

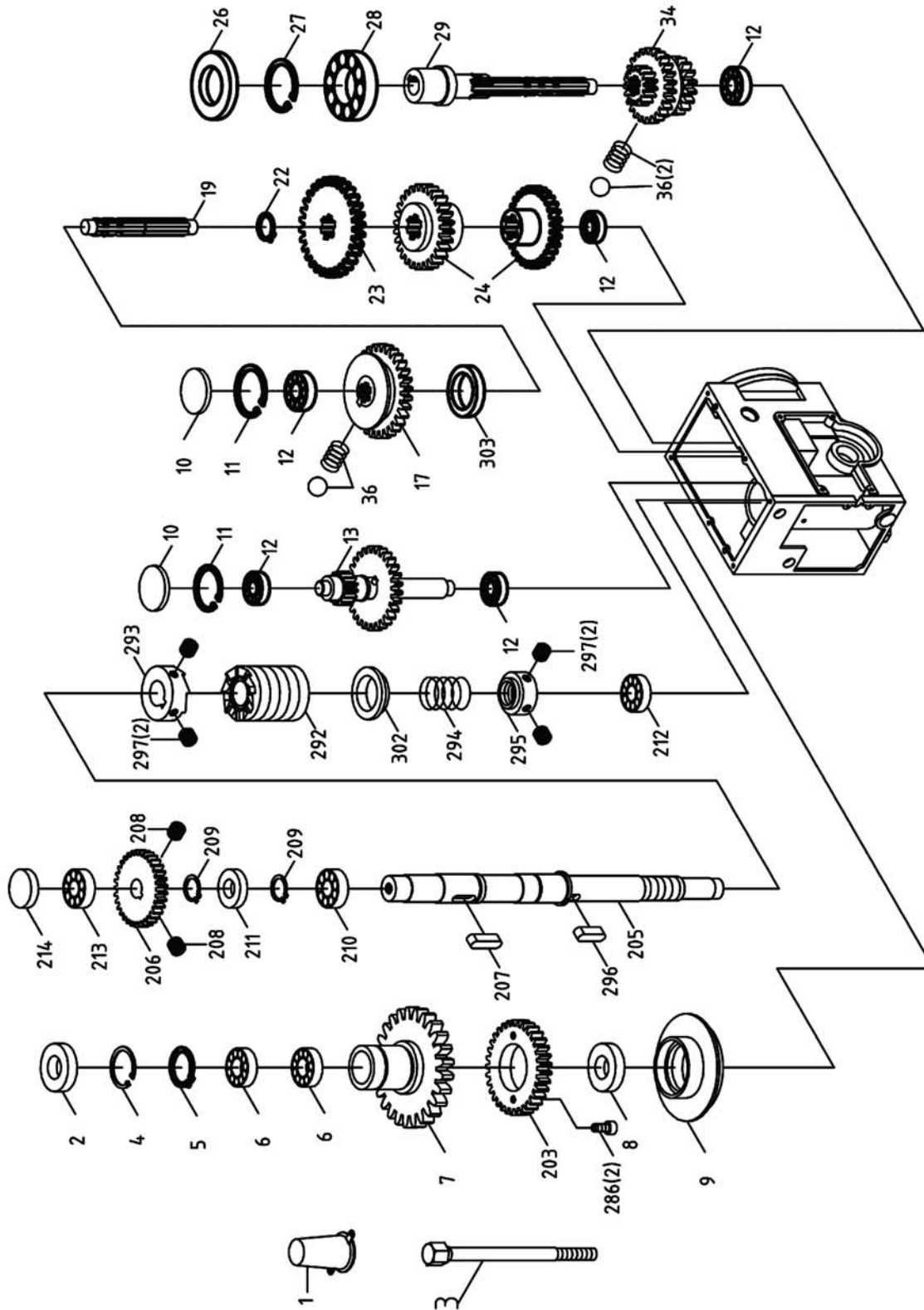
Parts List – GHD-20PF/20PFT Head Assembly

