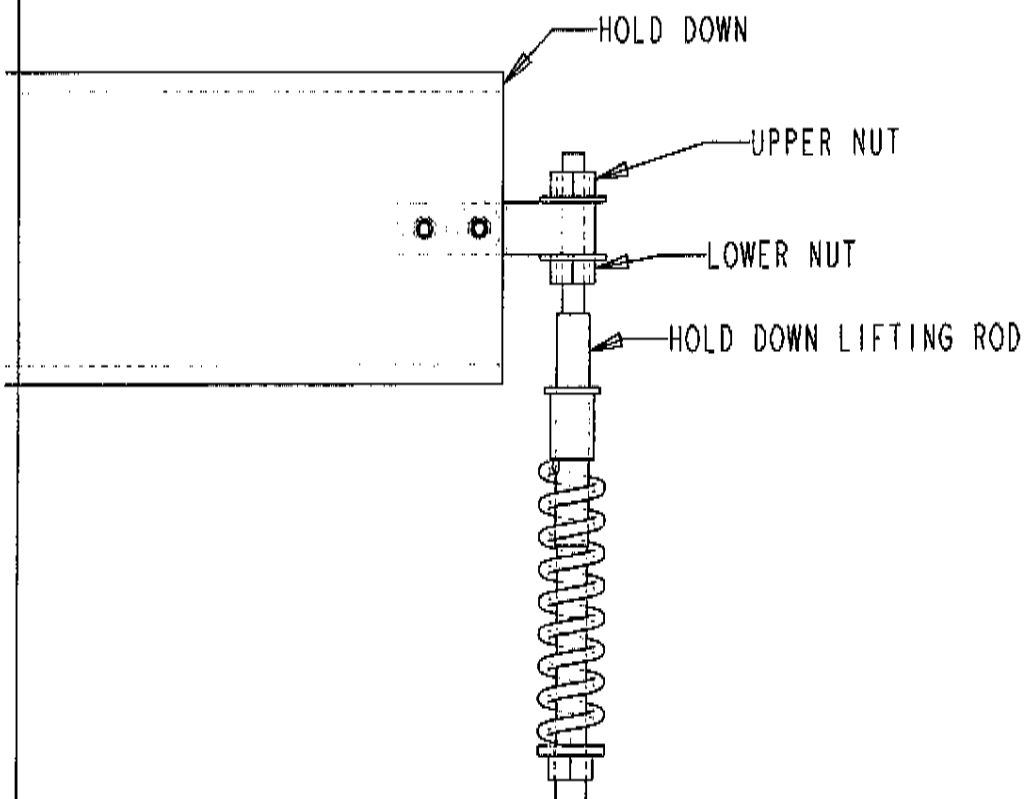
The hold down adjustments are located on each end of the assembly. The upper and lower adjustment nuts are used to raise and lower the assembly according to material thickness.

Never exceed the maximum clearance of 1/8" between the hold down and the table of the shear.

