HARDINGE WORKHOLDING

Quick Change Collet Systems

800-843-8801
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HARDINGE

Hardinge Quick-Change Collet Systems

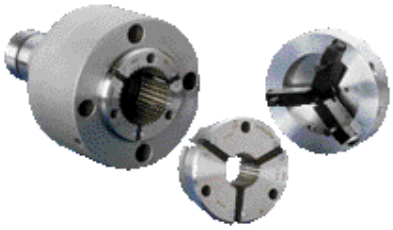
Styles with page reference

The precision engineered Hardinge® HQC® Quick-Change Collet System is designed for use on automatic screw machines, Hardinge collet-ready CNC lathes and all other chuck-style CNC lathes with A2-5, A2-6 and A2-8 spindles. The Collet Body, Spindle Mount and interchangeable Quick-Change Collet Heads are produced to the same exacting standards employed years.

For Multi-Spindle Automatics

Multi-spindle automatic screw machines require no spindle mount and use the solid body draw collet.

See Page 6



For Hardinge Collet-Ready Lathes

Hardinge collet-ready lathes with A2-5, A2-6 and A2-8 spindle configurations use the spindle mount design with a solid body draw collet.

See Page 4

For Chuck-Style Lathes

Chuck-Style CNC lathes with A2-5 and A2-6 spindles use the spindle mount design with a draw bar adapter which can be machined to mate with the machine's draw bar. The customer can machine the draw bar adapter, or Hardinge will do it for a nominal charge. (Form on page 9)

See Page 5

Unique Design

There is no need to sacrifice speed for accuracy. With its unique design, the HQC **Quick-Change** Collet System exerts more gripping force and achieves greater concentricity control, ensuring the quality and performance that is synonymous with the Hardinge name.

Increasing Productivity

Replace your 3-Jaw Power Chuck with the HQC **Quick-Change** Collet System. The reduction in weight and the unique, efficient design of the HQC System allow you to increase the spindle rpm without any concern for centrifugal forces. Hi-tech cutting tools, along with faster speeds and feeds, can now be used to boost your productivity beyond your previous experience. Chucking forces are higher than jaw chucks and even higher than solid standard and master collets. The interferences associated with jaw chucks are nonexistent with the clean contours of the HQC **Quick-Change** Collet System.

Unique Collet Head Design with ±1/64" Collet Gripping Range

The HQC **Quick-Change** Collet System has a working range of ±1/64" (.396 mm) for under a 2" diameter, and ±1/32" (.793mm) for a 2" diameter and over, when used on automatic screw machines and a range of -1/64" to +.008" on CNC lathes. This unique feature allows you to replace the solid and master collets currently used for bar work. The HQC collet heads are designed with special replaceable inserts that form a seal while holding the collet segments together. This unique design protects the spindle, collet body and draw tube from chips and coolant, resulting in substantial direct cost-savings, as well as time-savings.

Features and Benefits

Greater Gripping Force & Faster Machining Times

Since solid collets and master collets are of a one-piece construction, considerable force is required to flex the leaves of a solid collet and bring the gripping surface in contact with the workpiece OD. Because there are no leaves in the HQC system, additional gripping pressure is directly applied to the workpiece. Higher feed rates and higher spindle speeds are possible. Because of the extra gripping force, tool life increases and parts come off the machine quicker.

More Uptime on Multi-Spindle Automatics

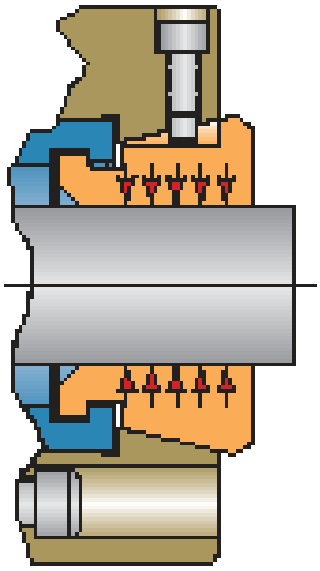
The HQC System requires less draw bar force to adequately grip the bar, greatly reducing the breakage of closing fingers and pins common when the bar varies beyond the range of a standard solid collet or master collet with pads.

Bar Stock Variation— No Problem

The HQC **Quick-Change** Collet System eliminates the need to change collets due to normal variations in bar stock, greatly reducing the downtime normally required to change collets.

Eliminate Conventional Spindle Adapters

The HQC **Quick-Change** Collet System is shorter than standard collet adapters, gaining more working area. Machining closer to the spindle results in better total indicator reading (TIR) on finished parts.



True Parallel Gripping

There is no collet shank. Therefore, the collet segments remain parallel to the stock even when there are variations in the stock size. Parallel clamping minimizes stock "push back" and requires less draw bar force to achieve the same gripping capability as conventional collets.

Quick-Change • 20 Seconds or Less

Hardinge® HQC **Quick-Change** collets can be changed from one size collet to another size in less than 20 seconds. This is accomplished by using a manual or hydraulic changing wrench. The wrench compresses the collet, allowing for quick and easy removal, and quick installation of a different size collet head. Power units are available for the hydraulic wrenches.

