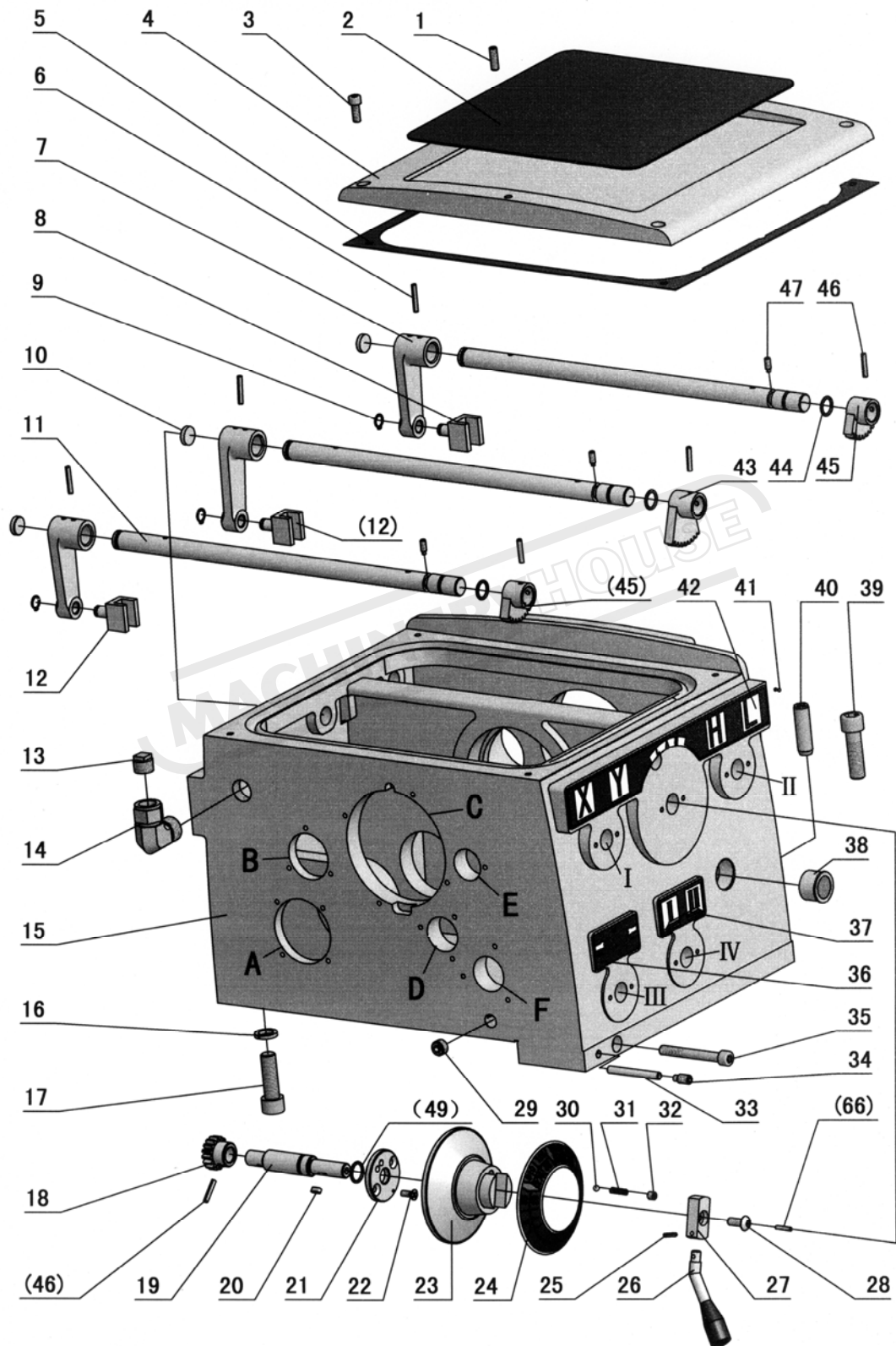
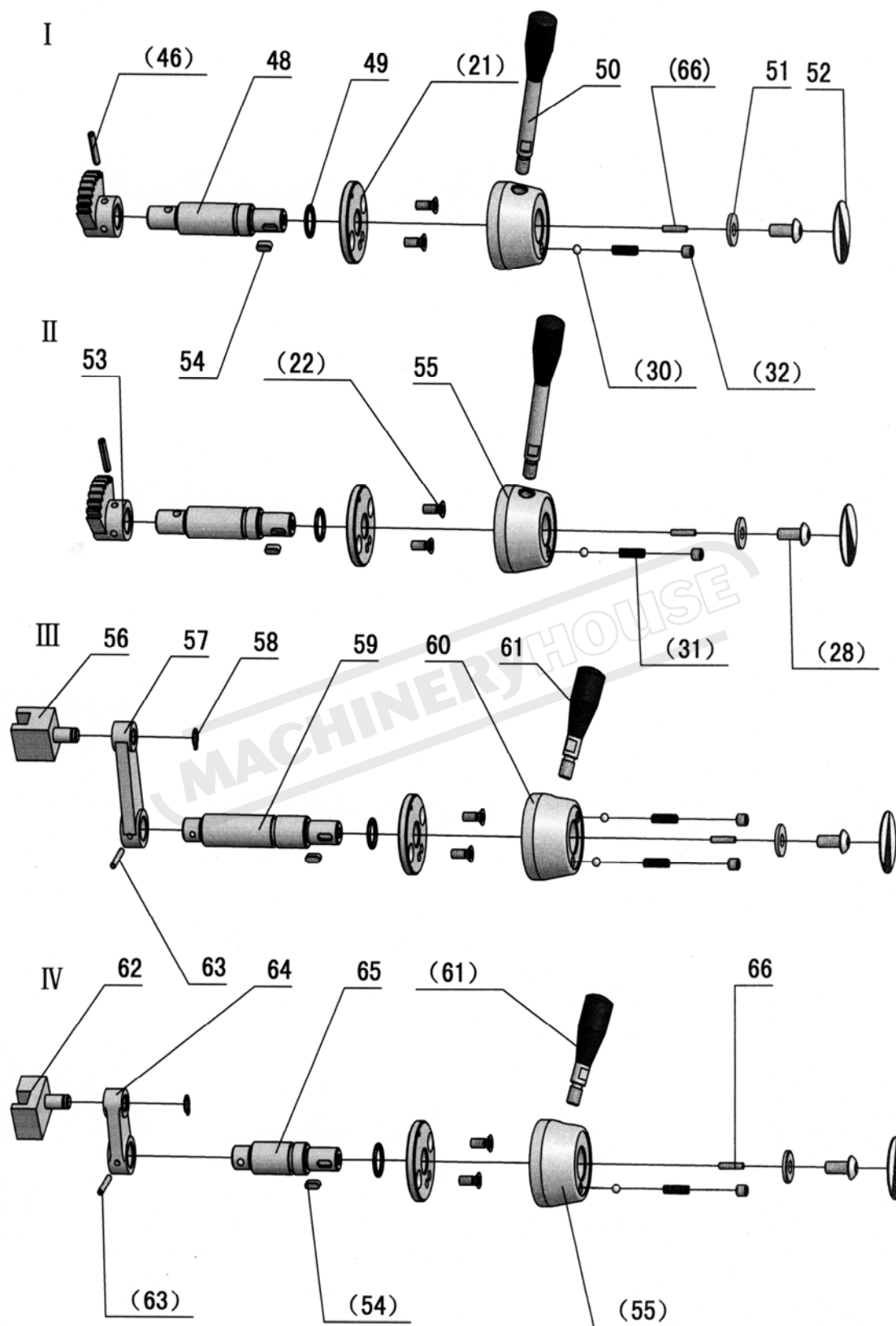
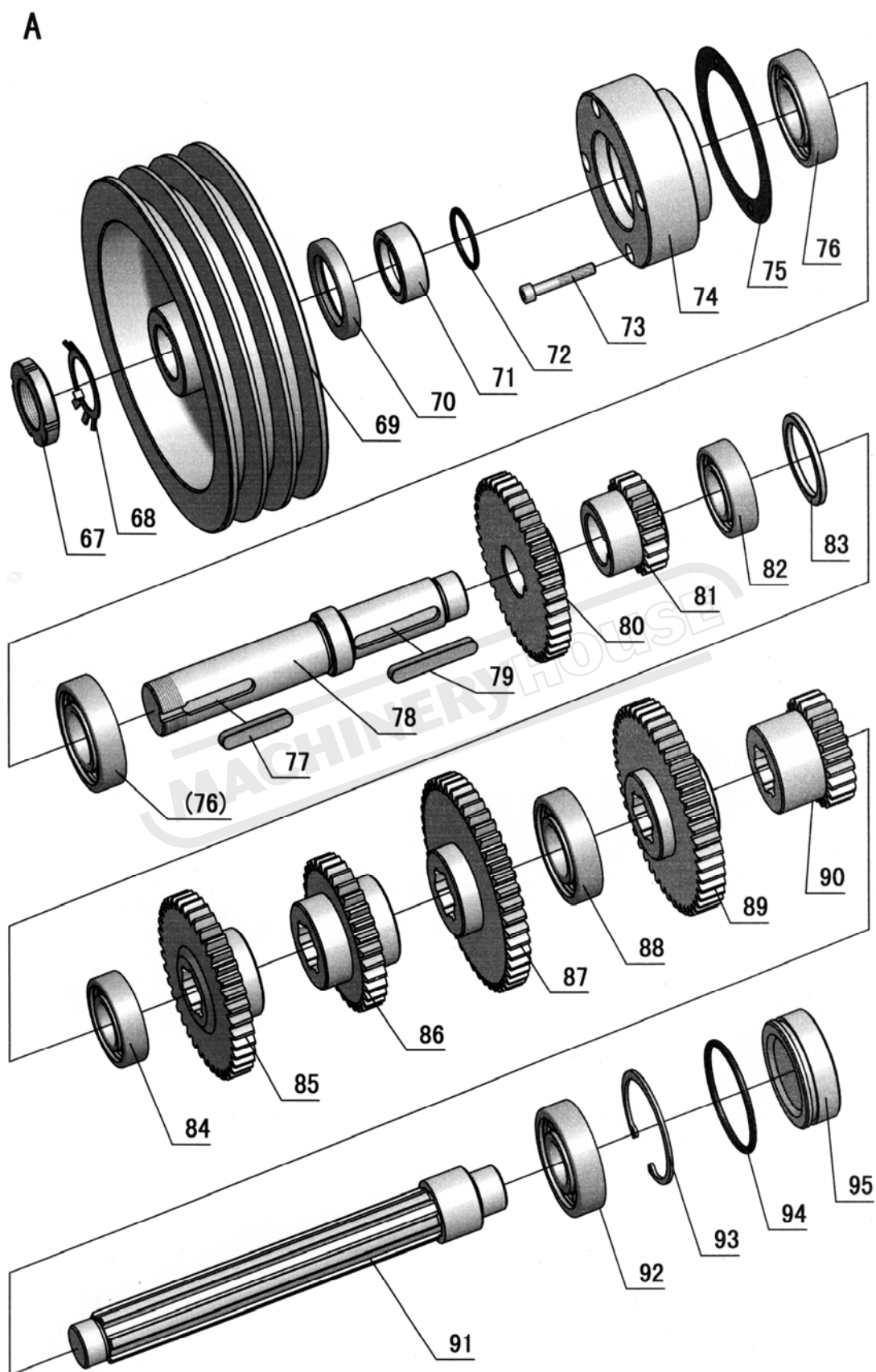


