

**TIN KNOCKER**

**TK 16 GA PITTS  
ROLL FORMER**

**INSTRUCTIONS & PARTS DIAGRAM**



**RED RIVER MACHINERY**  
1-800-729-0759  
[www.redrivermachinery.com](http://www.redrivermachinery.com)

## **Safety Suggestions: BEFORE starting the machine.**

Only one person should control the machine(s). Never allow anyone to operate the controls while you are operating or working on this equipment.

Keep your hands away from internal workings of the machinery when starting, running or stopping.

Keep your work area clean. Remove all scrap, oil spills, rags, tools and other loose items that could cause you to slip, trip and fall.

When cleaning the machine or any of its components, do not use toxic or flammable substances. Do not perform any cleaning while the equipment is running.

Never override or disable any safety switch or safety interlock.

If so equipped, make sure that hydraulic and pneumatic pressures are at specified levels before operating this equipment.

**Do not operate the roll former unless all covers and guards are in place.**

Be sure that this Instruction Manual is kept near the machine so the operator can refer to it when necessary.

Keep this equipment properly maintained.

Always turn off power to the machine(s) at the main disconnect before performing any maintenance or adjustments so accidental start-up or electrocution cannot occur.

## **Safety Suggestions: WHILE operating the machine.**

Never leave the work area while the equipment is in operation.

Never leave the machine unattended while it is under power or in operation.

Always be alert while operating machinery.

Be alert for loose, worn or broken parts. Do not attempt to operate any machinery with such parts present or if the machinery is making unusual noises or actions.

Be aware of the locations of the **Power Off** or **Emergency Stop** button in case of an emergency.

**Be sure all guards and covers are in place.**

Continually observe the roll forming process and related equipment. If any unusual condition develops, immediately stop and inspect the machine.

Protect yourself! Wear safety glasses. Do not wear loose clothing, neckties, or jewelry. If long sleeves must be worn, avoid loose cuffs and buttons. Tie back and contain long hair.

Never adjust any roll feature or perform work near the rolls, gears or power take off while they are running.

## Recommendations

We recommend that shops that work lighter iron, such as is used on smaller pipes and fittings employ 5/16" Pittsburgh Lock Rolls mounted on the extended shafts of this machine. If production warrants, our smaller machine (TK 20 Ga. Pittsburgh roll former) should be used.

The reason for this recommendation is as follows:

As most hand brakes cannot be used to form a single edge smaller than 3/8" on heavy iron our TK 16 Ga. Pittsburgh rolls a 1/2" pocket with the permanent rolls.

The lighter iron can be worked in the permanent rolls but the closing down of the lock over the 1/2" span causes distortion of the material.

We, therefore, suggest that you use the 5/16" Pittsburgh Lock auxiliary rolls on 20 gauge to 28-gauge iron. These rolls may be installed or changed in about 20 minutes by an experienced operator and the lock resulting is much more accurate and neat,

