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**Lathe Production : Depth Classification Version of CC.**  
(Classification problems. 50) (Design series. 23).

**M A Gopinath, Documentation Research and Training Centre  
Indian Statistical Institute, Bangalore 3.**

[A freely faceted depth classification version of Colon Classification for compound subjects going with the Host Subject "D8.A31 Lathe Production" is given. The use of different devices—such as, Geographical Device, Numerical Device, and Alphabetical Device—has helped in achieving economy in schedule building. An index to the schedule, thirty examples of subjects classified according to the scheme, and an alphabetical index to the subjects are given.]

**ABBREVIATIONS USED :**

|                            |                         |
|----------------------------|-------------------------|
| (AD) = Alphabetical Device | (HS) = Host Subject     |
| (BS) = Basic Subject       | (M) = Matter Isolate    |
| CC = Colon Classification  | (ND) = Numerical Device |
| (CN) = Class Number        | (P) = Personality       |
| (E) = Energy Isolate       | (QI) = Quasi Isolate    |
| (GD) = Geographical Device | (SD) = Subject Device   |

**1 Scope of the Paper**

This paper demonstrates the design of a depth classification version of CC for compound subjects going with the (HS) "D8.A31 Lathe Production". The methodology for designing a freely faceted scheme for classification based on a set of postulates, canons, and principles, has been used (3, 6).

**11 SOURCE OF ISOLATES**

About five hundred assorted micro documents were scanned to select the isolates for enumeration in the schedules. In addition, the following books were consulted for definitions of various terms used in the description of design and working of lathes.

- 1 DOYLE (L E). Metal machining. 1953.
- 2 HENRY FORD TRADE SCHOOL, SHOP THEORY (Department of—). Shop theory. Ed 4. Rev by Fred Nicholson. 1955.
- 3 LISITSYN (N) and others. Machine tool design. Tr from Russian by Nicholas Weinstein. V 1. 1965.

## 2 Schedule of Isolates

### 21 SPECIATORS IN (IP1)

The Quasi Isolates helpful in deriving speciators to form compound isolates in (IP1) are given in Table 1. The sequence among the (QI), determined by using Group Strategy and Wall Picture Principle, is deemed to be helpful to a majority of the specialists in the subject (I).

#### 211 Table 1. List of Quasi Isolates in (IP1).

| SN    | (S —) Sector | Quasi Isolate                 |
|-------|--------------|-------------------------------|
| 1-43  |              | By Whole-Commodity Associated |
|       |              | Attribute                     |
| 1     | (A)          | By Brand                      |
| 2     | (I)          | By Country of make            |
| 3     | (yX)         | By Degree of automation       |
| 4     | (yM)         | By Power used                 |
| 5     | (yA)         | By Batch work                 |
| 6     | (a)          | By Kind of operation          |
| 7-12  |              | By Workpiece                  |
| 7     | ZA           | By Material                   |
| 8     | ZI           | By Shape                      |
| 9-12  |              | By Dimension                  |
| 9     | ZzT          | By Length                     |
| 10    | ZzQ          | By Width                      |
| 11    | ZzL          | By Diameter                   |
| 12    | ZzJ          | By Weight                     |
| 13    | X            | By Constructon                |
| 14    | V            | By Shape                      |
| 15-16 | U            | By Spindle speed              |
| 15    | UN           | By Number                     |
| 16    | UK           | By Range                      |
| 17-21 | T            | By Feeds                      |
| 17    | TV           | By Slide                      |
| 18    | TT           | By Kind of pitch              |
| 19    | TR           | By Number                     |
| 20    | TP           | By Range                      |
| 21    | TM           | By Feed rate                  |
| 22-24 | R            | By Thread cutting attributes  |
| 22    | RT           | By Kind of pitch              |
| 23    | RR           | By Number                     |
| 24    | RP           | By Range                      |
| 25    | P            | By Maximum working stroke     |

| SN     | Sector (S — ) | Quasi Isolate                  |
|--------|---------------|--------------------------------|
| 26     | M             | By Maximum length turned on    |
| 27     | JJ            | By Swing over floor            |
| 28     | JH            | By Swing over bed              |
| 29     | JG            | By Swing over carriage         |
| 30     | JE            | By Swing in gap                |
| 31     | H             | By Distance between centres    |
| 32     | G             | By Rate of metal removal       |
| 33     | F             | By Cutting speed               |
| 34     | E             | By Efficiency                  |
| 35     | C             | By Accuracy                    |
| 36     | 9X            | By Working traverse            |
| 37     | 9V            | By Working axis                |
| 38-43  |               | By Dimension                   |
| 39     | 9L            | By Length                      |
| 40     | 9K            | By Width                       |
| 41     | 9J            | By Height                      |
| 42     | 9G            | By Floor area                  |
| 43     | 9E            | By Weight                      |
| 44-230 |               | By Organ-Associated Attributes |
| 44-57  |               | By Design of bed               |
| 44     | 9y            | By Material of bed             |
| 45     | 9v            | By Type of casting             |
| 46     | 9u            | By Method of hardening         |
| 47     | 9t            | By Method of graining          |
| 48     | 9r            | By Kind of section             |
| 49     | 9q            | By Shape of bed                |
| 50     | 9j            | By Dimension                   |
| 51     | 9f            | By Design of ribs              |
| 52     | 9e            | By Design of leg               |
| 53-57  |               | By Design of bedways           |
| 53     | 9cP           | By Construction                |
| 54     | 9cN           | By Material of lining          |
| 55     | 9cJ           | By Shape of path               |
| 56     | 9cB           | By Position                    |
| 57     | 9cI           | By Number                      |
| 58-    | 8             | By Design of headstock         |
| 59     | 8X            | By Enclosure                   |
| 59     | 8M            | By Construction                |
| 60     | 8F            | By Position on bed             |
| 61     | 8D            | By Material                    |
| 62-64  |               | By Lubrication                 |
| 62     | 86            | By Power used                  |
| 63     | 84            | By Mechanism                   |
| 64     | 82            | By Mode                        |
| 65-66  |               | By Design of spindle           |
| 65     | 6( )          | By Standard                    |
| 66     | 6X            | By Construction                |
| 67-72  |               | By Axis                        |
| 67     | 6N            | By Number                      |
| 68     | 66            | By Material                    |
| 69     | 65            | By Shape                       |

| SN      | Sector (S — ) | Quasi Isolate                                    |
|---------|---------------|--|
| 70      | 63            | By Size  |
| 71      | 62            | By Hardness                                      |
| 72      | 61            | By Accuracy                                      |
| 73-75   | 5A            | By Design of spindle nose                        |
| 73      | 5H            | By Standard                                      |
| 74      | 5E            | By Shape   |
| 75      | 5C            | By Size  |
| 76-83   | 5DZ           | By Design of spindle bore                        |
| 76      | 52            | By Shape   |
| 77      | 51            | By Size  |
| 78      | 5i            | By Spindle travel per revolution                 |
| 79      | 5m            | By Spindle speed change control                  |
| 80      | 5h            | By Mode of selection of speeds                   |
| 81      | 5g            | By Power of motor                                |
| 82      | 5e            | By Horse power of spindle motor                  |
| 83      | 5c            | By Number of position for locking spindle        |
| 84-90   | 4             | By Design of carriage                            |
| 84      | 4N            | By Number of carriage                            |
| 85      | 4J            | By Maximum travel of the carriage                |
| 86      | 4G            | By Speed of movement                             |
| 87      | 4E            | By Direction                                     |
| 88      | 45            | By Carriage traverse control                     |
| 89      | 41            | By Mode of indexing                              |
| 90      | 4y            | By Number of positions for indexing the carriage |
| 91-102  | 3             | By Design of slides                              |
| 91      | 3T            | By Kind  |
| 92      | 3S            | By Number  |
| 93      | 3R            | By Type  |
| 94      | 3P            | By Construction                                  |
| 95      | 3M            | By Position                                      |
| 96      | 3K            | By Maximum travel                                |
| 97      | 3J            | By Shape   |
| 98      | 3G            | By Traversing mode                               |
| 99      | 3E            | By Stroke of slide                               |
| 100     | 3B            | By Speed of travel                               |
| 101     | 32            | By Mode of control                               |
| 102     | 31            | By Mode of lubrication                           |
| 103-107 |               | By Design of compound rest                       |
| 103     | 3r            | By Maximum travel of compound rest               |
| 104     | 3P            | By Travel per revolution of dial                 |
| 105     | 3m            | By Value of dial scale division                  |
| 106     | 3g            | By Maximum swivel angle                          |
| 107     | 3e            | By Value of swivel scale division                |
| 108-113 |               | By Toolslide                                     |
| 108     | 2X            | By Position                                      |
| 109     | 2V            | By Number  |
| 110     | 2T            | By Control                                       |
| 111     | 2R            | By Power of traverse                             |
| 112     | 2P            | By Maximum longitudinal traverse                 |
| 113     | 2N            | By Toolslide stroke                              |

| SN      | Sector (S — ) | Quasi Isolate                        |
|---------|---------------|--------------------------------------|
| 114-120 |               | By Design of tool post               |
| 114     | 2t            | By Number                            |
| 115     | 2r            | By Type                              |
| 116     | 2p            | By Material                          |
| 117     | 2m            | By Shape                             |
| 118     | 2k            | By Maximum distance between tool fix |
| 119     | 2g            | By Number of ways                    |
| 120     | 2e            | By Number of tools                   |
| 121-126 | 1             | By Design of tool                    |
| 121     | 1N            | By Number of tool points             |
| 122     | 1M            | By Material of tool                  |
| 123     | 1K            | By Shape of tool                     |
| 124     | 1J            | By Direction of tool feed            |
| 125     | 1H            | By Efficiency                        |
| 126     | 1G            | By Life of tool                      |
| 127-129 |               | By Design of tailstock               |
| 127     | 19X           | By Material                          |
| 128     | 19V           | By Strength                          |
| 129     | 19U           | By Shape                             |
| 130     | 19S           | By Design of tailstock barrel        |
| 131-135 |               | By Design of tailstock spindle       |
| 131     | 19R           | By Construction                      |
| 132     | 19P           | By Size                              |
| 133     | 19N           | By Maximum traverse                  |
| 134-135 |               | By Spindle bore                      |
| 134     | 19K           | By Kind                              |
| 135     | 19H           | By Size                              |
| 136     | 19F           | By Diameter of tailstock sleeve      |
| 137     | 19D           | By Maximum sleeve travel             |
| 138     | 19C           | By Mode of securing tailstock to bed |
| 136-156 |               | By Design of clamping accessories    |
| 139-142 | 13            | By Design of centre                  |
| 139     | 13( )         | By Standard                          |
| 140     | 13J           | By Shape                             |
| 141     | 13C           | By Weight                            |
| 142     | 13B           | By Diameter of hole                  |
| 149-146 | 11            | By Design of mandrel                 |
| 143     | 11( )         | By Brand                             |
| 144     | 11E           | By Type                              |
| 145     | 11C           | By Weight                            |
| 146     | 11B           | By Diameter                          |
| 147-155 |               | By Design of chuck                   |
| 147     | 1y            | By Brand                             |
| 148     | 1x            | By Movement                          |
| 149     | 1v            | By Kind                              |
| 150     | 1u            | By Number                            |
| 151     | 1r            | By Shape                             |
| 152     | 1p            | By Weight                            |
| 153     | 1m            | By Diameter                          |
| 154     | 1h            | By Workpiece clamped                 |

| SN      | Sector (S — ) | Quasi Isolate                      |
|---------|---------------|------------------------------------|
| 155     | If            | By Power used                      |
| 156     | 1e            | By Design of dog                   |
| 157-162 |               | By Design of attachment            |
| 157     | OZX           | By Tracer                          |
| 158     | OZJ           | By Brand                           |
| 159     | OZG           | By Power                           |
| 160     | OZF           | By Speed                           |
| 161     | OZD           | By Control                         |
| 162     | OZC           | By Operation                       |
| 163     | OZ8A          | By Kind of drive                   |
| 164     | OZ81          | By Type of gearbox                 |
| 165     | OZ7           | By Number of transmissive speeds   |
| 166     | OZ6           | By Gear ratio                      |
| 167-178 |               | By Design of gear                  |
| 167     | OZ5           | By Brand                           |
| 168     | OZ4           | By Material                        |
| 169     | OZ3           | By Shape                           |
| 170     | OZ2           | By Type of hardening               |
| 171     | OZ1           | By Manufacturing method            |
| 172     | OZX           | By Position of teeth on the rim    |
| 173     | OZt           | By Pitch                           |
| 174     | OZk           | By Type of tothing                 |
| 175     | OZj           | By Form of tooth profile           |
| 176     | OZf           | By Assembly                        |
| 177     | OZd           | By Mutual position of axes         |
| 178     | OZb           | By Pitch circle diameter           |
| 179-195 |               | By Design of bearing               |
| 179     | OYM           | By Kind                            |
| 180     | OYE           | By Position                        |
| 181     | OY1           | By Number                          |
| 182     | OX            | By Brand                           |
| 183     | OV            | By Material                        |
| 184     | OJ            | By Precision                       |
| 185     | OTA           | By Assembly                        |
| 186     | OT1           | By Type of motion                  |
| 187     | OSA           | By Type of load                    |
| 188     | OS1           | By Direction of load               |
| 189     | OR            | By Rolling element                 |
| 190     | OP            | By Type of race                    |
| 191     | ON            | By Rows of rolling element         |
| 192     | OL            | By Surface of contact              |
| 193     | OJ            | By Point of contact                |
| 194     | OG            | By Kind of lubrication             |
| 195     | OE            | By Alignment                       |
| 196-201 |               | By Design of brake                 |
| 196     | 09( )         | By Brand                           |
| 197     | 09M           | By Assistance                      |
| 198     | 09K           | By Position in relation to spindle |
| 199     | 09J           | By Constructor                     |
| 200     | 09G           | By Number                          |
| 201     | 09E           | By Cooling                         |

| SN      | Sector (S — ) | Quasi Isolate                        |
|---------|---------------|--------------------------------------|
| 202-217 |               | By Design of leadscrew               |
| 202     | 09y           | By Brand                             |
| 203     | 09x           | By Standard                          |
| 204     | 09w           | By Material                          |
| 205     | 09v           | By Strength                          |
| 206     | 09u           | By Head shape                        |
| 207     | 09t           | By Neck shape                        |
| 208     | 09s           | By Point shape                       |
| 209     | 09r           | By Fastening mode                    |
| 210     | 09p           | By Length                            |
| 211     | 09n           | By Thread start                      |
| 212     | 09m           | By Thread direction                  |
| 213     | 09k           | By Thread form                       |
| 214     | 09j           | By Number                            |
| 215     | 09g           | By Thread pitch                      |
| 216     | 09e           | By Thread fit                        |
| 217     | 09c           | By Thread finish                     |
| 218-222 | 06            | By Design of feed shaft              |
| 218     | 06( )         | By Brand                             |
| 219     | 06P           | By Material                          |
| 220     | 06N           | By Strength                          |
| 221     | 06L           | By Diameter                          |
| 222     | 06G           | By Length                            |
| 223-224 |               | By Design of apron                   |
| 223     | 02A           | By Covering                          |
| 224     | 02I           | By Number                            |
| 225-227 |               | By Control system                    |
| 225     | zV            | By Power used                        |
| 226     | zR            | By Mode of control                   |
| 227     | zP            | By Control mechanism                 |
| 228-230 |               | By Lubrication system                |
| 228     | zL            | By Power used                        |
| 229     | zG            | By Mechanism of lubrication          |
| 230     | zE            | By Flow of lubrication               |
| 231-234 |               | By Operation Associated attributes   |
| 231     | zx            | By Mode of feeding blank             |
| 232     | zp            | By Mode of feed engagement           |
| 233     | zm            | By Mode of interlocking              |
| 234     | zj            | By Mode of prevention of overloading |

## 22 SCHEDULE OF (1P2)

The schedule of (1P2) isolates contains a list of major organs or components of a typical lathe.

## 23 SCHEDULE (1M1) ISOLATES

The isolates from the Schedule of Common Property Isolates (4, 5) may be used wherever necessary.

### 3 Host Subject

In CC Ed 7, "Lathe" is enumerated as an isolate in (IP1) schedule for subjects going with the (BS) "D8 Commodity Production Engineering" as shown below:

|     |                  |
|-----|------------------|
| A   | Machine Tool     |
| A3  | Cutting Tool     |
| A31 | Lathe (Engine)   |
| A32 | Tool room lathe  |
| A34 | Production lathe |
| A35 | Bench lathe      |
| A36 | Capstan lathe    |
| A37 | Turret lathe     |

### 4 Notation

The notation assigned to different (Q1) in (IP1) conforms to the standard pattern set by similar schedules for compound subjects going with the (BS) "D8 Commodity Production Engineering" (2).

### 5 Devices Used

The following devices have been used in the Schedule of (IP1) Isolates:

1 Alphabetical Device—generally for the Brand names. The digit "+" (plus) has been used as indicator digit while representing abbreviated component words of a multinomial in the place of "=" (equals to).

