PROLINE

24" ProLine
PLANISHING HAMMER

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PROLINE

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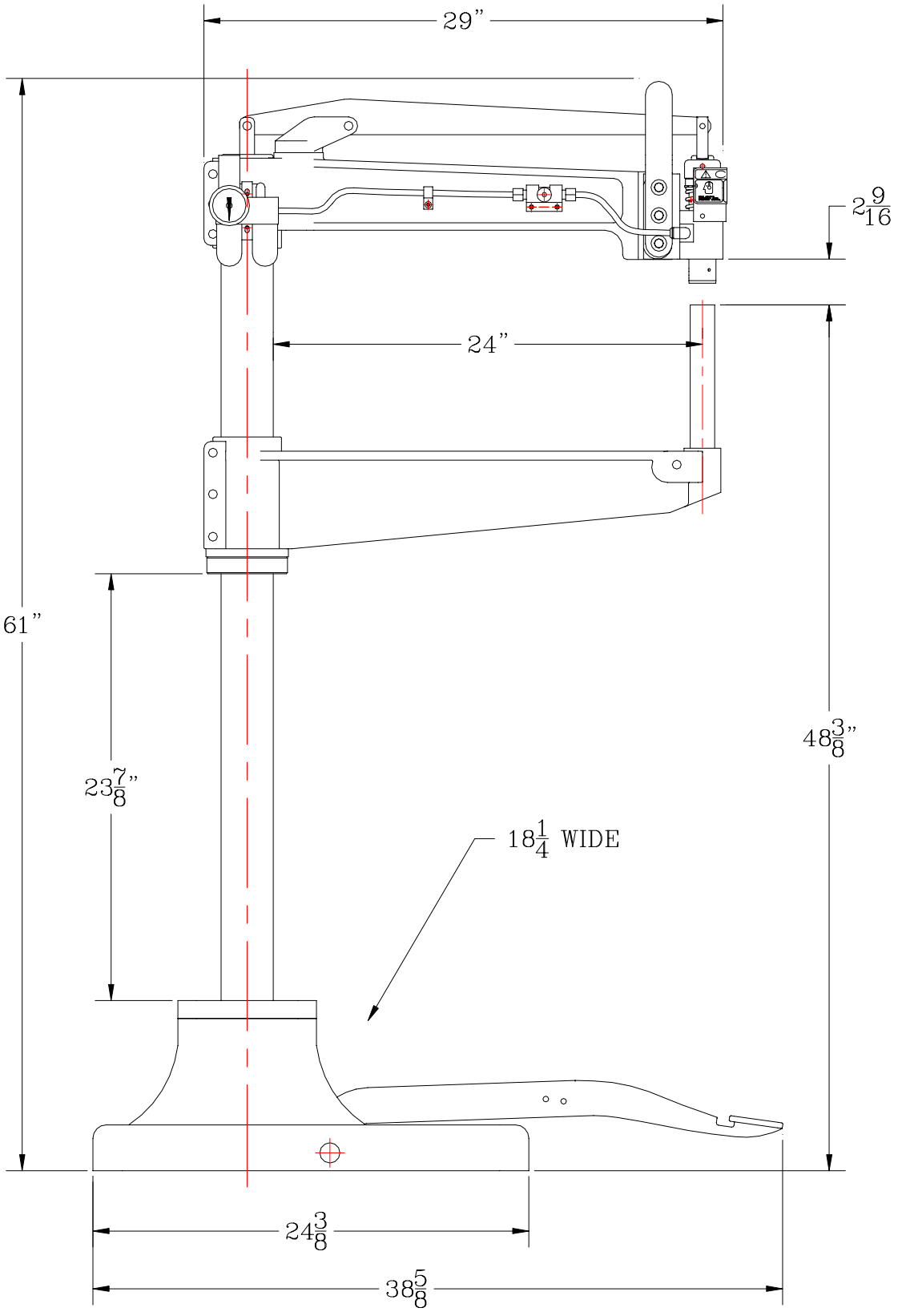
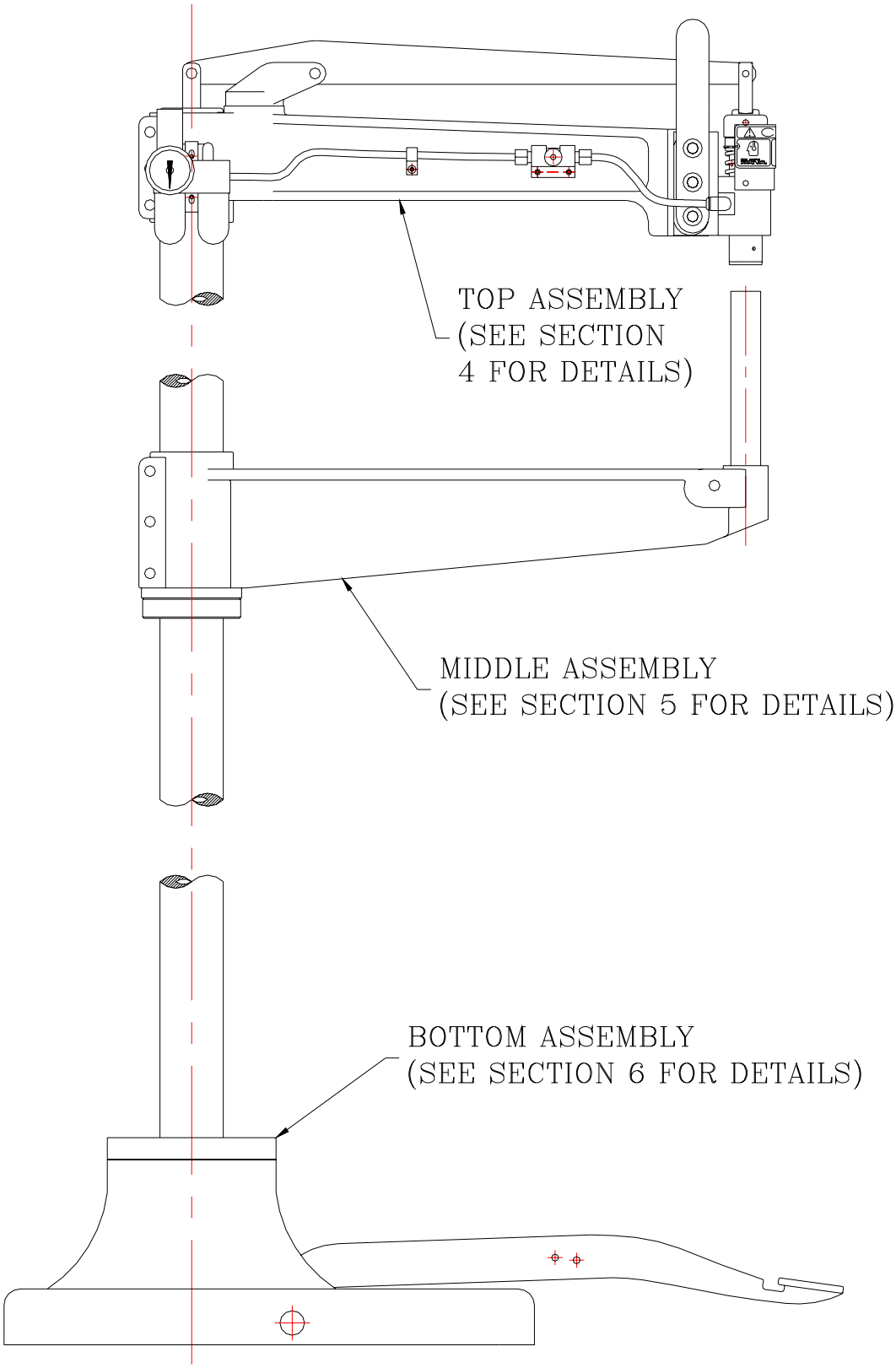
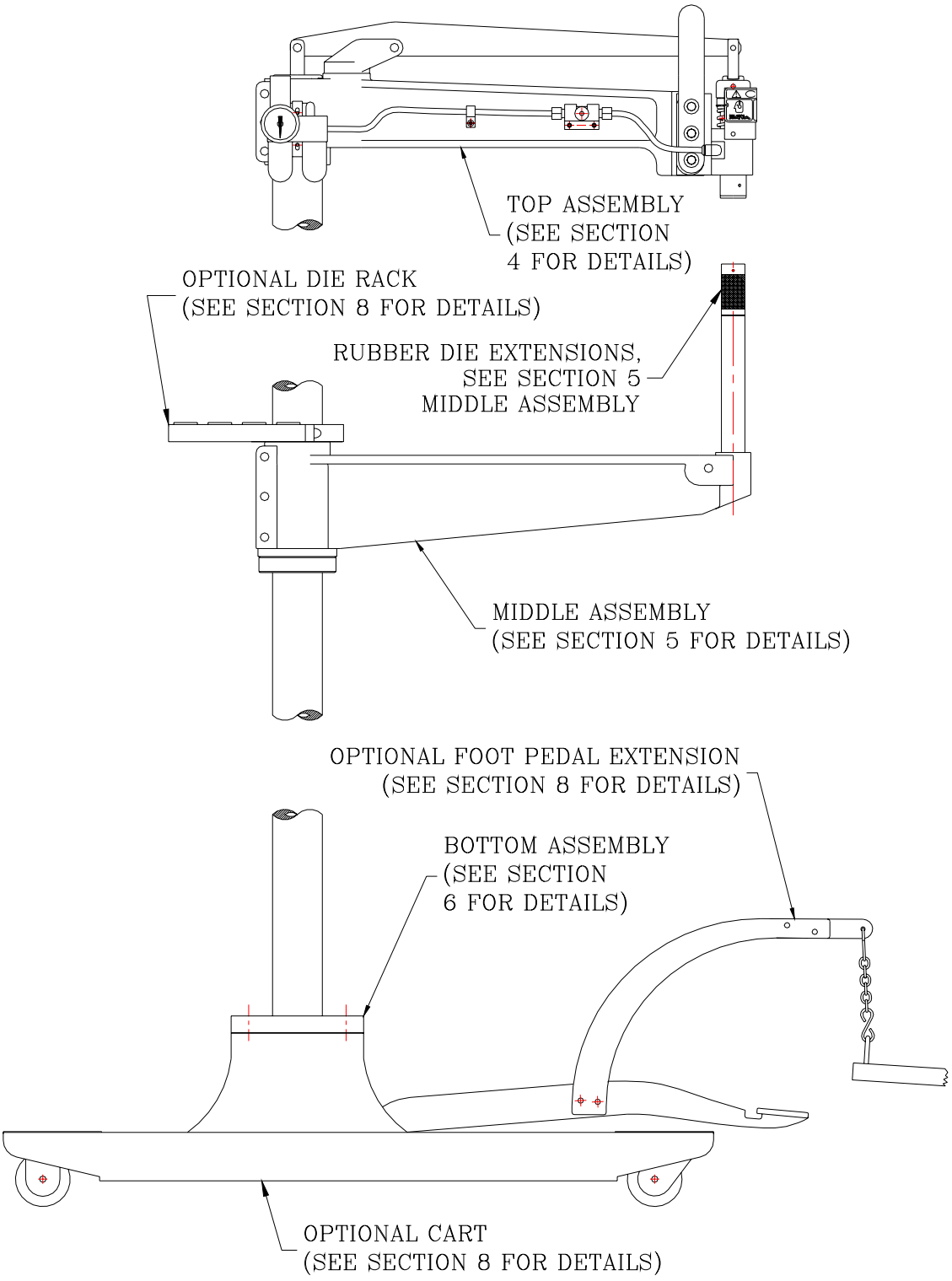
PROLINE PLANISHING HAMMER 24" FLOOR MODEL