HOLD DOWN ADJUSTMENT

SK1020 ADJUSTMENT PROCEDURE OF HOLD DOWN HEIGHT

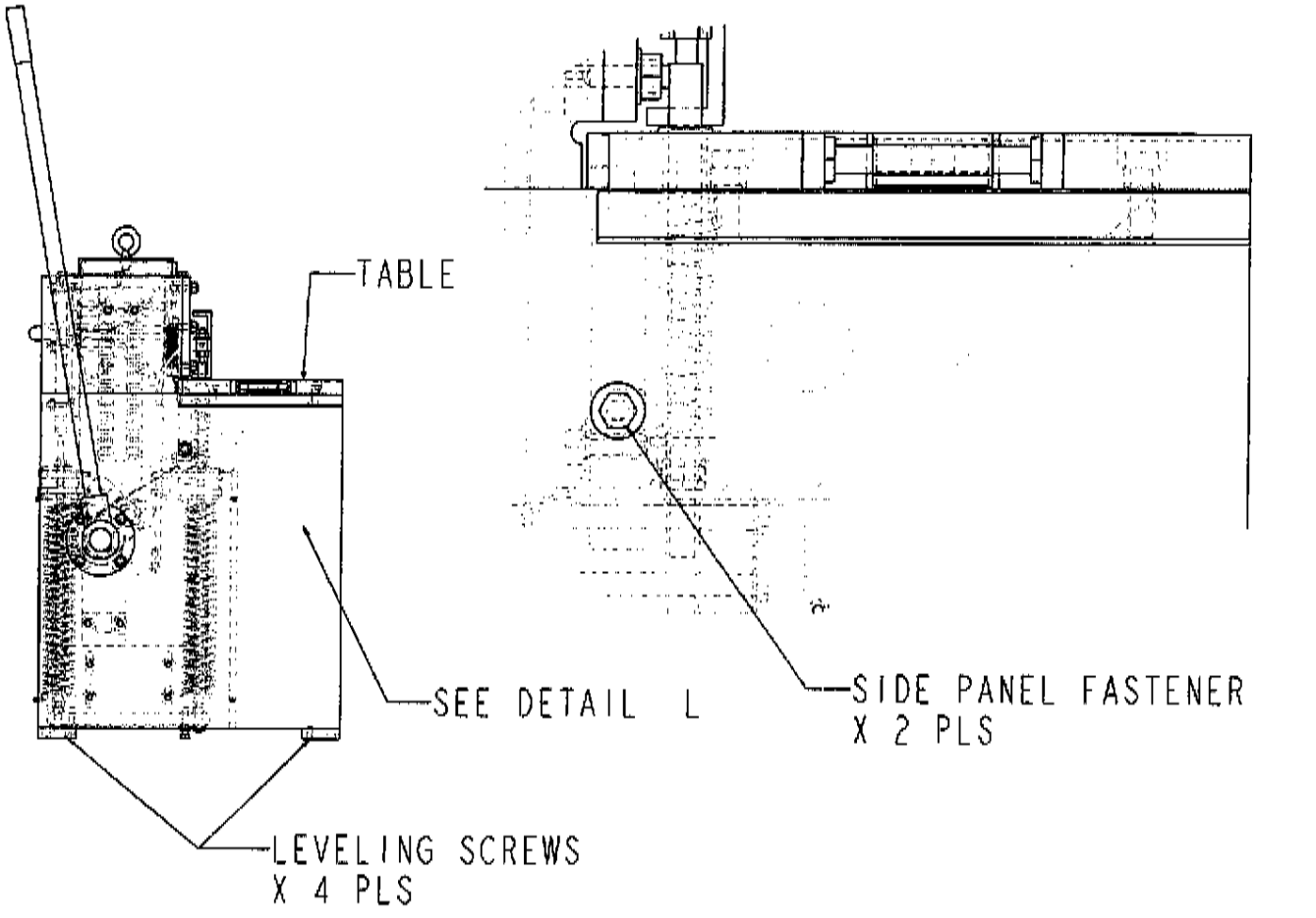
1. MATERIAL CLEARANCE MAY BE ACHIEVED BY RAISING OR LOWERING HOLD DOWN ASSEMBLY.
2. RAISE OR LOWER BOTH UPPER AND LOWER NUTS ACCORDINGLY.
3. BOTH ENDS OF HOLD DOWN ASSEMBLY SHOULD BE ADJUSTED EQUALLY.



