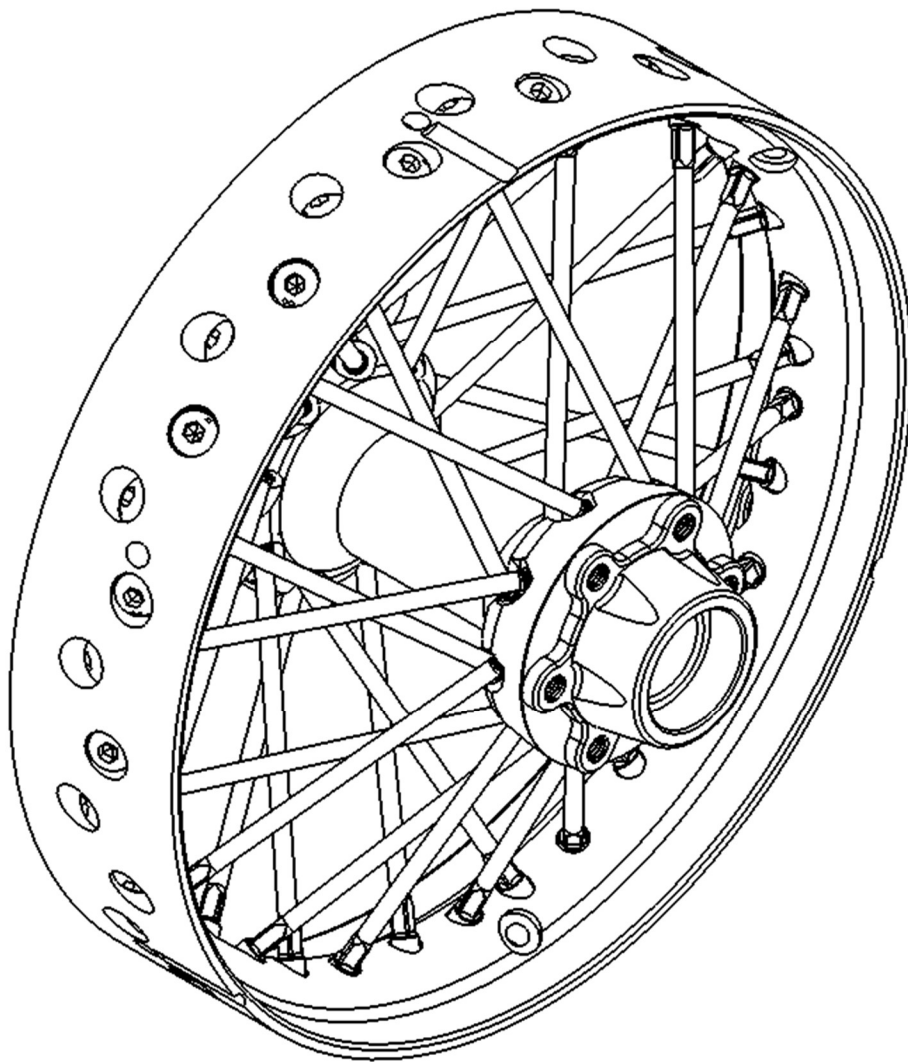




PRO – Series Promoto MX Aluminum Spoke Wheel
Assembly Guide

PRO2836 – PRO2837



PRO2836 Front Wheel Components	
Quantity	Description
1	Front Billet Aluminum Hub
1	Front Billet Aluminum Wheel Rim
18	Front Outer Spoke
18	Front Inner Spoke
3	M2.5X8 Button Head Cap Screw
6	M3x12 Button Head Cap Screw

PRO2837 Rear Wheel Components	
Quantity	Description
1	Rear Billet Aluminum Hub
1	Rear Billet Aluminum Wheel Rim
1	Rear Wheel Ring
18	Rear Outer Spoke
18	Rear Inner Spoke
3	M2.5X8 Button Head Cap Screw
6	M3x12 Button Head Cap Screw

Required Tools
1.5mm Hex Driver
2 mm Hex Driver
3D Printed Lacing Fixture

Recommended Tools
Torque Wrench (4kg-cm inclusive)
2 mm Hex Driver 'speed tip'

Lacing the Spokes

1. Install the aluminum rim to the lace fixture, secure using M2.5x8 (3) screws.

NOTE: the rear fixture has keys for the locating notch in the rim. Figure 1

2. Install the hub into the lace fixture using M3x12 (6) screws. Verify that the hub is clocked to the rim correctly by looking through a counterbore towards the hub, the bottom of the tread pocket on the hub should be visible. This check can also be performed with a spoke, if the threads do not align rotate the hub 60°.

