

How to properly set Howden SX and SXT Fan blades



Howden advises only to use the blade angle setting method as described in the latest Howden installation manual.

For **SXT** fans Howden recommends only using the height method as described in the installation manual.

For **SX** fans Howden recommends using the height or angle method as described in the installation manual.

We do not prescribe to retorque the U-bolts after blade pitch adjustment for blades which have already been running for a period in operation. We do advise checking the torque of the U-bolts annually during regular maintenance.

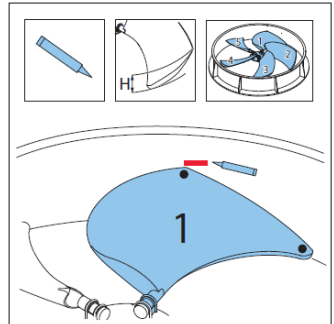
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Mark blade tip height

1. Choose a blade that you want to measure.
2. Mark the position of the upper blade tip in the impeller casing.



Note
The blade tip height (H) is the vertical distance between the lowest point of the blade to the center of the tip at the trailing edge.



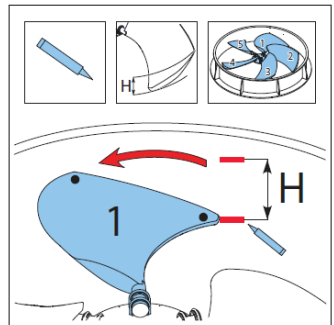
SXT blade

Measure blade tip height

1. Slowly rotate the impeller manually until the lowest point of the blade is positioned vertically underneath the upper marker.
2. Mark the position of the lowest point of the blade in the impeller casing.
3. Measure the blade tip height (H).



Note
The blade tip height (H) is the vertical distance between the two marks.



4. Compare the measured value with the desired value. See table.

Adjustment of the blade angle (angle method)

SX blade

Measure blade angle

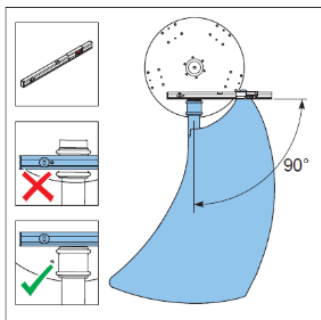
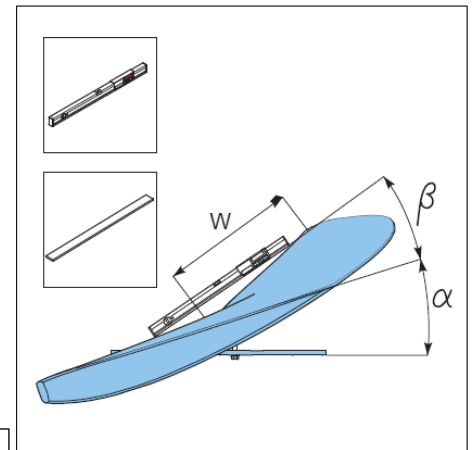
1. Place the inclinometer on the blade and blade stem collar, perpendicular to the blade axis.



Note
If the inclinometer is too short for the blade, it is recommended to use a combination of a straight edge and the inclinometer.

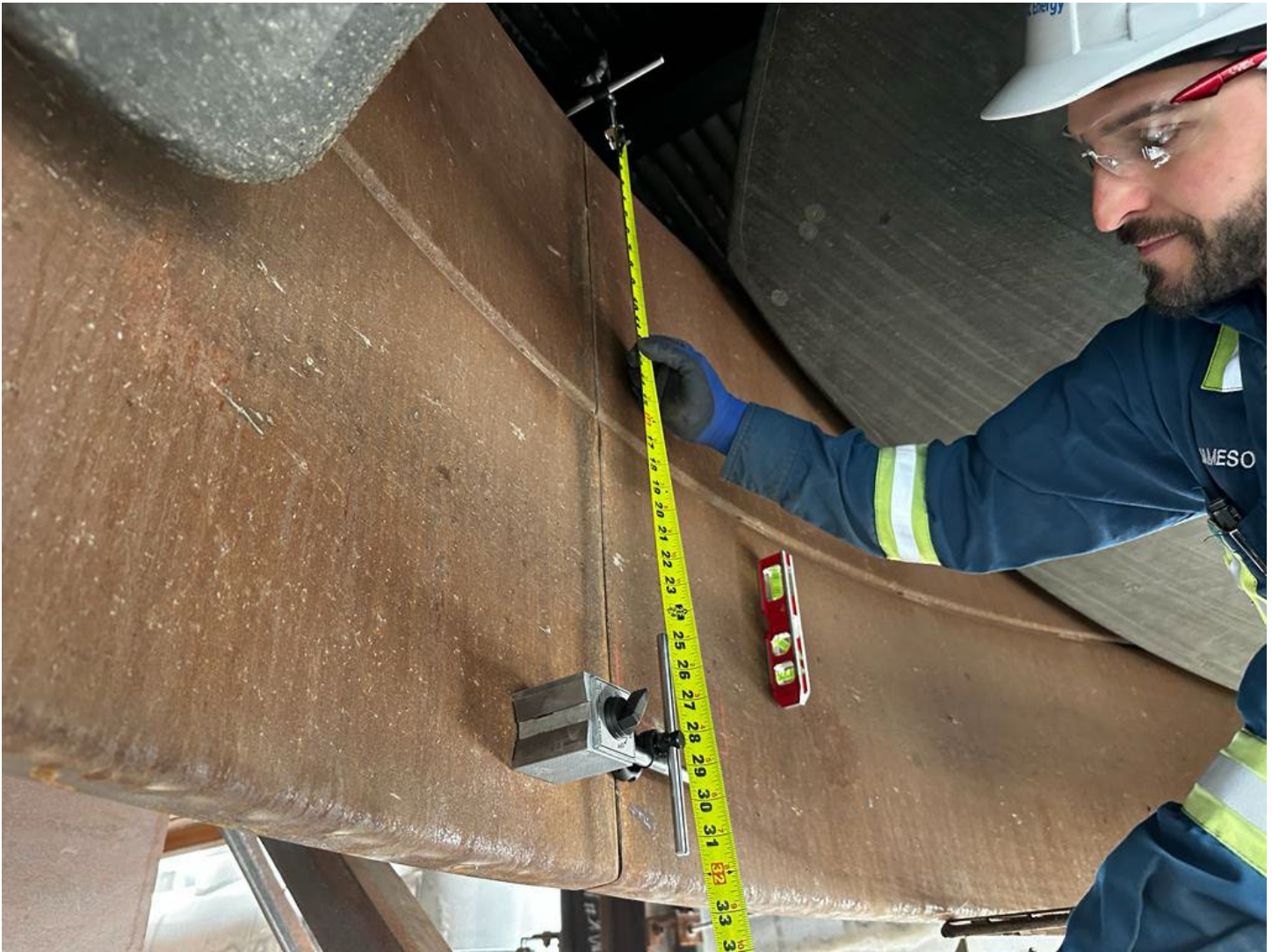
2. Determine the angle ($\alpha + \beta$) between the blade and the stem collar.
3. Compare the measured value with the desired value.

