PICO
500 SERIES
SERVICE MANUAL

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LIMITED 90 DAY WARRANTY

All equipment sold by Pico Crimping Tools Co. Inc. ("Pico" herein) is warranted solely against defective parts, materials and workmanship for a period of 90 days from the date of shipment. This warranty does not cover parts becoming defective through abuse, neglect or operation contrary to instructions. Pico is not obligated for incidental expenses in fulfillment of the warranty provisions, and its' liability is limited to the replacement of defective parts returned to its' factory at the cost of purchaser.

Except as specifically set forth above, Pico expressly disclaims any and all warranties, express or implied by law, including any implied warranty of merchantable quality. Pico further expressly disclaims liability to any person or entity for general, special, indirect or consequential damages occasioned by any negligence of Pico in the manufacture, sale, use, repair, maintenance or any handling of such equipment.

MODEL # _____

SERIAL # _____

DATE SOLD _____

Important Precautions

AIR For optimal performance & tool lifetime, use clean, filtered dry air providing 70-120 PSI.

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Pico Model 500 Pneumatic Tool with Foot Pedal

OVERVIEW

Congratulations on your purchase of a Pico Pneumatic Crimp tool. This versatile crimping tool eliminates human effort in four/eight-indent crimping of pin and socket contacts as well as solderless terminals.

Nonadjustable die heads, interchangeable between Models 500 EC, 500 D, and 500-D-1, are available from stock to handle No. 26 wire through 250 MCM — all using the same safety cycling "Crimpmaster" power unit.

Factory air pressure is now sufficient for even the largest sizes, made possible by the addition of a power booster as standard equipment. The Model 500 Crimpmaster is also supplied with a bench mount as standard equipment, and can be used as a portable hand tool, a bench-mounted tool, or a foot controlled unit. Human engineered to prevent accidents.

Pico Crimp Tools are precision, pneumatic, full cycling tools capable of producing:

- **Four/eight- indent crimps on pin and socket type contacts size 22 thru 250 MCM.**
- **Four or two indent crimps on terminals, splices or pigtails, insulated or non insulated size 26 thru 250 MCM.**
- **Hexagonal crimps on coaxial contacts and connectors.**
- **Custom designs for unique applications**

This can be accomplished simply by changing dies and locators in accordance with factory directions.

For further information on this product and other Pico products, please visit us on the web at: **www.picotools.com**

Setup

SETUP OVERVIEW

Each tool is shipped from the factory pre-assembled. However, the tool will not have a locator and die assembly pre-installed. These are purchased separately and are installed by the user. For help in choosing the correct die & locator solution, refer to the cross-reference guide included with your product, or contact the factory for assistance.

The tool can be operated manually through the use of the hand trigger, or through a foot control pedal (**P/N 104**), which is an optional purchase.

Setting the tool up for operation consist of the following:

SETUP

- Connect Air supply to tool
- Use a 1/4" ID, 3/8" OD line capable of 125 PSI (1-2 CFM).
- Nominal pressure is 80 PSI.
- Use clean, filtered, dry air

Do not use an oiler!

- Install Locator
- Install Die
- Install Cover Nut

ADJUST • CHECK • RUN

- Check Tool Operation: cycle tool with air.

  NOTE: in order to check operation of indentors, do not insert a wire and contact for this procedure.
- Gage Tool
- Proceed with normal operation.

Detailed setup and operating instructions follow.

AIR SETUP

Air Supply Requirements

The tools can be operated with either the hand trigger, or an optional Foot Pedal Assembly (**P/N 104**). The main advantage with the foot pedal assembly is operator convenience.

The tools operate on air pressure of 70 to 125 PSI, (1-2 CFM). Recommended air pressure is **80 PSI.**

Note **Use clean, dry air with a quality filter and regulator installed within 25 feet of the tool.**

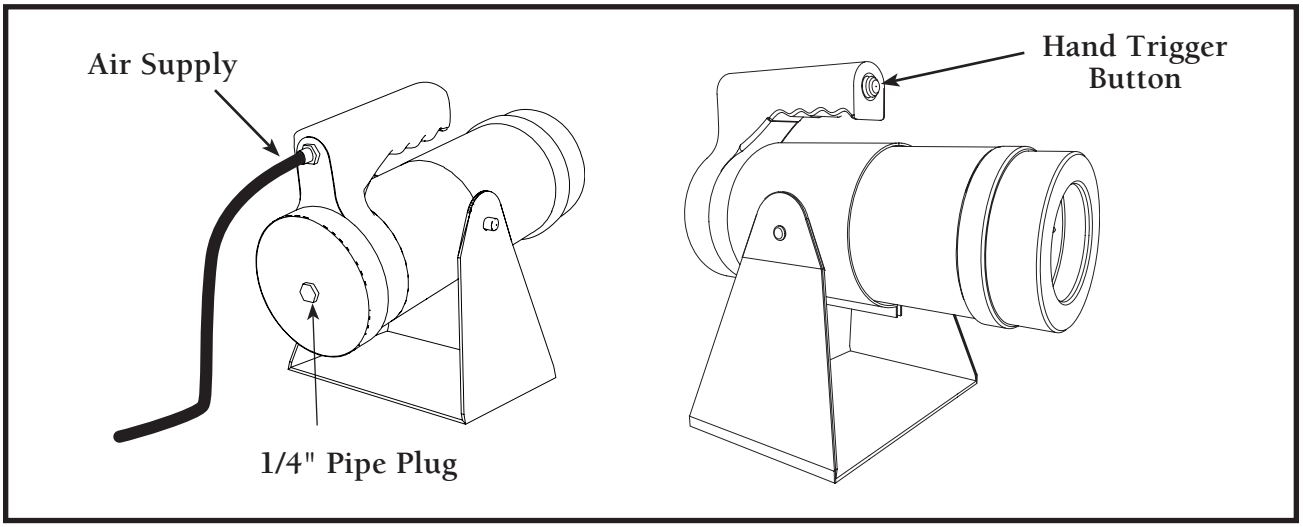
Do not use an oiler.

Connecting Air - Hand Trigger

The air inlet port on the rear of the handle is tapped to accommodate 1/4" NPT fittings. The air supply should be connected to the port at the rear of the handle.

Insure that the connection is tight enough to prevent leaks. Use of pipe thread tape is suggested. We recommend a **1/4" ID, 3/8" OD** air hose be used.

Note **There is also a 1/4 NPT threaded hole in the center of the cylinder housing. When operating the tool with the hand trigger, this opening must be sealed with a pipe plug.**



Connecting Air to Hand Trigger Port

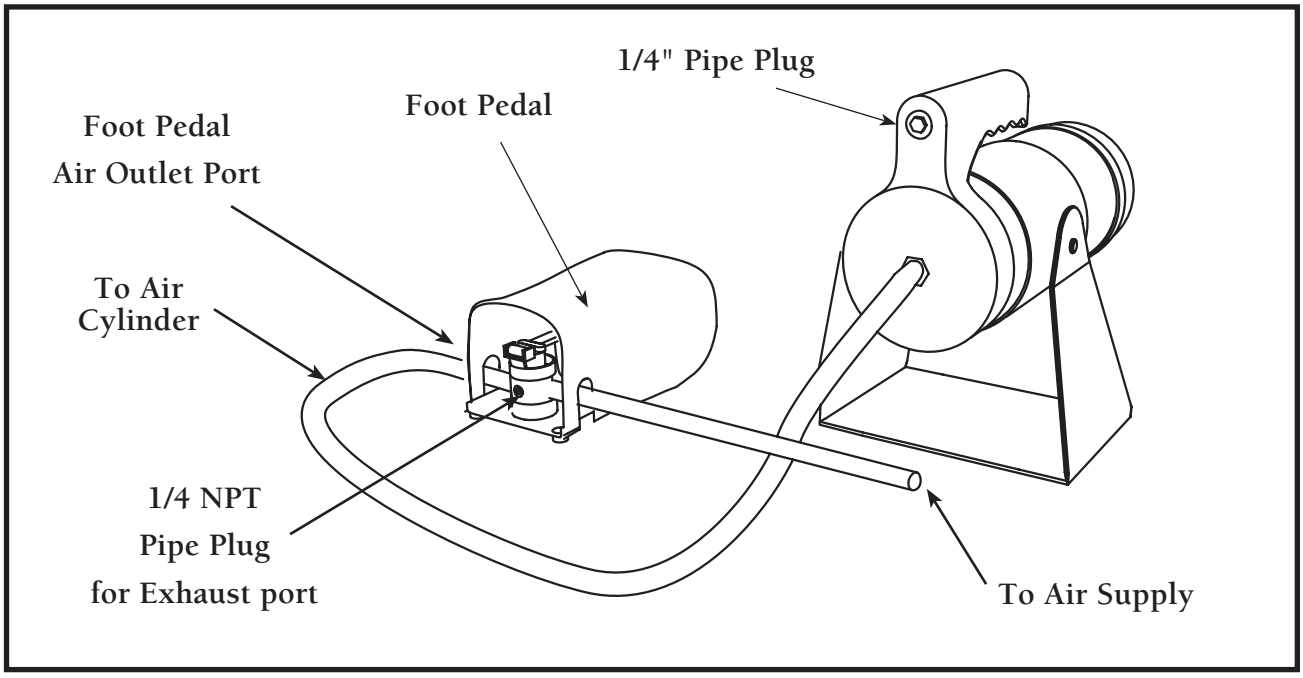
AIR SETUP

Connecting Air - Foot Pedal

For foot pedal use, the air hose must be connected to the port in the center of the cylinder. The port in the rear of the handle must be sealed with a 1/4" NPT pipe plug.

The air hose connected to the tool cylinder is in turn connected to the outlet port of the foot pedal. Connect the hose from the air supply to the inlet port of the foot pedal.

Note **A plug must be installed in the exhaust port of the foot pedal.**



Tool with Foot Pedal Connection

INSTALLING LOCATOR

Remove the open ended cover nut (P/N 500-26) on the front of the tool housing.

Note

Tool is not shipped with a die installed by the factory - if a die is installed, it must be removed before locator can be installed.

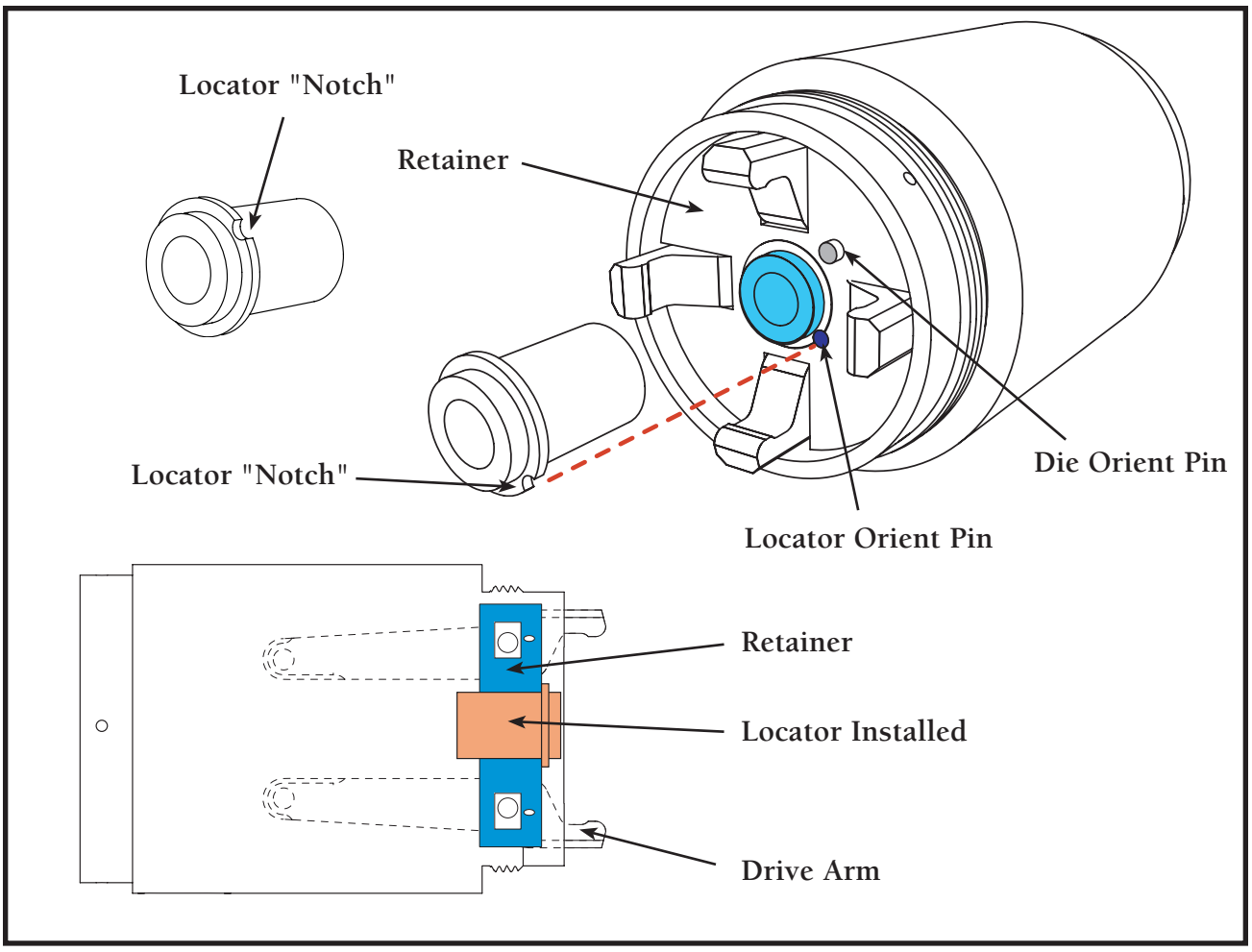
Insert the locator into the retainer. (The retainer is the component thru which the four drive arms protrude and that has an opening in the center which accepts the locator).

Observe the notch in the shoulder of the locator. There is a corresponding pin in the face of the counter bore in the retainer.

Orient the notch in the locator shoulder to coincide with the pin in the retainer. When properly installed, the front of the locator shoulder will be flush with the retainer face.

Note

Never crimp without the correct locator in the tool. Contacts or terminals can fall into the tool, causing the tool to jam and may cause damage to the unit.



Installing Locator in Tool

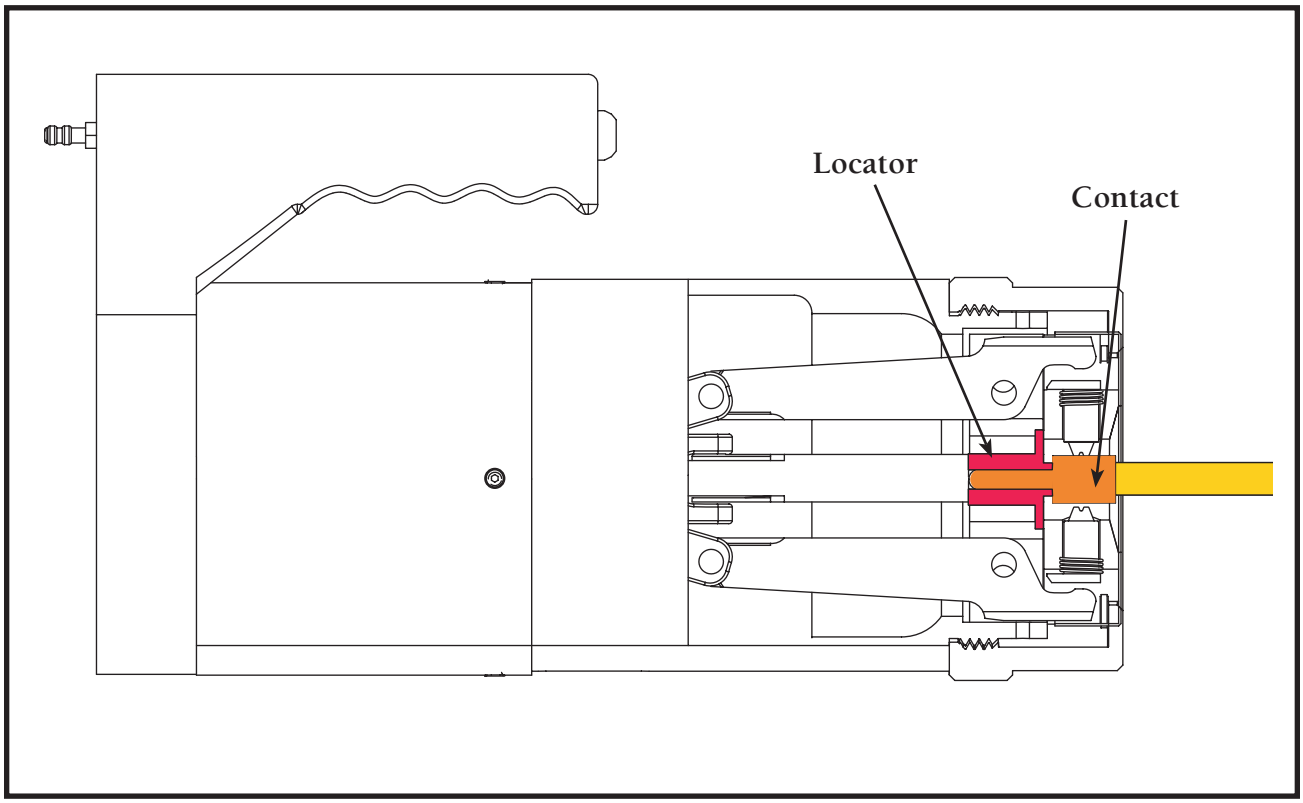
Locator Function

The function of the locator is to orient the contact in the die housing, such that the contact barrel is directly in line with the die indentors.

This will result in a crimp meeting specifications for the particular contact being processed.

The locator is matched to a specific contact & die configuration. Use of non-factory specifications in this regard can result in a poor crimp and/or damage to the tool and contact.

For help in choosing the correct die & locator solution, refer to the cross-reference guide included with your product, or contact the factory for assistance.

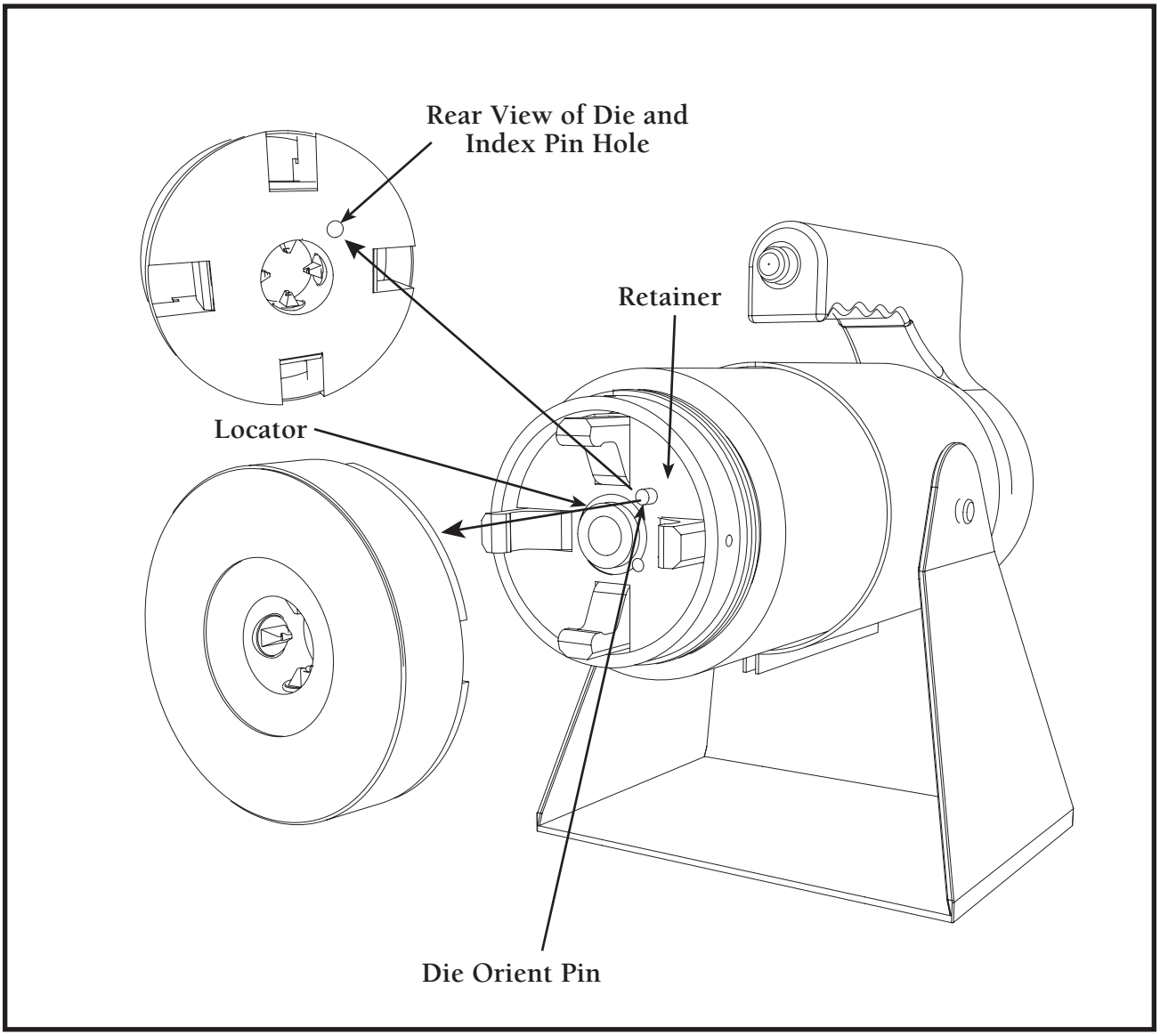


Cutaway view of locator and Die Assembly

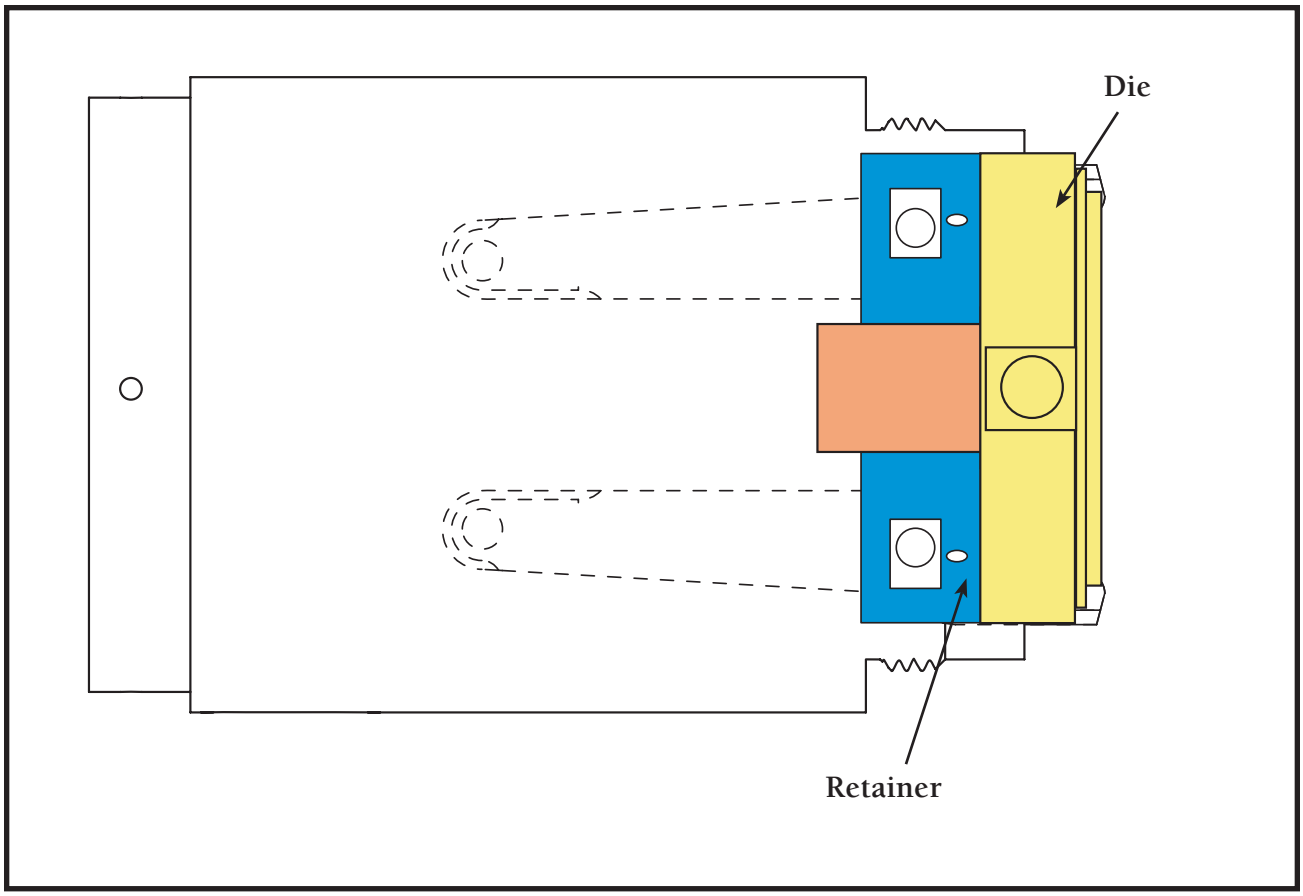
INSTALLING DIE

To install the die set: There is an index pin in the face of the retainer. Observe the drilled hole in the rear of the die housing. Orient this hole to fit over the index pin in the retainer and press the die set into place. There will be some resistance when the four drive arms come into contact with the indentors. The die set must sit flat on the retainer face.

Note *Locator should be installed prior to installing the die.*



Installing Die in Tool



Mounting Die - side view

Note Die must be mounted flush with retainer.

INSTALLING COVER NUT

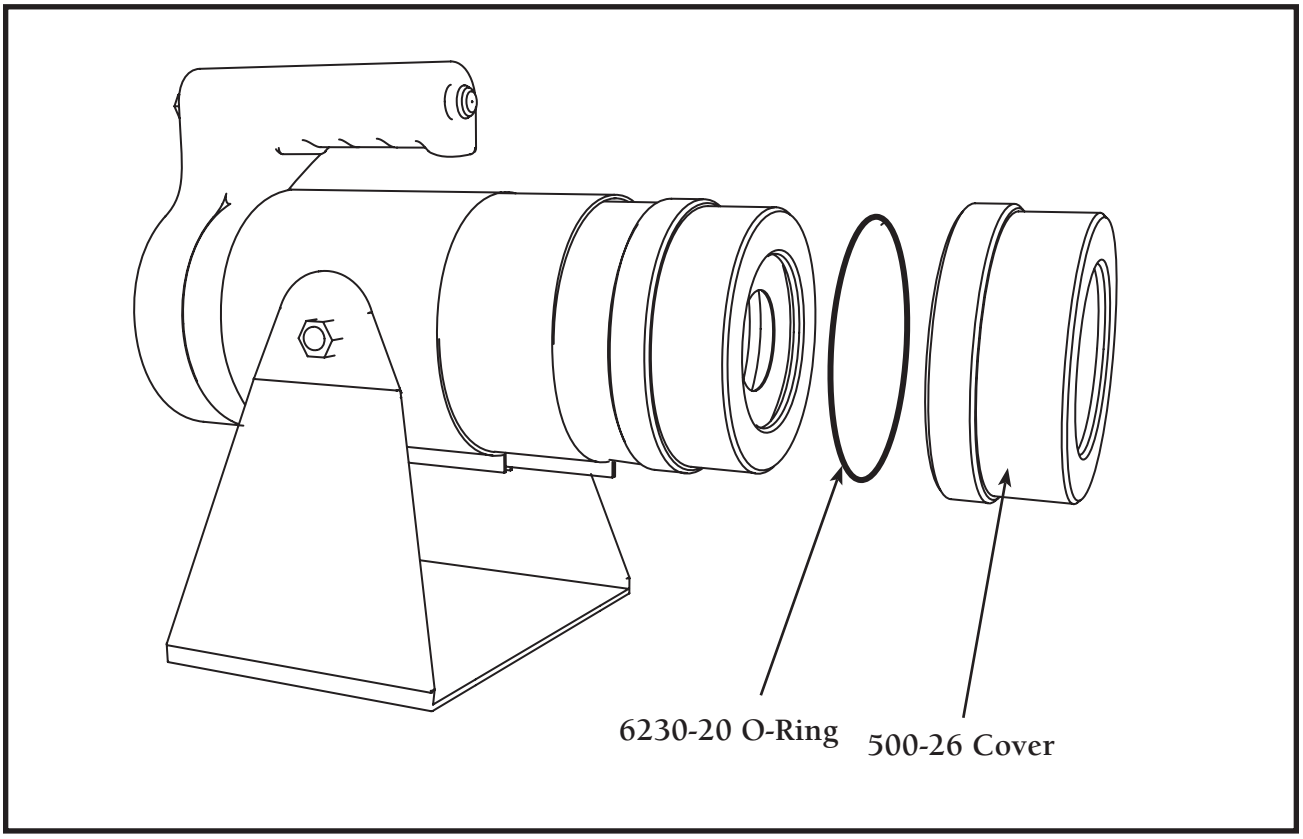
When you have insured that the die set is flush with the face of the retainer, the cover nut can then be installed.

Please note the **P/N 6230-20 O ring** on the inside face of the cover nut. During the process of crimping contacts and terminals, the contact or terminal will grow in length with the displacement of material. The function of the "O" ring is to allow the die set to move forward .040" as the contact is being crimped.

This prevents excessive side load being applied to the side of the indentors. Reduces wear and prevents the contact from bending.

When installing the cover nut it should be installed with finger tip pressure only. Turn the nut on until you feel the "O" ring come in contact with the die face.

Note **Tightening the cover nut down excessively will prevent the "O" ring from performing its' intended purpose.**



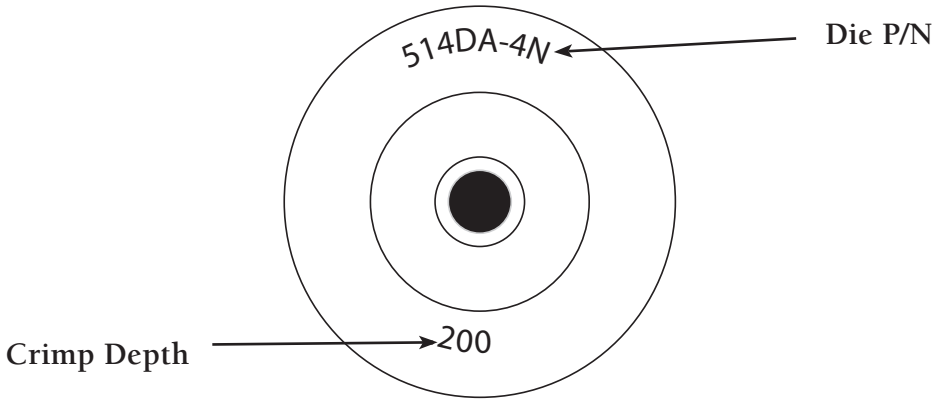
Installing 500-26 Cover Nut

CALIBRATING DIES

All die sets are marked at the factory with the nominal crimp depth setting. This is the fully closed diameter when the tool is actuated.