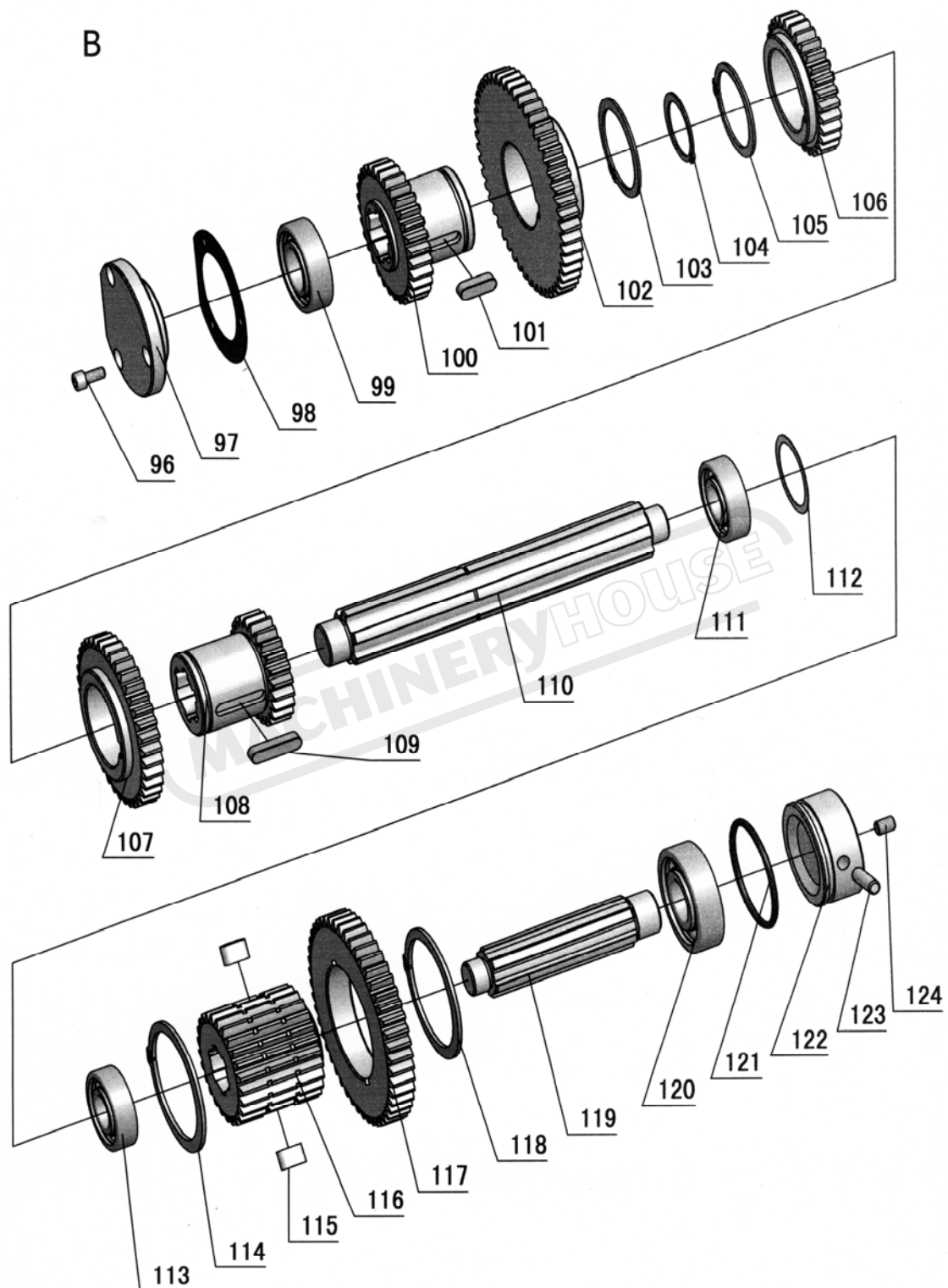
## 11. Parts List Assembly

### Headstock

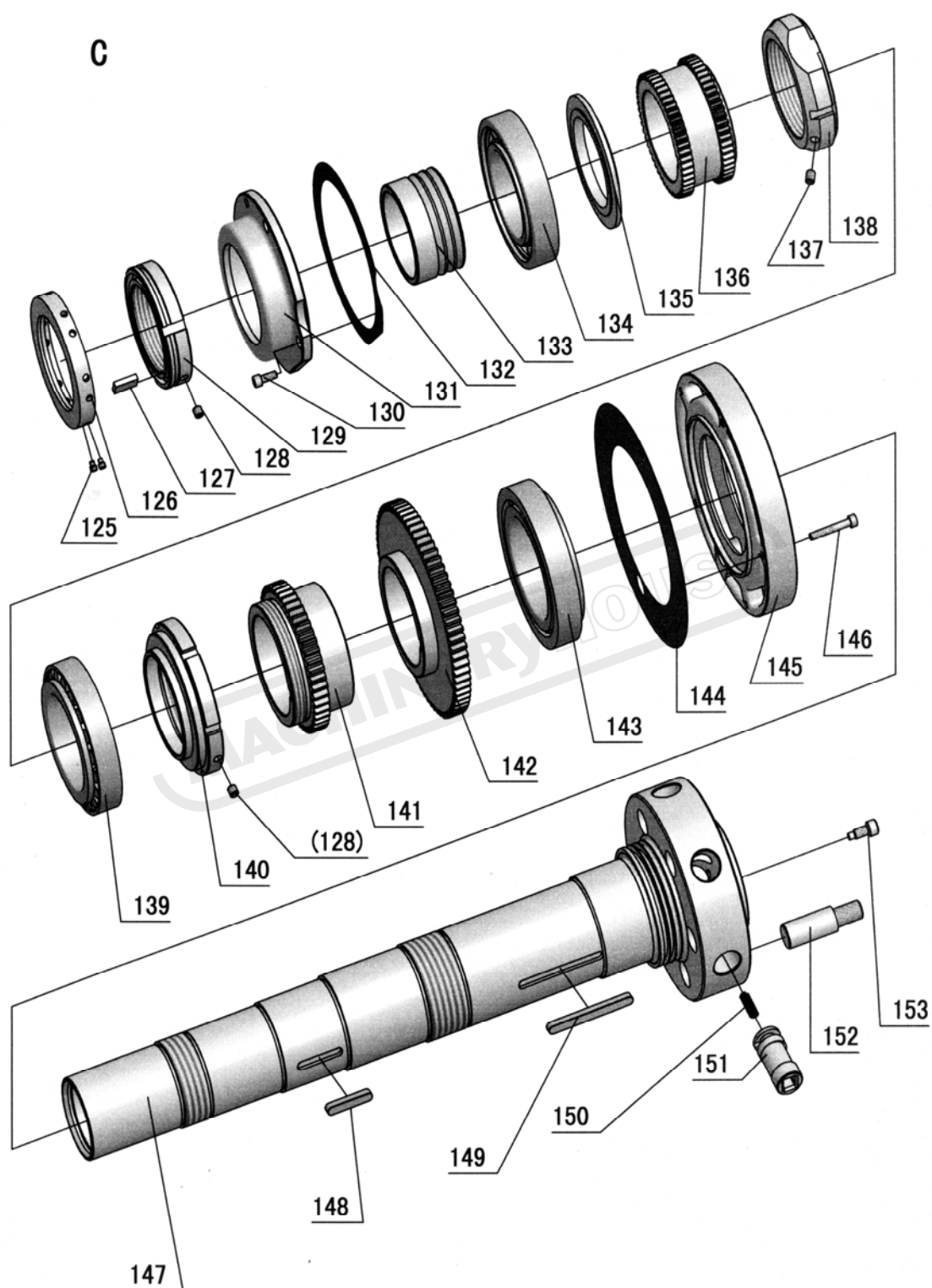


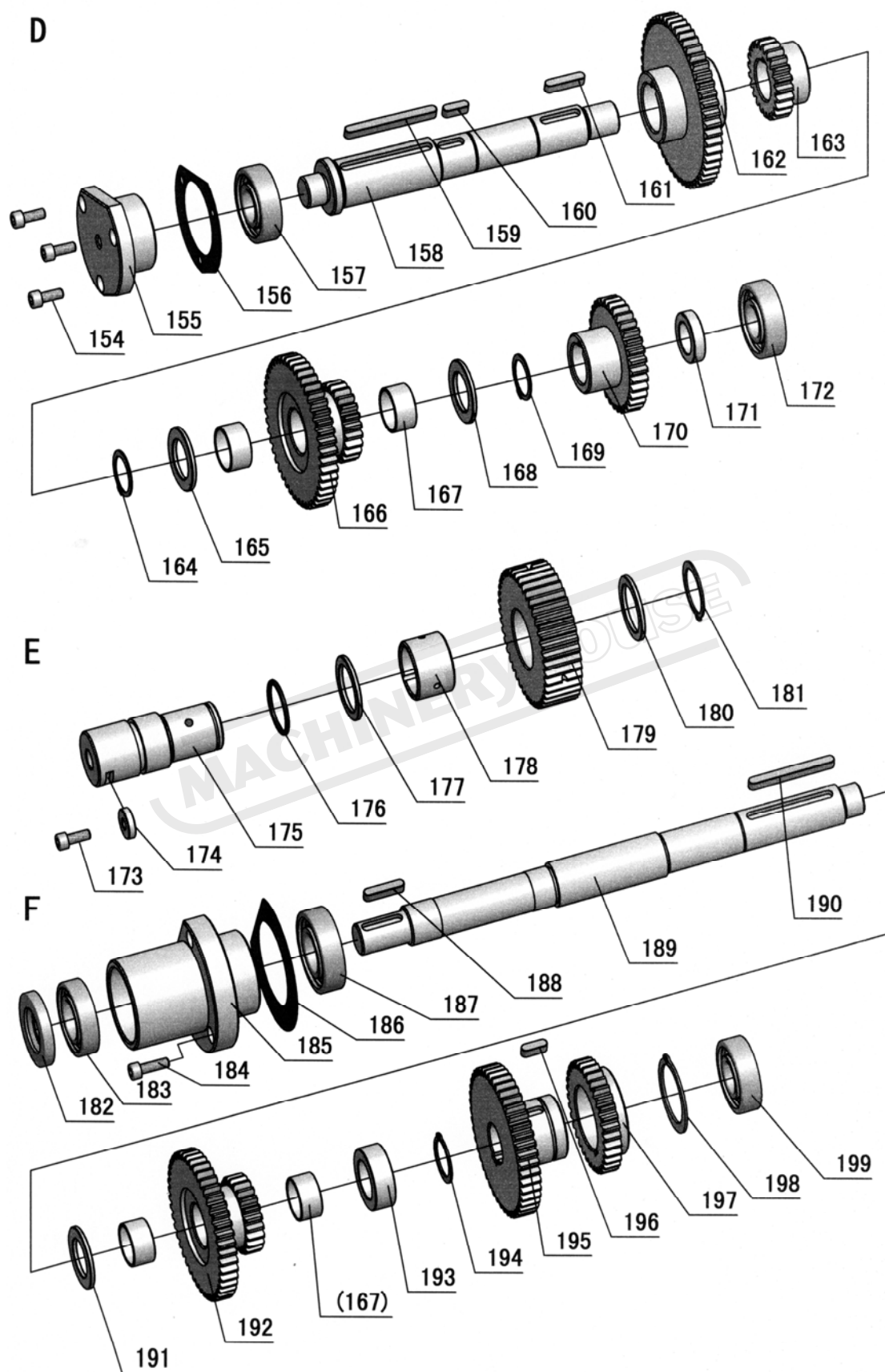












| No. | Part No.         | Name              | Specification | Qty. |
|-----|------------------|-------------------|---------------|------|
| 1   | GB77-85          | Screw             | M8×25         | 1    |
| 2   | RUN6246-101003   | Cover Dress       |               | 1    |
| 3   | GB70-85          | Screw             | M8×20         | 4    |
| 4   | RUN6246-101002   | Headstock Cover   |               | 1    |
| 5   | RUN6246-101002-1 | Sealed Mat        |               | 1    |
| 6   | GB879-86         | Spring Pin        | 5×30          | 3    |
| 7   | RUN6246-101060   | Lever             |               | 3    |
| 8   | RUN6246-101062   | Fork              |               | 1    |
| 9   | GB894.1-86       | Snap Ring         | 12            | 3    |
| 10  | RUN6246-101083   | Plug              |               | 3    |
| 11  | RUN6246-101059   | Shaft             |               | 3    |
| 12  | RUN6246-101061   | Fork              |               | 2    |
| 13  | SB4032-65        | Plug              | 20            | 1    |
| 14  | SB4010-65        | Tube Fitting      | 20            | 1    |
| 15  | RUN6141-101001   | Headstock Casting |               | 1    |
| 15  | RUN6246H-101001  | Headstock Casting |               | 1    |
| 16  | GB93-87          | Washer            | M16           | 3    |
| 17  | GB70-85          | Screw             | M16×55        | 3    |
| 18  | RUN6246-101063   | Gear              |               | 1    |
| 19  | RUN6246-101065-1 | Shaft             |               | 1    |
| 20  | GB1096-79        | Key               | 5×12          | 1    |
| 21  | RUN6246-101067   | Fix Black         |               | 5    |
| 22  | GB819-85         | Screw             | M6×16         | 10   |
| 23  | RUN6246-101077-1 | Handel            |               | 1    |
| 24  | RUN6246-101097   | Plate             |               | 1    |
| 25  | GB879-86         | Spring Pin        | 4×20          | 1    |
| 26  | RUN6246-101077-3 | Lever             |               | 1    |
| 27  | RUN6246-101077-2 | Fix Bracket       |               | 1    |
| 28  | RUN6246-101088   | Round Head Screw  |               | 5    |
| 29  | G38-3A           | Oil Plug          | Z 3/8"        | 1    |
| 30  | GB308-84         | Steel Ball        | 1/4"          | 6    |
| 31  | RUN6246-101066   | Spring            |               | 6    |
| 32  | GB77-85          | Screw             | M8×8          | 6    |
| 33  | RUN6246-101080   | Pin               | 10×60         | 1    |
| 34  | GB79-85          | Screw             | M10×20        | 1    |
| 35  | GB70-85          | Screw             | M10×110       | 1    |
| 36  | RUN6246-101098   | Plate             |               | 1    |
| 37  | RUN6246-101100   | Plate             |               | 1    |
| 38  | R51-5A           | Oil Sight Glass   | 20            | 1    |
| 39  | GB70-85          | Screw             | M16×45        | 3    |

| No. | Part No.         | Name          | Specification | Qty. |
|-----|------------------|---------------|---------------|------|
| 40  | GB120-86         | Pin           | 16×55         | 1    |
| 41  | GB827-86         | Rivet         | 2×5           | 24   |
| 42  | RUN6246-101096   | Plate         |               | 1    |
| 43  | RUN6246-101063-1 | Gear          |               | 1    |
| 44  | GB1235-76        | O-Ring        | 20×2.4        | 3    |
| 45  | RUN6246-101064-1 | Gear          |               | 2    |
| 46  | GB879-86         | Spring Pin    | 5×26          | 6    |
| 47  | GB79-85          | Screw         | M6×16         | 3    |
| 48  | RUN6246-101065   | Shaft         |               | 2    |
| 49  | GB1235-76        | O-Ring        | 22×2.4        | 5    |
| 50  | RUN6246-101072   | Lever         |               | 2    |
| 51  | RUN6246-101070-1 | Washer        |               | 4    |
| 52  | RUN6246-101099   | Plate         |               | 4    |
| 53  | RUN6246-101064   | Gear          |               | 2    |
| 54  | GB1096-79        | Key           | 5×12          | 4    |
| 55  | RUN6246-101071   | Lever Head    |               | 3    |
| 56  | RUN6141-101075A  | Fork          |               | 1    |
| 57  | RUN6246-101074-1 | Lever         |               | 1    |
| 58  | GB894.1-86       | Snap Ring     | 10            | 2    |
| 59  | RUN6141-101073A  | Shaft         |               | 1    |
| 60  | RUN6246-101077A  | Handle        |               | 1    |
| 61  | RUN6246-102056-1 | Lever         |               | 2    |
| 62  | RUN6141-101079   | Fork          |               | 1    |
| 63  | GB879-86         | Spring Pin    | 4×26          | 2    |
| 64  | RUN6141-101074A  | Lever         |               | 1    |
| 65  | RUN6141-101078A  | Shaft         |               | 1    |
| 66  | GB77-85          | Screw         | M4×20         | 5    |
| 67  | GB812-88         | Nut           | M30×1.5       | 1    |
| 68  | GB858-88         | Nut           | 30            | 1    |
| 69  | RUN6246-101011   | Pulley        |               | 1    |
| 70  |                  | Oil Seal      | TC55×42×9     | 1    |
| 71  | RUN6246-101009   | Spacer        |               | 1    |
| 72  | GB1235-76        | O-Ring        | 36×3.5        | 1    |
| 73  | GB70-85          | Screw         | M6×40         | 4    |
| 74  | RUN6246-101010   | Bearing Cover |               | 1    |
| 75  | RUN6246-101010-1 | Bealed Mat    |               | 1    |
| 76  | GB278-89         | Ball Bearing  | 80206         | 2    |
| 77  | GB1096-79        | Key           | 8×45          | 1    |
| 78  | RUN6246-101005   | Shaft         |               | 1    |
| 79  | GB1096-79        | Key           | 8×55          | 1    |

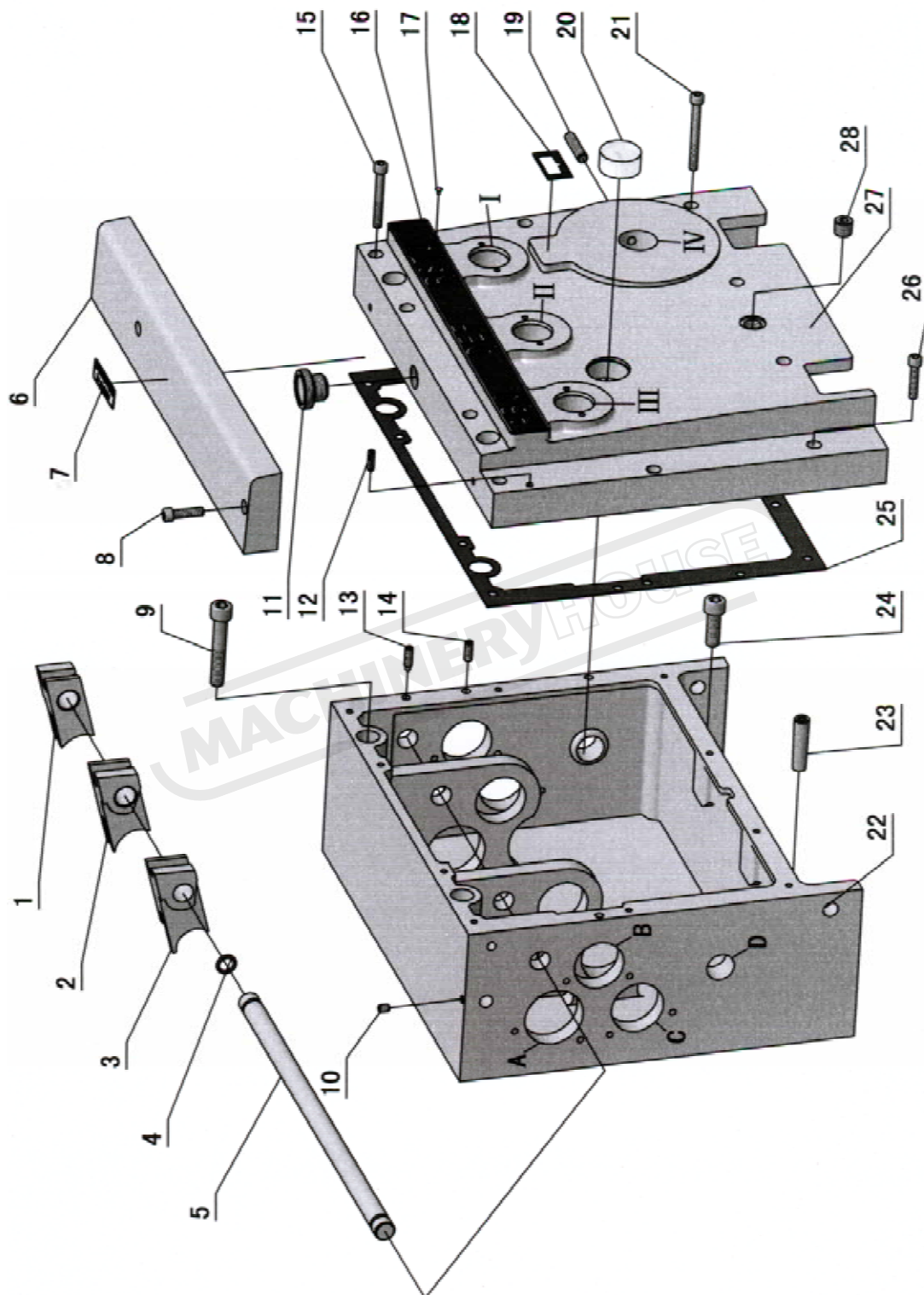


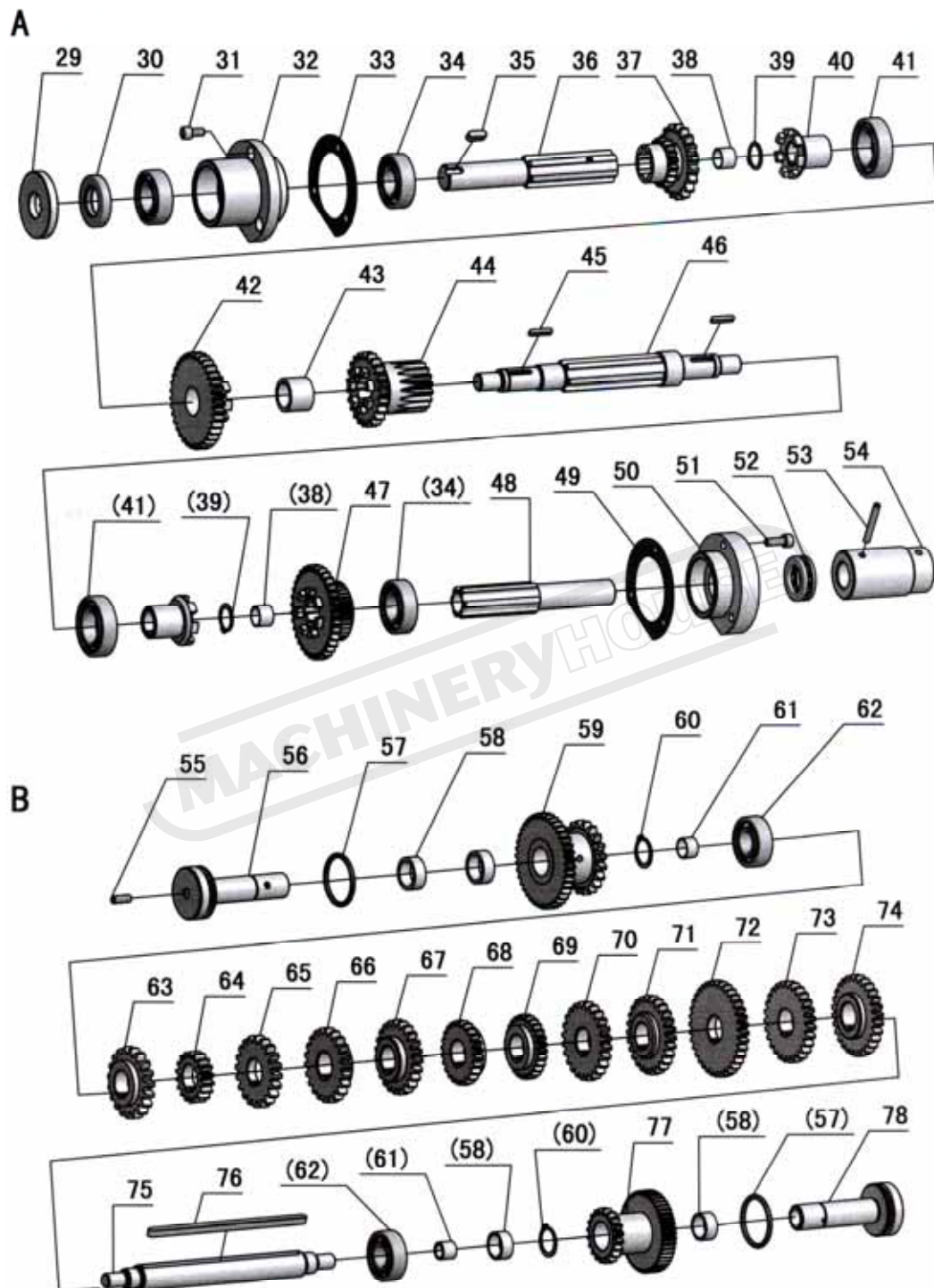
| No. | Part No.         | Name                  | Specification | Qty. |
|-----|------------------|-----------------------|---------------|------|
| 80  | RUN6246-101008   | Gear                  |               | 1    |
| 81  | RUN6246-101007   | Gear                  |               | 1    |
| 82  | GB278-89         | Ball Bearing          | 80205         | 1    |
| 83  | RUN6246-101006   | Spacer                |               | 1    |
| 84  | GB278-89         | Ball Bearing          | 80205         | 1    |
| 85  | RUN6246-101014   | Gear                  |               | 1    |
| 86  | RUN6246-101015   | Gear                  |               | 1    |
| 87  | RUN6246-101016   | Gear                  |               | 1    |
| 88  | GB278-89         | Ball Bearing          | 80206         | 1    |
| 89  | RUN6246-101017   | Gear                  |               | 1    |
| 90  | RUN6246-101018   | Gear                  |               | 1    |
| 91  | RUN6246-101013   | B Shaft               |               | 1    |
| 92  | GB278-89         | Ball Bearing          | 80305         | 1    |
| 93  | GB893.1-86       | Snap Ring             | 62            | 1    |
| 94  | GB3452.1-82      | O-Ring                | 56×2.65       | 1    |
| 95  | RUN6246-101019-1 | Plug                  |               | 1    |
| 96  | GB70-85          | Socket Head Cap Screw | M6×14         | 3    |
| 97  | RUN6246-101032   | Cover                 |               | 1    |
| 98  | RUN6246-101032-1 | Sealed Mat            |               | 1    |
| 99  | GB278-89         | Ball Bearing          | 80205         | 1    |
| 100 | RUN6246-101030   | Gear                  |               | 1    |
| 101 | GB1096-79        | Key                   | 8×25          | 1    |
| 102 | RUN6246-101031   | Gear                  |               | 1    |
| 103 | GB894.1-86       | Snap Ring             | 50            | 1    |
| 104 | GB894.1-86       | Snap Ring             | 34            | 1    |
| 105 | GB894.1-86       | Snap Ring             | 48            | 1    |
| 106 | RUN6246-101029   | Gear                  |               | 1    |
| 107 | RUN6246-101028   | Gear                  |               | 1    |
| 108 | RUN6246-101027   | Gear                  |               | 1    |
| 109 | GB1096-79        | Key                   | 8×35          | 1    |
| 110 | RUN6246-101026   | A Shaft               |               | 1    |
| 111 | GB278-89         | Ball Bearing          | 80204         | 1    |
| 112 | RUN6246-101025   | Spacer                |               | 1    |
| 113 | GB278-89         | Ball Bearing          | 80204         | 1    |
| 114 | GB894.1-86       | Snap Ring             | 68            | 1    |
| 115 | RUN6246-101023-1 | Key                   |               | 2    |
| 116 | RUN6246-101023   | Gear                  |               | 1    |
| 117 | RUN6246-101024   | Gear                  |               | 1    |
| 118 | GB894.1-86       | Snap Ring             | 68            | 1    |
| 119 | RUN6246-101022   | C Shaft               |               | 1    |

| No. | Part No.          | Name                  | Specification | Qty. |
|-----|-------------------|-----------------------|---------------|------|
| 120 | GB278-89          | Ball Bearing          | 80305         | 1    |
| 121 | RUN6246-101019-2  | Washer                |               | 1    |
| 122 | GB893.1-86        | Snap Ring             | 62            | 1    |
| 123 | GB3452.1-82       | O-Ring                | 56×2.65       | 1    |
| 124 | RUN6246-101019-1  | Plug                  |               | 1    |
| 125 | GB79-85           | Screw                 | M6×8          | 4    |
| 126 | RUN6246-101044    | Balance Piece         |               | 1    |
| 127 | RUN6246-101043-1  | Brass                 |               | 1    |
| 128 | GB77-85           | Screw                 | M8×8          | 2    |
| 129 | RUN6246-101043    | Set Nut               |               | 1    |
| 130 | GB70-85           | Screw                 | M6×16         | 4    |
| 131 | RUN6246-101042    | Rear Bearing Cover    |               | 1    |
| 132 | RUN6246-101042-1  | Sealed Mat            |               | 1    |
| 133 | RUN6246-101041    | Cycle Oil Ring        |               | 1    |
| 134 | GB276-89          | Ball Bearing          | 215           | 1    |
| 135 | RUN6246-101040    | Oil Ring              |               | 1    |
| 136 | RUN6246-101039    | Gear                  |               | 1    |
| 137 | GB77-85           | Screw                 | M8×10         | 1    |
| 138 | RUN6246-101038    | Set Nut               |               | 1    |
| 139 | GB297-84          | Taper Roller          | D2007117E     | 1    |
| 140 | RUN6246-101037    | Set Nut               |               | 1    |
| 141 | RUN6246-101036    | Gear                  |               | 1    |
| 142 | RUN6246-101035    | Gear                  |               | 1    |
| 143 | GB297-84          | Taper Roller          | D2007118E     | 1    |
| 144 | RUN6246-101034-1  | Sealed Mat            |               | 1    |
| 145 | RUN6246-101034-2  | Front Bearing Cover   |               | 1    |
| 146 | GB70-85           | Socket Head Cap Screw | M6×40         | 5    |
| 147 | RUN6246-101033-01 | Spindle               | D1-6          | 1    |
| 148 | GB1096-79         | Key                   | 8×45          | 1    |
| 149 | GB1096-79         | Key                   | 8×85          | 1    |
| 150 | RUN6246-101082-1  | Spring                |               | 6    |
| 151 | RUN6246-101081    | Cam Lock              |               | 6    |
| 152 | RUN6246-101082    | Spring                |               | 6    |
| 153 | RUN6246-101087    | Screw                 |               | 6    |
| 154 | GB70-85           | Screw                 | M6×16         | 3    |
| 155 | RUN6246-101054    | Cover                 |               | 1    |
| 156 | RUN6246-101054-1  | Sealed Mat            |               | 1    |
| 157 | GB278-89          | Ball Bearing          | 80204         | 1    |
| 158 | RUN6141-101049-1  | C Shaft               |               | 1    |
| 159 | GB1096-79         | Key                   | 6×65          | 1    |

