GEAR

Where would the world be without gears? Progress would have ground to a halt, and we'd be living like cavemen (and women). Instead, gears were created, and life got better, easier, and more lucrative. Progress was made, inventions were invented, Clifford-Jacobs Forging was founded, better inventions were invented, and here we are. Today, we are the finest manufacturer of custom forgings in all the land. From only the highest-quality materials, we make the most precise, dependable gears for a range of applications — everything from offshore drilling to high-performance racing. And their only job is to work, which is something they do all day long. Or all night long for third-shifters. Or both for multitaskers. Clifford-Jacobs works for you just as hard and efficiently as our gears do. If you need a custom-forged gear, we're experts in the field. Depend on Clifford-Jacobs Forging. We're just what you need.

Call us today at 217.352.5172 for your next custom forging order.

CLIFFORD-JACOBS FORGING

AN IMT COMPANY™

TOLERANCES AND MATERIALS

Thickness and Straightness Tolerances

Maximum Outside Diameter	**3.50"**	**6.13"**	**7.88"**	**11.25"**	**25.13" up to 30"**
Thickness	+0.03"/-0.03"	+0.06"/-0.03"	+0.06"/-0.03"	+0.09"/-0.03"	+0.13"/-0.03"
Straightness	0.03"	0.04"	0.05"	0.06" to 20"	0.06" to 30"

External and Internal Tolerances

Maximum Outside Diameter	**3.91"**	**7.81"**	**11.72"**	**15.63"**	**15.63" up to 30"**
+EX, -INT	0.03"	0.06"	0.09"	0.13"	0.16"
Maximum Outside Diameter	11.63"	14.97"	18.28"	18.28" and up	18.28" and up
-EX, +INT	0.03"	0.04"	0.05"	0.06"	0.06"

Weight and Mismatch Tolerances

3 to 5 pounds	Up to 25 pounds	Up to 50 pounds	Up to 100 pounds	Up to 300 pounds	Up to 800 pounds
0.03"	0.04"	0.05"	0.06"	0.06" up to 20"	0.09" up to 30"

- Specifications listed are only guidelines. To learn what Clifford-Jacobs can do for you, please ask.

CARBON, ALLOY, AND TOOL STEEL
1018, 1020, 1021, 1022, 1026, 1029, 1030, 1040, 1045, 1050, 1141, 1146, 3310, 4130, 4140, 4142, 4145, 4150, 4320, 4340, 4620, 4820, 8620, 8622, 8630, 8822, 9310, A182F11, A182F22, A182F91, A336F1, A336F22A, A350LF2, A350LF3, MIL-S 23284C1, MIL-S 23284CL2, H-13, INCONEL® 625, SA182

BEARING QUALITY
4130, 4140, 4320, 4340, 4820, 8620, 8822, 8825, 52100

AIRCRAFT QUALITY
4130 (AMS 6348), 4140 (AMS 6382), 4320 (AMS 2301), 4330V (AMS 6427), 4340 (AMS 2301), 4340 (AMS 6415), 4340 (AMS-S 5000), 4820 (AMS 2301), 9310 (AMS 6260), 9315 (AMS 6263), 17-22-AS (AMS 6302)

CALCIUM TREATED
4130, 4140, 4150, 4340, 8620

VAR MATERIAL
4320 (AMS 2300), 4330 (AMS 6411), 4340 (AMS 6414), 9310 (AMS 6265), PYROWEAR® 53 (AMS 6308), NITRALLOY N (AMS 6475), 9-4-30 (AMS 6526), PYROWEAR® 675

VIM VAR IUT
H12 MOD. (BMS 7-223), 9310 (BMS 7-249), 4340 (BMS 7-250), LESCO® 53, PYROWEAR® 53 (HMS 6-1288)

STAINLESS STEEL
304, 304L, 316, 316L, 405, 410, 17-4PH, 15-5PH

CUSTOM GRADES
Caterpillar, General Electric, Westinghouse, Boeing Aerospace

- The above grades can be ordered to meet acceptable AMS, ASTM, or military specifications as needed. Clifford-Jacobs forges most commercially available variations of these grades.

Clifford-Jacobs takes pride in the speed and accuracy with which we reply to requests for quotes. In addition, we offer short to medium runs, from 25 to 15,000 pieces annually, and we have a seasoned, expert staff with a CNC-equipped die shop on-site. To expedite answers to your questions, please have the following information at hand:

- Material grade
- EAU and delivery quantity
- Date requested
- A good-quality, fully dimensional print

If required, please include any specifications you may have for machining, heat treating, and testing.

Clifford-Jacobs can produce custom or standard forgings within the following parameters:

- From 3 pounds to 800 pounds
- Up to 30 inches in diameter
- Up to 50 inches in length
- Up to 18 inches in spindle height
- Annual quantity of 25 to 15,000 pieces

CLIFFORD-JACOBS FORGING
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MEMBER OF AGMA

FORGING INDUSTRY ASSOCIATION