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------|----------------------|---------------|-----|
| 40 | GHD20PF-40 | Screw | 3/16" x 3/8" | 1 |
| 42 | 61105 | Spring Base | | 1 |
| 43 | GHD20PF-43 | Spring Pin | 3 x 12 mm | 2 |
| 44 | GHD20PF-44 | Screw | 3/16" x 3/4" | 3 |
| 45 | 61104 | Spring | | 1 |
| 46 | 61103 | Spring Cover | | 1 |
| 47 | TS-0680021 | Washer | 1/4" | 1 |
| 48 | TS-0720071 | Lock Washer | 1/4" | 1 |
| 49 | 6185 | Lock Knob | | 1 |
| 52 | TS-0071141 | Hex Cap Bolt | 5/8" x 5-1/2" | 2 |
| 53 | GHD20-53 | Oil Plug | 1/4"PT | 1 |
| 70 | 2421003 | Handle Rod | | 1 |
| 76 | 2401076 | Scale | | 1 |
| 76-1 | 2450060 | Pointer | | 3 |
| 78 | 6112 | Rubber Gasket | | 1 |
| 79 | 2412001 | Casting | | 1 |
| 82 | 6114 | Lock Nut | | 1 |
| 83 | GHD20PF-83 | Star Washer | | 1 |
| 84 | BB-30206 | Taper Roller Bearing | | 1 |
| 85 | 6116 | Rack Sleeve | MT3 | 1 |
| 86 | 6117 | Spindle Shaft | | 1 |
| 87 | BB-30207 | Taper Roller Bearing | | 1 |
| 88 | 6119 | Bearing Cap | | 1 |
| 89 | 6127 | Screw Key | | 1 |
| 90 | TS-0561031 | Hex Nut | 3/8" | 1 |
| 91 | 2401066 | Gear Lever Bracket | | 2 |
| 92 | 2401067 | Gear Lever (Left) | | 1 |
| 93 | 2401068 | Gear Lever (Right) | | 1 |
| 94 | GHD20PF-94 | Screw | 1/4" x 1/2" | 1 |
| 95 | 2401070 | Lever Shaft (Right) | | 1 |
| 96 | 2401071 | Lever Shaft (Left) | | 1 |
| 97 | GHD20PF-97 | C-Ring | | 2 |
| 98 | GHD20PF-98 | Oil Sight Glass | | 1 |
| 99 | GHD20PF-99 | Screw | 3/16" x 3/8" | 8 |
| 100 | GHD20PF-100 | Oil Seal | G12 | 2 |
| 102 | 2401075 | Speed Lever | | 2 |
| 106 | GHD20PF-106 | Oil Plug | | 1 |
| 107 | TS-0209081 | Hex Socket Cap Screw | 3/8" x 3/4" | 6 |
| 108 | GHD20PF-108 | Miter Pin | | 2 |
| 109 | TS-0267021 | Set Screw | 1/4" x 1/4" | 4 |
| 110 | GHD20-86 | Motor | 2HP 3PH 230V | 1 |
| 111 | GHD20PF-111 | Key | 6 x 5 x 30mm | 1 |
| 112 | TS-0209051 | Hex Socket Cap Screw | 3/8" x 3/4" | 6 |
| 113 | GHD20-89 | Brass Fitting | | 1 |
| 114 | TS-0561071 | Hex Nut | 5/8" | 3 |
| 116 | TS-0071041 | Hex Cap Bolt | 5/8" x 2-1/4" | 3 |
| 119 | 6126-1 | Collar (thread) | | 1 |
| 120 | 6125-1 | Collar | | 1 |
| 121 | 6125-2 | Collar | | 1 |
| 122 | 61112 | Cover Plate | | 1 |
| 123 | GHD20-123 | Screw | | 4 |
| 150 | TS-0561071 | Hex Nut | 5/8" | 2 |
| 151 | TS-0680081 | Washer | 5/8" | 2 |
| 201 | 2450001 | Head Body Cover | | 1 |
| 202 | 2450002 | Head Body Casting | | 1 |
| 218 | 2450008 | Worm Gear | | 1 |
| 219 | TS-1523011 | Set Screw | M6 x 6 | 4 |