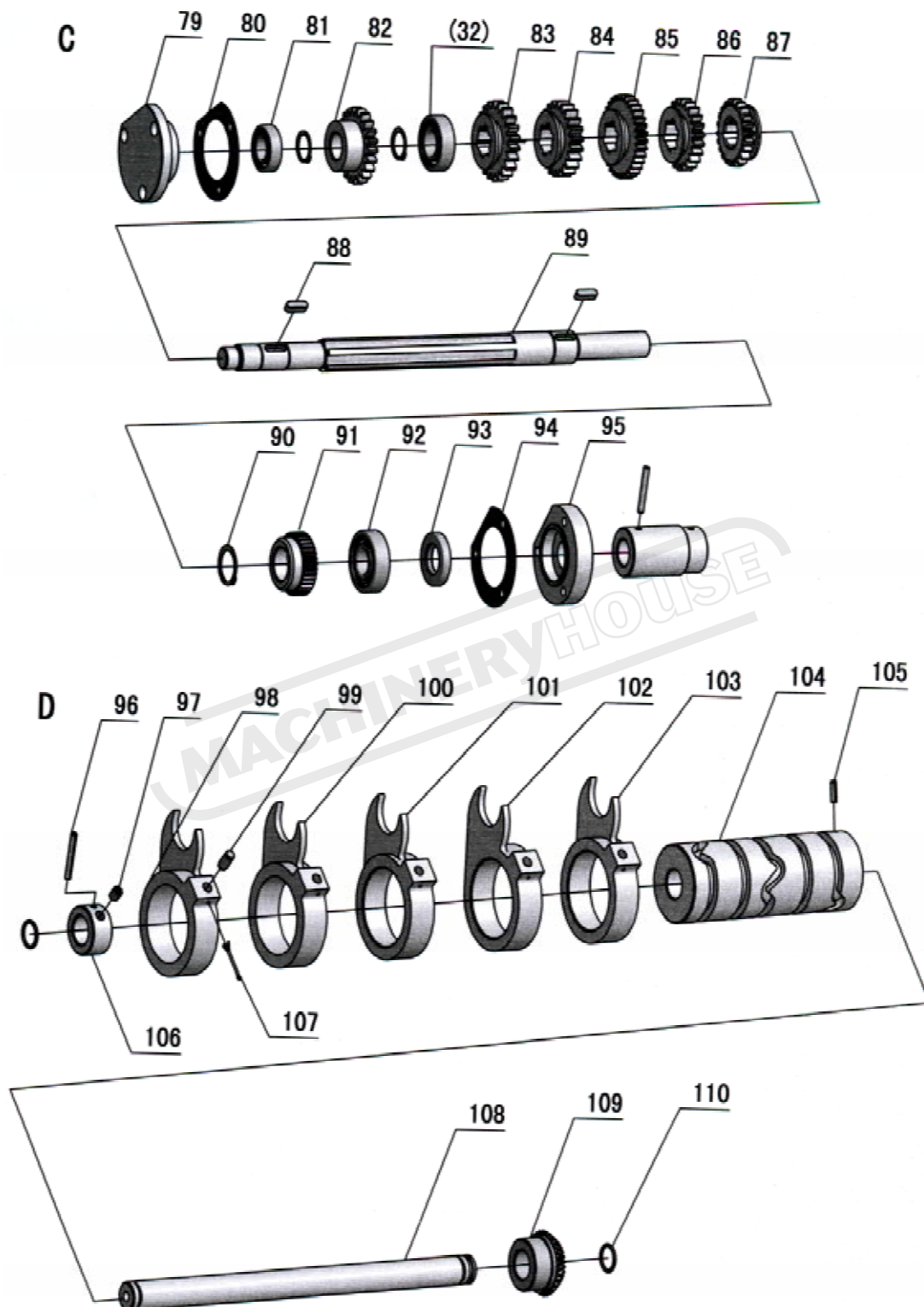
| No. | Part No.         | Name            | Specification | Qty. |
|-----|------------------|-----------------|---------------|------|
| 160 | GB1096-79        | Key             | 6×18          | 1    |
| 161 | GB1096-79        | Key             | 6×28          | 1    |
| 162 | RUN6246-101053   | Gear            |               | 1    |
| 163 | RUN6141-101051-1 | Gear            |               | 1    |
| 164 | GB894.1-86       | Snap Ring       | 24            | 1    |
| 165 | RUN6141-101091   | Spacer          |               | 1    |
| 166 | RUN6141-101090   | Gear            |               | 1    |
| 167 | SF-1             | Bearing         | 2512          | 4    |
| 168 | RUN6141-101091   | Spacer          |               | 1    |
| 169 | GB894.1-86       | Snap Ring       | 24            | 1    |
| 170 | RUN6141-101052-1 | Gear            |               | 1    |
| 171 | RUN6246-101050   | Spacer          |               | 1    |
| 172 | GB278-89         | Ball Bearing    | 80204         | 1    |
| 173 | GB70-85          | Screw           | M6×12         | 1    |
| 174 | RUN6246-101048   | Washer          |               | 1    |
| 175 | RUN6246-101045   | Shaft           |               | 1    |
| 176 | GB1235-76        | O-Ring          | 35×3.1        | 1    |
| 177 | RUN6246-101046   | Spacer          |               | 1    |
| 178 | RUN6246-101047-1 | Stalk Set       |               | 1    |
| 179 | RUN6246-101047   | Gear            | 42T×M2        | 1    |
| 180 | RUN6246-101046   | Spacer          |               | 1    |
| 181 | GB894.1-86       | Snap Ring       | 30            | 1    |
| 182 |                  | Oil Seal        | TC47×25×8     | 1    |
| 183 | GB278-89         | Ball Bearing    | 80105         | 1    |
| 184 | GB70-85          | Screw           | M6×20         | 3    |
| 185 | RUN6246-101058   | Bearing Flanged |               | 1    |
| 186 | RUN6246-101058-1 | Sealed Mat      |               | 1    |
| 187 | GB278-89         | Ball Bearing    | 80205         | 1    |
| 188 | GB1096-79        | Key             | 6×28          | 1    |
| 189 | RUN6141-101055-1 | D Shaft         |               | 1    |
| 190 | GB1096-79        | Key             | 6×60          | 1    |
| 191 | RUN6141-101091   | Spacer          |               | 1    |
| 192 | RUN6141-101090   | Gear            |               | 1    |
| 193 | RUN6141-101092   | Spacer          |               | 1    |
| 194 | GB894.1-86       | Snap Ring       | 25            | 1    |
| 195 | RUN6141-101057-1 | Gear            |               | 1    |
| 196 | GB1096-79        | Key             | 6×18          | 1    |
| 197 | RUN6141-101056-1 | Gear            |               | 1    |
| 198 | GB894.1-86       | Snap Ring       | 40            | 1    |
| 199 | GB278-89         | Ball Bearing    | 80204         | 1    |

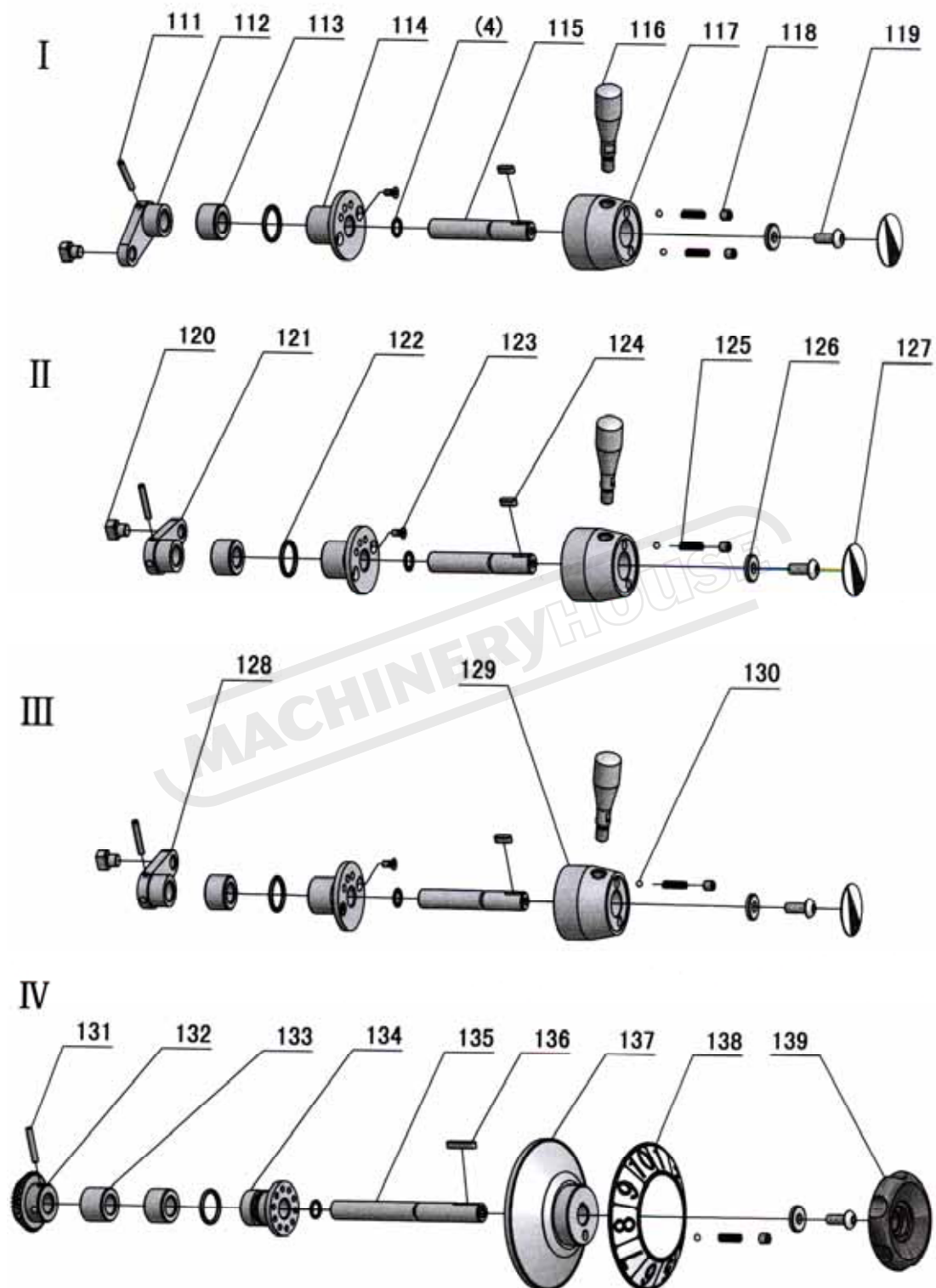
## Gearbox











| No. | Part No.          | Name                  | Specification | Qty. |
|-----|-------------------|-----------------------|---------------|------|
| 1   | RUN6141-102070-1  | Fork                  |               | 1    |
| 2   | RUN6246-102069    | Fork                  |               | 1    |
| 3   | RUN6246-102069-1  | Fork                  |               | 1    |
| 4   | GB1235-76         | O-Ring                | 16×2.4        | 6    |
| 5   | RUN6246-102077    | Shaft                 |               | 1    |
| 6   | RUN6141-102061    | Top Cover             |               | 1    |
| 7   | RUN6246-102079    | Plate                 |               | 1    |
| 8   | GB70-85           | Screw                 | M6×30         | 2    |
| 9   | GB70-85           | Screw                 | M10×60        | 2    |
| 10  | GB78-85           | Screw                 | M6×8          | 1    |
| 11  | RUN6246-103031    | Oil Cover             |               | 1    |
| 12  | GB879-86          | Spring Pin            | 5×16          | 2    |
| 13  | GB79-85           | Socket Set Screw      | M6×20         | 2    |
| 14  | GB78-85           | Screw                 | M6×16         | 2    |
| 15  | GB70-85           | Screw                 | M6×50         | 1    |
| 16  | RUN6246-102080    | Plate                 |               | 1    |
| 17  | GB827-86          | Rivet                 | 2×5           | 10   |
| 18  | RUN6246-102081    | Plate                 |               | 1    |
| 19  | GB78-85           | Screw                 | M8×35         | 1    |
| 20  | GB1160.1-89       | Oil Sight Glass       | 20            | 1    |
| 21  | GB70-85           | Screw                 | M6×60         | 3    |
| 22  | RUN6246-102001A   | Gear Box              |               | 1    |
| 23  | GB118-86          | Taper Pin             | 10×45         | 2    |
| 24  | GB70-85           | Screw                 | M10×30        | 2    |
| 25  | RUN6246-102001-2A | Sealed Mat            |               | 1    |
| 26  | GB70-85           | Screw                 | M6×30         | 3    |
| 27  | RUN6141-102002A   | Front Cover           |               | 1    |
| 28  | G38-3A            | Oil Plug              | Z 3/8"        | 1    |
| 29  | RUN6246-102052    | Spacer                |               | 1    |
| 30  |                   | Oil-Seal              | TC20×42×8     | 1    |
| 31  | GB70-85           | Socket Head Cap Screw | M6×12         | 6    |
| 32  | RUN6246-102050    | Cap                   |               | 1    |
| 33  | RUN6246-102050-1  | Sealed Mat            |               | 1    |
| 34  | GB278-89          | Ball Bearing          | 80104         | 4    |
| 35  | GB1096-79         | Key                   | 6×10          | 1    |
| 36  | RUN6246-102049    | B-Shaft               |               | 1    |
| 37  | RUN6246-102048    | Gear                  |               | 1    |
| 38  | SF-1              | Ball Bearing          | 1410          | 2    |
| 39  | GB894.1-86        | Snap Ring             | 18            | 2    |
| 40  | RUN6246-102047    | Clutch                |               | 2    |

| No. | Part No.         | Name             | Specification | Qty. |
|-----|------------------|------------------|---------------|------|
| 41  | GB278-89         | Ball Bearing     | 80105         | 2    |
| 42  | RUN6246-102046   | Gear             |               | 1    |
| 43  | SF-1             | Ball Bearing     | 2020          | 1    |
| 44  | RUN6246-102045   | Gear             |               | 1    |
| 45  | GB1096-79        | Key              | 4×20          | 2    |
| 46  | RUN6246-102044   | A-Shaft          |               | 1    |
| 47  | RUN6141-102042-1 | Gear             |               | 1    |
| 48  | RUN6246-102041   | C-Shaft          |               | 1    |
| 49  | RUN6246-102040-1 | Sealed Mat       |               | 1    |
| 50  | RUN6246-102040   | Cap              |               | 1    |
| 51  | GB70-85          | Socket Cap Screw | M6×20         | 6    |
| 52  | GB301-84         | Thrust Bearing   | 8104          | 1    |
| 53  | GB879-86         | Spring Pin       | 5×35          | 2    |
| 54  | RUN6246-102012   | Collar-Linkage   |               | 2    |
| 55  | GB78-85          | Screw            | M6×16         | 2    |
| 56  | RUN6246-102023   | E-Shaft          |               | 1    |
| 57  | GB3452.1-82      | O-Ring           | 35.5×3.55     | 2    |
| 58  | SF-1             | Ball Bearing     | 2012          | 4    |
| 59  | RUN6246-102024   | Gear             |               | 1    |
| 60  | GB894.1-86       | Snap Ring        | 20            | 4    |
| 61  | SF-1             | Ball Bearing     | 1218          | 2    |
| 62  | RUN6246-102026   | Gear             |               | 1    |
| 63  | RUN6246-102027   | Gear             |               | 1    |
| 64  | RUN6246-102028   | Gear             |               | 1    |
| 65  | RUN6246-102029   | Gear             |               | 1    |
| 66  | RUN6246-102030   | Gear             |               | 1    |
| 67  | RUN6246-102031   | Gear             |               | 1    |
| 68  | RUN6246-102032   | Gear             |               | 1    |
| 69  | RUN6246-102033   | Gear             |               | 1    |
| 70  | RUN6246-102034   | Gear             |               | 1    |
| 71  | RUN6246-102035   | Gear             |               | 1    |
| 72  | RUN6246-102036   | Gear             |               | 1    |
| 73  | RUN6246-102037   | Gear             |               | 1    |
| 74  | RUN6246-102025   | D-Shaft          |               | 1    |
| 75  | GB1096-79        | Key              | 6×146         | 1    |
| 76  | GB278-89         | Ball Bearing     | 80203         | 2    |
| 77  | RUN6141-102038   | Gear             |               | 1    |
| 78  | RUN6246-102039   | F-Shaft          |               | 1    |
| 79  | RUN6246-102022   | Cap              |               | 1    |
| 80  | RUN6246-102022-1 | Sealed Mat       |               | 1    |

| No. | Part No.         | Name                | Specification | Qty. |
|-----|------------------|---------------------|---------------|------|
| 81  | GB278-89         | Ball Bearing        | 80103         | 1    |
| 82  | RUN6246-102020   | Gear                |               | 1    |
| 83  | RUN6246-102019   | Gear                |               | 1    |
| 84  | RUN6246-102018   | Gear                |               | 1    |
| 85  | RUN6246-102017   | Gear                |               | 1    |
| 86  | RUN6246-102016   | Gear                |               | 1    |
| 87  | RUN6246-102015   | Gear                |               | 1    |
| 88  | GB1096-79        | Key                 | 6×20          | 2    |
| 89  | RUN6246-102021   | G-Shaft             |               | 1    |
| 90  | GB894.1-86       | Snap Ring           | 25            | 1    |
| 91  | RUN6141-102014-1 | Gear                |               | 1    |
| 92  | GB278-89         | Ball Bearing        | 80204         | 1    |
| 93  |                  | Oil Seal            | TC20×40×7     | 1    |
| 94  | RUN6246-102013-1 | Sealed Mat          |               | 1    |
| 95  | RUN6246-102013   | Cap-Right           |               | 1    |
| 96  | GB879-86         | Spring Pin          | 5×35          | 1    |
| 97  | GB78-85          | Socket Set Screw    | M8×10         | 1    |
| 98  | RUN6246-102008   | Claw-Shifter        |               | 1    |
| 99  | GB119-86         | Pin                 | B8×16         | 5    |
| 100 | RUN6246-102007   | Claw-Shifter        |               | 1    |
| 101 | RUN6246-102006   | Claw-Shifter        |               | 1    |
| 102 | RUN6246-102005   | Claw-Shifter        |               | 1    |
| 103 | RUN6246-102004   | Claw-Shifter        |               | 1    |
| 104 | RUN6246-102009   | Cam Shifter         |               | 1    |
| 105 | GB879-86         | Spring Pin          | 5×16          | 2    |
| 106 | RUN6246-102010   | H-Shaft             |               | 1    |
| 107 | GB91-86          | Split Pin           | 2×30          | 5    |
| 108 | RUN6246-102011   | H-Shaft             |               | 1    |
| 109 | RUN6246-102003   | Bevel Gear          |               | 1    |
| 110 | GB1235-76        | O-Ring              | 22×2.4        | 2    |
| 111 | GB879-86         | Spring Pin          | 5×30          | 3    |
| 112 | RUN6246-102066   | Arm                 |               | 1    |
| 113 | RUN6141-102062-2 | Spacer              |               | 4    |
| 114 | RUN6246-102075   | Detent Plate        |               | 3    |
| 115 | RUN6141-102072   | Shaft               |               | 3    |
| 116 | RUN6246-102056-1 | Lever               |               | 3    |
| 117 | RUN6246-102076   | Speed Change Handle |               | 1    |
| 118 | GB77-85          | Screw               | M8×8          | 5    |
| 119 | RUN6246-101088   | Screw               |               | 4    |
| 120 | RUN6246-102073   | Fork                |               | 3    |