SETUP OF YOUR HAND SHEAR

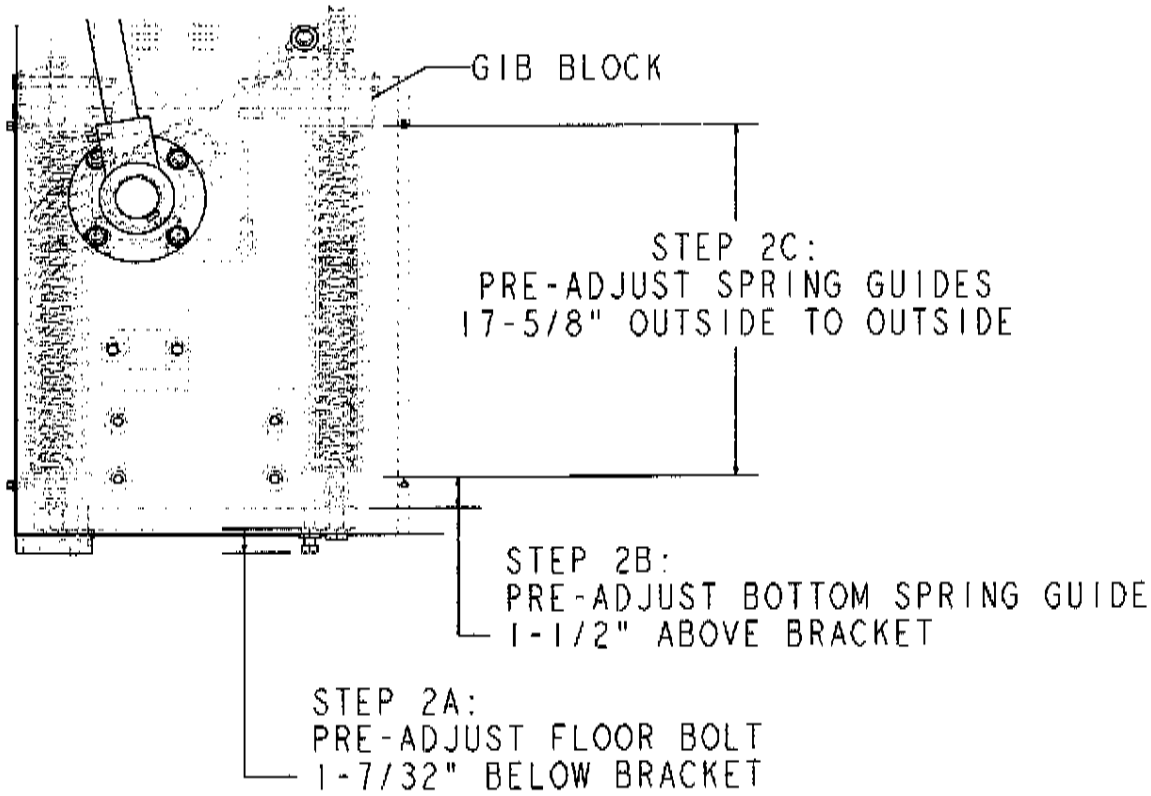
BEFORE USING YOUR NEW HAND SHEAR DO THE FOLLOWING:
STEP 1: LEVEL THE MACHINE (SEE BELOW).
STEP 2: YOUR SPRING KIT SHOULD BE FACTORY ADJUSTED AS ON NEXT PAGE; PLEASE VERIFY THE 3 DIMENSIONS.

