

TIN KNOCKER S & DRIVE PLUS

INSTRUCTIONS & PARTS DIAGRAM



RED RIVER MACHINERY
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TIN KNOCKER SAFETY RULES & DRIVE PLUS

1. **WARNING:**

Electrical Danger---Misuse or improper installation of machinery connected to a source of electricity may result in accidental shock that could cause injury or death. Installation must conform to National Electric Code (Article 250- Grounding, etc.)

A trained and qualified electrician must make electrical connections. Electrical characteristics shown on motor plate and control panel must match the power source; and all electrically powered equipment must be grounded.



2. **WARNING:**

Mechanical Danger- the power driven forming rolls rotate at all times when power is supplied to the motor. Never place any part of the body including loose clothing near or onto the rotating rolls. (KEEP HANDS AWAY). Failure to comply will lead to personal body injury.



3. Never clean forming rolls while rolls are rotating—turn power off to clean rolls.
4. Machine to be operated by authorized personnel who have been trained by their supervisor with the working and safety features of the machine, and by reading and understanding the Operator's Manual.
5. Do not operate S & DRIVE PLUS without reading operator's Manual and without proper supervisory instructions.
6. Perform all installation and set-up operations before applying power for electrical start-up.
7. Never operate machine with any guard removed; i.e., all required guarding to be installed and effective. Do not override the safety features of the equipment. Do not remove, paint over, alter, or deface any machine-mounted warning and instruction plates and signs.
8. Never leave machine running unattended. When not in use, turn off electrical power.
9. Never adjust machine with power on. Avoid accidental start-up.
10. Do not use machine if servicing is required.
11. Safety glasses and protective tools are recommended.

WARRANTY

All new machines are sold with a one-year limited warranty, on factory defective parts. The warranty is limited to the original user. TAAG Machinery Co. at its option, will repair, replace or refund the purchase price of any part, tool or machine that fails during the warranty period. TAAG Machinery Co. will pay normal shipping charges for replacement parts. After 90 days from date of purchase, all express or overnight delivery charges are the responsibility of the customer. Purchaser must deliver to TAAG Machinery Co., at the address below, any written claim, with proof of original purchase. Replacement parts will be invoiced to purchaser and credit issued when the failed part is delivered to TAAG Removal, reinstallation or replacement parts shall be at purchasers' / user's expense. Failure due to improper use of the machine voids the warranty.

NOTE: 1. This machine has been tested and adjusted prior to shipment, but can and often does require readjustment due to vibration and bouncing during transport. Following the procedures described within can easily do readjustment. These are procedures with which you, as a user, should be familiar, as you will use them repeatedly over the life use of the machine. If you have difficulty in performing these procedures, we are here to support you.

2. Opening rolls (for Philipsburg Lock) are consumable items and not subject to warranty.

S & DRIVE PLUS

Instructions

ELECTRICALS:

5 HP 230/460 volts three phase motor and controls, standard machine wired for 220 volt unless otherwise indicated.

MACHINE SPECIFICATIONS:

“S” CLEAT

Capacity: 22 gauge galvanize or lighter
Stock Width: 3-5/8” + 000-1/32

DRIVE CLEAT

Capacity: 22 gauge galvanize or lighter
Stock Width: 2-1/8” + 000-1/32

OPERATION:

Start machine and place properly sheared material between gauge bars and feed material into the rolls.

Check end results and make changes accordingly.

S & DRIVE PLUS

Instructions / Trouble Shooting

ADJUSTMENTS:

Should the machine labor under load, the hold down studs are set too tight. To readjust, tighten the four studs that pass through the machine plates and then loosen approximately one-quarter turn (90’).

Should machine continue to labor, loosen the two studs on the lead end of the machine to three-eighths (135’), or one-half turn (180’’) loose. Upward bow can be adjusted by lowering the exit adjusting screw located on the exit adjustment gauge assembly. Downward bow can be compensated by adjusting the hold down studs located at the exit end of the machine. Side bow is caused by an unbalanced stud adjustment.

LUBRICATION / MAINTAINCE:

Lubrication fittings for the high-speed shafts are located under the stand auxiliary side panel. The **high-speed bearings should be lubricated after every eight hours of operation** (recommended lubricant-Standard Oil Viscous #3, or equivalent.)

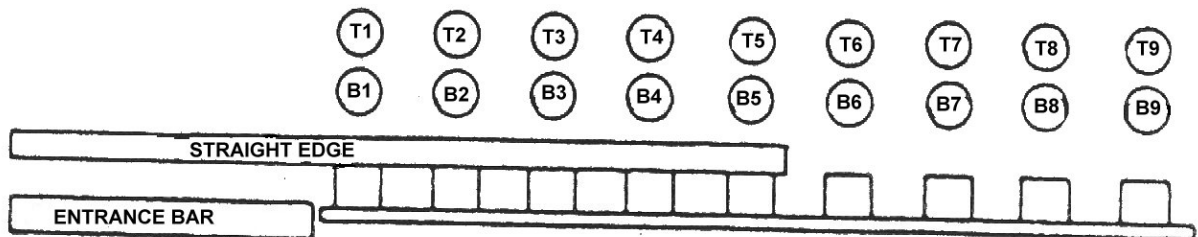
Roll stations #4 and #5 are supplied with polished angle surface to eliminate friction and allow the material to flow smoothly during the forming sequence. The rolls should be lubricated periodically with an application of #20 or #30 SAE lubricating oil to insure a smooth sliding surface.