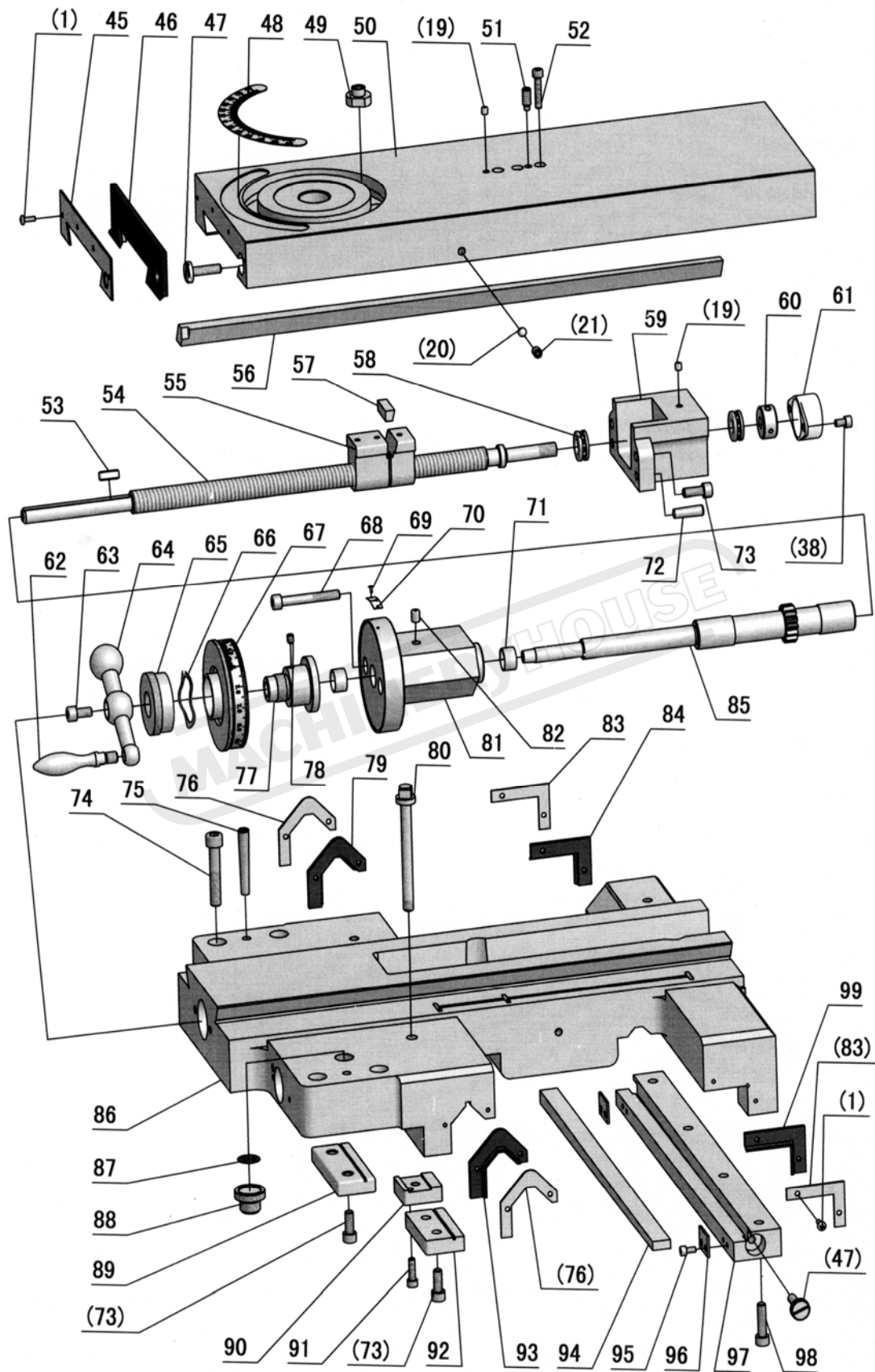


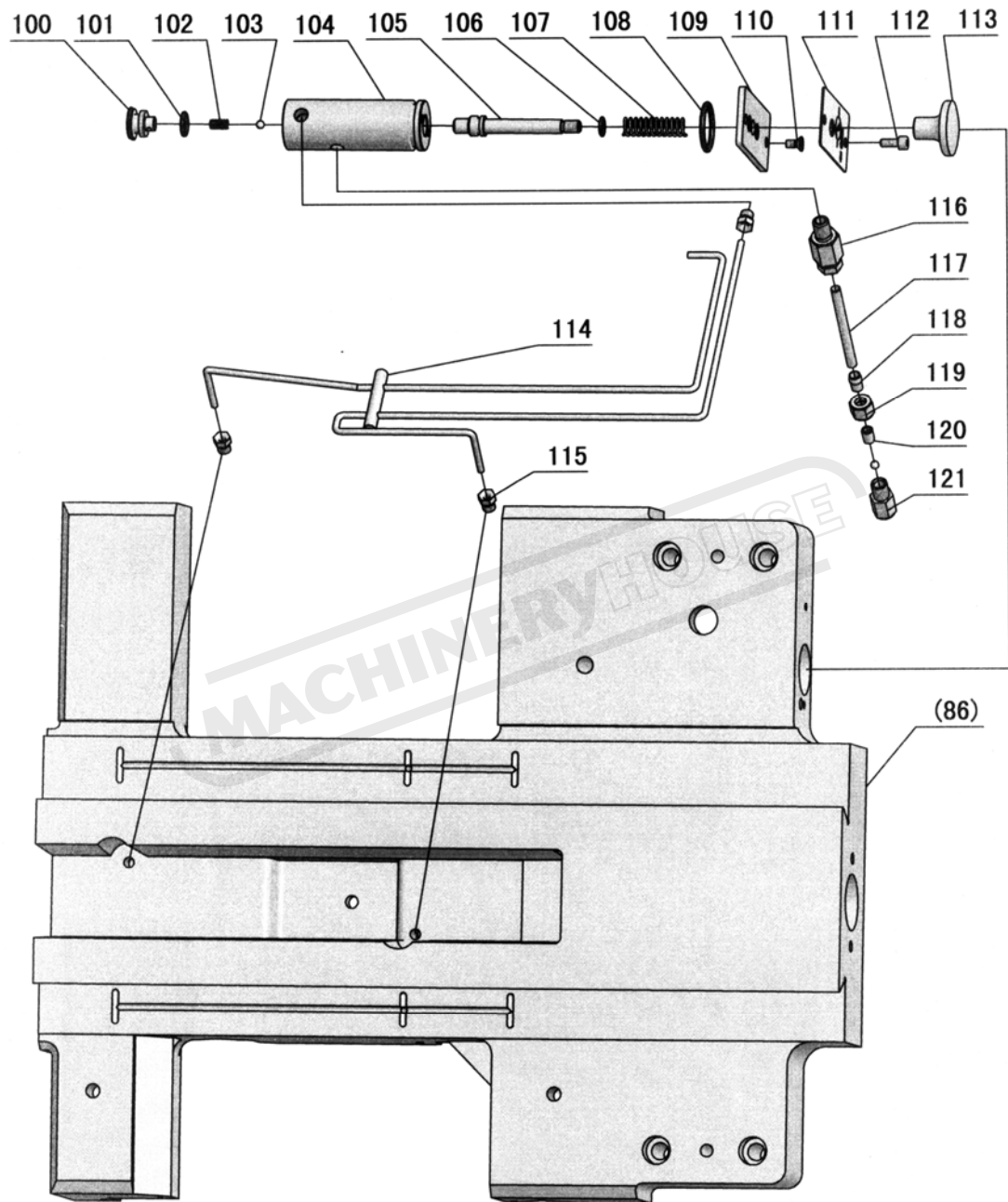
| No. | Part No.         | Name                | Specification | Qty. |
|-----|------------------|---------------------|---------------|------|
| 121 | RUN6246-102067   | Arm                 |               | 1    |
| 122 | GB1235-76        | O-Ring              | 30×3.1        | 4    |
| 123 | GB819-85         | Screw               | M5×10         | 6    |
| 124 | GB1096-79        | Key                 | 5×14          | 3    |
| 125 | RUN6246-101066   | Spring              |               | 5    |
| 126 | RUN6246-101070-1 | Washer              |               | 4    |
| 127 | RUN6246-101099   | Plate               |               | 3    |
| 128 | RUN6246-102068   | Arm                 |               | 1    |
| 129 | RUN6246-102065   | Speed Change Handle |               | 2    |
| 130 | GB308-77         | Steel Ball          | 1/4"          | 5    |
| 131 | GB879-76         | Spring Pin          | 5×30          | 1    |
| 132 | RUN6246-102060   | Bevel Gear          |               | 1    |
| 133 | RUN6246-102062-1 | Spacer              |               | 1    |
| 134 | RUN6246-102062   | Shaft Sleeve        |               | 1    |
| 135 | RUN6141-102055   | Shaft               |               | 1    |
| 136 | GB1096-79        | Key                 | 5×28          | 1    |
| 137 | RUN6246-102063   | Selecting Dial      |               | 1    |
| 138 | RUN6246-102082   | Plate               |               | 1    |
| 139 | RUN6246-102053   | Wheel               |               | 1    |

This exploded view diagram illustrates the assembly of a mechanical device, likely a pump or motor. The components are numbered 1 through 44. The assembly is organized into several main sections:

- Top Section (Components 1-11):** Includes a base plate (1), a vertical shaft assembly with a pulley (2, 3, 4, 5, 6, 7, 8, 9, 10, 11), and a mounting bracket (12).
- Central Section (Components 12-24):** Features a main housing (12), a central shaft (13), a pulley (14), a bearing (15), a seal (16), a coupling (17), and a motor (18).
- Bottom Section (Components 25-44):** Includes a large gear (25), a shaft (26), a pulley (27), a bearing (28), a seal (29), a coupling (30), a pulley (31), a bearing (32), a gear (33), a pulley (34), a seal (35), a coupling (36), a pulley (37), a bearing (38), a shaft (39), a pulley (40), a coupling (41), a gear (42), a pulley (43), and a bearing (44).

The diagram shows the relative positions and assembly sequence of these components, with lines indicating the path of assembly. A watermark "WAS" is visible across the center of the image.





| No. | Part No.          | Name                           | Specification | Qty. |
|-----|-------------------|--------------------------------|---------------|------|
| 1   | GB818-85          | Screw                          | M4×12         | 16   |
| 2   | RUN6141-103101    | Case-Wiper                     |               | 1    |
| 3   | RUN6141-103100    | Wiper                          |               | 1    |
| 4   | RUN6246-103056-1  | Sleeve                         |               | 1    |
| 5   | GB2089-80         | Spring                         | 1×5×18        | 1    |
| 6   | RUN6246-103058-2  | Adjust Screw (Flat Type)       |               | 3    |
| 7   | RUN6246-103057-2  | Round Pin                      |               | 1    |
| 8   | RUN6141-103058    | Four Way Tool Post (Flat Type) |               | 1    |
| 8   | RUN6141-103058-3  | Four Way Tool Post (T Type)    |               | 1    |
| 8   | RUN6141-103058-4  | Block-Tee (T Type)             |               | 1    |
| 9   | GB83-88           | Screw                          | M12×55        | 12   |
| 10  | GB119-86          | Pin                            | D6×50         | 3    |
| 11  | GB77-85           | Screw                          | M8×10         | 3    |
| 12  | RUN6246-103062    | Clamping Handle                |               | 1    |
| 13  | RUN6246-103061    | Clamping Handle                |               | 1    |
| 14  | RUN6246-103060    | Washer                         |               | 1    |
| 15  | GB301-84          | Thrust Bearing                 | 8104          | 1    |
| 16  | RUN6246-103058-1  | Sleeve (Flat Type)             |               | 1    |
| 17  | RUN6141-103054    | Tool Post Shaft (Flat Type)    |               | 1    |
| 17  | RUN6141-103054-1  | Tool Post Shaft (T Type)       |               | 1    |
| 18  | GB77-85           | Screw                          | M8×40         | 1    |
| 19  | GB1155-79         | Ball Cup                       | 6             | 6    |
| 20  | GB308-84          | Steel Ball                     | 1/4"          | 2    |
| 21  | GB80-85           | Screw                          | M8×10         | 2    |
| 22  | RUN6141-103050    | Compound Rest (Flat Type)      |               | 1    |
| 22  | RUN6141-103050-2  | Compound Rest (T Type)         |               | 1    |
| 23  | RUN6246-103043-1  | Nut (Run6141 Metric)           |               | 1    |
| 23  | RUN6246-103043-2  | Nut (Run6141 Inch)             |               | 1    |
| 23  | RUN6246H-103043-1 | Nut (Run6246h Metric)          |               | 1    |
| 23  | RUN6246H-103043-2 | Nut (Run6246h Inch)            |               | 1    |
| 24  | RUN6246-103043    | Screw-Compound Rest (Metric)   |               | 1    |
| 24  | RUN6246-103043-3  | Screw-Compound Rest (Inch)     |               | 1    |
| 25  | GB77-85           | Screw                          | M6×6          | 1    |
| 26  | GB80-85           | Screw                          | M5×8          | 1    |
| 27  | GB879-86          | Spring Pin                     | 2×12          | 1    |
| 28  | GB301-84          | Thrust Bearing                 | 8102          | 2    |
| 29  | RUN6246-103044    | Seat Compound Rest Screw       |               | 1    |
| 30  | GB70-85           | Screw                          | M6×20         | 2    |
| 31  | RUN6246-103044-1  | Nut                            |               | 1    |
| 32  | RUN6246-103045    | Collar                         |               | 1    |



| No. | Part No.         | Name                        | Specification | Qty. |
|-----|------------------|-----------------------------|---------------|------|
| 33  | RUN6246-103046-1 | Dial-Compound Rest (Metric) |               | 1    |
| 33  | RUN6246-103046-2 | Dial-Compound Rest (Inch)   |               | 1    |
| 34  | RUN6246-103047-1 | Wave Type Washer            |               | 1    |
| 35  | RUN6246-103047   | Nut                         |               | 1    |
| 36  | RUN6246-103048   | Handle                      |               | 1    |
| 37  | RUN6246-103049   | Handle                      |               | 1    |
| 38  | GB70-85          | Screw                       | M6×10         | 3    |
| 39  | GB70-85          | Screw(C6241)                | M10×35        | 1    |
| 39  | GB70-85          | Screw(C6246H)               | M10×60        | 1    |
| 40  | RUN6246-103037   | Screw                       |               | 1    |
| 41  | RUN6141-103051   | Gib                         |               | 1    |
| 42  | GB70-85          | Screw(C6241)                | M10×20        | 2    |
| 42  | GB70-85          | Screw(C6246H)               | M10×35        | 2    |
| 43  | RUN6141-103041   | Swivel Table                |               | 1    |
| 43  | RUN6246H-103041  | Swivel Table                |               | 1    |
| 44  | GB80-85          | Screw                       | M6×10         | 2    |
| 45  | RUN6141-103039   | Case-Wiper                  |               | 1    |
| 46  | RUN6141-103038   | Wiper                       |               | 1    |
| 47  | RUN6246-103036   | Screw                       |               | 4    |
| 48  | RUN6141-103002-1 | Indicator Dial              |               | 1    |
| 49  | RUN6246-103040   | Nut                         |               | 3    |
| 50  | RUN6141-103002   | Cover-Cross Sliding         |               | 1    |
| 51  | GB79-85          | Screw                       | M8×20         | 1    |
| 52  | GB70-85          | Screw                       | M6×30         | 3    |
| 53  | RUN6246-103022-2 | Key                         |               | 1    |
| 54  | RUN6141-103021   | Cross Feed Screw (Inch)     |               | 1    |
| 54  | RUN6141-103021-1 | Cross Feed Screw (Metric)   |               | 1    |
| 55  | RUN6141-103003   | Nut (Metric)                |               | 1    |
| 55  | RUN6141-103003-1 | Nut (Inch)                  |               | 1    |
| 56  | RUN6141-103035   | Gib                         |               | 1    |
| 57  | RUN6246-103004   | Gib                         |               | 1    |
| 58  | GB301-84         | Thrust Bearing              | 8101          | 2    |
| 59  | RUN6141-103007   | Bracket                     |               | 1    |
| 60  | RUN6246-103007-1 | Nut                         |               | 1    |
| 61  | RUN6141-103105   | Cover                       |               | 1    |
| 62  | RUN6246-103030A  | Handle                      |               | 1    |
| 63  | GB70-85          | Screw                       | M8×16         | 1    |
| 64  | RUN6246-103029   | Handle                      |               | 1    |
| 65  | RUN6246-103028   | Nut                         |               | 1    |
| 66  | RUN6246-103025   | Wave Type Washer            |               | 1    |

