

COUPLING CORPORATION OF AMERICA

ANDERSON Clamp Hub™

An Advanced Design Concept in Shaft Connections



The Anderson Clamp Hub is quickly becoming the new standard in shaft mounting. Its patented technology allows users to carry high torques without any keys or tapers. It can be installed and removed very quickly and easily with only hand tools – heat and hydraulics are not required. Additionally, it can be retrofitted to any type of existing shaft – straight, keyed, hydraulic, tapered, or splined.

Anderson Clamp Hub vs. other hubs

Ideal Applications

- Coupling to shaft
- Fan blades to shaft
- Shaft-mounting gear
- Two clamp hubs together make a solid coupling
- Actuator arms
- Any place a shaft connection is needed

Keyed Hubs

Because of the stresses a keyway causes in a shaft, keyed shafts need to be larger to carry a given torque.

The Anderson Clamp Hub means:

- No key means smaller, less expensive shafts
- Easy axial and angular adjustment
- No torches and no hot work permits needed
- Better concentricity
- Less time for fitting

Hydraulic Hubs

Since the Anderson Clamp Hub uses no oil, there are several major advantages over a hydraulic hub.

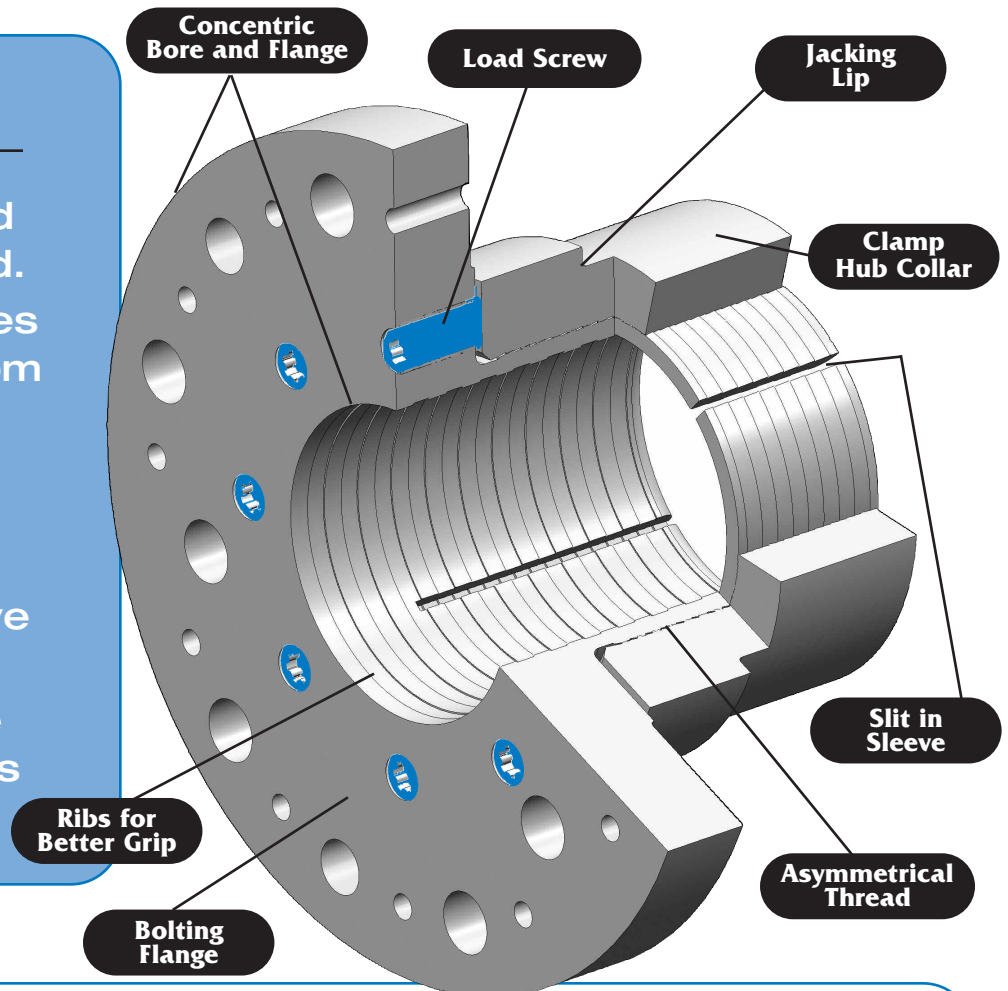
The Anderson Clamp Hub means:

- Higher coefficient of friction
- Higher torque transmission safety factor
- Easy axial adjustment – no shims
- No special equipment needed to install or remove
- No “weep” time before running

A Look at The Anderson Clamp Hub Unique Design

HOW DOES IT WORK?