2 Chronological Device—used for representing speciators of model identified by their year of make.

For example, N65 represents "1965 model lathe".

3 Geographical Device—for the speciators representing country of make—such as "(53) French make" "(42) Japanese make".

4 Numerical Device—for representing the exact measure of a given attribute in the specific subject of the document. This device has been used extensively. The Metric System is taken as favoured system of units for representing measures by Numerical Device. The quantitative measures requiring the representation of an integer and fraction, are represented using "+" (plus) as indicator digit instead of "=" (equals to). In many of the places the use of Numerical Devices is indicated. If warranted, this Device can be used at any point in the Schedule.

5 Subject Device—used only at one place, that is, to get the speciators relating to "Workpiece" such as,

"Z9(D8,2355-(4J)-95) Disc brakes for motor car."

The use of these devices have considerably reduced the length of the schedule, provides autonomy for the classifier, and conforms



to the canon of consistent sequence and canons for mnemonics.

## 6 Index to Schedule

*Note.*—1 The terms enumerated in the schedules in Sec 7 are listed in this index. However, terms denoting ideas, the numbers for which are indicated to be derived by using such devices as (AD), (ND) and (SD) are not included.

2 The number from the schedule given against each index entry is preceded by an abbreviation for the name of the appropriate fundamental category — such as, (IP1), (1M1), (1E) — as the case may be.

- Acme thread (IP1), 09kD  
 Accuracy of machinery (Q1) (IP1), C  
 spindle (Q1) (IP1), 6I  
 Adjustable bearing (IP1), ORR1  
 stops control (IP1), 484  
 Air cooled brake (IP1), 09E8  
 cylinder control (IP1), 5m5  
 operated cone feed engagement (IP1), 2p28  
 suspended brake (IP1), 09M2N  
 Alignment (Q1) (IP1), 0E  
 Aluminium bearing (IP1), 0VE  
 bed (IP1), 9yE  
 gear (IP1), 0Z4E  
 leg (IP1), 9eE  
 lined bed ways (IP1), 9cNE  
 screw (IP1), 09wE  
 workpiece (IP1), ZE  
 Angled towards rear (IP1), 9q3  
 Angl of fixing tool post (Q1) (IP1), 2x  
 Angular bearing (IP1), 0J6  
 Annular shape (IP1), Z77  
 Apron (IP2), 42  
 Arc teeth (IP1), 0ZxY  
 Armour screw (IP1), 09kJ2  
 Assembly of bearing (Q1) (IP1), 0TA  
 gear (Q1) (IP1), 0Zf  
 Assistance of brake (IP1), 09M  
 Attachment (Q1) (IP1), 0ZB  
 Automatic control attachment (IP1), 0ZD2  
 carriage (IP1), 484  
 system (IP1), zT5  
 toolslide (IP1), 2T8  
 feeding of workpiece (IP1), zx5  
 indexing (IP1), 415  
 interlocking (IP1), zm8  
 lathe (IP1), (yX5)  
 lubrication headstock (IP1), 826  
 spindle (IP1), 5g8  
 Axial load bearing (IP1), 0S12  
 Axis spindle (IP1), 6P  
 Back-gearred drive High speed (IP1), ULG  
 Low speed (IP1), ULD  
 Ball and roller bearing (IP1), ORS2  
 bearing (IP1), ORB  
 ended centre (IP1), 13J4  
 screw (IP1), 9uB  
 Band (IP1), Z181  
 Bar (IP1), 1h1  
 Barrel shaped workpiece (IP1), 2773  
 Tailstock (IP1), 19S3  
 Batch work (Q1) (IP1), (yA)  
 Bearing design (Q1) (IP1), 0A  
 Beaten together (IP1), Z2748  
 Bed (IP2), 1  
 Design of (IP1), 9a  
 Bedways (IP2), 1i  
 Design of (IP1), 9a  
 Bell centre (IP1), 13J3  
 Below-the-gap bedways (IP1), 9cE  
 Belt speeds (IP1), UN  
 spindle (Q1), UK  
 Bevel gear (IP1), 0Zd2  
 Beveloid teeth (IP1), 0ZxL  
 Big gear (IP1), 0Zb5  
 Blending (IP1), (17)  
 Bolt locking tailstock

(IP1), 19C2  
 workpiece (IP1), Z3C  
 Bore (IP1), Z72  
 Boring (IP1), (h)  
 attachment (IP1), 0ZC4  
 Box  
 lathe (IP1), V6  
 section bed (IP1), 9r3  
 Boxed weight (IP1), 9EL  
 Brake system (QI) (IP1), 09B  
 Brand *irt*  
 Attachment (QI) (IP1), 0ZJ  
 Bearing (QI) (IP1), 0X  
 Brake (QI) (IP1), 09( )  
 Chuck (QI) (IP1), 1y ( )  
 Feedshaft (QI) (IP1), 06( )  
 Gear (QI) (IP1), 0Z5  
 Lathe (QI) (IP1), (A)  
 Mandrel (QI) (IP1), 1S  
 Screw (IP1), 9y  
 Brittle workpiece (IP1), ZA2  
 Broached gear (IP1), 0ZIG  
 Broaching (IP1), (g)  
 Broad design bed (IP1), 9q5  
 Built-up edge (IP1), 1K1  
 Burnered chuck (IP1), 1v1  
 Butt jointed bed (IP1), 9r4  
 Buttress (IP1), 09kK  
 Cam control (IP1), zP3  
 Can/lock  
 spindle nose (IP1), 5E1  
 tailstock (IP1), 19U2  
 Capstan  
 headscrew (IP1), 09UL  
 lathe D8, A36  
 tool post (IP1), 2r6  
 Carbide tool (IP1), 1M1  
 Carbon steel  
 tool (IP1), 1M31  
 workpiece (IP1), ZC3  
 Carburized gear (IP1), 0Z28  
 Carriage  
 bearing (IP1), 0YR  
 Design of (QI) (IP1), 4  
 Organ (IP2), 4  
 traverse control  
 (QI) (IP1), 48  
 Case hardened gear (IP1), 0Z26  
 Cast  
 gear (IP1), 0Z12  
 Cast iron  
 bed (IP1), 9yC2  
 covering of headstock  
 (IP1), 8DE  
 leg (IP1), 9eC2  
 Cemented carbide tool

(IP1), 1M11  
 Centralized control (IP1), zR8  
 Centre, Design of  
 (QI) (IP1), 11Z  
 Centreless grinding (IP1), (s2)  
 Centrifugal clutch control  
 (IP1), zP21  
 Ceramic workpiece (IP1), ZB3  
 Cheese headscrew (IP1), 09uH  
 Chip and oil pan (IP2), 81  
 Chipbreak (IP1), (b1)  
 Chromium  
 alloy (IP1), ZR2  
 molybdenum alloy (IP1), ZC7  
 Vanadium steel (IP1), ZCM  
 Chuck  
 Design of (QI) (IP1), 1f1  
 Organ (IP2), 71  
 Circular  
 gear (IP1), 0Z36  
 tooth (IP1), 0Zj43  
 Clamping  
 accessories  
 Design of (QI) (IP1), 1e  
 Organ (IP2), 7  
 screw (IP2), 366  
 Clearance surface bearing  
 (IP1), 0L67  
 Close thread fit (IP1), 09e2  
 Closed eye headscrew  
 (IP1), 09nQ1  
 Clutch  
 brake (IP1), 09j2  
 control (IP1), zG2  
 feed engagement (IP1), zP2  
*irt* Spindle speed  
 (IP1), 5m3  
 Coarse  
 feeds (IP1), TTB  
 grinding (IP1), 9t1  
 pitch (IP1), 0Zt1  
 thread pitch  
 outting (IP1), RTC  
 screw (IP1), 09g1  
 Cold gear (IP1), 0Z16  
 Collar bearing (IP1), 0T6  
 Collect  
 chuck lathe (IP1), 1r1  
 organ (IP2), 73  
 Columbium alloy (IP1), ZQ5  
 Combined needle bearing  
 (IP1), 0RS  
 Commodity to be machined  
 (QI) (IP1), ZzA  
 Company name (IP1), (A)  
 Complete alignment bearing  
 (IP1), 0E23

- Compound assembly (1P1), 0Zf3  
rest  
  Design of (Q1) (1P1), 3a  
  organ (1P2), 43  
Compressed air brake (1P1), 09M25  
Conduit screw (1P1), 09kJ1  
Cone screw (1P1), 09s2  
  teeth (1P1), 0ZxX  
Conical disc (1P1), Z345  
  headscrew (1P1), 09nC  
  holes (1P1), Z74  
  surface bearing (1P1), 0L13  
Coniflex (1P1), 0ZxF  
Constant cutting speed (1P1), FE  
Continuous working traverse (1P1), 9XC  
Control attachment (Q1) (1P1), 0ZD  
  carriage (Q1) (1P1), 27  
  lever gear box (1P1), 0Z85  
  system, Design of (Q1) (1P1), zP  
  Toolslide (Q1) (1P1), 27  
Construction of bedways (Q1) (1P1), 9cA  
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LATHE PRODUCTION : DEPTH CLASSIFICATION

K7

Wrenching screw (1P1), 091g      Zerol teeth (1P1), 0ZxQ,  
Zero-precision (1P1), 0UF      Zinc alloy (1P1), 9yZ

7 **Schuddele**

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|      | Schedule of (1P1) Isolates     | zL   | <i>By Power used</i>           |
|      | <i>By Mode of prevention</i>   | zL1  | Manual                         |
|      | <i>of overloading</i>          | zL2  | Mechanical                     |
| zj2  | Slipping clutch                | zL3  | Pneumatic                      |
|      |                                | zL5  | Hydraulic                      |
| zm   | <i>By Mode of interlocking</i> | zL6  | Electrical                     |
|      |                                | zL65 | Electronic                     |
| zm1  | Lever                          | zL7  | Servo                          |
| zm4  | Drop worm                      |      |                                |
| zm5  | Neutral position               | zP   | <i>By Control system</i>       |
| zm8  | Automatic                      |      | <i>By Control mechanism</i>    |
|      |                                | zP1  | Projecting lever               |
| zp   | <i>By Feed engagement</i>      | zP2  | Clutch                         |
|      |                                | zP21 | Centrifugal                    |
| zp1  | Lever                          | zP22 | Dryplate                       |
| zp2  | Clutch                         | zP3  | Cam control                    |
| zp21 | Friction                       | zP5  | Pushbutton control             |
| zp23 | Safety                         | zP6  | Plugboard control              |
| zp24 | Self-compensating              |      | (Switch)                       |
| zp26 | Multi-tooled                   | zP7  | Programme controlled           |
| zp27 | Magnetic                       | zP8  | Numericon control              |
| zp28 | Air-operated cone              | zPB  | Punch card                     |
| zp3  | Drum                           | zPG  | Magnetic tape                  |
| zp5  | Direct connection              | zPH  | Digital computer               |
| zp6  | Quick action                   |      |                                |
| zp7  | Joystick                       | zR   | <i>By Mode of Control</i>      |
|      |                                | zR1  | Flow control                   |
| zx   | <i>By Mode of feeding</i>      | zR2  | Sequence control               |
|      | <i>of blank</i>                | zR6  | Dimensional control            |
| zx1  | Manual                         | zR7  | Feedback control               |
| zx2  | Retractor                      | zR8  | Centralized                    |
| zx3  | Magazine                       |      |                                |
| zx5  | Automatic                      | zT   | <i>By Degree of automation</i> |
|      |                                | zT4  | Semi-automatic                 |
|      | <i>By Lubrication system</i>   | zT5  | Automatic                      |
| zE   | <i>By Flow of lubrication</i>  | zV   | <i>By Power used</i>           |
|      |                                | zV1  | Manual                         |
| zE1  | Continuous                     | zV2  | Mechanical                     |
| zE4  | Interrupted                    | zV3  | Pneumatic                      |
| zE5  | One shot                       | zV5  | Hydraulic                      |
|      |                                | zV6  | Electric                       |
| zG   | <i>By Mechanism of</i>         | zV65 | Electronic                     |
|      | <i>lubrication</i>             |      |                                |
| zG2  | Clutch                         |      | <i>By Organ Associated</i>     |
| zG5  | Pump                           |      | <i>Attributes</i>              |
| zG51 | Geared pump                    | 02   | <i>By Design of apron</i>      |
| zG55 | Circulation pump               | 021  | Single                         |
| zG6  | Pipe                           | 022  | Double                         |
| zG61 | Closed circuit                 |      |                                |
| zG8  | Automatic                      | 02B  | <i>By Covering</i>             |

|       |                                |       |                                 |
|-------|--------------------------------|-------|---------------------------------|
| 02E   | Partially enclosed             | 09k   | <i>By Thread form</i>           |
| 02H   | Totally enclosed               | 09kC  | Square                          |
|       |                                | 09kD  | Acme                            |
| 06    | <i>By Design of feedshafts</i> | 09kE  | Worm                            |
| 06G   | <i>By Length</i>               | 09kE1 | Wormwheel                       |
|       | <i>Note.—Division by (ND).</i> | 09kF  | Trapezoidal                     |
| 06G10 | 10 cms                         | 09kG  | Taper                           |
|       |                                | 09kH  | Kunckle                         |
| 06L   | <i>By Diameter</i>             | 09kJ  | Pipe                            |
|       | <i>Note.—Division by (ND).</i> | 09kJ1 | Conduit                         |
| 06L3  | 3 cm                           | 09kJ2 | Armour                          |
| 06N   | <i>By Strength</i>             | 09kK  | Buttress                        |
| 06NB  | <i>Low</i>                     | 09kL  | Lowerherz                       |
| 06NC  | Medium                         | 09kM  | Metric                          |
| 06NE  | High                           | 09kP  | PG                              |
|       |                                | 09kS  | Seller                          |
| 06P   | <i>By Material</i>             | 09kT  | Thury                           |
| 06P1  | Non-metal                      | 09kU  | Unified                         |
| 06P2  | Wood                           | 09kU1 | Miniature                       |
| 06P5  | Plastic                        | 09kV  | V                               |
| 06P5N | Nylon                          | 09kW  | Whitworth                       |
| 06P5T | Teflon                         |       |                                 |
| 06PB  | Metal                          | 09m   | <i>By Thread direction</i>      |
| 06PC  | Steel                          | 09m2  | Right                           |
| 06PE  | Aluminium                      | 09m5  | Left                            |
| 06PH  | Manganese                      |       |                                 |
|       |                                | 09n   | <i>By Thread start</i>          |
| 06()  | <i>By Brand</i>                | 09n1  | Single                          |
|       | <i>Note.—Division by (AD).</i> | 09n2  | Double                          |
|       | <i>(Illustrative)</i>          | 09n3  | Triple                          |
| 06(U) | Umbrako                        | 09nA  | Multiple                        |
|       | <i>By Design of lead screw</i> | 09p   | <i>By Length</i>                |
| 09c   | <i>By Thread finish</i>        |       | <i>Note.— Division by (ND).</i> |
| 09c1  | Unfinished                     |       | <i>(Illustrative)</i>           |
| 09c5  | Semifinished                   | 09p5  | 5 mm                            |
| 09c6  | Finished                       |       |                                 |
| 09c7  | Superfinished                  | 09r   | <i>By Fastening mode</i>        |
|       |                                | 09rb  | Nut                             |
| 09e   | <i>By Threadfit</i>            | 09rc  | Expansion                       |
| 09e1  | Wrench                         | 09rd  | Fox                             |
| 09e2  | Close                          | 09re  | Tay                             |
| 09e3  | Medium                         | 09rf  | Key                             |
| 09e4  | Friction                       | 09rf1 | Heavy                           |
| 09e5  | Loose                          | 09rf2 | Reverse                         |
|       |                                | 09rg  | Wratching                       |
| 09g   | <i>By Thread pitch</i>         | 09rg1 | Internal                        |
| 09g1  | Coarse (UNC)                   | 09rg2 | External                        |
| 09g4  | Fine (UNF)                     |       |                                 |
| 09g5  | Extra-fine (UNEF)              | 09s   | <i>By Point shape</i>           |
|       |                                | 09s2  | Cone                            |
| 09j   | <i>By Number</i>               | 09s3  | Oval                            |
|       | <i>Note.—Division by (ND).</i> | 09s4  | Flat                            |
|       | <i>(Illustrative)</i>          | 09s5  | Cup                             |
| 09j4  | Four-thread (4UN)              | 09s6  | Half-dog                        |
| 09j6  | Six-thread (6UN)               | 09s7  | Full-dog                        |
| 09j32 | Thirty-two thread (32UN)       | 09s8  | Oval-dog                        |