NOTE: If machine is to be used or stored out-of-doors, an oil or grease film will prevent rusting of surfaces.

INSTRUCTIONS FOR AUXILIARY ROLLS:

Machine auxiliary shafts are designed to accommodate various auxiliary roll sets listed below. To install these rolls, proceed as follows:

1. Remove machine cover.
2. Remove tabletop side plate, on side of machine that rolls are to be mounted.
3. If auxiliary rolls are now on machine, remove retaining bolts and washers. Remove all parts not pertaining to the set to be used.
4. Place keys on shafts.
5. Select the first pair of rolls, which are marked "T-1" and "B-1" and place them on the shafts at the entrance of the machine (Feed Side). Place the "T-1" roll on the upper shafts and "B-1" on the lower. Repeat procedure with roll stations #2, #3, and #4, etc. until all rolls have been mounted. All rolls marked "T" should be mounted on the top shafts and "B" rolls on the bottom shafts in numerical order. **NUMBER SIDE OF ROLLS MUST FACE OUTWARD.**
6. After rolls are installed, fasten rolls with retaining cap screws and washers.
7. Mount entrance and exit gauge bars to stand, using slotted holes provided in stand table top and set entrance gauge by placing a straight edge along the outer edge of the auxiliary rolls; measure the required amounts in from this straight edge to the extreme ends of the entrance gauge bar. See schedule below for various auxiliary sets.

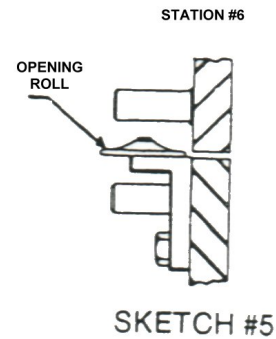
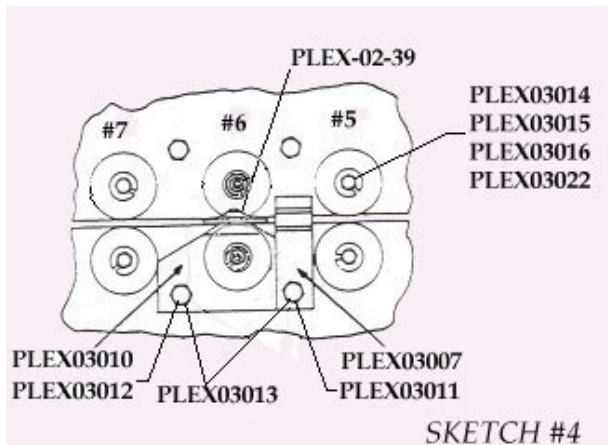


SKETCH #1

Auxiliary Roll Gauge Settings:

- A. **5/16" Auxiliary Pittsburgh (20 gauge and lighter)** uses approximately 1" material.
 Gauge Setting.....1/11/19" to 1-3/4"
 A slight taper in gauge setting may be required, adjust gauge setting as needed.

NOTE: To install auxiliary opening roll holder, remove rolls from the #6 roll station and bolts that straddle the bottom 6 roll shafts (See Sketches #4 and #5). Place opening roll holder and slide on machine and fasten with the two 1/2- 13 x 2" Hex Head Cap Screws Provided.



- B. **Drive Cleat Auxiliary (20 gauge and lighter)** uses 2-1/8" material.
 Gauge Setting.....2-1/8"
- C. **Combination 3-in-1 rolls (capacity 22 gauge and lighter)**, uses approx. 1-3/4"
 On "T" section, 1-1/8" on standing seam and 1/2" on right angle flange.

Gauge Setting- 3-in-1 Gauge Bar:

- Top Step – "T" Section.....2-1/16"
- Middle Step – Standing Seam.....1-1/2"
- Bottom Step – Right Angle Flange.....15/16"

NOTE: When the first setting is made, the other two will automatically be correct. Placing material to the proper gauge step can make the other two shapes. The exit angle iron gauge has an adjustable bar that can be lowered to exert pressure on the material as it emerges from the rolls; thereby, straightening the finished section. See Sketch #3.

NOTE: WHEN ADJUSTING THE EXIT GAUGE FROM THE 3-IN-1 COMBINATION, BE SURE TO SET IT TO THE "T" SECTION OR DAMAGE WILL RESULT BY MATERIAL INTERFERENCE WITH THE GAUGE BAR.