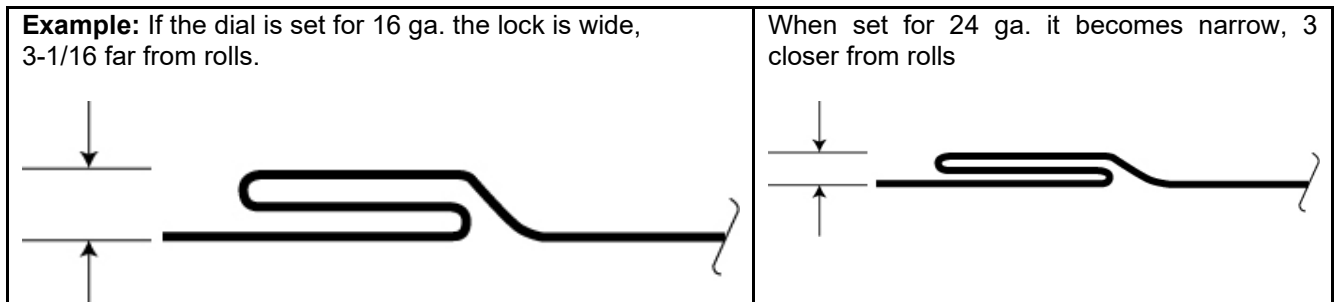
## Operating Instructions

**VERY IMPORTANT!** TO SET THE CALIBRATED DIAL FOR 16 GAUGE PITTS, TURN DIAL (RIGHT HAND THREAD) DOWN TO THE BOTTOM WITH THE LETTER "S" IN LINE WITH THE ARROW MARKED ON COVER OF MACHINE. THEN RELEASE TO SETTING OF MATERIAL TO BE USED.

THE CALIBRATED DIAL: The purpose of this dial is to regulate the width (not the depth) of the pocket. For example, when forming 16-gauge metal, the pocket must be wide enough to take the 16-gauge single edge which fits into it; and should become narrower correspondingly, for lighter gauges. This is done by setting the dial to whatever gauge you are running through the machine.

Should the dial get out of adjustment, re-set by:

- (1) Loosening the set screw,
- (2) Turning the stud all the way down,
- (3) Setting the "S" mark on the dial opposite the pointer on the cover.



Pittsburgh 16 Gauge Turn CALIBRATED DIAL all the way down and then back to gauge of metal to be run through the machine. Hold material against the angle gauge and slide it into the forming head. Be sure to hold the material to the gauge.

Your roll former has been adjusted at the factory, but on account of the difference in materials in various localities it is sometimes necessary to readjust it. Proceed as follows:

(1) If material slips or sticks on leaving forming head, tighten Hold Down Stud at finishing end slightly.

(2) If the material works away from the feed gauge tighten Hold Down Studs at starting end until it corrects itself.

(3) If the material shows heavy pressure marks, loosen Hold Down Studs slightly.

If a wider or narrower hammer-over edge is desired, move the angle gauge forward or back. Be sure to keep the gauge parallel with the front edge of the tap plate of the machine

#### **MATERIAL SHOULD NOT TOUCH GAUGE ON FINISH END OF MACHINE.**

It is very important that long sheets be held flat and against the angle gauge when starting through the forming head.

The roll former 18 will handle pieces 8" and longer. If shorter length is required, NOTCH LONG LENGTH AND CUT AFTER FORMING.

#### **Lubrication**

There are seven alemite fittings located on the underside of the stand roller case on the auxiliary side of the machine. These fittings lubricate the main reduction bearings and should be lubricated after every four hours of operation.

Recommended lubricant:

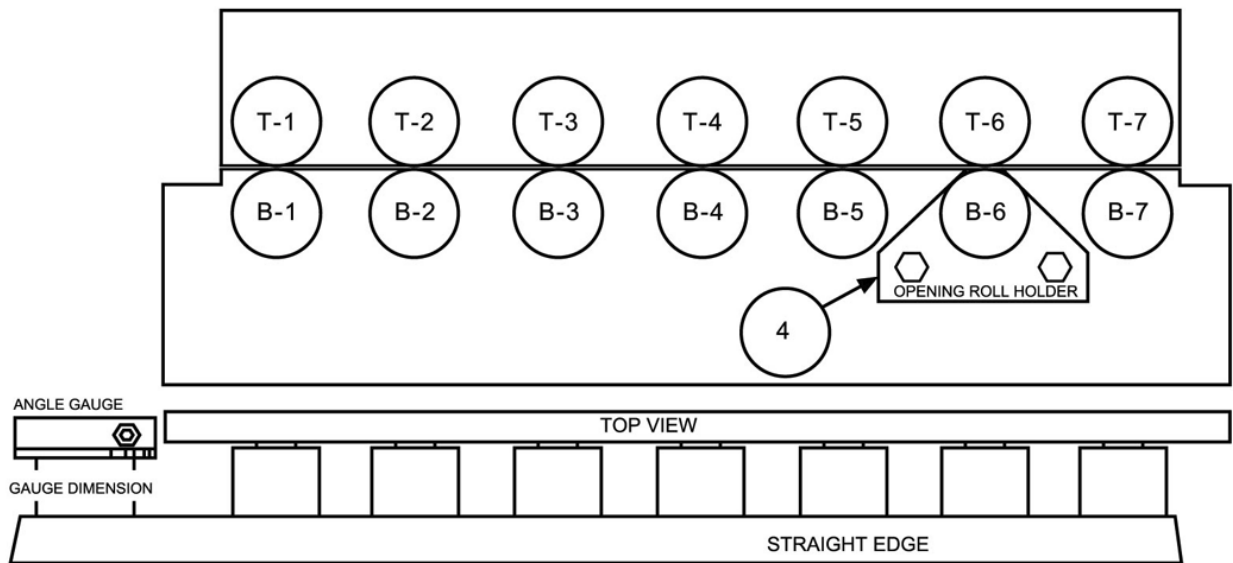
Standard Viscous #3 (Product of the Standard Oil Company) or equivalent. The slow speed shafts do not require additional lubrication. Grease gears periodically or as needed. If machine is to be used out of doors, an oil or grease film will prevent rusting of surfaces.

