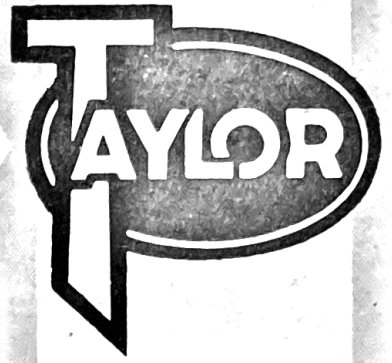
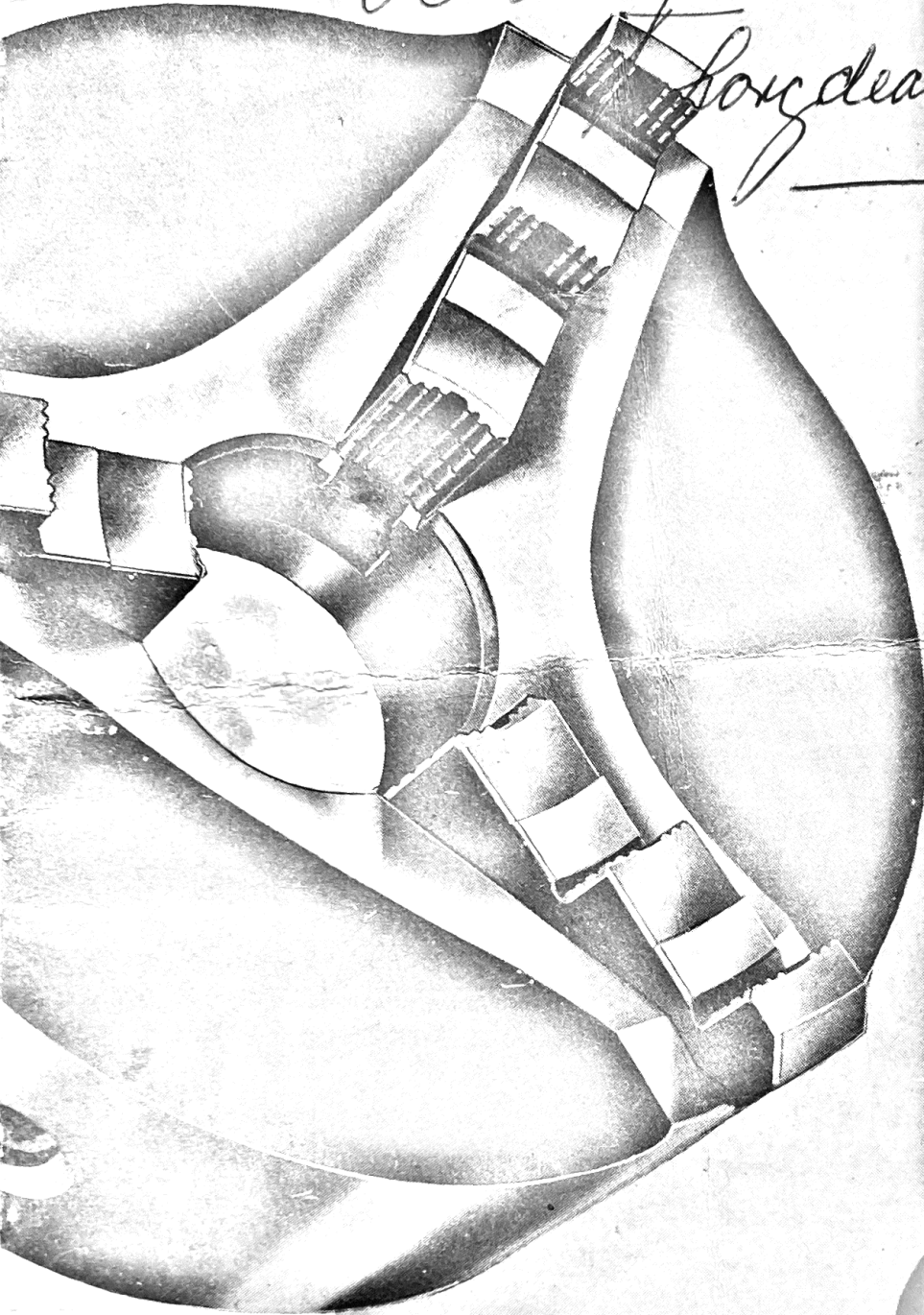


To be returned

**SELF-CENTRING
CHUCKS**

OPERATOR'S INSTRUCTION MANUAL

*A. Lincow
Hoyden*



This booklet has been compiled to assist the operator in the correct mounting servicing and use of the TAYLOR chuck.

Please pass to the operator to keep for reference.

