

# Machine Accessories

## LATHE MANDRELS



Made of hardened tool steel which is accurately ground to size. Slightly tapered with marked in the large end Standard taper 0.0005" per inch. Sizes under 1" are 0.0005" undersize on small end. Sizes 1-1/16" to 3" are 0.001" under size on small end.

Diameter	Overall Length	Model No.	Diameter	Overall Length	Model No.	Diameter	Overall Length	Model No.
1/8	2-1/2	262-2008	3/4	6	262-2048	1-3/8	8-1/2	262-2124
5/32	3	262-2010	25/32	6-1/4	262-2050	1-7/16	8-3/4	262-2128
3/16	3	262-2012	13/16	6-1/4	262-2052	1-15/32	9	262-2130
7/32	3-3/4	262-2014	27/32	6-1/2	262-2054	1-1/2	9	262-2132
1/4	3-3/4	262-2016	7/8	6-1/2	262-2056	1-9/16	9-1/4	262-2136
9/32	4	262-2018	29/32	6-3/4	262-2058	1-5/8	9-1/2	262-2140
5/16	4	262-2020	15/16	6-3/4	262-2060	1-11/16	9-3/4	262-2144
11/32	4-1/4	262-2022	31/32	7	262-2062	1-3/4	10	262-2148
3/8	4-1/4	262-2024	1	7	262-2100	1-13/16	10-1/4	262-2152
13/32	4-1/2	262-2026	1-1/32	7-1/4	262-2102	1-7/8	10-1/2	262-2156
7/16	4-1/2	262-2028	1-1/16	7-1/4	262-2104	1-15/16	10-3/4	262-2160
15/32	5	262-2030	1-3/32	7-1/2	262-2106	2	11	262-2200
1/2	5	262-2032	1-1/8	7-1/2	262-2108	2-1/8	11-1/2	262-2208
17/32	5-1/4	262-2034	1-5/32	7-3/4	262-2110	2-1/4	12	262-2216
9/16	5-1/4	262-2036	1-3/16	7-3/4	262-2112	2-3/8	12	262-2224
19/32	5-1/2	262-2038	1-7/32	8	262-2114	2-1/2	12-1/2	262-2232
5/8	5-1/2	262-2040	1-1/4	8	262-2116	2-5/8	12-1/2	262-2240
21/32	5-3/4	262-2042	1-9/32	8-1/4	262-2118	2-3/4	13	262-2248
11/16	5-3/4	262-2044	1-5/16	8-1/4	262-2120	2-7/8	13	262-2256
23/32	6	262-2046	1-11/32	8-3/4	262-2122	3	13	262-2300

## PRECISION EXPANDING MANDRELS

Hardened & precision ground for maximum concentricity and holding power

- Center holes are ground and lapped.
- Automatic expansion feature can be used on any bore within the range of the mandrel standard or non-standard.
- Sizes up to 1" are furnished with 1 sleeve larger sizes have 2 sleeve, 1 large and 1 small.



Expanding Mandrel Sets are individually packed.

Range	No. of Mandrels	Model No.
1/2" ~ 7/8"	5	262-3010
1" ~ 1-1/2"	3	262-3020
1/2" ~ 1-1/2"	8	262-3030

Range	Length of Arbor	Length of Sleeve	Model No.
1/2" ~ 9/16"	5"	2-1/2"	262-3050
9/16" ~ 21/32"	6"	2-3/4"	262-3052
21/32" ~ 3/4"	7"	2-3/4"	262-3054
3/4" ~ 7/8"	7"	3-1/4"	262-3056
7/8" ~ 1"	7"	3-1/2"	262-3058
1" ~ 1-1/4"	9"	4"	262-3060
1-1/4" ~ 1-1/2"	9"	4"	262-3062
1-1/2" ~ 2"	11-1/2"	5"	262-3064
2" ~ 2-3/4"	14"	6"	262-3066
2-3/4" ~ 3-3/4"	17"	7"	262-3068

## UNIVERSAL FACING & BORING HEAD

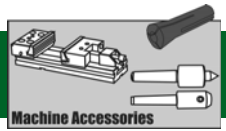


### Feature

Description	F212A	F213A	F214A
Max. facing and boring diameter	150	350	450
Max stroke of slide	±15	±25	±50
Fine feed per graduation	0.005	0.005	0.005
Manual feed per revolution	2	3	3
Dia of tool post holes in slide	0.02 0.04 0.06	0.03 0.06 0.09	0.03 0.06 0.09
Max dia of slide	18	22	22
Height of head without shank	90	120	168
The length of sliding block	87.5	118	118
The width of sliding block	75	105	160
Inside dia of bushing	70	90	90
Inside dia of bushing	4, 8, 12	8, 10, 12, 14	8, 10, 12, 14

### Model No.

Type	MT Shank				R8 Shank	ISO Shank			
	MT3	MT4	MT5	MT6		ISO30	ISO40	ISO45	ISO50
212A	220-1703	220-1704	220-1705	220-1706	220-1708	220-1730	220-1740	220-1745	220-1750
213A	220-1803	220-1804	220-1805	220-1806	220-1808	220-1830	220-1840	220-1845	220-1850
214A	220-1903	220-1904	220-1905	220-1906	220-1908	220-1930	220-1940	220-1945	220-1950



## PRECISION BORING HEADS-F1

- High quality, excellent performance, practical design at affordable price.
- Maximum rigidity is assured even when boring bar holder is used in an offset position.
- Hardened and ground adjusting screw along with outside base design guarantees long life and trouble free use.