The dies can be easily checked with **Go No-Go gages**.
A complete line of gages are available from the factory.

The tolerance, unless otherwise specified: **is plus .002, minus .005.**



EXAMPLE

Die P/N	Crimp Depth	Go	No-Go
514DA-4N	.200	.195	.202

CALIBRATION

- Select the proper **Go No-Go gage** for the die set which is in the tool.
- ***Hand Trigger:*** If operating with the hand trigger, holding the trigger down will cause the tool to actuate and remain in the closed position. The gage can then be used to check the opening between the indentors to determine if the die set is to the correct dimension.
- ***Foot Pedal:*** If operating with a foot pedal, hold the pedal down. The indentors will then remain in the closed position for gaging.
- **EC:** Hold the top button down (**do not depress foot pedal**). The indentors will then remain in the closed position for gaging (see illustration).

- **Go gage** should enter, snug fit is acceptable. The **No-Go gage** should not enter.

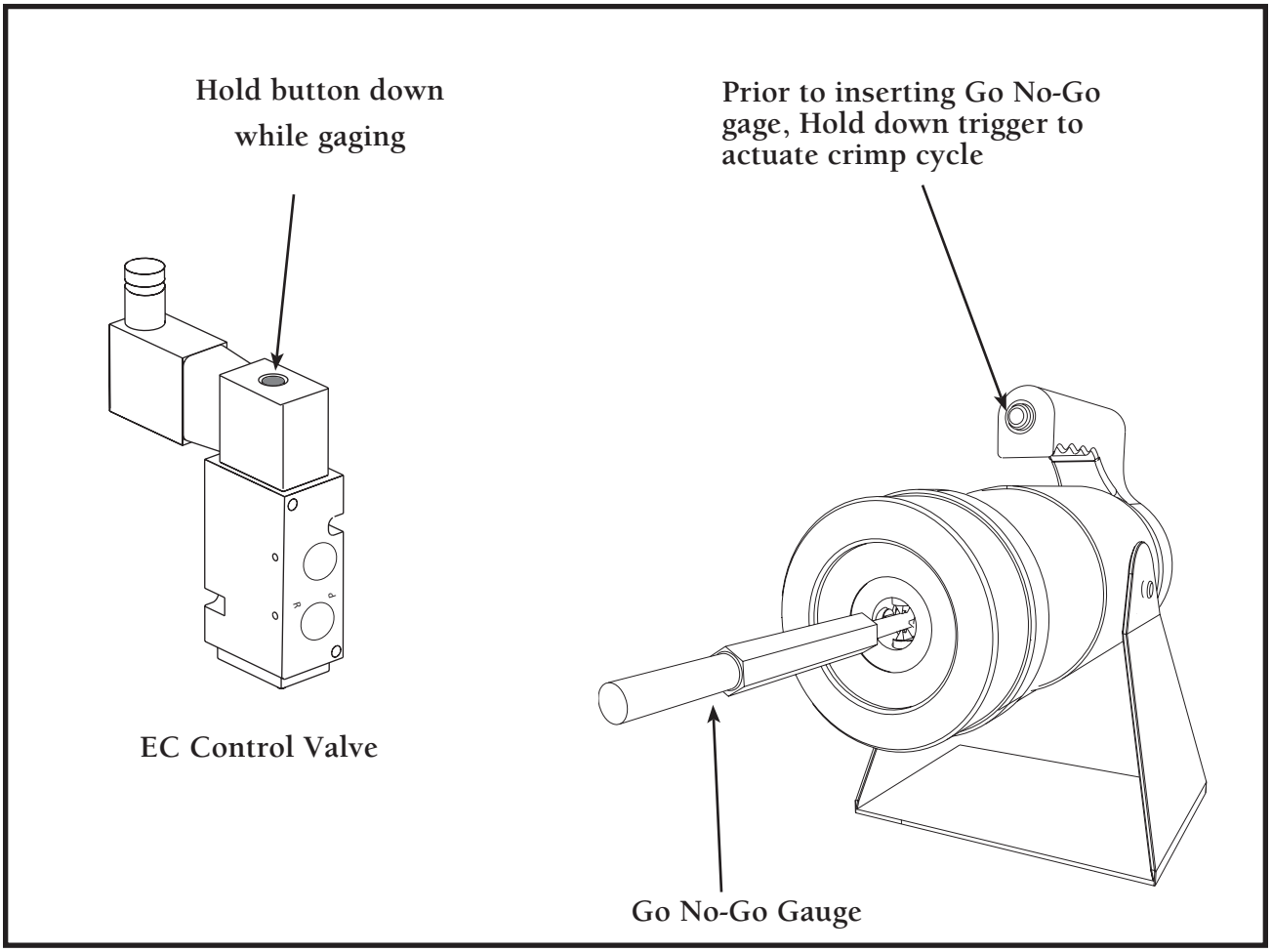
If the Go gage does not enter freely into the Die, check to see that you have the correct Go No-Go gage.

If the No-Go gage enters freely into the Die, in most cases this is indication that wear has occurred to the indentors. Less probable is wear to the drive arms. Confirm that the tool is within spec by calibration specified on page 12.

Note **The indentors are manufactured using S-7 tool steel, and are heat treated to Rc 56-58. As a result, they are should have a life span of many thousand cycles.**

Indentors are available for purchase separately from a die assembly. Contact the factory for details.

Note **CAUTION: Do not crimp against a gage. To do so will damage the tool and void the warranty.**

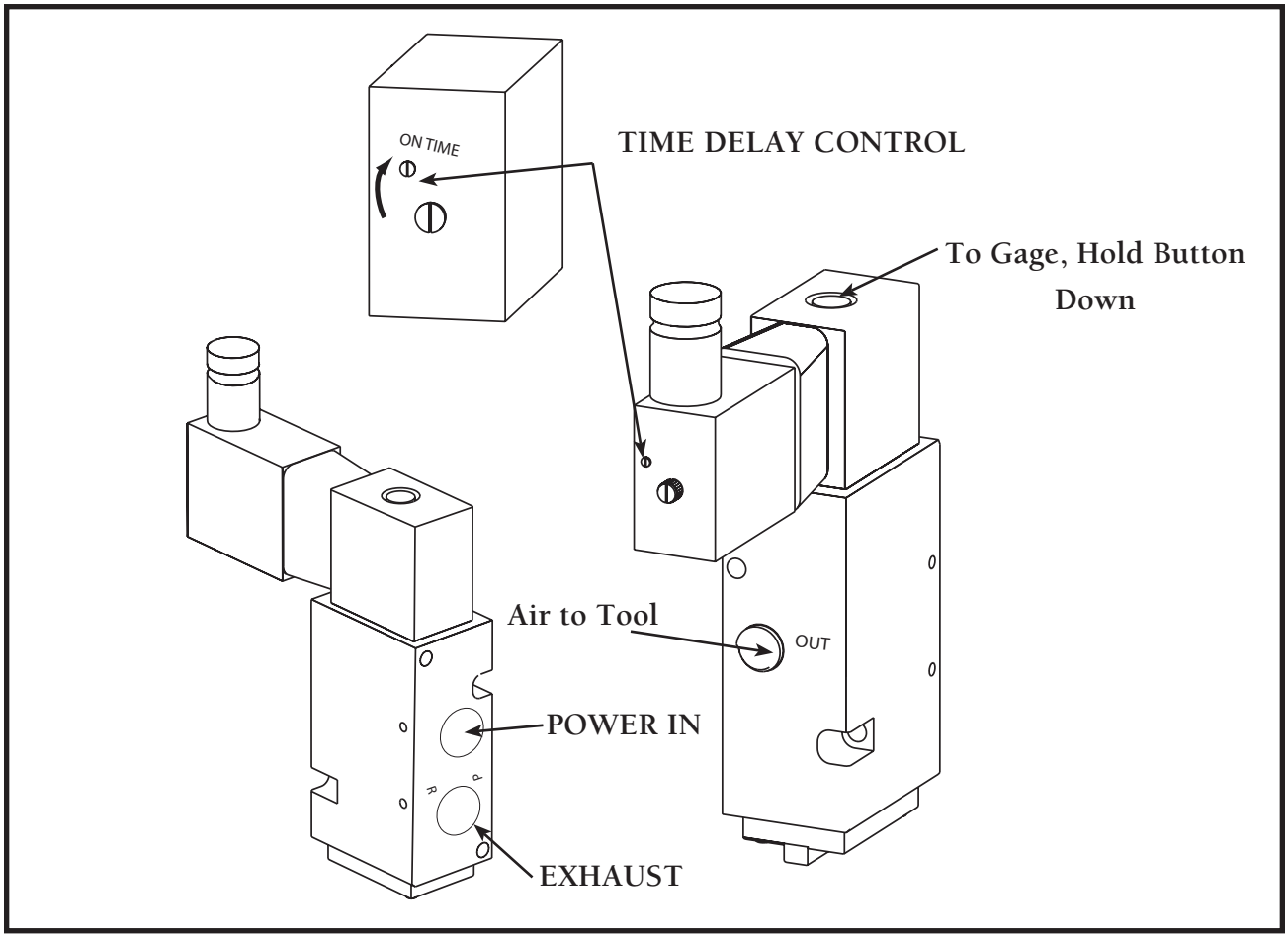


Gaging Tool

EC VALVE ADJUSTMENT

For Model 500-EC, the valve permits adjustment for the time that the indentors remain in their fully closed position. Ideally, they should remain closed for a period of at least 1-2 seconds. If this is not the case, refer to the following procedure to adjust.

- **CYCLE TOOL:** Depress the foot pedal to cycle tool. Note the time that the indentors (or if no die installed, the location of the drive arms). If they remain closed for a period of time less than one second, make adjustments.
- **INCREASE TIME:** Turn the Time delay control knob in the Clockwise direction. Recheck the time that Indentors remain closed - re-adjust as necessary.
- **DECREASE TIME:** Turn the Time delay control knob in the Counterclockwise direction. Recheck the time that Indentors remain closed, re-adjust as necessary.



EC Control Valve

OPERATION & ADJUSTMENT

1

Adjust Regulator

With the air supply connected, adjust the regulator to provide approximately **80 lbs PSI.**

2

Test Crimp Cycle

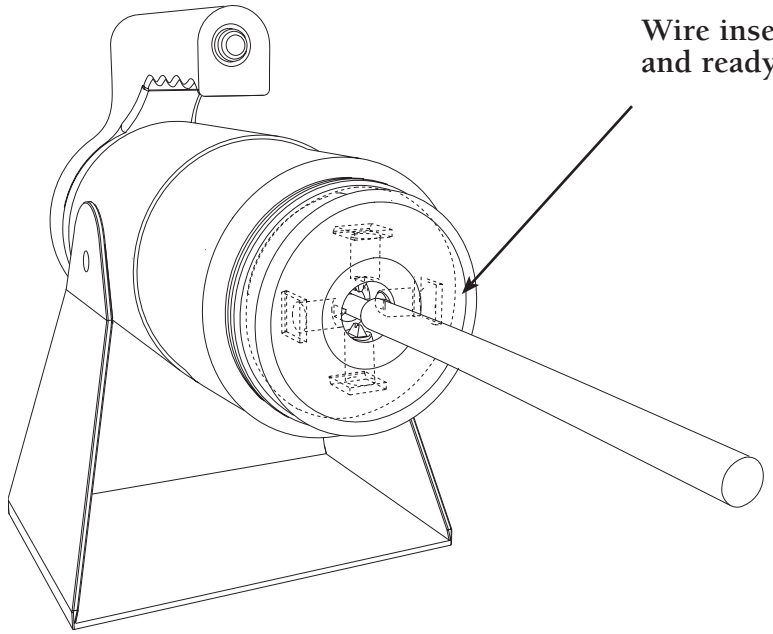
Without a contact and wire in place, operate the trigger (or in the case for the EC and Foot Control equipped models, depress the foot pedal). Observe the action of the indentors to be sure they operate freely.

3

Normal Operation

Insert the contact or terminal and wire assembly and proceed to crimp.

After operating personnel have become accustomed to using the tool, the air need not be turned off while changing dies and locators.



Contact inserted for crimp

CALIBRATING TOOL

If a die set fails to calibrate within an acceptable range, calibrate the tool following the steps below to insure that the tool is within specification.

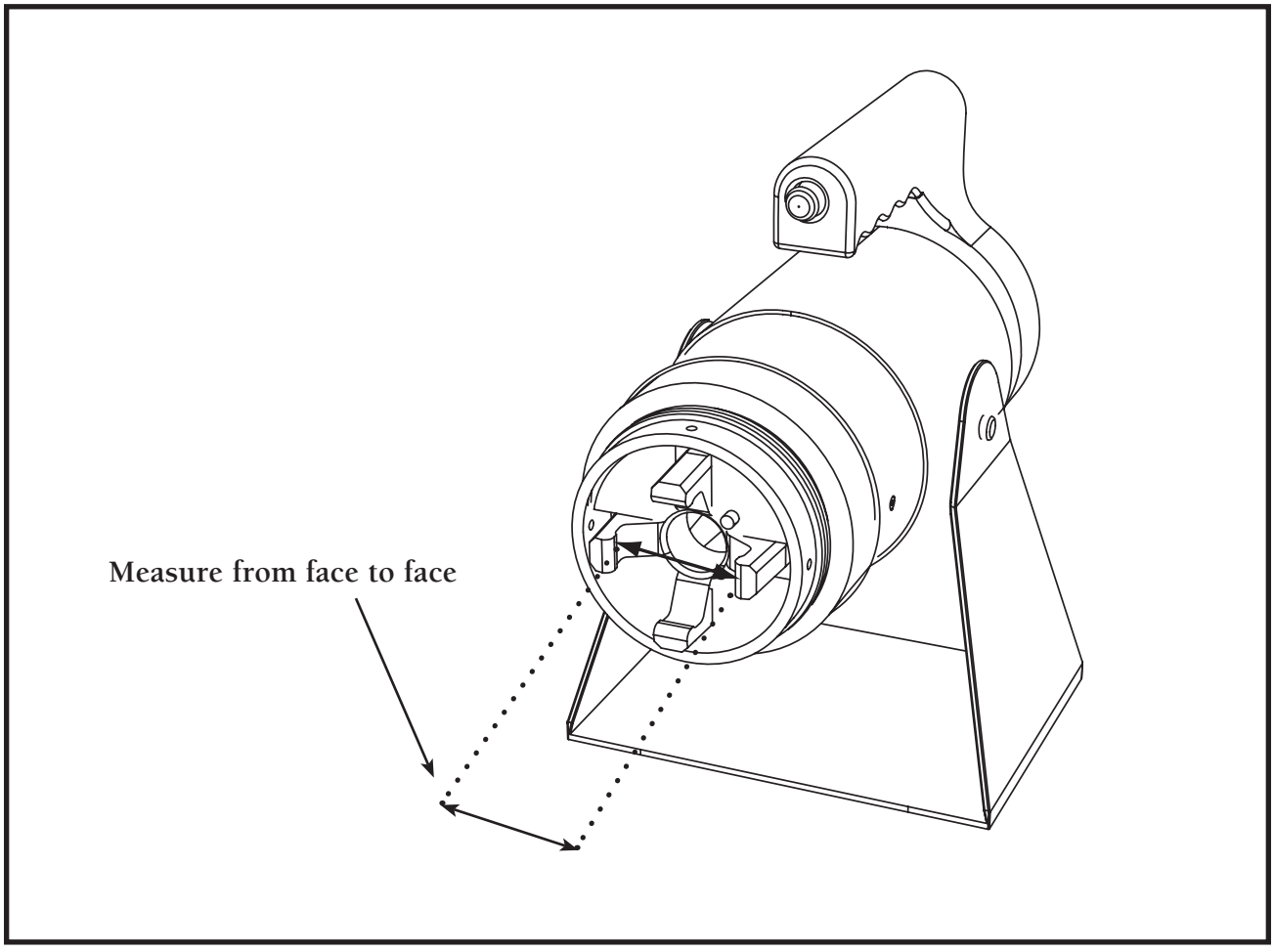
To gage the tool remove the cover nut and die set.

- Cause the tool to be actuated and held in the closed position.

  Trigger: Depress button and hold down.
  Foot Pedal: Depress and hold down pedal.
  EC model: Depress and hold down the gage button.

- Measure the distance between the face of two opposing arms.

This dimension should be: **2.990 to 3.010.** If this is not the case, the arms are out of alignment or worn. Contact the factory for replacement.



Calibrating Tool

TROUBLESHOOTING

SYMPTOM: TOOL OPERATES SLUGGISHLY

1. Check the air supply to insure that there is a minimum of **80 P.S.I.** provided to the tool.
2. Check the air line size. It should be a **1/4" ID, 3/8" OD** line.

If this does not correct the condition, the usual causes are:

- Worn "O" rings.
- A build up of debris and congealed lubricant.
- Misalignment of the booster cylinder piston rod in the D or D-1 models.

To correct any of the above, the tool must be disassembled. To disassemble, refer to specific model instructions in the Maintenance chapter.

SYMPTOM: TOOL CYCLES FORWARD, DOES NOT RETURN

A broken 500-32 return spring can prevent the piston from retracting.

Models 500-D & 500-D-1 Only

The usual problem is the cycling valve (**P/N 500-33**) This unit is mounted in the 500-1H & 500-30 booster - and the tool must be disassembled to replace it.

Follow the disassembly specified in the maintenance section. When the piston is removed check the valve to determine if the spring and "O" ring are functioning properly. Replace if necessary.

To check the alignment of the booster cylinder rod.

Remove the booster cap (P/N 500-30) by screwing the cap counterclockwise. The piston rod will now be exposed.

SYMPTOM: TOOL CRIMPS TOO LOOSE

If terminations are failing tensile or electrical tests:

Calibrate the die set per section, "Calibrating Die", pages 10-11.
Calibrate the tool, instructions found on page 14.

If the tool and die set calibrate properly, contact the factory to determine if the correct die set is being used for the application.

Maintenance

GENERAL MAINTENANCE

The Pico model 500 series tools should be supplied with **oil-free, filtered, dry air**. The tools are thoroughly lubricated at the factory and if clean, filtered, dry air is provided, they should not require additional lubrication for the first year. The tools are assembled with the highest quality **"O" ring** lubrication, and should provide adequate lubrication under normal conditions for the lifetime of the tool.

If it becomes necessary to lubricate the tool, **Dow Corning DC-55** "O" Ring lubricant is recommended.

Factory personnel are available to advise on additional repair questions which may occur. Additional information, including video files, are available at our web site - **www.picotools.com**

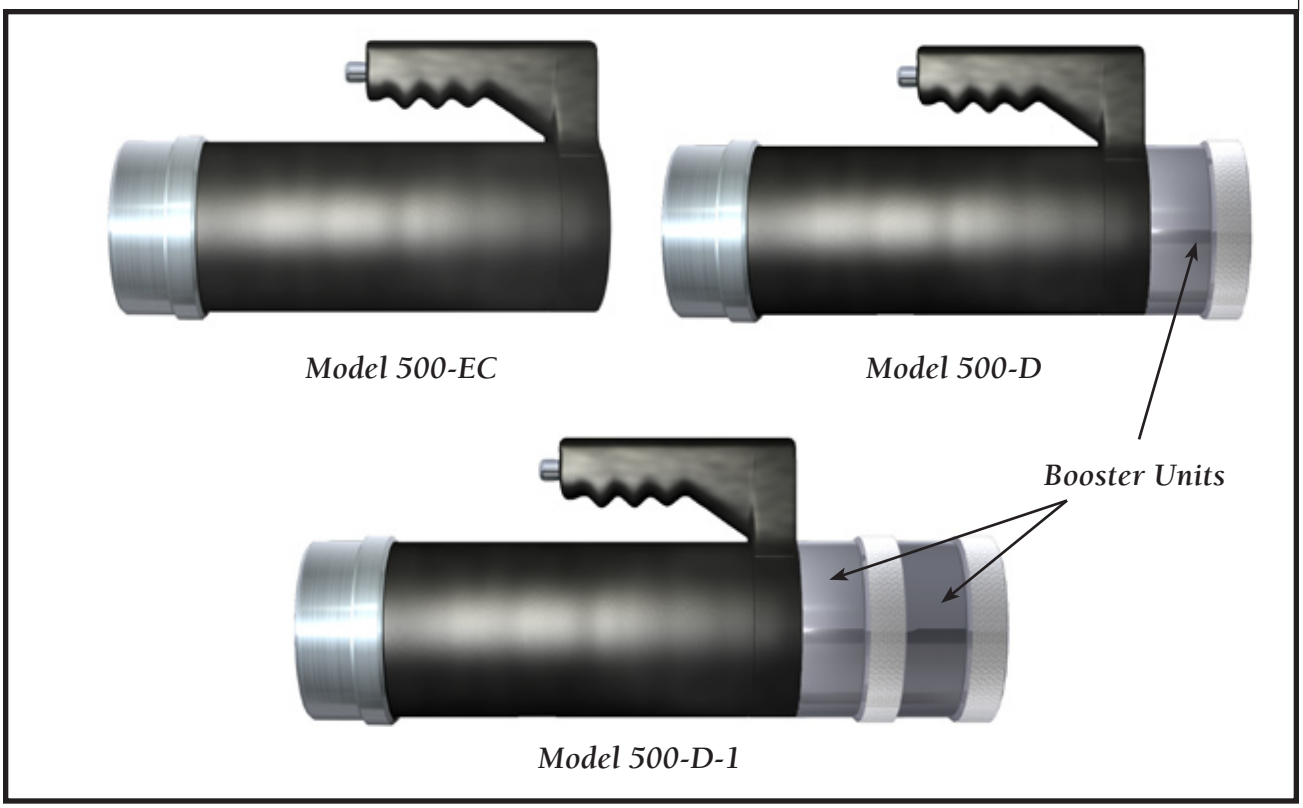
GENERAL OVERHAUL

General overhaul for the unit can be accomplished by disassembling the tool into its component parts, and after inspection, replacing parts as needed. Pico recommends replacing all springs and O rings when performing any general overhaul to the tool.

For other problems such as a broken arm or a broken link in the Toggle assembly it is suggested that the tool be sent to the factory for repair. To produce a symmetrical crimp, the face of the drive arms must be equidistant from the theoretical centerline. When a new arm is replaced it may not match the other three due to wear which has occurred.

DISASSEMBLY SEQUENCE

- **Remove Cover-nut, Die & Locator, Bench Mount** (if installed)
- **Detach 500-18 Housing from 500-1 Body**
  Remove set-screw prior to 500-18 removal
- **Remove 500-5 Stop**
- **Remove 500-2A Piston Assembly from 500-1 Body**



Series 500 Model Types

- **Remove 500-1H Handle (Models 500-EC Only)**

Note **Models 500-D & 500-D-1 have additional booster units not present on models 500-EC.**

- **Remove Booster Units**

  Models 500-D & 500-D-1 only

- **Remove 500-2A Piston Assembly from 500-1 Body**

- **Disassemble (as needed) internal components**

  500-TOG, 500-33, Cycling Valve (Models 500-D & 500-D-1 Only), Piston Assemblies

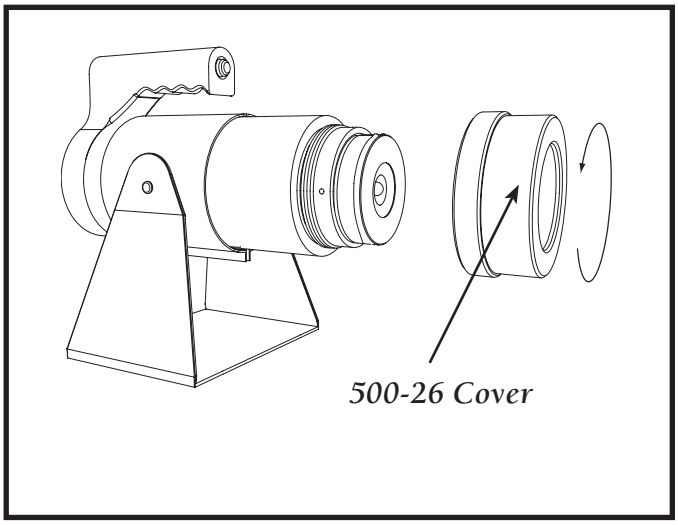
MAIN UNIT DISASSEMBLY

General overhaul for the unit is accomplished by first disassembling the main unit, and then (depending on need) disassembly of the toggle unit and piston assemblies.

Note **Models 500-D and 500-D-1 have additional booster unit(s).**

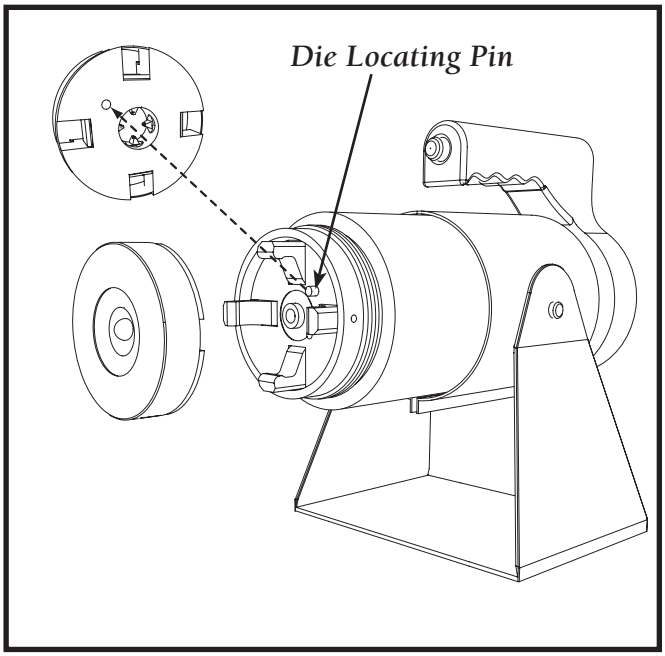
1 Remove Cover Nut

Remove by turning counterclockwise. Die will now be exposed.



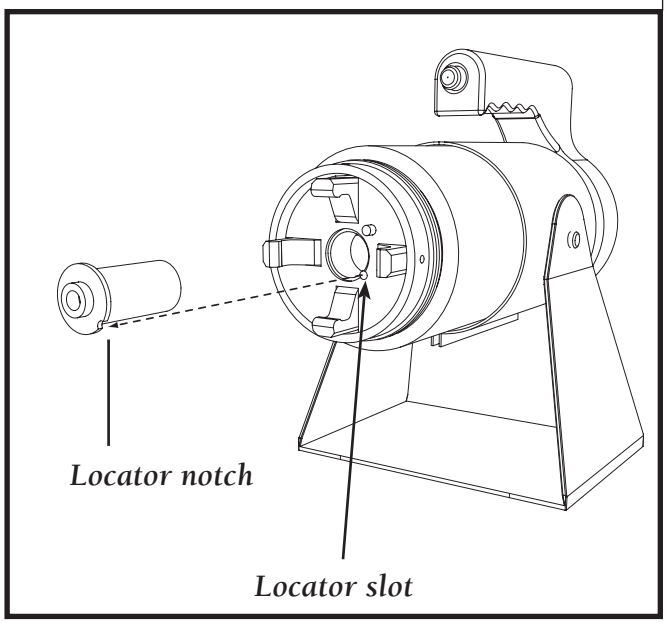
2 Remove Die

Remove die pulling (with hand pressure) directly away from the retainer, in a straight line.

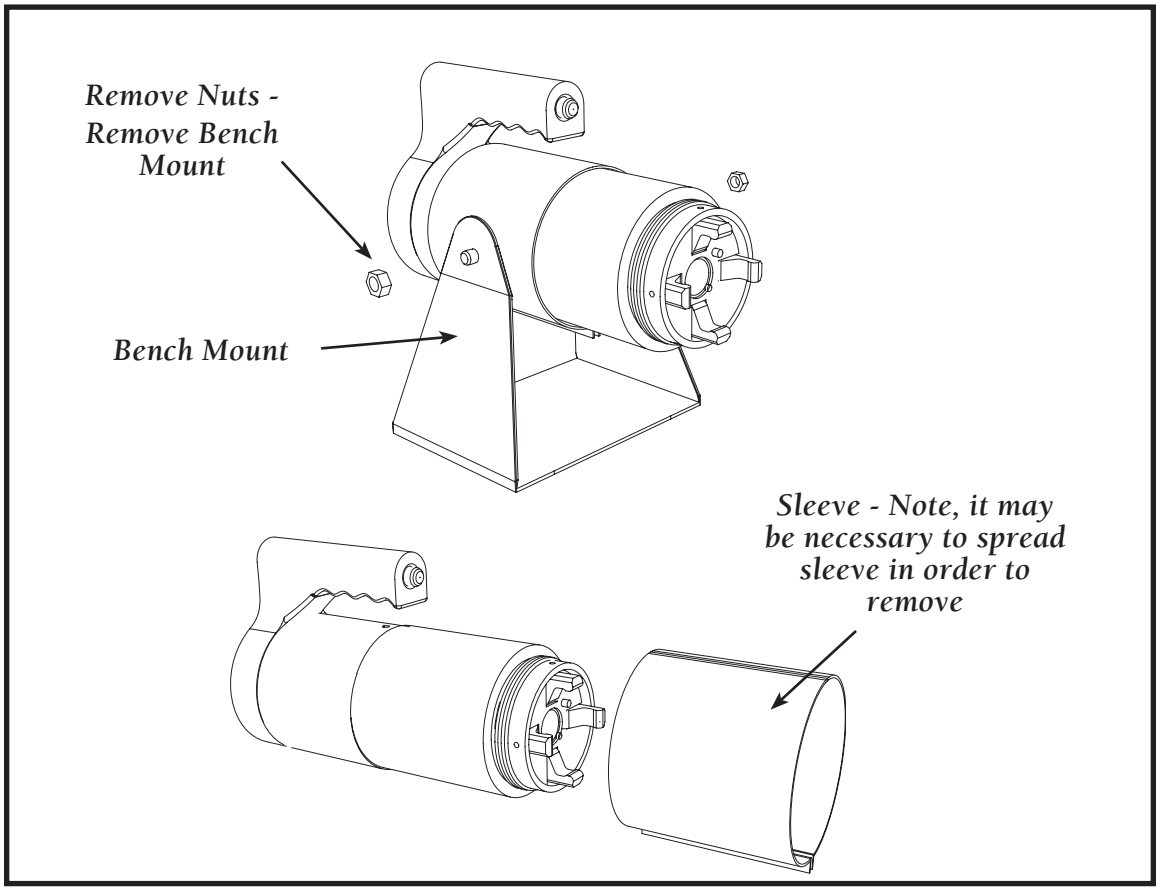


3 Remove Locator

Remove by pulling directly from retainer.



