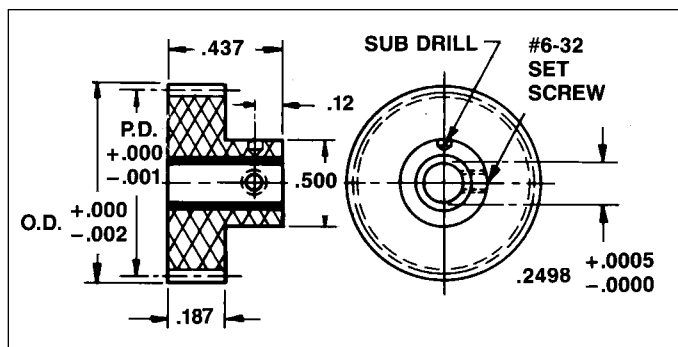


PHENOLIC & NYLON GEARS — 24, 32 & 48 Pitch ■ 20° Pressure Angle

$\frac{3}{16}$ " Face ■ $\frac{1}{4}$ " Bore ■ Agma Quality No. 10



Material:

Phenolic-Linen, Mil-P-15035B Type FBE
Nylon, Mil-M-20693 Comp. A Type 1

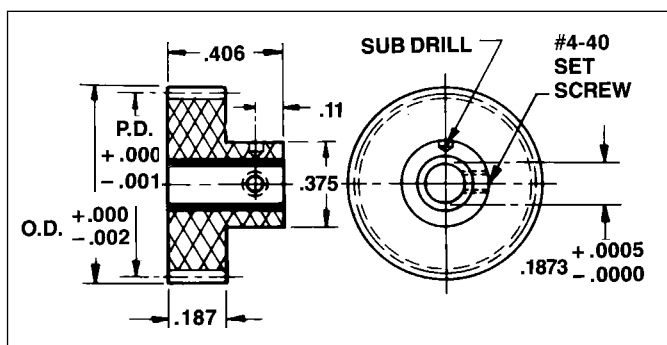
Insert, as illustrated, is 303 stainless steel — used in nylon gears only to maintain bore dimensions. Due to instability of nylon material, PIC guarantees dimensions at time of cutting only.

Gear Data				Phenolic-Linen	Nylon
Pitch	No. Teeth	P.D.	O.D.	Part No.	Part No.
24	15	.6250	.708	AB9-15	AB10-15
	18	.7500	.833	AB9-18	AB10-18
	21	.8750	.958	AB9-21	AB10-21
	24	1.0000	1.083	AB9-24	AB10-24
	30	1.2500	1.333	AB9-30	AB10-30
	36	1.5000	1.585	AB9-36	AB10-36
	42	1.7500	1.833	AB9-42	AB10-42
	48	2.0000	2.083	AB9-48	AB10-48
	60	2.5000	2.583	AB9-60	AB10-60
32	20	.6250	.688	AB11-20	AB12-20
	24	.7500	.813	AB11-24	AB12-24
	28	.8750	.938	AB11-28	AB12-28
	32	1.0000	1.063	AB11-32	AB12-32
	40	1.2500	1.313	AB11-40	AB12-40
	56	1.7500	1.813	AB11-56	AB12-56
	64	2.0000	2.063	AB11-64	AB12-64
	80	2.5000	2.563	AB11-80	AB12-80
48	30	.6250	.666	AB1-30	AB2-30
	36	.7500	.792	AB1-36	AB2-36
	40	.8333	.875	AB1-40	AB2-40
	48	1.0000	1.042	AB1-48	AB2-48
	56	1.1667	1.208	AB1-56	AB2-56
	60	1.2500	1.292	AB1-60	AB2-60
	70	1.4583	1.500	AB1-70	AB2-70
	96	2.0000	2.042	AB1-96	AB2-96
	100	2.0833	2.125	AB1-100	AB2-100

For Unlisted Number of Teeth, or Other Modifications, Consult Factory.

