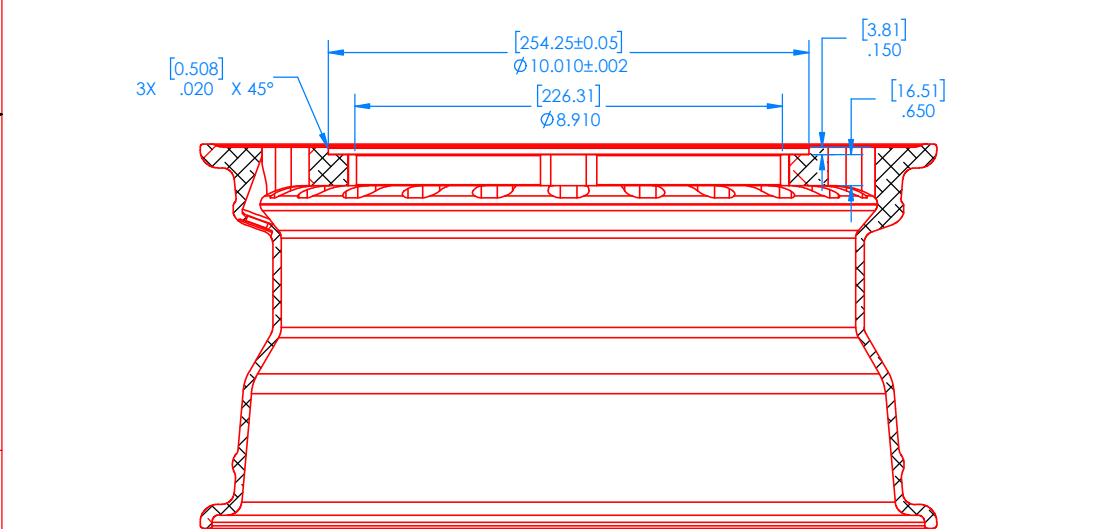