**To install supplementary rolls, proceed as follows:**

1. Remove top cover.
2. Remove rear section of top plate. This will expose the extended shafts on which the rolls are to be mounted.
3. Select the first pair of rolls, which are marked "T1" and "B1" and slip them on the shafts at the left, or feed side of the machine, placing "T1" on the upper shaft and "B1" on the lower. Repeat this procedure with rolls T2 and "B2", "T3" and "B3" 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, reading from left to right, facing the shafts. NUMBERED SIDE MUST FACE OUTWARDS.
4. Install keys and fasten rolls to shafts with cap screws and special washers which are provided.

Mount entrance and exit gauges onto stand using slotted holes provided in stand table top. Set entrance gauge by placing a straight edge along the outer edge of the auxiliary rolls, Measure in from this straight edge to the extreme ends of entrance gauge bar the required amount. See Sketch (1). When using the Drive Cleat Rolls the straight edge is placed along the entrance gauge and the measurement is made from the distance between the straight edge and the number one and seven roll stations.

Sketch No. 1



**Auxiliary roll gauge settings**

A. **Type "S" Double Seam:** (22-26 Gauge) 5/16" Pocket. Uses approximately 1" material.

Gauge setting.....1-1/8"

B. **Type "L" Double Seam:** (16-20 Gauge) 7/16" Pocket. Uses approximately 1-1/8" material.

Gauge setting.....1-5/16"

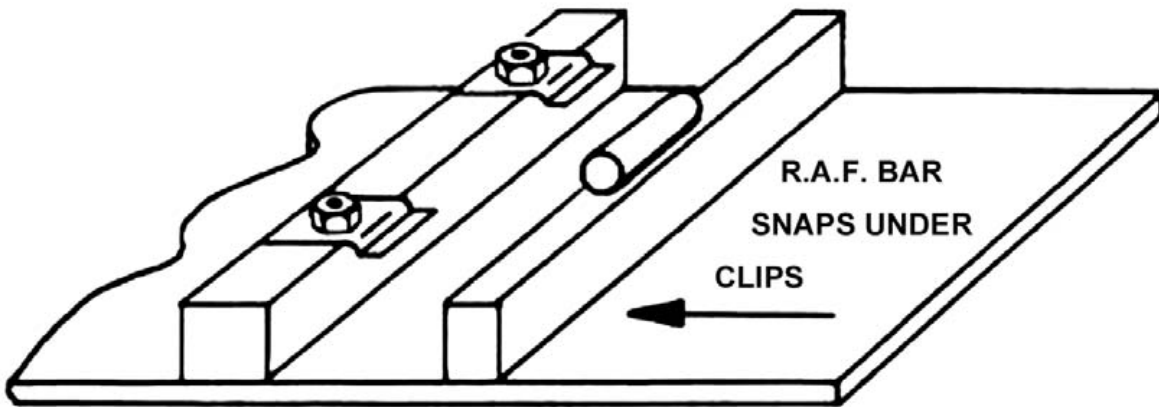
C. **Standing Seam Rolls:** (16-20 Gauge) 3/4" Height. Uses approximately 2-1/8" per completed seam. Forms both single and double edge by simple gauge attachment. Note: Two-piece entrance gauge supplied. Drilled bar mounted to stand with clips attached, to form standing seam.