4 Remove Bench Mount & Sleeve



5 Remove Set-Screw

The toggle assembly is attached to the piston rod (**P/N 500-2B**) with two set screws. The innermost set screw is a dog point which locks into a groove on the piston rod. The second set screw is a flat point and is installed behind the dog point and used to lock it in place.

Note

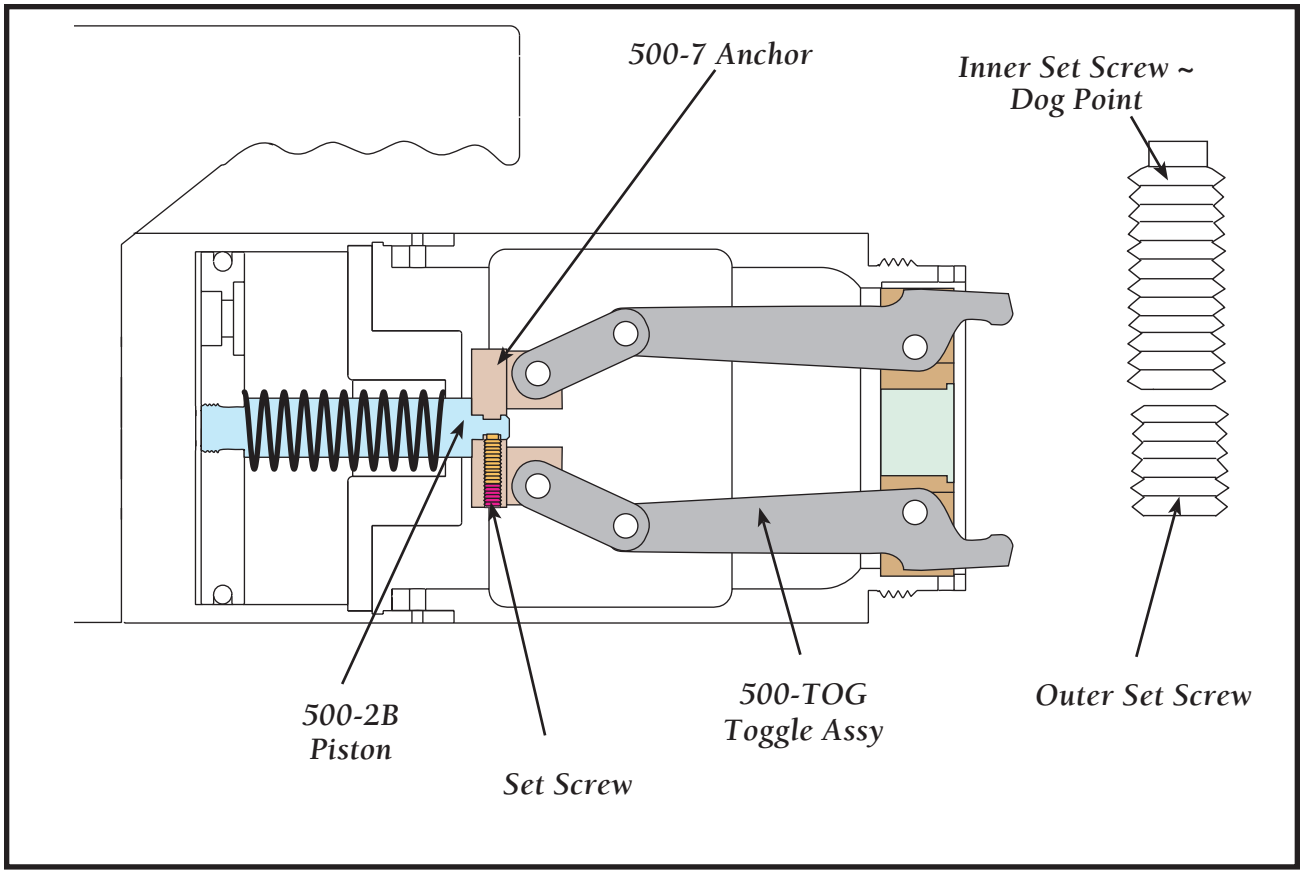
A **3/32 Allen wrench** will be required to remove the two screws. Applying hard grease to the end of the allen wrench will assist in keeping the screw attached to the allen wrench, so that it can be lifted out of the housing.

There are two methods for removing the screw - and these are dependent upon the serial number for the unit being disassembled.

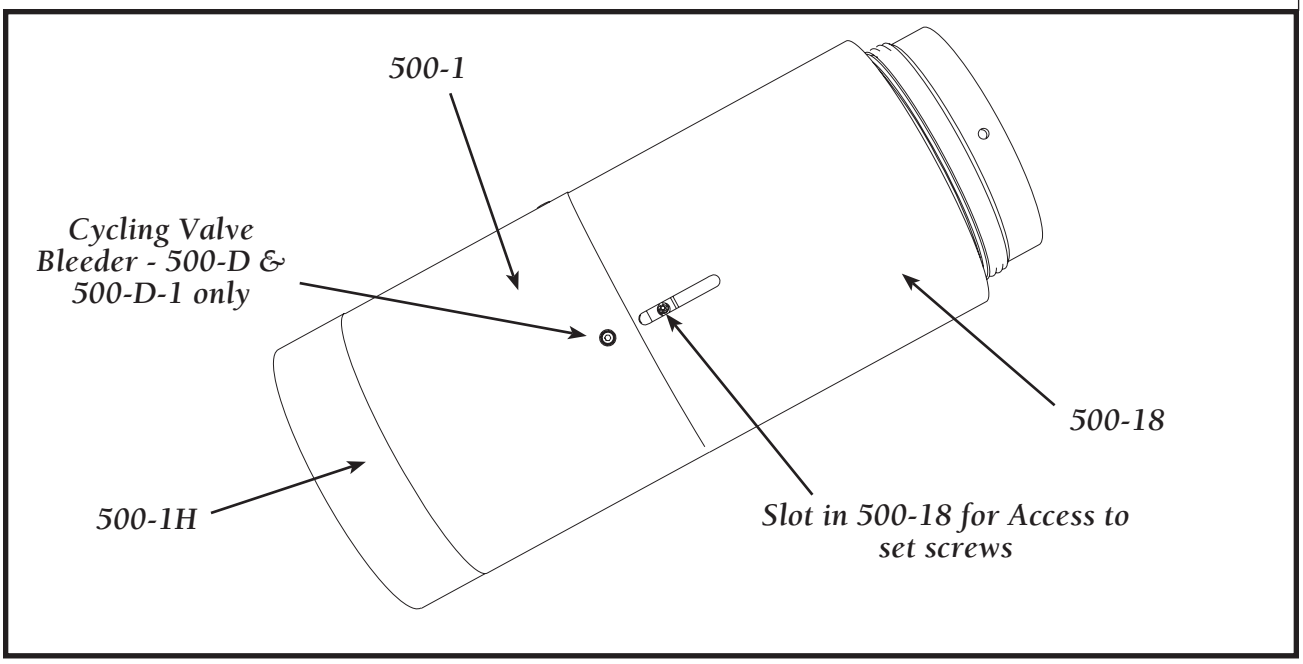
5A Set screw visible

The set screw will be visible and accessible when the tool is in the retracted position. If the set screw is visible, remove the locking set screw completely.

Next back out the dog point screw (approx. 4 complete turns) until you are sure that it is no longer engaged into the piston rod.



Side view showing location of setscrew in relation to piston assy and toggle



Set-Screw Slot location - looking upside down at 500-18 & 500-1 housing

5B

Set screw not visible :

If the tool is an older model, the set screw may not be visible when the tool is in the retracted position. With this condition, the tool must be caused to move to the closed position.

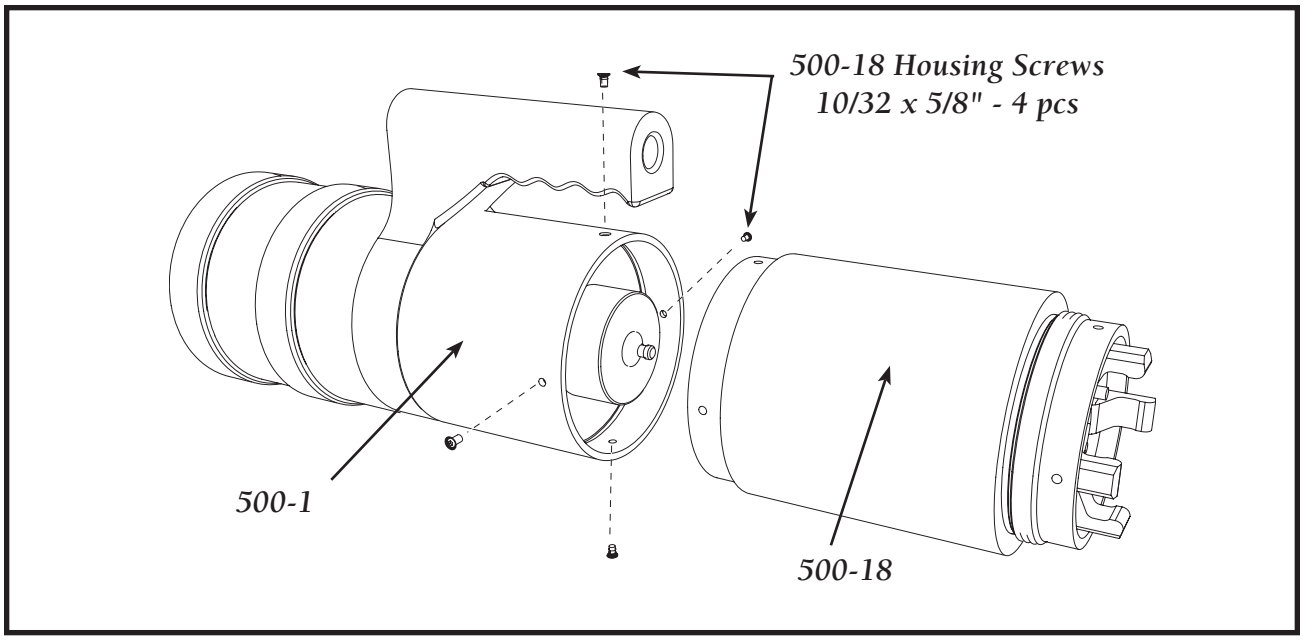
Hand Trigger Operation:

If using the push button to operate the tool, hold the button down - keeping the toggle in its' forward position. The set screw will now be visible through the 500-18 slot. Remove set-set screw as described in previous section.

Foot Pedal Operation (including model 500-EC)

If using the foot pedal to operate the tool, depress the pedal down keeping the toggle in its' forward position. The set screw will now be visible through the 500-18 slot.

Remove set-set screw as described in previous section.



Removing 500-18 Housing

6 Remove 500-18 from 500-1 Housing

There are **four 10/32 x 5/8"** screws locking the 500-18 assembly into the main housing 500-1. Remove these screws and the 500-18 assembly can be pulled from the front of the 500-1.

7 Remove 500-TOG from 500-18 Housing

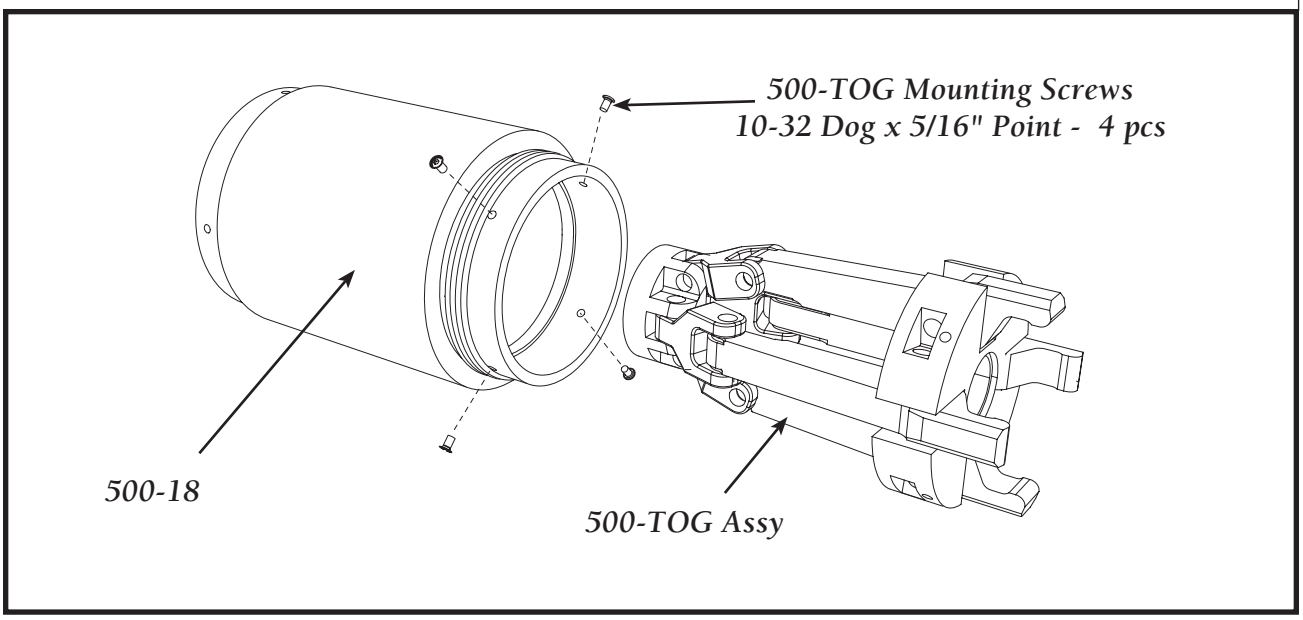
There are **four 10-32 x 5/16"** dog point set screws locking the toggle assembly into the main housing 500-18. Remove these set screws and the toggle assembly can be pulled from the front of the 500-18.

Note When reassembling, the set screw opening in the anchor, **P/N 500-7**, must be aligned with the rectangular opening in the 500-18. ***See figure on page 22.***

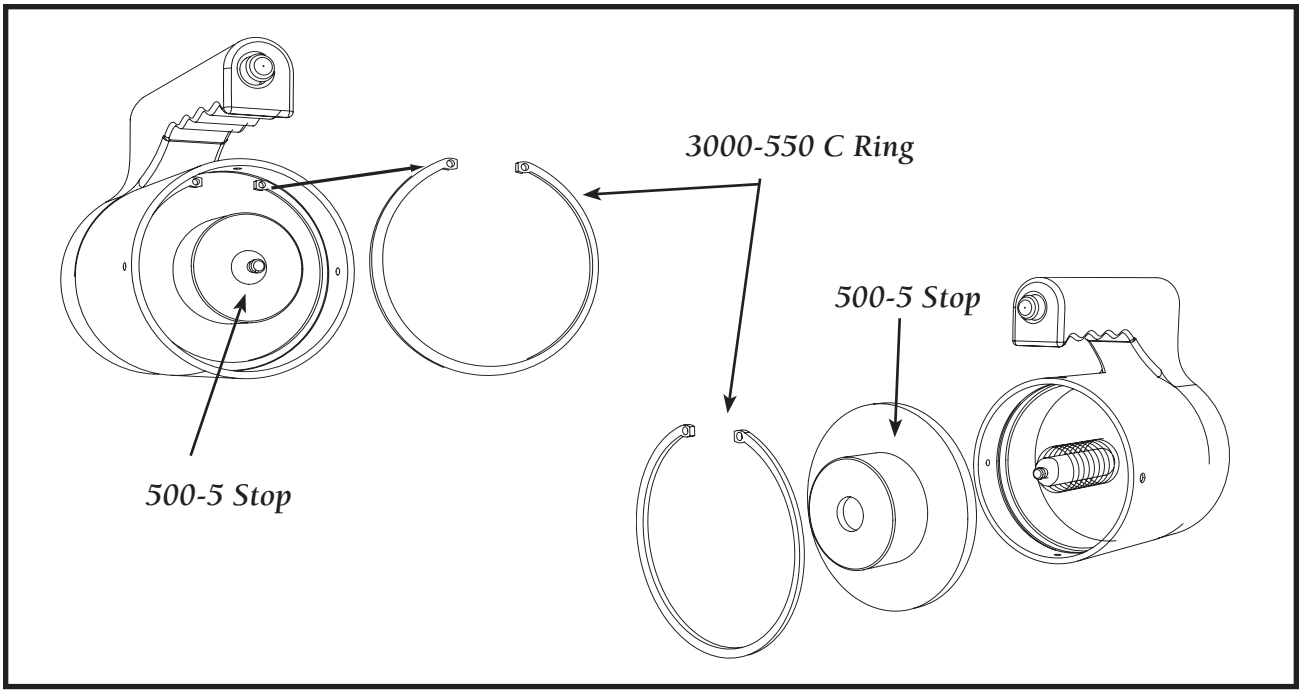
8 Remove 500-5 Stop from 500-1 housing

Remove the "C" ring, P/N 3000-550 using suitable snap ring pliers. This snap ring holds down the 500-5 stop in place.

Note **The C ring is under considerable pressure. Remove with caution.**



Removing 500-TOG from 500-18

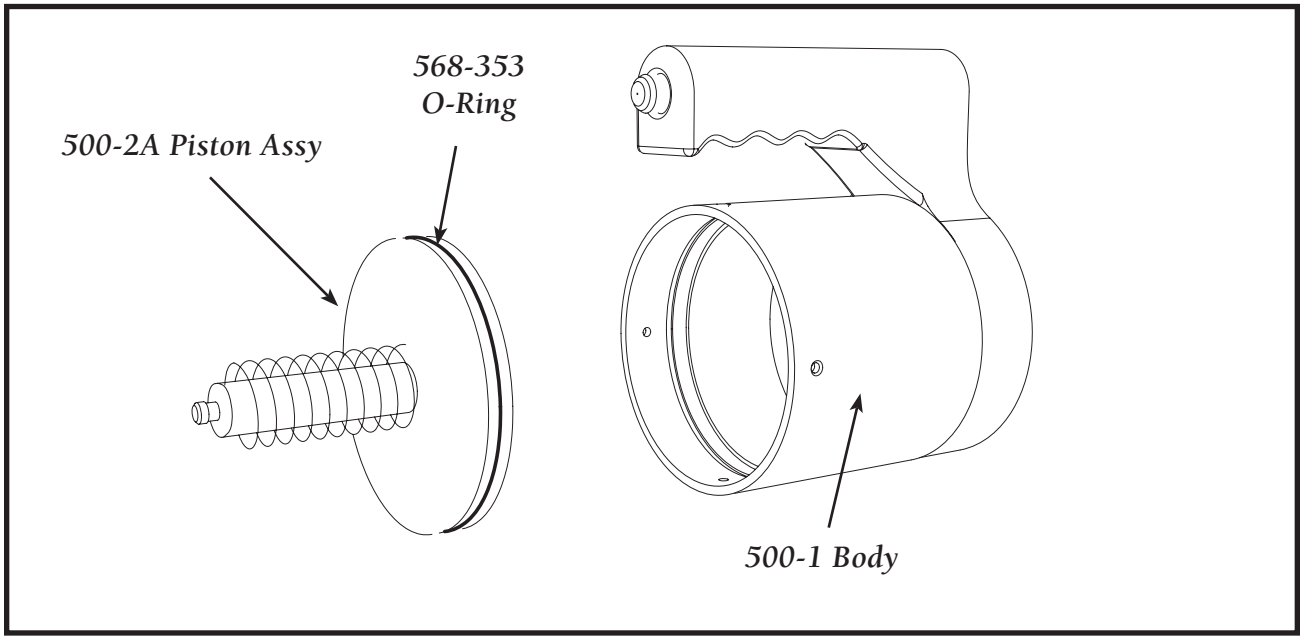


Removing 500-5 Stop

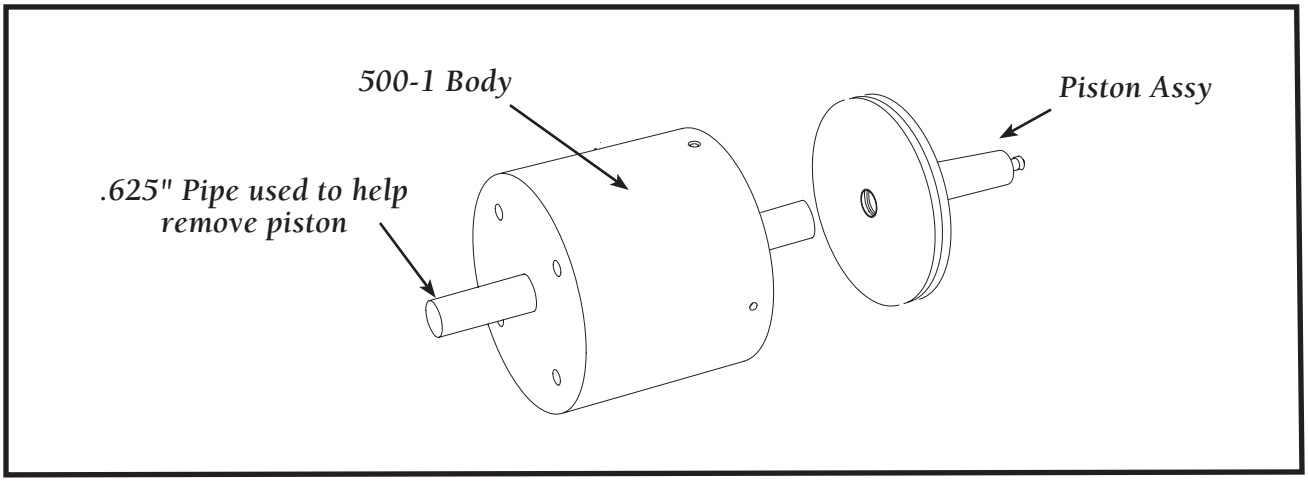
9 Remove Piston Assembly from 500-1 Body - Model 500 EC only

Withdraw the piston assembly from the 500-1. If the piston will not remove easily with hand pressure, it may be necessary to use a pipe (**.625 dia. or smaller**) inserted in the rear to assist removal. Use a soft rubber mallet and gently tap on the pipe to remove the piston.

Note **For models 500-D & 500-D-1, it will be necessary to first remove the booster units in order to insert the pipe - See page 27.**



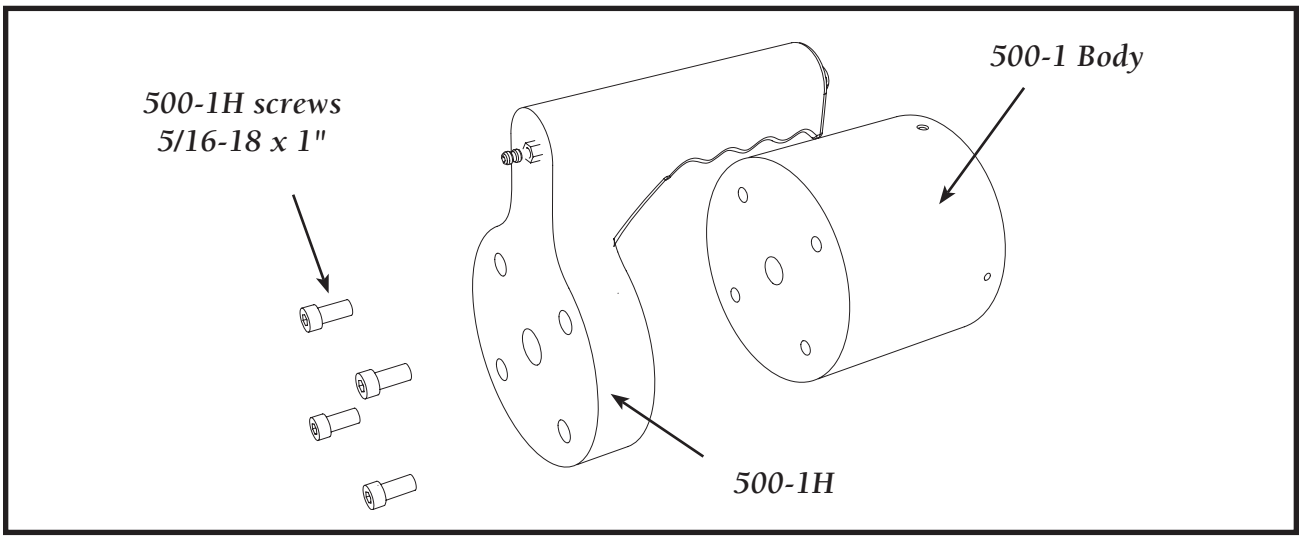
Removing 500-2A Piston from 500-1 Body



Removing 500-2A Piston from 500-1 Body using .625" pipe

10 Remove 500-1 Body from 500-1H Handle - Models 500 EC only

Remove the **four 5/16-18 x 1 inch** bolts from the 500-1H handle. Once these are removed, separate the units.



Removing 500-1H Handle

At this stage, the model 500 tool has been disassembled into its' component parts: Toggle assembly, body housings and piston assembly. For information concerning components parts, see pages 42-48.

Models 500-D and 500-D-1 will still have booster assemblies attached. Refer to the instructions below to remove.

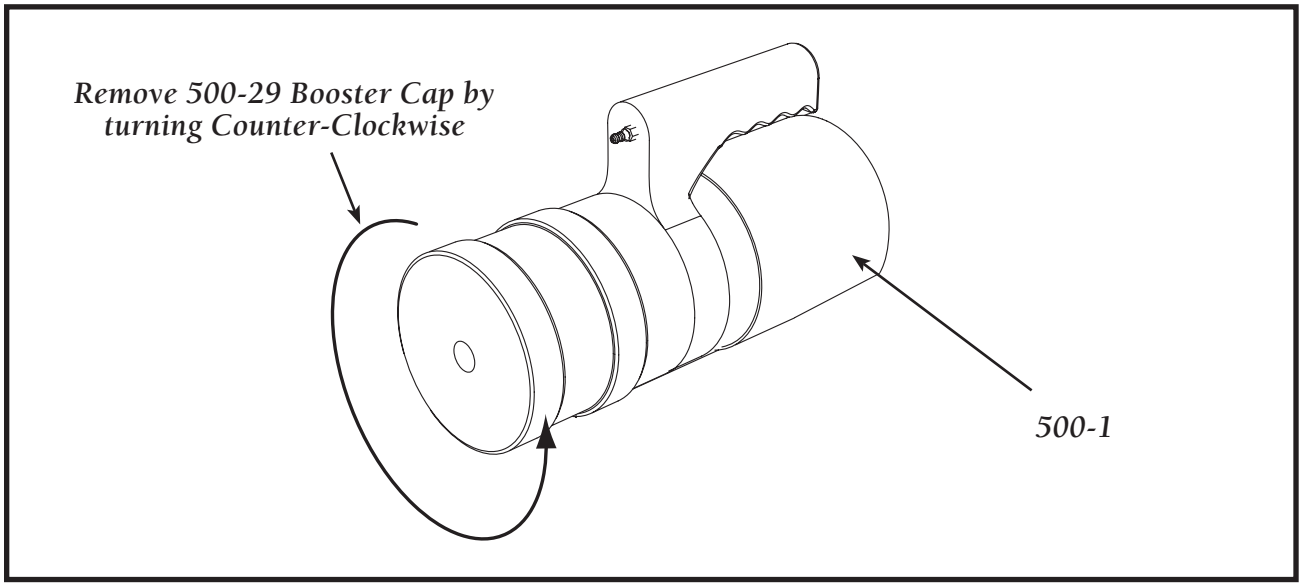
Models 500-D & 500-D-1 Booster Assembly Removal

The procedure for removing the booster assemblies for each model is essentially identical, except that model 500-D has only one booster unit, while 500-D-1 has two.

We will describe the procedure for removing the two booster units for model 500-D-1. For model 500-D, the basic procedure is the same, except that there is just one booster unit to remove. 500-D diaassembly begins with step 14, page 29.

11 Remove Outer Booster Cap - Model 500-D-1

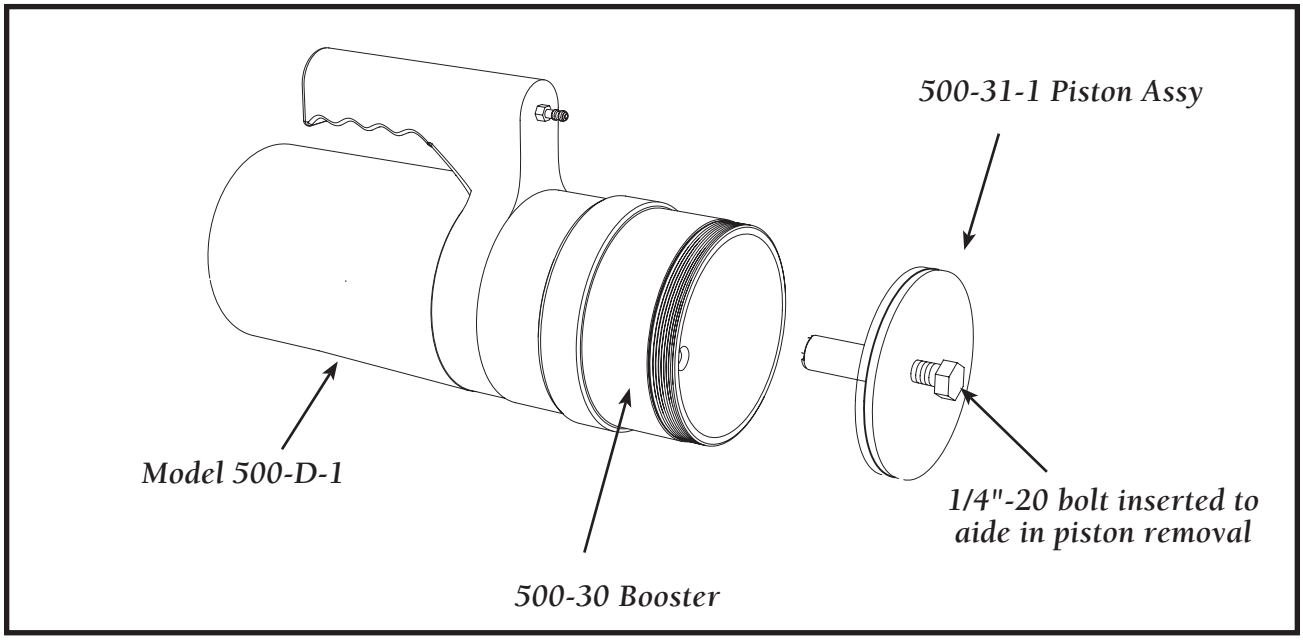
Turn the 500-29 booster cap counterclockwise to remove.
If the cap cannot be removed by hand, use a strap wrench to gain additional leverage.