**THIS CHUCK IS
DOUBLE GUARANTEED**
1. GUARANTEED ACCURATE.
**2. GUARANTEED FOR TWO
YEARS AGAINST BREAKAGE.**

See inside for details

GUARANTEE



THIS CHUCK HAS A DOUBLE GUARANTEE

1

BREAKAGE

We guarantee to replace free of charge all parts broken, from whatever cause, within TWO YEARS of purchase. A charge is however made for fitting, should this be required.

2

ACCURACY

This chuck is guaranteed to be accurate within the following limits, when accurately mounted, in new condition and the jaws used are those supplied with it, the key to be used in No. 1 pinion.

FIG. 1 JAWS (Fig. 21 for 4 jaw)

When gripping a perfectly true, hardened and ground disc in the steps, indicator to read within 0.002" (0,05 mm) at $1\frac{1}{2}$ " to 2" (38-50 mm) from face of jaws, except for the 20" (510 mm) size chuck, for which the limit is 0.003" (0,08 mm).

FIG. 2 JAWS (Fig. 22 for 4 jaw)

When gripping a perfectly true, hardened and ground bar, indicator to read within 0.002" (0,05 mm) at 3" (76 mm) from face of jaws, except the 20" (510 mm) size chuck for which the limit is 0.003" (0,08 mm).

FIG. 552 JAWS (Fig. 654 for 4 jaw)

When gripping on the inside diameter of a perfectly true hardened and ground ring, indicator to read within 0.003" (0,08 mm) on outside diameter of ring, except for the 20" size chuck (510 mm), for which the limit is 0.005" (0,13 mm).

Axial deviation of faces of jaws to be within 0.002" (0,05 mm) for external gripping jaws and 0.003" (0,08 mm) for internal gripping jaws, except for the 20" (510 mm) size chuck for which the axial deviation of external gripping jaws is 0.003" (0,08 mm) and for internal gripping jaws is 0.005" (0,13 mm).

TEST OF ACCURACY

To be made in the manner described in British Standard Specification B.S. 1983 : 1953.

MOUNTING INSTRUCTIONS

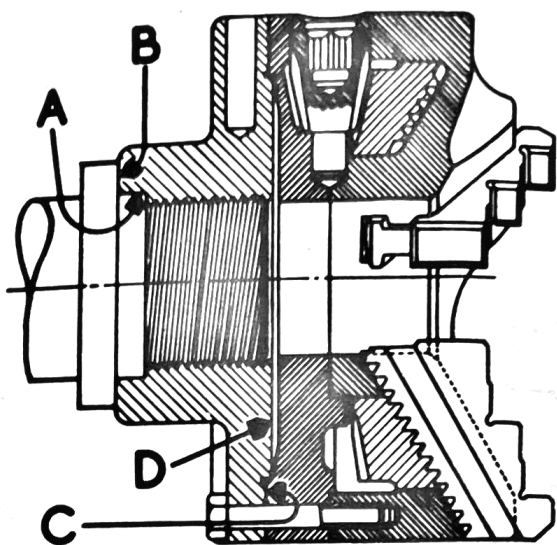


Fig. 14

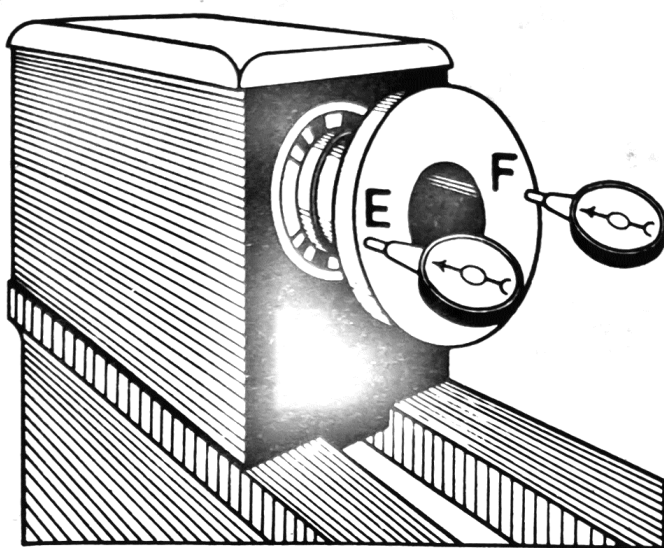


Fig. 15

TAYLOR CHUCKS may be relied upon to be accurate in themselves.

If they are found not to run true, the fault may be either in the mounting or the lathe spindle.

It is important that every care should be taken to machine and mount adapters accurately. This is not always a simple matter.

If your spindle has a plain parallel part at the end of the thread as shown at **A**, Fig. 14, test this for perfect truth, also test the face of the spindle flange at **B**. Cut the thread in the adapter an easy fit on the spindle. If this is done, the parallel fit between the spindle and the adapter will maintain the accuracy, the thread only having to hold the adapter on. If the thread alone is relied upon, it is impossible to maintain perfect accuracy.

It is also **VERY IMPORTANT** that the face **C**, and the bung **D** fitting the recess in the back of the chuck, should be finished when in position on the lathe spindle.