Gauge setting..... 2"

Second Gauge edge bar snaps under clips and is used for right angle flange.

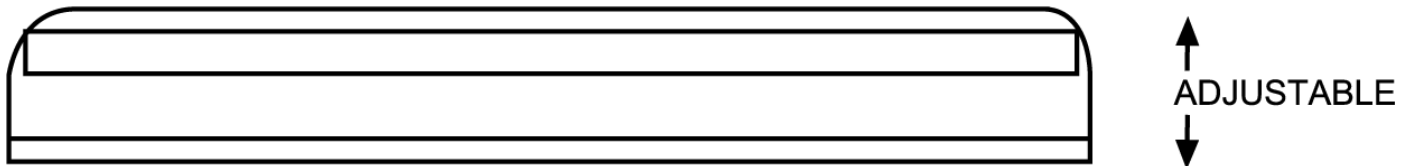
See Sketch below: (2)

Sketch No. 2



The top seven roll is not fastened by bolt and washer but allowed to float.  
 The exit angle 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) below: Set exit gauge to the standing seam shape.

Sketch No. 3



D. **Right Angle Flange Rolls:** (16-24 Gauge) on straight pieces only. Adjustable to 7/16" high.

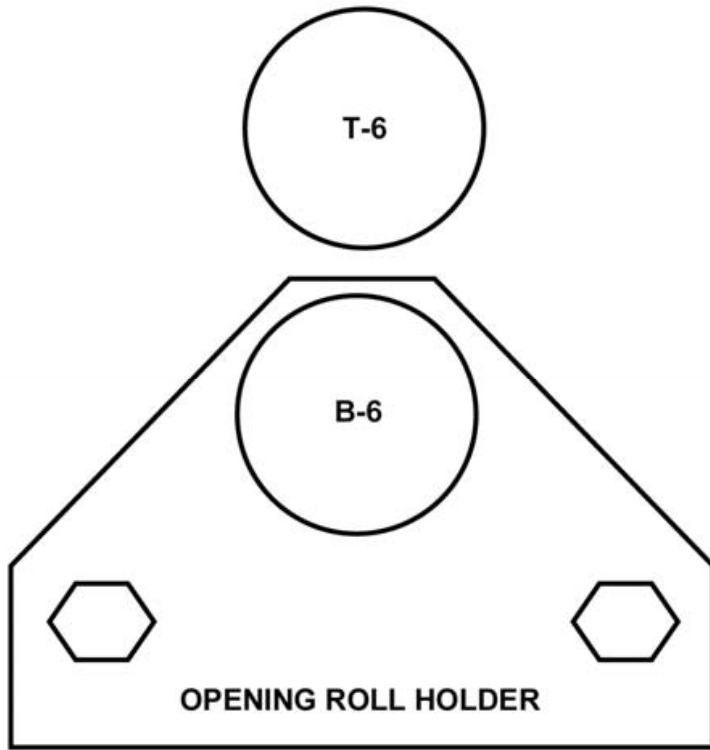
Gauge setting.....1-5/16"