- D. **Female Button Punch Snap lock (20 to 24 gauge galvanize or optional 24 to 28 gauge)** uses approx. 1-5/16" of material.
 Gauge Setting: 2-5/16" closest to forming rolls, 2-11/32" furthest from forming rolls. Taper may be increased or decreased as required for most satisfactory results.

Upward bow can be adjusted by rising or lowering the straightener roll located between stations 8 & 9.

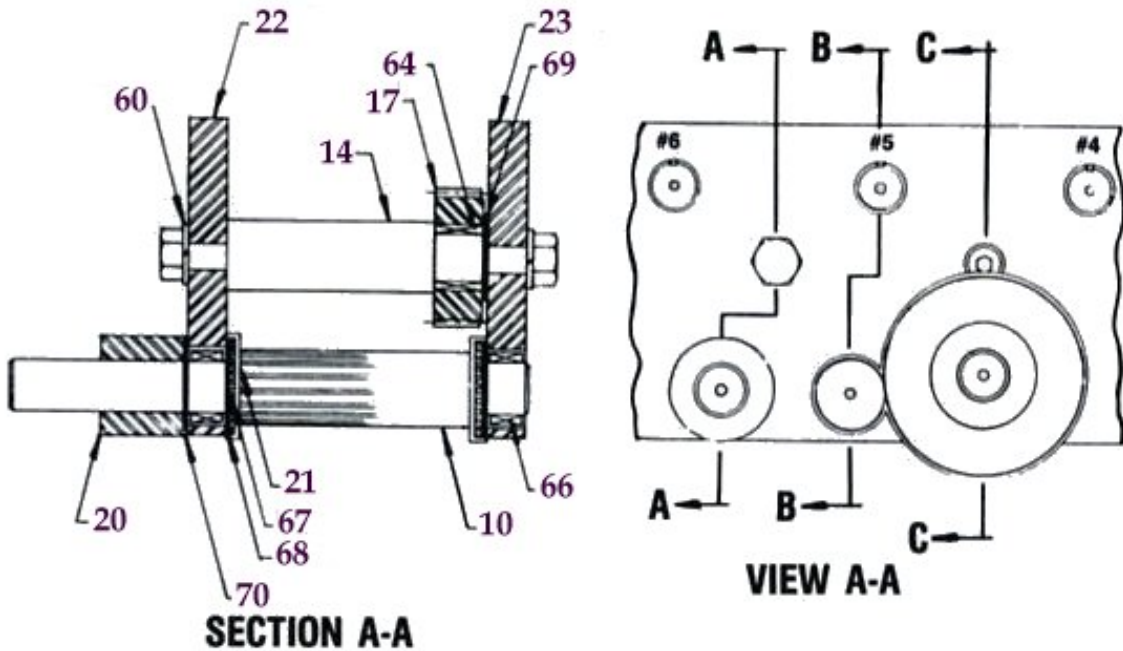
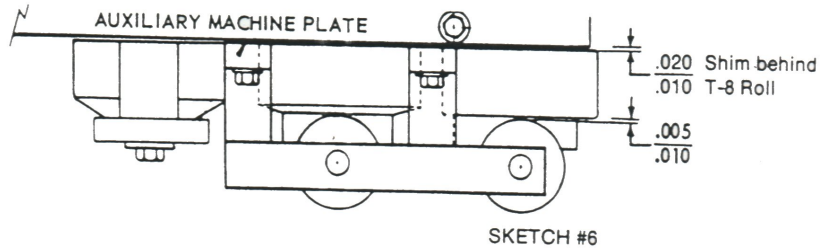
NOTE: To install slide between stations 2 and 3, remove existing idler gear bolt and replace with longer bolt furnished with roll set.

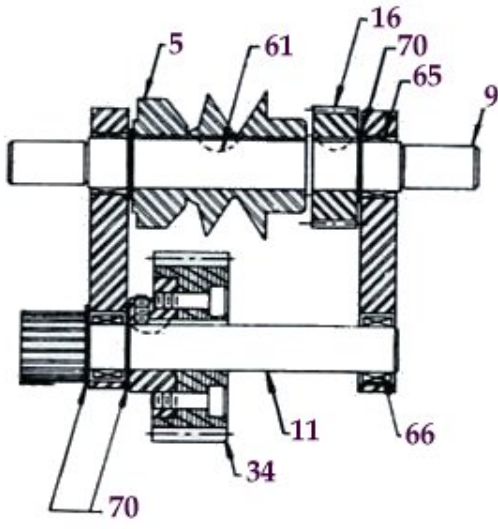
E. **Male Button Punch Snap lock (20 to 24 gauge galvanize or 24 to 28 gauge)** uses approx. 7/16" of material.