The flange **C** of the adapter must fit against the back of the chuck, and the bung **D** must clear the bottom of the recess as shown in Fig. 14. See that the face **C** is flat and test it **ON EACH SIDE OF THE SPINDLE** by the method indicated at **E** and **F**, Fig. 15. The machine spindle may be oscillating, and not be facing flat.

The screw holes in the adapter should be large enough to ensure that the screws do not bind in them.

See that the spigot is well on the recess before tightening up the bolts, otherwise the recess will be damaged and the accuracy of the chuck suffer.

Should you be unable to bore and screw cut the adapter yourselves, forward the lathe spindle and we will fit the adapter at moderate cost, or send any chuck or adapter you have well fitting the spindle nose. We will then screw cut a plug, screw the adapter to this plug, and finish the adapter on it.

WE KEEP A LARGE STOCK OF ADAPTER CASTINGS TO SUIT ALL REGULAR SIZE OF MACHINE SPINDLES, AND CAN QUICKLY SUPPLY CASTINGS FOR ANY SIZE AND TYPE OF SPINDLE

Special mounting instructions for 20" diameter chucks, see page 4.

CONSTRUCTION

10 TO 16 in. SIZES

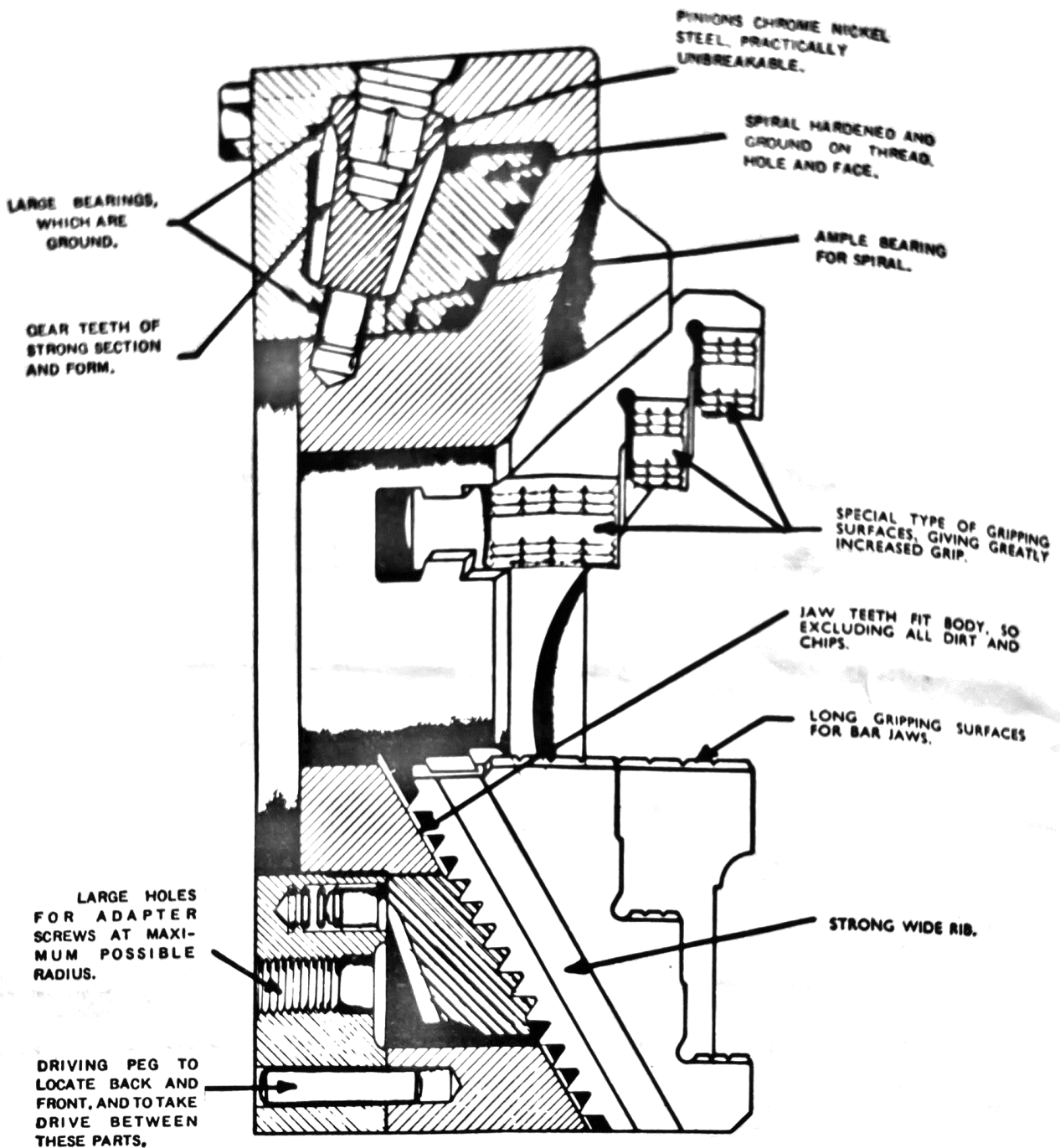


Fig. 909

LUBRICATION. Some of the cutting compounds in use to-day have a distinct corrosive effect upon the working parts of the Chuck. This can be modified by regular cleaning and oiling. A thick oil or grease is preferable, for the reason that it stays longer.

