



MTS Routine Maintenance

Road Simulators

Eligible Road Simulators

- » Series 329 6DOF Passenger Car
- » Series 329 6DOF Light Truck

Eligible Road Simulator Options

- » XY Positioner
- » Static Support
- » Longitudinal Restraint
- » Brake Intensifier

Your Series 329 6DOF Road Simulator is one of the most valuable investments in your test lab, and protecting it through proper care and maintenance will help you optimize its performance and maximize its years of use.

With ever-shortening product development cycles, and limited time for testing prototype articles, it is critical that your road simulator is operating properly when you need to test. All test systems experience the normal wear and tear that can lead to unexpected downtime if they are not inspected and maintained on a regular basis. With MTS Routine Maintenance, you will be able to schedule maintenance events based on equipment use and when it is convenient for you, and you will minimize the chance of unexpected downtime that can interrupt your testing program and cause unnecessary delays.

With our defined service intervals, we can deliver all the recommended maintenance for your Series 329 road simulator. At the end of each Routine Maintenance visit, you will receive a report that details the services performed, current operating condition and any future recommendations, if necessary. MTS will keep records of maintenance that has been performed, so you can observe equipment condition over time and know what has been done to help ensure proper operation.

Because the maintenance activities are defined, and are conducted by professionals trained specifically on what needs to be done for your road simulator, you'll know that maintenance was done correctly the first time and consistently each time. As the equipment OEM, MTS has the knowledge, expertise and special tools required to optimize system performance.

be certain.

MTS Series 329 6DOF Routine Maintenance Program

Owner / Operator Routine Maintenance procedures that are scheduled on a daily or weekly basis involve visual checks and should not interfere with the operation of test systems.

Calendar Time Using 8 Hour Run Time Rate Per Day	Daily	Weekly	Monthly	500	1,000	1,500	Annually 2,000
Running Time - Hours	8	40	160	500	1,000	1,500	2,000
Check Corner Area Cleanliness	✓						
Monitor Filter Indicators	✓						
Check Hoses / Cables / Connectors		✓					
Check Assemblies / Lifts / Supports		✓					
Check Actuator Areas are Dry		✓					
Check Hydraulic Service Manifold		✓					
Check Seal Condition is Dry		✓					
Check Lock System Condition / Leaks		✓					
Check Operation (Emergency Stop / Warning Lights)		✓					
Check Static Support Precharge Pressure		✓					
Clean All Actuator Rods		✓					
Clean and Oil T-Slot Surface When Moved		✓					
Cursory Check of Static Support		✓					
Check / Charge Accumulators				✓			
Visual Inspection of All Hoses for Wear / Rubbing / Leaks				✓			
Check Servovalve Balance				✓			
Check Actuators				✓			

Corner

Inspect All System Labels	MTS	MTS	MTS	MTS
Verify E-Stop Operation / Lights	MTS	MTS	MTS	MTS
Force and dP Shunt and Zero Offset Verification	MTS	MTS	MTS	MTS

Simulation Fixtures/Mechanical Components

Check Bolt Torques	MTS	MTS	MTS	MTS
Lubricate Bearings with Fittings	MTS	MTS	MTS	MTS
Check / Verify Pillow Block Bearings	MTS	MTS	MTS	MTS
Check / Verify Spherical Ball Joint Preload	MTS	MTS	MTS	MTS
Check / Verify Bell Crank Pins	MTS	MTS	MTS	MTS
Check Bearings on Brake Input Bar	MTS	MTS	MTS	MTS
Check Wrist Joint Preload	MTS	MTS	MTS	MTS
Check Rubber Bushings	MTS	MTS	MTS	MTS
Check Backlash on Series 249 Swivels		MTS		MTS
Check Fixture Alignment				MTS

Actuators

Visual Inspection of Actuators	MTS	MTS	MTS	MTS
Actuator Area is Dry	MTS	MTS	MTS	MTS
Piston Rod Wear is Acceptable	MTS	MTS	MTS	MTS
Valve Balance Check Displacement Control	MTS	MTS	MTS	MTS

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Running Time - Hours	8	40	160	500	1,000	1,500	2,000

Hydraulic Service Manifold

Visual Inspection of Hydraulic Service Manifold				MTS	MTS	MTS	MTS
Monitor Filter Indicators				MTS	MTS	MTS	MTS
Manifold Hose Connections are Tight				MTS	MTS	MTS	MTS
Accumulator Connections are Dry and Secure				MTS	MTS	MTS	MTS
Accumulator Connections are Tight				MTS	MTS	MTS	MTS
Accumulator Caps / Guards are Present				MTS	MTS	MTS	MTS
Check and Adjust Pressure in Accumulator				MTS	MTS	MTS	MTS
Low Pressure Adjustment (Model 290)				MTS	MTS		MTS
Low Pressure Adjustment (Model 294)						MTS	
Pressure Accumulator Charge				MTS	MTS	MTS	MTS
Return Accumulator Charge				MTS	MTS	MTS	MTS
Pilot Accumulator Charge				MTS	MTS	MTS	MTS
Oil on the Gas Side of the Piston (290 manifold only)					MTS		
Oil on the Gas Side of the Piston							MTS
Replace Filters							MTS