Gauge Setting.....15/16"

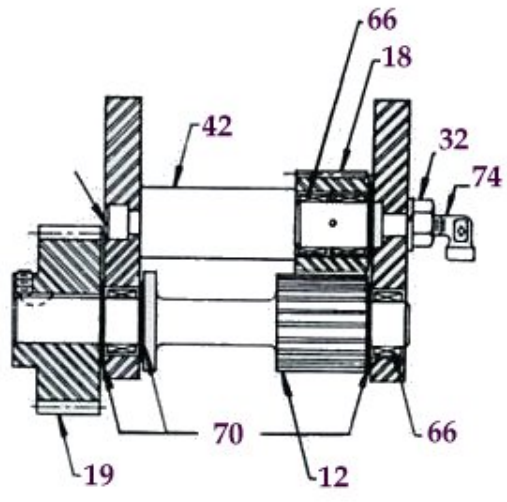
NOTES:

1. The S & Drive Plus is sold, standard, with S & Drive rolls and S Cleat splitter attachment. Empty shafts, opposite the Drive cleat rolls are available to accommodate the above (optional) auxiliary rolls. These shafts can also accommodate other (profile) rolls from Lock Former.
2. Remove existing bolts between Top 4 and 5 rolls and Top 5 and 6 rolls and replace with idler bracket and bolts provided with roll set. See Sketch #6 and #6A.

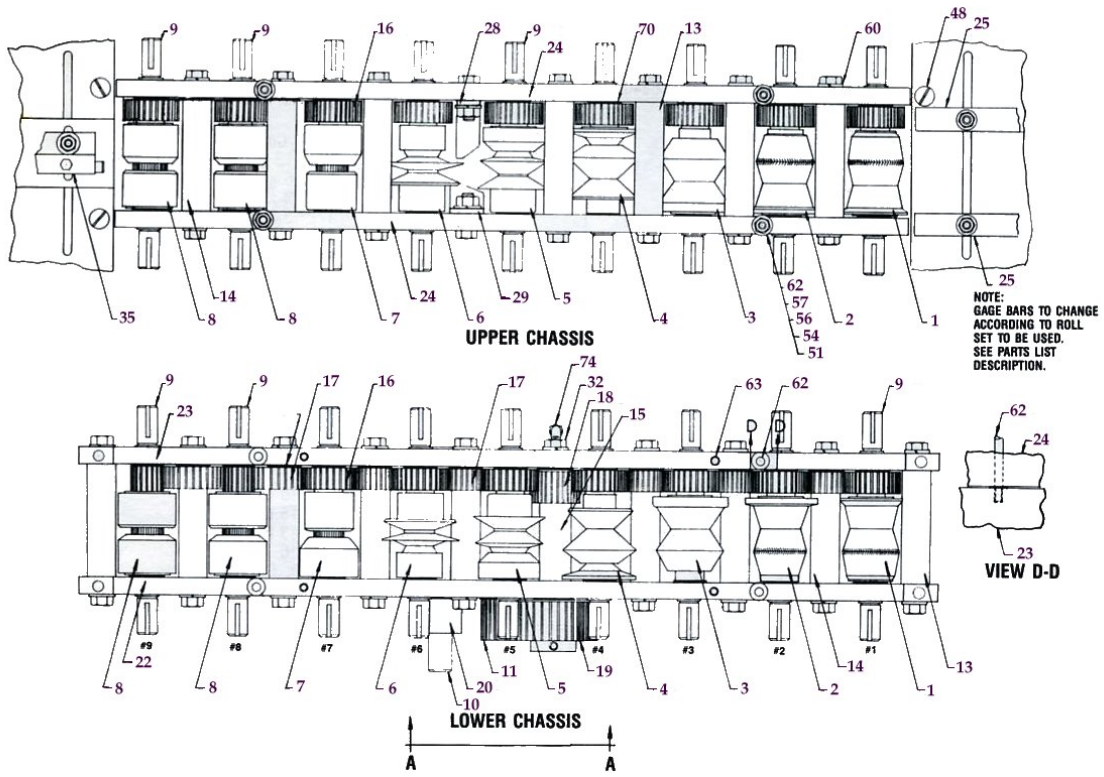


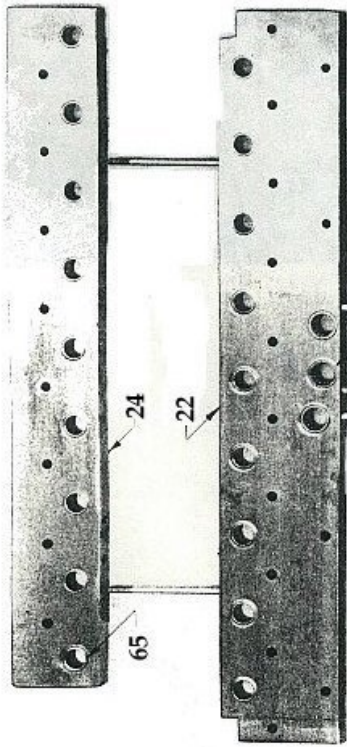
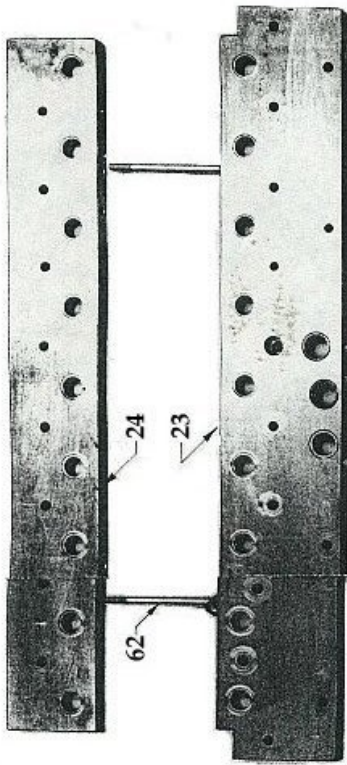