STANDARD PROLINE PLANISHING 24" HAMMER



PROLINE PLANISHING 24" HAMMER WITH OPTIONS



PROLINE

GENERAL SUGGESTED PROCEDURES FOR USING THE PROLINE PLANISHING HAMMER

It is impossible to cover every type of job that can be done with the ProLine Planishing hammer. It is designed for forming or planishing light gage sheet metal shapes, such as automobile and aircraft restoration, race car fabrication, sheetmetal stamping shops, etc. We have compiled the following suggestions for using the hammer:

1. The direction of movement of the machine is very important. Always avoid using a circular motion, since this tends to draw the metal to the center of the circle. Use only straight, long, even strokes in the direction best suited to the piece you are working. If you are working a damaged panel, extend the stroke into the undamaged part of the metal. If working near an edge, let the stroke go all the way to the edge. Any metal that has been dented is usually stretched a little. By working the metal as described above, you will distribute the stretch, in most jobs, so that it will not be noticeable. If too much stretch is still evident, shrink in the usual manner and then use the ProLine for the final finish. **Use the die with the largest contact area possible.**
2. Air pressure regulation is very important. Too much pressure is harmful to light gauge metal. Excellent results can be obtained on flat surfaces using low air pressure. **Start with lower pressure and work up. It is difficult to come back if you over-stretch the metal.** Apply a generous coating of oil under the sheetmetal and a light coat on the top. This will allow the tool to slide easily and the dolly to revolve freely. You can use a mixture of one part kerosene with three parts motor oil for this coating, or use whatever you are comfortable with. This is a personal preference. Also, when working an original piece of metal, be sure to remove tar and/or dirt from the underside.

SERVICE

Use a good air tool oil to lubricate the pneumatic for best results. Motor oil should never be used to lubricate the pneumatic. Motor oil is compounded to give best results when warm, and it will cause the piston to become sticky, since the pneumatic operates at a low temperature.

Too much oil will cause the unit to stick. Also, after cleaning, as described below, put a very light coat of air tool oil on a rag, and wipe the cylinder down lightly. This should be enough oil on the cylinder to give good results.

If the wrong oil has been used, flush the tool with kerosene or parts washer solvent to remove the sludge and re-oil with air tool oil. Flushing may be done by removing the ram and pouring clean kerosene or parts washer solvent into the opening at the bottom of the cylinder. The whole pneumatic may be dipped in kerosene or parts washer solvent and allowed to soak, if necessary. If, after careful flushing, the tool still sticks or lacks power, check the air lines for both pressure and volume. It is possible to show pressure and lack volume due to a partially closed valve or clogged line. This condition usually shows a sudden drop in pressure as soon as power is turned on. If another pneumatic is available, attach it to the line, and if the same lack of power occurs, you can be sure the trouble is in your air supply. However, if the second tool shows power, the first tool needs to be checked.

IMPORTANT ADVICE

Move machine rapidly over the rough surface. Force machine over bumps, it will not break. Work vigorously, don't linger. Don't waste the air pressure going slow, make the best of that valuable power. Study how to slide the machine.

Remember - no "dinging" is necessary. If your machine pulls hard, it is due to one of the following:

- You didn't brush enough oil on the metal
- The machine is set up too tight
- Dirt or tar is on the metal
- Your air pressure is too low
- There is too much oil on the cylinder – too much oil will cause the unit to stick.

TOP DIE INSTALLATION & REMOVAL

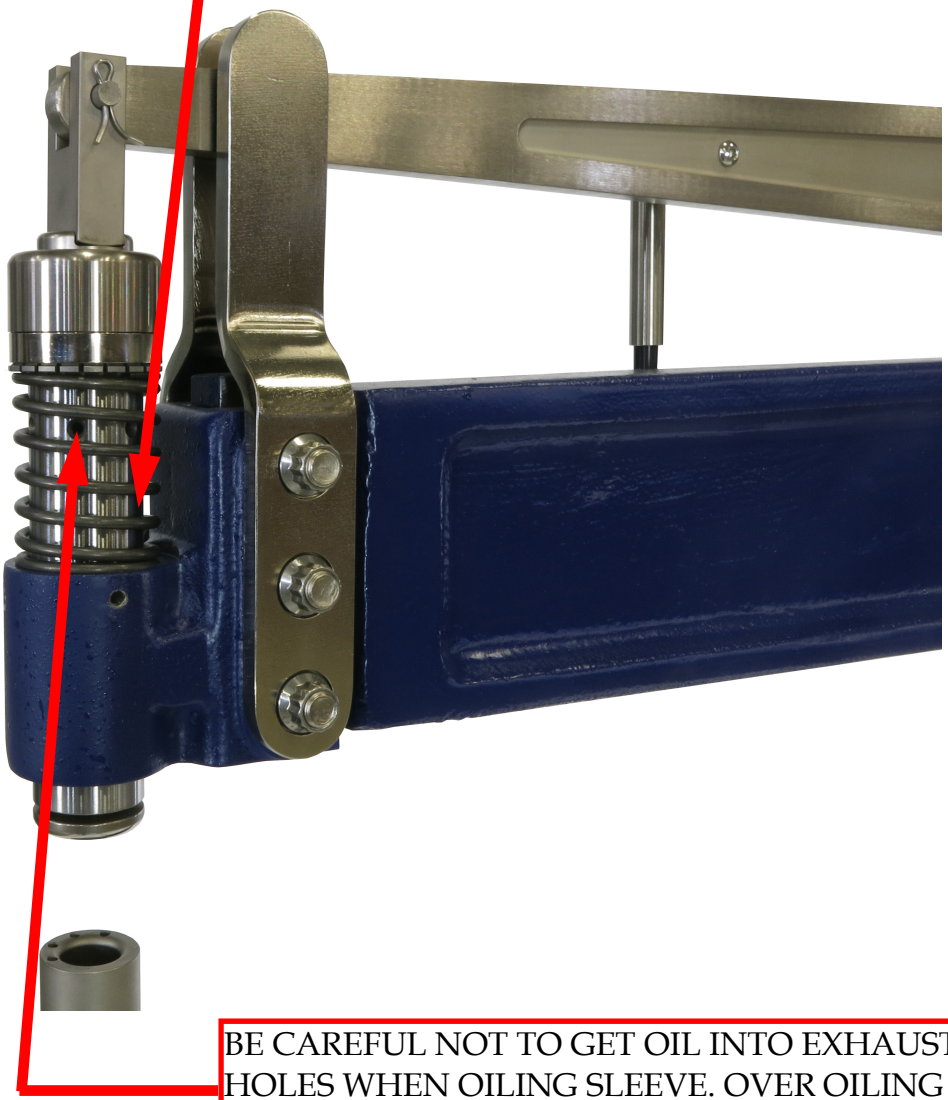
INSTALLING UPPER DIE, HOLD PRESURE WITH FOOT PEDAL AND HIT TOP WITH SOFT FACE HAMMER TO SNAP DIE IN PLACE.

TO REMOVE TOP DIE INSERT FORK BETWEEN CYLINDER AND DIE WHILE WORKING TOOL UP AND DOWN.

LUBRICATION

CAUTION !!!!

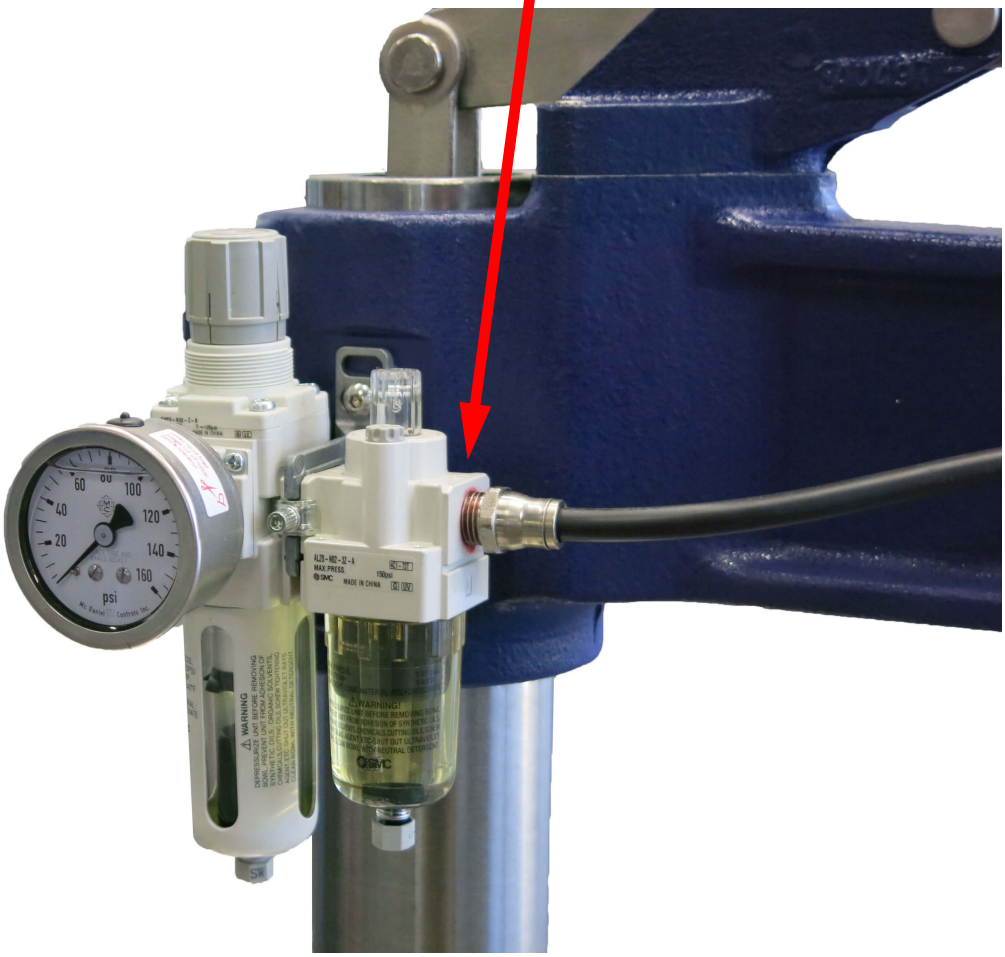
During breakin (100 hrs.) it is important to oil the sliding sleeve every 8 to 10 minutes to prevent galling. Always keep sliding sleeve oiled to prevent problems. This is very important because oiler does not supply oil to sliding sleeve. If problems occur CONTACT FACTORY IMMEDIATLEY !



