



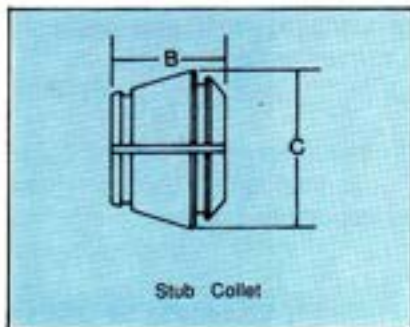
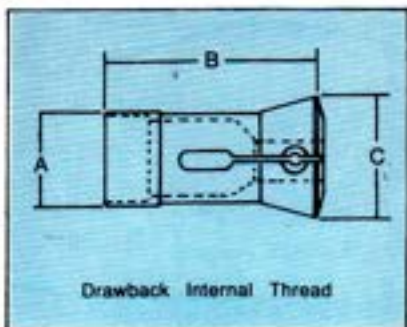
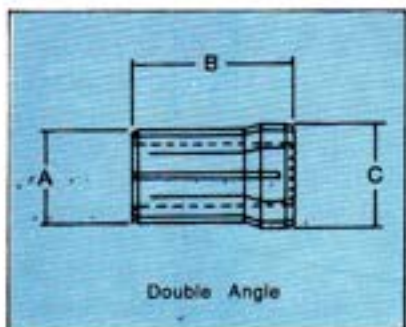
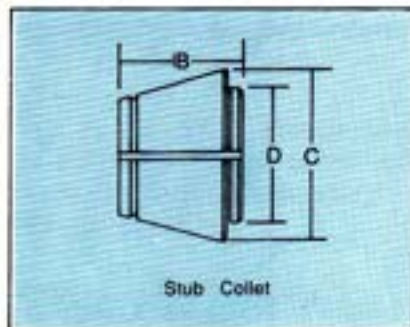
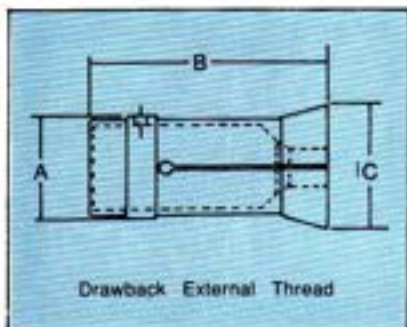
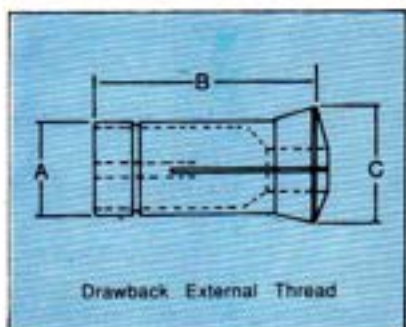
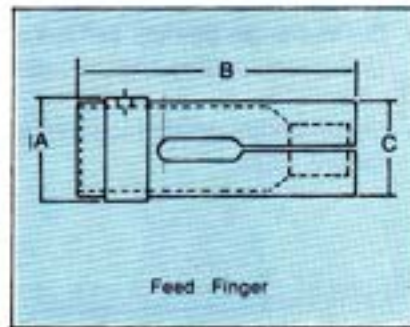
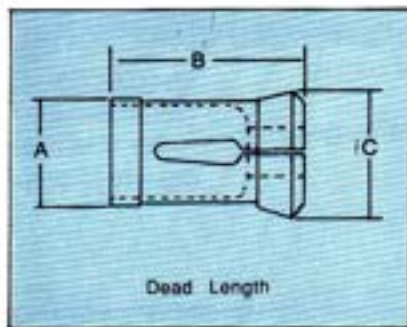
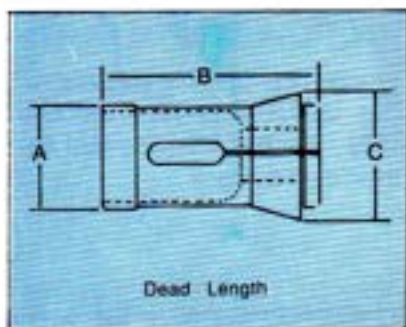
# COLLETS & FEED FINGERS

LCS Collets & Feed Fingers have applications with all types of precision equipment.

When ordering, please state the make and type of the machine, any collet reference number and/or the dimensions A,B,C. as illustrated below.

- For AUTOMATICS
- For CAPSTANLATHES
- For PRECISIONLATHES
- For MILLINGMACHINES
- For DRILLINGMACHINES
- For GRINDINGMACHINES
- For SPECIALPURPOSEMACHINES
- For N.C.MACHINES

State whether you require plain or serrated (annular or cross) in the bore. For hexagonal or square types, please give dimensions across flats.





## EXPANDING MANDRELS AND SLEEVES

The Double Angle design when used for expanding sleeves incorporates the following vital features:-

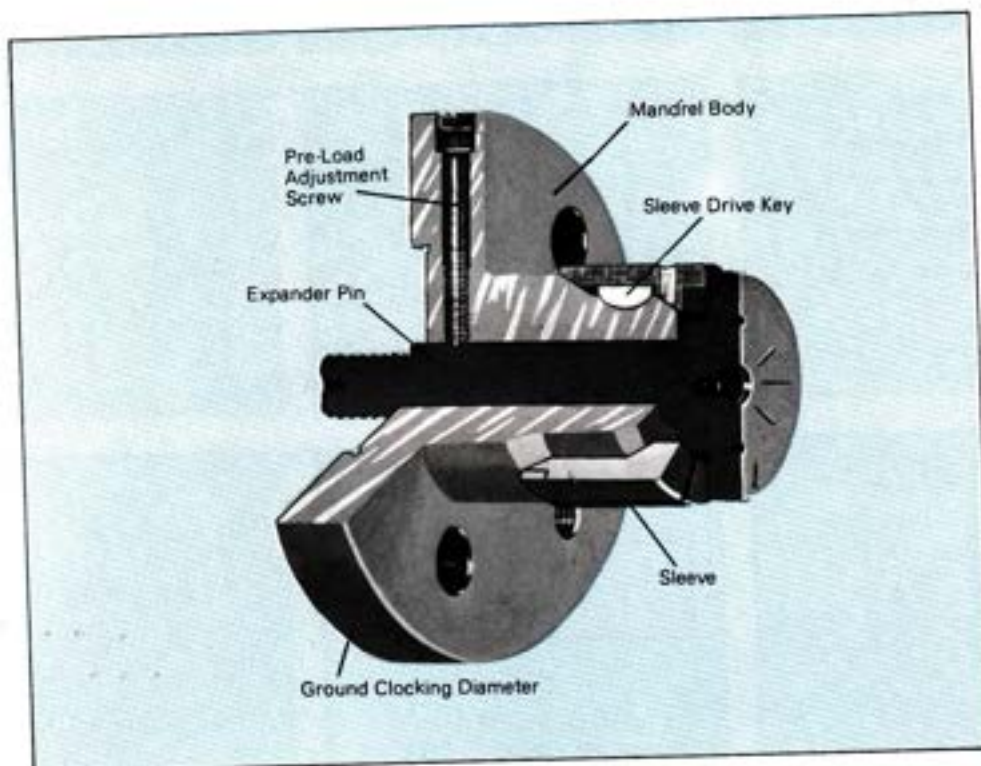
### STANDARD PLATE MOUNTED MANDREL SYSTEM

- Each sleeve has an expansion range of 0.8 mm (.032") as standard.
- Delivers guaranteed accuracy of .013mm (.0005") T.I.R. or closer if desired.
- Delivers greater holding power because the sleeve grips along its entire length.
- Accuracy is constantly maintained as mating surfaces wear to continuous gauge fit.
- Double angle permits self release of sleeve, giving fast loading and unloading of components.
- One Mandrel accommodates a wide range of sleeve sizes.

- Multiple sleeve models are available for work with great length to diameter ratio. Stops wobble and chatter.
- Sleeves can be specially machined to grip non-cylindrical or stepped or splined inside diameters.
- Sleeve sliding on Double Angles provides pull back of component on to end locator for positive location.

The Continuing advancement in production methods in the Metal working Industry has created a need for precision workholding devices capable of automatic clamping in component bores. In addition, the equipment must transmit the high accuracy of the latest machine tools and develop sufficient holding power to resist the cutting forces imposed on the workpiece. Such capabilities are possible by using a LCS mandrel system.

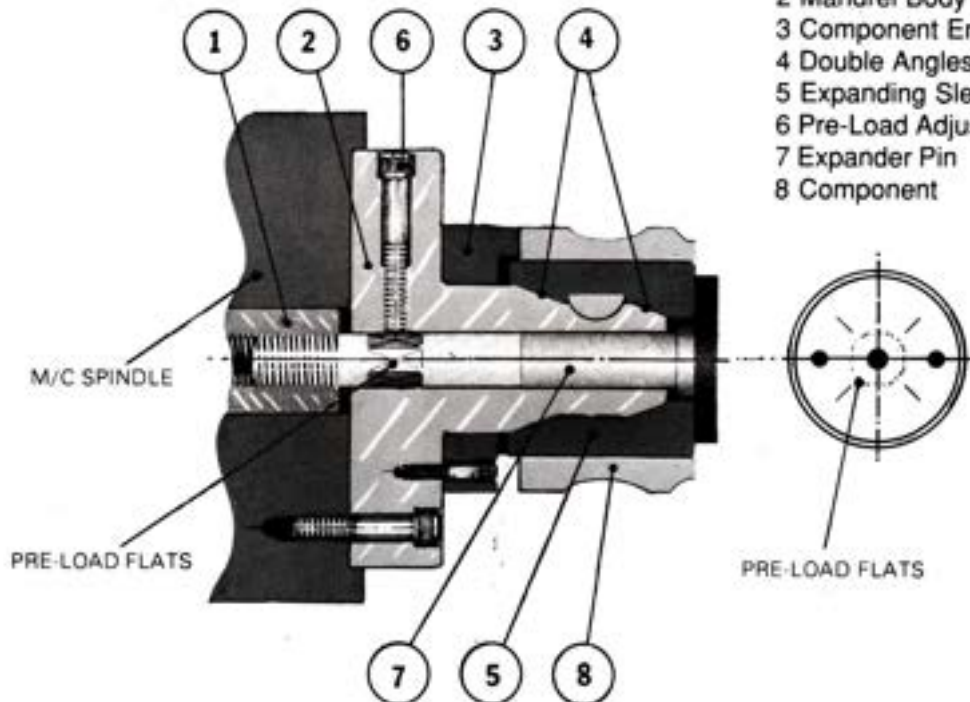
The Comprehensive range of expanding sleeves, together with basic types of Mandrel bodies, are now made available in 'LCS System' enabling tool designers to prepare their own designs.







## MOUNTING AND PRE-LOAD INSTRUCTIONS



## MANDREL INDEX

- 1 Machine Drawbar
- 2 Mandrel Body
- 3 Component End Locator
- 4 Double Angles
- 5 Expanding Sleeve
- 6 Pre-Load Adjustment Screw
- 7 Expander Pin
- 8 Component

For maximum efficiency Expanding Sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

### ASSEMBLY INSTRUCTIONS:

- A** Ensure Machine Drawbar (1) is fully forward.
- B** Load Mandrel Body (2) to machine spindle (using clock register on double angle form and check concentricity).
- C** Fit End Locator (3) to Mandrel Body (2) (if not already fitted).
- D** Ensure Double Angles (4) are clean as well as Mandrel Body (2) and Sleeve (5).
- E** Place Expanding Sleeve (5) on Mandrel Body (2).
- F** Ensure Pre-Load Adjustment Screw(6) is retracted. Place Expander Pin (7) in Mandrel Body (2). Screw pin clockwise into Drawbar (1) until head of pin contracts with Sleeve (5). (Ensure Pin DOES NOT expand sleeve).
- G** Load component (8) on to mandrel assembly in working position.
- H** Screw Expander Pin (7) clockwise into Drawbar (1) until Sleeve (5) grips Component (8).
- I** Back off Expander Pin (7) (anti-clockwise) until first available pre-load flat is adjacent to pre-load adjustment screw (cross lines on expander pin head coincide with pre-load flats).
- J** Remove component and check loading clearance to ensure easy loading.
- K** Tighten Pre-load Adjustment Screw (6) ensuring Expander Pin(7) has slight radial movement to allow pin to slide freely.
- L** Finally check by loading Component (8) and operate Drawbar (1) ensure component is satisfactorily held (make sure drawbar pressure is sufficient to stop slippage).
- M** Mandrel is now ready for operation.



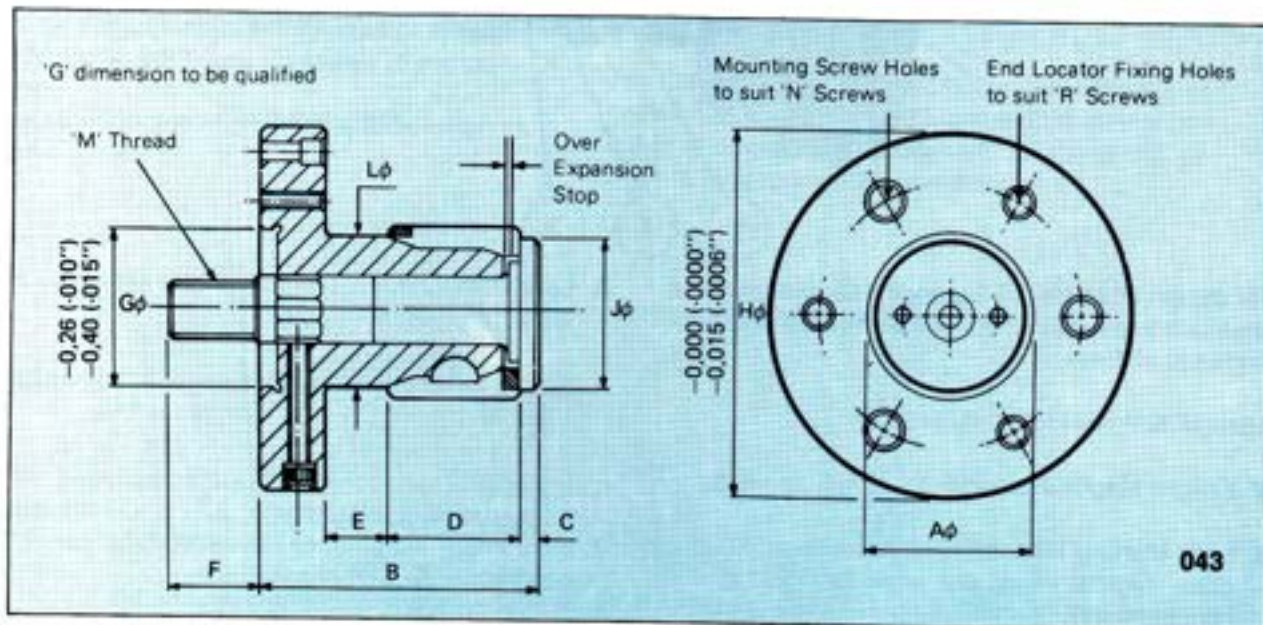
## PRECISION EXPANDING MANDRELS

### FACE PLATE OPERATED DRAWBAR (STANDARD LENGTH)

- Delivers greater holding power because the sleeve grips along its entire length.
- Delivers guaranteed accuracy of 0.013 mm (.0005") T.I.R.
- Each sleeve has an expansion range of 0.8 mm (.032").
- One mandrel accommodates a wide range of sleeves.

- Sleeves are interchangeable on all mandrels of the same series.
- Self release permits fast loading and unloading.

The face-plate drawbar operated expanding mandrel can be used on any machine with drawbar facility, for general turning and grinding operations. Adaptor plates can be made to suit the machine mounting if necessary. Component end locators, solid type or compensating (for out-of-square locating faces) can be supplied or manufactured by customer. The natural pull-back action of the sleeve ensures the component is hard against the location face. There is an over expansion stop built into the expander pin to avoid over-stressing the expanding sleeve.



For maximum efficiency Expansion Sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

| Model | A range |       | B   | C    | D    | E    | F  | G   | H   | J     | K | L     | M   | N   |      | R   |      | LCS Tool No. |
|-------|---------|-------|-----|------|------|------|----|-----|-----|-------|---|-------|-----|-----|------|-----|------|--------------|
|       | Min.    | Max.  |     |      |      |      |    |     |     |       |   |       |     | PCD | Size | PCD | Size |              |
| 03A   | 12.5    | 16.0  | 60  | 3.2  | 22.0 | 14.6 | 20 | 40  | 75  | 11.0  | 6 | 12.6  | M4  | 58  | M8   | 28  | M4   | EM-03-043    |
| 02C   | 16.0    | 22.0  | 66  | 4.0  | 27.0 | 15.0 | 22 | 40  | 75  | 15.0  | 6 | 14.1  | M8  | 58  | M8   | 28  | M4   | EM-02-043    |
| 01C   | 22.0    | 28.5  | 72  | 5.0  | 32.0 | 15.5 | 30 | 40  | 75  | 20.0  | 6 | 20.7  | M8  | 58  | M8   | 58  | M6   | EM-01-043    |
| 018C  | 28.5    | 41.0  | 79  | 5.5  | 38.0 | 15.3 | 31 | 40  | 75  | 26.5  | 6 | 26.3  | M10 | 58  | M8   | 58  | M6   | EM-018-043   |
| 04C   | 41.0    | 63.5  | 84  | 6.5  | 43.0 | 14.8 | 36 | 40  | 75  | 37.5  | 6 | 37.0  | M12 | 66  | M8   | 58  | M    | EM-04-043    |
| 05C   | 63.5    | 76.2  | 109 | 8.0  | 51.0 | 25.3 | 36 | 60  | 120 | 55.0  | 6 | 57.3  | M20 | 94  | M10  | 94  | M8   | EM-05-043    |
| 06C   | 76.2    | 89.0  | 118 | 11.0 | 57.0 | 24.7 | 37 | 60  | 120 | 74.5  | 6 | 71.1  | M20 | 94  | M10  | 94  | M8   | EM-06-043    |
| 07C   | 89.0    | 130.0 | 133 | 14.0 | 63.5 | 25.2 | 47 | 100 | 180 | 86.5  | 6 | 84.1  | M24 | 150 | M12  | 150 | M10  | EM-07-043    |
| 08C   | 130.0   | 178.0 | 153 | 19.0 | 79.5 | 24.6 | 22 | 100 | 180 | 124.0 | 6 | 123.0 | M36 | 150 | M12  | 150 | M10  | EM-08-043    |

Ordering Example : EM-03-043





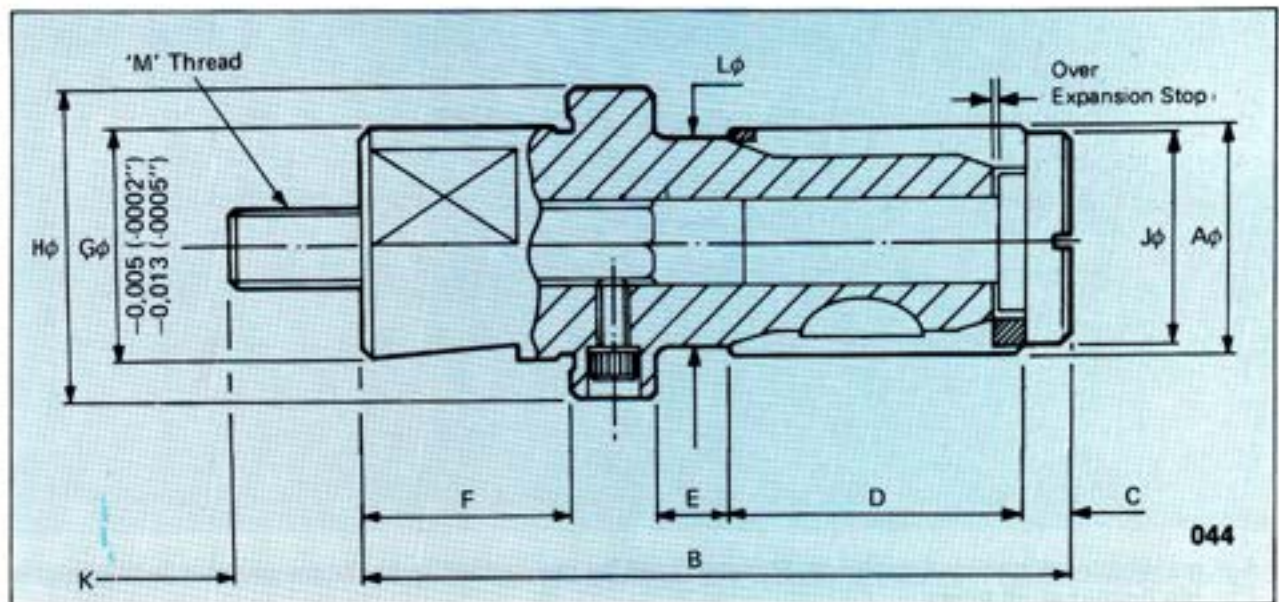
## PRECISION EXPANDING MANDRELS

### SPIGOT DRAWBAR OPERATED (STANDARD LENGTH)

- Delivers greater holding power because the sleeve grips along its entire length.
- Delivers guaranteed accuracy of 0.013 mm(.0005") T.I.R.
- Each sleeve has an expansion range of 0.8 mm(.032").
- One mandrel accommodates a wide range of sleeves.

- Sleeves are interchangeable on all mandrels of the same series.
- Self release permits fast loading and unloading.

The spigot drawbar operated expanding mandrel can be used on any machine with drawbar facilities for general turning and grinding operations. Adaptor plates made to suit machine mounting can be manufactured by LCS or customer. Also Component end locators, solid type or compensating (for out-of-square locating faces) can be supplied or manufactured by customer. The natural pull-back action of the sleeve ensures the component is hard against the location face. There is an over-expansion stop built into the expander pin to avoid over-stressing the expanding sleeve.



For maximum efficiency Expansion sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

| Model | A range |      | B  | C   | D  | E    | F  | G  | H  | J    | K  | L    | M   | LCS Tool No. |
|-------|---------|------|----|-----|----|------|----|----|----|------|----|------|-----|--------------|
|       | Min.    | Max. |    |     |    |      |    |    |    |      |    |      |     |              |
| 03A   | 12.5    | 16.0 | 66 | 3.2 | 22 | 9.8  | 20 | 20 | 26 | 11.0 | 14 | 9.5  | M4  | EM-03-044    |
| 02C   | 16.0    | 22.0 | 70 | 4.0 | 27 | 8.0  | 20 | 20 | 26 | 15.0 | 18 | 14.1 | M8  | EM-02-044    |
| 01C   | 22.0    | 28.5 | 85 | 5.0 | 32 | 10.0 | 27 | 30 | 40 | 20.0 | 17 | 20.7 | M8  | EM-01-044    |
| Q1BC  | 28.5    | 41.0 | 92 | 5.5 | 38 | 10.5 | 27 | 30 | 40 | 26.5 | 18 | 26.3 | M10 | EM-01B-044   |
| 04C   | 41.0    | 63.5 | 99 | 6.5 | 43 | 9.5  | 27 | 30 | 60 | 37.5 | 21 | 37.0 | M12 | EM-04-044    |

Ordering Example : EM-03-044





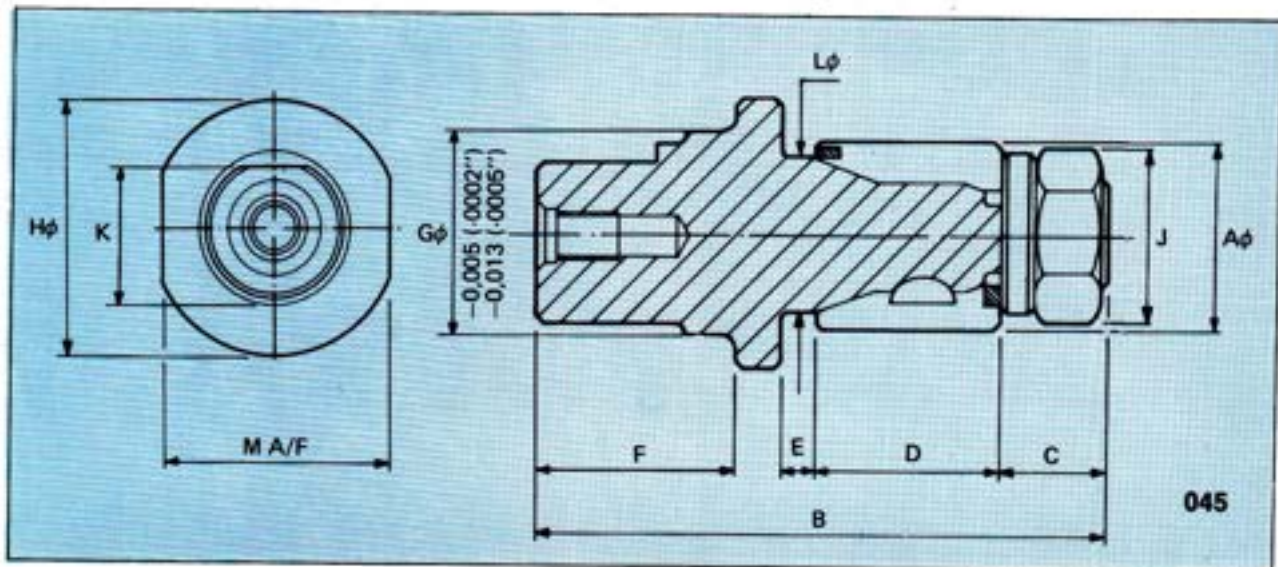
## PRECISION EXPANDING MANDRELS

### BETWEEN CENTRES (STANDARD LENGTH)

- Delivers greater holding power because the sleeve grips along its entire length.
- Delivers guaranteed accuracy of 0.013mm (.0005") T.I.R.
- Each sleeve has an expansion range of 0.8mm (0.32").
- One mandrel accommodates a wide range of sleeves.

- Sleeves are interchangeable on all mandrels of the same series.
- Self release permits fast loading and unloading.

The thread operated between centres type expanding mandrel is generally used mounted between 60° centres, and can be driven from drive flats with a carrier or drive plate. It is possible to attach a simple component end locator, if required, at diameter 'L'. These mandrels are generally used for small batch grinding operations. There is a ground register diameter to adapt this mandrel to face plate mounted, if required, by use of an adaptor plate. These mandrels are hand operated by the use of conventional spanners and are often used for inspection purposes.



For maximum efficiency Expansion Sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

| Model | A range |       | B   | C    | D    | E    | F  | G  | H     | J<br>A/F | K  | L     | M   | LCS<br>Tool No. |
|-------|---------|-------|-----|------|------|------|----|----|-------|----------|----|-------|-----|-----------------|
|       | Min.    | Max.  |     |      |      |      |    |    |       |          |    |       |     |                 |
| 03A   | 12.5    | 16.0  | 77  | 16.0 | 22.0 | 10.0 | 20 | 20 | 26.0  | 10       | 18 | 9.5   | 22  | EM-03-045       |
| 02C   | 16.0    | 22.0  | 83  | 17.0 | 27.0 | 9.0  | 20 | 20 | 26.0  | 13       | 18 | 14.1  | 22  | EM-02-045       |
| 01C   | 22.0    | 28.5  | 99  | 18.5 | 32.0 | 10.5 | 27 | 30 | 40.0  | 19       | 27 | 20.7  | 36  | EM-01-045       |
| 018C  | 28.5    | 41.0  | 107 | 20.8 | 38.0 | 10.2 | 27 | 30 | 40.0  | 24       | 27 | 26.3  | 36  | EM-018-045      |
| 04C   | 41.0    | 63.5  | 120 | 27.0 | 43.0 | 10.0 | 27 | 30 | 50.0  | 36       | 27 | 37.0  | 46  | EM-04-045       |
| 06C   | 63.5    | 78.2  | 145 | 33.0 | 51.0 | 26.0 | 35 | 40 | 57.3  | 55       | 35 | 57.3  | 50  | EM-06-045       |
| 06C   | 78.2    | 89.0  | 155 | 37.0 | 57.0 | 26.0 | 35 | 50 | 71.1  | 65       | 45 | 71.1  | 60  | EM-06-045       |
| 07C   | 89.0    | 130.0 | 205 | 47.5 | 63.5 | 34.0 | 50 | 60 | 84.1  | 85φ      | 55 | 84.1  | 70  | EM-07-045       |
| 08C   | 130.0   | 178.0 | 235 | 50.5 | 79.5 | 55.0 | 50 | 80 | 123.0 | 124φ     | 73 | 123.1 | 105 | EM-08-045       |

Ordering Example : EM-03-045





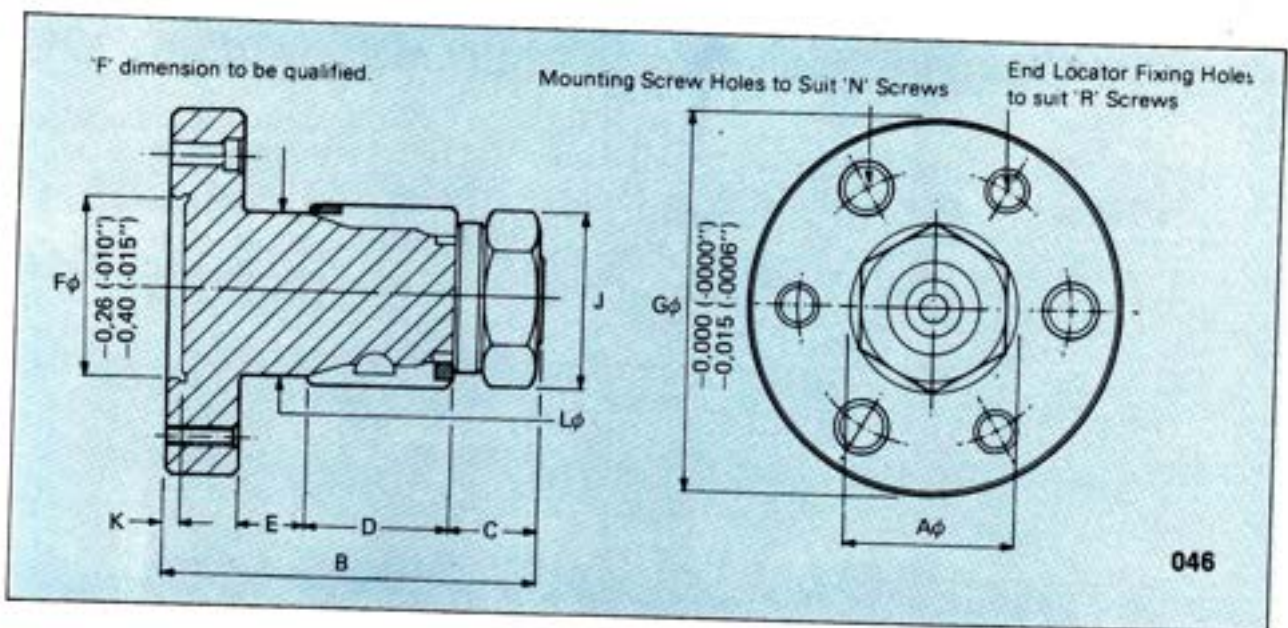
## PRECISION EXPANDING MANDRELS

### NUT OPERATED FACE-PLATE (STANDARD LENGTH)

- Delivers greater holding power because the sleeve grips along its entire length.
- Delivers guaranteed accuracy of 0.013mm (.0005") T.I.R.
- Each sleeve has an expansion range of 0.8mm (.032").
- One mandrel accommodates a wide range of sleeves.

- Sleeves are interchangeable on all mandrels of the same series.
- Self release permits fast loading and unloading.

The face-plate thread operated expanding mandrel can be used on any machine with no drawbar facility for general turning and grinding operations. Adaptor plates can be made to suit the machine mounting if necessary. Component end locators, solid type or compensating (for out-of-square locating faces) can be supplied or manufactured by customer. The natural pull-back action of the sleeve ensures the component is held against the location face.



For maximum efficiency Expansion Sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

| Model | A range |       | B   | C    | D    | E    | F   | G   | J<br>A/F | K | L     | N range |      | R range |      | LCS<br>Tool No. |
|-------|---------|-------|-----|------|------|------|-----|-----|----------|---|-------|---------|------|---------|------|-----------------|
|       | Min.    | Max.  |     |      |      |      |     |     |          |   |       | PCD     | Size | PCD     | Size |                 |
| 03A   | 12.5    | 16.0  | 73  | 16.0 | 22.0 | 15.0 | 40  | 75  | 10       | 6 | 12.6  | 58      | M8   | 28      | M4   | EM-03-046       |
| 02C   | 16.0    | 22.0  | 79  | 17.0 | 27.0 | 15.0 | 40  | 75  | 13       | 6 | 14.1  | 58      | M8   | 28      | M4   | EM-02-046       |
| 01C   | 22.0    | 28.5  | 86  | 18.5 | 32.0 | 15.5 | 40  | 75  | 19       | 6 | 20.7  | 58      | M8   | 58      | M6   | EM-01-046       |
| 01BC  | 28.5    | 41.0  | 94  | 20.8 | 38.0 | 15.2 | 40  | 75  | 24       | 6 | 26.3  | 58      | M8   | 58      | M6   | EM-01B-046      |
| 04C   | 41.0    | 63.5  | 105 | 27.0 | 43.0 | 15.0 | 40  | 75  | 36       | 6 | 37.0  | 58      | M8   | 58      | M6   | EM-04-046       |
| 06C   | 63.5    | 76.2  | 134 | 33.0 | 51.0 | 25.0 | 60  | 120 | 55       | 6 | 57.3  | 94      | M10  | 94      | M8   | EM-06-046       |
| 06C   | 76.2    | 89.0  | 144 | 37.0 | 57.0 | 25.0 | 60  | 120 | 65       | 6 | 71.1  | 94      | M10  | 94      | M8   | EM-06-046       |
| 07C   | 89.0    | 130.0 | 166 | 47.5 | 63.5 | 25.0 | 100 | 180 | 85       | 6 | 84.1  | 150     | M12  | 150     | M10  | EM-07-046       |
| 08C   | 130.0   | 178.0 | 185 | 50.5 | 79.5 | 25.0 | 100 | 180 | 124      | 6 | 123.1 | 150     | M12  | 150     | M10  | EM-08-046       |

Ordering Example : EM-03-046





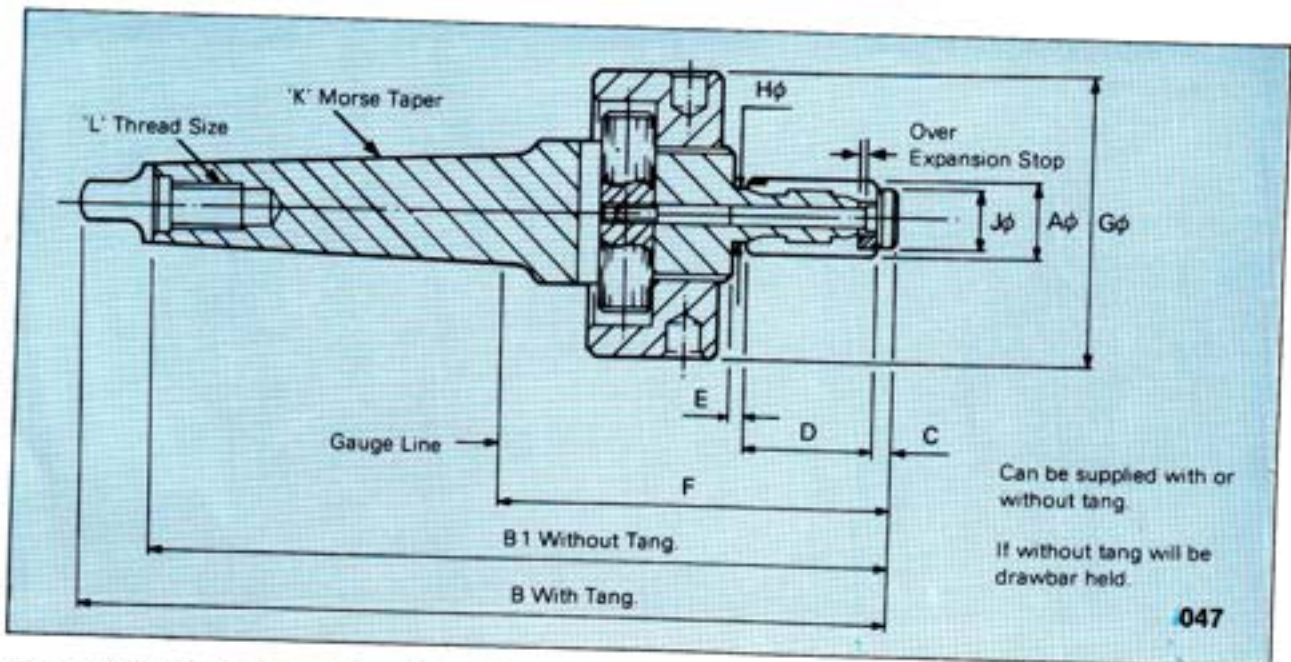
# PRECISION EXPANDING MANDRELS

## CANTILEVER OPERATED (STANDARD LENGTH)

- Delivers greater holding power because the sleeve grips along its entire length.
- Delivers guaranteed accuracy of 0.013 mm(.0005") T.I.R.
- Each sleeve has an expansion range of 0.8mm (.032").
- One mandrel accommodates a wide range of sleeves.

- Sleeves are interchangeable on all mandrels of the same series.
- Self release permits fast loading and unloading.
- Ideal for blind bores or for facing ends of components.

The Cantilever model expanding mandrel is used on machines with morse taper machine mounting. These mandrels can be used for general turning or grinding operations. Particularly useful for blind bores. These mandrels are hand operated by use of a 'C' spanner, and are suitable for small batch work. There is an over-expansion stop built into the expander pin to avoid over-stressing the expanding sleeve.



For maximum efficiency Expansion Sleeves must be pre-loaded to maintain contact with Mandrel Double Angles at all times.

| Model | A range |       | B     | B1    | C    | D    | E    | F     | G   | H    | J  | K | L   | LCS Tool No. Tang Type | LCS Tool No. Drawbar Type |
|-------|---------|-------|-------|-------|------|------|------|-------|-----|------|----|---|-----|------------------------|---------------------------|
|       | Min.    | Max.  |       |       |      |      |      |       |     |      |    |   |     |                        |                           |
| 03A   | 12.5    | 16.0  | 141.0 | 127.0 | 3.2  | 22.0 | 4.0  | 66.0  | 48  | 9.5  | 11 | 2 | M10 | EM-03-047-T            | EM-03-047-D               |
| 02C   | 16.0    | 22.0  | 155.0 | 141.0 | 4.0  | 27.0 | 10.0 | 80.0  | 50  | 14.1 | 15 | 2 | M10 | EM-02-047-T            | EM-02-047-D               |
| 01C   | 22.0    | 28.5  | 189.0 | 171.0 | 5.0  | 32.0 | 14.0 | 95.0  | 60  | 20.6 | 20 | 3 | M12 | EM-01-047-T            | EM-01-047-D               |
| 018C  | 28.5    | 41.0  | 202.5 | 184.5 | 5.5  | 38.0 | 15.0 | 108.0 | 70  | 26.3 | 27 | 3 | M12 | EM-018-047-T           | EM-018-047-D              |
| 04G   | 41.0    | 63.5  | 246.5 | 224.5 | 6.0  | 43.0 | 25.5 | 129.0 | 90  | 37.0 | 37 | 4 | M16 | EM-04-047-T            | EM-04-047-D               |
| 05C   | 63.5    | 78.2  | 260.0 | 238.0 | 8.0  | 51.0 | 24.5 | 142.5 | 100 | 57.3 | 55 | 4 | M16 | EM-05-047-T            | EM-05-047-D               |
| 06C   | 78.2    | 89.0  | 320.0 | 292.0 | 11.0 | 57.0 | 23.5 | 170.5 | 110 | 71.1 | 75 | 5 | M20 | EM-06-047-T            | EM-06-047-D               |
| 07C   | 89.0    | 130.0 | 323.0 | 295.0 | 14.0 | 63.5 | 27.0 | 173.5 | 130 | 84.1 | 86 | 5 | M20 | EM-07-047-T            | EM-07-047-D               |

Ordering Example : EM-03-047T or EM-03-047D



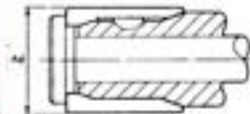


## EXPANDING SLEEVES

### STANDARD LENGTH SLEEVE SPECIFICATIONS

Standard type sleeve

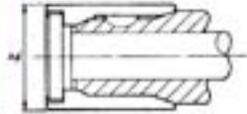
| Model | A range |       | Length |
|-------|---------|-------|--------|
|       | Min.    | Max.  |        |
| 03A1  | 12.5    | 16.0  | 22.0   |
| 02C1  | 16.0    | 22.0  | 27.0   |
| 01C1  | 22.0    | 28.5  | 32.0   |
| 018C1 | 28.5    | 41.0  | 38.0   |
| 04C1  | 41.0    | 63.5  | 43.0   |
| 06C1  | 63.5    | 76.0  | 51.0   |
| 06C1  | 76.0    | 89.0  | 57.0   |
| 07C1  | 89.0    | 130.0 | 63.5   |
| 08C1  | 130.0   | 178.0 | 80.0   |



These Sleeves can be used with all types of Mandrel, and are interchangeable within the range of each type, E.G. The 03A drawbar operated mandrel will accept a 03A1 or 03A2 sleeve which may have been originally used on a 03A thread operated mandrel.