USEFUL NOTES

Tighten up the screws holding the Chuck to the adapter after the first few hours of heavy work.

For work of extreme accuracy use the No. 1 pinion all the time. This is the pinion we ourselves use when the jaws are ground.

WHEN CHANGING THE JAWS BE SURE THAT THE NUMBER OF THE JAWS CORRESPONDS WITH THE NUMBER ON THE CHUCK BODY. THIS WILL ENSURE MAXIMUM ACCURACY.

The original standard size recess in the back of the chuck should not be enlarged in any way.

TO TAKE THE CHUCK APART. Remove the adapter and wind out the jaws. Take out the six bolts which hold the body together in 10 in. to 20 in. sizes (in the 4½ in. to 8½ in. sizes there are only two keeper screws to be removed). Then take a short piece of rod of such a diameter that it will clear the threads in the bolt holes and sharply tap this in the **bottom of the bolt hole nearest the dowel peg**, when the back and front will readily come apart, see Fig. 851.

After removing the pinions (and in the case of 4½" to 8½", the spring ring), take the front part of the body, which contains the spiral, in the left hand and tap the face at "A", Fig. 852 with a lead or hide hammer, taking care not to injure

the face in doing so. The spiral will come out after a few taps have been given with the front rotated one third after each tap.

ASSEMBLING

When assembling the chuck, see that the joint faces of the back and front are entirely free from bruises or grit.

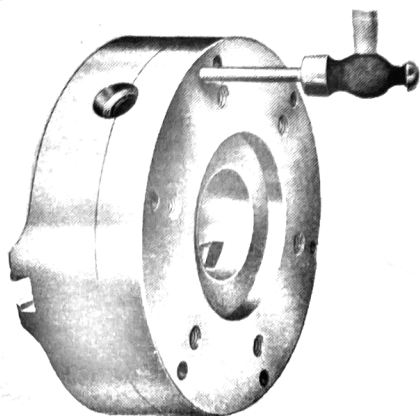


Fig. 851

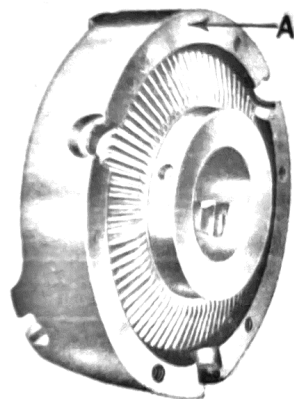
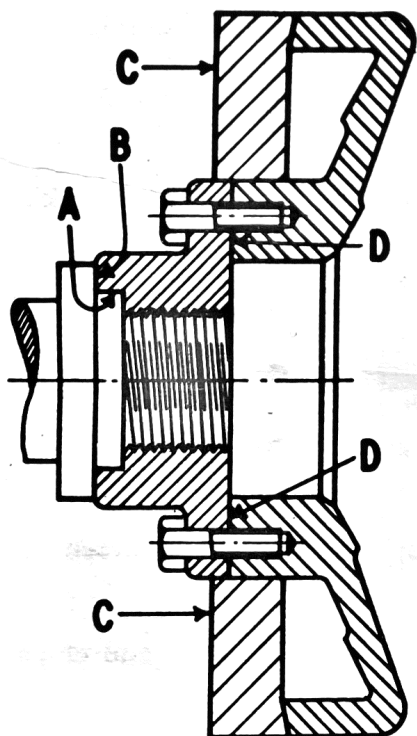


Fig. 852

TAYLOR 20" DIAMETER CHUCKS MOUNTING INSTRUCTIONS

The adapter fixing holes in the 20" chuck are inside the chuck locating recess. The chuck adapter must, therefore, fit inside the recess and pull against the face 'D'. If the adapter is larger than the diameter of the locating recess, it is essential that it is clear of face 'C'.



To ensure the accuracy of the chuck, it is essential that the adapter face 'D' is flat and tested on each side of the spindle as indicated on Fig. 15, page 2. The machine spindle may be oscillating and not be facing flat. This error, if apparent, must be corrected before mounting the chuck.