Hoses / Cables

Visual Inspection of Hoses / Cables / Connectors				MTS	MTS	MTS	MTS
Visual Inspection of Hoses / Cables / Connectors RSC							MTS
Absence of Hose Abrasions, Blisters, Vulcanizing				MTS	MTS	MTS	MTS
Cable Condition and Routing is Acceptable				MTS	MTS	MTS	MTS
Check Transducer Connections				MTS	MTS	MTS	MTS
Hose Connections and Crimps are Dry				MTS	MTS	MTS	MTS
Plus Required Filters / Materials							MTS

Note: MTS

Symbol denotes service performed by trained field service engineers as part of an MTS Routine Maintenance plan. Some of these procedures require special service tools and/or specific service training to complete.

Note: ✓

Symbol denotes services performed by equipment operators. Most of these procedures involve visual checks that should not interfere with test system operation. These checks are also completed by trained field service engineers on each Routine Maintenance visit.

Routine Maintenance package pricing does not include materials. Each specific MTS equipment model may or may not require materials at each RM interval.

Eligible Road Simulator Option Packages

Owner / Operator Routine Maintenance procedures that are scheduled on a daily or weekly basis involve visual checks and should not interfere with the operation of test systems.

Calendar Time Using 8 Hour Run Time Rate Per Day	Daily	Weekly	Monthly				Annually
Running Time - Hours	8	40	160	500	1,000	1,500	2,000
XY Positioner Option							
Check Bolt Torques				MTS	MTS	MTS	MTS
Clean and Lubricate Drive Screws				MTS	MTS	MTS	MTS
Apply Grease to Fittings				MTS	MTS	MTS	MTS
Apply Oil to Leading Edge of Positioning Plates				MTS	MTS	MTS	MTS
Verify / Check Hydraulic Clamps Adjusted and Not Leaking				MTS	MTS	MTS	MTS
Static Support Option							
Overall Inspection of Static Support				MTS	MTS	MTS	MTS
Verify Static Support Precharge Pressures				MTS	MTS	MTS	MTS
Longitudinal Restraint Option							
Grease Fittings				MTS	MTS	MTS	MTS
Verify Condition of Actuator				MTS	MTS	MTS	MTS
Brake Intensifier Option							
Check Precharge Pressures							MTS
Check Air Inlet Filter Indicator							MTS
Drain and Clean Reservoir, Clean Strainer, Refill							MTS
Air Inlet Filter: Drain Bowl and Replace Filter							MTS

In addition to providing Routine Maintenance packages for the system corners, we also offer maintenance packages for several options, including the XY positioner, static support, longitudinal restraint and brake intensifier. For a more comprehensive approach, we can add in Routine Maintenance packages for your hydraulic power unit and controller.

What's more, you can have all this work accomplished under your standard MTS Assured Maintenance Plan (AMP) service contract. This planned approach helps you save more by avoiding the expense and delays of issuing separate purchase orders.

You'll be able to save time and money and know what to expect when you plan for routine maintenance service. Investing in MTS Routine Maintenance for your Series 329 road simulator is a valuable and economical way to protect such a large asset, especially when you compare the cost of maintenance to the cost of replacement corners or components and consider the risk of testing schedule delays. Contact us today to learn more about how Routine Maintenance can enhance the productivity, reliability and product longevity of your test system.



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HIDDEN COSTS OF DIY MAINTENANCE

You probably already conduct some type of pre- and post-test inspection of your Series 329 test system, but to adhere to proper maintenance guidelines, you have to consider the full resource and lost opportunity costs.

For a proper maintenance program, you need to invest in:

- + Dedicated staff to learn the maintenance procedures, and to spend the time doing the maintenance
- + Ongoing training
- + Specialized tools
- + Parts
- + Knowledge of proper system operation tolerances and what to look for to minimize breakdowns
- + Record-keeping system to know what was performed and when
- + Scheduling system to make sure maintenance is performed regularly at recommended intervals

= Total resource cost

You also need to consider the costs of unplanned downtime:

- + Test schedule interruption
- + Product development delay
- + Repair cost
- + Extended length of downtime due to possible long lead times on specialized components

= Total lost opportunity cost

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