LEVELING THE TABLE:
STEP A: UNLOOSE THE SIDE PANEL FASTENERS
STEP B: GET A LEVEL ON THE TABLE AND ADJUST THE LEVELING SCREWS
STEP C: RETIGHTEN THE SIDE PANEL FASTENERS AND THE JAM NUTS ON THE LEVELING SCREWS



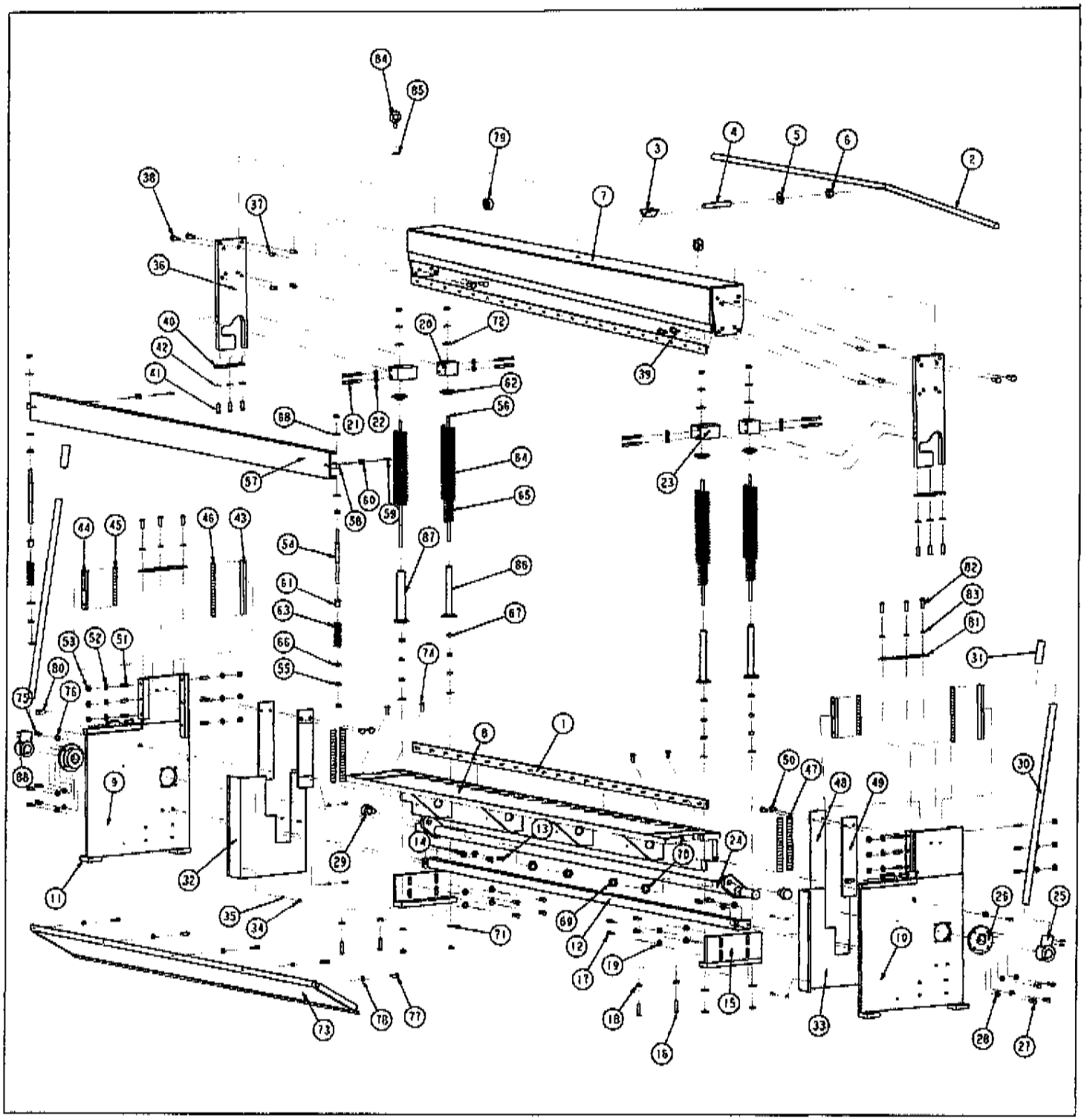
SETUP OF YOUR HAND SHEAR

STEP 2: YOUR SPRING KIT SHOULD BE FACTORY ADJUSTED AS BELOW; PLEASE VERIFY THE 3 DIMENSIONS.



YOU CAN FINE TUNE THE SPRING ADJUSTMENT TO YOUR LIKEING BY RAISING OR LOWERING THE DIMENSION IN STEP 2C, BUT FIRST, GET ANY BINDS OUT OF THE MACHINE BY PERFORMING STEP 1.