HEIGHT LOCATION STUDS FOR REPETITION WORK

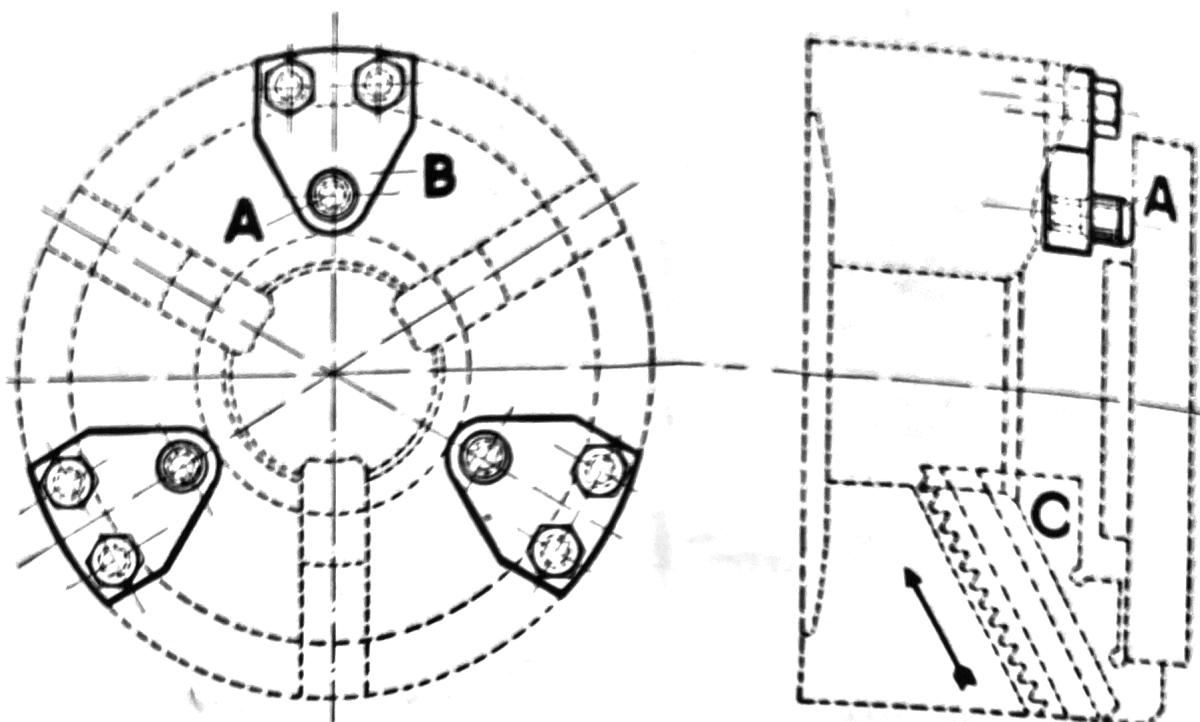


Fig. 1252

These Height Locators can be arranged to locate from any part of the work and ensure all pieces being exactly the same thickness. The work is also held more solidly as the Chuck Jaws C, moving inwards at an angle in the direction of the arrow shown in Fig. 1252, pull the work down on to the locating studs A which are held in position by the brackets B fitted to the face of the Chuck.

DON'TS

- DON'T** extend the keylever. The key supplied is of suitable length.
- DON'T** use a badly fitting key in the pinions. It tends to burst them.
- DON'T** persist in turning the key if any obstacle is felt when winding the jaws. Strip the chuck and remove the obstacle ; it may save the pinions and spiral.
- DON'T** use the key in the pinions when removing the chuck from the machine spindle. Use the holes provided for that purpose in adapter.
- DON'T** use the chuck too often, or too hard, on work that is larger than the chuck's capacity.
- DON'T** start the machine without first revolving the spindle by hand. Make sure the chuck jaws will clear any obstructions.
- DON'T** alter the recess in the back of the chuck when it is not holding accurately ; the trouble is probably in the mounting. If you are sure this is not at fault, return the chuck for examination.
- DON'T** run the chuck off the spindle carelessly. You may do damage to yourself or the machine.
- DON'T** throw the chuck on the floor when not in use, and so allow dirt and chips to enter adapter threads and chuck mechanism.

NUMBERING PROCEDURE

THE WAY IN WHICH TAYLOR CHUCK JAWS AND BODIES ARE NUMBERED TO CONSTITUTE A SET (3 JAW CHUCKS)

All parts of the **TAYLOR** chuck are interchangeable, including the **SETS** of jaws but it is important that the jaws do not get mixed as **ONE JAW** of a set cannot commercially be made interchangeable with **ONE JAW OF ANOTHER SET**. The jaws are machined and ground into sets of two, three or four jaws, depending on type and they must be kept in those sets.

Each jaw is stamped with a serial number (e.g. - K.66) and a set of jaws must all bear the same number, otherwise they do not constitute a set.

The body of each chuck has the jaw numbers stamped at the No. 1 jaw slot.

The **SERIAL NUMBER OF THE CHUCK** is stamped on the back face of the chuck. This number should be quoted in any correspondence regarding the chuck.

