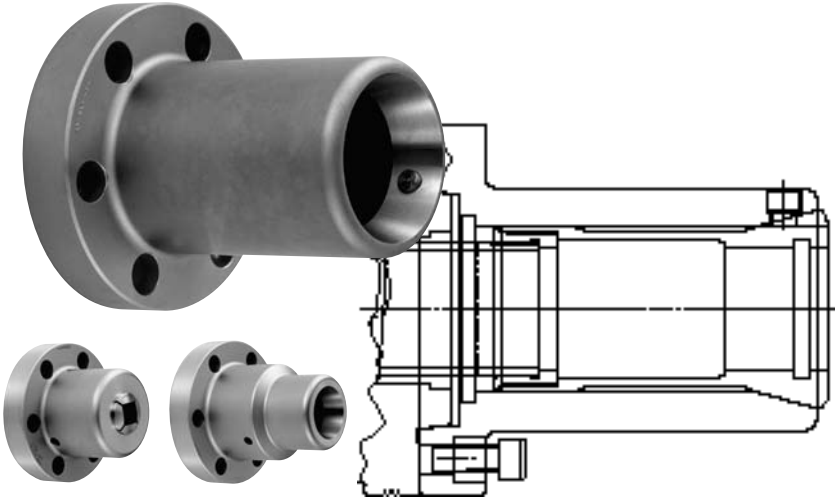


HARDINGE®

INSTALLATION BOOKLET FOR:



**Collet Adaptation Chucks
Pullback Style "C", "S" and "J"**



Read the enclosed instructions and
recommendations before any installations

CONTENTS

Collet Adaptation Chucks - Pullback Style "C", "S" and "J"

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Box Contents

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

Bonus Package:

- * Collet Wrench
- * Anti-rotation Screw
- * "O" Ring Seals (*for "C" or "J" style only*)
- * Spline Wrench (*for "S" style system only*)
- * Pad Clamp Assembly (*for "S" style system only*)
- * Chip Protection Wrap (*for "S" style 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:

Collet Adaptation Chuck - Pullback

(Style "S", Style "C" & Style "J")

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. Extend the machine's drawtube to a forward/open position.
3. **For shipping purposes, the drawtube adapter may be placed in the adapter bore of the chuck body. If the drawtube adapter is in the chuck body, remove it. Locate the supplied "O" ring(s) in the installation package. Slide the "O" ring(s) over the outside of the drawtube adapter. Place the "O" ring(s) into the machined "O" ring groove(s) on the drawtube adapter.**
4. Apply a small amount of grease onto the threads of the drawtube adapter, and if applicable, onto the "O" ring(s) before installation. Thread the drawtube adapter onto the machine's drawtube, until it has bottomed out. Lock the drawtube adapter onto the machine's drawtube with a universal spanner wrench (**not included**). Make sure that the drawtube adapter is completely tightened onto the machine's drawtube. Retract the machine's drawtube.
5. Clean both the machine's spindle taper and the collet chuck mounting taper.
6. **AMERICAN STANDARD SPINDLES:**
Line up the machine's drive pin, located on the machine's spindle, with one of the drive pin holes on the collet chuck mounting surface. Mount the collet chuck onto the machine's spindle. Install and completely 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 flange. For select flat-nose spindles, do not completely tighten mounting bolts; this allows the collet chuck body to be properly indicated to the spindle.

7. AMERICAN STANDARD SPINDLES:

To ensure proper installation, place a .001" dial indicator on the closing taper of the collet chuck. Turn the collet chuck by hand, checking for any run out. The collet chuck should indicate at .0005" TIR or better.

Continued . . .

Mounting Instructions – Cont'd

SELECT FLAT-NOSE SPINDLES:

For select flat-nose spindles, collet chuck should be properly adjusted and indicated at a zero TIR. Once properly adjusted and indicated, completely tighten the mounting bolts.

8. Remove the anti-rotation screw from the collet body to allow for collet installation.
9. Locate the anti-rotation slot in the collet. Mark the face of the collet in relation to the anti-rotation slot.
10. Thread the collet into the collet chuck body with a Hardinge collet wrench until the closing tapers of the collet and the chuck body come in contact with one another.

STYLE "S" SYSTEMS:

For "S" Style systems, install the master collet (with collet pads) approximately .020" to .030" over the diameter size of the desired workpiece.

STYLE "C" & "J" SYSTEMS:

For "C" and "J" Style systems, install the collet approximately .007" to .010" over the diameter size of the desired workpiece.

11. Line up the collet slot with the nearest anti-rotation screw hole.

12. AMERICAN STANDARD SPINDLES:

Insert the anti-rotation screw until it bottoms out, then back it out a $\frac{1}{4}$ turn, allowing for unrestricted movement of the collet. DO NOT back out the anti-rotation screw in "S" Style systems.