E. **5/16" Pittsburgh Lock Rolls:** (22-26 Gauge) 5/16" Pocket.

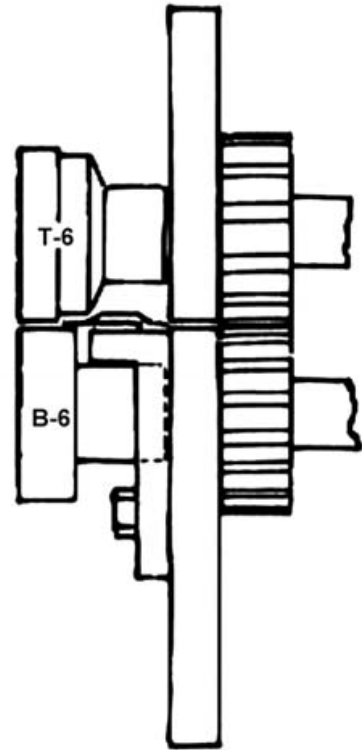
Gauge setting.....1-11/16"

To install auxiliary opening roll holder, remove rolls from the number six roll station and bolts that straddle bottom six roll shaft (See Sketch 4 and 4A). Place opening roll holder onto machine and fasten with the two 1/2"-13 NC x 2" HHCS provided.

Sketch No. 4



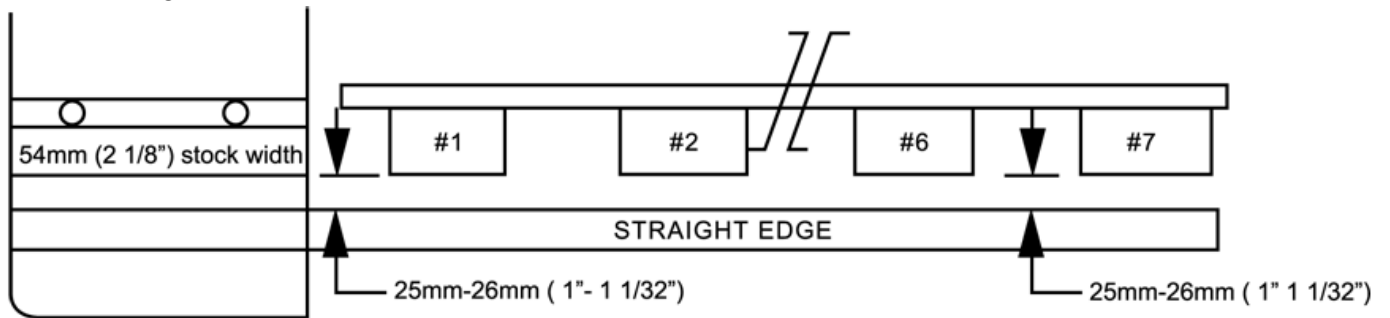
Sketch No. 4A



F. Drive Cleat: (20-26 Gauge Material) Cleat width, 1-1/8", 2-1/8" stock width.

Gauge setting (See Sketch No. 5)..... 1" to 1/32"  
 Note: The top =3 roll is not fastened by bolt and washer but allowed to float.

Sketch No. 5



G. Combination 4-in-1 Rolls: (22-28 Gauge) Uses approximately 1-3/4" on "T" Section 1-1/8" on standing seam 1/2" & 1/4" on right angle flange.

**FOUR** Step Entrance Gauge

Top Step "T" Section Gauge setting.....	2-1/16"
Second step Standing Seam Gauge setting.....	1-1/2"
Third step Right Angle Flange -1/2" Gauge setting.....	15/16"
Bottom step-Right Angle Flange-1/4".....	11/16"

**Note:**

When the First setting is made the other two will be automatically correct The other two shapes can be made by placing material to the proper gauge step.

There are two top seven rolls, one stamped T-7, 22-24 gauge which has a wide slot and should be used with 22 and 24 gauge material. The second roll is stamped T-7, 26-28 gauge and should be used for the lighter materials. The exit angle 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).

**Caution:** When adjusting exit gauge be sure it is set to the "T" section shape or damage will result by material interference with the gauge bar.