See Page 8

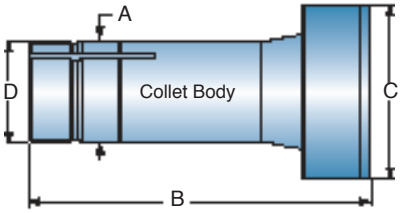
Quick Seal Insert Replacement

Unlike other **Quick-Change** collet systems, the HQC patented operator-replaceable slot-seal system eliminates the need to return the collet to the manufacturer to have the seals changed or re-vulcanized. The inserts are easily replaced in your shop by the operator.

The Hardinge Tradition

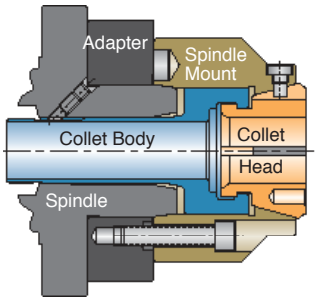
The Hardinge HQC **Quick-Change** Collet System is manufactured using the same exacting standards we use to produce our other lines of collets and workholding devices. Hardinge collets are the longest-wearing collets and maintain concentricities unequalled in the metalworking industry.

Hardinge Collet-Ready Spindle Lathes

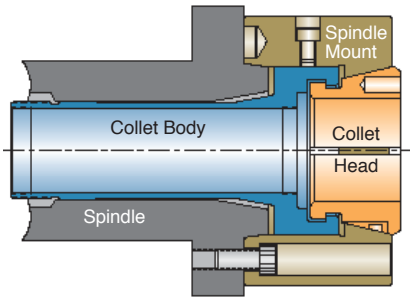


Required system components sold separately:
- Collet Body
- Collet Head
- Spare Seals
- Spindle Mount
- Wrench

Optional Work Stops on page 7.



Hardinge A2-4 5C/GT Spindle



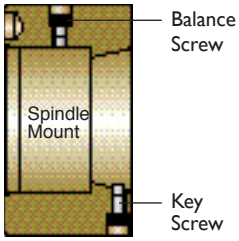
Hardinge A2-5 16C, A2-6 20C/25C & A2-8 25C Spindles

Collet Body

Style	Description	Part Number	Dimensions A Back Bearing Diameter	B Overall Length	C Head Diameter	D Thread	Internal Stop Thread
5C/GT	HQC Body	1477-00-00	1.250" (31.75)	4.614" (117.19)	2.399" (60.93)	1.238" 1.238" - 20 RH	1⅛" - 20 TPI RH
16C	HQC Body	2007-00-00	1.889" (47.98)	6.670" (167.77)	3.149" (79.00)	1.870" 1.87" x 1.75mm RH	1 1⁄16" - 20 TPI RH
20C A2-6	HQC Body	2021-00-00	2.378" (60.40)	7.910" (200.91)	4.069" (103.35)	2.359" M60 x 1.5mm RH	M53 x 1mm RH
25C A2-6	HQC Body	2057-00-00	2.930" (74.42)	8.080" (205.23)	4.069" (103.35)	2.871" M73 x 1.5mm RH	2⅝" - 24 TPI RH
25C A2-8	HQC Body	2033-00-00	2.930" (74.42)	8.305" (210.95)	4.069" (103.35)	2.871" M73 x 1.5mm RH	2⅝" - 24 TPI RH

Spindle Mount Assembly and Parts List

Assembly and Parts List	5C/GT – A2-4 Part Number	16C – A2-5 Part Number	20C & 25C A2-6 Part Number	25C – A2-8 Part Number
Mount Assembly	7861-00-00	2015-00-00	2025-00-00	2031-00-00
— Mount	7863-00-00	2013-00-00	2023-00-00	2029-00-00
— Balance Screw	—	0100808	0100908	0100905
— Key Screw	7865-00-00	2017-00-00	2027-00-00	2035-00-00
— Mounting Bolts [4 each]	7867-00-00	0101216	MS-0104219	MS-0104620
Model Number	—	A2-5 HQC-42	A2-6 HQC-65	A2-8 HQC-65