SECTION B-B



SECTION C-C





S” AND DRIVE CLEAT CUTTER ATTACHMENTS

Maximum Capacity of Unit: 22 Ga. Galv. (.0350” Material) Minimum Length of Cleat to be cut: 9” minimum

“S” AND DRIVE CLEAT CUTTER ATTACHMENT Operation Instructions

1. Check settings and make sure all mounting bolts are tight.
2. Start machine and place the material against the entrance gauge bar of the slitting attachment and feed the stock into the slitting rolls. The slit material will automatically deflect downward to the forming roll while the piece in the operator’s hand will deflect upward to clear the machine. The slitter will cut straight as long as the material, which has not gone thru the slitting rolls, is held against the entrance gauge bar.

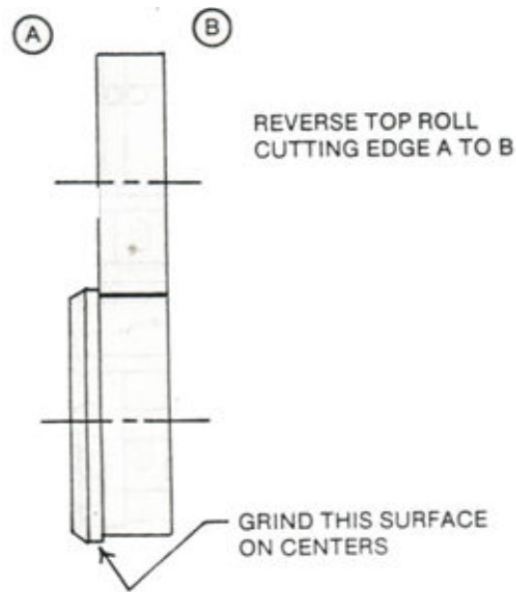
NOTE: WHEN RUNNING LONG SHEETS IT IS ADVISABLE THAT THE SHEET BE SUPPORTED AT APPROXIMATELY THE SAME HEIGHT AS THE SLITTING ATTACHEMENT ENTRANCE TABLE.

ADJUSTMENT

The slitter is properly adjusted and tested before shipment. Should the gauge accidentally become misaligned, refer to installation instructions paragraph 2. If the cleat runs out, or if material distribution is not correct, check the mounting of the attachment making sure the unit is mounted parallel to the machine side plates and settings are correct.

When the slitting rolls need resharpening remove the bottom roll and grind it on the O.D. to remove any nicks and presents a clear sharp edge. The top roll has two cutting edges, when the resharpened lower roll is reinstalled, merely reverse the side of the roll presenting a new cutting edge. When ordering parts for this unit, please SPECIFY the SERIAL NUMBER of the machine.

CAUTION: Machine will jam if pieces less than 9” are used.
In case of jam-up, remove sheet deflector and remove material from unit.



3. Set slitting attachment on entrance table so that the spur gear of the attachment meshes with the gear of the No. 1 forming roll. Refer to Drawing No. 4 for set-up.

