

INFORMATION

Deformation controlled zinc plated (5µm)/stainless steel A4 anchor suitable for multiple use for non-structural applications in concrete.

The specific design gives flexibility of using the anchor for applications with limited embedment depths like in pre-cast pre-stressed hollow core slabs.

Internal thread suitable for bolts or threaded studs.

BASE MATERIAL

- Concrete C20/25 to C50/60
- Cracked and non-cracked concrete
- Solid concrete C12/15 to C50/60
- Pre-cast pre-stressed hollow core slabs C30/37 to C50/60

FEATURES

- Deformation-controlled Expansion
- Fast And Secure Installation
- Reaction To Fire Class A1
- Fire Resistant Loading
- Permanent Socket To Allow Removal And Replacement Of Fixture
- Use Conditions: Check The ETA

APPROVALS

European Technical Assessment
ETAG 001-06



ETA-18/0213

Fire Resistance

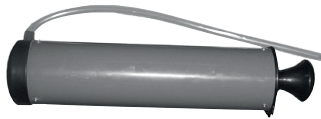


ETA-18/0213

RELATED PRODUCTS



SDS+ Drill Bits



Hole Cleaning Pump

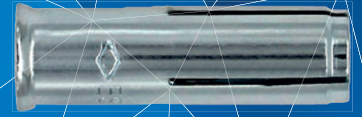


Drop In Anchor Setting Punch

RANGE AND LOAD DATA

RANGE DATA FOR ANCHORAGE DEPTH $h_{ef} = 25$ mm												
Part Number	Drill Hole Diameter (d_o)	Depth of Drill Hole (h_o)	Anchor Length (L_H)	Internal Threaded Length (L_{th})	Fixture Clearance Hole (d_f)	Minimum Spacing And Edge Distance						Tightening Torque (T_{inst})
						Minimum Spacing (s_{min})			Minimum Edge Distance (c_{min})			
						Min Member Thickness ($h_{min,1}=80$)	Standard Member Thickness ($h_{min,2}=100$)	Pre-cast Pre-stressed Hollow Core Slabs	Min Member Thickness ($h_{min,1}=80$)	Standard Member Thickness ($h_{min,2}=100$)	Pre-cast Pre-stressed Hollow Core Slabs	
mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Nm	
ADB Lipped Drop In (Zinc Plated)												
ADBM0825SH	10	25	25	12	9	70	50	200	100	100	150	8
ADBM1025SH	12				12	70	60	200	100	100	150	15
ADBM1225SH	15				14	100	100	200	130	110	150	35
RANGE DATA FOR ANCHORAGE DEPTH $h_{ef} \geq 30$ mm												
Part Number	Drill Hole Diameter (d_o)	Depth of Drill Hole (h_o)	Anchor Length (L_H)	Internal Threaded Length (L_{th})	Fixture Clearance Hole (d_f)	Minimum Member Thickness (h_{min})	Minimum Spacing (s_{min})	Minimum Edge Distance (c_{min})	Tightening Torque (T_{inst})			
	mm	mm	mm	mm	mm	mm	mm	mm	Nm			
ADB Lipped Drop In (Zinc Plated)												
ADBM0830SH	10	30	30	13	9	100	60	95	8			
ADBM1040SH	12	40	40	15	12	120	100	135	15			
ADBM1250SH	15	50	50	18	14	130	120	165	35			
ADSS Lipped Drop In (Stainless Steel A4)												
ADSSM08SH	10	30	30	13	9	100	60	95	8			
ADSSM10SH	12	40	40	15	12	130	100	135	15			
ADSSM12SH	15	50	50	18	14	140	120	165	35			





