Rev. 1.0

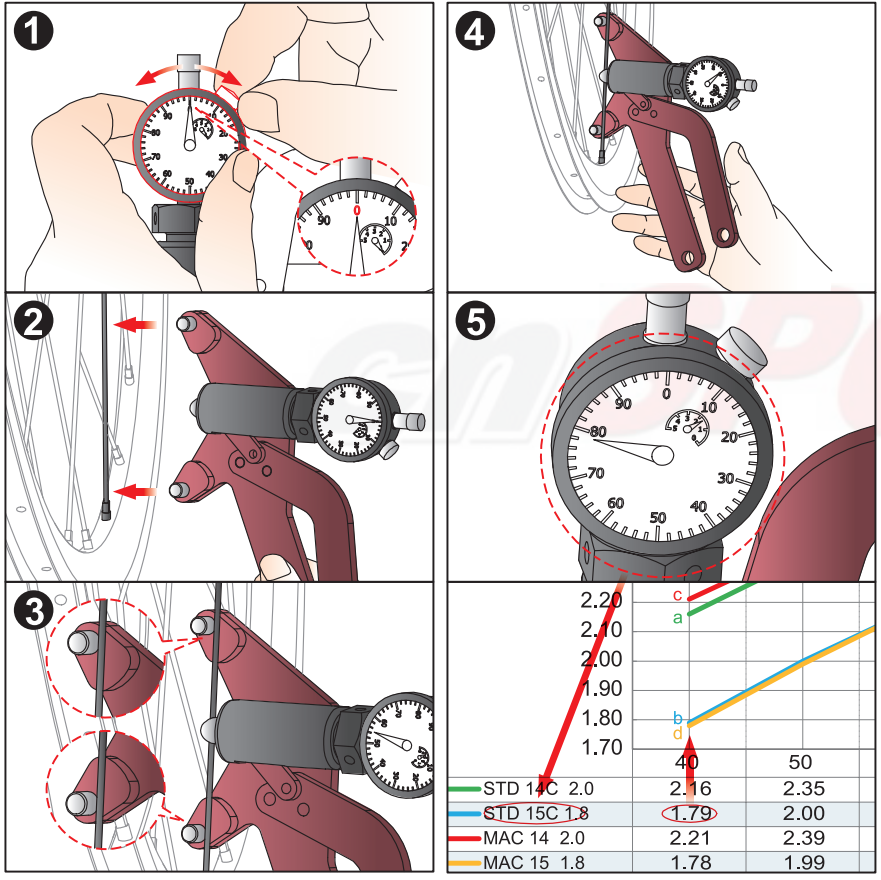
# TEN'SEE 22

cnSPOKE

TENSION GAUGE

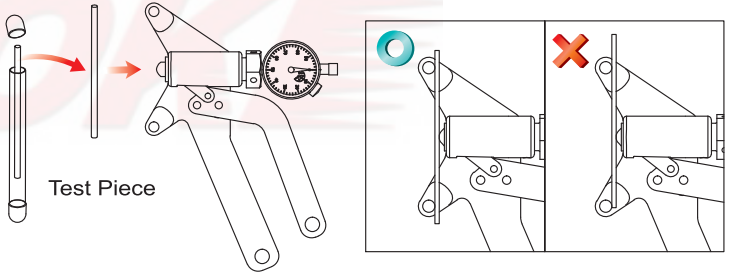
# Maunal

## Steps to Measure Spoke Tension




## Precision Check

Under some circumstances or after periods of use, gauge may need to be re-checked for its precision.
Precision Check can be performed by measuring "test piece" to obtain reading number.
If the number is within "Factory Parameters"indicated below, congratulations, that means the gauge is in good condition.
If the number is beyond "Factory Parameters", this gauge may need to be serviced.
Please contact service center or the seller that you purchased.