BE CAREFUL NOT TO GET OIL INTO EXHAUST HOLES WHEN OILING SLEEVE. OVER OILING CAN CAUSE PISTON TO HANG UP.

LUBRICATION

OILER IS ADJUSTED AT FACTORY. IF IT IS NOT WORKING PROPERLY IT CAN BE ADJUSTED AS FOLLOWS. ADJUST OILER BY TURNING ADJUSTING SCREW COUNTER CLOCKWISE UNTIL THE OIL IS FLOWING. THEN TURN THE SCREW CLOCKWISE UNTIL IT STOPS. BACK OUT APPROXIMATLEY 1/2 TO 3/4 TURN. LOOKING AT THE SIGHT GLASS, YOU SHOULD SEE A DRIP ABOUT 8 TO 10 MINUTES APART. OVER OILING OF THE PISTON CAN CAUSE STICKING AND DOES NOT PROVIDE ANY ADDITIONAL LUBRICATION TO THE SLIDING SLEEVE. THIS ADJUSTMENT IS DONE WITH MACHINE RUNNING.

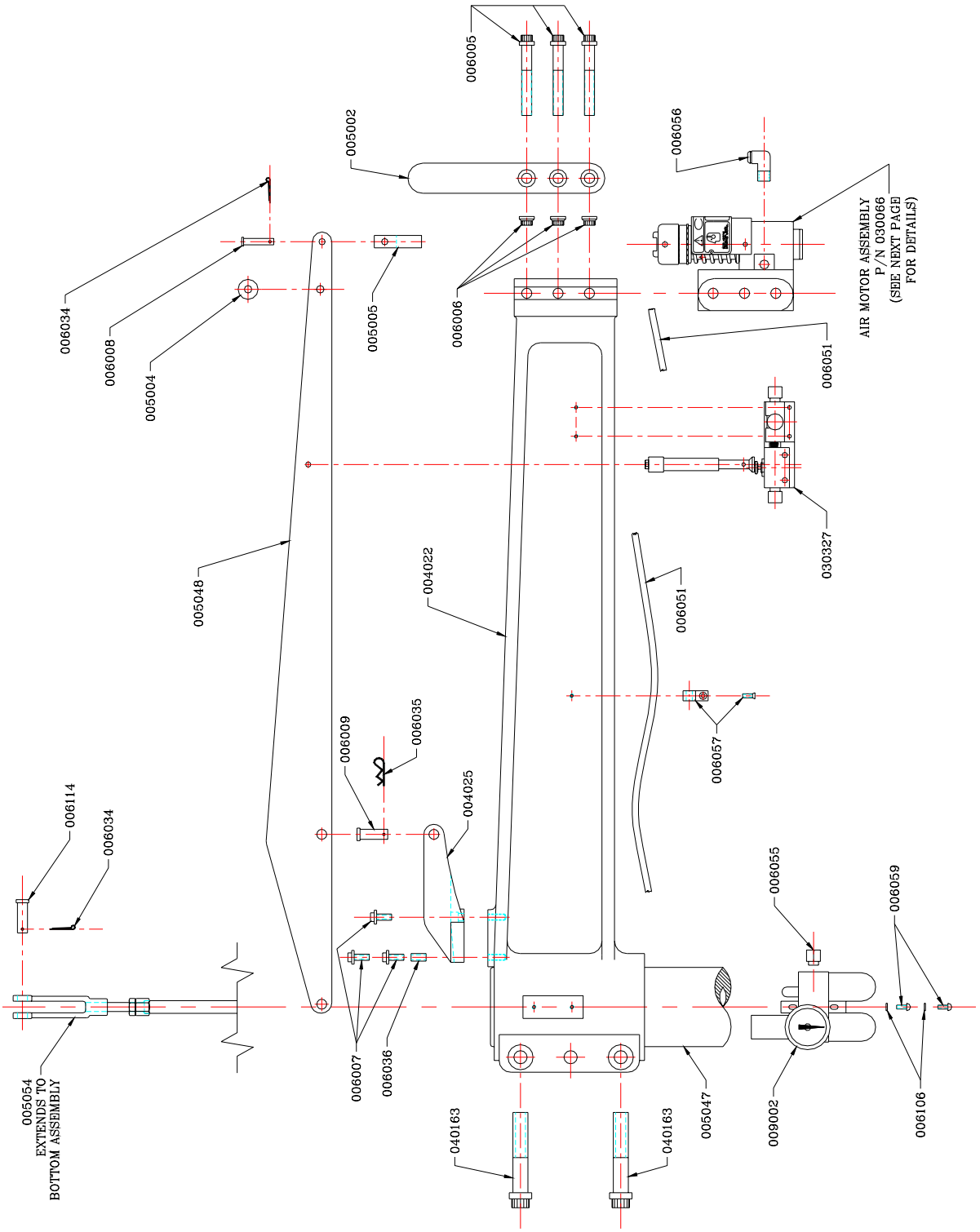


OIL ALL PIVOT POINTS ONCE A WEEK MINIMUM !

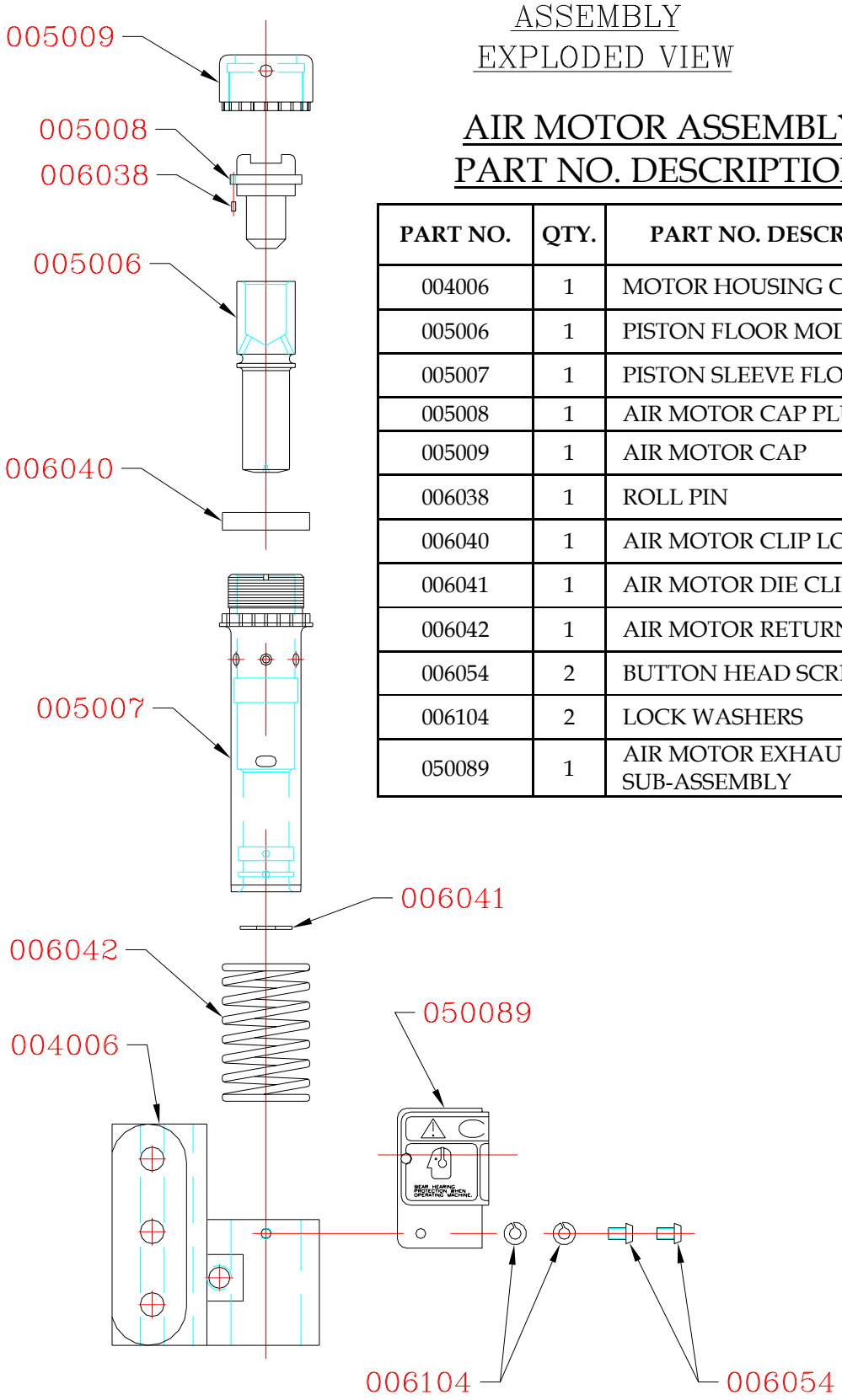
TOP ASSEMBLY PART NO. DESCRIPTION
(SEE DRAWING ON NEXT PAGE FOR PART NO. LOCATION)