|        |  |        |  |
|--------|--|--------|--|
| 09s82  | Known led                              | 09x303 | 303                                      |
| 09s83  | Gimlet                                 | 09x430 | 430                                      |
| 09s84  | Split                                  |        |  |
| 09t    | <i>By Neck shape</i>                   | 09y    | <i>By Brand</i>                          |
| 09t2   | Round                                  |        | <i>Note.— To be got by</i>               |
| 09t3   | Oval                                   |        | (AD).                                    |
| 09t4   | Square                                 | 09yD   | ( <i>Illustrative</i> )                  |
| 09t5   | Elliptic                               | 09yN   | Dowly                                    |
| 09t6   | Fin                                    | 09yU   | Newall                                   |
| 09t7   | Ribbed                                 |        | Umbrako                                  |
| 09u    | <i>By Head shape</i>                   | 09B    | <i>By Design of Brake System</i>         |
| 09uA   | Recess                                 | 09E    | <i>By Cooling</i>                        |
| 09uB   | Round (Ball)                           | 09E5   | Water                                    |
| 09uC   | Conical                                | 09E6   | Oil                                      |
| 09uD   | Oval                                   | 09E8   | Air                                      |
| 09uD3  | Trim                                   | 09G    | <i>By Number</i>                         |
| 09uD4  | Undercut                               | 09G1   | One                                      |
| 09uE   | Square                                 | 09G2   | Two                                      |
| 09uF   | Hexagon                                | 09G3   | Three                                    |
| 09uG   | Snap                                   |        |  |
| 09uH   | Cheese                                 | 09J    | <i>By Type of construction</i>           |
| 09uJ   | Pan                                    | 09J2   | Clutch                                   |
| 09uK   | Counter sunk                           | 09J5   | Drum                                     |
| 09uL   | Capstan                                | 09J6   | Disc                                     |
| 09uQ1  | Closed eye                             |        |  |
| 09uQ2  | Open eye                               | 09K    | <i>By Position in relation to</i>        |
| 09uR4  | J square bend                          |        | <i>Spindle</i>                           |
| 09uS   | Socket                                 | 09P    | Front                                    |
| 09uU1  | U round bend                           | 09R    | Rear                                     |
| 09uU2  | U square bend                          | 09S    | Internal                                 |
| 09uV   | Hook                                   | 09T    | External                                 |
| 09uX   | Headless                               |        | <i>Note.— Further divisions by (ND).</i> |
| 09V    | <i>By Strength</i>                     |        | ( <i>Illustrative</i> )                  |
| 09vB   | Low                                    | 09P3   | 3 Front brakes                           |
| 09vC   | Medium                                 | 09R2   | 2 Rear brakes                            |
| 09vD   | High                                   | 09M    | <i>By Assistance</i>                     |
| 09w1   | <i>By Material</i>                     | 09M1   | Mechanical                               |
| 09w2   | Non-metal                              | 09M2   | Pneumatic                                |
| 09w5   | Wood                                   | 09M21  | Air suspended                            |
| 09w5   | Plastic                                | 09M25  | Compressed air                           |
| 09w5N  | Nylon                                  | 09M3   | Vacuum                                   |
| 09w5T  | Teflon                                 | 09M31  | Vacuum suspended                         |
| 09WB   | Metal                                  | 09M5   | Hydraulic                                |
| 09WC   | Steel                                  | 09M51  | Fluid fly wheel                          |
| 09WE   | Aluminium                              | 09M6   | Servo                                    |
| 09WH   | Manganese                              | 09M72  | Hand operated                            |
|        |  | 09M77  | Foot operated                            |
| 09x    | <i>By Standard Number</i>              | 09()   | <i>By Brand</i>                          |
|        | <i>Note.— Add the standard number.</i> | 09(G)  | <i>Note.— Division by (AD)</i>           |
|        | ( <i>Illustrative</i> )                |        | Girling                                  |
| 09x302 | 302                                    |        | ( <i>Illustrative</i> )                  |

|      |                                   |      |                             |
|------|-----------------------------------|------|-----------------------------|
|      | <i>By Design of Bearing</i>       | ORL  | Plain                       |
| 0E   | <i>By Alignment</i>               | ORM  | Spherical                   |
| 0E1  | Rigid                             | ORN  | Cylindrical                 |
| 0E2  | Self-aligning                     | ORP  | Helical                     |
| 0E21 | Internal                          | ORQ  | Tapered                     |
| 0E22 | External                          | ORR  | Needle                      |
| 0E23 | Complete                          | ORR1 | Adjustable                  |
| 0E24 | Misaligning                       | ORR2 | Shell type                  |
|      |                                   | ORS  | Combined                    |
| 0G   | <i>By Kind of Lubrication</i>     | ORS2 | Ball and roller             |
| 0G1  | Self                              | ORS3 | Roller and needle           |
| 0G2  | Solid                             | ORS4 | Needle and ball             |
| 0G22 | Dry                               |      |                             |
| 0G3  | Liquid metal                      | OS   | <i>By Direction of load</i> |
| 0G33 | Dynamic                           | OS1  | Uni-directional             |
| 0G5  | Liquid                            | OS11 | Radial                      |
| 0G52 | Static                            | OS12 | Axial (Thrust)              |
| 0G53 | Dynamic                           | OS7  | Multi-directional           |
| 0G8  | Gas                               |      |                             |
| 0G82 | Static                            | OSA  | <i>By Type of load</i>      |
| 0G83 | Dynamic                           | OSB  | Pre-loaded                  |
|      |                                   | OSC  | Extra-light                 |
| 0J   | <i>By Point of contact</i>        | OSD  | Medium                      |
| 0J2  | Two point                         | OSE  | Heavy                       |
| 0J3  | Three point                       | OSF  | Extra-heavy                 |
| 0J4  | Four point                        |      |                             |
| 0J6  | Angular                           | 0T   | <i>By Type of motion</i>    |
|      |                                   | 0T1  | Linear                      |
| 0L   | <i>By Surface of contact</i>      | 0T2  | Guide                       |
| 0L1  | Shape                             | 0T3  | Slide                       |
| 0L11 | Flat                              | 0T4  | Way                         |
| 0L12 | Conical                           | 0T5  | Rotary                      |
| 0L13 | Spherical                         | 0T6  | Collar                      |
| 0L6  | Extent                            | 0T7  | Step                        |
| 0L61 | Partial                           | 0TA  | <i>By Assembly</i>          |
| 0L63 | Full                              | 0TB  | Non-separable               |
| 0L65 | Radius                            | 0TD  | Separable                   |
| 0L67 | Clearance                         | 0TE  | Split                       |
| 0L68 | Fitted                            | 0TG  | Solid                       |
|      |                                   |      |                             |
| 0N   | <i>By Rows of rolling element</i> | 0U   | <i>By Precision</i>         |
| 0N1  | Single                            | 0UB  | Non-precision               |
| 0N2  | Double                            | 0UC  | Low-precision               |
|      |                                   | 0UD  | High-precision              |
| 0P   | <i>By Type of race</i>            | 0UE  | Micron-precision            |
| 0P1  | Flat                              | 0UF  | Zero-precision              |
| 0P4  | Grooved                           |      |                             |
| 0P41 | Deep                              | 0V   | <i>By Material</i>          |
| 0P5  | Wire                              | 0V1  | Non-metal                   |
| 0P7  | Integral                          | 0V2  | Wood                        |
|      |                                   | 0V5  | Plastic                     |
| 0R   | <i>By Rolling element</i>         | 0V5N | Nylon                       |
| 0RB  | Ball                              | 0V5T | Teflon                      |
| 0RC  | Filling notch                     | 0VB  | Metal                       |
| 0RD  | Shielded                          | 0VC  | Steel                       |
| 0RE  | Sealed                            | 0VE  | Aluminium                   |
| 0RK  | Roller                            | 0VH  | Manganese                   |

## LATHE PRODUCTION : DEPTH CLASSIFICATION

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|       |                                   |      |       |  |
|-------|-----------------------------------|------|-------|--|
| 0X    | <i>By Brand</i>                   |      | 0Zk2  | Internal                               |
|       | <i>Note.— Division by</i>         |      | 0Zk5  | External                               |
|       | (AD).                             |      |       |  |
|       | (Illustrative)                    |      | 0Zm   | <i>By Tooth direction</i>              |
| 0XABC | ABC                               |      | 0Zm1  | Right hand                             |
| 0XH   | Hoffman                           |      | 0Zm2  | Left hand                              |
| 0XSRO | SRO                               |      | 0Zm5  | Right and left hand                    |
| 0XT   | Timkin                            |      |       |  |
|       |                                   |      | 0Zt   | <i>By Pitch</i>                        |
| 0Y1   | <i>By Number</i>                  |      | pZt1  | Coarse                                 |
|       | <i>Note.— Division by</i>         |      | 0Zt3  | Medium                                 |
|       | (ND).                             |      | 0Zt4  | Fine (Precision)                       |
|       | (Illustrative)                    |      |       |  |
| 0Y2   | Two bearings                      |      | 0Zx   | <i>By Position of teeth on the rim</i> |
| 0Y3   | Three bearings                    |      |       |  |
| 0YE   | <i>By Position</i>                |      | 0ZxB  | Striaight                              |
| 0YF   | Front and Rear                    |      | 0ZxC  | Cylindrical                            |
| 0YG   | Front                             |      | 0ZxD  | Helical                                |
| 0YH   | Rear                              |      | 0ZxD1 | Simple                                 |
|       |                                   |      | 0ZxD4 | Crossed                                |
| 0YM   | <i>By Kind</i>                    |      | 0ZxE  | Herringbone                            |
| 0YN   | Spindle                           |      | 0ZxF  | Coniflex                               |
| 0YP   | Feed                              |      | 0ZxG  | Spiral                                 |
| 0YR   | Carriage                          |      | 0ZxH  | Spiroid                                |
|       |                                   |      | 0ZxJ  | Ravacycle                              |
| 0Za   | <i>By Design of gear</i>          |      | 0ZxK  | Face                                   |
| 0Zb   | <i>By Pitch circle diameter</i>   |      | 0ZxL  | Beveloid                               |
| 0Zb2  | Pinion (small)                    |      | 0ZxM  | Hypoid                                 |
| 0Zb5  | Wheel (Big)                       |      | 0ZxN  | Planoid                                |
| 0Zb6  | Rack (Infinite)                   |      | 0ZxP  | Melicon                                |
|       |                                   |      | 0ZxQ  | Zerol                                  |
| 0ZD   | <i>By Mutual position of axes</i> |      | 0ZxR  | Worm                                   |
| 0Zd1  | Spur (parallel)                   |      | 0ZxS  | Throated                               |
| 0Zd2  | Bevel (intersecting)              |      | 0ZxT  | Enveloping                             |
| 0Zd3  | Off-set (skew)                    |      | 0ZxV  | Double                                 |
| 0Zf   | <i>By Assembly</i>                |      | 0ZxX  | Cone                                   |
| 0Zf2  | Epicyclic                         |      | 0ZxY  | Arc                                    |
| 0Zf3  | Compound                          |      |       |  |
| 0Zf4  | Simple                            | 0Z1  |       | <i>By Manufacturing method</i>         |
| 0Zf5  | Differential                      | 0Z12 |       | Cast                                   |
| 0Zf51 | Fixed                             | 0Z13 |       | Moulded                                |
| 0Zf53 | Free                              | 0Z14 |       | Shell                                  |
| 0Zf6  | Plano-centric                     | 0Z15 |       | Formed                                 |
| 0Zf7  | Harmonic                          | 0Z16 |       | Cold                                   |
|       |                                   | 0Z17 |       | Rolled                                 |
|       |                                   | 0Z18 |       | Forged                                 |
| 0Zj   | <i>By Form of tooth profile</i>   | 0Z1B |       | Stamped                                |
| 0Zj2  | Involute                          | 0Z1C |       | Machine cut                            |
| 0Zj4  | Non-involute                      | 0Z1D |       | Hobbed                                 |
| 0Zj43 | Round (circular)                  | 0Z1F |       | Milled                                 |
| 0Zj48 | Novikov                           | 0Z1G |       | Broached                               |
| 0Zj5  | Cycloid                           |      |       |  |
| 0Zj51 | Hypocycloid                       | 0Z2  |       | <i>By Type of hardening</i>            |
|       |                                   | 0Z23 |       | Non-hardened                           |
| 0Zk   | <i>By Type of tooling</i>         | 0Z24 |       | Hardened                               |

|           |                                  |        |                            |
|-----------|----------------------------------|--------|----------------------------|
| 0Z25      | Flame hardened                   | 0Z7D2  | Two reverse speeds         |
| 0Z26      | Case hardened                    | 0Z8    |                            |
| 0Z27      | Induction hardened               | 0Z82   | <i>By Type of gear box</i> |
| 0Z28      | Carburized                       | 0Z83   | Epicyclic                  |
| 0Z3       | <i>By Shape</i>                  | 0Z84   | Norton type                |
| 0Z321     | Square                           | 0Z85   | Synchromesh                |
| 0Z34      | Elliptical                       | 0Z86   | Control lever              |
| 0Z35      | Circular                         | 0Z87   | Electrical selection       |
| 0Z351     | Eccentric                        | 0Z88   | Enclosed                   |
| 0Z4       | <i>By Material</i>               | 0Z8A   | Open                       |
| 0Z41      | Non-metal                        | 0Z8B   | <i>By Drive</i>            |
| 0Z42      | Wood                             | 0Z8C   | Main drive                 |
| 0Z45      | Plastic                          | 0ZB    | Feed drive                 |
| 0Z45N     | Nylon                            | 0ZC    | <i>By Attachment</i>       |
| 0Z45T     | Teflon                           | 0ZCc   | <i>By Operation</i>        |
| 0Z4B      | Metal                            | 0ZCc1  | Turning                    |
| 0Z4C      | Steel                            | 0ZCc2  | Copy turning               |
| 0Z4E      | Aluminium                        | 0Zch   | Facing                     |
| 0Z4H      | Manganese                        | 0Zcj   | Boring                     |
| 0Z5       | <i>By Brand</i>                  | 0ZCk   | Drilling                   |
|           | <i>Note.—Division by (AD)</i>    | 0ZCq   | Grooving                   |
| 0Z5A+S    | Allen Stoeckicht                 | 0ZCs   | Thread cutting             |
| 0Z5C      | Circare                          | 0ZD    | Grinding                   |
| 0Z5G      | Gleason                          | 0ZD1   | <i>By Control</i>          |
| 0Z6       | <i>By Kind of gear</i>           | 0ZD2   | Semi-automatic             |
| 0Z61      | Speed gear                       | 0ZF    | Automatic                  |
| 0Z63      | Tumbler gear                     | 0ZF5   | <i>By Speed</i>            |
| 0Z64      | Quick change                     |        | <i>Note.— Division by</i>  |
| 0Z66      | Feed gear                        |        | (ND).                      |
| 0Z6A      | <i>By Gear ratio</i>             |        | (Illustrative)             |
| 0Z6B      | Forward                          |        | 5 revolutions              |
| 0Z6BB     | First gear                       | 0ZG    | per minute                 |
| 0Z6BC     | Second gear                      | 0ZG1   | <i>By Power</i>            |
| 0Z6BD     | Third gear                       | 0ZG5   | Mechanical                 |
| 0Z6D      | Reverse                          | 0ZG6   | Hydraulic                  |
|           | <i>Note.— Further divi-</i>      | 0ZG7   | Electric                   |
|           | <i>sion by (ND).</i>             | 0ZG8   | Nuclear                    |
|           | (Illustrative)                   |        | Servo control              |
| 0Z6B1=6   | Forward first gear ratio         | 0ZJ    | <i>By Brand</i>            |
|           | 1 : 6                            |        | <i>Note.— Division by</i>  |
| 0Z6D3=2=1 | Forward third gear               | 0ZJ(S) | (AD).                      |
|           | ratio 3 : 2 : 1                  | 0ZX    | Suffine                    |
| 0Z7       | <i>By Number of transmission</i> | 0ZX1   | <i>By Tracer</i>           |
|           | <i>speeds</i>                    | 0ZX2   | Unitracer                  |
| 0Z7B      | Forward                          | 0ZX3   | Dynatracer                 |
| 0Z7D      | Reverse                          |        | Tymac tracer               |
| 0Z7E      | Infinitely variable              | 0ZY    | <i>By Finishing</i>        |
|           | <i>Note.— Further divi-</i>      | 0ZYC   | Low                        |
|           | <i>sions by (ND).</i>            | 0ZYD   | Medium                     |
|           | (Illustrative)                   | 0ZYE   | High                       |
| 0Z7B6     | Six forward speeds               | 0ZYF   | Super                      |