Removing 500-29 Booster Cap (Model 500-D-1)

12 Remove 500-31-1 Piston from 500-30 Booster - Model 500-D-1

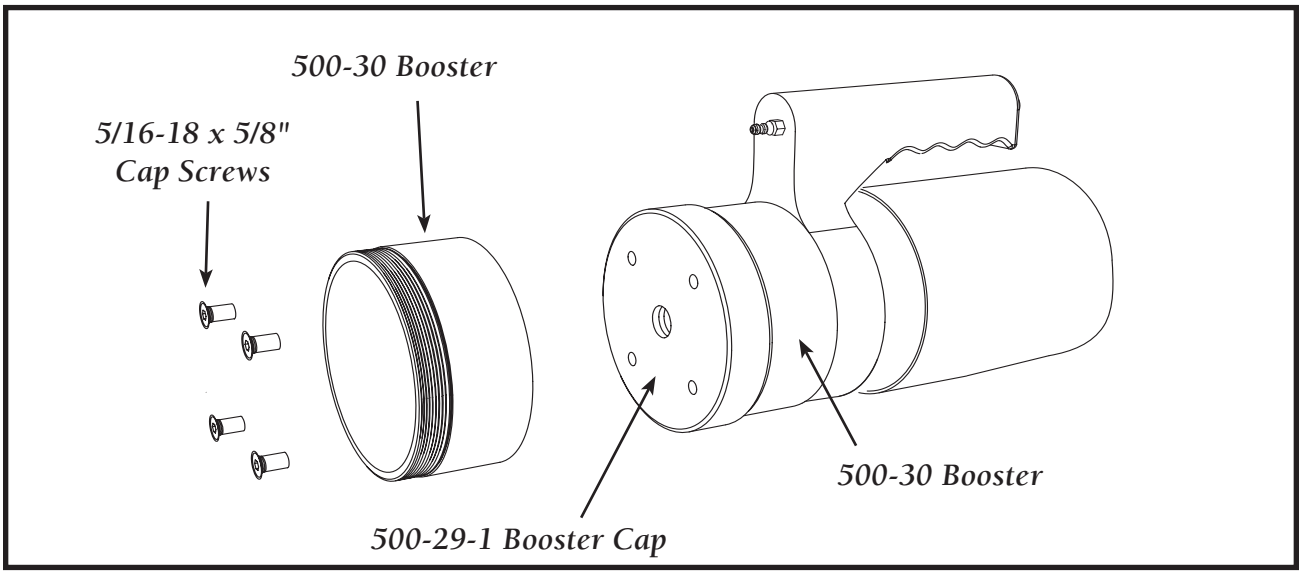
There is a **1/4-20 thread** in the center of the piston rod. With the 500-29 booster cap removed, screw a 1/4-20 bolt into the rear of the piston rod. You will now be able to pull the piston from the housing. It should move with minimal resistance.



Removing 500-31-1 Piston Assy

13 Remove 500-30 Booster from 500-29-1 Booster Cap - Model 500-D-1

You will see four screws which mount the booster cylinder (500-30) to the 500-29-1 booster cap. Loosen these screws and remove the booster from the rear of the booster cap.

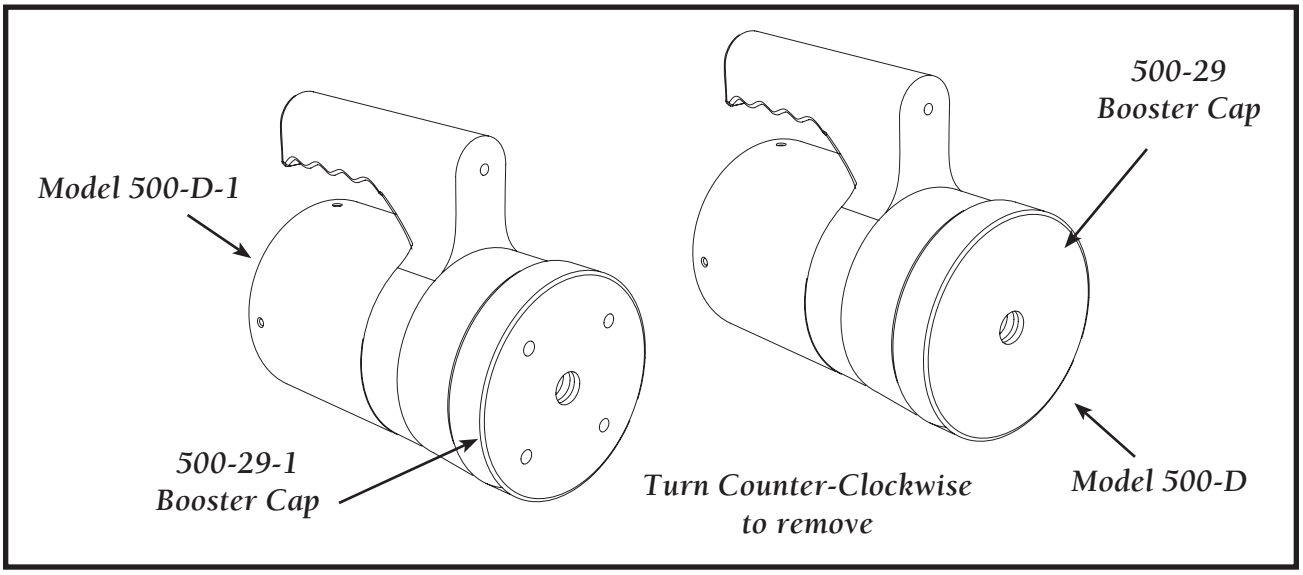


Removing 500-30 booster

14 Remove 500-29-1 / 500-29 Booster Cap

Model 500-D-1: Turn the 500-29-1 booster cap counterclockwise to remove.
Model 500-D: Turn the 500-29 booster cap counterclockwise to remove.

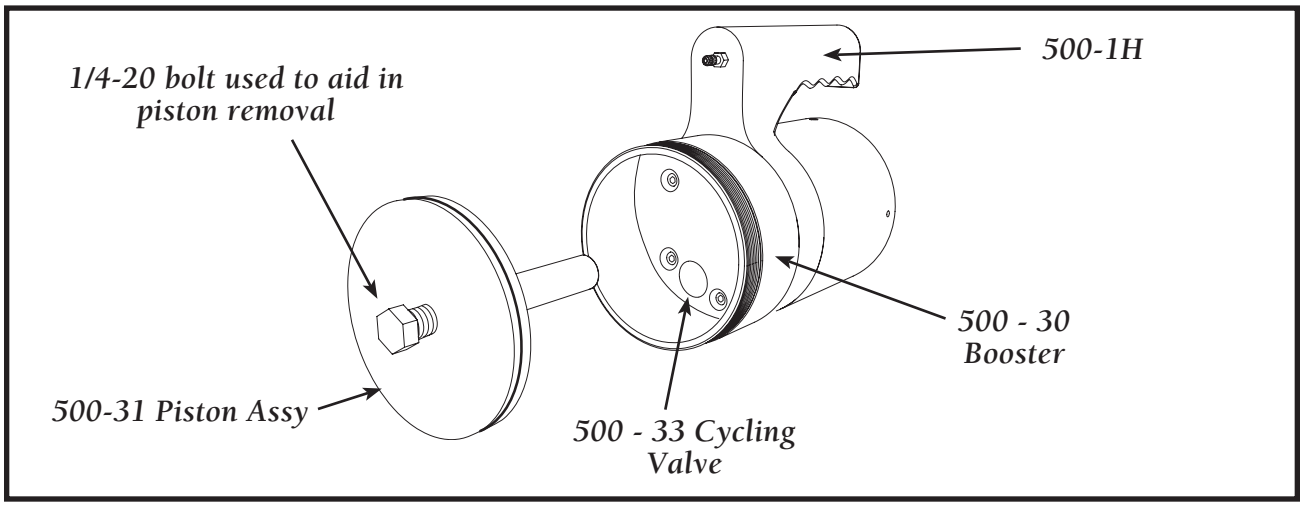
If the cap cannot be removed by hand, use a strap wrench to gain additional leverage.



Removing Booster Cap

15 Remove 500-31 Piston - Model 500-D & 500-D-1

There is a **1/4-20 thread** in the center of the piston rod. With the 500-29-1 booster cap removed, screw a 1/4-20 bolt into the rear of the piston rod. You will now be able to pull the piston from the housing. It should move with minimal resistance.

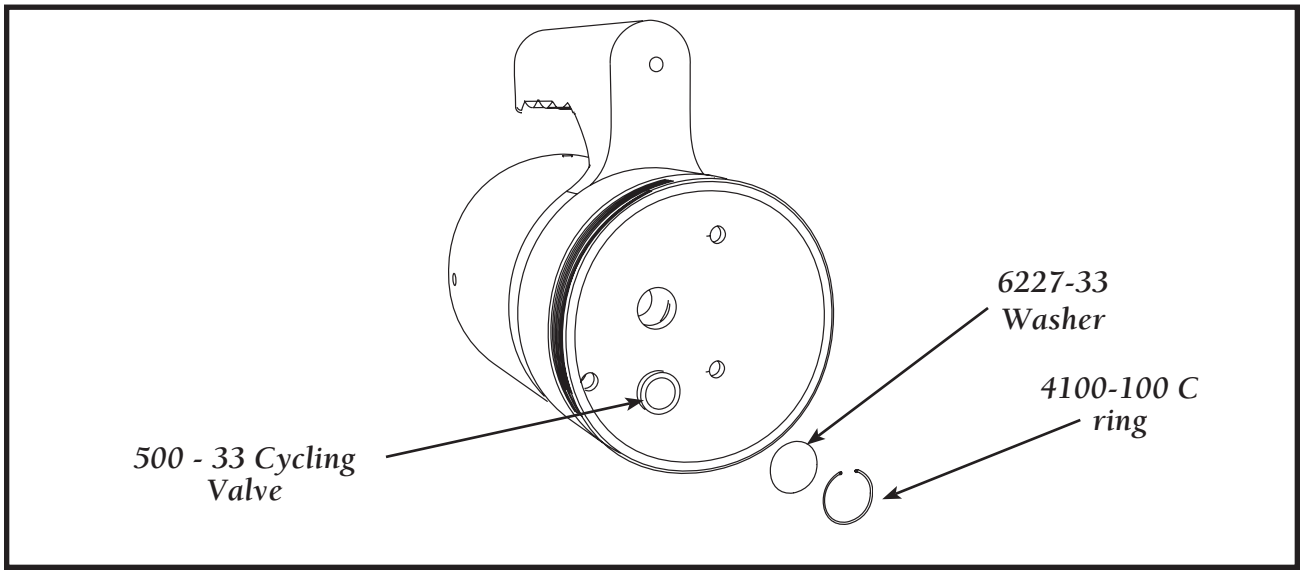


Removing 500-31 Piston Assy

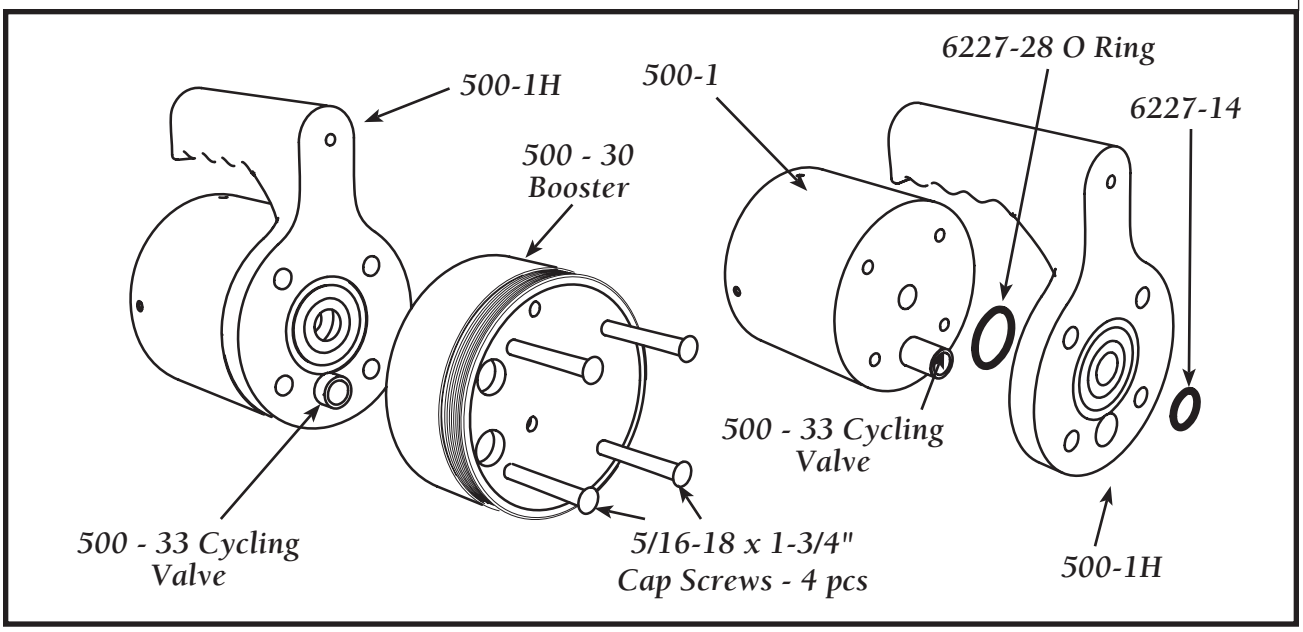
16 Remove 500-30 Booster & 500-1H handle - Model 500-D & 500-D-1

Using C-ring pliers, remove the **4100-100** C-ring from the 500-33 Cycling valve.

Next, remove the four **5/16-18 x 1-3/4** cap screws. These screws secure the 500-30 booster & the 500-1H units to the 500-1 body. Once removed, both units can be separated from the body. 500-33 Cycling valve removed in step 18, page 32.



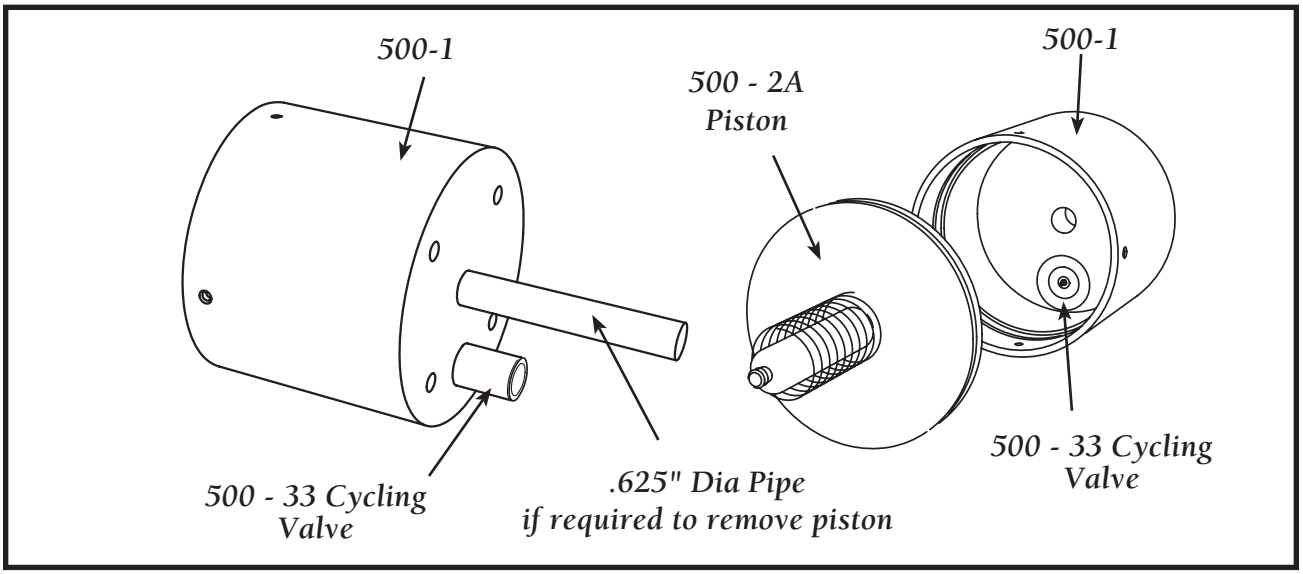
Remove 4100-100 C-ring



Removing 500-30 booster & 500-1H handle

17 Remove 500-2A Piston - Model 500-D & 500-D-1

Withdraw the piston assembly from the 500-1. If the piston will not remove easily with hand pressure, it may be necessary to use a pipe (.625 dia or smaller) inserted in the rear to assist removal. Use a soft rubber mallet and gently tap on the pipe to remove the piston.

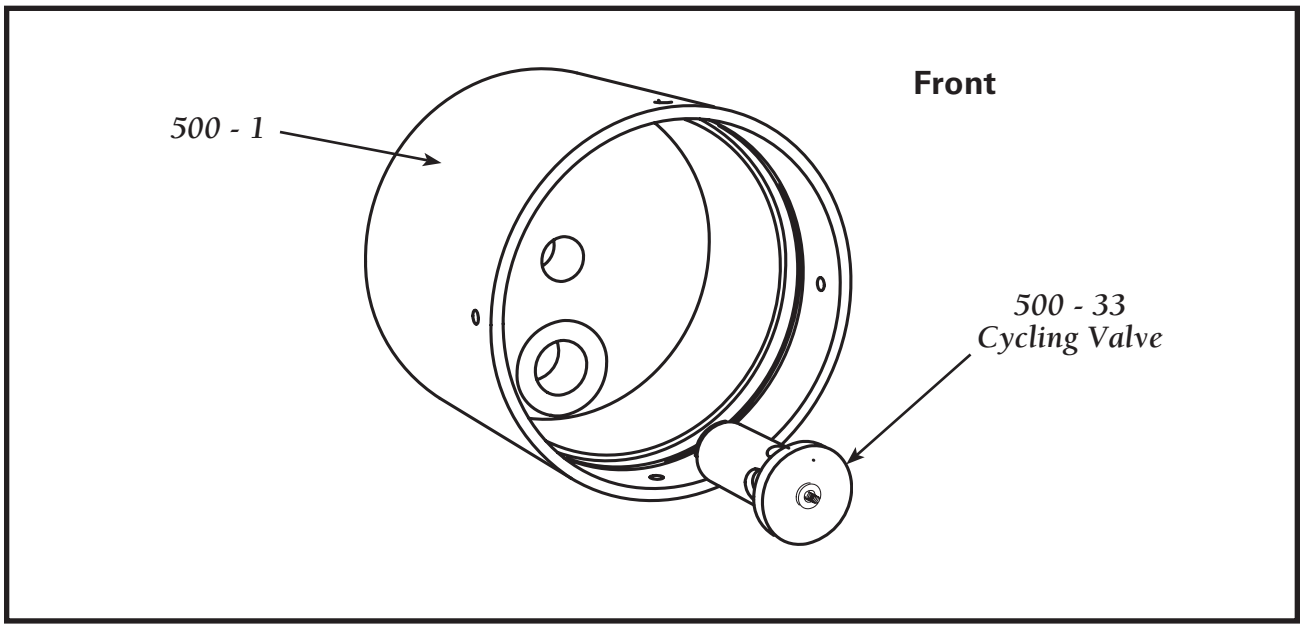


Removing 500-2A Piston

18 Remove 500-33 Cycling Valve

Once the 500-2A piston assembly has been removed, it is now possible to withdraw the cycling valve from the front of the 500-1 body.

Disassembly of the unit is now complete. For information on individual components and repair, see pages 43-48



Removing 500-33 Cycling Valve

MAIN UNIT ASSEMBLY

Note • It is suggested that all "O" rings & springs be replaced prior to reassembly. Refer to the parts list for your particular model included in the specification section of this manual.

Note • Lubricate all O-rings prior to assembly. **Dow Corning DC-55** "O" Ring lubricant is recommended.

Note • There are two critical steps in reassembly of the 500 series pneumatic tools. Careful attention should be placed to the alignment of the piston assemblies including the piston assemblies that are contained in the booster units for models 500-D & 500-D-1. An assembly guide tool, **500-1000**, is available for use in alignment of the cylinders. It is strongly recommend that this guide be used. Alignment problems can cause cycling problems and/or damage to the tool.

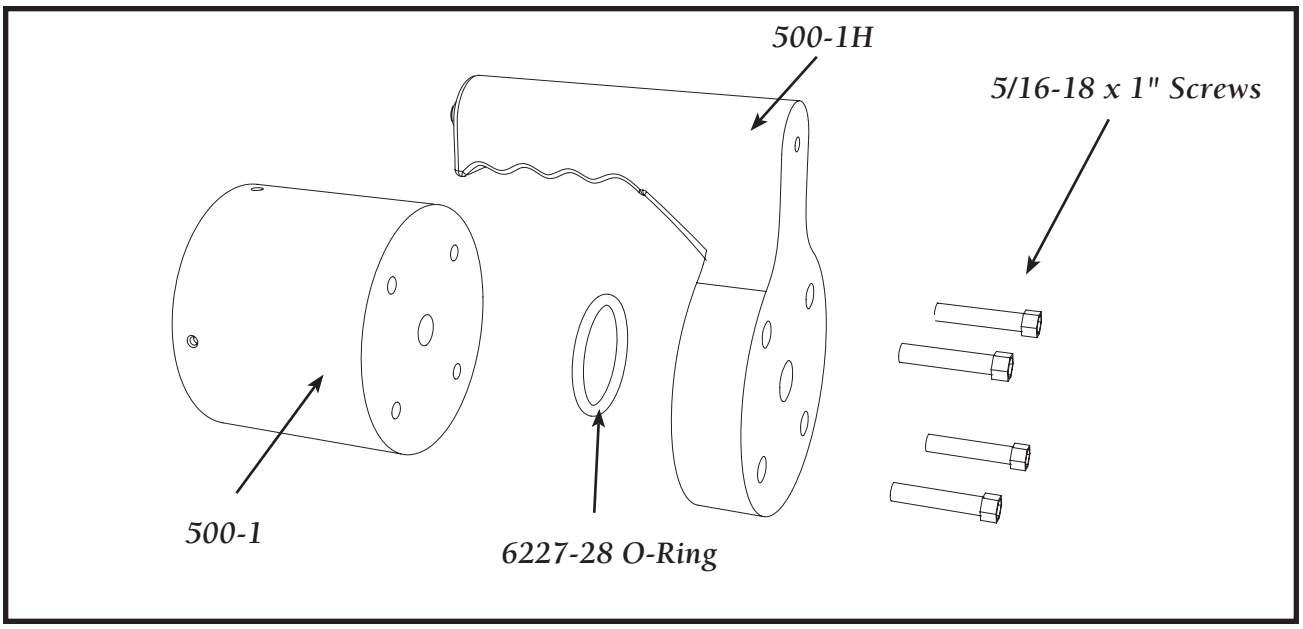
1 Attach 500-1H Handle to 500-1 Body - Model 500-EC Only

Note **Models 500-D & 500-D-1 go to step 2 on page 34.**

Insert a new 6227-28 O-ring into the 500-1H handle

Mount the 500-1H handle to the 500-1 Body housing using the four 5/16-18 x 1" flat head cap screws.

Models 500-EC - go to step 9 on page 38.



Attaching 500-1H Handle to 500-1 Body

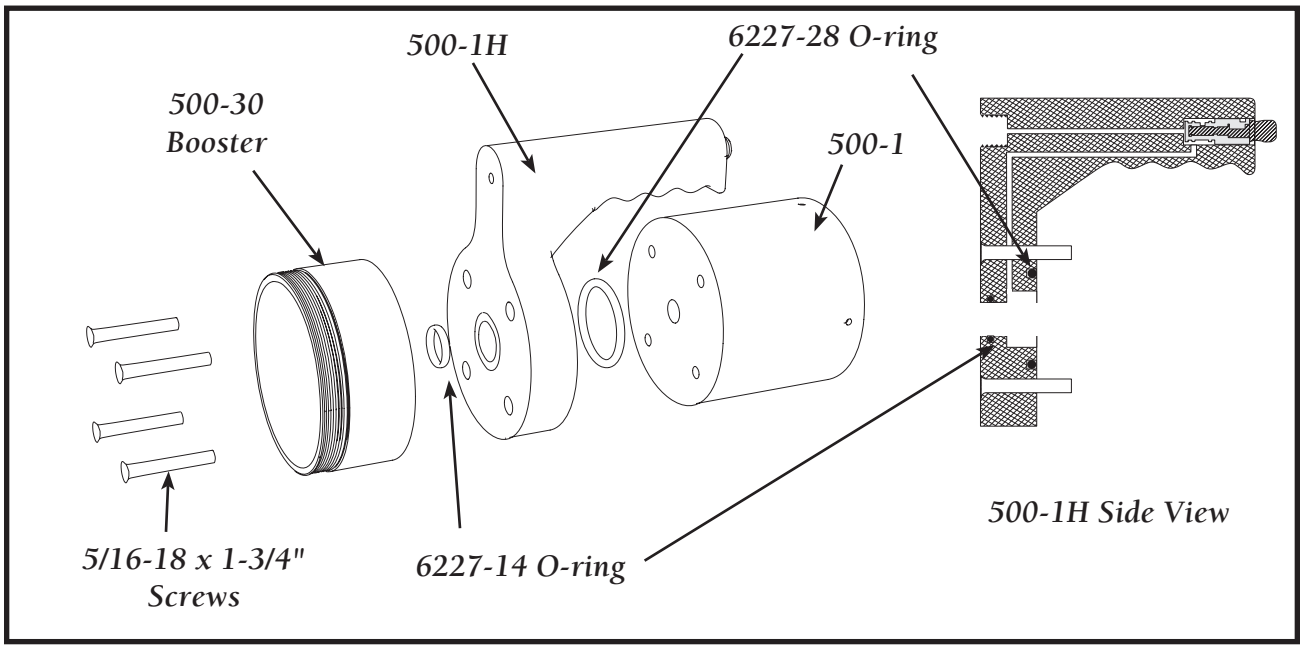
Models 500-D & 500-D-1: Booster Piston Alignment

The alignment of the booster to the main cylinder is critical. The cylinders must be aligned so that the piston rods are on the same centerline. If there is misalignment, the piston rod will bind and cause malfunction of the tool, or will reduce the force available to complete the crimp.

2 Mount 500-30 Booster to 500-1H Handle and 500-1 Body - Model 500-D & 500-D-1

Install a new **6227-28 & 14 O ring** into the 500-1H handle.

Install **5/16-18 x 1-3/4**" flat head cap screws, **leaving them loose**.



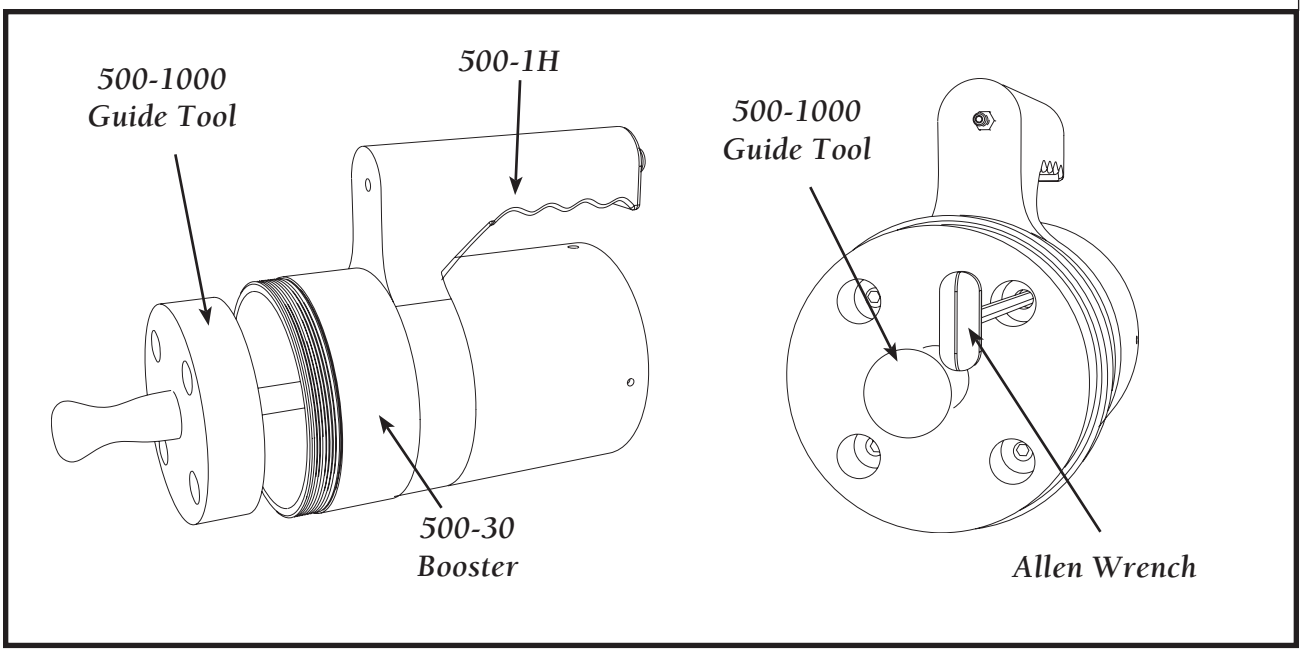
Attaching 500-30 Booster, 500-1H & 500-1 Body

3 Use Guide tool 500-1000 to align

Insert guide 500-1000 into the booster cylinder. Position the booster cylinder such that the guide moves freely in the cylinder.

Tighten the four flat head screws to a snug condition, test the movement of the guide in the cylinder. If the guide does not move freely, reposition the booster cylinder until it does.

Temporarily remove the guide, and from the front of the 500-1 body, insert the 500-33 cycling valve from the front of the 500-1 body.

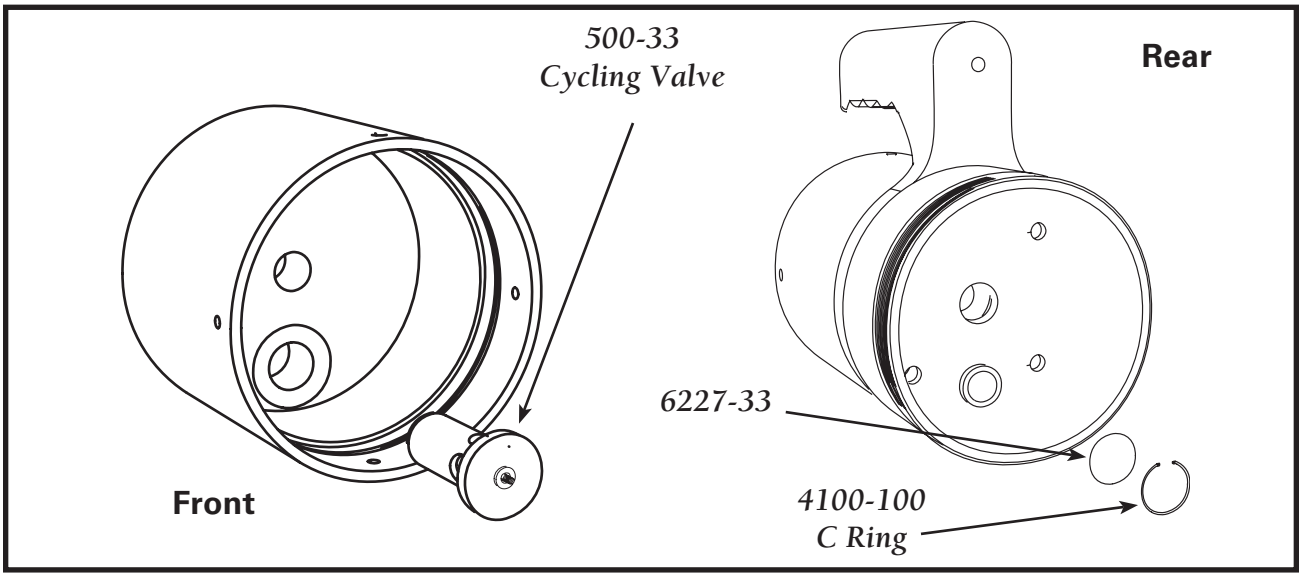


Using Alignment tool with booster assembly

Once the valve is seated, install the 6227-33 washer, followed by the 4100-100 C-ring, from the rear of the 500-30 booster.