***Date / Factory Parameters***

| | | | |
|---|---|---|---|
| | NG< | ~ | <NG |
| | NG< | ~ | <NG |
| | NG< | ~ | <NG |
| | NG< | ~ | <NG |

# TEN'SEE 22

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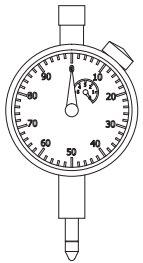
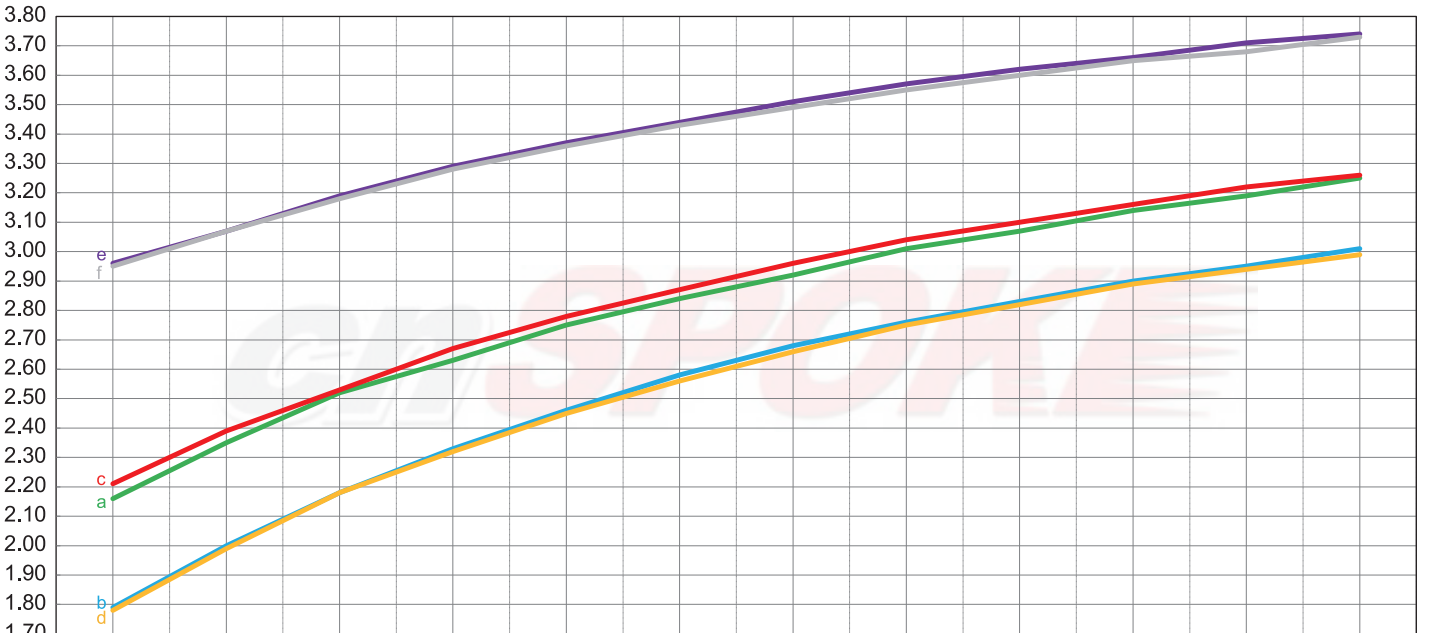
**Plain Gauge**



Measured value
(mm)




| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 kgs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a STD 14C 2.0 | 2.16 | 2.35 | 2.52 | 2.63 | 2.75 | 2.84 | 2.92 | 3.01 | 3.07 | 3.14 | 3.19 | 3.25 |
| b STD 15C 1.8 | 1.79 | 2.00 | 2.18 | 2.33 | 2.46 | 2.58 | 2.68 | 2.76 | 2.83 | 2.90 | 2.95 | 3.01 |
| c MAC 14 2.0 | 2.21 | 2.39 | 2.53 | 2.67 | 2.78 | 2.87 | 2.96 | 3.04 | 3.10 | 3.16 | 3.22 | 3.26 |
| d MAC 15 1.8 | 1.78 | 1.99 | 2.18 | 2.32 | 2.45 | 2.56 | 2.66 | 2.75 | 2.82 | 2.89 | 2.94 | 2.99 |
| e CN134T 2.3-2.0T | 2.96 | 3.07 | 3.19 | 3.29 | 3.37 | 3.44 | 3.51 | 3.57 | 3.62 | 3.66 | 3.71 | 3.74 |
| f M134T T2.3-2.0T | 2.95 | 3.07 | 3.18 | 3.28 | 3.36 | 3.43 | 3.49 | 3.55 | 3.60 | 3.65 | 3.68 | 3.73 |

