# Atlas EZ Set Manual

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- This instruction manual is for production engineers and maintenance personnel in charge of operation of this product. Please make sure that when a beginner uses this product, they receive instructions from experienced personnel, the distributor or PBA.

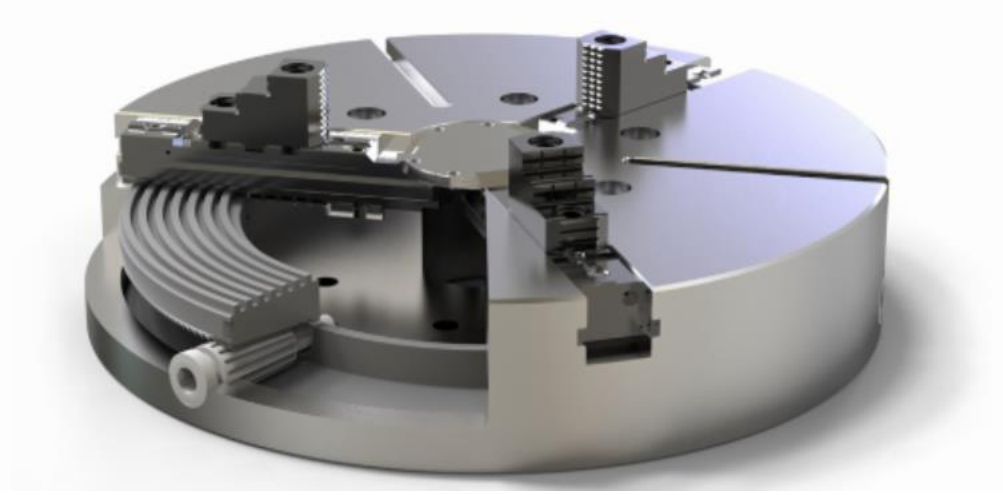
- Before installing, operating or maintaining this equipment, carefully read this manual. Failure to follow these instructions and safety precautions could result in serious injury, death, or property damage.

- Store this manual near the equipment for future reference.

# Index

Please read this manual carefully to ensure an appropriate use of your Atlas EZ Set chuck and pay special attention to safety and maintenance instructions.





# **(1)** Parts List

In your box, depending on the acquired chuck, you will find the following:

- Chuck with reversible hard top jaws

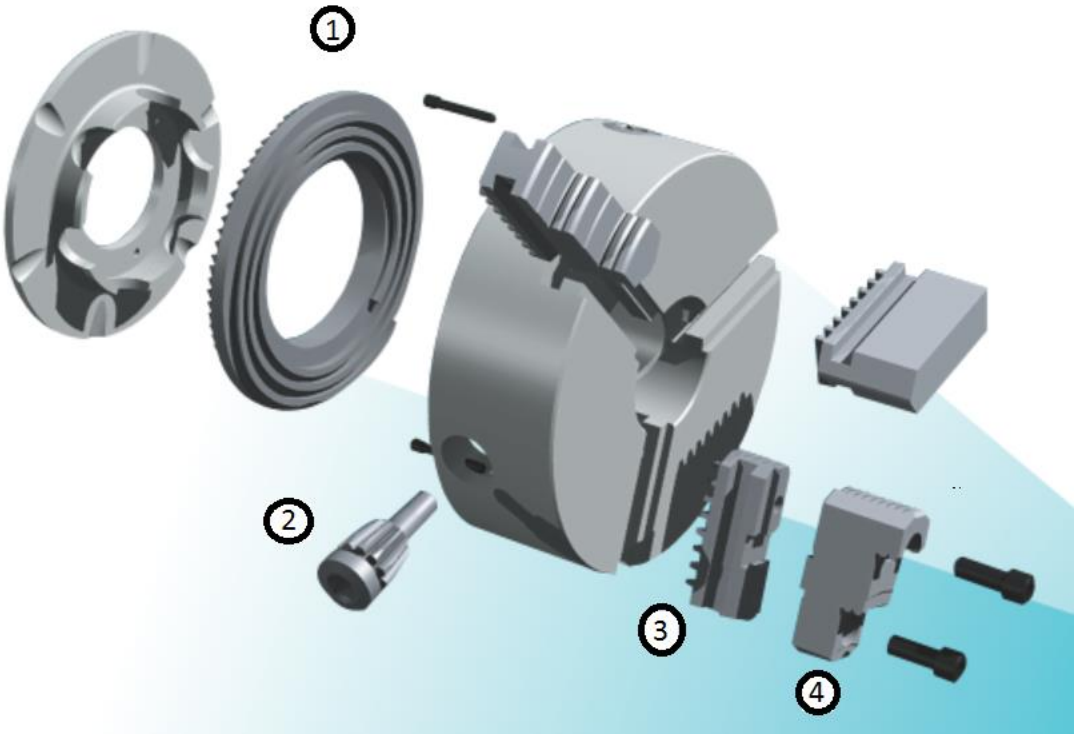
- Operating key for pinions

- Mounting bolts and Allen key

# **(2)** Spare Parts

Available spare parts for your chuck are as follows:

(1) Scroll Gear
(2) Pinion Gear
(3) Base/Master jaw set
(4) Hard top jaw set
(5) Micro Adjustment screw




*Please consult factory for part numbers

# **(3)** General Concepts

Atlas Workholding chucks are high quality products built under technical and safety requirements. First class materials are used in the building process to ensure long lasting life of chuck. Atlas Workholding holds a large inventory of replacements to guarantee your chuck is always in its best possible condition.

# Usage

Atlas Workholding chucks are designed to solve clamping needs in any horizontal or vertical lathe from every brand worldwide.

However, they can also be used to clamp any piece that needs to be static in milling machines, machine centers, drills, grinders and generally in any application that requires precise concentric clamping.

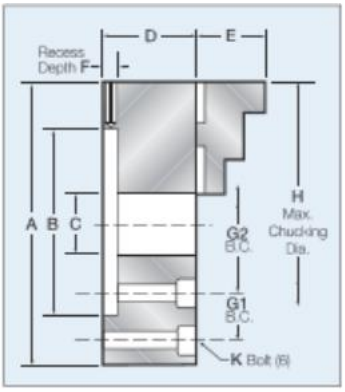
# **(4)** Safety

- Ensure that your machine is turned off when installing and changing the chuck.
- Always consider that due to centrifugal force the clamping force decreases as the revolutions of the lathe increases.
- Never work over the maximum revolutions indicated.
- Make sure that all the chuck mounting screws and screws between the base and top jaw have been properly secured & torqued.
- When clamping, ensure hands are out of clamping area.
- Always use safety glasses.
- Never modify the chuck.
- Make sure that jaws used are as light as possible.
- Never neglect lubrication.
- Never hit the chuck key with other tools or use a pipe to get greater clamping force. Using the hand key that comes with the chuck will be enough to get the maximum gripping force.
- Use a tail stock when machining a long work piece.
- When lifting the chuck use an eyebolt or lifting belt. Never operate the machine under the influence of alcohol or drugs.
- Gloves and ties should not be worn when operating the machine.

# (5) Technical Specifications

| Chuck Size | Max Input Torque lbs/f | Output Force lbs/f | RPM Max | Aproximate Weight |
|---|---|---|---|---|
| 6 inch | 55 | 7500 | 3000 | 20 |
| 8 inch | 85 | 10500 | 2500 | 43 |
| 10 inch | 115 | 12500 | 2000 | 67 |
| 12 inch | 140 | 15000 | 1500 | 115 |
| 15 inch | 140 | 16500 | 1000 | 225 |

Note: Maximum revolutions indicated are under optimal machining conditions, with the center of gravity of the piece placed at the center of the lathe bore




| Chuck Size | A | B | C | D | E | F | G1 | G2 | H | K | GRIPPINGCAPACITY MIN | MAX |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 inch | 6 | 3.125 | 1.54 | 2.52 | 1.728 | 0.69 | 5.34 | | 6.5 | 1/4 | 1/8 | 5 |
| 8 inch | 8.25 | 4.75 | 2.362 | 3.122 | 1.141 | 0.732 | 7.5 | | 8.5 | 3/8 | 3/16 | 6 1/2 |
| 10 inch | 10 | 6.375 | 3.031 | 3.504 | 2.118 | 0.803 | | 4.38 | 11 | 7/16 | 15/32 | 8 |
| 12 inch | 12 | 7.906 | 4.055 | 4.035 | 2.492 | 0.799 | | 5.25 | 12.5 | 1/2 | 27/64 | 10 |
| 15 inch | 15 | 11.781 | 4.567 | 5.362 | 2.866 | 1.091 | | 6.75 | 16 | 5/8 | 9/16 | 15 |

