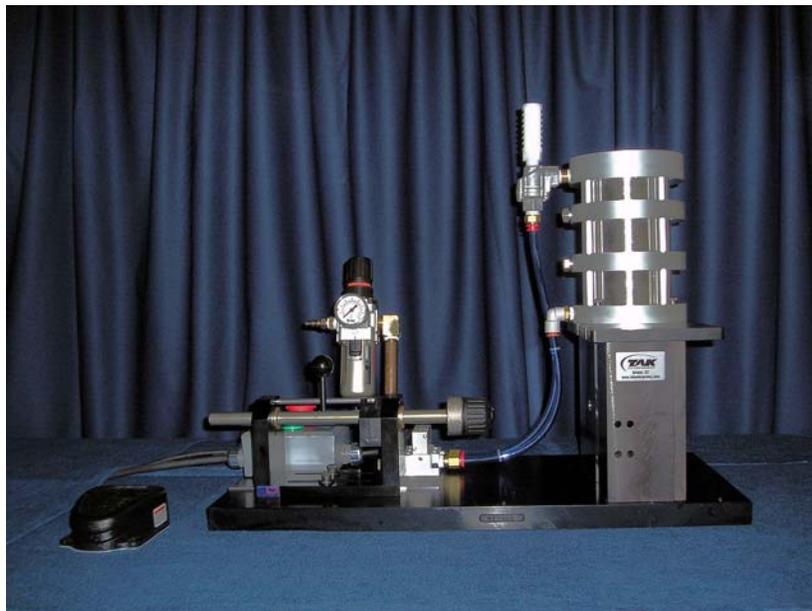


TAK Enterprises, Inc.



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#05SAH ELECTRO/PNEUMATIC CUT OFF SYSTEM W/GAGING ASSY QUILL ON QUILL CUTTER



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BASIC SETUP AND OPERATION OF THE TAK ELECTRO PNEUMATIC SERIES #05SAH CUTTER SYSTEM WITH MANUAL GAGING OPTION.

SYSTEM OVERVIEW:

1. Shearing force @ 80 psi.; appr. 8600 lbs.
2. Capacity up to .375 diameter in mild steels.
3. Capacity up to .500 diameter in softer nonferrous materials. (aluminum, copper, etc.)
4. Capacity of various shaped materials (tooling dependent).
5. Minimum length cut unlimited, the amount of deformation on very short pieces will be lessened if the part is more than 1.5 times the diameter.
6. Maximum length of cut in this system with this gaging assy. is 5.50"
7. Maximum length of cut in this system without gaging assy. is unlimited.
8. System cut repeatability +/- .010

SYSTEM REQUIREMENTS:

1. 80 PSI OF CLEAN DRY UNLUBRICATED AIR
2. 115 VAC OUTLET, (2) AMP MINIMUM
3. STABLE WORKING SURFACE

PRELIMINARY SYSTEM SET-UP:

1. Remove the cutter arm cover.
2. Remove the cutter arm.
3. Install the correct tooling for the size & shape of the material you wish to cut.
4. Establish the correct clearance between the quills for the best cut/break condition.
5. Re-install the arm and cover.
6. By using the ball handle, slide the gaging arm all the way to the right and pull down to lock into the detent lock position.
7. Loosen the (2) base retaining screws so that the whole gaging assy. will slide on the guide rail. Slide the assy. to the left until it stops on the screw slots.
8. Place a stop pin (3.3" Maximum length) into the chuck to act as a stop for the material you wish to cut. The pin should be small enough to fit into the stationary quill if the parts you wish to cut are less than 1.50" long.
9. The maximum part length that can be cut using this gaging assy. is appr. 5.50"



BASIC SETUP AND OPERATION OF THE TAK ELECTRO PNEUMATIC SERIES #05SAH CUTTER SYSTEM WITH MANUAL GAGING OPTION.

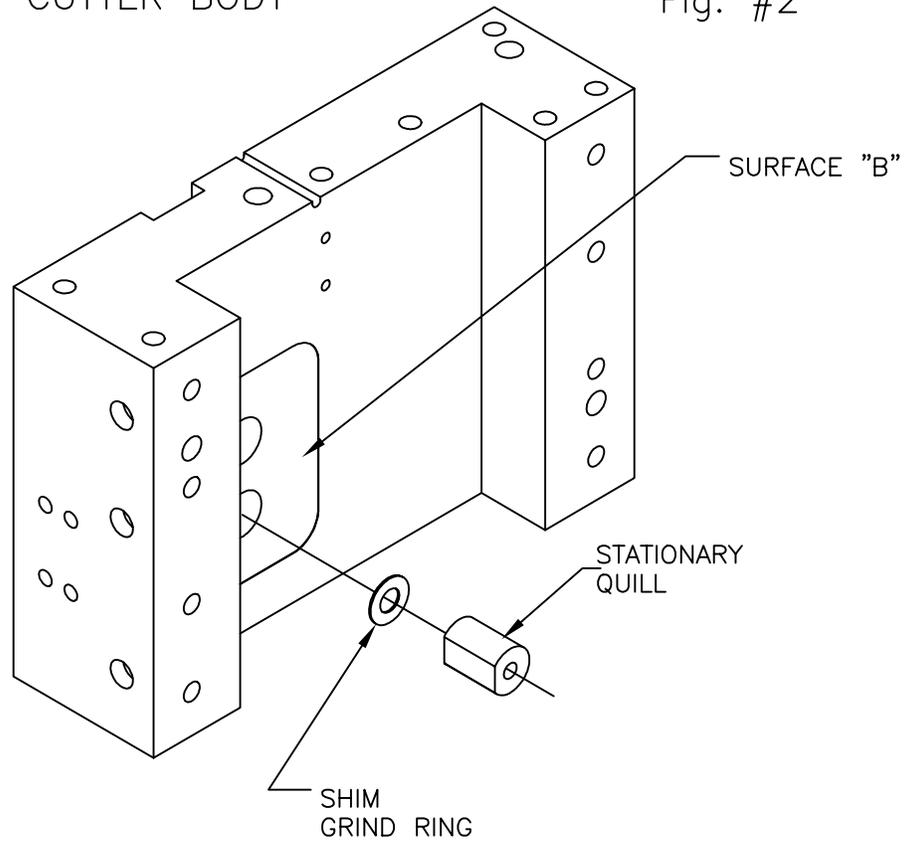
10. The stop pin should be long enough to reach the gage point when the gage assembly is slid all the way to the right to the end of the slots.
11. **Record the length of the part you wish to cut and add 1.760” to this dimension.**
12. Place a measuring instrument (depth micrometer or similar) thru the cutter head from right to left set to the totaled dimension calculated in step #11.
13. Slide the gaging assembly with the stop pin installed, to the right until it contacts the instrument with the set measured length.
14. Tighten the screws to locate the gaging assembly in place.
15. Rotate the ball handle upward to unlock from the detent stop and slide to the left.
16. You are now ready to cut the first piece to verify the correct cut length.