Flush type sleeve

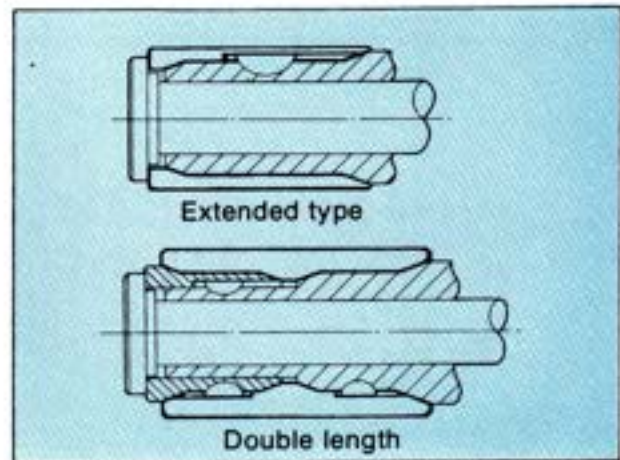
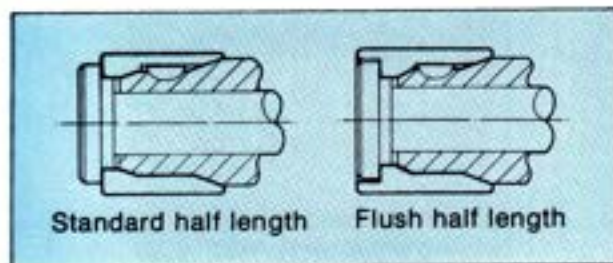
| Model | A range |       | Length |
|-------|---------|-------|--------|
|       | Min.    | Max.  |        |
| 03A2  | 16.5    | 22.0  | 26.0   |
| 02C2  | 22.0    | 28.5  | 32.0   |
| 01C2  | 28.5    | 40.0  | 38.0   |
| 018C2 | 40.0    | 51.0  | 45.0   |
| 04C2  | 51.0    | 73.0  | 50.0   |
| 05C2  | 73.0    | 89.0  | 60.0   |
| 06C2  | 89.0    | 102.0 | 69.0   |
| 07C2  | 101.0   | 143.0 | 78.5   |
| 08C2  | 143.0   | 178.0 | 99.5   |



### ORDERING PROCEDURE

All sleeve orders must specify the type, model number, the component bore and tolerance to be gripped.

### SPECIAL SLEEVES



### COMPONENT END LOCATORS



Standard 3 point solid component end locator for square faces.



Compensating component end locator used when end face is not necessarily square with bore.



Serrated component end locator to give added driving power.





## SEGMENTED EXPANDING SLEEVES

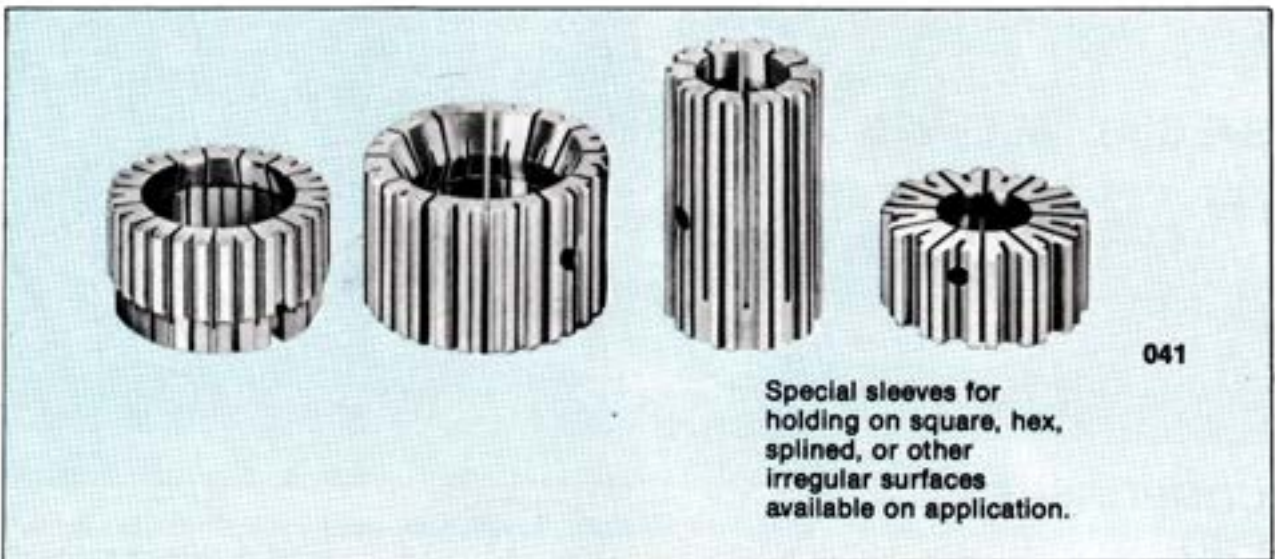
Segmented type sleeve is recommended for jobs where tremendous thrust and radial loads are used.



032

Certain applications demand that the unit to be supplied must be capable of transmitting high torque to resist heavy cutting forces. In these instances we supply segmented type sleeves which take the form of solid segments held together with spring steel, retainer rings. Each segment is located on the mandrel body by location keys to determine the radial position of each segment. This style of sleeve provides an item which has increased hardness to prevent wear and less ability to fracture in the event of a machine malfunction.

## SPLINED EXPANDING SLEEVES



041

Special sleeves for holding on square, hex, splined, or other irregular surfaces available on application.

When ordering, please mention:

- the internal splined dimensions
- bore length of the job
- the total length of the mandrel
- type of shank

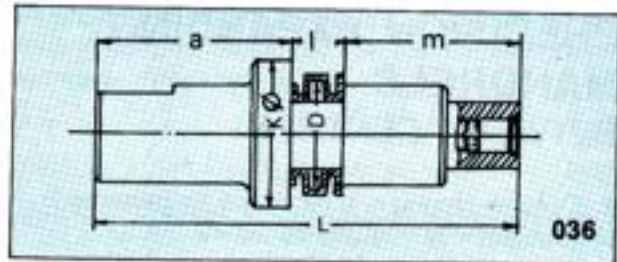
LCS SPLINED EXPANDING SLEEVES provide the firmest possible grip either on the major dia or minor dia of the splined bore (but not on effective dia) of a job. Hobbing, shaving and grinding operations of all types of gears are thereby made easy. Where concentricity is important LCS expanding sleeves are indispensable.



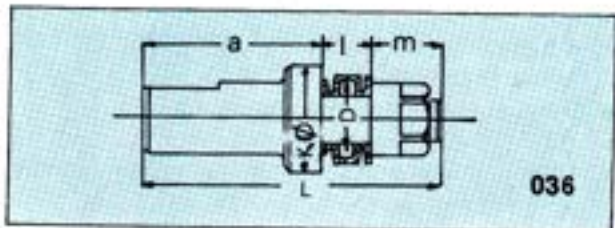


## PRECISION EXPANDING MANDRELS

SPIETH TYPE

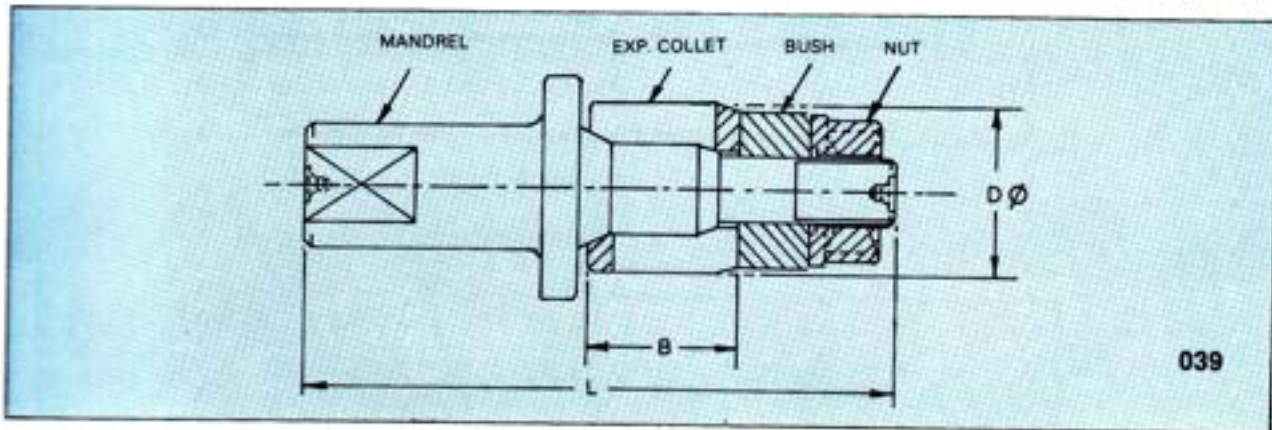


When ordering please mention the Dimensions of a, l, m, L, D and K.



## PRECISION EXPANDING MANDRELS BETWEEN CENTRES

Other type of shanks are available on request.



| D of Collet Range | B  | Max. Expansion mm | L   | LCS Tool Number |
|-------------------|----|-------------------|-----|-----------------|
| 10.0—11.75        | 19 | 0.25              | 83  | EM-01-039       |
| 12.0—14.75        | 26 | 0.25              | 100 | EM-02-039       |
| 15.0—19.25        | 29 | 0.25              | 104 | EM-03-039       |
| 19.5—24.25        | 36 | 0.25              | 124 | EM-04-039       |
| 24.5—29.25        | 42 | 0.25              | 148 | EM-05-039       |
| 29.5—34.25        | 46 | 0.25              | 156 | EM-06-039       |
| 34.5—39.25        | 48 | 0.25              | 163 | EM-07-039       |
| 39.5—44.25        | 55 | 0.25              | 179 | EM-08-039       |
| 44.5—54.25        | 75 | 0.25              | 208 | EM-09-039       |

| Expansion    | Concentricity |
|--------------|---------------|
| 0.02 mm      | — 0.005 mm    |
| 0.03—0.05 mm | — 0.01 mm     |
| 0.06—0.25 mm | — 0.03 mm     |

**WE MANUFACTURE AS PER OUR CUSTOMERS' SPECIFIC REQUIREMENTS**





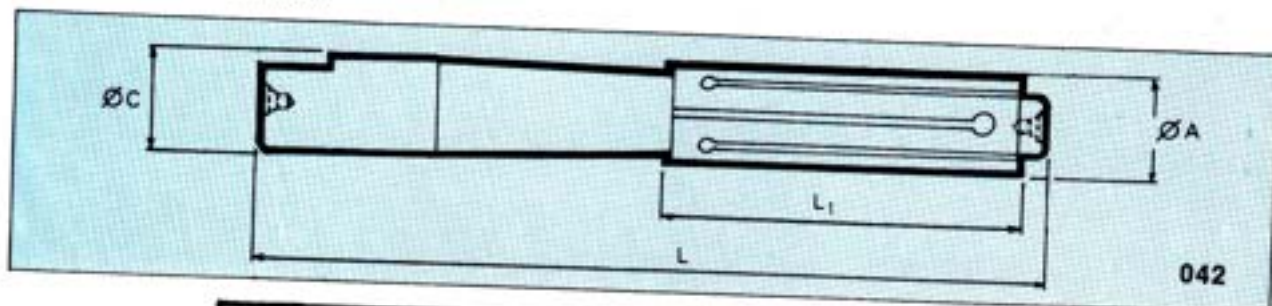
# PRECISION EXPANDING MANDRELS BETWEEN CENTRES

- Centres ground and recessed for protection.
- Concentricity guaranteed within:  
On Mandrel .003 mm T.I.R.  
On Sleeves .01 mm T.I.R.
- High Expansion from 0.5mm to 5mm according to size.
- 8 Mandrels and 13 Sleeves cover all sizes from 12mm to 55 mm.
- Very powerful clamping pressure.
- Ultra rapid clamping and declamping.
- Elimination of press mounting with solid mandrel which damages the bore of the job.
- Suitable for Turning, Milling, Grinding, Inspection and Maintenance.

SET No. 1  
(5 mandrels and 7 sleeves)  
Capacity  $\varnothing$  12 to 26 mm  
( $\varnothing$  15/32" to 1")  
Items included in O



SET No. 2  
(3 mandrels and 6 sleeves)  
Capacity  $\varnothing$  25 to 55 mm  
( $\varnothing$  1" to 2 1/8")  
Items included in Square O



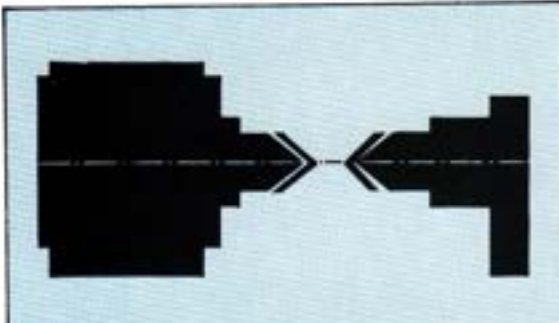
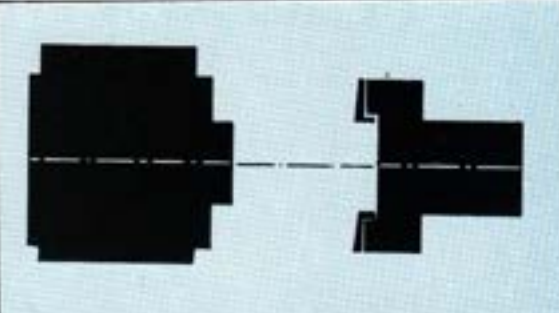
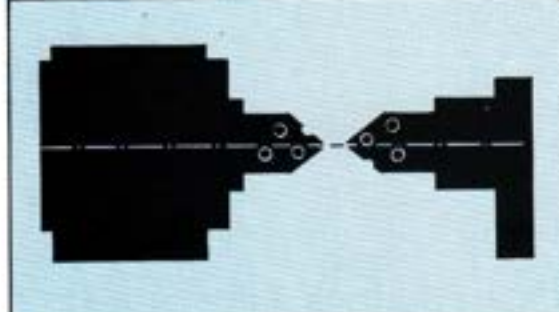
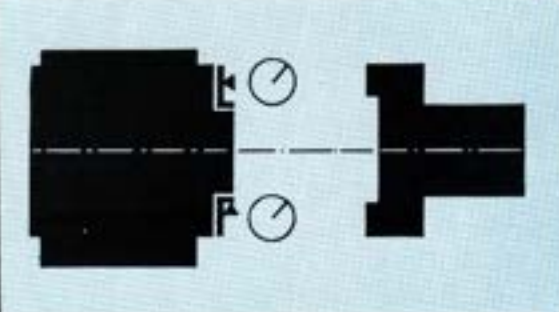
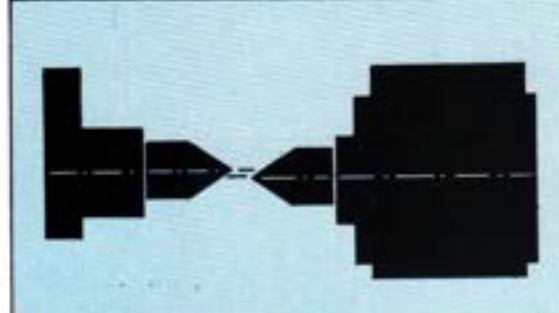

| NO.   | $\varnothing A$  | $\varnothing C$ | L   | L <sub>1</sub> | Expansion - mm |
|-------|--|-----------------|-----|----------------|----------------|
| 2 x 0 | 8 - 9  | 8               | 75  | 40             | 1.5            |
| 0     | 10 - 11  | 10              | 110 | 45             | 1.5            |
| ①     | ⑫ 12 - 13  | 12              | 125 | 60             | 2              |
| ②     | ⑭ 14 - 15  | 14              | 140 | 70             | 2              |
| ③     | ⑯ 16 - 17 - ⑰ 18   | 16              | 150 | 70             | 2              |
| ④     | 19 - ⑳ 20 - 21   | 19              | 170 | 80             | 2              |
| ⑤     | ⑳ 22 - 23 - ㉑ 24   | 21              | 175 | 80             | 2              |
| ⑥     | ㉒ 25 - 26 - 28 - ㉓ 30 - 32 - 34                            | 25              | 225 | 100            | 3              |
| ⑦     | ㉔ 35 - 36 - 38 - ㉕ 40 - 42 - 44                            | 33              | 225 | 100            | 3              |
| ⑧     | ㉖ 45 - 48 - ㉗ 50 - 52 - 54                                 | 45              | 300 | 125            | 5              |
| 9     | 55 - 58 - 60 - 62 - 65                                     | 53              | 330 | 135            | 5              |
| 10    | 68 - 70 - 72 - 75 - 78 - 80                                | 64              | 350 | 150            | 5              |
| 11    | 80 - 85 - 90 - 95 - 100                                    | 78              | 350 | 150            | 5              |
| 12    | 105 - 110 - 115 - 120 - 125 - 130 - 135                    | 99              | 400 | 170            | 5              |
| 13*   | 135 - 140 - 145 - 150 - 155<br>160 - 165 - 170 - 175 - 180 | 124             | 420 | 180            | 5              |
| 14*   | 185 - 190 - 195 - 200 - 205<br>210 - 215 - 220 - 225 - 230 | 150             | 420 | 200            | 5              |

Apart from the sets, particular Mandrels and sleeves, as per our customers' requirements, may be individually supplied upon request.



# MOUNTING CONSIDERATIONS

To obtain the maximum accuracy inherent in LCS holding tools, it is essential that the following points be taken into consideration.

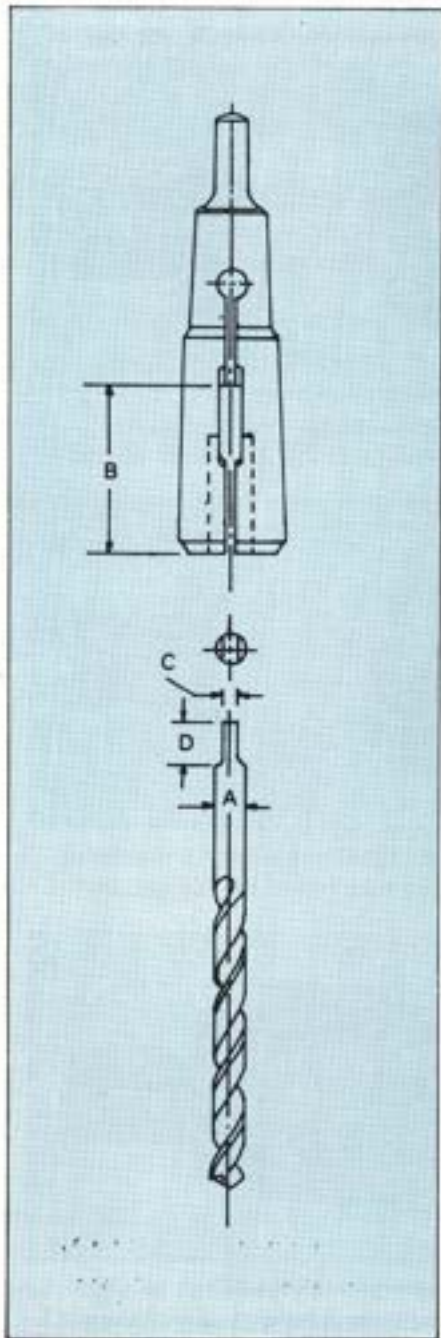
| WHEN LOCATING BETWEEN CENTERS   | WHEN FLANGE MOUNTING  |
|---|---|
|    |                 |
| <p>Are the angles of the machine centers ground precisely to the correct angle?</p> | <p>Is the face and locating diameter of the holding tool flange clean and undamaged?</p>          |
|  |               |
| <p>Are the machine and mandrel centers clean and without damage?</p>                | <p>Does the joint faces and locating diameter on the machine tool run true and square?</p>        |
|  |               |
| <p>Are machine centers on the machine tool in line in both planes?</p>              | <p>Is the draw bar correctly installed to allow full stroke and complete freedom of movement?</p> |





# DRILL CHUCKS

## SJ TYPE

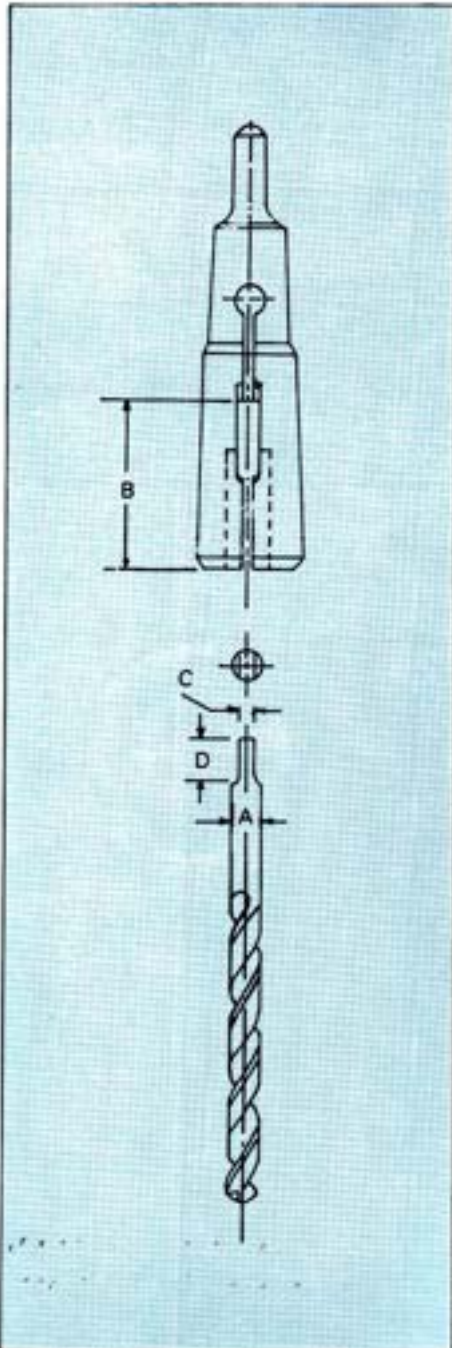


| Morse Taper No. —→   |  | 0  | 1  | 2  | 3            | B                        | C                    |      | D                 |
|--|--|--|--|--|--------------|--------------------------|----------------------|------|-------------------|
| For Drill Size — A   |  |  |  |  |              | Depth Drill Enters Chuck | Drill Tang Thickness |      | Drill Tang Length |
| No., Frac., Letter & m.m. Size   | Dec. Equiv.  | S-J Part No.   | S-J Part No.   | S-J Part No.   | S-J Part No. |                          | Min.                 | Max. |                   |
| 42<br>3/32   | .0935<br>.0937   | 09133<br>09134   | 09284<br>09285   | 09418<br>09419   |              | 1/2                      |                      |      |                   |
| 41<br>40<br>39<br>38<br>2.6 m.m.<br>37<br>36<br>7/64   | .0880<br>.0880<br>.0966<br>.1015<br>.1024<br>.1040<br>.1065<br>.1094   | 09140  | 09288<br>09287<br>09288<br>09289<br>09290<br>09291<br>09292<br>09293   | 09420<br>09421<br>09422<br>09423<br>09424<br>09425<br>09426<br>09427   |              | 9/16                     |                      |      |                   |
| 35<br>34<br>33<br>32<br>31<br>3.1 m.m.   | .1100<br>.1110<br>.1130<br>.1160<br>.1200<br>.1220   | 09145<br>09146<br>09147<br>09148   | 09294<br>09295<br>09296<br>09297<br>09298<br>09299   | 09428<br>09429<br>09430<br>09431<br>09432<br>09433   |              | 5/8                      |                      |      |                   |
| 1/8<br>30<br>3.3 m.m.<br>3.4 m.m.<br>29<br>3.5 m.m.<br>28<br>9/64<br>27<br>26<br>25<br>24<br>23<br>5/32<br>22<br>21<br>20<br>19<br>18<br>11/64<br>17<br>16<br>15<br>14<br>13<br>3/16 | .1250<br>.1285<br>.1299<br>.1339<br>.1360<br>.1378<br>.1405<br>.1406<br>.1440<br>.1470<br>.1495<br>.1520<br>.1540<br>.1562<br>.1570<br>.1590<br>.1610<br>.1660<br>.1695<br>.1719<br>.1730<br>.1770<br>.1800<br>.1820<br>.1850<br>.1875 | 09149<br>09150<br>09151<br>09153<br>09155<br>09156<br>09161<br>09162<br>09163<br>09164<br>09165<br>09166<br>09167<br>09168<br>09169<br>09170<br>09171<br>09172<br>09173<br>09174 | 09300<br>09301<br>09302<br>09303<br>09304<br>09305<br>09306<br>09307<br>09308<br>09309<br>09310<br>09311<br>09312<br>09313<br>09314<br>09315<br>09316<br>09317<br>09318<br>09319<br>09320<br>09321<br>09322<br>09323<br>09324<br>09325 | 09434<br>09435<br>09436<br>09437<br>09438<br>09439<br>09440<br>09441<br>09442<br>09443<br>09444<br>09445<br>09446<br>09447<br>09448<br>09449<br>09450<br>09451<br>09452<br>09453<br>09454<br>09455<br>09456<br>09457<br>09458<br>09459 |              | 3/4                      | .090                 | .094 | 9/32              |
| 12<br>11<br>10<br>9<br>8<br>7<br>13/64<br>6<br>5<br>4<br>3<br>7/32<br>2<br>5.7 m.m.<br>1<br>A<br>15/64<br>B<br>6.1 m.m.<br>C<br>D<br>1/4-E   | .1890<br>.1910<br>.1935<br>.1960<br>.1990<br>.2010<br>.2031<br>.2040<br>.2055<br>.2090<br>.2130<br>.2187<br>.2210<br>.2244<br>.2280<br>.2340<br>.2344<br>.2380<br>.2402<br>.2420<br>.2460<br>.2500                                     | 09181<br>09182   | 09326<br>09327<br>09328<br>09329<br>09330<br>09331<br>09332<br>09333<br>09334<br>09335<br>09336<br>09337<br>09338<br>09339<br>09340<br>09341<br>09342<br>09343<br>09344<br>09345<br>09346<br>09347                                     | 09460<br>09461<br>09462<br>09463<br>09464<br>09465<br>09466<br>09467<br>09468<br>09469<br>09470<br>09471<br>09472<br>09473<br>09474<br>09475<br>09476<br>09477<br>09478<br>09479<br>09480<br>09481                                     | 09551        | 7/8                      | .118                 | .122 | 5/16              |





## DRILL CHUCKS SJ TYPE



| Morse Taper No. →             |             | 1        | 2        | 3        | 4        | B                        | C                    |      | D                 |
|-------------------------------|-------------|----------|----------|----------|----------|--------------------------|----------------------|------|-------------------|
| For Drill Size — A,           |             | S-J      |          | S-J      | S-J      | Depth Drill Enters Chuck | Drill Tang Thickness |      | Drill Tang Length |
| No. Frac., Letter & m.m. Size | Dec. Equiv. | Part No. | Part No. | Part No. | Part No. |                          | Min.                 | Max. |                   |
| 6.4 m.m.                      | .2520       | 09348    | 09482    |          |          | 1                        | .158                 | .162 | 11/32             |
| F                             | .2570       | 09349    | 09483    |          |          |                          |                      |      |                   |
| G                             | .2610       | 09350    | 09484    |          |          |                          |                      |      |                   |
| 17/64                         | .2656       | 09351    | 09485    |          |          |                          |                      |      |                   |
| H                             | .2660       | 09352    | 09486    |          |          |                          |                      |      |                   |
| I                             | .2720       | 09353    | 09487    |          |          |                          |                      |      |                   |
| J                             | .2770       | 09354    | 09488    |          |          |                          |                      |      |                   |
| K                             | .2810       | 09355    | 09489    |          |          |                          |                      |      |                   |
| 9/32                          | .2812       | 09356    | 09490    |          |          |                          |                      |      |                   |
| 7.25 m.m.                     | .2854       | 09357    | 09491    |          |          |                          |                      |      |                   |
| L                             | .2900       | 09358    | 09492    |          |          |                          |                      |      |                   |
| 7.4 m.m.                      | .2913       | 09359    | 09493    |          |          |                          |                      |      |                   |
| M                             | .2950       | 09360    | 09494    |          |          |                          |                      |      |                   |
| 19/64                         | .2969       | 09361    | 09495    |          |          |                          |                      |      |                   |
| N                             | .3020       | 09362    | 09496    |          |          |                          |                      |      |                   |
| 7.8 m.m.                      | .3071       | 09363    | 09497    |          |          |                          |                      |      |                   |
| 5/16                          | .3125       | 09364    | 09498    |          |          |                          |                      |      |                   |
| O                             | .3160       | 09365    | 09499    |          |          | 1 1/8                    | .199                 | .203 | 3/8               |
| P                             | .3230       | 09366    | 09500    |          |          |                          |                      |      |                   |
| 21/64                         | .3281       | 09367    | 09501    | 09552    |          |                          |                      |      |                   |
| Q                             | .3320       | 09368    | 09502    |          |          |                          |                      |      |                   |
| R                             | .3390       | 09369    | 09503    |          |          |                          |                      |      |                   |
| 11/32                         | .3437       | 09370    | 09504    |          |          |                          |                      |      |                   |
| S                             | .3480       | 09371    | 09505    |          |          |                          |                      |      |                   |
| 9.0 m.m.                      | .3543       | 09372    | 09506    |          |          |                          |                      |      |                   |
| T                             | .3580       | 09373    | 09507    |          |          |                          |                      |      |                   |
| 23/64                         | .3594       | 09374    | 09508    |          |          |                          |                      |      |                   |
| U                             | .3680       | 09375    | 09509    |          |          |                          |                      |      |                   |
| 3/8                           | .3750       | 09376    | 09510    | 09553    |          |                          |                      |      |                   |
| V                             | .3770       |          | 09511    | 09554    |          | 1 1/2                    | .239                 | .243 | 7/16              |
| W                             | .3860       |          | 09512    | 09555    |          |                          |                      |      |                   |
| 25/64                         | .3906       |          | 09513    | 09556    |          |                          |                      |      |                   |
| X                             | .3970       |          | 09514    | 09557    |          |                          |                      |      |                   |
| Y                             | .4040       |          | 09515    | 09558    |          |                          |                      |      |                   |
| 13/32                         | .4062       |          | 09516    | 09559    |          |                          |                      |      |                   |
| Z                             | .4130       |          | 09517    | 09560    |          |                          |                      |      |                   |
| 27/64                         | .4219       |          | 09518    | 09561    |          |                          |                      |      |                   |
| 7/16                          | .4375       |          | 09519    | 09562    |          |                          |                      |      |                   |
| 29/64                         | .4531       |          | 09520    | 09563    |          |                          |                      |      |                   |
| 15/32                         | .4687       |          | 09521    | 09564    |          |                          |                      |      |                   |
| 31/64                         | .4844       |          | 09522    | 09565    |          |                          |                      |      |                   |
| *1/2                          | .5000       |          | 09523    | 09566    |          |                          |                      |      |                   |
| 33/64                         | .5156       |          | 09524    | 09567    |          |                          |                      |      |                   |
| 17/32                         | .5312       |          | 09525    | 09568    |          |                          |                      |      |                   |
| 35/64                         | .5469       |          | 09526    | 09569    |          |                          |                      |      |                   |
| 9/16                          | .5625       |          | 09527    | 09570    |          |                          |                      |      |                   |
| 37/64                         | .5781       |          | 09571    |          |          | 1 3/8                    | .367                 | .373 | 9/16              |
| 19/32                         | .5937       |          | 09572    |          |          |                          |                      |      |                   |
| 39/64                         | .6094       |          | 09573    |          |          |                          |                      |      |                   |
| **5/8                         | .6250       |          | 09574    |          |          |                          |                      |      |                   |
| 41/64                         | .6406       |          | 09575    |          |          |                          |                      |      |                   |
| 21/32                         | .6562       |          | 09576    |          |          |                          |                      |      |                   |
| 43/64                         | .6719       |          | 09577    |          |          | 1 7/8                    | .437                 | .443 | 5/8               |
| 11/16                         | .6875       |          | 09578    |          |          |                          |                      |      |                   |
| 45/64                         | .7031       |          | 09579    |          |          |                          |                      |      |                   |
| 23/32                         | .7187       |          | 09580    |          |          |                          |                      |      |                   |
| 47/64                         | .7344       |          | 09581    |          |          |                          |                      |      |                   |
| ***3/4                        | .7500       |          | 09582    | 09612    |          |                          |                      |      |                   |
| ****15/16                     | .9375       |          |          |          | 09624    | 2%                       | .601                 | .609 | 3/4               |

\* Also drives drill sizes 1/2" through 5/8"

\*\* Also drives drill sizes 41/64" through 47/64"

\*\*\* Also drives drill sizes 3/4" through 59/64"

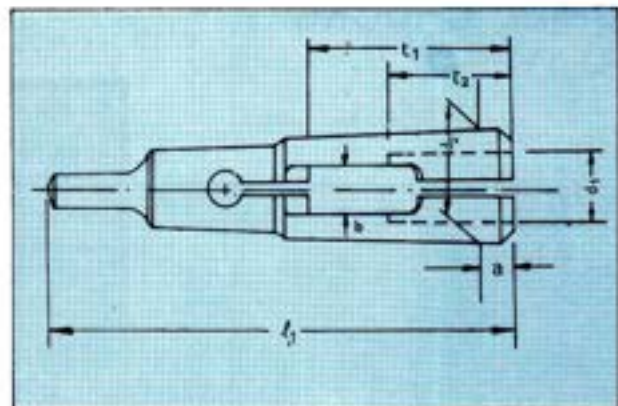
\*\*\*\* Also drives drill sizes 15/16" through 1.1/4"

WHEN ORDERING : Specify S-J part number



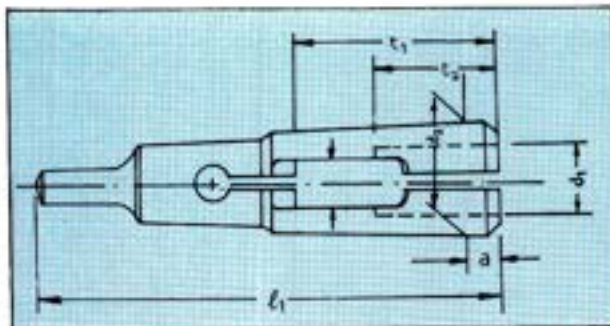
## DRILL CHUCKS DIN TYPE

| Size range<br>d1<br>H7 |      | b    | t1 | t2   |
|------------------------|------|------|----|------|
| above                  | upto |      |    |      |
| 1.5                    | 2.0  | —    | —  | 7.0  |
| 2.0                    | 3.0  | —    | —  | 10.0 |
| 3.0                    | 3.5  | 1.8  | 12 | 14.2 |
| 3.5                    | 4    | 2.2  | 14 | 16.2 |
| 4                      | 4.5  | 2.4  | 18 | 20.5 |
| 4.5                    | 5.5  | 2.7  | 20 | 22.5 |
| 5.5                    | 6.5  | 3.2  | 22 | 25   |
| 6.5                    | 8    | 3.8  | 22 | 25   |
| 8                      | 9.5  | 4.8  | 25 | 29.5 |
| 9.5                    | 11   | 5.3  | 28 | 33   |
| 11                     | 13   | 6.3  | 28 | 34   |
| 13                     | 15   | 7.4  | 32 | 39   |
| 15                     | 18   | 8.4  | 32 | 40   |
| 18                     | 21   | 10.4 | 36 | 46   |
| 21                     | 24   | 11.4 | 40 | 50   |
| 24                     | 27   | 13.4 | 45 | 57   |
| 27                     | 30   | 14.5 | 50 | 63   |



| Morse taper<br>to<br>DIN 228 | Size range<br>d1<br>H7<br>above upto | d2     | t1   |
|------------------------------|--------------------------------------|--------|------|
| 0                            | 3 - 5.5                              | 9.045  | 59.5 |
| 1                            | 3 - 8.5                              | 12.065 | 65.5 |
| 2                            | 5 - 13                               | 17.780 | 80   |
| 3                            | 8 - 18                               | 23.825 | 99   |
| 4                            | 13 - 21                              | 31.267 | 124  |
| 5                            | 18 - 30                              | 44.399 | 156  |

## TAP CHUCKS DIN TYPE



| Morse<br>taper<br>No. | Size Range |      | d2     | t1   |
|-----------------------|------------|------|--------|------|
|                       | Above      | Upto |        |      |
| 0                     | 3          | 5    | 9.045  | 59.5 |
| 1                     | 3          | 8.5  | 12.065 | 65.5 |
| 2                     | 4.5        | 12.5 | 17.780 | 80   |
| 3                     | 8          | 18   | 23.825 | 99   |
| 4                     | 12         | 22   | 31.267 | 124  |
| 5                     | 18         | 30   | 44.399 | 156  |

| Size Range<br>d1<br>H7 |       | b    | t1 | t2   |
|------------------------|-------|------|----|------|
| Above                  | Upto  |      |    |      |
| 2.47                   | 2.83  | 2.8  | 19 | 15   |
| 2.83                   | 3.20  | 2.5  | 19 | 15   |
| 3.20                   | 3.60  | 2.8  | 21 | 16   |
| 3.60                   | 4.01  | 3.1  | 21 | 16   |
| 4.01                   | 4.53  | 3.5  | 21 | 16   |
| 4.53                   | 5.08  | 4.0  | 24 | 18   |
| 5.08                   | 5.79  | 4.5  | 24 | 18   |
| 5.79                   | 6.53  | 5.1  | 26 | 19.5 |
| 6.53                   | 7.33  | 5.7  | 26 | 19.5 |
| 7.33                   | 8.27  | 6.4  | 27 | 19.5 |
| 8.27                   | 9.46  | 7.3  | 30 | 22   |
| 9.46                   | 10.67 | 8.3  | 32 | 23   |
| 10.67                  | 12.00 | 9.3  | 34 | 24   |
| 12.00                  | 13.33 | 10.3 | 36 | 25   |
| 13.33                  | 14.67 | 11.3 | 38 | 26   |
| 14.67                  | 16.00 | 12.3 | 40 | 27   |
| 16.00                  | 17.33 | 13.3 | 44 | 30   |
| 17.33                  | 19.33 | 14.9 | 48 | 33   |
| 19.33                  | 21.33 | 16.4 | 52 | 35   |
| 21.33                  | 24.00 | 18.4 | 56 | 37   |
| 24.00                  | 26.67 | 20.4 | 62 | 42   |
| 26.67                  | 29.33 | 22.4 | 66 | 44   |

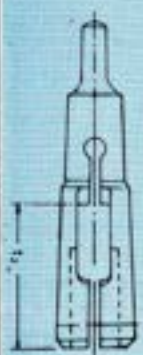
\* When ordering please mention shank dia and square size of the tap.