Collet Head

Wrench

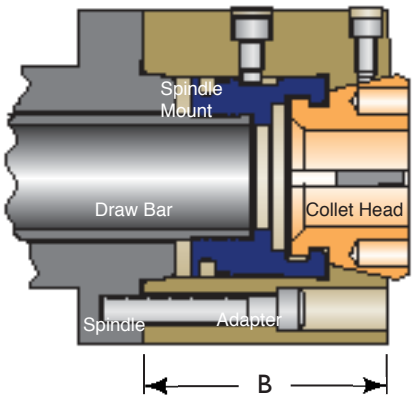
Seals

Style and Spindle	Part Number	Rated Capacity Round Smooth	Round Serrated	Hexagon	Square	Hydraulic Wrench	Manual Wrench	Seal /Plug Kits
HQC-GT A2-4	4505-00-00	5⁄16" to 1.062" (7.93 to 26.98)	5⁄16" to 1.062" (7.93 to 26.98)	5⁄16" to ⅞" (7.93 to 22.22)	5⁄16" to ¾" (7.93 to 19.05)	ST-0000575-A2	ST-0000575-A	7777
HQC-42 16C A2-5	2005-00-00	5⁄16" to 1.750" (7.93 to 44.45)	5⁄16" to 1.750" (7.93 to 44.45)	5⁄16" to 1½" (7.93 to 38.10)	5⁄16" to 1¼" (7.93 to 31.75)	ST-0000575-E1 *0942-00-00	ST-0000575-E	7779
HQC-65 20C/25C A2-6 & A2-8	2019-00-00	5⁄16" to 2.559" (7.93 to 65.00)	5⁄16" to 2.559" (7.93 to 65.00)	5⁄16" to 2 5⁄32" (7.93 to 54.77)	5⁄16" to 1¾" (7.93 to 44.45)	ST-0000575-F1 *0943-00-00	ST-0000575-F	7779

Notes: Millimeters in parentheses.
*This part number includes the Hydraulic Power Unit.

Manual Wrench picture shown above. See Page 8 for additional information on Collet Wrenches.
Slot Seal Kits include 3 Slot Seals and 6 Retaining Plug replacements for Collet Head.

Chuck-Style Lathes



Chuck-Style Spindle–
(Other lathes including
Hardinge Talent lathes)

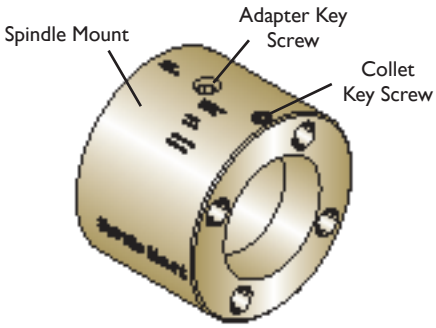
Required system components sold separately:
- Collet Body
- Collet Head
- Spare Seals
- Spindle Mount
- Wrench

Optional Work Stops on page 7.

Spindle Mount Assembly and Parts List

Assembly and Parts List	A2-5 Spindle HQC-42 Collet Part Number	A2-6 Spindle HQC-65 Collet Part Number	A2-8 Spindle HQC-65 Collet Part Number
Mount Assembly	7855-00-00	7847-00-00	97Z-0000-91-4915K
— Adapter Screw	2853-00-00	7853-00-00	—
— Key Screw	2017-00-00	2035-00-00	—
— Mount	7843-00-00	7857-00-00	—
Length Dimension "B"	4.035" (102.5)	4.630" (117.60)	5.240" (133.09)
— Mounting Bolts (Metric) [4]	MS-0104028	MS-0104225	—
— Mounting Bolts (Inch) [4]	0101244	0101436	—

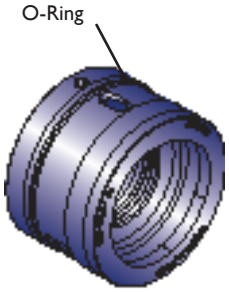
Note: Brackets indicate quantity required



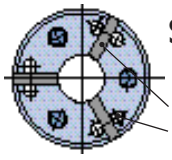
Draw Bar Adapter and Parts List

Assembly and Parts List	A2-5 Spindle HQC-42 Collet Part Number	A2-6 Spindle HQC-65 Collet Part Number	A2-8 Spindle HQC-65 Collet Part Number
Adapter Assembly	7845-00-00	7849-00-00	On Application
— "O" Ring	OR-000464901	OR-000646601	—

Draw Bar Adapter must be machined to fit the draw bar of the lathe, either by the customer or by Hardinge. See "Request Form" on page 9.



Collet Head



Slot Seal Kit

Includes:
(3) Slot/Seal Inserts
(6) Nylon Retaining Plugs

Wrench

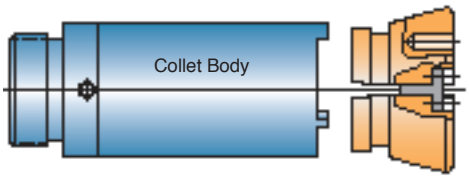
Seals

Style and Spindle	Part Number	Rated Capacity: Round Smooth	Round Serrated	Hexagon	Square	Hydraulic Wrench	Manual Wrench	Seal /Plug Kits
HQC-42 A2-5	2005-00-00	5/16" to 1.750" (7.93 to 44.45)	5/16" to 1.750" (7.93 to 44.45)	5/16" to 1½" (7.93 to 38.10)	5/16" to 1¼" (7.93 to 31.75)	ST-0000575-E1 *0942-00-00	ST-0000575-E	7779
HQC-65 A2-6 & A2-8	2019-00-00	5/16" to 2.559" (7.93 to 65.00)	5/16" to 2.559" (7.93 to 65.00)	5/16" to 2 5/32" (7.93 to 54.77)	5/16" to 1¾" (7.93 to 44.45)	ST-0000575-F1 *0943-00-00	ST-0000575-F	7779

Notes: Millimeters in parentheses.
*This part number includes the Hydraulic Power Unit.

Manual Wrench picture shown above. See Page 8 for additional information on Collet Wrenches.
Slot Seal Kits include 3 Slot Seals and 6 Retaining Plug replacements for Collet Head.