SYSTEM OPERATION:

1. Turn on the air or connect the system to the air supply 80 PSI max.
2. Plug in the system to a 115 VAC outlet.
3. Partially turn the “E-Stop” button so that it will pop up and turn on the system. The Green light should come on when the system is powered.
4. Insert the material to be cut into the right side of the cutting system and align if other than round material.
5. By using the ball handle, slide the gaging arm all the way to the right and pull down to lock into the detent lock position.
6. Push the material thru the cutter arm cover and quills until it contacts the gaging pin face.
7. Hold the material against the gage pin face and depress the foot pedal to initiate the cut and release the pedal to retract the cutter.
8. After the cut rotate the ball handle upward to unlock from the detent stop and slide to the left.
9. Use the remaining material to push out the cut piece into a collection container.
10. By using the ball handle, slide the gaging arm all the way to the right and pull down to lock into the detent lock position.
11. Repeat the sequence over from step #6 until the correct amount of parts have been cut.
12. If the final cuts on a bar of material are shorter than 1.760”, a soft metal object or the next bar can be used to push the remaining material forward to make contact with the gaging point to optimize material usage.

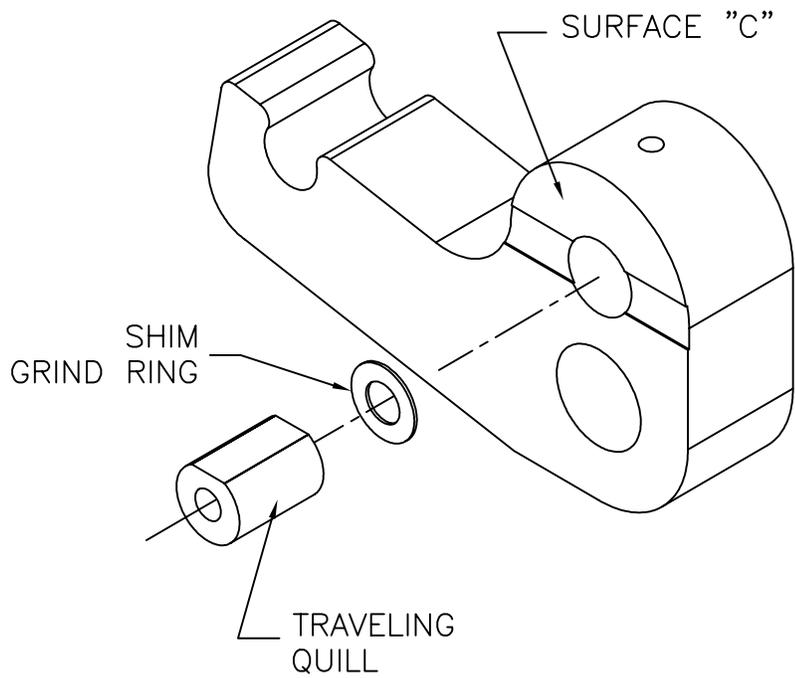
#4H CUTTER BODY

Fig. #2



#4H CUTTER ARM

Fig. #3





**SHARPENING & SETTING PROCEDURES
FOR
QUILL ON QUILL
Straighten, Feed & Cut Off Machine**

NOTE: Wire hole cutting edge, and any surface leading to wire hole cutting edge should be free of all tool marks and/or grinding lines. (Figures 1, 2)

Step 1: *Grind Traveling Quill(#49)*

Grind end (A) of Quill (opposite wire lead side) flat and perpendicular to body (B) within .0002. Remove enough material to clean and acquire sharp edge for the full diameter of the wire hole. See Fig #1

NOTE: After grinding, surface (A) must be lapped to ensure longevity. (Step 3)

Step 2: *Grind Stationary Quill(#47)*

Grind end (A) of quill (opposite wire exit side) flat and perpendicular to body (B) within .0002. Remove enough material to clean and acquire sharp edge for the full diameter of the wire hole. See Fig #1

Step 3: *Lapping Procedure*

- a. Use diamond lapping compound to remove all grinding lines.
- b. Radius break the wire hole cutting edge approx. .002 **for hard wire only.**

Quill on Quill Setting Procedure

Step 1: *Stationary Quill (#47)*

Set *stationary quill* (#47) with surface (A) (Fig 1) flush to surface (B). (Fig 2) Do not extend above surface (B). Use appropriate shim grind rings to set surface (A) of the *stationary quill* (#47) flush to surface (B) of the *cutter body* (#45).

