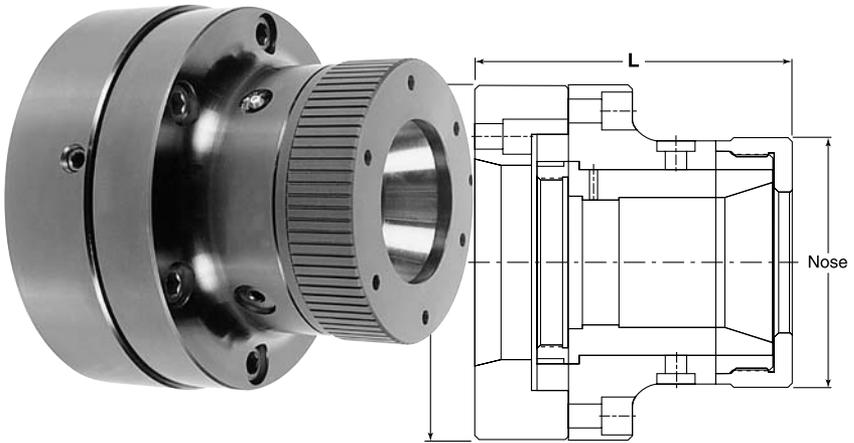


# HARDINGE®

**INSTALLATION BOOKLET FOR:**

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## **Dead-Length® Collet Adaptation Chucks Stationary Collet**



Read the enclosed instructions and  
recommendations before any installations

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Dead-Length® Collet Adaptation Chucks - Stationary Collet

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## Box Contents

- Mounting Plate
- Mounting Hardware
- Collet Chuck Assembly
- Drawtube Adapter (*DTA*)
- Part Stop/Ejector (*separate purchase*)
- Master Collet (*for Style "S" system only*)

### **Bonus Package:**

- \* Nut Wrench
- \* Collet Sleeve Anti-Rotation Screw
- \* Spline Wrench (*for Style "S" DL system only*)
- \* Chip Cover & Screws (*only for new style systems*)
- \* Pad Clamp Assembly (*for Style "S" DL system only*)
- \* Chip Protection Wrap (*for Style "S" DL system only*)

### **For Parts and Service Call:**

PH: (800) 843-8801    In Canada: (800) 468-5946  
Other: (607) 734-2281    Fax: (607) 734-3886

# **Mounting Instructions For: Dead-Length® Collet Adaptation Chuck Stationary Collet**

*For American Standard and Select Flat-Nose Spindles*

1. Remove the existing chuck, fixtures and any face plate attachments. Thoroughly clean the mounting surface of the spindle free from any chips or debris.
  2. Clean both the spindle and the chuck side of the mounting plate.
  3. **For shipping purposes, the drawtube adapter may already be threaded into the closing sleeve.** Make sure that the drawtube adapter is completely tightened into the closing sleeve. If the drawtube adapter is shipped unassembled with the system or packaged separately, place the collet chuck assembly down, mounting flange end up, thread the drawtube adapter into the closing sleeve, and tighten completely.
  4. Clean the machine plate bore of the collet chuck after installing the drawtube adapter.
  5. **AMERICAN STANDARD SPINDLES:**  
Line up the machine's drive pin, located on the machine's spindle, with one of the drive pin holes located on the mounting plate. Place the mounting plate onto the machine's spindle. Secure the mounting plate onto the machine's spindle with the supplied mounting bolts. Install and fully tighten the mounting bolts in an alternating sequence, (crisscross).
- SELECT FLAT -NOSE SPINDLES:**  
Most select flat-nose spindles **WILL NOT** have a drive pin located on the machine's spindle or a drive pin hole located on the collet chuck mounting plate. For select flat-nose spindles, do not completely tighten mounting bolts; this allows the mounting plate to be properly indicated to the spindle. With a .0001" dial indicator, indicate the mounting plate onto the machine's spindle to have a zero TIR. Once properly adjusted and indicated, fully tighten the mounting bolts.
6. Extend the machine's drawtube to the forward/open position.
  7. Turn the machine's drawtube pressure down just enough to actuate the collet chuck system.
  8. Place the collet chuck assembly (body and drawtube adapter) onto the machine's drawtube, turning clockwise. Just before the collet chuck assembly is completely threaded onto the machine's drawtube, turn back the collet chuck assembly to the nearest bolt hole location on the mounting plate.