Automatics



Required system components sold separately:
- Collet Body
- Collet Head
- Spare Seals
- Spindle Mount
- Wrench

Optional Work Stops on page 7.

Collet Body and Collet Head

Wrenches

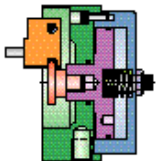
Machine Size and Model		Body Part Number	Collet Head Part Number	Hydraulic Wrench	Manual Wrench
Acme-Gridley					
1"	C, R, R4, R6, RA4, RA6, RAN6, RAS6	4515-00-00	4501-00-00	ST-0000575-A1	ST-0000575
1¼"	G, G4, GA4, R, R6, RA, RA4, RA6, RB6, RB8	4519-00-00	4505-00-00	ST-0000575-A2	ST-0000575-A
1⅝"	C, G, GA, GA4, R, R4, R6, RA, RA4, RA6, RA8, RAS4, RB, RB6, RB8	4521-00-00	4507-00-00	ST-0000575-B2	ST-0000575-B
2"	B, R, R4, R6, RA, RA4, RA6, RAS, RAS4, RAS6, RB, RB6, RL	4533-00-00	4535-00-00	ST-0000575-C1	ST-0000575-C
2⅜"	HSC Chucker – Spindle Adapter Required (Spindle Adapter Part Number – 7743-00-00)	4531-00-00	4505-00-00	7781-00-00	ST-0000575-A
2⅝"	M, R, R6, R8, RA, RA6, RA8, RB6, RB8	4527-00-00	4513-00-00	ST-0000575-D1	ST-0000575-D
3½"	M, MR, R4, R6, R8, RA, RA6, RB4, RB6, RB8	4537-00-00	4539-00-00	7793-00-00	—
Cone					
1"	Six-Spindle – SK, SL, SW, TB, TC, TK, TS	4517-00-00	4503-00-00	ST-0000575-A1	ST-0000575
1⅝"	1⅝" (Also used for #61 New Britain Int.)	4523-00-00	4509-00-00	ST-0000575-B3	ST-0000575-B1
2⅝"	2½" & 2⅝"	4529-00-00	4513-00-00	ST-0000575-D1	ST-0000575-D
New Britain					
1"	51, 60, 408	4517-00-00	4503-00-00	ST-0000575-A1	ST-0000575
1¼"	52, 601, SL	4519-00-00	4505-00-00	ST-0000575-A2	ST-0000575-A
1⅝"	816 (External Threads)	4521-00-00	4507-00-00	ST-0000575-B2	ST-0000575-B
1⅝"	#61 w/ ID Threads (Special Pads 94509-88-18-0679N for Round & 94509-88-29-0549N for Hex & Square)	4523-00-00	4509-00-00	ST-0000575-B3	ST-0000575-B1
2¼"	61, 62	4525-00-00	4511-00-00	ST-0000575-C1	ST-0000575-C
2⅝"	26 Single-Spindle, 126, 626	4527-00-00	4513-00-00	ST-0000575-D1	ST-0000575-D
3½"	635	4539-00-00	4537-00-00	7793-00-00	—
Wickman					
1"	Six-Spindle	4517-00-00	4503-00-00	ST-0000575-A1	ST-0000575
2⅝"	One- and Six-Spindle	4529-00-00	4513-00-00	ST-0000575-D1	ST-0000575-D

Quick-Change Collets available for other brands of multi-spindle machines including Euroturn, Tornos, Gildemeister and Index - call for a quote.

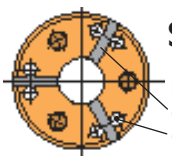
Collet Head Rated Capacity

Collet Head Part Number	Rated Capacity ○ Round Smooth	○ Round Serrated	⬡ Hexagon	□ Square	Seal /Plug Kits
4501-00-00	5/16" to 1"	5/16" to 15/16"	5/16" to 7/8"	5/16" to 11/16"	7777
4503-00-00	5/16" to 7/8"	5/16" to 13/16"	5/16" to 3/4"	5/16" to 5/8"	7777
4505-00-00	5/16" to 1¼"	5/16" to 1 3/16"	5/16" to 1 1/16"	5/16" to 7/8"	7777
4507-00-00	5/16" to 1⅝"	5/16" to 1 9/16"	5/16" to 1 3/8"	5/16" to 1⅛"	7777
4509-00-00	5/16" to 1⅝"	5/16" to 1 9/16"	5/16" to 1 3/8"	5/16" to 1⅛"	7777
4511-00-00	5/16" to 2⅛"	½" to 2 1/16"	½" to 1 13/16"	¾" to 1½"	7779
4513-00-00	¾" to 2⅝"	½" to 2 9/16"	⅝" to 2¼"	⅝" to 1 13/16"	7779
4535-00-00	5/16" to 2"	5/16" to 2"	½" to 1 11/16"	¾" to 1⅜"	7779
4537-00-00	1½" to 3½"	1½" to 3 7/16"	1½" to 3"	1½" to 2½"	7859
4539-00-00	1½" to 3½"	1½" to 3 7/16"	1½" to 3"	1½" to 2½"	7859

Manual Collet Wrench



Hydraulic Collet Wrench
Hydraulic Power Unit Required. Order Part No. STA-0009189-01.



