

Installation Instructions for Heavy Duty Stop Collars

Background

The function of the Stop Collar within the borehole is considered vital for the effective installation of the Centralizer and hence subsequent cementation. Therefore, it is strongly advised to use the correct equipment and installation methods.

Centek Stop Collars are generally supplied with 'Cup point socket head set screws' which are M12 dia. X 1.5mm pitch thread, with a 6 mm A/F female hex socket. (See datasheet for specific set screw size)

Centek supplied screws are specially selected for thread form and pitch commensurate with design and axial holding loads – the use of non Centek supplied screws is not permitted.

Clearance of Stop Collars either side of a Centralizer

Should the Centralizer be fully compressed, its developed length must not be greater than the distance between inner edges of the Stop Collars.

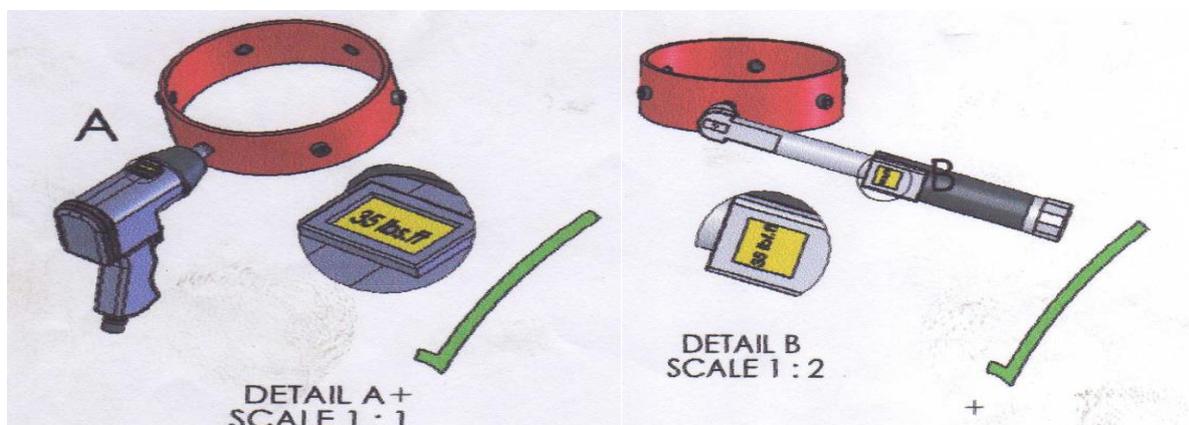
Sizes up to and including 11-3/4" casing

It is recommended to have 3" of clearance (with a minimum of at least 1" clearance) either side of the Centralizer to the inner edges of the Stop Collar.

Sizes larger than 11-3/4" casing

It is recommended to have 3" of clearance (with a minimum of at least 2" clearance) either side of the Centralizer to the inner edges of the Stop Collar.

Applying torque to 35 lb.ft. - correct tooling alternatives



(Products / suppliers are given below in good faith as a form of assistance and example. Ultimate choice will be purchasers' responsibility).

Pneumatic Tools

This is the preferred method of installation, following Centek Engineering investigations. We recommend that the latest generation pneumatic tool be used with positive, accurate mechanical torque control built in. Supplier outlets are available worldwide, which may carry out calibration services as required.

Example - typical UK Supplier

'Uryu' Pulse Tool

Model Number ULT70, 30-55NM (23-41 lb.ft.) torque range.

Hand operated Torque wrenches (must be calibrated)

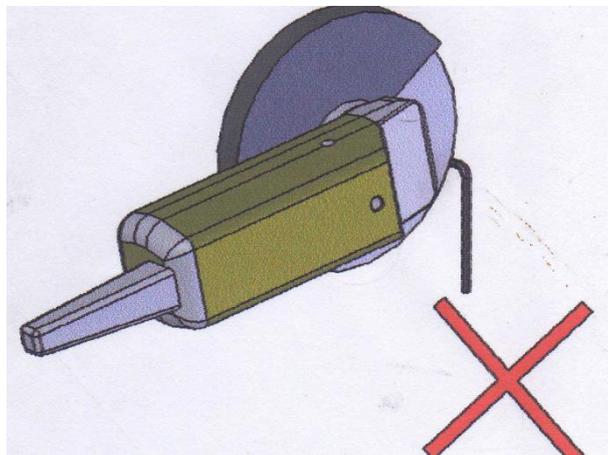
Typically 'Snap' type with clear sight window for setting of desired torque.