**Continued . . .**

# ***Mounting Instructions – Cont'd***

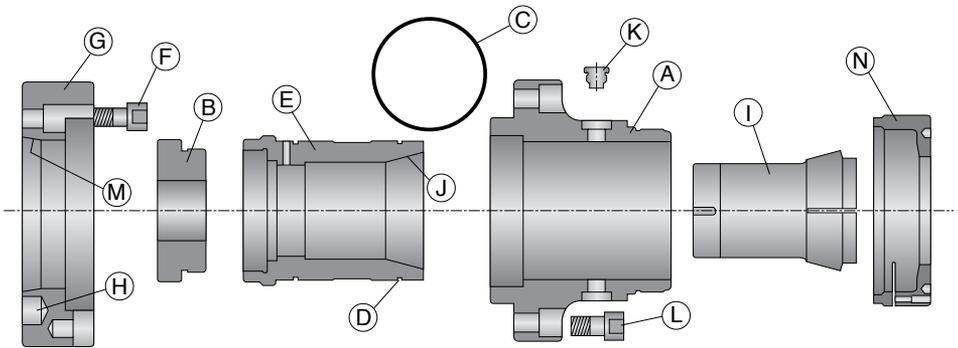
9. Retract the machine's drawtube making sure that all the mounting holes are aligned.
10. Install all the mounting bolts firmly, (finger tight). **DO NOT** completely tighten. This allows the collet chuck assembly to be properly adjusted and indicated to the machine's spindle.
11. To ensure proper installation, place a .0001" dial indicator on the OD of the collet chuck nose. Use the four adjusting screws to adjust and indicate the collet chuck to the desired TIR.
12. Make sure that the machine's drawtube is in a retracted position when adjusting for TIR.
13. Completely tighten all the mounting bolts in an alternating sequence (crisscross). Use a .0001" dial indicator to maintain desired TIR when completely tightening the mounting bolts.
14. With the drawtube still in a retracted position, insert the desired collet into the collet chuck assembly. Thread the nose cap (nut) completely onto the collet chuck body.
15. Using a Hardinge nut wrench, proceed to tighten the nose cap (nut) onto the collet chuck body. Thread the  $\frac{10}{32}$  set screw, located on the face of the nose cap (nut), until secure, locking the nose cap (nut) into place.
16. Set the machine for ID chucking. Insert a workpiece into the collet and actuate the drawtube. Adjust the machine's drawtube pressure to the desired pressure needed to hold the workpiece.

**NEVER ACTUATE THE SYSTEM  
WITHOUT A WORKPIECE IN THE COLLET**

# Stationary Collet Systems

Key	Description	Qty.
A	Collet Chuck Body	1
B	Drawtube Adapter	1
C	"O" Ring	1
D	"O" Ring Grooves	2
E	Closing Sleeve	1
F	Mounting Bolt (for mounting plate)	6
G	Mounting Plate	1
H	Drive Pin Hole	1

Key	Description	Qty.
I	Index Collet/Master Collet	1
J	Collet Closing Taper	1
K	Closing Sleeve Anti-Rotation Screw	2
L	Collet Chuck Mounting Bolt	6
M	Spindle Mounting Taper	1
N	Nose Cap (Nut)	1
O	Nose Cap (Nut) Wrench	1



## Trouble Shooting Guide

### Workpiece moves in collet:

- 1) Machine parameters not switched for ID chucking.
- 2) Nose cap is loose.
- 3) Hydraulic actuator pressure too low.
- 4) Excessive feed rates.
- 5) Chip build-up in system - limits stroke.
- 6) Dull cutting tools.