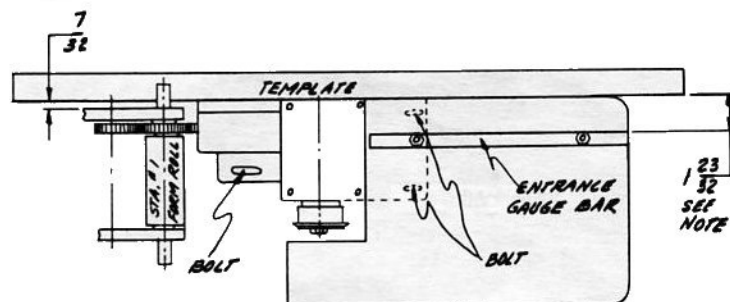
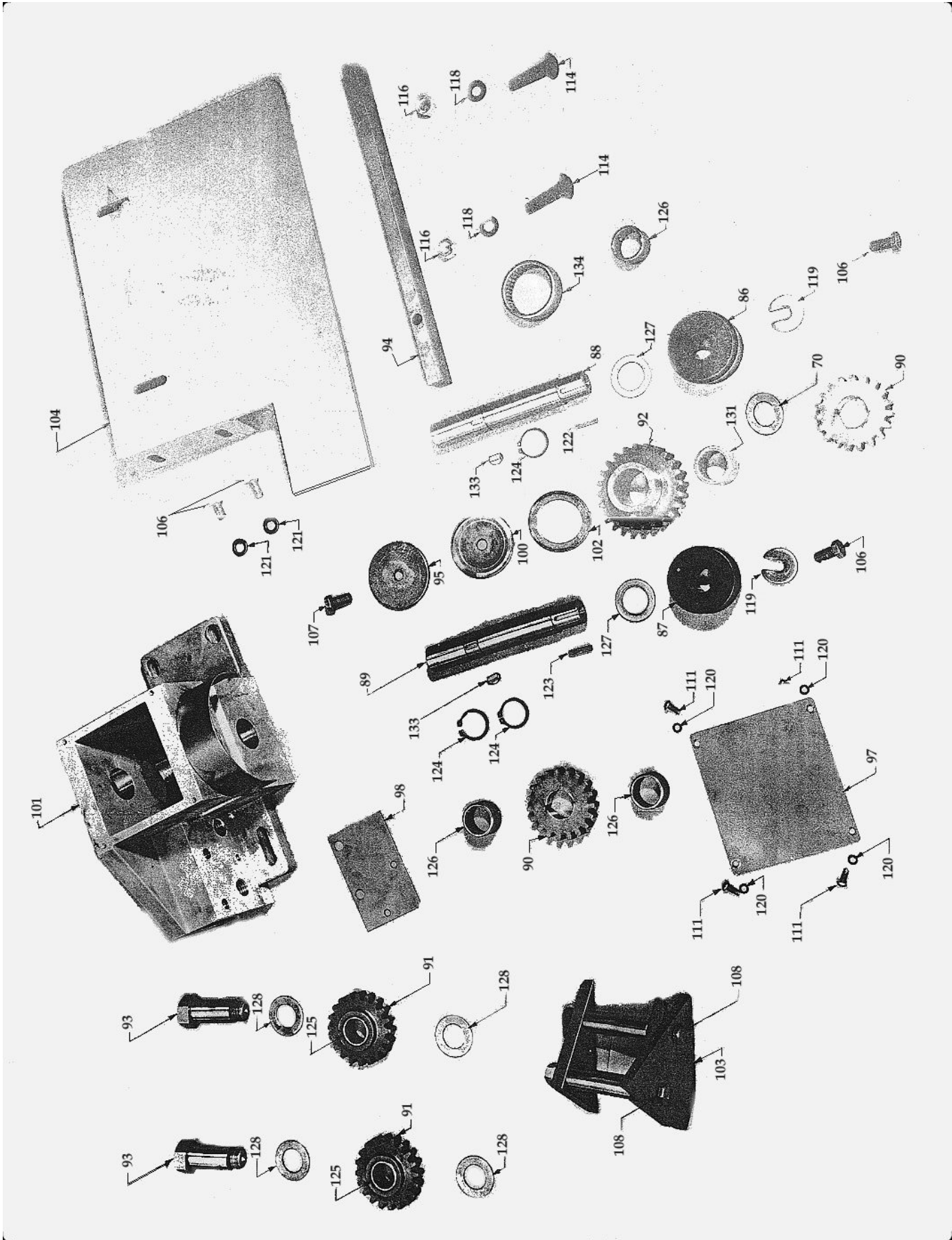


Figure 4 – Model S & Drive Plus

Alternate Set-Up Procedure:

Place Straight edge across the back of the slitter attachment casting and measure $\frac{7}{32}$ " from straight edge to machine plate. Take measurements at least 12" apart to insure slitter attachment is parallel to machine plate: Note: Entrance gauge bar is factory set and should not need adjustment. Setting is given for reference only.

3. Replace machine cover.



S & Drive Plus Parts List

Find No.	part number	Description	PER UNIT
1	MSDP11141	T-B1	2
2	MSDP11142	T-B2	2
3	MSDP11143	T-B3	2
4	MSDP11144	T-B4	2
5	MSDP11145	T-B5	2
6	MSDP11146	T-B6	2
7	MSDP11147	T-B7	2
8	MSDP11148	T-B8, T-B9	4
9	MSDP13128	Roll Shaft	18
10	MSDP13302	1st Drive Shaft	1
11	MSDP13304	2nd Drive Shaft	1
12	MSDP13406	3rd Drive Shaft	1
13	MSDP13505	Plain Spacer	13
14	MSDP13605	Idler Spacer	7
15	MSDP13657	Main Idler Spacer	1
16	MSDP14160	Drive Gear	18
17	MSDP14161	Idler Gear (takes 1-66090)	7
18	MSDP14162	Main Idler Gear (takes 2-66100)	1
19	MSDP14301	Drive Gear	1
20	MSDP14640	Collar	1
21	MSDP14661	Thrust Collar	2
22	MSDP20143	Btm. Frt. Plt.	1
23	MSDP20144	Btm. Plt.	1
24	MSDP20262	Upr. Bk. Plt.	2
25	MSDP21303	Ent. Ga. Bar	2
26	MSDP25676	Jack Base	2
27	MSDP29469	Motor Base	2
28	MSDP31907	Sheet Slide Gear	1
29	MSDP31908	Sheet Slide Roll	1
30	MSDP32902	Lube Conn Holder	1
31	MSDP37000	Grease Fitting Shim	2
32	MSDP42001	Lube Bolt	1
33	MSDP51084	Cover	1
34	MSDP51900	Fiber Gear Assy	1
35	MSDP53304	Exit Ga. Assy.	1
36	MSDP58509	Stand Complete	1