NOTE: Take care to evenly torque the screws in a cross pattern, how square the hub is in the fixture directly affects the trueness of the assembled wheel.

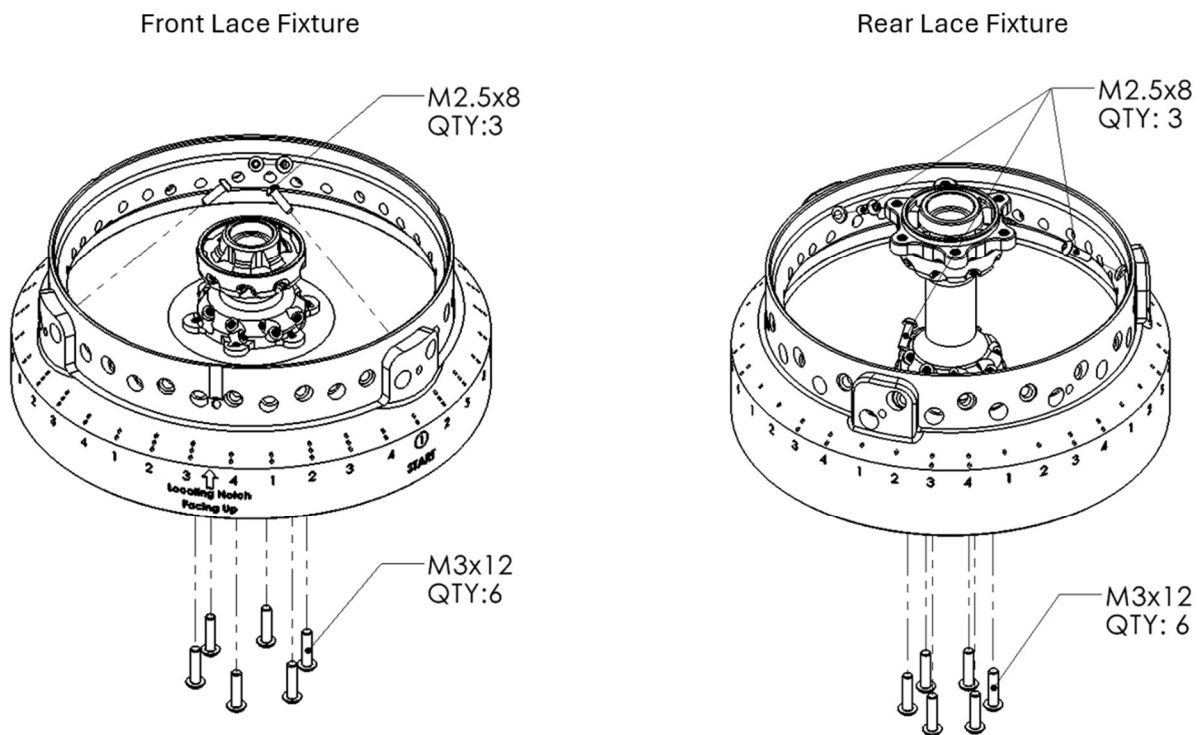


Figure 1. Front and rear lacing fixture exploded view

NOTE: The front fixture has notch alignment indicators, and the notches should face up when installed.

NOTE: The rear rim notches face down and key into the lacing fixture.

3. Insert a shaft through the assembled fixture and spin the assembly. Any runout (wobble) of the parts relative to each other as it spins will be reflected in the wheel after torquing the spokes. Perform steps 1 and 2 until the assembly runs true.

The lacing fixture has install order and spoke length indicators to aid in the assembly process. The dots indicate spoke length, each spoke has dots on the head and should be matched to the correct location. There are two different lengths per wheel (1/2 Rear and 2/3 Front). The numbers on the fixture indicate install/torque order. All '1' get installed first, then all '2', '3', and finally '4'.