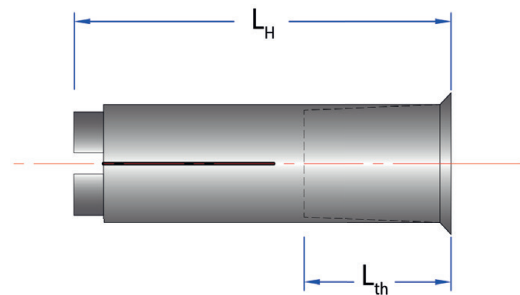
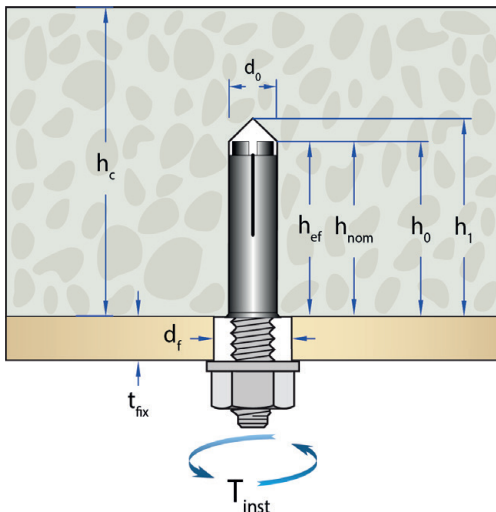
SOLID CONCRETE SLABS

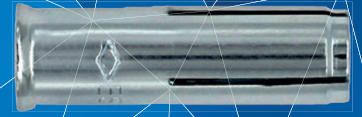
Performance Data For Anchorage Depth ($h_{ef}=25\text{mm}$)

Thread Diam (d_{nom})	Overall Embedment Depth ($h_{nom}=h_{ef}$)	Minimum Concrete Thickness (h_{min})	Characteristic Resistance			Design Resistance			Approved Resistance			Design Spacing (s)	Design Edge Distance (c)
			Load* (F_{Rk})		Bending Moment** ($M^0_{Rk,s}$)	Load (F_{Rd})		Bending Moment ($M^0_{Rd,s}$)	Load (F_{Ra})		Bending Moment ($M^0_{Ra,s}$)		
			C12/15 and C16/20	C20/25 to C50/60		C12/15 and C16/20	C20/25 to C50/60		C12/15 and C16/20	C20/25 to C50/60			
mm	mm	mm	kN		Nm	kN		Nm	kN		Nm	mm	mm
Zinc Plated Steel Grade 4.6 ($\gamma_{MS}=1.67$)													
8	25	80	2.5	4.0	15.0	1.7	2.7	9.0	1.2	1.9	6.4	75	38
10	25	80	3.5	4.5	30.0	2.3	3.0	18.0	1.7	2.1	12.8	75	38
12	25	80	3.5	4.5	52.0	2.3	3.0	31.1	1.7	2.1	22.2	75	38
Zinc Plated Steel Grade 4.8 ($\gamma_{MS}=1.25$)													
8	25	80	2.5	4.0	15.0	1.7	2.7	12.0	1.2	1.9	8.6	75	38
10	25	80	3.5	4.5	30.0	2.3	3.0	24.0	1.7	2.1	17.1	75	38
12	25	80	3.5	4.5	52.0	2.3	3.0	41.6	1.7	2.1	29.7	75	38
Zinc Plated Steel Grade 5.6 ($\gamma_{MS}=1.67$)													
8	25	80	2.5	4.0	19.0	1.7	2.7	11.4	1.2	1.9	8.1	75	38
10	25	80	3.5	4.5	37.0	2.3	3.0	22.2	1.7	2.1	15.8	75	38
12	25	80	3.5	4.5	65.0	2.3	3.0	38.9	1.7	2.1	27.8	75	38
Zinc Plated Steel Grade 5.8 ($\gamma_{MS}=1.25$)													
8	25	80	2.5	4.0	19.0	1.7	2.7	15.2	1.2	1.9	10.9	75	38
10	25	80	3.5	4.5	37.0	2.3	3.0	29.6	1.7	2.1	21.1	75	38
12	25	80	3.5	4.5	65.0	2.3	3.0	52.0	1.7	2.1	37.1	75	38
Zinc Plated Steel Grade 8.8 ($\gamma_{MS}=1.25$)													
8	25	80	2.5	4.0	30.0	1.7	2.7	24.0	1.2	1.9	17.1	75	38
10	25	80	3.5	4.5	60.0	2.3	3.0	48.0	1.7	2.1	34.3	75	38
12	25	80	3.5	4.5	105.0	2.3	3.0	84.0	1.7	2.1	60.0	75	38

* Load in any direction.