## LATHE PRODUCTION : DEPTH CLASSIFICATION

K7

|       |  |          |  |
|-------|--|----------|--|
|       | <i>By Design of clamping accessories</i> |          | <i>Note.— Division by (ND).</i>          |
| le    | <i>By Design of dog</i>                  |          | <i>(Illustrative)</i>                    |
| le2   | Fastening                                | 11B35    | 35 mm                                    |
| le4   | Self-clamping                            |          |  |
|       | <i>By Design of chuck</i>                | 11C      | <i>By Weight</i>                         |
| If    | <i>By Power used for operation</i>       | 11C20    | 20 Kgs                                   |
| If1   | Mechanical                               | 11E      | <i>By Kind</i>                           |
| If2   | Pneumatic                                | 11E1     | Solid slow taper                         |
| If5   | Hydraulic                                | 11E2     | Serrated cone type                       |
| If6   | Electric                                 | 11E3     | Rapid action self-clamping               |
|       |  | 11E4     | Expansion                                |
| lh    | <i>By Kind of work piece</i>             | 11E5     | Stub expansion                           |
| lh1   | Bar                                      | 11E6     | Spring loaded centre                     |
| lm    | <i>By Diameter</i>                       | 11()     | <i>By Brand</i>                          |
|       | <i>Note.— Division by (ND).</i>          |          | <i>Note.— Division by (AD).</i>          |
|       | <i>(Illustrative)</i>                    |          | <i>(Illustrative)</i>                    |
| lm375 | 375 mm                                   | 11(S)    | Suffine brand                            |
| lp    | <i>By Weight</i>                         |          |  |
|       | <i>Note.— Division by (ND).</i>          | 13       | <i>By Design of Centre</i>               |
|       | <i>(Illustrative)</i>                    | 13B      | <i>By Diameter of hole</i>               |
| lp25  | 25 Kg                                    |          | <i>Note.— Division by (ND).</i>          |
|       |  |          | <i>(Illustrative)</i>                    |
| lr    | <i>By Shape of chuck</i>                 | 1385     | 5 cms                                    |
| lr1   | Collet                                   | 13C      | <i>By Weight</i>                         |
| lr2   | Face plate                               |          | <i>Note.— Division by (ND).</i>          |
| lr3   | T slotted face                           |          | <i>(Illustrative)</i>                    |
| lr4   | Jaw                                      |          |  |
| lr5   | Self-centering                           | 13C3     | 3 Kg                                     |
| lr6   | Self-driven                              | 13G      | <i>By Size</i>                           |
|       |  | 13GB     | Small                                    |
| lu    | <i>By Number of chuck</i>                | 13GC     | Medium                                   |
| lu3   | 3 Jaws                                   | 13GE     | Large                                    |
| lu4   | 4 Jaws                                   | 13J      | <i>By Shape</i>                          |
| lu5   | 5 Jaws                                   | 13J1     | Taper                                    |
|       |  | 13J2     | Quill                                    |
| lv    | <i>By Kind of chuck</i>                  | 13J3     | Bell                                     |
| lv1   | Burnered                                 | 13J4     | Ball ended (Ball bearing)                |
| lv2   | Multisize                                | 13J5     | Floating                                 |
| lv3   | Dead length                              | 13J6     | Serrated                                 |
| lx    | <i>By Movement</i>                       | 13()     | <i>By Standard</i>                       |
| lx1   | Universal                                |          | <i>Note.— Division by (AD).</i>          |
| lx3   | Independent                              |          | <i>(Illustrative)</i>                    |
| ly()  | <i>By Brand</i>                          | 13(D1N)  | German                                   |
|       | <i>Note.— Division by (AD).</i>          | 13(GOST) | Russian                                  |
|       | <i>(Illustrative)</i>                    |          |  |
| ly(P) | Pratt                                    | 19A      | <i>By Design of tailstock</i>            |
|       |  | 19C      | <i>By Mode of securing tailstock bed</i> |
| li    | <i>By Design of mandrel</i>              | 19C1     | Lever locking                            |
| liB   | <i>By Diameter</i>                       | 19C2     | Bolt locking                             |

|         |  |      |                                      |
|---------|--|------|--------------------------------------|
| 19C3    | Screw locking                                    | 19S  | <i>By Design of tailstock barrel</i> |
| 19C4    | Quick acting lock                                | 19S1 | Taper shank                          |
| 19D     | <i>By Power used for operation</i>               | 19S2 | Barrel                               |
| 19D1    | Mechanical                                       | 19S3 | Quill-arranged                       |
| 19D2    | Pneumatic  |      | one above one another                |
| 19D5    | Hydraulic  |      | <i>By Construction of tailstock</i>  |
| 19D6    | Electric   | 19U  | <i>By Shape</i>                      |
| 19D65   | Electronic                                       | 19U1 | Taper                                |
|         |  | 19U2 | Camlock                              |
|         |  | 19U3 | Prismatic                            |
| 19E     | <i>By Maximum tailstock sleeve travel</i>        |      | <i>By Strength</i>                   |
|         | <i>Note.— Division by (ND).</i>                  | 19V  | Hard                                 |
|         | <i>(Illustrative)</i>                            | 19V1 | Rigid                                |
| 19E20   | 20 cms   | 19V2 | Full bearing                         |
|         |  | 19V3 |                                      |
| 19G OZF | <i>By Diameter of tailstock sleeve</i>           | 19X  | <i>By Material of hardening</i>      |
|         | <i>Note.— Division by (ND).</i>                  | 19X1 | Cyanide hardening                    |
|         | <i>(Illustrative)</i>                            | 1A   | <i>By Design of tool</i>             |
| 19G50   | 50 cms   | 1G   | <i>By Life of tool</i>               |
|         | <i>By Design of tailstock spindle bore</i>       | 1GC  | Short                                |
|         |  | 1GD  | Medium                               |
|         |  | 1GE  | High                                 |
| 19H     | <i>By Size</i>                                   |      | <i>By Efficiency</i>                 |
|         | <i>Note.— Division by (ND).</i>                  | 1H   | Low                                  |
|         | <i>(Illustrative)</i>                            | 1HC  | Medium                               |
| 19H10   | 10 mm  | 1HD  | High                                 |
|         |  | 1HE  |                                      |
| 19K     | <i>By Kind</i>                                   | 1J   | <i>By Direction of tool feed</i>     |
| 19K1    | Morse 1  | 1J1  | Left-hand tool                       |
| 19K2    | Morse 2  | 1J2  | Right-hand tool                      |
| 19K3    | Morse 3  |      |                                      |
| 19K4    | Morse 4  | 1K   | <i>By Shape of tool</i>              |
| 19K5    | Morse 5  | 1K1  | Built-up edge                        |
| 19K6    | Morse 6  | 1K2  | Goose-neck                           |
|         | <i>By Design of tailstock spindle</i>            | 1M   | <i>By Material of tool</i>           |
|         |  | 1M1  | Carbide                              |
| 19N     | <i>By Maximum extension of tailstock spindle</i> | 1M11 | Cemented carbide                     |
|         | <i>Note.— Division by (ND).</i>                  | 1M12 | Tungsten carbide                     |
|         | <i>(Illustrative)</i>                            | 1M13 | Titanium carbide                     |
|         |  | 1M3  | Steel                                |
| 19N16   | 16 mm.   | 1M31 | Carbon steel                         |
| 19P     | <i>By Size</i>                                   | 1M35 | High speed steel                     |
|         | <i>Note.— Division by (ND).</i>                  | 1N   | <i>By Number of tool points</i>      |
|         | <i>(Illustrative)</i>                            | 1N1  | One                                  |
|         |  | 1N2  | Two                                  |
| 19P16   | 2t. mm   | 1N2  | Three                                |
|         |  | 1N6  | Six                                  |
| 19R     | <i>By Construction of spindle</i>                | 1NA  | Multiple                             |
| 19R3    | Rotatory   |      |                                      |
| 19R4    | Non-rotatory                                     | 2a   | <i>By Design of tool post</i>        |

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|         |  |                         |   |
|---------|--|-------------------------|---|
| 2e      | By Number of tools<br>Note.— Division by<br>(ND).<br>(Illustrative)                            | 2R<br>2R1<br>2R5<br>2R6 | By Power for toolslide<br>traverse<br>Hand<br>Hydraulic<br>Electric motor             |
| 2e16    | 16 Tools   |                         |   |
| 2eA     | Multiple tools   | 2S                      | By Measure of power for<br>toolslide<br>Note.— Division by<br>(ND).<br>(Illustrative) |
| 2g      | By Number of ways<br>Note.— Division by<br>(ND).<br>(Illustrative)                             | 2S30                    | 30 Kw   |
| 2g4     | 4 way  |                         |   |
| 2k      | By Maximum distance<br>between tool posts  | 2T<br>2T1               | By Control<br>Lever   |
| 2k16    | 16 mm  | 2T2<br>2T6              | Push button<br>Actuated by electro-<br>magnetic clutch                                |
| 2m      | By Shape   | 2T7<br>2T8              | Pre-set stops<br>Automatic  |
| 2m4     | Square   |                         |   |
| 2m6     | Hexagonal  |                         |   |
| 2p      | By Material  | 2V                      | By Number   |
| 2p1     | Steel  | 2V1                     | One   |
| 2p11    | High-carbon steel  | 2V2                     | Two   |
| 2pE     | Aluminium  | 2V3                     | Three   |
| 2r      | By Type of tool post   | 2X                      | By Position   |
| 2r1     | Turret   | 2X1                     | Front and rear  |
| 2r5     | Revolving  | 2X2                     | Front   |
| 2r6     | Capstan  | 2X3                     | Rear  |
| 2t      | By Number  | 3a                      | By Design of compound rest  |
| 2t1     | One  |                         |   |
| 2t2     | Two  | 3e                      | By Value of swivel scale<br>division<br>Note.— Division by<br>(ND).<br>(Illustrative) |
| 2t3     | Three  |                         |   |
| 2v      | By Position  |                         |   |
| 2v1     | Front and rear   | 3e30                    | 30°   |
| 2v2     | Front  |                         |   |
| 2v3     | Rear   | 3g                      | By Maximum swivel angle<br>Note.— Division by<br>(ND).<br>(Illustrative)              |
| 2x      | By Angle of fixing<br>Note.— Division by (ND)<br>(Illustrative)                                | 3g90                    | 90°   |
| 2x90    | 90°  |                         |   |
| 2N      | By Tool slide stroke<br>Note.— Further<br>division by (ND).<br>(Illustrative)                  | 3in                     | By Value of dial scale<br>division<br>Note.— Division by<br>(ND).<br>(Illustrative)   |
| 2N80→75 | 80 to 75 mm  |                         |   |
| 2P      | By Maximum longitudinal<br>traverse of tool slide<br>Note.— Division<br>by (AD) (Illustrative) | 3m60<br>3p              | By Travel per revolution of<br>dial<br>Note.— Division by<br>(ND).                    |
| 2P61    | 61 mm  |                         |   |

|       |   |      |   |
|-------|---|------|---|
|       | ( <i>Illustrative</i> )                   | 3P   | <i>By Construction</i>                                  |
| 3p600 | 600 mm                                    | 3P1  | Rigid   |
|       |   | 3P2  | Integrally cast   |
| 3r    | <i>By Maximum travel of compound rest</i> | 3R   | <i>By Tape</i>  |
|       | <i>Note.— Division by (ND).</i>           | 3R1  | Reacher   |
|       | ( <i>Illustrative</i> )                   | 3R4  | Side hung   |
| 3r7   | 7 m/min                                   | 3S   | <i>By Number of slides</i>                              |
|       |   | 3S1  | One   |
| 30Z   | <i>By Design of slides</i>                | 3S2  | Two   |
| 31    | <i>By Mode of lubrication</i>             | 3S3  | Three   |
| 311   | Pump                                      | 3T   | <i>By Kind of slide</i>                                 |
| 312   | Oil pump                                  | 3TB  | Cross slide   |
|       |   | 3TC  | Longitudinal slide                                      |
| 32    | <i>By Mode of control</i>                 |      |   |
| 321   | Manual                                    | 4    | <i>By Design of carriage</i>                            |
| 3211  | Using stops                               | 4y   | <i>By Number of positions for indexing the carriage</i> |
| 3213  | Hand wheel                                |      | <i>Note.— Division by (ND).</i>                         |
| 322   | Push button                               |      | ( <i>Illustrative</i> )                                 |
| 323   | Rotating knob                             |      | Five positions  |
| 324   | Four way joy-stick                        | 4y5  |   |
| 325   | Hydraulic                                 |      | <i>By Mode of indexing</i>                              |
| 326   | Hydro-mechanical                          |      | Manual  |
| 327   | Pendant                                   | 41   | Semi-automatic  |
|       |   | 411  | Automatic   |
| 3B    | <i>By Speed of travel</i>                 | 414  |   |
|       | <i>Note.— Division by (ND).</i>           | 415  |   |
|       | ( <i>Illustrative</i> )                   |      |   |
| 3B10  | 10 mm/min                                 | 48   | <i>By Carriage traverse control</i>                     |
| 3E    | <i>By Stroke of slide</i>                 |      | <i>By Type of control</i>                               |
|       | <i>Note.— Division by (ND).</i>           | 481  | Lever   |
|       | ( <i>Illustrative</i> )                   | 482  | Push button   |
| 3E30  | 30 mm/min                                 | 484  | Adjustable stops  |
|       |   | 485  | Joy-stick   |
|       |   | 488  | Automatic   |
| 3F    | <i>By Maximum travel along bed ways</i>   |      | <i>By Kind of power for control</i>                     |
|       | <i>Note.— Division by (ND).</i>           | 48B  | Mechanical  |
|       | ( <i>Illustrative</i> )                   | 48C  | Pneumatic   |
| 3F70  | 70 cm                                     | 48F  | Hydraulic   |
|       |   | 48G  | Electrical  |
| 3G    | <i>By Traversing mode</i>                 |      | <i>By Measure of power</i>                              |
| 3G4   | Interchangeable traversing                | 48M  | <i>Note.— Division by (ND).</i>                         |
|       |   |      | ( <i>Illustrative</i> )                                 |
| 3J    | <i>By Shape</i>                           |      | 3 Kilowatts   |
| 3J5   | Vee                                       | 48M3 |   |
| 3J6   | Inverted vee                              |      | <i>By Direction</i>                                     |
|       |   | 4E   | One   |
| 3M    | <i>By Position</i>                        | 4E1  | Two   |
| 3M1   | Front and rear                            | 4E2  | Four  |
| 3M2   | Front                                     | 4E4  | All-directions  |
| 3M3   | Rear                                      | 4E5  |   |



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|        |  |        |   |
|--------|--|--------|---|
| G      | By Speed of movement                       | 5m3    | Joy-stick   |
| GB     | Cross                                      | 5m4    | Clutch  |
| GD     | Longitudinal                               | 5m46   | Electromagnetic   |
|        | Note.—Divide 4GB or 4GD by (ND).           | 5m5    | Multi-toothed   |
|        | (Illustrative)                             | 5m6    | Air cylinder  |
| 4GD200 | 200 mm per minute                          | 5mC    | Solenoid valve  |
|        |  | 5mD    | Hand wheels   |
| 4J     | By Maximum travel of the carriage          | 5mE    | Pulley  |
| 4JF    | Radial                                     | 5mF    | Pedal   |
| 4JG    | Transverse                                 | 5mG    | Push button   |
|        | Note.—Divide 4JF or 4JD by (ND).           | 5t     | Pluboard  |
|        | (Illustrative)                             |        | By Spindle travel per revolution                        |
| 4J20   | 20 cm                                      |        | Note.— Division by (ND).                                |
|        |  |        | (Illustrative)  |
| 4N     | By Number of carriage                      | 5t3    | 3 cm  |
|        | Note.— Division by (ND).                   | 5      | By Design of spindle bore                               |
|        | (Illustrative)                             | 51     | By Diameter   |
| 4N3    | 3 carriages                                | 51C    | Small (less than 125 mm)                                |
|        |  | 51D    | Medium (125 to 1,200 mm)                                |
| 5c     | By Number of positions for locking spindle | 51E    | Large (greater than 1,200 mm)                           |
| 5c1    | One  |        | Note.— Division of 51C to 51E by (ND).                  |
| 5c2    | Two  |        | (Illustrative)  |
| 5c3    | Three                                      |        | 45 mm   |
| 5e     | By Horse power of spindle motor            | 51D45  |   |
|        | Note.— Division by (ND).                   | 52     | By Shape  |
|        | (Illustrative)                             | 521    | Taper   |
| 5e5    | 6KW motor                                  | 5C     | By Design of spindle nose                               |
|        |  | 5CC    | By Size (Diameter)                                      |
| 5g     | By Power of motor                          | 5CD    | Small (less than 50 cm)                                 |
| 5g1    | Mechanical                                 | 5CE    | Medium (50 to 100 cm)                                   |
| 5g2    | Pneumatic                                  |        | Large (greater than 100 cm)                             |
| 5g5    | Hydraulic                                  |        | Note.— For specific measure, divide 5CC to 5CE by (ND). |
| 5g6    | Electrical                                 |        | (Illustrative)  |
| 5g65   | Electronic                                 | 5C32   | 32 cm   |
| 5g8    | Automatic                                  |        |   |
| 5h     | By Mode of selection of speeds             | 5E     | By Shape  |
| 5h1    | Pre-selection                              | 5E1    | Camlock   |
| 5h2    | Lever                                      | 5E3    | Taper key drive   |
| 5h3    | Dial                                       |        |   |
| 5h4    | Finger tip                                 | 5H     | By Standard   |
| 5m     | By Spindle speed change control            |        | Note.— Division by (AD).                                |
| 5m2    | Lever                                      | 5HD1N  | (Illustrative)  |
| 5m21   | Single                                     | 5HGOST | German  |
| 5m22   | Two  |        | Russian   |
| 5m23   | Three                                      | 6      | By Design of spindle                                    |