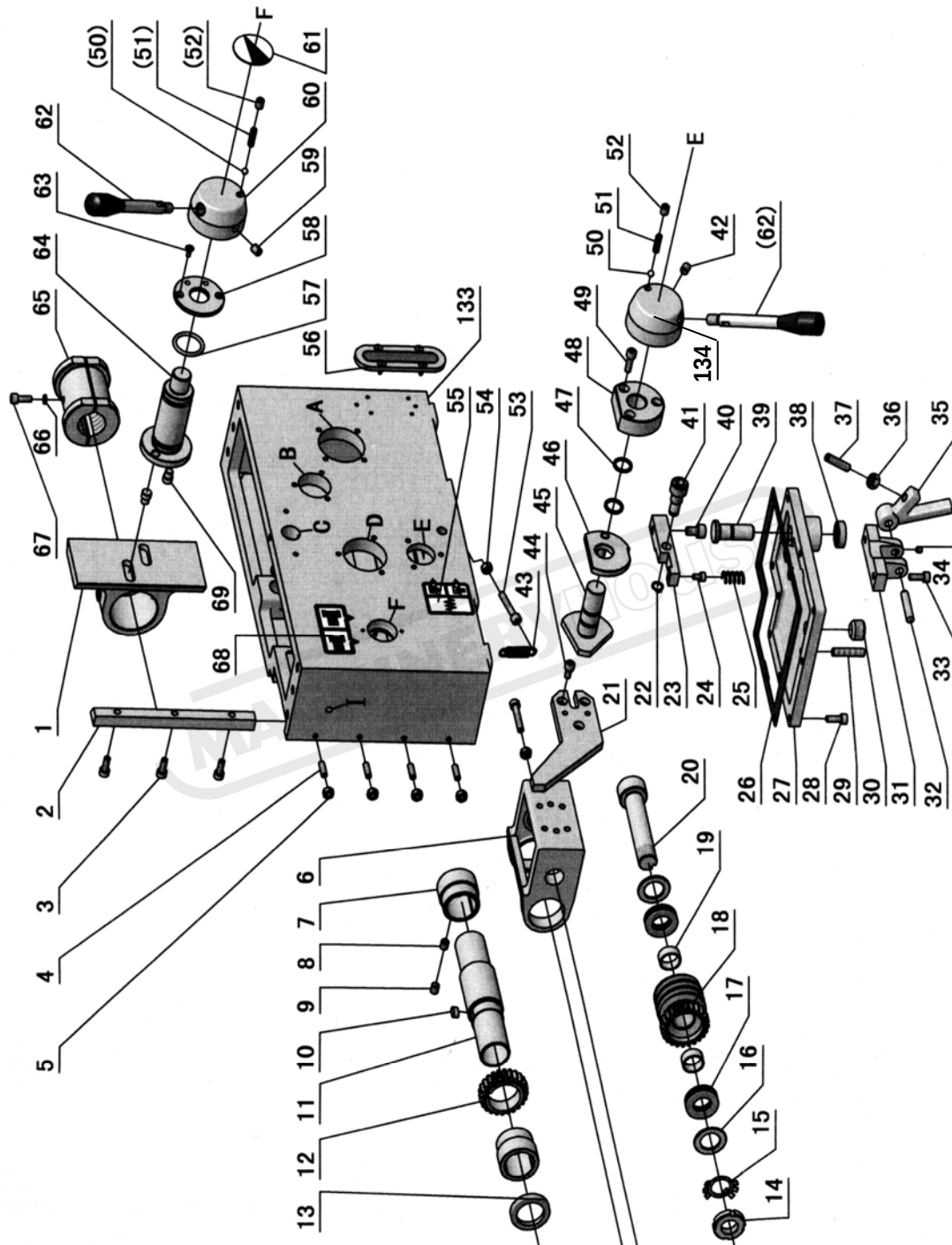


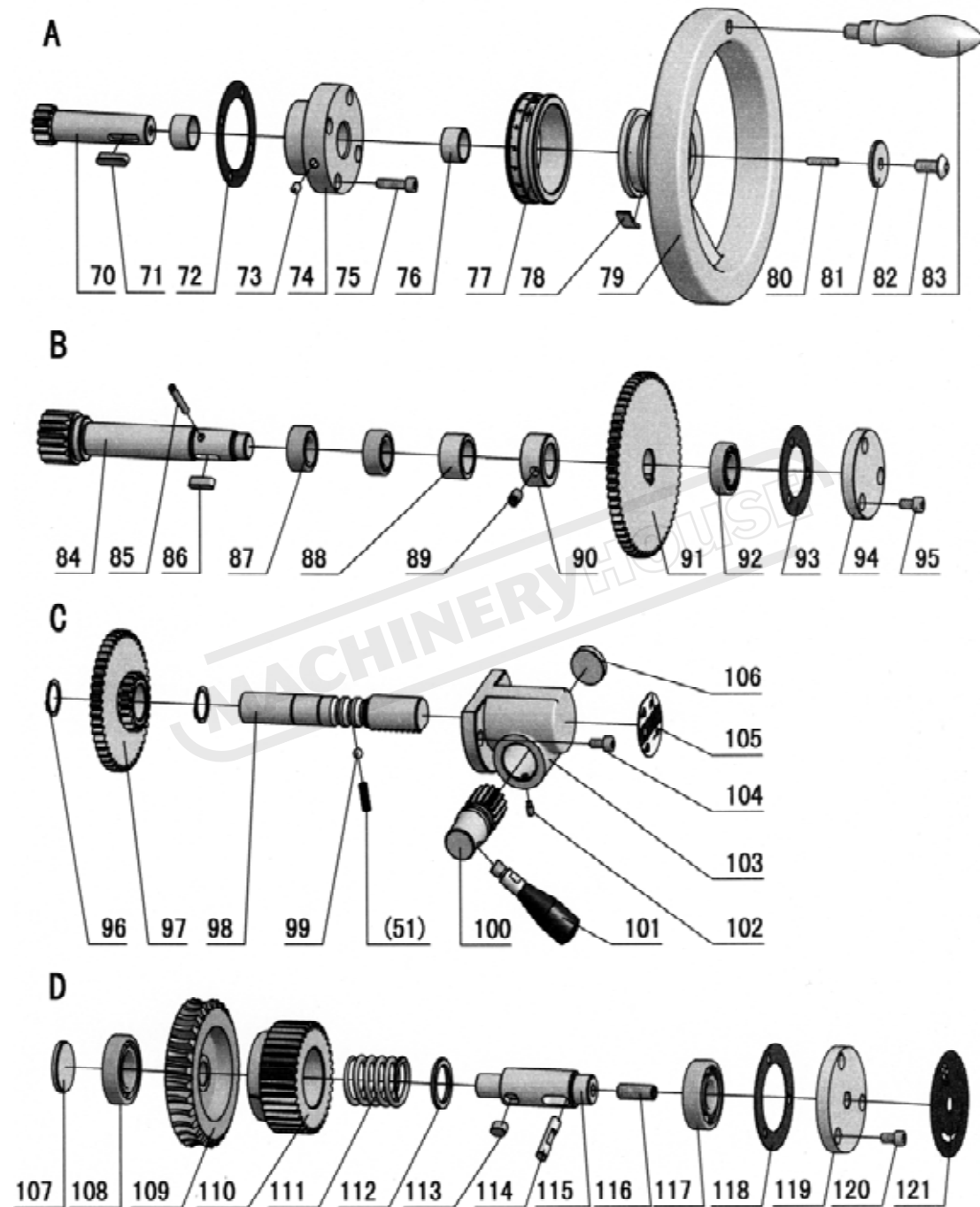
| No. | Part No.         | Name                     | Specification | Qty. |
|-----|------------------|--------------------------|---------------|------|
| 67  | RUN6141-103027   | Cross Feed Dial (Metric) |               | 1    |
| 67  | RUN6141-103027-1 | Cross Feed Dial (Inch)   |               | 1    |
| 68  | GB70-85          | Screw                    | M8×60         | 2    |
| 69  | GB278-86         | Screw                    | 2×5           | 2    |
| 70  | RUN460-105031    | Plate                    |               | 1    |
| 71  | SF-1             | Bearing                  | 1810          | 2    |
| 72  | GB118-86         | Taper Pin                | 6×26          | 2    |
| 73  | GB70-85          | Screw                    | M8×20         | 6    |
| 74  | GB70-85          | Screw                    | M10×55        | 4    |
| 75  | GB118-86         | Taper Pin                | 8×60          | 2    |
| 76  | RUN6141-103013   | Case-Wiper               |               | 2    |
| 77  | RUN6246-103026   | Clutch-Dial              |               | 1    |
| 78  | GB80-85          | Screw                    | M6×8          | 1    |
| 79  | RUN6141-103011   | Wiper                    |               | 1    |
| 80  | RUN6246-103077   | Bolt                     |               | 1    |
| 81  | RUN6246-103023   | Bracket                  |               | 1    |
| 82  | GB1155-79        | Ball Cup                 | 8             | 1    |
| 83  | RUN6141-103010   | Case-Wiper               |               | 2    |
| 84  | RUN6141-103008   | Wiper                    |               | 1    |
| 85  | RUN6246-103022   | Cross Feed Pinion        |               | 1    |
| 86  | RUN6141-103001   | Saddle                   |               | 1    |
| 87  | RUN6246-103031-1 | Plate                    |               | 1    |
| 88  | RUN6246-103031   | Plug-Oil Inlet           |               | 1    |
| 89  | RUN6141-103020   | Gib-Front                |               | 1    |
| 90  | RUN6246-103019   | Clamp-Carriage           |               | 1    |
| 91  | GB70-85          | Screw                    | M6×20         | 1    |
| 92  | RUN6141-103018   | Gib-Left-Front           |               | 1    |
| 93  | RUN6141-103012   | Wiper                    |               | 1    |
| 94  | RUN6141-103015   | Gib                      |               | 1    |
| 95  | GB70-85          | Screw                    | M5×10         | 4    |
| 96  | RUN6141-103016-1 | Baffle                   |               | 2    |
| 97  | RUN6141-103016   | Holder Gib               |               | 1    |
| 98  | GB70-85          | Screw                    | M8×30         | 4    |
| 99  | RUN6141-103009   | Wiper                    |               | 1    |
| 100 | RUN6246-103070   | Oil Plug                 |               | 1    |
| 101 | GB1235-76        | O-Ring                   | 16×2.4        | 1    |
| 102 | GB2089-80        | Spring                   | 0.5×4.5×16    | 1    |
| 103 | GB308-84         | Steel Ball               | φ5            | 2    |
| 104 | RUN6246-103063   | Body Pump                |               | 1    |
| 105 | RUN6246-103064   | Piston Rod               |               | 1    |

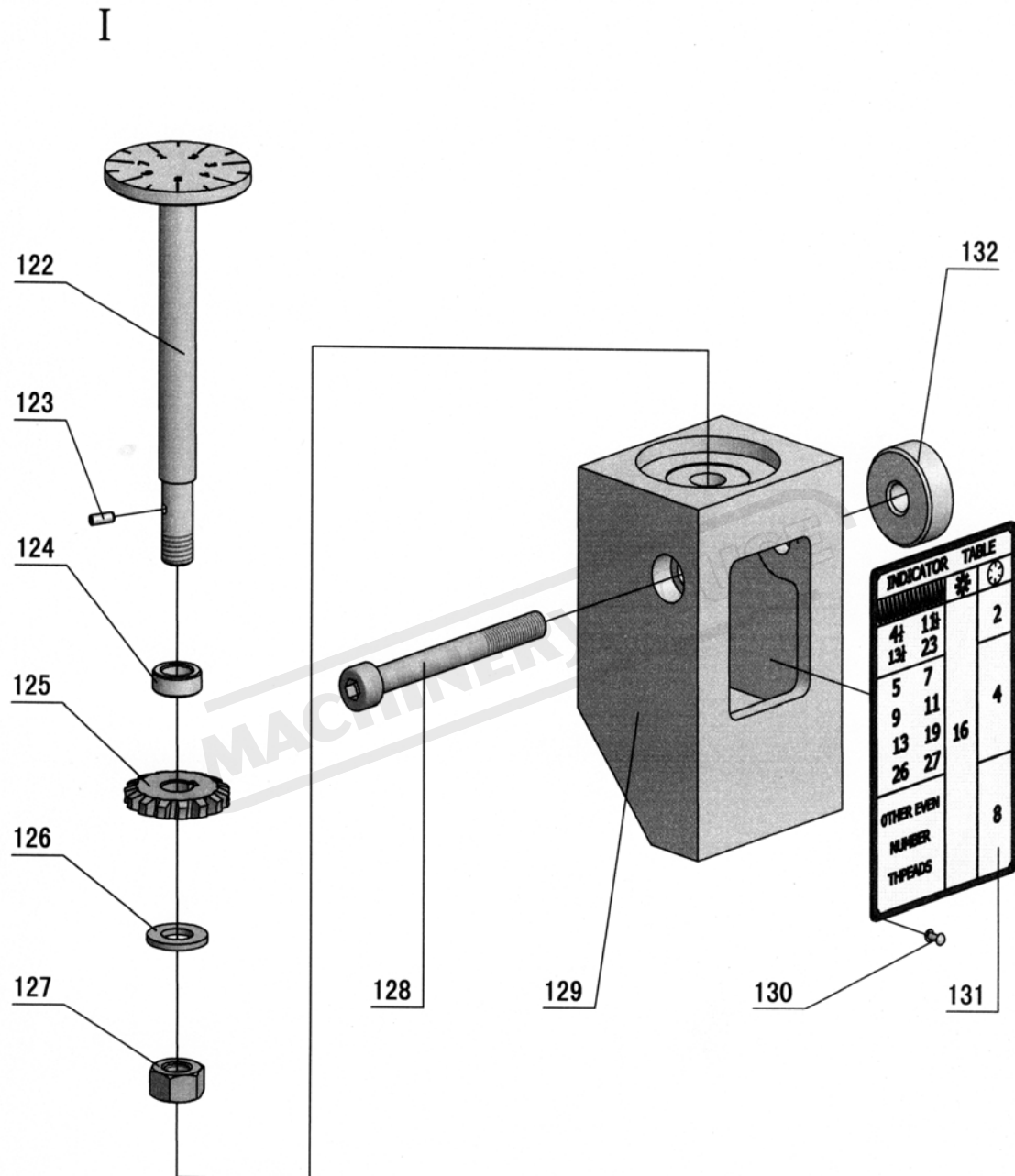
| No. | Part No.         | Name              | Specification | Qty. |
|-----|------------------|-------------------|---------------|------|
| 106 | GB3452.1-82      | O-Ring            | 9×1.8         | 1    |
| 107 | RUN6246-103065   | Spring            |               | 1    |
| 108 | GB1235-76        | O-Ring            | 32×3.1        | 1    |
| 109 | RUN6246-103066   | Bottom Board      |               | 1    |
| 110 | GB68-85          | Screw             | M5×10         | 2    |
| 111 | RUN6246-103068   | Plate             |               | 1    |
| 112 | GB70-85          | Screw             | M5×12         | 2    |
| 113 | RUN6246-103067   | Plug              |               | 1    |
| 114 | RUN6141-103106   | Vitta welding     |               | 1    |
| 115 |                  | Tube Fitting      | Z 1/8"×φ4     | 3    |
| 116 |                  | Tube Fitting      | Z 1/8"×φ6     | 1    |
| 117 |                  | Brass Tube        | φ6×170        | 1    |
| 118 | RUN6246-103071   | Tube Fitting      |               | 1    |
| 119 | RUN6246-103072   | Nut               |               | 1    |
| 120 | RUN6246-103073-2 | Sleeve            |               | 1    |
| 121 | RUN6246-103073-1 | One Way Valve Ass |               | 1    |

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| No. | Part No.         | Name                           | Specification | Qty |
|-----|------------------|--------------------------------|---------------|-----|
| 1   | RUN460-104003A   | Lead Nut Assy (Right Hand)     |               | 1   |
| 1   | RUN460-104003B   | Lead Nut Assy (Left Hand)      |               | 1   |
| 2   | RUN460-104002    | Gib                            |               | 1   |
| 3   | GB70-85          | Screw                          | M6×16         | 3   |
| 4   | GB80-85          | Screw                          | M6×20         | 4   |
| 5   | GB6170-86        | Nut                            | M6            | 4   |
| 6   | RUN460-104018-01 | Seat-Worm                      |               | 1   |
| 7   | RUN460-104015    | Bushing                        |               | 2   |
| 8   | GB80-85          | Screw                          | M8×10         | 2   |
| 9   | GB77-85          | Screw                          | M8×10         | 2   |
| 10  | GB1096-79        | Key                            | 6×12          | 1   |
| 11  | RUN460-104016    | Sleeve-Feed Rod                |               | 1   |
| 12  | RUN460-104017    | Gear                           |               | 1   |
| 13  |                  | Oil Seal                       | TC32×42×8     | 2   |
| 14  | GB812-88         | Nut                            | M20×1.5       | 1   |
| 15  | GB858-88         | Nut                            | 20            | 1   |
| 16  | RUN6246-104020/1 | Washer                         |               | 2   |
| 17  | GB301-84         | Thrust Bearing                 | 8104          | 2   |
| 18  | RUN460-104020    | Worm Gear                      |               | 1   |
| 19  | CB85-2010        | Set                            | 20            | 2   |
| 20  | RUN6246-104019   | Shaft                          |               | 1   |
| 21  | RUN460-104023-01 | Safe Device Block (Right Hand) |               | 1   |
| 21  | RUN460-104023-02 | Safe Device Block (Left Hand)  |               | 1   |
| 22  | GB894.1-86       | Snap Ring                      | 10            | 1   |
| 23  | RUN460-104030    | Lever                          |               | 1   |
| 24  | GB70-85          | Screw                          | M5×8          | 1   |
| 25  | RUN460-104032    | Spring                         |               | 1   |
| 26  | RUN460-104011    | Bottom Cover                   |               | 1   |
| 27  | RUN460-104011-1  | Sealed Mat                     |               | 1   |
| 28  | GB70-85          | Screw                          | M6×16         | 9   |
| 29  | GB77-85          | Screw                          | M6×35         | 1   |
| 30  | G38-3A           | Oil Plug                       | Z 3/8"        | 1   |
| 31  | RUN460-104012    | Bracket                        |               | 1   |
| 32  | GB119-86         | Pin                            | B8×40         | 1   |
| 33  | GB70-85          | Screw                          | M6×16         | 2   |
| 34  | GB80-85          | Screw                          | M6×6          | 1   |
| 35  | RUN460-104014    | Lever                          |               | 1   |
| 36  | GB77-85          | Screw                          | M8×30         | 1   |
| 37  | GB6170-86        | Nut                            | M8            | 1   |
| 38  |                  | Oil Seal                       | TC15×25×7     | 1   |

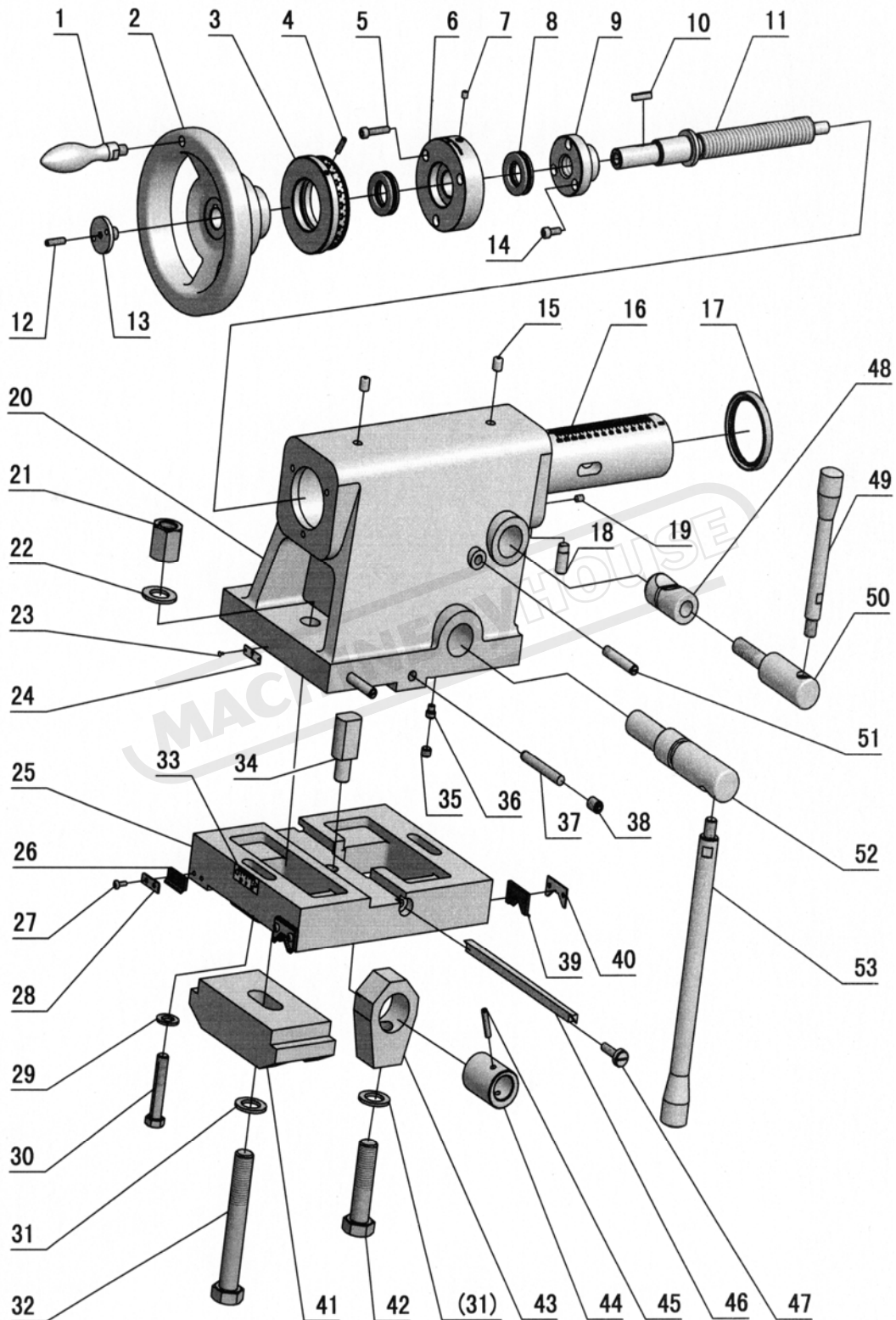


| No. | Part No.          | Name                      | Specification | Qty |
|-----|-------------------|---------------------------|---------------|-----|
| 39  | RUN460-104010     | Pin                       |               | 1   |
| 40  | GB70-85           | Screw                     | M8×12         | 1   |
| 41  | RUN460-104031     | Screw                     |               | 1   |
| 42  | GB80-85           | Screw                     | M8×10         | 1   |
| 43  | RUN460-104022-01  | Spring                    |               | 1   |
| 44  | GB70-85           | Screw                     | M6×12         | 3   |
| 45  | RUN460-104026-01  | Shaft (Right Hand)        |               | 1   |
| 45  | RUN460-104026-02  | Shaft (Left Hand)         |               | 1   |
| 46  | RUN460-104027-H02 | Buffer (Right Hand)       |               | 1   |
| 46  | RUN460-104027-H01 | Buffer (Left Hand)        |               | 1   |
| 47  | GB1235-76         | O-Ring                    | 20×24         | 2   |
| 48  | RUN460-104028     | Sleeve                    |               | 1   |
| 49  | GB70-85           | Screw                     | M6×20         | 3   |
| 50  | GB308-84          | Steel Ball                | 1/4"          | 2   |
| 51  | RUN6246-101066    | Spring                    |               | 3   |
| 52  | GB77-85           | Screw                     | M8×10         | 2   |
| 53  | GB70-85           | Screw                     | M6×35         | 2   |
| 54  | GB6170-86         | Nut                       | M6            | 2   |
| 55  | RUN6246-104074    | Knob (Right Hand)         |               | 1   |
| 55  | RUN6246-104074-2  | Knob (Left Hand)          |               | 1   |
| 56  | RUN460-104068     | Oil Sight                 |               | 1   |
| 57  | GB1235-76         | O-Ring                    | 32×35         | 2   |
| 58  | RUN460-104007/1   | Washer                    |               | 1   |
| 59  | GB80-85           | Screw                     | M8×10         | 1   |
| 60  | RUN460-104007-02  | Shaft Sleeve (Right Hand) |               | 1   |
| 60  | RUN460-104007-01  | Shaft Sleeve (Left Hand)  |               | 1   |
| 61  | RUN6246-101099    | Plate                     |               | 1   |
| 62  | RUN460-104008     | Lever                     |               | 2   |
| 63  | GB819-85          | Screw                     | M4×10         | 2   |
| 64  | RUN460-104006-01  | Shaft (Right Hand)        |               | 1   |
| 64  | RUN460-104006-02  | Shaft (Left Hand)         |               | 1   |
| 65  | RUN6246-104004-01 | Haft Nut (Metric)         |               | 1   |
| 65  | RUN6246-104004-02 | Haft Nut (Inch)           |               | 1   |
| 66  | GB93-87           | Spring Pin                | 6             | 2   |
| 67  | GB70-85           | Screw                     | M6×16         | 2   |
| 68  | RUN460-104073     | Plate (Right Hand)        |               | 1   |
| 68  | RUN460-104073-1   | Plate (Left Hand)         |               | 1   |
| 69  | RUN460-104005     | Key                       |               | 2   |
| 70  | RUN460-104051     | Shaft                     |               | 1   |
| 71  | GB1096-79         | Key                       | 6×25          | 1   |