### Collet won't close:

- 1) Hydraulic actuator pressure too low.
- 2) Chip build-up between collet face and nose cap.
- 3) Drawtube adapter not completely tightened into closing sleeve.
- 4) Debris build-up in system.

### Collet sticks in closed position:

- 1) Hydraulic pressure too low.
- 2) Bearing diameter at rear of collet excessively out of round.
- 3) Debris build-up in system.
- 4) In the DL60 systems: wavy springs are missing or broken.

### Parts run out (TIR):

- 1) Chuck not indicated in properly.
- 2) Mounting surfaces not clean.
- 3) Burr on chuck or spindle.
- 4) Nose cap is loose.
- 5) Mounting bolts are loose.
- 6) Debris build up on collet/closing tapers.
- 7) Incorrect collet size in relation to workpiece diameter.

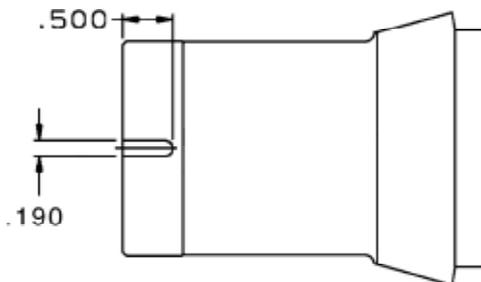
# Installation of Anti-Rotation Pin

## Removing Collet – Modification of Collet

### DL21 through DL90 Collet Chuck Series

*When removing and cleaning collets in the DL21 through DL90 collet chuck series, it is recommended that the collet be installed in the same radial location to ensure repeatability of part TIR. There are two ways to accomplish this:*

1. When installing the collet initially, align the stamped collet size, or the manufacturer's name with the grease zerk fitting located on the body of the chuck.
2. Use the anti-rotation pin in the collet sleeve. This anti-rotation pin is not normally pushed down in position in the collet sleeve because it requires modification of the collet rear bearing diameter.
  - a. To modify the collet for use of the anti-rotation pin, you must machine a keyway  $.190 + .002$ " wide by  $.500$ " long in the collet.
  - b. To place anti-rotation pin in the collet closing sleeve, remove the two  $\frac{1}{2}$ -20 anti-rotation pins in the body of collet chuck. Remove six mounting bolts that mount the collet chuck to the mounting plate. Carefully pull collet chuck body forward until you see a  $\frac{3}{16}$ " hole located  $1.125$ " from the end of the closing sleeve. Do not pull collet chuck body off sleeve.
  - c. Using a  $\frac{3}{16}$ " pin punch, punch roll pin in  $\frac{3}{16}$ " hole down until it protrudes approximately  $\frac{1}{8}$ " into collet sleeve bore.
  - d. Carefully push collet chuck body back against mounting plate, align  $\frac{1}{2}$ -20 anti-rotation bolts with  $\frac{3}{8}$ " wide slots in collet closing sleeve and install.
  - e. Install six mounting bolts in collet chuck body and indicate collet chuck back in.



*The use of the anti-rotation pin does not mean all collets will repeat the same TIR but it allows you to remove a collet that has been indicated in and replace it without losing TIR.*

**Note:** *When collet anti-rotation pins are used, all collets must be modified with a keyway before use.*

# Part Ejector

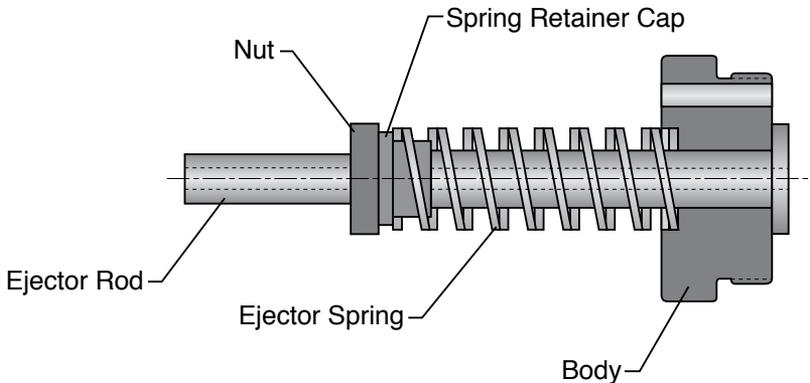
Installation Instructions for:

## Dead-Length® Collet Adaptation Chuck Stationary Collet Style DL60 & DL90

### Part Ejector Contents:

- ✓ (1) Collet Cap
- ✓ (1) Ejector Spring
- ✓ (1) 1/2"-20 Hex Nut
- ✓ (1) Spring Retainer Cap
- ✓ (1) 1/2"-20 Threaded Ejector Rod

1. Insert the **threaded ejector rod**, threaded end first, through the center of the threaded end of the **collet cap**, until it bottoms out.
2. Place the **ejector spring** around the **ejector rod** until it bottoms out against the counter bore of the **collet cap**.
3. Insert the **spring retainer cap** (pilot end first) over the pilot end of the **ejector rod**.
4. Compress the **ejector spring** against the **collet cap** until the threads of the **ejector rod** are exposed.
5. Holding down the **ejector spring**, insert the hex nut over the pilot end of the **ejector rod** until it contacts the threads. Thread the **hex nut** to the desired operation tension.
6. Thread the part ejector assembly into the internal threads of the drawtube adapter. Tighten completely.



# Part Ejector

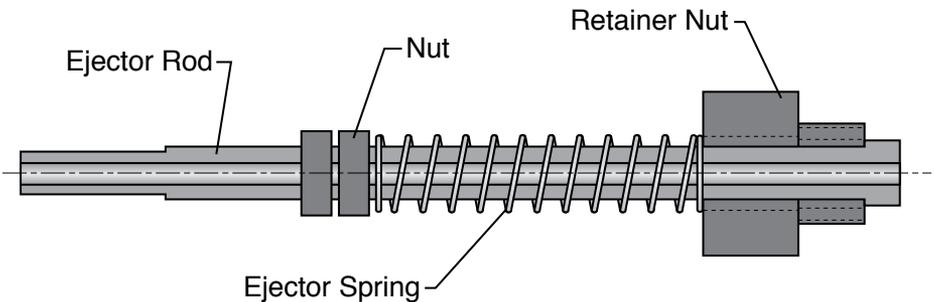
Installation Instructions for:

**Dead-Length® Draw Collet Style 22J-DL  
& Stationary Collet Style DL21, DL22 & DL42**

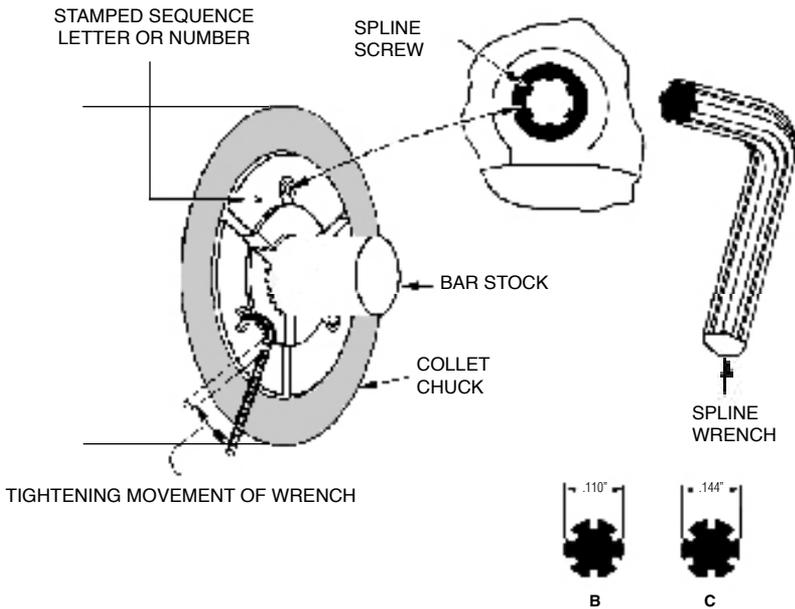
## Part Ejector Contents:

- ✓ (1)  $\frac{5}{16}$ "-18 Hex Nut
- ✓ (1) Threaded Ejector Rod
- ✓ (1)  $\frac{3}{4}$ " Retainer Nut (Threaded @  $\frac{9}{16}$ "-18)
- ✓ (1) Ejector Spring

1. Insert the **threaded ejector rod**, threaded end first, into the threaded end of the **retainer nut**.
2. Place the **ejector spring** around the **threaded ejector rod** until it bottoms out against the face of the **retainer nut**.
3. Compress the **ejector spring** against the **retainer nut** until the threads of the **threaded ejector rod** are exposed.
4. Holding down the spring, insert one **hex nut** over the pilot end of the **ejector rod** until it contacts the threads. Thread the **hex nut** to the desired operation tension.
5. Once the desired operation tension is obtained, thread the second **hex nut** onto the **ejector rod**, until flush against the first, locking them both in place.
6. Screw the part ejector assembly into the internal threads of the drawtube adapter. Tighten completely.



# Installation Instructions for: Style "S" Collet Pads



Thread the master collet into the Hardinge collet chuck. Place one collet pad into the pad clamp assembly (dovetail side first). **With the proper spline wrench**, tighten pad clamp securely by using firm finger pressure on spline wrench as shown in illustration. Install the remaining collet pads in the same fashion, being sure they are in alphabetical or numerical sequence. When tightening spline screw, it is not necessary to use an extension on the spline wrench. Place part or feed bar stock into the master collet and grip the stock using the proper tension. **Note: Always clean the collet pads and the master collet before installing pads.**

When removing Style "S" Collet Pads, do not remove pad clamp assembly from the master collet. Loosen the spline screw two turns with wrench; then, with finger pressure, push the pad clamp assembly back into the master collet. This clears the rear clamp dovetail of the master collet from the rear dovetail of the collet pad, enabling the collet pad to be removed.

**STANDARD S30 & S16 PULLBACK MASTER COLLETS HAVE LEFT HANDED THREADS**

# Care & Maintenance

**Store all Hardinge collet chucks in a clean, dry environment when not in use**

## Style "C" & "J" Pullback Systems

- 1) Thoroughly clean the closing tapers of your collet and collet chuck.\*
- 2) When changing collets, ensure that all threads are clean and free from any debris.
- 3) Remove the collet chuck system,\* wipe it clean and ensure the "O" ring seal(s) on the drawtube adapter are in good working condition.
- 4) When reassembling the collet chuck system, apply a generous amount of all purpose grease to the "O" ring(s) on the drawtube adapter.

## Style "S" Pullback Systems

- 1) Thoroughly clean the closing tapers of your master collet and collet chuck **FREQUENTLY**.\*
- 2) When installing and reinstalling the master collet, ensure that all surfaces are clean and free from any debris. Adjust the master collet, with collet pads installed, approximately .020" - .030" over the diameter size of the desired workpiece.
- 3) When changing collet pads, ensure that all surfaces are clean and free of any debris.
- 4) When installing and reinstalling collet pads, be certain that the collet pads are installed in the same numeric or alphabetical sequence.

## Dead-Length® Collet Adaptation Chuck – Stationary Collet Systems

- 1) Thoroughly clean the closing tapers of your master collet/collets and collet chuck closing sleeve **FREQUENTLY**.\*
- 2) Remove the nose cap, master collet and or collets **FREQUENTLY**.\* Clean any debris from the master collet and or collets, closing sleeve, and nose cap.
- 3) When installing and reinstalling the master collet/collets, ensure that all surfaces are clean from any debris.
- 4) Disassemble the collet chuck system **FREQUENTLY**,\* or as needed. Replace the "O" Ring(s) located on the collet closing sleeve, then reassemble the system. Be certain all parts are clean from chips and debris.
- 5) Once reassembled, check the collet chuck system for proper concentricity.
- 6) Apply a small amount of all purpose grease to the zerk fitting weekly or as needed.