Seal/Plug Kit

Includes:
(3 or 4) Slot/Seal Inserts
(6 or 8) Nylon Retaining Plugs

Work Stops for Precision Length Control

Solid Collet Stops

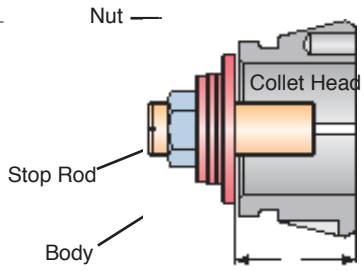
The solid stop threads into the collet body or draw bar adapter and locks against a shoulder. The purpose of the stop is to eliminate push back of the workpiece during drilling and roughing operations. If length control is required due to variation of the chucking diameter, the Dead-Length Spider Stop Assembly may be used. (16C only)

Short Solid Stop Assembly and Parts List	HQC-42 Part Number	*HQC-65 Part Number
Short Stop Assembly including:	1099-00-00	1337-00-00
— Body	1095-00-00	1335-00-00
— Nut	1185-00-00	1185-00-00
— Threaded Stop Rod	1097-00-00	1097-00-00
Short Stop Chucking Depth		
HQC-42 Maximum "A"		1 15/16" (49.21)
HQC-65 Maximum "A"		2 17/64" (57.53)

Note Millimeters in parentheses. There is no Short Stop available for the Hardinge 25C HQC System.

Short Solid Stop – HQC-42 (16C & Other Lathes)

HQC-65 (20C & Other lathes)

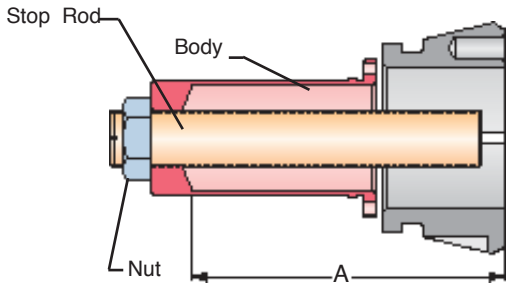


The Stop Rod may be altered to different lengths.

Long Solid Stop – HQC-42 (16C) and HQC-65 (20C & 25C)

Long Solid Stop Assembly and Parts List	HQC-42 (All) Part Number	HQC-65 (20C) Part Number	HQC-65 (25C) Part Number
Long Stop Assembly:	1365-00-00	1343-00-00	1347-00-00
— Body	1361-00-00	1339-00-00	1345-00-00
— Nut	1185-00-00	1185-00-00	1185-00-00
— Threaded Stop Rod	1363-00-00	1341-00-00	1341-00-00
Long Stop Chucking Depth			
HQC-42 Maximum "A"			4½" (114.30)
HQC-65 Maximum "A"			5½" (139.70)
HQC-65 (25C Style) Maximum "A"			5½" (139.70)

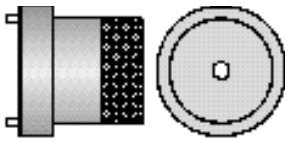
Note: Millimeters in parentheses.



Stop Wrench – HQC-42 (16C) and HQC-65 (20C & 25C)

Assembly & Parts List	HQC-42 Part Number	HQC-65 (20C) Part Number	HQC-65 (25C) Part Number
Stop Wrench Assembly	7717-00-00	7747-00-00	7795-00-00
— Body	7719-00-00	7749-00-00	7797-00-00
— Pins	TL-0006770	CD-0008426	CD-0008426

A Stop Wrench is required to assemble and disassemble all stops.

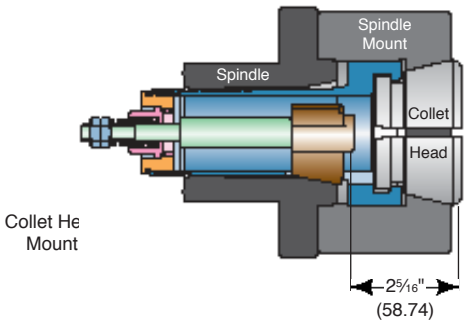


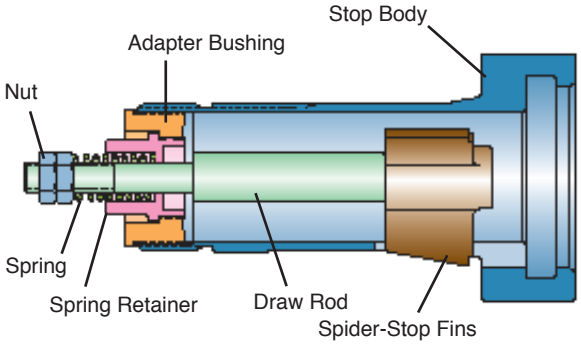
Assembly and Parts List	Part Number
Dead-Length Stop Assembly:	2011-00-00
— Dead-Length Stop Body	2009-00-00
— Spider-Stop Assembly Including:	1239-00-00
– Spider Stop Fins[1]	1325-00-00
– Draw Rod	1349-00-00
– Adapter Bushing	1155-01-00
– Spring Retainer	1163-00-00
– Spring	1165-00-00
– Nut (2 ea.)	U-0004141

16C HQC-42 Dead-Length Spider Stops

The Dead-Length Spider Stop Assembly locates against the collet seat in the Hardinge spindle, replacing the HQC collet body. This stop system provides length control and does not pull back with the collet even when the chucking diameter varies.

