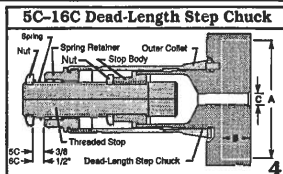
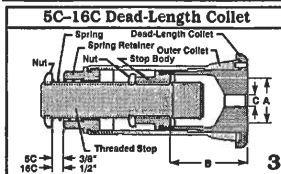


### Boring out the Dead Length collet Assembly as it comes from Hardinge:

1. Check, if necessary reset, the dimensions shown in the above illustrations and thoroughly clean the spindle area and the Dead-Length Collet Assembly.
2. With the draw bar in its forward position, put the Dead-Length Collet Assembly in the spindle, insert 3 pins in the face and adjust the draw bar until the pins are just gripped. Back out slightly and lock the draw bar. Activate draw bar to close collet on pins.
3. When boring out the collet, for the best accuracy and repeatability the order hole should be bored .001 inch larger than the stock size.
4. When a step-type bore is required, finish bore to the size indicated, then face the bottom of the bore to provide a shoulder. To assure the part seats against the shoulder of the step, under cut the corner where the bore & shoulder meet.
5. Take the Dead-Length Assembly out of the spindle and remove the 1/8" diameter pins from the slots (save these for re-machining).
  - **Machining the Stop for the 5C & 16C Ejector Stop:**
6. Machine the **Stop**, which was packed separately, to conform to the bore and step in the **Dead-Length Collet**. The OD of the **Stop** should be approximately 1/64" less than the bore in the collet. The **Stop** must not bottom out on the **Body** before the part bottoms out on the step in the collet.
  - **Separating the Outer Collet and the inner Dead-Length Collet**
7. Loosen and remove the Large hex Nut/Nuts.
8. Remove the **Large Spring**. The Spring Retainer can stay in the Outer Collet.
9. Remove the two **BVille Springs**, **Large Spring**. Leave the **Spring Retainer**. See Illustration #2.
10. Separate the **Dead-Length Collet** from the **Outer Collet**. Remove the **Body** from the **Dead-Length Inner Collet**. Use the Hardinge Spanner Wrench to hold the **DL Collet** and a open end wrench to turn the **Body**. Deburr collet. Do not remove **Guide Body** from Thru-Hole<sup>®</sup> **DL Collet**. Deburr & Clean Collet
  - **5C-16C Dead-Length Collet : Adjusting the Solid Stop Illustrations 3 & 4**
11. Loosen the Nut which is against the Body and adjust to obtain the desired distance from the end of the stop to the face of the Dead-Length Collet. Retighten the Nut. If extensions are required it is suggested that you drill and tap the face of the threaded Stop and make the extension with the same male thread.
  - **5C-16C Dead-Length Ejector Stop: Mounting the Machined Stop Illustrations 1 & 2**
12. Remove two 3/8" hex Nuts, then pull the **Plunger** and **Small Spring** from the **Body**.
13. Thread the **Stop** which was machined into the **plunger**. Tighten using two 5/8" open end wrenches.
14. If removed, slide the **Small Spring**, (or the **Heavy Duty Small Spring-16C only**), onto the stem of the **Plunger**. Insert **Stop/Plunger/Spring** into the **Body**.
15. Thread the 3/8" **Nuts** on the end of **Plunger**. Start with the face of the 3/8" **Nut** 1/8" from the face of the **Plunger**. Changing this dimension changes the ejector force. Lock second nut. See Illustration #1 & 2.
  - **All Dead-Length Collets Assemblies:**
16. Thread the **Body** assembly, or **Guide Body**, into the **Dead-Length Collet**. Hold the **DL**

## 5C and 16C Dead-Length Collets and Step Chucks



Collet using the Hardinge DL Collet Spanner Wrench and tighten the **Body** using an open end wrench. **NOTE:** Do not grip the Dead-Length Inner Collet in a vise, pipe wrench or vise-grip because the collet will be permanently damaged and distorted resulting in improper and unsafe gripping of the workpiece.

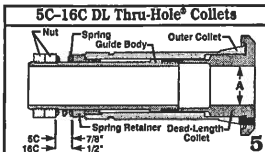
16. If removed, thread the **Spring Retainer** into the **Outer Collet**. Hold the Collet using the Hardinge Collet wrench and tighten the **Body** (16C Ejector – Use a 3/16" pin Hardinge face spanner, All others use open end wrenches. See **NOTE** in Step 15.

