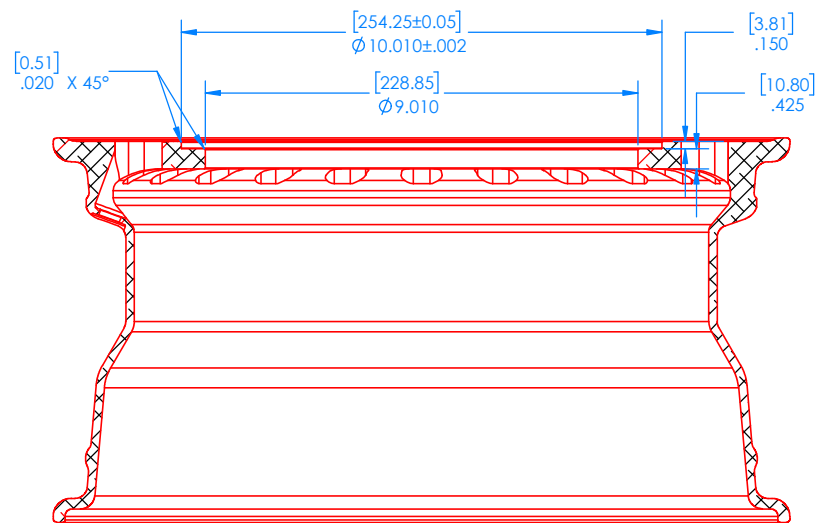
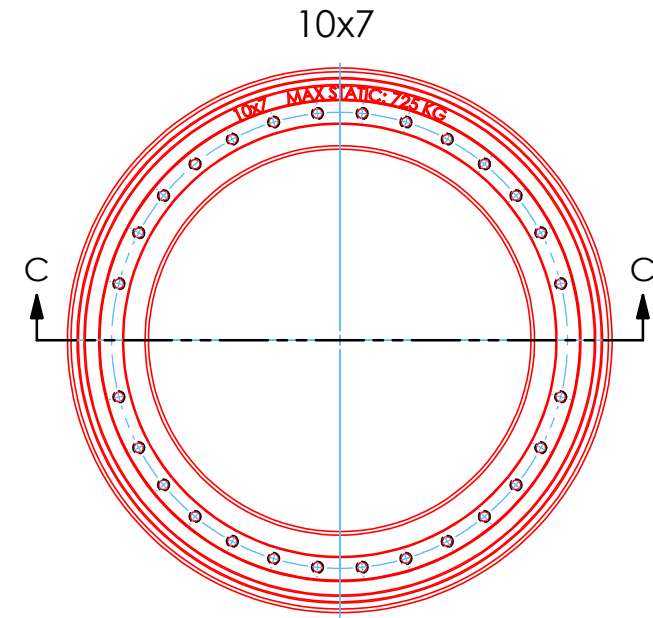
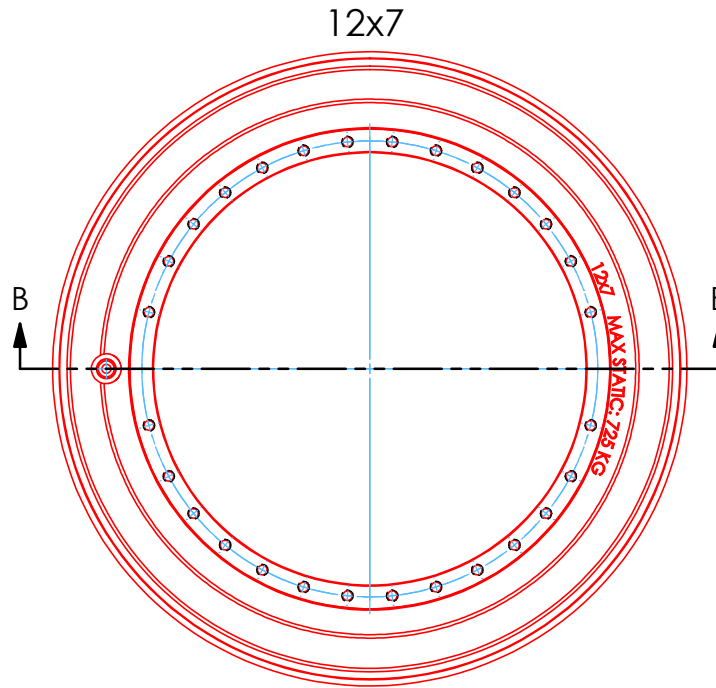