MODEL SK1020 HAND SHEAR



MODEL SK1020 HAND SHEAR

INDEX NO.	PART NO.	DESCRIPTION	NO. REQ'D
1	SK1020-050	BLADE	2
2	SK1020-103	TENSION ROD	1
3	SK1020-103B	BRACKET - TENSION ROD	1
4	SK1020-103C	THREADED ROD - TENSION ROD	1
5	SK1020-103D	WASHER - TENSION ROD	1
6	SK1020-103E	NUT - TENSION ROD	1
7	SK1020-104-SQUA	CUTTERHEAD ASSEMBLY	1
8	SK1020-107-TABL	TABLE ASSEMBLY	1
9	SK1020-108-SIDE	L/H SIDE PANEL ASSEMBLY	1
10	SK1020-108-SIDE	R/H SIDE PANEL ASSEMBLY	1
11	SK1020-108D	FLOOR BOLTDOWN	4
12	SK1020-109	SQARE TUBE ASSEMBLY - MACHINE FRAME	1
13	SK1020-109C	BOLT - SQUARE TUBE ASSEMBLY	4
14	SK1020-109D	LOCK WASHER - SQUARE TUBE ASSEMBLY	4
15	SK1020-110	SPRING MOUNT - R/H AND L/H	2
16	SK1020-110C	BOLT - SPRING MOUNT FLOOR LEVEL	4
17	SK1020-110D	BOLT - SPRING MOUNT FASTENER	8
18	SK1020-110E	JAM NUT - SPRING MOUNT FLOOR LEVEL	4
19	SK1020-110F	WASHER - SPRING MOUNT FASTENER	8
20	SK1020-112	REAR GIB BLOCK	2
21	SK1020-112B	BOLT - GIB BLOCKS	8
22	SK1020-112C	LOCK WASHER - GIB BLOCKS	8
23	SK1020-113	FRONT GIB BLOCK AND HOLD DOWN BLOCK	2
24	SK1020-120	PULL DOWN MECHANISM ASSEMBLY	1
25	SK1020-122	HANDLE HUB - PULL DOWN MECHANISM	2
26	SK1020-124	BEARINGS - PULL DOWN MECHANISM	2
27	SK1020-124A	BOLT - TREADLE BEARINGS	8
28	SK1020-124B	LOCK WASHER - TREADLE BEARINGS	8
29	SK1020-125	CAM FOLLOWER - GIB	2
30	SK1020-126	LEVER - PULL DOWN MECHANISM	2
31	SK1020-127	STYROFOAM HANDLE	2
32	SK1020-128-L-H	L/H SPRING GUARD	1
33	SK1020-128-R-H	R/H SPRING GUARD	1
34	SK1020-128A	BOLT - SPRING GUARD	8
35	SK1020-128B	LOCK WASHER - SPRING GUARD	8
36	SK1020-132-CAM-	GIB	2
37	SK1020-132B	DOWEL PIN - GIB	8
38	SK1020-132C	FLATHEAD BOLT - GIB - FRONT SIDE	4
39	SK1020-132D	FLATHEAD BOLT - GIB - BACK SIDE	4
40	SK1020-133	END CAP - GIB	2
41	SK1020-133B	BOLT - ENDCAP OF GIB	6
42	SK1020-133C	LOCK WASHER - ENDCAP OF GIB	6
43	SK1020-136	SIDE PANEL GIB - REAR - GARLOCK PAD	2
44	SK1020-137A	SIDE PANEL GIB - FRONT - GARLOCK PAD	2
45	SK1020-137B	GARLOCK PAD - FRONT	2
46	SK1020-137B2	GARLOCK PAD - REAR	2
47	SK1020-137C	GARLOCK PAD - SIDE	4
48	SK1020-137D	GARLOCK MOUNT PLATE - SIDE PANEL	2
49	SK1020-137E	GARLOCK SHIM PLATE - SIDE PANEL	2
50	SK1020-137F	FLATHEAD - GARLOCK MOUNT PLATE	4
51	SK1020-138	SET SCREW - SIDE PANEL GIB	12
52	SK1020-139	LOCK WASHER - SIDE PANEL GIB	12
53	SK1020-140	NUT - SIDE PANEL GIB	12
54	SK1020-151	ROD - HOLD DOWN SPRING	2
55	SK1020-151A	NUT - HOLD DOWN ROD	8
56	SK1020-151B	ROD - CUTTERHEAD SPRING	4
57	SK1020-152	CHANNEL - HOLD DOWN	1
58	SK1020-153	BRACKET - HOLD DOWN	2
59	SK1020-153B	BOLT - HOLD DOWN BRACKET	4
60	SK1020-153C	WASHER - HOLD DOWN BRACKET	4
61	SK1020-154	BRONZE BUSHING - HOLD DOWN ROD - TABLE	2
62	SK1020-154E	SPRING GUIDE - TOP	4
63	SK1020-155A	SPRING - HOLD DOWN	2
64	SK1020-155B	BIG SPRING - CUTTERHEAD	4
65	SK1020-155C	LITTLE SPRING - CUTTERHEAD	3
66	SK1020-156	BIG WASHER - HOLD DOWN SPRING	2
67	SK1020-157	NUT - CUTTERHEAD SPRING	20
68	SK1020-157A	LOCK WASHER - HOLD DOWN ROD	4
69	SK1020-157B	NUT - CAM FOLLOWER	2
70	SK1020-157C	LOCK WASHER - CAM FOLLOWER	2
71	SK1020-157D	LOCK WASHER - CUTTERHEAD SPRING	12
72	SK1020-157E	LITTLE WASHER - CUTTERHEAD SPRING	4
73	SK1020-190	BACK CHUTE	1
74	SK1020-190C	BOLT - TABLE ASSEMBLY - TOP	4
75	SK1020-190E	BOLT - TABLE ASSEMBLY - SIDE	2
76	SK1020-190F	LOCK WASHER - TABLE ASSEMBLE - SIDE	2
77	SK1020-190G	BOLT - BACK CHUTE	5
78	SK1020-190H	LOCK WASHER - BACK CHUTE	5
79	SK1020-192	MOUNT - BACK GAUGE	2
80	SK1020-209	ADJUSTMENT SCREW - BOTTOM BLADE	4
81	SK1020-211	TOP COVER - SIDE PANEL	2
82	SK1020-211B	BOLT - SIDE PANEL COVER	6
83	SK1020-211C	LOCK WASHER - SIDE PANEL COVER	6
84	SK1020-212A	EYEBOLT	1
85	SK1020-212B	LOCK WASHER - EYEBOLT	1
86	SK1020-214-SMAL	SMALL SPRING GUIDE	3
87	SK1020-215-LARG	LARGE SPRING GUIDE	1
88	SK1020-216	SET SCREW - HANDLE HUB ASSEMBLY	4

