

TIN KNOCKER

TK NO. 12 HAND TURRET PUNCH &

TK NO. 18 HAND TURRET PUNCH

INSTRUCTIONS & PARTS DIAGRAM



RED RIVER MACHINERY
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TIN KNOCKER

SAFETY RULES

TK NO. 12 HAND TURRET PUNCH & TK NO. 12 HAND TURRET PUNCH

1. Never use a machine or tool for anything other than its intended purpose. Use the proper tool and equipment for the task.
2. Do not operate the machine in excess of its rated capacity.
3. Beware of protruding machine elements or assemblies. Avoid any pinch-points created by the movement of the machine's components.

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.

GENERAL INFORMATION: TK No 12 Turret Punch

The T.K. No. 12 Hand Turret Punch is a manually operated ram action punch press designed for heavy-duty punching operations on sheet metal. The punch can accommodate sheet metal up to ¼ inch thick, with twelve separated punch stations available in a single unit. Twelve replaceable punch and die sets are located in two turrets, which can be positioned by a special spanner wrench that synchronizes selective rotation of the turrets. A single lever action lock pin mechanism locks the turrets in place during punching operations and permits quick reset of the turrets between punching operations.

The punch and die sets are prealigned and keyed to alphabetical index letters which are stamped on both turrets to identify punch and die stations. Punches and dies are individually machined to close tolerances from long wearing hardened steel to insure lasting, accurate performance. Each punch and die can be replaced separately, and each punch and die station will accommodate a variety of special punches that are made available by the manufacturer.

The locking mechanism is spring action and designed to prevent possible damage to the punch or the material being punched if punching operations are attempted when the turrets are not properly aligned. The punch handle has a special safety pin, which prevents any punching operation when the lock mechanism is not fully engaged.

The powerful TK No. 12 is designed for users who work with sheet metal to 16 gauge. Synchronized rotation of turrets is provided by special spanner wrench. Single lever action locks both turrets in perfect alignment. The following punching capacities apply in punching mild steel; 1/8" – 3/8" inclusive will punch ¼" thick; 25/64" – ½" inclusive will punch 3/16" thick; 31/64" – 1 ¼" inclusive will punch 1/8" thick. Model TK No. 12 has a 12-inch throat depth rendering it capable of handling 24-inch sheet material.

SPECIFICATIONS:

Model TK No. 12

Throat Depth..... 12 inches

Clearance between Dies and Strippers..... 7/16 inches

Dimensions:

Length..... 28 ½ inches

Width..... 12 ¼ inches

Height..... 28 inches

Net Weight..... 384 lbs.

Shipping Weight APRs..... 434 lbs.

GENERAL INFORMATION: TK No 18 Turret Punch

The TK No. 18 Hand Turret Punch is a manually operated ram action punch press designed for heavy-duty punching operations on sheet metal. The punch can accommodate sheet metal up to ¼ inch thick, with eighteen separated punch stations available in a single unit. Eighteen replaceable punch and die sets are located in two turrets, which can be positioned by a special spanner wrench that synchronizes selective rotation of the turrets. A single lever action lock pin mechanism locks the turrets in place during punching operations and permits quick reset of the turrets between punching operations.

The punch and die sets are pre-aligned and keyed to alphabetical index letters which are stamped on both turrets to identify punch and die stations. Punches and dies are individually machined to close tolerances from long wearing hardened steel to insure lasting, accurate performance. Each punch and die can be replaced separately, and each punch and die station will accommodate a variety of special punches that are made available by the manufacturer.