Step 2: *Traveling Quill (#49)*

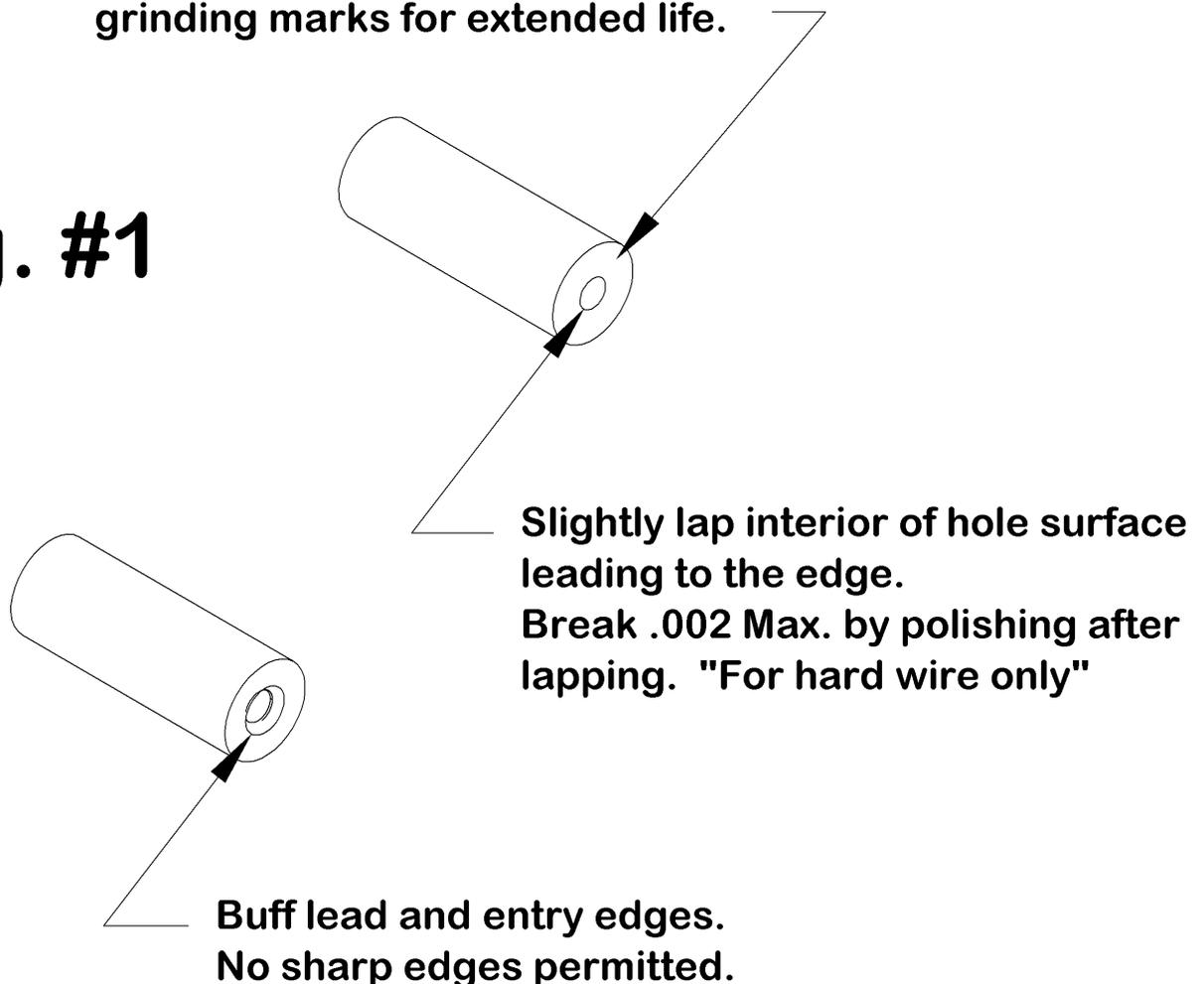
Set *traveling quill* (#49) with surface (A) (Fig 1) flush or below the *cutter arm* (#52) surface (C) (Fig 3) do not extend out from surface (C). Use appropriate shim grind rings to set surface (A) of the *travelling quill* (#49) flush or below surface (C) of the *cutter arm* (#52).

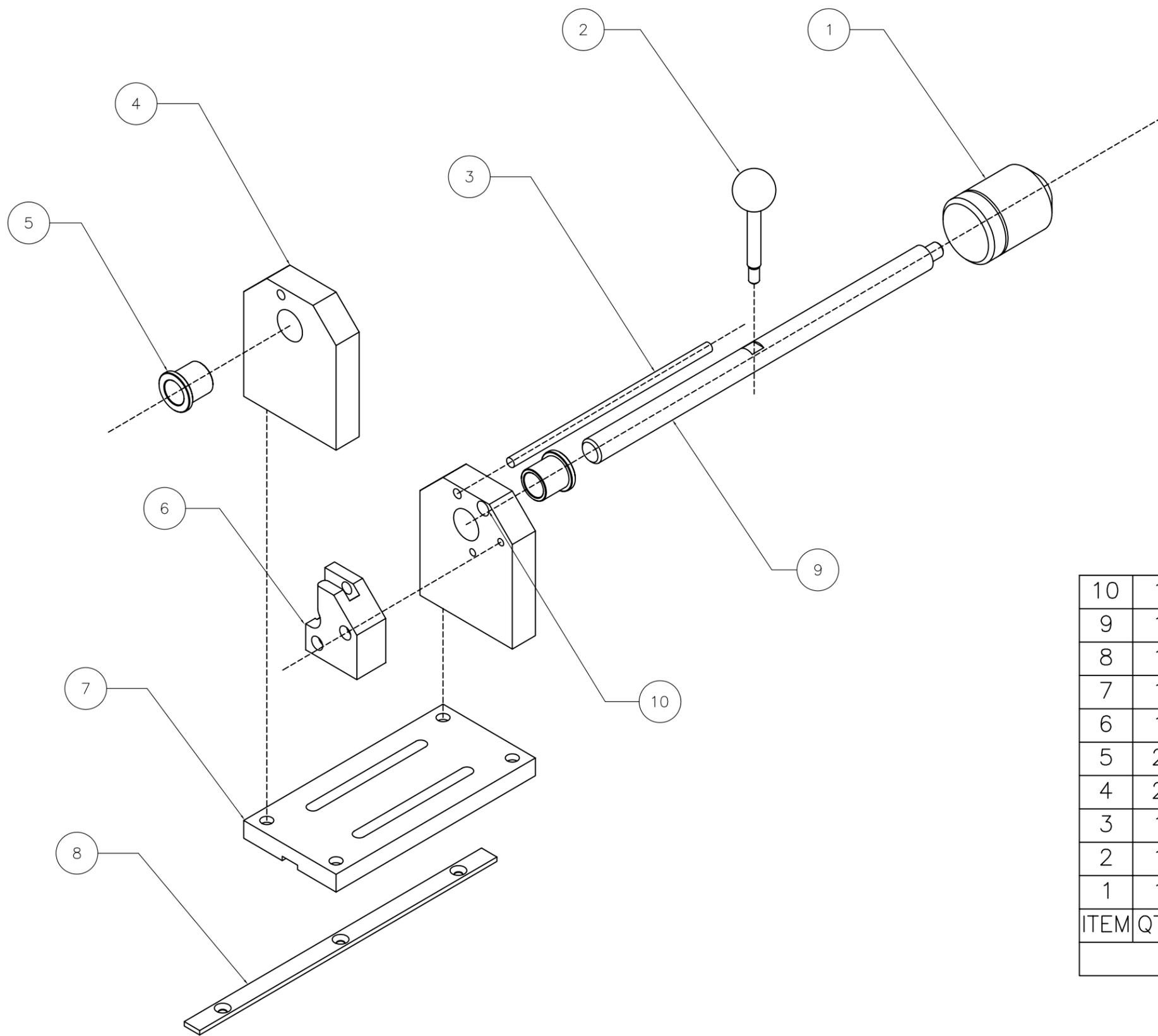
NOTE: Properly set quills should have clearance between surface (A) on *stationary quill* (#47) and surface (A) on *traveling quill* (#49) dependent on the wire type and hardness.

