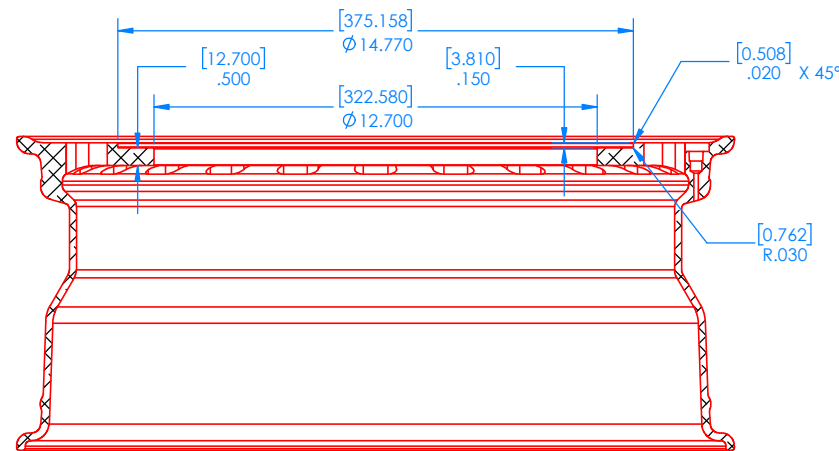
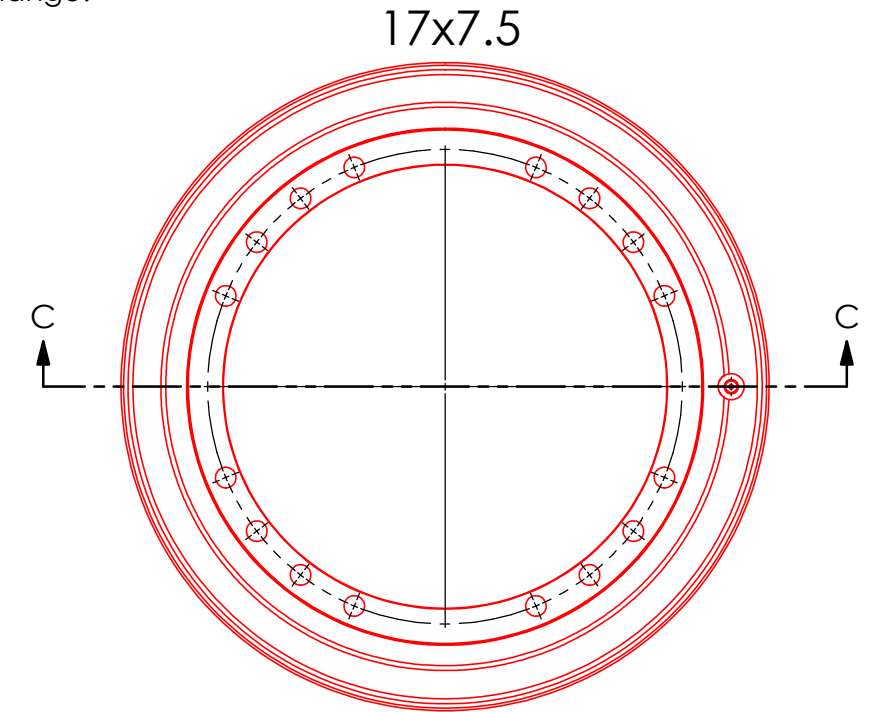
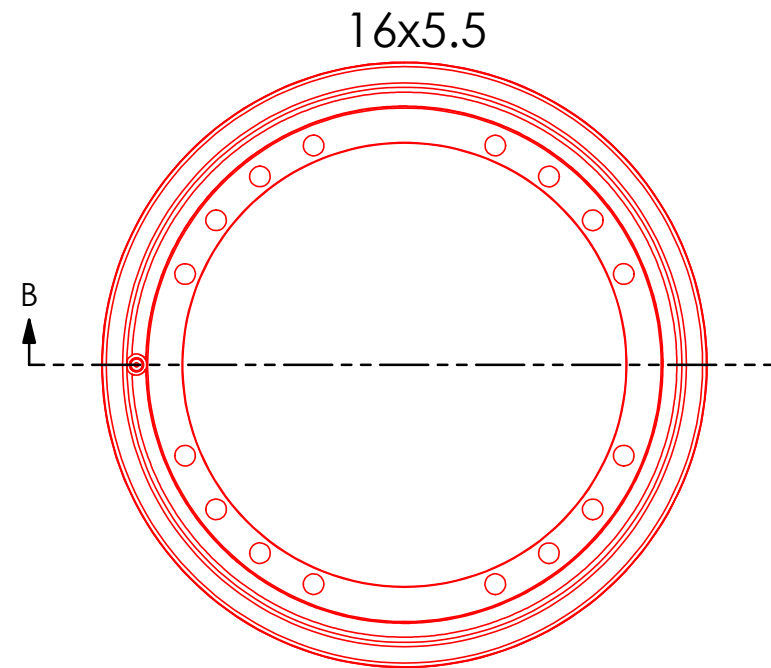
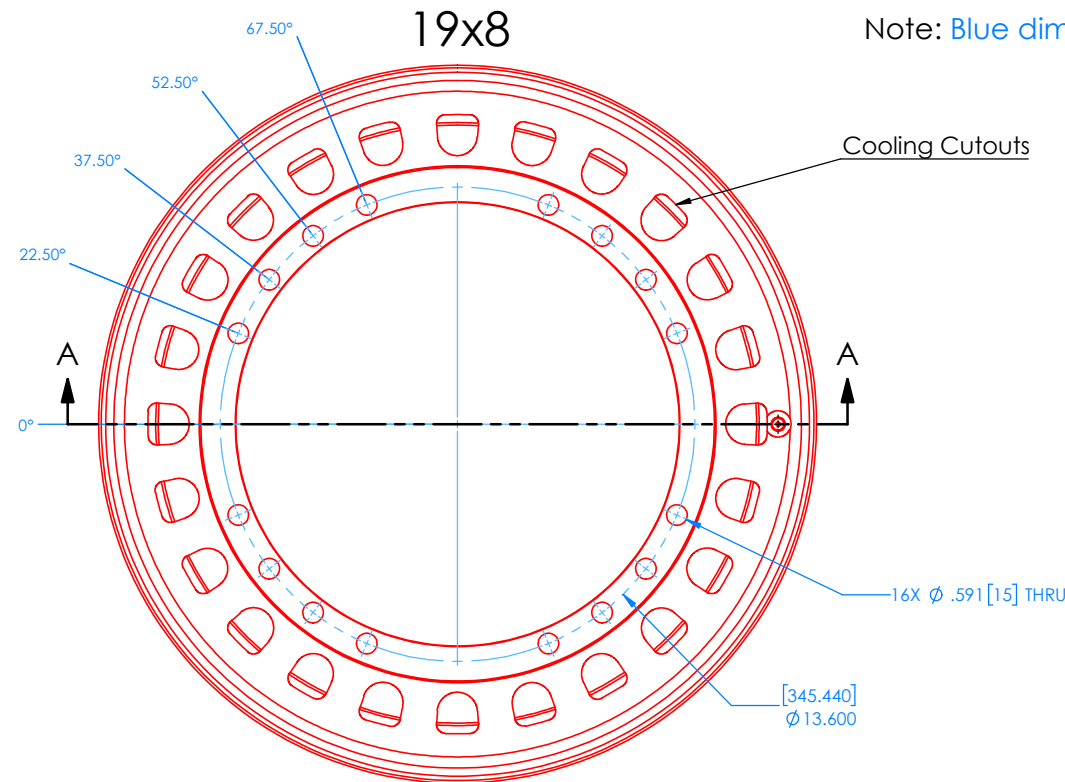