SELECT FLAT-NOSE SPINDLES:

For select flat-nose spindles, insert a second anti-rotation screw into the collet chuck body, locating the second anti-rotation screw exactly 180° apart from the previously installed anti-rotation screw. This ensures proper balance of the collet chuck system.

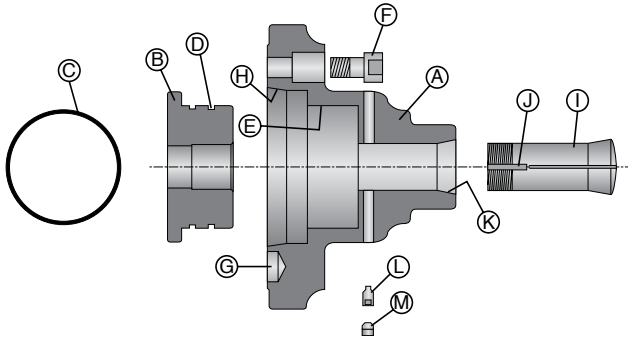
13. Adjust the machine's drawtube pressure to the desired pressure needed to sufficiently hold the workpiece. Insert a workpiece into the collet then actuate the system.

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

Style "C" & "J" Systems

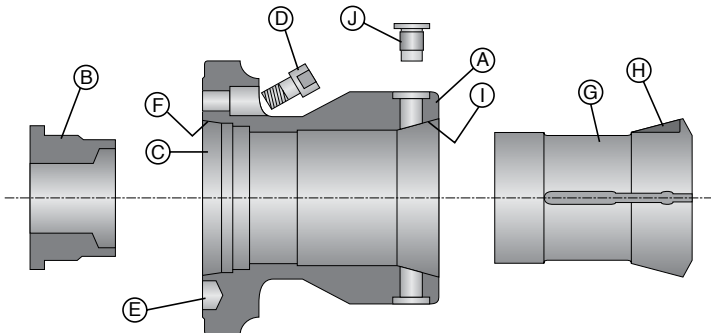
Key	Description	Qty.
A	Collet Chuck Body	1
B	Drawtube Adapter	1
C	"O" Ring	2
D	"O" Ring Grooves	2
E	Adapter Bore	1
F	Mounting Bolt	6
G	Drive Pin Hole	1

Key	Description	Qty.
H	Spindle Mounting Taper	1
I	Collet	1
J	Collet Anti-Rotation Slot	1
K	Collet Closing Taper	1
L	Anti-Rotation Screw	1
M	Anti-Rotation Locking Screw	1



Style "S" Systems

Key	Description	Qty.
A	Collet Chuck Body	1
B	Drawtube Adapter	1
C	Adapter Bore	1
D	Mounting Bolt	6
E	Drive Pin Hole	1
F	Spindle Mounting Taper	6
G	Master Collet	1
H	Master Collet Anti-Rotation Screw	1
I	Collet Closing Taper	1
J	"S" Style Anti-Rotation Screw	1



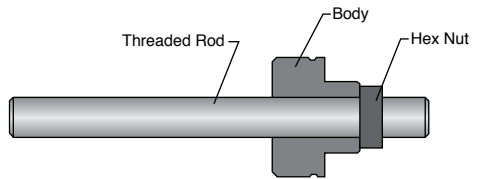
Part Stop

Installation Instructions for: All Dead-Length® Low Profile Systems & Pullback Systems (5C, 16C & 3J)

1. Thread the **body** into the internal threads of the collet* at the back portion of the collet. Tighten completely.
2. Thread the **threaded rod** into the wrench lug end of the **body**, threading it to the desired depth of the workpiece.
3. Thread the **hex nut** onto the **threaded rod** until it bottoms out against the wrench lug end of the **body**. Tighten completely.

Part Stop Contents:

- **Body**
- $\frac{9}{16}$ "-18 Hex Nut
- $\frac{9}{16}$ "-18 Threaded Rod



* NOTE: 35J-DL (COLLET CAP THREADS INTO THE COLLET RETAINER)