Illustration:

**Cut-off quill cutting face.
Lap smooth to remove any
grinding marks for extended life.**

Fig. #1



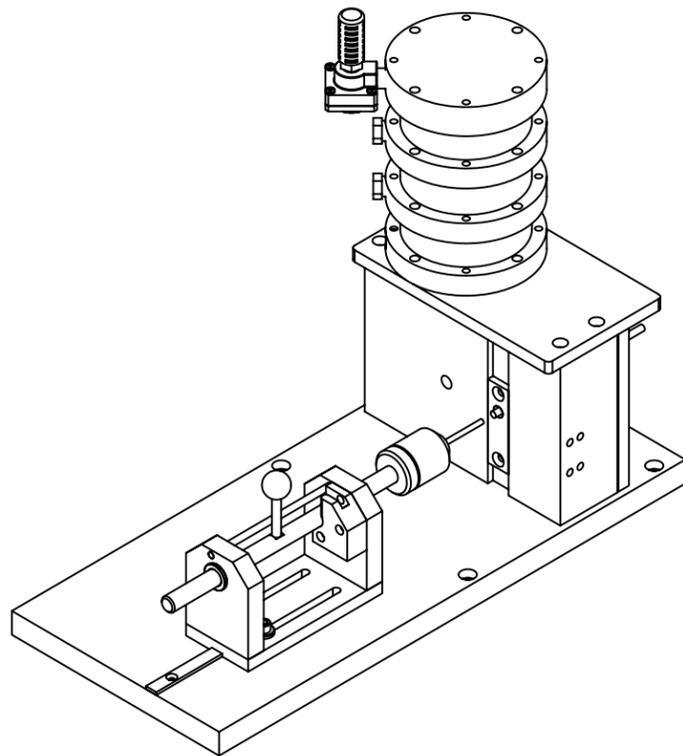


10	1	#9011-002 BALL PLUNGER
9	1	#4004-186 MAIN GAGE SHAFT
8	1	#4004-191 ALIGNMENT RAIL
7	1	#4004-190 MAIN ADJUSTMENT PLATE
6	1	#4004-189 GAGE LOCK
5	2	#9311-002 MAIN SHAFT BUSHING
4	2	#4004-188 SHAFT SUPPORT
3	1	#4004-187 BACKING SHAFT
2	1	#9010-037 BALL HANDLE
1	1	#9807-001 STOP PIN CHUCK
ITEM	QTY	NAME
Assy Parts List		

REV	ECN	CHG BY	DATE

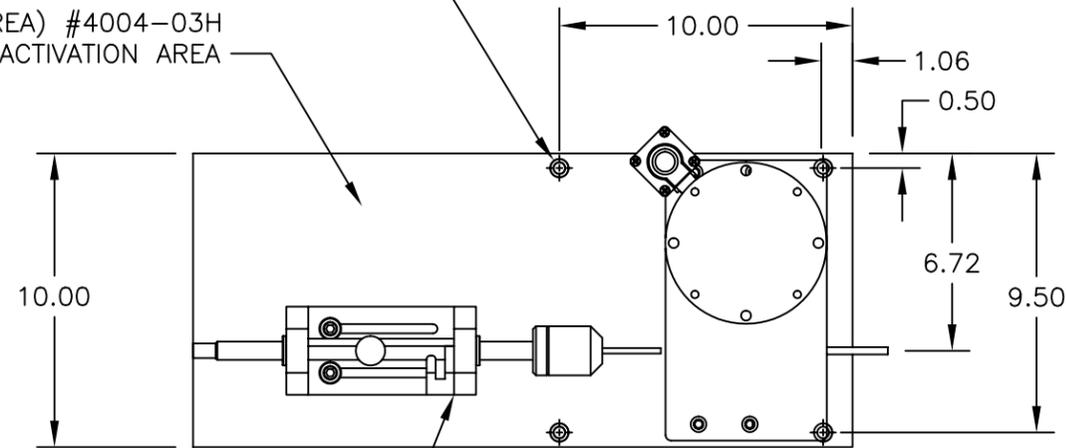


TOLERANCE UNLESS OTHERWISE STATED		CAD	DRAWING / PART NO.
Δ $\pm 3^\circ$	FRACT +/- 1/16	DWN GDH	4004-03G
\perp ± 0.0003	.X $\pm .032$	CHK	PART NAME
\odot ± 0.0002	.XX $\pm .015$	SCALE	MANUAL GAGING ASSY
\oplus ± 0.0005	.XXX $\pm .005$	DATE 092304	CUSTOMER
\equiv ± 0.0005	.XXXX $\pm .0005$		

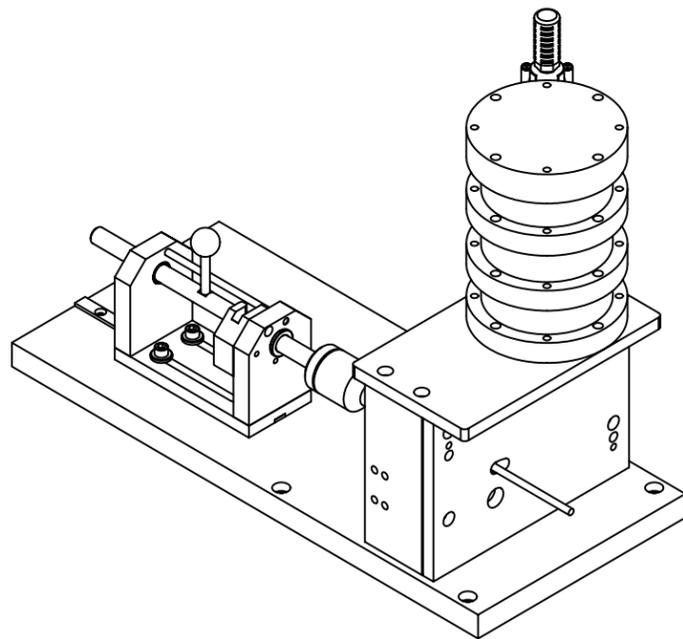
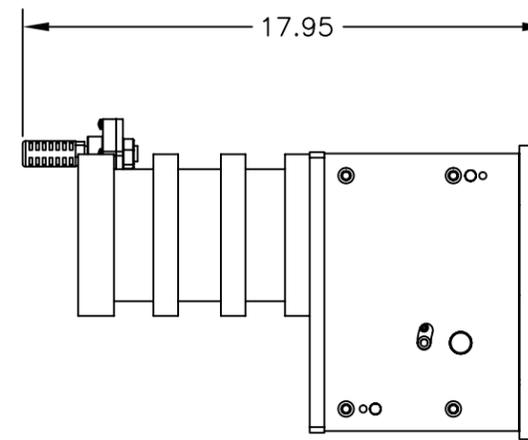