PART NO.	QTY.	DESCRIPTION
004022	1	UPPER ARM CASTING
004025	1	REAR PIVOT CASTING
005002	2	CONTROL ARM GUIDES
005048	1	CONTROL ARM
005004	2	TEFLON BUTTONS FOR CONTROL ARM
005005	1	FRONT PIVOT BLOCK
005047	1	TUBE
005054	1	CONTROL ROD ASSEMBLY
006005	3	WASHER HEAD BOLTS
006006	3	WASHER HEAD NUTS
006007	3	WASHER HEAD BOLTS
006008	1	PIVOT BLOCK CLEVIS PIN
006009	1	LARGE CLEVIS PIN
006034	2	COTTER PINS
006035	1	REAR PIVOT HAIRPIN COTTER PIN
006036	1	SET SCREW
006051	1 EA.	AIR LINE
006056	1	90 ELBOW FITTINGS, PRES-LOC
006057	1	LINE CLIPS W/SCREWS
006114	1	1/2 X 1-3/8 CLEVIS PIN
009002	1	AIR REGULATOR AND LUBRICATOR SUB-ASSEMBLY
030066	1	AIR MOTOR SUB-ASSEMBLY
040163	2	2-1/2" WASHER HEAD BOLT

TOP ASSEMBLY EXPLODED VIEW



AIR MOTOR ASSEMBLY EXPLODED VIEW



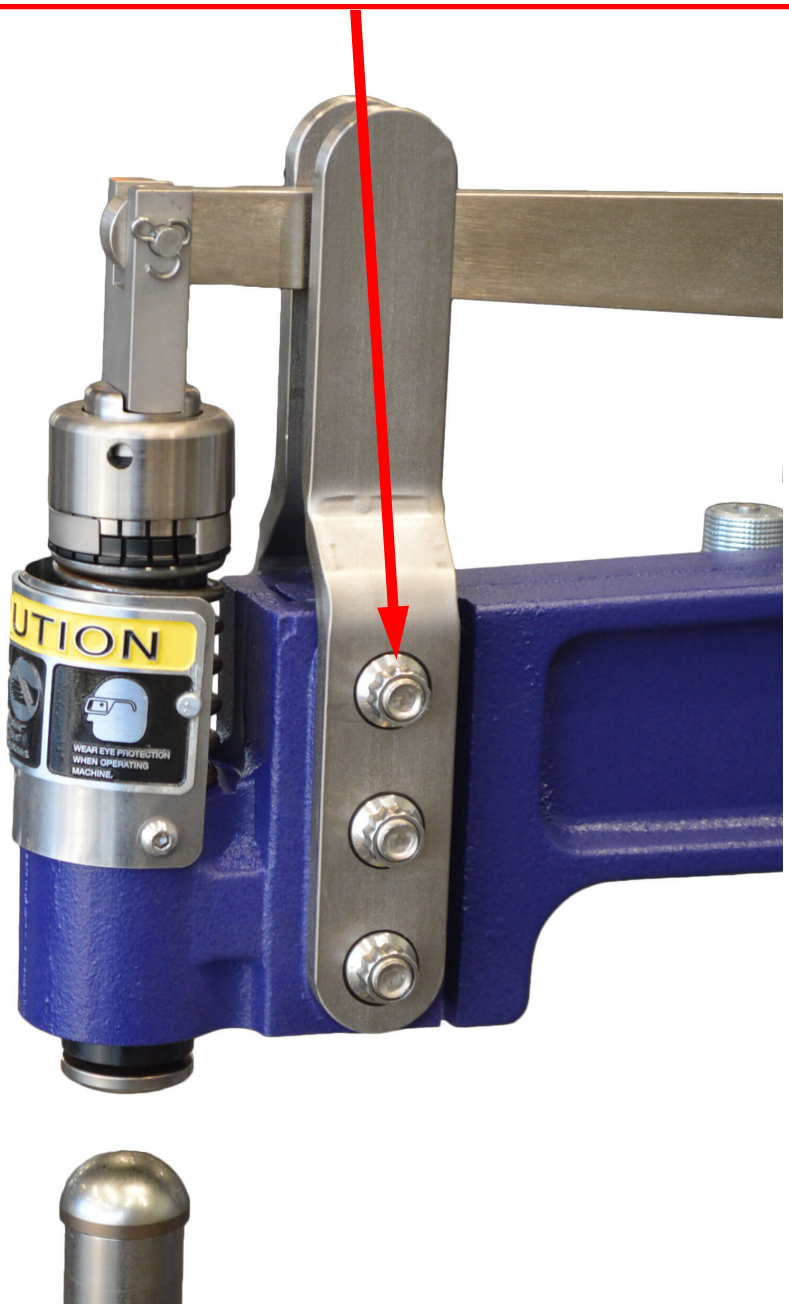
AIR MOTOR ASSEMBLY PART NO. DESCRIPTION

PART NO.	QTY.	PART NO. DESCRIPTION
004006	1	MOTOR HOUSING CASTING
005006	1	PISTON FLOOR MODEL
005007	1	PISTON SLEEVE FLOOR MODEL
005008	1	AIR MOTOR CAP PLUG
005009	1	AIR MOTOR CAP
006038	1	ROLL PIN
006040	1	AIR MOTOR CLIP LOCK RING
006041	1	AIR MOTOR DIE CLIP SPRING
006042	1	AIR MOTOR RETURN SPRING
006054	2	BUTTON HEAD SCREWS
006104	2	LOCK WASHERS
050089	1	AIR MOTOR EXHAUST GUARD SUB-ASSEMBLY

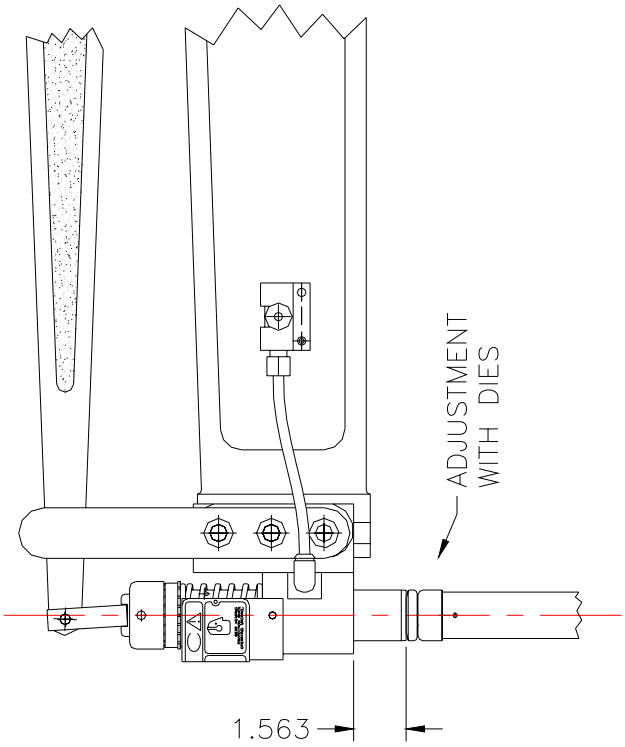
MOTOR HOUSING

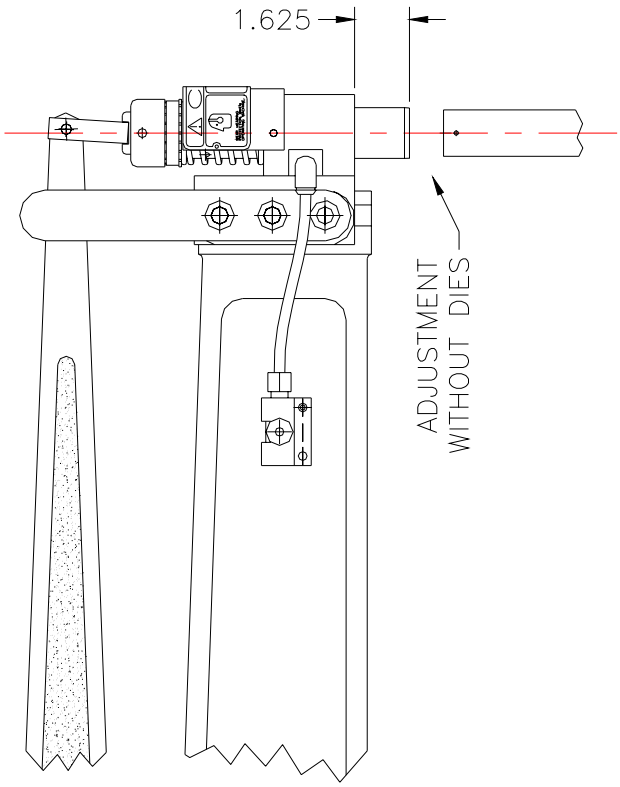
CAUTION !!!!

DO NOT LOOSEN OR TIGHTEN BOLTS. THESE ARE SET AT FACTORY FOR PROPER TORQUE.