37	MSDP60052	5/16-18x1 Hex C.S.	1
38	MSDP60097	3/8-16x1-3/4 Hex C.S.	4
39	MSDP60166	1/2-13x3-1/2 Hex C.S.	2
40	MSDP60228	1/2-13x1-3/4 Hex C.S.	42
41	MSDP60402	3/8-16 1 SHCS	2
42	MSDP60450	1/2-13 1 SHCS	1
43	MSDP60575	10-24-3/8 RHMS	4
44	MSDP60593	10-32x7/16 F.H. Screw	2
45	MSDP60680	3/8-16 3/8 SSS	2
46	MSDP60875	3/8-16x1 CB	6
47	MSDP60877	3/8-16 1-3/4 CB	4
48	MSDP60954	1/2-13 1 FHSCS	4
49	MSDP61040	10 24 HN	4
50	MSDP61101	5/16-18 HN Hvy. SF	1
51	MSDP61120	3/8-16 HN Hvy. SF	6
52	MSDP61122	3/8-16 HN Fin.	4
53	MSDP61160	1/2-13 HN Hvy. SF	6
54	MSDP61300	3/8-16 Jam Nut SF	4
55	MSDP62026	3/8x.052 Washers	4
56	MSDP62340	3/8 Blvl Washer	48
57	MSDP62029	3/8-1/16 Washer	18
58	MSDP62360	3/16 Lockwashers	3
59	MSDP62363	3/8 Lockwashers	12
60	MSDP62364	1/2 Lockwashers	43
61	MSDP62402	15 wdrd Key	39
62	MSDP62551	3/8-16 6-1/2 Stud	4
63	MSDP62633	3/8-1 Dwl	4
64	MSDP66090	B1416 Torr Brg.	7
65	MSDP66100	B1612 Torr Brg.	38
66	MSDP66111	HJ162412 Torr Brg.	6
67	MSDP66320	NTA 1625 Torr Brg.	2
68	MSDP66321	1-3/32 washer HT	2
69	MSDP66422	TT1503 2 Thrust Brg.	7
70	MSDP66425	TT1709 1 Thrust Brg.	42
71	MSDP66600	886L Fem Couplg.	7
72	MSDP66610	888L Half Union	7
73	MSDP66640	1610 Grs. Fitting	7
74	MSDP66650	Angle Body	1
75	MSDP66700	Tubing	121
76	MSDP70052	5L 480 Belt	2
77	MSDP70421	2 BK 32 1 Shv.	1

78	MSDP70442	2 BK 45 1-1/8 Shv.	1
79	MSDP80080	5 HP 3 60 1800 184	1
80	MSDP80103	Mtr. Control	1
81	MSDP80423	BX Cable 12 3 58	1
82	MSDP80483	BX Conn. 3/8	1
83	MSDP80601	Rg. Fng. Terminal	3
84	MSDP80928	Back Enclosure	1
85	MSDP82254	Heater Element	2
86	MSDP11711	Bottom Slitting Roll	1
87	MSDP11712	Top Slitting Roll	1
88	MSDP13105	Bottom Roll Shaft	1
89	MSDP13106	Top Roll Shaft	1
90	MSDP14150	Drive Gear	2
91	MSDP14171	Idler Gear	2
92	MSDP14226	Clutch, Gear	1
93	MSDP19326	Idler Stud	2
94	MSDP21304	Entrance Gauge	1
95	MSDP30902	Washer	1
96	MSDP34700	Defl. Guard	1
97	MSDP35322	Cover Plate	1
98	MSDP35902	Wear Plate	1
99	MSDP35979	Template	1
100	MSDP39950	Thrust Washer	1
101	MSDP40250	Main Housing	1
102	MSDP44021	Thrust Washer	1
103	MSDP56574	Deflector	1
104	MSDP56575	Entrance Table	1
105	MSDP60045	5/16-18 x 1/2 HHCS	2
106	MSDP60090	3/8-16x3/4 Hex Cap Screw	4
107	MSDP60093	3/8-16x1 Hex HD Cap Screw	1
108	MSDP60102	3/8-16x5" Lg. Hex. Capscrew	2
109	MSDP60498	5/16-18x3/8 SHCS	1
110	MSDP60571	8-32x3/4" RHMS	2
111	MSDP60576	10-24x1/2" Lg. Rd. Hd. Mach. Screw	4
112	MSDP60795	4x3/16 Drive Scr.	2
113	MSDP60876	3/8-16x1-1/4 CB	3
114	MSDP60877	3/8-16x1-3/4" Lg. Carriage Bolt	2
115	MSDP61020	8-32 Hex Nut	2
116	MSDP61120	3/8-16 Hex. Nut	2
117	MSDP62002	3/16x.049 Wsr.	2
118	MSDP62029	3/8 ID Plain Washer	2