Example - typical UK Supplier

Britool Torque Wrench Pt. No. 651-383. 15 to 75 lb.ft. (20 to 100 Nm) 1/2" A/F Square drive

Norbar Torque Wrench Pt. No. 2202-183196. 0 to 45 lb.ft. (0 to 60 Nm) 1/2" A/F Square drive

A 6 mm A/F drive key must be used with either of the above options. Do not 'cut down' regular Allen keys for use in a torque wrench or pneumatic tool.



The preferred drive is Centek Pt. No. SA12-HTLL special high performance hex key tool

The 'HEX PLUS' precision form on the hex flats allows higher torques and substantially reduced rounding of corners with resulting longer life

DO NOT use cut of lengths from conventional hand 'Allen' keys, that have been obtained by grinding or cutting wheel methods. This method generates sufficient heat to de-temper the key hardness

Use pre-made key lengths of suitable length to fit securely into socket head of the torque wrench tool etc., ensuring sufficient length protrudes for full depth location in the female hex socket of the set screws.

Typically, the keys are made from an impact resistant 'sintered carbide' approximately 1/2" to 5/8" long.

Some grades may not tolerate side loading through misalignment to the socket screw – Centek uses a high quality tough Chrome Vanadium hex key that gives good torque transmission and excellent life of tooling.

Alternative example - typical UK Supplier

Draper Expert CR-V 6mm A/F Key Pt. No. GEE-15323K

Centek supplier: J & L Industrial, Wednesbury, West Midlands, WS10 7WP
Tel: 0800 66 33 55

Installation Information

1. Remove the Thread Protector and then slip on the Stop Collar from the pin end.
2. Slide the Stop Collar to the correct position and torque up the set screws using an Allen Key following Centek's recommended correct sequence of tightening installation procedure (see below).
3. Next, slide the Centralizer over the pin end leave a distance between 1 and 3" from the side of the Centralizer.
4. Slip on the second Stop Collar and leave a distance between 1 and 3" from the side of the Centralizer. Torque up the set screws using Allen Key following Centek's recommended correct sequence of tightening installation procedure (see below).
5. Replace the thread protector.

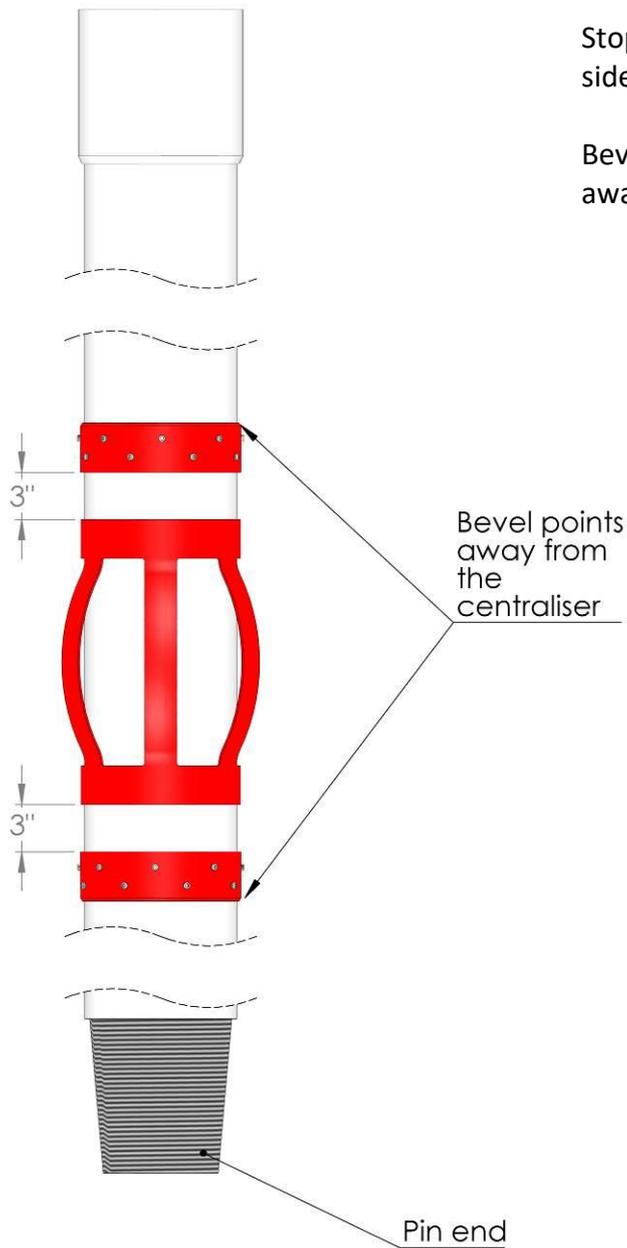
Note: Centek recommend that 1 Stop Collar should *only* be used on Threaded and Coupled connections.