** Shear load with lever arm.





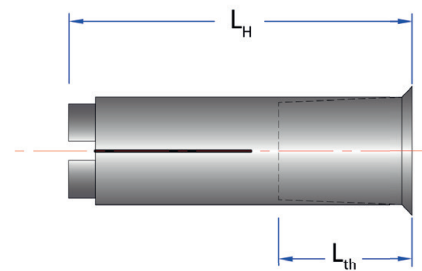
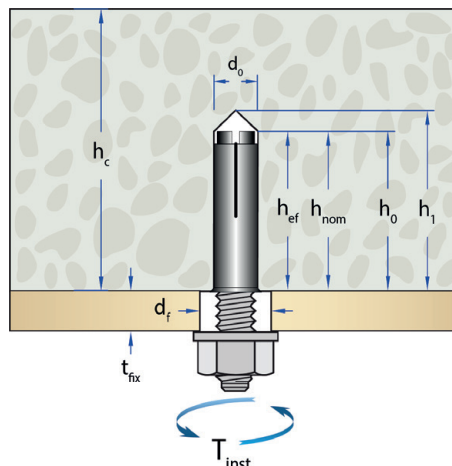
SOLID CONCRETE SLABS

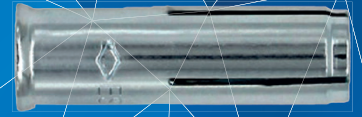
Performance Data For Anchorage Depth ($h_{ef} \geq 30\text{mm}$)

Thread Diam (d_{nom})	Overall Embedment Depth ($h_{nom} = h_{ef}$)	Minimum Concrete Thickness (h_{min})	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)	Design Edge Distance (c)
			Load* (F_{Rk})	Bending Moment** ($M_{Rk,s}^0$)	Load (F_{Rd})	Bending Moment ($M_{Rd,s}^0$)	Load (F_{Ra})	Bending Moment ($M_{Ra,s}^0$)		
			C20/25 to C50/60		C20/25 to C50/60		C20/25 to C50/60			
mm	mm	mm	kN	Nm	kN	Nm	kN	Nm	mm	mm
Zinc Plated Steel Grade 4.6 ($\gamma_{MS}=1.67$)										
8	30	100	5.0	15.0	2.3	9.0	1.7	6.4	180	90
10	40	120	6.0	30.0	2.8	18.0	2.0	12.8	170	85
12	50	130	6.0	52.0	3.3	31.1	2.4	22.2	170	85
Zinc Plated Steel Grade 4.8 ($\gamma_{MS}=1.25$)										
8	30	100	5.0	15.0	2.3	12.0	1.7	8.6	180	90
10	40	120	6.0	30.0	2.8	24.0	2.0	17.1	170	85
12	50	130	6.0	52.0	3.3	41.6	2.4	29.7	170	85
Zinc Plated Steel Grade 5.6 ($\gamma_{MS}=1.67$)										
8	30	100	5.0	19.0	2.3	11.4	1.7	8.1	180	90
10	40	120	6.0	37.0	2.8	22.2	2.0	15.8	170	85
12	50	130	6.0	65.0	3.3	38.9	2.4	27.8	170	85
Zinc Plated Steel Grade 5.8 ($\gamma_{MS}=1.25$)										
8	30	100	5.0	19.0	2.3	15.2	1.7	10.9	180	90
10	40	120	6.0	37.0	2.8	29.6	2.0	21.1	170	85
12	50	130	6.0	65.0	3.3	52.0	2.4	37.1	170	85
Zinc Plated Steel Grade 8.8 ($\gamma_{MS}=1.25$)										
8	30	100	5.0	30.0	2.3	24.0	1.7	17.1	180	90
10	40	120	6.0	60.0	2.8	48.0	2.0	34.3	170	85
12	50	130	6.0	105.0	3.3	84.0	2.4	60.0	170	85
Stainless Steel Grade A4-316 Class 70 ($\gamma_{MS}=1.25$)										
8	30	100	5.0	26.0	2.3	16.7	1.7	11.9	180	90
10	40	120	6.0	52.0	2.8	33.3	2.0	23.8	170	85
12	50	130	6.0	92.0	3.3	59.0	2.4	42.1	170	85

* Load in any direction.