CBORE for 3/8 Socket Head Cap Screw
4 HOLES

(RESERVED AREA) #4004-03H
ELECTRICAL ACTIVATION AREA

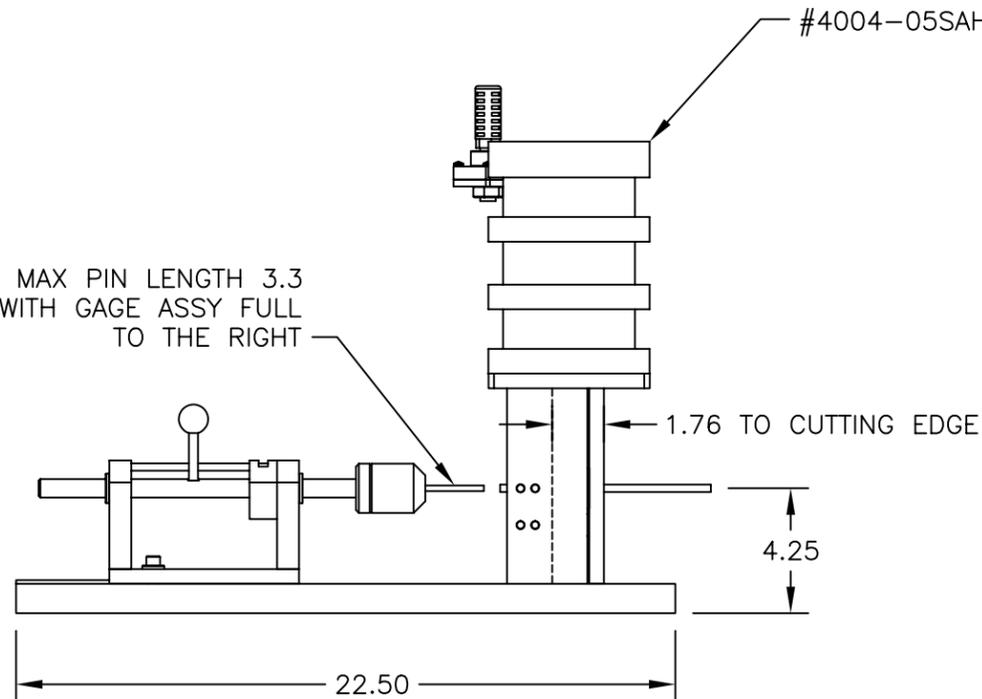


#404-03H GAGING ASSY



#4004-05SAH 4H QQ STAND ALONE CUTTER HEAD

MAX PIN LENGTH 3.3
WITH GAGE ASSY FULL
TO THE RIGHT



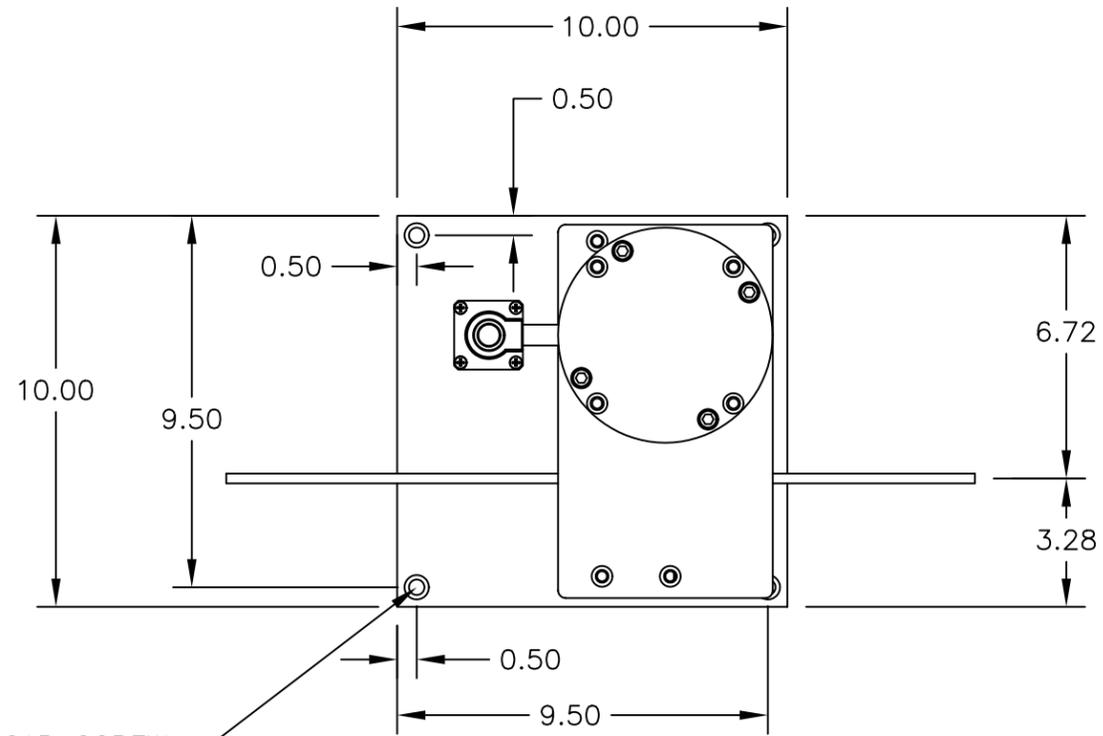
REV	ECN	CHG BY	DATE