SK 2x Back gauge Crank Assembly Parts List

ITEM#	SK PART#	DESCRIPTION	QTY.
83	20083	THRUST WASHER	5
85	20085	LOCK WASHER, BOLT, SPROCKET MOUNTING	8
86	20086	SPACER RING, SPROCKET MOUNTING	4
87	20087	BEARING, SPROCKET MOUNTING	4
88	20088	SPROCKET	8
89	20089	CHAIN	1
102	20102	BOLT, SPROCKET AND SPACER BLOCK MOUNTING	3
103	20103	FLAT WASHER, BOLT, SPROCKET SPACER BLOCK	3
139	20139	SCREW, CRANK COVER MOUNTING	4
140	20140	LOCK WASHER, CRANK COVER MOUNTING	4
146	20146	STRIPPER BOLT, IDLER SPROCKET MOUNTING	3
147	20147	BEARING, IDLER SPROCKET	3
148	20148	IDLER SPROCKET	3
150	20150	NUT, STRIPPER BOLT, IDLER SPROCKET	3
151	20151	BOLT, IDLER SPROCKET BRACKET MOUNTING	12
152	20151	LOCK WASHER, BOLT, IDLER SPROCKET BRACKET	12
153	20153	BRACKET, IDLER SPROCKET MOUNTING	1
174	20174	BOLT, HANDLE MOUNTING	1
175	20175	HANDLE, CRANK	1
176	20176	CRANK	1
177	20177	NUT, BOLT, HANDLE MOUNTING	1
178	20178	SCREW, CRANK MOUNTING	4
179	20179	COVER, CRANK	1
180	20180	ACEME NUT, LOCK HANDLE	2
181	20181	NUT, LOCK HANDLE	1
182	20182	LOCK, CRANK BLOCK	1
183	20183	STUD, LOCK HANDLE	1
184	20184	SPACER, LOCK HANDLE	1
185	20185	NUT, LOCK HANDLE MOUNTING	1
186	20186	HANDLE, LOCK MOUNTING	1
187	20187	SPRING, LOCK HANDLE MOUNTING	1
188	20188	SCREW, HANDLE MOUNTING	1
189	20189	SPACER, SPROCKET MOUNTING	1
190	20190	SCREW, SPROCKET MOUNTING	4
191	20191	SPACER, SET SCREW	1
192	20192	SET SCREW	1
193	20193	STUD, LOCK MOUNTING	1
194	20194	SPACER, STUD	1
195	20195	BRACKET, IDLER SPROCKET BRACKET MOUNTING	1

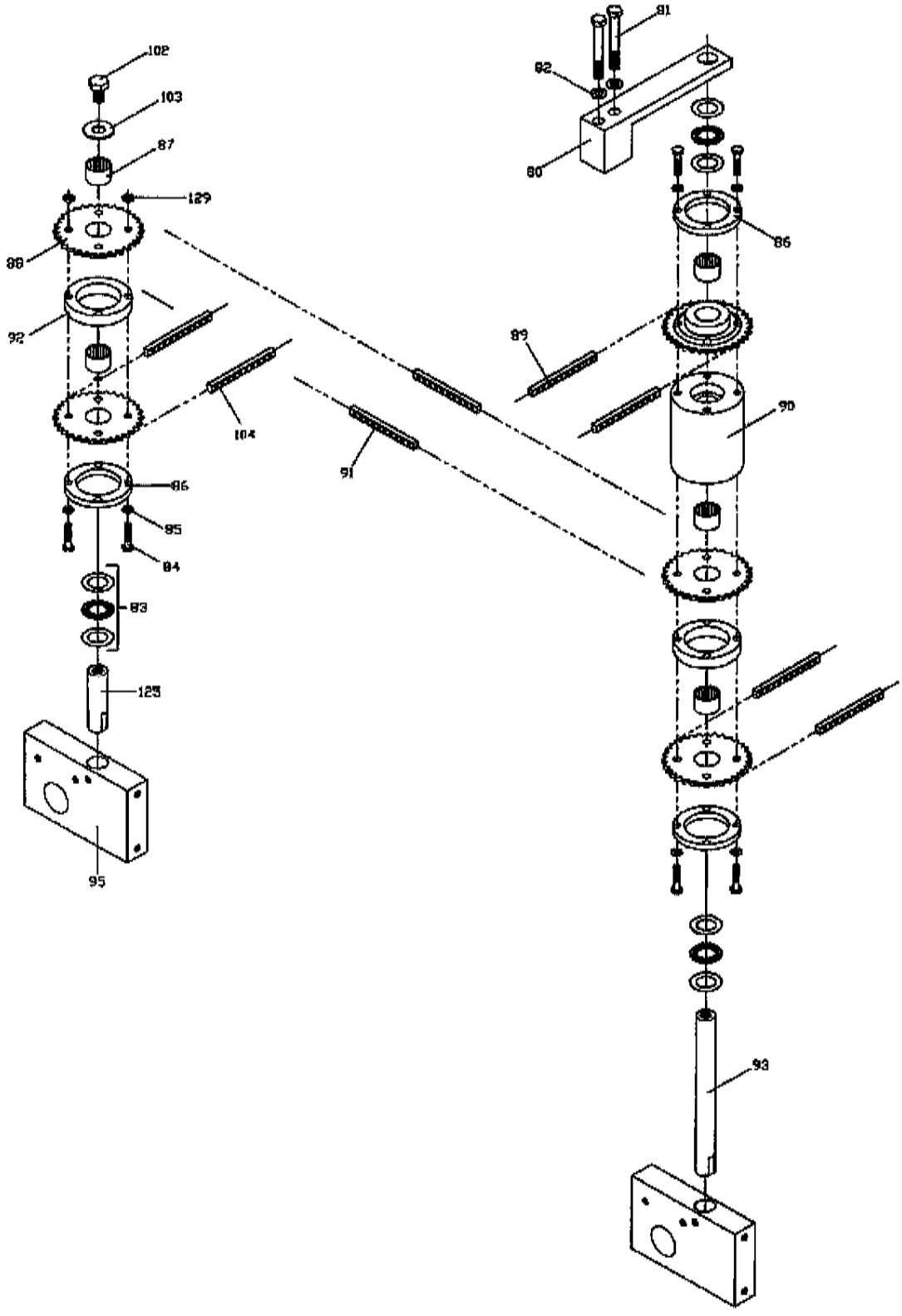
SK 2x Back gauge Pointer Assembly Parts List