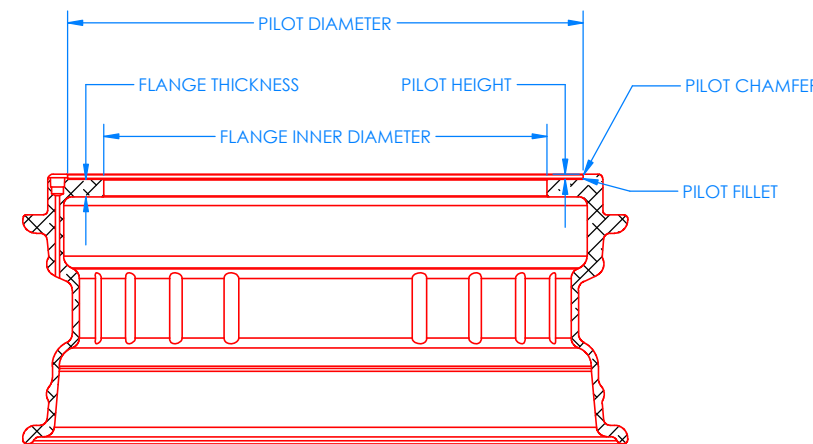
# LW-2T-20K RIM ADAPTER DESIGN GUIDE

Note: Blue dimensions are CRITICAL and CANNOT change.

Black dimensions can change.