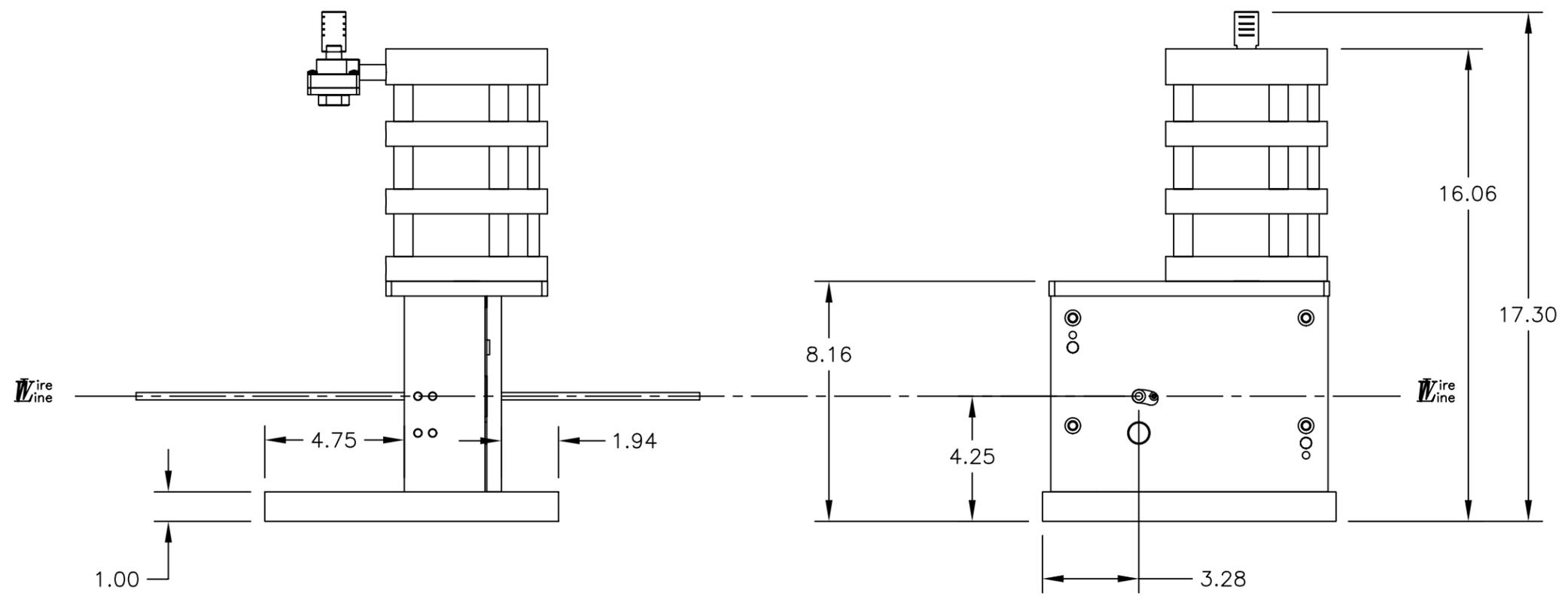
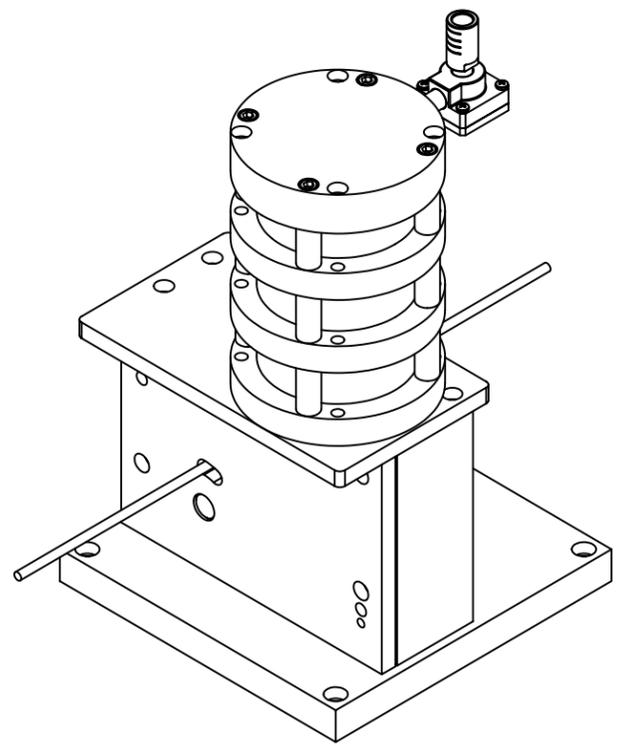
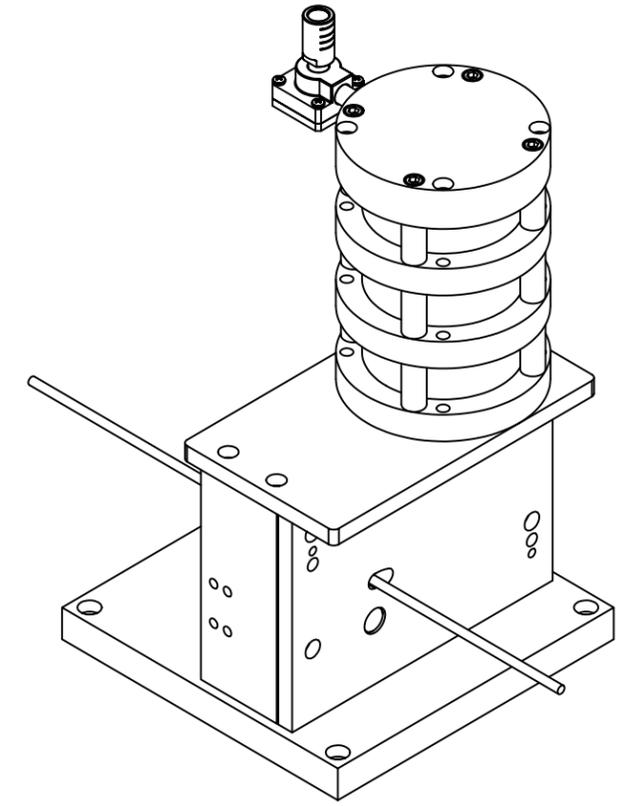
TOLERANCE UNLESS OTHERWISE STATED	
Δ $\pm 3^\circ$	FRACT +/- 1/16
\perp ± 0.0003	.X $\pm .032$
\odot ± 0.0002	.XX $\pm .015$
\oplus ± 0.0005	.XXX $\pm .005$
\equiv ± 0.0005	.XXXX $\pm .0005$