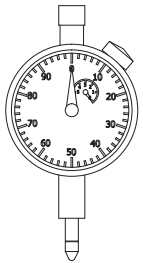
1 kgf = 9.8 N = 2.204 lbf

Spoke Tension (kgf)

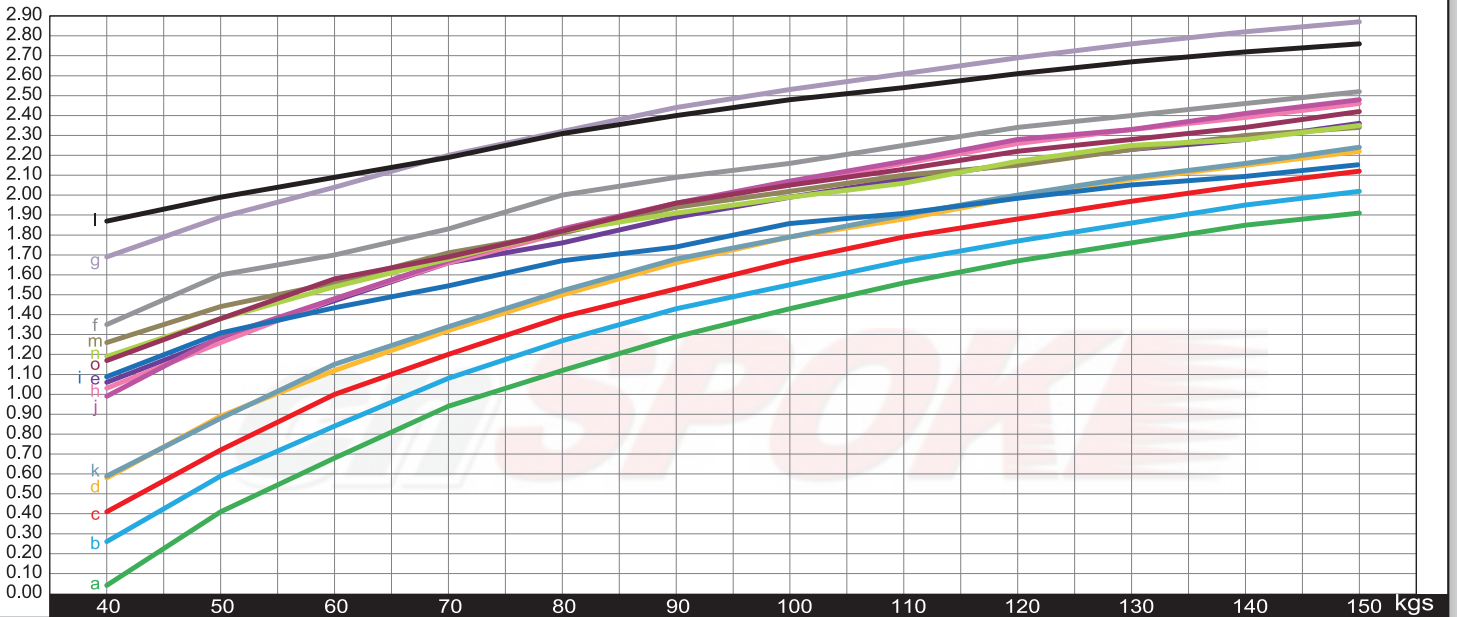
# TEN'SEE 22

cnSPOKE

**Aero Spoke**



Measured value
(mm)




| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 kgs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a Aero 330 2.0-2.1*0.8-2.0 | 0.04 | 0.41 | 0.68 | 0.94 | 1.12 | 1.29 | 1.43 | 1.56 | 1.67 | 1.76 | 1.85 | 1.91 |
| b Aero 360 2.0-2.1*0.85-2.0 | 0.26 | 0.59 | 0.84 | 1.08 | 1.27 | 1.43 | 1.55 | 1.67 | 1.77 | 1.86 | 1.95 | 2.02 |
| c Aero 424 2.0-2.2*0.9-2.0 | 0.41 | 0.72 | 1.00 | 1.20 | 1.39 | 1.53 | 1.67 | 1.79 | 1.88 | 1.97 | 2.05 | 2.12 |
| d Aero 464 2.0-2.2*1.0-2.0 | 0.58 | 0.89 | 1.12 | 1.32 | 1.50 | 1.66 | 1.79 | 1.88 | 1.99 | 2.08 | 2.15 | 2.22 |
| e Aero 434 2.0-2.2*1.1-2.0 | 1.06 | 1.28 | 1.47 | 1.66 | 1.76 | 1.89 | 1.99 | 2.08 | 2.16 | 2.23 | 2.28 | 2.36 |
| f Aero 454 2.0-2.2*1.2-2.0 | 1.35 | 1.60 | 1.70 | 1.83 | 2.00 | 2.09 | 2.16 | 2.25 | 2.34 | 2.40 | 2.46 | 2.52 |
| g Aero 474 2.0-2.3*1.5-2.0 | 1.69 | 1.89 | 2.04 | 2.20 | 2.32 | 2.44 | 2.53 | 2.61 | 2.69 | 2.76 | 2.82 | 2.87 |
| h Aero 494 2.0-3.0*1.2-2.0 | 1.03 | 1.26 | 1.48 | 1.66 | 1.81 | 1.95 | 2.06 | 2.16 | 2.26 | 2.33 | 2.39 | 2.46 |
| i Aero 494C 2.0-3.5*1.1-2.0 | 1.09 | 1.35 | 1.50 | 1.63 | 1.78 | 1.86 | 2.00 | 2.06 | 2.15 | 2.23 | 2.28 | 2.35 |
| j Aero 585 2.0-2.3*1.2-2.0 | 0.99 | 1.29 | 1.48 | 1.67 | 1.83 | 1.96 | 2.07 | 2.17 | 2.28 | 2.33 | 2.41 | 2.48 |
| k Aero 595 2.0-3.0*1.0-2.0 | 0.59 | 0.88 | 1.15 | 1.34 | 1.52 | 1.68 | 1.79 | 1.90 | 2.00 | 2.09 | 2.16 | 2.24 |
| l Aero 374T 2.3-1.4*3.2-2.0T | 1.87 | 1.99 | 2.09 | 2.19 | 2.31 | 2.40 | 2.48 | 2.54 | 2.61 | 2.67 | 2.72 | 2.76 |
| m Aero 384T 2.3-1.3*4.3-2.0T | 1.26 | 1.44 | 1.56 | 1.71 | 1.81 | 1.94 | 2.02 | 2.10 | 2.15 | 2.23 | 2.30 | 2.34 |
| n Aero 394T 2.3-1.1*5.0-2.0T | 1.19 | 1.38 | 1.54 | 1.68 | 1.82 | 1.91 | 1.99 | 2.06 | 2.17 | 2.25 | 2.28 | 2.35 |
| o Aries 384 2.3-1.2*2.5-2.0 | 1.17 | 1.38 | 1.58 | 1.69 | 1.82 | 1.96 | 2.05 | 2.13 | 2.22 | 2.28 | 2.34 | 2.42 |

1 kgf = 9.8 N = 2.204 lbf

Spoke Tension (kgf)