### Adjusting Screws

Range	Model No.
for 2"	220-1201
for 3"	220-1302
For 4"	220-1401

Boring Head Dia.	Boring Bar Hole Size	Max. Offset	Grad.	1-1/2"-18 Model No.	7/8"-20 Model No.
2	1/2	5/8	0.0005"	220-1200	220-1210
3	3/4	1	0.0005"	220-1300	220-1310
4	1	1-5/8	0.0005"	220-1400	220-1410
50	12	16	0.01mm	220-1050	220-1060
75	18	25	0.01mm	220-1075	220-1085
100	25	41	0.01mm	220-1100	220-1110

## PRECISION BORING HEADS-F2

Boring Head Diameter	Boring Bar Hole Size	Max. Offset	Grad.	Type	Thread	Model No.
2-1/8	1/2	5/16	0.001"	F2	1-5/8"-16	220-1208
54	12	8	0.01mm	F2	1-5/8"-16	220-1054

## PRECISION BORING HEADS SHANK



- All of the shank is suitable for F1.
- R8, MT2, MT3 and MT4 are suitable for F2.

Morse Taper Shank Thread	Draw Bar End Model No.	Tang End Model No.
1 7/8"-20	220-1511	220-1512
1 1-1/2"-18	220-1513	220-1514
2 3/4"-20	220-1519	220-1520
2 7/8"-20	220-1521	220-1522
2 1-1/2"-18	220-1523	220-1524
3 7/8"-20	220-1531	220-1532
3 1-1/2"-18	220-1533	220-1534
4 7/8"-20	220-1541	220-1542
4 1-1/2"-18	220-1543	220-1544
5 7/8"-20	220-1551	220-1552
5 1-1/2"-18	220-1553	220-1554

Shank Types	7/8"-20 Thread Model No.	1-1/2"-18 Thread Model No.
R8	220-1560	220-1561
1/2" Dia. Straight Shank	220-1563	220-1564
5/8" Dia. Straight Shank	220-1566	220-1567
3/4" Dia. Straight Shank	220-1569	220-1570
7/8" Dia. Straight Shank	220-1572	220-1573
1" Dia. Straight Shank	220-1575	220-1576
1-1/4" Dia. Straight Shank	220-1578	220-1579
1-1/2" Dia. Straight Shank	220-1581	220-1582
2" Dia. Straight Shank	220-1584	220-1585
30 taper	220-1590	220-1591
40 taper	220-1593	220-1594
50 taper	220-1596	220-1597

## BORING COMBO SETS



2" Boring Combo Model No. 220-1600

3" Boring Combo Model No. 220-1800

- 2" Boring head Model No. 220-1200.
- R8 shank (7/8"-20 TPI) Model No. 220-1560.
- 1/2" Boring bar set Model No. 375-1202 or 375-1206
- 3" Boring head Model No. 220-1300.
- R8 shank (1-1/2"-18 TPI) Model No. 220-1561.
- 3/4" Boring bar set Model No. 375-1602 or 375-1606

## REVOLVING TAILSTOCK TURRETS

These turrets, available in 2 sizes, have 6 holes each for holding 6 tools. A trigger type handle is conveniently located which enables instant changing.



Shank	Diameter of Turret	Size of Hole	Model No.
MT1	2-1/2"	5/8"	220-0900
MT2	2-1/2"	5/8"	220-0901
MT3	2-1/2"	5/8"	220-0902
MT4	2-1/2"	5/8"	220-0903
1/2" Dia. Straight Shank	2-1/2"	5/8"	220-0904
5/8" Dia. Straight Shank	2-1/2"	5/8"	220-0905
3/4" Dia. Straight Shank	2-1/2"	5/8"	220-0906
7/8" Dia. Straight Shank	2-1/2"	5/8"	220-0907
1" Dia. Straight Shank	2-1/2"	5/8"	220-0908
MT2	5"	1"	220-0911
MT3	5"	1"	220-0912
MT4	5"	1"	220-0913
7/8" Dia. Straight Shank	5"	1"	220-0915
1" Dia. Straight Shank	5"	1"	220-0916
1-1/4" Dia. Straight Shank	5"	1"	220-0917
1-1/2" Dia. Straight Shank	5"	1"	220-0918