SECTION A-A



SECTION B-B



SECTION C-C

It is essential that the adapters match the recommended guidelines. This will ensure the system can withstand the rated loads and provide the most accurate results.

Michigan Scientific Corporation (MSC) prefers to use the test vehicle's Original Equipment Manufacturer (OEM) wheel design as the basis of the rim adapter design. If 3D wheel models or drawings of the OEM wheel are not available, MSC recommends using The Tire and Rim Association or ISO standards as a design basis for the tire mounting profile.

MSC machines rim adapters from 6061-T6 aluminum forgings. These forgings have consistent yield strength and hardness throughout. If 'bar stock' or 'billet' is used, the heat treatment may not be consistent through the section, resulting in a lower yield strength and hardness than published. The material must have a yield strength of at least 40 ksi (275 MPa) if the examples above are followed. If a weaker material is used, the thickness of the rim adapter sections will need to increase.

The "COOLING CUTOUTS" allow for airflow to the brakes and reduce the weight of the adapter system. MSC refines the size and shape of the cutouts for each adapter design. Typical cutouts are shown. The pattern of the cutouts should be a multiple of 24, and they should be aligned away from the Wheel Force Transducer (WFT) mounting holes as shown.

The "FLANGE THICKNESS" must be 0.500 in (12.700 mm). The M14x2.0 fasteners should thread all the way through the transducer to ensure complete thread engagement.

Rims that are 16 inches could need cutouts from the wheel drop to allow the WFT fasteners to thread in. For rims that are smaller than 16 inches, consult MSC for how to design the rim adapter.

MSC verifies all rim and hub adapter assemblies using FEA to simulate the SAE J328 wheel durability standard. This should be done with all adapters to verify the load ratings and fatigue life of the adapters. A LW-2T-20K transducer has a SAE J328 static load rating of 4000 lb (1815 kg). This should not be exceeded. MSC can check your adapter design at no cost. Contact MSC online at [michsci.com/contact-us](http://michsci.com/contact-us) or via phone at 1-231-547-5511.

Details and specifications provided in this document are purely for informational purposes and are subject to alterations. No liability is accepted for errors or omissions.

