



Hardinge FlexC™ Collet System Style D

Installation Instructions
and Parts Lists

General Safety Information

Before installing the Hardinge® FlexC™ Collet System on your machine tool, thoroughly read this manual and understand the information. If you are uncertain about any of the information, see your immediate supervisor. Also make certain that you understand the information in your machine tool operator's, programmer's and maintenance manuals.

NOTICE

**Damage resulting from misuse, negligence or accidents
is not covered by the Hardinge FlexC warranty.**

Information in this document is subject to change without notice.

**In no event will Hardinge Inc. be responsible for indirect or consequential damage
resulting from the use or application of the product, or any of the information in this document.**

**This product is only to be used by trained machinists skilled
in the use and operation of collet systems and collet chucks on metal cutting machines.**

Safety Requirements to the Turning Machine:

Check to see that the workpiece is properly gripped and seated in the collet head before beginning the machining cycle.

Do not unclamp the workpiece until the machining cycle has come to a complete stop.

Observe all safety precautions indicated in the machine manual when operating the machine including the use of guards and keeping the door closed during machining.

Do not exceed the maximum operating force and rpm for the Hardinge FlexC Collet Systems indicated below:

Maximum operating force: 10,100 lb (45KN)

Maximum RPM: 6,000

Product Description and Use:

The Hardinge FlexC Style D Collet System consists of a spindle mount assembly. Vulcanized collet heads and wrenches are purchased separately. The Style D Collet System is designed with a thru-hole for bar work applications. Since there is no work stop in this model, this style is NOT recommended for chucking parts. The clamping heads consist of hardened steel segments that are joined together by a vulcanization process. Their outstanding characteristics are parallel workpiece clamping, superb accuracy, wide gripping range and quick-change capability.

The Hardinge FlexC Style D Collet System is a pull-back design. The collet draws in against the closing angle providing very stable gripping of the workpiece. The overall rigidity of the entire gripping unit has a very positive effect on tool wear.

CAUTION: In general the collet system should never be rotated without a clamped bar stock. When actuating the changing wrench, never reach inside the moving parts for risk of severely damaging your hand.

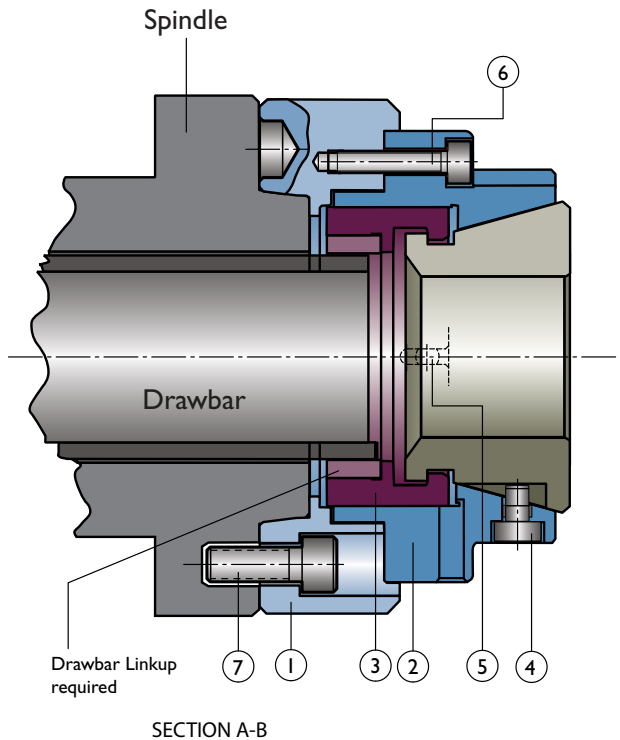
Drawbar Linkup

The Hardinge FlexC Collet System requires a drawbar linkup to mate the specific machine drawbar (varies by machine brand and model) to the FlexC collet seat. This linkup can be ordered from Hardinge or can be made by the customer. The linkup should be screwed on the end of the drawbar before beginning installation of the FlexC Collet system.

Cleaning and Maintenance

The spindle, collet head and the spindle mount mating surfaces must be cleaned and free of chips and sludge whenever mounting to the spindle or changing out a collet head. Do NOT clean an open spindle with an air hose as chips and sludge may be forced into the spindle drawbar area. Clean and lubricate all moving parts with Chevron Ultra-Duty EP NLGI 2, Dow Corning BR-2-Plus, or Kluber ALTEMP Q NB 50 grease. Store all unused products properly to prevent corrosion and keep free of dust and environmental particles.

Check to see that all mounting screws are in good condition and replace when worn. All components must be replaced with original Hardinge replacement parts.