MOTOR HOUSING ADJUSTMENT

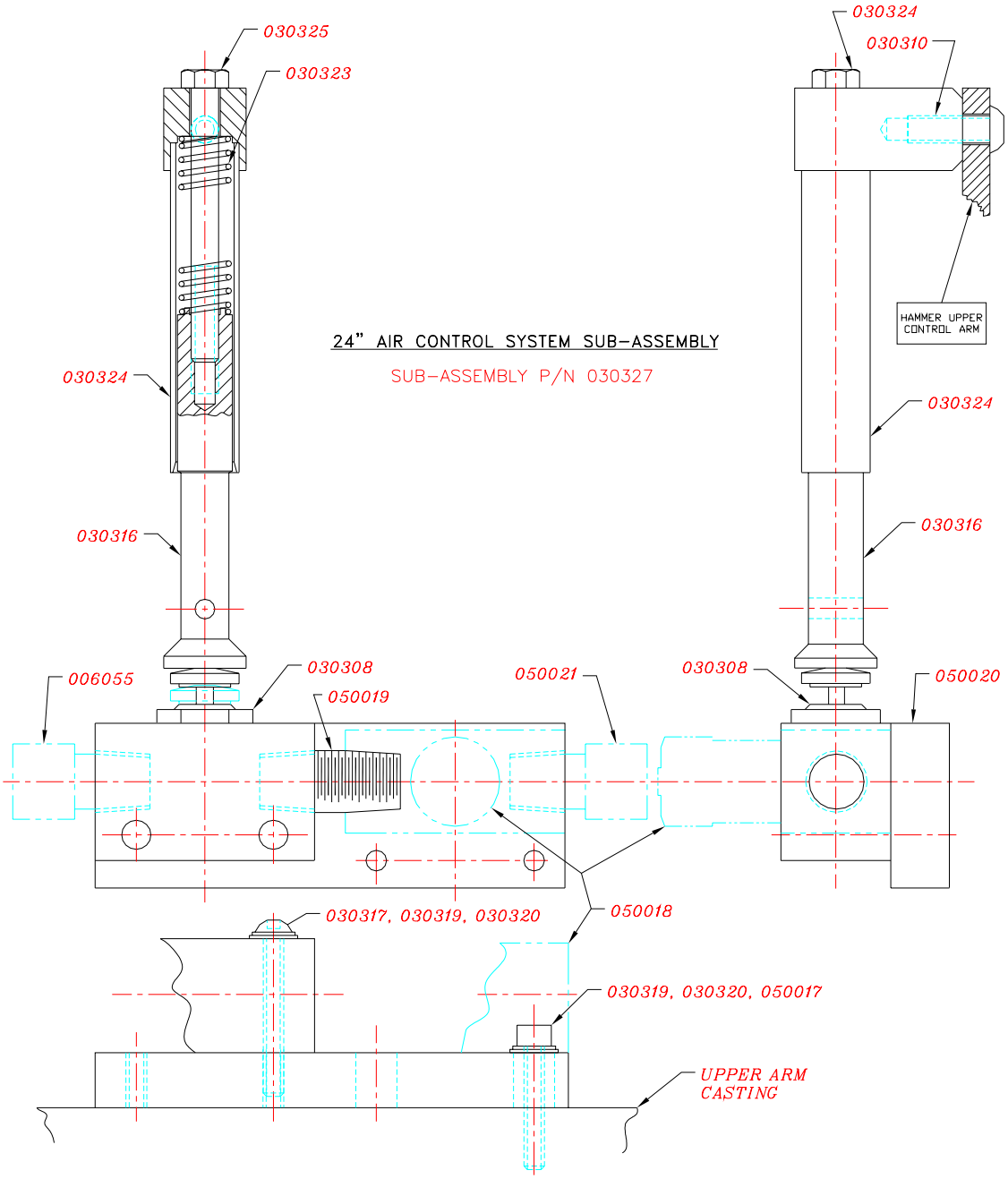




AIR CONTROL SYSTEM SUB-ASSEMBLY

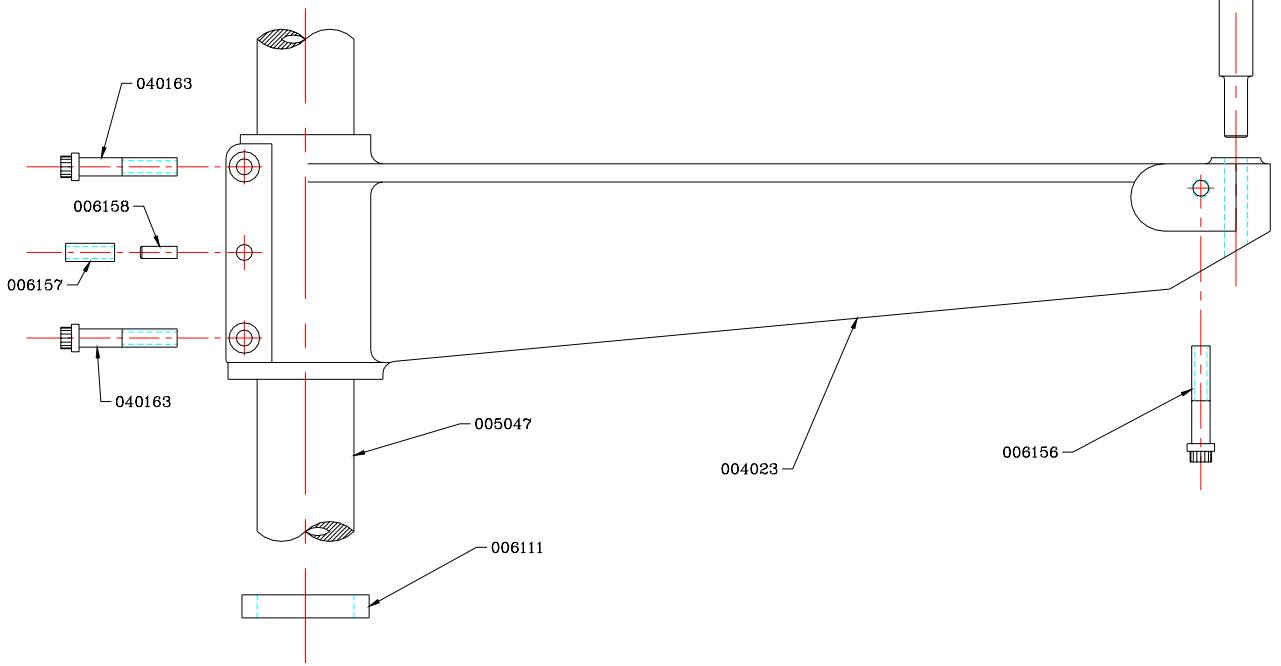
PART NO.	QTY.	DESCRIPTION
006055	2	STRAIGHT FITTING
030308	1	SHUT-OFF VALVE
030310	1	CAP SCREW
030316	1	PISTON
030317	2	SHUT OFF VALVE SCREW
030319	2	FLAT WASHER
030320	2	INTERNAL TOOTH LOCK WASHER
030323	1	SPRING
030324	1	AIR CONTROL SYSTEM MOUNTING BRACKET AND TUBE SUB-ASSEMBLY
030325	1	ADJUSTING BOLT
050017	2	SOCKET HEAD CAP SCREW
050018	1	NEEDLE VALVE
050019	1	HIGH-PRESSURE HEX NIPPLE PIPE FITTING
050020	1	SPACER BASE
050021	1	STRAIGHT FITTINGS

SEE PAGE 4-7 FOR PART LOCATION


24" AIR CONTROL SYSTEM SUB-ASSEMBLY
SUB-ASSEMBLY P/N 030327
030325
030323
030324
030316
006055
030308
050019
050021
030308
050020
030316
030324
030324
030310
HAMMER UPPER CONTROL ARM
030317, 030319, 030320
050018
030319, 030320, 050017
UPPER ARM CASTING

MIDDLE ASSEMBLY
PART NO. DESCRIPTION

PART NO.	QTY.	DESCRIPTION
004023	1	LOWER ARM CASTING
005001	1	DIE HOLDER POST
005047	1	TUBE
005032	1	3″ DIE EXTENSION (OPTIONAL)
005033	1	2-1/4″ DIE EXTENSION (OPTIONAL)
006156	1	2″ WASHER HEAD BOLT
006157	1	SET SCREWS/SPREADER BOLTS
006158	1	DOWEL PINS
006111	1	2 PC. LOCKING COLLAR W/BOLTS
006103	3 EA.	SCREWS
040163	2	2-1/2″ WASHER HEAD BOLTS



MIDDLE ASSEMBLY EXPLODED VIEW

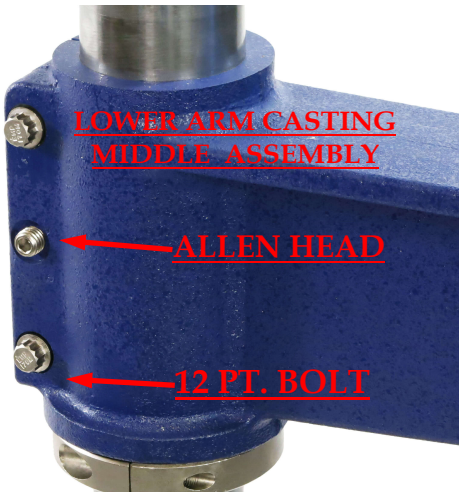
PROLINE

RUBBER DIE INSTALLATION

STEP 1
LOOSEN COLLAR UNDER LOWER ARM AND SLIDE DOWN 3 INCHES AND TIGHTEN BOTH ALLEN HEAD SCREWS. IT IS IMPORTANT TO GO ONLY 3 INCHES NO MORE NO LESS. FAILURE TO DO THES WILL NOT ALLOW HAMMER TO WORK PROPERLY.
USE THE 3" LONG EXT. FOR A REFERENCE. SEE LOWER PHOTO.

STEP 2
BACK LOWER ARM ALLEN BOLT OUT UNTIL THERE IS NO PRESSURE AGAINST IT.
LOOSEN THE 12 PT. BOLTS ON LOWER ARM.
CAREFULLY TIGHTEN THE ALLEN HEAD.
THIS WILL SPREAD THE LOWER ARM AND LET IT DROP. AGAIN USE CAUTION THE ARM IS HEAVY.
ONCE IN POSITION BACK ALLEN BOLT OUT AND TIGHTEN 12 PT. BOLTS.

STEP 3
INSERT EITHER EXTENTION INTO DIE POST AND TIGHTEN USING ALLEN HEAD SCREWS PROVIDED.
3" LONG EXT. FOR STANDARD DIES AND 2-1/4" SHORT EXT. FOR RUBBER DIE.