Reinsert the guide tool

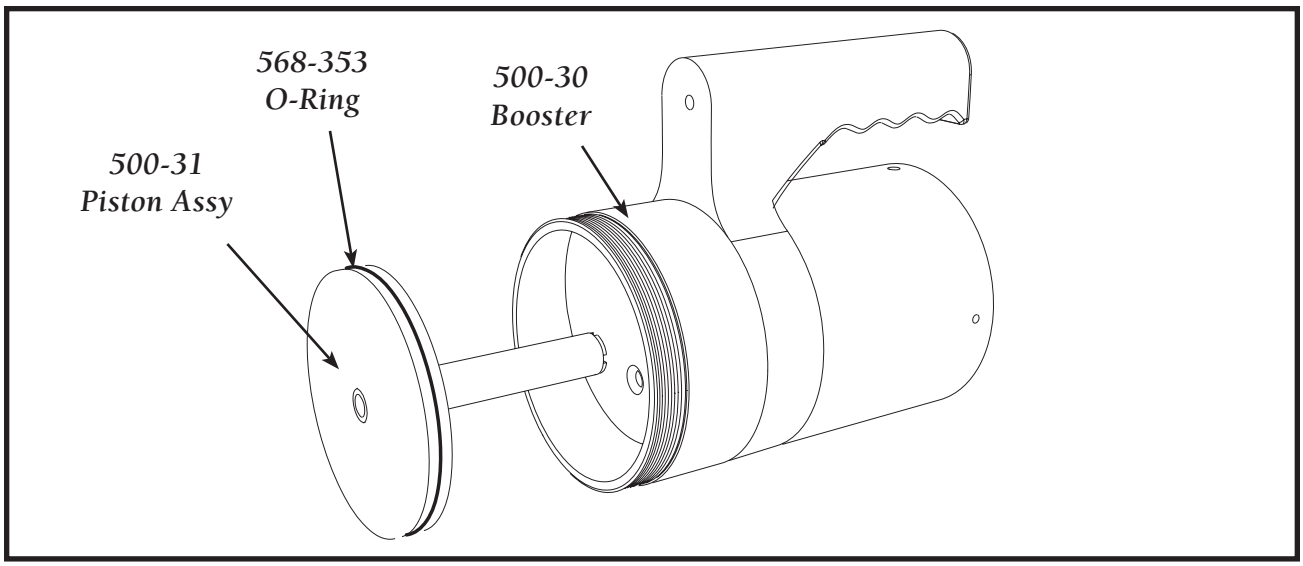
When you are satisfied that the guide moves freely in the booster cylinder, tighten the four **5/16-18 x 1-3/4"** flat head screws.



Installing Cycling Valve

4 Install 500-31 Piston Assembly - Model 500-D & 500-D-1

Install the complete 500-31 piston assembly - consisting of 500-2A Piston, 500-31 Piston rod, 568-353 O-ring. Install by inserting the assembly into the rear of the 500-30 booster until the unit is flush with the booster.



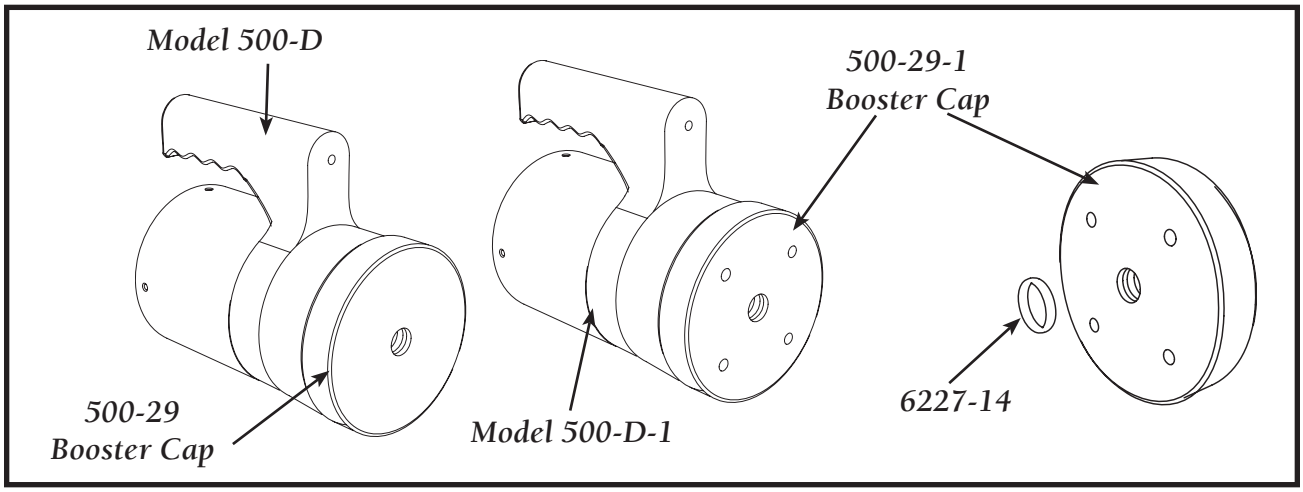
Installing 500-31 Piston in 500-30 Booster

5 Install Booster Cap (500-29 or 500-29-1)

Install booster cap and new 6230-33 O ring. The cap mounts onto the 500-30 booster, and is tightened by turning clockwise.

Model 500-D: Install 500-29 booster cap. **Proceed to step 9 on page 38.**

Model 500-D-1, Install 500-29-1 booster cap, & 6227-14 O ring. **Proceed to step 6 on page 37.**



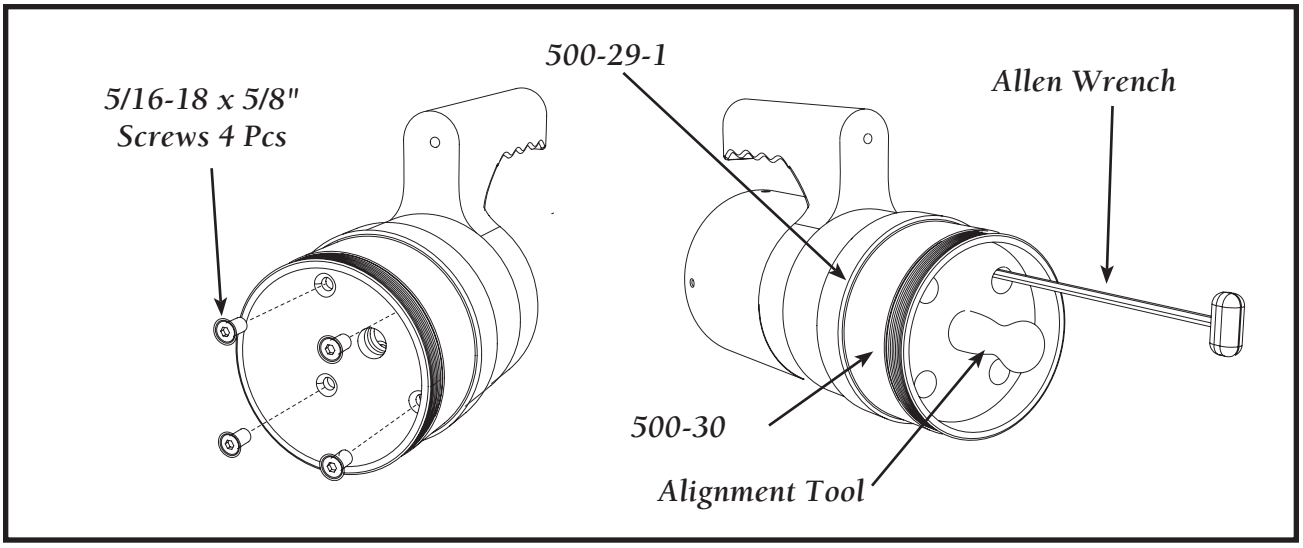
Difference between 500-29-1 & 500-29 Booster Caps

6 Install second 500-30 Booster - Model 500-D-1

Mounting the booster to the 500-29-1 booster cap. Insert the four **5/16-18 x 5/8**" flat head cap screws, leaving them loose.

Insert guide 500-1000 into the booster cylinder. Position the booster cylinder such that the guide moves freely in the cylinder. Tighten the four flat head screws to a snug condition, test the movement of the guide in the cylinder. If the guide does not move freely, reposition the booster cylinder until it does.

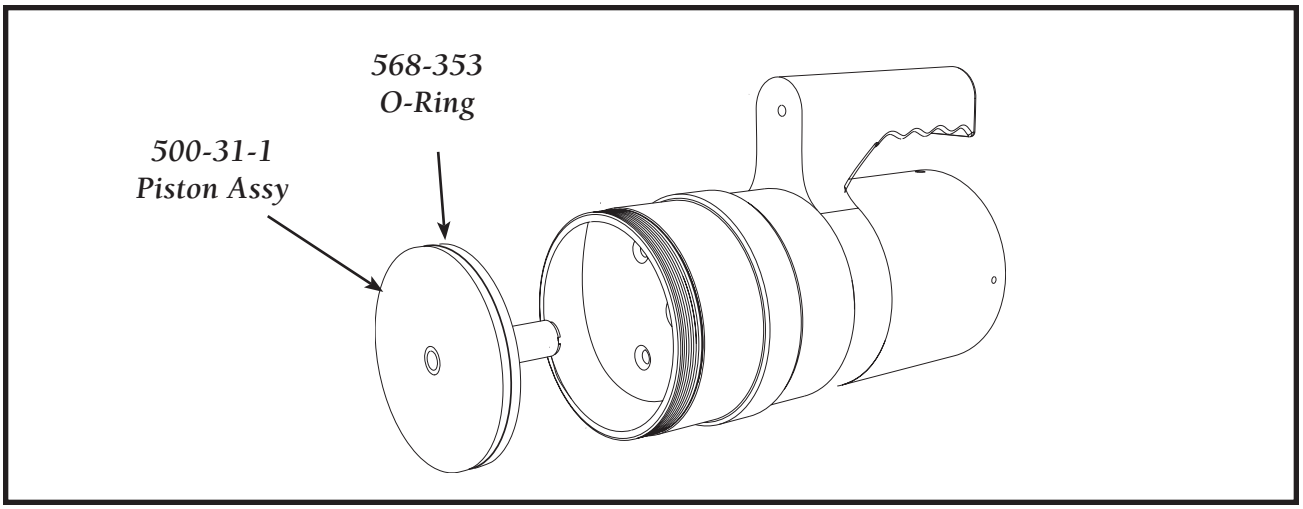
When you are satisfied that the guide moves freely in the booster cylinder, tighten the four **5/16-18 x 5/8**" flat head screws



Tightening second booster bolts

7 Install 500-31-1 Piston Assembly - Model 500-D-1

Install the complete 500-31-1 piston assembly: 500-2A Piston, 500-31-1 Piston rod, & 568-353 O-ring. Install by inserting the assembly into the rear of the 500-30 booster until the unit is flush with the booster.

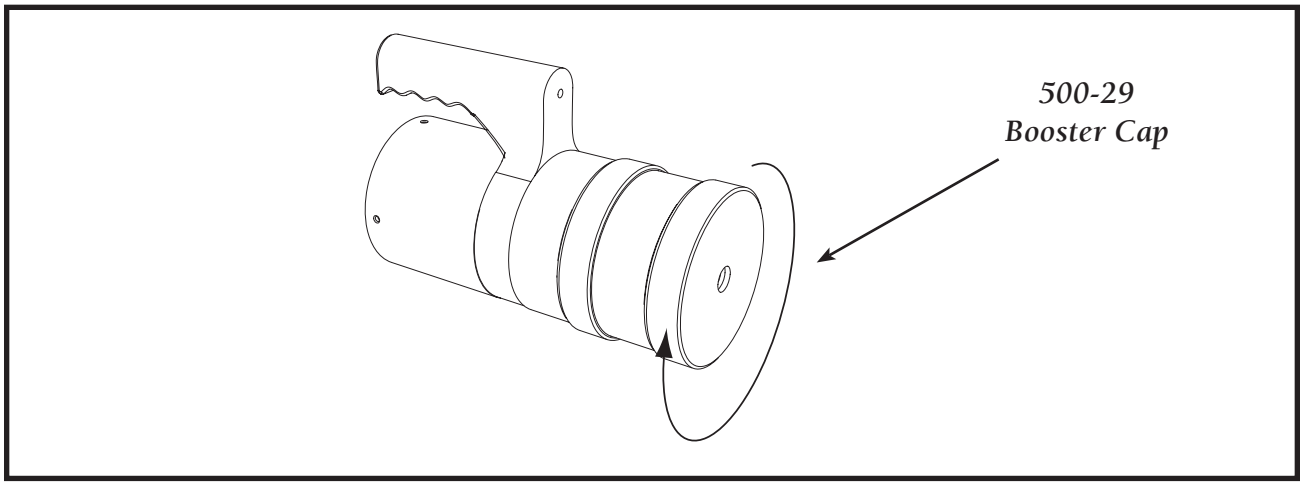


Intalling 500-31-1 Piston

8 Install Booster Cap 500-29-1

Install booster cap P/N 500-29. The cap mounts onto the 500-30 booster, and is tightened by turning clockwise.

Booster installation for 500-D-1 now complete.

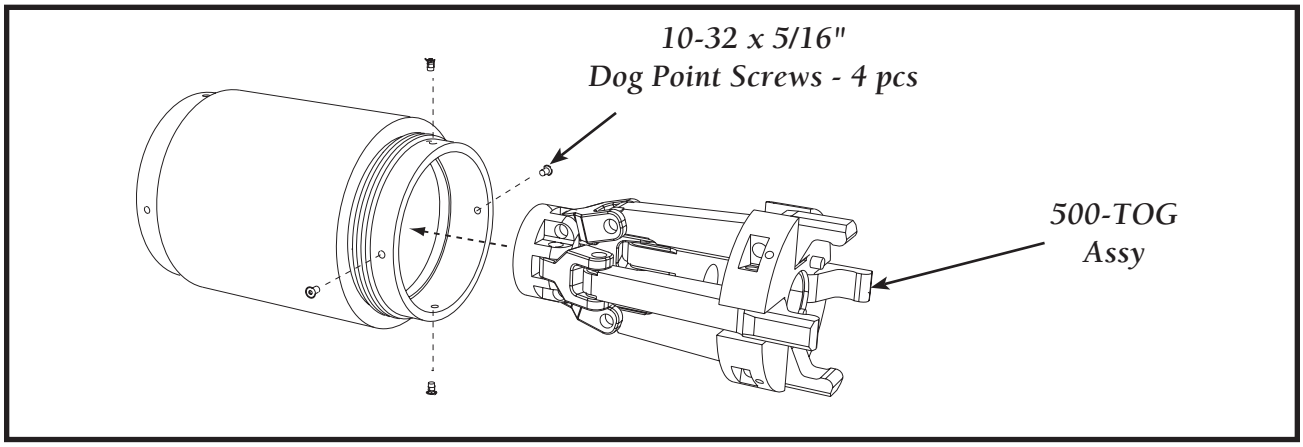


Installing 500-29 Booster Cap

The remaining steps apply to all models, 500-EC, 500-D & 500-D-1

9 Install 500-TOG into 500-18 Housing

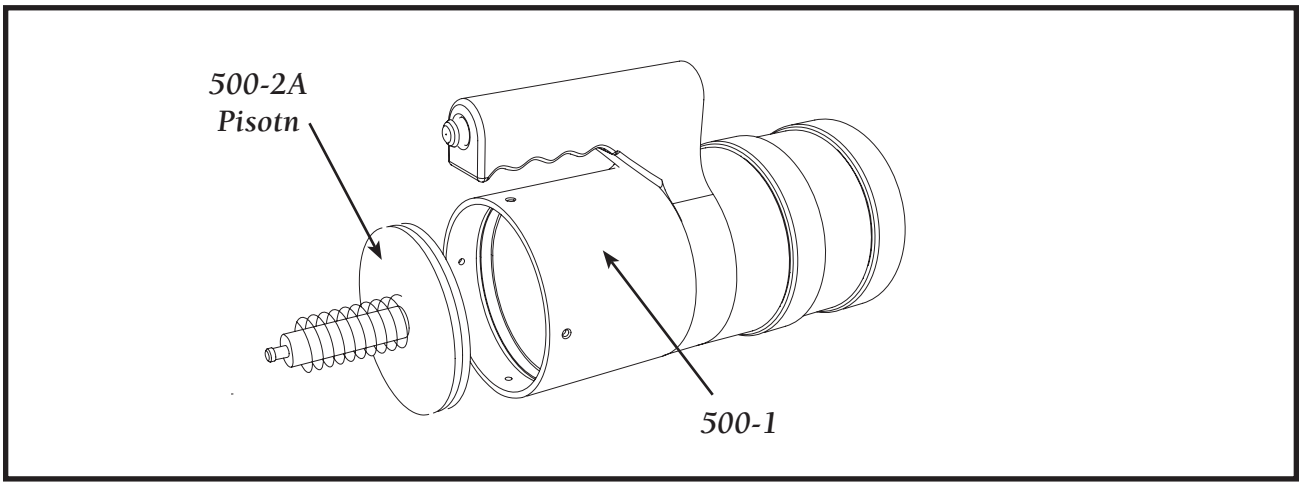
Mount the 500-TOG assembly into the 500-18 housing using four **10-32 x 5/16**" half dog screws.



Installing 500-TOG into 500-18 Housing

10 Install 500-2A Piston

Install 500-2A piston assembly directly into 500-1 body. Insert until assembly is flush wtih rear of the 500-1 body and the front of the 500-1H handle.



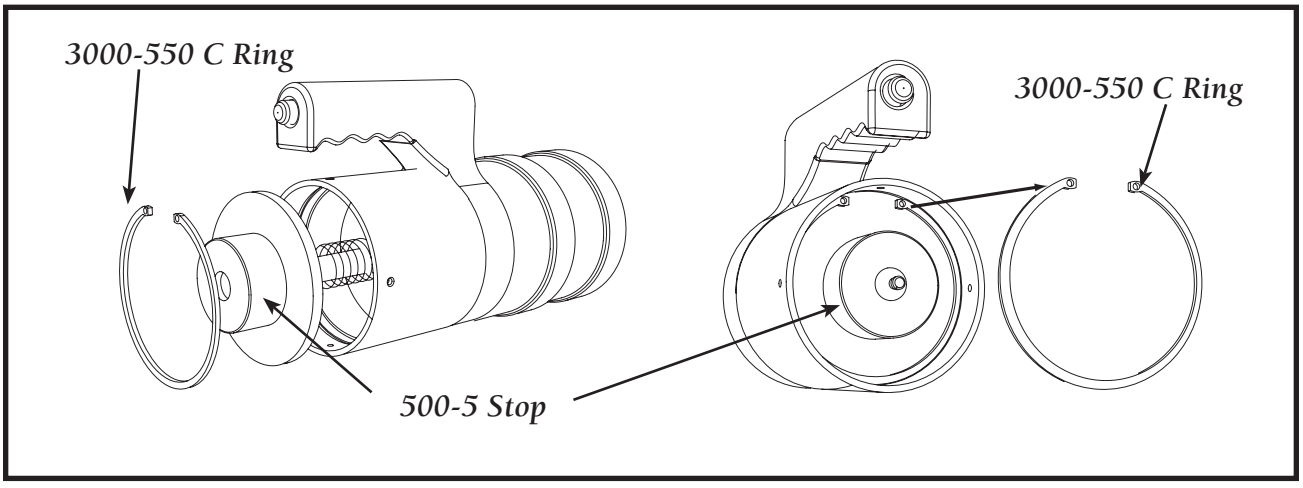
Installing 500-2A Piston Assy into 500-1 body - Model 500-D-1 shown

11 Install 500-5 Stop and C-clip

Install the 500-5 stop until it seats on the 500-2B piston rod.

Install the "C" ring, P/N 3000-550.

Note **C ring pliers are helpful in installing this item. This ring holds the front stop, P/N 500-5 in place. Snap ring when installed will be under significant pressure. Take caution when using snap-ring pliers to install.**



Installing 500-2A Piston Assy into 500-1 body - Model 500-D-1 shown

12 Connect 500-18 Housing to 500-1 Body

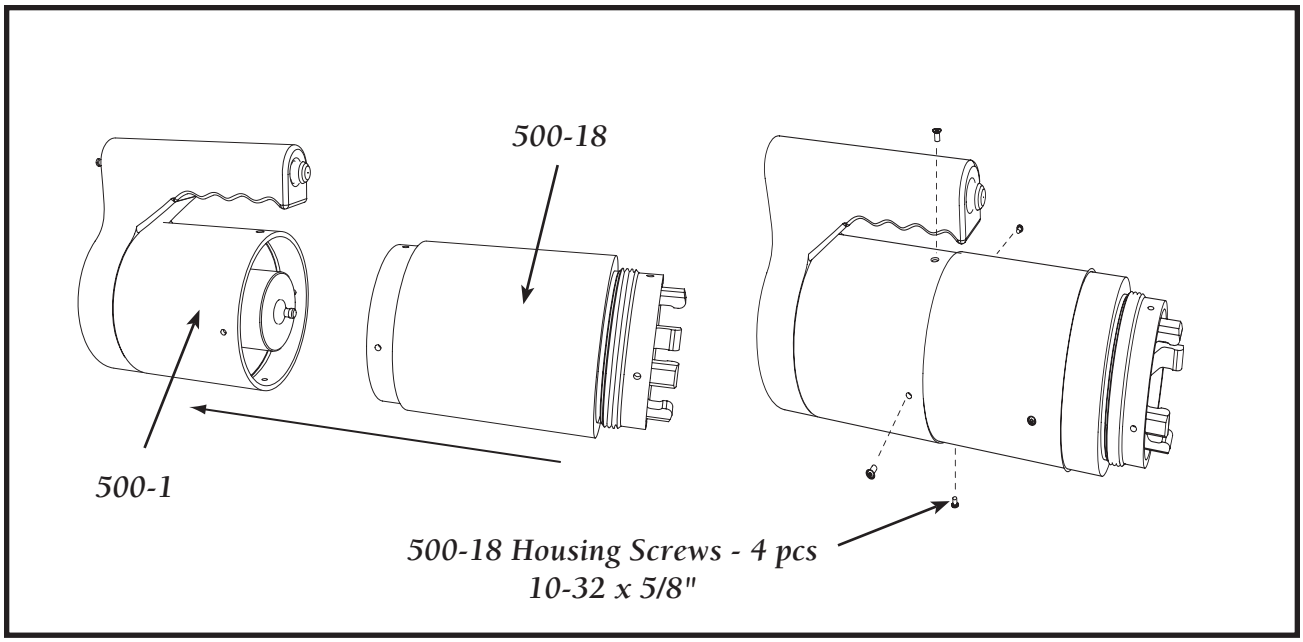
When mounting the front housing, 500-18, containing the toggle assembly, it is imperative that the anchor, 500-7 be firmly seated against the shoulder of the piston rod 500-2B.

The suggested procedure is:

- Place the 500-18 housing-toggle assembly on the tool body 500-1.
- Align the mounting holes and the rectangular slot in the body. Do not install the flat head housing mounting screws.

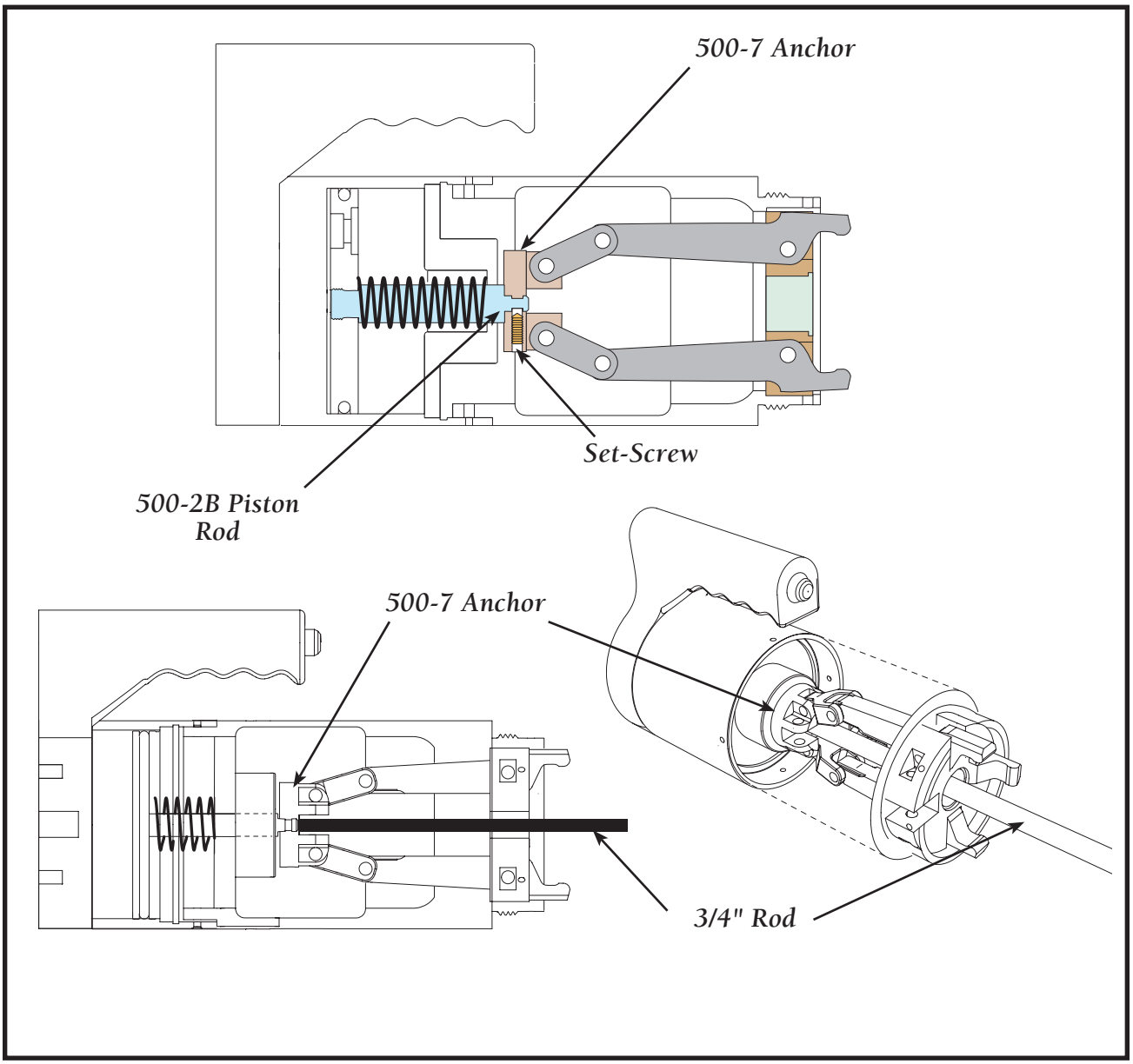
View the position of the anchor and piston rod thru the rectangular slot. There should be no gap between the base of the anchor and the shoulder of the piston rod

- Check to insure that the dog point set screw is in the anchor 500-7.
- Apply air to the tool, causing the piston to come forward and remain in that position.
- Use a rod of about 3/4 inch diameter, insert it thru the retainer 500-11 and tap the anchor 500-7 to insure that it is firmly against the shoulder of the piston rod.
- While still maintaining air to the tool and the piston in the forward position, tighten the dog point set screw.



Mounting 500-18 to 500-1 Body

- Install the locking set screw against the dog point screw.
- Air can now be removed from the tool.
- Check the alignment of the 500-18 clearance holes to the threaded holes in the 500-1 body. Reposition if necessary and install the four 10-32 x 5/8" housing screws.



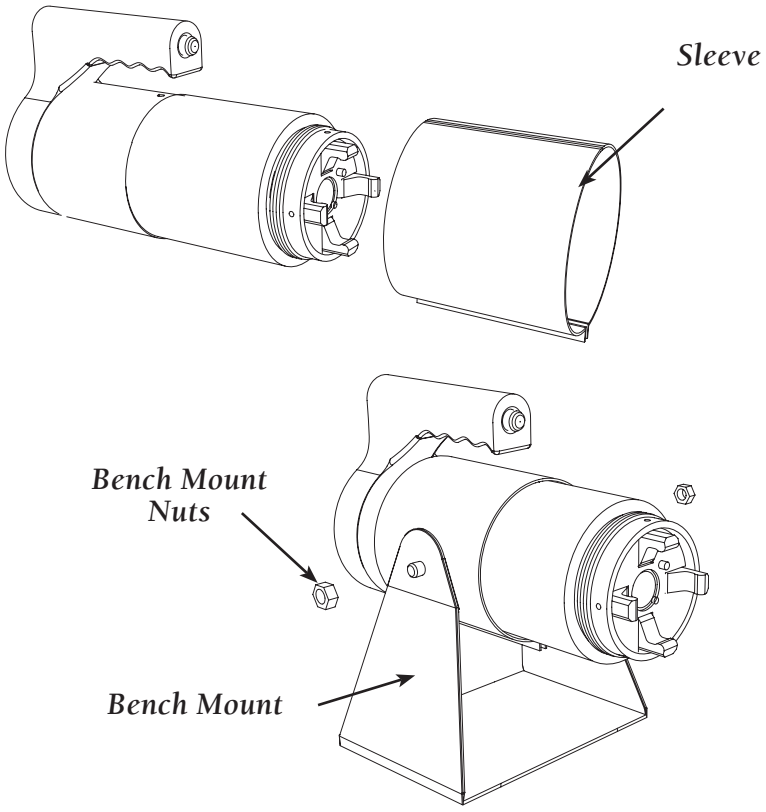
Side View - Mounting 500-18 Housing to 500-1 Body

13 Install Sleeve and Bench Mount

Install the sleeve and bench mount.

At this stage, assembly is complete. Refer to the setup guide for operating instructions.

For information on components, refer to the next section.