**Note:**

When changing rolls, loosen the exit gauge and move it to the extreme end of the table slots, away from where the material will pass. Run a test piece of material through the rolls and stop machine as the lead edge of the formed material reaches the end of the exit table.

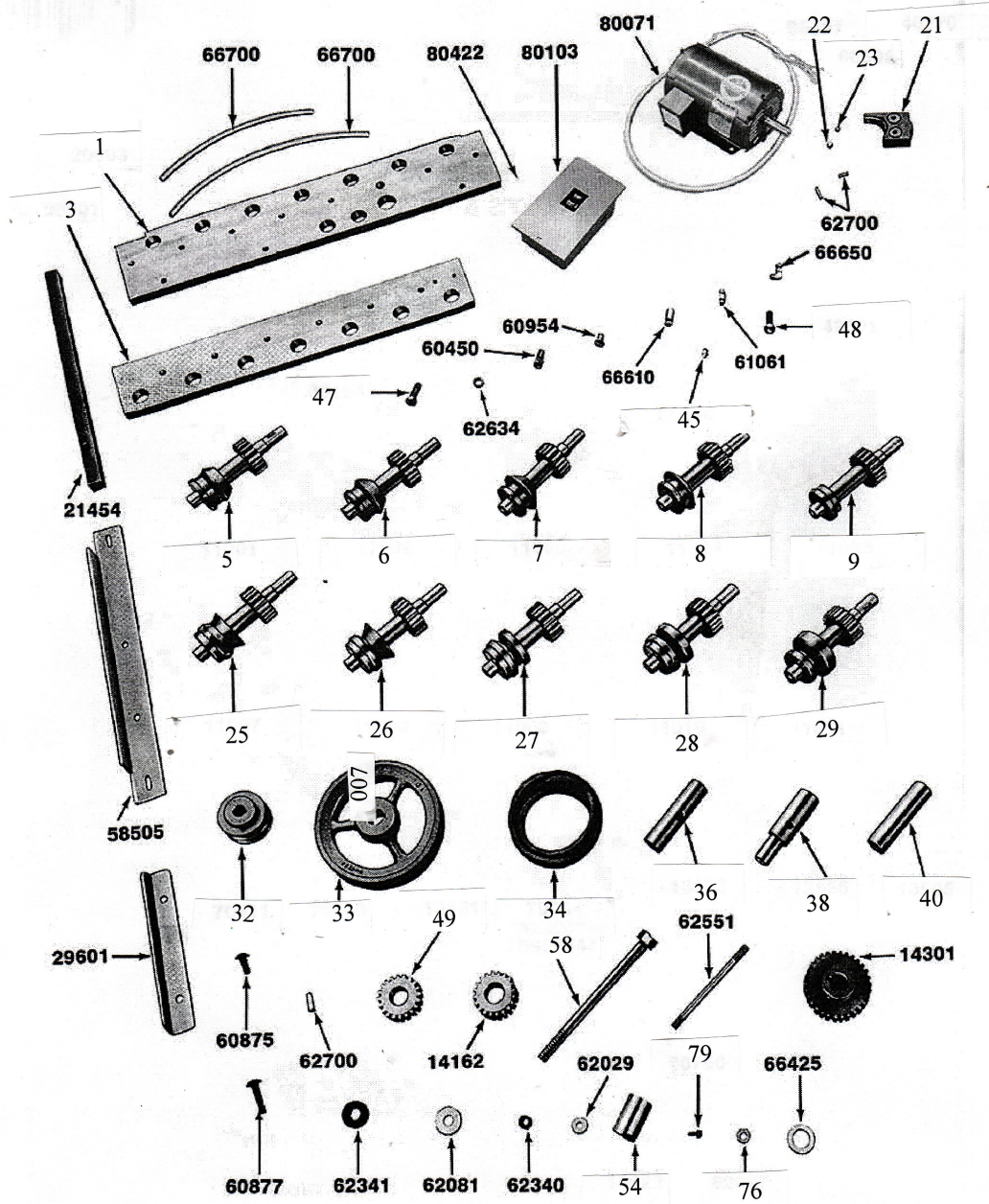
Set exit gauge to the formed material; the gauge should be set flush to, but not bearing against, the material unless side pressure is required for straightening. Adjustment of the tension on the 3/8" studs that pass through the plates will affect the shape and tendency of material to hold to the entrance gauge.