COMPLAINTS

In the event of any complaint regarding this chuck the following details must be submitted:—

1. Size and type of chuck and the Serial Number.
2. Type of jaws and their Serial Numbers.
3. Date of purchase.
4. Full details of query or complaint.

PRINCIPAL DIMENSIONS

TAYLOR 3 AND 4 JAW CHUCKS

OUTLINE OF CHUCK WITH JAWS IN EXTREME POSITION

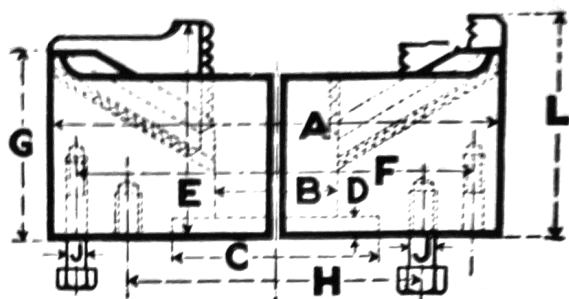


Fig. 1286

IN the table of dimensions below, the sizes given as the standard bores are those to which the chucks are made and stocked. The sizes given as maximum bores are those to which the chucks can be bored at an extra charge if it is required to pass larger work through the bore of the chuck.

WE recommend that the bore of the chuck should not be increased more than absolutely necessary, as it reduces the bearing and support of the jaws when holding small work.

APPROXIMATE DIMENSIONS OF 3 AND 4-JAW CHUCKS

DIAMETER OF CHUCK ... ins.	A	4½	5½	6½	8½	10	12	16	20
STANDARD CAPACITY									
With Fig. 1 or 21 Jaws ... ins.	Min.	¾	¾	7/8	7/8	1 1/8	7/8	1 1/8	1 1/8
	Max.	3/4	4/4	5/8	7/8	8/8	10/8	14/8	17/8
With Fig. 2 or 22 Jaws ... ins.	Min.	¾	¾	7/8	7/8	1 1/8	7/8	1 1/8	1 1/8
	Max.	¾	1	1 1/4	2 1/8	2 1/8	3 1/4	5	6 1/4
Or with special small grip Fig. 2 or 22 Jaws ... ins.	Min.	—	—	¾	7/8	1	1	—	—
With Fig. 552 or 654 Jaws in Bar Grip ... ins.	Min.	¾	¾	7/8	7/8	1 1/8	7/8	1 1/8	1 1/8
	Max.	¾	1	1 1/4	2 1/8	2 1/8	3 1/4	5	6 1/4
STANDARD BORE ... ins.	B	1 1/8	1 1/8	1 1/8	2 1/8	2 1/8	3 1/8	5 1/8	7
MAXIMUM BORE (Extra charge) ... ins.		1 1/8	1 1/8	1 1/8	2 1/8	3 1/8	5 1/8	6 1/8	8 1/8
Diameter of recess at back ... ins.	C	3 7/8	3 7/8	4 3/8	6 1/8	4 1/8	6 1/8	9 1/8	11
Depth of recess at back ... ins.	D	3/8	3/8	3/8	1/8	1/8	7/8	7/8	7/8
Maximum distance from back of Chuck to top of Fig. 2 Jaws ... ins.	E	3 7/8	3 1/8	4 1/8	4 1/8	5 7/8	5 1/8	6 1/8	6 1/8
Centres of body and adapter plate screw holes (4½" to 8½" sizes) ... ins.	F	3 1/8	4 1/8	5 1/8	7 1/8	—	—	—	—
Centres of adapter plate screws (10" to 20" sizes) ... ins.	H	—	—	—	—	6 1/8	8 1/8	12 1/8	9 1/8
Depth of Chuck body ... ins.	G	2 1/8	3 1/8	3 1/8	4 3/8	4 1/8	4 1/8	5 3/8	5 1/8
Diameter of adapter screws ... ins.	J	1/8	1/8	1/8	7/8	1/8	1/8	1/8	1/8
Maximum distance from back of Chuck to top of Fig. 1 Jaws ... ins.	L	3 7/8	3 1/8	4 1/8	4 1/8	5 7/8	5 1/8	6 1/8	7