PHENOLIC & NYLON GEARS — 64 Pitch ■ 20° Pressure Angle

$\frac{3}{16}$ " Face ■ $\frac{3}{16}$ " Bore ■ Agma Quality No. 10



Material:

Phenolic-Linen, Mil-P-15035B Type FBE
Nylon, Mil-M-20693 Comp. A Type 1

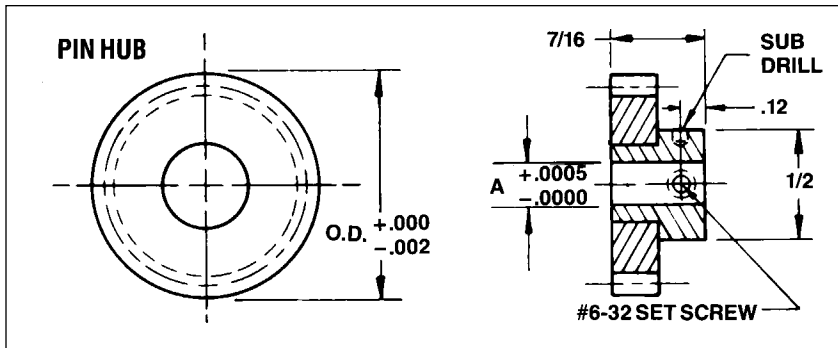
Insert, as illustrated, is 303 stainless steel — used in nylon gears only to maintain bore dimensions. Due to instability of nylon material, PIC guarantees dimensions at time of cutting only.

Gear Data				Phenolic-Linen	Nylon
Pitch	No. Teeth	P.D.	O.D.	Part No.	Part No.
64	30	.4687	.500	AB3-30	AB4-30
	32	.5000	.531	AB3-32	AB4-32
	36	.5625	.594	AB3-36	AB4-36
	40	.6250	.656	AB3-40	AB4-40
	48	.7500	.781	AB3-48	AB4-48
	50	.7813	.813	AB3-50	AB4-50
	56	.8750	.906	AB3-56	AB4-56
	60	.9375	.969	AB3-60	AB4-60
	64	1.0000	1.031	AB3-64	AB4-64
	70	1.0938	1.125	AB3-70	AB4-70
	72	1.1250	1.156	AB3-72	AB4-72
	80	1.2500	1.281	AB3-80	AB4-80
	90	1.4063	1.438	AB3-90	AB4-90
	96	1.5000	1.531	AB3-96	AB4-96
	100	1.5625	1.594	AB3-100	AB4-100
	120	1.8750	1.906	AB3-120	AB4-120

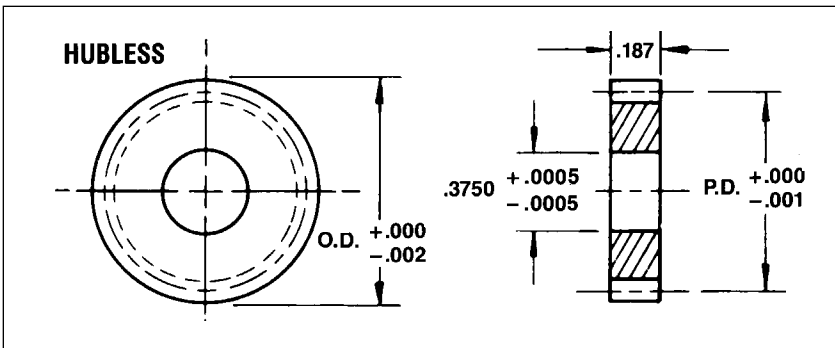
For Unlisted Number of Teeth, or Other Modifications, Consult Factory.