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------|----------------------|--------------|-----|
| 220 | GHD20PF-220 | C-Ring | | 4 |
| 227 | 2450014 | Cover | | 1 |
| 233 | GHD20PF-233 | Screw | M4 x 25 | 1 |
| 235 | 2450020 | Release Block | | 1 |
| 236 | 2450021 | Small Pinion Shaft | | 1 |
| 237 | 2450022 | Key | | 2 |
| 238 | 2450023 | Worm Gear | | 1 |
| 239 | 2450024 | Clutch Key Base | | 1 |
| 241 | 2450026 | Clutch Key | | 2 |
| 242 | 2450027 | Spring Pin | | 2 |
| 243 | 2450028 | Spring | | 2 |
| 244 | GHD20PF-244 | C-Ring | | 1 |
| 246 | 2450030 | Bushing Pin | | 1 |
| 247 | 2450031 | Bushing Stop | | 1 |
| 248 | 2450032 | Scale Base | | 1 |
| 249 | GHD20PF-249 | Rivet | | 8 |
| 250 | 2450033 | Scale Base Set Screw | | 1 |
| 254 | 2450037 | Handle Body | | 1 |
| 255 | 2450038 | Handle Rod | | 2 |
| 256 | GHD20PF-256 | Knob | | 2 |
| 257 | 2450039 | Handle Rod Pin | | 2 |
| 258 | 2450040 | Washer | | 1 |
| 259 | TS-1504021 | Hex Socket Cap Screw | M8 x 12 | 1 |
| 265 | GHD20PF-265 | Key | 5 x 5 x 32mm | 1 |
| 266 | 2450045 | Cover | | 1 |
| 268 | TS-1502031 | Hex Socket Cap Screw | M5 x 12 | 2 |
| 269 | GHD20PF-269 | Key | 4 x 4 x 10mm | 1 |
| 270 | 24500470 | Handwheel | | 1 |
| 271 | GHD20PF-271 | Washer | | 1 |
| 272 | TS-1523031 | Hex Socket Cap Screw | M6 x 12 | 1 |
| 279 | TS-0561021 | Hex Nut | 5/16" | 1 |
| 282 | GHD20PF-282 | Plug | 7/8" | 1 |
| 283 | GHD20PF-283 | Oil Seal | | 1 |
| 287 | GHD20PF-287 | Spring Pin | | 2 |
| 291 | 2450051 | Pin | | 1 |
| 313 | 2450063 | Grip | | 1 |
| 315 | GHD20PF-315 | Washer | 3/16" | 2 |
| 330 | 2401085 | Dust Plate | | 1 |
| 332 | GHD20PF-332 | Pin | | 1 |
| 333 | 2450069 | Dust Plate | | 1 |
| 341 | GHD20-341 | Motor Cord | | 1 |
| 342 | GHD20-342 | Power Cord | | 1 |
| 345 | GHD20PF-345 | Nut | | 1 |
| 346 | GHD20PF-346 | Manual Feed Knob | | 1 |
| 347 | GHD20-347 | Name Plate | | 1 |
| 348 | 2450086A | Pinion Shaft | | 1 |
| 349 | 2450097 | Spring Pin | | 2 |
| 350 | 2450096 | Clutch Screw | | 1 |
| 351 | 2450095 | Clutch Nut | | 1 |
| 352 | 2450068 | Gear Box | | 1 |
| 353 | 2450081A | Gear Shaft | | 1 |
| 354 | 2450082A | Speed Change Lever | | 1 |
| 355 | 2450083A | Stop | | 1 |
| 356 | 2450084A | Spring Leaf | | 1 |
| 357 | GHD20PF-357 | Pin | | 2 |
| 358 | 2450089A | Bushing Bracket | | 1 |
| 359 | 2450072A | Bearing Bushing | | 1 |
| 360 | 2450071A | Bearing Bushing | | 1 |
| 361 | 2450070A | Bearing Bushing | | 1 |

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------|-----------------------|------------------|-----|
| 362 | 2450074A | Washer | | 4 |
| 363 | 2450073A | Shaft | | 1 |
| 364 | 2450078A | Transmission Worm | | 1 |
| 365 | 2450075A | Bearing Bushing | | 1 |
| 366 | 2450076A | Bearing Bushing | | 1 |
| 367 | 2450077A | Bearing Bushing | | 1 |
| 368 | 2450085A | Spacer Ring | | 1 |
| 369 | 2450079 | Speed Lever | | 1 |
| 370 | GHD20PF-370 | Speed Scale | | 1 |
| 371 | 290089 | Spring | | 1 |
| 372 | GHD20PF-372 | Steel Ball | | 1 |
| 373 | 2450087A | Clutch Bushing | | 1 |
| 374 | GHD20-374 | Flat Washer | 1/2" x 7/8" x 2" | 1 |
| 375 | 2450100 | Washer | | 1 |
| 376 | GHD20PF-376 | E-Retainer Ring | E5 | 2 |
| 377 | GHD20PF-377 | Hex Socket Head Screw | 5/16" x 1-1/4"L | 4 |
| 378 | CA6003ZZ | Ball Bearing | | 4 |
| 379 | GHD20PF-379 | Key | 5 x 5 x 28L mm | 1 |
| 380 | GHD20PF-380 | C-Ring | | 1 |
| 381 | 2450088A | Graduated Bottom Ring | | 1 |