SPARE PARTS

ALL PARTS MADE TO LIMIT GAUGES AND INTERCHANGEABLE

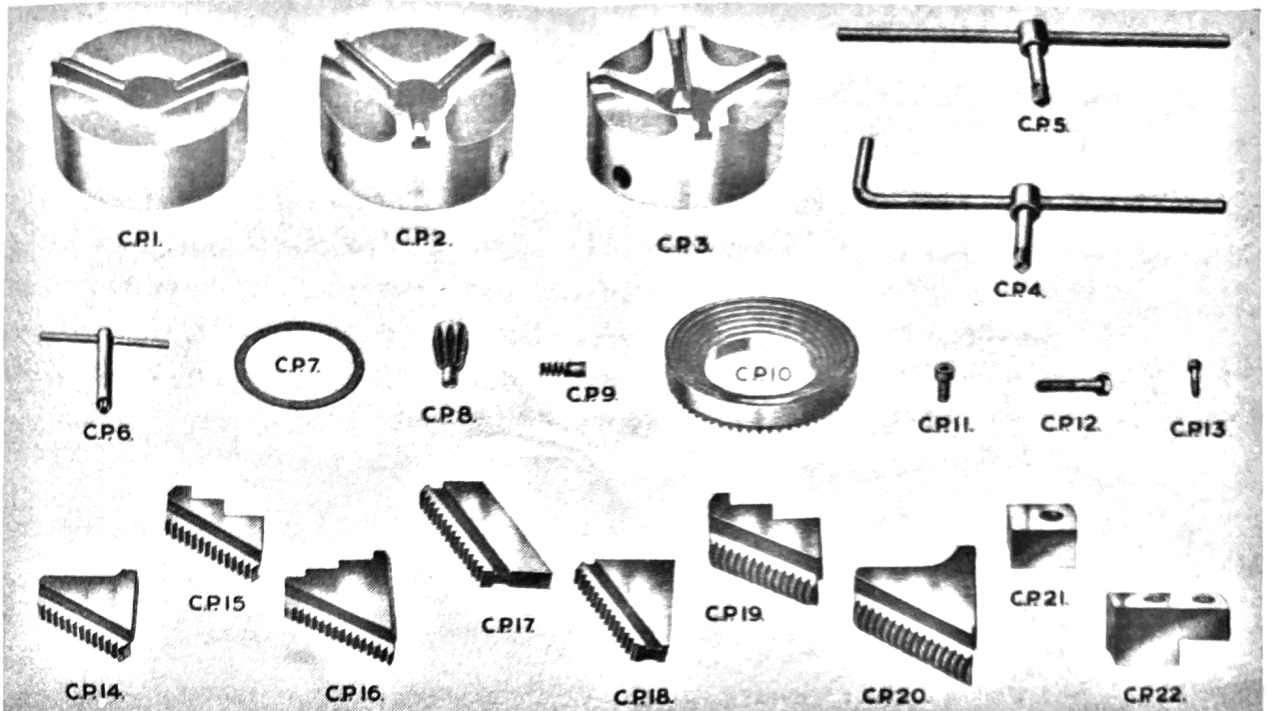


Fig. 914

DESCRIPTION OF COMPONENT PARTS

C.P.1	Body of Two-Jaw Chuck	C.P.12	Adapter Screws
C.P.2	Body of Three-Jaw Chuck	C.P.13	Keeper Screw ($4\frac{1}{2}$ to $8\frac{1}{2}$ in. Chucks only)
C.P.3	Body of Four-Jaw Chuck	C.P.14	Jaws for Bar work for Three- and Four-Jaw Chucks
C.P.4	Key for Two-Jaw Chuck	C.P.15	Jaws for Lathe work for Three- and Four-Jaw Chucks
C.P.5	Key for Three- and Four-Jaw Chucks	C.P.16	Jaws for gripping internally for Three- and Four-Jaw Chucks
C.P.6	Socket Key for Two-Jaw Chuck False Jaw Screws	C.P.17	Soft Jaw Blank for Three- and Four-Jaw Chucks
C.P.7	Spring Rings for $4\frac{1}{2}$ to $8\frac{1}{2}$ in. Chucks	C.P.18	Soft Jaw Blank for Three- and Four-Jaw Chucks
C.P.8	Pinion for Two-, Three- and Four-Jaw Chucks	C.P.19	Jaw for Two-Jaw Chuck
C.P.9	Plunger and Spring for 10 to 16 in. Chucks	C.P.20	Jaw for Bar work for Two-Jaw Chuck
C.P.10	Spiral for Two-, Three- and Four-Jaw Chucks	C.P.21	False Jaw for Two-Jaw Chuck (Fig. 13a)
C.P.11	Socket Head Screws for Two-Jaw Chuck False Jaws	C.P.22	False Jaw for Two-Jaw Chuck (Fig. 11)

WHEN ORDERING COMPONENT PARTS IT IS ONLY NECESSARY TO STATE DIAMETER OF THE CHUCK AND THE ABOVE PART NUMBER

JAWS CAN ONLY BE SUPPLIED IN COMPLETE SETS

SOFT JAW BLANKS HARDENING INSTRUCTIONS

The teeth of the jaws and guide ways have been hardened before leaving our works, therefore it is only necessary to harden the part that has been machined to hold the work.