• **Assembling the Outer Collet and Dead-Length Collet Assemblies:**

17. Slide **Dead-Length Collet** into the **Outer Collet** aligning key with the keyway.
18. Slide the **Spring** onto the **Threaded Stop**. See illustration #2 & 3.
- 5C Ejector: Slide the **Large Spring** onto the **Body**. See illustration # 1.
- Thru-Hole: Slide the **Large Spring** onto the **Guide Body**. See illustration # 5
- 16C Ejector: Slide the **Large Spring** and **BVille Springs** onto the **Body**. See illustration #2.
19. Hold the **Outer Collet** with the Hardinge Collet Wrench, if necessary, and thread the **Nut** into the assembly, adjusting to the dimensions shown in the illustrations using a Open end wrench. Where there are two nuts, lock the second nut against the first.
- 16C Ejector: Tighten nut by hand until **Large Spring** is fully compressed then back off one full turn. Lock with second Nut See illustration # 2
20. Thoroughly clean the assembly as well as the collet seat and back bearing in the machine's spindle.
21. With the draw bar in its forward position, put the Dead-Length Collet Assembly in the spindle, insert a part and adjust the draw bar until the part is lightly gripped. Back out slightly until the part can be removed. Lock the draw bar.

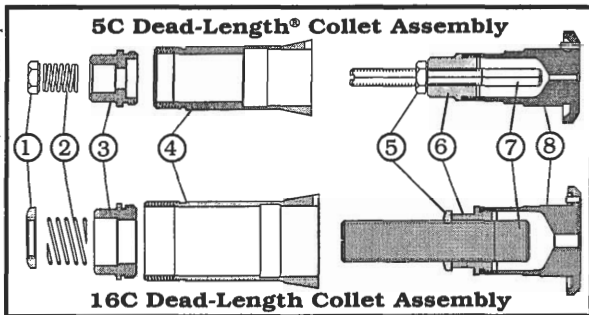
• **EJECTOR STOP: If the part does not eject from the collet:**

- Too little clearance between the **Stop** and the Bore. Decrease the OD of the **Stop**.
- 16C Ejector: The **Small Spring** is not strong enough. Use **Heavy Duty Small Spring** furnished. See illustration # 2



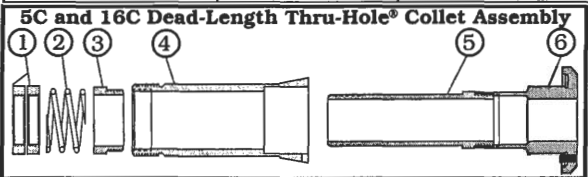
### Capacity

Dead Length Collet	"A" Chucking Diameter	"B" Maximum Depth of Step	"C" Pilot Hole
5C Emergency	Up to 55/64" (21.82mm)	2-1/8" (53.98mm)	1/8" (3.18mm)
	55.64" to 1" (21.82 to 25.4mm)	1-3/8" (34.93mm)	
5C Emer. Step Chuck	2" (50.80mm)	1/2 (12.70mm)	1/4" (6.35mm)
5C Thru-Hole	3/4" (19.05mm) Maximum	N/A	1/8" (3.18mm)
16C Emergency	Up to 1-13/32" (35.72mm)	2-1/4" (57.15mm)	1/8" (3.18mm)
	1-13/32" to 1-5/8" (35.72 to 41.28mm)	1-3/8" (34.93mm)	
16C Emer. Step Chuck	2-3/4" (69.85mm)	1/2" (12.70mm)	1/4" (6.35mm)
16C Thru-Hole	1-3/16" (30.16mm) Maximum	N/A	1/8" (3.18mm)