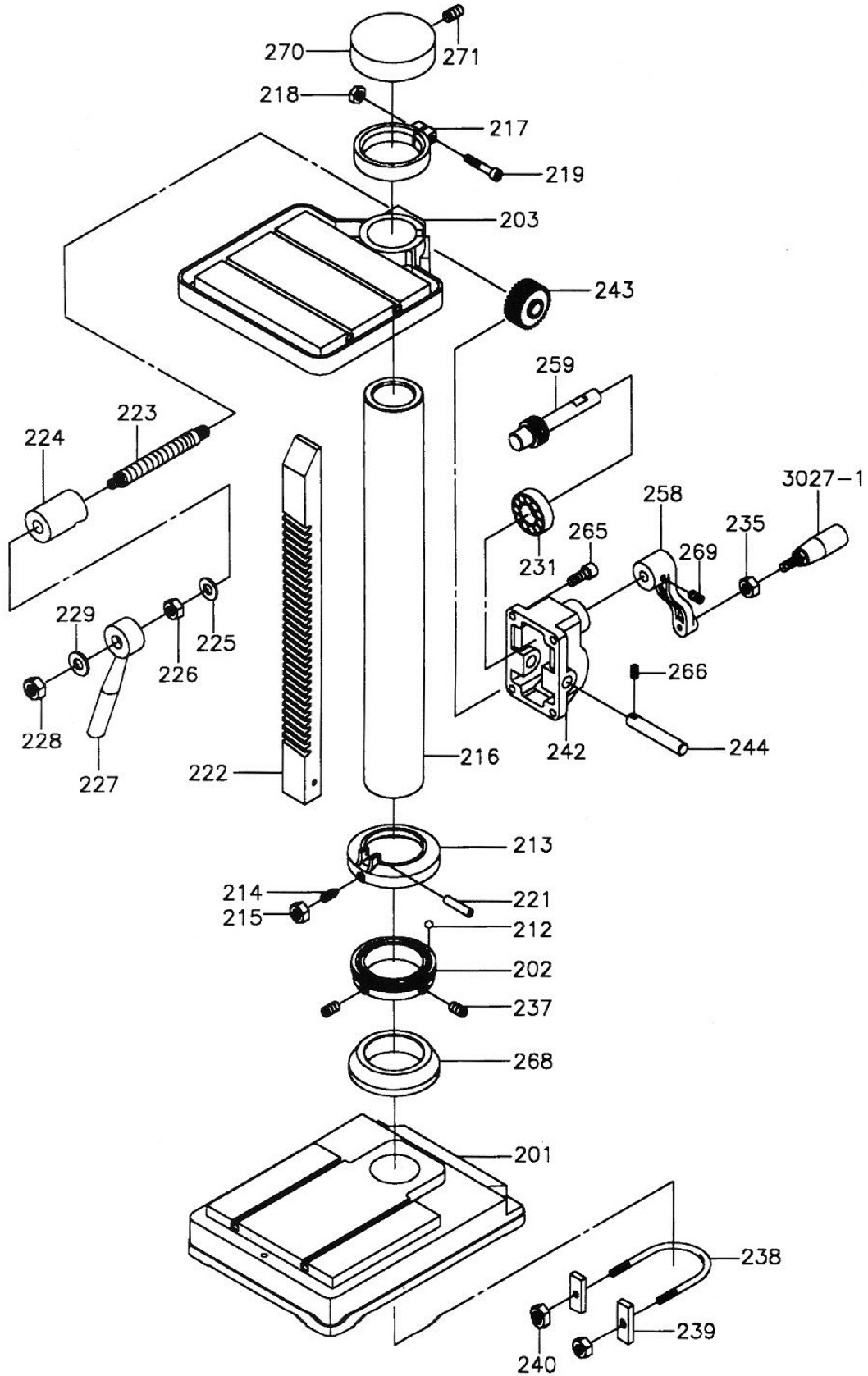
Gear Assembly GHD-20PF, 20PFT



Parts List – Gear Assembly GHD-20PF, 20PFT

| Index No. | Part No. | Description | Size | Qty |
|-----------|-------------|---|-----------|-----|
| 1 | 2401001-2 | Main Shaft Cover | | 1 |
| 2 | GHD20-28 | Oil Seal | | 1 |
| 3 | 6101-2 | Chuck Arbor Bolt | MT-3 | 1 |
| 4 | GHD20-4 | Retainer Ring | R68 | 1 |
| 5 | GHD20PF-5 | Retainer Ring | S40 | 1 |
| 6 | BB6008ZZ | Ball Bearing | | 2 |
| 7 | 2401006 | Idle Gear | 53T | 1 |
| 8 | GHD20-7 | Oil Seal | | 1 |
| 9 | 2401008 | Oil Seal Ring | | 1 |
| 10 | GHD20-9 | Dust Cover | | 2 |
| 11 | GHD20-10 | C-Ring | | 2 |
| 12 | BB-6002ZZ | Ball Bearing | | 5 |
| 13 | 2401020 | Idle Gear | | 1 |
| | 2401020A | Gear Shaft Assembly (s/n 7110881 and higher) | 15/41T | 1 |
| 17 | 2401029 | Idle Gear | 35T | 1 |
| | 2401029N | Idle Gear (s/n 7110881 and higher) | 35T | 1 |
| 19 | 2401031 | Pinion Shaft | | 1 |
| | SM2401031BS | Pinion Shaft w/Gear Assembly (s/n 7110881 and higher) includes #17,#22,#23,#24,#36 and #303) | | 1 |
| 22 | GHD20-33 | C-Ring | S18 | 1 |
| 23 | 2401055 | Idle Gear | 42T | 1 |
| | 2401055N | Idle Gear (s/n 7110881 and higher) | 42T | 1 |
| 24 | 2401037 | Idle Gear (2piece) | 44/28T | 1 |