CAD	DWN GDH
CHK	CHK
SCALE	SCALE
DATE	092304

DRAWING / PART NO.	MAIN GAGING ASSY
PART NAME	#05SAH CUTTER SYSTEM W/ GAGING ASSY.
CUSTOMER	CUSTOMER



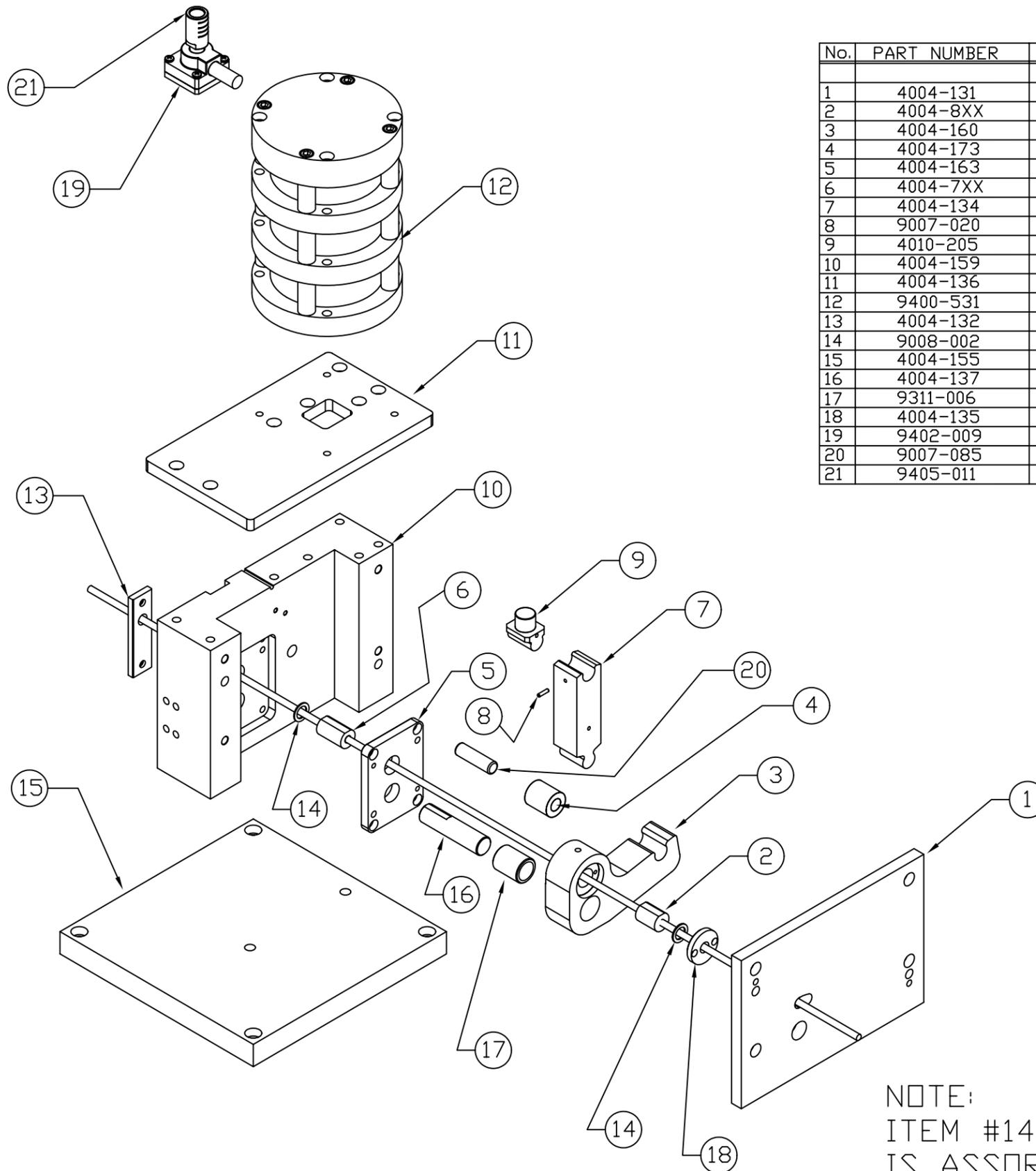
3/8" SOCKET CAP SCREW
C'BORE Ø0.625 X .450 DP.
(4) PLCS.



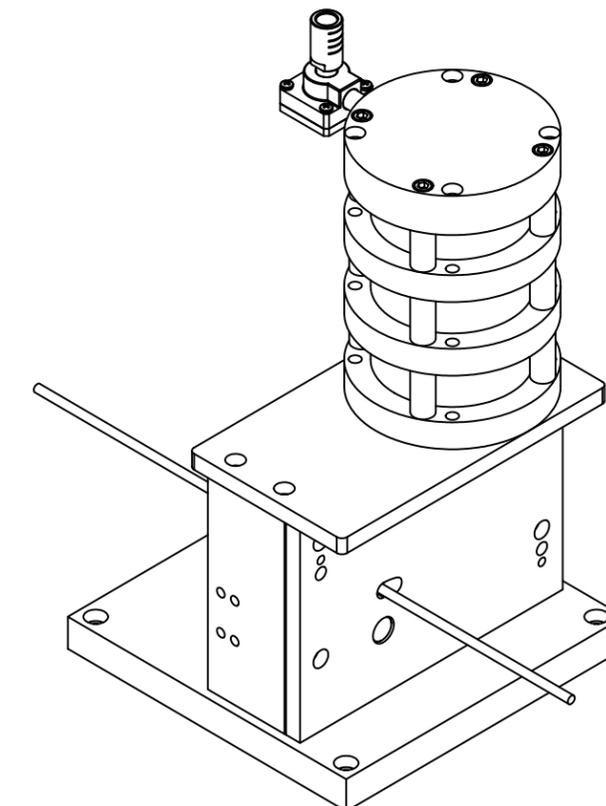
REV	ECN	CHG BY	DATE



TOLERANCE UNLESS OTHERWISE STATED		CAD	DRAWING / PART NO.
± 3'	FRACT +/- 1/16	DWN KPL	4004-05HA
± 0.0003	.X ± .032	CHK	PART NAME
± 0.0002	.XX ± .015	SCALE	STAND ALONE CUTTER HEAD DIMS
± 0.0005	.XXX ± .005	DATE	CUSTOMER
± 0.0005	.XXXX ± .0005	DATE	1/27/03