# TAP CHUCKS

## SJ TYPE

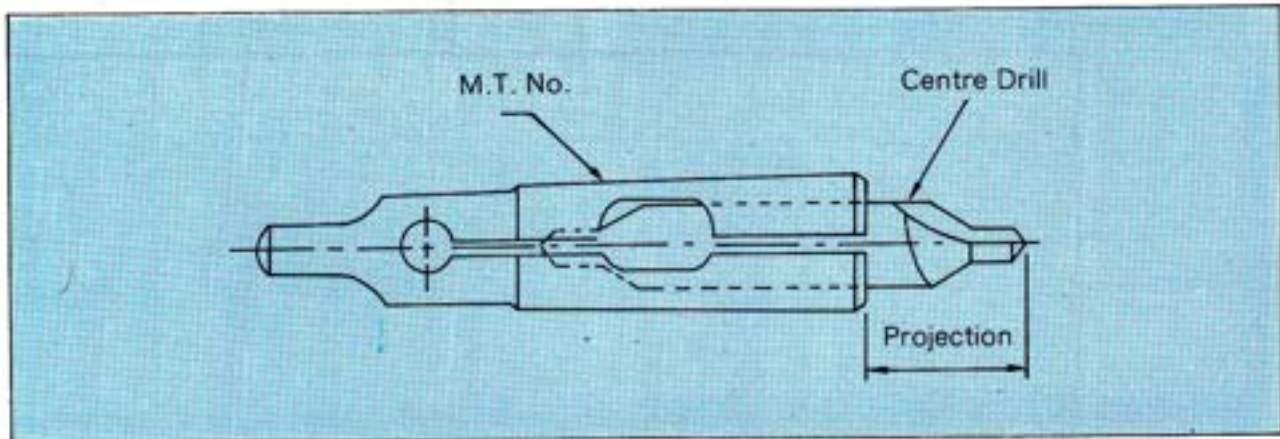
| Type and Size of Tap   |                 | Morse taper | SJ No. | Dia of Tap Shank | Dim. Across Flats of Sqr. | Depth Tap Enters Chuck. |
|--|-----------------|-------------|--------|------------------|---------------------------|-------------------------|
|  |                 |             |        | B                | C                         | t <sub>2</sub>          |
| Chucks for Machine Screw Tap Size  | No. 0 to 6      | 1           | 01102  | .141             | .110                      | .7125                   |
|  | No. 8           | 1           | 01105  | .168             | .131                      | .8250                   |
|  | No. 10          | 1           | 01106  | .194             | .152                      | .8875                   |
|  | No. 12          | 1           | 01107  | .220             | .165                      | .9125                   |
|  | No. 14          | 1           | 01115  | .255             | .191                      | .9750                   |
| Chucks for Hand Tap Sizes<br>*S.S. — Small Shank<br>*L.S. — Large Shank<br>The 3/8" hand tap with a Small shank is not Standard  | 1/4             | 1           | 01115  | .255             | .191                      | .9750                   |
|  | 1/4             | 2           | 01116  | .265             | .191                      | .9750                   |
|  | 5/16            | 1           | 01119  | .318             | .238                      | 1.0000                  |
|  | 5/16            | 2           | 01121  | .318             | .238                      | 1.0000                  |
|  | *3/8 S.S.       | 1           | 01237  | .275             | .206                      | 1.0500                  |
|  | *3/8 S.S.       | 2           | 01238  | .275             | .206                      | 1.0500                  |
|  | *3/8 L.S.       | 2           | 01126  | .381             | .286                      | 1.0500                  |
|  | 7/16            | 2           | 01131  | .323             | .242                      | 1.0750                  |
|  | 1/2             | 2           | 01133  | .367             | .275                      | 1.1000                  |
|  | 1/2             | 3           | 01135  | .367             | .275                      | 1.1000                  |
|  | 9/16            | 2           | 01139  | .429             | .322                      | 1.2750                  |
|  | 5/8             | 2           | 01141  | .480             | .360                      | 1.4500                  |
|  | 5/8             | 3           | 01143  | .480             | .360                      | 1.4500                  |
|  | 3/4             | 3           | 01146  | .590             | .442                      | 1.8000                  |
|  | 3/4             | 4           | 01148  | .590             | .442                      | 1.8000                  |
|  | 7/8             | 3           | 01153  | .697             | .523                      | 1.9125                  |
|  | 7/8             | 4           | 01155  | .697             | .523                      | 1.9125                  |
| 1  | 4               | 01159       | .800   | .600             | 2.0250                    |                         |
| 1.1/8  | 5               | 01162       | .896   | .672             | 2.1375                    |                         |
| 1.1/4  | 5               | 01166       | 1.021  | .766             | 2.3000                    |                         |
| 1.3/8  | 5               | 01168       | 1.108  | .831             | 2.3500                    |                         |
| 1.1/2  | 5               | 01171       | 1.233  | .925             | 2.4000                    |                         |
| 1.3/4  | 5               | 01174       | 1.430  | 1.072            | 2.3750                    |                         |
| Chucks for Pipe Tap Sizes<br>*S.S. — Small Shank<br>*L.S. — Large Shank  | *1/16, 1/8 S.S. | 2           | 01192  | .3125            | .234                      | 1                       |
|  | *1/8 L.S.       | 2           | 01193  | .4375            | .328                      | 1                       |
|  | 1/4             | 3           | 01197  | .5625            | .421                      | 1.1/8                   |
|  | 3/8             | 4           | 01201  | .7000            | .531                      | 1.3/8                   |
|  | 1/2             | 4           | 01203  | .8675            | .515                      | 1.1/2                   |
|  | 3/4             | 4           | 01208  | .9063            | .679                      | 1.11/16                 |
|  | 3/4             | 5           | 01209  | .9063            | .679                      | 1.11/16                 |
|  | 1               | 5           | 01212  | 1.125            | .843                      | 1.7/8                   |
|  | 1.1/4           | 5           | 01214  | 1.3125           | .984                      | 2.1/8                   |
| 1.1/2  | 5               | 01216       | 1.500  | 1.125            | 2.1/4                     |                         |
| Chucks for Grease Fitting Tap Sizes.<br>Note: Chucks listed for Grease fitting Tap Sizes 1/8, 1/4, 3/8, 1/2, 3/4 and 1" are the same as used for hand tap sizes 7/16, 9/16, 5/8, 7/8, 1.1/8, and 1.1/4 respectively. | 1/8             | 2           | 01131  | .323             | .242                      | 1.0750                  |
|  | 1/4             | 2           | 01139  | .429             | .322                      | 1.2750                  |
|  | 3/8             | 2           | 01141  | .480             | .360                      | 1.4500                  |
|  | 3/8             | 3           | 01143  | .480             | .360                      | 1.4500                  |
|  | 1/2             | 4           | 01155  | .697             | .523                      | 1.9125                  |
|  | 3/4             | 5           | 01162  | .896             | .672                      | 2.1375                  |
| 1"   | 5               | 01166       | 1.021  | .766             | 2.3000                    |                         |
| Chucks for Taper Tap Sizes.  | 1/4             | 2           | 01240  | .185             | .139                      | 1.2000                  |
|  | 5/16            | 2           | 01241  | .240             | .180                      | 1.2500                  |
|  | 3/8             | 2           | 01242  | .294             | .220                      | 1.3000                  |
|  | 7/16            | 2           | 01243  | .345             | .259                      | 1.3500                  |
|  | 1/2             | 2           | 01244  | .400             | .300                      | 1.4500                  |
|  | 3/4             | 3           | 01245  | .503             | .377                      | 1.7500                  |
| 3/4  | 4               | 01246       | .616   | .462             | 2.0500                    |                         |
| Chucks for Standard Pulley Tap Sizes.<br>*S.S. — Small Shank<br>*L.S. — Large Shank<br>Note: Chucks listed for Pulley Tap Sizes 1/4" 5/16, same as used for equivalent Hand tap sizes.                               | 1/4             | 1           | 01115  | .225             | .191                      | .9750                   |
|  | 1/4             | 2           | 01116  | .255             | .191                      | .9750                   |
|  | 5/16            | 1           | 01119  | .318             | .238                      | 1.0000                  |
|  | 5/16            | 2           | 01121  | .318             | .238                      | 1.0000                  |
|  | *3/8 S.S.       | 1           | 01237  | .275             | .206                      | 1.0500                  |
|  | *3/8 S.S.       | 2           | 01238  | .275             | .206                      | 1.0500                  |
|  | *3/8 L.S.       | 2           | 01126  | .381             | .286                      | 1.0500                  |
|  | 7/16            | 2           | 01185  | .444             | .333                      | 1.1250                  |
|  | 1/2             | 3           | 01187  | .507             | .380                      | 1.1875                  |
|  | 5/8             | 4           | 01190  | .633             | .475                      | 1.4375                  |
|  | 3/4             | 4           | 01191  | .759             | .566                      | 1.5625                  |







## CENTRE DRILL DRIVERS



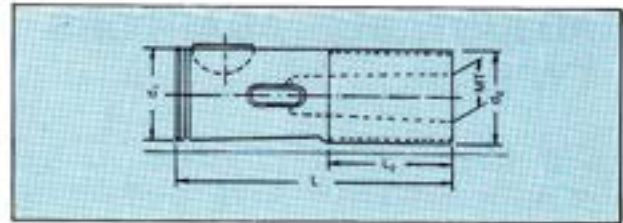
| M.T. NO. | Centre Drill |            | Projection<br>± 2mm. |
|----------|--------------|------------|----------------------|
|          | Body dia     | Pilot dia. |                      |
| MT-1     | 6.3          | A 2.5      | 20.0                 |
|          | 6.3          | B 1.6      | 20.5                 |
|          | 8.0          | A 3.15     | 21.0                 |
|          | 8.0          | B 2.0      | 21.6                 |
| MT-2     | 6.3          | A 2.5      | 20.0                 |
|          | 6.3          | B 1.6      | 20.5                 |
|          | 8.0          | A 3.15     | 21.0                 |
|          | 8.0          | B 2.0      | 21.6                 |
|          | 10.0         | A 4.0      | 25.6                 |
|          | 10.0         | B 2.5      | 26.3                 |
| MT-3     | 11.2         | B 3.15     | 24.0                 |
|          | 12.5         | A 5.0      | 28.0                 |
|          | 14.0         | B 4.0      | 29.0                 |
|          | 16.0         | A 6.3      | 30.0                 |
| MT-4     | 18.0         | B 5.0      | 33.0                 |
|          | 20.0         | B 6.3      | 33.5                 |
| MT-5     | 25.0         | A 10.0     | 44.5                 |

Note : The Projection Length is based on Max. total length of the centre drill as per IS : 6708-72 & IS : 6709-72.



## ADJUSTABLE ADAPTORS TYPE 'A'

DIN 6327 SHEET-1 AND SCULLY  
JONES  
METRIC SIZES TYPE "A"



| Adaptor Size<br>DIN 6327<br>Sheet No. 1 | SJ Part No. | $d_1$<br>$h_8$ | MT No. | $d_2$    | L   | $L_2$ | Nut Part No. |
|---|-------------|----------------|--------|----------|-----|-------|--------------|
| A 16×0                                  | 17401       | 16             | 0      | Tr16×1.5 | 85  | 40    | 17601        |
| A 16×1                                  | 17402       | 16             | 1      | Tr16×1.5 | 85  | 40    | 17601        |
| A 20×1                                  | 17403       | 20             | 1      | Tr20×2   | 88  | 40    | 17602        |
| A 28×1                                  | 17404       | 28             | 1      | Tr28×2   | 95  | 42    | 17603        |
| A 28×2                                  | 17405       | 28             | 2      | Tr28×2   | 95  | 42    | 17603        |
| A 36×2                                  | 17406       | 36             | 2      | Tr36×2   | 118 | 50    | 17604        |
| A 36×3                                  | 17407       | 36             | 3      | Tr36×2   | 118 | 50    | 17604        |
| A 48×3                                  | 17408       | 48             | 3      | Tr48×2   | 144 | 65    | 17605        |
| A 48×4                                  | 17409       | 48             | 4      | Tr48×2   | 144 | 65    | 17605        |

## ADJUSTABLE ADAPTORS TYPE 'A'

SCULLY JONES INCH SIZES



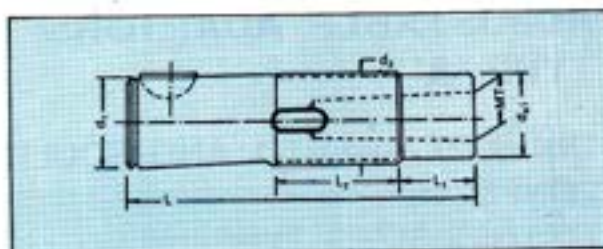
| Adaptor Size | SJ No. | $d_1$  | MT No. | $d_2$<br>Acme Thread | L     | $L_2$  | Nut Part No. |
|--------------|--------|--------|--------|----------------------|-------|--------|--------------|
| 1/2×0        | 17290  | 1/2    | 0      | 1/2-16               | 3     | 1.7/16 | 17272        |
| 5/8×1        | 17291  | 5/8    | 1      | 5/8-16               | 3     | 1.7/16 | 17273        |
| 3/4×1        | 17292  | 3/4    | 1      | 3/4-12               | 3     | 1.7/16 | 17252        |
| 7/8×2        | 17293  | 7/8    | 2      | 7/8-12               | 3.5/8 | 1.5/8  | 17274        |
| 1×1          | 17294  | 1      | 1      | 1-12                 | 3.5/8 | 1.5/8  | 17254        |
| 1×2          | 17295  | 1      | 2      | 1-12                 | 3.5/8 | 1.5/8  | 17254        |
| 1.1/16×1     | 17296  | 1.1/16 | 1      | 1.1/16-12            | 3.5/8 | 1.5/8  | 17255        |
| 1.1/16×2     | 17297  | 1.1/16 | 2      | 1.1/16-12            | 3.5/8 | 1.5/8  | 17255        |
| 1.1/4×3      | 17298  | 1.1/4  | 3      | 1.1/4-12             | 4.5/8 | 1.7/8  | 17275        |
| 1.3/8×2      | 17299  | 1.3/8  | 2      | 1.3/8-12             | 4.5/8 | 1.7/8  | 17258        |
| 1.3/8×3      | 17300  | 1.3/8  | 3      | 1.3/8-12             | 4.5/8 | 1.7/8  | 17258        |
| 1.7/8×4      | 17302  | 1.7/8  | 4      | 1.7/8-12             | 5.5/8 | 2.1/2  | 17260        |





## ADJUSTABLE ADAPTORS TYPE 'B'

DIN 6327 SHEET-2 AND SCULLY  
JONES METRIC SIZES TYPE "B"



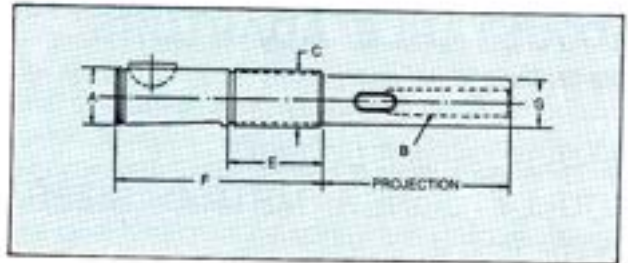
| Adaptor Size<br>DIN 6327<br>Sheet No. 2 | SJ Part No. | $d_1$<br>$h_1$ | MT No. | $d_2$     | L   | $L_1$ | $L_2$ | $d_3$ | Nut Part No. |
|---|-------------|----------------|--------|-----------|-----|-------|-------|-------|--------------|
| B16×0×25                                | 18730       | 16             | 0      | Tr 16×1.5 | 110 | 25    | 40    | 14    | 17601        |
| B16×1×25                                | 18731       | 16             | 1      | Tr 16×1.5 | 110 | 25    | 40    | 16    | 17601        |
| B16×0×50                                | 18732       | 16             | 0      | Tr 16×1.5 | 135 | 50    | 40    | 14    | 17601        |
| B16×1×50                                | 18733       | 16             | 1      | Tr 16×1.5 | 135 | 50    | 40    | 16    | 17601        |
| B16×0×75                                | 18734       | 16             | 0      | Tr 16×1.5 | 160 | 75    | 40    | 14    | 17601        |
| B16×1×75                                | 18735       | 16             | 1      | Tr 16×1.5 | 160 | 75    | 40    | 16    | 17601        |
| B16×0×100                               | 18736       | 16             | 0      | Tr 16×1.5 | 185 | 100   | 40    | 14    | 17601        |
| B16×1×100                               | 18737       | 16             | 1      | Tr 16×1.5 | 185 | 100   | 40    | 16    | 17601        |
| B20×1×25                                | 18700       | 20             | 1      | Tr 20×2   | 113 | 25    | 40    | 17    | 17602        |
| B20×1×50                                | 18701       | 20             | 1      | Tr 20×2   | 138 | 50    | 40    | 17    | 17602        |
| B20×1×75                                | 18702       | 20             | 1      | Tr 20×2   | 163 | 75    | 40    | 17    | 17602        |
| B20×1×100                               | 18703       | 20             | 1      | Tr 20×2   | 188 | 100   | 40    | 17    | 17602        |
| B28×1×25                                | 18708       | 28             | 1      | Tr 28×2   | 120 | 25    | 42    | 25    | 17603        |
| B28×2×25                                | 18716       | 28             | 2      | Tr 28×2   | 120 | 25    | 42    | 25    | 17603        |
| B28×1×50                                | 18709       | 28             | 1      | Tr 28×2   | 145 | 50    | 42    | 25    | 17603        |
| B28×2×50                                | 18717       | 28             | 2      | Tr 28×2   | 145 | 50    | 42    | 25    | 17603        |
| B28×1×75                                | 18710       | 28             | 1      | Tr 28×2   | 170 | 75    | 42    | 25    | 17603        |
| B28×2×75                                | 18718       | 28             | 2      | Tr 28×2   | 170 | 75    | 42    | 25    | 17603        |
| B28×1×100                               | 18711       | 28             | 1      | Tr 28×2   | 195 | 100   | 42    | 25    | 17603        |
| B28×2×100                               | 18719       | 28             | 2      | Tr 28×2   | 195 | 100   | 42    | 25    | 17603        |
| B36×2×30                                | 18750       | 36             | 2      | Tr 36×2   | 148 | 30    | 50    | 33    | 17604        |
| B36×3×30                                | 18756       | 36             | 3      | Tr 36×2   | 148 | 30    | 50    | 33    | 17604        |
| B36×2×60                                | 18751       | 36             | 2      | Tr 36×2   | 178 | 60    | 50    | 33    | 17604        |
| B36×3×60                                | 18757       | 36             | 3      | Tr 36×2   | 178 | 60    | 50    | 33    | 17604        |
| B36×2×90                                | 18752       | 36             | 2      | Tr 36×2   | 208 | 90    | 50    | 33    | 17604        |
| B36×3×90                                | 18758       | 36             | 3      | Tr 36×2   | 208 | 90    | 50    | 33    | 17604        |
| B36×2×120                               | 18753       | 36             | 2      | Tr 36×2   | 238 | 120   | 50    | 33    | 17604        |
| B36×3×120                               | 18759       | 36             | 3      | Tr 36×2   | 238 | 120   | 50    | 33    | 17604        |
| B48×3×40                                | 18800       | 48             | 3      | Tr 48×2   | 184 | 40    | 65    | 45    | 17605        |
| B48×4×40                                | 18805       | 48             | 4      | Tr 48×2   | 184 | 40    | 65    | 45    | 17605        |
| B48×3×80                                | 18801       | 48             | 3      | Tr 48×2   | 224 | 80    | 65    | 45    | 17605        |
| B48×4×80                                | 18806       | 48             | 4      | Tr 48×2   | 224 | 80    | 65    | 45    | 17605        |
| B48×3×120                               | 18802       | 48             | 3      | Tr 48×2   | 264 | 120   | 65    | 45    | 17605        |
| B48×4×120                               | 18807       | 48             | 4      | Tr 48×2   | 264 | 120   | 65    | 45    | 17605        |
| B48×3×160                               | 18803       | 48             | 3      | Tr 48×2   | 304 | 160   | 65    | 45    | 17605        |
| B48×4×160                               | 18808       | 48             | 4      | Tr 48×2   | 304 | 160   | 65    | 45    | 17605        |





## ADJUSTABLE ADAPTORS TYPE 'B'

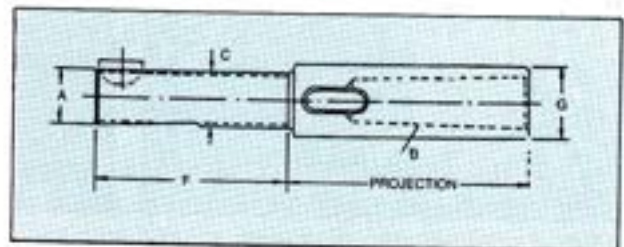
SCULLY JONES INCH SIZES



| Adaptor Size | Morse Taper No. | Projection or Body Length by inches |       |       |       |       |       |       |       | Acme Thread | Thread Length | Shank Length | Body Dia | Nut Part No. |
|--------------|-----------------|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------------|---------------|--------------|----------|--------------|
|              |                 | 1                                   | 2     | 3     | 4     | 5     | 6     | 7     | 8     |             |               |              |          |              |
| A            | B               | S. J. Assembly Number               |       |       |       |       |       |       |       | C           | E             | F            | G        |              |
| 3/4          | 1               | 18512                               | 18100 | 18513 | 18101 | 18514 | 18102 | 18516 | 18103 | 3/4-12      | 1.7/16        | 3            | 5/8      | 17252        |
| 7/8          | 1               | 18526                               | 18528 | 18530 | 18532 | 18534 | 18536 | 18538 | 18540 | 7/8-12      | 1.5/8         | 3.5/8        | 3/4      | 17274        |
| 1            | 1               | 18107                               | 18649 | 18108 | 18651 | 18109 | 18653 | 18654 | 18655 | 1-12        | 1.5/8         | 3.5/8        | 7/8      | 17254        |
| 1            | 2               | 18114                               | 18661 | 18115 | 18663 | 18116 | 18665 | 18117 | 18667 | 1-12        | 1.5/8         | 3.5/8        | 7/8      | 17254        |
| 1.1/16       | 1               | 18121                               | 18552 | 18122 | 18558 | 18123 | 18564 | 18124 | 18570 | 1.1/16-12   | 1.5/8         | 3.5/8        | 15/16    | 17255        |
| 1.1/16       | 2               | 18128                               | 18553 | 18129 | 18559 | 18130 | 18565 | 18131 | 18571 | 1.1/16-12   | 1.5/8         | 3.5/8        | 15/16    | 17255        |
| 1.3/8        | 2               | 18585                               | 18587 | 18155 | 18591 | 18593 | 18595 | 18156 | 18599 | 1.3/8-12    | 1.7/8         | 4.5/8        | 1.1/4    | 17258        |
| 1.3/8        | 3               | 18586                               | 18588 | 18162 | 18592 | 18594 | 18596 | 18163 | 18600 | 1.3/8-12    | 1.7/8         | 4.5/8        | 1.1/4    | 17258        |
| 1.7/8        | 3               | 18621                               | 18622 | 18169 | 18624 | 18625 | 18626 | 18627 | 18628 | 1.7/8-12    | 2.1/2         | 5.5/8        | 1.3/4    | 17260        |
| 1.7/8        | 4               | 18633                               | 18634 | 18177 | 18636 | 18637 | 18638 | 18639 | 18640 | 1.7/8-12    | 2.1/2         | 5.5/8        | 1.3/4    | 17260        |

## ADJUSTABLE ADAPTORS TYPE 'C'

SCULLY JONES INCH SIZES



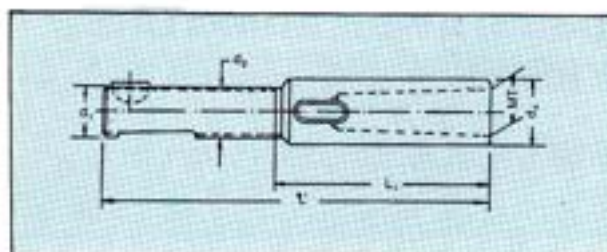
| Adaptor Size | Morse Taper No. | Projection or Body Length by inches |       |       |       |       |       |       |       | Acme Thread | Shank Length | Body Dia | Nut Part No. |
|--------------|-----------------|-------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------------|--------------|----------|--------------|
|              |                 | 1                                   | 2     | 3     | 4     | 5     | 6     | 7     | 8     |             |              |          |              |
| A            | B               | S. J. Assembly Number               |       |       |       |       |       |       |       | C           | F            | G        |              |
| 5/8          | 1               |                                     | 18501 | 18502 | 18503 | 18504 | 18505 | 18506 | 18507 | 5/8-16      | 3            | 5/8      | 17273        |
| 3/4          | 2               |                                     |       | 18647 | 18186 | 18515 | 18187 | 18517 | 18188 | 3/4-12      | 3            | 1.1/16   | 17252        |
| 7/8          | 2               |                                     | 18529 | 18531 | 18533 | 18535 | 18537 | 18539 | 18541 | 7/8-12      | 3.5/8        | 1.1/16   | 17274        |
| 1            | 3               |                                     |       |       | 18193 | 18676 | 18194 | 18678 | 18679 | 1-12        | 3.5/8        | 1.5/16   | 17254        |
| 1.1/16       | 3               |                                     |       |       | 18557 | 18199 | 18563 | 18200 | 18569 | 1.1/16-12   | 3.5/8        | 1.5/16   | 17255        |
| 1.3/8        | 4               |                                     | 18610 | 18611 | 18612 | 18213 | 18614 | 18615 | 18616 | 1.3/8-12    | 4.5/8        | 1.3/4    | 17258        |





## ADJUSTABLE ADAPTORS TYPE 'C'

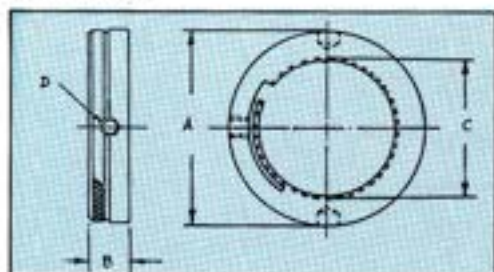
DIN 6327 SHEET-3 AND  
SCULLY JONES METRIC SIZES  
TYPE 'C'



| Adaptor Size<br>DIN 6327<br>Sheet No. 3 | SJ Part No. | $d_1$<br>$h_e$ | MT No. | $d_2$     | $d_4$ | L   | $L_1$ |
|---|-------------|----------------|--------|-----------|-------|-----|-------|
| C16x1                                   | 18933       | 16             | .1     | Tr 16x1.5 | 25    | 167 | 81    |
| C20x2                                   | 18934       | 20             | 2      | Tr 20x2   | 28    | 182 | 94    |
| C28x3                                   | 18935       | 28             | 3      | Tr 28x2   | 36    | 212 | 117   |
| C36x4                                   | 18936       | 36             | 4      | Tr 36x2   | 48    | 264 | 146   |

## QUICK LOCK NUTS FOR ADJUSTABLE ADAPTORS

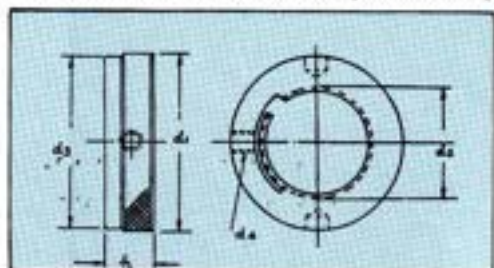
SJ TYPE



| SJ Part No. | A       | B   | C<br>Acme Thread | D<br>Grub Screw Size |
|-------------|---------|-----|------------------|----------------------|
| 17272       | 7/8     | 3/8 | 1/2-16           | 10.32 X 1/8          |
| 17273       | 1       | 3/8 | 5/8-16           | 10-32 X 1/8          |
| 17252       | 1.1/4   | 3/8 | 3/4-12           | 1/4-28 X 3/16        |
| 17274       | 1.1/4   | 3/8 | 7/8-12           | 10-32 X 1/8          |
| 17254       | 1.1/2   | 3/8 | 1-12             | 1/4-28 X 3/16        |
| 17255       | 1.9/16  | 3/8 | 1.1/16-12        | 1/4-28 X 3/16        |
| 17275       | 1.3/4   | 3/8 | 1.1/4-12         | 1/4-28 X 3/16        |
| 17257       | 1.13/16 | 3/8 | 1.5/16-12        | 1/4-28 X 3/16        |
| 17258       | 1.7/8   | 3/8 | 1.3/8-12         | 1/4-28 X 3/16        |
| 70207       | 2       | 3/8 | 1.7/16-12        | 1/4-28 X 3/16        |
| 70312       | 2.1/2   | 1/2 | 1.3/4-12         | 1/4-28 X 1/4         |
| 17260       | 2.5/8   | 1/2 | 1.7/8-12         | 5/16-24 X 5/16       |
| 70512       | 3       | 1/2 | 2.1/4-12         | 5/16-24 X 3/16       |

## QUICK LOCK NUTS DIN 6327 SHEET-4

Graduation MARKS can be provided upon request.



Optional SCALLOP design also supplied

| $d_2$       | $d_1$<br>-0.4 | $d_3$<br>h13 | $d_4$ | h  | Grub Screw Size | Nut Part No. |
|-------------|---------------|--------------|-------|----|-----------------|--------------|
| Tr 16 X 1.5 | 24.6          | 24           | M5    | 12 | M5 X 5          | 17601        |
| Tr 20 X 2   | 31.6          | 31           | M5    | 12 | M5 X 5          | 17602        |
| Tr 28 X 2   | 39.6          | 39           | M6    | 12 | M6 X 6          | 17603        |
| Tr 36 X 2   | 49.6          | 49           | M6    | 14 | M6 X 6          | 17604        |
| Tr 48 X 2   | 66.6          | 66           | M8    | 18 | M8 X 8          | 17605        |



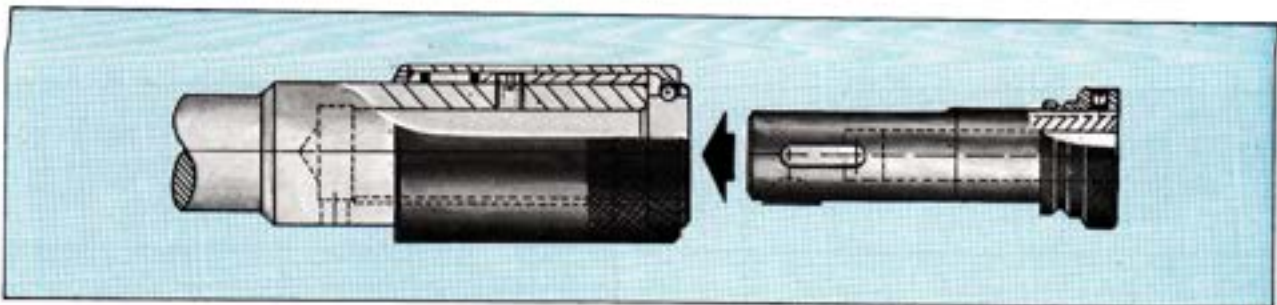


## ATTACHABLE QUICK CHANGE CHUCKS

(TYPE LSB/DIN)  
FOR SPINDLE ENDS TO DIN 55058  
TO ACCEPT ADJUSTABLE  
ADAPTORS TO DIN 6327

**ADVANTAGES:-** Quick engaging and disengaging of the adjustable adaptor by simply moving the sleeves of the chuck. Thus the setting and changing time is considerably reduced, even when close center distances and poorly accessible spindles are involved. Consequently, the effectiveness of the machine is increased.

The clear division of the spindle and chuck is advantageous when replacement tools have to be ordered. Standard adjustable adaptor in combination with LCS adjusting nuts type SSM can be used.



**APPLICATION:-** For drilling, counter-sinking and reaming on transfer lines, special purpose machines, drilling machines and multi-spindle drilling heads, of which the spindle ends have been designed to accept adjustable adaptors.

The LCS Quick change Drilling Chucks Type LSB can be attached to standard spindle ends. The attachment of the chuck is effected very simply by the grub screw G screwed into the available hole. The change-over to the LCS Quick change system is thus possible in a very short time.

The drilling pressure is transmitted by way of the adjusting nut and the quick change chuck directly to the front face of the spindle end.

**LOCATION:-** Cylindrical insertion bore D1 to suit the outer diameter of the spindle end.

Therefore, the costs to change over or to equip new machines are very low.

The adjustable adaptor is absolutely free of backlash when subjected to axial vibration.

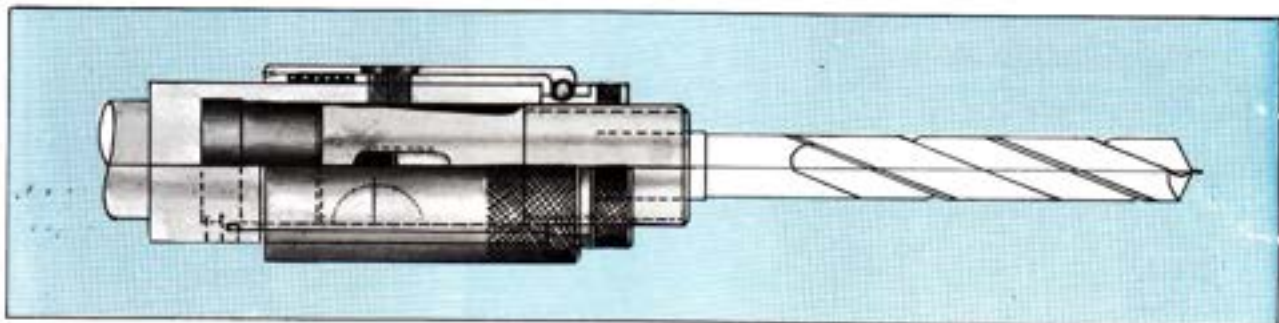
Improved concentricity of the adjustable adaptors is obtained as the sleeves are not clamped eccentrically.

### EXAMPLE FOR ORDERING

LCS Quick Change Chuck: LSB 28-40-38-8

LCS Adjusting Nut: SSM 28

Special Stub Type Quick Change Chucks can also be manufactured when the spindle distances do not allow the utilization of standard LSB Chucks because of their larger diameter. Details available upon request.

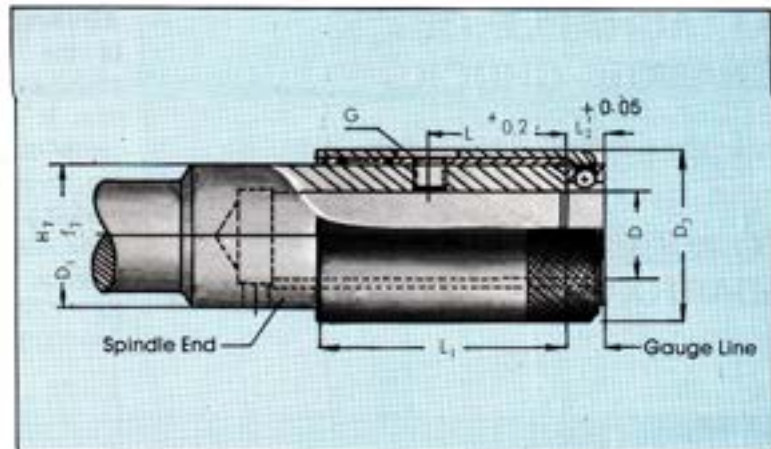






## ATTACHABLE QUICK CHANGE CHUCKS

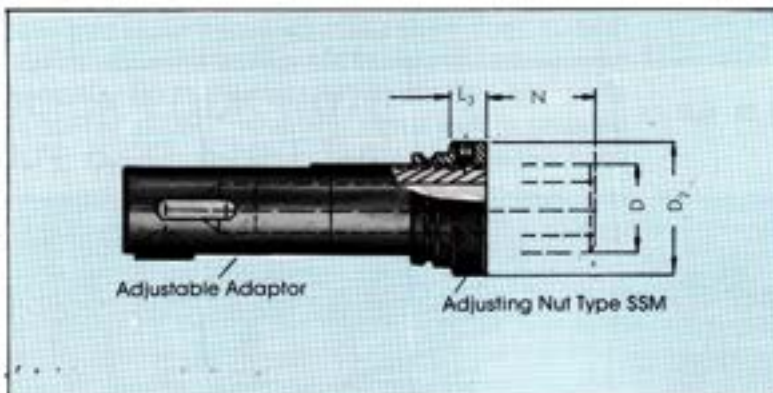
(TYPE LSB/DIN)  
FOR SPINDLE ENDS  
TO DIN 55058  
TO ACCEPT ADJUSTABLE  
ADAPTORS TO DIN 6327



| Designation                      |                        | Suitable for           |                        | Corresponds to the Sequence of chuck Designation |                  |    |     | D <sub>2</sub> ∅<br>0.2 | L <sub>1</sub> | L <sub>2</sub> |
|----------------------------------|------------------------|------------------------|------------------------|--|------------------|----|-----|-------------------------|----------------|----------------|
| Quick Change Drilling Chuck Size | Suitable Adj. Nut Size | Spindle ends DIN 55058 | Adj. Adaptors DIN 6327 | D <sub>1</sub> ∅                                 | D <sub>2</sub> ∅ | L  | G   |                         |                |                |
| LSB 12-20-22-5                   | SSM 12                 | 12                     | 12                     | 12   | 20               | 22 | M5  | 24                      | 42             | 9              |
| LBS 16-25-34-6                   | SSM 16                 | 16                     | 16                     | 16   | 25               | 34 | M6  | 30                      | 65             | 9.5            |
| LSB 20-32-34-6                   | SSM 20                 | 20                     | 20                     | 20   | 32               | 34 | M6  | 38                      | 67             | 11             |
| LSB 20-32-35-8                   | SSM 20                 | 20                     | 20                     | 20   | 32               | 35 | M8  | 38                      | 67             | 11             |
| LSB 25-37-38-8                   | SSM 25                 | 25                     | 25                     | 25   | 37               | 38 | M8  | 45                      | 76             | 12             |
| LSB 28-40-38-8                   | SSM 28                 | 28                     | 28                     | 28   | 40               | 38 | M8  | 48                      | 78             | 12             |
| LSB 32-45-45-8                   | SSM 32                 | 32                     | 32                     | 32   | 45               | 45 | M8  | 55                      | 83             | 13.5           |
| LSB 36-50-45-8                   | SSM 36                 | 36                     | 36                     | 36   | 50               | 45 | M8  | 60                      | 98             | 16             |
| LSB 48-67-57-10                  | SSM 48                 | 48                     | 48                     | 48   | 67               | 57 | M10 | 80                      | 123            | 20             |

\* Also available in other dimensions

Chuck LSB 20-32-34-6 in accordance with DIN 55058, 1961



| Adjusting Nut Size | D <sub>2</sub> ∅ | L <sub>2</sub> | N  |
|--------------------|------------------|----------------|----|
| SSM 12             | 21.5             | 9              | 14 |
| SSM 16             | 26               | 9              | 28 |
| SSM 20             | 33               | 9              | 28 |
| SSM 25             | 40               | 10             | 30 |
| SSM 28             | 42               | 10             | 30 |
| SSM 32             | 47               | 10             | 36 |
| SSM 36             | 54               | 10             | 36 |
| SSM 48             | 72               | 14             | 47 |

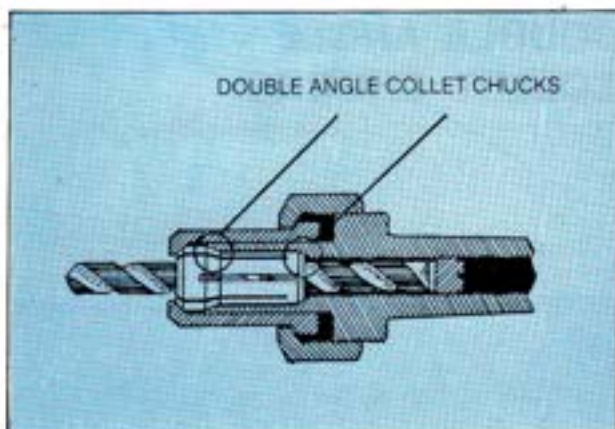


## DOUBLE ANGLE COLLET CHUCKS

### FOR PRECISION CHUCKING

DOUBLE ANGLE PRINCIPLE OFFERS:

- **GREATER FEED AND SPEED**  
More pieces per hour with Stub drilling technique; no guide bushes or jigs required.
- **UNIQUE SLOTTING**  
Transverse Flex (assures best grip even on under size parts of tools).
- **AXIAL FLEX**  
TRUE gripping on cutting margin of drills compensates back taper of drills.