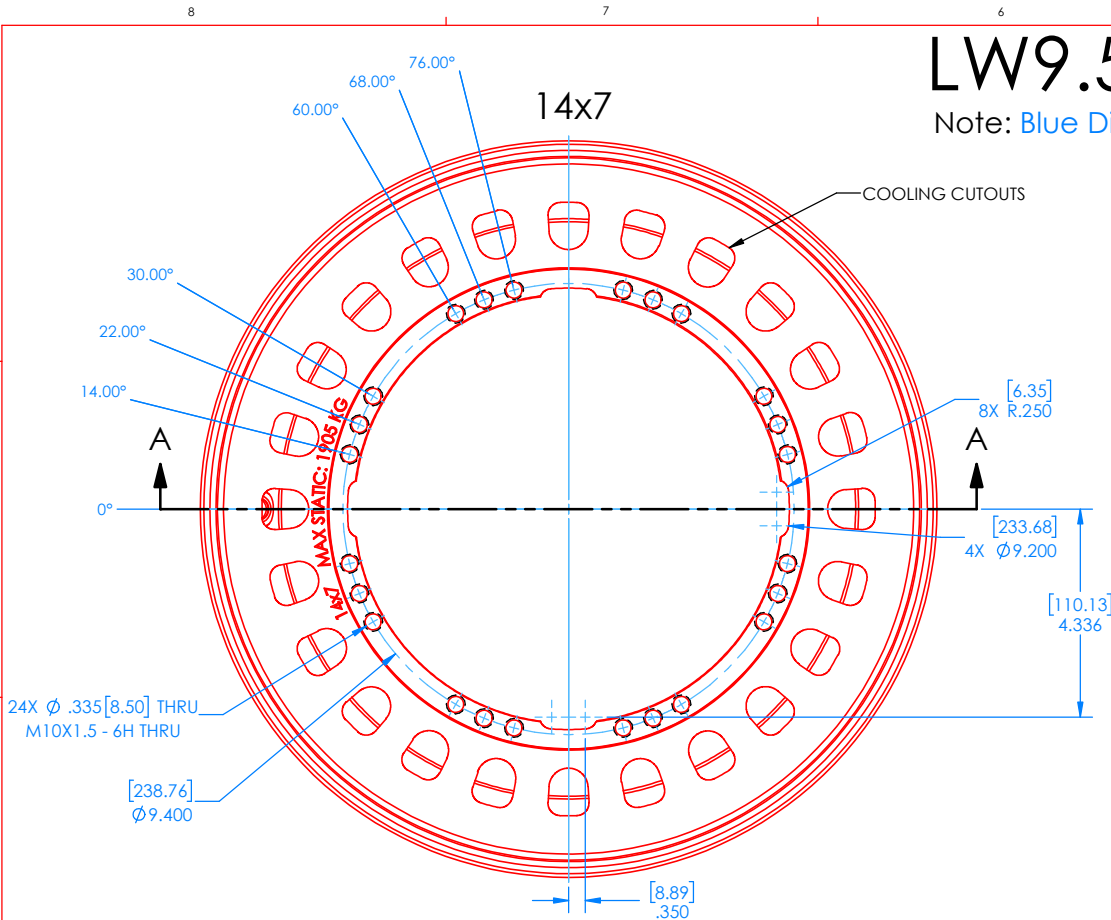
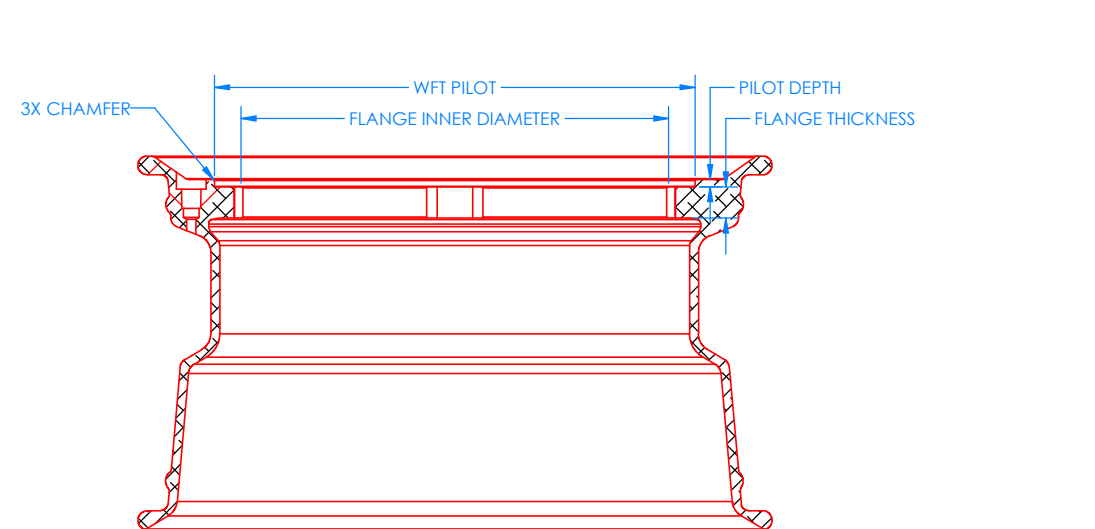