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TOLERANCES:	XXX ±.0010	DRAWN	04/20/2020	JP Bailey	
XXX ±.005		CHECKED			
XX ±.01		ENG APPR			PRODUCT LINE: LW-2T-20K
FRACTIONAL ±		ANGULAR: MATCH			CUSTOMER CODE: _____
BEND ±		MFG APPR			PROJECT CODE: _____
WEIGHT					DESCRIPTION: Rim Adapter Design Guide
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				SCALE: 1:2.75	
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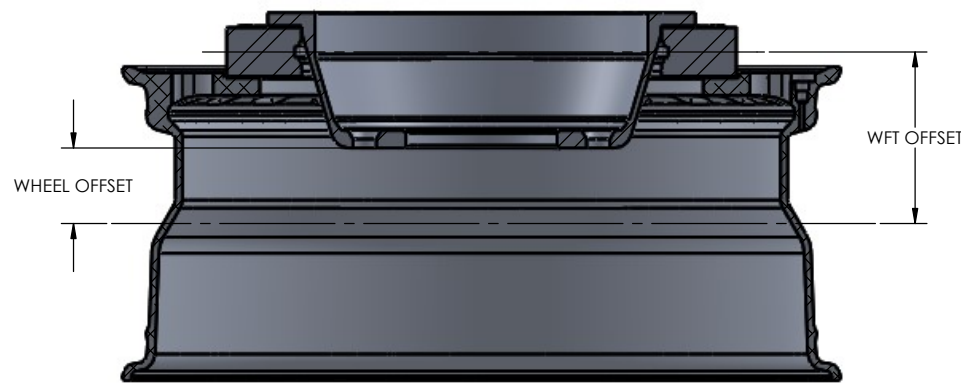
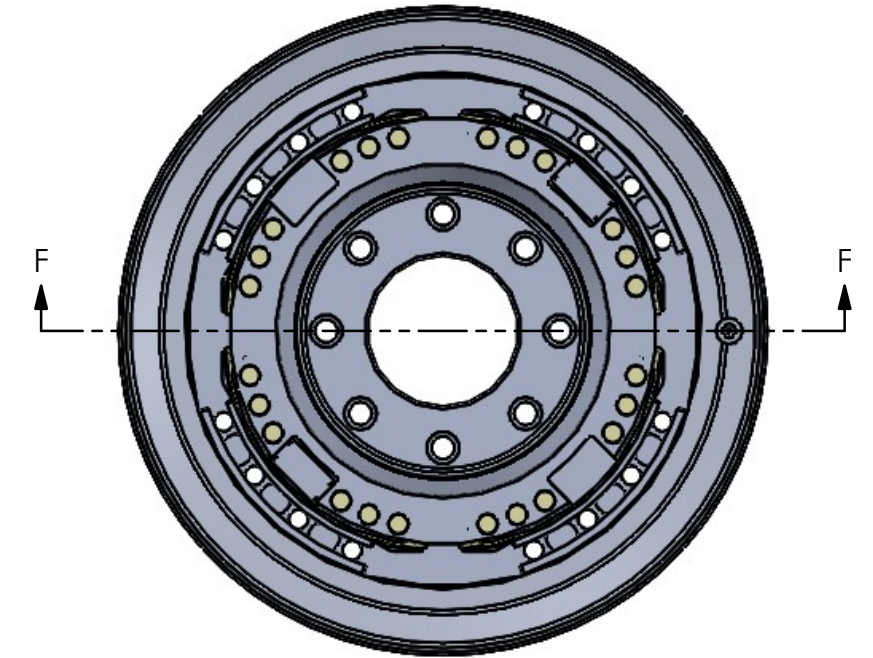
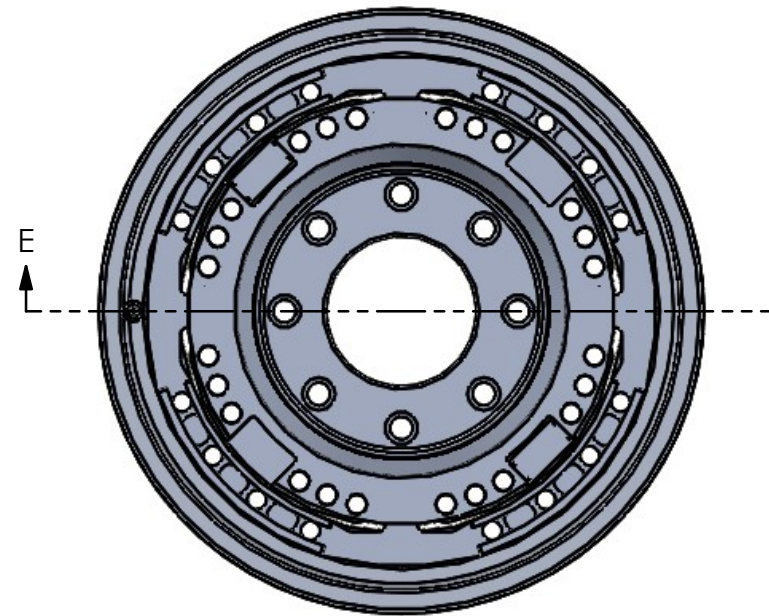
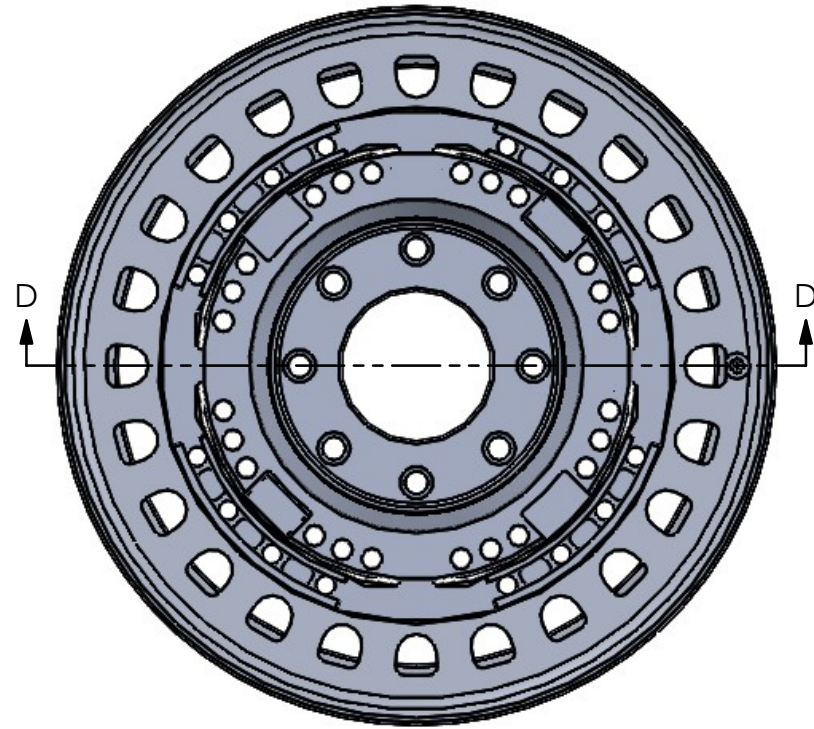
# LW-2T-20K RIM ADAPTER DESIGN GUIDE