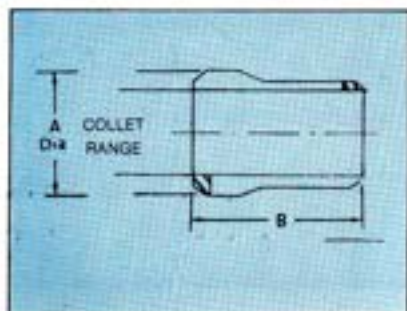


- **1/32" or 0.8mm COLLAPSE**  
Replaces six or seven single-purpose Collets.  
**LEFT HAND BACK UP SCREW FOR POSITIVE DRIVE.**  
**CONCENTRICITY to .0005" or .015mm**

## DOUBLE ANGLE COLLETS AND CHUCKS

- Complete **INTERCHANGEABILITY** of Collets in each range of Chucks.
- Have a **.032"/.75 mm collapse SUPERIOR GRIP** and **RIGIDITY** with **ACCURACY** with **8 LINE Collet GRIP**.
- **GRIP EFFICIENTLY** over the flutes or shank of a standard jobbers twist drill. **REDUCE** overhang by **STUBBING**.

- **MAINTAIN .0005"/.015 mm T.I.R. CONCENTRICITY** for **LONGER** tool life and **PRECISE** machining.
- **LEFT-HAND** back-up screw for pre-setting drill lengths and reducing set up times.
- **ELIMINATE** need for more expensive **MORSE TAPER** shank drills. Give **MORE** drive and grip and **GREATER FEEDS** and **SPEEDS**.
- Are a **MUST** on **NUMERICAL CONTROLLED MACHINES** for **JIGLESS** drilling.
- **ELIMINATE** need for many centre drilling and reaming operations. Give **LONGER** drill **LIFE** with **FEWER** drill breakages, and **MORE** holes per drill grind.

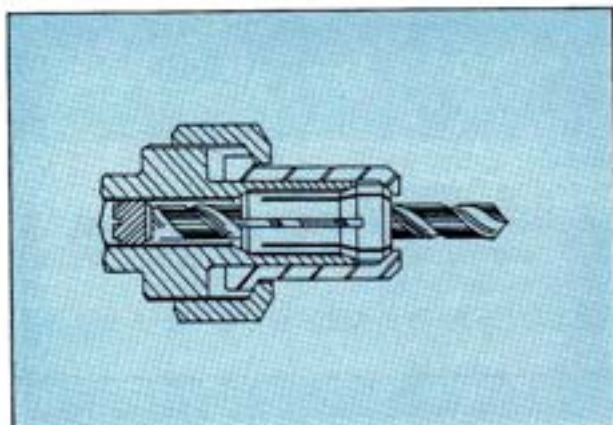


| GRAPHIC COLLET RANGE |            |            |      |                         |      |     |      |      |      |
|----------------------|------------|------------|------|-------------------------|------|-----|------|------|------|
| COLLET RANGE         |            |            |      | Ins 0 1/4" 1/2" 3/4" 1" |      |     |      |      |      |
| MODEL                | INCHES     | MM         | A    | B                       | mm 0 | 6.0 | 12.5 | 19.0 | 25.5 |
| 03                   | 3/32 - 1/4 | 2.0 - 6.0  | 9.5  | 25                      |      | ■   |      |      |      |
| 02                   | 3/32 - 3/8 | 2.0 - 9.5  | 13.5 | 30                      |      | ■   |      |      |      |
| 01                   | 1/8 - 9/16 | 3.0 - 14.0 | 19.5 | 36.5                    |      | ■   | ■    |      |      |
| 018                  | 1/4 - 3/4  | 6.0 - 19.0 | 26.3 | 41.3                    |      | ■   | ■    | ■    |      |
| 04                   | 1/4 - 1.0  | 6.0 - 25.5 | 37   | 51                      |      | ■   | ■    | ■    | ■    |





## DOUBLE ANGLE COLLET CHUCKS

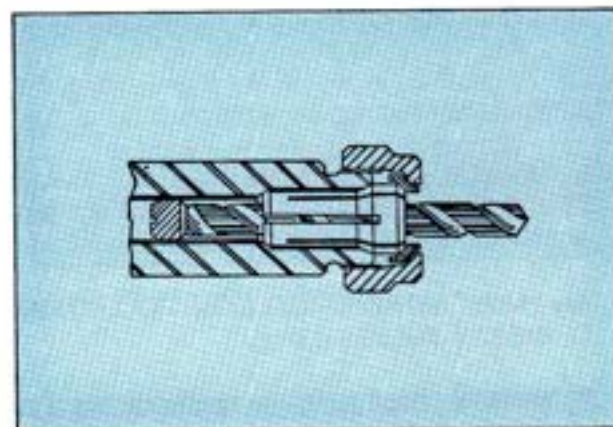


### '01-MODEL COLLET CHUCK

Long nosepiece bearing and compensating locknut give extreme accuracy within 0.007 mm. Maximum visibility for the operator.

Recommended for extra precision and high speed applications.

SEE PAGES 27 to 31 FOR SHANK DIMENSIONS

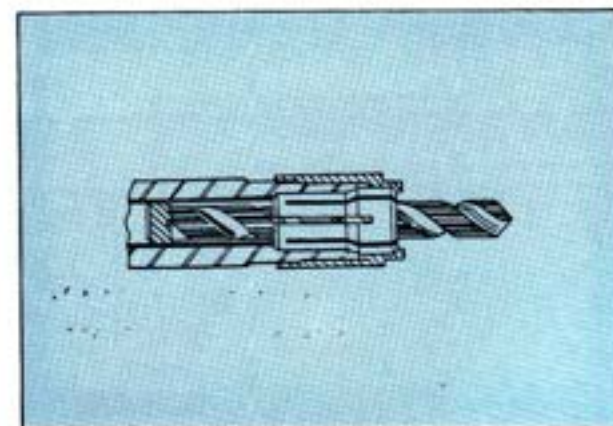


### '09-MODEL COLLET CHUCK

For the truly rugged job LCS '09 Collet Chuck is RIGIDITY personified. This stubnose chuck withstands the severest test.

Rugged and accurate this chuck will stand up to years of hard use.

SEE PAGES 31 to 34 FOR SHANK DIMENSIONS.



### '03-MODEL COLLET CHUCK

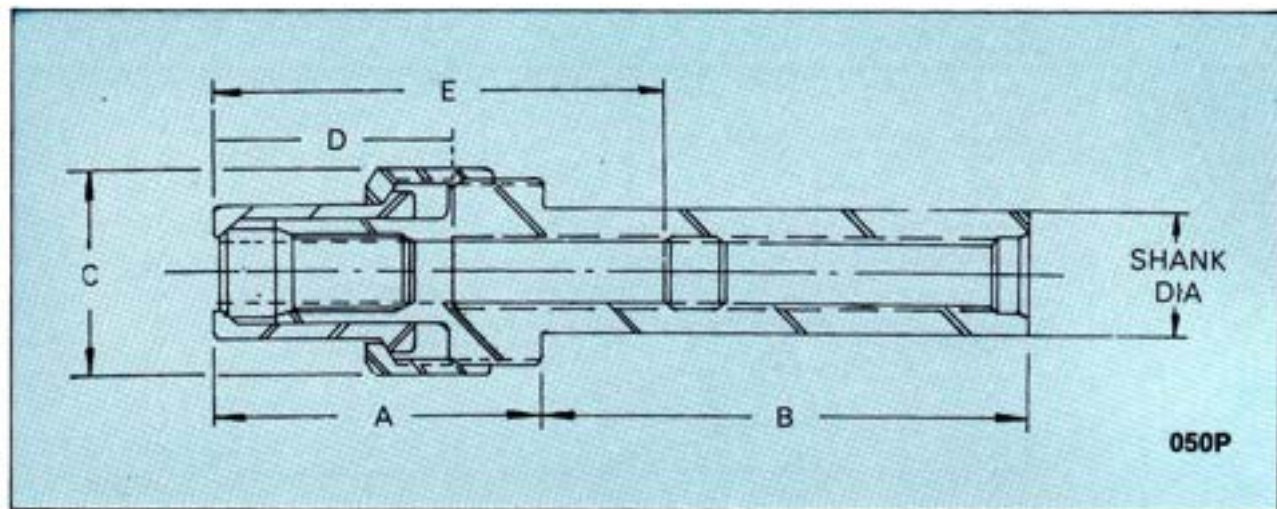
Your close centre problems are eliminated with the '03 close centre chuck MINIMUM diameter and LCS ACCURACY.

SEE PAGE 35 FOR SHANK DIMENSIONS



## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

### PARALLEL SHANKS



| Chuck Capacity | Shank Dia | Head Length |     | Lock Nut  | Limiting Depth for Tools larger than listed in Column 'F' | E    |      | Maximum Diameter Thru Shank F | LCS Tool Number |
|----------------|-----------|-------------|-----|-----------|---|------|------|-------------------------------|-----------------|
|                |           | A           | B   |           |   | Min. | Max. |                               |                 |
| 2-6            | 16        | 36.5        | 50  | 19 Hex    | —   | 36.5 | 76   | 6.0                           | DA1-03-050P     |
| 2-6            | 20        | 36.5        | 50  | 19 Hex    | —   | 36.5 | 76   | 6.0                           | DA2-03-050P     |
| 2-9.5          | 20        | 50          | 100 | 32 Hex    | —   | 43   | 138  | 9.5                           | DA3-02-050P     |
| 2-9.5          | 30        | 50          | 152 | 32 Hex    | —   | 43   | 190  | 9.5                           | DA4-02-050P     |
| 2-9.5          | 40        | 50          | 152 | 32 Hex    | —   | 43   | 190  | 9.5                           | DA5-02-050P     |
| 3-14           | 20        | 63          | 100 | 38 Hex    | 42  | 43   | 150  | 11.0                          | DA6-01-050P     |
| 3-14           | 30        | 63          | 152 | 38 Hex    | —   | 48   | 200  | 14.0                          | DA7-01-050P     |
| 3-14           | 40        | 63          | 152 | 38 Hex    | —   | 48   | 200  | 14.0                          | DA8-01-050P     |
| 3-14           | 50        | 63          | 152 | 38 Hex    | —   | 48   | 200  | 14.0                          | DA9-01-050P     |
| 3-19           | 30        | 60          | 152 | 44 Hex    | —   | 45   | 195  | 19.0                          | DA10-018-050P   |
| 3-19           | 40        | 60          | 152 | 44 Hex    | —   | 45   | 195  | 19.0                          | DA11-018-050P   |
| 3-19           | 50        | 60          | 152 | 44 Hex    | —   | 45   | 195  | 19.0                          | DA12-018-050P   |
| 6-25.5         | 40        | 78          | 152 | 70 $\phi$ | —   | 54   | 206  | 25.0                          | DA13-04-050P    |
| 6-25.5         | 50        | 78          | 152 | 70 $\phi$ | —   | 54   | 206  | 25.0                          | DA14-04-050P    |
| 6-25.5         | 60        | 78          | 152 | 70 $\phi$ | —   | 54   | 206  | 25.0                          | DA15-04-050P    |

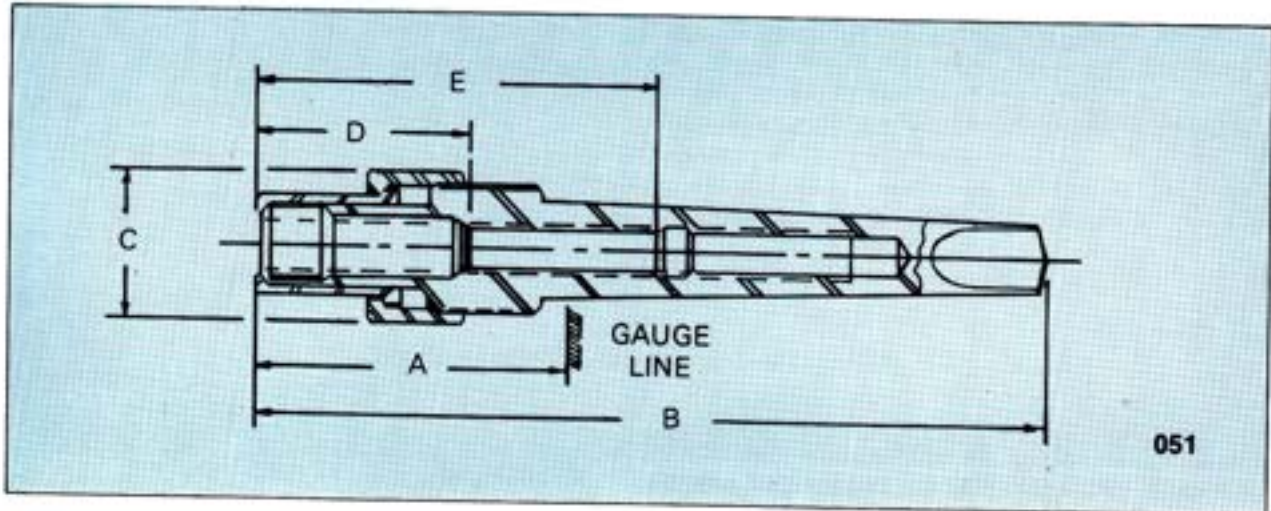
Other Shank Diameters and Length are manufactured on request.





## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

MORSE TAPER SHANKS  
WITH TANG



051

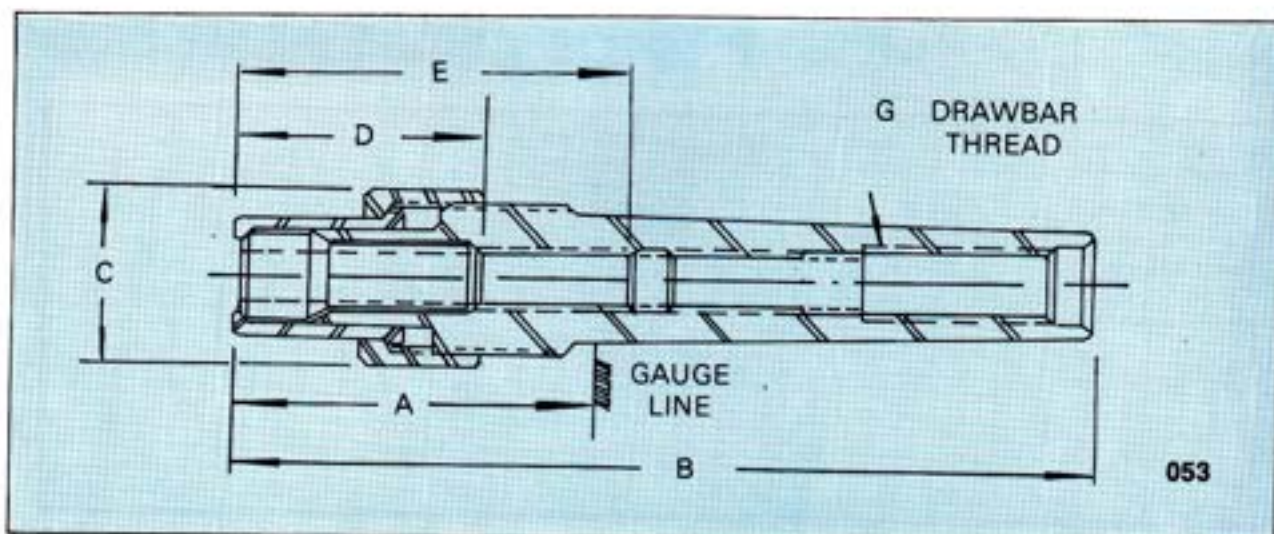
| Chuck Capacity | Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth<br>for Tools larger<br>than listed in<br>Column 'F'<br>D | E    |      | Maximum Diameter<br>Thru<br>Shank<br>F | LCS<br>Tool Number |
|----------------|-----------|------------------|---------------------|---------------|---|------|------|--|--------------------|
|                |           |                  |                     |               |   | Min. | Max. |  |                    |
| 2-6            | 1         | 40               | 101                 | 19 Hex        | 30  | 32   | 73   | 5.1                                    | DA22-03-051        |
| 2-6            | 2         | 40               | 114                 | 19 "          | 30  | 32   | 82   | 5.1                                    | DA23-03-051        |
| 2-9.5          | 1         | 54               | 116                 | 32 "          | 35  | 37   | 89   | 6.7                                    | DA24-02-051        |
| 2-9.5          | 2         | 54               | 129                 | 32 "          | 35  | 37   | 95   | 8.3                                    | DA25-02-051        |
| 2-9.5          | 3         | 54               | 148                 | 32 "          | 35  | 37   | 109  | 8.3                                    | DA26-02-051        |
| 3-14           | 2         | 67               | 141                 | 38 "          | 40  | 43   | 71   | 11.1                                   | DA27-01-051        |
| 3-14           | 3         | 67               | 160                 | 38 "          | 40  | 43   | 116  | 12.7                                   | DA28-01-051        |
| 3-14           | 4         | 67               | 184                 | 38 "          | 40  | 43   | 138  | 12.7                                   | DA29-01-051        |
| 3-19           | 3         | 63               | 157                 | 44 "          | 47  | 52   | 113  | 14.3                                   | DA31-018-051       |
| 3-19           | 4         | 63               | 181                 | 44 "          | 47  | 52   | 125  | 19                                     | DA32-018-051       |
| 6-25.5         | 4         | 81               | 198                 | 70 gr         | 59  | 60   | 149  | 19                                     | DA34-04-051        |
| 6-25.5         | 5         | 81               | 230                 | 70 gr         | 59  | 60   | 168  | 25                                     | DA35-04-051        |

Other Shank diameters and Length are manufactured on request.



## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

MORSE TAPER SHANK WITHOUT  
TANG



| Chuck Capacity | Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth<br>for Tools larger<br>than listed in<br>Column 'F'<br>D | E    |      | Maximum<br>Diameter<br>Thru<br>Shank<br>F | LCS<br>Tool Number |
|----------------|-----------|------------------|---------------------|---------------|---|------|------|---|--------------------|
|                |           |                  |                     |               |   | Min. | Max. |   |                    |
| 2-6            | 1         | 40               | 94                  | 19 Hex        | 30  | 32   | 66   | 5.1                                       | DA46-03-053        |
| 2-6            | 2         | 40               | 104                 | 19 "          | 30  | 32   | 68   | 5.1                                       | DA47-03-053        |
| 2-9.5          | 1         | 54               | 108                 | 32 "          | 35  | 36   | 80   | 6.7                                       | DA48-02-053        |
| 2-9.5          | 2         | 54               | 118                 | 32 "          | 35  | 36   | 82   | 8.3                                       | DA49-02-053        |
| 2-9.5          | 3         | 54               | 135                 | 32 "          | 35  | 36   | 93   | 8.3                                       | DA50-02-053        |
| 3-14           | 2         | 67               | 131                 | 38 "          | 42  | 43   | 93   | 11.1                                      | DA51-01-053        |
| 3-14           | 3         | 67               | 148                 | 38 "          | 42  | 43   | 106  | 12.7                                      | DA52-01-053        |
| 3-14           | 4         | 67               | 170                 | 38 "          | 42  | 43   | 123  | 12.7                                      | DA53-01-053        |
| 3-19           | 3         | 64               | 145                 | 44 "          | 47  | 51   | 102  | 14.3                                      | DA55-018-053       |
| 3-19           | 4         | 64               | 167                 | 44 "          | —   | 51   | 118  | 19  | DA56-018-053       |
| 6-25.5         | 4         | 81               | 184                 | 70 Ø          | 59  | 60   | 135  | 19  | DA58-04-053        |
| 6-25.5         | 5         | 81               | 211                 | 70 Ø          | —   | 54   | 154  | 25  | DA59-04-053        |

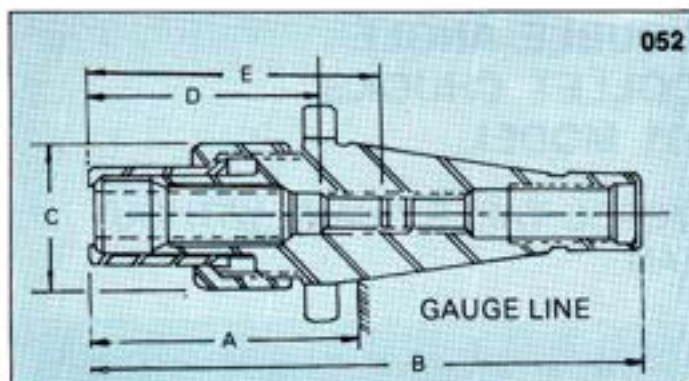
Other Shank Diameters and Length are manufactured on request.





## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

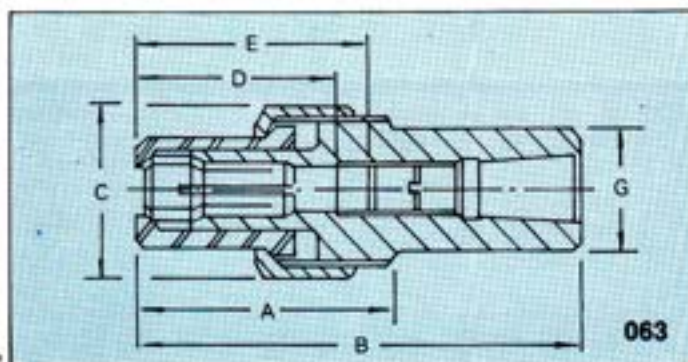
I.S.O. SHANK



| Chuck Capacity | Taper No. | Projection<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth for Tools larger than listed in Column 'F'<br>D | E    |      | Maximum Diameter Thru Shank<br>F | LCS Tool Number |
|----------------|-----------|-----------------|---------------------|---------------|--|------|------|----------------------------------|-----------------|
|                |           |                 |                     |               |  | Min. | Max. |                                  |                 |
| 2-9.5          | 30        | 61              | 130                 | 32 Hex        | —  | 38   | 90   | 9.5                              | DA37-02-052     |
| 2-9.5          | 40        | 61              | 155                 | 32 "          | —  | 38   | 106  | 9.5                              | DA38-02-052     |
| 3-14           | 30        | 73              | 142                 | 38 "          | 44   | 45   | 100  | 12.7                             | DA39-01-052     |
| 3-14           | 40        | 73              | 167                 | 38 "          | 44   | 45   | 115  | 12.7                             | DA40-01-052     |
| 3-19           | 30        | 70              | 139                 | 44 "          | —  | 49   | 90   | 19                               | DA41-018-052    |
| 3-19           | 40        | 70              | 164                 | 44 "          | —  | 49   | 112  | 19                               | DA42-018-052    |
| 3-19           | 50        | 74              | 201                 | 44 "          | —  | 49   | 132  | 19                               | DA43-018-052    |
| 6-25.5         | 40        | 88              | 181                 | 70 $\phi$     | 58   | 60   | 130  | 22                               | DA44-04-052     |
| 6-25.5         | 50        | 92              | 219                 | 70 $\phi$     | —  | 60   | 150  | 25                               | DA45-04-052     |

## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

JACOBS INTERNAL TAPER



Taper to D.I.N. 238 Available on Request

| Chuck Capacity | Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth for Tools larger than listed in Column 'F'<br>D | E    |      | Maximum Diameter Thru Shank<br>F | Diameter<br>G | LCS Tool Number |
|----------------|-----------|------------------|---------------------|---------------|--|------|------|----------------------------------|---------------|-----------------|
|                |           |                  |                     |               |  | Min. | Max. |                                  |               |                 |
| 2-6            | 0         | 36.5             | 46                  | 19 Hex        | 30   | —    | —    | 5.5                              | 16            | DA60-03-063     |
| 2-6            | 1         | 36.5             | 55.5                | 19 "          | —  | —    | —    | 6                                | 19            | DA61-03-063     |
| 2-6            | 2         | 36.5             | 63.5                | 19 "          | —  | —    | —    | 6                                | 24            | DA62-03-063     |
| 2-9.5          | 2         | 50.8             | 87.5                | 32 "          | —  | 43   | 54   | 9.5                              | 24            | DA63-02-063     |
| 2-9.5          | 33        | 50.8             | 92                  | 32 "          | —  | 43   | 50.8 | 9.5                              | 25            | DA64-02-063     |
| 3-14           | 2         | 63.5             | 100                 | 38 "          | 42   | 43   | 60   | 12.7                             | 24            | DA65-01-063     |
| 3-14           | 33        | 63.5             | 105                 | 38 "          | 42   | 43   | 63.5 | 12.7                             | 25            | DA66-01-063     |

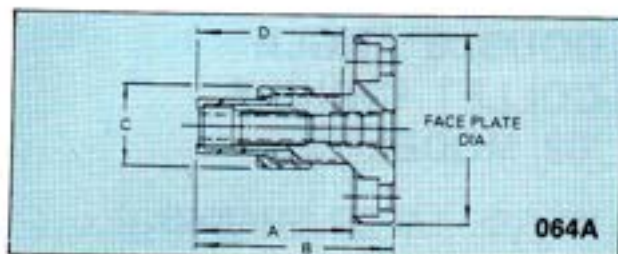
Other Shank Diameters and Length are manufactured on request.





## DOUBLE ANGLE COLLET CHUCKS '01 MODEL

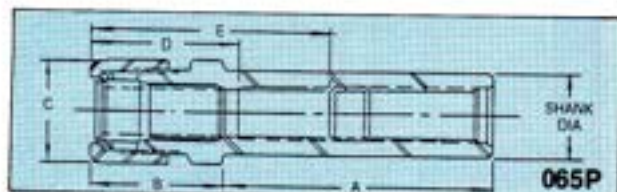
FACE PLATE MOUNTED



| Chuck Capacity | Faceplate Diameter | 4 - Holes   |                      | Head Length A | Overall Length B | Lock Nut C | D    |      | LCS Tool Number |
|----------------|--------------------|-------------|----------------------|---------------|------------------|------------|------|------|-----------------|
|                |                    | Bolt Circle | Soc. Head Cap. Screw |               |                  |            | Min. | Max. |                 |
| 2-6            | 98                 | 70          | M 10                 | 36.5          | 56               | 19 Hex     | 36.5 | 44   | DA67-03-064A    |
| 2-9.5          | 98                 | 70          | M 12                 | 57            | 76               | 32 "       | 43   | 62   | DA68-02-064A    |
| 3-14           | 98                 | 70          | M 12                 | 63.5          | 83               | 38 "       | 48   | 65   | DA69-01-064A    |
| 3-19           | 98                 | 70          | M 12                 | 60.0          | 80.9             | 44 "       | 44.5 | 62   | DA70-018-064A   |
| 6-25.5         | 108                | 82          | M 12                 | 78            | 97               | 63 "       | 54   | 73   | DA71-04-064A    |

## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

PARALLEL SHANKS



| Chuck Capacity | Shank Diameter | Shank Length A | Head Length B | Lock Nut C | Limiting Depth for Tools Larger than listed in Column 'F' D | E    |      | Maximum Diameter Thru Shank F | LCS Tool Number |
|----------------|----------------|----------------|---------------|------------|---|------|------|-------------------------------|-----------------|
|                |                |                |               |            |   | Min. | Max. |                               |                 |
| 2-6            | 16             | 100            | 30            | 18 Hex     | —   | 38   | 120  | 6                             | DA1-03-065P     |
| 2-6            | 20             | 100            | 30            | 18 Hex     | —   | 38   | 120  | 6                             | DA2-03-065P     |
| 2-9.5          | 20             | 100            | 33            | 26 Hex     | —   | 41   | 121  | 9.5                           | DA3-02-065P     |
| 2-9.5          | 30             | 152            | 33            | 26 Hex     | —   | 41   | 171  | 9.5                           | DA4-02-065P     |
| 2-9.5          | 40             | 152            | 33            | 26 Hex     | —   | 41   | 171  | 9.5                           | DA5-02-065P     |
| 3-14           | 20             | 100            | 48            | 32 Hex     | 44  | 46   | 138  | 8                             | DA6-01-065P     |
| 3-14           | 30             | 152            | 40            | 32 Hex     | —   | 49   | 175  | 14                            | DA7-01-065P     |
| 3-14           | 40             | 152            | 40            | 32 Hex     | —   | 49   | 175  | 14                            | DA8-01-065P     |
| 3-14           | 50             | 152            | 40            | 32 Hex     | —   | 49   | 175  | 14                            | DA9-01-065P     |
| 3-19           | 30             | 152            | 41            | 38 Hex     | —   | 49   | 175  | 19                            | DA10-018-065P   |
| 3-19           | 40             | 152            | 41            | 38 Hex     | —   | 49   | 151  | 19                            | DA11-018-065P   |
| 3-19           | 50             | 152            | 41            | 38 Hex     | —   | 49   | 175  | 19                            | DA12-018-065P   |
| 6-25.5         | 40             | 152            | 52            | 68 Ø       | —   | 54   | 181  | 25                            | DA13-04-065P    |
| 6-25.5         | 50             | 152            | 52            | 68 Ø       | —   | 54   | 181  | 25                            | DA14-04-065P    |
| 6-25.5         | 60             | 152            | 52            | 68 Ø       | —   | 54   | 181  | 25                            | DA15-04-065P    |

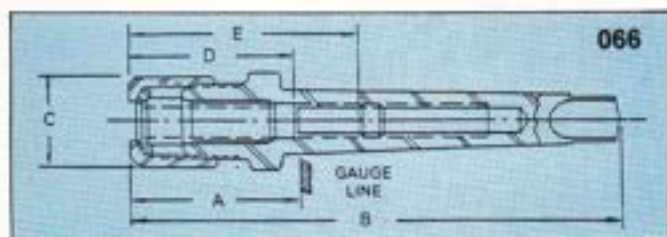
Other Shank Diameters and Length are manufactured on request.





## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

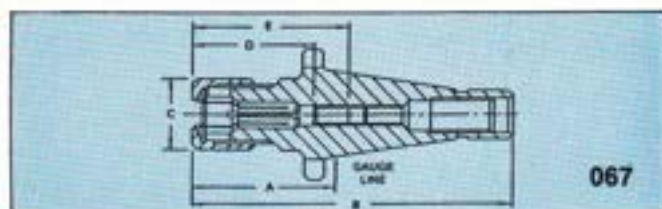
MORSE TAPER SHANKS



| Chuck Capacity | Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth for Tools larger than listed in Column 'F'<br>D | E    |      | Maximum Diameter Thru Shank<br>F | LCS Tool Number |
|----------------|-----------|------------------|---------------------|---------------|--|------|------|----------------------------------|-----------------|
|                |           |                  |                     |               |  | Min. | Max. |                                  |                 |
| 2-6            | 1         | 32.5             | 94.5                | 18 Hex        | 32.5   | 33   | 68   | 5                                | DA41-03-066     |
| 2-6            | 2         | 32.5             | 107                 | 18 "          | 32.5   | 33   | 78   | 5                                | DA42-03-066     |
| 2-9.5          | 1         | 43               | 105                 | 26 "          | 37   | —    | —    | 0                                | DA43-02-066     |
| 2-9.5          | 2         | 36.5             | 111                 | 26 "          | 37   | 38   | 79   | 8.3                              | DA44-02-066     |
| 2-9.5          | 3         | 36.5             | 130                 | 26 "          | 37   | 38   | 92   | 8.3                              | DA45-02-066     |
| 3-14           | 2         | 54               | 128.5               | 32 "          | 44   | 46   | 90.5 | 9.5                              | DA46-01-066     |
| 3-14           | 3         | 43               | 136.5               | 32 "          | 44   | 46   | 90.5 | 12.7                             | DA47-01-066     |
| 3-14           | 4         | 43               | 160.5               | 32 "          | 44   | 46   | 113  | 12.7                             | DA48-01-066     |
| 3-19           | 2         | 60               | 135                 | 38 "          | 50   | 54   | 100  | 9.5                              | DA49-01B-066    |
| 3-19           | 3         | 60               | 154                 | 38 "          | 50   | 52   | 110  | 14.3                             | DA50-01B-066    |
| 3-19           | 4         | 44.5             | 162                 | 38 "          | —  | 47.5 | 114  | 19                               | DA51-01B-066    |
| 6-25.5         | 3         | 71.5             | 165                 | 68 Ø          | 60   | —    | —    | 0                                | DA52-04-066     |
| 6-25.5         | 4         | 71.5             | 189                 | 68 Ø          | 60   | 62   | 141  | 19                               | DA53-04-066     |
| 6-25.5         | 5         | 55               | 205                 | 68 Ø          | —  | 55.5 | 143  | 25                               | DA54-04-066     |

## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

I.S.O. SHANK



| Chuck Capacity | Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth for Tools larger than listed in Column 'F'<br>D | E    |      | Maximum Diameter Thru Shank<br>F | LCS Tool Number |
|----------------|-----------|------------------|---------------------|---------------|--|------|------|----------------------------------|-----------------|
|                |           |                  |                     |               |  | Min. | Max. |                                  |                 |
| 2-9.5          | 30        | 46               | —                   | 26 Hex        | —  | —    | 73   | 9.5                              | DA56-02-067     |
| 2-9.5          | 40        | 46               | 140                 | 26 "          | —  | —    | —    | 9.5                              | DA57-02-067     |
| 3-14           | 30        | 51               | 119                 | 32 "          | 44   | 46   | 70   | 12.5                             | DA58-01-067     |
| 3-14           | 40        | 51               | 145                 | 32 "          | 44   | 46   | 97   | 12.5                             | DA59-01-067     |
| 3-19           | 30        | —                | 120                 | 38 "          | —  | —    | —    | 19                               | DA60-01B-067    |
| 3-19           | 40        | —                | 146                 | 38 "          | —  | —    | 92   | 19                               | DA61-01B-067    |
| 3-19           | 50        | 57               | 184                 | 38 "          | —  | —    | 121  | 19                               | DA62-01B-067    |
| 6-25.5         | 30        | 82.5             | 151                 | 68 Ø          | 60   | —    | 83   | 19                               | DA63-04-067     |
| 6-25.5         | 40        | 83.5             | 157                 | 68 Ø          | 60   | —    | 97   | 21.8                             | DA64-04-067     |
| 6-25.5         | 50        | —                | —                   | 68 Ø          | —  | 54   | 119  | 25                               | DA65-04-067     |

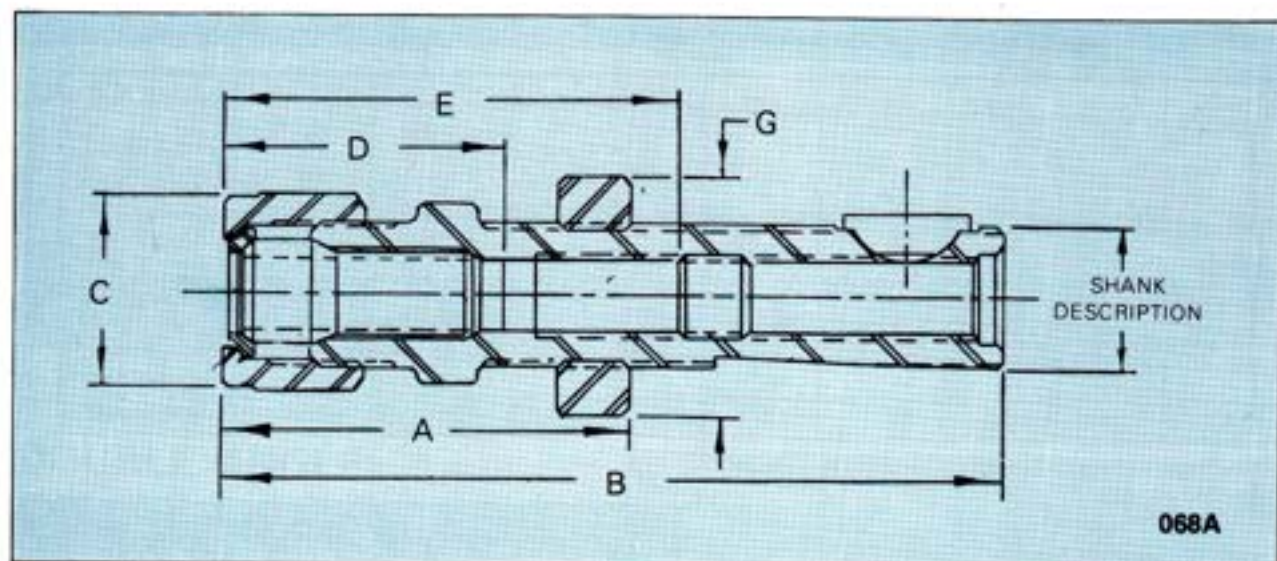
Other Shank Diameters and Lengths are manufactured on request.





## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

### AUTOMOTIVE SHANKS



068A

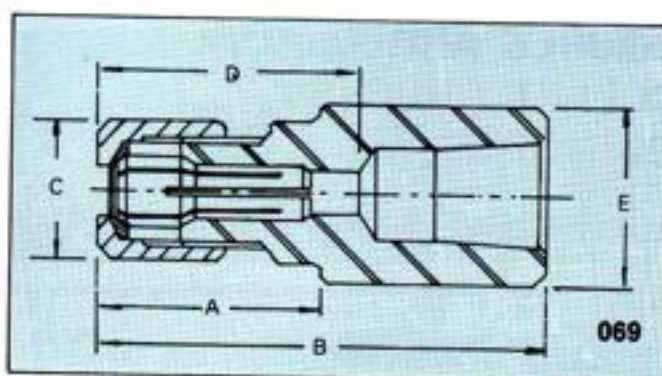
| Chuck Capacity | Shank Description | A    |      | Overall Length B | Lock Nut C | Limiting Depth for Tools Larger than listed in Column 'F' D | E    |      | Maximum Diameter thru Shank F | Adj. Nut Diameter G | LCS Tool Number |
|----------------|-------------------|------|------|------------------|------------|---|------|------|-------------------------------|---------------------|-----------------|
|                |                   | Min. | Max. |                  |            |   | Min. | Max. |                               |                     |                 |
| 2-6            | Tr 12 x 1.5       | 45   | 62   | 96               | 18 Hex     | 33  | 33   | 86   | 5.3                           | 17.6                | DA66-03-068A    |
| 2-6            | Tr 16 x 1.5       | 45   | 73   | 116              | 18 Hex     | —   | 36   | 103  | 6.3                           | 24.6                | DA67-03-068A    |
| 2-6            | Tr 20 x 2         | 35   | 63   | 111              | 18 Hex     | —   | 36   | 98   | 6.3                           | 31.6                | DA68-03-068A    |
| 2-6            | Tr 28 x 2         | 43   | 73   | 126              | 18 Hex     | —   | 36   | 110  | 6.3                           | 39.6                | DA69-03-068A    |
| 2-9.5          | Tr 12 x 1.5       | 43   | 65   | 99               | 26 Hex     | 41  | 41   | 87   | 5.3                           | 17.6                | DA70-02-068A    |
| 2-9.5          | Tr 16 x 1.5       | 45   | 76   | 119              | 26 Hex     | —   | 41   | 106  | 9.5                           | 24.6                | DA71-02-068A    |
| 2-9.5          | Tr 20 x 2         | 45   | 76   | 122              | 26 Hex     | —   | 41   | 108  | 9.5                           | 31.6                | DA72-02-068A    |
| 2-9.5          | Tr 28 x 2         | 45   | 78   | 128              | 26 Hex     | —   | 41   | 115  | 9.5                           | 39.6                | DA73-02-068A    |
| 3-14           | Tr 20 x 2         | 60   | 90   | 136              | 32 Hex     | 44  | 44   | 120  | 11.6                          | 31.6                | DA74-01-068A    |
| 3-14           | Tr 28 x 2         | 55   | 87   | 138              | 32 Hex     | —   | 44   | 119  | 14                            | 39.6                | DA75-01-068A    |
| 3-14           | Tr 36 x 2         | 54   | 92   | 138              | 32 Hex     | —   | 44   | 144  | 14                            | 49.6                | DA76-01-068A    |
| 3-19           | Tr 28 x 2         | 75   | 107  | 158              | 38 Hex     | 51  | 51   | 144  | 14.7                          | 39.6                | DA77-018-068A   |
| 3-19           | Tr 36 x 2         | 44   | 73   | 160              | 38 Hex     | 51  | 51   | 145  | 19.5                          | 49.6                | DA78-018-068A   |
| 6-25.5         | Tr 36 x 2         | 84   | 120  | 188              | 68 $\phi$  | 61  | 61   | 169  | 24                            | 49.6                | DA79-04-068A    |
| 6-25.5         | Tr 48 x 2         | 73   | 120  | 196              | 68 $\phi$  | —   | 59   | 179  | 25.5                          | 66.6                | DA80-04-068A    |





## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

### JACOBS INTERNAL TAPER



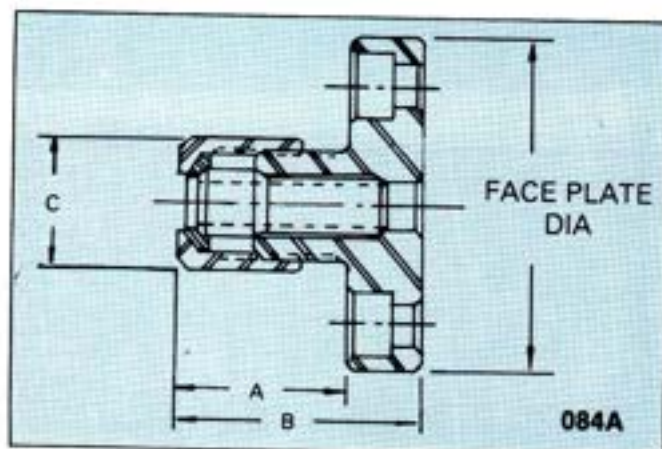
Taper to D.I.N. 238 Available on Request

| Chuck Capacity | Jacobs Taper No. | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | Limiting Depth for Tools Larger than listed in Column 'F'<br>D | Diameter<br>E | Maximum Diameter Thru Shank<br>F | LCS Tool Number |
|----------------|------------------|------------------|---------------------|---------------|--|---------------|----------------------------------|-----------------|
| 2-6            | 1                | 29.5             | 59                  | 18 Hex        | —  | 19            | 6                                | DA90-03-069     |
| 2-6            | 2                | 29.5             | 60.5                | 18 "          | —  | 24            | 6                                | DA91-03-069     |
| 2-9.5          | 2                | 33.3             | 63.5                | 26 "          | —  | 24            | 9.5                              | DA92-02-069     |
| 2-9.5          | 33               | 33.3             | 68                  | 26 "          | —  | 24            | 9.5                              | DA93-02-069     |
| 3-14           | 2                | 40               | 73                  | 32 "          | 47.5   | 24            | 12.5                             | DA94-01-069     |
| 3-14           | 33               | 40               | 81                  | 32 "          | 52   | 25            | 12.5                             | DA95-01-069     |
| 3-19           | 33               | 60.3             | 85                  | 38 "          | 55.5   | 25            | 14                               | DA96-01B-069    |

Other Shank Diameters and Length are manufactured on request.

## DOUBLE ANGLE COLLET CHUCKS '09 MODEL

### FACE PLATE MOUNTED



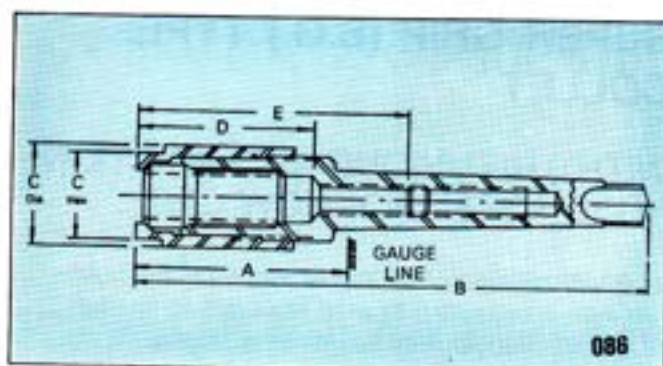
| Chuck Capacity | Faceplate Diameter | 4 — Holes   |                      | Head Length<br>A | Overall Length<br>B | Lock Nut<br>C | LCS Tool Number |
|----------------|--------------------|-------------|----------------------|------------------|---------------------|---------------|-----------------|
|                |                    | Bolt Circle | Soc. Head Cap. Screw |                  |                     |               |                 |
| 2-6            | 98                 | 70          | M 10                 | 30               | 49.0                | 18 Hex        | DA97-03-084A    |
| 2-9.5          | 98                 | 70          | M 12                 | 36               | 55.0                | 26 "          | DA98-02-084A    |
| 3-14           | 98                 | 70          | M 12                 | 32               | 51.0                | 32 "          | DA99-01-084A    |
| 3-19           | 98                 | 70          | M 12                 | 42               | 61.0                | 38 "          | DA100-01B-084A  |
| 6-25.5         | 98                 | 70          | M 12                 | 43.5             | 63.0                | 68 $\phi$     | DA101-04-084A   |

Other Shank Diameters and Length are manufactured on request.



# DOUBLE ANGLE COLLET CHUCKS '03 MODEL

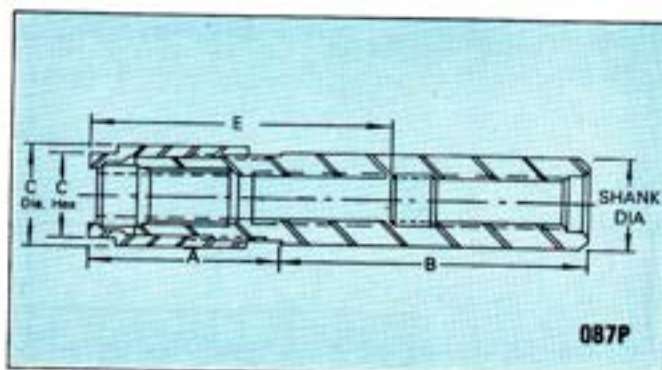
MORSE TAPER SHANKS



| Chuck Capacity | Morse Taper No. | Head Length A | Overall Length B | Lock Nut C |      | Max. Depth for Tools larger than listed in Column 'F' D | E    |      | Maximum Diameter Thru Shank F | LCS Tool Number |
|----------------|-----------------|---------------|------------------|------------|------|---|------|------|-------------------------------|-----------------|
|                |                 |               |                  | Hex        | Die  |   | Min. | Max. |                               |                 |
| 2-6            | 1               | 36.5          | 98.4             | 13         | 14.3 | 30.2  | 31.7 | 69.8 | 5.1                           | DA1-03-086      |
| 2-6            | 2               | 36.5          | 111              | 13         | 14.3 | 30.2  | 31.7 | 79.3 | 5.1                           | DA2-03-086      |
| 2-8.5          | 2               | 44.5          | 119              | 18         | 20.7 | 35.7  | 36.5 | 85.7 | 8.3                           | DA3-02-086      |

# DOUBLE ANGLE COLLET CHUCKS '03 MODEL

TOOL EXTENSIONS



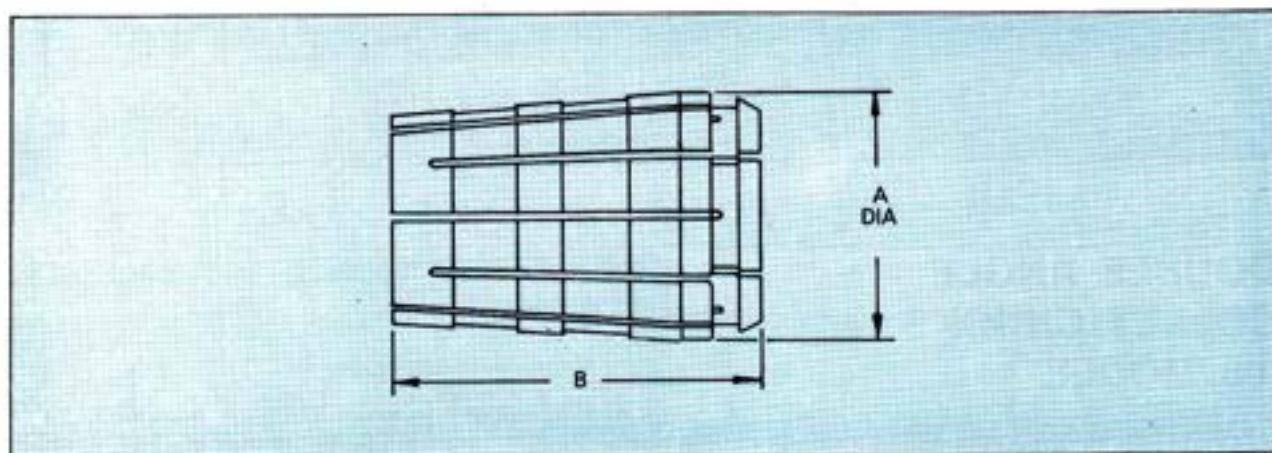
| Chuck Capacity | Shank Diameter | Head Length A | Shank Length B | Lock Nut C |      | E    |      | Maximum Diameter Thru Shank F | LCS Tool Number |
|----------------|----------------|---------------|----------------|------------|------|------|------|-------------------------------|-----------------|
|                |                |               |                | Hex        | Da.  | Min. | Max. |                               |                 |
| 2-6            | 12.5           | 33            | 76             | 13         | 14.3 | 34   | 96   | 6.3                           | DA4-03-087P     |
| 2-6            | 12.5           | 33            | 140            | 13         | 14.3 | 34   | 88   | 6.3                           | DA5-03-087P     |
| 2-9.5          | 20             | 41            | 76             | 18         | 20.7 | 41   | 104  | 9.6                           | DA6-02-087P     |
| 2-9.5          | 20             | 41            | 140            | 18         | 20.7 | 41   | 137  | 9.6                           | DA7-02-087P     |
| 3-14           | 25             | 46            | 76             | 22         | 27.0 | 46   | 107  | 14.3                          | DA8-01-087P     |
| 3-14           | 25             | 46            | 140            | 22         | 27.0 | 46   | 171  | 14.3                          | DA9-01-087P     |
| 3-19           | 30             | 46            | 140            | 30         | 36.5 | 50   | 171  | 19.5                          | DA10-01B-087P   |
| 3-19           | 30             | 46            | 203            | 30         | 36.5 | 50   | 182  | 19.5                          | DA11-01B-087P   |
| 6-25.5         | 40             | 61            | 140            | 46         | 49   | 61   | 182  | 25.5                          | DA12-04-087P    |
| 6-25.5         | 40             | 61            | 203            | 46         | 49   | 61   | 245  | 25.5                          | DA13-04-087P    |



## SUPER GRIP (S.G.) TYPE COLLET

### WITH THE UNIQUE ANTI-FRICTION NOSE ASSEMBLY NOW GIVE :

- **Additional Grip:-** The torque applied to the nose-piece is converted to axial force with only negligible friction loss as the collet is closed.
- **Better Concentricity :-** The floating nose ring eliminates the collet twisting and compensates for angular errors in the threads, enabling the collet to close centrally around the tool, providing .015 mm T.I.R. at the collet nose.
- **Easier Tool Presetting :-** By use of the left hand back up screw positive support to the tool itself is achieved.
- **Ease of Operation :-** Closing torques and "break loose" forces are minimised.



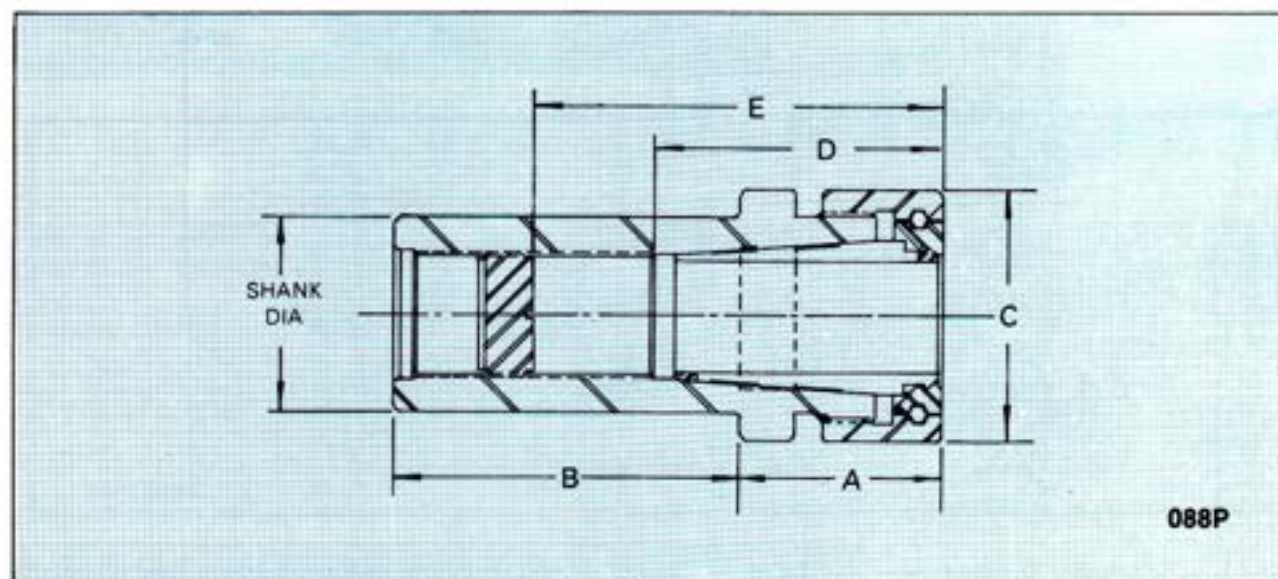
| MODEL  | Inches      | mm    | A     | B     |
|--------|-------------|-------|-------|-------|
| 075 SG | 1/8"-3/4"   | 3-19  | 27    | 46.8  |
| 01 SG  | 1/4"-1"     | 6-25  | 35.02 | 60.3  |
| 015 SG | 1/2"-1 1/2" | 12-38 | 50.82 | 76.2  |
| 02 SG  | 1"-2"       | 25-50 | 67.84 | 82.55 |

The unique design of the S. G. Collet permits a full 0.4 mm range of collapse. **They are not single purpose collets.** Accurate gripping on drill margins is routine. The front angle provides additional grip at the chuck nose.



## S.G. COLLET CHUCKS

### PARALLEL SHANKS



| Chuck Capacity | Shank Diameter | Head Length A | Shank Length B | Lock Nut C | Model Number | LCS Tool Number |
|----------------|----------------|---------------|----------------|------------|--------------|-----------------|
| 3-19           | 30             | 57            | 152            | 47.5 Hex   | 075 SG       | 1-075-088P      |
| 3-19           | 40             | 38            | 152            | 47.5 Hex   | 075 SG       | 2-075-088P      |
| 6-25.5         | 30             | 79            | 152            | 63 Ø       | 01 SG        | 3-01-088P       |
| 6-25.5         | 40             | 63            | 152            | 63 Ø       | 01 SG        | 4-01-088P       |
| 6-25.5         | 50             | 63            | 152            | 63 Ø       | 01 SG        | 5-01-088P       |
| 12.5-38        | 40             | 94            | 203            | 89 Ø       | 015 SG       | 6-015-088P      |
| 12.5-38        | 50             | 94            | 203            | 89 Ø       | 015 SG       | 7-015-088P      |
| 12.5-38        | 60             | 70            | 203            | 89 Ø       | 015 SG       | 8-015-088P      |
| 12.5-38        | 70             | 70            | 203            | 89 Ø       | 015 SG       | 9-015-088P      |
| 12.5-38        | 80             | 70            | 203            | 89 Ø       | 015 SG       | 10-015-088P     |
| 25.5-50.5      | 70             | 76            | 203            | 104 Ø      | 02 SG        | 11-02-088P      |
| 25.5-50.5      | 80             | 76            | 203            | 104 Ø      | 02 SG        | 12-02-088P      |

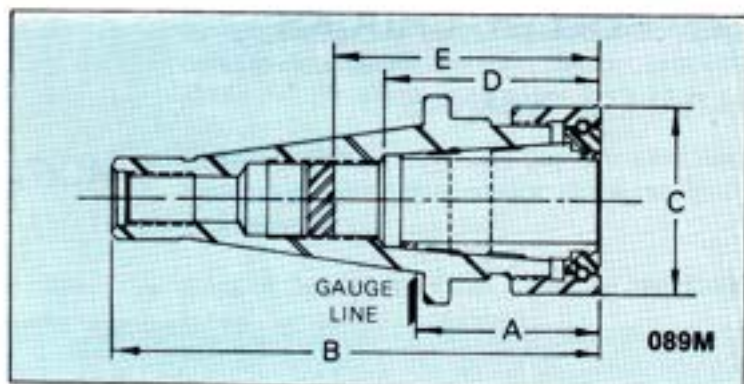
Other Shank Diameters and Length are manufactured on request.





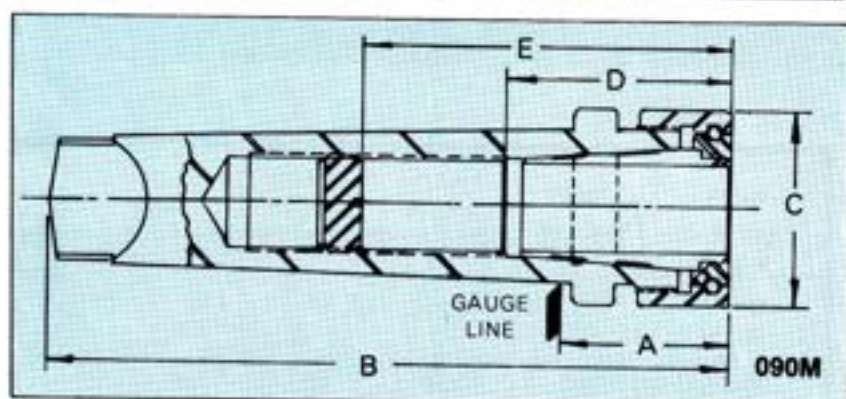
## S.G. COLLET CHUCKS

### I.S.O. SHANKS



| Chuck Capacity | ISO Taper Number | Head Length A | Overall Length B | Lock Nut C    | Model Number | LCS Tool Number |
|----------------|------------------|---------------|------------------|---------------|--------------|-----------------|
| 3-19           | 30               | 58.0          | 126              | 47.5 Hex      | 075 SG       | 22-075-089M     |
| 3-19           | 40               | 48.0          | 141              | 47.5 Hex      | 075 SG       | 23-075-089M     |
| 6-25.5         | 40               | 74.5          | 165              | 63 $\square$  | 01 SG        | 24-01-089M      |
| 6-25.5         | 50               | 61.0          | 188              | 63 $\square$  | 01 SG        | 25-01-089M      |
| 12.5-38.0      | 40               | 114.5         | 210              | 89 $\square$  | 015 SG       | 26-015-089M     |
| 12.5-38.0      | 50               | 72.0          | 200              | 89 $\square$  | 015 SG       | 27-015-089M     |
| 25.5-50.5      | 50               | 102.0         | 229              | 104 $\square$ | 02 SG        | 28-02-089M      |

## MORSE TAPER SHANKS



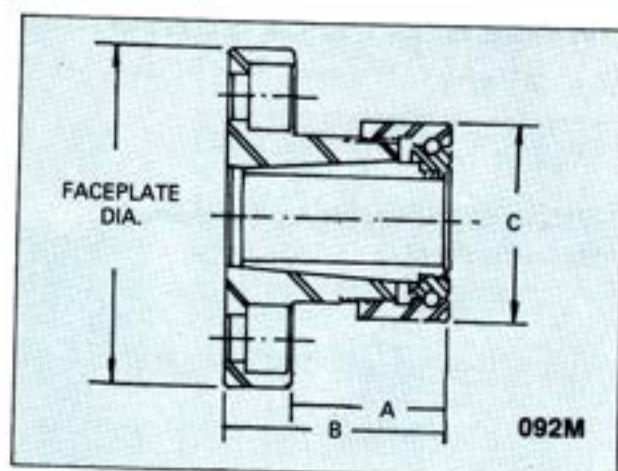
| Chuck Capacity | Morse Taper Number | Head Length A | Overall Length B | Lock Nut C    | Model Number | LCS Tool Number |
|----------------|--------------------|---------------|------------------|---------------|--------------|-----------------|
| 3-19           | 3                  | 60            | 154              | 47.5 Hex      | 075 SG       | 29-075-090M     |
| 6-25.5         | 3                  | 80            | 173              | 63 $\square$  | 01 SG        | 30-01-090M      |
| 6-25.5         | 4                  | 80            | 197              | 63 $\square$  | 01 SG        | 31-01-090M      |
| 12.5-38        | 4                  | 98            | 216              | 89 $\square$  | 015 SG       | 32-015-090M     |
| 12.5-38        | 5                  | 98            | 248              | 89 $\square$  | 015 SG       | 33-015-090M     |
| 25.5-50.5      | 5                  | 110           | 259              | 104 $\square$ | 02 SG        | 34-02-090M      |

Other Shank diameters and Length are manufactured on request.



## S.G. COLLET CHUCKS

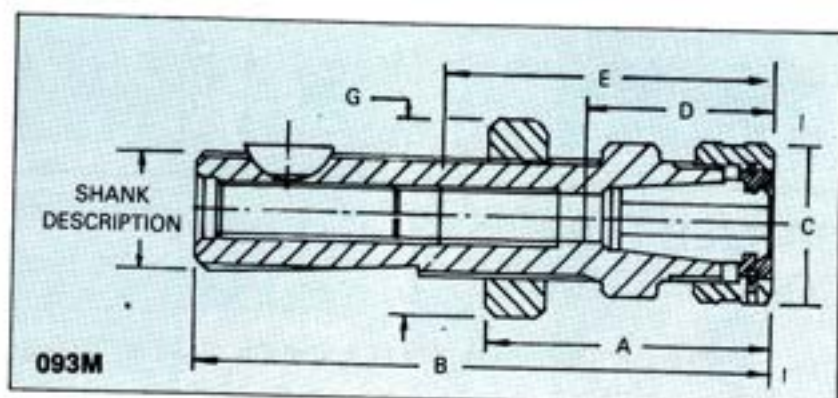
### FACEPLATE MOUNTED



| Chuck Capacity | Faceplate Diameter | 4 Holes     |                     | A<br>Head Length | B<br>Overall Length | C<br>Locknut | Model Number | LCS Tool Number |
|----------------|--------------------|-------------|---------------------|------------------|---------------------|--------------|--------------|-----------------|
|                |                    | Bolt Circle | Soc. Head Cap Screw |                  |                     |              |              |                 |
| 3.0-19.0       | 98.4               | 69.85       | M 12                | 39.68            | 58.7                | 48 HEX       | 075 SG       | 42-075-092 M    |
| 6.0-25.0       | 98.4               | 69.85       | M 12                | 55.56            | 74.6                | 63 Dia       | 01 SG        | 43-01-092 M     |
| 12.0-38.0      | 149.2              | 101.60      | M 12                | 57.15            | 82.5                | 89 Dia       | 015 SG       | 44-015-092 M    |
| 25.0-50.0      | 212.7              | 165.10      | M 16                | 53.97            | 88.9                | 108 Dia      | 02 SG        | 45-02-092 M     |

## S.G. COLLET CHUCKS

### AUTOMOTIVE SHANKS



| Chuck Capacity | Shank Description | A    |      | B<br>Overall Length | C<br>Lock nut | D<br>Limiting Depth for Tools Larger than listed in Column 'F' | E    |      | F<br>Maximum Diameter Thru Shank | G<br>Nut Diameter | Model Number | LCS Tool Number |
|----------------|-------------------|------|------|---------------------|---------------|--|------|------|----------------------------------|-------------------|--------------|-----------------|
|                |                   | Min. | Max. |                     |               |  | Min. | Max. |                                  |                   |              |                 |
| 3.0-19.0       | Tr 28x2           | 70   | 102  | 153                 | 48 HEX        | 52.4   | 52.4 | 135  | 14.2                             | 39.6              | 075 SG       | 47-075-093 M    |
| 3.0-19.0       | Tr 36x2           | 48   | 87   | 152                 | 48 HEX        | Unlimited  | 52.4 | 138  | 19.0                             | 49.6              | 075 SG       | 49-075-093 M    |
| 3.0-19.0       | Tr 48x2           | 62   | 113  | 189                 | 48 HEX        | Unlimited  | 52.4 | 170  | 19.0                             | 66.6              | 075 SG       | 50-075-093 M    |
| 6.0-25.0       | Tr 36x2           | 82   | 121  | 190                 | 63 DIA        | 59.5   | 66.7 | 178  | 21.8                             | 49.6              | 01 SG        | 51-01-093 M     |
| 6.0-25.0       | Tr 48x2           | 58   | 109  | 186                 | 63 DIA        | Unlimited  | 66.7 | 165  | 25                               | 66.6              | 01 SG        | 52-01-093 M     |
| 12.0-38.0      | Tr 48x2           | 105  | 155  | 231                 | 89 DIA        | 82.0   | 82.0 | 214  | 32.5                             | 66.6              | 015 SG       | 53-015-093 M    |

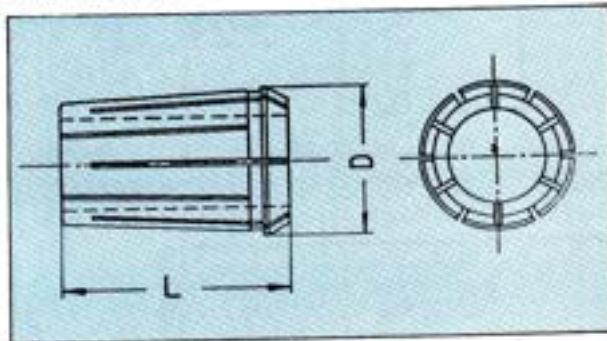
Other Shank diameters and length are manufactured on request.





## ORTLIEB TYPE COLLETS

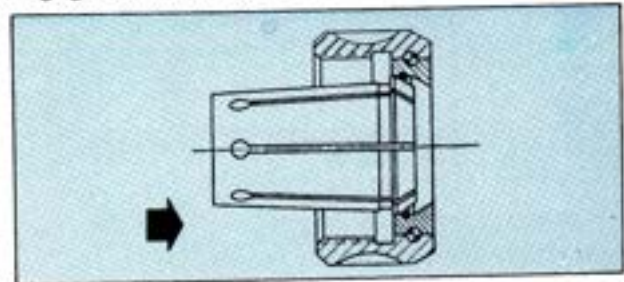
Double-slitted collets for short-gripping drills on the flutes



| For chuck size | D    | L  | Capacity mm | Gripping tolerance mm |
|----------------|------|----|-------------|-----------------------|
| 2-16           | 25,5 | 40 | 5-16        | -0,5                  |
| 2-25           | 35,5 | 52 | 6-25        | -0,5                  |
| 4-32           | 44   | 60 | 10-32       | -0,5                  |
| 6-40           | 52,5 | 68 | 12-40       | -0,5                  |

Inserting the collet

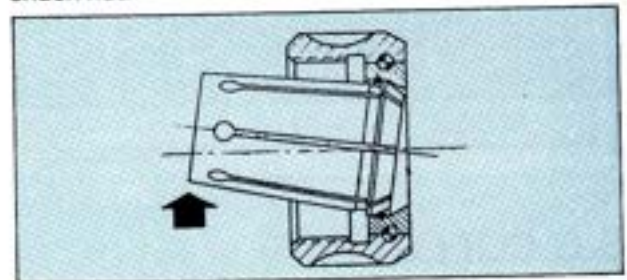
Push the collet lightly into the nut until the snap ring engages with the groove of the collet. In order to



prevent disengagement of the snap ring and consequent sticking of the collet in the chuck body, do not tighten the nut unless a tool is inserted.

Changing the collet

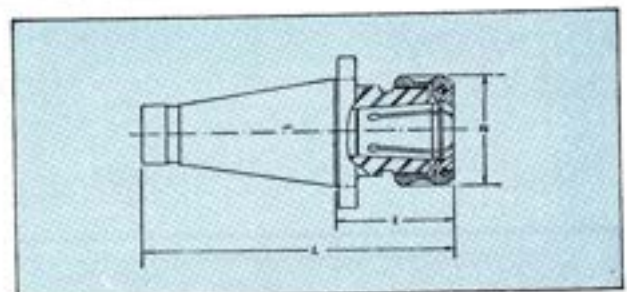
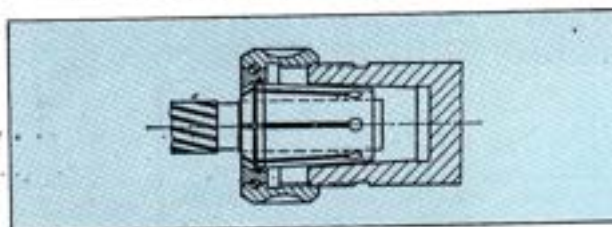
Open the chuck nut with the spanner wrench and remove it from the chuck body. A light radial push at the rear end of the collet will separate it from the chuck nut.



## ORTLIEB TYPE COLLET CHUCKS

THIS SPECIALLY DESIGNED COLLET CHUCK OFFERS:-

- Easy lock and ejection of the collet.
- More protection to the collet, as the specially designed collar mounted with ball-bearing eliminates friction during locking.



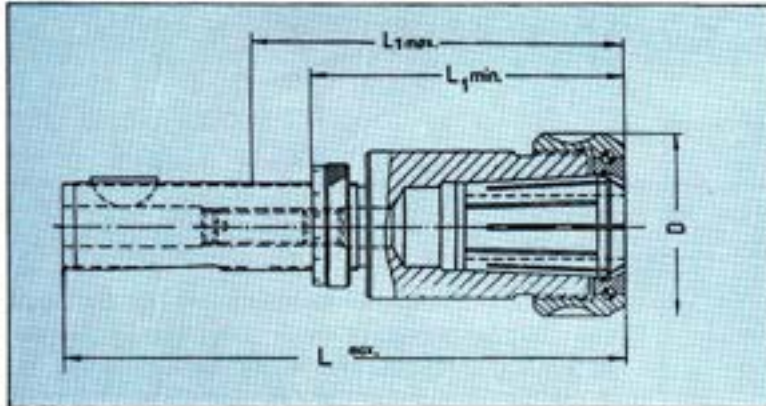
| Tool Capacity | Taper No. | L   | /  | D   | LCS Tool No. |
|---------------|-----------|-----|----|-----|--------------|
| 3-20          | 30        | 127 | 58 | 53  | C19-056      |
| 3-25          | 40        | 157 | 64 | 60  | C20-056      |
| 5-32          | 50        | 199 | 72 | 72  | C21-056      |
| 6-40          | 50        | 207 | 80 | 85  | C22-056      |
| 8-50          | 50        | 215 | 88 | 100 | C23-056      |

THESE CHUCKS ARE ALSO AVAILABLE IN TAPER SHANK



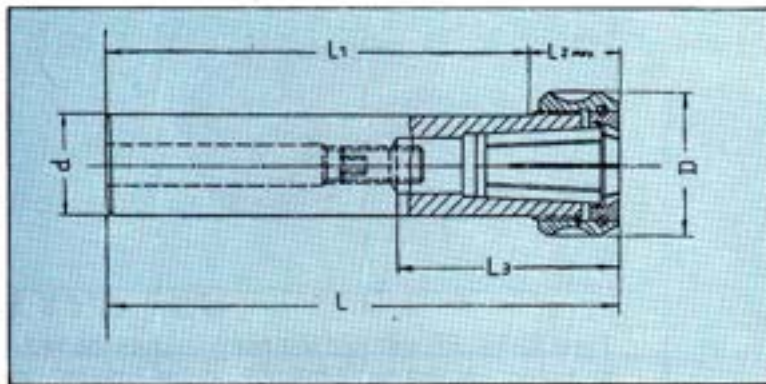
## ORTLIEB TYPE COLLET CHUCKS

### Automotive shanks



| Capacity mm | Autom. shank | D  | L Max. | L1 min. | L1 max. |
|-------------|--------------|----|--------|---------|---------|
| 2-16        | Tr. 28       | 43 | 154    | 67      | 99      |
| 2-25        | Tr. 28       | 60 | 186    | 100     | 134     |
| 2-16        | Tr. 36       | 43 | 170    | 63      | 102     |
| 2-25        | Tr. 36       | 60 | 208    | 100     | 139     |
| 2-25        | Tr. 48       | 60 | 211    | 78      | 132     |
| 4-32        | Tr. 48       | 72 | 229    | 100     | 154     |

### Cylindrical shanks



| Capacity mm | Shank dia. | D  | L   | L1  | L2 max. | L3 |
|-------------|------------|----|-----|-----|---------|----|
| 1- 6        | 16         | 18 | 159 | 140 | 19      | 46 |
| 1-6         | 20         | 18 | 159 | 140 | 19      | 46 |
| 1-10        | 20         | 30 | 164 | 145 | 19      | 57 |
| 1-10        | 25         | 30 | 169 | 145 | 24      | 57 |
| 5-16        | 25         | 43 | 208 | 150 | 58      | 86 |
| 5-16        | 30         | 43 | 208 | 150 | 58      | 86 |
| 6-25        | 50         | 60 | 195 | 155 | 40      | 91 |
| 6-25        | 60         | 60 | 195 | 155 | 40      | 91 |

SPECIAL SHANKS CAN ALSO BE SUPPLIED ON REQUEST.



## SCHAUBLIN TYPE COLLETS

### TYPES E & ES:-

These collets have been developed to hold the shanks of tools and are not suitable for holding bars or components during machining.


**E**

**Type E:-** Is used successfully for many years to hold the shanks of tools with the same nominal diameter (tolerance h 12). It is mainly used to hold end mills.


**ES**

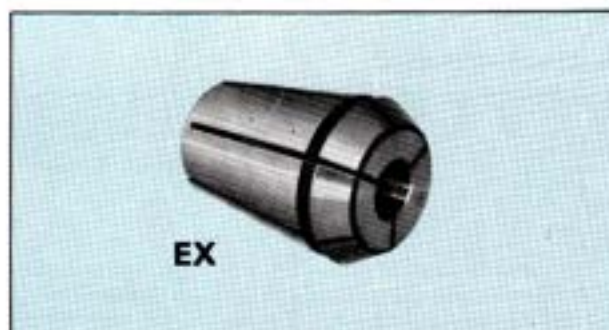
**Type ES:-** Is a further development of the type E. The increased flexibility, which is obtained by a much larger number of slits, permits a considerable variation from the nominal diameter of the collet. The following variations are obtainable:

Nominal diameter minus 0.5 mm for bores of 3mm and below,  
 Nominal diameter minus 1.0mm for bores of 4mm and above.

The collets type E and ES are interchangeable.

### TYPES EX & ESX

Type EX & ESX:- Have been developed to facilitate the extraction of the collets.


**EX**

**Type EX (=E with self releasing -x-)** has the same clamping advantage of the E collet type, i.e., limited at gripping of nominal diameter (tolerance h 12), but in addition is automatically released when the collet nut is unscrewed.


**ESX**

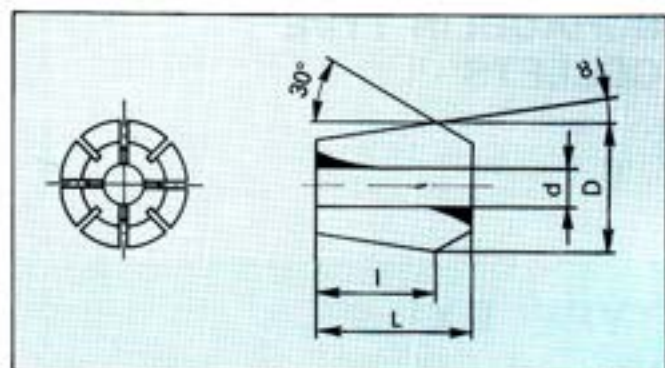
**Type ESX (=ES with self releasing -x-)** has the same clamping advantage of the ES collet type, i.e., increased clamping capacity at 1.0mm resp. 0.5mm for diameter 3mm and below, with the self releasing advantage as for EX type collet. The collets type EX and ESX can only be used with the appropriate FX-collet nut.

For existing collet holders it is only necessary to change the collet nut, whereas the normal collet holder can be used for the 4 executions (E, ES, EX, ESX)

**Note:-** In all cases where a collet of group E is foreseen, it is possible to use one of the 4 existing models (E, ES, EX, ESX). For the types EX and ESX, the nut in execution EX is necessary.