** Shear load with lever arm.





PRE-CAST PRE-STRESSED HOLLOW CORE

Performance Data For Anchorage Depth ($h_{ef}=25\text{mm}$)

Thread Diam (d_{nom})	Overall Embedment Depth ($h_{nom}=h_{ef}$)	Flange Thickness (d_b)	Characteristic Resistance		Design Resistance		Approved Resistance		Design Spacing (s)	Design Edge Distance (c)
			Load* (F_{Rk})	Bending Moment** ($M_{Rk,s}^0$)	Load (F_{Rd})	Bending Moment ($M_{Rd,s}^0$)	Load (F_{Ra})	Bending Moment ($M_{Ra,s}^0$)		
			C30/37 to C50/60		C30/37 to C50/60		C30/37 to C50/60			
mm	mm	mm	kN	Nm	kN	Nm	kN	Nm	mm	mm
Steel Grade 4.6 ($\gamma_{MS}=1.67$)										
8	25	≥ 35 (30)***	4.0	15.0	2.7	9.0	1.9	6.4	200	150
10	25	≥ 35 (30)	4.5	30.0	3.0	18.0	2.1	12.8	200	150
12	25	≥ 35 (30)	4.5	52.0	3.0	31.1	2.1	22.2	200	150
Steel Grade 4.8 ($\gamma_{MS}=1.25$)										
8	25	≥ 35 (30)	4.0	15.0	2.7	12.0	1.9	8.6	200	150
10	25	≥ 35 (30)	4.5	30.0	3.0	24.0	2.1	17.1	200	150
12	25	≥ 35 (30)	4.5	52.0	3.0	41.6	2.1	29.7	200	150
Steel Grade 5.6 ($\gamma_{MS}=1.67$)										
8	25	≥ 35 (30)	4.0	19.0	2.7	11.4	1.9	8.1	200	150
10	25	≥ 35 (30)	4.5	37.0	3.0	22.2	2.1	15.8	200	150
12	25	≥ 35 (30)	4.5	65.0	3.0	38.9	2.1	27.8	200	150
Steel Grade 5.8 ($\gamma_{MS}=1.25$)										
8	25	≥ 35 (30)	4.0	19.0	2.7	15.2	1.9	10.9	200	150
10	25	≥ 35 (30)	4.5	37.0	3.0	29.6	2.1	21.1	200	150
12	25	≥ 35 (30)	4.5	65.0	3.0	52.0	2.1	37.1	200	150
Steel Grade 8.8 ($\gamma_{MS}=1.25$)										
8	25	≥ 35 (30)	4.0	30.0	2.7	24.0	1.9	17.1	200	150
10	25	≥ 35 (30)	4.5	60.0	3.0	48.0	2.1	34.3	200	150
12	25	≥ 35 (30)	4.5	105.0	3.0	84.0	2.1	60.0	200	150

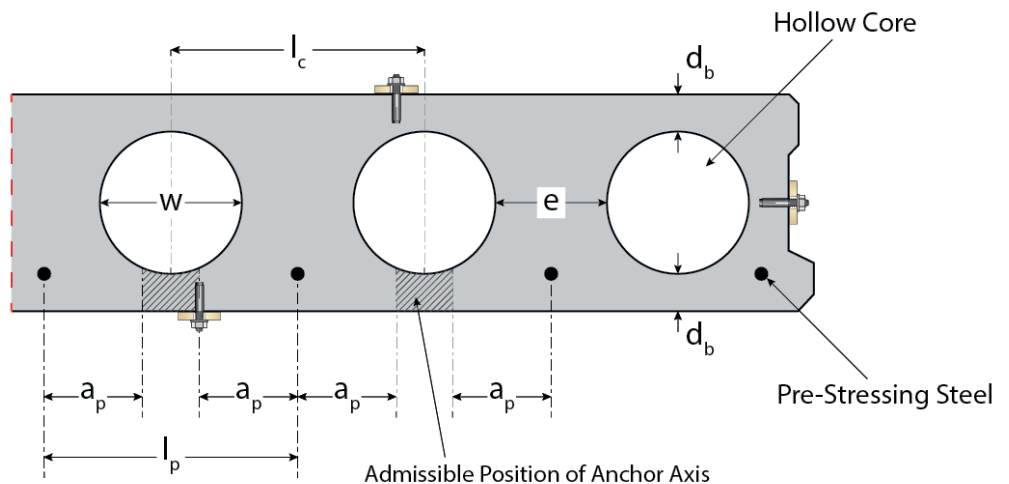
* Load in any direction. ** Shear load with lever arm. *** The anchor may be set in a flange thickness of 30 mm with identical characteristic loads, if the borehole cuts no hollow core.

