

LNB Installation Manual

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1 **Purpose**

This document serves as a reference instruction manual for the installation of LNBs. The document provides the required torque specifications as well as tightening sequence that technicians must follow when installing the LNB directly onto the system.

2 **Scope**

The documented information applies to all LNBs sold by Norsat International Inc.

- Ka/Ku Band LNB
- X Band LNB
- C Band LNB
- Q Band LNB

3 **Reference Documents**

3.1 **Standards**

Document Number	Description
INS001210	NORSAT STANDARD ASSEMBLY PRACTICES

Table 1: Reference Documents

4 **Acronyms and Abbreviations**

N/A	N/A
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Table 2: List of Acronyms & Abbreviations

5 **Responsibility**

It is the responsibility of the assembler to adhere to the specifications and instructions provided in the document during installation.

6 **Torque Specifications**

Torque values are taken from INS001210.

Unless otherwise specified, stainless steel screws installed into aluminum tapped holes with a hole depth of 1.5 times the major diameter shall be tightened to the torques listed in Table 3 or Table 4.

Further classification for each band is provided as well, with the recommended screw thread size. LNB configurations for specific bands that interchange between imperial and metric threads should follow the measurement system provided in the datasheet.

	Imperial Fasteners		
Thread	in-lbs	in-oz	N-m
0 - 80	1.1	17.5	0.12
1 - 64	1.9	30	0.21
2 - 56	3.1	50	0.35
4 - 40	7	110	0.79
6 - 32	12	190	1.4
8 - 32	22	350	2.5
10 - 24	32	510	3.6
1/4" - 20	75	1200	8.5
5/16" - 18	160	-	18
3/8" - 16	280	-	32
7/16" - 14	440	-	50
1/2" - 13	670	-	76

Table 3: Imperial Fastener Torques

	Metric Fasteners		
Thread	in-lbs	in-oz	N-m
M1.6	1.2	19	0.13
M2	2.4	38	0.27
M2.5	4.8	77	0.54
M3	8.6	140	0.97
M4	21	330	2.3
M5	41	-	4.6
M6	68	-	7.7
M8	170	-	19
M10	330	-	37

Table 4: Metric Fastener Torque

6.1 Ka-Band

Imperial thread size: **4-40**

- Torque required: **7 in-lbs**

Metric thread size: **M3**

- Torque required: **8.6 in-lbs**

6.2 Ku-Band

Imperial thread size: N/A

- Torque required: N/A

Metric thread size: **M4**

- Torque required: **21 in-lbs**

6.3 X-Band

Imperial thread size: **8-32**

- Torque required: **22 in-lbs**

Metric thread size: N/A

- Torque required: N/A

6.4 C-Band

Imperial thread size: **1/4"-20**

- Torque required: **75 in-lbs**

Metric thread size: N/A

- Torque required: N/A

6.5 Q-Band

Imperial thread size: N/A

- Torque required: N/A

Metric thread size: **M3**

- Torque required: **8.6 in-lbs**

7 Tightening Sequence

The tightening sequence is based on the number of holes on the LNB flange. Ku, Ka, X, and Q Bands all have 4 holes on their flange which requires a criss-cross tightening pattern whereas the C-Band flange has 10 holes on its flange which requires a spiral tightening pattern.

All tightening should also be split into 2 separate instances. Starting with half the specified torque first and then full ensuring the sequence is followed for both instances.

7.1 Ka, Ku, X, and Q Band

- Criss-Cross Tightening Pattern

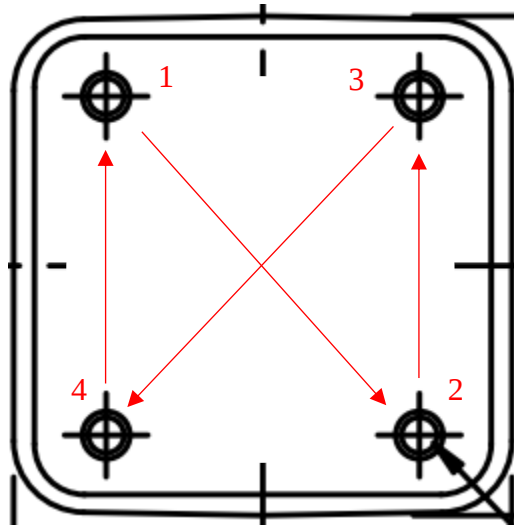


Figure 1: Criss-Cross Tightening Pattern for 4 Bolts

7.2 C Band

- Spiral Tightening Sequence

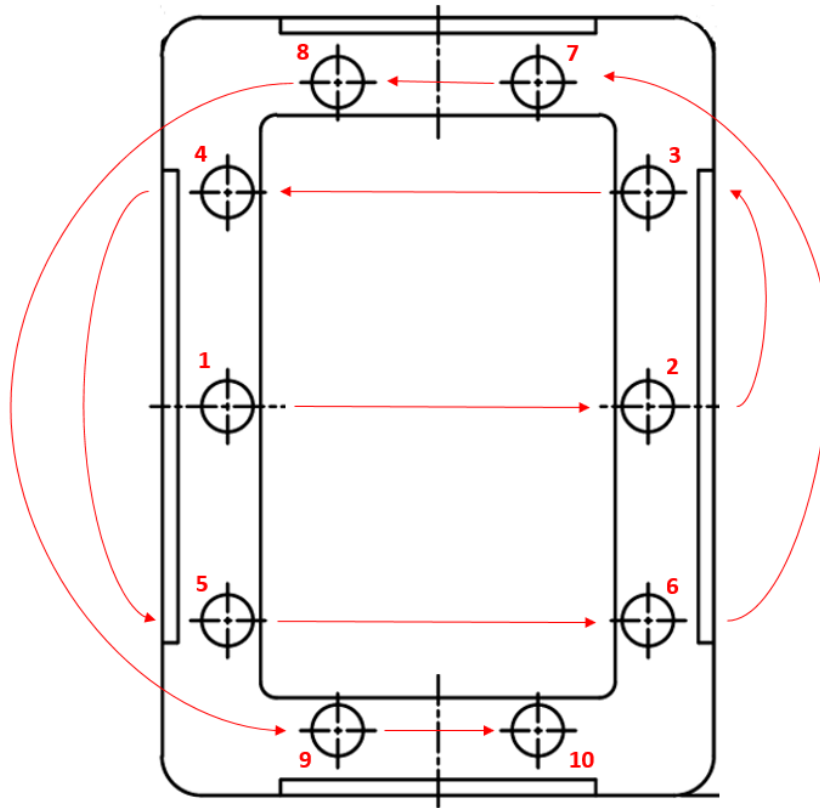


Figure 2: Spiral Tightening Pattern for 10 Bolts

8 Installation Instruction

- Insert the gasket included with the LNB into the groove of the LNB.
- Locate LNB fasteners and washers.
- On the screw threads, apply two to three drops of Loctite 242 (Blue). Do this for all fasteners.
- Firmly Place the LNB onto the system with the threads and fasteners in but not engaged/tightened.
- Spec the torque wrench/ screw to half of its required amount and tighten the fasteners in the recommended sequence.
- Spec the torque wrench/ screw to its full required amount and tighten the fasteners again in the recommended sequence.

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