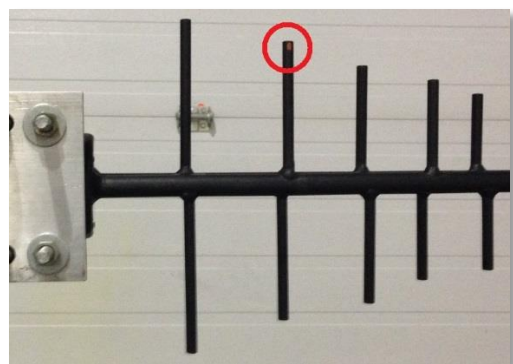
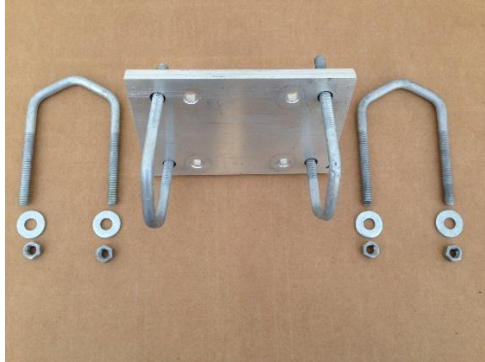




# YAGI ANTENNA MOUNTING

## 1. ATTACH MOUNTING BRACKET TO ANTENNA

- Orient bracket as shown in the picture and insert 2 U-bolts
- Insert the Antenna through the 2 U-Bolts
- Ensure the drain hole in the antenna is facing DOWN and the element with the little **Red Dot** is UP
- Tighten nuts on the U-Bolts



## 2. INSERT U-BOLTS FOR THE MAST

- Insert remaining 2 U-bolts into mounting bracket
- Leave U-Bolt nuts loose as these U-bolts are for mounting to the mast



### 3. MOUNT ANTENNA TO MAST

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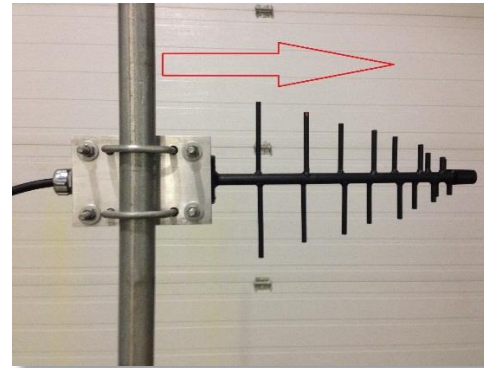
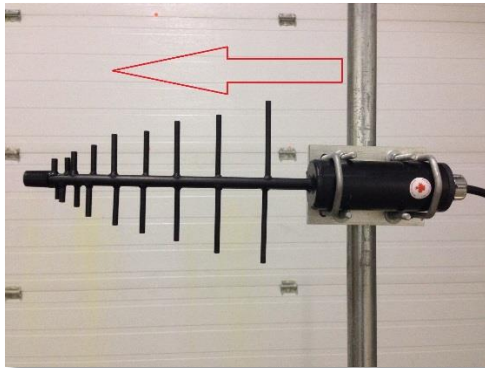
- Slide U-bolts over the mast and tighten
- Ensure the elements of the YAGI are vertical
- Ensure the drain hole in the antenna is facing DOWN and the element with the little **Red Dot Is UP**



### 4. AIM THE ANTENNA

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- A YAGI antenna is directional. Point the narrow end of the antenna towards the site where you want to communicate



### 5. WEATHERPROOF THE RF CONNECTORS

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- Use splice tape and electricians tape to weatherproof the antenna connector. Detailed procedure is on the following page



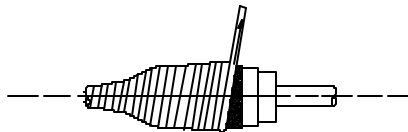
Most antenna problems are caused by coaxial cable connections that loosen due to vibration, allowing moisture to penetrate the connector interface. TIL-TEK recommends that all outdoor cable connections be weatherproofed using a procedure similar to the one described below.

### Cable Connector - Cable Connector

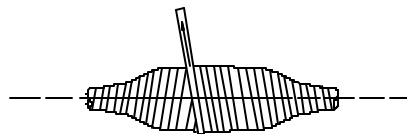
**Step 1:** Fasten connectors securely together. Ensure the connector and cables are free of foreign substances such as oil, water, grease, dirt, etc ...



**Step 2:** Tightly wrap two (2) layers of rubber splicing tape over the connection extending one (1) inch beyond the connectors and overlapping the tape on each turn.

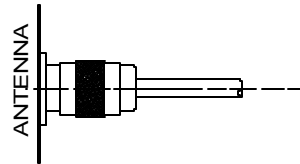


**Step 3:** Tightly wrap two (2) layers of electrical tape over the rubber splicing tape extending one (1) inch beyond the rubber splicing tape.