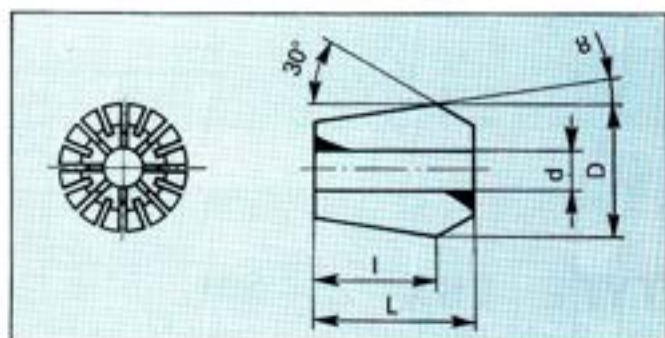


## SCHAUBLIN TYPE COLLETS



### TYPE E

| Collet Type | D $\varnothing$ | L  | l    | $\alpha^\circ$ | Std. bore dia | In steps |
|-------------|-----------------|----|------|----------------|---------------|----------|
| E16         | 16              | 27 | 21.4 | 8°             | 1.5 - 10      | 1.0      |
| E20         | 20              | 31 | 24.2 | 8°             | 1.5 - 13      | 1.0      |
| E25         | 25              | 35 | 27   | 8°             | 1.5 - 16      | 1.0      |
| E32         | 32              | 40 | 30.8 | 8°             | 2.5 - 20      | 1.0      |
| E40         | 40              | 46 | 34.4 | 8°             | 3.0 - 26      | 1.0      |

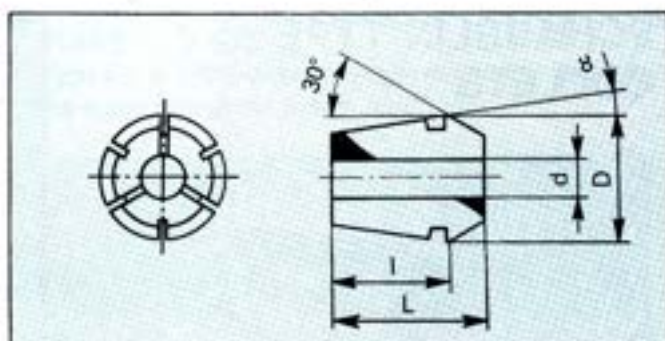


### TYPE ES

| Collet Type | D $\varnothing$ | L    | l    | $\alpha^\circ$ | Std. bore dia           | In steps   |
|-------------|-----------------|------|------|----------------|-------------------------|------------|
| ES16        | 17              | 27   | 21   | 8°             | 1.5 - 3.0<br>4.0 - 10.0 | 0.5<br>1.0 |
| ES20        | 21              | 31   | 24   | 8°             | 1.5 - 3.0<br>4.0 - 13.0 | 0.5<br>1.0 |
| ES25        | 26              | 35   | 27   | 8°             | 1.5 - 3.0<br>4.0 - 16.0 | 0.5<br>1.0 |
| ES32        | 33              | 40   | 31   | 8°             | 2.5 - 3.0<br>4.0 - 20.0 | 0.5<br>1.0 |
| ES40        | 41              | 46   | 35   | 8°             | 3.0 - 26.0              | 1.0        |
| ES60        | 61              | 59.5 | 45.5 | 10°            | 10.0 - 40.0             | 1.0        |
| ES90        | 91              | 90   | 68   | 10°            | 20.0 - 60.0             | 1.0        |

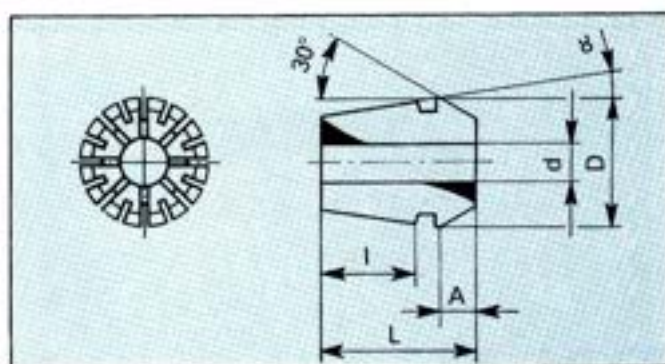


## SCHAUBLIN TYPE COLLETS



### TYPE EX

| Collet Type | Collet D $\varnothing$ | L    | l    | $\alpha^\circ$ | Std. bore dia | In steps |
|-------------|------------------------|------|------|----------------|---------------|----------|
| EX16        | 16.8                   | 27.5 | 23   | 8°             | 1.5 - 10      | 1.0      |
| EX20        | 20.85                  | 32   | 27   | 8°             | 1.5 - 13      | 1.0      |
| EX25        | 25.85                  | 34   | 28.5 | 8°             | 1.5 - 16      | 1.0      |
| EX32        | 32.9                   | 40   | 34   | 8°             | 2.5 - 20      | 1.0      |
| EX40        | 40.95                  | 46   | 39   | 8°             | 3.0 - 26      | 1.0      |



### TYPE ESX

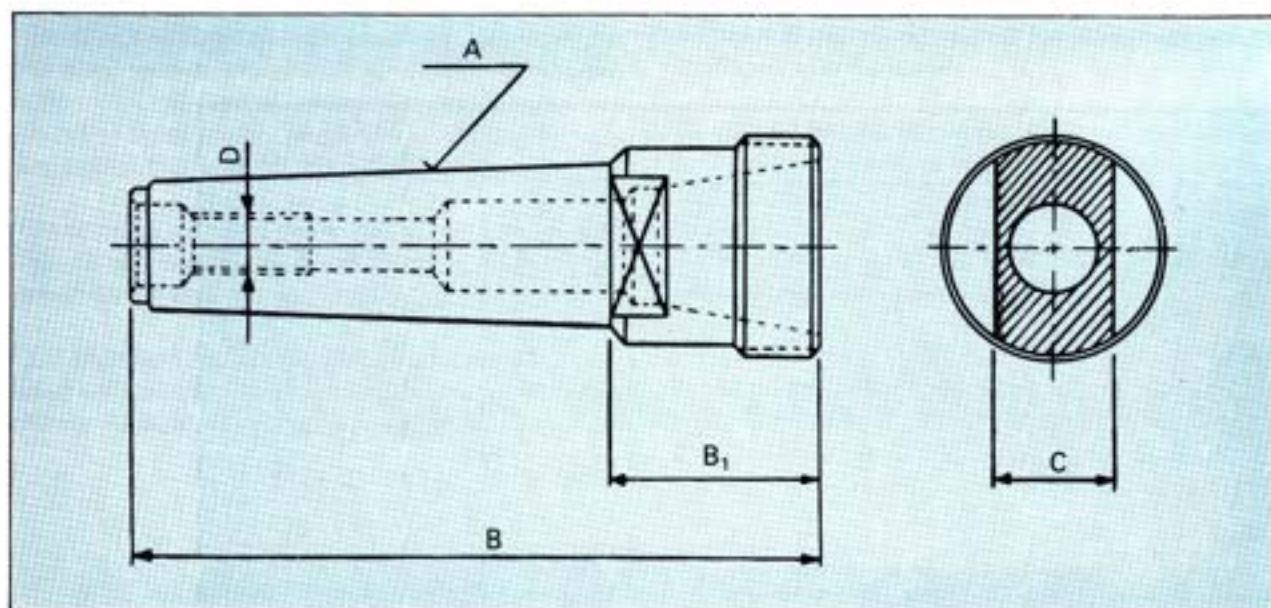
| Collet Type | D $\varnothing$ | L  | A    | l    | $\alpha^\circ$ | Std. bore dia           | In steps   |
|-------------|-----------------|----|------|------|----------------|-------------------------|------------|
| ESX16       | 17              | 28 | 4    | 21   | 8°             | 1.5 - 3.0<br>4.0 - 10.0 | 0.5<br>1.0 |
| ESX20       | 21              | 32 | 4.5  | 24.3 | 8°             | 1.5 - 3.0<br>4.0 - 13.0 | 0.5<br>1.0 |
| ESX25       | 26              | 34 | 5    | 25.7 | 8°             | 1.5 - 3.0<br>4.0 - 16.0 | 0.5<br>1.0 |
| ESX32       | 33              | 40 | 5.5  | 31.1 | 8°             | 2.5 - 3.0<br>4.0 - 20.0 | 0.5<br>1.0 |
| ESX40       | 41              | 46 | 6.5  | 35.9 | 8°             | 3.0 - 26.0              | 1.0        |
| ESX60       | 61              | 60 | 10   | 46.4 | 10°            | 10.0 - 40.0             | 1.0        |
| ESX90       | 91              | 89 | 15.5 | 69.6 | 10°            | 20.0 - 60.0             | 1.0        |

The same chuck can be used with E, ES, EX and ESX collets. Only in the case of EX and ESX Collet the nut has to be changed.



## SCHAUBLIN TYPE COLLET CHUCKS

WITH MORSE TAPER SHANKS



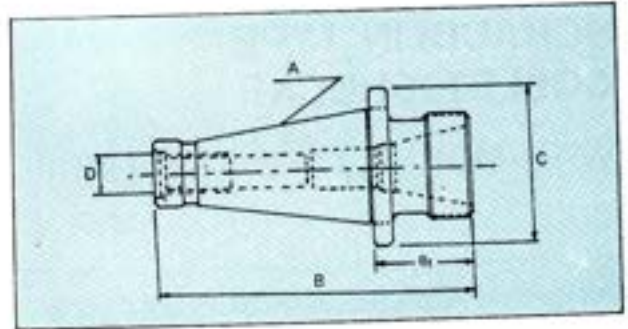
|      | Type     | B   | B <sub>1</sub> | C  | D     | LCS<br>Tool Number |
|------|----------|-----|----------------|----|-------|--------------------|
| MT-1 | E16/ES16 | 84  | 27             | 17 | M6    | SC1 - 16 - 057 - M |
| MT-2 | E16/ES16 | 95  | 31             | —  | M10   | SC2 - 16 - 057 - M |
| MT-2 | E25/ES25 | 104 | 36             | 24 | M10   | SC2 - 25 - 057 - M |
| MT-2 | E25/ES25 | 104 | 36             | 24 | W3/8" | SC2 - 25 - 057 - I |
| MT-3 | E25/ES25 | 133 | 48             | 24 | M12   | SC3 - 25 - 057 - M |
| MT-3 | E25/ES25 | 133 | 48             | 24 | W1/2" | SC3 - 25 - 057 - I |
| MT-3 | E32/ES32 | 138 | 53             | 24 | M12   | SC3 - 32 - 057 - M |
| MT-3 | E32/ES32 | 138 | 53             | 24 | W1/2" | SC3 - 32 - 057 - I |
| MT-4 | E32/ES32 | 170 | 62             | 32 | M14   | SC4 - 32 - 057 - M |
| MT-4 | E32/ES32 | 170 | 62             | 32 | W5/8" | SC4 - 32 - 057 - I |
| MT-4 | E40/ES40 | 170 | 62             | 32 | M14   | SC4 - 40 - 057 - M |
| MT-4 | E40/ES40 | 170 | 62             | 32 | W5/8" | SC4 - 40 - 057 - I |
| MT-5 | E40/ES40 | 185 | 49             | 45 | M18   | SC5 - 40 - 057 - M |
| MT-5 | E40/ES40 | 185 | 49             | 45 | W3/4" | SC5 - 40 - 057 - I |





## SCHAUBLIN TYPE COLLET CHUCKS

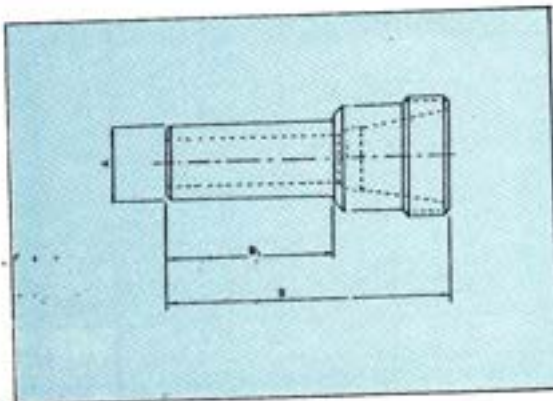
WITH ISO SHANKS



| A      | Type     | B   | B <sub>1</sub> | C  | D     | LCS Tool Number     |
|--------|----------|-----|----------------|----|-------|---------------------|
| ISO-30 | E25/ES25 | 97  | 27             | 43 | M12   | SC30 - 25 - 057 - M |
| ISO-30 | E32/ES32 | 106 | 36             | 43 | M12   | SC30 - 32 - 057 - M |
| ISO-30 | E32/ES32 | 106 | 36             | 43 | W1/2" | SC30 - 32 - 057 - I |
| ISO-40 | E25/ES25 | 122 | 27             | 60 | M16   | SC40 - 25 - 057 - M |
| ISO-40 | E25/ES25 | 122 | 27             | 60 | W5/8" | SC40 - 25 - 057 - I |
| ISO-40 | E32/ES32 | 126 | 31             | 60 | M16   | SC40 - 32 - 057 - M |
| ISO-40 | E32/ES32 | 126 | 31             | 60 | W5/8" | SC40 - 32 - 057 - I |
| ISO-40 | E40/ES40 | 127 | 32             | 60 | M16   | SC40 - 40 - 057 - M |
| ISO-40 | E40/ES40 | 127 | 32             | 60 | W5/8" | SC40 - 40 - 057 - I |
| ISO-50 | E40/ES40 | 164 | 34             | 96 | M24   | SC50 - 40 - 057 - M |
| ISO-50 | E40/ES40 | 164 | 34             | 96 | W1"   | SC50 - 40 - 057 - I |

## SCHAUBLIN TYPE COLLET CHUCKS

WITH PARALLEL SHANKS



| A     | Type     | B  | B <sub>1</sub> | LCS Tool Number  |
|-------|----------|----|----------------|------------------|
| 14    | E16/ES16 | 48 | 23             | SCP1 - 16 - 057  |
| 15.87 | E16/ES16 | 48 | 23             | SCP2 - 16 - 057  |
| 19.05 | E16/ES16 | 46 | 36             | SCP3 - 16 - 057  |
| 19.05 | E25/ES25 | 70 | 34             | SCP4 - 25 - 057  |
| 20    | E16/ES16 | 46 | 36             | SCP5 - 16 - 057  |
| 20    | E20/ES20 | 55 | 30             | SCP6 - 20 - 057  |
| 20    | E25/ES25 | 70 | 34             | SCP7 - 25 - 057  |
| 20    | E32/ES32 | 74 | 33             | SCP8 - 32 - 057  |
| 25    | E25/ES25 | 72 | 36             | SCP9 - 25 - 057  |
| 25    | E32/ES32 | 88 | 47             | SCP10 - 32 - 057 |
| 25.4  | E16/ES16 | 62 | 48             | SCP11 - 16 - 057 |
| 25.4  | E25/ES25 | 72 | 36             | SCP12 - 25 - 057 |
| 25.4  | E32/ES32 | 88 | 47             | SCP13 - 32 - 057 |
| 25.4  | E40/ES40 | 94 | 45             | SCP14 - 40 - 057 |



## RIGITA AUTOLOCK MILLING CHUCKS

### FOR THREADED TOOLS

#### THE RIGITA AUTOLOCK SYSTEM

Successful milling depends upon absolute rigidity of the cutter and workpiece. The unique selflocking action of LCS Rigita Autolock Chucks ensures that the cutter is held rigidly and the heavier the cut taken the tighter the grip on the cutter's shank.

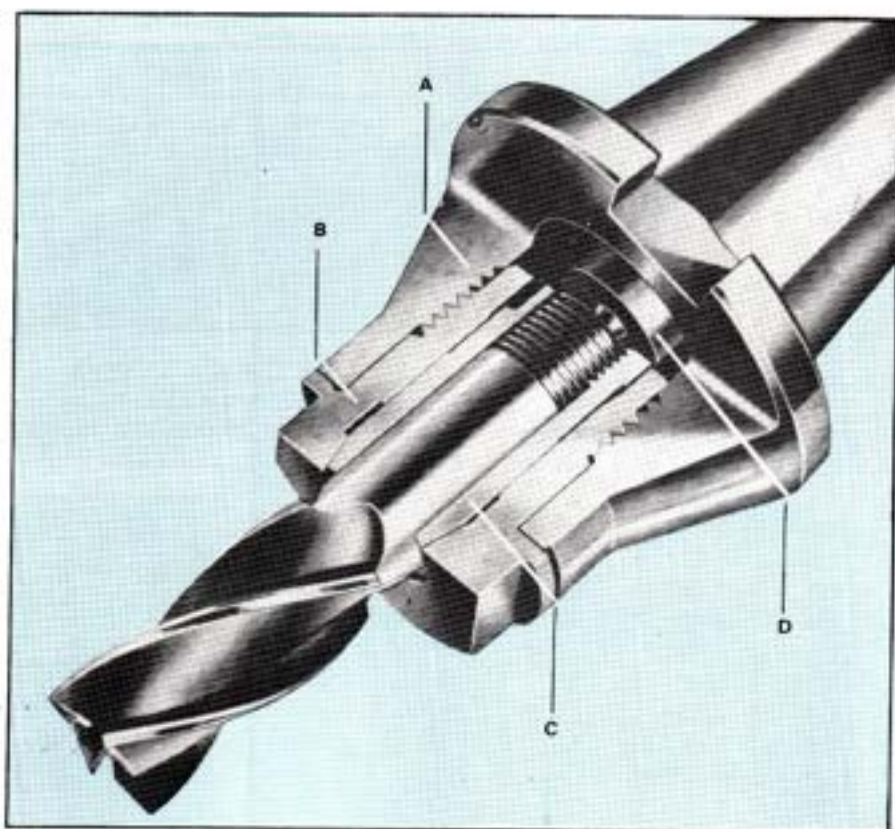
The result is a perfect drive to the cutter, there is no slip, no pull-out, no push back and no vibration between chuck and cutter.

LCS Standard Rigita Autolock Chucks are manufactured with a range of tapers to suit most milling machines. All Autolock Chucks are manufactured from

the finest quality materials, heat treated and finished to give you the best possible performance.

#### RIGITA AUTOLOCK MILLING CHUCK (ASSEMBLY INSTRUCTIONS)

1. Unscrew sleeve "B" from chuck body "A".
2. Insert appropriate collet "C" into sleeve bore, ensuring that the driving flats on the collet engage in the mating slot in the sleeve.
3. Insert sleeve and collet assembly into the chuck body and screw sleeve in until flange meets the face of the body.
4. The cutter should then be screwed into the collet until it tightens on the centre "D".
5. Take the Rigita Autolock spanner and give a final tighten to the sleeve. The chuck is now ready to take heavy cuts, release being effected by unscrewing the sleeve "B" with the spanner provided.







## RIGITA AUTOLOCK MILLING CHUCKS

FOR THREADED TOOLS

094

| Chuck Taper      | Tapping                          |                  |       |                                  | LCS<br>Tool No. |
|------------------|----------------------------------|------------------|-------|----------------------------------|-----------------|
|                  | Whit.                            | B.S.F.           | m.m.  | N.C.                             |                 |
| 2 Morse          | $\frac{3}{8}$ "                  | $\frac{5}{16}$ " | 10    | $\frac{3}{8}$ "                  | C43-094         |
| 3 Morse          | $\frac{1}{2}$ "                  | —                | 12    | $\frac{3}{8}$ "                  | C44-094         |
| 4 Morse          | $\frac{5}{8}$ "                  | —                | 14/16 | $\frac{1}{2}$ "                  | C45-094         |
| 5 Morse          | $\frac{3}{8}$ "/ $\frac{3}{4}$ " | —                | 20    | $\frac{5}{8}$ "                  | C46-094         |
| 30 International | $\frac{3}{8}$ "/ $\frac{1}{2}$ " | —                | 12    | $\frac{3}{8}$ "/ $\frac{1}{2}$ " | C47-094         |
| 40 International | $\frac{5}{8}$ "                  | —                | 14/16 | $\frac{5}{8}$ "                  | C48-094         |
| 50 International | 1"                               | —                | 24    | 1"                               | C49-094         |

### RIGITA SMALL AUTOLOCK CHUCK "S" TYPE

Capacity  $\frac{1}{16}$ " to  $\frac{3}{4}$ " Dia. (1.5 mm—20 mm)

Complete with  $\frac{1}{4}$ ",  $\frac{3}{8}$ ",  $\frac{1}{2}$ " and  $\frac{5}{8}$ " or 6, 10, 12 and 16 mm Collets, in a wooden box set.

095

| Chuck Taper      | Tapping                          |       |                                  | LCS<br>Tool No. |
|------------------|----------------------------------|-------|----------------------------------|-----------------|
|                  | Whit.                            | m.m.  | N.C.                             |                 |
| 4 Morse          | $\frac{5}{8}$ "                  | 14/16 | $\frac{1}{2}$ "                  | C50-095         |
| 5 Morse          | $\frac{5}{8}$ "/ $\frac{3}{4}$ " | 20    | $\frac{5}{8}$ "                  | C51-095         |
| 30 International | $\frac{3}{8}$ "/ $\frac{1}{2}$ " | 12    | $\frac{3}{8}$ "/ $\frac{1}{2}$ " | C52-095         |
| 40 International | $\frac{5}{8}$ "                  | 14/16 | $\frac{5}{8}$ "                  | C53-095         |
| 50 International | 1"                               | 24    | 1"                               | C54-095         |

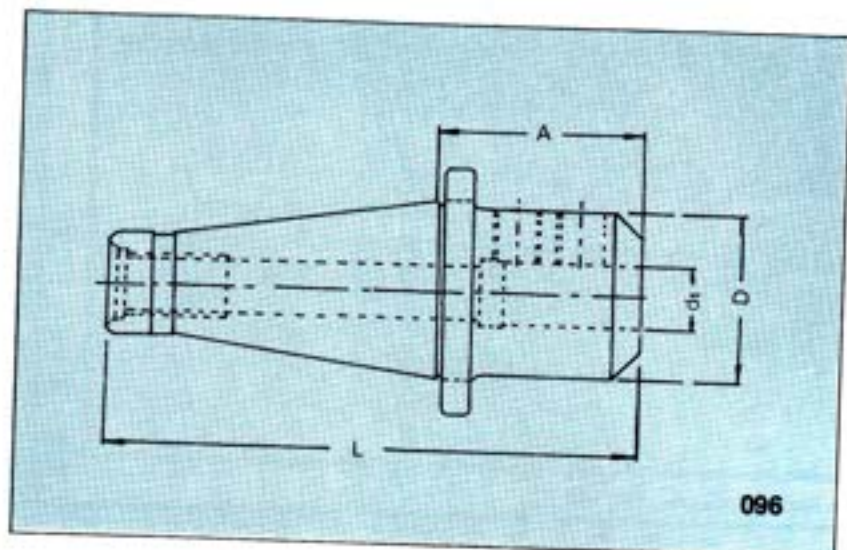
### RIGITA LARGE AUTOLOCK CHUCK 'L' TYPE

Capacity  $\frac{13}{16}$ " to 2" Dia. (22 mm—51 mm)

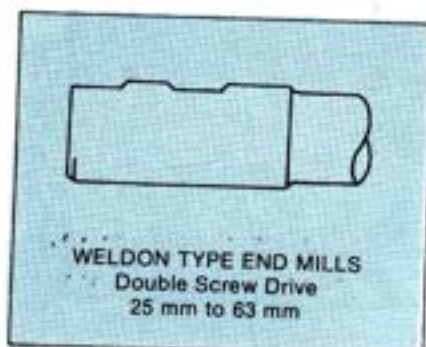
Complete with 1" and 1.1/4" or 25 mm and 32 mm Collets, in a wooden box set.



## WELDON TYPE MILLING CHUCKS



### DETAILS OF WELDON SHANK END MILLS



| I.S.O.<br>Taper<br>Number | Tool<br>Capacity<br>'d' | Diameter<br>'D' | Tool<br>Length<br>'L' | 'A' | LCS<br>Tool<br>Number |
|---------------------------|-------------------------|-----------------|-----------------------|-----|-----------------------|
| 30                        | 6                       | 25              | 108.4                 | 40  | C55-096               |
| 30                        | 8                       | 28              | 108.4                 | 40  | C56-096               |
| 30                        | 10                      | 35              | 108.4                 | 40  | C57-096               |
| 30                        | 12                      | 42              | 108.4                 | 40  | C58-096               |
| 30                        | 16                      | 48              | 108.4                 | 40  | C59-096               |
| 30                        | 20                      | 52              | 131.4                 | 63  | C60-096               |
| 40                        | 6                       | 25              | 143.4                 | 50  | C61-096               |
| 40                        | 8                       | 28              | 143.4                 | 50  | C62-096               |
| 40                        | 10                      | 35              | 143.4                 | 50  | C63-096               |
| 40                        | 12                      | 42              | 143.4                 | 50  | C64-096               |
| 40                        | 16                      | 48              | 143.4                 | 50  | C65-096               |
| 40                        | 20                      | 52              | 156.4                 | 63  | C66-096               |
| 40                        | 25                      | 65              | 173.4                 | 80  | C67-096               |
| 40                        | 32                      | 72              | 173.4                 | 80  | C68-096               |
| 50                        | 6                       | 25              | 189.8                 | 63  | C69-096               |
| 50                        | 8                       | 28              | 189.8                 | 63  | C70-096               |
| 50                        | 10                      | 35              | 189.8                 | 63  | C71-096               |
| 50                        | 12                      | 42              | 189.8                 | 63  | C72-096               |
| 50                        | 16                      | 48              | 189.8                 | 63  | C73-096               |
| 50                        | 20                      | 52              | 189.8                 | 63  | C74-096               |
| 50                        | 25                      | 65              | 206.8                 | 80  | C75-096               |
| 50                        | 32                      | 72              | 206.8                 | 80  | C76-096               |

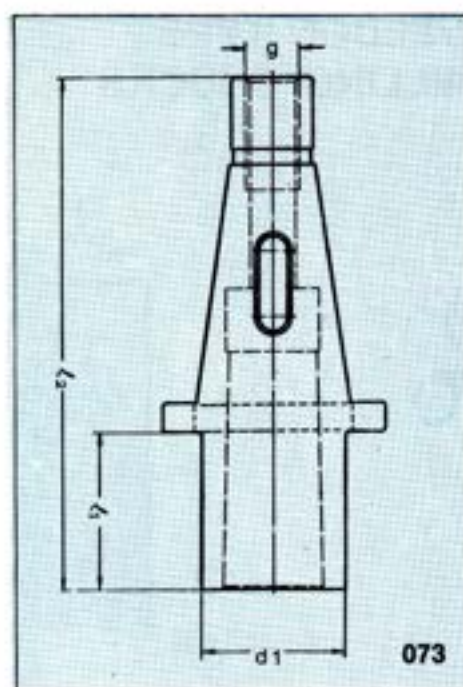




## MILLING ADAPTORS

IS 5927

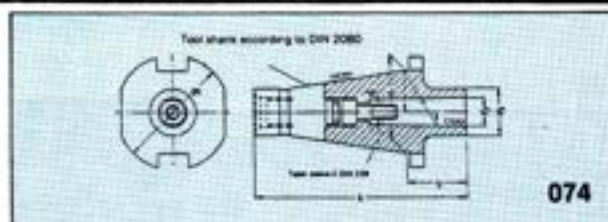
| ISO X MT | $d_1$ | $l_2$ | $l_1$ | g   |
|----------|-------|-------|-------|-----|
| 30 X 1   | 20    | 118   | 40    | M12 |
| 30 X 2   | 30    | 118   | 40    |     |
| 40 X 1   | 20    | 135   | 30    | M16 |
| 40 X 2   | 30    | 150   | 45    |     |
| 40 X 3   | 36    | 166   | 61    |     |
| 30 X 4   | 48    | 190   | 85    | M24 |
| 50 X 2   | 30    | 170   | 28    |     |
| 50 X 3   | 36    | 186   | 44    |     |
| 50 X 4   | 48    | 210   | 68    |     |
| 50 X 5   | 63    | 235   | 93    |     |



Ordering Example : 073 -30 X 1

## MILLING ADAPTORS

DIN 6364 - IS 5927 - 1970

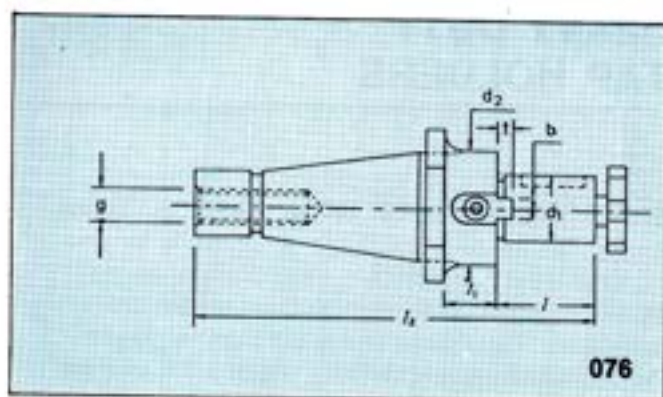


| Shank Quick release taper No | Sleeve Morse taper | $d_1$ | $d_2$  | $d_3$ | $d_4$ | $d_5$ | $l_1$ | $l_2$ | v     |
|------------------------------|--------------------|-------|--------|-------|-------|-------|-------|-------|-------|
| 30                           | 1                  | 31,75 | 12,065 | 25    | M6    | 50    | 118   | 50    | 0,006 |
|                              | 2                  |       | 17,780 | 32    | M10   |       | 118   | 50    |       |
| 40                           | 1                  | 44,45 | 12,065 | 25    | M6    | 63    | 143   | 50    | 0,008 |
|                              | 2                  |       | 17,780 | 32    | M10   |       | 143   | 50    |       |
|                              | 3                  |       | 23,825 | 40    | M12   |       | 153   | 60    |       |
| 50                           | 2                  | 69,85 | 17,780 | 32    | M10   | 97    | 187   | 60    | 0,01  |
|                              | 3                  |       | 23,825 | 40    | M12   |       | 192   | 65    |       |
|                              | 4                  |       | 31,267 | 60    | M16   |       | 192   | 65    |       |

Ordering Example : 074-30 X 1



## SHELL END MILL CUTTER HOLDER WITH KEY DRIVE

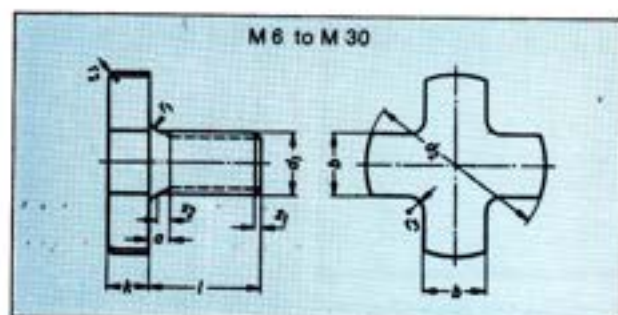


Use Key 3 X 3 X 8 for driving

| ISO Taper | d1<br>h6 | Overall Length $l_2$            |     |     | d2 | l  | Driving Key |     | Cutter Clamping Screw | g   |
|-----------|----------|---------------------------------|-----|-----|----|----|-------------|-----|-----------------------|-----|
|           |          | For Shoulder Length $l_1$<br>25 | 63  | 160 |    |    | b           | t   |                       |     |
| 30        | 13       | 115                             | 153 | 250 | 24 | 12 | —           | —   | M6                    | M12 |
|           | 16       | 120                             | 158 | 255 | 28 | 17 | 8           | 5   | M8                    |     |
|           | 22       | 122                             | 160 | 257 | 36 | 19 | 10          | 5.6 | M10                   |     |
|           | 27       | 124                             | 162 | 259 | 43 | 21 | 12          | 6.3 | M12                   |     |
|           | 32       | 127                             | 165 | 262 | 48 | 24 | 14          | 7   | M16                   |     |
| 40        | 16       | 145                             | 183 | 280 | 28 | 17 | 8           | 5   | M8                    | M16 |
|           | 22       | 147                             | 185 | 282 | 36 | 19 | 10          | 5.6 | M10                   |     |
|           | 27       | 149                             | 187 | 284 | 43 | 21 | 12          | 6.3 | M12                   |     |
|           | 32       | 152                             | 190 | 287 | 48 | 24 | 14          | 7   | M16                   |     |
|           | 40       | 155                             | 193 | 290 | 56 | 27 | 16          | 8   | M20                   |     |
| 50        | 22       | 186                             | 224 | 321 | 36 | 19 | 10          | 5.6 | M10                   | M24 |
|           | 27       | 188                             | 226 | 323 | 43 | 21 | 12          | 6.3 | M12                   |     |
|           | 32       | 191                             | 229 | 326 | 48 | 24 | 14          | 7   | M16                   |     |
|           | 40       | 194                             | 232 | 329 | 56 | 27 | 16          | 8   | M20                   |     |

ORDERING EXAMPLE : 076-30 X 13 X 25

## CUTTER CLAMPING SCREWS FOR SHELL END MILL HOLDERS



| d1  | b<br>-0.1 | d2<br>h12 | k  | l  |
|-----|-----------|-----------|----|----|
| M6  | 6         | 17        | 5  | 12 |
| M8  | 8         | 20        | 6  | 16 |
| M10 | 10        | 28        | 7  | 18 |
| M12 | 12        | 35        | 8  | 22 |
| M16 | 16        | 42        | 9  | 26 |
| M20 | 20        | 52        | 10 | 30 |
| M24 | 24        | 63        | 12 | 36 |
| M30 | 28        | 75        | 14 | 45 |





## HEAVY DUTY TAP HOLDERS

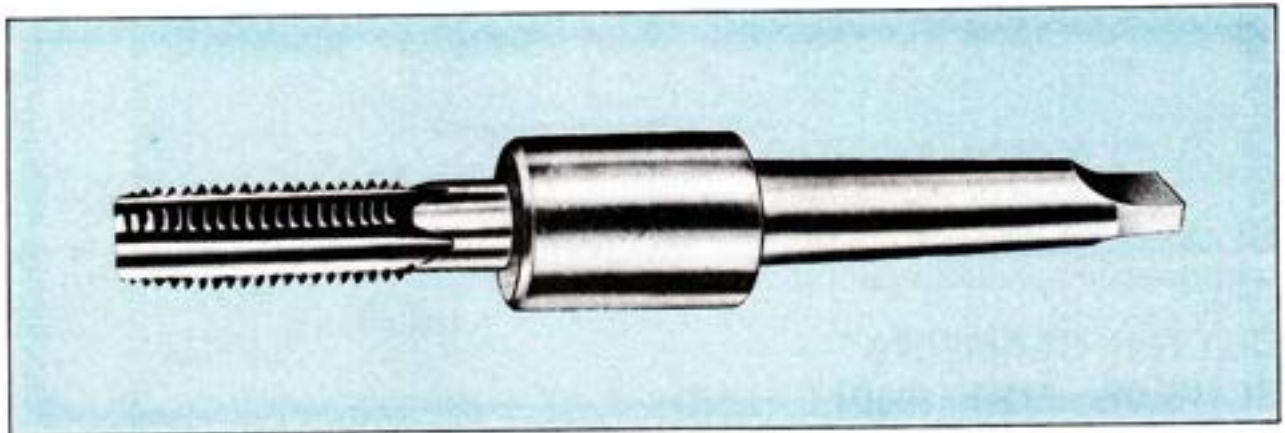
**DRIVE LARGE TAPS WITH EASE** :- These rugged tap holders are designed primarily for driving large hand and pipe taps. The hole centres the tap which is held in position by three equally spaced set screws. The square on the tap shank engages in the broached square of the holder for a positive drive eliminating slipping and possible tool damage.

**ACCURATE TAPPING** :- The bore and shank are concentric, assuring an accurate tapping operation which helps eliminate bell mouth and oversize tapped holes. The set screws are used to retain the tap securely.

**LONG TOOL LIFE** :- LCS Heavy Duty tap holders are made from alloy steel possessing the yield strength and long wear required for tough tapping operations. The tang is induction hardened to resist burring and abuse. The thick body wall takes the punishment demanded of tough tapping operations. The body of these holders should not be piloted in guide bushings.

**OTHER APPLICATIONS** :- These holders can also be used for driving tools to be dropped through the work and for tools which do not form a functional part of the holder.

Use LCS Heavy Duty Tap Holders in radial drills, drill presses, lathes, boring mills, milling machines and tapping machines for trouble-free performance on heavy duty tapping and similar operations.