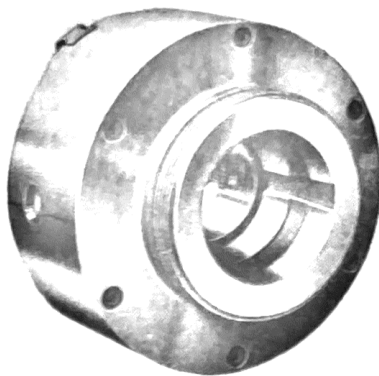
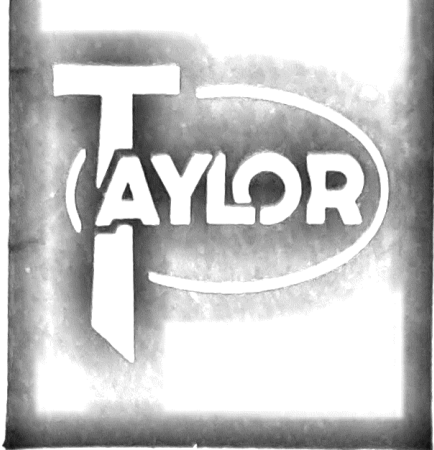
The normal procedure for hardening the gripping faces of the jaws is by pot carburising, the teeth being buried in sand to prevent further depth of case and the carburising material packed round the part to be hardened. The work should be heated to 900° Centigrade with a nominal two hours soak. After carburising, the jaws are reheated to 780° Centigrade and quenched in oil or water. Care must be taken in the heat treatment of the jaws to avoid distortion.

Fig. 11 & 13A false jaws for two jaw chucks are supplied in mild steel and they can be hardened by any of the mild steel case hardening techniques.

A FINAL WORD ON ACCURACY

This chuck has been checked for accuracy **TWICE** before despatch. If you cannot obtain the guaranteed accuracy detailed on page 1 when you receive the chuck, it is unlikely that the chuck is at fault. You should therefore check the following points :—

1. **MOUNTING.** Correct mounting is of vital importance and the instructions given on page 2 should be thoroughly checked.
2. Check for any play in the lathe spindle, this will be accentuated in the chuck.
3. Check for any dirt or grit between the parts of the chuck.
4. Check for any bruises on the back face of the chuck that may have been made during transit.
5. Check the fixing bolts holding the chuck to the adapter are not binding in the holes. This is a common cause of inaccuracy.
6. The chuck should be as supplied and not have been taken apart and reassembled.

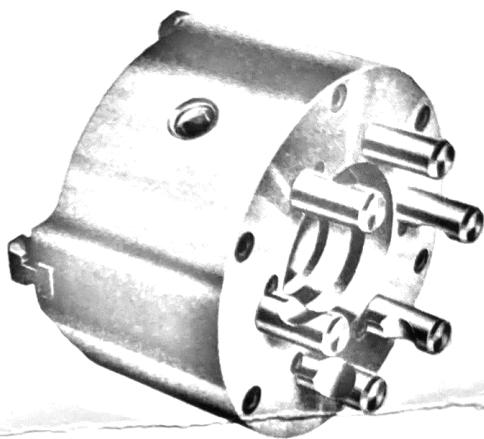


DIRECT MOUNTING

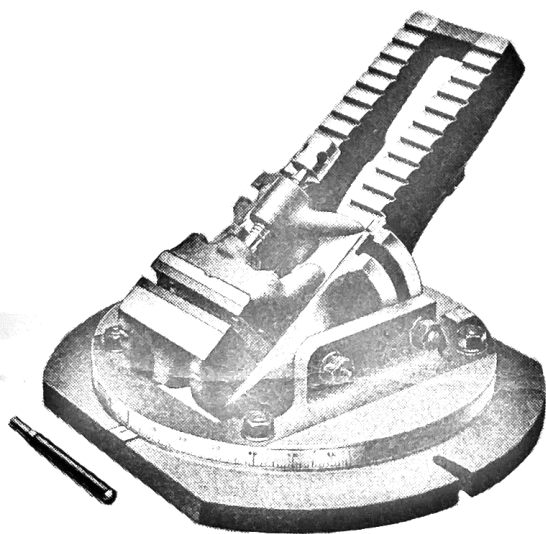
Certain sizes of TAYLOR chucks can now be supplied arranged for direct mounting to spindle noses Long Taper, Camlock, Ward, Herbert, Harrison, Colchester, etc.

No other adapter plate is required, thereby reducing overhang and weight on the spindle.

All the advantages of the TAYLOR chuck are incorporated in these direct mounting chucks.



OTHER TAYLOR PRODUCTS INCLUDE



Capstan Lathes

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Chucks

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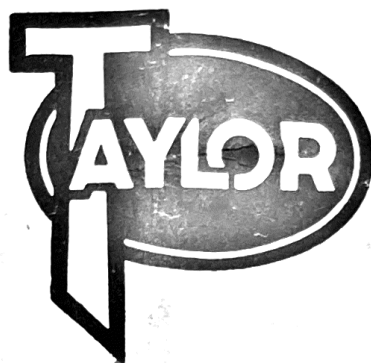
Hinge Plant.

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