| No. | Part No.         | Name               | Specification | Qty |
|-----|------------------|--------------------|---------------|-----|
| 72  | RUN460-104052-1  | Sealed Mat         |               | 1   |
| 73  | GB1155-89        | Ball Cup           | 6             | 1   |
| 74  | RUN460-104052    | Seat               |               | 1   |
| 75  | GB70-85          | Screw              | M6×25         | 4   |
| 76  | SF-1             | Bearing            | 2010          | 2   |
| 77  | RUN460-104054-01 | Dial-Rack (Metric) |               | 1   |
| 77  | RUN460-104054-02 | Dial-Rack (Inch)   |               | 1   |
| 78  | Q67-4-33         | Spring             | 80            | 1   |
| 79  | RUN460-104055    | Hand Wheel         |               | 1   |
| 80  | GB77-85          | Screw              | M4×20         | 1   |
| 81  | RUN460-104057    | Washer             |               | 1   |
| 82  | RUN6246-101088   | Screw              |               | 1   |
| 83  | RUN460-104056A   | Handle             |               | 1   |
| 84  | RUN460-104047    | Pinon              |               | 1   |
| 85  | GB879-86         | Pin                | 5×35          | 1   |
| 86  | GB1096-79        | Key                | 6×20          | 1   |
| 87  | GB5801-86        | Needle Bearing     | 4644903       | 2   |
| 88  | RUN460-104053    | Sleeve             |               | 1   |
| 89  | GB80-85          | Screw              | M8×12         | 1   |
| 90  | RUN460-104048    | Spacer             |               | 1   |
| 91  | RUN460-104049    | Gear               |               | 1   |
| 92  | GB278-89         | Ball Bearing       | 80103         | 1   |
| 93  | RUN460-104050-1  | Sealed Mat         |               | 1   |
| 94  | RUN460-104050    | Cover              |               | 1   |
| 95  | GB70-85          | Screw              | M6×12         | 3   |
| 96  | GB894.1-86       | Snap Ring          | 20            | 2   |
| 97  | RUN460-104041    | Gear               |               | 1   |
| 98  | RUN460-104042    | Shaft              |               | 1   |
| 99  | GB308-84         | Steel Ball         | 7/32"         | 1   |
| 100 | RUN460-104044    | Change Gear        |               | 1   |
| 101 | RUN460-104045    | Handle Lever       |               | 1   |
| 102 | GB79-85          | Screw              | M5×10         | 1   |
| 103 | RUN460-104043    | Change Sleeve      |               | 1   |
| 104 | GB70-85          | Screw              | M6×12         | 2   |
| 105 | RUN460-104077    | Plate              |               | 1   |
| 106 | RUN460-104043/1  | Plug               |               | 1   |
| 107 | RUN460-104036-1  | Cover              |               | 1   |
| 108 | GB278-89         | Ball Bearing       | 180105        | 1   |
| 109 | RUN460-104034    | Worm Gear          |               | 1   |
| 110 | RUN460-104035    | Gear               |               | 1   |

| No. | Part No.         | Name                          | Specification | Qty |
|-----|------------------|-------------------------------|---------------|-----|
| 111 | RUN460-104038    | Spring                        |               | 1   |
| 112 | RUN460-104039    | Spacer                        |               | 1   |
| 113 | GB1096-79        | Key                           | 8×12          | 1   |
| 114 | RUN460-104037    | Pin                           |               | 1   |
| 115 | RUN460-104036    | Cover                         |               | 1   |
| 116 | GB77-85          | Screw                         |               | 1   |
| 117 | GB278-89         | Ball Bearing                  | 80204         | 1   |
| 118 | RUN460-104040-1  | Sealed Mat                    |               | 1   |
| 119 | RUN460-104040    | Cover                         |               | 1   |
| 120 | GB70-85          | Screw                         | M6×12         | 3   |
| 121 | RUN6246-104072   | Plate                         |               | 1   |
| 122 | RUN460-104059B   | Dial Indicator Shaft (Metric) |               | 1   |
| 122 | RUN460-104059A   | Dial Indicator Shaft (Inch)   |               | 1   |
| 123 | GB879-86         | Pin                           | 3×8           | 1   |
| 124 | RUN460-104046    | Spacer                        |               | 1   |
| 125 | RUN460-104061    | Gear (Metric)                 |               | 1   |
| 125 | RUN460-104062    | Gear (Metric)                 |               | 1   |
| 125 | RUN460-104063    | Gear (Inch)                   |               | 1   |
| 125 | RUN460-104066    | Gear (Metric)                 |               | 1   |
| 125 | RUN460-104067    | Gear (Metric)                 |               | 1   |
| 126 | GB97.2-85        | Washer                        | 10            | 1   |
| 127 | GB6170-86        | Nut                           | M10           | 1   |
| 128 | GB70-85          | Screw                         | M8×85         | 1   |
| 129 | RUN460-104058    | Thread Dial Body              |               | 1   |
| 130 | GB827-86         | Rivet                         | 2×5           | 10  |
| 131 | RUN6246-104071   | Indicator Dial (Metric)       |               | 1   |
| 131 | RUN6246-104071-1 | Indicator Dial (Inch)         |               | 1   |
| 132 | RUN460-104024    | Spacer                        |               | 1   |
| 133 | RUN6246-104001A  | Apron (Right Hand)            |               | 1   |
| 133 | RUN460-104001B   | Apron (Left Hand)             |               | 1   |
| 134 | RUN460-104029-01 | Hub (Right Hand)              |               | 1   |
| 134 | RUN460-104029-02 | Hub (Left Hand)               |               | 1   |

## Tailstock

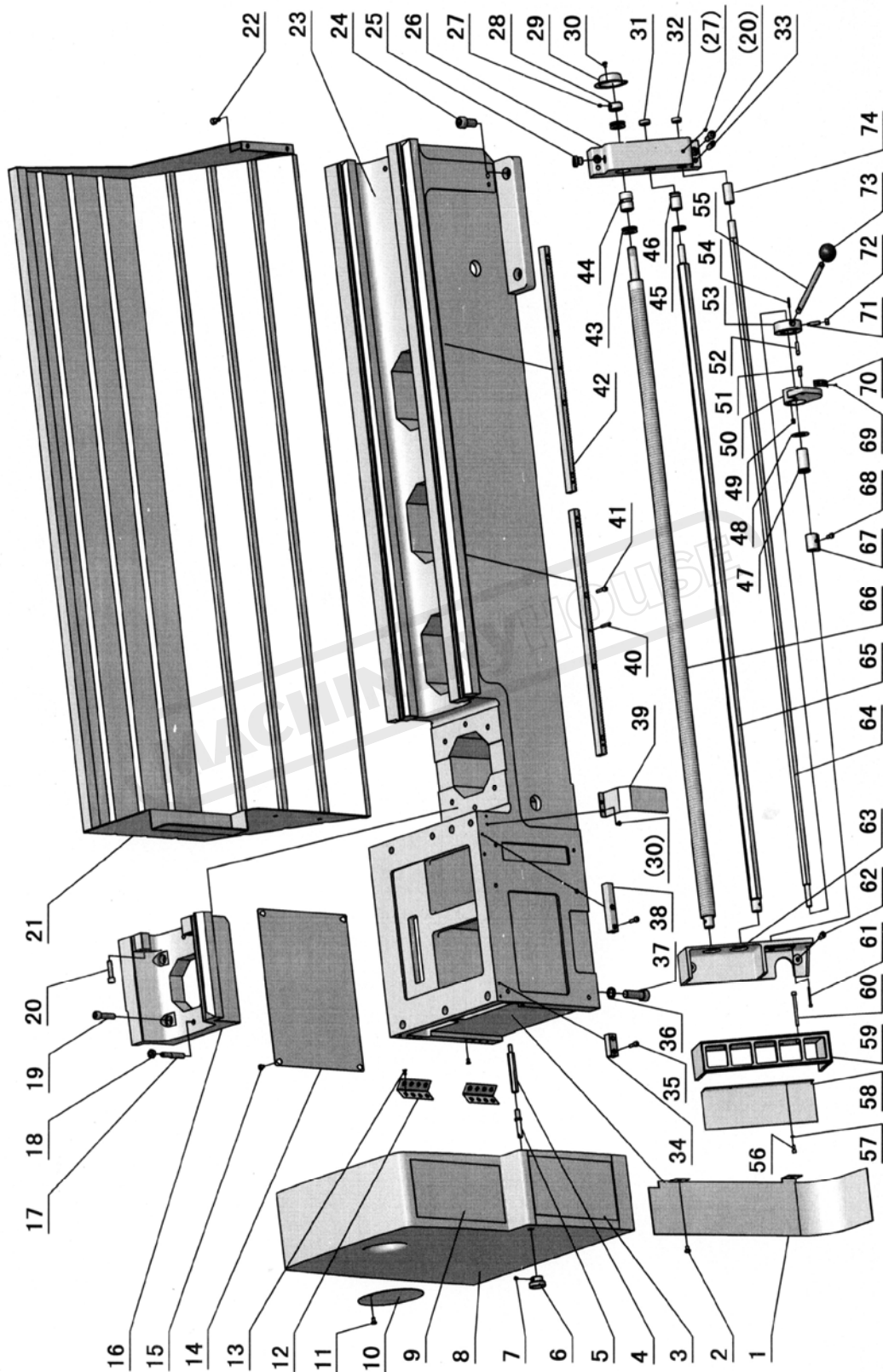


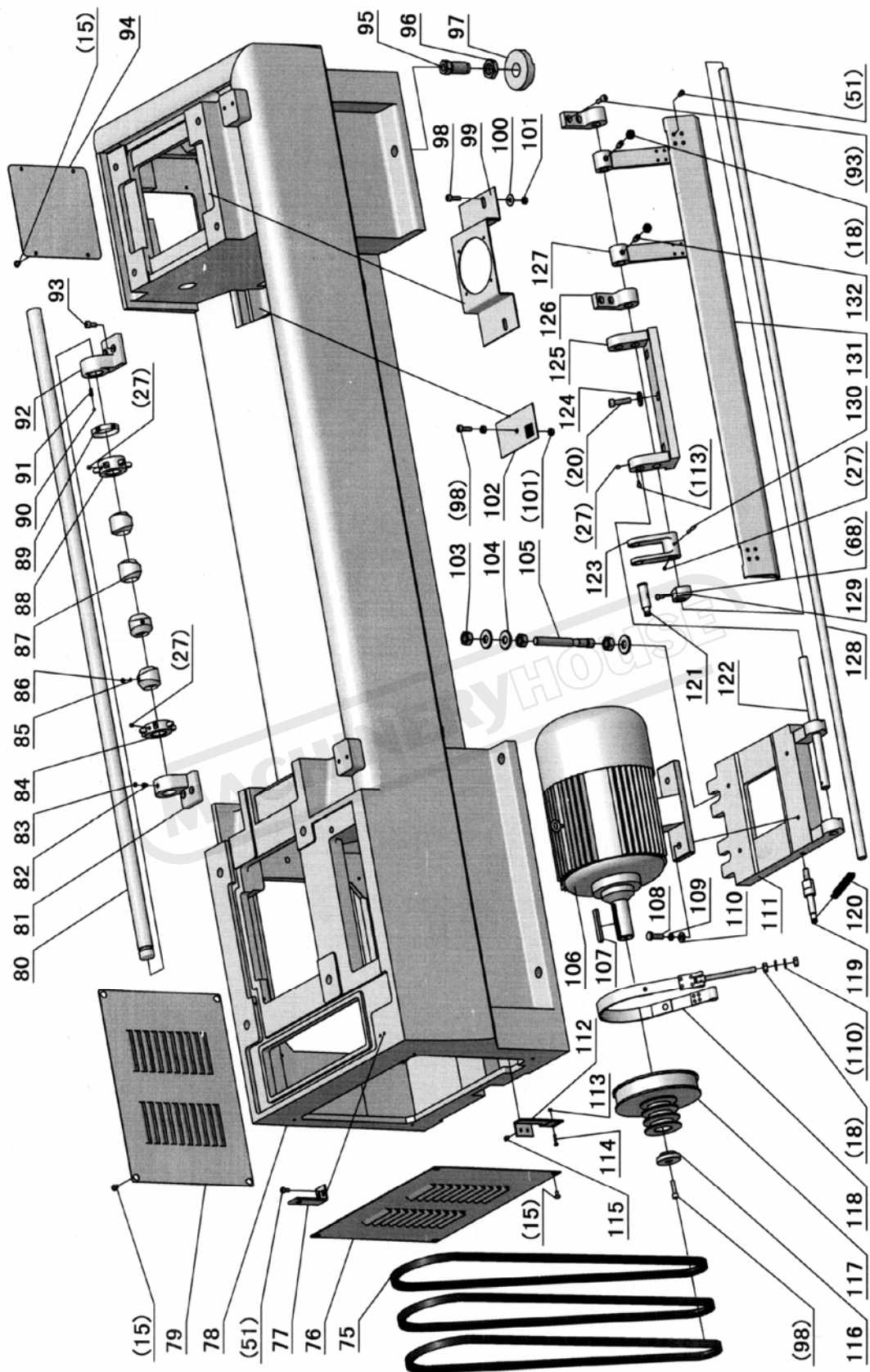
| No. | Part No.         | Name                        | Specification | Qty. |
|-----|------------------|-----------------------------|---------------|------|
| 1   | RUN460-104056A   | Handle                      |               | 1    |
| 2   | RUN6141-105014   | Handwheel                   |               | 1    |
| 3   | RUN6141-105013   | Dial-Feed (Metric)          |               | 1    |
| 3   | RUN6141-105013-1 | Dial-Feed (Inch)            |               | 1    |
| 4   | GB80-85          | Screw                       | M5×20         | 1    |
| 5   | GB70-85          | Socket Head Cap Screw       | M6×30         | 3    |
| 6   | RUN6141-105012   | Cap-Body End (Metric)       |               | 1    |
| 6   | RUN6141-105012-1 | Cap-Body End (Inch)         |               | 1    |
| 7   | GB1155-79        | Ball Cup                    | 6             | 1    |
| 8   | GB301-84         | Thrust Bearing              | 8105          | 2    |
| 9   | RUN6141-105010   | Nut (Metric)                |               | 1    |
| 9   | RUN6141-105010-1 | Nut (Inch)                  |               | 1    |
| 10  | GB1096-79        | Key                         | 6×25          | 1    |
| 11  | RUN6141-105011   | Screw-Spindle Feed (Metric) |               | 1    |
| 11  | RUN6141-105011-1 | Screw-Spindle Feed (Inch)   |               | 1    |
| 12  | GB80-85          | Socket Botton Head Screw    | M6×25         | 1    |
| 13  | RUN6141-105016   | Lock Nut                    |               | 1    |
| 14  | GB70-85          | Screw                       | M6×16         | 3    |
| 15  | GB1155-79        | Ball Cup                    | 10            | 2    |
| 16  | RUN6141-105009   | Spindle-Tang Slot           |               | 1    |
| 17  | HG4-692-67       | Oil-Seal                    | PD60×75×9     | 1    |
| 18  | RUN6246-105029   | Pin                         |               | 1    |
| 19  | GB80-85          | Screw                       | M6×10         | 1    |
| 20  | RUN6141-105001   | Tailstock Body              |               | 1    |
| 21  | GB55-88          | Nut                         | M20           | 1    |
| 22  | GB97.1-85        | Washer                      | 20            | 1    |
| 23  | RUN460-105031    | Plate                       |               | 1    |
| 24  | GB827-86         | Rivet                       | 2×5           | 4    |
| 25  | RUN6141-105027   | Bottom Tailstock            |               | 1    |
| 25  | RUN6246H-105027  | Bottom Tailstock            |               | 1    |
| 26  | RUN6141-105022   | Wiper                       |               | 2    |
| 27  | GB818-85         | Cross Recessed Head Screw   | M4×12         | 8    |
| 28  | RUN6141-105021   | Case-Wiper                  |               | 2    |
| 29  | GB95-76          | Washer                      | 12            | 2    |
| 30  | GB5782-86        | Bolt (C6241)                | M12×65        | 2    |
| 30  | GB5782-86        | Bolt (C6246H)               | M12×90        | 2    |
| 31  | GB848-85         | Washer                      | 20            | 1    |
| 32  | GB5782-86        | Bolt (C6241)                | M20×135       | 1    |
| 32  | GB5782-86        | Bolt (C6246H)               | M20×160       | 1    |
| 33  | RUN460-105032    | Plate                       |               | 1    |

| No. | Part No.        | Name              | Specification | Qty. |
|-----|-----------------|-------------------|---------------|------|
| 34  | RUN460-105017   | Block-Adjusting   |               | 1    |
| 35  | GB77-86         | Screw             | M10×8         | 1    |
| 36  | GB79-85         | Screw             | M10×12        | 1    |
| 37  | GB119-86        | Pin               | B-10×70       | 2    |
| 38  | GB80-85         | Screw             | M12×16        | 2    |
| 39  | RUN6141-105024  | Wiper             |               | 2    |
| 40  | RUN6141-105023  | Case-Wiper        |               | 2    |
| 41  | RUN6141-105025  | Clamp             |               | 1    |
| 41  | RUN6141-105025A | Clamp             |               | 1    |
| 42  | GB5782-86       | Bolt (C6241)      | M20×80        | 1    |
| 42  | GB5782-86       | Bolt (C6246H)     | M20×110       | 1    |
| 43  | RUN460-105018   | Bracket           |               | 1    |
| 44  | RUN460-105028   | Eccentric Block   |               | 1    |
| 45  | GB879-86        | Spring Pin        | 6×36          | 1    |
| 46  | RUN6141-105019  | Gip               |               | 1    |
| 47  | RUN460-105020   | Screw             |               | 1    |
| 48  | RUN6141-105002  | Shaft Lock Sleeve |               | 1    |
| 49  | RUN460-105004   | Lead Screw        |               | 1    |
| 50  | RUN6141-105003  | Lock Bolt         |               | 1    |
| 51  | RUN6246-105007  | Screw-Brake       |               | 2    |
| 52  | RUN6141-105005  | Shaft             |               | 1    |
| 53  | RUN460-105006   | Lead Screw        |               | 1    |