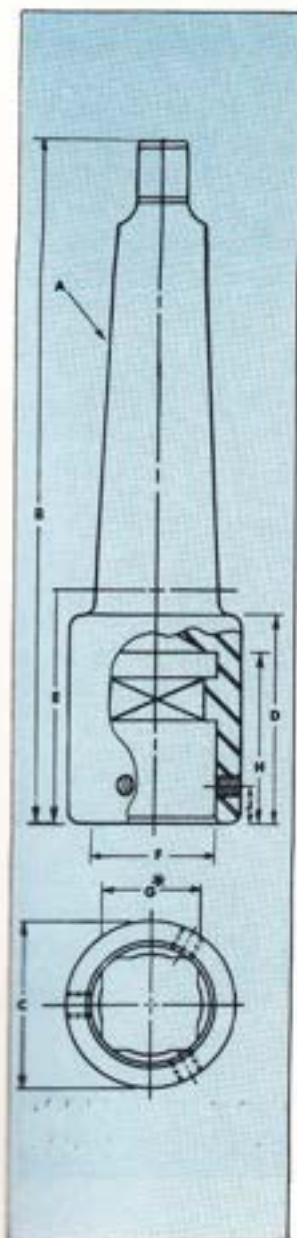




# HEAVY DUTY TAP HOLDERS

FOR HAND TAP SIZES

INCH SIZES



| Tap Size     | Morse Taper Shank A | S-J PART No. | Overall Length | Body Diameter | Body Length | Projection | Tap Dimensions |           | Depth Tap Enters Holder | Location of Set Screw |
|--------------|---------------------|--------------|----------------|---------------|-------------|------------|----------------|-----------|-------------------------|-----------------------|
|              |                     |              |                |               |             |            | Shank F        | Square G' |                         |                       |
|              |                     |              | B              | C             | D           | E          | F              | G'        | H                       | J                     |
| 3/8          | 3                   | 04100        | 6              | 1 7/32        | 2 1/8       | 2 7/16     | .590           | .442      | 1 1/8                   | 7/16                  |
| 3/8          | 4                   | 04101        | 7              | 1 23/32       | 2 1/8       | 2 1/8      | .590           | .442      | 1 1/8                   | 7/16                  |
| 3/8          | 3                   | 04102        | 6              | 1 23/32       | 2 1/8       | 2 7/16     | .697           | .523      | 1 1/8                   | 7/16                  |
| 3/8          | 4                   | 04103        | 7              | 1 23/32       | 2 1/8       | 2 1/8      | .697           | .523      | 1 1/8                   | 7/16                  |
| 1            | 3                   | 04104        | 6              | 1 23/32       | 2 1/8       | 2 7/16     | .800           | .600      | 1 1/8                   | 7/16                  |
| 1            | 4                   | 04105        | 7              | 1 23/32       | 2 1/8       | 2 1/8      | .800           | .600      | 1 1/8                   | 7/16                  |
| 1 1/16-1 1/8 | 3                   | 04106        | 6              | 1 23/32       | 2 1/8       | 2 7/16     | .896           | .672      | 1 1/8                   | 7/16                  |
| 1 1/16-1 1/8 | 4                   | 04107        | 7              | 1 23/32       | 2 1/8       | 2 1/8      | .896           | .672      | 1 1/8                   | 7/16                  |
| 1 3/16-1 1/4 | 3                   | 04108        | 6 1/2          | 1 23/32       | 2 1/8       | 2 7/16     | 1.021          | .766      | 2 7/16                  | 1 1/2                 |
| 1 3/16-1 1/4 | 4                   | 04109        | 7 1/2          | 1 23/32       | 2 1/8       | 3          | 1.021          | .766      | 2 7/16                  | 1 1/2                 |
| 1 5/16-1 3/8 | 3                   | 04110        | 6 1/2          | 1 23/32       | 2 1/8       | 2 7/16     | 1.108          | .831      | 2 1/4                   | 1 1/2                 |
| 1 5/16-1 3/8 | 4                   | 04111        | 7 1/2          | 1 23/32       | 2 1/8       | 3          | 1.108          | .831      | 2 1/4                   | 1 1/2                 |
| 1 7/16-1 1/2 | 4                   | 04112        | 7 1/2          | 1 23/32       | 2 1/8       | 3          | 1.233          | .926      | 2 7/16                  | 1 1/2                 |
| 1 7/16-1 1/2 | 5                   | 04113        | 9 1/2          | 2 1/32        | 3           | 3          | 1.233          | .926      | 2 7/16                  | 1 1/2                 |
| 1 1/2        | 4                   | 04114        | 7 3/4          | 2 1/32        | 3           | 3 1/2      | 1.306          | .979      | 2 1/2                   | 1 1/2                 |
| 1 1/2        | 5                   | 04115        | 9 1/2          | 2 1/32        | 3           | 3 1/2      | 1.306          | .979      | 2 1/2                   | 1 1/2                 |
| 1 3/4        | 4                   | 04116        | 7 3/4          | 2 1/32        | 3           | 3 1/2      | 1.430          | 1.072     | 2 1/2                   | 1 1/2                 |
| 1 3/4        | 5                   | 04117        | 9 1/2          | 2 1/32        | 3           | 3 1/2      | 1.430          | 1.072     | 2 1/2                   | 1 1/2                 |
| 1 3/4        | 4                   | 04118        | 7 3/4          | 2 1/32        | 3           | 3 1/2      | 1.519          | 1.139     | 2 1/2                   | 1 1/2                 |
| 1 3/4        | 5                   | 04119        | 9 1/2          | 2 1/32        | 3           | 3 1/2      | 1.519          | 1.139     | 2 1/2                   | 1 1/2                 |
| 2            | 4                   | 04120        | 8              | 2 1/32        | 3 1/2       | 3 1/2      | 1.644          | 1.233     | 2 1/2                   | 1 1/2                 |
| 2            | 5                   | 04121        | 9 1/2          | 2 1/32        | 3 1/2       | 3 1/2      | 1.644          | 1.233     | 2 1/2                   | 1 1/2                 |
| 2 1/8        | 5                   | 04122        | 9 1/2          | 2 1/32        | 3 1/2       | 3 1/2      | 1.789          | 1.327     | 3                       | 1 1/2                 |
| 2 1/8        | 5                   | 04124        | 10 7/16        | 2 1/32        | 4 1/16      | 4 1/16     | 1.894          | 1.420     | 3 1/2                   | 1 1/2                 |
| 2 1/8        | 5                   | 04126        | 10 7/16        | 2 1/32        | 4 1/16      | 4 1/16     | 2.019          | 1.514     | 3 1/2                   | 1 1/2                 |
| 2 1/2        | 5                   | 04128        | 10 1/2         | 3 1/32        | 4 1/2       | 4 1/2      | 2.100          | 1.575     | 3 1/2                   | 1 1/2                 |
| 2 1/2        | 5                   | 04130        | 10 1/2         | 3 1/32        | 4 1/2       | 4 1/2      | 2.225          | 1.669     | 3 1/2                   | 1 1/2                 |
| 2 3/8        | 5                   | 04132        | 10 1/2         | 3 1/32        | 4 1/2       | 4 1/2      | 2.350          | 1.762     | 3 1/2                   | 1 1/2                 |
| 2 3/8        | 5                   | 04134        | 10 11/16       | 3 1/32        | 4 1/2       | 4 11/16    | 2.475          | 1.856     | 3 1/2                   | 1 1/2                 |
| 3            | 5                   | 04136        | 10 11/16       | 3 1/32        | 4 1/2       | 4 11/16    | 2.543          | 1.907     | 3 1/2                   | 1 1/2                 |

## FOR PIPE TAP SIZES

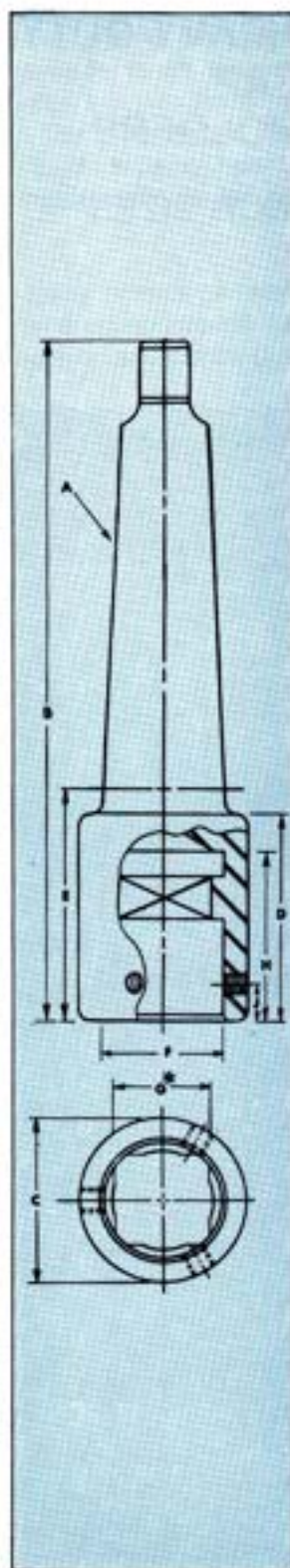
|       |   |       |         |         |        |        |        |       |       |       |
|-------|---|-------|---------|---------|--------|--------|--------|-------|-------|-------|
| 3/8   | 3 | 04138 | 6       | 1 23/32 | 2 1/8  | 2 7/16 | .9063  | .679  | 1 1/8 | 7/16  |
| 3/8   | 4 | 04139 | 7       | 1 23/32 | 2 1/8  | 2 1/8  | .9063  | .679  | 1 1/8 | 7/16  |
| 1     | 3 | 04140 | 6       | 1 23/32 | 2 1/8  | 2 7/16 | 1.1250 | .843  | 1 1/8 | 7/16  |
| 1     | 4 | 04141 | 7       | 1 23/32 | 2 1/8  | 2 1/8  | 1.1250 | .843  | 1 1/8 | 7/16  |
| 1 1/8 | 4 | 04142 | 7 7/16  | 2 7/32  | 2 7/16 | 2 7/16 | 1.3125 | .984  | 2     | 1 1/8 |
| 1 1/8 | 5 | 04143 | 8 1/16  | 2 7/32  | 2 7/16 | 2 7/16 | 1.3125 | .984  | 2     | 1 1/8 |
| 1 1/2 | 4 | 04144 | 7 7/16  | 2 7/32  | 2 7/16 | 2 7/16 | 1.5000 | 1.125 | 2 1/2 | 1 1/2 |
| 1 1/2 | 5 | 04145 | 8 1/16  | 2 7/32  | 2 7/16 | 2 7/16 | 1.5000 | 1.125 | 2 1/2 | 1 1/2 |
| 1 3/4 | 4 | 04146 | 7 3/4   | 2 1/32  | 3      | 3 1/2  | 1.6250 | 1.218 | 2 1/2 | 1 1/2 |
| 1 3/4 | 5 | 04147 | 9 1/2   | 2 1/32  | 3      | 3 1/2  | 1.6250 | 1.218 | 2 1/2 | 1 1/2 |
| 2     | 5 | 04148 | 9 1/2   | 3 1/16  | 3 1/2  | 3 1/2  | 1.8750 | 1.406 | 2 1/2 | 1 1/2 |
| 2 1/8 | 5 | 04150 | 9 1/2   | 3 1/16  | 3 1/2  | 3 1/2  | 2.0000 | 1.500 | 2 1/2 | 1 1/2 |
| 2 1/2 | 5 | 04152 | 9 1/2   | 3 1/16  | 3 1/2  | 3 1/2  | 2.2500 | 1.687 | 2 1/2 | 1 1/2 |
| 2 3/8 | 5 | 04154 | 9 11/16 | 3 1/32  | 3 1/2  | 4 1/16 | 2.3750 | 1.781 | 2 1/2 | 1 1/2 |
| 3     | 5 | 04156 | 9 11/16 | 3 1/32  | 3 1/2  | 4 1/16 | 2.6250 | 1.968 | 3     | 1 1/2 |

\* Broached square in holder is approximately .030" larger than tap square dimension "G"  
WHEN ORDERING — Specify S.J. part number.



**HEAVY DUTY  
TAP HOLDERS****METRIC SIZES**

| Morse<br>Taper<br>Shank<br>A | S-J<br>PART<br>No. | Overall<br>Length<br>B | Body<br>Diameter<br>C | Body<br>Length<br>D | Projec-<br>tion<br>E | Tap Dimensions |              | Depth<br>Tap<br>Enters<br>Holder<br>H | Loca-<br>tion of<br>Set<br>Screw<br>J |
|------------------------------|--------------------|------------------------|-----------------------|---------------------|----------------------|----------------|--------------|---------------------------------------|---------------------------------------|
|                              |                    |                        |                       |                     |                      | Shank<br>F     | Square<br>G* |                                       |                                       |
| 3                            | 04300              | 152.4                  | 44.5                  | 54                  | 58.7                 | 16             | 12           | 35                                    | 11                                    |
| 4                            | 04301              | 177.8                  | 44.5                  | 54                  | 60.3                 | 16             | 12           | 35                                    | 11                                    |
| 3                            | 04302              | 152.4                  | 44.5                  | 54                  | 58.7                 | 18             | 14.5         | 38                                    | 11                                    |
| 4                            | 04303              | 177.8                  | 44.5                  | 54                  | 60.3                 | 18             | 14.5         | 38                                    | 11                                    |
| 3                            | 04304              | 152.4                  | 44.5                  | 54                  | 58.7                 | 20             | 16           | 41                                    | 11                                    |
| 4                            | 04305              | 177.8                  | 44.5                  | 54                  | 60.3                 | 20             | 16           | 41                                    | 11                                    |
| 3                            | 04306              | 152.4                  | 44.5                  | 54                  | 58.7                 | 22             | 18           | 44                                    | 11                                    |
| 4                            | 04307              | 177.8                  | 44.5                  | 54                  | 60.3                 | 22             | 18           | 44                                    | 11                                    |
| 3                            | 04308              | 168.3                  | 47.6                  | 69.8                | 74.6                 | 25             | 20           | 55                                    | 16                                    |
| 4                            | 04309              | 193.7                  | 47.6                  | 69.8                | 76.2                 | 25             | 20           | 55                                    | 16                                    |
| 3                            | 04310              | 168.3                  | 47.6                  | 69.8                | 74.6                 | 28             | 22           | 57                                    | 16                                    |
| 4                            | 04311              | 193.7                  | 47.6                  | 69.8                | 76.2                 | 28             | 22           | 57                                    | 16                                    |
| 4                            | 04312              | 193.7                  | 47.6                  | 69.8                | 76.2                 | 32             | 24           | 58                                    | 16                                    |
| 5                            | 04313              | 231.8                  | 66.7                  | 76.2                | 82.6                 | 32             | 24           | 58                                    | 16                                    |
| 4                            | 04314              | 200.0                  | 66.7                  | 76.2                | 82.6                 | 36             | 29           | 60                                    | 16                                    |
| 5                            | 04315              | 231.8                  | 66.7                  | 76.2                | 82.6                 | 36             | 29           | 60                                    | 16                                    |
| 4                            | 04316              | 203.2                  | 66.7                  | 88.9                | 85.7                 | 40             | 32           | 66                                    | 19                                    |
| 5                            | 04317              | 244.5                  | 70.0                  | 88.9                | 85.7                 | 40             | 32           | 66                                    | 19                                    |
| 5                            | 04318              | 244.5                  | 70.0                  | 88.9                | 85.7                 | 45             | 35           | 76                                    | 19                                    |
| 5                            | 04319              | 258.8                  | 76.2                  | 103.2               | 109.5                | 50             | 39           | 85                                    | 22                                    |
| 5                            | 04320              | 266.7                  | 85.7                  | 111.1               | 117.5                | 56             | 44           | 88                                    | 25                                    |
| 5                            | 04321              | 271.5                  | 90.5                  | 115.9               | 122.2                | 63             | 49           | 92                                    | 25                                    |
| 5                            | 04322              | 271.5                  | 90.5                  | 115.9               | 122.2                | 70             | 55           | 95                                    | 25                                    |



\* Broached square in holder is approximately .8 mm larger than tap square dimension "G"  
WHEN ORDERING — Specify S-J part number.



## “JT” LOCK-AND-EJECT COLLET TYPE TAP HOLDERS

LCS spring-loaded tap holders compensate for variations between feed of spindle and lead of tap. They are used on multiple-spindle machines, taking adjustable shank tools. The improved design gives you the following advantages:

**ELIMINATE COSTLY FEED CHANGES** - These holders eliminate the need for lead screws on many tapping operations. Various pitch taps can be used without making costly feed changes on multiple-spindle tapping operations. Use the Compression Tap Holder when the spindle feed is greater than the tap lead. Use the Tension Tap Holder when the spindle feed is less than the tap lead. The Combination Compression and Tension Tap Holder compensates for variations in spindle feed, combining the features of the Compression Tap Holder and the Tension Tap Holder. The sensitive compression or tension spring allows the tap to follow its own lead without damaging the thread.

**PREVENT DAMAGE TO SPINDLE TAP AND WORK** - The Compression Tap Holder prevents damage when previous operations fails to provide holes in the piece parts. The spring permits the sleeve to slide into the shank, provided the stroke is equal to or greater than the depth of the hole being tapped. The holder has a long stroke and provides this safety feature for a wide range of requirements. The spring acts as a cushion to the tap or spindle and prevents damage from shock when spindle is reversed.

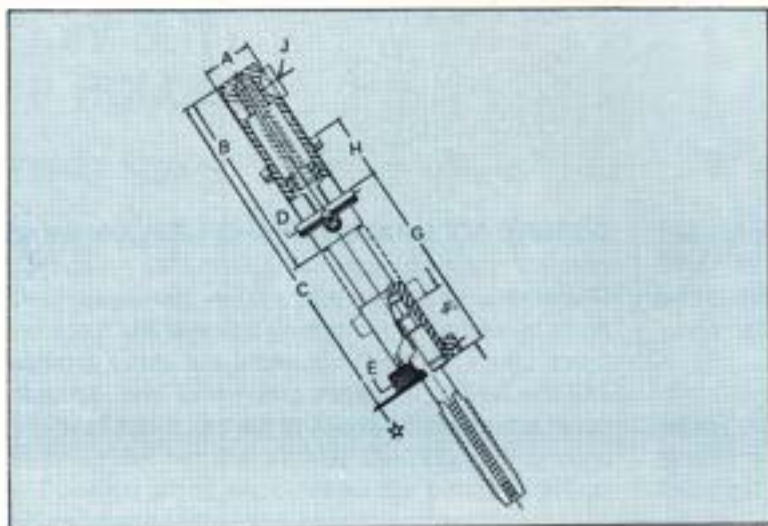
**ASSURE ACCURATE TAPPING** :- All parts are accurately made so taps will give quality production. Resistance to pullout has been increased many times by the four way gripping action of the “Lock and Eject” chuck. As the “Lock and Eject” chuck is drawn into the holder, it creates a powerful and accurate collet action on the shank of the tap. It closes evenly around the tap shank when it is drawn into the collet by the threaded nut on the nose of the holder. This assures a true running tap and helps eliminate bell mouth and oversize tapped holes. The tang on the chuck shank and the broached square in the hole provide a positive drive.

**SPEED TOOL CHANGES** :- Even in a close cluster of spindles, tool changes are fast and easy. Operator merely turns the threaded nut to seat and unseat the chuck. The nut revolves freely on ball bearings. This “Lock-and-Eject” feature eliminates pounding and torsion when changing tools. DEPTH adjustments for multiple spindle set-ups, are quickly made with the “Quick-Lock” nut which locks any place on the threaded shank of the holder.

**COVER WIDE RANGE OF TAP SIZES:-** Each holder may be used for a range of tap sizes by merely changing the “Lock-and-Eject” Tap Chucks.

**LONG TROUBLE-FREE PERFORMANCE:-** LCS springloaded tap holders are made from alloy steel carefully hardened to assure the best combination of physical properties for long wear, high torsional strength and accuracy.





COMPRESSION TAP HOLDERS (WITHOUT CHUCKS)

| Tap Range   |         |         | Style Size | Ass. No. | Shank & Thread Size | Shank Length | Overall Length | Quick Lock Nut Dia. | Lock & Exp. Nut Dia. | Stroke | Pre.   | Ass. Adjust. ment | Key No. |
|-------------|---------|---------|------------|----------|---------------------|--------------|----------------|---------------------|----------------------|--------|--------|-------------------|---------|
| Mach. Screw | Hard    | Pipe    |            |          | A                   | B            | C              | D                   | E                    | F      | G Min. | H                 | J       |
| O-14        | 1/4-1/2 |         | JT-1       | 40100    | 1/2-16              | 3 1/2        | 6              | 5/8                 | 1 1/4                | 5/8    | 3%     | 1"                | 5       |
| O-14        | 1/4-1/2 |         | JT-1       | 40110    | 1/2-16              | 3 1/2        | 6              | 1                   | 1 1/4                | 5/8    | 3%     | 1"                | 6       |
| 10-14       | 1/4-1/2 |         | JT-1       | 40120    | 5/8-12              | 4            | 7 1/2          | 1 1/4               | 1 1/4                | 1 1/4  | 4 1/2% | 1"                | 6       |
| 10-14       | 1/4-1/2 |         | JT-1       | 40130    | 5/8-12              | 4            | 7 1/2          | 1 1/4               | 1 1/4                | 1 1/4  | 3 1/2% | 1 1/2             | 9       |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40140    | 1-12                | 4 1/2        | 7 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 4 1/2% | 1 1/2             | 11      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40150    | 1 1/4-12            | 4 1/2        | 7 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 4 1/2% | 1 1/2             | 11      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40060    | 1 1/2-12            | 4 1/2        | 8 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 4%     | 1 1/2             | 15      |
| 14          | 1/4-1   | 1/2-1/2 | JT-3       | 40160    | 1 1/2-12            | 5 1/4        | 10 1/2         | 1 1/2               | 2 1/2                | 1 1/2  | 5 1/2% | 1 1/2             | 15      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40070    | 1 1/2-12            | 5 1/2        | 9 1/2          | 2 1/2               | 1 1/2                | 1 1/2  | 4%     | 1 1/2             | D       |

\* For best performance, taps larger than No. 12 should not be used in Assemblies 40100 and 40110

TENSION TAP HOLDERS (WITHOUT CHUCKS)

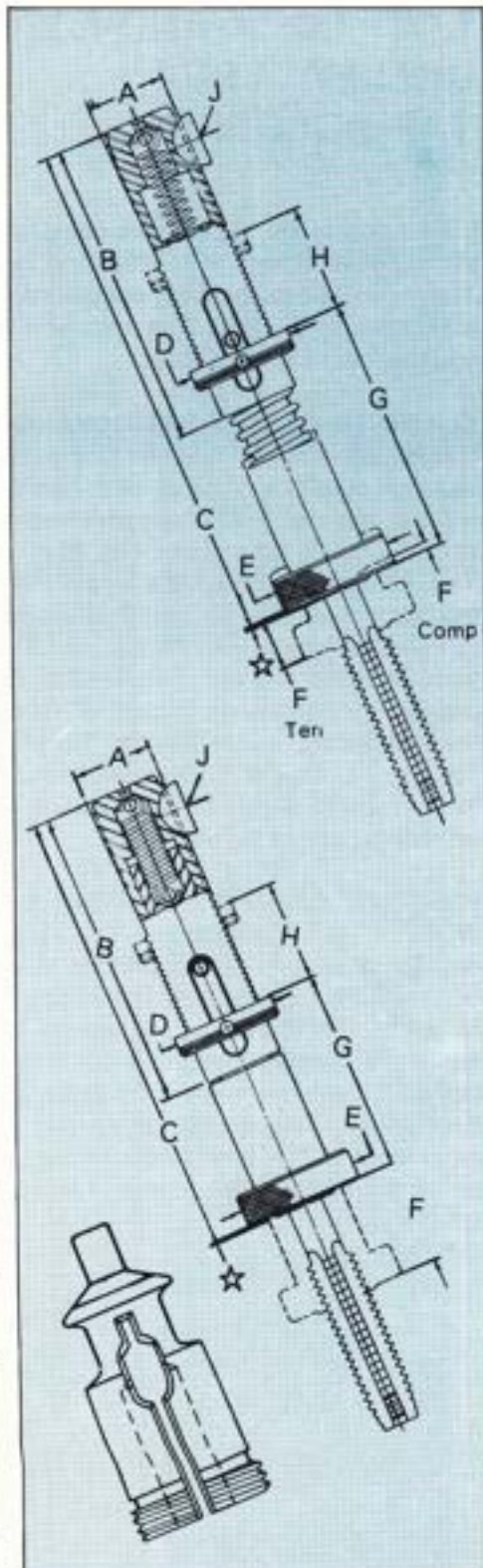
| Tap Range   |         |         | Style Size | Ass. No. | Shank & Thread Size | Shank Length | Overall Length | Quick Lock Nut Dia. | Lock & Exp. Nut Dia. | Stroke | Pre.   | Ass. Adjust. ment | Key No. |
|-------------|---------|---------|------------|----------|---------------------|--------------|----------------|---------------------|----------------------|--------|--------|-------------------|---------|
| Mach. Screw | Hard    | Pipe    |            |          | A                   | B            | C              | D                   | E                    | F      | G Min. | H                 | J       |
| O-14        | 1/4-1/2 |         | JT-1       | 40109    | 1/2-16              | 3 1/2        | 5 1/2          | 5/8                 | 1 1/4                | 5/8    | 2%     | 1"                | 5       |
| O-14        | 1/4-1/2 |         | JT-1       | 40119    | 1/2-16              | 3 1/2        | 5 1/2          | 1                   | 1 1/4                | 5/8    | 2%     | 1"                | 6       |
| 10-14       | 1/4-1/2 |         | JT-1       | 40129    | 5/8-12              | 4            | 6 1/2          | 1 1/4               | 1 1/4                | 1 1/4  | 3 1/2% | 1 1/2             | 6       |
| 10-14       | 1/4-1/2 |         | JT-1       | 40139    | 5/8-12              | 4            | 6 1/2          | 1 1/4               | 1 1/4                | 1 1/4  | 2 1/2% | 1 1/2             | 9       |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40149    | 1-12                | 4 1/2        | 6 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 3 1/2% | 1 1/2             | 11      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40159    | 1 1/4-12            | 4 1/2        | 6 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 3 1/2% | 1 1/2             | 11      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40069    | 1 1/2-12            | 4 1/2        | 6 1/2          | 1 1/2               | 1 1/2                | 1 1/2  | 2%     | 1 1/2             | 15      |
| 14          | 1/4-1   | 1/2-1/2 | JT-3       | 40169    | 1 1/2-12            | 5 1/4        | 8 1/2          | 1 1/2               | 2 1/2                | 1 1/2  | 5 1/2% | 1 1/2             | 15      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40079    | 1 1/2-12            | 5 1/2        | 7 1/2          | 2 1/2               | 1 1/2                | 1 1/2  | 2%     | 1 1/2             | D       |

COMBINATION COMPRESSION & TENSION TAP HOLDERS (WITHOUT CHUCKS)

| Tap Range   |         |         | Style Size | Ass. No. | Shank & Thread Size | Shank Length | Overall Length | Quick Lock Nut Dia. | Lock & Exp. Nut Dia. | Stroke, Ten./Comp. | Pre.   | Ass. Adjust. ment | Key No. |
|-------------|---------|---------|------------|----------|---------------------|--------------|----------------|---------------------|----------------------|--------------------|--------|-------------------|---------|
| Mach. Screw | Hard    | Pipe    |            |          | A                   | B            | C              | D                   | E                    | F                  | G Min. | H                 | J       |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40170    | 1-12                | 4 1/2        | 7 1/2          | 1 1/2               | 1 1/2                | 1 1/2              | 3 1/2% | 1 1/2             | 11      |
| O-14        | 1/4-1/2 | 1/2-1/2 | JT-2       | 40180    | 1 1/4-12            | 4 1/2        | 7 1/2          | 1 1/2               | 1 1/2                | 1 1/2              | 3 1/2% | 1 1/2             | 11      |
| 14          | 1/4-1   | 1/2-1/2 | JT-3       | 40190    | 1 1/2-12            | 5 1/4        | 9 1/2          | 1 1/2               | 2 1/2                | 1 1/2              | 4 1/2% | 1 1/2             | 15      |

WHEN ORDERING: Specify assembly number for shank size and type of holder desired. Order tap chucks separately and specify part number of chuck for tap to be driven in holder to be used.

Holder and Chuck size not listed are special. Price and delivery for specials quoted upon request.  
 \*S - Small shank taps. \*L - Large shank taps.  
 The 1/2" hard tap with a small shank is not standard.



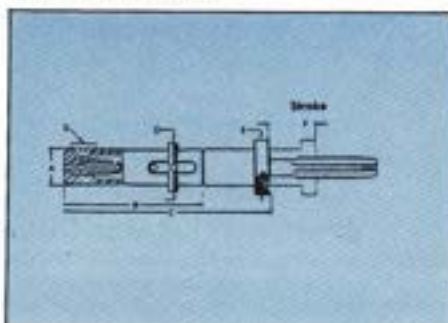
☆ 1/2 approx. chuck pris. \*JT-1 & \*JT-2 and 0 1/2 approx. chuck pris. \*JT-3



## "JT" LOCK-AND-EJECT COLLET TYPE TAP HOLDERS

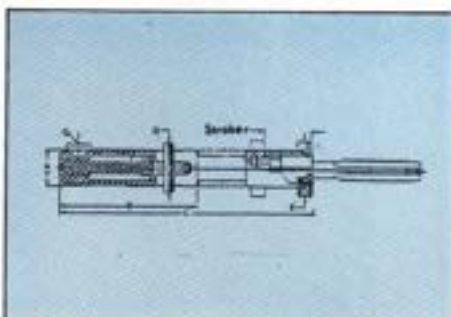
| Type | Part No. | A          | B   | C   | D  | E  | F  |
|------|----------|------------|-----|-----|----|----|----|
| JT-1 | T40200   | Tr12 X 1.5 | 83  | 135 | 18 | 32 | 19 |
| JT-1 | T40210   | Tr16 X 1.5 | 93  | 145 | 25 | 32 | 19 |
| JT-1 | T40220   | Tr20 X 2   | 102 | 153 | 32 | 32 | 32 |
| JT-2 | T40250   | Tr28 X 2   | 106 | 167 | 40 | 41 | 35 |
| JT-3 | T40260   | Tr36 X 2   | 138 | 209 | 50 | 54 | 48 |

TENSION TYPE



| Type | Part No. | A          | B   | C   | D  | E  | F  |
|------|----------|------------|-----|-----|----|----|----|
| JT-1 | C40200   | Tr12 X 1.5 | 83  | 153 | 18 | 32 | 19 |
| JT-1 | C40210   | Tr16 X 1.5 | 93  | 164 | 25 | 32 | 19 |
| JT-1 | C40220   | Tr20 X 2   | 102 | 185 | 32 | 32 | 32 |
| JT-2 | C40250   | Tr28 X 2   | 106 | 202 | 40 | 41 | 35 |
| JT-3 | C40260   | Tr36 X 2   | 138 | 257 | 50 | 54 | 48 |

COMPRESSION TYPE

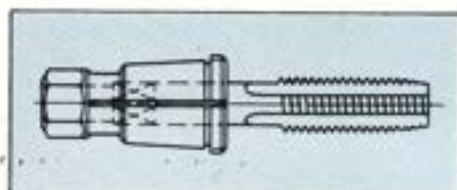


WHEN ORDERING : Specify Part Number

## "JT" LOCK-AND-EJECT CHUCKS

INCH SIZES

"Lock-and-Eject"  
Tap Chucks



\*S.S. — Small shank taps.

\*L.S. — Large shank taps.

The 3/8" hand tap with a small shank is not standard.

| For Tap Size |      | Tap Dimensions |       | Depth Tap Enters Chuck for Any Style Size... |            |            | For Use in Any Style Size |                        |                        |                        |
|--------------|------|----------------|-------|--|------------|------------|---------------------------|------------------------|------------------------|------------------------|
| Mach. Screw  | Hand | Pipe           | Shank | Square                                       | JT-1 Assy. | JT-2 Assy. | JT-3 Assy.                | JT-1 Assembly Part No. | JT-2 Assembly Part No. | JT-3 Assembly Part No. |
| 0-6          |      |                | .141  | .110   | 3/16       |            |                           | 11150                  |                        |                        |
| 8            |      |                | .168  | .131   | 1/8        |            |                           | 11151                  |                        |                        |
| 10           |      |                | .194  | .152   | 5/16       |            |                           | 11152                  |                        |                        |
| 12           |      |                | .220  | .165   | 3/8        |            |                           | 11153                  |                        |                        |
| 14           |      |                | .255  | .181   | 7/16       |            |                           | 11155                  | 11350                  |                        |
|              | 1/8  | *1/8 S.S.      | .255  | .191   | 1/2        | 1/2        |                           | 11155                  | 11350                  |                        |
|              | 1/8  | *1/8 S.S.      | .3125 | .204   | 1          | 1 1/8      |                           | 11156                  | 11351                  |                        |
|              | 1/8  | *1/8 L.S.      | .318  | .208   | 1 1/8      | 1          |                           | 11157                  | 11352                  |                        |
|              | 1/8  | *1/8 L.S.      | .275  | .206   | 1 1/8      |            |                           | 11161                  |                        |                        |
|              | 1/8  | *1/8 L.S.      | .318  | .206   | 1 1/8      | 1 1/8      |                           | 11158                  | 11353                  |                        |
|              | 1/8  | *1/8 L.S.      | .323  | .242   | 1 1/8      | 1 1/8      |                           | 11159                  | 11354                  |                        |
|              | 1/8  | *1/8 L.S.      | .367  | .275   | 1 1/8      | 1 1/8      |                           | 11160                  | 11355                  |                        |
|              | 1/8  | *1/8 L.S.      | .4375 | .328   |            |            |                           |                        | 11356                  |                        |
|              | 1/8  | *1/8 L.S.      | .429  | .322   |            | 1 1/8      |                           |                        | 11357                  |                        |
|              | 1/8  | *1/8 L.S.      | .480  | .360   |            | 1 1/8      | 1 1/8                     |                        | 11358                  | 11525                  |
|              | 1/8  | *1/8 L.S.      | .5625 | .421   |            | 1 1/8      | 1 1/8                     |                        | 11360                  | 11527                  |
|              | 1/8  | *1/8 L.S.      | .590  | .442   |            | 1 1/8      | 1 1/8                     |                        | 11361                  | 11528                  |
|              | 1/8  | *1/8 L.S.      | .700  | .531   |            | 1 1/8      | 1 1/8                     |                        |                        | 11530                  |
|              | 1/8  | *1/8 L.S.      | .6875 | .515   |            | 1 1/8      | 1 1/8                     |                        |                        | 11531                  |
|              | 1/8  | *1/8 L.S.      | .697  | .520   |            | 1 1/8      | 1 1/8                     |                        |                        | 11532                  |
|              | 1/8  | *1/8 L.S.      | .800  | .600   |            | 1 1/8      | 1 1/8                     |                        |                        | 11534                  |

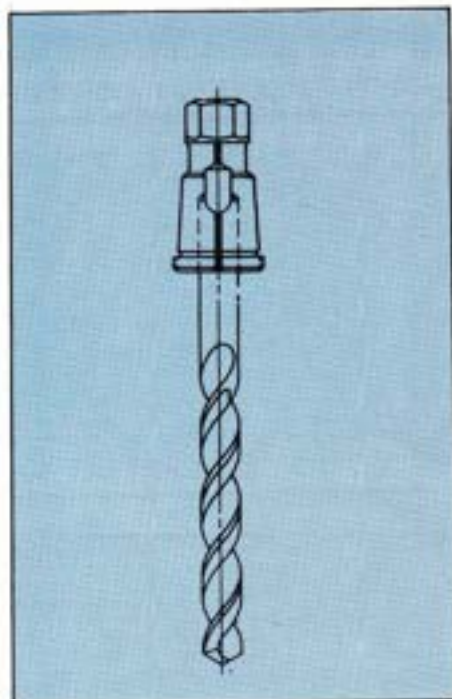




# "JT" LOCK-AND-EJECT CHUCKS

## INCH SIZES

### "Lock-and-Eject" Drill and Reamer Chucks



#### NOTE :

†For Straight Shank Rose Chucking  
Reamers having shanks made to  
new American Standard ASA  
B5.14-1959

\*Also drives drill sizes  $\frac{1}{8}$ " -  $\frac{3}{8}$ ".

\*\*Also drives drill sizes  $\frac{1}{16}$ " -  $\frac{1}{4}$ ".

\*\*\*Also drives drill sizes  $\frac{1}{8}$ " -  $\frac{3}{8}$ ".

These references apply only to drills with  
standardized shank sizes, such as

— Chicago-Lotrope 120-F, Cleveland 950-K,  
Cogsdil 216, Morse 1320, National 2101,  
Standard 415, Union 512, and Whitman &  
Barnes 464 series drills.

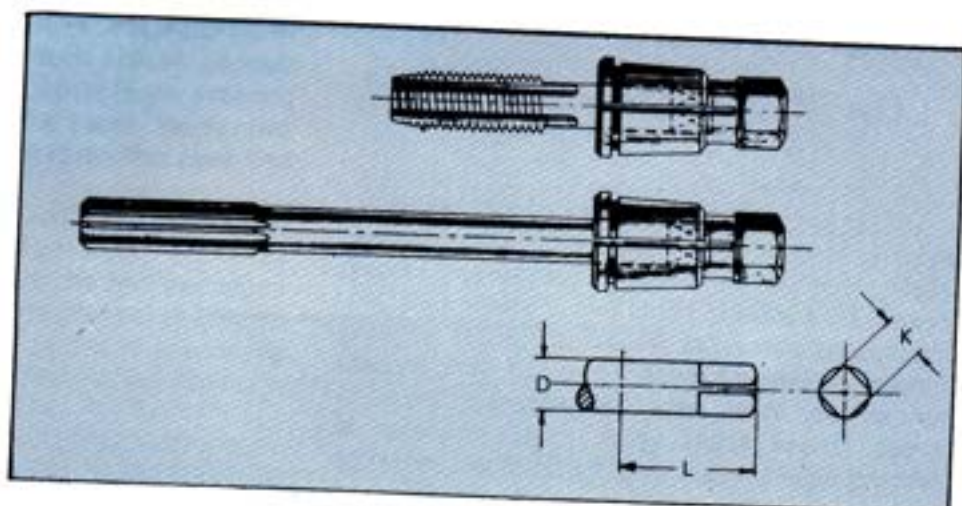
| For Drill Size                         |                   | For Reamer Size†              |                       | Depth Drill or Reamer<br>Enter Chuck for<br>Any Style Size |               |               | For Use in Any Style Size       |                                 |                                 |
|--|-------------------|-------------------------------|-----------------------|--|---------------|---------------|---------------------------------|---------------------------------|---------------------------------|
| Fraction<br>Number<br>& Letter<br>Size | Decimal<br>Equiv. | Fraction<br>Size              | Max.<br>Shank<br>Size | Enter Chuck for<br>Any Style Size                          |               |               | JT-1<br>Assembly<br>Part<br>No. | JT-2<br>Assembly<br>Part<br>No. | JT-3<br>Assembly<br>Part<br>No. |
|  |                   |                               |                       | JT-1<br>Asy.   | JT-2<br>Asy.  | JT-3<br>Asy.  |                                 |                                 |                                 |
| $\frac{1}{16}$                         | .0625             |                               |                       | $\frac{1}{16}$   |               |               | 11208                           |                                 |                                 |
| $\frac{1}{8}$                          | .1250             |                               |                       | $\frac{1}{8}$  |               |               | 11209                           |                                 |                                 |
| $\frac{1}{4}$                          | .2500             |                               |                       | $\frac{1}{4}$  |               |               | 11290                           |                                 |                                 |
| $\frac{3}{8}$                          | .3750             |                               |                       | $\frac{3}{8}$  |               |               | 11296                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             | $\frac{1}{2}$                 | .1190                 | $\frac{1}{2}$  |               |               | 11299                           |                                 |                                 |
| $\frac{5}{8}$                          | .6250             |                               |                       | $\frac{5}{8}$  | $\frac{1}{2}$ |               | 11210                           | 11407                           |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  |               |               | 11211                           |                                 |                                 |
| $\frac{7}{8}$                          | .8750             |                               |                       | $\frac{7}{8}$  |               |               | 11212                           |                                 |                                 |
| $\frac{15}{16}$                        | .9375             |                               |                       | $\frac{15}{16}$  |               |               | 11201                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11213                           |                                 |                                 |
| $\frac{3}{4}$                          | .7500             | $\frac{3}{4}$                 | .1510                 | $\frac{3}{4}$  |               |               | 11240                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11214                           |                                 |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  |               |               | 11215                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11202                           |                                 |                                 |
| $\frac{3}{4}$                          | .7500             | $\frac{3}{4}$                 | .1805                 | $\frac{3}{4}$  |               |               | 11237                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11216                           | 11408                           |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  |               |               | 11217                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11218                           |                                 |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  |               |               | 11219                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11203                           | 11400                           |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  |               |               | 11238                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11220                           |                                 |                                 |
| $\frac{3}{4}$                          | .7500             | $\frac{3}{4}$                 | .2075                 | $\frac{3}{4}$  |               |               | 11221                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11222                           | 11209                           |                                 |
| $\frac{3}{4}$                          | .7500             |                               |                       | $\frac{3}{4}$  | $\frac{1}{2}$ |               | 11204                           | 11401                           |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               |               | 11241                           | 11424                           | 11405                           |
| C                                      | .2420             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11241                           | 11424                           |                                 |
| E                                      | .2500             | $\frac{1}{2}$ & $\frac{3}{4}$ | .2485                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11241                           | 11424                           |                                 |
| F                                      | .2570             | $\frac{1}{2}$ & $\frac{3}{4}$ |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11224                           | 11411                           |                                 |
| G                                      | .2610             |                               |                       | $\frac{1}{2}$  |               |               | 11225                           |                                 |                                 |
| $\frac{1}{2}$                          | .2635             |                               |                       | $\frac{1}{2}$  |               |               | 11226                           |                                 |                                 |
| $\frac{1}{2}$                          | .2720             |                               |                       | $\frac{1}{2}$  |               |               | 11227                           |                                 |                                 |
| $\frac{1}{2}$                          | .2812             | $\frac{1}{2}$ - $\frac{3}{4}$ | .2807                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11205                           | 11402                           |                                 |
| $\frac{1}{2}$                          | .2969             |                               |                       | $\frac{1}{2}$  |               |               | 11228                           |                                 |                                 |
| $\frac{1}{2}$                          | .3125             | $\frac{3}{4}$ - $\frac{1}{2}$ | .3120                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11206                           | 11403                           |                                 |
| D                                      | .3180             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11229                           |                                 |                                 |
| $\frac{1}{2}$                          | .3281             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11230                           | 11412                           |                                 |
| O                                      | .3320             |                               |                       | $\frac{1}{2}$  |               |               | 11231                           |                                 |                                 |
| $\frac{1}{2}$                          | .3437             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11232                           | 11413                           |                                 |
| S                                      | .3480             |                               |                       | $\frac{1}{2}$  |               |               | 11233                           |                                 |                                 |
| $\frac{1}{2}$                          | .3594             |                               |                       | $\frac{1}{2}$  |               |               | 11234                           |                                 |                                 |
| U                                      | .3680             |                               |                       | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11235                           | 11414                           |                                 |
| $\frac{1}{2}$                          | .3750             | $\frac{1}{2}$ - $\frac{3}{4}$ | .3745                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11207                           | 11404                           |                                 |
| $\frac{1}{2}$                          | .3905             |                               |                       | $\frac{1}{2}$  |               |               | 11415                           |                                 |                                 |
| $\frac{1}{2}$                          | .4062             |                               |                       | $\frac{1}{2}$  |               |               | 11416                           |                                 |                                 |
| $\frac{1}{2}$                          | .4219             |                               |                       | $\frac{1}{2}$  |               |               | 11417                           |                                 |                                 |
| $\frac{1}{2}$                          | .4375             | $\frac{3}{4}$ - $\frac{1}{2}$ | .4370                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11405                           | 11551                           |                                 |
| $\frac{1}{2}$                          | .4531             |                               |                       | $\frac{1}{2}$  |               |               | 11418                           |                                 |                                 |
| $\frac{1}{2}$                          | .4687             |                               |                       | $\frac{1}{2}$  |               |               | 11419                           |                                 |                                 |
| $\frac{1}{2}$                          | .4844             |                               |                       | $\frac{1}{2}$  |               |               | 11420                           |                                 |                                 |
| $\frac{1}{2}$                          | .5000             |                               |                       | $\frac{1}{2}$  |               | $\frac{1}{2}$ | 11421                           | 11555                           |                                 |
| $\frac{1}{2}$                          | .5156             |                               |                       | $\frac{1}{2}$  |               |               | 11422                           |                                 |                                 |
| $\frac{1}{2}$                          | .5312             |                               |                       | $\frac{1}{2}$  |               |               | 11423                           |                                 |                                 |
| $\frac{1}{2}$                          | .5469             | $\frac{1}{2}$ - $\frac{3}{4}$ | .5465                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               | 11406                           | 11552                           |                                 |
| $\frac{1}{2}$                          | .5625             | $\frac{1}{2}$ - $\frac{3}{4}$ | .5620                 | $\frac{1}{2}$  | $\frac{1}{2}$ |               |                                 | 11553                           |                                 |
| $\frac{1}{2}$                          | .5781             | $\frac{1}{2}$ - $\frac{3}{4}$ | .5775                 |  |               | $\frac{1}{2}$ |                                 | 11554                           |                                 |
| $\frac{1}{2}$                          | .5938             |                               |                       |  |               |               | .7500                           |                                 |                                 |

WHEN ORDERING : Specify part no. of Chuck for tap, drill or reamer to be driven in style size of adaptor to be used.