| | 2401037N | Idle Gear (2piece) (s/n 7110881 and higher) | 44/28T | 1 |
| 26 | GHD20-50 | Oil Seal | | 1 |
| 27 | GHD20-42 | C-Ring | R62 | 1 |
| 28 | BB-6007ZZ | Ball Bearing | | 1 |
| 29 | 2401043 | Pinion Shaft | | 1 |
| | SM2401043BS | Pinion Shaft W/Gear Assembly (s/n 7110881 and higher) (includes #26,#29,#34,#36) | | 1 |
| 34 | 2401049 | Idle Gear | 15/31/43T | 1 |
| | 2401049N | Idle Gear (s/n 7110881 and higher) | 15/31/43T | 1 |
| 36 | GHD20-30 | Steel Ball W/ Spring | 5/16" | 3 |
| 203 | 2450003 | Idle Gear | 15T | 1 |
| 207 | GHD20PF-207 | Key | 5x5x16 | 1 |
| 208 | GHD20PF-208 | Set Screw | M6x6 | 2 |
| 209 | GHD20PF-209 | C-Ring | S17 | 2 |
| 210 | BB-6003ZZ | Ball Bearing | | 1 |
| 211 | GHD20PF-211 | Oil Seal | | 1 |
| 212 | BB-6001ZZ | Ball Bearing | | 1 |
| 213 | BB-6202ZZ | Ball Bearing | | 1 |
| 214 | GHD20-214 | Oil Seal Cover | | 1 |
| 286 | GHD20-286 | Hex Socket Cap Screw | M5x12 | 2 |
| 292 | 2450052 | Worm Shaft | | 1 |
| 293 | 2450053 | Clutch Block | | 1 |
| 294 | 2450054 | Spring | | 1 |
| 295 | 2450055 | Adjustable Bolt | | 1 |
| 296 | GHD20PF-296 | Key | 5x5x10 | 1 |
| 297 | GHD20PF-297 | Set Screw | M5x5 | 4 |
| 302 | 2450057 | Washer | | 1 |
| 303 | 2401192 | Bushing | | 1 |