## Assembly View

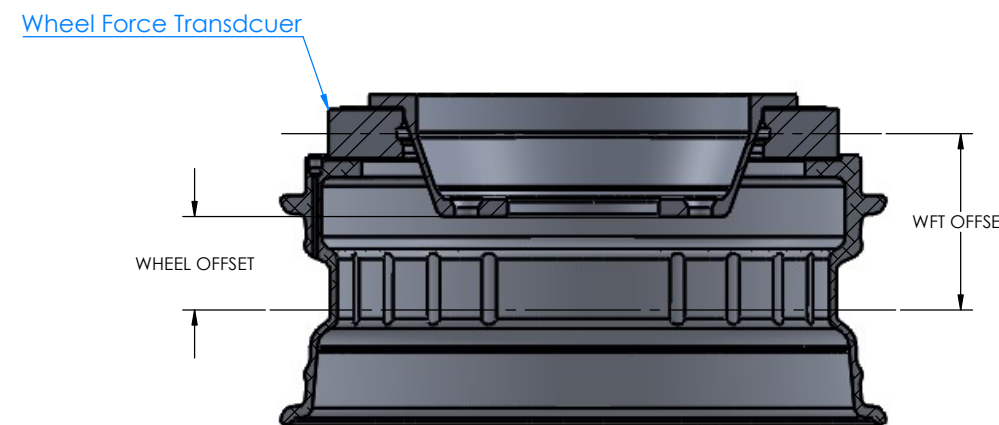
19x8

16x5.5

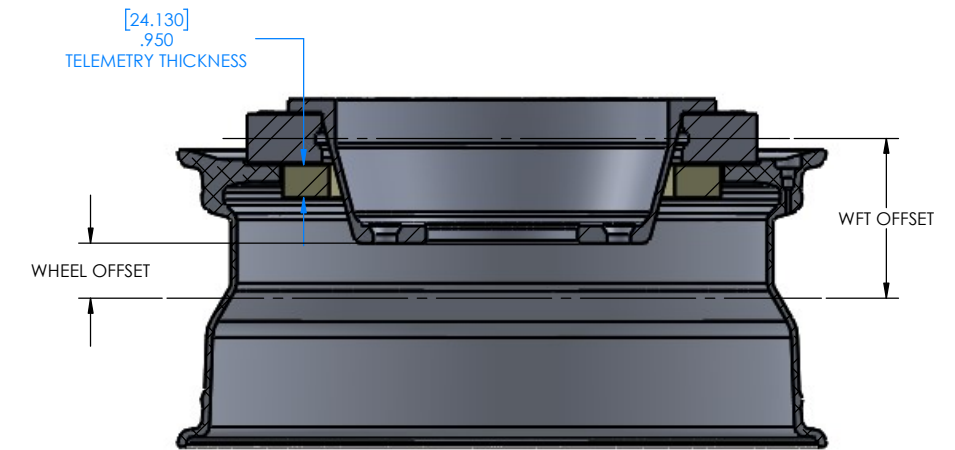
17x7.5 with Telemetry



SECTION D-D



SECTION E-E



SECTION F-F

It is essential that the adapters match the recommended guidelines. This will ensure the system can withstand the rated loads and provide the most accurate results.

The "WFT OFFSET" is the distance from the centerline of the rim to the centerline of the transducer. The "WFT OFFSET" should be as small as possible to reduce the moment load on the WFT. The WFT and adapters need at least 0.15 in (3.8 mm) of clearance to the brake and suspension components to prevent interference. See the drawing for additional clearance required for telemetry WFT systems.

3D models and 2D drawings of the LW-2T-20K are available for download on MSC's website. ([michsci.com](http://michsci.com))

Note: **Blue dimensions are CRITICAL and CANNOT be changed.**  
Black dimensions can be changed

MSC verifies all rim and hub adapter assemblies using FEA to simulate the SAE J328 wheel durability standard. This should be done with all adapters to verify the load ratings and fatigue life of the adapters. A LW-2T-20K transducer has a SAE J328 static load rating of 4000 lb (1815 kg). This should not be exceeded. MSC can check your adapter design at no cost. Contact MSC online at [michsci.com/contact-us](http://michsci.com/contact-us) or via phone at 1-231-547-5511.

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DESCRIPTION: Rim Adapter Design Guide		REV		
SIZE: DWG. NO. LW-2T-20K Rim Adapter Design Guide		SCALE: 1:2.75		
SHEET 2 OF 2				