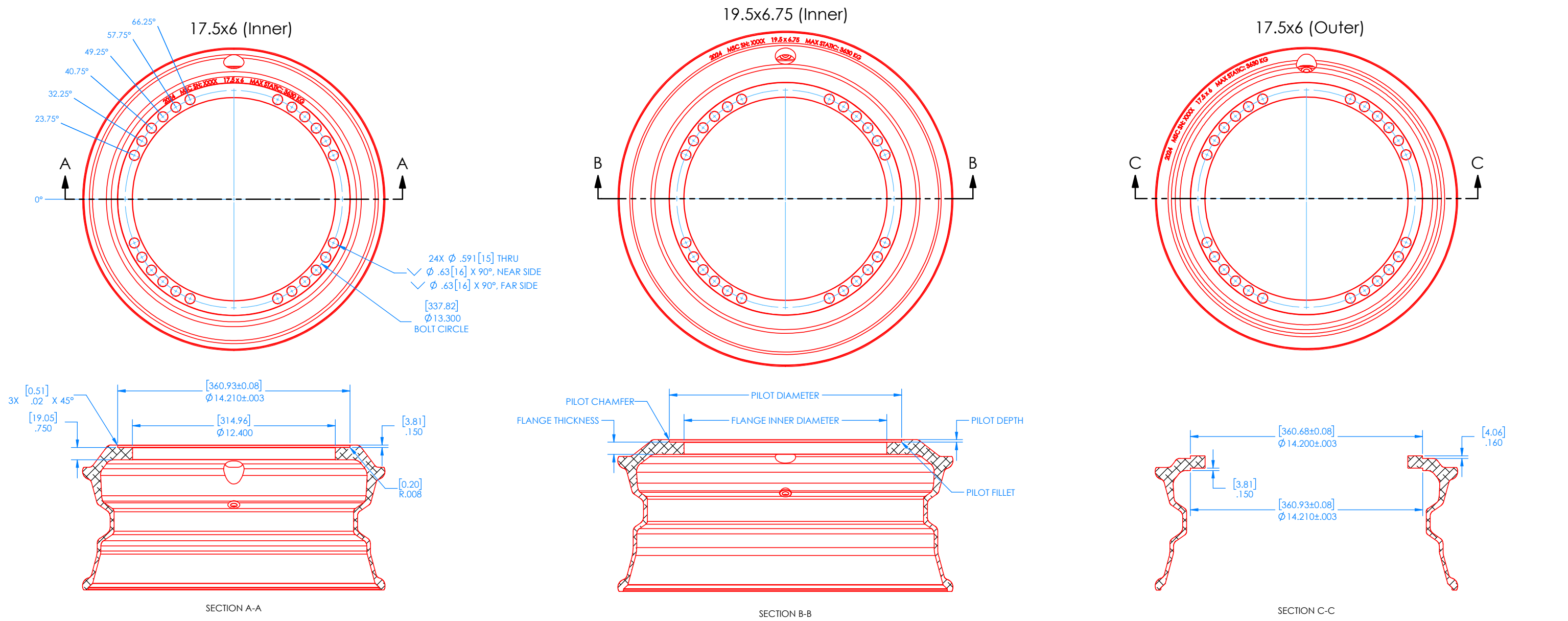


LW-2T-30K/40K Rim Adapter Design Guide

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



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. Forgings have consistent yield strength and hardness. 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. MSC recommends a surface roughness ≤63 µin (1.6 µm).

These WFTs can be used on vehicles with single & dual wheels. The same inner rim adapter can be used in a single and dual arrangement. This may require a "Rim Spacer". (Example on Sheet 2.) MSC calls the dual wheel the "Outer Rim Adapter". Rim Spacers & Outer Rim Adapters have two pilots. One pilot fits the "Inner Rim Adapter". The other pilot fits the WFT. NOTE THE DIFFERENT PILOT DIAMETER AND DEPTH. This is shown in Section C and on Sheet 2.

The "FLANGE THICKNESS" must be 0.750 in (19.05 mm). The M14x2.0 fasteners should have between 17- 25 mm of thread engagement into the WFT from the rim adapter side. They should have about 24 mm of thread engagement from the hub 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. The LW-2T-30K has an SAE J328 static load rating of 6,000 lbs (2,720 kg.) The LW-2T-40K has an SAE J328 static load rating of 8,000 lbs (3,630 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.