Δ Parts: 1,2,3,4,5,6,7

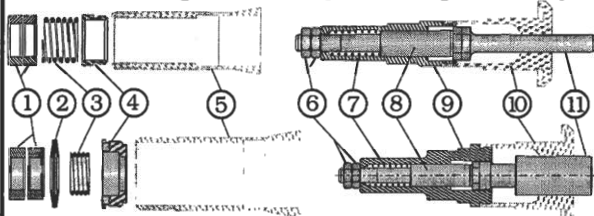
Key	Part Name	5C Dead-Length Collet Part Numbers	16C Dead-Length Collet Part Numbers
1	Nut	U -00004141	1185-00-00-000000
2	Large Spring	1165-00-00-000000	1187-01-00-000000
3	Spring Retainer	1163-00-00-000000	1189-00-00-000000
4	Outer Collet	1161-00-10-000000	1177-00-00-000000
5	Nut	U -00004141	1185-00-00-000000
6	Stop Body	3261-00-00-000000	1181-01-00-000000
7	Threaded Stop	3263-00-00-000000	1183-02-00-000000
8	Emer. DL Collet	1159-00-10-000000	1173-13-00-000000
	Harden & Grd. DL DL Step Chuck	1159-00-19-00Size 1169-00-10-000000	Upon Application 1175-00-00-000000
	DL Collet Assembly- <i>complete</i>	1157-00-00-000000	1171-00-00-000000
Δ	DL Asm. & Outer Collet- <i>only</i>	1157-02-00-000000	1171-02-00-000000
	DL Asm with Step Chuck	1167-00-00-000000	1179-00-00-000000



\* Parts: 1,2,3,4,5

Key	Part Name	5C Dead-Length Thru-Collet Part No.	16C Dead-Length Thru-Collet Part No.
1	Nuts	1157-06-00-000000	1171-01-03-000000
2	Large Spring	1133-00-00-000000	16-8101-5C
3	Spring Retainer	1131-00-00-000000	1171-01-02-000000
4	Outer Collet	1161-00-10-000000	1177-00-00-000000
5	Guide Body	1129-00-00-000000	1171-01-01-000000
6	Dead Length Collet	1159-00-10-000000	1173-13-00-000000
	DL Thru-Hole Asm.- <i>Complete</i>	1157-01-00-000000	1171-01-00-000000
*	DL T-H Asm.-Outer Collet	1157-01-01-000000	N/A

## 5C Dead-Length® Collet Ejector Stop Assembly



## 16C Dead-Length Collet Ejector Stop Assembly

△ Parts: 1,2,3,4,6,7,8,9,11

\* Parts: 1,2,3,4,5,6,7,8,9,11

Key	Part Name	5C Dead-Length Collet Ejector Stop Part No.	16C Dead Length Collet Ejector Stop Part No.
1	Nut/nuts	2169-00-00-000000	2179-00-00-000000
2	BVILLE Springs(2)	N/A	CE-1750057
3	Large Spring	CE-09751051250	CE-11001050875
4	Spring Retainer	1131-00-00-000000	2181-00-00-000000
5	Outer Collet	1161-00-10-000000	1177-00-00-000000
6	Small Nut	U -00004141	U -00004141
7	Small Spring	1065-00-00-000000	1065-00-00-000000
8	Heavy Small Spring	N/A	CE-0000054
9	Plunger	1061-00-00-000000	1061-00-00-000000
9	Ejector Body	2167-00-00-000000	2177-00-00-000000
10	Emer. DL Collet	1159-00-10-000000	1173-13-00-000000
	Harden & Grd DL	1159-00-19-00Size	Upon Application
	DL Step Chuck	1169-00-10-000000	1175-00-00-000000
11	Stop for Plunger	1063-00-00-000000	2183-00-00-000000
△	Ejector Asm. Only-No Collets	2165-00-00-000000	2175-00-00-000000
	Ejector Stop Asm.-Complete	2161-00-00-000000	2171-00-00-000000
*	Ejector Asm. & Outer Collet	2163-00-00-000000	2173-00-00-000000
	E. Asm. Step Chuck -Complete	2157-00-00-000000	2159-00-00-000000

### Support Items for All Dead-Length Collet Assemblies

Collet Wrench	ST-11759	CC-11759
Spanner Wrench	7893-00-00-000000	7895-00-00-000000
Adjustable Face Spanner	N/A	7891-00-00-000000
Pins (3) for DL Collet	7721-00-00-000000	7721-00-00-000000
Pins (3) for Step Chuck	7723-00-00-000000	7223-00-00-000000

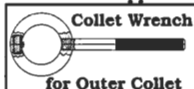
### Dead-Length Step Chucks



5C

16C

### Support Equipment



for Outer Collet



For Inner Collet

To Order: 800-843-8801, Canada - 800-468-5946  
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B77B - Replaces B77B - Part No. BB 0009500-0077

**Hardinge Inc.**  
One Hardinge Drive  
P. O. Box 1507

Elmira, New York, 14902-1507