# **(6)** Clamping capacity

Scroll chucks minimum clamping dimension may change based on the thru bore of the chuck. The max clamping capacity will not change. The maximum amount of master jaw extended outside the chuck body should never exceed 25% of its length. Extended length jaws can be used to grip smaller diameters. Refer to technical specifications for Max and Min clamping capacities.

# **(7)** Adapter Mounting

Atlas EZ set chucks are precision manufactured for adapter plate mounting. We offer a full line of mounting plates to fit types “D”, “A”, “L” and threaded spindles. Special adapters to fit different applications are also available, including rotary table adapters.

- Every surface of lathe spindle and adapter should be clean, making sure that neither of them have been damaged.
- Lathe spindles should be checked radial and axially. Maximum error should be less than .0002”.
- Adapter should be checked on the chuck side face, close to the mounting holes. Error should be less than .0005”
- If the error exceeds the .0005” take a truing cut across the face of the adapter to true it with your spindle.

# (8) Chuck Mounting / EZ Set Feature

- The Atlas EZ set feature has been designed to compensate for any inaccuracy which may be introduced in mounting the chuck and spindle nose adapter.
- At the rear of the chuck body periphery there are 4 dog point screws. These control float between the chuck body and the spindle nose adapter.
- The Atlas EZ set feature is easy to use. After following the instructions in section (7) mounting. Ensure all mating surfaces are thoroughly cleaned. The chuck should be mounted with the through mounting bolts lightly hand tightened. Check the runout on the chuck periphery using a suitably positioned dial indicator. Adjust the 4 adjustment screws to obtain optimum accuracy. Fully tighten the mounting bolts to the specification below.
- Once set the chuck will require no further adjustment.
- The chuck will repeat on duplicate parts within .0005”

| Chuck Size | Bolt Size | Max mount bolt Torque lbs/f |
|---|---|---|
| 6 inch | 1/4" | 10 |
| 8 inch | 3/8" | 20 |
| 10 inch | 7/16" | 25 |
| 12 inch | 1/2" | 30 |
| 15 inch | 5/8" | 35 |

# **(9)** Maintenance

- Treating your chuck carefully applying grease to friction areas periodically will make the chuck last longer and with greater precision. To get the best possible precision in second operations, soft jaws should be machined to the chuck. It should be remembered that to turn the soft jaws, all slack of the mechanism must be eliminated. Use of a boring ring or pin would be recommended.
- Clean and lubricate the chuck regularly with Pratt Burnerd Americas PB160Z chuck lubricant. To obtain greater efficiency, old grease and dirt should be removed before lubricating again.
- Chuck damages are mostly due to improper usage. Most common damages could be avoided if:
    - Only the correct key is used in the pinion
    - Cheater bars/pipes are not used to turn the chuck key
    - Lathe is not turned on until everything is in its place
    - Key is removed from pinion before turning of lathe
    - Chuck is not used for too heavy or too large parts
    - Never grip pieces that are larger than the chuck diameter

A chuck is a precision tool that deserves to be treated the best possible way. Pratt Burnerd America is not liable for damages due to misuse of the chuck.

# **(10)** Warranty

PBA/Atlas Workholding guarantees the correct functioning of its products under normal conditions for a period of 1 year. This covers workmanship, specified accuracy and material defects.

- PBA/Atlas Workholding will repair or replace at our discretion the part, or the entire product and include labor if found defective.
- PBA/Atlas Workholding is not responsible for any resulting down time or resulting physical damage caused from a defective product.
- The warranty is void if the product is found to be misused or used in a way it was not intended for.
- All warranty claims are subject to inspection by PBA/Atlas Workholding in our facility in Kalamazoo, Michigan.
- Any item returned for warranty claim MUST be freight prepaid.