ISO-9001:2008
QMS Certified

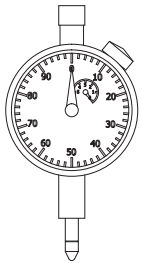
Made in Taiwan

HYI-CNSP2-41-001

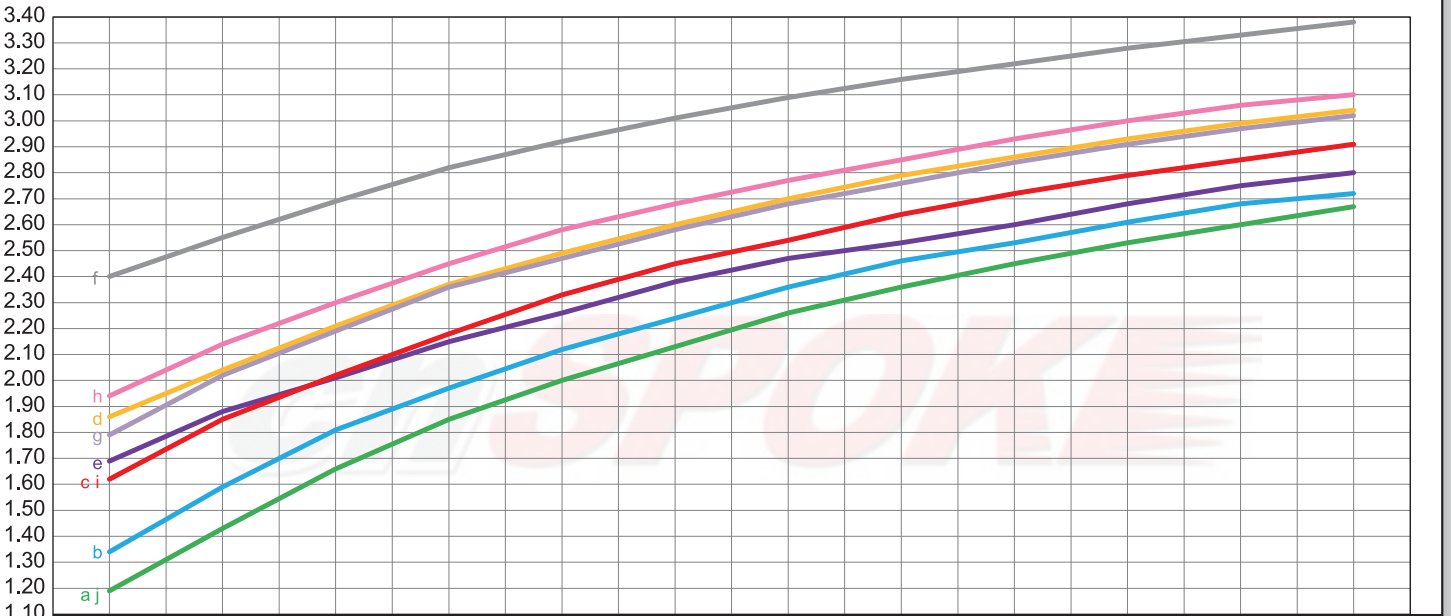
# TEN'SEE 22

cnSPOKE

**Butted Spoke**



Measured value
(mm)




| | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 kgs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a DB 474 2.0-1.5-2.0 | 1.19 | 1.43 | 1.66 | 1.85 | 2.00 | 2.13 | 2.26 | 2.36 | 2.45 | 2.53 | 2.60 | 2.67 |
| b DB 464 2.0-1.6-2.0 | 1.34 | 1.59 | 1.81 | 1.97 | 2.12 | 2.24 | 2.36 | 2.46 | 2.53 | 2.61 | 2.68 | 2.72 |
| c DB 404 2.0-1.7-2.0 | 1.62 | 1.85 | 2.02 | 2.18 | 2.33 | 2.45 | 2.54 | 2.64 | 2.72 | 2.79 | 2.85 | 2.91 |
| d DB 454 2.0-1.8-2.0 | 1.86 | 2.04 | 2.21 | 2.37 | 2.49 | 2.60 | 2.70 | 2.79 | 2.86 | 2.93 | 2.99 | 3.04 |
| e DB 565 1.8-1.6-1.8 | 1.69 | 1.88 | 2.01 | 2.15 | 2.26 | 2.38 | 2.47 | 2.53 | 2.60 | 2.68 | 2.75 | 2.80 |
| f OP 344 2.3-2.0-2.0 | 2.40 | 2.55 | 2.69 | 2.82 | 2.92 | 3.01 | 3.09 | 3.16 | 3.22 | 3.28 | 3.33 | 3.38 |
| g OP 455 2.0-1.8-1.8 | 1.79 | 2.02 | 2.19 | 2.36 | 2.47 | 2.58 | 2.68 | 2.76 | 2.84 | 2.91 | 2.97 | 3.02 |
| h TB 354 2.3-1.8-2.0 | 1.94 | 2.14 | 2.30 | 2.45 | 2.58 | 2.68 | 2.77 | 2.85 | 2.93 | 3.00 | 3.06 | 3.10 |
| i TB 405 2.0-1.7-1.8 | 1.62 | 1.85 | 2.02 | 2.18 | 2.33 | 2.45 | 2.54 | 2.64 | 2.72 | 2.79 | 2.85 | 2.91 |
| j TB 475 2.0-1.5-1.8 | 1.19 | 1.43 | 1.66 | 1.85 | 2.00 | 2.13 | 2.26 | 2.36 | 2.45 | 2.53 | 2.60 | 2.67 |