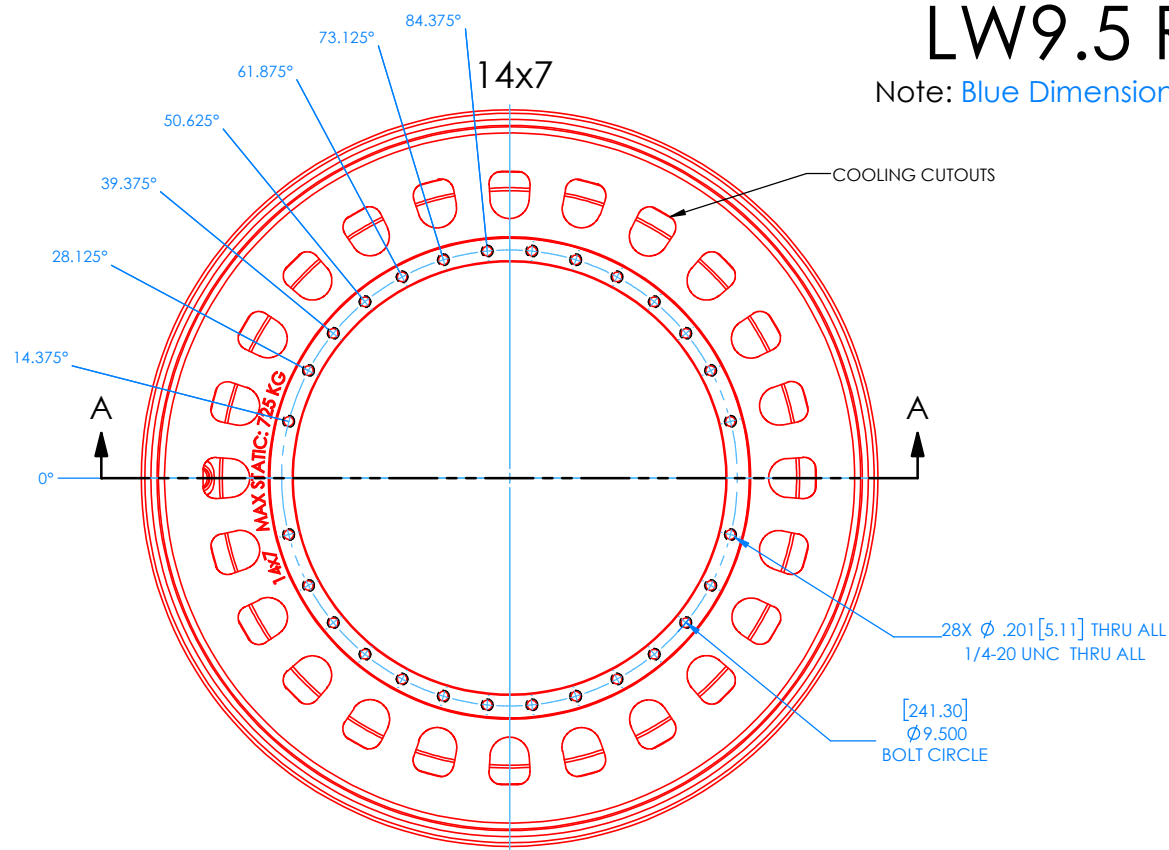
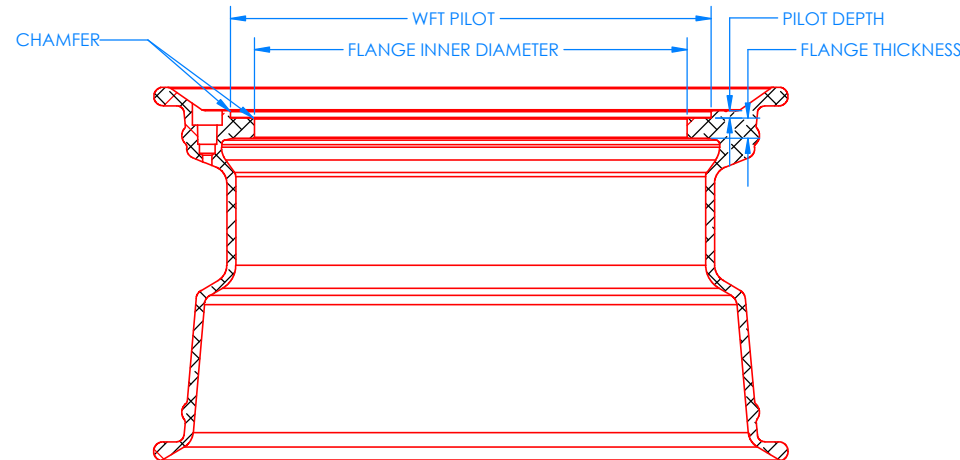