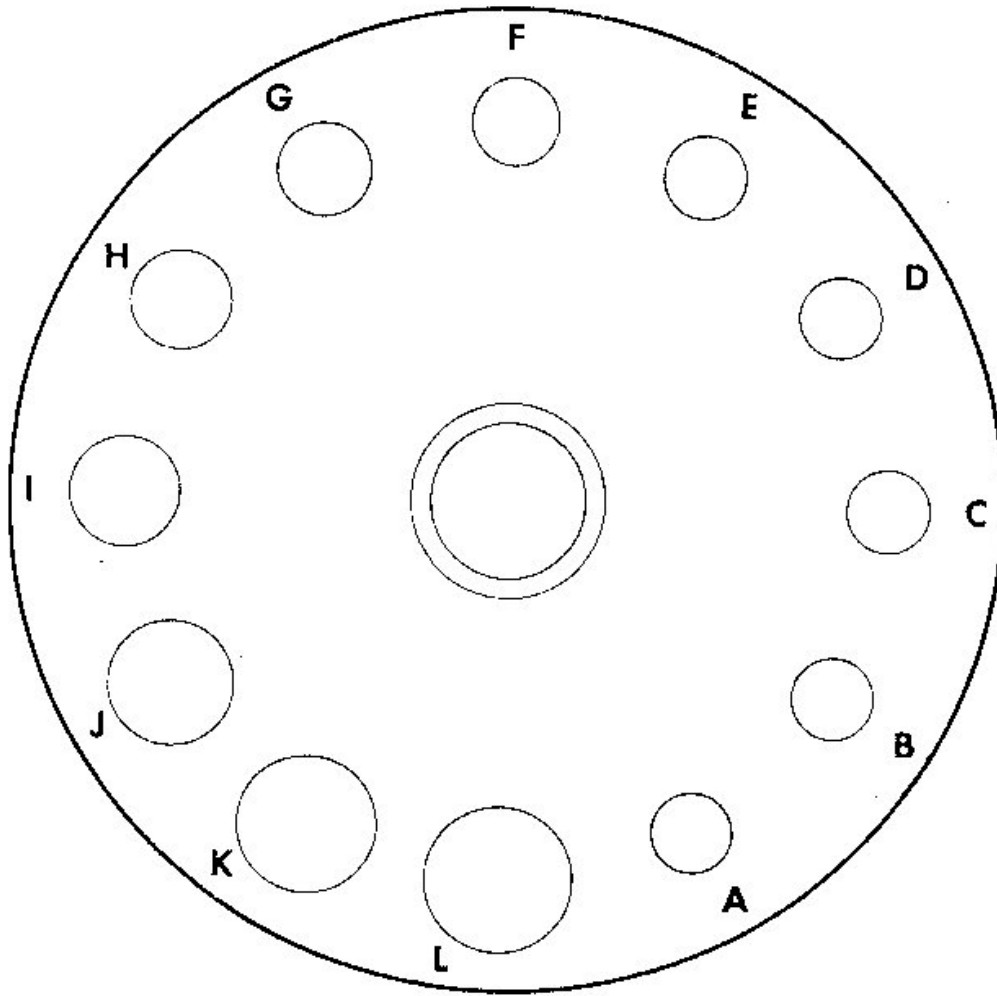
The locking mechanism is spring action and designed to prevent possible damage to the punch or the material being punched if punching operations are attempted when the turrets are not properly aligned. The punch handle has a special safety pin, which prevents any punching operation when the lock mechanism is not fully engaged.

SPECIFICATIONS:

Model TK No. 18

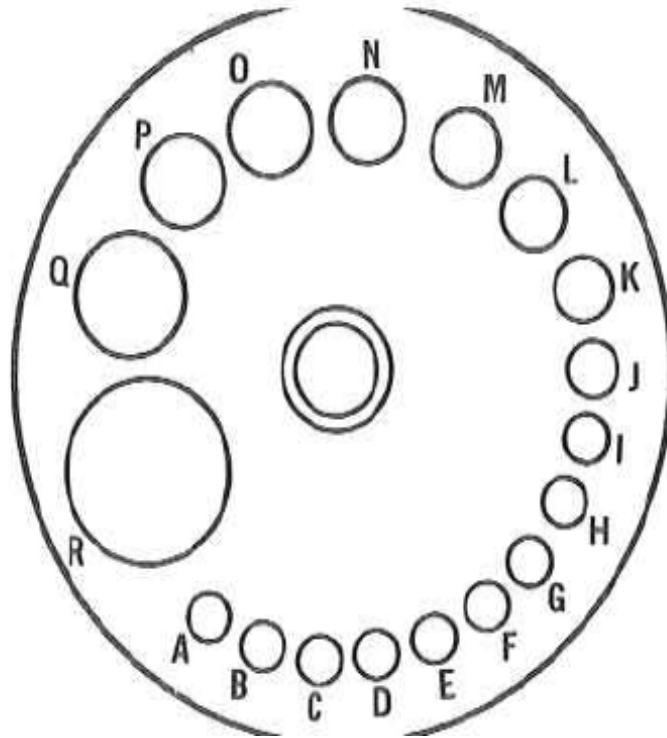
| | |
|---|------------------|
| Throat Depth..... | 18 inches |
| Clearance between Dies and Strippers..... | 7/16 inches |
| Dimensions: | |
| Length..... | 30 inches |
| Width..... | 37 inches |
| Height..... | 58 inches |
| Net Weight..... | Approx. 680 lbs. |