1. Tighten the load screws by hand.
2. The collar moves axially away from the flange.
3. Asymmetrical threads in the collar force the split inner sleeve inward.
4. The split sleeve securely clamps to the shaft.



Answers to Commonly Asked Questions about the Anderson Clamp Hub

How do I know when the load screws are tight enough? As you tighten the screws, the collar will move away from the flange and create a gap. For your desired torque value, CCA will give you the proper gap dimension.

Do the loading screws loosen during operation? No, the axial force on the screws is too high. Even if one screw loosened, the remaining screws would become even tighter.

Does the Anderson Clamp Hub damage the shaft? No, it is designed to stay well within yielding stresses of the shaft.

What if I can't remove it by unloading the screws? Sometimes the collar will resist sliding off the tapered threads. CCA has designed pulling features into the hub if needed.

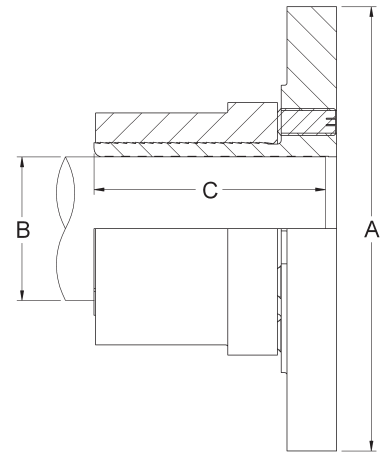
How can CCA retrofit a keyed shaft? Very simply: Put a half key in the keyway, and then the Anderson Clamp Hub clamps on to the shaft without collapsing the empty keyway.

How can the Anderson Clamp Hub have axial freedom on a tapered shaft?

A split bushing with an internal taper and an external cylindrical surface is placed on the tapered shaft. The hub clamps on to the outside of the bushing.

Dimensions and Engineering Data

Size	Max Cont Torque (in-lb)*	Peak Torque Capacity (in-lb)	Thrust Capacity (lb)	Total Clamp Hub Weight (lbs)	Clamp Hub WR^2 (lb-in ²)	A Clamp Hub OD (in)**	B Max Bore (in)	C Min. Shaft Length (in)**
100	4,260	10,650	19,500	2.9	4.9	4.213	1.375	2.50
125	7,280	18,200	25,100	4.9	12.8	5.072	1.875	2.75
162	17,800	44,500	50,600	11.4	50.1	6.711	2.187	3.75
200	34,200	85,500	78,900	17.2	98.0	7.788	2.625	4.50
250	62,400	156,000	117,200	32.8	270	9.325	3.250	5.38
312	124,500	311,250	179,500	44.0	498	10.647	4.312	5.50
400	263,500	658,750	308,800	110	2,003	14.277	5.250	8.63
500	670,800	1,677,000	640,400	251	7,152	18.003	6.500	11.88
630	832,800	2,082,000	900,000	480	10,000	To Suit	8	14.00
800	1,656,000	4,140,000	1,200,000	950	40,000	To Suit	12	16.00
1000	3,284,400	8,211,000	1,800,000	1,900	140,000	To Suit	16	18.00
1250	6,416,400	16,041,000	2,400,000	3,700	2.0E+06	To Suit	20	20.00
1620	12,931,200	32,328,000	2,800,000	7,200	8.0E+06	To Suit	24	22.00
2000	26,604,000	66,510,000	3,200,000	14,000	2.8E+07	To Suit	28	24.00
2500	51,324,000	128,310,000	3,600,000	22,000	4.0E+07	To Suit	32	26.00



*Nominal Torque; See Chart for Torque Range

**Hubs can be designed for shorter shafts and different A dimensions; consult CCA

Weight and inertia are given for maximum bore

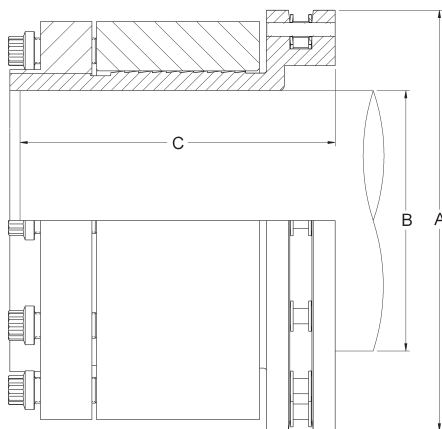
Sizes larger than 500 are application specific, numbers listed are estimates