DELRIN® SPUR GEAR-24 PITCH — $\frac{3}{16}$ " Face Width ■ 20° Pressure Angle

Stainless Steel Pin Hub — $\frac{3}{16}$ ", $\frac{1}{4}$ " Bores ■ Hubless — $\frac{3}{8}$ " Bore



Dimen.	Bore	
	$\frac{3}{16}$	$\frac{1}{4}$
A	.1873	.2498



Material:
 Gear — Acetal (Delrin® or Celcon®)
 Hub — 303 Stainless Steel

Gear Data			Pin Hub Part No. Bore Size		Hubless Part No. Bore Size
No. Teeth	P.D.	O.D.	.1873	.2498	.3750
15	.6250	.708	AB14-15	AB15-15	AB13-15
16	.6667	.750	AB14-16	AB15-16	AB13-16
17	.7083	.792	AB14-17	AB15-17	AB13-17
18	.7500	.833	AB14-18	AB15-18	AB13-18
19	.7917	.875	AB14-19	AB15-19	AB13-19
20	.8333	.917	AB14-20	AB15-20	AB13-20
21	.8750	.958	AB14-21	AB15-21	AB13-21
22	.9167	1.000	AB14-22	AB15-22	AB13-22
23	.9583	1.042	AB14-23	AB15-23	AB13-23
24	1.0000	1.083	AB14-24	AB15-24	AB13-24
25	1.0417	1.125	AB14-25	AB15-25	AB13-25
28	1.1667	1.250	AB14-28	AB15-28	AB13-28
30	1.2500	1.333	AB14-30	AB15-30	AB13-30
32	1.3333	1.417	AB14-32	AB15-32	AB13-32
33	1.3750	1.458	AB14-33	AB15-33	AB13-33
36	1.5000	1.583	AB14-36	AB15-36	AB13-36
40	1.6667	1.750	AB14-40	AB15-40	AB13-40
42	1.7500	1.833	AB14-42	AB15-42	AB13-42
45	1.8750	1.958	AB14-45	AB15-45	AB13-45
46	1.9167	2.000	AB14-46	AB15-46	AB13-46
48	2.0000	2.083	AB14-48	AB15-48	AB13-48
50	2.0833	2.167	AB14-50	AB15-50	AB13-50
52	2.1667	2.250	AB14-52	AB15-52	AB13-52
55	2.2917	2.375	AB14-55	AB15-55	AB13-55
56	2.3333	2.417	AB14-56	AB15-56	AB13-56
57	2.3750	2.458	AB14-57	AB15-57	AB13-57
60	2.5000	2.583	AB14-60	AB15-60	AB13-60
64	2.6667	2.750	AB14-64	AB15-64	AB13-64
66	2.7500	2.833	AB14-66	AB15-66	AB13-66
69	2.8750	2.958	AB14-69	AB15-69	AB13-69

Other Size Bores Available, Consult Factory.

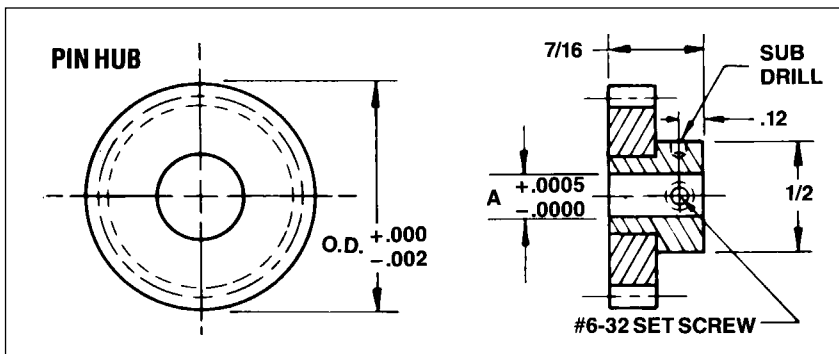
For Gear Hubs See Pages 12-65 & 12-66

AGMA QUALITY NO. 10 (AT TIME OF GEAR CUTTING ONLY).