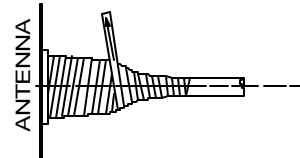


### Antenna Connector - Cable Connector

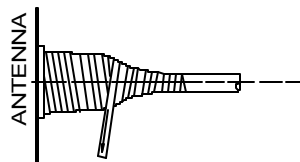
Fasten connectors securely together. Ensure the connector and cables are free of foreign substances such as oil, water, grease, dirt, etc ...



Tightly wrap two (2) layers of rubber splicing tape over the connection extending one (1) inch beyond the connectors and overlapping the tape on each turn.



Tightly wrap two (2) layers of electrical tape over the rubber splicing tape extending one (1) inch beyond the rubber splicing tape.



### **SAFETY GUIDELINES**

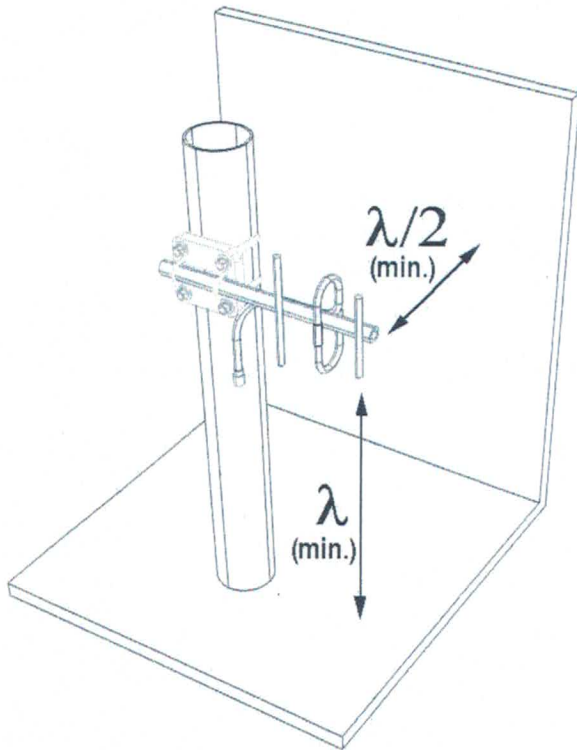
1. Antenna installation should only be performed by trained personnel
2. Always wear appropriate safety restraints when climbing. Never climb on an antenna. Observe electrical shock hazard caution
3. Do not secure antenna to any mounting structure unless the antenna is electrically bonded to that structure for lightning protection.
4. Keep tower and antenna clear of all electrical transmission lines

### **ANTENNA INSTALLATION GUIDELINES**

1. Upon receipt of antenna package, verify contents are complete and undamaged
2. Inspect the feeder connector to ensure that it is the appropriate type and gender for the application
3. Ensure that the antenna is tuned to the site-specific frequency; the antenna label will indicate the operating frequency and gain of that antenna
4. A check of the antenna VSWR is recommended prior to installation. Document the VSWR reading for future reference
5. Fix the antenna securely to the mast/tower using the supplied mounting hardware; an exploded view and contents list of the clamp is included. Note: unless otherwise specified, typical *antenna polarization* should be **vertical**. This means that the antenna boom is parallel to the ground, with the antenna elements perpendicular (up & down) to the ground
6. *Wavelink Antenna yagis* are marked with a **red dot** on the dipole; ensure that this is **UP** to maximize antenna performance
7. Ensure that the antenna is solidly grounded; do not rely on feed cable for a ground return path
8. Always weatherproof the cable connection; failure to do so may result in signal degradation or failure over time
9. Secure the feed cable to the mounting structure, ensuring slack in the cable to avoid connector stress
10. As a final inspection, ensure (i) the antenna is securely fixed, (ii) that it's orientated correctly, and (iii) that all connections have been weatherproofed



## Mounting Guidelines (3 element Yagi Shown) Wavelength Values (in, mm)



Frequency (MHz)	$\lambda/2$ (Half Wave)		$\lambda$ (Full Wave)	
	in	mm	in	mm
138	42.8	1087	85.6	2174
143	41.3	1049	82.6	2098
148	39.9	1014	79.8	2027
152	38.9	987	77.7	1974
157	37.6	955	75.2	1911
163	36.2	920	72.5	1840
170	34.7	882	69.5	1765
174	33.9	862	67.9	1724
210	28.1	714	56.2	1429
220	26.8	682	53.7	1364
230	25.7	652	51.4	1304
240	24.6	625	49.2	1250
250	23.6	600	47.2	1200
260	22.7	577	45.4	1154
340	17.4	441	34.7	882
360	16.4	417	32.8	833
380	15.5	395	31.1	789
400	14.8	375	29.5	750
415	14.2	361	28.5	723
430	13.7	349	27.5	698
440	13.4	341	26.8	682
450	13.1	333	26.2	667
460	12.8	326	25.7	652
470	12.6	319	25.1	638
500	11.8	300	23.6	600
550	10.7	273	21.5	545
600	9.8	250	19.7	500
650	9.1	231	18.2	462
700	8.4	214	16.9	429
750	7.9	200	15.7	400
800	7.4	188	14.8	375
830	7.1	181	14.2	361
860	6.9	174	13.7	349
890	6.6	169	13.3	337
925	6.4	162	12.8	324
960	6.2	156	12.3	313