Installing Sleeve and Bench Mount

COMPONENT DISASSEMBLY

Toggle Unit

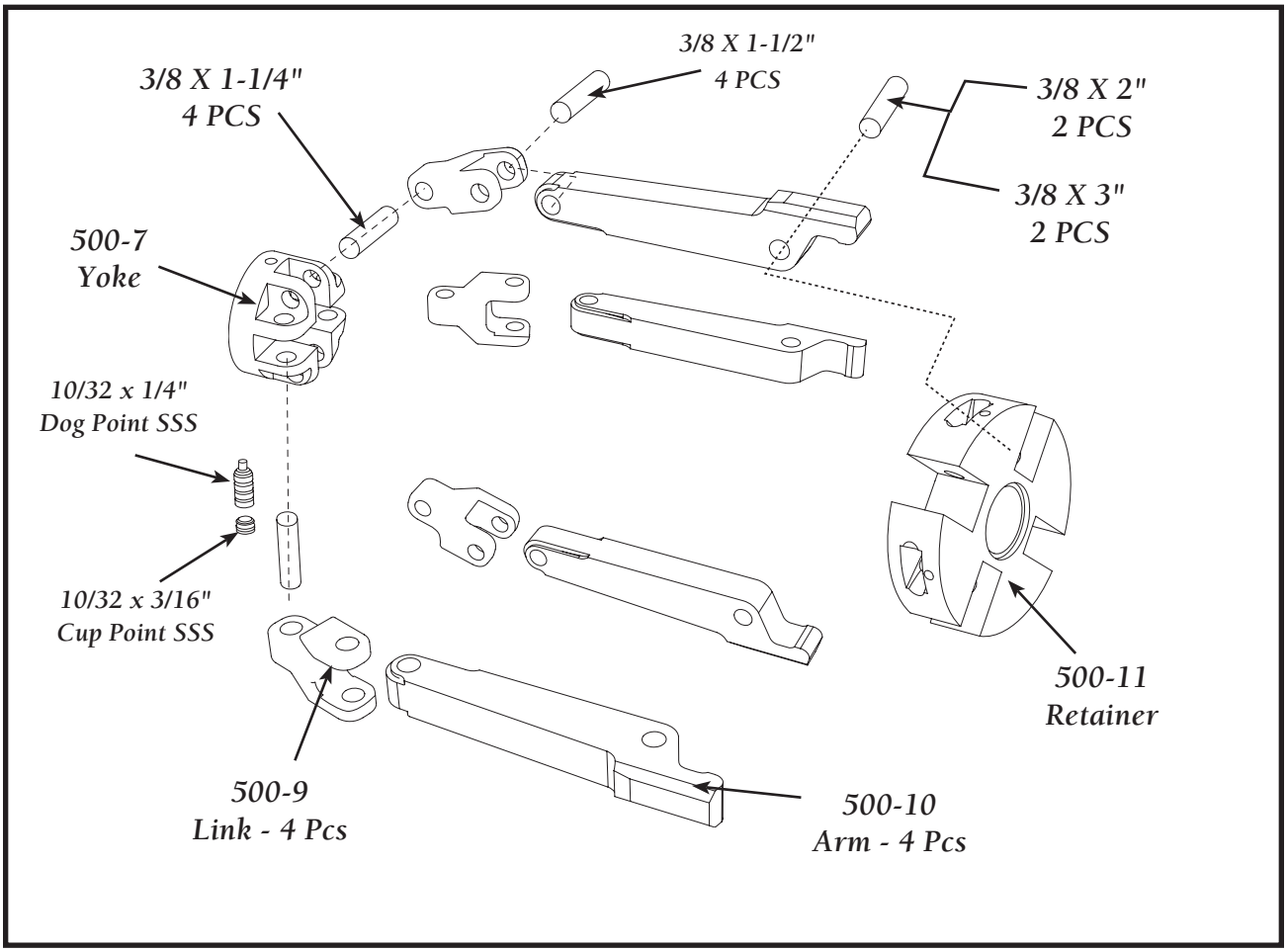
Disassembly of the toggle unit consists of removing the links connecting the arm to the yoke (500-7), and the front retainer. Using the proper diameter drive punch will aid in removal.

1 Remove Pins from 500-11 Retainer

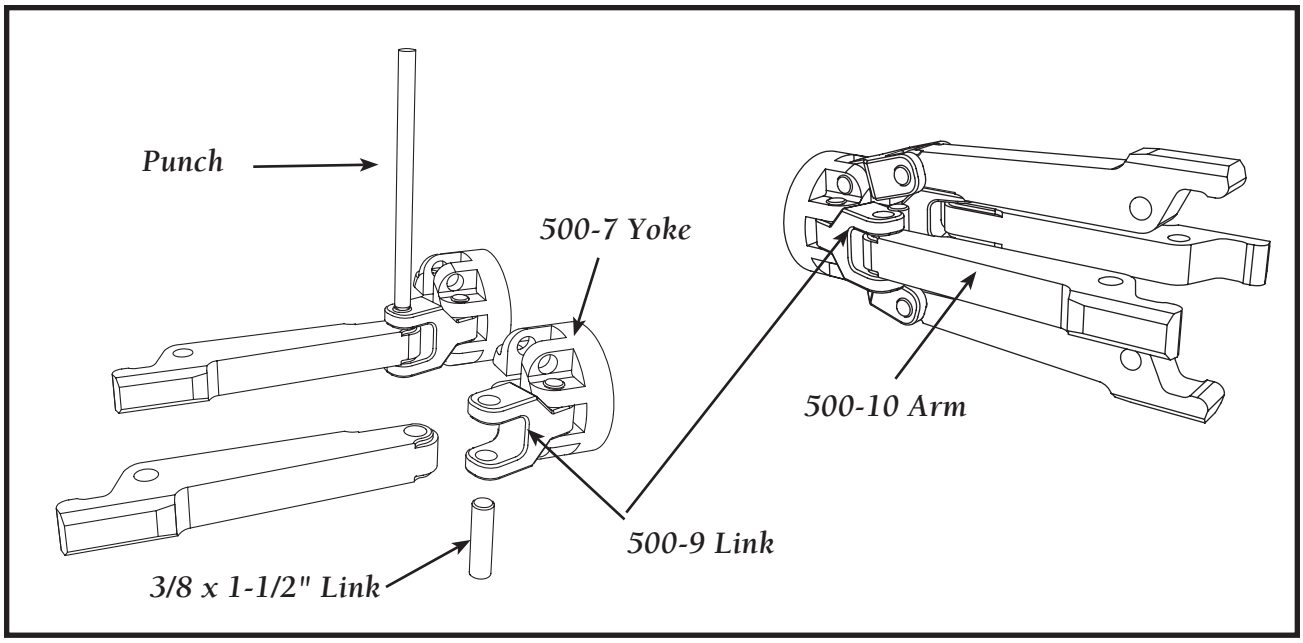
Using a suitable punch, use light pressure to tap the pins out from the retainer. There are 4 pins; two are 3/8 x 2" long, and two at 3/8 x 3".

2 Remove Pins from 500-10 Arm

Using a suitable punch (or cylinder rod), use light pressure to tap the pins out from each 500-10 arm. Note, each arm is connected to a 500-9 Link. There are 4 dowel pins, each is 3/8 x 1-1/2" long.



Exploded Toggle Unit

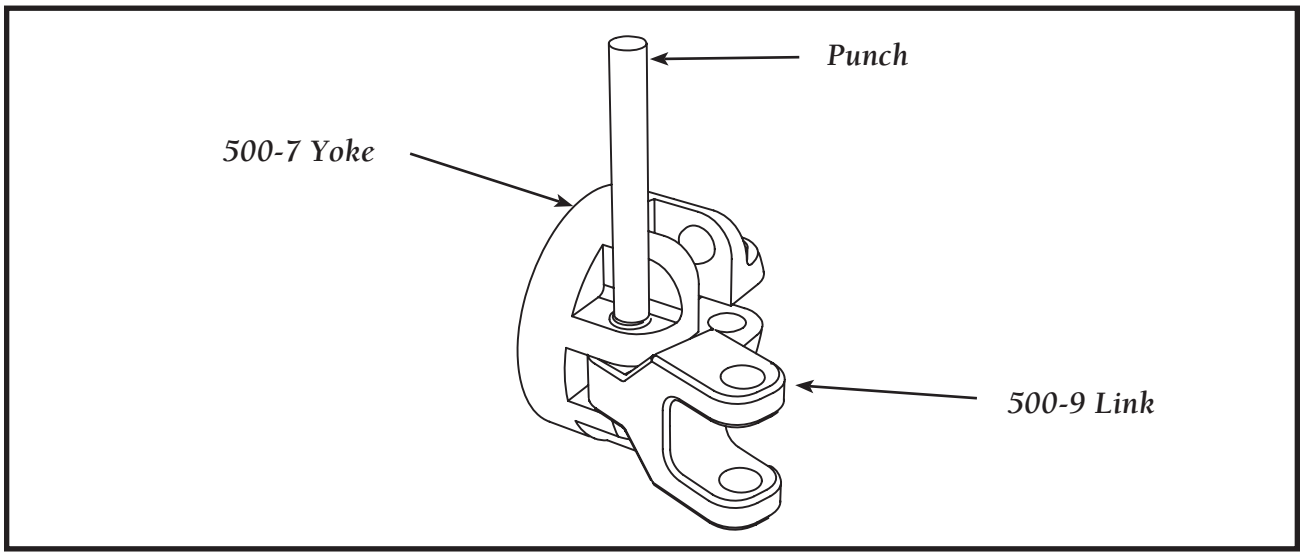


Removing 500-10 Arms

3 Remove Pins from 500-9 Link & 500-7 Yoke

Using a suitable punch, use light pressure to tap the pins out from each 500-9 link. Note, each link is connected to the 500-7 yoke. There are 4 pins, each is 3/8" x 1-1/4" long.

To reassemble: Reverse steps 1-3 from previous section.



Removing 500-9 Link from Yoke

PISTON ASSEMBLY

1 Remove O Ring

Remove the 568-353 O ring from the piston.

Pico recommends applying **Dow Corning DC-55** "O" Ring lubricant prior to reassembly.

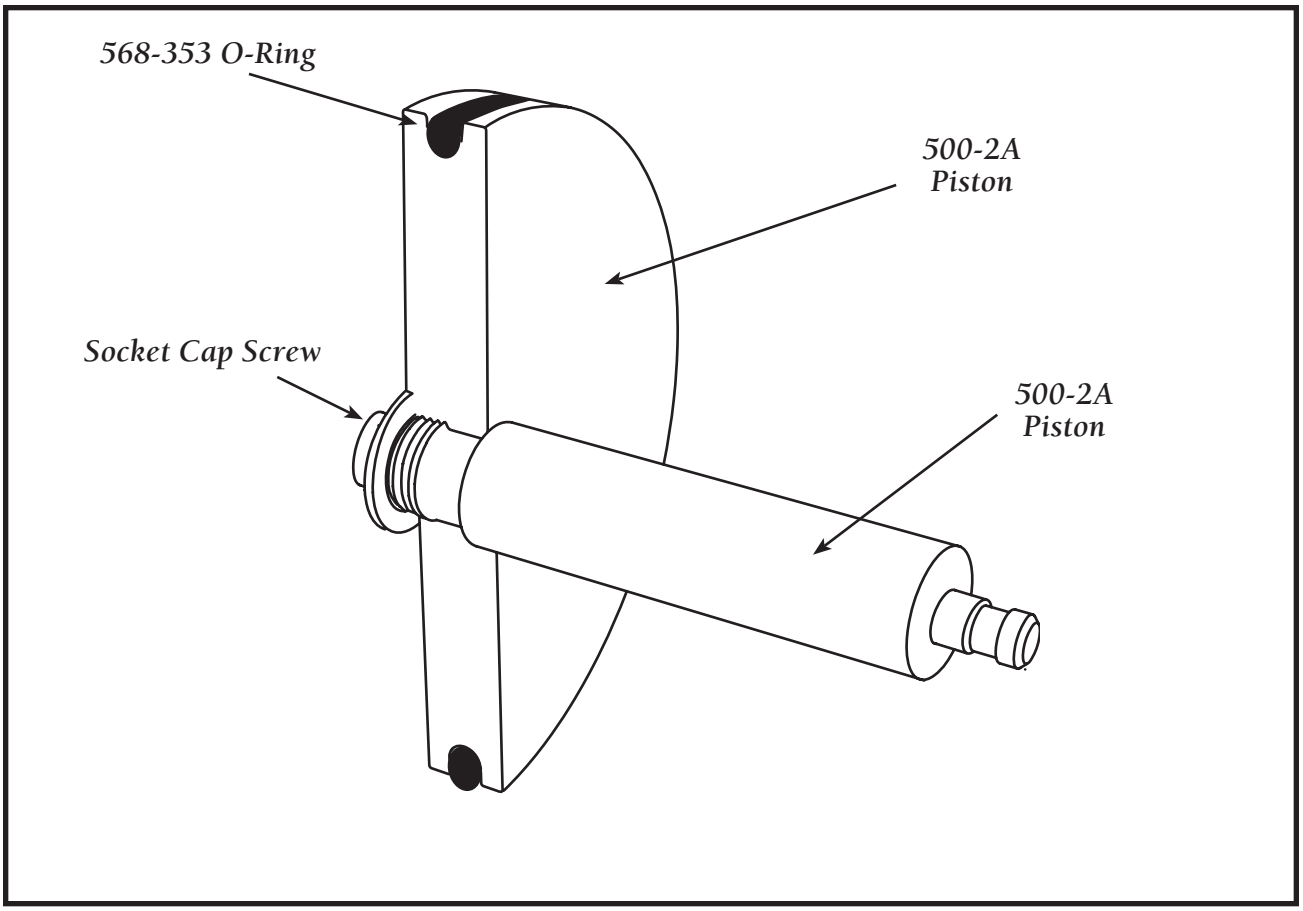
For booster piston assemblies, all use the same O-ring and piston - however the piston rod P/N is different. Refer to the parts list for specific part numbers.

2 Remove Piston Rod

Generally there is no reason to remove the rod unless it needs to be replaced.

Unscrew the socket cap screw located at the rear of the piston rod. Next, unscrew 500-2B piston rod from the 500-2A piston by turning counterclockwise. Locktite is used during initial assembly - it may be necessary to heat up the assembly if difficulty unscrewing the piston rod from the piston is encountered.

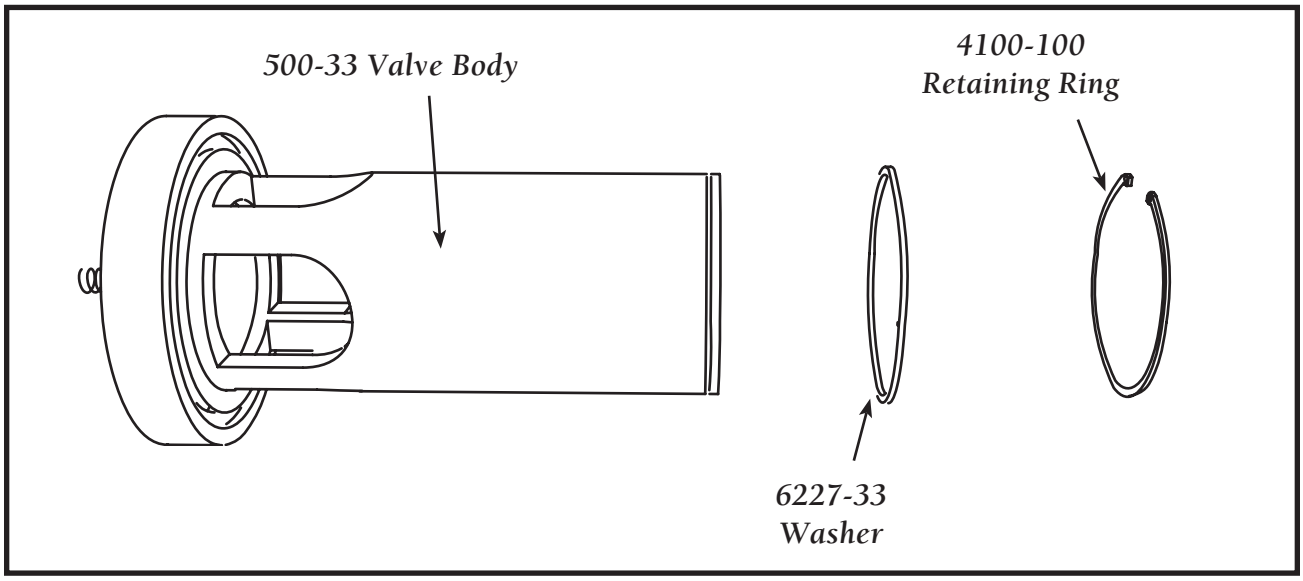
To reassemble: Reverse steps 1-2. It is recommended that the "O" ring be replaced.



Piston Assembly

CYCLING VALVE MAINTENANCE

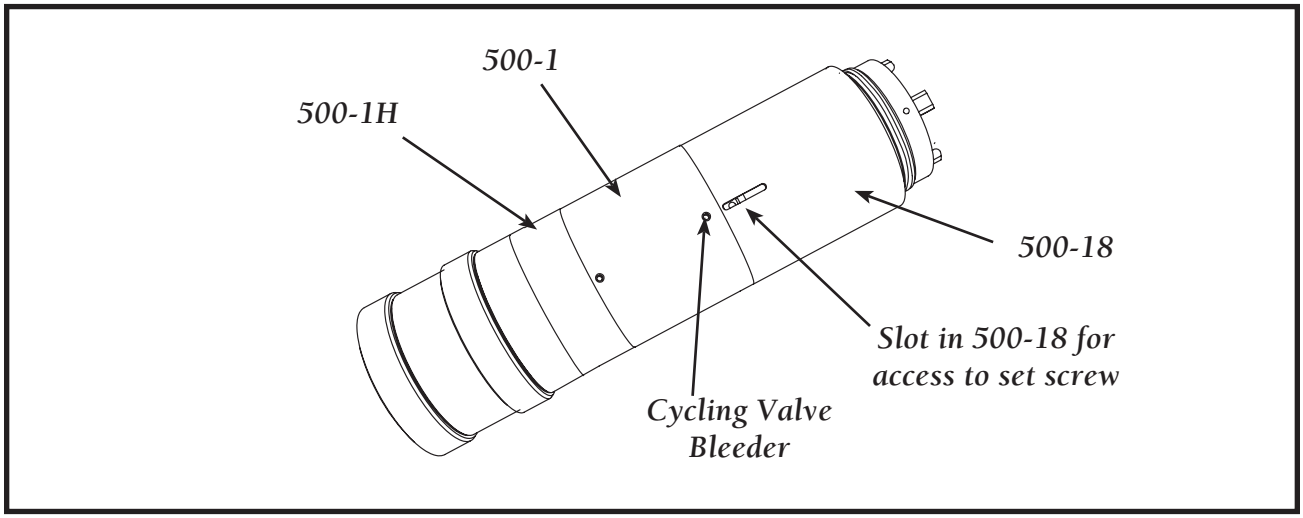
Note **The 500-33 cycling valve assembly is used only with models 500-D & 500-D-1.**



500-33 Cycling Valve Assembly

Typically, the only maintenance that needs to be performed is to replace the washer and retaining ring prior to reinstalling the assembly.

Note **There is a bleeder hole mounted on the rear side of the 500-1 body. This is to allow excessive air from the chamber to *bleed* through. During normal operation, the operator can be expected to hear air escaping from the bleeder port. This is normal function for the tool.**



Cycling Valve Bleeder Hole

TRIGGER ASSEMBLY

Malfunction of the trigger assembly is an extremely rare occurrence. If it becomes necessary to remove the trigger components, the procedure is as follows.

Locate the .093 diameter roll pin in the handle on the exploded view of the tool.

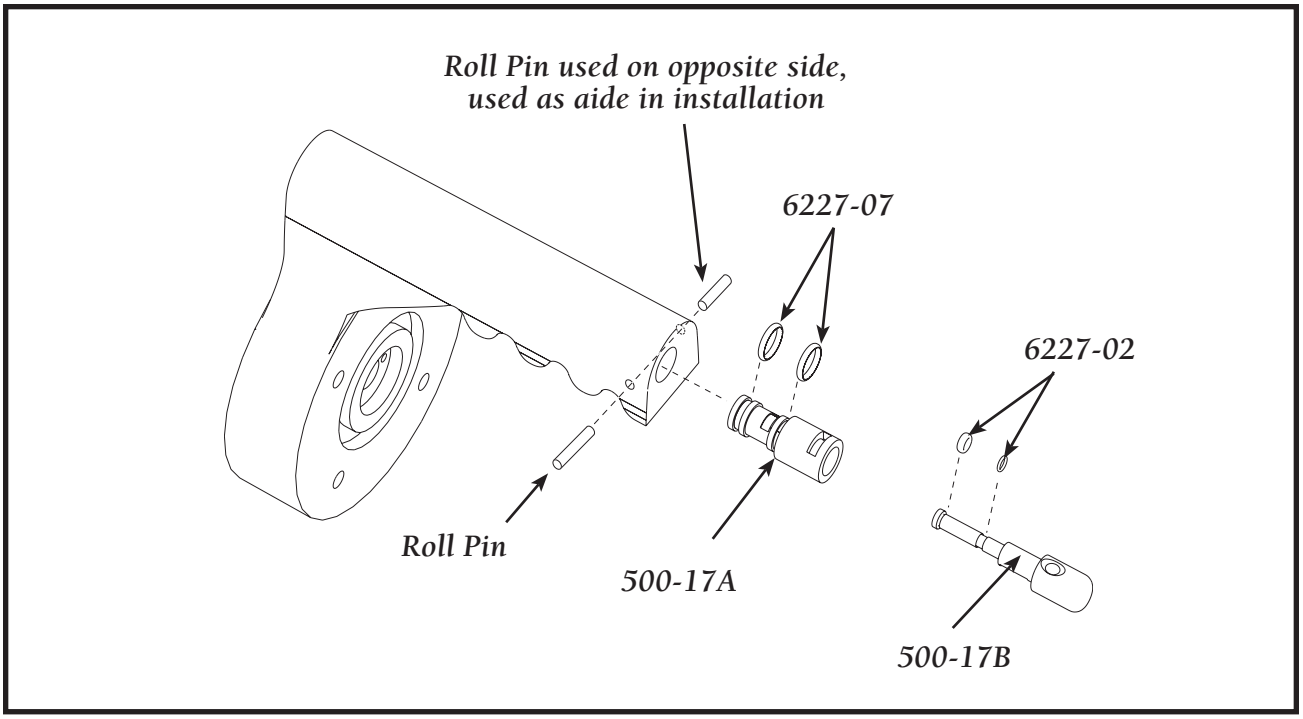
Using a drive punch with a diameter less than .093 inch, punch out the roll pin. The trigger housing and trigger slide can now be pulled from the handle.

To Reassemble:

- Locate the roll pin groove in the trigger housing part number 500-17A. Insert the trigger slide, 500-17B, into the housing aligning the milled slot in the slide with the corresponding slot in the housing.
- Insert the assembly into the tool handle. To assist in aligning the roll pin slot with the opening in the handle it is suggested that a small diameter pin or paper clip be used to check that the openings are in line.
- Drive the roll pin into the handle

Note

It may be helpful to first insert a roll pin from the opposite side. This will help to ensure that the trigger is properly aligned while inserting the roll pin.



Trigger Assembly

DIE ASSEMBLY

Note **The only reason to disassemble the Die is to replace worn indenters.**

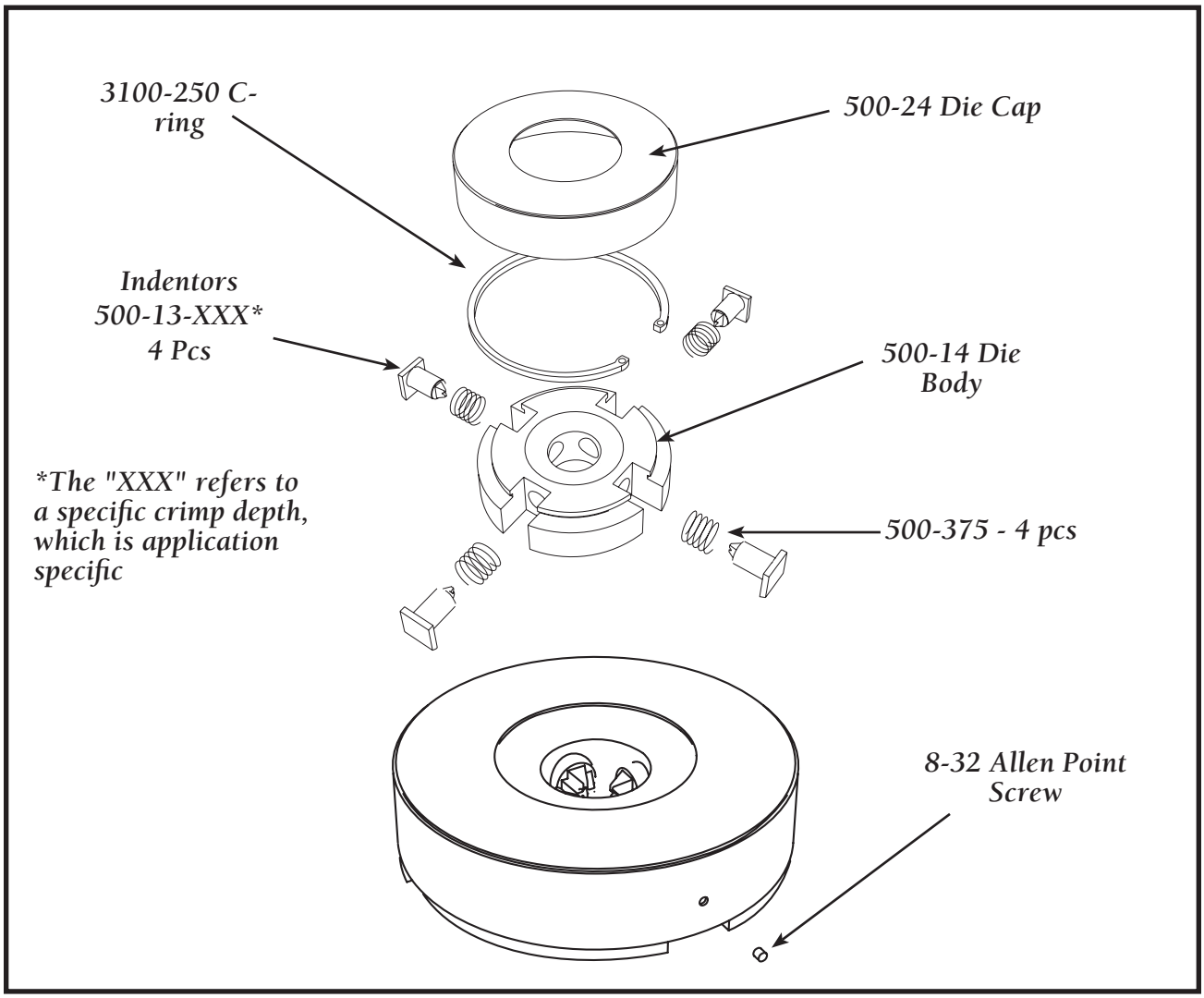
The indentors are manufactured using S-7 tool steel, and are heat treated to Rc 56-58. As a result, they are should have a life span of many thousand cycles.
Indentors are available for purchase separately from a die assembly.
Contact the factory for details.

1. Remove the 8-32 set screw holding the 500-24 die cap, using an allen wrench.

2. Remove the 3100-250 C-Ring using C-ring pliers

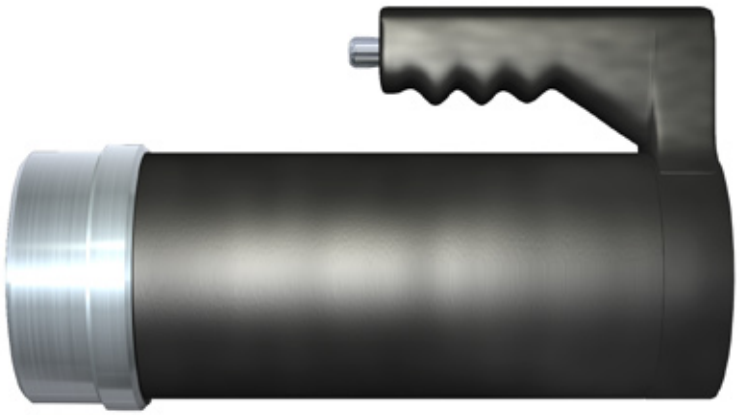
3. Once the C-ring has been removed, you can remove the indenters.

Assembly is simply reversing steps 1-3.



Die Assembly

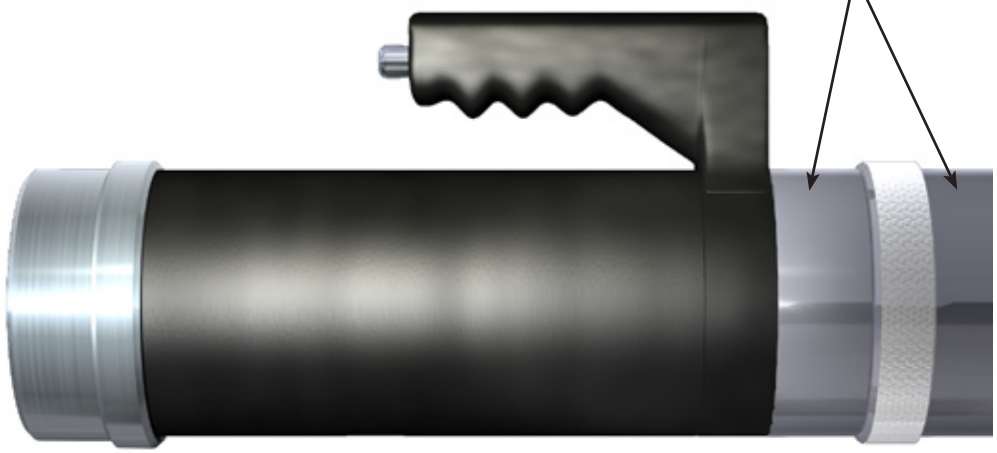
Specifications



MODEL 500-EC

MODEL 500-D

BOOSTER CYLINDER



MODEL 500-D-1

MODELS

There are 3 basic models available in the 500 Series. The applications chart on the following pages help to differentiate the models and their capabilities.

The basic difference between each model is determined by the addition of one or more boosters. The 500-EC model does not come with a booster; the 500-D has one booster unit, and the 500-D-1 has two booster units.

The 500-EC model comes with an external cycling valve, and foot pedal used to cycle the tool.

The booster unit(s) facilitate crimping larger diameter contacts.

AIR	For optimal performance & tool lifetime, use clean, filtered dry air providing 70-120 PSI.

WEIGHT	**500-EC**	**500-D**	**500-D-1**
	40 lbs.	45 lbs.	50 lbs.

APPLICATIONS		500-EC	500-D	500-D-1
CONTACTS				
PINS		16 thru 4/0	16 thru 4/0	8 thru 4/0
SOCKETS				
SOLDERLESS TERMINALS				
INSULATED		16 thru 4/0	16 thru 250 MCM	16 thru 250
MCM				
UNINSULATED				
COAXIAL APPLICATIONS		MAX. DIA.	MAX. DIA.	MAX. DIA.
CONTACTS		1.50	1.50	1.50
CONNECTORS		1.50	1.50	1.50

• Consult Factory on Specific Applications

NOTE: Applications listed above represent a small sample of connector applications serviced by PICO Pneumatic crimping tools. If your particular application is not listed on page 52 or 53, contact the factory. By providing connector specifications, Pico can produce a Die and locator solution that will meet your needs.