|         |                               |     |     |                                  |
|---------|-------------------------------|-----|-----|----------------------------------|
| 61      | <i>By Accuracy</i>            |     |     | <i>By Lubrication</i>            |
| 611     | Accurate                      | 82  |     | <i>By Mode</i>                   |
| 612     | Super-accurate                | 821 |     | Self-oiling                      |
| 613     | Precision                     | 823 |     | Splashing                        |
|         |                               | 825 |     | Spraying                         |
| 62      | <i>By Hardness</i>            | 826 |     | Automatic                        |
| 621     | Hard                          |     | 84  | <i>By Mechanism</i>              |
| 626     | Stiff                         |     | 841 | Oil sump                         |
|         |                               |     | 843 | Pump                             |
| 63      | <i>By Size</i>                | 845 |     | Pipe                             |
| 63C     | Small                         |     |     |                                  |
| 63D     | Medium                        |     |     | <i>By Power used for control</i> |
| 63E     | Large                         | 86  |     | Mechanical                       |
|         | <i>Note.— Division of</i>     | 861 |     | Pneumatic                        |
|         | 63C to 63E by (ND).           | 863 |     | Hydraulic                        |
|         | (Illustrative)                | 865 |     | Electric                         |
| 63C250  | 250 cms                       | 866 |     |                                  |
|         |                               |     | 8A  | <i>By Covering</i>               |
| 65      | <i>By Shape</i>               |     |     |                                  |
| 652     | Taper                         |     |     | <i>By Material</i>               |
| 654     | Tube                          | 8D  |     | Fibre glass                      |
| 655     | Flange                        | 8D4 |     | Cast iron                        |
|         |                               | 8DE |     |                                  |
| 66      | <i>By Material</i>            |     |     | <i>By Position on bed</i>        |
| 661     | Steel                         | 8F  |     | Left hand                        |
| 6611    | High-carbon steel             | 8F1 |     | Right hand                       |
| 6616    | Hollow steel                  | 8F2 |     |                                  |
|         |                               |     | 8M  | <i>By Construction</i>           |
| 6N      | <i>By Number</i>              |     | 8M1 | Rigid                            |
|         | <i>Note.— Division by</i>     |     | 8M2 | Heavy duty                       |
|         | (ND).                         |     | 8M3 | Sturdy                           |
|         | (Illustrative)                |     | 8M6 | Powerful                         |
| 6N1     | Single                        |     | 8M7 | Vibration-free                   |
| 6N6     | Six                           |     | 8M8 | Double-sided                     |
| 6N18    | Eighteen                      |     |     |                                  |
| 6NA     | Multiple                      |     | 8X  | <i>By Enclosure</i>              |
|         |                               |     | 8X1 | Partially enclosed               |
| 6P      | <i>By Axis</i>                |     | 8X5 | Totally enclosed                 |
| 6P1     | Horizontal                    |     |     |                                  |
| 6P4     | Vertical                      |     |     | <i>By Design of bed</i>          |
|         |                               |     |     | <i>By Design of bed ways</i>     |
| 6R      | <i>By Movement</i>            |     | 9c  | <i>By Number</i>                 |
| 6R1     | Stationary                    |     | 9c2 | Two                              |
| 6R5     | Rotating                      |     | 9c3 | Three                            |
|         |                               |     | 9c4 | Four                             |
| 6X      | <i>By Construction</i>        |     |     |                                  |
| 6X1     | Rigid                         |     |     | <i>By Position</i>               |
|         |                               |     | 9cB | Front                            |
| 6()     | <i>By Standard</i>            |     | 9cC | Rear                             |
|         | <i>Note.— Division by</i>     |     | 9cD | Underneath                       |
|         | (AD).                         |     | 9cE | Below-the-gap                    |
|         | (Illustrative)                |     |     |                                  |
| 6(BS)   | British                       |     |     | <i>By Shape of path</i>          |
| 6(DIN)  | German                        |     | 9cJ | Straight (Thro' going)           |
| 6(GOST) | Russian                       |     | 9cK | Flat                             |
|         |                               |     | 9cL | Rectangular                      |
| 8       | <i>By Design of headstock</i> |     |     |                                  |

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|        |  |       |  |
|--------|--|-------|--|
| 9cM    | <b>Vee</b>   |       | <i>Note.— Division of<br/>9mC to 9mE by (ND).<br/>(Illustrative)</i> |
| 9cN    | <i>By Material of lining</i>   |       |  |
| 9cNC   | Steel  | 9mD3  | 3 meters   |
| 9cNE   | Aluminium  |       |  |
|        | <i>By Construction</i>   | 9q    | <i>By Shape of bed</i>   |
| 9cP    | Rigid  | 9q1   | Flat   |
| 9cQ    | Hardened   | 9q2   | Sloping  |
| 9cQ5   | Flame  | 9q3   | Angled towards rear  |
| 9cQ6   | Induction  | 9q4   | Cross-braced   |
| 9cR    | Full bearing   | 9q5   | Broad design   |
| 9cS    | Integrally cast  | 9q6   | Gap-in-front   |
| 9cT    | Protected  | 9q7   | Removable gap bridge   |
|        |  | 9r    | <i>By Kind of section</i>  |
| 9e     | <i>By Design of leg</i>  | 9r1   | Deep section   |
|        | <i>By Number</i>   | 9r2   | Extra-deep section   |
| 9e1    | One  | 9r3   | Box section  |
| 9e2    | Two  | 9r4   | Butt jointed   |
| 9e3    | Three  |       |  |
| 9e4    | Four   | 9t    | <i>By Graining</i>   |
|        |  | 9t1   | Coarse   |
|        |  | 9t2   | Normal   |
|        |  | 9t3   | Fine   |
| 9eC1   | <i>By Material</i>   |       |  |
| 9eC2   | Steel  |       |  |
| 9eE    | Cast iron  | 9u    | <i>By Method of hardening</i>  |
|        | Aluminium  | 9u5   | Flame  |
| 9f     | <i>By Design of rib</i>  | 9u6   | Induction  |
| 9f1    | Diagonal   |       |  |
| 9f3    | Inverted vee type  | 9v    | <i>By Type of casting</i>  |
| 9f4    | $\pi$ shaped   | 9v1   | Wear resistant   |
| 9f5    | High cheek   | 9v2   | Rigid  |
| 9f6    | Stiffening   |       |  |
|        |  | 9y    | <i>By Material</i>   |
|        | <i>By Dimension of bed</i>   | 9yC   | Iron   |
|        | <i>By Height</i>   | 9yC1  | Steel  |
| 9jC    | Small  | 9yC15 | Stainless  |
| 9jD    | Medium   | 9yC2  | Cast iron  |
| 9jE    | Large  | 9yE   | Aluminium alloy  |
|        | <i>Note.— Division of<br/>9jC to 9jE by (ND).<br/>(Illustrative)</i> | 9yG   | Magnesium alloy  |
|        |  | 9yN   | Manganese alloy  |
|        |  | 9yZ   | Zinc alloy   |
| 9jD2   | 2 meters   |       |  |
|        |  |       | <i>By Whole Machine Associated Attributes</i>                        |
| 9k     | <i>By Width</i>  |       |  |
| 9kC    | Small (below 400 mm)   | 9E    | <i>By Weight</i>   |
| 9kD    | Medium (400 to 800 mm)   | 9EC   | Light (less than 10 tons)  |
| 9kE    | Large (above 800 mm)   | 9ED   | Medium 10 (to 30 tons)   |
|        | <i>Note.— Division of<br/>9kC to 9kE by (ND).<br/>(Illustrative)</i> | 9EE   | Heavy (more than 30 tons)  |
|        |  | 9EJ   | Net  |
| 9kC325 | 325 mm   | 9EK   | With standard equipment  |
|        |  |       |  |
| 9m     | <i>By Length</i>   | 9EL   | Boxed  |
| 9mC    | Small (less than 2 m)  | 9EM   | Crated   |
| 9mD    | Medium (2 m to 6m)   | 9EN   | Packed for rail  |
| 9mE    | Large (above 6 m)  | 9EP   | Packed for overseas  |

|          |                                       |        |   |
|----------|---------------------------------------|--------|---|
|          | <i>Note.— Division of</i>             |        |   |
|          | 9EC to 9EP by (ND).                   | CE     | Precision (0.006 to 0.0002 mm)                  |
| 9EE35    | 35 tons weight                        | CF     | High precision (less than or equal to 0.001 mm) |
| 9G       | <i>By Floor area required</i>         |        | <i>Note.— Division of</i>                       |
| 9GC      | Small (less than 20 square meters)    |        | CC to CF by (ND).                               |
| 9GD      | Medium (20 to 50 square meters)       | CD023  | ( <i>Illustrative</i> )<br>·023 mm              |
| 9GE      | Large (greater than 60 square meters) | E      | <i>By Efficiency</i>                            |
|          | <i>Note.— Division of</i>             | EC     | Low   |
|          | 9GC to 9GE by (ND).                   | ED     | Medium  |
|          | ( <i>Illustrative</i> )               | EE     | High  |
|          |                                       | EF     | Peak  |
| 9GD48    | 48 sq m                               |        |   |
| 9J       | <i>By Height</i>                      | F      | <i>By Cutting speed</i>                         |
| 9JC      | Small (less than 1.5 m)               | FC     | Low (less than 150 m/min)                       |
| 9JD      | Medium (1.5 m to 3 m)                 | FD     | Medium (150 to 300 m/min)                       |
| 9JE      | Large (greater than 3m)               | FE     | High (300 m/min) of                             |
|          | <i>Note.— Divide</i>                  | FE     | Constant  |
|          | 9JE by (ND).                          | FE     | <i>Note.— Division</i>                          |
|          | ( <i>Illustrative</i> )               |        | FC to FE by (ND).                               |
| 9JCI + 5 | 1.5 meters height                     |        | ( <i>Illustrative</i> )                         |
| 9K       | <i>By Width</i>                       | FD166  | 166 m/min                                       |
| 9KC      | Small (less than 1.5 m)               |        |   |
| 9KD      | Medium (1.5 m to 3 m)                 | G      | <i>By Rate of metal removal</i>                 |
| 9KE      | Large (Greater than 3 m)              | GC     | Low   |
|          | <i>Note.— Division of</i>             | GD     | Medium  |
|          | 9KC to 9KE by (ND).                   | GE     | High  |
|          | ( <i>Illustrative</i> )               |        |   |
| 9KE5     | 5 meter wide                          | H      | <i>By Distance between centres</i>              |
| 9L       | <i>By Length</i>                      | HC     | Small (Less than 525 mm)                        |
| 9LC      | Small (less than 3 m)                 | HD     | Medium (525 to 1024 mm)                         |
| 9LD      | Medium (3 m to 6 m)                   | HE     | Large (1025 mm and above)                       |
| 9LE      | Large (greater than 6 m)              |        | <i>Note.— Division of</i>                       |
|          | <i>Note.— Division of</i>             |        | HC to HE by (ND).                               |
|          | 9LC to 9LE by (ND).                   |        | ( <i>Illustrative</i> )                         |
|          | ( <i>Illustrative</i> )               |        |   |
| 9LE7 + 4 | 7.4 meters length                     |        |   |
| 9V       | <i>By Working axis</i>                | HC320  | 320 mm  |
| 9V1      | Horizontal                            |        |   |
| 9V4      | Vertical                              | JC     | <i>By Swing in gap</i>                          |
| 9V6      | Inclined                              | JCC    | Small (Upto 100 cms)                            |
|          |                                       | JCD    | Medium (100 to 300 ms)                          |
| 9X       | <i>By Working traverse</i>            | JCE    | Large (Above 300 cms)                           |
| 9XC      | Continuous                            |        | <i>Note.— Division of</i>                       |
| 9XD      | Interrupted                           |        | JEC to JEE by (ND).                             |
|          |                                       |        | ( <i>Illustrative</i> )                         |
| C        | <i>By Accuracy of machining</i>       | JCE396 | 396 cms   |
| CC       | Low (Greater than 0.025 mm)           |        |   |
| CD       | Medium (0.025 to 0.015 mm)            | JG     | <i>By Swing over carriage</i>                   |

LATHE PRODUCTION : DEPTH CLASSIFICATION

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|         |  |           |  |
|---------|--|-----------|--|
| JGC     | Small (Upto 100 cms)   | RPCO+5→30 | 0.5 to 30 modules                              |
| JGD     | Medium (100 to 300 cms)  | RPD7→1    | 7 to 1 Diametrical range                       |
| JGE     | Large (above 300 cms)  | RR        | By Number                                      |
|         | <i>Note.— Division of</i>  | RRA       | Metric (mm)                                    |
|         | JGC to JGE by (ND).  | RRB       | English (inch)                                 |
|         | (Illustrative)   | RRC       | Module   |
| JGC45   | 45 cms   | RRD       | Diametrical                                    |
|         |  |           | <i>Note.— Division of</i>                      |
| JH      | By Swing over bed  |           | RR to RRD by (ND).                             |
| JHC     | Small (up to 100 cms)  |           | (Illustrative)                                 |
| JHD     | Medium (100 to 300 cms)  | RRA24     | 24 Metric threads                              |
| JHE     | Large (above 300 cms)  | RRB24     | 24 English threads                             |
|         | <i>Note.— Division of</i>  | RRC18     | 18 Module threads                              |
|         | JHC to JHE by (ND).  | RRD24     | 24 Diametrical threads                         |
|         | (Illustrative)   |           |  |
| JHC55   | 55 cms   | RT        | By Kind of pitch                               |
|         |  | RTB       | Normal   |
| JJ      | By Swing over floor  | RTC       | Coarse   |
| JJC     | Small (up to 100 cms)  | RTD       | Fine   |
| JJD     | Medium (100 to 300 cms)  | T         | By Feeds                                       |
| JJE     | Large (Above 300 cms)  | TM        | By Feed rate.                                  |
|         | <i>Note.— Division of</i>  |           | <i>Note.— Division by</i>                      |
|         | JJC to JJE by (ND).  |           | (ND).  |
|         | (Illustrative)   |           | (Illustrative)                                 |
| JJD156  | 156 cms  | TMO→156   | 0 to 156 in/rev.                               |
| M       | By Maximum length turned on  | TP        | By Range                                       |
| ME      | Rear slide   | TPF       | Radial   |
| MF      | Front slide  | TPG       | Transverse                                     |
| MG      | Overbed  | TPH       | Tool   |
|         | <i>Note.— Division of</i>  | TPJ       | Cross  |
|         | ME to MG by (ND).  | TPK       | Longitudinal                                   |
|         | (Illustrative)   |           | <i>Note.— Division of</i>                      |
| ME630   | 630 m Rear slide   | "→"       | TP to TPK by (ND). Use as indicator for range. |
|         |  |           | (Illustrative)                                 |
| P       | By Maximum work stroke   | TP28→250  | 28 to 250 mm                                   |
|         | <i>Note.— Division by</i>  |           |  |
|         | (ND).  |           |  |
|         | (Illustrative)   | TR        | By Number                                      |
| P20     | 20 mm  | TRB       | Forward  |
| PB26+75 | 26.75 inches   | TRC       | Reversible                                     |
|         |  | TR D      | Forward and reverse                            |
|         | By Thread cutting  | TRE       | Cross  |
|         | By Range   | TRF       | Longitudinal                                   |
| RP      | Metric (mm)  |           | <i>Note.— Division of</i>                      |
| RPA     | English (inch)   |           | TR to TRF by (ND).                             |
| RPB     | Module   |           | (Illustrative)                                 |
| RPC     | Diametrical  | TR10      | Ten feeds                                      |
| RPD     | Diametrical  |           |  |
|         | <i>Note.— Add the given range with an "→" inserted between the figure indicating range limits to the appropriate (IN) RP to RPD.</i> | TT        | By Kind of pitch                               |
|         | (Illustrative)   | TTB       | Coarse   |
|         |  | TTC       | Normal   |
|         |  | TTE       | Fine   |
|         |  | TV        | By Slide                                       |