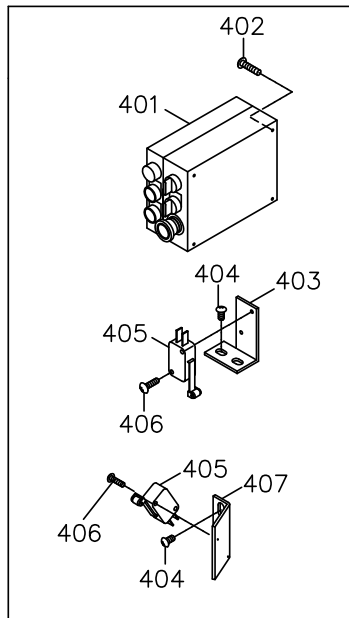
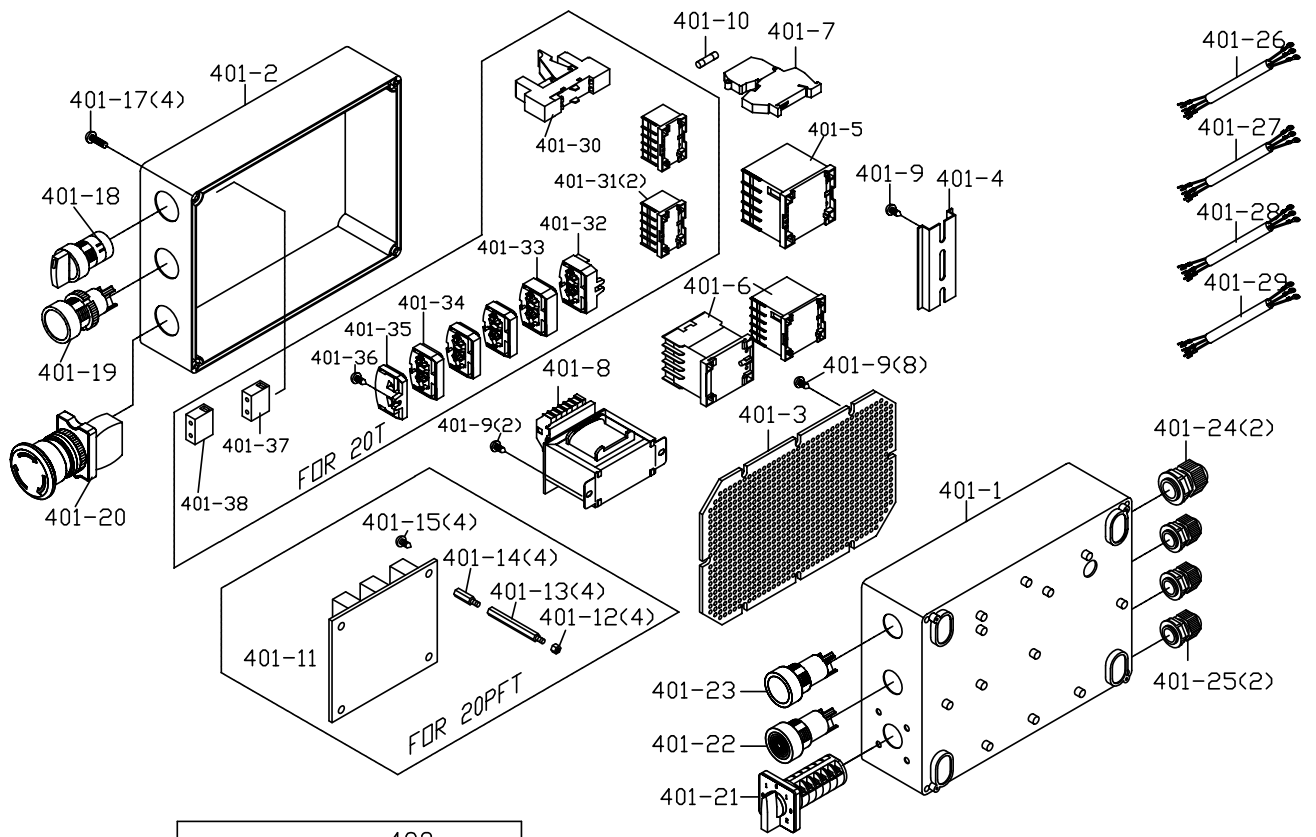
Base, Table and Column Assembly (all models)