STANDARD DIES		500-EC	500-D	500-D-1
514DA-20N	Pins & Sockets	Yes	Yes	Yes
514DA-16N	Pins & Sockets	Yes	Yes	Yes
514DA-12N	Pins & Sockets	Yes	Yes	Yes
514DA-8N	Pins & Sockets	Yes	Yes	Yes
514DA-6N	Pins & Sockets	Yes	Yes	Yes
514DA-4N	Pins & Sockets	Yes	Yes	Yes
514DA-2N	Pins & Sockets	Yes	Yes	Yes
514DA-1/0N	Pins & Sockets	Yes	Yes	Yes
514DA-2/ON	Pins & Sockets	Yes	Yes	Yes
514DA-4/ON-1	Pins & Sockets	Yes	Yes	Yes
514DA-250 MCM	Pins & Sockets	No	Yes	Yes
514DA-16-14-IT	Insulated Terminals	Yes	Yes	Yes
514DA-12-10-IT	Insulated Terminals	Yes	Yes	Yes
514DA-8IT	Insulated Terminals	Yes	Yes	Yes
514DA-6IT	Insulated Terminals	Yes	Yes	Yes
514DA-4T	Insulated Terminals	Yes	Yes	Yes
514DA-2IT	Insulated Terminals	Yes	Yes	Yes
514DA-250 MCM IT	Insulated Terminals	No	Yes	Yes
514DA-1/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-2/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-3/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-4/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-16-14-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-12-10-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-8NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-6NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-4NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-2NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-1/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-2/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-3/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-4/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-250 MCM NIT	Non-Insulated Terminals	No	Yes	Yes

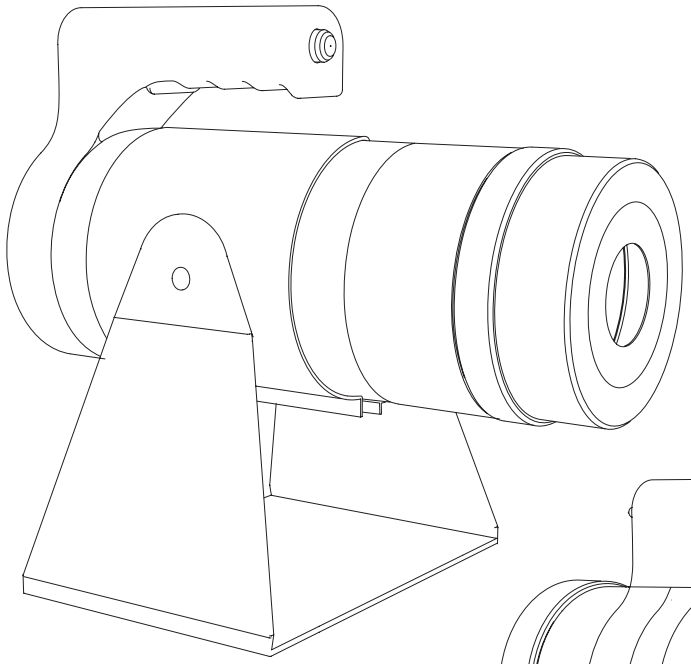
OPTIONAL ACCESSORIES

Foot Controls
GAGES
Fitted Storage Cases

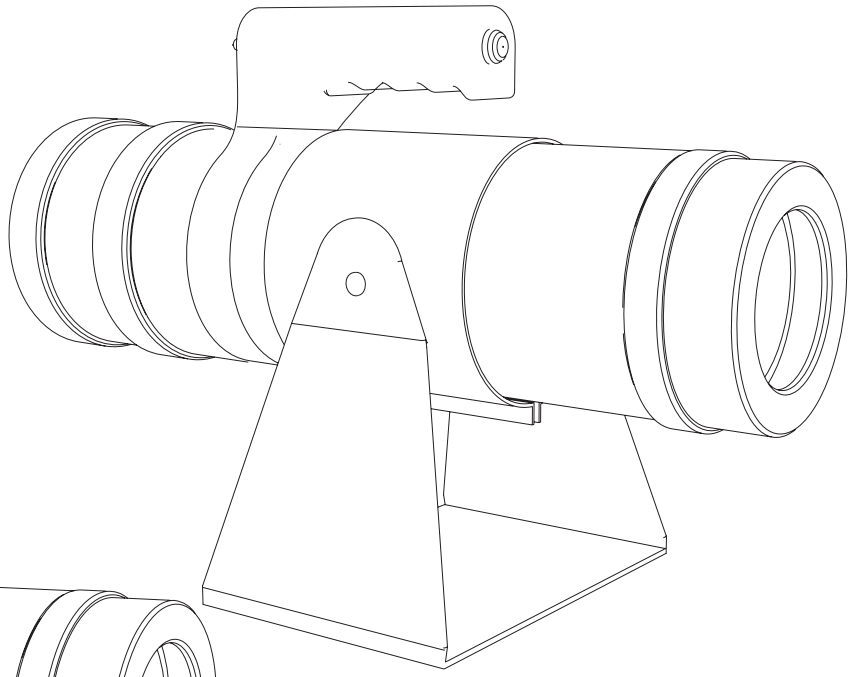
NOTE:

1. This list includes but a small sample of the die applications available. Consult the factory for specific requirements
2. Consult locator catalog or factory for proper locators.
3. Tools are warranted for 90 days against defects in material or workmanship but should be returned to the factory every year for servicing.