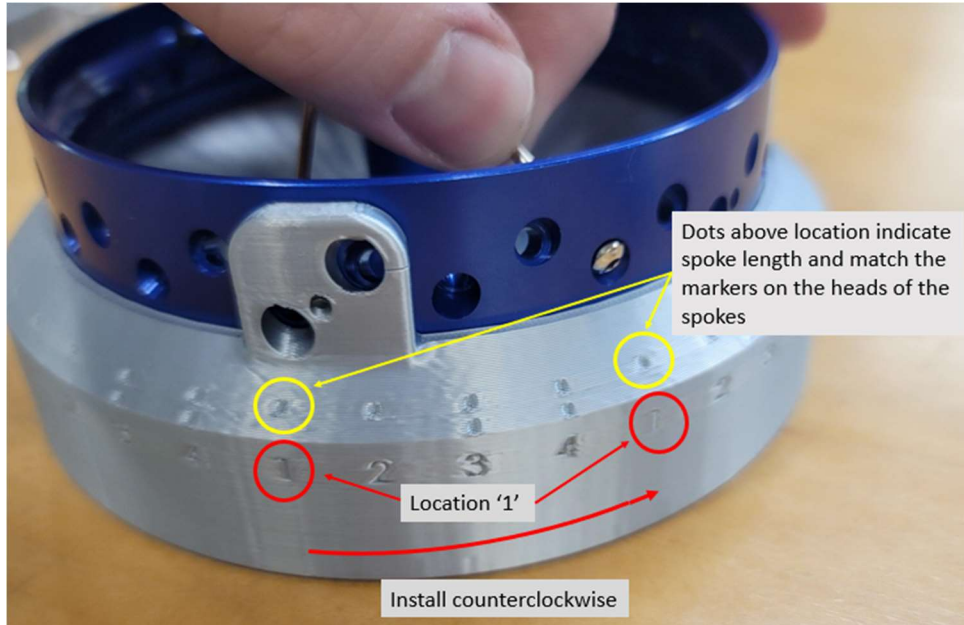


Figure 2. Spoke length and location guides

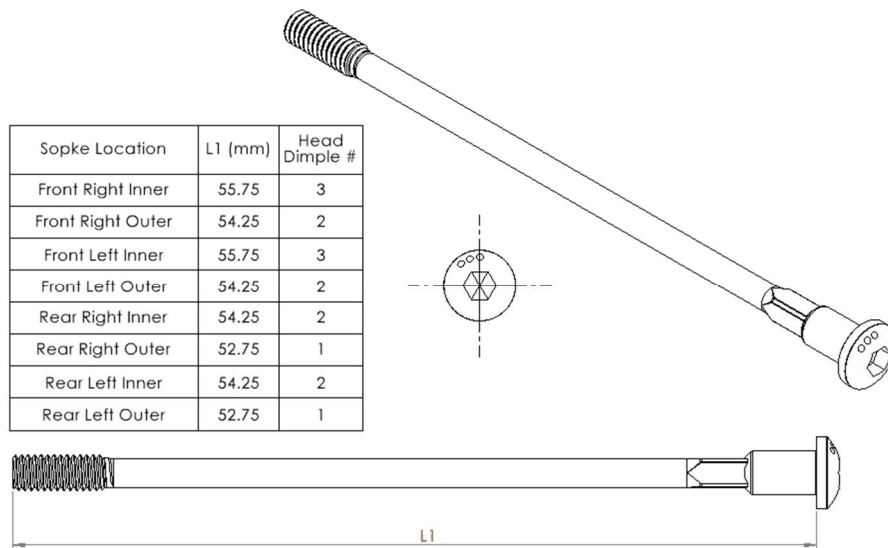


Figure 3. Spoke length and dimple numbering

4. Begin installing the spokes, or 'lacing' them by starting with a location '1' and move counter clockwise. Initial lacing should only be finger tight, do not apply torque until all spokes are installed.