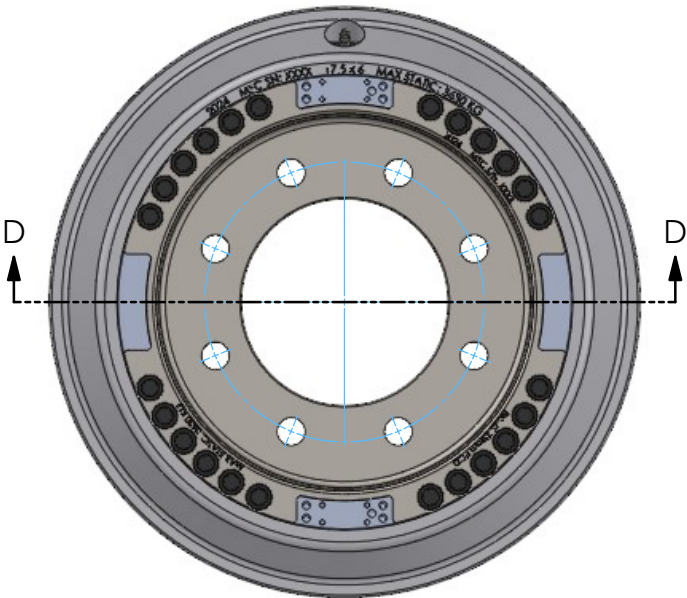
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XXX ±.005		ENG APPR	JPS/SLY	
XX ±.01		MFG APPR	JPS/SLY	PRODUCT LINE: LW-2T-30K & LW-2T-40K
XX FRACTIONAL ±		CUSTOMER CODE: PROJECT CODE:		
X ANGULAR: MACH		DESCRIPTION:		
X BEND		SIZE DWG. NO. REV		
WEIGHT		D LW-2T-30K & -40K Rim Adapter Design Guide A		
MATERIAL 6061-T6		SCALE: 1:3 SHEET 1 OF 2		
FINISH				
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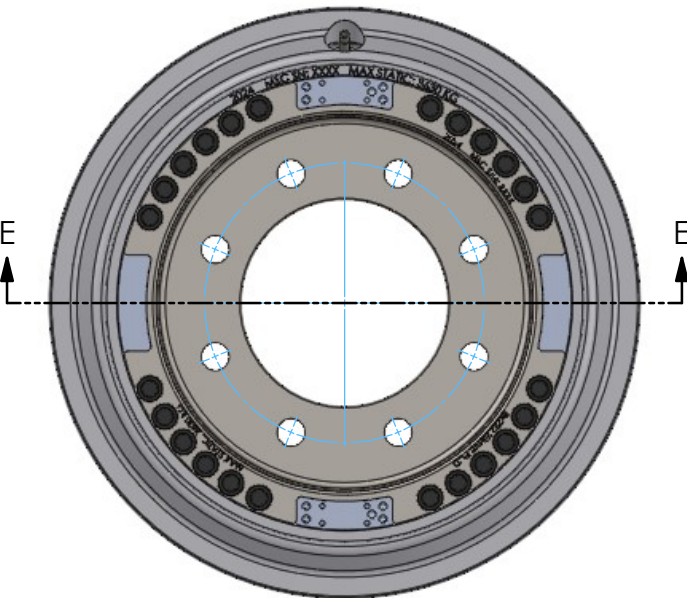
LW-2T-30K/40K Rim Adapter Design Guide

Assembly View

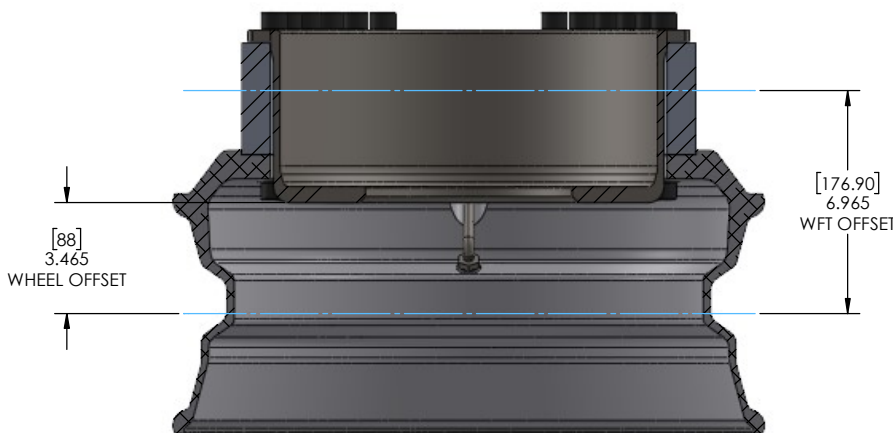
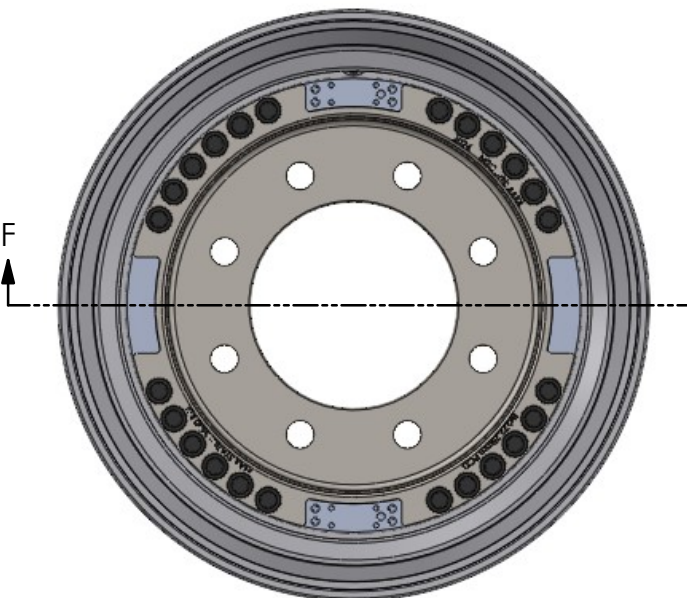
17.5X6 - SINGLE