1½" - 20 (internal thread) x ⅝" (15.9mm) deep can be used for customer made stop extensions.





Collet Wrenches / Parts Lists

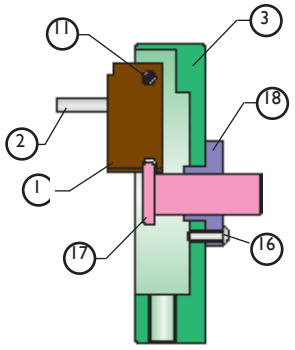
Manual Wrenches for Automatic Lathes

Assembly / Parts List	Item	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Manual Wrench Assembly:		ST-0000575	ST-0000575-A	ST-0000575-B	ST-0000575-B1	ST-0000575-C	ST-0000575-D
— Arm [3]	1	ST-0000459	ST-0000459-01	ST-0000459-02	ST-0000459-05	ST-0000459-03	ST-0000459-04
— Pins [3]	2	TL-0006708	5-0002024	5-0002024	CD-0004642	CD-0004642	CD-0004642
— Shell	3	ST-0009262-01	ST-0009262-01	ST-0009262	ST-0009262	ST-0009262-02	ST-0009262-02

Manual Wrenches for Hardinge and Other Lathes

Assembly / Parts List	Item	HQC-GT Part No.	HQC-42 Part No.	HQC-65 Part No.
Manual Wrench Assembly:		ST-0000575-A	ST-0000575-E	ST-0000575-F
— Arm	1	ST-0000459-01	ST-0000459-06	ST-0000459-08
— Pins [3]	2	5-0002024	CD-0004642	CD-0004642
— Shell	3	ST-0009262-01	ST-0009262	ST-0009262-02

Note: Brackets indicate quantity required.
A standard 3/8" drive manual ratchet wrench is required but not furnished.



Manual Wrench – Common Parts

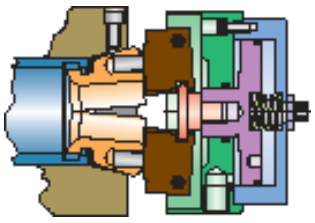
Description	Item	Part Number
— Button Head Cap Screw [3]	16	0300310
— Socket Head Cap Screw [3]	11	0100628
— Threaded Adjuster	17	ST-0000494
— Threaded Insert	18	ST-0012034
— Molylube Anti-Seize	-	VS-0010440

Hydraulic Wrenches for Automatic Lathes

Assembly / Parts List / Item		Part Number	Part Number	Part Number	Part Number	Part Number
Hydraulic Wrench Assembly:		ST-0000575-A2	ST-0000575-A2	ST-0000575-B2	ST-0000575-B3	7781-00-00
— Arm [3]	1	ST-0000459	ST-0000459-01	ST-0000459-02	ST-0000459-05	ST-0000459-01
— Pins [3]	2	TL-0006708	5-0002024	5-0002024	CD-0004642	5-0002024
— Shell	3	ST-0009262-03	ST-0009262-03	ST-0009262-04	ST-0009262-04	7785
Hydraulic Wrench Assembly:		ST-0000575-C1	ST-0000474-D1	ST-0000474-E1	ST-0000575-F1	7793-00-00
— Arm [3]	1	ST-0000459-03	ST-0000459-04	ST-0000459-06	ST-0000469-04	7791 [4]
— Pins [3]	2	CD-0004642	CD-0004642	CD-0004642	CD-0004642	CD-0004542 [4]
— Shell	3	ST-0009262-05	ST-0009262-05	ST-0009262-05	ST-0009262-05	7789

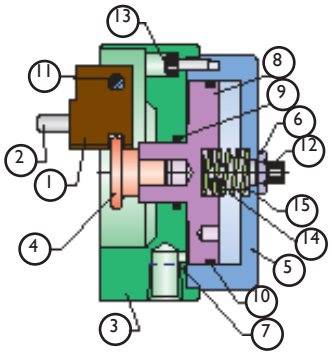
Hydraulic Wrenches for Hardinge and Other Lathes

Assembly and Parts List	Item	HQC-GT Part No.	HQC-42 Part No.	HQC-65 Part No.
Hydraulic Wrench Assembly: (With Power Unit) - Not Illustrated		—	0942-00-00	0943-00-00
Hydraulic Wrench Assembly:		ST-0000575-A2	ST-0000575-E1	ST-0000575-F1
— Arm [3]	1	ST-0000459-01	ST-0000459-06	ST-0000459-08
— Pins [3]	2	5-0002924	CD-0004642	CD-0004642
— Shell	3	ST-0009262-05	ST-0009262-04	ST-0009262-05