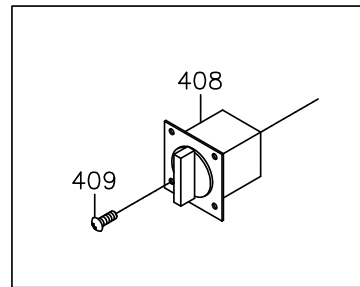
Parts List – Base, Table and Column Assembly (all models)

| Index No. | Part No. | Description | Size | Qty |
|-----------|------------|-----------------------|---------------|-----|
| 201 | 62201 | Base | | 1 |
| 202 | 62202 | Bearing Cover (lower) | | 1 |
| 203 | 62203-1 | Table | | 1 |
| 212 | SB-3/8 | Steel Ball | 3/8" | 40 |
| 213 | 62213 | Bearing Cover (upper) | | 1 |
| 214 | 62214 | Screw | | 2 |
| 215 | TS-0561021 | Hex Nut | 5/16" | 2 |
| 216 | 62216 | Column Base | | 1 |
| 217 | 66217 | Lock Ring | | 1 |
| 218 | TS-0561031 | Nut | 3/8" | 1 |
| 219 | TS-0209101 | Hex Socket Cap Screw | 3/8" x 2-1/4" | 1 |
| 221 | GHD20-221 | Pin | | 1 |
| 222 | 62222 | Rack | | 1 |
| 223 | 62223 | Lock Bolt | | 1 |
| 224 | 62224-1 | Lock Block | | 1 |
| 225 | TS-0680081 | Washer | 5/8" | 1 |
| 226 | TS-0561031 | Nut | 5/8" | 1 |
| 227 | 62227 | Lock Handle | | 1 |
| 228 | TS-0561031 | Nut | 3/8" | 1 |
| 229 | TS-0680041 | Washer | 3/8" | 1 |
| 231 | BB-51103 | Thrust Bearing | | 1 |
| 235 | TS-0561031 | Nut | 3/8" | 1 |
| 237 | TS-0267041 | Set Screw | 1/4" x 3/8" | 2 |
| 238 | 62238 | U-Bolt | | 1 |
| 239 | 62239 | Block | | 1 |
| 240 | TS-0561051 | Nut | 1/2" | 2 |
| 242 | 62242 | Bracket | | 1 |
| 243 | 62243 | Worm Gear | | 1 |
| 244 | 62244 | Shaft | | 1 |
| 258 | 6158 | Handle | | 1 |
| 259 | 62259 | Worm Shaft | | 1 |
| 265 | TS-0208061 | Hex Socket Cap Screw | 5/16" x 1" | 4 |
| 266 | TS-0267041 | Set Screw | 1/4" x 3/8" | 1 |
| 268 | 62268 | Bracket | | 1 |
| 269 | TS-0270021 | Set Screw | 5/16" x 5/16" | 1 |
| 270 | 6611 | Column Cap | | 1 |
| 271 | GHD20-271 | Set Screw | | 1 |
| 3027-1 | 3027-1 | Lever | | 1 |

Control Box Assembly (all models)