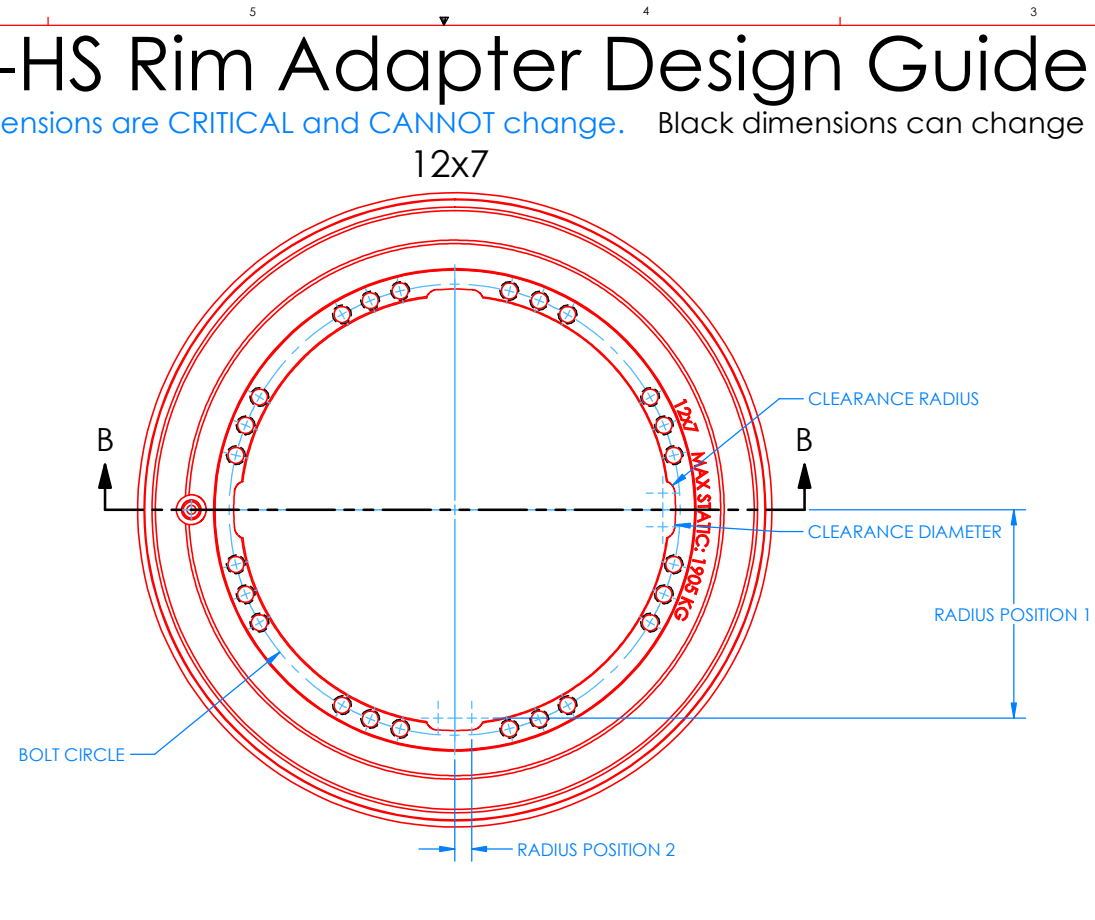