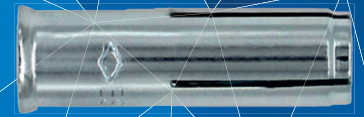
ADMISSIBLE ANCHOR POSITIONS IN PRE-CAST PRE-STRESSED HOLLOW CORE SLABS ($w/e \leq 4.2$):

-Core distance:
 $l_c \geq 100$ mm

-Pre-stressing steel distance:
 $l_p \geq 100$ mm

-Distance between anchor position and pre-stressing steel:
 $a_p \geq 50$ mm





FIRE RESISTANCE DATA



Fire Resistance Data (For Anchorage Size $h_{ef}=25\text{mm}$ in Solid Concrete Slabs C20/25 to C50/60)*

Thread Diam (d_{nom})	Overall Embedment Depth (h_{nom})	Design Resistance				Approved Resistance				Spacing ($s_{cr,fr}$)	Edge Distance ($c_{cr,fr}$)
		Tensile ($N_{Rd,fr}$) or Shear ($V_{Rd,fr}$) (kN)				Tensile ($N_{Ra,fr}$) or Shear ($V_{Ra,fr}$) (kN)					
mm	mm	30min (R30)**	60min (R60)	90min (R90)	120min (R120)	30min (R30)	60min (R60)	90min (R90)	120min (R120)	mm	mm
8	25	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	100	50
10	25	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	100	50
12	25	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	100	50

* The determination covers anchors with a fire attack from one side only. If the fire attack is from more than one side, the design method may be taken only, if the edge distance of the anchor is $c \geq 300\text{ mm}$ and $\geq 2 h_{ef}$.

** Steel Grade ≥ 4.6

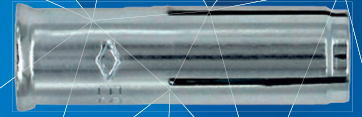
Fire Resistance Data (For Anchorage Size $h_{ef} \geq 30\text{mm}$ in Solid Concrete Slabs C20/25 to C50/60)*

Thread Diam (d_{nom})	Overall Embedment Depth (h_{nom})	Design Resistance				Approved Resistance				Spacing ($s_{cr,fr}$)	Edge Distance ($c_{cr,fr}$)
		Tensile ($N_{Rd,fr}$) or Shear ($V_{Rd,fr}$) (kN)				Tensile ($N_{Ra,fr}$) or Shear ($V_{Ra,fr}$) (kN)					
mm	mm	30min (R30)	60min (R60)	90min (R90)	120min (R120)	30min (R30)	60min (R60)	90min (R90)	120min (R120)	mm	mm
Zinc Plated Steel Grade 4.6											
8	30	0.6	0.6	0.6	0.5	0.4	0.4	0.4	0.4	180	90
10	40	0.9	0.8	0.6	0.5	0.6	0.6	0.4	0.4	170	85
12	50	1.5	1.3	1.1	0.8	1.1	0.9	0.8	0.6	200	100
Stainless Steel Grade A4-316 Class 70											
8	30	0.9	0.9	0.9	0.5	0.6	0.6	0.6	0.4	180	90
10	40	1.5	1.5	1.5	1.0	1.1	1.1	1.1	0.7	170	85
12	50	1.5	1.5	1.5	1.2	1.1	1.1	1.1	0.9	200	100