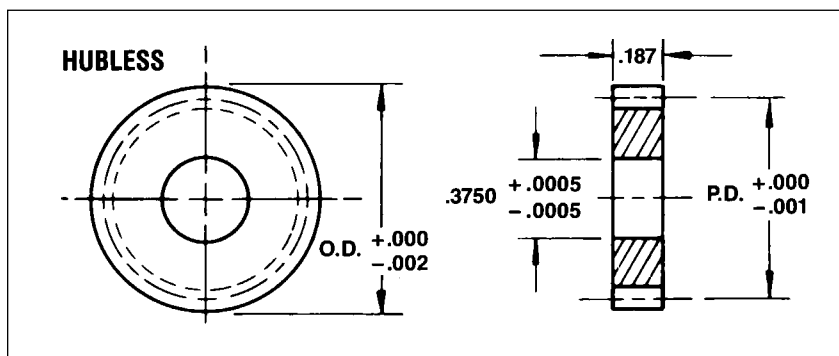
For Unlisted Number of Teeth, Specify the Number of Teeth desired as the last figure in the part number.
 EXAMPLE: For a 67 Tooth Gear, Specify Part Number AB13-67.

DELTRIN® SPUR GEAR-32 PITCH — 3/16" Face Width ■ 20° Pressure Angle

Stainless Steel Pin Hub — 3/16", 1/4" Bores ■ Hubless — 3/8" Bore



Dimen.	Bore	
	3/16	1/4
A	.1873	.2498



Material:

Gear — Acetal (Delrin® or Celcon®)
Hub — 303 Stainless Steel

AGMA QUALITY NO. 10 (AT TIME OF GEAR CUTTING ONLY).

FOR SPECIAL SPUR GEARS ORDER AS FOLLOWS:

For Unlisted Number of Teeth, Specify the Number of Teeth desired as the last figure in the part number.

EXAMPLE: For a 67 Tooth Gear, Specify Part Number AB16-67.

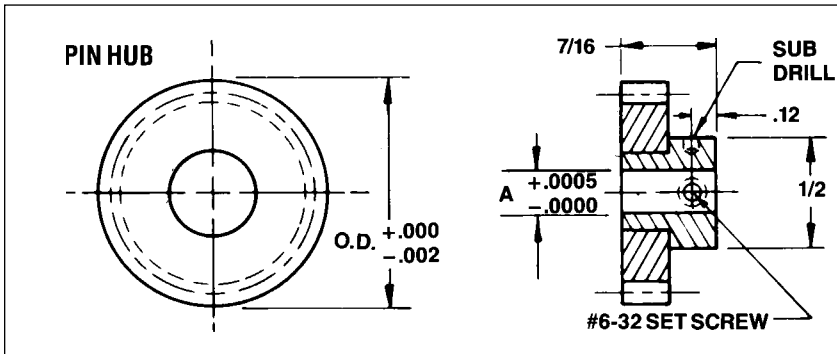
Gear Data			Pin Hub Part No. Bore Size		Hubless Part No. Bore Size
No. Teeth	P.D.	O.D.	.1873	.2498	.3750
20	.6250	.688	AB17-20	AB18-20	AB16-20
21	.6563	.719	AB17-21	AB18-21	AB16-21
22	.6875	.750	AB17-22	AB18-22	AB16-22
23	.7188	.781	AB17-23	AB18-23	AB16-23
24	.7500	.813	AB17-24	AB18-24	AB16-24
25	.7813	.844	AB17-25	AB18-25	AB16-25
26	.8125	.875	AB17-26	AB18-26	AB16-26
28	.8750	.938	AB17-28	AB18-28	AB16-28
30	.9375	1.000	AB17-30	AB18-30	AB16-30
32	1.0000	1.063	AB17-32	AB18-32	AB16-32
36	1.1250	1.188	AB17-36	AB18-36	AB16-36
40	1.2500	1.313	AB17-40	AB18-40	AB16-40
42	1.3125	1.375	AB17-42	AB18-42	AB16-42
44	1.3750	1.438	AB17-44	AB18-44	AB16-44
46	1.4375	1.500	AB17-46	AB18-46	AB16-46
48	1.5000	1.563	AB17-48	AB18-48	AB16-48
50	1.5625	1.625	AB17-50	AB18-50	AB16-50
52	1.6250	1.688	AB17-52	AB18-52	AB16-52
56	1.7500	1.813	AB17-56	AB18-56	AB16-56
60	1.8750	1.938	AB17-60	AB18-60	AB16-60
63	1.9688	2.031	AB17-63	AB18-63	AB16-63
64	2.0000	2.063	AB17-64	AB18-64	AB16-64
66	2.0625	2.125	AB17-66	AB18-66	AB16-66
69	2.1563	2.219	AB17-69	AB18-69	AB16-69
72	2.2500	2.313	AB17-72	AB18-72	AB16-72
75	2.3438	2.406	AB17-75	AB18-75	AB16-75
80	2.5000	2.563	AB17-80	AB18-80	AB16-80
84	2.6250	2.688	AB17-84	AB18-84	AB16-84
88	2.7500	2.813	AB17-88	AB18-88	AB16-88
92	2.8750	2.938	AB17-92	AB18-92	AB16-92