LW9.5-HS Rim Adapter Design Guide

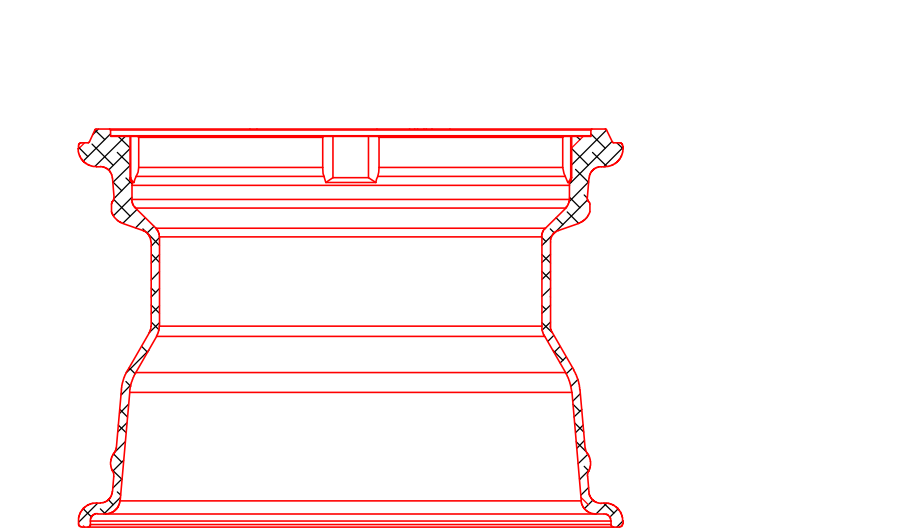
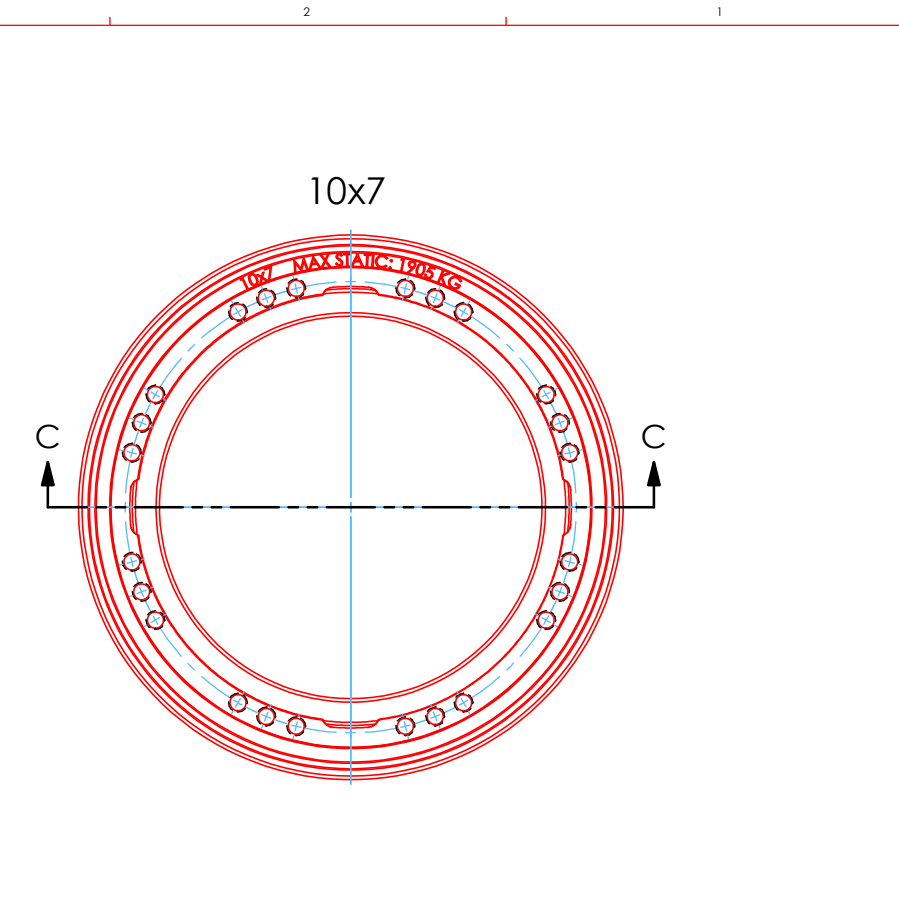
Note: Blue Dimensions are CRITICAL and CANNOT change. Black dimensions can change



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 0.650 in (16.51 mm). The M10x1.5 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-HS has an SAE J328 static load rating of 4,200 lb (1,905 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.