ITEM#	SK PART#	DESCRIPTION	QTY.
160	20160	NUT, SET SCREW, POINTER BLOCK	2
161	20161	CLAMP, CHAIN LOCK, POINTER BLOCK	1
162	20162	BOLT, CLAMP MOUNTING, POINTER BLOCK	2
163	20163	BEARING, POINTER BLOCK	1
164	20164	SCREW, POINTER MOUNTING	2
165	20165	POINTER, SCALE	1

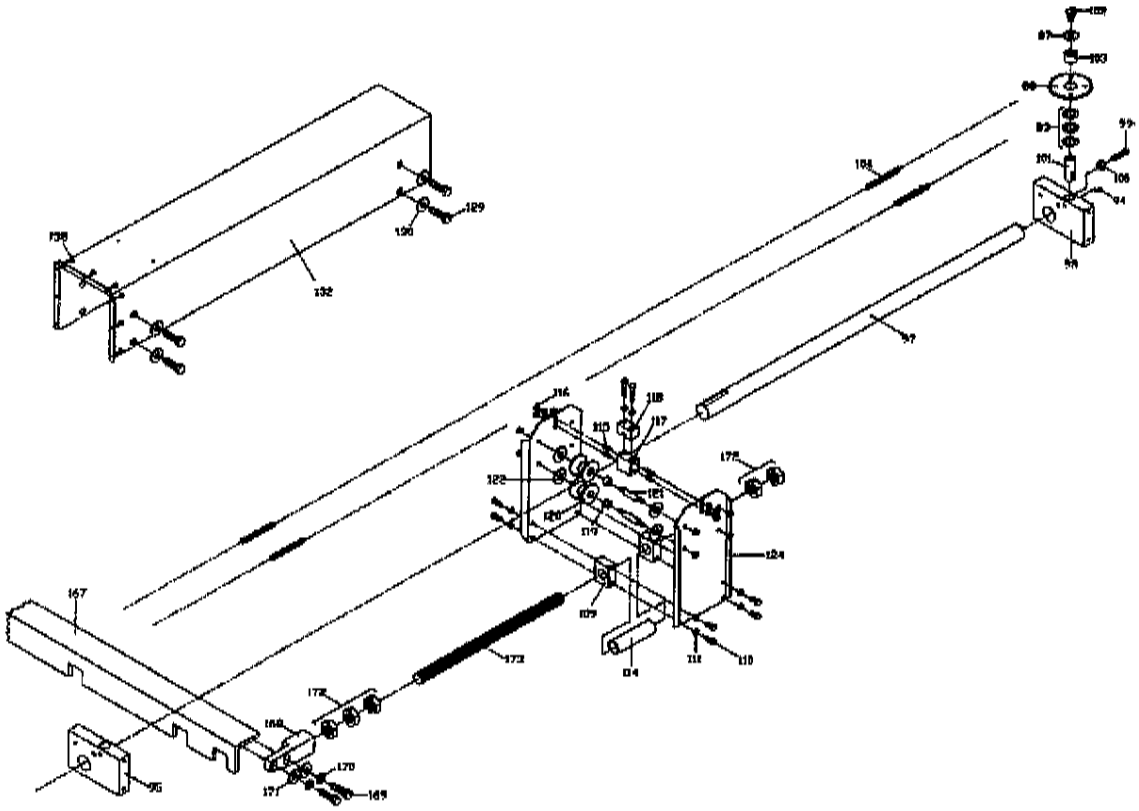
SK 2x Back gauge Drive Assembly Parts List