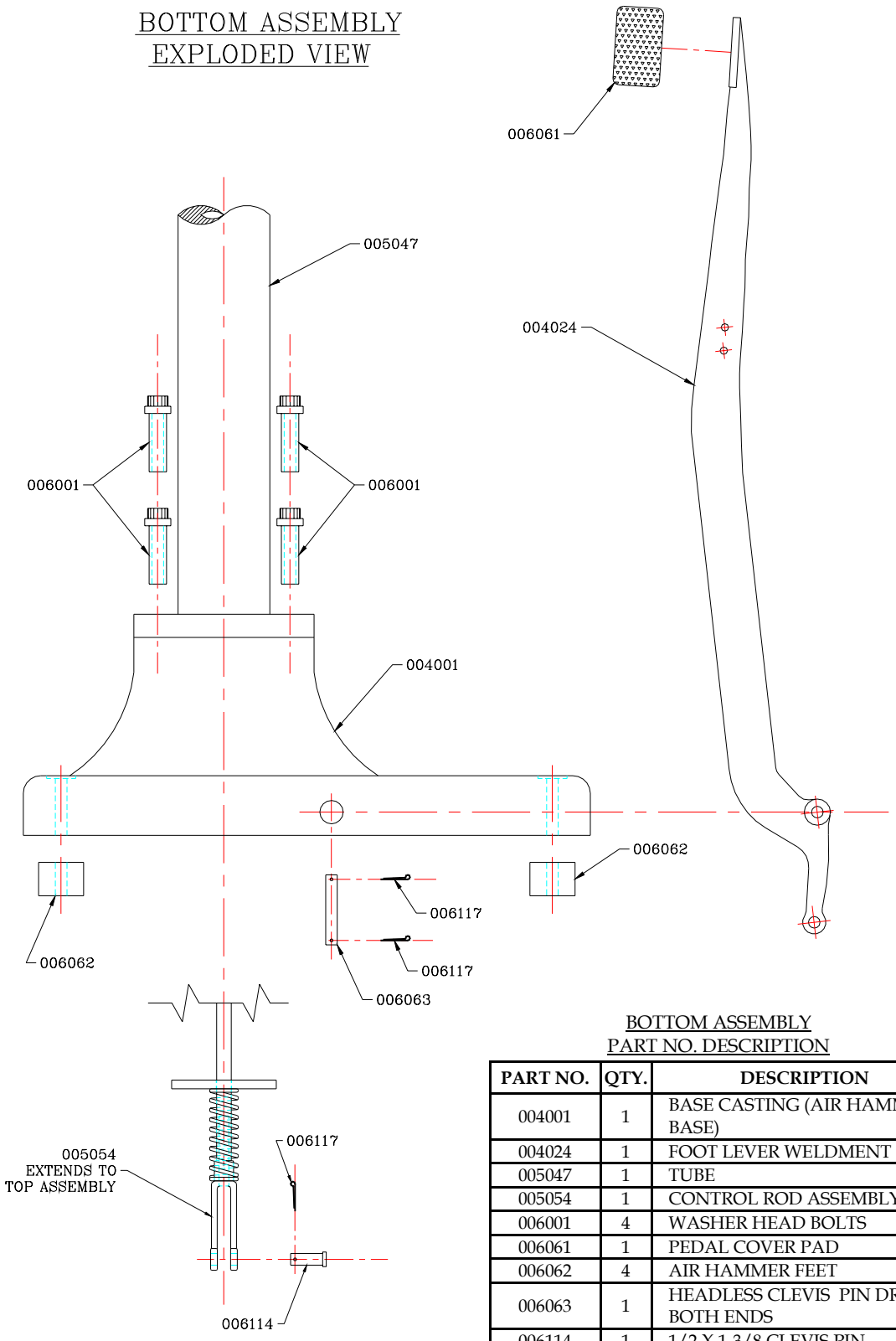


USE 3 INCH EXT. FOR PROPER SPACING OF COLLAR BEFORE LOWERING ARM (NOTE: THIS IS A ONE TIME INSTALLATION FOR BOTH RUBBER AND STANDARD DIES).

3" DIE EXTENSION (STANDARD DIES)

2-1/4" DIE EXTENSION (RUBBER DIES)

BOTTOM ASSEMBLY EXPLODED VIEW



BOTTOM ASSEMBLY
PART NO. DESCRIPTION

PART NO.	QTY.	DESCRIPTION
004001	1	BASE CASTING (AIR HAMMER BASE)
004024	1	FOOT LEVER WELDMENT
005047	1	TUBE
005054	1	CONTROL ROD ASSEMBLY
006001	4	WASHER HEAD BOLTS
006061	1	PEDAL COVER PAD
006062	4	AIR HAMMER FEET
006063	1	HEADLESS CLEVIS PIN DRILLED BOTH ENDS
006114	1	1/2 X 1-3/8 CLEVIS PIN
006117	3	COTTER PINS

PROLINE PLANISHING DIES
PART NO. DESCRIPTION

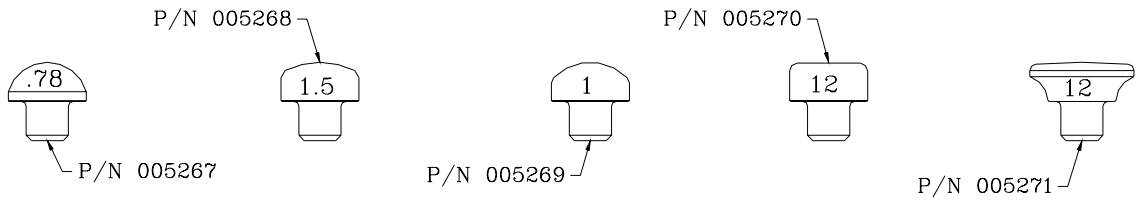
PART NO.	STAMP	DIA.	RAD.	DESCRIPTION
STANDARD DIES				
007100	------	-----	------	COMPLETE STD. DIE SET, ALL 22 PCS.
005267	0.78	1.5	------	BOTTOM DIE
005268	1.5	1.5	------	BOTTOM DIE
005269	1	1.5	------	BOTTOM DIE
005270	12	1.5	------	BOTTOM DIE
005271	12	2	------	BOTTOM DIE
005272	2	1.5	------	BOTTOM DIE
005273	24	1.5	------	BOTTOM DIE
005274	24	2	------	BOTTOM DIE
005275	3	1.5	------	BOTTOM DIE
005276	36	1.5	------	BOTTOM DIE
005277	36	2	------	BOTTOM DIE
005278	4	1.5	------	BOTTOM DIE
005279	5	1.5	------	BOTTOM DIE
005280	6	1.5	------	BOTTOM DIE
005281	9	1.5	------	BOTTOM DIE
005282	0	1.5	------	BOTTOM DIE
005283	F	------	------	LINEAR STRETCH - SMALL FLAT ON TOP - BOTTOM DIE
005284	NONE	------	------	RECTANGULAR - 7/8 X 2-1/2", 24 R X 4 R - BOTTOM DIE
005285	NONE	------	------	SQUARE - 1-1/2", ONE EDGE 5/16 R - BOTTOM DIE
005286	NONE	------	------	1-1/2 FLAT FACE, ROUND DIE -TOP DIE
005287	NONE	------	------	1-1/2 REVERSE CURVE - TOP DIE
005288	NONE	------	------	2-3/8 FLAT FACE, ROUND DIE - TOP DIE
SPECIAL DIES				
008019	NF	------	1/2	LINEAR STRETCH - 1/2" R - BOTTOM DIE
SPECIAL RUBBER DIE KIT				
008020	NONE	------	------	RUBBER TOP DIE KIT, ALL 5 PCS.
030095	NONE	------	------	RUBBER DIE, TOP
005032	NONE	------	------	3" DIE EXTENSION*
005033	NONE	------	------	2-1/4" DIE EXTENSION*
006103	NONE	------	------	SCREWS*
040195	NONE	------	------	T-HANDLE HEX KEY

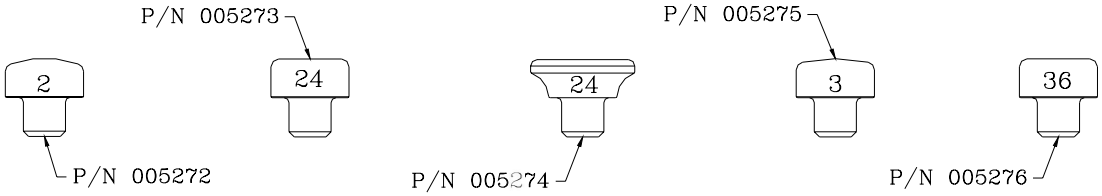
*NOTE: FOR DETAILS ON DIE EXTEN-
SIONS AND SCREWS FOR RUBBER TOP DIE
KIT, SEE SECTION 5 MIDDLE ASSEMBLY