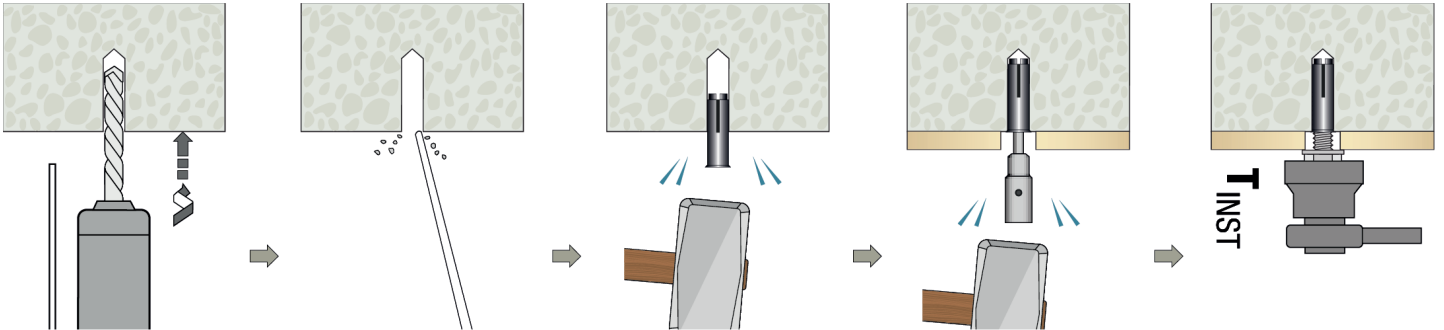
* The determination covers anchors with a fire attack from one side only. If the fire attack is from more than one side, the design method may be taken only, if the edge distance of the anchor is $c \geq 300\text{ mm}$ and $\geq 2 h_{ef}$.

For variations in structure thickness, reduced spacing and edge calculations download the free **Anchor Calculation Program** from www.jcpfixings.co.uk





INSTALLATION INSTRUCTIONS



-Drill correct diameter hole to corresponding depth

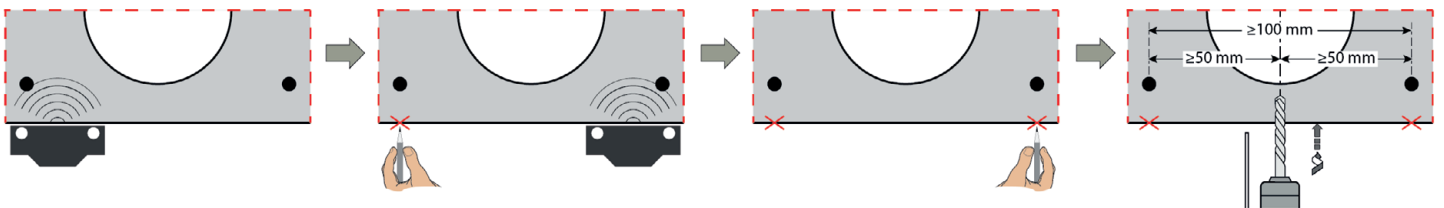
-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through concrete using suitable hammer

-Hammer wedge home using correct setting punch

-Tighten with torque wrench to recommended torque

INSTALLATION INSTRUCTIONS FOR PRE-CAST PRE-STRESSED HOLLOW CORE SLABS

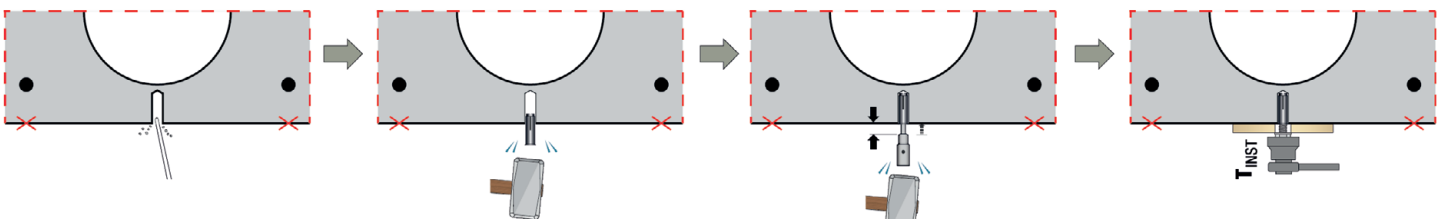


-Search for the position of the reinforcement

-Mark the position of the reinforcement and Search for the other position of the reinforcement

-Mark the position of the reinforcement

-Drill correct diameter hole to corresponding depth while maintaining the required distances



-Clean hole by blowing to remove drilling debris and dust

-Insert anchor through concrete using suitable hammer

-Hammer wedge home using correct setting punch

-Tighten with torque wrench to recommended torque