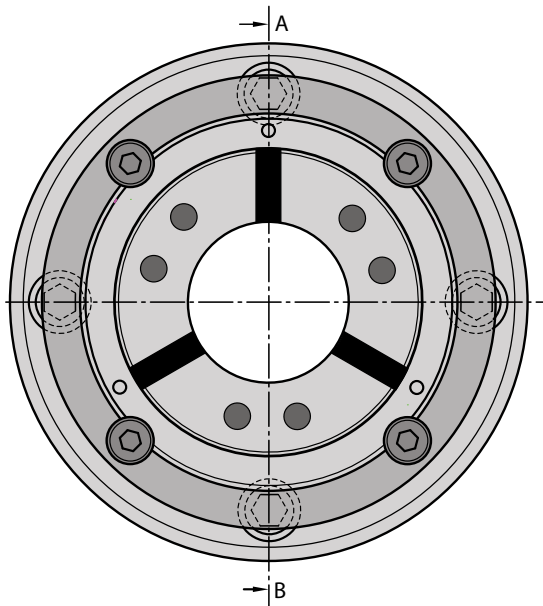


A2-5 Assembly #V65-5D00500 Parts List:

| ITEM | PART NO. | QTY | DESCRIPTION |
|------|-------------|-----|----------------------------|
| 1 | V65-5D00501 | 1 | Spindle Adapter |
| 2 | V65-6D00502 | 1 | Collet Seat |
| 3 | V65-6D00503 | 1 | Clamping Sleeve |
| 4 | V65-01207 | 1 | Key for Collet Head |
| 5 | V65-01603 | 1 | Locating Stud |
| 6 | MS-0103821 | 4 | M8x35 SHCS (26ft-lb/36Nm) |
| 7 | MS-0104019 | 4 | M10x25 SHCS (51ft-lb/70Nm) |

A2-6 Assembly #V65-6D00600 Parts List:

| ITEM | PART NO. | QTY | DESCRIPTION |
|------|-------------|-----|-----------------------------|
| 1 | V65-6D00601 | 1 | Spindle Adapter |
| 2 | V65-6D00502 | 1 | Collet Seat |
| 3 | V65-6D00503 | 1 | Clamping Sleeve |
| 4 | V65-01207 | 1 | Key for Collet Head |
| 5 | V65-01603 | 1 | Locating Stud |
| 6 | MS-0103821 | 4 | M8x35 SHCS (26ft-lb/36Nm) |
| 7 | MS-0104220 | 4 | M12x30 SHCS (90ft-lb/122Nm) |



A2-8 Assembly #V65-8D00700 Parts List:

| ITEM | PART NO. | QTY | DESCRIPTION |
|------|-------------|-----|------------------------------|
| 1 | V65-8D00701 | 1 | Spindle Adapter |
| 2 | V65-6D00502 | 1 | Collet Seat |
| 3 | V65-6D00503 | 1 | Clamping Sleeve |
| 4 | V65-01207 | 1 | Key for Collet Head |
| 5 | V65-01603 | 1 | Locating Stud |
| 6 | MS-0103821 | 4 | M8x35 SHCS (26ft-lb/36Nm) |
| 7 | MS-0104624 | 4 | M16x50 SHCS (200ft-lb/270Nm) |

Installation

The spindle adapter, clamping sleeve and collet seat are shipped assembled. The spindle adapter must be separated from the collet seat by removing the four mounting screws #6.

Clean, inspect and grease the machine spindle and the spindle adapter. Mount the spindle adapter to the machine spindle using the four fastening screws #7, orienting the spindle adapter with the drive button. Tighten the fastening screws according to the torque shown on the parts list.

Check the concentricity and face runout of the spindle adapter before mounting the clamping sleeve and collet seat. Neither should exceed .0002" (5µm). If the indicator reading is more than .0002" (5µm), remove the spindle adapter and clean the surfaces again before remounting.

Reduce the clamping pressure of the machine to a minimum and extend the drawbar to the forward position. Carefully screw the clamping sleeve #3 onto the drawbar clockwise until it bottoms out. **DO NOT TIGHTEN.** Align the key in the collet seat with the keyway in the clamping sleeve to push the collet seat onto the spindle adapter. Rotate the body counterclockwise until the clearance holes in the body line up with the threaded holes on the spindle adapter. Carefully move the drawbar backwards and seat the collet seat into the spindle mount. Insert and tighten the four mounting screws #6 equally to the torque shown on the parts list.

Increase the clamping pressure to sufficient force for the job.



Checking the final Concentricity of the Collet Closing Taper

Locate the probe to touch the inside closing taper of the body to verify concentricity. This should not exceed .0002" (5µm). If the indicator reading is more than .0002" (5µm), remove the collet seat and clean the surfaces of the spindle adapter and the collet seat again before remounting. Check the concentricity again and repeat this step until the desired reading is met. Concentricity may be affected if using stock beyond the nominal gripping range.

Installing a Collet Head

Installing or changing of the collet head is possible only when the chuck is in the unclamped position. Prior to inserting the collet head you must clean the taper of the collet seat and the mating taper of the collet head.

Fully insert the pins of the manual wrench into the holes in the face of the collet head. Actuate or pull the lever to collapse the segments before inserting it into the body. Insert applying light pressure. Orient the keyway in the collet head with the key #4 in the collet seat. To release the collet head from the manual wrench you must press on the release button.

CAUTION: When actuating the manual wrench never reach inside the moving parts where there is risk of injury to your hand. Clean and lightly oil the collet head and the body before installing.