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.
©2023 Michigan Scientific Corporation

UNLESS OTHERWISE SPECIFIED:		DATE	NAME	MICHIGAN SCIENTIFIC CORPORATION 8500 ANCE ROAD CHARLEVOIX, MICHIGAN 49720 www.michsci.com
DIMENSIONS ARE IN INCHES		11/22/23	J.P. BAILEY	
TOLERANCES:	XXX ±.005	DESIGNED	11/27/23	PRODUCT LINE N/A
XXX ±.005	XXX ±.005	CHECKED	11/27/23	
XX ±.01	XX ±.01	ENG APPR	11/27/23	PROJECT CODE WFT
FRAC TIONAL	FRAC TIONAL	MFG APPR	11/27/23	
ANGULAR: MATCH	ANGULAR: MATCH			
REQUIRE	REQUIRE			
9.203	9.203			
MATERIAL	6061-T6	PROPERTY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICHIGAN SCIENTIFIC CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MICHIGAN SCIENTIFIC CORPORATION IS PROHIBITED.		
REV	SEE NOTE	SIZE	DW.G. NO.	REV
		D	LW9.5-HS Rim Adapter Design Guide	A
		SCALE: 1:2		SHEET 1 OF 2

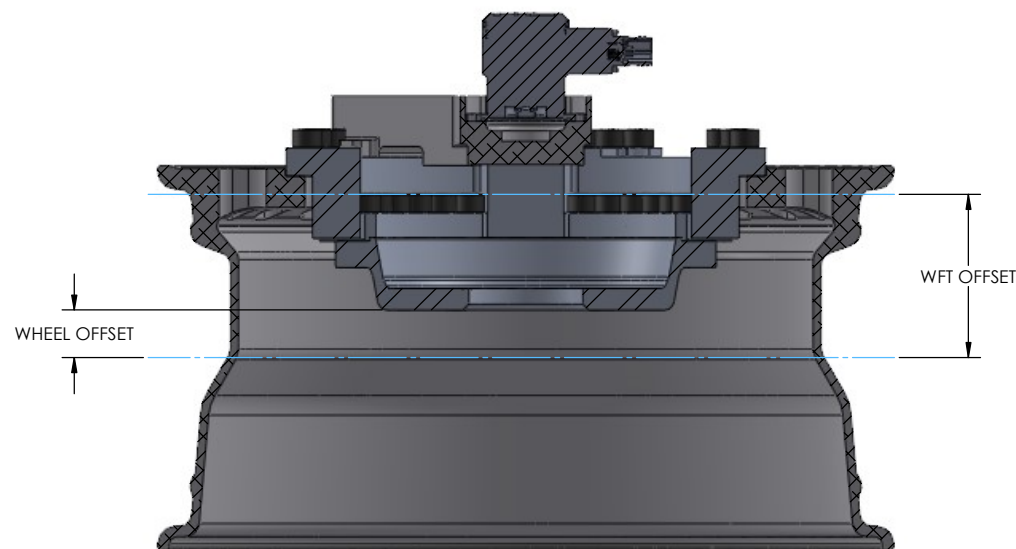
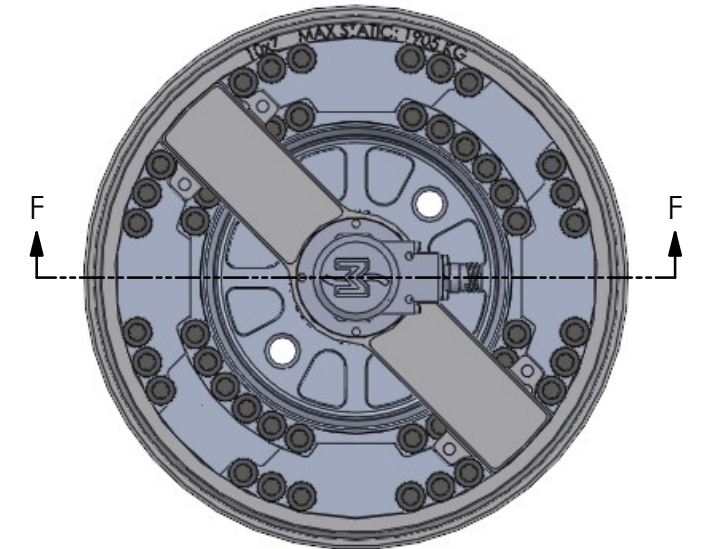
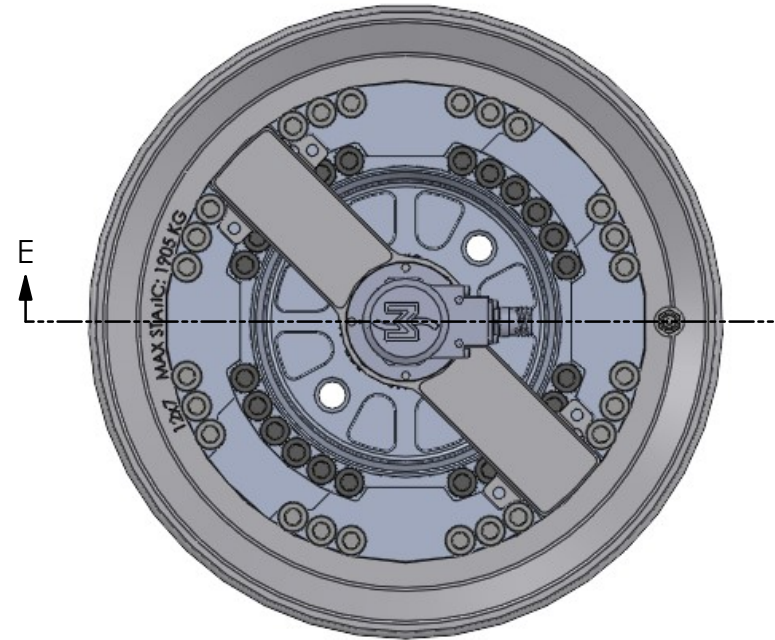
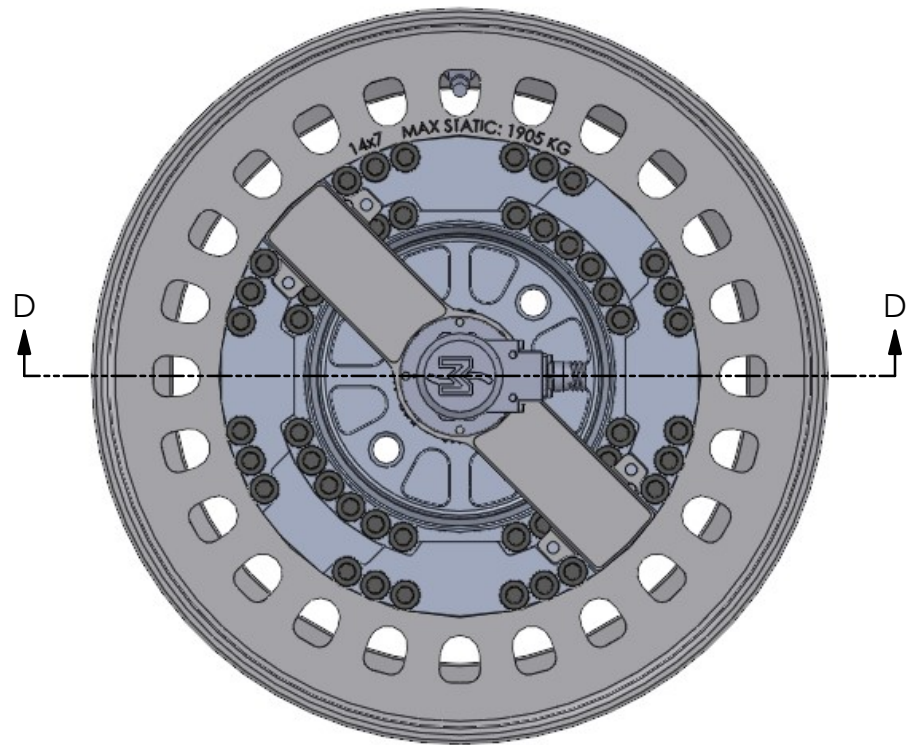
LW9.5-HS Rim Adapter Design Guide