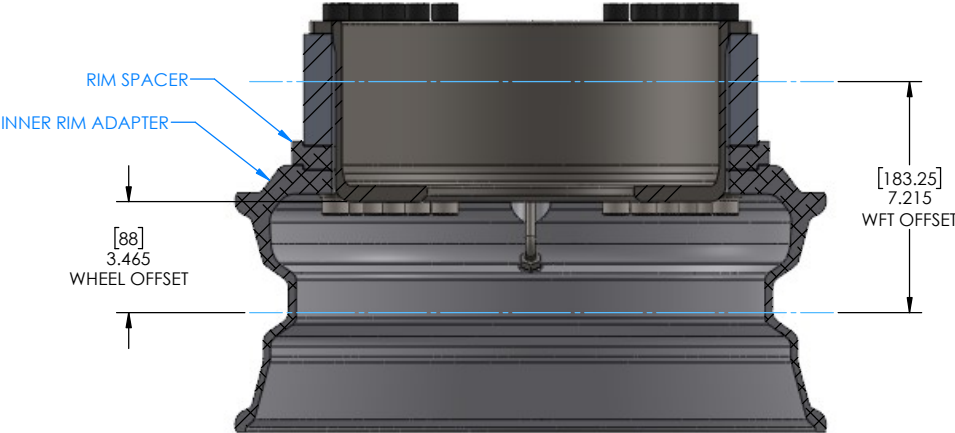
17.5X6 - SPACER



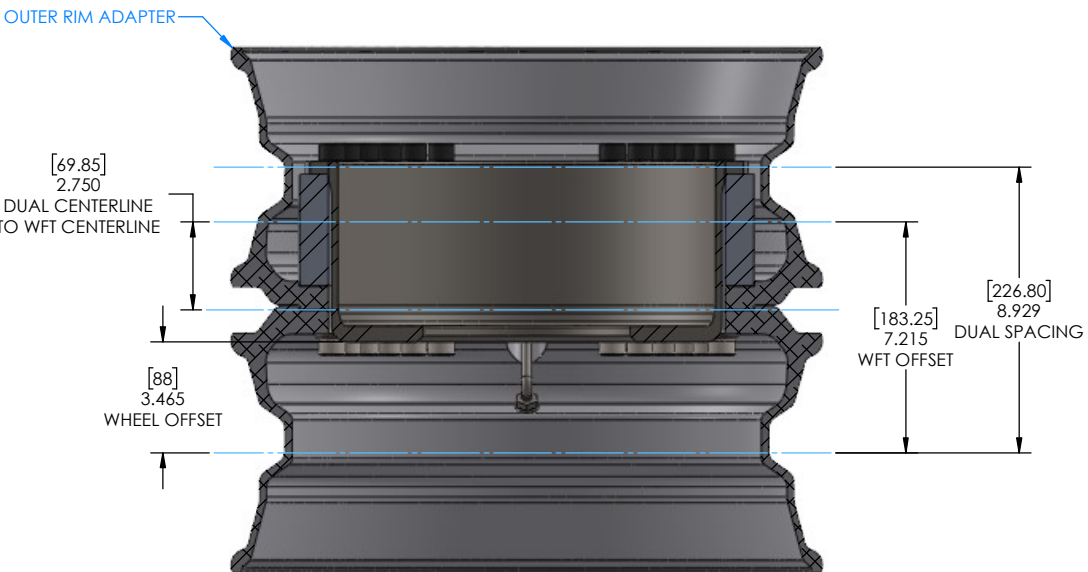
17.5X6 - DUAL



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.

These WFTs can be used on vehicles with single & dual wheels. The same "inner rim adapter" can be used in a single and dual arrangement. This requires a "rim spacer". The "rim spacer" needs to have the same pilot, bolt pattern, and flange thickness as the "outer rim adapter". The assemblies show a simple single system, a single system with a spacer, and a dual system. They all have the same "WHEEL OFFSET".

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 0.25 in (6.35 mm) of clearance to the brake and suspension components to prevent interference.

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

3D models and 2D drawings of the LW-2T-30K & LW-2T-40K are available for download on MSC's website. (michsci.com)

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 LW-2T-30K has an SAE J328 static load rating of 6,000 lbs (2,720 kg.) The LW-2T-40K has an SAE J328 static load rating of 8,000 lbs (3,630 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.

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XX ±.01		CHECKED	07/31/24 JPB/ry
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BEND ±		MFG APPR	07/31/24 JPB/ry
WEIGHT			
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		CUSTOMER CODE	
		PROJECT CODE	
		DESCRIPTION	
		SIZE DWG. NO.	
		D LW-2T-30K & -40K Rim	
		Adapter Design Guide	
		SCALE: 1:3	
		SHEET 2 OF 2	
		REV A	