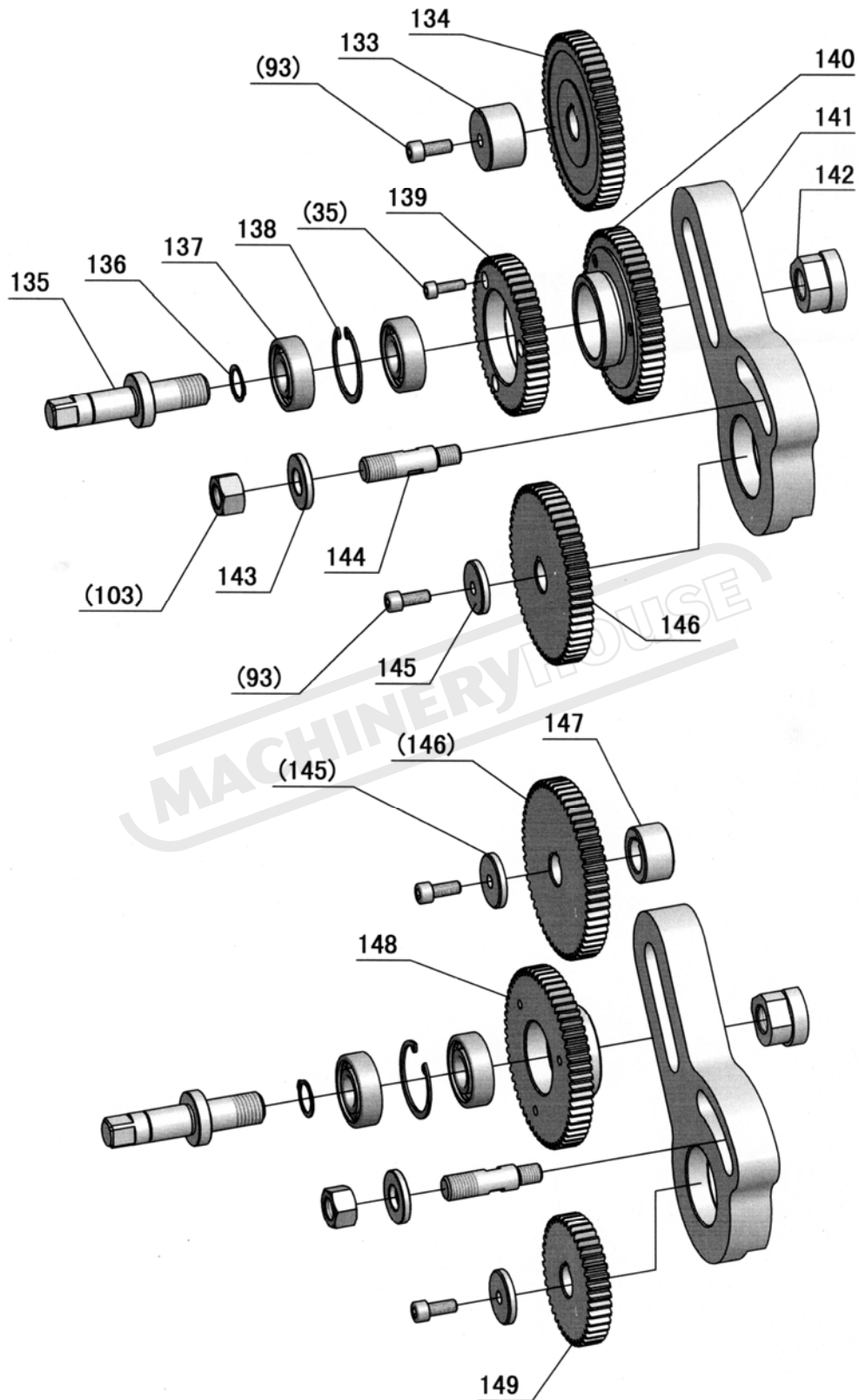


## Bed Assembly



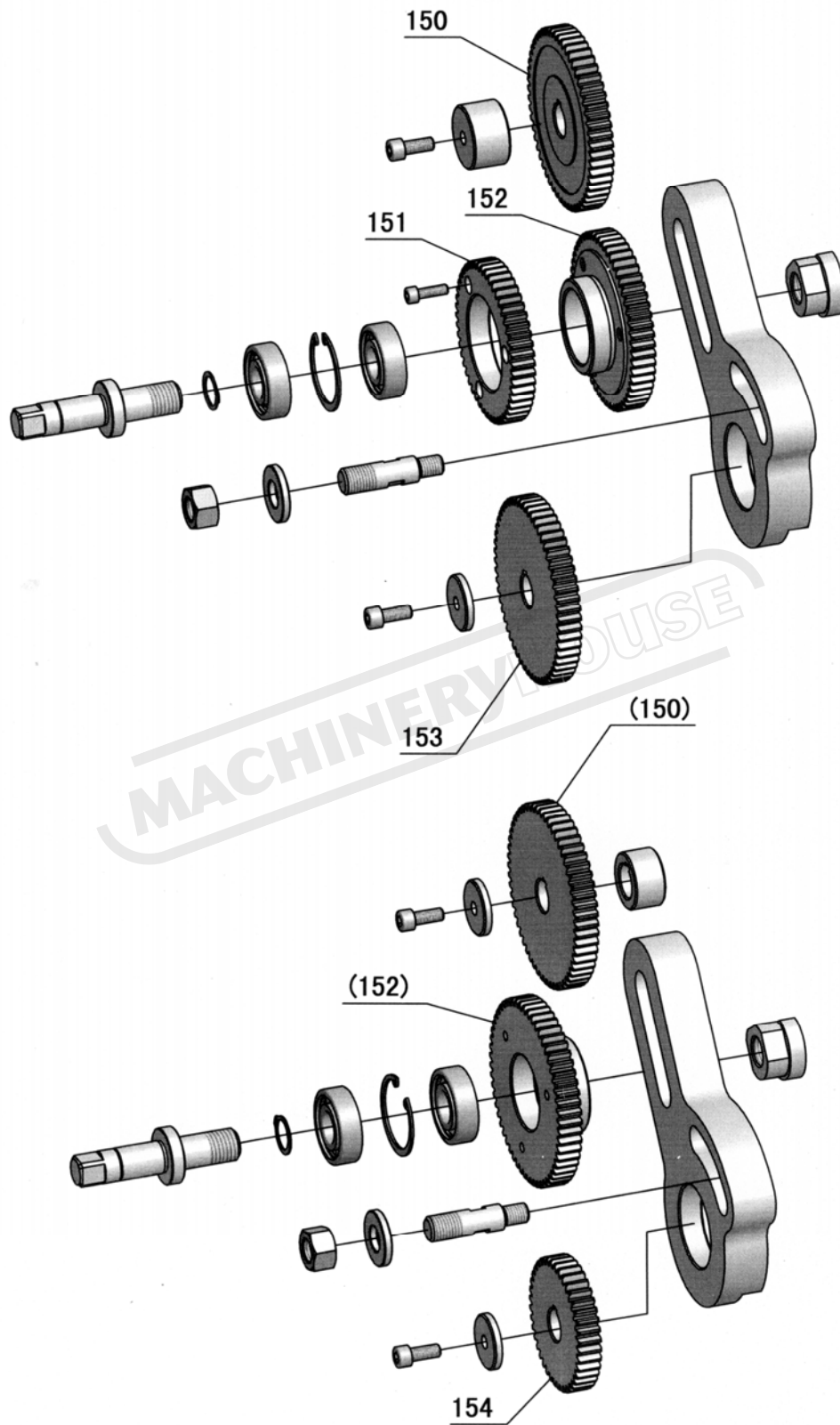


(Metric)





(Inch)



| No. | Part No.         | Name                | Specification | Qty. |
|-----|------------------|---------------------|---------------|------|
| 1   | RUN6246-108098   | Oil Guard           |               | 1    |
| 2   | GB70-85          | Screw               | M6×10         | 2    |
| 3   | RUN6246-108094   | Plate               |               | 1    |
| 4   | RUN6246-108082   | Bolt                |               | 1    |
| 5   | RUN6246-108074   | Screw               |               | 1    |
| 6   | RUN6246-108073   | Nut                 |               | 1    |
| 7   | GB79-85          | Screw               | M6×8          | 1    |
| 8   | RUN6141-108032   | Cover-End (C6241)   |               | 1    |
| 8   | RUN6246H-108032  | Cover-End (C6246h)  |               | 1    |
| 9   | RUN6141-108024   | Plate (Metric)      |               | 1    |
| 9   | RUN6141-108025   | Plate (Inch)        |               | 1    |
| 9   | RUN6246H-108024  | Plate (Metric)      |               | 1    |
| 10  | C6251A-04-05     | Cover               |               | 1    |
| 11  | GB/T70.2-2000    | Screw               | M6×10         | 1    |
| 12  | GB7277-87        | Hinge               | 100           | 2    |
| 13  | GB68-85          | Screw               | M5×10         | 16   |
| 14  | RUN6246-106071   | Electric Cover      |               | 1    |
| 15  | GB818-85         | Screw               | M6×10         | 16   |
| 16  | RUN6141-106002   | Saddle              |               | 1    |
| 17  | GB118-86         | Pin                 | 10×70         | 2    |
| 18  | GB6170-86        | Nut                 | M10           | 6    |
| 19  | GB70-85          | Screw               | M12×50        | 4    |
| 20  | GB70-85          | Screw               | M10×40        | 7    |
| 21  | RUN6246-106072A  | Guard Assembly 1000 |               | 1    |
| 21  | RUN6246-106072B  | Guard Assembly 1500 |               | 1    |
| 21  | RUN6246-106072C  | Guard Assembly 2000 |               | 1    |
| 22  | GB70-85          | Screw               | M8×16         | 4    |
| 23  | RUN6241-106001   | Bed 1000            |               | 1    |
| 23  | RUN6241-106001-1 | Bed 1500            |               | 1    |
| 23  | RUN6241-106001-3 | Bed 2000            |               | 1    |
| 24  | GB70-85          | Screw               | M16×35        | 4    |
| 25  | RUN6246-106010-4 | Plug-Oil Inlet      |               | 1    |
| 26  | RUN6246-106010   | Bracket             |               | 1    |
| 27  | GB80-85          | Screw               | M6×8          | 6    |
| 28  | RUN6246-106007   | Nut                 |               | 1    |
| 29  | RUN6246-106031   | Cover               |               | 1    |
| 30  | GB818-85         | Screw               | M5×8          | 5    |
| 31  | RUN6246-106010-1 | Plug                |               | 1    |
| 32  | RUN6246-106010-2 | Plug                |               | 1    |
| 33  | GB118-86         | Taper Pin           | 10×45         | 2    |

| No. | Part No.         | Name                     | Specification | Qty. |
|-----|------------------|--------------------------|---------------|------|
| 34  | RUN6141-106095   | Block                    |               | 1    |
| 35  | GB70-85          | Screw                    | M6×20         | 7    |
| 36  | GB93-86          | Spring Washer            | 16            | 4    |
| 37  | GB70-85          | Screw                    | M16×55        | 4    |
| 38  | RUN6141-106094   | Block                    |               | 1    |
| 39  | RUN6246-106009   | Protection Cover         |               | 1    |
| 40  | GB879-86         | Spring Pin               | 5×30          | 6    |
| 41  | GB70-85          | Screw                    | M6×25         | 8    |
| 42  | RUN6246-106005B  | Rack                     |               | 1    |
| 42  | RUN6246-106005C  | Rack                     |               | 1    |
| 42  | RUN6246-106005D  | Rack (Left Hand)         |               | 1    |
| 43  | GB301-84         | Thrust Bearing           | 8104          | 2    |
| 44  | RUN6246-106010-6 | Sleeve                   |               | 1    |
| 45  | RUN6246-106010-7 | Spacer                   |               | 1    |
| 46  | RUN6246-106008   | Bush                     |               | 1    |
| 47  | RUN6246-106056   | Shaft Sleeve             |               | 1    |
| 48  | RUN6246-106058   | Washer                   |               | 1    |
| 49  | Q81-1            | Spring                   | 1×6×20        | 3    |
| 50  | RUN6246-106059   | Switch Bracket           |               | 1    |
| 51  | GB70-85          | Screw                    | M6×16         | 12   |
| 52  | RUN6246-106055   | Pin                      |               | 1    |
| 53  | RUN6246-106053   | Bracket                  |               | 1    |
| 54  | GB879-86         | Spring Pin               | 3×20          | 1    |
| 55  | RUN6246-106057A  | Lever                    |               | 1    |
| 56  | GB70-85          | Screw                    | M5×10         | 2    |
| 57  | GB93-87          | Washer                   | 5             | 2    |
| 58  | RUN6141-106018-1 | Cover                    |               | 1    |
| 59  | RUN6141-106018   | Seat-Pilot Light         |               | 1    |
| 60  | GB70-85          | Screw                    | M6×70         | 2    |
| 61  | GB70-85          | Screw                    | M4×40         | 2    |
| 62  | GB70-85          | Screw                    | M8×25         | 2    |
| 63  | RUN6246-106016   | Seat-Switch              |               | 1    |
| 64  | RUN6246-106015   | Started Rod 1000         |               | 1    |
| 64  | RUN6246-106015-1 | Started Rod 1500         |               | 1    |
| 64  | RUN6246-106015-3 | Started Rod 2000         |               | 1    |
| 65  | RUN6246-106013   | Feed Rod 1000            |               | 1    |
| 65  | RUN6246-106013-1 | Feed Rod 1500            |               | 1    |
| 65  | RUN6246-106013-3 | Feed Rod 2000            |               | 1    |
| 66  | RUN6246-106006A  | Lead Screw 1000 (Inch)   |               | 1    |
| 66  | RUN6246-106006B  | Lead Screw 1000 (Metric) |               | 1    |

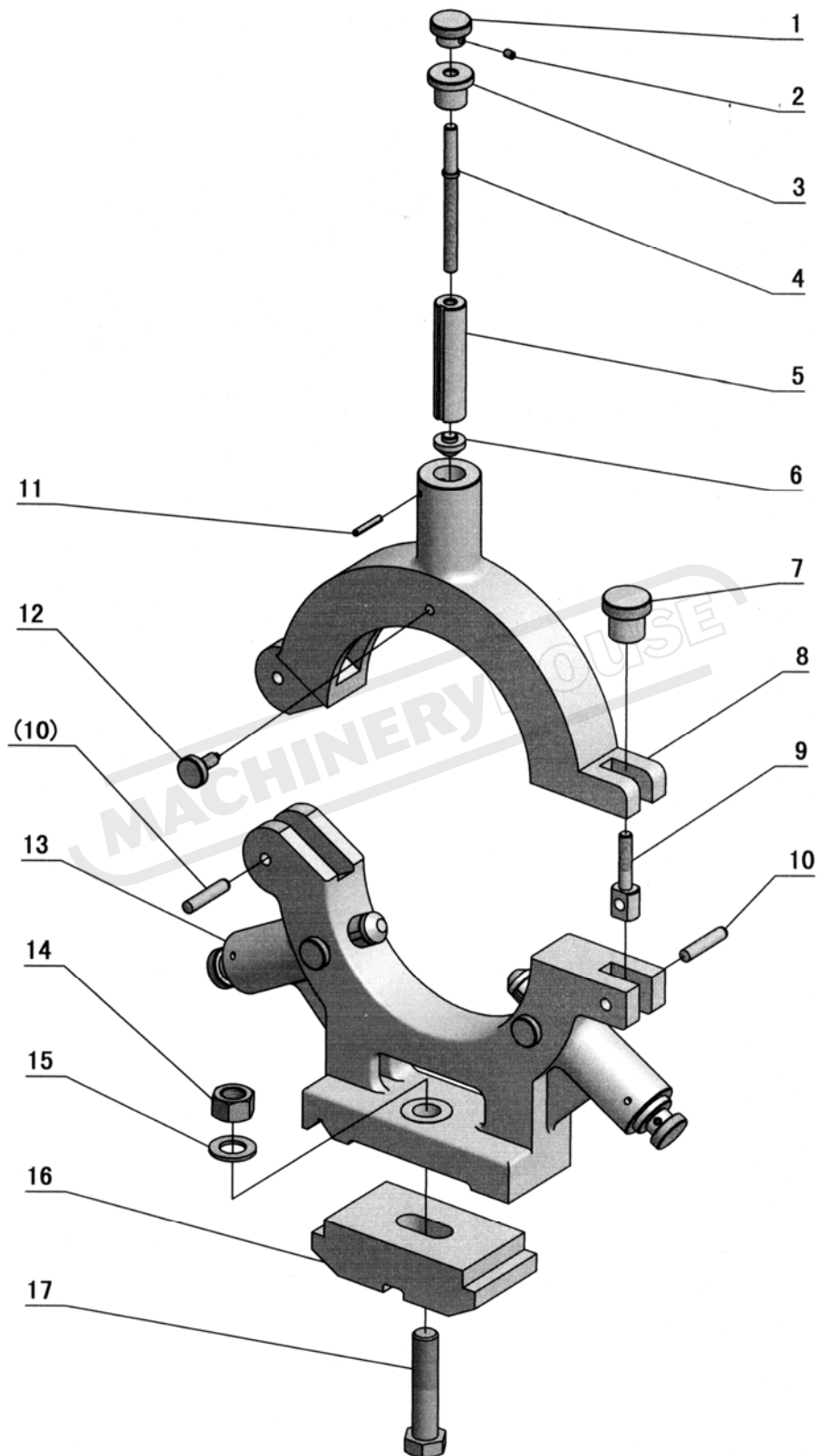


| No. | Part No.          | Name                     | Specification | Qty. |
|-----|-------------------|--------------------------|---------------|------|
| 66  | RUN6246-106006C   | Lead Screw 1500 (Inch)   |               | 1    |
| 66  | RUN6246-106006D   | Lead Screw 1500 (Metric) |               | 1    |
| 66  | RUN6246-106006G   | Lead Screw 2000 (Inch)   |               | 1    |
| 66  | RUN6246-106006H   | Lead Screw 2000 (Metric) |               | 1    |
| 67  | CM6233-2055       | Cam                      |               | 1    |
| 68  | GB70-85           | Screw                    | M6×12         | 2    |
| 69  | GB827-86          | Screw                    | 2×5           | 2    |
| 70  | RUN6246-106089    | Plate                    |               | 1    |
| 71  | GB79-85           | Screw                    | M8×30         | 2    |
| 72  | GB6170-86         | Nut                      | M8            | 2    |
| 73  | Z16-1             | Lever Bush               | M12×40        | 1    |
| 74  | RUN6246-106014    | Bush                     |               | 1    |
| 75  | C6141 7.5HP/60HZ  | Belt B73                 | B73           | 3    |
| 75  | C6141 7.5HP/50HZ  | Belt B74                 | B74           | 3    |
| 75  | C6246H 7.5HP/60HZ | Belt B75                 | B75           | 3    |
| 75  | C6246H 7.5HP/50HZ | Belt B76                 | B76           | 3    |
| 76  | RUN6246-106028    | Cover Motor Seat         |               | 1    |
| 77  | RUN6246-108078    | Limited Switch Seat      |               | 1    |
| 78  | RUN6246-106003    | Stand 1000               |               | 1    |
| 78  | RUN6246-106003-1  | Stand 1500               |               | 1    |
| 78  | RUN6246-106003-3  | Stand 2000               |               | 1    |
| 79  | RUN6246-106028-1  | Cover Motor Seat         |               | 1    |
| 80  | RUN6246-106019    | Auto Stopping Shaft 1000 |               | 1    |
| 80  | RUN6246-106019-3  | Auto Stopping Shaft 1500 |               | 1    |
| 80  | RUN6246-106019-6  | Auto Stopping Shaft 2000 |               | 1    |
| 81  | RUN6141-106024    | Bracket                  |               | 1    |
| 82  | GB79-85           | Screw                    | M8×12         | 1    |
| 83  | GB77-85           | Screw                    | M8×6          | 1    |
| 84  | RUN6246-106019-1  | Star Type Ring           |               | 1    |
| 85  | RUN6246-106020-1  | Shoe Clamp               |               | 4    |
| 86  | GB80-85           | Screw                    | M8×6          | 4    |
| 87  | RUN6246-106020    | Cam                      |               | 4    |
| 88  | RUN6246-106019-2  | Star Type Ring           |               | 1    |
| 89  | RUN6246-106019-5  | Plate                    |               | 1    |
| 90  | GB308-84          | Steel Ball               | 6             | 1    |
| 91  | Q81-1             | Spring                   | 1×5×25        | 1    |
| 92  | RUN6141-106025    | Bracket                  |               | 1    |
| 93  | GB70-85           | Screw                    | M8×20         | 10   |
| 94  | RUN6246-106033    | Pump Hole Cover          |               | 1    |
| 95  | RUN6246-106029    | Bolt                     |               | 6    |