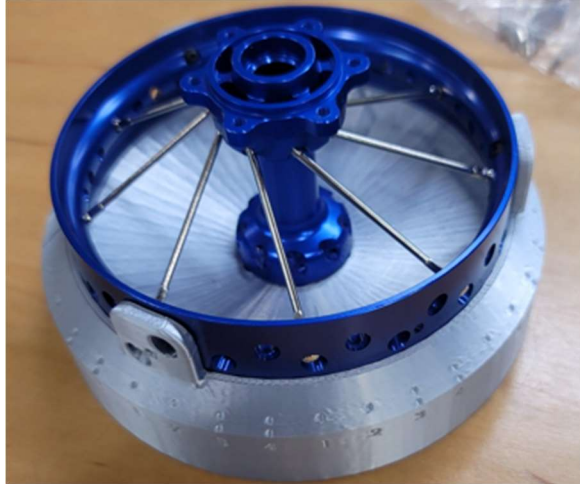


Figure 4. Rear lace fixture with all '1' location spokes installed

NOTE: A start location has been marked on the fixture to help keep track of lacing and torque application. Figure 5

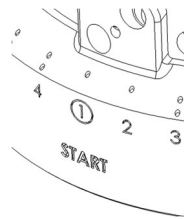


Figure 5. Starting spoke location

5. Move on to location '2' after all '1' spokes are installed.

NOTE: A 2mm 'speed tip' makes aligning the lower spokes into the hub easier.



Figure 6. Rear lace fixture with all '1' spokes installed and the 2nd '2' spoke being installed

- Complete locations '3' and '4' in turn until all spokes are installed.



Figure 7. Rear lace fixture with all spokes laced

Torquing the Spokes

NOTE: Before applying torque to the spokes verify that all the spokes are finger tight. Tighten any loose spokes so that the heads of the spokes are flush against the bottom of their counterbore in the rim. Figure 8

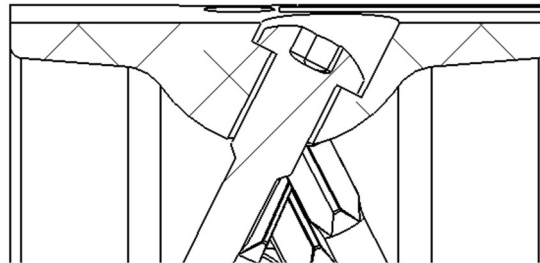


Figure 8, Spoke head flush in counterbore

NOTE: Torquing the spokes in 2 to 3 rounds until you reach the final torque of 4 kg-cm (55.5 oz-in) is recommended for best results.

- Using a torque wrench set to 4 kg-cm (55.5 oz-in) torque the spokes starting with location '1' and moving counterclockwise. Complete all '1' spokes before moving onto '2' spokes. Complete each location number in turn stopping when the last '4' location has been torqued.



Figure 9. Final torque being applied to spokes

- Remove the M3 and M2.5 screws from the lacing fixture to remove the wheel. Visually check the runout (wobble) of the wheel by spinning it on an axle. This fixture is capable of less than .010" runout radially and axially. If there is excessive runout, loosen the spokes, re-install the wheel on the fixture and repeat the torquing process.

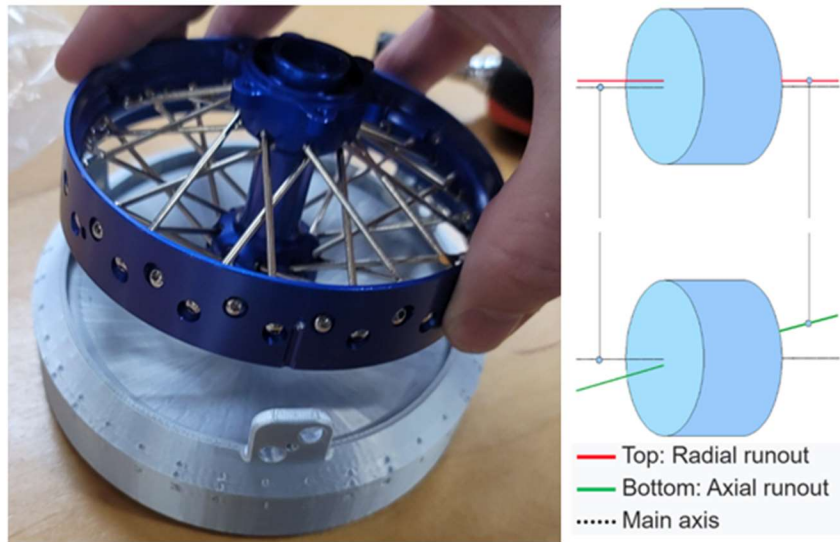


Figure 10. Removing wheel from fixture and radial vs axial runout (<https://en.wikipedia.org/wiki/Run-out>)