119	MSDP62301	"C" Washer	2
120	MSDP62360	3/16 Lockwashers	4
121	MSDP62363	3/8 Lockwashers	5
122	MSDP62420	3/16 Sq. Key	
123	MSDP62424	3/16 Sq. Key 1/2	1
124	MSDP62502	Retaining Ring	3
125	MSDP66080	Bearing	2
126	MSDP66100	Bearing	4
127	MSDP66421	Thrust Washer	2
128	MSDP66422	Thrust Washer	4
129	MSDP66425	Thrust Washer	1
130	MSDP66430	TT150-2 Brg.	1
131	MSDP66500	Clutch	1
132	MSDP71154	1" Collar	1
133	MSDP42401	Special Key	2
134	MSDP66110	Clutch Bearing (RCB 162117)	1
135	MSDP99001	Set of Pitts Rolls Kit	
136	MSDP99002	Set of 3 in 1 Rolls Kit	
137	MSDP99003	Set of Male Button Lock Rolls (20 - 24 gauge) Kit	
138	MSDP99004	Set of Female Button Lock Rolls (20 - 24 gauge) Kit	
139	MSDP99005	Set of Male Button Lock Rolls (24 - 28 gauge) Kit	
140	MSDP99006	Set of Female Button Lock Rolls (24 - 28 gauge) Kit	
141	MSDP99007	Cabinet / complete with hood and guides	
142	MSDP99008	Hood for cabinet	
143	MSDP99009	Switch 30 AmpLGMCCB single phase	
144	MSDP99010	Cover Plate single phase	
145	MSDP99011	Switch 30 Amp mounting box single phase	
146	MSDP99012	Switch 30 Amp mounting box Link single phase	
147	MSDP99013	Switch 15 AmpLGMCCB 3 phase	
148	MSDP99014	Cover Plate 3 phase	
149	MSDP99015	Switch 15 Amp mounting box 3 phase	
150	MSDP99016	Switch 15 Amp mounting box Link 3 phase	
151	MSDP99017	Complete Slitter including hardware	
152	MSDP99018	7.5 Hp 1 phase motor granger part number 5K677	
153	MSDP99019	Two Groove Sheave for 7 1/2 hp motor granger part number 5k677	
154	MSDP99020	3/8 Stove Bolts	4
155	MSDP99021	Motor Mounts	2
156	MSDP99022	3/8 Stove Bolts	4
157	MSDP99023	S&DP Drive cleat roll Kit	1
158	MSDP99024	S&DP Drive cleat Entrance Guide	1
159	MSDP99025	S&DP Drive cleat Exit Guide	1

160	MSDP99026	S&DP Drive cleat Defector	1
161	MSDP99027	T-1 Drive Cleat Roll	1
162	MSDP99028	T-2 Drive Cleat Roll	1
163	MSDP99029	T-3 Drive Cleat Roll	1
164	MSDP99030	T-4 Drive Cleat Roll	1
165	MSDP99031	T-5 Drive Cleat Roll	1
166	MSDP99032	T-6 Drive Cleat Roll	1
167	MSDP99033	T-7 Drive Cleat Roll	1
168	MSDP99034	T-8 Drive Cleat Roll	1
169	MSDP99035	T-9 Drive Cleat Roll	1
170	MSDP99036	B-1 Drive Cleat Roll	1
171	MSDP99037	B-2 Drive Cleat Roll	1
172	MSDP99038	B-3 Drive Cleat Roll	1
173	MSDP99039	B-4 Drive Cleat Roll	1
174	MSDP99040	B-5 Drive Cleat Roll	1
175	MSDP99041	B-6 Drive Cleat Roll	1
176	MSDP99042	B-7 Drive Cleat Roll	1
177	MSDP99043	B-8 Drive Cleat Roll	1
178	MSDP99044	B-9 Drive Cleat Roll	1
179	MSDP99045	S&DP Drive cleat Defector bolts	4
180	MSDP99046	S&DP Drive cleat Defector lock washers	4
181	MSDP99047	Moonwasher	18
182	MSDP99048	Bolts (roll retaining)	18
183	MSDP99049	Flat washer (roll retaining)	18
184	MSDP99050	Carriage Bolt for (Entrance / Exit Guide)	4
185	MSDP99051	Lockwasher for (Carriage Bolt)	4
186	MSDP99052	Nut for (Carriage Bolt)	4
187	MSDP99053	Key	18