GHD-20T/20PFT only

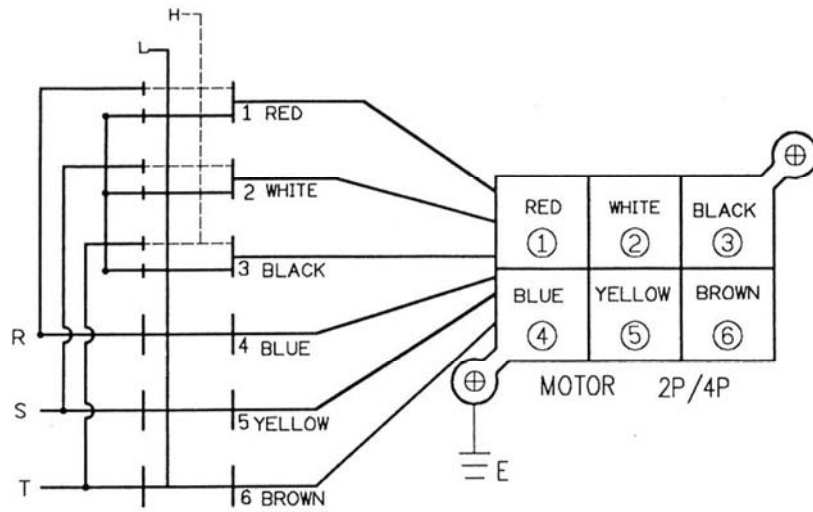


GHD-20/20PF only

Parts List – Control Box Assembly

| Index No. | Part No. | Description | Size | Qty |
|-----------|-----------------|---|-------------------------|-----|
| 401 | GHD20PFT-401 | Control Box | | 1 |
| | GHD20PFT-CB | Control Box Complete (GHD-20PFT only) | | 1 |
| | GHD20T-CB | Control Box Complete (#08050908 and higher) | | 1 |
| 401-1 | GHD20PFT-401-1 | Box Base | | 1 |
| 401-2 | GHD20PFT-401-2 | Box Cover | | 1 |
| 401-3 | GHD20PFT-401-3 | Support Plane | | 1 |
| 401-4 | GHD20PFT-401-4 | Bracket | | 1 |
| 401-5 | ET-1123 | Magnetic Contactor | LS GMC (D)-6M | 2 |
| 401-6 | ET-2034 | Overload | | 1 |
| 401-7 | GHD20PFT-401-7 | Fuse Bracket | | 1 |
| 401-8 | ET-1311 | Transformer | 20VA, 0.7Kg | 1 |
| 401-9 | GHD20PFT-401-9 | Machine Screw | M4x10 | 12 |
| 401-10 | ET-1820 | Fuse | 2A | 1 |
| 401-11 | ET-2504 | Support Plate (GHD-20PFT only) | | 1 |
| 401-12 | GHD20PFT-401-12 | Hex Nut (GHD-20PFT only) | 1/8" | 4 |
| 401-13 | GHD20PFT-401-13 | Support Rod (GHD-20PFT only) | 60mm | 4 |
| 401-14 | GHD20PFT-401-14 | Support Rod (GHD-20PFT only) | 15mm | 4 |
| 401-15 | GHD20PFT-401-15 | Pan Head Screw (GHD-20PFT only) | 1/8"x1/4 | 4 |
| 401-17 | GHD20PFT-401-17 | Pan Head Screw | M4x5 | 4 |
| 401-18 | ET-1223 | Select Switch | NHD NSS-S | 1 |
| 401-19 | ET-1221 | Reverse Switch | NHD NPB-F | 1 |
| 401-20 | ET-1215 | Emergency Switch | KEDU HY57B | 1 |
| 401-21 | GN20 | High-Low Cam Switch | 15A, 600VAC | 1 |
| 401-22 | ET-1414 | Power Light | NHD NLD-22 | 1 |
| 401-23 | ET-1217 | Start Switch | NHD NPB-F | 1 |
| 401-24 | GHD20PFT-401-24 | Clamp Plug | PG13.5 | 2 |
| 401-25 | GHD20PFT-401-25 | Clamp Plug | PG11 | 2 |
| 401-26 | GHD20-341 | Motor Plug | 2.0mm ² x7C | 1 |
| 401-27 | GHD20PFT-401-27 | Upper Limit Cord | 0.75mm ² x2C | 1 |
| 401-28 | GHD20PFT-401-28 | Lower Limit Cord | 0.75mm ² x2C | 1 |
| 401-29 | GHD20-342 | Power Cord | 14AWGx4C | 1 |
| 401-30 | ET-1127 | Relay | AC-24V | 1 |
| 401-31 | ET-1229 | Auxiliary Contacts | LS, AU-2M | 2 |
| 401-32 | ET-1552 | Ground Terminal | | 1 |
| 401-33 | ET-1538 | Two 2P Terminal | | 1 |
| 401-34 | ET-1512 | One 1P Terminal | | 3 |
| 401-35 | ET-1516 | Side Panel | | 1 |
| 401-36 | S804 | Pan Head Machine Screw | 3/16x5/8 | 2 |
| 401-37 | ET-1214 | Contact Block | CB-10, A contact | 2 |
| 401-38 | ET-1215 | Contacts Black | CB-10, B contact | 2 |
| 402 | GHD20PFT-402 | Round Head Screw | 3/16"x3/8" | 4 |
| 403 | GHD20PFT-403-1 | Limit Bracket (top) (GHD-20PFT only) | | 4 |
| | GHD20T-403-2 | Limit Bracket (top) (GHD-20T only) | | 4 |
| 404 | GHD20PFT-404 | Round Head Screw | 3/16"x5/8" | 4 |
| 405 | ET-1610 | Limit Block | | 2 |
| 406 | GHD20PFT-406 | Round Head Screw | M3x15 | 4 |
| 407 | GHD20PFT-407-1 | Limit Support (GHD-20PFT only) | | 1 |
| | GHD20T-407-2 | Limit Support (GHD-20T only) | | 4 |
| 408 | GHD20-339 | High-Low Cam Switch | | 4 |
| 409 | GHD20-340 | Round Head Screw | M4x20 | 4 |

Electrical Schematic (GHD-20/20PF only)



Electrical Schematic (GHD-20PFT)