LW9.5 Rim Adapter Design Guide

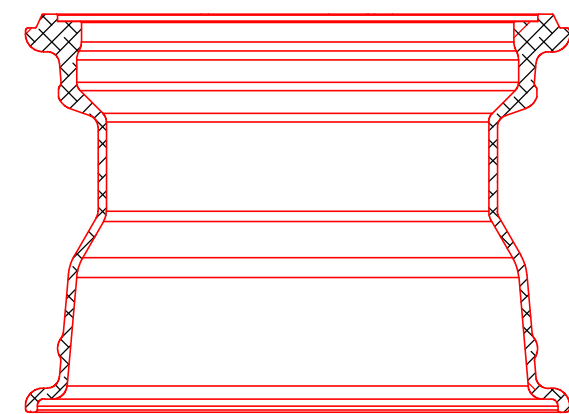
Note: Blue Dimensions are CRITICAL and CANNOT change. Black dimensions can change



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 profile 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 might 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 aligned away from the Wheel Force Transducer (WFT) mounting holes as shown.

The "FLANGE THICKNESS" must be 0.425 in (10.80 mm). The 1/4-20 fasteners must pass completely through the flange to ensure complete thread engagement.

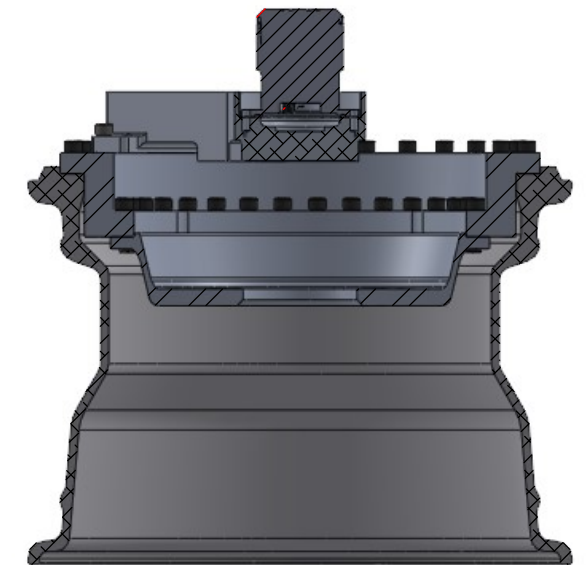
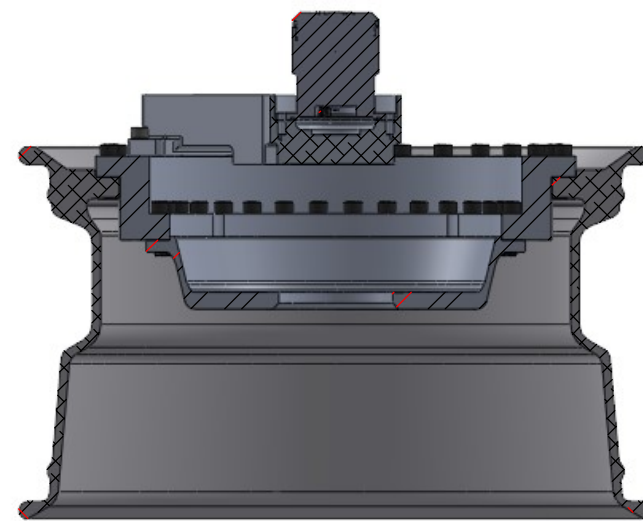
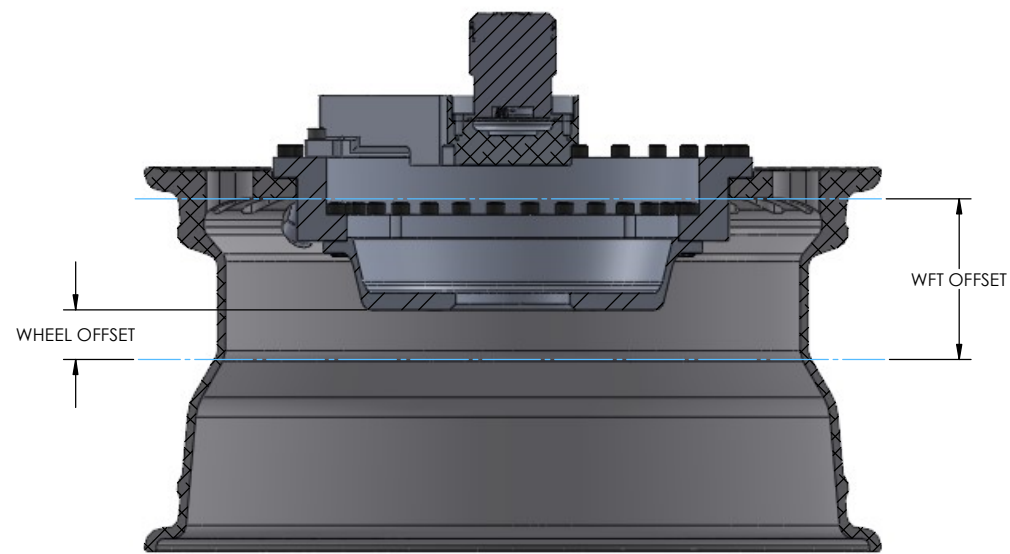