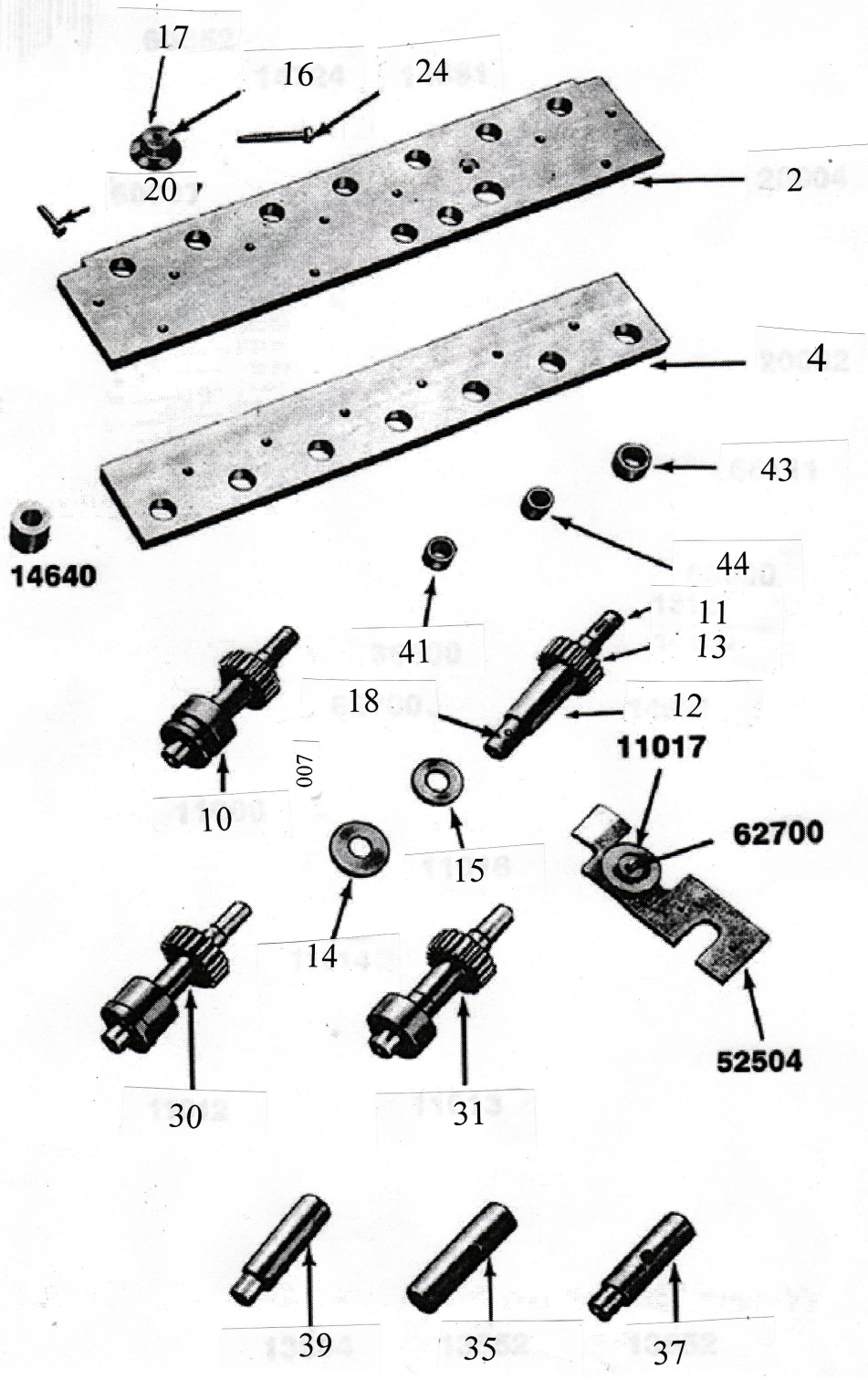
**It is important:** that when changing rolls all parts pertaining to each set be removed from the machine and all parts included on assembly.

