

Title: Instructions for using the torque wrench tools VA3860 and VA4146.

1. Purpose:

The purpose of this service instruction is to describe the correct way of using the torque wrench tools P/N VA3860 and VA4146.

Incorrect use of the torque wrench tools might cause damage due to overtightening of the secure nut.

2. References:

2.1. ISO 9001 (2008) §7.5.1 Control of production and service provision

3. Definitions:

3.1. None

4. Forms:

4.1. None

5. Scope:

5.1. This service instruction applies to the all Ventura IG3 and IG4 door shafts.

6. Material/Tools:

6.1. Torque wrench tool P/N VA3860 (for IG4 door systems)

6.1.1. Pinion P/N VA3864

6.1.2. Ring P/N VA4147

6.1.3. Spanner plate 79,5 P/N VA3859

6.2. Torque wrench tool P/N VA4146 (for IG3 door systems)

6.2.1. Pinion P/N VA3864

6.2.2. Ring P/N VA4147

6.2.3. Spanner plate 85,5 P/N VA4148

6.2.4. Spanner plate 89,0 P/N VA4145

6.3. Torque wrench (two ways clicking)

6.4. 17mm socket

6.5. Socket extension (optional)

7. Note:

7.1. The next page is the instruction supplied with the tools and therefore the lay-out differs from the standard lay-out.

Revision no.	Date:	Description of the change:	
3	01-07-2016	Changed notion about using a two-way clicking torque wrench to emphasize a normal torque wrench won't work.	
2	02-02-2016	Divided table with torque settings into one for new systems and one for older systems.	
1	01-09-2015	First release	
		Name & function:	K. Slager Technical Documentation Specialist

Instructions for using the torque wrench tools VA3860 and VA4146. (VA3860 for IG4 doors and VA4146 for IG3).

Step 1: Remove pneumatic pressure or electrics from the system.

Step 2: Unclip the spring pin that holds the cylinder rod fork to the door shaft top lever.

Step 3: Move the cylinder or cylinder rod away from the door shaft.

Step 4: Place the plastic ring on or over the plastic bush of the door shaft top lever, depending on door system:

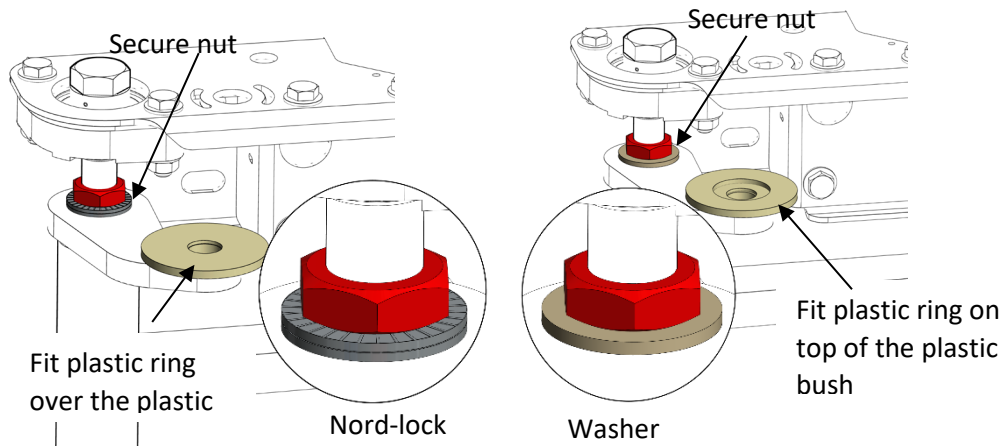


Figure 4.1: IG4 door system with Nord-lock or washer

Figure 4.2: IG3 door system with washer

Step 5: Place the pinion gear in the door shaft top lever and also place the spanner plate.

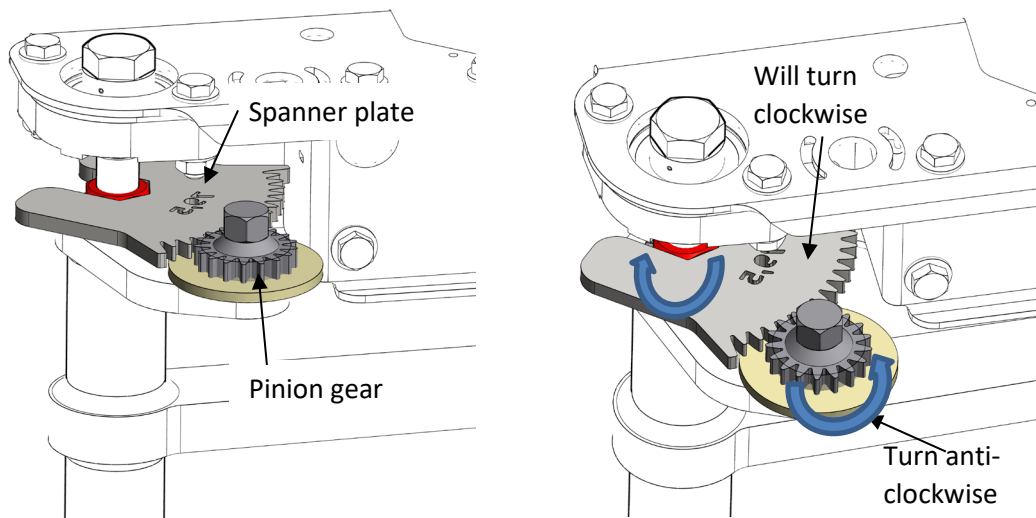


Figure 5.1: Place pinion and spanner plate

Figure 6.1: Torque the secure nut

Step 6: Torque the secure nut (red) according to the following table:

Use a two-way (clicks both ways) torque wrench and a 17mm socket, because the pinion turns anti-clockwise and needs to be able to click in this direction when the torque setting has been reached. A regular, one-way clicking torque wrench won't work because it won't click in this direction causing too much torque. Be careful applying torque, because of the gear ratio you could easily over-torque the secure nut.

New door system	Spanner plate size	Ratio (12% ratio loss)	Target torque	Torque on pinion
IG4 with Nord-lock 2-ring disk	79.5mm	1 : 3.44	126 +0/-5 Nm	36 +0/-1 Nm

Hint: If space is a problem, a socket extension between the socket and the torque wrench might be helpful.

For service purposes:

Older door systems	Spanner plate size	Ratio (12% ratio loss)	Target torque	Torque on pinion
IG4 with washer	79.5mm	1 : 3.44	100Nm	35Nm
IG3 with washer	85.5mm	1 : 3.75	100Nm	30Nm
IG3 with washer	89mm	1 : 3.94	100Nm	30Nm