1 kgf = 9.8 N = 2.204 lbf

Spoke Tension (kgf)

# TEN'SEE 22

# TENSION CHART

cnSPOKE

| Model | Dimension | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | kgs |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STD 14C | 2.0 | 2.16 | 2.35 | 2.52 | 2.63 | 2.75 | 2.84 | 2.92 | 3.01 | 3.07 | 3.14 | 3.19 | 3.25 | |
| STD 15C | 1.8 | 1.79 | 2.00 | 2.18 | 2.33 | 2.46 | 2.58 | 2.68 | 2.76 | 2.83 | 2.90 | 2.95 | 3.01 | |
| MAC 14 | 2.0 | 2.21 | 2.39 | 2.53 | 2.67 | 2.78 | 2.87 | 2.96 | 3.04 | 3.10 | 3.16 | 3.22 | 3.26 | |
| MAC 15 | 1.8 | 1.78 | 1.99 | 2.18 | 2.32 | 2.45 | 2.56 | 2.66 | 2.75 | 2.82 | 2.89 | 2.94 | 2.99 | |
| CN134T | 2.3-2.0T | 2.96 | 3.07 | 3.19 | 3.29 | 3.37 | 3.44 | 3.51 | 3.57 | 3.62 | 3.66 | 3.71 | 3.74 | |
| M134T | 2.3-2.0T | 2.95 | 3.07 | 3.18 | 3.28 | 3.36 | 3.43 | 3.49 | 3.55 | 3.6 | 3.65 | 3.68 | 3.73 | |
| DB 474 | 2.0-1.5-2.0 | 1.19 | 1.43 | 1.66 | 1.85 | 2.00 | 2.13 | 2.26 | 2.36 | 2.45 | 2.53 | 2.60 | 2.67 | |
| DB 464 | 2.0-1.6-2.0 | 1.34 | 1.59 | 1.81 | 1.97 | 2.12 | 2.24 | 2.36 | 2.46 | 2.53 | 2.61 | 2.68 | 2.72 | |
| DB 404 | 2.0-1.7-2.0 | 1.62 | 1.85 | 2.02 | 2.18 | 2.33 | 2.45 | 2.54 | 2.64 | 2.72 | 2.79 | 2.85 | 2.91 | |
| DB 454 | 2.0-1.8-2.0 | 1.86 | 2.04 | 2.21 | 2.37 | 2.49 | 2.60 | 2.70 | 2.79 | 2.86 | 2.93 | 2.99 | 3.04 | |
| DB 565 | 1.8-1.6-1.8 | 1.69 | 1.88 | 2.01 | 2.15 | 2.26 | 2.38 | 2.47 | 2.53 | 2.60 | 2.68 | 2.75 | 2.80 | |
| OP 344 | 2.3-2.0-2.0 | 2.40 | 2.55 | 2.69 | 2.82 | 2.92 | 3.01 | 3.09 | 3.16 | 3.22 | 3.28 | 3.33 | 3.38 | |
| OP 455 | 2.0-1.8-1.8 | 1.79 | 2.02 | 2.19 | 2.36 | 2.47 | 2.58 | 2.68 | 2.76 | 2.84 | 2.91 | 2.97 | 3.02 | |
| TB 354 | 2.3-1.8-2.0 | 1.94 | 2.14 | 2.30 | 2.45 | 2.58 | 2.68 | 2.77 | 2.85 | 2.93 | 3.00 | 3.06 | 3.10 | |
| TB 405 | 2.0-1.7-1.8 | 1.62 | 1.85 | 2.02 | 2.18 | 2.33 | 2.45 | 2.54 | 2.64 | 2.72 | 2.79 | 2.85 | 2.91 | |