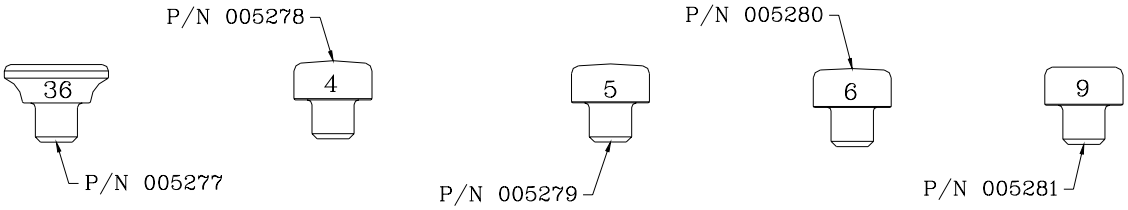
CUSTOM DIES AVAILABLE

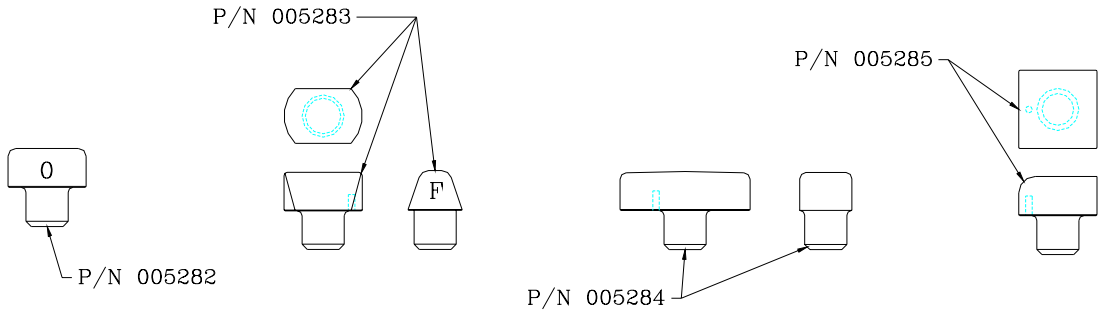
SEE NEXT PAGE FOR ASSEMBLY DRAWING

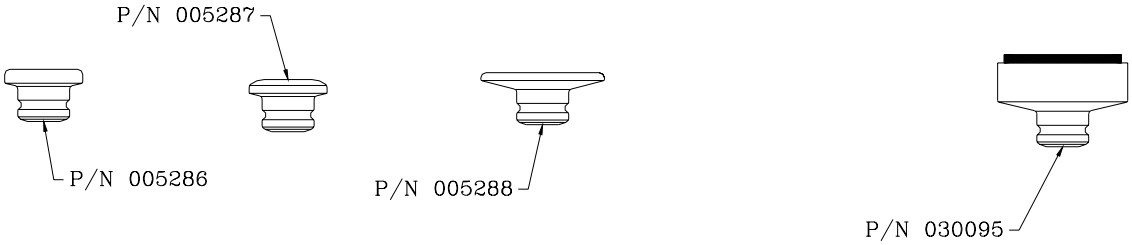
AIR HAMMER DIE ASSEMBLY







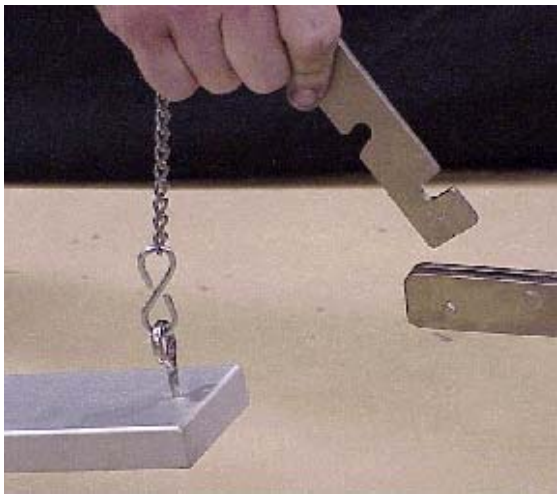


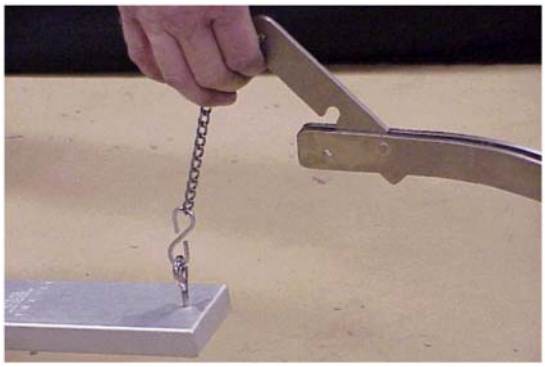


OPTIONAL FOOT PEDAL EXTENSION

- 4 FOOT BILLET ALUMINUM PEDAL.
- PEDAL TOP MILLED FOR NON SLIP.
- NICKEL PLATED AND ANODIZED FOR CORROSION PROTECTION.
- INSTALL AND REMOVE IN SECONDS.

INSTALLING FOOT PEDAL EXTENSION

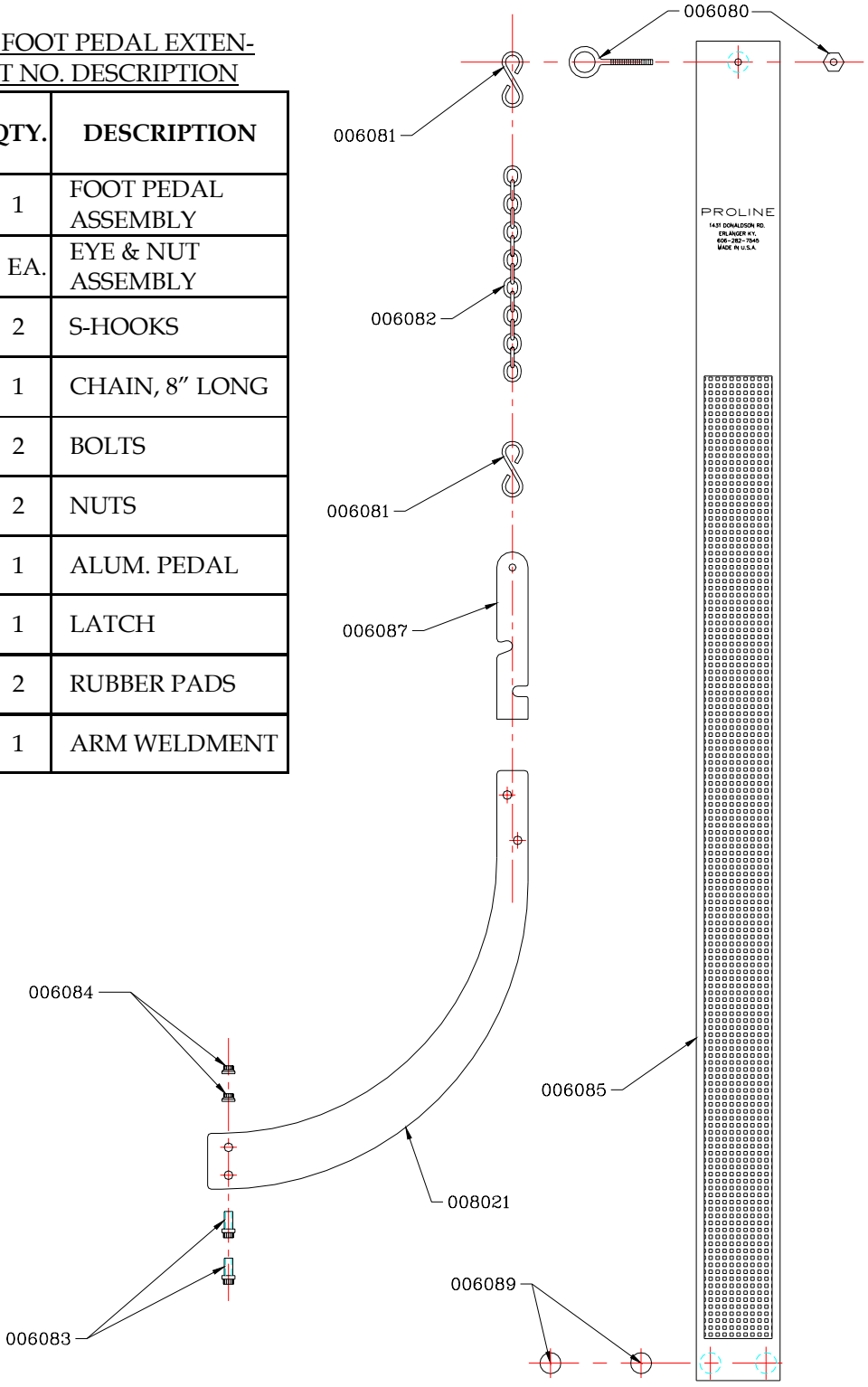




OPTIONAL FOOT PEDAL EXTENSION EXPLODED VIEW

OPTIONAL FOOT PEDAL EXTENSION PART NO. DESCRIPTION

PART NO.	QTY.	DESCRIPTION
008100	1	FOOT PEDAL ASSEMBLY
006080	1 EA.	EYE & NUT ASSEMBLY
006081	2	S-HOOKS
006082	1	CHAIN, 8" LONG
006083	2	BOLTS
006084	2	NUTS
006085	1	ALUM. PEDAL
006087	1	LATCH
006089	2	RUBBER PADS
008021	1	ARM WELDMENT



OPTIONAL DIE RACK

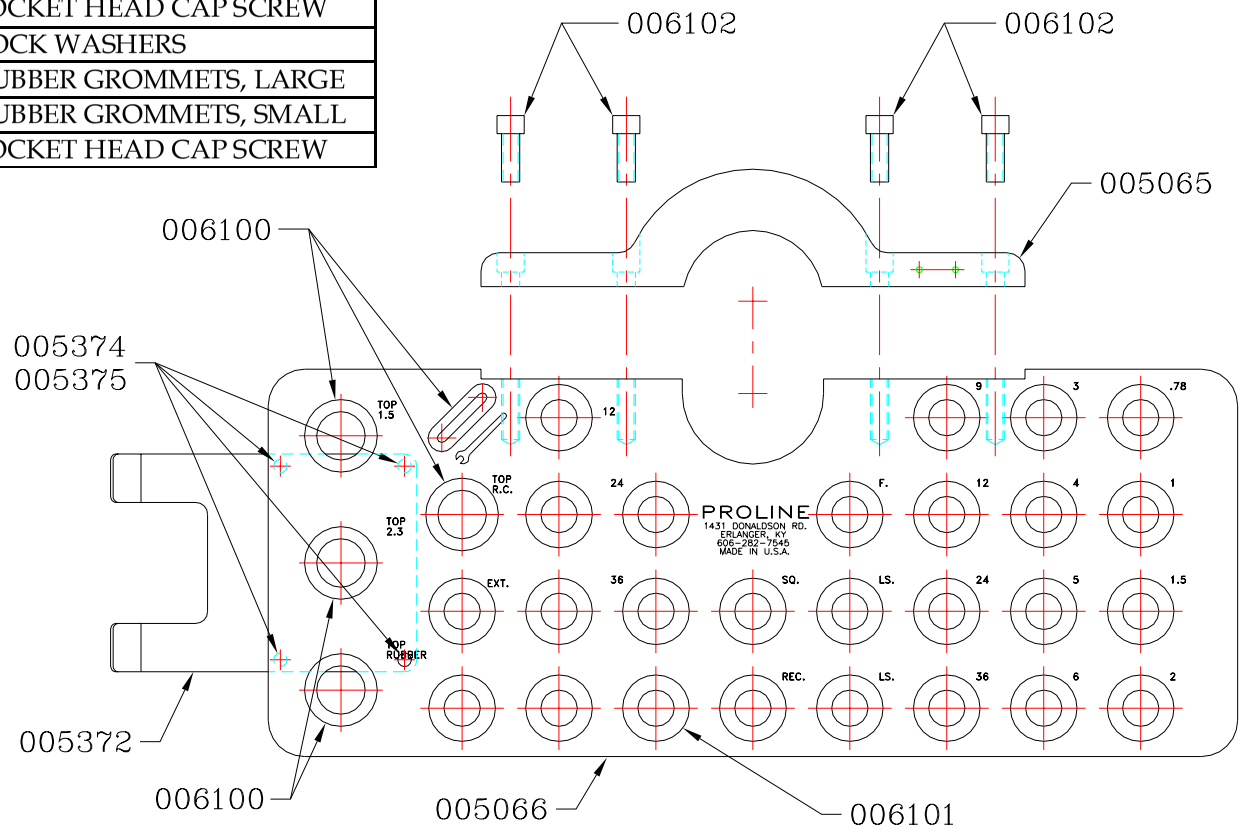
- 6061-T6 BILLET ALUMINUM.
- RUBBER GROMMET INSERTS TO SECURE DIES.
- DIE RACK MARKED FOR DIE INSERT LOCATION.
- KEEPS DIES AND DIE WRENCH TOOL FROM BEING MISPLACED.