## K7

## GOPINATH

|          |                                |       |                                    |
|----------|--------------------------------|-------|------------------------------------|
| TV1      | Toolslide                      | X81   | Flow-line                          |
| TV2      | Cross slide                    | X82   | Transfer-line                      |
| TV3      | Longitudinal slide             |       |                                    |
| U        | <i>By Spindle speed</i>        | ZzA   | <i>By Commodity to be machined</i> |
|          | <i>By Range</i>                |       | <i>By Dimension</i>                |
| UF       | <i>By Variability</i>          | ZzJ   | <i>By Weight</i>                   |
| UFB      | Non-Variabe                    |       | <i>Note.— Division by</i>          |
| UFD      | Variable                       |       | (ND).                              |
| UFE      | Stepless variable              |       | ( <i>Illustrative</i> )            |
| UFF      | Infinitely variable            | ZzJ5  | 5 Kgs                              |
| UK       | <i>By Belt</i>                 | ZzN   | <i>By Height</i>                   |
| UKB      | Low speed                      |       | <i>Note.— Division by</i>          |
| UKD      | High speed                     |       | (ND).                              |
|          |                                |       | ( <i>Illustrative</i> ).           |
| UL       | <i>By Gear</i>                 | ZzN20 | 20 cms                             |
| ULB      | Low speed                      |       |                                    |
| ULC      | Direct-drive                   | ZzQ   | <i>By Width</i>                    |
| ULD      | Back-gearred drive             |       | <i>Note.— Division by</i>          |
| ULE      | High speed                     |       | (ND).                              |
| ULF      | Direct-drive                   |       | ( <i>Illustrative</i> )            |
| ULG      | Back-gearred drive             | ZzQ5  | 5 cm                               |
|          | <i>Note.— Division of</i>      |       |                                    |
|          | <i>UK to ULG by (ND).</i>      | ZzT   | <i>By Length</i>                   |
|          | <i>Use "→" as indicator of</i> |       | <i>Note.— Division by</i>          |
|          | <i>Range,</i>                  |       | (ND).                              |
|          | ( <i>Illustrative</i> )        |       | ( <i>Illustrative</i> )            |
| UL61→435 | Range 61 to 435 rpm            | ZzT10 | 10 cm                              |
|          | <i>By Number</i>               |       |                                    |
| UN       | <i>By Belt</i>                 | Z0Z   | <i>By Shape of blank</i>           |
| UNB      | Low speed                      | Z1    | Plane                              |
| UND      | High speed                     | Z11   | Plate                              |
| UNF      | Clockwise speed                | Z12   | Ingot                              |
| UNG      | Anticlockwise speed            | Z15   | Sheet                              |
|          |                                | Z16   | Foil                               |
| UP       | <i>By Gear</i>                 | Z173  | Expanded                           |
| UPB      | Low speed                      | Z181  | Band                               |
| UPD      | High speed                     | Z182  | Strip                              |
| UPF      | Clockwise speed                | Z1822 | Narrow                             |
| UPG      | Anticlockwise speed            | Z1823 | Wide                               |
|          | <i>Note.— Division of</i>      | Z183  | Thick strip                        |
|          | <i>UN to UPG by (ND)</i>       | Z185  | Thin strip                         |
|          | ( <i>Illustrative</i> )        | Z1B   | Plated semi-finished               |
| UP11     | 11 Gear speeds                 | Z1C   | Sheet                              |
|          |                                | Z1D   | Strip                              |
| V        | <i>By Shape</i>                | Z2    | Sectional                          |
| V5       | Drum                           | Z22   | Rod                                |
| V6       | Box                            | Z221  | Round                              |
|          |                                | Z222  | Flat                               |
| X        | <i>By Construction</i>         | Z223  | Triangular                         |
| X1       | Rigid                          | Z224  | Quadrangular                       |
| X11      | One-piece cast                 | Z225  | Pentagonal                         |
| X2       | Sturdy                         | Z226  | Hexagonal                          |
| X3       | Powerful                       | Z24   | Rail                               |
| X5       | Light duty                     | Z26   | Wire (Filament)                    |
| X6       | Heavy duty                     | Z261  | Round                              |
| X7       | Unit                           | Z262  | Sectional                          |

## LATHE PRODUCTION: DEPTH CLASSIFICATION

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(L)

|       |                         |          |                                   |
|-------|-------------------------|----------|-----------------------------------|
| Z27   | Wire article            | Z9 ( )   | Other shapes                      |
| Z274  | Wire rope twisted       |          | <i>Note.— To be got by</i>        |
| Z2741 | Round                   |          | (SD).                             |
| Z2742 | Section shaped          |          | ( <i>Illustrative</i> )           |
| Z2744 | Hollow                  | Z9(D8,4) | Automobile brake                  |
| Z2747 | Parallel wires          | Z9 ( )   | Watch                             |
| Z2748 | Beaten together         |          |                                   |
| Z282  | Helicoidal              |          | <i>By Material</i>                |
| Z283  | Flat spiral             | ZA1      | Hard                              |
| Z2831 | Tapered                 | ZA2      | Brittle                           |
| Z31   | Prismatic (Tiles)       | ZA5      | Soft                              |
| Z32   | Pivot (Crankpin)        | ZB       | Non-metal                         |
| Z33   | Facete                  | ZB1      | Wood                              |
| Z331  | Plane on plane          | ZB3      | Ceramic                           |
| Z332  | Plane on convex         | ZB5      | Plastic                           |
| Z333  | Plane on concave        | ZB5N     | Nylon                             |
| Z335  | Curved, Hollow          | ZB5T     | Teflon                            |
| Z341  | Cylindrical Disc        | ZBZ      | Metal                             |
| Z345  | Conical                 |          |                                   |
| Z35   | Backed surface          |          | <i>T (A2) into (A1) begins</i>    |
| Z36   | Spherical               | ZC       | Iron                              |
| Z37   | Stream-lined            | ZC1      | Steel                             |
| Z3C   | Bolt                    | ZC2      | Stainless steel                   |
| Z3D   | Rivet                   | ZC3      | Carbon steel                      |
| Z3E   | Hook                    | ZC4      | Free cutting carbon steel         |
| Z3F   | Dovetailed              |          |                                   |
| Z3G   | Pyramidal               | ZC5      | Manganese steel                   |
| Z3H   | Wedge-shaped            | ZC6      | Nickel steel                      |
| Z4    | Cut from a template     | ZC7      | Nickel-chromium steel             |
| Z51   | Straight grooves        | ZCB      | Inconel                           |
| Z511  | On plane surface        | ZCD      | Molybdenum steel                  |
| Z512  | On curved surface       | ZCE      | Chromium-molybdenum steel         |
| Z513  | On cylindrical surface  |          |                                   |
| Z514  | On conical surface      | ZCH      | Nickel-chromium- molybdenum steel |
| Z52   | On outer surface        |          |                                   |
| Z53   | On inner surface        | ZCM      | Chromium-vanadium steel           |
| Z55   | Curved slotted groove   |          |                                   |
| Z56   | Curved on outer surface | ZCP      | Silicon-manganese steel           |
| Z57   | Curved on inner surface |          |                                   |
| Z6    | Hollow                  | ZE       | Aluminium                         |
| Z61   | Tube                    | ZG       | Nickel                            |
| Z62   | Pipe                    | ZH       | Manganese                         |
| Z622  | Seamed                  | ZM       | Titanium alloy                    |
| Z623  | Seamless                | ZP       | Copper alloy                      |
| Z63   | Irregular cross section | ZR       | Refractory group                  |
| Z64   | Globe                   | ZR2      | Chromium alloy                    |
|       |                         | ZR3      | Columbium alloy                   |
|       |                         | ZR5      | Molybdenum alloy                  |
|       |                         | ZR6      | Platinum group                    |
| Z72   | Bore                    |          |                                   |
| Z73   | Oval hole-              |          |                                   |
| Z74   | Conical holes           |          |                                   |
| Z76   | Wheel                   |          | <i>T (A3) into (A2) begins</i>    |
| Z77   | Annular                 | ZRB      | Tantalum                          |
| Z773  | Barrel shaped           | ZRC      | Tungsten                          |
| Z84   | Gear teeth              | ZRD      | Vanadium                          |
| Z841  | Straight pitched        |          | <i>T (A3) into (A2) ends</i>      |
| Z842  | Helicoidal              |          | <i>T (A2) into (A1) ends</i>      |

|        |                      |       |   |
|--------|----------------------|-------|---|
| (a)    | <i>By Operation</i>  | (yM7) | Nuclear   |
| (b)    | <i>By Kind</i>       | (yX)  | <i>By Degree of Automation</i>  |
| (b1)   | Cutting (Machining)  | (yX4) | Semi-automatic  |
| (c)    | Chipbreak            | (yM5) | Automatic   |
| (c1)   | Turning              |       |   |
| (c5)   | Copy turning         | (1)   | <i>By Country of make</i>   |
| (d)    | Roll turning         |       | <i>Note.— Division by</i>   |
| (e)    | Milling              |       | (GD).   |
| (f)    | Hobbing              |       | (Illustrative)  |
| (g)    | Planing              | (42)  | Japan   |
| (h)    | Broaching            | (58)  | USSR  |
| (h1)   | Boring               | (A)   | <i>By Brand</i>   |
| (i)    | Trepanning           |       |   |
| (j)    | Drilling             |       |   |
| (j1)   | Reaming              |       | <i>Special components</i>   |
| (j2)   | Gun drilling         |       | <i>By Year of manufacture</i>   |
| (j3)   | Deephole drilling    |       | <i>Note.— 1 For Twentieth century, use the last two digits of the Year Number.</i>  |
| (j4)   | Multiple diameter    |       | <i>2 For Nineteenth century, use the last two digits of the year with "m" prefixed.</i>   |
| (k)    | Grooving             |       | (Illustrative)  |
| (p)    | Tapping              |       |   |
| (q)    | Thread screw cutting |       |   |
| (r)    | Filing               |       |   |
| (s)    | Grinding             |       |   |
| (s1)   | Cylindrical          |       |   |
| (s2)   | Centreless           |       |   |
| (s3)   | Internal             | m75   | 1875  |
| (s4)   | Surface              | 66    | 1966  |
| (s5)   | Form grinding        |       |   |
| (t)    | Finishing            |       | <i>By Model</i>   |
| (t1)   | Honing               |       | <i>Note.— To be got by</i>  |
| (t2)   | Lapping              |       | (ND) and (AD) as indicated by the company of make.  |
| (t5)   | Super-finishing      |       | (Illustrative)  |
| (t6)   | Deburring            |       |   |
| (t7)   | Blending             |       |   |
| (w)    | Roll turning         | 16CD  | 16CD model  |
| (yA)   | <i>By Batch work</i> | 48CA  | 48CA model  |
| (yB)   | <i>By Size</i>       | HLV+H | HLV-H model   |
| (yC)   | Small                | J305  | J305 model  |
| (yD)   | Medium               | NT+50 | NT-50 model   |
| (yE)   | Large                |       | <i>By Company name</i>  |
| (yF)   | <i>By Stage</i>      |       | <i>Note.— Division by</i>   |
| (yF1)  | First operation      |       | (AD).   |
| (yF2)  | Second operation     |       | (Illustrative)  |
| (yH)   | <i>By Purpose</i>    | HMT   | HMT   |
| (yH1)  | Single (special)     | LA    | LANG  |
| (yH2)  | Dual                 | WA    | WARD  |
| (yHA)  | Universal            |       | <i>Note.— The number for Brand is to be got by combining the (IN) for the company name, for the model, for the year, in that sequence, the component (IN) connected by "=" being (Illustrative)</i> |
| (yM)   | <i>By Power used</i> |       | (LA=16CD=66) LANG 16  |
| (yM1)  | Hand                 |       | CD Model of 1966  |
| (yM2)  | Mechanical           |       |   |
| (yM3)  | Pneumatic            |       |   |
| (yM5)  | Hydraulic            |       |   |
| (yM6)  | Electrical           |       |   |
| (yM65) | Electronic           |       |   |



LATHE PRODUCTION : DEPTH CLASSIFICATION

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| SCHEDULE | OF (1P2) ISOLATES        |     |                              |
|----------|--------------------------|-----|------------------------------|
|          |                          | 45  | Tool post (Turret)           |
|          |                          | 46  | Handwheels                   |
| 1        | Bed                      | 461 | Cross feed                   |
| 11       | Bed ways                 | 462 | Longitudinal carriage travel |
| 2        | Headstock                | 47  | Steady rest attachment       |
| 21       | Spindle                  | 48  | Taper attachment             |
| 25       | Live center              |     |                              |
| 26       | Spindle lever            | 5   | Feed mechanism               |
| 261      | Start                    | 51  | Feed gears                   |
| 263      | Brake                    | 52  | Feed rod                     |
| 265      | Change                   |     |                              |
| 266      | Stop                     | 6   | Thread cutting mechanism     |
| 3        | Tailstock                | 61  | Leadscrew                    |
| 31       | Tailstock spindle        | 62  | Leadscrew reverse lever      |
| 35       | Dead Center              | 63  | Thread-chasing dial          |
| 365      | Binding lever hand wheel |     |                              |
| 366      | Clamping screws          | 7   | Clamping accessories         |
| 367      | Screw for setting-over   | 71  | Chuck                        |
|          | tailstock                | 72  | Collet                       |
| 368      | Liver for moving         | 73  | Center                       |
|          | tailstock                | 75  | Driller                      |
| 4        | Carriage                 | 76  | Mandrel                      |
| 41       | Saddle                   | 77  | Rest                         |
| 42       | Apron                    | 8   | Lubricating system           |
| 43       | Compound rest            | 81  | Chip and oil pan             |
| 436      | Feedscrew handle         |     |                              |

8 Examples

81 Note

Some of the subjects of the documents cited as examples in the classified part in Sec 83 were found to be multifocal. As the examples given Sec 83 are meant mainly to demonstrate the method of constructing (CN) according to the depth schedule each and every subject dealt with in a document is not included in the list of examples. Only one or two subjects have been selected from a document.

82 ALPHABETICAL INDEX TO SUBJECTS

Accurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 16

Accuracy

Numerical control, Lathe 2  
of cutting 0.001 mm, Tube, Lang, Lathe 22  
Air cylinder carriage control, Steel bedways, Distance between collect and turret 460 mm, Speeds 32, Automatic, Chandler Ford model 6D, Turret lathe 28

Attachment

Camlock tailstock, High carbon steel spindle, Hardened inverted vee type bed, Swing over carriage 45 cm, Swing over bed 55 cm, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
Interrupted working traverse, Steel bearing workpiece, Lathe 7

## Automatic

- Chandler Ford model 6D, Turret lathe 28  
 control spindle, Constant cutting speed, Stepless variable speed, Dean Smith  
 and Grace, Lathe 15  
 VDF Herbert brand, Lathe 25  
 Axis, Disc brakes for motor, Churchill brand, Lathe 11

Ball bearing (for spindle), Hardened nickel chromium steel speed gears,  
 Enclosed gear box, Copy turning attachment, Camlock tailstock, High  
 carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage  
 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18  
 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10

## Bar

- Boring, Swift 26G type, Lathe 24  
 Capacity 140 cm, Feeds 10, Speed range 61 to 435 cms, Speeds 11, Width  
 of workpiece 1 cm, Length of workpiece 4 cm, Bar, Turning James Farmer  
 Norton & Co., Lathe 19  
 Turning James Farmer Norton & Co., Lathe 19

## Batch work, Russian make

- GOST 1712 P model, Lathe 17  
 KZI Kramatorsk model 1608, Lathe 21

## Bearing

- (Spindle), Hardened  
 nickel chromium steel speed gears, Enclosed gear box, Copy turning  
 attachment, Camlock tailstock, High carbon steel spindle, Hardened  
 inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed  
 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18,  
 Thread cutting, BSX brand, Lathe 10  
 Speed gears, Camlock D1, Diameter 2 cm spindle nose, Superaccurate rigid  
 spindle, Induction hardened bedways, High precision, Colchester Lathe  
 1600 Lathe 14  
 Workpiece, Lathe 7

## Bed

- Accuracy of cutting 0.001 mm, Tube, Lang, Lathe 22  
 Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds  
 18, Lang 16 CD, Turret Lathe 29  
 Floor area required 15 sq m, Distance between centres 1690 mm, Swing  
 over cross slide 395 mm, Swing over carriage 540 mm, Feed range 0.05  
 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16,  
 Ward 10D model, Turret lathe 30  
 Lathe 4  
 Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32  
 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand  
 Lathe 10

## ways

- Gap-in-front bed, Infinitely variable speed, Hardinge HLV-H model,  
 Lathe 18  
 High precision, Colchester Mascot 1600, Lathe 14

## Boring, Swift 36G type, Lathe 24

- Brakes for motor car, Churchill brand, Lathe 11  
 BSX brand, Lathe 10

## Camlock

- D1 diameter 20 cm spindle nose, Superaccurate rigid spindle, Induction  
 hardened bedways, High precision, Colchester mascot 1600, Lathe 14  
 tailstock, High carbon steel spindle, Hardened inverted vee type bed, Swing  
 over carriage 45 cm, Swing over bed 55 cm, Cutting range 2 to 32 cpi,

- Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Carbide steel tool, Toolslide, Stroke 260 mm, Longitudinal slide stroke 770 mm, Cross slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 m, Width 3.4 m, Length 7.4 m, Swing over carriage 4.5 m, Width (workpiece) 1950 mm, Length (Workpiece) 3200 mm, Shaft for electric motor (workpiece), Copyturning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- Carbon steel spindle, Hardened inverted vee type bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Carriage control, Push button spindle control, Stainless steel cover bed, Floor area required 15 sq m, Distance between centres 1690 mm, Swing over cross slide 395 mm, Swing over carriage 540 mm, Swing over bed 585 mm, Feed range 0.05 to 1.14 mm, Reversible speed 16, Ward 10D model, Turret lathe 30
- Cement carbide steel tool, Toolslide stroke 260 mm, Longitudinal slide stroke 770 mm, Cross slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.850 mm, Width 3400 mm, Length 7400 mm, Swing over carriage 4500 mm, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor (workpiece), Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21 Chandler Ford model 6D, Turret lathe 28
- Chromium steel speed gears, Enclosed gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Churchill
- Denhams, Lathe 12
- Lathe 14
- Redman, Lathe 13
- Coarse feeds 54, Speed range 1 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Colchester Mascot 1600, Lathe 14
- Commodity production engineering 1-30
- Constant cutting speed, Stopless variable speed, Dean Smith and Grace, Lathe 15
- Construction, Lathe 6
- Control
- Full bearing tailstock, Hardened bedways, Gap-in-front bed, Infinitely variable speed, Hardinge HLV=H model, Lathe 18
- mechanism,
- crane components, Turning, Lathe 9
- Drilling attachment, Maximum saddle movement 330 mm, Air cylinder carriage control steel bedways, Distance between collet and turret 460 mm, Speed range 75 to 4000 rpm, Speed number 32, Automatic, Chandler Ford model 6D, Turret lathe 28.
- Lathe 2
- Unit construction, Lathe 6
- (Mode of), Turning, Lathe 8
- Copy turning attachment,
- Camlock tailstock, High carbon steel, Spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10