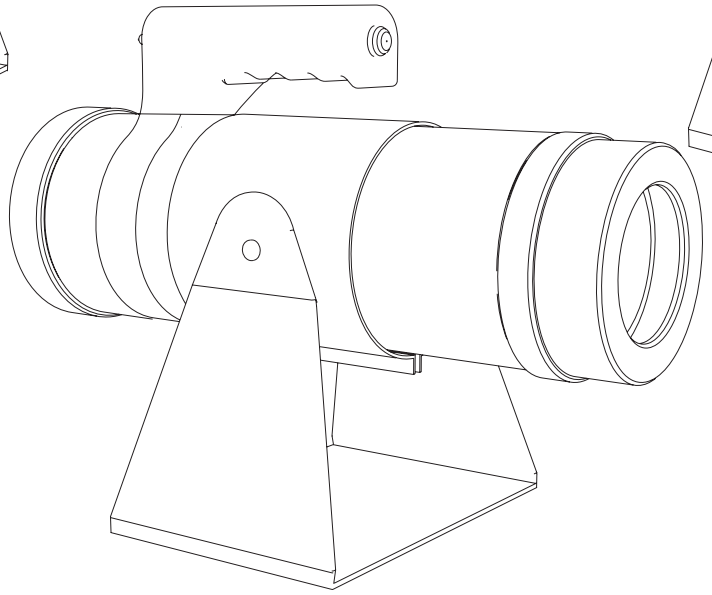
500 Series Power Unit Parts List



Model 500-EC

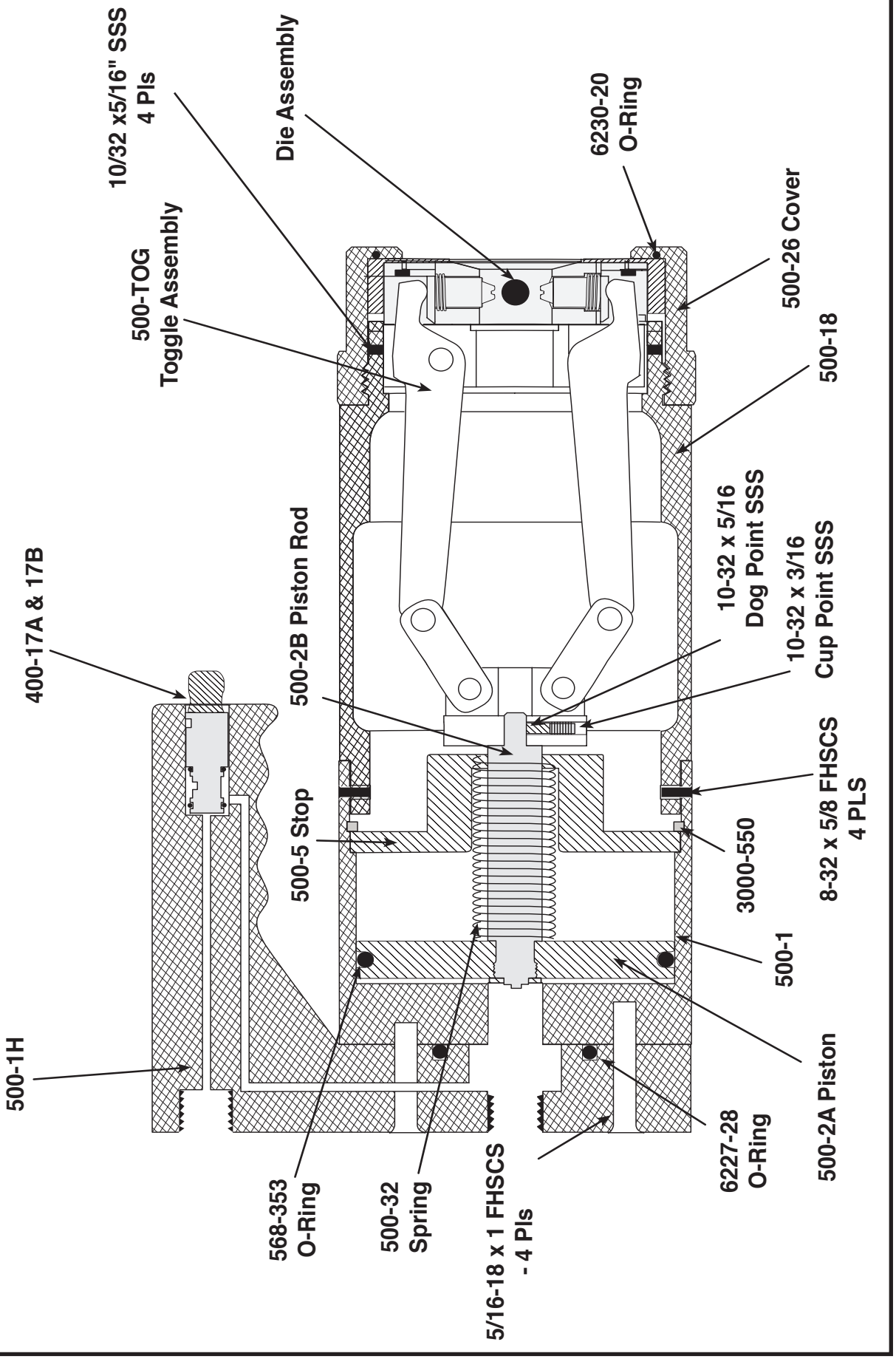


Model 500-D-1

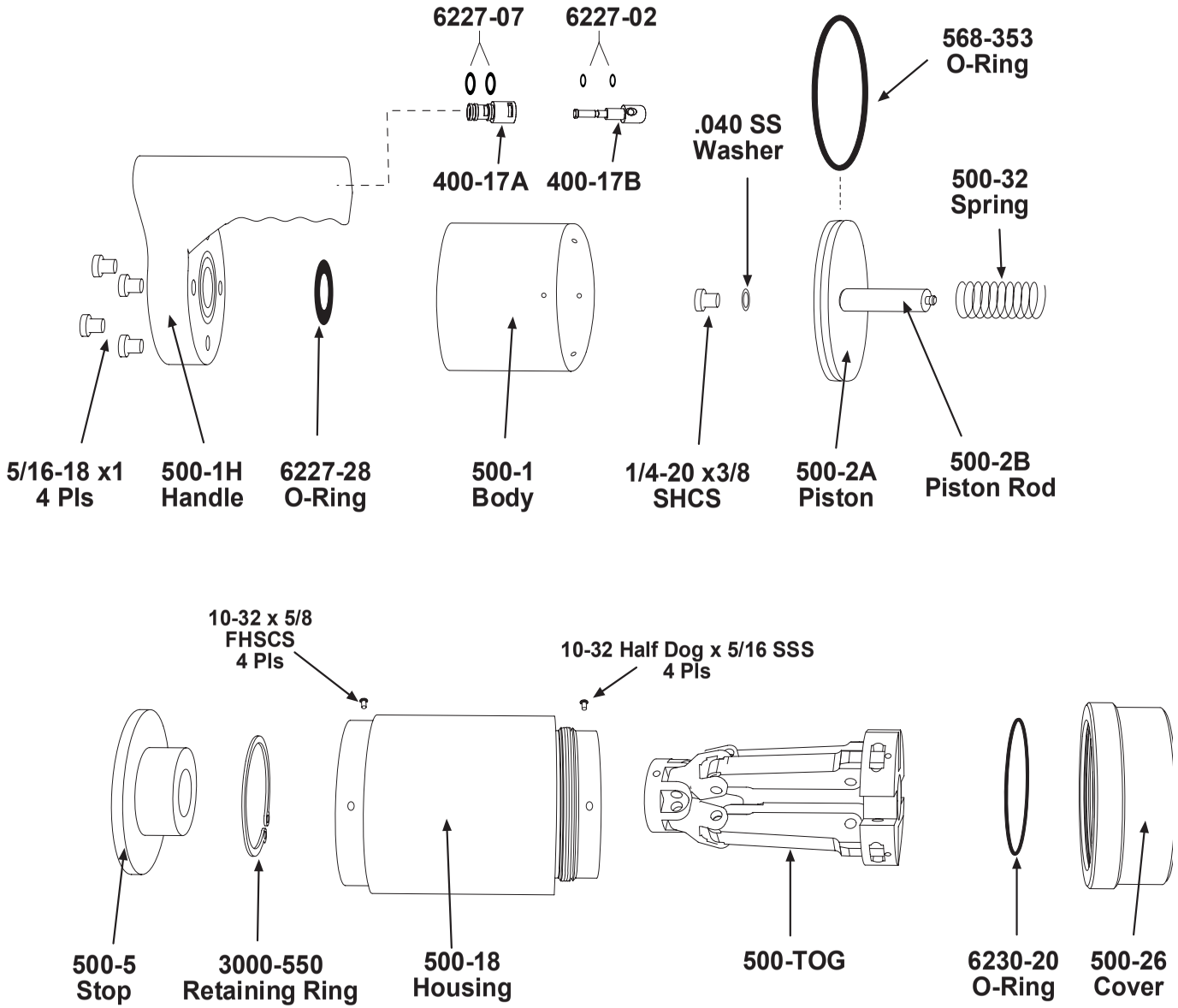


Model 500-D

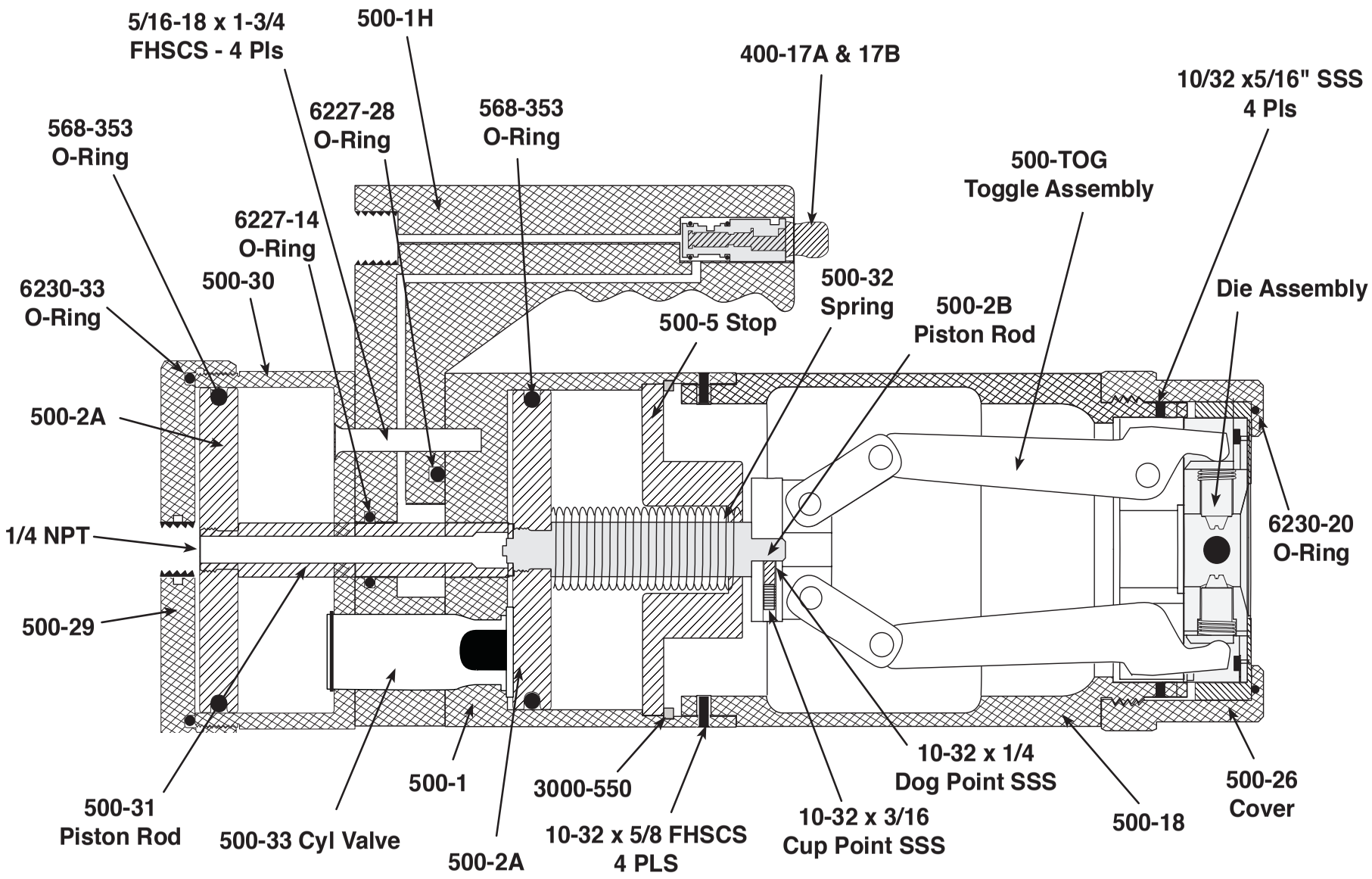
Model 500-EC Cross-section View



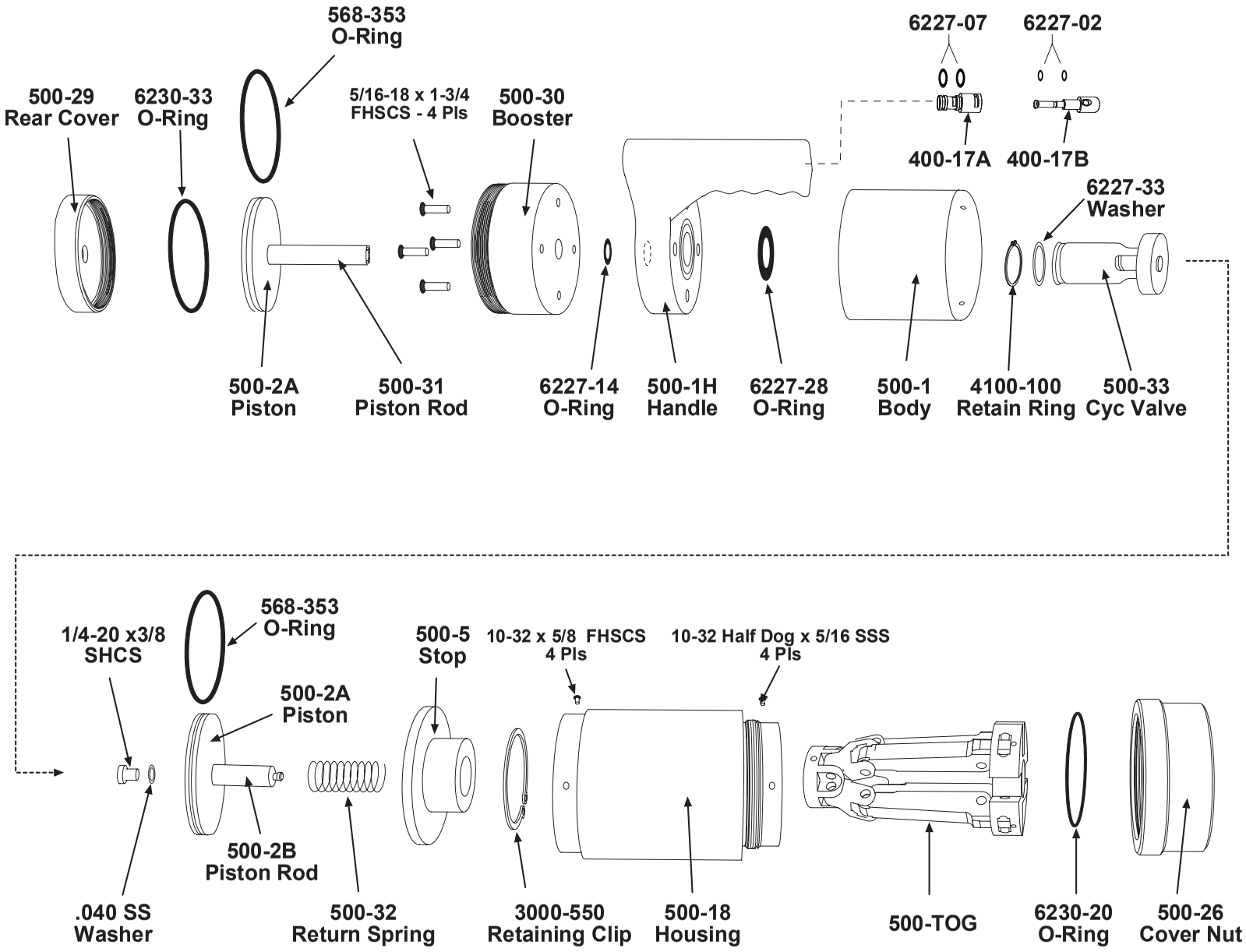
Model 500-EC Exploded View



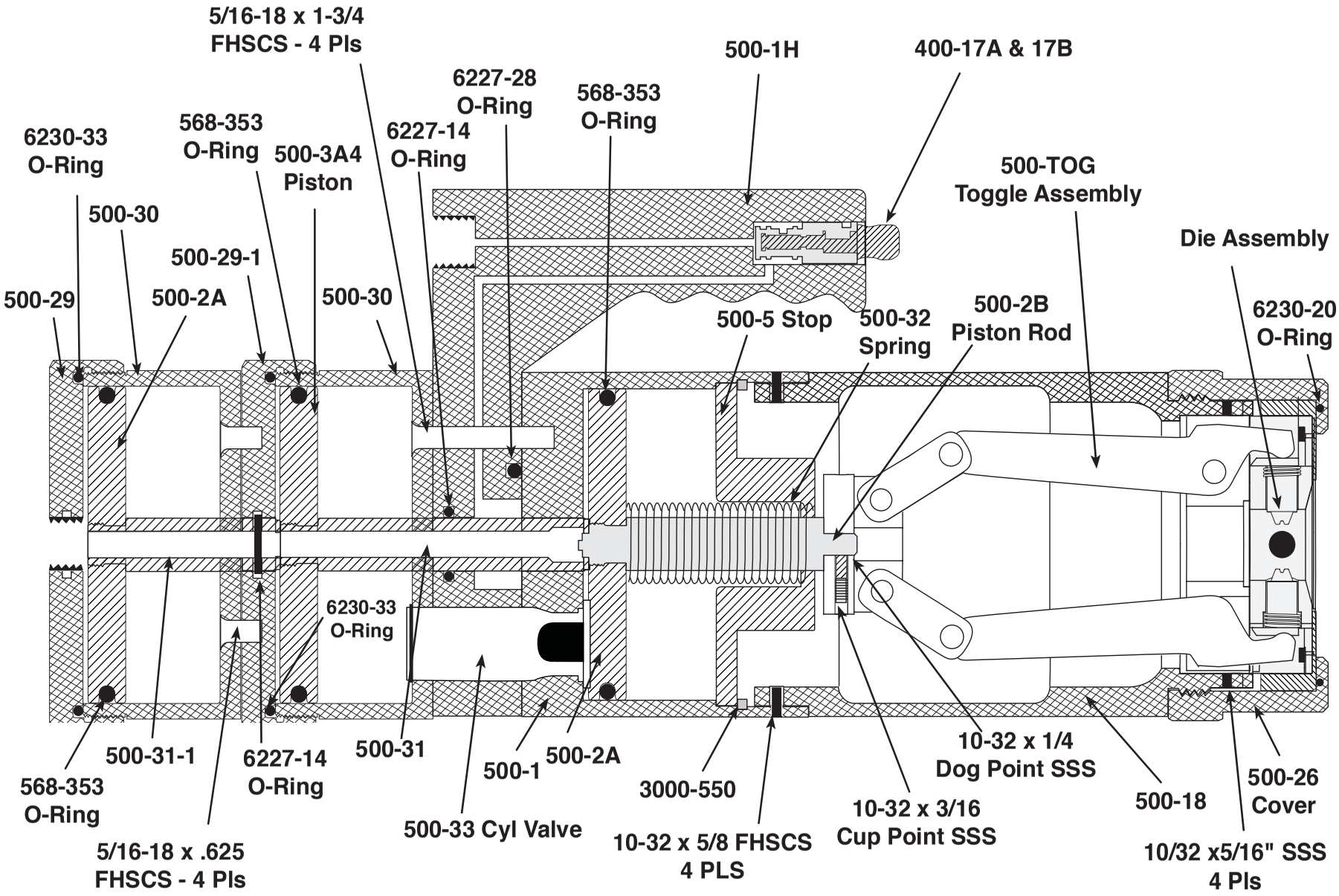
500-D Cross-section View



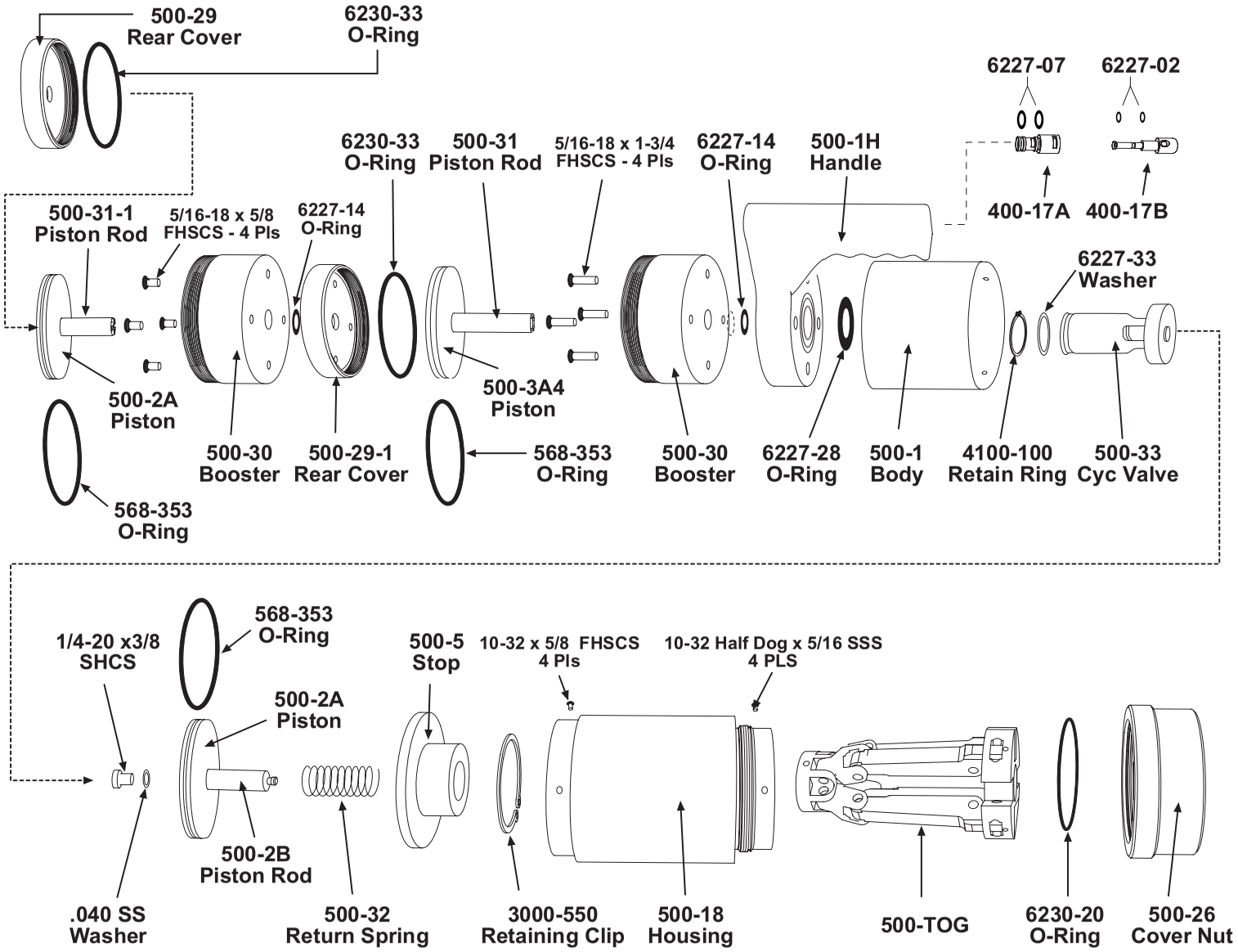
500-D Exploded View



500-D-1 Cross-section View

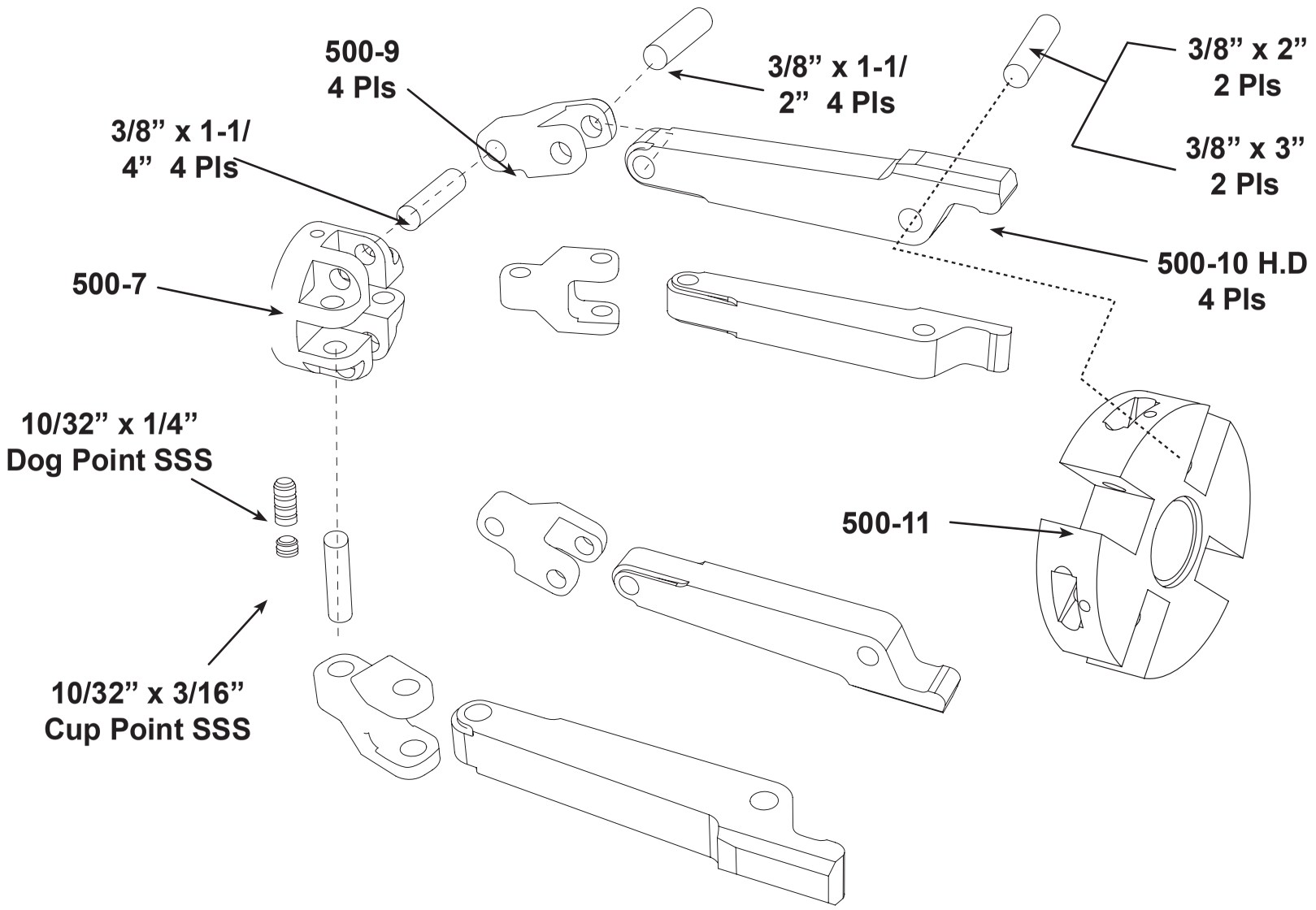


500-D-1 Exploded View



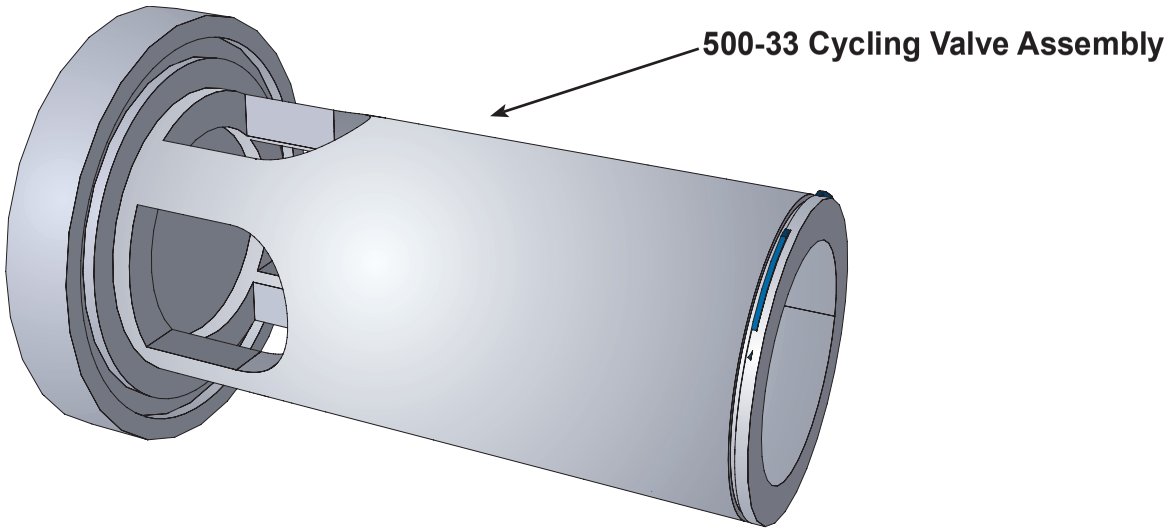
500-TOG Toggle Assembly

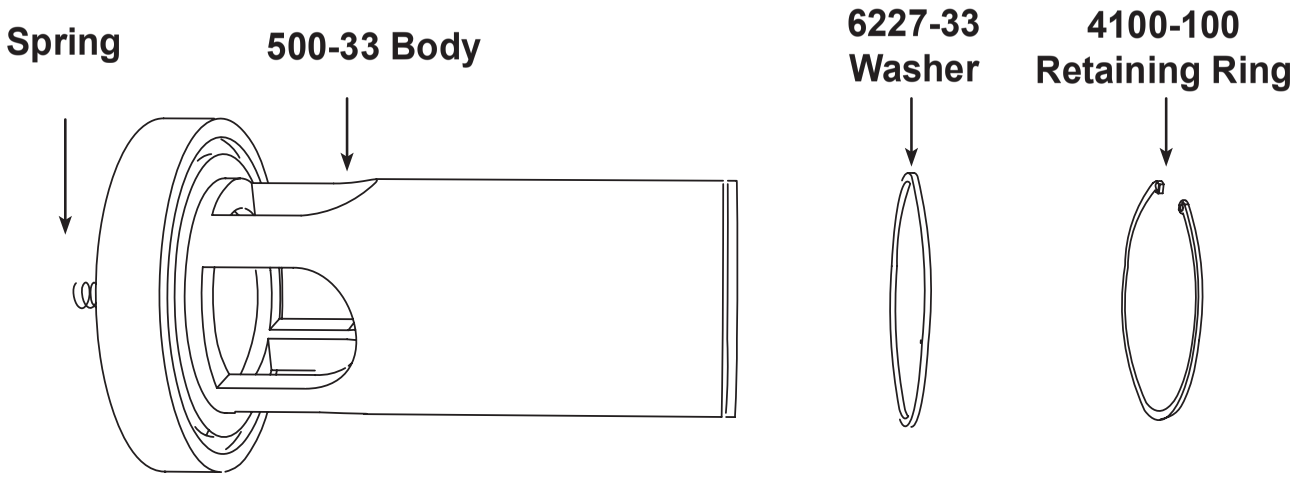
(all models)



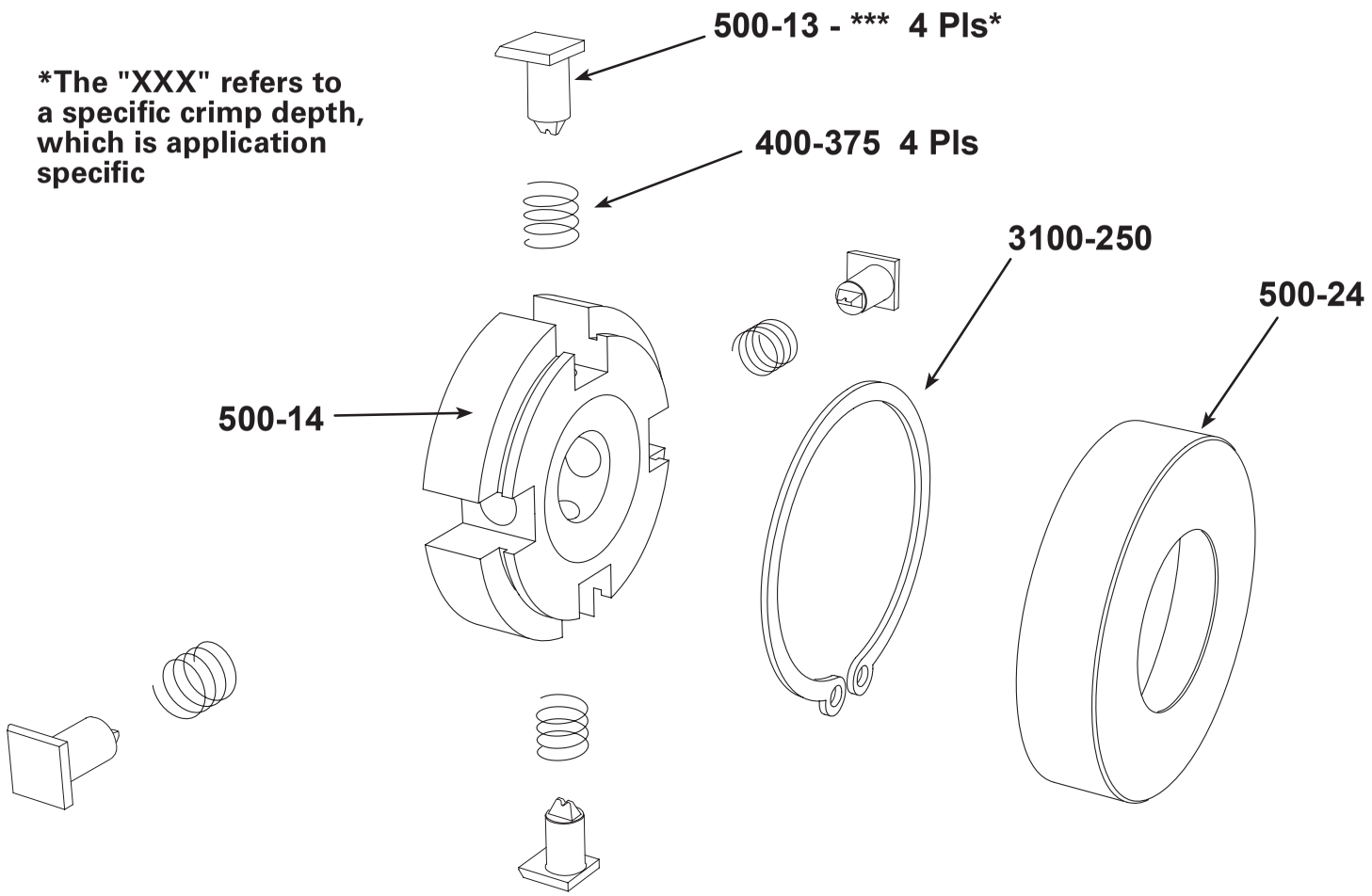
500-33 Cycling Valve Assembly

(models 500-D & 500-D-1)





Die Assembly



*** Specific Indentor Part Number
is determined by the Die Application

PARTS LISTS • 500-EC POWER UNIT

Part #	Description	Qty
.040 SS Washer	Washer	1
1/4-20 x 3/8 SHCS	Socket Cap Screw	1
10-32 x 5/16 FHSCS	Half Dog SSS	4
10-32 x 5/8 FHSCS	Flat Head Cap Screw	4
5/16-18 x 1	Socket Cap Screws	1
500-1	Body	1
500-1H	Handle	1
500-2A	Front Piston	1
500-2B	Front Piston Rod	1
500-5	Piston Stop	1
400-17A	Trigger Housing	1
400-17B	Trigger Slide	1
500-18	Front Housing	1
500-26	Cover Nut	1
500-29	Booster Cap	1
500-31	Piston Rod	1
500-32	Return Spring	1
500-BM	Bench Mount	1
500-TOG		
3/8 x 1-1/4	Dowel	4
3/8 x 1-1/2	Dowel	4
3/8 x 2	Dowel	2
3/8 x 3	Dowel	2
10-32 x 1/4 SSS	Cup Point Screw	1
10-32 x 3/16 SSS	Dog Point Screw	1
500-7	Rear Anchor	1
500-9	Yoke	4

Part #	Description	Qty
500-TOG- continued		
500-10-HD	Heavy Duty Arm	4
500-11	Retainer	1
3000-550	Retaining Ring	1
568-353	O-Ring	1
6227-02	O-Ring	2
6227-07	O-Ring	2
6227-28	O-Ring	1
6230-20	O-Ring	1

Part #	Description	Qty
.040 SS Washer	Washer	1
1/4-20 x 3/8 SHCS	Socket Cap Screw	1
10-32 x 5/16 FHSCS	Half Dog SSS	4
10-32 x 5/8 FHSCS	Flat Head Cap Screw	4
5/16-18 x 1-3/4 FHSCS	Booster Body Cap Screw	4
500-1	Body	1
500-1H	Handle	1
500-2A	Front Piston	2
500-2B	Front Piston Rod	1
500-5	Piston Stop	1
400-17A	Trigger Housing	1
400-17B	Trigger Slide	1
500-18	Front Housing	1
500-26	Cover Nut	1
500-29	Booster Cap	1
500-30	Booster Body	1
500-31	Piston Rod	1
500-32	Return Spring	1
500-33	**Cycling Valve Assembly**	**1**
500-33	Cycling Valve Body	1
6227-33	Washer	1
4100-100	Retaining Ring	1
500-BM	Bench Mount	1

Part #	Description	Qty
500-TOG		
3/8 x 1-1/4	Dowel	4
3/8 x 1-1/2	Dowel	4
3/8 x 2	Dowel	2
3/8 x 3	Dowel	2
10-32 x 1/4 SSS	Cup Point Screw	1
10-32 x 3/16 SSS	Dog Point Screw	1
500-7	Rear Anchor	1
500-9	Yoke	4
500-10-HD	Heavy Duty Arm	4
500-11	Retainer	1
3000-550	Retaining Ring	1
568-353	O-Ring	2
6227-02	O-Ring	2
6227-07	O-Ring	2
6227-14	O-Ring	1
6227-28	O-Ring	1
6230-20	O-Ring	1
6230-33	O-Ring	1

PARTS LISTS • 500-D-1 POWER UNIT

Part #	Description	Qty
.040 SS Washer	Washer	1
1/4-20 x 3/8 SHCS	Socket Cap Screw	1
10-32 x 5/16 FHSCS	Half Dog SSS	4
10-32 x 5/8FHSCS	Flat Head Cap Screw	4
5/16-18 x 5/8 FHSCS	Booster Body Cap Screw	4
5/16-18 x 1-3/4 FHSCS	Booster Body Cap Screw	4
500-1	Body	1
500-1H	Handle	1
500-2A	Front Piston	2
500-2B	Front Piston Rod	1
500-3A4	Front Piston	1
500-5	Piston Stop	1
400-17A	Trigger Housing	1
400-17B	Trigger Slide	1
500-18	Front Housing	1
500-26	Cover Nut	1
500-29	Booster Cap	1
500-29-1	Booster Cap	1
500-30	Booster Body	2
500-31	Piston Rod	1
500-31-1	Piston Rod	1
500-32	Return Spring	1
500-33	**Cycling Valve Assembly**	**1**
500-33	Cycling Valve Body	1
6227-33	Washer	1
4100-100	Retaining Ring	1

Part #	Description	Qty
500-BM	Bench Mount	1
500-TOG		
3/8 x 1-1/4	Dowel	4
3/8 x 1-1/2	Dowel	4
3/8 x 2	Dowel	2
3/8 x 3	Dowel	2
10-32 x 1/4 SSS	Cup Point Screw	1
10-32 x 3/16 SSS	Dog Point Screw	1
500-7	Rear Anchor	1
500-9	Yoke	4
500-10-HD	Heavy Duty Arm	4
500-11	Retainer	1
3000-550	Retaining Ring	1
568-353	O-Ring	3
6227-02	O-Ring	2
6227-07	O-Ring	2
6227-14	O-Ring	1
6227-28	O-Ring	1
6230-20	O-Ring	1
6230-33	O-Ring	2

PICO CORPORATION

500 Series Die & Locator Cross Reference Catalog

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500 Series Terminals Data 6

Insulated Terminals 7
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Pin & Socket Contacts 10-11

PICO CORPORATION

500 SERIES

The most versatile crimping tool available today.

Dies are available that will handle pin and socket contacts as well as terminals, both insulated and non-insulated in sizes ranging from 8 to 250 MCM.

The Model 500 has the same safety cycling feature that is built into all of the Pico line of quality tools. It comes complete with a bench mount as standard equipment. Factory air pressure is sufficient for all sizes. With this addition to the Pico line, the coverage is extended from awg 26 to 25O MCM.

Human engineered to prevent accidents.

Patent Numbers 3,173,341, 3,201,969

APPLICATIONS		500	500-D	500-D-1
CONTACTS				
PINS				
		16 thru 4/0	16 thru 4/0	8 thru 4/0
SOCKETS				
SOLDERLESS TERMINALS				
INSULATED				
		16 thru 4/0	16 thru 250 MCM	16 thru 250 MCM
UNINSULATED				
COAXIAL APPLICATIONS		MAX. DIA.	MAX. DIA.	MAX. DIA.
CONTACTS		1.50	1.50	1.50
CONNECTORS		1.50	1.50	1.50

• Consult Factory on Specific Applications

444 Constitution Ave • Camarillo, CA 93012 • Ph: (805) 388-5510 FAX (805) 482-4038 sales@picotools.com • www.picotools.com

500 Series

STANDARD DIES		500-EC	500-D	500-D-1
514DA-20N	Pins & Sockets	Yes	Yes	Yes
514DA-16N	Pins & Sockets	Yes	Yes	Yes
514DA-12N	Pins & Sockets	Yes	Yes	Yes
514DA-8N	Pins & Sockets	Yes	Yes	Yes
514DA-6N	Pins & Sockets	Yes	Yes	Yes
514DA-4N	Pins & Sockets	Yes	Yes	Yes
514DA-2N	Pins & Sockets	Yes	Yes	Yes
514DA-1/0N	Pins & Sockets	Yes	Yes	Yes
514DA-2/ON	Pins & Sockets	Yes	Yes	Yes
514DA-4/ON-1	Pins & Sockets	Yes	Yes	Yes
514DA-250 MCM	Pins & Sockets	No	Yes	Yes
514DA-16-14-IT	Insulated Terminals	Yes	Yes	Yes
514DA-12-10-IT	Insulated Terminals	Yes	Yes	Yes
514DA-8IT	Insulated Terminals	Yes	Yes	Yes
514DA-6IT	Insulated Terminals	Yes	Yes	Yes
514DA-4T	Insulated Terminals	Yes	Yes	Yes
514DA-2IT	Insulated Terminals	Yes	Yes	Yes
514DA-250 MCM IT	Insulated Terminals	No	Yes	Yes
514DA-1/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-2/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-3/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-4/O-IT	Insulated Terminals	Yes	Yes	Yes
514DA-16-14-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-12-10-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-8NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-6NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-4NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-2NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-1/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-2/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-3/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-4/0-NIT	Non-Insulated Terminals	Yes	Yes	Yes
514DA-250 MCM NIT	Non-Insulated Terminals	No	Yes	Yes

OPTIONAL ACCESSORIES

Foot Controls
GAGES
Fitted Storage Cases

NOTE:

1. This list includes but a small sample of the die applications available. Consult the factory for specific requirements
2. Consult locator catalog or factory for proper locators.
3. Tools are warranted for 90 days against defects in material or workmanship but should be returned to the factory every year for servicing.

PICO CORPORATION

LOCATOR and DIE ASSEMBLY CATALOG
for use with

PICO MODEL 500 SERIES POWER UNITS

Order by Locator No. and /or Die assembly No.
Effective March 1st, 2002

Version 1.0

NOTE: Contacts or terminals which may not be listed in the current catalog can usually be satisfactorily crimped with stock dies. We would be pleased to study your needs in this category, and advise you whether special dies would be required.

SOLDERLESS TERMINAL (LUGS) - CLOSED BARREL TYPES
"NIT" NON-INSULATED TERMINALS "IT" INSULATED TERMINALS

There are three basic methods used in the manufacture of closed barrel style solderless terminals, These variations affect the selection of proper die assemblies and locators.

1) Terminal made from **FLAT STOCK**:

Flat stock terminals have a greater wall thickness then tube stock, solid stock or cold headed. Forming of flat stock into a round crimp barrel results in a seam down the longitudinal axis of the barrel. This seam is usually brazed. The die sets used with terminals, which have a seam, have a concave profile on the indenter that is aligned with the seam. The purpose of this concave profile is to capture the seam and prevent separation during the crimp process. There are several manufacturers of flat stock terminals. Among them are Amp, ETC, 3M, Ideal and Wearnes Hollingsworth Corp.

2) Terminals made from **TUBE STOCK**:

Burndy and Thomas and Betts manufacture terminals in smaller sizes using both flat and tube stock (22-18 thru 12-10), Larger sizes are made from tube stock (8 thru 2/0). All four indentors in the die sets used with tube stock terminals are the same and produce four symmetrical indentations. These die sets are identified with a " -B " suffix.

3) Terminals made from **SOLID STOCK AND COLD HEADED**:

Contact Pico Corporation for proper die assemblies and locators for these terminal styles..

In most cases the same locator will perform satisfactorily for **"IT" INSULATED** and **"NIT" NON-INSULATED TERMINALS**, but a locator for a tube stock terminal will not work with a flat stock terminal.

Special dies and locators are available for flag and right angle terminals. If you are in doubt, please contact Pico Corporation.

INSULATED TERMINALS-MS25036

MS25036		GROUP 1		T & B		BURNDY	
Dash #.	SIZE	514DA-	LOC	514DA-	LOC	514DA-	LOC
-115	8	8IT	5502	8IT	5502-1	8IT	5502-3
-116	8	8IT	5502	8IT	5502-1	8IT	5502-3
-117	8	8IT	5502	8IT	5502-1	8IT	5502-3
-118	8	8IT	5502	8IT	5502-1	8IT	5502-3
-119	6	6IT	5503	6IT	5503-1	6IT	5503-3
-120	6	6IT	5503	6IT	5503-1	6IT	5503-3
-121	6	6IT	5503	6IT	5503-1	6IT	5503-3
-122	6	6IT	5503	6IT	5503-1	6IT	5503-3
-123	4	4IT	5504	4IT	5504-1	4IT	5504-3
-124	4	4IT	5504	4IT	5504-1	4IT	5504-3
-125	4	4IT	5504	4IT	5504-1	4IT	5504-3
-126	2	2IT	5505	2IT	5505-1	2IT	5505-3
-127	2	2IT	5505	2IT	5505-1	2IT	5505-3
-128	2	2IT	5505	2IT	5505-1	2IT	5505-3
-132	0	0IT	5510-2	0IT	5510-1	0IT	5510-3
-133	0	0IT	5510-2	0IT	5510-1	0IT	5510-3
-134	0	0IT	5510-2	0IT	5510-1	0IT	5510-3
-135	0	2/0IT	5520-2	2/0IT	5520-1	2/0IT	5520-3
-136	0	2/0IT	5520-2	2/0IT	5520-1	2/0IT	5520-3
-137	0	2/0IT	5520-2	2/0IT	5520-1	2/0IT	5520-3
-138	0	3/0IT	5530-2	3/0IT	5530-1	3/0IT	5530-3
-139	0	3/0IT	5530-2	3/0IT	5530-1	3/0IT	5530-3
-140	0	4/0IT	5540-2	4/0IT	5540-1	4/0IT	5540-3
-141	0	4/0IT	5540-2	4/0IT	5540-1	4/0IT	5540-3

NON-INSULATED TERMINALS-MS20659

MS20659		GROUP 1		T & B		BURNDY	
Dash #.	SIZE	514DA-	LOC	514DA-	LOC	514DA-	LOC
-140	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-107	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-141	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-108	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-129	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-142	8	8NIT	5502	8NIT	5502-1	8NIT	5502-3
-130	6	6NIT	5503	6NIT	5503-1	6NIT	5503-3
-109	6	6NIT	5503	6NIT	5503-1	6NIT	5503-3
-131	6	6NIT	5503	6NIT	5503-1	6NIT	5503-3
-110	6	6NIT	5503	6NIT	5503-1	6NIT	5503-3
-143	6	6NIT	5503	6NIT	5503-1	6NIT	5503-3
-144	4	4NIT	5504	4NIT	5504-1	4NIT	5504-3
-111	4	4NIT	5504	4NIT	5504-1	4NIT	5504-3
-132	4	4NIT	5504	4NIT	5504-1	4NIT	5504-3
-112	4	4NIT	5504	4NIT	5504-1	4NIT	5504-3
-145	4	4NIT	5504	4NIT	5504-1	4NIT	5504-3
-146	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-113	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-147	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-114	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-148	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-133	2	2NIT	5505	2NIT	5505-1	2NIT	5505-3
-117	0	0NIT	5510-2	0NIT	5510-1	0NIT	5510-3
-118	0	0NIT	5510-2	0NIT	5510-1	0NIT	5510-3
-135	0	ONIT	5510-2	ONIT	5510-1	ONIT	5510-3
-151	0	ONIT	5510-2	ONIT	5510-1	ONIT	5510-3
-152	0	ONIT	5510-2	ONIT	5510-1	ONIT	5510-3
-153	0	2/0NIT	5520-2	2/0NIT	5520-1	2/0NIT	5520-3

NON-INSULATED TERMINALS-MS20659

MS20659 Dash #.	SIZE	GROUP 1 514DA-	GROUP 1 LOC	T & B 514DA-	T & B LOC	BURNDY 514DA-	BURNDY LOC
-119	0	2/0NIT	5520-2	2/0NIT	5520-1	2/0NIT	5520-3
-120	0	2/ONIT	5520-2	2/ONIT	5520-1	2/ONIT	5520-3
-154	0	2/ONIT	5520-2	2/ONIT	5520-1	2/ONIT	5520-3
-136	0	2/ONIT	5520-2	2/ONIT	5520-1	2/ONIT	5520-3
-155	0	3/0NIT	5530-2	3/0NIT	5530-1	3/0NIT	5530-3
-121	0	3/0NIT	5530-2	3/0NIT	5530-1	3/0NIT	5530-3
-156	0	3/0NIT	5530-2	3/0NIT	5530-1	3/0NIT	5530-3
-122	0	3/0NIT	5530-2	3/0NIT	5530-1	3/0NIT	5530-3
-157	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-123	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-158	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-124	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-159	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-160	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-137	0	4/0NIT	5540-2	4/0NIT	5540-1	4/0NIT	5540-3
-155)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-121)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-156)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-122)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-157)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-123)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-158)	OOO	3/ONIT	5530-2	3/ONIT	5530-1	3/ONIT	5530-3
-124)	OOOO	4/ONIT	5540-2	4/ONIT	5540-1	4/ONIT	5540-3
-159)	OOOO	4/ONIT	5540-2	4/ONIT	5540-1	4/ONIT	5540-3
-160)	OOOO	4/ONIT	5540-2	4/ONIT	5540-1	4/ONIT	5540-3
-137)	OOOO	4/ONIT	5540-2	4/ONIT	5540-1	4/ONIT	5540-3

PIN & SOCKET CONTACTS

CONTACT	SIZE	MANF'R	DIE ASSY	LOCATOR
030-1213-000	#4	ITT Cannon	514DA-4N	5420-3
031-0501-000	#4	ITT Cannon	514DA-4N	5475
031-1005-000	0	ITT Cannon	514DA-2N	5430-2
1011X-124-011 P)	#2	G & H Technology	514DA-2 HEX	5430-5
1011X-125-001 P)	#4	G & H Technology	514DA-4N	5420-5
1011X-125-013 P)	0	G & H Technology	514DA-0N	5440-5
1011X-125-013 P)	0	G & H Technology	514DA-0 HEX	5440-4 or 5475
1011X-910-001 S)	0	G & H Technology	514DA-0N	5440-5
1011X-910-001 S)	0	G & H Technology	514DA-0 HEX	5440-4 or 5475
1011X-P-902-001 S)	#2	G & H Technology	514DA-2N	54304
1011X-P-902-001 S)	#2	G & H Technology	514DA-2-HEX	5430-5
131-0502-000	“0”	ITT Cannon	514DA-0N	5443
27915 P	#8	VEAM	514DA-8N	5404
27916 P	#4	VEAM	514DA-4N	5421
27917 P	0	VEAM	514DA-0N	5442
27935 S	#8	VEAM	514DA-8N	5404
27936 S	#4	VEAM	514DA-4N	5421
27937 S	0	VEAM	514DA-0N	5441
330-0190-000	#4	ITT Cannon	514DA-4N	5420-4
330-0191-000	“0”	ITT Cannon	514DA-0N	5443
330-0197-000	“0”	ITT Cannon	514DA-0N	5443
BAN 7027-1 S)	2/0	Flight Connector	514DA-2/0-D	5401
BAN 7027-1 S)	2/0	Tri-Star	514DA 2/0D	5401
BAN 7027-501 P)	2/0	Flight Connector	514DA-2/0-D	5402
BAN 7027-501 P)	2/0	Tri-Star	514DA-2/-D	5402
MS90453-0-0	1/0	Mil. Std	514DA-1/0N	5440
MS90453-4-4	4	Mil. Std	514DA-4N	5420
MS90453-8-8	8	Mil. Std	514DA-8N	5400
MS90454-0-0	1/0	Mil. Std	514DA-1/0N	5440
MS90454-4-4	4	Mil. Std	514DA-4N	5420

PIN & SOCKET CONTACTS

CONTACT	SIZE	MANF'R	DIE ASSY	LOCATOR
MS90454-8-8	8	Mil. Std	514DA-8N	5400
MS90559-1	4/0	Mil. Std	514DA-4/0N	5470
MS90559-10	4N	Mil. Std	514DA-4N	5420-1
MS90559-11	6	Mil. Std	514DA-6N	5410
MS90559-12	6N	Mil. Std	514DA-6N	5410
MS90559-13	4G	Mil. Std	514DA-4N	5420-1
MS90559-14	6G	Mil. Std	514DA-6N	5410
MS90559-2	4/0N	Mil. Std	514DA-4/0N	5470
MS90559-3	2/0	Mil. Std	514DA-2/0N	5450
MS90559-4	2/0N	Mil. Std	514DA-2/0N	5450
MS90559-6	1/0N	Mil. Std	514DA-1/0N	5440-1
MS90559-6	1/0	Mil. Std	514DA-1/0N	5440-1
MS90559-7	2N	Mil. Std	514DA-2N	5430
MS90559-8	4	Mil. Std	514DA-4N	5420-1
MS90559-9	4N	Mil. Std	514DA-4N	5420-1
MS90560-1	4/0	Mil. Std	514DA-4/0N	5470
MS90560-2	2/0	Mil. Std	514DA-2/0N	5450
MS90560-3	1/0	Mil. Std	514DA-1/0N	5440-1
MS90560-4	2	Mil. Std	514DA-2N	5430
MS90560-5	4	Mil. Std	514DA-4N	5420-1
MS90560-6	4	Mil. Std	514DA-4N	5420-1
MS90560-7	6	Mil. Std	514DA-6N	5410
MS90560-8	6G	Mil. Std	514DA-6N	5410
MS90560-9	4G	Mil. Std	514DA-4N	5420-1