| No. | Part No.          | Name                | Specification | Qty. |
|-----|-------------------|---------------------|---------------|------|
| 96  | GB6173-86         | Nut                 | M24×2         | 6    |
| 97  | RUN6246-106069    | Block-Leveling      |               | 6    |
| 98  | GB70-85           | Screw               | M8×30         | 4    |
| 99  | RUN6246-106090A   | Coolant Pump Seat   |               | 1    |
| 100 | GB96-85           | Washer              | 8             | 2    |
| 101 | GB6170-86         | Nut                 | M8            | 4    |
| 102 | RUN6246-106051    | Screen              |               | 1    |
| 103 | GB6170-86         | Nut                 | M16           | 7    |
| 104 | RUN6246-106079    | Washer              |               | 6    |
| 105 | RUN6246-106046    | Screw               |               | 2    |
| 106 |                   | Motor               | 5.5kw         | 1    |
| 107 | GB1096C-79        | Key                 | 10×70         | 1    |
| 108 | GB5782-86         | Bolt                | M10×35        | 4    |
| 109 | GB93-87           | Spring Washer       | 10            | 4    |
| 110 | GB97.1-85         | Washer              | 10            | 6    |
| 111 | RUN6246-106034    | Motor Seat          |               | 1    |
| 112 | RUN6246-106091    | Limited Switch Seat |               | 1    |
| 113 | GB6170-86         | Nut                 | M4            | 2    |
| 114 | GB818-85          | Screw               | M4×20         | 2    |
| 115 | GB70-85           | Screw               | M5×8          | 3    |
| 116 | RUN6141-106049a   | Washer              |               | 1    |
| 117 | RUN6141-106048a   | Belt Pulley         | 60Hz          | 1    |
| 117 | RUN6141-106048a-1 | Belt Pulley         | 50Hz          | 1    |
| 118 | RUN6246-106047    | Belt-Brake          |               | 1    |
| 119 | RUN6246-106050    | Shaft               |               | 1    |
| 120 | Q81-3             | Spring              | 3×16×115      | 1    |
| 121 | RUN6246-106039    | Shaft               |               | 1    |
| 122 | RUN6246-106044    | Shaft               |               | 1    |
| 123 | RUN6246-106040    | Arm Brake           |               | 1    |
| 124 | RUN6246-106097    | Washer              |               | 3    |
| 125 | RUN6246-106041    | Bracket-Motor Seat  |               | 1    |
| 126 | RUN6246-106036    | Bracket             |               | 2    |
| 127 | RUN6246-106042A   | Arm                 |               | 2    |
| 128 | RUN6246-106045    | Shaft 1000          |               | 1    |
| 128 | RUN6246-106045-1  | Shaft 1500          |               | 1    |
| 128 | RUN6246-106045-3  | Shaft 2000          |               | 1    |
| 129 | RUN6246-106037    | Cam                 |               | 1    |
| 130 | GB879-86          | Spring Pin          | 5×40          | 1    |
| 131 | RUN6246-106040D   | Pedal-Bracket 1000  |               | 1    |
| 131 | RUN6246-106040E   | Pedal-Bracket 1500  |               | 1    |

| No. | Part No.          | Name                 | Specification | Qty. |
|-----|-------------------|----------------------|---------------|------|
| 131 | RUN6246-106040H   | Pedal-Bracket 2000   |               | 1    |
| 132 | GB79-85           | Screw                | M10×25        | 2    |
| 133 | RUN6141-108002    | Spacer               |               | 1    |
| 134 | RUN6141-108001    | Gear (Metric)        | 55T×M2        | 1    |
| 135 | RUN6141-108004    | Bolt                 |               | 1    |
| 136 | GB894.1-86        | Snap Ring            | 20            | 1    |
| 137 | GB278-89          | Ball Bearing         | 180204        | 2    |
| 138 | GB893.1-86        | Snap Ring            | 47            | 1    |
| 139 | RUN6141-108003    | Gear (Metric)        | 49T×M2        | 1    |
| 140 | RUN6141-108006    | Gear (Metric)        | 54T×M2        | 1    |
| 141 | RUN6141-108009    | Bracket              |               | 1    |
| 142 | RUN6141-108005    | Nut                  |               | 1    |
| 143 | RUN6141-108017    | Washer               |               | 1    |
| 144 | RUN6246-108063    | Bolt                 |               | 1    |
| 145 | RUN6141-108007    | Spacer               |               | 1    |
| 146 | RUN6141-108008    | Gear (Metric)        | 56T×M2        | 1    |
| 147 | RUN6141-108015    | Spacer               |               | 1    |
| 148 | RUN6141-108010    | Gear (C6241 Metric)  | 57T×M2        | 1    |
| 148 | RUN6246H-108010-1 | Gear (C6246h Metric) | 64T×M2        | 1    |
| 149 | RUN6141-108011    | Gear (Metric)        | 40T×M2        | 1    |
| 150 | RUN6141-108012    | Gear (Inch)          | 48T×M2        | 1    |
| 151 | RUN6141-108013    | Gear (Inch)          | 66T×M2        | 1    |
| 152 | RUN6141-108010    | Gear (Inch)          | 57T×M2        | 1    |
| 153 | RUN6141-108014    | Gear (Inch)          | 42T×M2        | 1    |
| 154 | RUN6141-108016    | Gear (Inch)          | 57T×M2        | 1    |

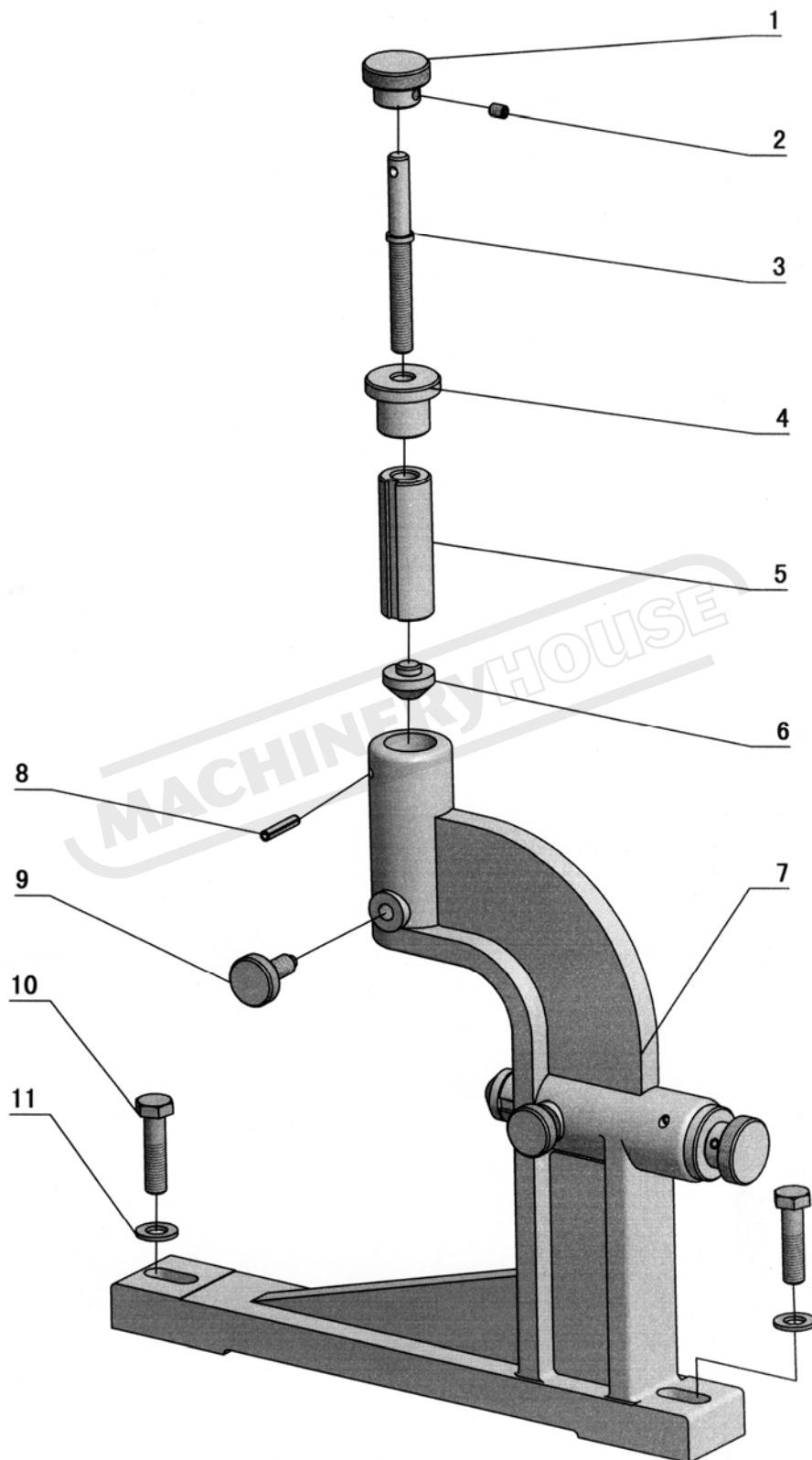
## Steady Rest



| No. | Part No.        | Name                    | Specification | Qty. |
|-----|-----------------|-------------------------|---------------|------|
| 1   | RUN6246-110019  | Rotate Handle           |               | 3    |
| 2   | GB78-85         | Screw                   | M6×8          | 3    |
| 3   | RUN6246-110004  | Bush                    |               | 3    |
| 4   | RUN6141-110008  | Screw Shaft             |               | 3    |
| 5   | RUN6141-110010  | Sleeve                  |               | 3    |
| 6   | RUN6246-110024  | Bracket                 |               | 1    |
| 7   | RUN6246-110014  | Handle                  |               | 1    |
| 8   | RUN6141-110002  | Upside of Steady Rest   |               | 1    |
| 9   | RUN6246-110013  | Clamping Screw          |               | 1    |
| 10  | GB119-86        | Pin                     | 10×50         | 1    |
| 11  | GB879-86        | Spring Pin              | 5×32          | 3    |
| 12  | RUN6246-110018  | Limited Screw           |               | 3    |
| 13  | RUN6141-110001  | Downside of Steady Rest |               | 1    |
| 13  | RUN6246H-110001 | Downside of Steady Rest |               | 1    |
| 14  | GB6170-86       | Nut                     | M20           | 1    |
| 15  | GB97.1-85       | Washer                  | 20            | 1    |
| 16  | RUN6141-105025A | Clamping Bracket        |               | 1    |
| 17  | GB5780-86       | Bolt                    | M20×90        | 1    |

MACHINERYHOUSE

## Follow Rest





| No. | Part No.        | Name                 | Specification | Qty. |
|-----|-----------------|----------------------|---------------|------|
| 1   | RUN6246-110019  | Rotate Handle        |               | 2    |
| 2   | GB78-85         | Screw                |               | 2    |
| 3   | RUN6246-110015  | Screw Shaft          |               | 2    |
| 4   | RUN6246-110004  | Bush                 |               | 2    |
| 5   | RUN6246-110016  | Sleeve               |               | 2    |
| 6   | RUN6246-110024  | Bracket              |               | 2    |
| 7   | RUN6141-110005  | Follow Rest (C6241)  |               | 1    |
| 7   | RUN6246H-110005 | Follow Rest (C6246h) |               | 1    |
| 8   | GB879-86        | Spring Pin           | 5×26          | 2    |
| 9   | RUN6246-110018  | Limited Screw        |               | 2    |
| 10  | GB5782-86       | Bolt                 | M10×40        | 2    |
| 11  | GB97.1-85       | Washer               |               | 2    |

MACHINERYHOUSE



# WARNING

## General Machinery Safety Instructions

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Machinery House  
requires you to read this entire Manual before using this machine.

- 1. Read the entire Manual before starting machinery.** Machinery may cause serious injury if not correctly used.
- 2. Always use correct hearing protection when operating machinery.** Machinery noise may cause permanent hearing damage.
- 3. Machinery must never be used when tired, or under the influence of drugs or alcohol.** When running machinery you must be alert at all times.
- 4. Wear correct Clothing.** At all times remove all loose clothing, necklaces, rings, jewelry, etc. Long hair must be contained in a hair net. Non-slip protective footwear must be worn.
- 5. Always wear correct respirators around fumes or dust when operating machinery.** Machinery fumes & dust can cause serious respiratory illness. Dust extractors must be used where applicable.
- 6. Always wear correct safety glasses.** When machining you must use the correct eye protection to prevent injuring your eyes.
- 7. Keep work clean and make sure you have good lighting.** Cluttered and dark shadows may cause accidents.
- 8. Personnel must be properly trained or well supervised when operating machinery.** Make sure you have clear and safe understanding of the machine you are operating.
- 9. Keep children and visitors away.** Make sure children and visitors are at a safe distance for you work area.
- 10. Keep your workshop childproof.** Use padlocks, Turn off master power switches and remove start switch keys.
- 11. Never leave machine unattended.** Turn power off and wait till machine has come to a complete stop before leaving the machine unattended.
- 12. Make a safe working environment.** Do not use machine in a damp, wet area, or where flammable or noxious fumes may exist.
- 13. Disconnect main power before service machine.** Make sure power switch is in the off position before re-connecting.
- 14. Use correct amperage extension cords.** Undersized extension cords overheat and lose power. Replace extension cords if they become damaged.
- 15. Keep machine well maintained.** Keep blades sharp and clean for best and safest performance. Follow instructions when lubricating and changing accessories.
- 16. Keep machine well guarded.** Make sure guards on machine are in place and are all working correctly.
- 17. Do not overreach.** Keep proper footing and balance at all times.
- 18. Secure workpiece.** Use clamps or a vice to hold the workpiece where practical. Keeping the workpiece secure will free up your hand to operate the machine and will protect hand from injury.
- 19. Check machine over before operating.** Check machine for damaged parts, loose bolts, Keys and wrenches left on machine and any other conditions that may effect the machines operation. Repair and replace damaged parts.
- 20. Use recommended accessories.** Refer to instruction manual or ask correct service officer when using accessories. The use of improper accessories may cause the risk of injury.
- 21. Do not force machinery.** Work at the speed and capacity at which the machine or accessory was designed.
- 22. Use correct lifting practice.** Always use the correct lifting methods when using machinery. Incorrect lifting methods can cause serious injury.
- 23. Lock mobile bases.** Make sure any mobile bases are locked before using machine.
- 24. Allergic reactions.** Certain metal shavings and cutting fluids may cause an allergic reaction in people and animals, especially when cutting as the fumes can be inhaled. Make sure you know what type of metal and cutting fluid you will be exposed to and how to avoid contamination.
- 25. Call for help.** If at any time you experience difficulties, stop the machine and call you nearest branch service department for help.



# WARNING

## Metal Lathe Safety Instructions

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Machinery House  
requires you to read this entire Manual before using this machine.

- 1. Maintenance.** Make sure the lathe is turned off and disconnect from the main power supply and make sure all moving parts have come to a complete stop before any inspection, adjustment or maintenance is carried out.
- 2. Lathe Condition.** Lathe must be maintained for a proper working condition. Never operate a lathe that has damaged or worn parts. Scheduled routine maintenance should be performed on a scheduled basis.
- 3. Leaving a Lathe Unattended.** Always shut the lathe off and make sure all moving parts have come to a complete stop before leaving the lathe. An unsupervised running lathe can cause serious injury.
- 4. Avoiding Entanglement.** Remove loose clothing, belts, or jewelry items. Tie up long hair and use the correct hair nets to avoid any entanglement with moving parts.
- 5. Chuck key safety.** Never let go of a chuck key while still in the chuck to prevent leaving the chuck key in the chuck. Chuck keys left in the chuck can cause serious injury.
- 6. Changing Chucks.** When changing large heavy chucks they become awkward to hold. Always get assistance when installing large chucks. Use a board or piece of plywood across the bedway when any install or removal of chucks to avoid any possible finger pinching between a loose chuck and edge of a bedway.
- 7. Tooling selection.** Always use the correct cutting tool for the job you are turning. Make sure it is sharp and held firmly in the tool post. Adjust the toolpost to provide proper support for the tool you will be using.
- 8. Mounting the workpiece.** Make sure the workpiece is properly mounted and secure before turning on the lathe. A loose workpiece can be thrown across the room and cause serious injury to you or a bystander.
- 9. Workpiece clearance.** Rotate the workpiece by hand to check for clearance with the tool post, compound slide and carriage before turning the lathe on.
- 10. Changing speeds and Reversing.** Turn the lathe off and make sure the lathe has come to a complete stop before changing speeds or reversing the spindle. Do not slow or stop the lathe chuck by using your hand.
- 11. Speed selection.** Select the appropriate speed for the type of work, material, and tool bit. Allow the lathe to reach full speed before beginning a cut.
- 12. Clearing chips.** Always use a brush to clear chips. Never clear chips when the lathe is running.
- 13. Power outage.** In the event of a power failure during use of the lathe, turn off all switches to avoid possible sudden start up once power is restored.
- 14. Clean work area.** Keep the area around the lathe clean from oil, tools and chips.
- 15. Call for help.** If at any time you experience difficulties, stop the machine and call your nearest branch service department for help.

**PLANT SAFETY PROGRAM**  
**NEW MACHINERY HAZARD IDENTIFICATION, ASSESSMENT & CONTROL**

**Metal Lathe**

Developed in Co-operation Between A.W.I.S.A and Australia Chamber of Manufactures  
This program is based upon the Australian Worksafe Standard for Plant(NOHSC:1010-1994)

| Item No.                                                                      | Hazard Identification         | Hazard Assessment | Risk Control Strategies<br>(Recommended for Purchase / Buyer / User)                                                                                                                              |
|-------------------------------------------------------------------------------|-------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A                                                                             | ENTANGLEMENT                  | HIGH              | Eliminate, avoid loose clothing / Long hair etc.                                                                                                                                                  |
| C                                                                             | CUTTING, STABBING, PUNCTURING | MEDIUM            | Isolate power to machine prior to any checks or maintenance.<br>Do not open or clean inside until the machine has completely stopped.                                                             |
| D                                                                             | SHEARING                      | MEDIUM            | Make sure all guards are secured shut when machine is on.<br>Isolate power to machine prior to any checks or maintenance.                                                                         |
| F                                                                             | STRIKING                      | MEDIUM            | Ensure workpiece is secured in chuck and tooling is locked tight in toolpost.<br>Always wear safety glasses.<br>Do not leave chuck key in chuck.<br>Remove all loose objects around moving parts. |
| H                                                                             | ELECTRICAL                    | MEDIUM            | All electrical enclosures should only be opened with a tool that is not to be kept with the machine.                                                                                              |
| N                                                                             | HIGH - TEMPERATURE            | LOW               | Machine should be installed & checked by a Licensed Electrician.                                                                                                                                  |
| O                                                                             | OTHER HAZARDS, NOISE.         | LOW               | Wear appropriate protective clothing to prevent hot swarf.<br>Wear hearing protection as required.                                                                                                |
| Plant Safety Program to be read in conjunction with manufactures instructions |                               |                   |                                                                                                                                                                                                   |



[www.machineryhouse.com.au](http://www.machineryhouse.com.au)



[www.machineryhouse.co.nz](http://www.machineryhouse.co.nz)

Authorised and signed by:  
Safety officer:

Manager:

  
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Revised Date: Aug-08