TK No 12 Turret Configuration



| STATIONS | CAPACITY | STANDARD ARRANGEMENT | STATIONS | CAPACITY | STANDARD ARRANGEMENT |
|----------|---------------|----------------------|----------|-------------------|----------------------|
| 1 A | 1/32" TO 1/2" | 1/8" | 7 G | 33/64" TO 5/8" | 5/8" |
| 2 B | 1/32" TO 1/2" | 3/16" | 8 H | 41/64" TO 3/4" | 3/4" |
| 3 C | 1/32" TO 1/2" | 1/4" | 9 I | 49/64" TO 7/8" | 7/8" |
| 4 D | 1/32" TO 1/2" | 5/16" | 10 J | 57/64" TO 1" | 1" |
| 5 E | 1/32" TO 1/2" | 3/8" | 11 K | 1-1/64" TO 1-1/8" | 1-1/8" |
| 6 F | 1/32" TO 1/2" | 1/2" | 12 L | 1-9/16" TO 1-1/4" | 1-1/4" |

TK No 18 TURRET CONFIGURATION



| 18 STATION MODELS | | |
|-----------------------|---------------|--------------------|
| STANDARD PUNCH LAYOUT | | |
| STATION | STANDARD SIZE | SIZE RANGE |
| 1A | 5/32" | 1/32" TO 1/2" |
| 2B | 3/16" | 1/32" TO 1/2" |
| 3C | 7/32" | 1/32" TO 1/2" |
| 4D | 1/4" | 1/32" TO 1/2" |
| 5E | 9/32" | 1/32" TO 1/2" |
| 6F | 5/16" | 1/32" TO 1/2" |
| 7G | 3/8" | 1/32" TO 1/2" |
| 8H | 1/2" | 1/32" TO 1/2" |
| 9I | 5/8" | 33/64" TO 5/8" |
| 10J | 3/4" | 41/64" TO 3/4" |
| 11K | 7/8" | 49/64" TO 7/8" |
| 12L | 1" | 57/64" TO 1" |
| 13M | 1-1/8" | 1-1/64" TO 1-1/8" |
| 14N | 1-1/4" | 1-9/64" TO 1-1/4" |
| 15O | 1-1/2" | 1-17/64" TO 1-1/2" |
| 16P | 1-3/4" | 1-33/64" TO 1-3/4" |
| 17Q | 2" | 2" |
| 18R | 2-1/4" | 2-1/4" |

INSTALLATION: TK No. 12 Hand Turret Punch & TK No 18 Hand Turret

The TK No. 12 Hand Turret Punch & TK No 18 Hand Turret is shipped in operating condition. Once the punch has been mounted and the punch handle has been secured to its shaft, punching operations can begin. It should be placed on a metal stand capable of supporting at least 600 pounds and with suitable mounting holes.

Attach the 36-inch handle, which actuates the punch mechanism to the shaft protruding from the upper right side of the casting. Matching the woodruff key to the keyway in the handle socket aligns the handle. Lock the handle in place by tightening the 5/16" thread setscrew provided, using the Allen wrench supplied with the unit.

Before operating the punch for the first time, the operator should make sure that the following conditions prevail:

1. the punch and die turrets do not move with the lock mechanism engaged;
2. the punch and die turrets can be moved with the lock mechanism released;
3. the handle safety pin is in place; and
4. the punch handle can be moved through a 180-degree arc when the lock mechanism is engaged.

Since the punch and die sets are prealigned, and the unit is factory lubricated before shipping, no further adjustments are necessary, and punching operations can commence.

OPERATION:

After the first operation of the punch, each period of operation must be preceded by a routine lubrication with a medium grade no. 10 oil, applied in the following places.

1. Oil cup on left side, upper casting
2. Oil hole in eccentric shaft flange, left side
3. Ball type oil hole in casting over eccentric shaft, right side.

For any single punching operation, the operator must observe the capability limits indicated in the table of specifications. The unit cannot punch and hole farther than 12 inches from the material edge nearest the intended hole. Also, the operator must be sure that the gage of the material being punched is within the limits specified for the hole size desired.

CAUTION:

ATTEMPTING TO PUNCH MATERIAL HEAVIER THAN THE SPECIFIED GAGE LIMITS CAN RESULT IN SERIOUS DAMAGE TO THE PUNCH MECHANISM.

The punch and die turrets are prealigned. Alphabetical index letters corresponding to those listed in the table of specifications are stamped on each turret so that turret position can be easily determined. Each die and punch is also marked with an identifying size number. The turrets can be rotated together with the spanner wrench provided, eliminating the need for realigning the turrets each time their positions are changed.