ITEM#	SK PART#	DESCRIPTION	QTY.
81	20081	BOLT, BRACE MOUNTING	2
82	20082	LOCK WASHER, BOLT, BRACE MOUNTING	2
83	20083	THRUST WASHER	5
84	20084	BOLT, SPROCKER MOUNTING	8
85	20085	LOCK WASHER, BOLT, SPROCKET MOUNTING	8
129	20129	LOCK WASHER, BOLT, SPROCKET MOUNTING	8
86	20086	SPACER RING, SPROCKET MOUNTING	4
87	20087	BEARING, SPROCKET MOUNTING	4
88	20088	SPROCKET	8
89	20089	CHAIN	1
90	20090	SPACER BLOCK, SPROCKET AND CRANK MOUNTING	1
91	20091	CHAIN	1
92	20092	SPACER RING, SPROCKET MOUNTING	3
93	20093	SHAFT, SPACER BLOCK AND SPROCKET MOUNTING	1
95	20095	SUPPORT BLOCK, FRONT	2
125	20125	SHAFT, SPROCKET ASSEMBLY MOUNTING LEFT	1

SK 2x Back gauge Drive Assembly



SK 2x-R Back gauge Arm Assembly



SK 2x Back gauge Arm Assembly Parts List

ITEM#	SK PART#	DESCRIPTION	QTY.
94	20094	SET SCREW, SHAFT MOUNTING	4
95	20095	SUPPORT BLOCK, FRONT	2
96	20096	SET SCREW, SUPPORT BLOCK MOUNTING	8
97	20097	SUPPORT ROD	2
98	20098	SUPPORT BLOCK, REAR	2
99	20099	BOLT, REAR SUPPORT BLOCK ADJUSTING	2
100	20100	JAM NUT, BOLT, REAR SUPPORT BLOCK ADJ	2
101	20101	SHAFT, SPROCKET MOUNTING, REAR	2
102	20102	BOLT, SPROCKET AND SPACER BLOCK MOUNTING	3
103	20103	FLAT WASHER, BOLT, SPROCKET SPACER BLOCK	3
104	20104	CHAIN, ROLLER ASSEMBLY	2
109	20109	SPACER BLOCK AND ROD HOLDER, ROLLER ASSY.	4
110	20110	BOLT, SWIVEL AND ROLLER ASSEMBLY	20
111	20111	LOCK WASHER, SWIVEL AND ROLLER ASSEMBLY	40
114	20114	SPACER, SWIVEL AND ROLLER ASSEMBLY	2
115	20115	SET SCREW, BRACKET MONTING ROLLER ASSY.	8
116	20116	JAM NUT, BRACKET MOUNTING, ROLLER ASSY.	8
117	20117	BRACKET, ROLLER ASSEMBLY	2
118	20118	CLAMP, CHAIN LOCK, ROLLER ASSEMBLY	2
119	20119	BOLT, CLAMP MOUNTING, CHAIN LOCK	4
120	20120	SPOOL, ROLLER ASSEMBLY	8
121	20121	SHAFT, SPOOL MOUNITNG ROLLER ASSEMBLY	8
122	20122	BEARING, SPOOL, ROLLER ASSEMBLY	16
123	20123	TEFLON WASHER, ROLLER ASSEMBLY	16
124	20122	SIDE PLATE, ROLLER ASSEMBLY	2
129	20129	BOLT, COVER MOUNITNG	8
130	20130	FLAT WASHER, BOLT, COVER MOUNTING	8
131	20131	COVER, LEFT	1
132	20132	COVER, RIGHT	1
138	20138	SCREW, COVER MOUNTING	18
167	20167	STOP, BACKGAUGE	1
168	20168	BRACKET, STOP MOUNTING LEFT	1
168A	2168A	BRACKET, STOP MOUNTING RIGHT	1
169	20169	BOLT, STOP BRACKET MOUNTING	4
170	20170	LOCK WASHER	4
171	20171	FLAT WASHER	4
172	20172	JAM NUT, STOP BRACKET MOUNTING ROD	10

3-YEAR LIMITED WARRANTY

TENNSMITH machinery and component parts are carefully inspected at various stages of production and are tested and inspected prior to shipment. We agree that for a period of twelve (12) months from the date of delivery from our authorized distributor to replace, at our option, any machine (or component part thereof) proving defective within the above period. Additionally, we agree that for a period of thirty-six (36) months from date of delivery to replace component parts proving defective within the stated period. All warranty claims are made F.O.B. our plant, providing such machine (or component part) is returned freight prepaid to our plant, or a designated service center of the undersigned, for our examination. This warranty does not include repair or replacement required because of misuse, abuse, or because of normal wear and tear; or electrical components which are warranty by their manufacturer. Further, we cannot be responsible for the cost of repairs made or attempted outside our factory or designated service center without our authorization. No claims for defects will be honored if the name and data place has been remove. This warranty is made expressly in place of all other warranties or guarantees express or implied, with respect to fitness, merchantability, quality or operative ness. This warranty becomes effective only when the accompanying warranty card is fully and properly filled out returned to the factory within ten (10) days from date of delivery.

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