| TB 475 | 2.0-1.5-1.8 | 1.19 | 1.43 | 1.66 | 1.85 | 2.00 | 2.13 | 2.26 | 2.36 | 2.45 | 2.53 | 2.60 | 2.67 | |
| Aero 330 | 2.0-2.1*0.8-2.0 | 0.04 | 0.41 | 0.68 | 0.94 | 1.12 | 1.29 | 1.43 | 1.56 | 1.67 | 1.76 | 1.85 | 1.91 | |
| Aero 360 | 2.0-2.1*0.85-2.0 | 0.26 | 0.59 | 0.84 | 1.08 | 1.27 | 1.43 | 1.55 | 1.67 | 1.77 | 1.86 | 1.95 | 2.02 | |
| Aero 424 | 2.0-2.2*0.9-2.0 | 0.41 | 0.72 | 1.00 | 1.20 | 1.39 | 1.53 | 1.67 | 1.79 | 1.88 | 1.97 | 2.05 | 2.12 | |
| Aero 464 | 2.0-2.2*1.0-2.0 | 0.58 | 0.89 | 1.12 | 1.32 | 1.50 | 1.66 | 1.79 | 1.88 | 1.99 | 2.08 | 2.15 | 2.22 | |
| Aero 434 | 2.0-2.2*1.1-2.0 | 1.06 | 1.28 | 1.47 | 1.66 | 1.76 | 1.89 | 1.99 | 2.08 | 2.16 | 2.23 | 2.28 | 2.36 | |
| Aero 454 | 2.0-2.2*1.2-2.0 | 1.35 | 1.60 | 1.70 | 1.83 | 2.00 | 2.09 | 2.16 | 2.25 | 2.34 | 2.40 | 2.46 | 2.52 | |
| Aero 474 | 2.0-2.3*1.5-2.0 | 1.69 | 1.89 | 2.04 | 2.20 | 2.32 | 2.44 | 2.53 | 2.61 | 2.69 | 2.76 | 2.82 | 2.87 | |
| Aero 494 | 2.0-3.0*1.2-2.0 | 1.03 | 1.26 | 1.48 | 1.66 | 1.81 | 1.95 | 2.06 | 2.16 | 2.26 | 2.33 | 2.39 | 2.46 | |
| Aero 494C | 2.0-3.5*1.1-2.0 | 1.09 | 1.35 | 1.5 | 1.63 | 1.78 | 1.86 | 2.00 | 2.06 | 2.15 | 2.23 | 2.28 | 2.35 | |
| Aero 585 | 2.0-2.3*1.2-2.0 | 0.99 | 1.29 | 1.48 | 1.67 | 1.83 | 1.96 | 2.07 | 2.17 | 2.28 | 2.33 | 2.41 | 2.48 | |
| Aero 595 | 2.0-3.0*1.0-2.0 | 0.59 | 0.88 | 1.15 | 1.34 | 1.52 | 1.68 | 1.79 | 1.90 | 2.00 | 2.09 | 2.16 | 2.24 | |
| Aero 374T | 2.3-1.4*3.2-2.0T | 1.87 | 1.99 | 2.09 | 2.19 | 2.31 | 2.40 | 2.48 | 2.54 | 2.61 | 2.67 | 2.72 | 2.76 | |
| Aero 384T | 2.3-1.3*4.3-2.0T | 1.26 | 1.44 | 1.56 | 1.71 | 1.81 | 1.94 | 2.02 | 2.10 | 2.15 | 2.23 | 2.30 | 2.34 | |
| Aero 394T | 2.3-1.1*5.0-2.0T | 1.19 | 1.38 | 1.54 | 1.68 | 1.82 | 1.91 | 1.99 | 2.06 | 2.17 | 2.25 | 2.28 | 2.35 | |
| Aries 384 | 2.3-1.2*2.5-2.0 | 1.17 | 1.38 | 1.58 | 1.69 | 1.82 | 1.96 | 2.05 | 2.13 | 2.22 | 2.28 | 2.34 | 2.42 | |