Hydraulic Wrench – Common Parts

Description	Item	Part Number	Description	Item	Part Number
– Actuator Stud	4	ST-0000494-01	– Quad Ring-2	10	41-0011151-51
– Cap	5	ST-0000343-02	– Socket Head Cap Screw - 1 [3]	11	0100628
– Cap (7781)	5a	7783	– Socket Head Cap Screw - 2	12	0100516
– Jam Nut	6	3-0004835	– Socket Head Cap Screw - 3 [3]	13	0100308
– O-Ring	7	OR-0005254	– Spring	14	TA-0006553
– Piston	8	ST-0011099	– Stop Bushing	15	ST-0011159
– Quad Ring-1	9	41-0011151-20	– Grease Silicone, #55M	-	RF-0010994



Note: Brackets indicate quantity required. Hydraulic Power Unit Part Number STA-0009189-01 Required for All Hydraulic Wrenches

Draw Bar Adapter Order Form

Spindle & Draw Bar Configuration

HQC Quick-Change Collet System
Part No. Desired:

Machine Mfr.: _____
Machine Model No.: _____
Actuator Mfr.: _____
Chuck Mfr.: _____
Chuck Model No.: _____
(C) Spindle Configuration:
❑ A2-4 ❑ A2-5 ❑ A2-6 ❑ A2-8
❑ A2-11 Or Other _____
Mounting Bolt Size: _____
Mounting Bolt Pitch: _____

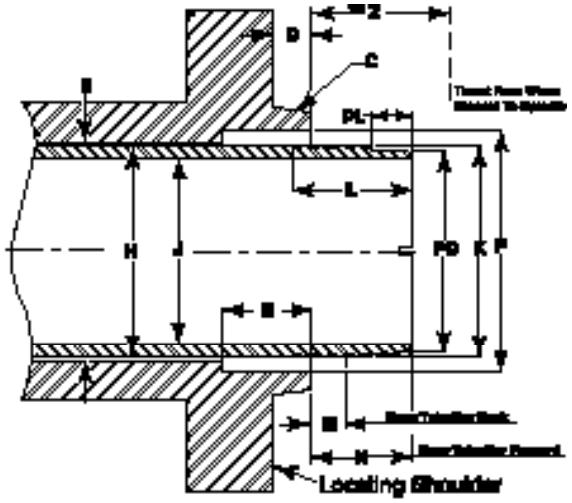
Letters below correspond to dimensions in illustration:

D Length of Spindle Nose: _____
E Spindle Through Hole: _____
F Spindle I.D. Step Diameter or Tapers (if any)**:** _____
G Depth of Steps: _____
H O.D. of Draw Tube / Bar: _____
J I.D. of Draw Tube /Bar: _____
K Draw Tube / Bar Thread: _____
❑ Left- or ❑ Right-hand
❑ Internal or ❑ External Thread
L Length of Thread: _____
PL Pilot Length (if any)**:** _____
PD Pilot Diameter (if any)**:** _____
M/N Distance from Front of Spindle to Front of Draw Tube / Bar when Forward and Retracted:
(indicate Positive {+} if the draw tube / bar is in Front of the Spindle Face, or Negative {-} if Behind the Spindle Face)
M Retracted (back): _____
N Forward: _____
Z Distance from Spindle Face to the Turret Face when the Turret is Closest to the Spindle: _____

Company Name: _____
Contact Name: _____
Address: _____
City, State, Zip: _____
Phone: _____ Fax: _____

Draw Bar Adapters are required for mounting the HQC **Quick-Change** Collet Systems to chuck-style lathes. A blank Adapter is supplied and can be machined by the customer, or it can be machined at Hardinge. Fill in the requested information and dimensions corresponding to the illustration below if you would like Hardinge to machine the adapter, for a nominal charge, for your specific application. A preliminary quote can be obtained prior to filling out this form.

Fax this form to Hardinge Collet Customer Service at 607-734-3886.



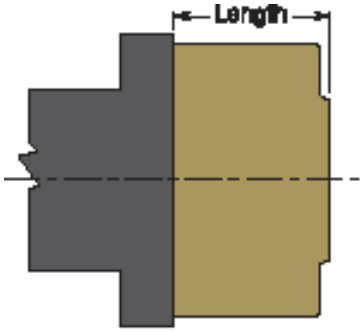
Length of HQC® Quick-Change Collet Systems

Description	Chuck Style Spindle	Hardinge Spindle
A2-4 CNC HQC-GT Mount	—	4.130" (104.90)
A2-5 CNC HQC-42 Mount	4.035" (102.50)	3.135" (79.63)
A2-6 CNC HQC-65 Mount	4.363" (111.78)	3.770" (95.76)
A2-8 CNC HQC-65 Mount	Special - 5" (127.00)	3.995"(101.47)

Note: Millimeters in parentheses.

Dimensions in this chart indicate the total length of the Hardinge HQC® Quick-Change Collet Assembly (from the spindle shoulder to the collet face) for your reference.

Note: If the Z plus D distance you've indicated in the form above is greater than the dimensions shown in this chart, a special spindle mount may be required.



Spindle / HQC Mount / Collet Head

Frequently Asked Questions

What is the operating range of a Quick-Change collet?