## "JT" LOCK-AND-EJECT CHUCKS

FOR METRIC  
TAPS &  
REAMERS



| D   | K    | JT-1<br>L | JT-2<br>L | JT-3<br>L | PART<br>No<br>JT-1 | PART<br>No<br>JT-2 | PART<br>No<br>JT-3 |
|-----|------|-----------|-----------|-----------|--------------------|--------------------|--------------------|
| 1.5 | —    | 13        |           |           | 11246              |                    |                    |
| 1.6 | —    | 13        |           |           | 11247              |                    |                    |
| 1.8 | —    | 13        |           |           | 11248              |                    |                    |
| 2.0 | —    | 13        |           |           | 11249              |                    |                    |
| 2.2 | —    | 13        |           |           | 11250              |                    |                    |
| 2.5 | 2.1  | 19        |           |           | 11251              |                    |                    |
| 2.8 | 2.1  | 19        |           |           | 11252              |                    |                    |
| 3.0 | —    | 19        |           |           | 11252-1            |                    |                    |
| 3.2 | 2.4  | 21        |           |           | 11253              |                    |                    |
| 3.5 | 2.7  | 21        |           |           | 11254              |                    |                    |
| 4.0 | 3.0  | 21        |           |           | 11255              |                    |                    |
| 4.5 | 3.4  | 21        |           |           | 11256              |                    |                    |
| 5   | —    | 22        |           |           | 11256-1            |                    |                    |
| 5.5 | 4.3  | 22        |           |           | 11257              |                    |                    |
| 6   | 4.9  | 22        | 24        |           | 11258              | 11449              |                    |
| 7   | 5.5  | 26        | 27        |           | 11259              | 11450              |                    |
| 8   | 6.2  | 27        | 27        |           | 11260              | 11451              |                    |
| 9   | 7    | 27        | 30        |           | 11261              | 11452              |                    |
| 10  | 8    |           | 32        |           |                    | 11453              |                    |
| 11  | 9    |           | 32        |           |                    | 11454              |                    |
| 12  | 9    |           | 32        | 34        |                    | 11455              | 11625              |
| 13  | 10   |           | 32        | 34        |                    | 11455-1            | 11625-1            |
| 14  | 11   |           | 32        | 34        |                    | 11456              | 11626              |
| 16  | 12   |           |           | 38        |                    |                    | 11627              |
| 18  | 14.5 |           |           | 38        |                    |                    | 11628              |
| 20  | 16   |           |           | 40        |                    |                    | 11629              |

WHEN ORDERING Specify Part Number.





## “JAS” FLOATING HOLDERS

Floating holders compensate for misalignment between tool and work where reaming and tapping operations are being performed in different machining stations after holes are drilled. Factors affecting proper alignment between tool and work include normal wear index error and manufacturing tolerances. These factors cause many problems in reaming for example, unless the tool floats freely into the hole consistent results cannot be obtained and bell mouthed out-of-round or poorly finished holes are the result. In tapping, improper alignment causes oversized and tapered threads along with short tap life and lost time.

LCS floating holders - The only floating holders designed with separate floating and driving elements - compensate for misalignment and offer these benefits on reaming and tapping jobs.

**HIGH QUALITY WORK :-** The balanced, constant velocity, flexible double gear spline drive coupling provides equal freedom of float in all directions, even under heavy loads improves quality of work and gives consistent result.

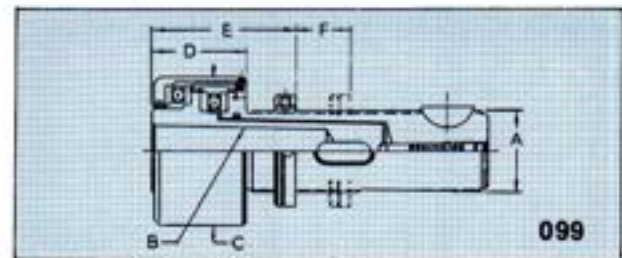
**REDUCE CUTTING TOOL REPLACEMENT COSTS:-** The unrestricted movement of the two thrust bearings and the spline drive allow the tool to float freely into alignment. This eliminates “cramping” or damage to cutting tools and reduces downtime and tool replacement cost.

**WORK ON CLOSE CENTRES :-** The small body diameter of the floating holders make them ideal for most close centre and multiple- spindle operations.

**LOWER MAINTENANCE COST :-** The positive lubrication, provided by the weaving action of the drive coupling, practically eliminates wear and the need for replacing the driving elements. Efficient “O” ring seal in nose of shell keeps lubricant in and dirt out. Because the floating element is separated from the drive, the balls move freely in the required direction or rotate around the collet. This eliminates reciprocating movement and increases bearing life.

## “JAS” FLOATING HOLDERS

### INCH SIZES



| Shank and Thread Size<br>A | Morse Taper Hole<br>B | Body Dia<br>C    | Body Length<br>D | Min. Proj.<br>E | Axial Adjust-ment<br>F | LCS Tool Number |
|----------------------------|-----------------------|------------------|------------------|-----------------|------------------------|-----------------|
| $\frac{3}{8}$ -12          | 1                     | $1\frac{3}{4}$   | $1\frac{13}{32}$ | 2               | 1                      | 09915           |
| 1-12                       | 1                     | $1\frac{3}{4}$   | $1\frac{13}{32}$ | 2               | 1                      | 09916           |
| $1\frac{1}{16}$ -12        | 1                     | $1\frac{3}{4}$   | $1\frac{13}{32}$ | 2               | 1                      | 09917           |
| $1\frac{1}{8}$ -12         | 2                     | $2\frac{3}{16}$  | $1\frac{5}{8}$   | $2\frac{1}{4}$  | 1                      | 09918           |
| $1\frac{3}{8}$ -12         | 2                     | $2\frac{3}{16}$  | $1\frac{5}{8}$   | $2\frac{1}{4}$  | $1\frac{1}{8}$         | 09919           |
| $1\frac{1}{2}$ -12         | 3                     | $2\frac{13}{16}$ | $1\frac{15}{16}$ | $2\frac{1}{2}$  | $1\frac{1}{8}$         | 09920           |
| $1\frac{7}{8}$ -12         | 3                     | $2\frac{13}{16}$ | $1\frac{15}{16}$ | $2\frac{1}{2}$  | $1\frac{1}{8}$         | 09921           |
| $1\frac{3}{4}$ -12         | 4                     | $3\frac{1}{2}$   | $2\frac{3}{16}$  | $2\frac{3}{4}$  | $1\frac{1}{8}$         | 09922           |

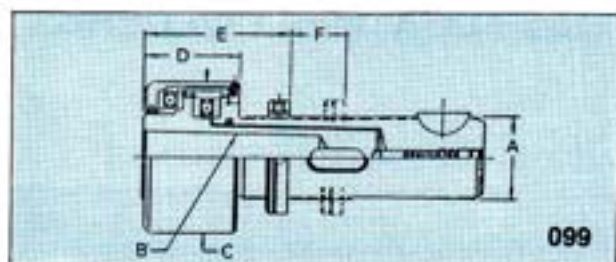
NOTE — Parallel Float from Centre line is  $1/64$ ".



## “JAS” FLOATING HOLDERS

### METRIC SIZES

Enclosed Taper Collet Type with Threaded Adaptor Shank and Spring Loaded centering pin.



| Shank and Thread Size<br>A | Morse Taper Hole<br>B | Body Dia<br>C | Body Length<br>D | Min. Proj.<br>E | Axial Adjust-ment<br>F | LCS Tool Number |
|----------------------------|-----------------------|---------------|------------------|-----------------|------------------------|-----------------|
| Tr 20 × 2                  | 1                     | 44.5          | 37.0             | 53.0            | 28.0                   | 09923           |
| Tr 28 × 2                  | 1                     | 44.5          | 37.0             | 53.0            | 30.0                   | 09924           |
| Tr 28 × 2                  | 2                     | 55.6          | 44.0             | 59.0            | 30.0                   | 09925           |
| Tr 36 × 2                  | 2                     | 55.6          | 44.0             | 61.0            | 36.0                   | 09926           |
| Tr 36 × 2                  | 3                     | 71.4          | 52.0             | 70.4            | 36.0                   | 09927           |
| Tr 48 × 2                  | 3                     | 71.4          | 52.0             | 74.4            | 47.0                   | 09928           |
| Tr 48 × 2                  | 4                     | 88.9          | 58.0             | 80.0            | 47.0                   | 09929           |

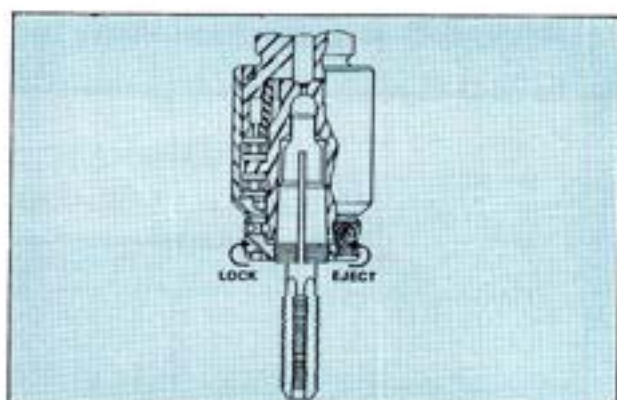
NOTE :- Parallel Float from Centre line is 0.40 m.m.  
WHEN ORDERING :- Specify LCS Tool Number.  
JAS floating holders are also available in parallel shanks (Details upon requests)

## “JT” FLOATING HOLDERS

### MANY FACTORS AFFECT PROPER ALIGNMENT

LCS “JT” Lock-and-Eject Floating Holders provide fast, easy tool changes and are ideal for use in multiple-spindle machines, with straight shanks for use in turret lathe and screw machines, and with Morse taper shanks for use in machines having taper holes in the spindles. Ideal for close-centre operations and for use where distance between spindle and work is limited.

This chucking principle permits quick, easy tool changes. The threaded nut on the nose of “JT” Floating Holder revolves freely on ball bearings drawing the threaded lock-and-eject chuck into taper seat and compressing it evenly on the shank of cutting tool. The chuck and cutting tool may be ejected



separately or together by reversing the rotation of the threaded nut. Spanner wrench holes on O.D. and face of nut permit easy tool changes, even in a close cluster of spindles. The threaded lock-and-eject nut stays on the holder and eliminates the use of a conventional type drift.

LCS Lock-and-Eject Floating Holders Provide Many Benefits :-

1. Close tolerances easily held
2. Less downtime and damage to cutting tools
3. Quick tool changes
4. Trouble-free performance
5. Low maintenance

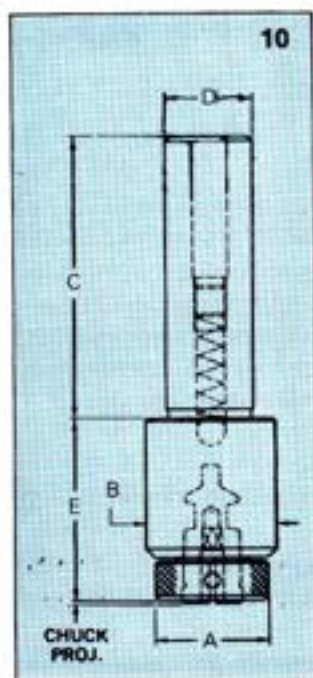
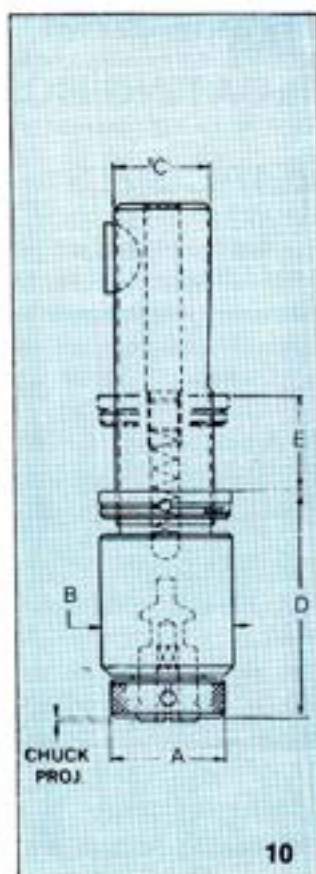




# "JT" FLOATING HOLDERS

## ADJUSTABLE ADAPTOR SHANKS

| WITH SPRING-LOADED CENTREING BALL AND WITHOUT CHUCKS |              |              |              |              |              |              |              |              |              |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Style Size   | "JT-1"       |              |              | "JT-2"       |              |              | "JT-3"       |              |              |
| Nut Diam. A  | 1 1/4"       |              |              | 1 5/8"       |              |              | 2 1/8"       |              |              |
| Chuck Proj.  | 1/8" Approx. |              |              | 1/8" Approx. |              |              | 0-3/32"      |              |              |
| Body Diam. B   | 1 1/2"       |              |              | 1 3/8"       |              |              | 2 1/2"       |              |              |
| Parallel Float                                       | 1/32"        |              |              | 1/32"        |              |              | 1/32"        |              |              |
| Shank and Thread Size C                              | LCS Tool No. | Min. Proj. D | Axial Adj. E | LCS Tool No. | Min. Proj. D | Axial Adj. E | LCS Tool No. | Min. Proj. D | Axial Adj. E |
| 1/2-16   | 1037100      | 2 5/8        | 3/8          |              |              |              |              |              |              |
| 3/8-16   | 1037105      | 2 5/8        | 3/8          |              |              |              |              |              |              |
| 1/2-12   | 1037110      | 2 5/8        | 3/8          |              |              |              |              |              |              |
| 3/8-12   | 1037115      | 2 5/8        | 1            |              |              |              |              |              |              |
| 1-12   | 1037120      | 2 5/8        | 1            | 1037300      | 3 7/16       | 1            |              |              |              |
| 1 1/16-12  | 1037125      | 2 5/8        | 1            | 1037305      | 3 7/16       | 1            |              |              |              |
| 1 3/8-12   | 1037130      | 2 5/8        | 1            | 1037310      | 3 7/16       | 1 1/8        | 1037500      | 3 3/8        | 1 1/8        |
| 1 1/2-12   |              |              |              |              |              |              | 1037505      | 3 3/8        | 1 1/8        |



## PARALLEL SHANKS

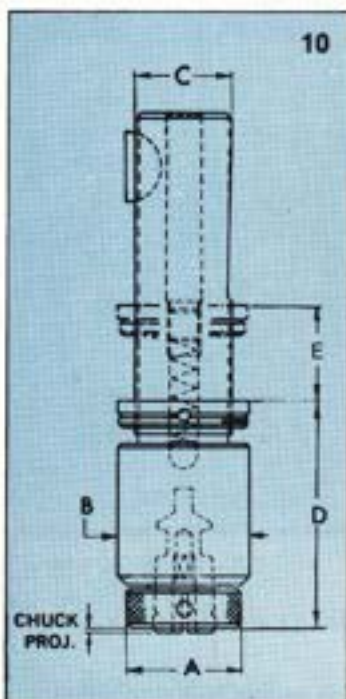
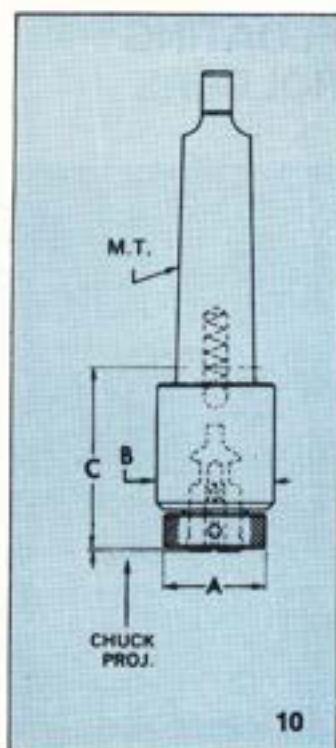
| WITH SPRING-LOADED CENTREING BALL AND WITHOUT CHUCKS |              |               |              |               |              |               |
|--|--------------|---------------|--------------|---------------|--------------|---------------|
| Style Size   | "JT-1"       |               | "JT-2"       |               | "JT-3"       |               |
| Nut Diam. A  | 1 1/4"       |               | 1 5/8"       |               | 2 1/8"       |               |
| Chuck Proj.  | 1/8" Approx. |               | 1/8" Approx. |               | 0-3/32"      |               |
| Body Diam. B   | 1 1/2"       |               | 1 3/8"       |               | 2 1/2"       |               |
| Shank Length C                                       | 3"           |               | 4"           |               | 5"           |               |
| Parallel Float                                       | 1/32"        |               | 1/32"        |               | 1/32"        |               |
| Shank Diameter D                                     | LCS Tool No. | Body length E | LCS Tool No. | Body length E | LCS Tool No. | Body length E |
| 1/2  | 1037135      | 2 5/32        |              |               |              |               |
| 3/4  | 1037140      | 2 5/32        | 1037315      | 2 19/32       |              |               |
| 1  | 1037145      | 2 5/32        | 1037320      | 2 19/32       |              |               |
| 1 1/4  |              |               | 1037325      | 2 19/32       | 1037510      | 3 3/32        |
| 1 1/2  |              |               | 1037330      | 2 19/32       | 1037515      | 3 3/32        |
| 1 3/4  |              |               |              |               | 1037520      | 3 3/32        |



## "JT" FLOATING HOLDERS

### MORSE TAPER SHANKS

| WITH SPRING-LOADED CENTREING BALL AND WITHOUT CHUCKS |              |              |              |              |              |              |
|--|--------------|--------------|--------------|--------------|--------------|--------------|
| Style Size   | "JT-1"       |              | "JT-2"       |              | "JT-3"       |              |
| Nut Diam. A  | 1 1/4"       |              | 1 1/8"       |              | 2 1/8"       |              |
| Chuck Proj   | 1/8" Approx. |              | 1/8" Approx. |              | 0-1/32"      |              |
| Body Diam. B   | 1 1/2"       |              | 1 3/8"       |              | 2 1/2"       |              |
| Parallel Float                                       | 1/32"        |              | 1/32"        |              | 1/32"        |              |
| Morse Taper No.                                      | LCS Tool No. | Projection C | LCS Tool No. | Projection C | LCS Tool No. | Projection C |
| 1  | 1037175      | 2.9/32       |              |              |              |              |
| 2  | 1037180      | 2.11/32      | 1037335      | 2.25/32      |              |              |
| 3  | 1037185      | 2.11/32      | 1037340      | 2.25/32      | 1037535      | 3.9/32       |
| 4  |              |              | 1037345      | 2.27/32      | 1037540      | 3.11/32      |
| 5  |              |              |              |              | 1037545      | 3.11/32      |



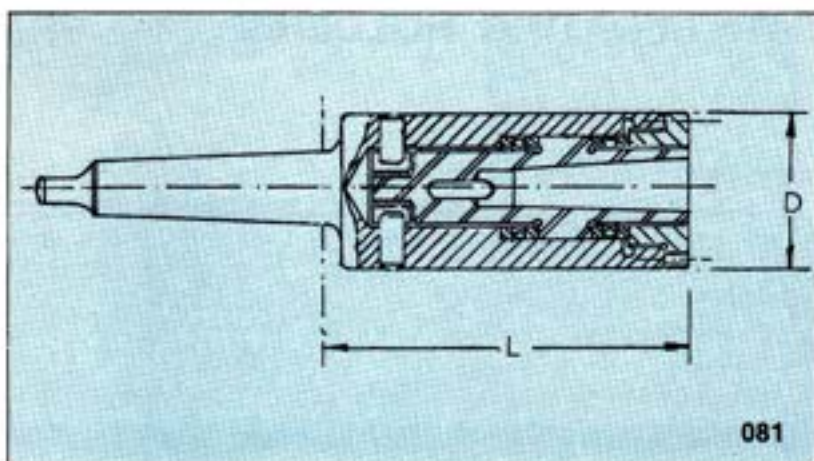
### ADJUSTABLE ADAPTOR SHANKS Metric Sizes

| WITH SPRING-LOADED CENTREING BALL AND WITHOUT CHUCKS |                         |             |              |             |              |                     |                |              |
|--|-------------------------|-------------|--------------|-------------|--------------|---------------------|----------------|--------------|
| Size   | Shank and Thread Size C | Min. Proj D | Axial Adj. E | Nut Diam. A | Body Diam. B | Chuck Proj. Approx. | Parallel Float | LCS Tool No. |
| JT-1   | Tr 16 x 1.5             | 69          | 28           | 32          | 38           | 4                   | .8             | 1037205      |
|  | Tr 20 x 2.0             | 69          | 28           | 32          | 38           | 4                   | .8             | 1037210      |
|  | Tr 28 x 2.0             | 69          | 30           | 32          | 38           | 4                   | .8             | 1037215      |
|  | Tr 36 x 2.0             | 71          | 36           | 32          | 38           | 4                   | .8             | 1037220      |
| JT-2   | Tr 28 x 2.0             | 82          | 30           | 41.3        | 47.4         | 4                   | .8             | 1037400      |
|  | Tr 36 x 2.0             | 84          | 36           | 41.3        | 47.4         | 4                   | .8             | 1037405      |
| JT-3   | Tr 36 x 2.0             | 95          | 36           | 54          | 63.3         | 0                   | .8             | 1037600      |
|  | Tr 48 x 2.0             | 99          | 47           | 54          | 63.3         | 0                   | .8             | 1037605      |

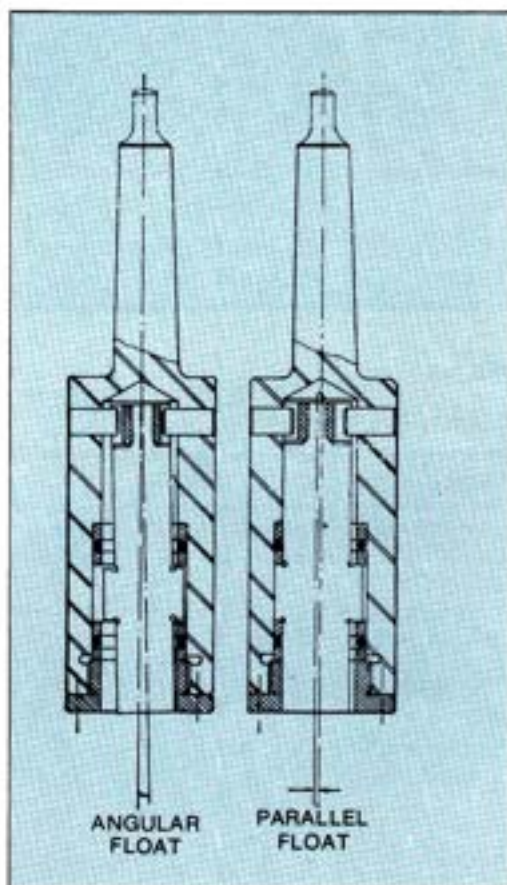




## FLOATING HOLDERS



COMPENSATES FOR MISALIGNMENT



\* 081 Type Floating holders are also available in parallel shanks and threaded shanks (Details upon request)

| Shank Morse Taper | Bore Morse Taper | L Projection | D Dia. of Body |
|-------------------|------------------|--------------|----------------|
| 1                 | 1                | 102          | 40             |
| 1                 | 2                | 120          | 44             |
| 2                 | 1                | 104          | 40             |
| 2                 | 2                | 120          | 44             |
| 2                 | 3                | 138          | 49             |
| 3                 | 1                | 104          | 40             |
| 3                 | 2                | 120          | 44             |
| 3                 | 3                | 138          | 49             |
| 3                 | 4                | 164          | 57             |
| 4                 | 1                | 105          | 40             |
| 4                 | 2                | 122          | 44             |
| 4                 | 3                | 138          | 49             |
| 4                 | 4                | 164          | 57             |
| 4                 | 5                | 200          | 69             |
| 5                 | 2                | 122          | 44             |
| 5                 | 3                | 140          | 49             |
| 5                 | 4                | 164          | 57             |
| 5                 | 5                | 200          | 69             |

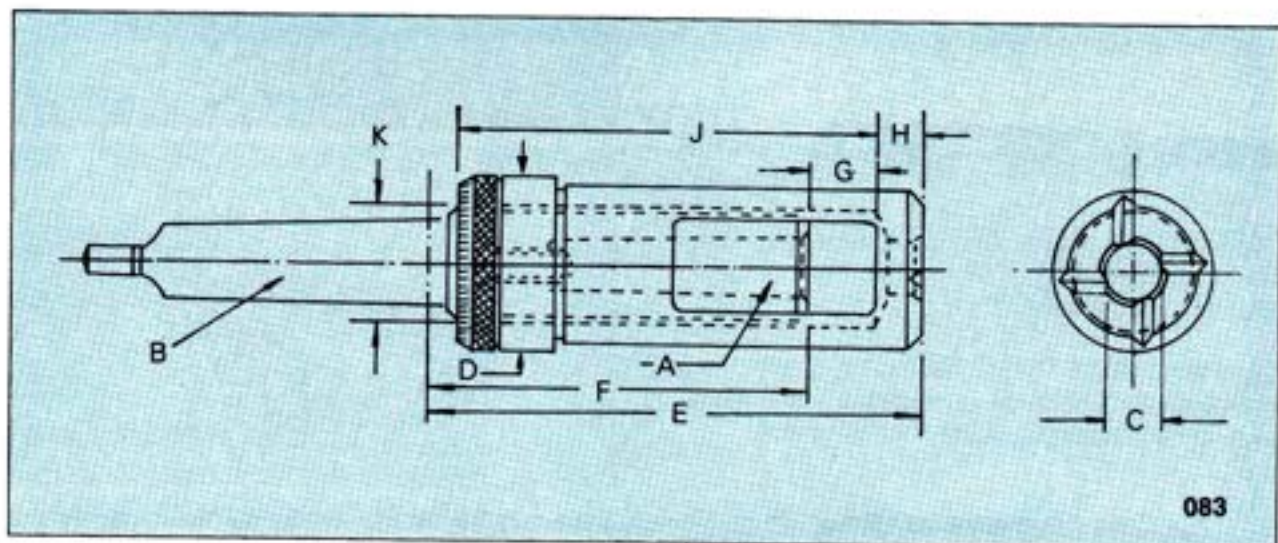
Ordering Example : 081—Shank MT-1 X Bore MT-1

**Note :**

Holders will be furnished to provide parallel float only, unless otherwise specified. If universal or angular, float is desired please specify when ordering.



## DRILL STOPS



083

### SPECIFICATIONS

| S.J.<br>ASSEMBLY<br>NUMBER | Morse<br>Taper Number |         | Hole<br>Dia-<br>meter<br>in Nose | Major<br>Dia-<br>meter | Minimum<br>and Maximum<br>Projection | Socket<br>Pro-<br>jection | Minimum<br>Clearance | Nose<br>Thick-<br>ness | Bore<br>Length | Socket<br>Dia. and<br>Thread Size | LCS<br>Tool No. |
|----------------------------|-----------------------|---------|----------------------------------|------------------------|--------------------------------------|---------------------------|----------------------|------------------------|----------------|-----------------------------------|-----------------|
|                            | Inside                | Outside |                                  |                        |                                      |                           |                      |                        |                |                                   |                 |
|                            | A                     | B       | *C                               | D                      | E                                    | F                         | G                    | H                      | J              | K                                 |                 |
| 75200                      | 1                     | 2       | 3/4                              | 1 1/2                  | 3 1/16-5 3/8                         | 3/4                       | —                    | 7/16                   | 2 1/16         | 1-12                              | 083-200         |
| 75206                      | 1                     | 2       | 15/32                            | 1 1/2                  | 4 1/8-6 9/16                         | 3/4                       | 1/2                  | 3/8                    | 3 9/16         | 1-12                              | 083-206         |
| 75210                      | 2                     | 3       | 7/16                             | 1 9/16                 | 4 9/16-7                             | 3 3/8                     | —                    | 3/8                    | 3 3/8          | 1 1/16-12                         | 083-210         |
| 75216                      | 2                     | 3       | 25/32                            | 1 9/16                 | 5 1/4-8 9/16                         | 3 3/8                     | 1                    | 7/16                   | 4 3/8          | 1 1/16-12                         | 083-216         |
| 75220                      | 3                     | 3       | 15/16                            | 2                      | 5 5/8-9 1/4                          | 4 13/16                   | —                    | 9/16                   | 4 1/2          | 1 1/16-12                         | 083-220         |
| 75226                      | 3                     | 3       | 1 1/16                           | 2                      | 6 3/8-10 3/8                         | 4 13/16                   | 1                    | 5/8                    | 5 9/16         | 1 1/16-12                         | 083-226         |
| 75230                      | 4                     | 4       | 1 1/32                           | 2 1/2                  | 7 3/8-11 1 1/16                      | 5 13/16                   | 3/8                  | 13/16                  | 6 1/16         | 1 3/8-12                          | 083-230         |
| 75236                      | 4                     | 4       | 1 1/2                            | 2 1/2                  | 9-13 9/16                            | 5 13/16                   | 2 3/8                | 1 1/16                 | 8 1/16         | 1 3/8-12                          | 083-236         |

\* Dimensions shown in column "C" also indicate maximum drill size which can be used in Drill Stops.  
Ordering Example : 083-200.





## QUICK CHANGE TAPPING CHUCKS AND ADAPTORS



**Type WFLP** Quick Change Chuck with length compensation acting on compression and radial parallel floating device.

**Type WFLP-DZ** Quick Change Chuck with length compensation acting on compression and expansion and with radial parallel floating device.



**Type WFL** Quick Change Chuck with length compensation acting on compression

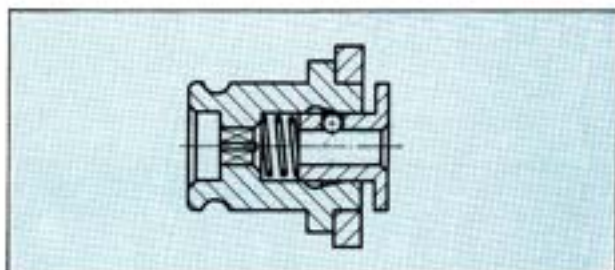
**Type WFL-DZ** Quick Change Chuck with length compensation acting on compression and expansion.



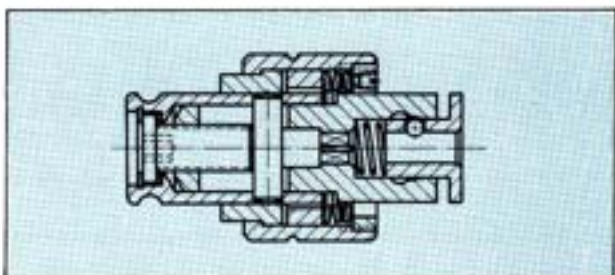
**Type WFP** Quick Change Chuck with radial parallel floating action.



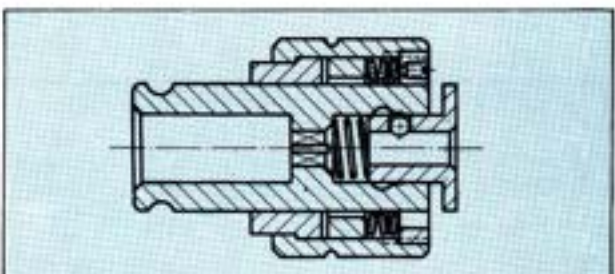
**Type WF** Quick Change Chuck



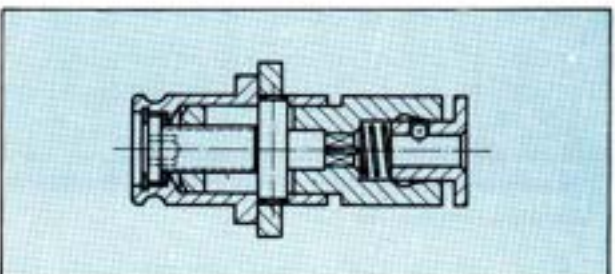
**Type L-WE** Quick Change Tap Adaptor



**Type L-WEN** Quick Change Tap Adaptor with axial length adjustment



**Type L-WES/B** Quick Change Tap Adaptor with adjustable torque control safety clutch.



**Type L-WESN/B** Quick Change adaptor with adjustable torque control safety clutch and axial length adjustment.

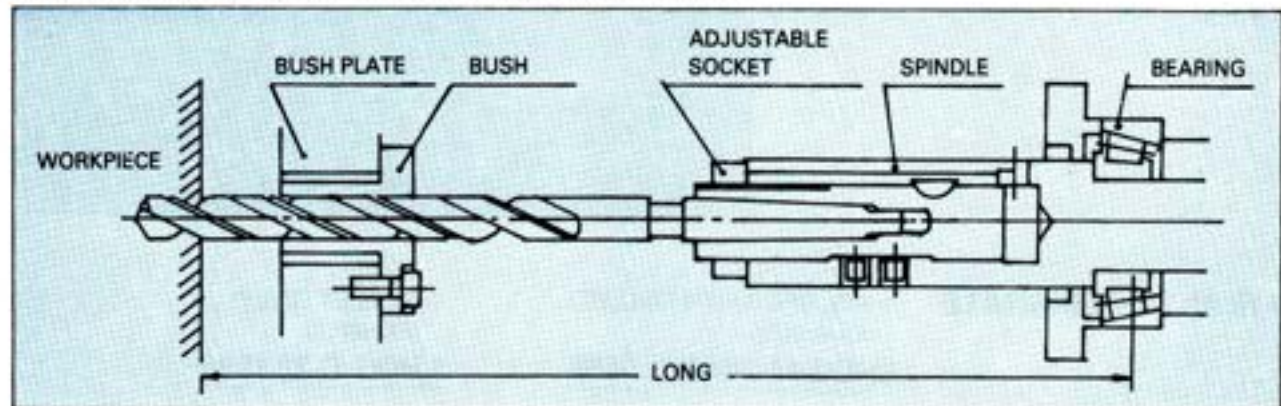
Detailed catalogue available on request



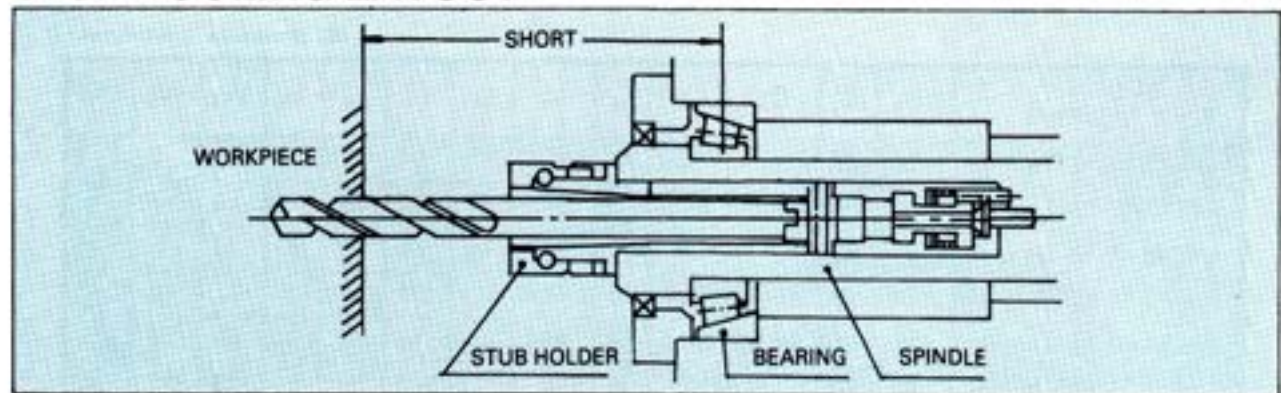
## RAPID CHANGE STUB HOLDER

(FUJI SEIKO TYPE)

### CONVENTIONAL TOOLING LAYOUT



### STUB TOOLING LAYOUT



#### ADVANTAGES OF STUB TOOLING

1. Since the flute length is set at the necessary minimum (depth of hole + length for regrinding), rigidity of drill is extremely high.
2. The distance between spindle tip and drill tip is also set at the necessary minimum (depth of hole + chip pocket + projection of Stub Holder) to lessen the whipping of drill and to make bushing unnecessary.
3. Having no bush, there is no need for the alignment between spindle center and bush.
4. Without bush, the removal of metal chips will be smooth.
5. The stroke of spindle unit will be the necessary minimum (depth of hole + length of Stub Holder + allowance).
6. Since there is no bush and the stroke of spindle unit is small, the machine is made smaller and space is utilized efficiently.
7. Since there is no need to have bush, designing of machine and tooling can be simplified.

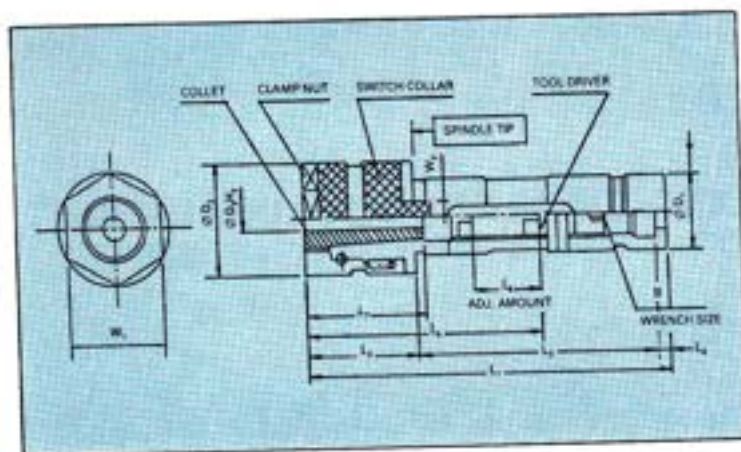




# RAPID CHANGE STUB HOLDER

(FUJI SEIKO TYPE)

# LHDG STUB HOLDER



## ■ HOW TO DESIGNATE

○ HOLDER (WITH COLLET):  
(EXAMPLE)

**LHDG-M-26AD × 1595**

STUB HOLDER CODE    COLLET I.D. (D3)

○ COLLET ONLY:  
(EXAMPLE)

**LHDG-C-26 1595**

COLLET CODE    COLLET I.D. (D3)

(All dimensions in millimeter.)

| LCS TOOL NUMBER | D <sub>1</sub> | D <sub>2</sub> | D <sub>3</sub> | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | L <sub>7</sub> | W <sub>1</sub> | W <sub>2</sub> | B |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---|
| LHDG-M-16AD**** | 16             | 24             | 5~8            | 80.5           | 28             | 50             | 2.5            | 51             | 20             | 25             | 21             | 6              | 4 |
| LHDG-M-19AD**** | 19             | 28             | 5~9            | 91.5           |                | 60.5           | 3              | 59             | 25             | 30             | 24             | 7              |   |
| LHDG-M-22AD**** | 22             | 32             | 5~12           | 97             |                | 65.5           | 3.5            | 64             | 28             |                | 27             | 8              |   |
| LHDG-M-26AD**** | 26             | 36             | 5~16           | 106.5          | 32             | 74.5           | 4              | 71             | 33             | 50             | 32             | 10             | 6 |
| LHDG-M-35AD**** | 35             | 46             | 8~22           | 130.5          |                | 94.5           | 5              | 89             | 35             |                | 41             | 14             |   |
| LHDG-M-48AD**** | 48             | 62             | 20~32          | 152            |                | 109            |                | 105            | 50             |                | 55             | 18             |   |

Note: \*\*\*\* shows the I.D. of collet. (two digits below zero)

Example:  $\phi 15.50$  1550  
 $\phi 8$  0800