To position the turrets, release the lock mechanism by pushing the ball handle back away from the operator and holding in that position. Insert the spanner wrench in one of the four locations provided and rotate the turrets until the desired punch and die set, indicated by the alphabetical letter, is under the punch ram assembly. Then lock turrets in place by releasing the lock mechanism ball handle the handle should come far enough forward to permit moving the long punch handle past the ball handle. The rotary punch is manually operated. With the metal to be punched in place, pull the long punch handle forward toward the operator through an arc of 180 degrees. Then move handle back to its resting position to free the material and prepare for another punching operation.

CAUTION:

IF NORMAL PRESSURE APPLIED TO THE PUNCH HANDLE FAILS TO PUNCH THROUGH THE MATERIAL, DO NOT USE ADDITIONAL LEVERAGE TECHNIQUES TO MAKE FURTHER ATTEMPTS. IF THE FAILURE HAS BEEN CAUSED BY MISALIGNMENT, DAMAGE TO THE DIE CAN RESULT IF UNUSUAL FORCES ARE APPLIED TO THE PUNCH.

REPAIR AND REPLACEMENT:

The items most frequently in need of replacement are punches and dies; they are subject to the most wear, and special applications can require special punch and die sets in place of the standard sets supplied with the unit.

REPLACING PUNCHES:

To replace a punch the punch and punch holder must be removed from the punch turret. Release the turret lock mechanism by holding the ball handle back and move the punch turret by hand until the punch holder to be removed is next to the track gate located on the right side of the punch holder track. Then move the die turret until a die equal to or larger than the punch is directly beneath the punch. While holding the punch in place with a finger inserted through the die from below, loosen the track gate and slide it back. Let the punch and punch holder drop slowly through the die, taking care not to damage the die. (Punches sized $\frac{3}{4}$ inch and below can be removed from the top of the punch turret, although they should still be held from below to prevent accidental damage to the die)

Remove the pin, which holds the punch in the punch holder, exchange the worn punch for a new one, and replace the pin. If a different size punch is being installed make sure the appropriate punch holder is being used. Replace the punch and holder in the punch turret in the same fashion by which they were removed, again taking care not to damage the die. Slide the track gate down until it retains the punch holder and tighten it securely. No realignment is necessary.

REPLACING DIES

Move the punch turret so that the special waste chute located between positions "O" and "A" is on the right side of the unit. Move die turret until the die to be removed is directly under the waste hole. Loosen the two setscrews retaining the die and push the die up and out with the fingers. Insert new die in die socket, but do not tighten setscrews until alignment of the die has been accomplished.

CAUTION:

THE DIES PROVIDED FOR THE TURRET PUNCH HAVE ECCENTRIC DIE HOLES. OPERATING THE PUNCH WITHOUT FIRST ALIGNING THE REPLACEMENT DIE CAN RESULT IN DAMAGE TO THE DIE AND THE PUNCH.

To align the replacement die, rotate the die and punch turrets until the die and its companion punch are under the ram assembly. Lower the punch slowly and at the same time push the die up with the fingers, maneuvering it onto the punch. Bring the punch all the way down, letting the die drop back onto its socket. Rotate the die until there is equal space between it and the punch all around the punch. Then tighten the setscrews to secure the die in position.

REPAIR OF THE LOCK MECHANISM

To replace the lower link spring, remove the cotter pin holding the connecting link and the lower lock lever link together. Then loosen the setscrew holding the spring retainer, and let the retainer and the spring drop out of the casting. Insert the new spring in the casting, replace retainer and tighten setscrew. Then replace the cotter pin

removed at the beginning of the operation. Make sure the die turret does not move with the lock mechanism engaged.

TURRET REPAIR

After several years of use, the punch turret support plate will wear. Signs of such are a tendency for the punch turret to wobble or move up and down when the lock mechanism is engaged. To replace this support plate, remove the punch turret from the unit by removing the four screws holding the punch holder track to the casting. Replace the punch turret support plate and screw down tightly. Return the turret and punch holder track to the casting and tighten the four securing screws.