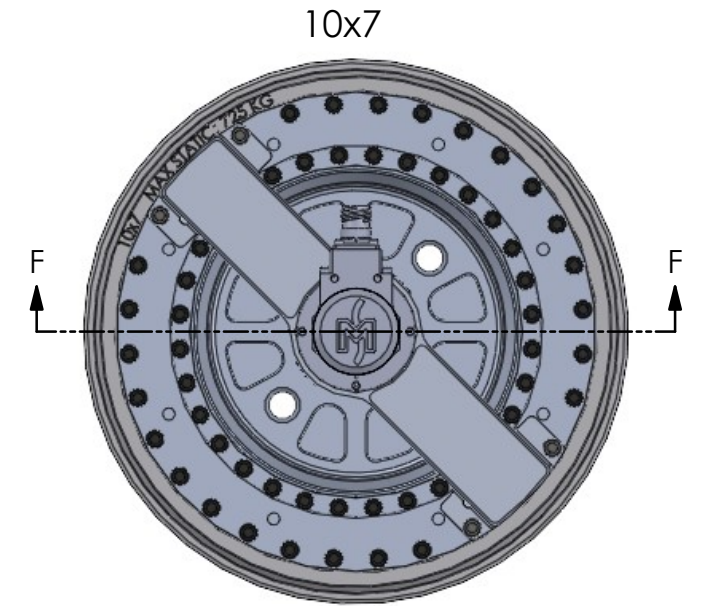
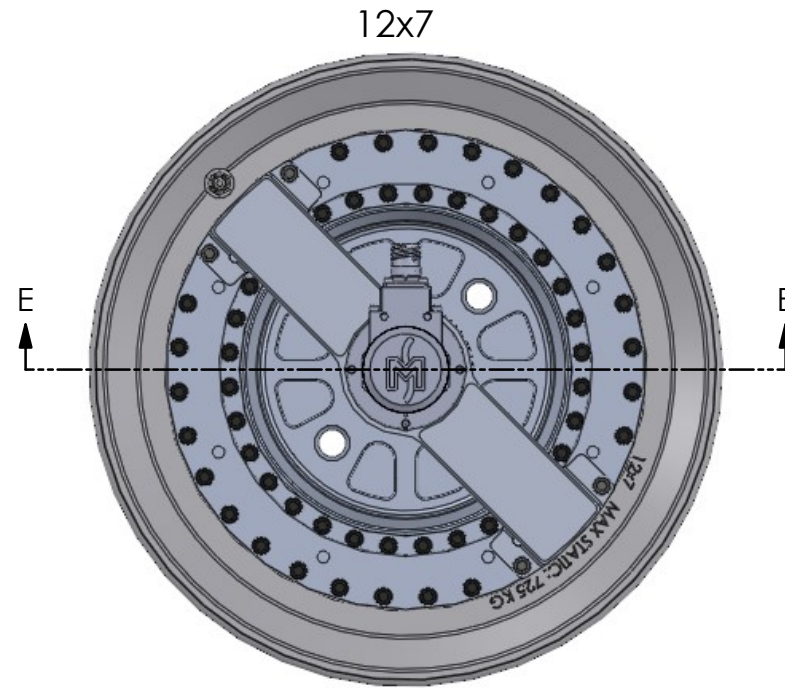
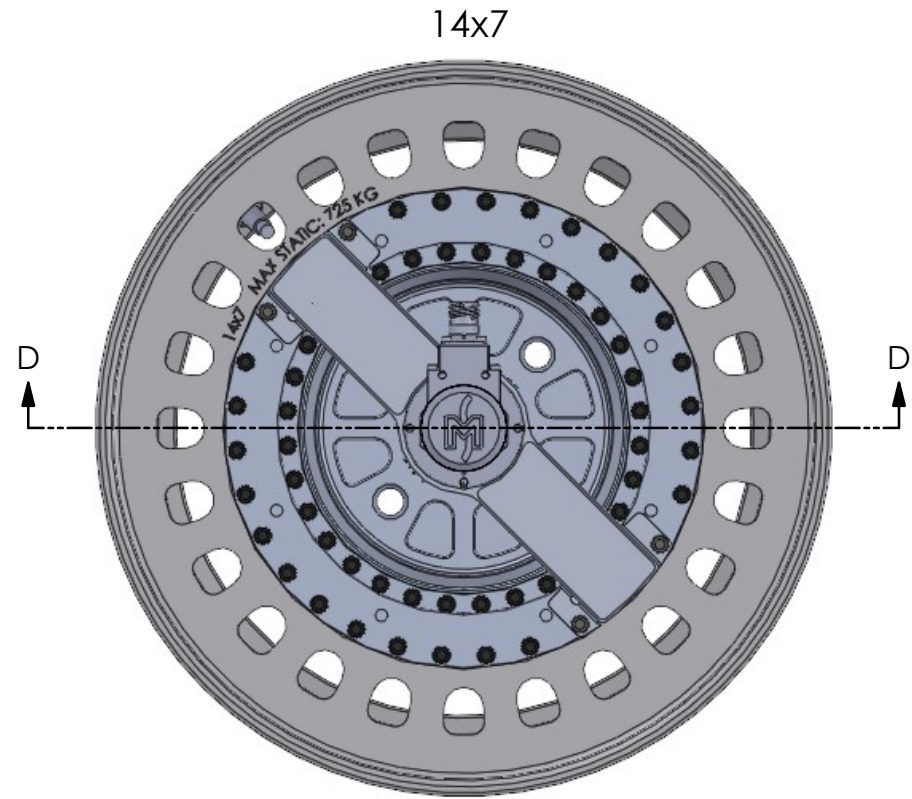
MSC verifies all rim and hub adapter assemblies using FEA to simulate the SAE J328 wheel durability standard. This should be done with all adapters to verify the load ratings and fatigue life of the adapters. The LW9.5 has an SAE J328 static load rating of 1,600 lb (725 kg). This should not be exceeded. The lateral stiffness of the rim adapter should match that of the adapter MSC uses to calibrate the transducer for the best accuracy. MSC can check your adapter design at no cost. Contact MSC online at michsci.com/contact-us or via phone at 1-231-547-5511.