ASSEMBLY VIEW

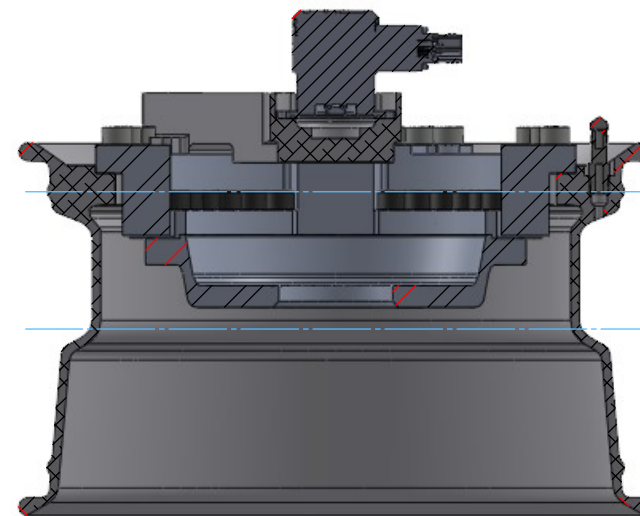
14x7

12x7

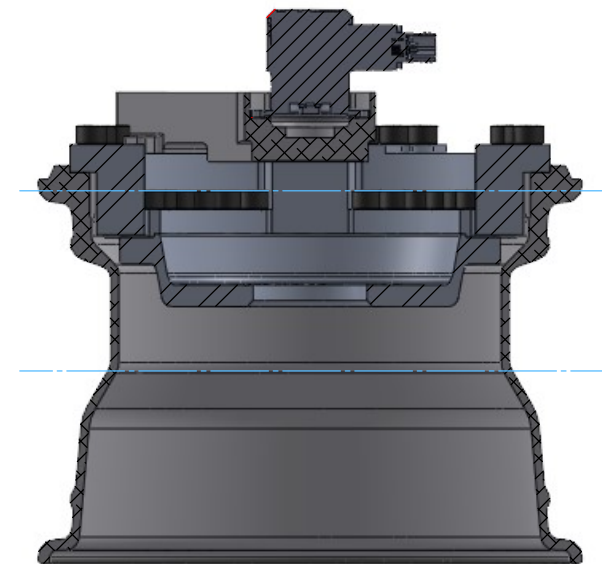
10x7



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 (3.81 mm) of clearance to the brake and suspension components to prevent interference.

3D models and 2D drawings of the LW9.5-HS are available for download on MSC's website. (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. The LW9.5-HS has an SAE J328 static load rating of 4,200 lb (1,905 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.

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.
©2023 Michigan Scientific Corporation

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: XXX ±.005 XX ±.01 FRACTIONAL ± BEND ± ANGULAR: MACH ± REQUIRE 9.203 MATERIAL 6061-T6 FINISH SEE NOTE	DATE 11/22/23	NAME J.P. BAILEY	MICHIGAN SCIENTIFIC CORPORATION 8500 ANCE ROAD CHARLEVOIX, MICHIGAN 49720 www.michsci.com
DRAWN 11/22/23	CHECKED 11/22/23	ENG APPR 11/22/23	PRODUCT LINE N/A
DESIGNED 11/22/23	J.P. BAILEY	J.P. BAILEY	CUSTOMER CODE MSC
REVISIONS	DATE	DESCRIPTION	PROJECT CODE WFT
PROPERTY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICHIGAN SCIENTIFIC CORPORATION. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MICHIGAN SCIENTIFIC CORPORATION IS PROHIBITED.			SIZE D
DWG. NO. LW9.5-HS Rim Adapter Design Guide			REV A
SCALE: 1:2			SHEET 2 OF 2