Slip values are approximately 3X values shown

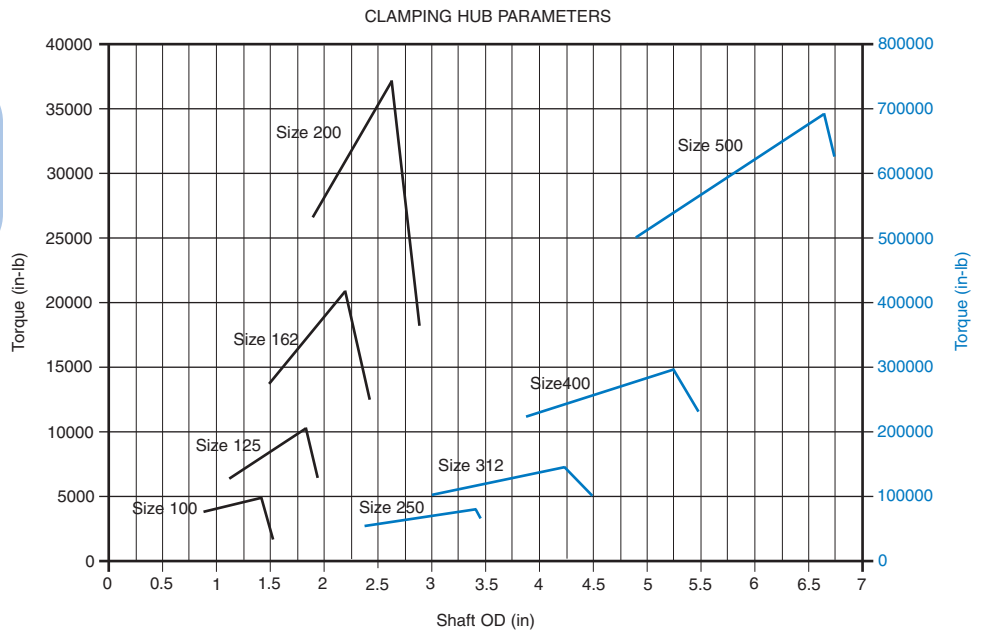
Values given are subject to change

Materials

Hub body and collar - 4000 series or equivalent alloy steel heat treated to 130,000 PSI UTS minimum.



In close coupled applications, where the hub is reversed, a pushing collar is used at the shaft end so that the load screws are always accessible.



Anderson Clamp Hub Applications

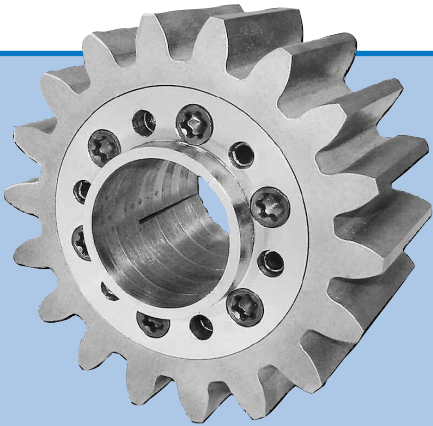
OEM Advantage – Manufacturers can save time and money with the **Anderson Clamp Hub** by reducing machining costs for keyed and tapered shafts.

Without the stress added by keyways, shafts can be smaller. Therefore, in addition to the cost advantage, smaller shafts mean smaller seals and less bearing wear. There are even more cost savings when considering the greatly reduced time to fit the hubs.

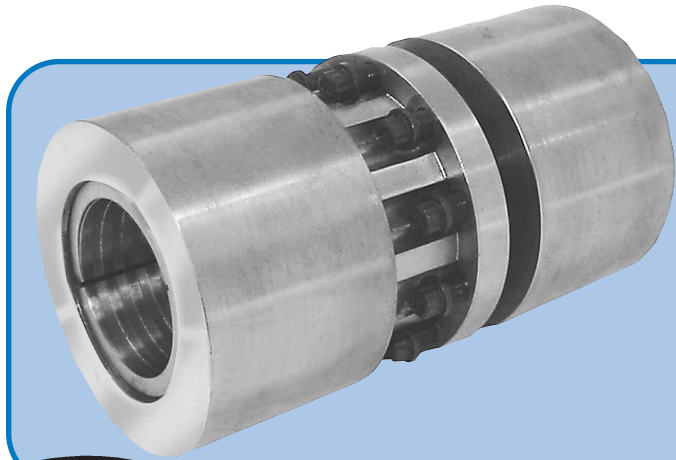
Coupling to Shaft – The Anderson Clamp Hub is the perfect hub for almost any coupling. While it is the standard at Coupling Corporation of America, other couplings can be retrofit with the Anderson Clamp Hub.

Solid Coupling – When flexibility is not an issue, a double Anderson Clamp Hub can be a simple shaft-to-shaft connection. It is even adjustable for varying shaft spacing.

Hardware Mounting – The Anderson Clamp Hub can be specially designed to be an integral part of any shaft-mounting hardware and is easily applied to gears and fan blades, and, in many cases, even actuator arms. In any application the ease of axial and angular (phase) placement can be extremely valuable.



Anderson Clamp Hub
imbedded in a gear



A double Anderson Clamp Hub as a
solid shaft connector



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