Other Size Bores Available, Consult Factory.

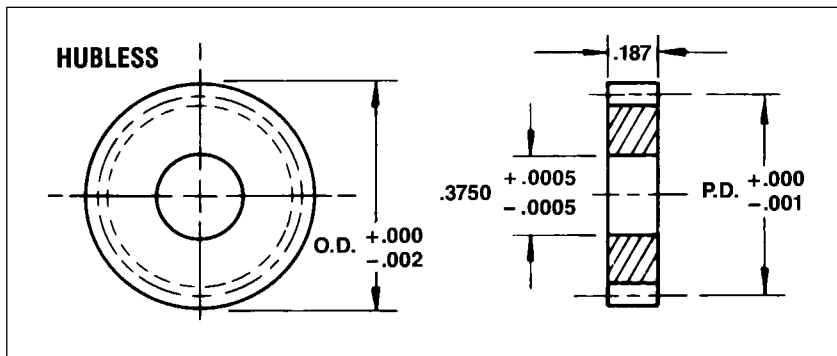
For Gear Hubs See Pages 12-65 & 12-66

DELRIN® SPUR GEAR-48 PITCH — $\frac{3}{16}$ " Face Width ■ 20° Pressure Angle

Stainless Steel Pin Hub — $\frac{3}{16}$ ", $\frac{1}{4}$ " Bores ■ Hubless — $\frac{3}{8}$ " Bore



Dimen.	Bore	
	$\frac{3}{16}$	$\frac{1}{4}$
A	.1873	.2498



Material:

Gear — Acetal (Delrin® or Celcon®)
Hub — 303 Stainless Steel

Gear Data			Pin Hub Part No. Bore Size		Hubless Part No. Bore Size
No. Teeth	P.D.	O.D.	.1873	.2498	.3750
28	.5833	.625	AB20-28	AB21-28	AB19-28
29	.6041	.646	AB20-29	AB21-29	AB19-29
30	.6250	.667	AB20-30	AB21-30	AB19-30
32	.6666	.708	AB20-32	AB21-32	AB19-32
34	.7083	.750	AB20-34	AB21-34	AB19-34
36	.7500	.792	AB20-36	AB21-36	AB19-36
38	.7916	.833	AB20-38	AB21-38	AB19-38
40	.8333	.875	AB20-40	AB21-40	AB19-40
42	.8750	.917	AB20-42	AB21-42	AB19-42
44	.9166	.958	AB20-44	AB21-44	AB19-44
46	.9583	1.000	AB20-46	AB21-46	AB19-46
48	1.0000	1.042	AB20-48	AB21-48	AB19-48
50	1.0416	1.083	AB20-50	AB21-50	AB19-50
55	1.1458	1.188	AB20-55	AB21-55	AB19-55
56	1.1666	1.208	AB20-56	AB21-56	AB19-56
60	1.2500	1.292	AB20-60	AB21-60	AB19-60
64	1.3333	1.375	AB20-64	AB21-64	AB19-64
68	1.4166	1.458	AB20-68	AB21-68	AB19-68
72	1.5000	1.542	AB20-72	AB21-72	AB19-72
75	1.5625	1.604	AB20-75	AB21-75	AB19-75
80	1.6666	1.708	AB20-80	AB21-80	AB19-80
84	1.7500	1.792	AB20-84	AB21-84	AB19-84
90	1.8750	1.917	AB20-90	AB21-90	AB19-90
92	1.9166	1.958	AB20-92	AB21-92	AB19-92
96	2.0000	2.042	AB20-96	AB21-96	AB19-96
100	2.0833	2.125	AB20-100	AB21-100	AB19-100
110	2.2916	2.333	AB20-110	AB21-110	AB19-110
120	2.5000	2.542	AB20-120	AB21-120	AB19-120
132	2.7500	2.792	AB20-132	AB21-132	AB19-132
138	2.8750	2.917	AB20-138	AB21-138	AB19-138

Other Size Bores Available, Consult Factory.