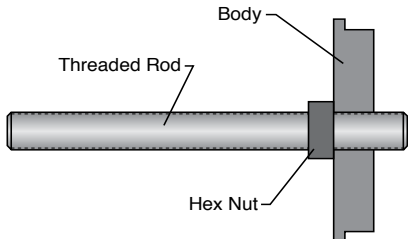
Adjustable End Stop

Installation Instructions for: Pullback "S" Style Systems

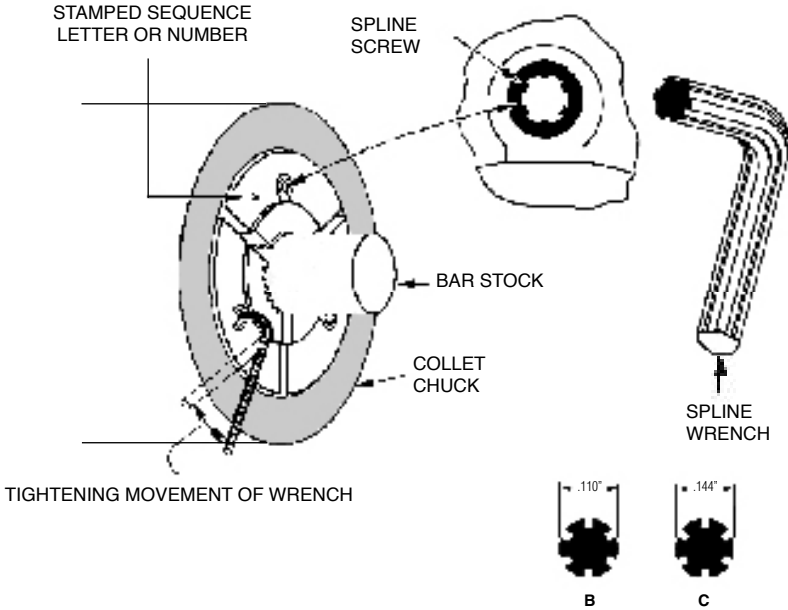
1. Thread the **threaded rod** into the **body**, threading it to the desired depth of the workpiece.
2. Thread the **hex nut** onto the **threaded rod** until it bottoms out against the **body**. Tighten completely.
3. Press fit the part stop assembly into the counter-bored end (non-threaded ID) of the drawtube adapter.

Adjustable End Stop Contents:

- **Body**
- $\frac{1}{2}$ "-20 Hex Nut
- $\frac{1}{2}$ "-20 Threaded Rod



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 – Low Profile 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.*

Trouble Shooting Guide

Style "C" & "J"

Workpiece moves in collet:

- 1) Incorrect collet size in relation to workpiece diameter.
- 2) Collet not properly seated (tightened) against collet closing taper.
- 3) Hydraulic actuator pressure too low.
- 4) Excessive feed rates.
- 5) Dull cutting tools.

Collet won't close:

- 1) Hydraulic actuator pressure too low.
- 2) Debris build-up in system.
- 3) Master collet not properly threaded into drawtube adapter.
- 4) Drawtube adapter not completely tightened onto the drawtube.

Collet sticks in closed position:

- 1) Hydraulic actuator pressure too low.
- 2) Bearing diameter at rear of collet excessively out of round.
- 3) Anti-rotation screw binding anti-rotation slot.
- 4) Workpiece is smaller than specified collet size, over-collapsing collet.

Parts run out (TIR):

- 1) Mounting surfaces not clean.
- 2) Burr on chuck or spindle.
- 3) Stock is out of round.
- 4) Mounting bolts are loose.
- 5) Debris build up on collet/closing surfaces.

Style "S"

Workpiece moves in collet:

- 1) Incorrect collet pad size in relation to workpiece diameter.
- 2) Master collet not properly seated (tightened) against collet closing taper.
- 3) Hydraulic actuator pressure too low.
- 4) Collet pads are too loose or incorrectly installed.

Collet won't close:

- 1) Hydraulic actuator pressure too low.
- 2) Master collet not properly threaded into drawtube adapter.
- 3) Drawtube adapter not completely tightened onto the drawtube.
- 4) Debris build-up in system.

Collet sticks in closed position:

- 1) Hydraulic actuator pressure too low.
- 2) Bearing diameter at rear of master collet excessively out of round.
- 3) Debris build-up in system.
- 4) Workpiece is smaller than specified collet pad size, over-collapsing master collet.

Parts run out (TIR):

- 1) Mounting surfaces not clean.
- 2) Burr on chuck or spindle.
- 3) Stock is out of round.
- 4) Mounting bolts are loose.
- 5) Debris build up on master collet/collet pad closing surfaces.



COLLET WRENCH

Our new Collet Wrenches simplify collet installation and removal in all thread-in type collet adapters. The wrench's replaceable drive fingers, made of stamped spring steel for durability, engage the slots in the collet, allowing the collet to be threaded into or out of the collet adapter.

The lightweight aluminum body is knurled for positive gripping. By loosening one socket head screw, the slotted washer holding the fingers in place is released, allowing quick conversion from a three finger drive to a two or four finger drive.

The sizes currently available are for 5C, 16C, 3J, S-20, S-26, and S-30 collets.*

* The 16C wrench also works well for 5C step chucks. The S-20, S-26 and S-30 wrenches include a crossbar for added torque when inserting or removing a collet.

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, non-compliance to Hardinge and or the vendors 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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