6. Whether using 1 or 2 Stop Collars per Centralizer, the Stop Collar must be installed first on the casing/tubing followed by the Centralizer.
7. If one centralizer is used per joint, the centralizer must be placed approximately 6ft from the pin end. Please refer to Centek's recommended centralizer spacing patterns for more information.
8. If using an air gun or torque wrench, ensure the tool has been calibrated and tested.
9. Set screws must be torqued to 35 ft/lbs (47Nm) to ensure the correct axial holding force of the set screws on the Stop Collar/casing.

Details:

Stop Collars are approximately 3" either side of the Centralizer.

Bevel on all heavy duty Stop Collars point away from Centralizer.

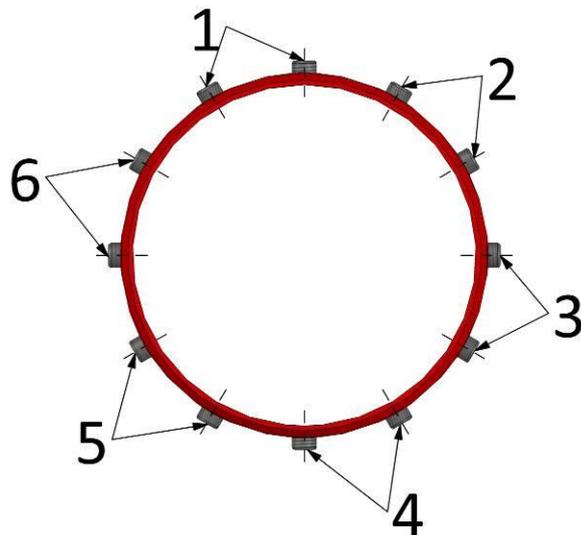
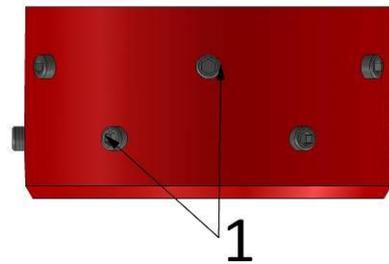


Correct sequence of tightening

It is necessary to ensure uniform tightening of the screws so that the Stop Collar ring body is concentric to the pipe. Common practice is to set the screws all round with a very low torque, and check to ensure the Stop Collar is centered to the pipe before applying the final torque in the suggested radial sequences:

Sequence of tightening - 12 screws

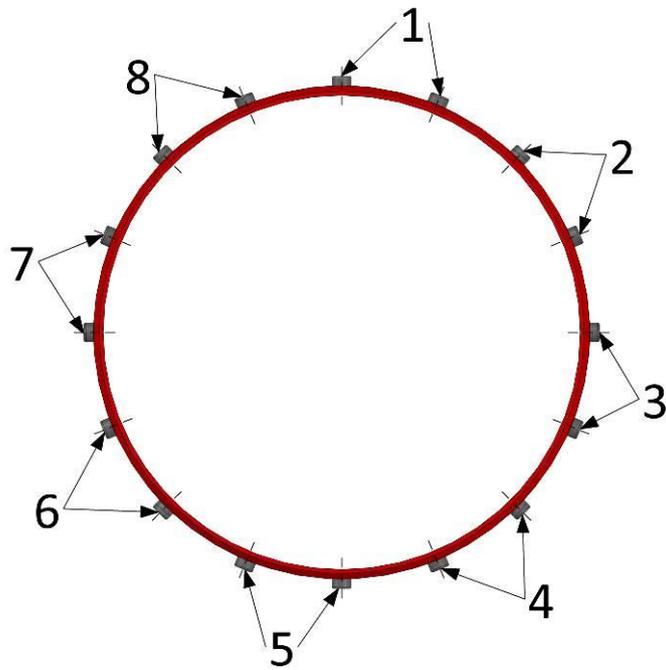
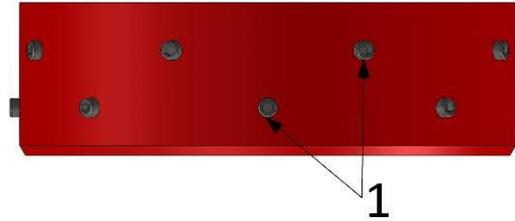
Step	Screw pairs
1	1 & 4
2	3 & 6
3	2 & 5



Final torque to be applied 35 lb.ft. (47 Nm)

Sequence of tightening - 16 screws

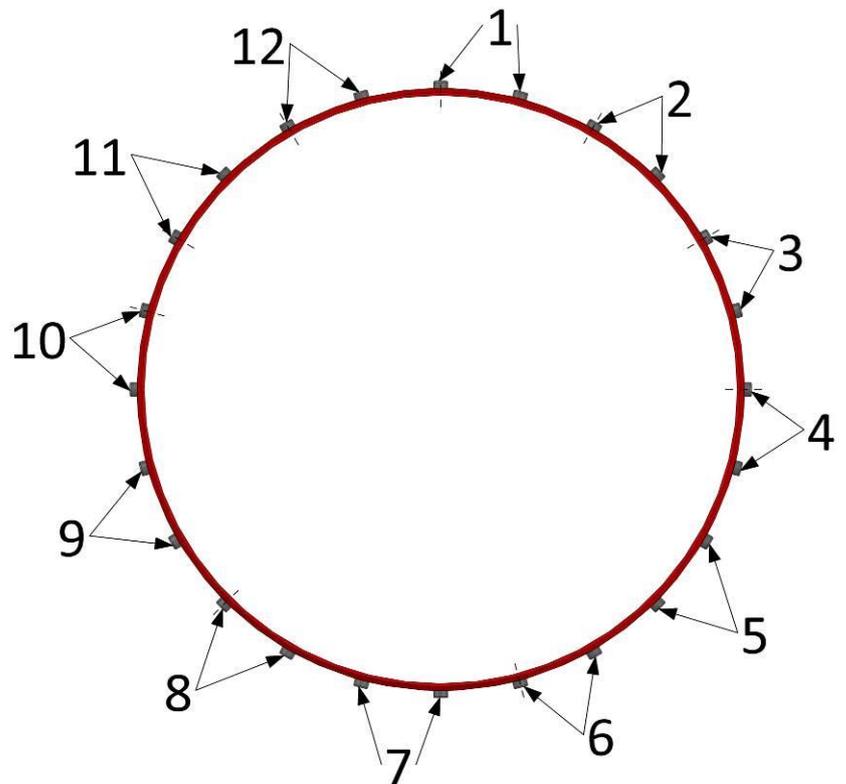
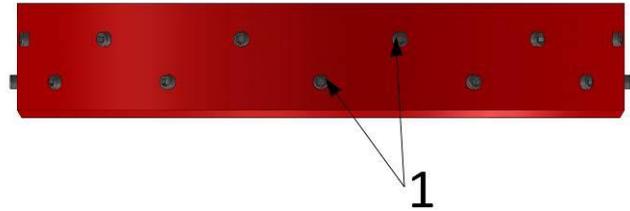
Step	Screw pairs
1	1 & 5
2	3 & 7
3	2 & 6
4	4 & 8



Final torque to be applied 35 lb.ft. (47 Nm)

Sequence of tightening - 24 Screws

Step	Screw pairs
1	1 & 7
2	4 & 10
3	2 & 8
4	5 & 11
5	3 & 9
6	6 & 12



Final torque to be applied 35 lb.ft. (47 Nm)