TK HAND TURRET PUNCH

Parts list

| INDEX NO. | PART NO. | NAME AND DESCRIPTION |
|---------------------|---------------------|------------------------------------|
| -1 | NO12HTP0101 | Die (order by size and part no.) |
| | *NO18HTP0102 | 1/8 |
| | *NO12HTP0102 | 5/32 |
| | *NO18HTP0104 | 3/16 |
| | *NO12HTP0103 | 7/32 |
| | *NO18HTP0106 | 1/4 |
| | *NO12HTP0104 | 9/32 |
| | *NO12HTP0105 | 5/16 |
| | *NO12HTP0106 | 3/8 |
| | *NO12HTP0107 | 1/2 |
| | *NO12HTP0108 | 5/8 |
| | *NO12HTP0109 | 3/4 |
| | *NO12HTP0110 | 7/8 |
| | *NO12HTP0111 | 1 |
| | *NO12HTP0112 | 1-1/8 |
| | *NO18HTP0167 | 1-1/4 |
| | *NO18HTP0168 | 1-1/2 |
| | *NO18HTP0169 | 2 |
| | -2 | NO12HTP0113 |
| *NO18HTP0114 | | Punch (order by size and part no.) |
| *NO12HTP0114 | | 1/8 |
| *NO18HTP0116 | | 5/32 |
| *NO12HTP0115 | | 3/16 |
| *NO18HTP0118 | | 7/32 |
| *NO12HTP0116 | | 1/4 |
| *NO12HTP0117 | | 9/32 |
| *NO12HTP0118 | | 5/16 |
| *NO12HTP0119 | | 3/8 |
| *NO12HTP0120 | | 1/2 |
| *NO12HTP0121 | | 5/8 |
| *NO12HTP0122 | | 3/4 |
| *NO12HTP0123 | | 7/8 |
| *NO12HTP0124 | | 1 |
| *NO18HTP0173 | | 1-1/8 |
| *NO18HTP0174 | | 1-1/4 |
| | | 1-1/2 |
| | | 2 |

| | | |
|-----|---|--|
| | *NO18HTP01175 | 2-1/4 |
| -3 | NO12HTP0125 NO12HTP0126 NO12HTP0127 | Punch Holder For punch sizes 1/8-5/8 For punch sizes 3/4-1 For punch sizes 1-1/4 to 2-1/4 |
| -4 | NO12HTP0160 | Pin, Holder (order by dia. and length) |
| -5 | NO12HTP0128 | Punch Turret Assembly |
| -6 | NO12HTP0129 | Plate, Turret Support |
| | *NO18HTP0129 | Turret, Punch |
| -7 | NO12HTP0130 | Turret, Punch |
| -8 | NO12HTP0131 | Track, Punch Holder |
| | | Gate, Track |
| -9 | NO12HTP0132 | Die Turret Assembly |
| -10 | NO12HTP0133 | Disc, Die Plate |
| | *NO18HTP0133 | Turret, Die |
| -11 | NO12HTP0134 | Turret, Die |
| | | Rest, Die Plate |
| | | Punch Mechanism |
| -12 | NO12HTP0135 | Handle |
| -13 | NO12HTP0136 | Socket, Handle |
| -14 | NO12HTP0137 | Bearing, Side Flange |
| -15 | NO12HTP0138 | Shaft, Eccentric |
| -16 | NO12HTP0139 | Roller Bearing |
| -17 | NO12HTP0140 | Ring, Roller Bearing |
| -18 | NO12HTP0141 | Plate, Ram Guide |
| -19 | NO12HTP0142 | Guard, Housing |
| -20 | NO12HTP0143 | Ram Assembly |
| | | Lock Mechanism |
| -21 | NO12HTP0144 | Lever, Lock |
| -22 | NO12HTP0145 | Bracket, Upper Lock |
| -23 | NO12HTP0146 | Spring, Upper Lock |
| -24 | NO12HTP0147 | Link, Upper Lock Lever |
| -25 | NO12HTP0148 | Shaft, Lock Lever |
| -26 | NO12HTP0149 | Pin, Upper Lock |
| -27 | NO12HTP0150 | Block, Lower Linkage |
| -28 | NO12HTP0151 | Pin, Lower Lock |
| -29 | NO12HTP0152 | Link, Lower Lock Lever |
| -30 | NO12HTP0153 | Retainer, Spring |
| -31 | NO12HTP0154 | Spring, Lower Lock |
| -32 | NO12HTP0155 | Linkage, Connecting |
| -33 | NO12HTP0156 | Rest, Handle |
| -34 | NO12HTP0157 | Safety Pin, Handle |
| -35 | NO12HTP0158 | Wrench, Spanner |
| -36 | NO12HTP0159 | Frame, Casting |
| | NO12HTP0161 | Black Ball on Handle |
| | NO12HTP0163 | Plastic Grip for Handle |