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DIMENSIONS ARE IN INCHES		DRAWN	03/16/22		JFB
TOLERANCES:		CHECKED	04/15/22		JFB
XXXX ±.005		ENG APPR	04/15/22		JFB
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XX ±.01		CUSTOMER CODE		PROJECT CODE	
FRACTIONAL ±		DESCRIPTION			
ANGULAR: MACH ±		SIZE		DWG. NO.	
BEND ±		REV		A	
WEIGHT		SCALE: 1:2		SHEET 1 OF 2	
9.284					
MATERIAL					
6061-T6					
FINISH					
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LW9.5 Rim Adapter Design Guide

ASSEMBLY VIEW



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 (3.81 mm) of clearance to the brake and suspension components to prevent interference. The LW60 & LW65 telemetry fits inside the rim adapter. No additional clearance is needed when using telemetry.

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. The LW9.5 has an SAE J328 static load rating of 1,600 lb (725 kg). This should not be exceeded. MSC can check your adapter design at no cost. Contact MSC online at michsci.com/contact-us or via phone at 1-231-547-5511.

3D models and 2D drawings of the LW60 & LW65 are available for download on MSC's website. (michsci.com)

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Note: **Blue Dimensions are CRITICAL and CANNOT be changed.**
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DIMENSIONS ARE IN INCHES		DRAWN	03/16/22		JPB
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X ±0.1				PRODUCT LINE	
FRACTIONAL				LW9.5	
ANGULAR: MATCH				CUSTOMER CODE	
BEND				PROJECT CODE	
RECHT				DESCRIPTION	
SLOP				SIZE	
MATERIAL				DWG. NO.	
6061-T6				LW9.5 Rim Adapter	
FINISH				Design Guide	
				SCALE: 1:2	
				REV	
				A	
				SHEET 2 OF 2	