5. Replace top cover and back plate
6. Hold material against gauge and feed into machine.



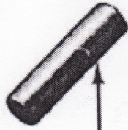








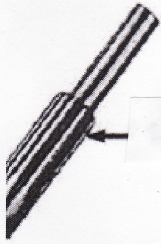
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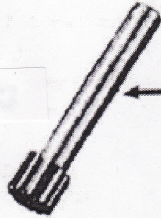
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007

## Pittsburgh 16 Gauge Parts List

Please use Number when ordering parts.		Description	Pieces per Unit
FN	Part No.		
1	16P20003	Lower Front Plate	1
2	16P20004	Lower Back Plate	1
3	16P20001	Upper Front Plate	1
4	16P20002	Upper Back Plate	1
5	16P11001	16 Pitts T1	1
6	16P11002	16 Pitts T2	1
7	16P11003	16 Pitts T3	1
8	16P11004	16 Pitts T4	1
9	16P11005	16 Pitts T5	1
10	16P11006	16 Pitts T6	1
11	16P13127	T7 Roll Shaft	1
12	16P14621	16 Pitts Cir.	1
13	16P14160	Drive Gear	1
14	16P11014	Knurled Ring	1
15	16P11016	Plain Ring	1
16	16P14724	Adjustable Dial	1
17	16P60652	Set Screw	1
18	16P42700	Dual Pin	1
19	*16P71018	Comp. Spring	1
20	16P60097	3/8 16 x 1-3/4 HHCS	2
21	16P40270	Adjusting Block Fin.	1
22	16P66507	1/2 Steel Ball	1
23	16P66508	3/8 Steel Ball	1
24	16P14881	Adjusting Dial Screw	1
25	16P11007	16 Pitts B1	1
26	16P11008	16 Pitts B2	1
27	16P11009	16 Pitts B3	1
28	16P11010	16 Pitts B4	1
29	16P11011	16 Pitts B5	1
30	16P11012	16 Pitts B6	1
31	16P11013	16 Pitts B7	1
32	16P70411	2 BK 28 7 & 8 Sheave	1
33	16P70480	2 BK 80 HX. 1 Sheave	1
34	16P70054	5L-520 Belt	2
35	16P13552	Spacer Dr. off Center	2
36	16P13553	Spacer Dr. on Center	1
37	16P13652	Idler Spacer off Center	2
38	16P13656	Main Idler Spacer	1
39	16P13404	Idler Spacer Plain	3
40	16P13505	Plain Spacer	8
41	16P66100	B1612 Torr. Bearing	

42	16P66101	B1612 OH Torr. Bearing	4
43	16P68111	HJ 1624 12 Torr. Bearing	2
44	16P66090	B1416 Torr. Bearing	5
45	16P66040	1610 Grease Fittings	7
46	16P37000	Greese Fitting Shim	1
47	16P60154	½-13 x 1-1/2 Hex Hd. C Screws	32
48	16P42001	Lube Bolt	1
49	16P14161	Idler Gear (Uses 1- #66090	5
50	16P14162	Bearing)	1
51	*16P62633	Main Idler Gear (Uses 2- #66100	2
52	*16P51900	Bearings)	1
53	*16P52504	3/8 x 1 Dowel Pin	1
54	16P14622	Fibre Gear Assembly	3
55	16P60450	Opening Roll Bracket Assembly Saddle Washer ½-13 x 1 SHCS	1

## 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 Machinery Co. 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