For Gear Hubs See Pages 12-65 & 12-66

AGMA QUALITY NO. 10 (AT TIME OF GEAR CUTTING ONLY).

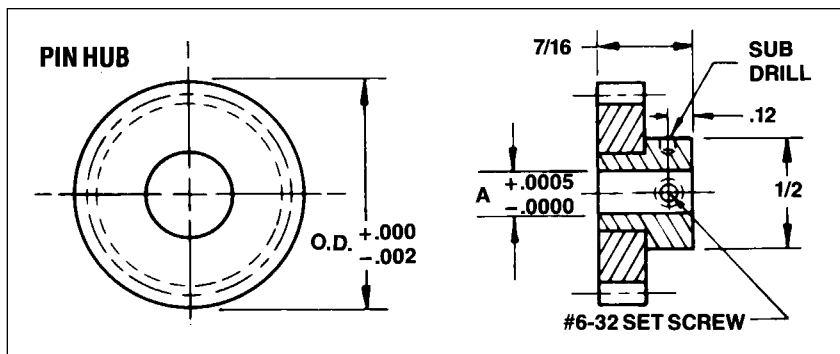
FOR SPECIAL SPUR GEARS ORDER AS FOLLOWS:

For Unlisted Number of Teeth, Specify the Number of Teeth desired as the last figure in the part number.

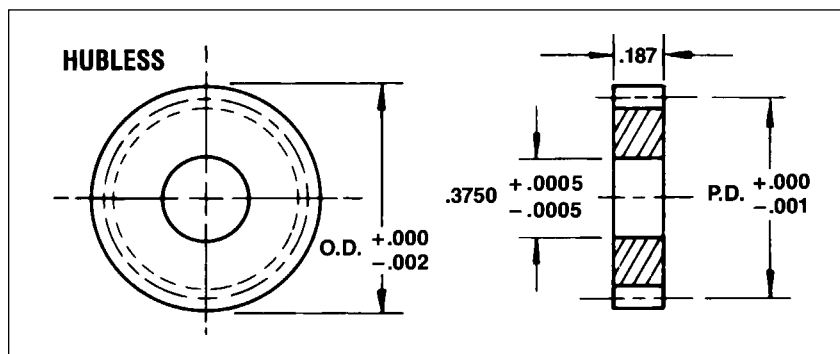
EXAMPLE: For a 67 Tooth Gear, Specify Part Number AB19-67.

DELTRIN® SPUR GEAR-64 PITCH — 3/16" Face Width ■ 20° Pressure Angle

Stainless Steel Pin Hub — 3/16", 1/4" Bores ■ Hubless — 3/8" Bore



Dimen.	Bore	
	3/16	1/4
A	.1873	.2498



Material:
 Gear — Acetal (Delrin® or Celcon®)
 Hub — 303 Stainless Steel

AGMA QUALITY NO. 10 (AT TIME OF GEAR CUTTING ONLY).

FOR SPECIAL SPUR GEARS ORDER AS FOLLOWS:

For Unlisted Number of Teeth, Specify the Number of Teeth desired as the last figure in the part number.

EXAMPLE: For a 67 Tooth Gear, Specify Part Number AB22-67.