No.	PART NUMBER	REV.#		QTY
1	4004-131	A	CUTTER ARM COVER	1
2	4004-8XX		TRAVELING QUILL	1
3	4004-160		CUTTER ARM	1
4	4004-173	A	SLEEVE	1
5	4004-163		CUTTER ARM BACKER	1
6	4004-7XX		STATIONARY QUILL	1
7	4004-134	E	CUTTER ARM LINK	1
8	9007-020		Ø0.125 X .50 LG DOWEL PIN	1
9	4010-205	C	CYLINDER PIVOT	1
10	4004-159	A	CUTTER BODY	1
11	4004-136		CYLINDER ADAPTER PLATE	1
12	9400-531		BIMBA TRIPLE ACTING	1
13	4004-132		QUILL BACKER BLOCK	1
14	9008-002		ADJUSTMENT SHIM (AS REQ. PACKAGE)	2
15	4004-155	A	MOUNTING BASE PLATE	1
16	4004-137		CUTTER ARM PIVOT SHAFT	1
17	9311-006		DILITE BUSHING	1
18	4004-135	B	CUTTER ARM QUILL BACKER CAP	1
19	9402-009		DUMP VALVE ASSY	1
20	9007-085		Ø0.500 DOWEL	1
21	9405-011		SILENCER	1



NOTE:
 ITEM #14 - ORDERED IN A PACKAGE THAT
 IS ASSORTED AND SIZES TO BE DETERMINED
 @ ASSY. FOR CORRECT SPACING.

REV	ECN	CHG BY	DATE



TOLERANCE UNLESS OTHERWISE STATED		CAD	DRAWING / PART NO.
± 3"	FRACT +/- 1/16	DWN KPL	4004-05H
± 0.0003	.X ± .032	CHK	PART NAME
± 0.0002	.XX ± .015	SCALE	STAND ALONE CUTTER HEAD
± 0.0005	.XXX ± .005	DATE 1/27/03	CUSTOMER
± 0.0005	.XXXX ± .005		EXPLODED VIEW

Maintenance:

Always keep the *Cut System* moving components clean and lightly oiled. Keep the *traveling cutter arm (#52)* greased. And if you have a *Precision Wire Straightener*, please keep all moving parts clean and lightly oiled. Store all tools such as gaging and stop pins in a clean dry area to prevent rusting and contamination of the cutting area.

Troubleshooting:

1. Check for power at the machine.
2. Check air supply and pressure.

IF ALL OF THE ABOVE TESTS FAIL PLEASE CALL TAK SUPPORT:

(860) 583-0517

TAK ENTERPRISES INC. ASSUMES NO RESPONSIBILITY FOR NEITHER INJURY OF PERSON OR PRODUCT OR ANY LIABILITY RESULTING FROM THE PURCHASE OF PRODUCTS SOLD WITH THE INTENTION OF MODIFYING OR ATTACHING TO EXISTING EQUIPMENT. ANY EQUIPMENT MODIFIED FROM THE ORIGINAL CONFIGURATION STATED ON THE PURCHASE ORDER OR CONSIDERED AS MODIFIED CONFIGURATION BY TAK, WILL NOT BE COVERED BY ANY GUARANTY OF OPERATION OR FUNCTION. ANY SUPPORT FOR THE MODIFIED EQUIPMENT WILL BE DETERMINED BY TAK ON AN INDIVIDUAL INCIDENT BASIS.



WARNING

The operator of the equipment offered herein must not be in or near the point-of-operation of any such machine or operating parts of any equipment installed on a machine, or bodily injury could result. The EMPLOYER must conspicuously display adequate warning signs on the machine with proper warnings for the machine and the specific application to which the machine and equipment are being applied.

OSHA Sections 1910.147, 1910.211, 1910.212 and 1910.217 contain installation information on the required distance between danger points and point-of-operation guards and devices. No specific references have been made to which paragraph of OSHA 1910.147, 1910.211, 1910.211, 1910.217 or any other applicable sections because the paragraphs may change with each edition of the publications of OSHA provisions.

All equipment manufactured by TAK Enterprises is designed to meet the construction standards of OSHA in effect at the time of sale, however, the EMPLOYER ultimately installs the equipment and is therefore responsible for installation, use, application, training and maintenance, as well as ensuring that adequate warning signs are visible on the machine onto which the equipment will be installed.

OSHA states that the EMPLOYER must ensure that safe operating methods designed to control or eliminate hazards to operating personnel are developed and employed, and that operators are trained in safe operation of the equipment.

It shall be the responsibility of the EMPLOYER to establish and follow a program of periodic and regular inspections and maintenance of machinery to insure that all their parts, auxiliary equipment and safeguards are in a safe operating condition and adjustment. Each machine should be inspected and tested no less than weekly to determine and confirm that the operating condition of the machine meets safety standards. Necessary maintenance or repairs to machinery, auxiliary equipment and safeguards shall be performed and completed before the machine is operated. The EMPLOYER shall maintain accurate records of these inspections and maintenance work performed.

It is not the responsibility of TAK Enterprises to provide notification to the user of this equipment concerning future changes in State or Federal laws, or construction standards.

SAFETY PROGRAM

Accident free operation will result from a well developed, management sponsored and enforced safety program.

Of vital importance to the success of a safety program is the proper selection of guards and devices. However, there is no safety device that will insure "automatic" or "fool proof" safety to your operation.

Of equal importance to the proper selection of machine guards and devices is effective training of operating personnel. Each individual must be trained in the proper operation in accordance with established standards developed for the guards or safety devices employed, with emphasis on why specific guards and safety devices have been provided on the equipment. Rules for safe operation should be in writing, available to company personnel and enforced at all times.

An effective safety program must include regularly scheduled inspections and maintenance of all equipment, with accurate records to reflect the successful completion of inspections and maintenance.

To ensure that a safe working environment is maintained at all times, management, supervisors, safety engineers and all production employees must assume their proper share of responsibility to establish and maintain an effective safety program. All members of the company community should be involved so that an accurate view of the specific areas within the facility that require attention are addressed.

To assist you in the development of and maintenance of an effective safety program, many trade groups and safety related organizations provide guidelines and recommendations that are available to you. However, you must know when and how to apply these guidelines. The equipment manufacturers provide information to assist you in properly adjusting and maintaining your equipment. It is recommended that the employer comply with these guidelines at all times.