- Hydraulically operated, Interrupted working traverse, Steel bearing work-piece, Lathe 7
- Batchwork, Russian make, KZH Kramatrosk model 1608, Lathe 21
- Hungary make, Kobanya, Lathe 20
- Crane components, Turning, Lathe 9
- Crankpin workpiece, Turning, Drummond model 16, Lathe 16
- Cross slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 mm, Width 3.4 mm, Length 7.4 mm, Swing over carriage 4.5 m, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor (workpiece), Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- stroke 70 mm, Longitudinal slide stroke 1600 mm, Rectangular bedways, Feed rate 0 to 3700 mm/mm, Speed range 80 to 2500 rpm, French (make), Facimat, Seulfort, Lathe 23
- Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- speed 575 rpm, Rod, Threadcutting, Hardinge HLV=H, Toolroom lathe 27
- Stepless variable spindle speed, Dean Smith and Grace, Lathe 15
- Czechoslovak make, Toolroom lathe 26
- Design, Lathe 1
- Dean Smith and Grace, Lathe 15
- Dial selection of speed, Long bed, Accuracy of cutting 0.001 mm, Tube, Lang, Lathe 22
- Diameter 20 mm, Spindle nose, Superaccurate rigid spindle, Irduction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- Disc brakes for moto. car, Churchill brand, Lathe 11
- Distance between centres 1690 mm, Swing over crossslide 295 mm, Swing over carriage 540 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10 D model, Turret lathe 30
- collet and turret 460 mm, Speeds 32, Automatic, Chandler Ford model 6D, Turret lathe 28
- Drilling attachment, Maximum turret slide travel 76 mm, Maximum saddle movement 330 mm, Air cylinder carriage control, Steel bedways, Distance between collet and turret 460 mm, Speed range 75 to 4000 rpm, Speed number 32, Automatic, Chandler Ford model 6D, Turret lathe 28
- Drummond model 16, Lathe 16
- Economy, Operation, Multitool, Lathe 3
- Efficiency, Czechoslovak make, Toolroom lathe 26
- Enclosed gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Face plate, Heavy weight, Lathe 5
- Facimat Seulfort, Lathe 23
- Feed engagement, Quill tailstock, Twin spindle, High efficiency, Czechoslovak make, Toolroom lathe 26
- range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30
- 28 to 250 mm, Feeds 10, Speed range 61 to 435 rpm, Speeds 11, Width

- (workpiece) 10 mm, Length (workpiece) 40 mm, Bar, Turning, James Farmer Norton & Co., Lathe 19  
 rate 0 to 3700 mm/rev, Speed range 80 to 2500 rpm, French (make), Facimat, Sculfort, Lathe 23  
 Feeds 10,  
 Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30  
 Speed range 61 to 435, Speeds 11, Width (workpiece) 10 mm, Length (workpiece) 40 mm, Bar, Turning, James Farmer Norton & Co., Lathe 19  
 Fine feeds 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29  
 Flat bed, Lathe 4  
 Floor area required 15 sq m, Distance between Centres 1690 mm, Swing over carriage 540 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30  
 French make, Facimat, Sculfort, Lathe 23  
 Full bearing tailstock, Hardened bedways, Gap-in-front bed, Infinitely variable speed, Hardinge HLV=H model, Lathe 18  
 Gamet bearing (Spindle), Hardened speed gears, Camlock D1 Diameter 200 rpm, Spindle nose, Superaccurate rigid spindle, Inducton hardened bedways, High precision, Colchester Mascot 1600, Lathe 14  
 Gap-in-front bed,  
 Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29  
 Infinitely variable speed, Hardinge HLV=H model, Lathe 18  
 Gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
 Gear (Speed)  
 Camlock D1 Diameter 200 mm, Spindle nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14  
 Enclosed gear box, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
 GOST 1712 P model, Lathe 17
- Hardened bedways,**  
 Gap-in-front bed, Infinitely variable speed, Hardinge HLV=H model, Lathe 18  
 High precision, Colchester Mascot 1600, Lathe 14  
 inverted vee type bed, Swing over carriage 450 mm, Swing over bed 55 cm, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
 nickel chromium steel speed gears, Enclosed gear box, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
 speed gears, Camlock D1 Diameter 20 cm spindle nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Masco 1600, Lathe 14  
 Hardinge HLV=H model, Lathe 18  
 Tool room lathe 27

- Heavy weight, Lathe 5  
 Height 2.85 m, Width 3.4 m, Length 7.4 m, Swing over carriage 450 cm,  
 Width (workpiece) 1950 cm, Length (workpiece) 3200 mm, Shaft for electric  
 motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model  
 1608, Lathe 21
- High  
 carbon steel spindle, Hardened inverted vee type bed, Swing over carriage  
 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to  
 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10  
 efficiency, Czechoslovak make, Toolroom lathe 26  
 precision  
 ball bearing (spindle), Hardened nickel chromium steel speed gears,  
 Enclosed gearbox, Copy turning attachment, Camlock tailstock, High  
 carbon steel spindle, Hardened inverted vee type rib bed, Swing over  
 carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi,  
 Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand,  
 Lathe 10  
 Colchester Mascot 1600, Lathe 14  
 Copy turning, Hungary make, Kobanya, Lathe 20
- History, Design, Lathe 1  
 Hungary make, Kobanya, Lathe 20
- Hydraulic  
 attachment, Interrupted working traverse, Steel bearing workpiece, Lathe 7  
 Control, T Slotted face plate, Crossslide stroke 77 mm, Longitudinal slide  
 stroke 160 mm, Rectangular bedways, Feed rate 0 to 3700 mm/rev, Speed  
 range 80 to 2500 rpm, French make, Facimat, Sculfort, Lathe 23  
 operated tailstock, Square turret, Three lever speed selection, Short stiff  
 spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed  
 range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe  
 14  
 Infinitely variable speed, Hardinge HLV=H model, Lathe 18  
 Interrupted working traverse, Steel bearing workpiece, Lathe 7  
 Inverted vee type bed, Swing over carriage 45 cm, Swing over bed 55 cm,  
 Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Thread-  
 cutting, BSX brand, Lathe 10
- Investigation, Rigidity, Face Plate, Heavy weight, Lathe 5
- James Farmer Norton & Co, Lathe 19
- Joystick  
 carriage control, Push button spindle control, Stainless steel covered bed  
 Floor area required 15 sq m, Distance between centres 1690 mm, Swing  
 over cross slide 3.95 cm, Swing over carriage 5.4 cm, Swing over bed 5.85  
 cm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to  
 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30  
 feed engagement, Quill tailstock, Twin spindle, High efficiency, Czechoslovak  
 make, Toolroom lathe 26
- Kobanya, Lathe 20  
 KZH Kramatorsk model 1608, Lathe 21
- Lang  
 16 CD, Turret lathe 29  
 Lathe 22
- Lathe  
 Toolroom 1-30

- Turret** 27
- Length**  
 7.4 m, Swing over carriage 450 cms, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21  
 of bed 9m, Tube, Churchill Denaus, Lathe 12  
 of workpiece  
 4 cm, Bar, Turning, James Farmer Norton & Co., Lathe 19  
 320 cms, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21  
 50 cm, Bar, Boring, Swift 36G type, Lathe 24
- Lever**  
 locking hydraulically operated tailstock, Square turret, Three lever speed selection, Short shift spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29  
 Speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Long bed**  
 Accuracy of cutting 0.001 mm, Tube Lang, Lathe 22  
 Tube workpiece, Churchill-Denhams, Lathe 12
- Longitudinal slide:**  
 1910 mm, Cross-side movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 m, Width 3.4 m, Length 7.4 m, Swing over carriage 4.5 m, Width (workpiece) 1950 mm, Length (workpiece) 320 mm, Shaft for electric motor (workpiece), Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21  
 movement 2010 mm, Weight 35 tons, Height 2850 mm, Width 3400 mm, Length 7400 mm, Swing over carriage 4500 mm, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- Longitudinal slide stroke**  
 160 mm, Rectangular bedways, Feed rate 0 to 3700 mm/rev, Speed range 80 to 2500 rpm, French (make), Facimat, Sculfort, Lathe 23
- Medium size centre, High precision, Copy turning, Hungary make, Kobanya, Lathe 20**  
**Micro precision, Gamet spindle bearing, Hardened speed gears, Camlock D1 diameter 20 cm, Spindle nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe, 14**  
 Motor 30 hp, Automatic control of spindle, Constant cutting speed, Stepless variable speed, Dean Smith and Grace, Lathe 15  
 Multiple vertical axis stationary spindle, Automatic, VDF Herbert brand Lathe 25
- Multitool**  
 Lathe 2  
 Turning, Churchill-Redman, Lathe 13  
 Vertical axis, Crankpin workpiece, Turning, Drummond Model 16, Lathe 16
- Maximum**  
 saddle movement 330 mm, Air cylinder carriage control, Steel bedways, Distance between collet and turret 460 mm, Speeds 32, Automatic, Chandler Ford model 6D, Turret lathe 28  
 turret slide travel 76 mm, Maximum saddle movement 330 mm, Air cylinder

- carriage control, Steel bedways, Distance between collect and turret 460 mm, Speeds 32, Automatic, Chandler Ford model 6D, Turret lathe 28
- Nickel chromium steel speed gears, Enclosed gear box, Copy turning, attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Normal feeds 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Numerical control  
Batch work, Russian make, GOST-1712 P model, Lathe 17  
Lathe 2
- Operation, Multitool, Lathe 3
- Plain roller bearing (rear), Timkin Preloaded (front), Turning attachment. Lever locking hydraulically operated tailstock, Square turret, Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 31 to 2500, Speeds 18, Lang 16 CD, Turret lathe 39
- Precision  
ball bearing, Hardened nickel chromium steel speed gears, Enclosed gear box, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm. Speeds 18, Thread cutting, BSX brand, Lathe 10  
Colchester Mascot 1600, Lathe 14  
copy turning, Hungary make, Kobanya, Lathe 20  
Gamet spindle bearing, Hardened speed gears, Camlock D1 Diameter 20 cm spindle nose, Superaccurate rigid spindle, Induction hardened bedways. High precision, Colchester Mascot 1600, Lathe 14
- Programme control  
Crane components, Turning, Lathe 4  
Unit construction, Lathe 6  
Drilling attachment, Maximum turret slide travel 76 mm, Maximum saddle movement 330 mm, Air cylinder carriage control, Steel bedways, Distance between collet and turret 460 mm, Speed range 75 to 4000 rpm, Speed number 32, Automatic, Chandler Ford Model 6D, Turret lathe 28
- Push button control  
Dial selection of speed, Long bed, Accuracy of cutting 0.001 mm, Tute, Lang, Lathe 22  
Full bearing tailstock, Hardened bedways, Gap-in-front bed, Infinitely variable speed, Hardinge HLV=H model, Lathe 18  
of spindle, Stainless steel cover bed, Floor area required 15 sq m, Distance between centres 1690 mm, Swing over cross slide 395 mm, Swing over carriage 540 mm, Swing over bed 585 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10 D model, Turret lathe 30
- Quill tailstock, Twin spindle, High efficiency, Czechoslovak make, Toolroom lathe 26
- Rear spindle bearing, Timkin preloaded spindle bearing (front), Turning attachment, Lever locking hydraulically operated tailstock, Square turret, Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD Turret lathe 29



- Rectangular bedways, Feed rate 0 to 3700 mm/rev, Speed range 80 to 2500 rpm, French (make), Facimat Sculfort, Lathe 23
- Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30
- Rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- Rigidity, Face plate, Heavy weight, Lathe 5
- Rod, Threadcutting, Hardinge HLV=H, Toolroom Lathe 27
- Roller bearing (rear), Timkin-Preloaded bearing (front) for spindle, Turning attachment, Leverlocking hydraulically operated tailstock, Square turret, Three lever speed solution, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Russian make
- GOST 1712 P model, Lathe 17
- KZH Kramatorsk model 1608, Lathe 21
- Sculfort, Lathe 23
- Sequential control, Turning, Lathe 8
- Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Single point tool, Cutting speed 575 rpm, Rod, Threadcutting, Hardinge HLV=H, Toolroom lathe 27
- Speed gear
- Camlock D1 diameter 20 cm spindle nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- Enclosed gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand Lathe 10
- Hardinge HLV=H model, Lathe 18
- range
- 15 to 725, Speeds 16, Ward 10D model, Turret lathe 30
- 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- 61 to 435 rpm, Speeds 11, Width (workpiece) 1 cm, Length (workpiece), 4 cm, Bar (workpiece), Turning, James Farmer Norton & Co, Lathe 19
- 80 to 2500 rpm, French (make), Facimat Sculfort, Lathe 23
- 81 to 2500 rpm, Speeds 18, Lang 16CD, Turret lathe 29
- selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Speeds
- 11, Width (of workpiece) 10 mm, Length (of workpiece) 40 mm, Bar, Turning, James Farmer Norton & Co, Lathe 19
- 16, Ward 10 D model, Turret lathe 30
- 18
- Lang 16 CD, Turret lathe 29
- Threadcutting, BSX Brand, Lathe 10
- 32, Automatic, Chandler Ford model 6D, Turret lathe 28
- Spindle bearing, Hardened

- nickel chromium steel speed gears, Enclosed gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- speed gears, Camlock D1 diameter 20 cm spindle nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- bore diameter 900 mm, Length (of workpiece) 500 mm, Bar, Boring, Swift 36G type, Lathe 24
- constant cutting speed, Dean Smith and Grace, Lathe 15
- control
- Stainless steel cover bed, Floor area required 15 sq m, Distance between centres 1690 mm, Swing over cross-slide 395 mm, Swing over carriage 540 mm, Swing over bed 585 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30
- Hardened inverted vee type bed, Swing over carriage 45 cm, Swing over bed 55 cm, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- nose, Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, lathe 14
- Square turret, Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16D, Turret lathe 29
- Stainless steel cover bed, Floor area required 15 sq m, Distance between centres 1690 mm, Swing over cross-slide 395 mm, Swing over carriage 540 mm, Swing over bed 585 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30
- Stationary spindle, Automatic, UDF Herbert brand, Lathe 25
- Steel
- bearing workpiece, Lathe 7
- bedways, Distance between collet and turret 460 mm, Speeds 32, Automatic, Chandler Ford model 6D, Turret lathe 28
- speed gears, Enclosed gearbox, Copy turning attachment, Camlock tailstock, High carbon steel spindle, Hardened inverted vee type rib bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range, 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- spindle, Hardened inverted vee type bed, Swing over carriage 45 cm, Swing over bed 55 mm, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- tool, Toolside stroke 260 mm, Longitudinal slide stroke 770 mm, Cross-slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 m, Width 3.4 m, Length 7.4 m, Swing over carriage 4.5 m, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Barch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- workpiece, Lathe 7
- Stepless variable spindle speed, Dean Smith and Grace, Lathe 15
- Stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
- Superaccurate rigid spindle, Induction hardened bedways, High precision, Colchester Mascot 1600, Lathe 14
- Swift 36G type, Lathe 24

## Swing over

bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10

## carriage

45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10

45 cms, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21

540 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30

Cross-slide 395 mm, Swing over carriage 540 mm, Feed range 0.05 to 1.14 mm, Reversible feeds 10, Speed range 15 to 725 rpm, Speeds 16, Ward 10D model, Turret lathe 30

## Tailstock

Hardened bedways, Gap-in-front bed, Infinitely variable speed, Hardinge HLV=H model, Lathe 18

High carbon steel spindle, Hardened inverted vee type bed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10

Square turret, Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29

Twin spindle, High efficiency, Czechoslovak make, Tool room lathe 26 Threadcutting

BSX brand, Lathe 10

Hardinge HLV=H, Toolroom lathe 27

Three lever speed selection, Short-stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29

Timkin-preloaded spindle bearing (front), Turning attachment, Leverlocking hydraulically operated tailstock, Square turret, Three lever speed selection, Short-stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29

## Tool

-slide stroke 260 mm, Longitudinal slide stroke 770 mm, Cross-slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 mm, Width 3.4 m, Length 7.4 m, Swing over carriage 450 cm, Width (workpiece) 1150 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21