OPTIONAL DIE RACK ASSEMBLY
PART NO. DESCRIPTION

PART NO.	QTY.	DESCRIPTION
005067	1	DIE RACK SUB-ASSEMBLY
005030	1	DIE RACK, CLAMP
005031	1	DIE RACK, RACK
005062	1 EA	DIE RACK ADAPTER
005372	1	RUBBER HAMMER BRACKET
005374	4	SOCKET HEAD CAP SCREW
005375	4	LOCK WASHERS
006100	5	RUBBER GROMMETS, LARGE
006101	26	RUBBER GROMMETS, SMALL
006102	4	SOCKET HEAD CAP SCREW

NOTE: DIE RACK SUB-ASSEMBLY DOES NOT INCLUDE PART NO. 005372, 005374 AND 005375 THEY ARE A SEPARATE OPTION

OPTINAL DIE RACK
EXPLODED VIEW

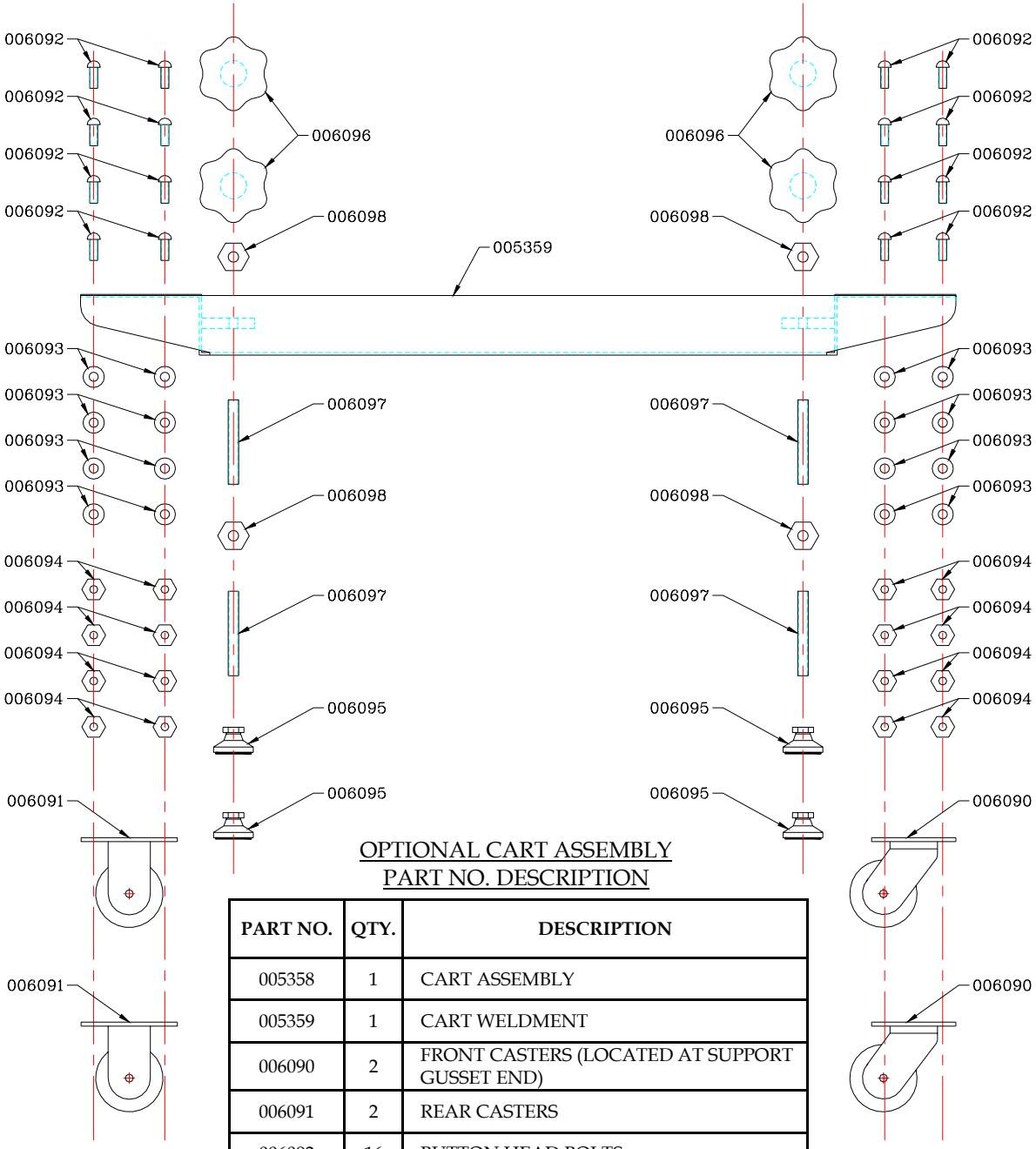


OPTIONAL CART

CART MAKES MOVING HAMMER AROUND SHOP EASY.

- STAINLESS STEEL CONSTRUCTION.
- NON-MARKING CASTERS.
- FRONTS SWIVEL CASTERS FOR EASY TURNING.
- ADJUSTABLE VIBRATION MOUNTS TO KEEP CART FROM MOVING.

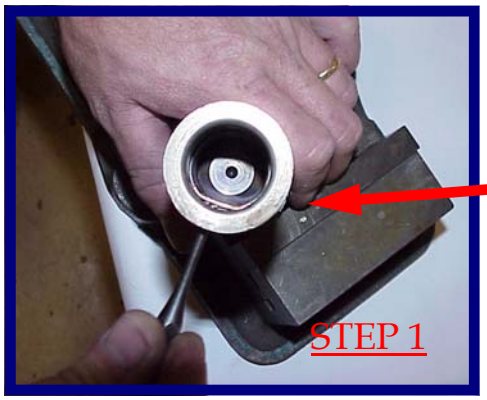
OPTIONAL CART
EXPLODED VIEW



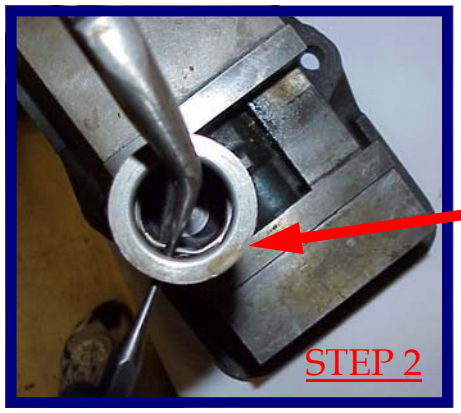
OPTIONAL CART ASSEMBLY
PART NO. DESCRIPTION

PART NO.	QTY.	DESCRIPTION
005358	1	CART ASSEMBLY
005359	1	CART WELDMENT
006090	2	FRONT CASTERS (LOCATED AT SUPPORT GUSSET END)
006091	2	REAR CASTERS
006092	16	BUTTON HEAD BOLTS
006093	16	FLAT WASHERS
006094	16	SELF LOCKING NUT
006095	4	SWIVEL LEVELING MOUNT PADS
006096	4	PALM GRIP KNOB
006097	4	THREADED ROD
006098	4	JAM NUTS

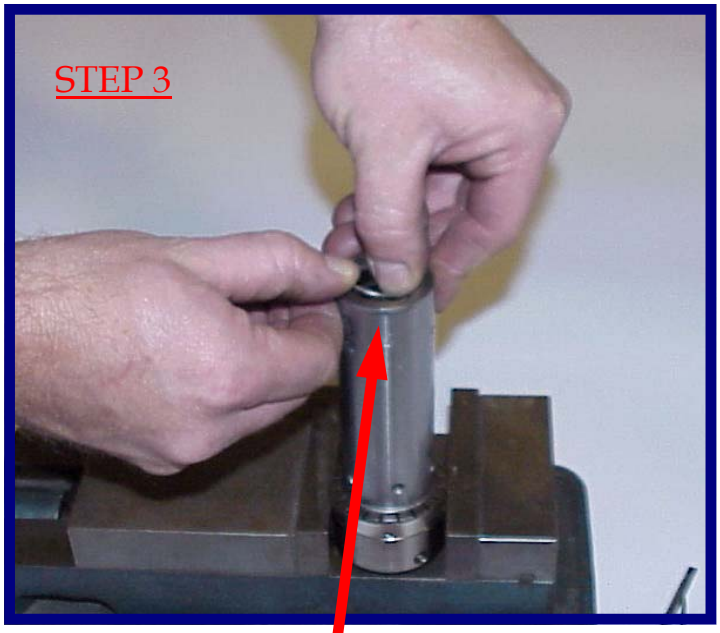
APPENDIX 1
AIR MOTOR DIE CLIP SPRING REMOVAL AND REPLACEMENT



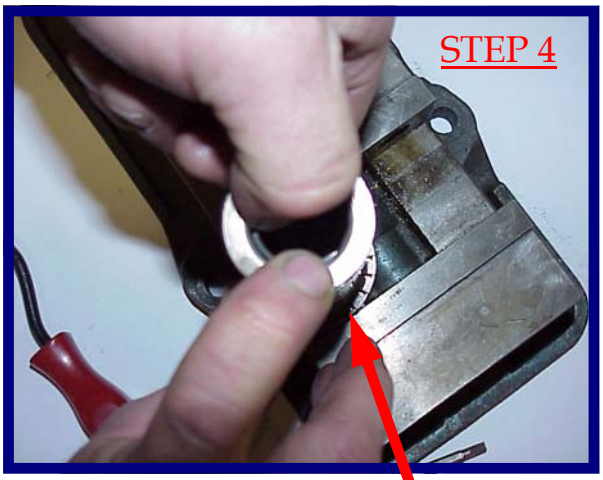
STEP 1: PUSH PUNCH THROUGH SPRING REMOVAL HOLE. (HOLE THAT IS IN LINE WITH SPRING)



STEP 2: WHILE PUSHING INWARD ON PUNCH, USE NEEDLE NOSE PLIERS TO PULL SPRING OUT.



STEP 3: PRESS DIE SPRING INTO SLEEVE. START WITH ONE SIDE IN SLEEVE AND WORK YOUR WAY AROUND.



STEP 4: PUSH SPRING DOWN INTO GROOVE.