## Dead-Length® Collet Adaptation Chuck – Scroll-Style Collet Systems

- 1) Thoroughly clean the closing tapers of your master collet/collets, collet chuck closing sleeve, and the collet retainer threads **FREQUENTLY**.\*
- 2) When installing and reinstalling the master collet/collets, ensure that all surfaces are clean from any debris.
- 3) Depending on the application and system usage, additional maintenance may be required. If the system loses stroke or any such related issue, please contact our applications department for further assistance.

**NOTE: IT IS EXTREMELY IMPORTANT TO KEEP THIS SYSTEM CLEAN AND FREE OF CHIPS AND DEBRIS.**

## Hardinge® - Sjogren Speed Collet Chuck Systems

- 1) Thoroughly clean the closing tapers of your collet and closing sleeve **FREQUENTLY**.\*
- 2) When changing collets, ensure that all threads of the collet and ring gear are clean and free from any debris.
- 3) Remove the speed collet chuck system **FREQUENTLY**,\* wipe the entire system clean from chips and debris.
- 4) Apply a small amount of all purpose grease to the grease fitting weekly or as needed.

*\*Frequency is determined by the production quantities and types of materials used: e.g., brass, aluminum, various steels, etc. The use of these materials may require more frequent maintenance schedules.*

# Warranty & Return Procedures

## 1. Warranty Terms:

Hardinge warrants that all Hardinge products are free from defects in material and workmanship for a period of twelve months (1 year) from date of original purchase.

## 2. Warranty Conditions:

- A. Should abnormal function or damage occur during the warranty period, the abnormal functioning portion or damaged portion of our product will be repaired or replaced without charge to our customer. Hardinge will replace warranted defects, but will not service them on-site.

**The following considerations apply:**

1. The warranty claim is made to Hardinge within the warranty period.
  2. Hardinge must acknowledge that the abnormal function or damage was caused by fault in material or the manufacturing process.
  3. The product was installed, used and maintained according to specifications of Hardinge and its vendors. See document: (Care and Maintenance of Hardinge Collet Chuck Systems).
  4. The warranty items may be repaired or replaced at the discretion of Hardinge.
  5. The purchaser must call Hardinge to report the warranty claim.
  6. Upon acknowledgment of warranty claim, Hardinge will assign a Returned Merchandise Authorization (RMA) number, and ship a replacement product to the purchaser.
  7. After receiving the replacement product, the purchaser must ship the defective or damaged product back to Hardinge. The purchaser must use the packaging in which the replacement product arrived and clearly mark all returning packages and documents with the assigned RMA number.
  8. All returned items must be properly packed before return shipping. Hardinge is not liable for damaged goods caused by careless or improper packaging.
- B. Should abnormal function or damage occur as a result of incorrect application of the product, noncompliance to Hardinge and or the vendor's product specifications, wrong mounting or installation, unauthorized product or modifications, careless handling and so forth, Hardinge's warranty will not apply.
- C. The loss of accuracy caused by normal wear and tear is not covered by this warranty.

## 3. Restocking Fee:

- A. A restocking fee may apply if an item is returned due to customer error.

**DISCLAIMERS: The foregoing is the complete warranty for the products and supersedes all other warranties and representations, whether oral or written. All other warranties, whether expressed or implied are disclaimed, including, without limitation, any implied warranty of merchantability or fitness for any intended specific use. Under no circumstances will Hardinge be liable to the purchaser, or to any user, for any damages, expenses, lost profits, lost savings, damage to or replacement of equipment and property, costs of recovering, reprogramming, or reproducing any material, or other damages arising out of use or inability to use the Hardinge products.**



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