Turning, Churchill Redman, Lathe 13

## Toolroom lathe 26-27

Toolslide stroke 260 mm, Longitudinal slide stroke 770 mm, Cross slide movement 1910 mm, Longitudinal slide movement 2010 mm, Weight 35 tons, Height 2.85 mm, Width 3.4 m, Length 7.4 m, Swing over carriage 450 mm, Width (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21

T-slotted face plate, Cross-slide stroke 7 cm, Longitudinal stroke 16 cm. Rectangular bedways, Feed rate 0 to 3700 mm/rev, Speed range 80 to 2500 rpm, French (make), Facimat Sculfort, Lathe 23

## Tube (workpiece)

Churchill-Denhams, Lathe 12

Lang, Lathe 22

## Turning

- attachment
- Camlock tailstock, High carbon steel spindle, Hardened inverted vee type ribbed, Swing over carriage 45 cms, Swing over bed 55 cms, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
  - Hydraulically operated, Interrupted working traverse, Steel bearing workpiece, Lathe 7
  - Lever locking hydraulically operated tailstock, Square turret, Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
  - Churchill-Redman, Lathe 13
  - Drummond model 16, Lathe 16
  - Hungary make, Lathe 20
  - James Farmer Norton & Co, Lathe 19
  - Lathe 9
  - Turret
  - Lathe 28-30
  - Three lever speed selection, Short stiff spindle, Gap-in-front bed, Feeds: Fine 54, Normal 54, Coarse 54, Speed range 81 to 2500 rpm, Speeds 18, Lang 16 CD, Turret lathe 29
  - Twin spindle, High efficiency, Czechoslovak make, Toolroom Lathe 26
- Unit construction, Lathe 6

## Variable speed

- Dean Smith and Grace, Lathe 15
- Hardinge HLV=H model, Lathe 18
- VDF Herbert brand, Lathe 25
- Vee type bed, Sing over carriage 45 cm, Swing over bed 55 cm, Cutting range 2 to 32 cpi, Speed range 18 to 1500 rpm, Speeds 18, Threadcutting, BSX brand, Lathe 10
- Vertical axis
- Crank pin workpiece, Turning, Drummond model 16, Lathe 16
- Disc brakes for motor car, Churchill brand, Lathe 11
- Stationary spindle, Automatic, VDF Herbert brand, Lathe 25
- Ward 10 D model, Turret lathe 30
- Weight 35 tons, Height 2.85 m, Width 3.4 m, Length 7.4 m, Swing over carriage 450 cm, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- Width
- 3.4 m, Length 7.4 m, Swing over carriage 45 cms, Width (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- (workpiece) 1 cm, Length (workpiece) 4 cm, Bar (workpiece), Turning, James Farmer Norton & Co, Lathe 19
- (workpiece) 1950 mm, Length (workpiece) 3200 mm, Shaft for electric motor, Copy turning, Batch work, Russian make, KZH Kramatorsk model 1608, Lathe 21
- Working traverse, Steel bearing workpiece, Lathe 7
- Workpiece, Lathe 7
- Workpiece, Turning, Lathe 9

- 83 CLASSIFIED ENTRIES  
 D8 COMMODITY PRODUCTION ENGINEERING  
 D8, A31 LATHE  
 D8, A31:3\*v.1'N6 LATHE, DESIGN, HISTORY, WORLD,  
 BROUGHT UPTO 1960s
- 1 N66 REVOLUTION IN centre lathe turning (Machin product engin  
 108;1966;1259, 1304).  
 D8,A31-zP8;a11 LATHE, NUMERICAL CONTROL, ACCURACY
- 2 142 MOLCHANOV (G N) and PERE GUDOV (L V) Machining accuracy  
 N64 on lathes with numerical control. [Russian]. (Vesnik mashino  
 stroeniys. 7;1964;61).  
 D8,A31-1NA:81;x LATHE, MULTITOOl, OPERATION, ECO-  
 NOMY
- 3 N63 McCULLOGH (E M). Economics of multitool lathe operations.  
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 D8,A31-9cK LATHE, FLAT BED
- 4 N64 RETURN TO flat bed lathe. (Canadian metalworking. 27, 2;1964,  
 Feb:44-5).  
 D8,A31-9EE-1r2;a55: f LATHE, HEAVY WEIGHT, FACE PLATE,  
 RIGIDITY, INVESTIGATION
- 5 142 VASILEV (V V), GOROZHANKIN (E A) and EFIMOV (A N). Study  
 N65 of the face plate rigidity of a heavy lathe. (Stankii instrument.  
 5;1965;32-3).  
 D8,A31-X7-zP7 LATHE, UNIT CONSTRUCTION, PROGRAMME  
 CONTROL
- 6 N66 KARLICEK (F). Programme controlled lathes of unit construction  
 design. (SNTL tech dig. 8;1966; 566-72).  
 D8,A31-ZC1-Z9(D8,248)-9XD-0ZG5-0ZCcl LATHE, WORK-  
 PIECE: STEEL, BEARING, INTERRUPTED WORKING TRAVERSE,  
 ATTACHMENT: HYDRAULIC, COPY TURNING
- 7 142 ZAKHAROV (N N) and IV RAGIMOV (B I). Hydraulic copy lathe  
 N64 modified for interrupted working traverse. [Russian]. (Stankii  
 instrument. 5;1964;28).  
 D8,A31-(c)-zR2 LATHE, TURNING, SEQUENTIAL CONTROL
- 8 N65 BERG (R T). Fundamentals of turning-2. (Am machin metal  
 working product. 109. 25; 1965, Dec 6;103-14).  
 D8,A31-(c)-Z9(D8,28)-zP7 LATHE, TURNING, WORKPIECE:  
 CRANE COMPONENTS, PROGRAMME CONTROL
- 9 N63 SIDDEES (P A). Programme controlled lathe for turning crane  
 components. (Machin product engin. 103;1963:306-11).  
 D8,A31-(BSX)-(q)-UP18-UL18-1500-TR29-RP2-32-  
 JHC550-JGC450-cF-9p3-9CQ-6611-19U2-0ZC1-0Z87-  
 0Z61-0Z4C-0Z24-0YN-0UD-0RB  
 LATHE, BSX BRAND, THREADCUTTING, SPEEDS: NUMBER 18,  
 TO 1500 RPM, CUTTING RANGE 2 TO 32 CPM, SWING OVER  
 BED 550 MM, SWING OVER CARRIAGE 450 MM, BED: INVERTED  
 VEE TYPE RIB, HARDENED, SPINDLE: HIGH CARBON STEEL,  
 TAILSTOCK: CAMLOCK, ATTACHMENT, COPY TURNING, GEAR  
 BOX: ENCLOSED TYPE, SPEED GEARS: NICKEL CHROMIUM  
 STEEL, HARDENED, SPINDLE BEARING: HIGH PRECISION, BALL

- 10 N66 BSX TYPE lathes 18" and 20" swing. (Machin product engin. 108; 1966; 36).  
D8,A31-(CHU)-Z9(D8,Z355-4J-95)-9V4 LATHE, CHURCHILL BRAND, WORKPIECE: DISC BRAKES FOR MOTOR CAR, VERTICAL AXIS
- 11 N66 VERTIMAX VERTICAL spindle production lathes for operation on disc brakes. (Machin product engin. 108;1966;1291).  
D8,A31-(CHU=D)-Z61-9JE9 LATHE, CHURCHILL-DENHAMS WORKPIECE; TUBE, BED: LENGTH 9 METERS
- 12 N66 CHURCHILL DENHAMS long bed lathes. (Machin product engin. 108;1966;1111).  
D8,A31-(CHU=R) (c)-2eA LATHE, CHURCHILL REDMAN, TURNING, MULTITOOl
- 13 N64 FEATURES of Churchill Redman P5 profile turning and multitool lathes. (Machin product engin. 105;1964;68-72).  
D8,A31-(COL+M=16)-cF-9CQ6-6X1- 612- 5E1-5CC20-0Z61-0Z24-0XGAM-0UE LATHE, COLCHESTER MASCOT 1600, HIGH PRECISION, BEDWAYS: INDUCTION HARDENED, SPINDLE: RIGID CONSTRUCTION, SUPERACCURATE SPINDLE NOSE: CAMLOCK D1, DIAMETER 20 CMS, SPEED GEARS: HARDENED, SPINDLE BEARINGS: GAMET, MICRON PRECISION
- 14 N66 New LATHE from Colchester. (Mass production. 42; 1;1966, Jan; 35-9).  
D8,A31-(DSG)-FE-5g8-5eB30 LATHE, DEAN SMITH AND GRACE, SPEED: STEPLESS VARIABLE, CUTTING SPEED: CONSTANT, SPINDLE: AUTOMATIC CONTROL, 30 HP MOTOR.
- 15 N66 DSG LATHES available with variable speed drive. (Machin product engin. 108;1966;1110-1).  
D8,A31-(DR=16)-(c)-Z9(D8,2421)-9V4-2eA LATHE, DRUMMOND MODEL 16, TURNING, WORKPIECE: CRANKPIN, VERTICAL AXIS, MULTIPLE TOOLS
- 16 N68 DRUMMOND TYPE 16 vertical multitool lathes for crankpin turning. (Machin product engin. 113;1968;478-80).  
D8,A31-(GOST=1712P)-(48)-(yA)-zP8 LATHE, GOST-1712 P model, Russian make, Batchwork, Numerical control
- 17 N65 ETIN (A O) and SHUMYATSKII (B L). Analysis of lathes with numerical control. (Machin tooling. 36;1965;3-8).  
D8,A31-(H+HLV=H)- UFE-9q6-9CQ-19V3-zP5 LATHE, Hardinge HLV=H model, SPEED: infinitely variable, Bed: gap-in-front, Bedways: hardened, Tailstock: full bearing, Control: Push button
- 18 N66 New HARDINGE high-speed toolroom lathe. (Machin product engin. 109;1966;Adv't p 65).  
D8,A31-(J+F+N)-(c)-Z222-ZzT4-ZaQ5-UP11-UL61 → 435 TR10-TP28 → 250-1M140 LATHE, JAMES FARMER NORTON & CO, TURNING, WORKPIECE: BAR, LENGTH 4 CM, WIDTH 1 CM, SPEEDS: NUMBER 11, RANGE 61 to 435, FEEDS: NUMBER 10, RANGE 28 to 250 MM, BAR CAPACITY 140 CM.
- 19 N65 JAMES FARMER NORTON AND COMPANY. Number 2 centreless bars turning machines for precision or rough turning of bars. 1965.

- D8,A31-(KOB)-(594)-(c)-CF-13GC LATHE, KOBANYA HUNGARY MAKE, COPY TURNING, HIGH PRECISION, CENTRE: MEDIUM SIZE
- 20 N69 BARKER (A J). Kobanya lathe works, Budapest. (Machin product engin. 114;1969;467-71).
- D8,A31-(KZH = 1608)-(58)-(yA)-(c)-Z9(D8,241-(D62))-ZzT 320-zzQ195-JGE450-9LE7+4-9KE3+4-9JD2+85-9EF35-3TC2010-3TB1910-3E770-2N260-1M11 LATHE, KZH (KRAMATORSK) MODEL 1608, RUSSIAN MAKE, BATCH WORK, COPY TURNING, WORKPIECE: SHAFT FOR ELECTRIC MOTOR, LENGTH 3.2 M, WIDTH 1.95 M, SWING OVER CARRIAGE 4.5 M, LENGTH 7.4 M, WIDTH 3.4 M, HEIGHT 2.85 M. WEIGHT 35 TONS, SLIDE MOVEMENT: LONGITUDINAL 2010 MM, CROSS 1910 MM, SLIDE STROKE: LONGITUDINAL 770 MM, TOOLSLIDE 260 MM, TOOL: CEMENT CARBIDE STEEL
- 21 N65 MODEL KZH-1608 special copy lathe. (Machin product engin. 36;1965;46-7).
- D8,A31-(L)-(c)-Z61-CD001-9mE-5h3-zP5 LATHE, LANG, TURNING, WORKPIECE: TUBE, ACCURACY OF CUTTING 0.001 MM, BED: LONG, SPEED: DIAL SELECTION, CONTROL: PUSH BUTTON
- 22 N65 LONG BED lathes. (Brit machin tool engin. 47;1965;49).
- D8, A 31-(SC)-(53)-U80-2500-TMO-3700-9CL-3TC16-3TB7-1r3-zV5 LATHE, SCULFORT FACIMAT, FRENCH (MAKE), SPEED RANGE 80 TO 2500 RPM, FEED RATE 0 TO 3700 RPM/REV, BEDWAYS: RECTANGULAR, SLIDE STROKE: LONGITUDINAL 16 CM, TRANSVERSE 7 CM, CHUCK: T SLOTTED FACE PLATE, CONTROL: HYDRAULIC
- 23 N66 SCULFORT FACIMAT lathe. (Machin product engin. 108; 1966; 1291).
- D8,A31-(SW=36G)-(h)-Z222-ZzT500-51D900 LATHE, SWIFT 36G TYPE, BORING, WORKPIECE; BAR, LENGTH 500 MM, SPINDLE BORE DIAMETER 900 MM
- 24 N66 SWIFT SPECIAL type 36G Lathe. (Machin product engin. 108; 1966;147-8).
- D8,A31-(VDF=H)-[yx5]-6R1-6P4-6NA LATHE, VDF HERBERT BRAND, AUTOMATIC, SPINDLE: STATIONERY VERTICAL AXIS, MULTIPLE
- 25 N68 ASTROP (W). First VDF Herbert vertical spindle automatic. (Machin product engin. 113;1968;1016-20).
- D8,A32-(592)-EE-6N2-1953 TOOLROOM LATHE, CZECHOSLOVAK (MAKE), HIGH EFFICIENCY, TWIN SPINDLE, TAILSTOCK DESIGN: QUILLS ARRANGED ONE ABOVE OTHER FEED ENGAGEMENT: JOYSTICK
- 26 N68 BARKER (A J) Some recently introduced Czechoslovak lathes. (Machin product engin. 113;1968;714-20)
- D8,A32(H=HLV-H)-(q)-ZC1-Z22-RP575-1N1 TOOLROOM LATHE, HARDINGE HLV-H, THREADCUTTING, WORKPIECE: ROD, CUTTING SPEED 575 RPM, TOOL: SINGLE POINT
- 27 N66 FASTER SINGLE-POINT threading on small toolroom lathe. (Machinery. (New York). 7216;1966;86-7).

- D8,A37-(C+F = 6D)-(yX5)-UM32 - UE75→4000 - HC460-9cNC-48C-3F330-3r7-2P76-0ZCj-zP7 TURRET LATHE, CHANDLER FORD MODEL 6D, AUTOMATIC, SPEED: NUMBER 32, RANGE 75 TO 4000 RPM, DISTANCE BETWEEN COLLET AND TURRET 460 MM, BEDWAYS: STEEL, CARRIAGE CONTROL: AIR CYLINDER, MAXIMUM SADDLE MOVEMENT 330 MM, MAXIMUM TURRET SLIDE TRAVEL 76 MM, ATTACHMENT: DRILLING, PROGRAMME CONTROL
- 28 N70 Dowding & DOLL accuratool type 6D programme controlled automatic cycle turret lathe. (Machin product engin. 116;1970; 694-5).
- D8,A37-(LN=16CD)-UM18 - UE31 → 2500-TTE54-TTC54-TTB54-9q6-6eC-626- 5h2- 2r1- 2m4- 19D5- 19C1- 0ZC1-UYN-OYG=0XT=0SB-OYH=0RL TURRET LATHE, LANG 16CD, SPEEDS: NUMBER 18, RANGE 31 TO 2500, FEEDS: FINE 54, NORMAL 54, COARSE 54, BED: GAP IN FRONT, SPINDLE: SHORT, STIFF, THREE LEVEL SPEED SELECTION, TOOLPOST: TURRET, SQUARE, TAILSTOCK: HYDRAULICALLY OPERATED, LEVER LOCKING, ATTACHMENT: TURNING, SPINDLE BEARING, FRONT=TIMKIN-PRELOADED, REAR = PLAIN ROLLER BEARING
- 29 N63 New From Land models 16D and 20D SS & SC lathes. (Br machin tool engin. 45, 4;1968, Winter; 40-3).
- D8,A37-(WA=10D)-UM16-UE15 → 175-TRC10-TP0+05 → 1+14-JH585-JG540-JC395 - HE1690 - 9G15-9yC15 - 51D 170-5mF-485 TURRET LATHE, WARD 10D MODEL, SPEED: NUMBER 16, RANGE 15 TO 725 RPM, FEED: REVERSIBLE 10, RANGE 0.05 TO 1.14 MM, SWING OVER BED 585 MM, SWING OVER CARRIAGE 540 MM, SWING OVER CROSS-SLIDE 395 MM, DISTANCE BETWEEN CENTRES 1690 MM, FLOOR AREA REQUIRED 15 SQ M, BED: STAINLESS STEEL COVER, SPINDLE BORE DIAMETER 170 MM, SPINDLE CONTROL: PUSH BUTTON, CARRIAGE CONTROL: JOYSTICK
- 30 N69 10 D PReLECTOR turret lathe. (Machin tool engin. 51, 3;1969;38-39).

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