The operating range is ±1/64" (.393mm) for under a 2" diameter, and ±1/32" for a 2" diameter and over, when used on multi-spindle automatics for bar stock work. The operating range of the collets when used on CNC lathes is -1/64" (.393) to +.008" (.20mm). Note that the best grip is with a full bearing, which is at the rated size of the collet. As the stock gets larger, the collet will grip at the edges of the slots; as the stock gets smaller, gripping will be at the center of the gripping surface.

We continually have breakage of closing fingers and pins. Will this continue with Quick-Change?

Considerably less breakage is what our customers tell us when the HQC System is used on automatic screw machines. This is a result of being able to use less force to hold the bar. Because there is no shank on the collet, less draw bar force is required for the same gripping force. Because the collet can handle a wide chucking range, you won't have to change collets when the stock varies or risk overtightening of your closing mechanism.

I machine a lot of short parts. Are there problems short chucking with Quick-Change collets?

Yes & No. When gripping parts that are longer than ½ the length of the bearing of the collet, you should have no problems. You may experience problems when your parts are shorter. Because the collet does not have a shank, it will have a tendency to collapse in the back when there is no stock to grip on. Gripping a part that is only ¼" long will be very difficult. You can help the situation by making a stop with a diameter the same as the low tolerance on the chucking diameter of the part. With a chucking diameter of .500" that has a tolerance of -.005", the work stop bore should be .495" to .4945". This will help stop the collet from collapsing in the back.

What happens when the seal holding the pads together breaks?

You quickly replace the seal and the plug that holds it in. With other brands of **Quick-Change** systems, the entire head has to be sent back to be re-vulcanized. This requires an inventory of extra collets to make certain your production is not interrupted. We are told that most shops that use the vulcanized style system purchase a minimum of ten collet heads for their eight spindle automatics to reduce the downtime. This additional expense is not required with the Hardinge HQC System. The only item required is an extra set of seals and about five minutes of time. If your shop requires collet heads for ten different stock sizes, the cost for extra vulcanized collets will be in the thousands of dollars. The cost for an extra set of Hardinge HQC seals is around ten dollars.

How often do I need to remove the Quick-Change System and clean the spindle?

Use the same schedule recommended by your machine tool builder. The seals on the HQC **Quick-Change** Collet System create a better seal than master collets, helping to keep chips and sludge away from the back of the collet. You must still clean your spindle on a regular basis or you will eventually have problems.

Should I buy a manual wrench or do I need a hydraulic wrench?

A hydraulic wrench and power unit is required on a multi-spindle automatic. The work area is too confined and the reach too long for you to comfortably and quickly change the collets. For CNC lathes, a manual wrench with a standard ⅜" ratchet wrench works great. If you want to increase your speed, a hydraulic wrench will do it.

I have a CNC lathe and the bar stock seems to be running on the plus side of the nominal stock size. Can I get the collet to open up a little more to handle that diameter variation?

Yes. You can adjust the collet to open approximately .008" more. During setup procedure, the collet body or the draw tube adapter was set with a .030" clearance between the front of the body, or adapter, to the back face of the spindle mount. This amount can be decreased to .005", which will allow the collet to open approximately .008" more.

I've experienced breakage problems with other Quick-Change collet systems? How will the HQC®

Feed Fingers and Pads

for all Brands of Automatics

Style "B" Master Feed Fingers and Pads

Hardinge Style "B" feed fingers and pads are the most practical feed fingers for high production bar machining. Designed and manufactured to be the most reliable on the market today, they offer many advantages over other styles.

Dependability. There are no screws or pins to hold pads in place. Pads cannot come loose and they offer full bearing on the bar stock.

Versatility. Pads are stocked in round, hexagon, and square shapes, in a variety of materials and sizes.

Affordability. The versatility of a master feed finger can be increased by the purchase of inexpensive pads in a variety of sizes and shapes.

B1 to B35 sizes in round, hexagon and square.

Feed Finger Pad Material

Hardened Steel Pads are for hot-rolled and cold-drawn stock and is noted for long wear. This pad will give reasonable freedom from scoring minimized by the greater pad hardness. With our Style "B" Master Feed Finger acting as a durable holder, you can select correct pads to meet your exacting requirements.

Nickel Cast Iron Pads are used on brass, aluminum, polished or plated bars, and special-finish drawn bars to eliminate scoring of stock. Many tests were made for the selection of this material to remove objectionable scoring of stock and to ensure long wear.

Bronze Pads can be used for ground drill rod, ground bars, and also with the materials listed for nickel cast iron pads, except brass, to eliminate scoring of stock.

WARNING:
Hardinge Quick-Change Collets should not be used in applications where the spindle is rotating without a bar or workpiece in the collet. Rotating the spindle without a bar or workpiece in the collet may result in the collet head becoming dislodged from the spindle and it could fly out. Failure to comply with this warning may result in serious injury or death.

HARDINGE COMPANIES WORLDWIDE

Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, and grinding machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

We've developed a strong global presence with manufacturing operations in North America, Europe, and Asia. Hardinge applies its engineering and applications expertise to provide your company with the right machine tool solution and support every time.

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