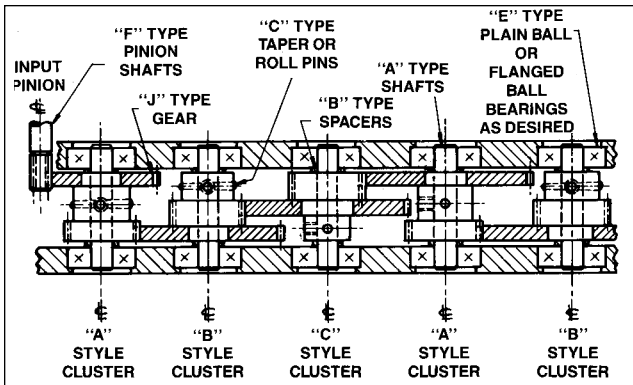
Gear Data			Pin Hub Part No. Bore Size		Hubless Part No. Bore Size
No. Teeth	P.D.	O.D.	.1873	.2498	.3750
36	.5625	.594	AB23-36	AB24-36	AB22-36
37	.5781	.609	AB23-37	AB24-37	AB22-37
38	.5937	.625	AB23-38	AB24-38	AB22-38
40	.6250	.656	AB23-40	AB24-40	AB22-40
42	.6562	.688	AB23-42	AB24-42	AB22-42
44	.6875	.719	AB23-44	AB24-44	AB22-44
46	.7187	.750	AB23-46	AB24-46	AB22-46
48	.7500	.781	AB23-48	AB24-48	AB22-48
50	.7812	.813	AB23-50	AB24-50	AB22-50
56	.8750	.906	AB23-56	AB24-56	AB22-56
60	.9375	.969	AB23-60	AB24-60	AB22-60
64	1.0000	1.031	AB23-64	AB24-64	AB22-64
72	1.1250	1.156	AB23-72	AB24-72	AB22-72
74	1.1562	1.188	AB23-74	AB24-74	AB22-74
80	1.2500	1.281	AB23-80	AB24-80	AB22-80
84	1.3125	1.344	AB23-84	AB24-84	AB22-84
88	1.3750	1.406	AB23-88	AB24-88	AB22-88
90	1.4062	1.438	AB23-90	AB24-90	AB22-90
96	1.5000	1.531	AB23-96	AB24-96	AB22-96
100	1.5625	1.594	AB23-100	AB24-100	AB22-100
112	1.7500	1.781	AB23-112	AB24-112	AB22-112
120	1.8750	1.906	AB23-120	AB24-120	AB22-120
127	1.9843	2.016	AB23-127	AB24-127	AB22-127
128	2.0000	2.031	AB23-128	AB24-128	AB22-128
144	2.2500	2.281	AB23-144	AB24-144	AB22-144

Other Size Bores Available, Consult Factory.

For Gear Hubs See Pages 12-65 & 12-66

PRECISION CLUSTER GEARS

AGMA 10



The following PIC cluster gears have been designed to allow large gear reduction. Quickly assembled with minimum space requirements.

For continuous reductions always follow sequence of meshing. "A" style cluster with "B" style cluster with "C" style cluster

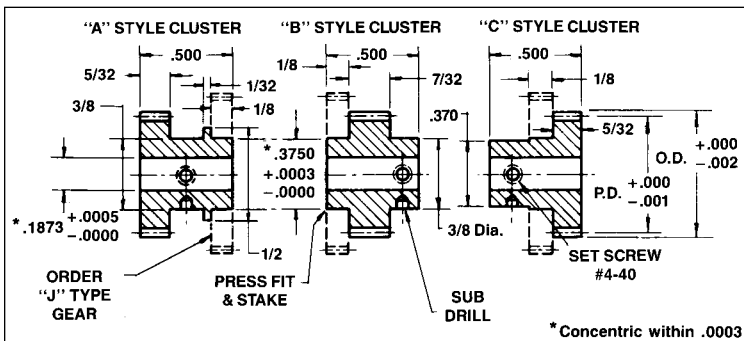
— Then repeat sequence for desired ratio

RECOMMENDATIONS

- (1) Mesh stainless pinions with aluminum gears.
Always reduce pitch and increase shaft size as ratio and torque increase.
- (2) Select "J" type gears as required for assembly to cluster gear hubs as to pitch, number of teeth and material.
Always make a check layout to be sure gears do not run into adjacent hubs with correct center distances.
- (3) Center Distances — To select proper center distances see Technical Section of this Catalog.