Angle $\beta =$ **Get angle from latest Howden Manual or use "H" method!**



Tip: Where to set digital level

See pages 2 and 3 for proper "H" dimension for SX and SXT blades.



How to set Howden SX and SXT Ultra-Low noise fan blade pitches properly

<https://youtu.be/2h4PLgN3a4Y?si=IS8ZdkFSkQNulAKZ>

SXT Blade

Blade tip height SXT-series:

Fan Diameter		Angle β	H (mm) under blade angle α *						
Diameter Metric (mm)	Diameter Imperial (ft)		0°	5°	10°	15°	20°	25°	30°
3048	10	N.A.	106	173	247	326	409	492	574
3120		N.A.	106	173	247	326	409	492	574
3353	11	N.A.	104	174	252	334	421	507	591
3515		N.A.	104	174	252	334	421	507	591
3658	12	N.A.	140	224	318	418	522	626	729
3962	13	N.A.	139	227	323	427	534	642	747
4267	14	N.A.	139	231	332	440	553	666	774
4455		N.A.	139	231	332	440	553	666	774
4877	16	N.A.	181	294	418	552	690	828	964
4950		N.A.	181	294	418	552	690	828	964
5486	18	N.A.	175	293	424	564	709	854	994
5545		N.A.	175	293	424	564	709	854	994

**Intermediate values can be found by interpolating.*

SX blade

X. BLADE TIP HEIGHT

Fan Diameter		Angle β	H (mm) under blade angle α *						
Diameter Metric (mm)	Diameter Imperial (ft)		0°	5°	10°	15°	20°	25°	30°
710			40	64	92	121	150	179	208
800		16	41	67	95	124	154	183	213
900		15	58	94	130	170	212	252	293
914	3	15	58	94	133	170	214	255	294
1000		15	58	92	130	170	211	251	291
1200		18	61	96	139	182	225	269	321
1219	4	18	61	96	139	182	225	269	321
1240		18	61	96	139	182	225	269	321
1385		12	85	130	192	251	313	374	434
1524	5	15	87	140	198	261	324	388	450
1585		15	87	142	201	263	329	393	458
1780		18	89	146	207	269	335	399	462
1829	6	18	89	146	207	269	335	399	462
1980		18	120	193	272	357	443	529	613
2134	7	20	121	195	276	362	449	536	622
2220		20	123	197	280	367	455	543	630
2438	8	22	124	202	285	373	462	552	640
2475		22	125	203	286	374	464	554	642
2743	9	21	153	248	353	463	577	690	800
2775		21	153	249	355	465	578	691	802
3048	10	22	154	252	362	474	590	704	817
3120		22	155	256	364	477	593	708	822
3353	11	14	200	316	444	582	722	863	1002
3515		15	200	322	455	595	740	885	1027
3658	12	16	203	326	461	604	750	892	1040
3962	13	18	203	331	471	618	768	919	1066
4267	14	18	207	340	483	633	787	940	1092
4455		16	210	341	484	636	789	944	1096
4877	16	22	270	442	629	825	1029	1231	1432
4950		22	275	444	632	830	1034	1240	1441
5486	18	24	275	455	649	857	1069	1282	1491
5545		24	272	456	652	858	1073	1286	1496
6096	20	23	277	450	642	846	1055	1266	1474
6240		23	269	442	635	839	1051	1264	1473
6702	22	26	281	461	660	871	1089	1307	1520
7030		26	282	466	668	881	1101	1322	1537
7315	24	23	280	456	651	858	1072	1287	1497
7920		24	282	464	666	880	1101	1323	1538
7925	26	24	283	465	666	881	1101	1323	1539
8535	28	25	284	472	679	898	1123	1349	1567
8910		22	277	454	651	861	1079	1295	1506
9145	30	22	277	458	656	868	1088	1307	1517
9754	32	22	281	465	670	887	1111	1334	1548
9900		22	281	465	670	887	1111	1334	1548

*Intermediate values can be found by interpolating.

Table 10