CLUSTER GEARS & HUBS — AGMA 10

20° Pressure Angle ■ 3/16" Bore



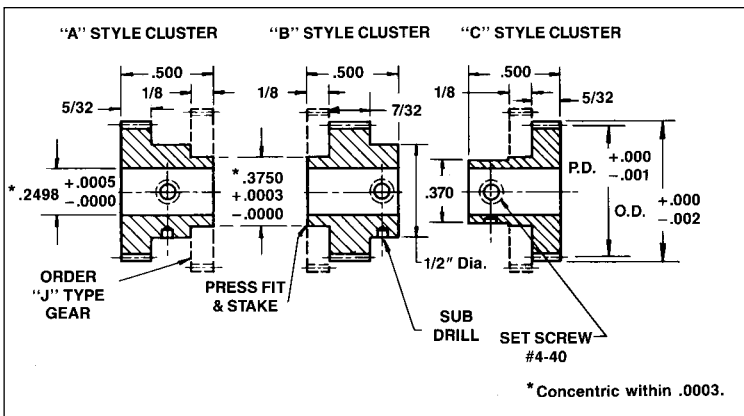
Material: 303 Stainless Steel

Pitch	No. Teeth	P.D.	O.D.	Part Number		
				"A" STYLE	"B" STYLE	"C" STYLE
48	20	.4166	.458	CO-1	CO-8	CO-15
	21	.4375	.479	CO-23	CO-80	CO-137
	22	.4583	.500	CO-24	CO-81	CO-138
	23	.4791	.521	CO-25	CO-82	CO-139
	24	.5000	.542	CO-26	CO-83	CO-140
64	25	.3906	.422	CO-2	CO-9	CO-16
	26	.4062	.438	CO-27	CO-84	CO-141
	27	.4218	.453	CO-28	CO-85	CO-142
	28	.4375	.469	CO-29	CO-86	CO-143
	29	.4531	.484	CO-30	CO-87	CO-144
	30	.4687	.500	CO-3	CO-10	CO-17
	31	.4843	.516	CO-31	CO-88	CO-145
	32	.5000	.531	CO-32	CO-89	CO-146
	33	.5156	.547	CO-33	CO-90	CO-147

For other pitches, bore sizes or modifications, consult factory.

CLUSTER GEARS & HUBS — AGMA 10

20° Pressure Angle ■ 1/4" Bore



Material: 303 Stainless Steel

Pitch	No. Teeth	P.D.	O.D.	Part Number		
				"A" STYLE	"B" STYLE	"C" STYLE
48	20	.4166	.458	CN-32	CN-95	CN-158
	21	.4375	.479	CN-33	CN-96	CN-159
	22	.4583	.500	CN-34	CN-97	CN-160
	23	.4791	.521	CN-35	CN-98	CN-161
	24	.5000	.542	CN-36	CN-99	CN-162
	25	.5208	.563	CN-1	CN-8	CN-15
	26	.5416	.583	CN-37	CN-100	CN-163
	28	.5833	.625	CN-38	CN-101	CN-164
	30	.6250	.667	CN-2	CN-9	CN-16
	32	.6666	.708	CN-39	CN-102	CN-165
64	27	.4218	.453	CN-40	CN-103	CN-166
	28	.4375	.469	CN-41	CN-104	CN-167
	30	.4687	.500	CN-42	CN-105	CN-168
	32	.5000	.531	CN-43	CN-106	CN-169
	34	.5312	.563	CN-44	CN-107	CN-170
	36	.5625	.594	CN-45	CN-108	CN-171
	38	.5937	.625	CN-46	CN-109	CN-172
	40	.6250	.656	CN-3	CN-10	CN-17
	42	.6562	.688	CN-47	CN-110	CN-173
	44	.6875	.719	CN-48	CN-111	CN-174

For other pitches, bore sizes or modifications, consult factory.

Phone: 800-243-6125 ■ FAX: 203-758-8271

E-Mail: info@pic-design.com

PIC DESIGN