

## Managing Individual Path Resets

*Purpose: This application note covers reset path and vehicle delete operations. It describes the actions taken by the MMI LSM Transport Control System on path reset and delete vehicle commands.*

*If an application requires path resets on a portion of an operating system, information on issues to be aware of and recommended reset procedures are discussed.*

### Reset All Paths

When the Host sends a path reset with the path ID set to zero (0):

- The HLC sends a reset\_path\_request for all paths, causing the Node Controllers to put all paths in reset state.
- During each path's reset process, vehicle records in the motors for that path are deleted.
- Additionally, the HLC detects that all paths are in reset state at the same time. Subsequently, when the HLC detects that all paths are no longer in reset, it sends a reset\_node\_request to all Node Controllers clearing any vehicle node ownership record. Thus, records for all vehicles on the system are deleted.

### Reset a Single Path

When the host sends a path reset to a specific path ID:

- The HLC sends a reset\_path\_request to the Node Controller responsible for the specified path.
- During the path's reset process, vehicle records in the motors for that path are deleted. Vehicles on the target path that are not involved in a node will be reliably deleted.

### Delete a Vehicle

When the Host sends a delete vehicle command:

- The vehicle records are purged from all motors, nodes, and paths.

### Issues with Partial System Resets and Vehicle Deletes

1. If a vehicle is spanning adjacent paths at a node, its records will be deleted from the path being reset, but retained on the adjacent paths if they are not reset as well. This can cause startup to fail to properly locate the offending vehicle, possibly without a startup failure indication.

2. If a vehicle owns a node when the path is reset, the node will continue to be owned by the vehicle even after the vehicle records are deleted from the motors in the path.
3. Relay nodes are not owned but issue 1 above applies at relay nodes.
4. When a vehicle is deleted, permission to occupy the blocks that it owned can be granted to another vehicle. As a result a vehicle under command can collide with an unlocated vehicle. It is important that paths be suspended prior to deleting any vehicles on the path. It is also important that paths reporting unlocated vehicle faults be suspended.

### **Managing Individual Path Resets**

To manage individual path resets, the Host must use one of the following procedures.

#### Option 1:

1. Suspend the path that will be reset, termed the target path in this discussion.
2. Suspend any paths that share membership in the target path's upstream and downstream nodes.
3. Delete any vehicles that own the nodes at the end of the target path.
4. If there is a relay node at an end of the target path, delete any vehicle that is located on the opposite side of the relay node within  $\frac{1}{2}$  a vehicle length of the relay node.
5. Reset the target path.

#### Option 2:

1. Suspend the path that will be reset, termed the target path in this discussion.
2. Suspend any paths that share membership in the target path's upstream and downstream nodes.
3. If the target path's end is a relay node, also reset the path on the other side of the relay node. This process will create a string of target paths linked by relay nodes but terminated by switch, simple, or terminus nodes.
4. Delete any vehicles that own the nodes at either end of the string of target paths.
5. Reset the string of target paths.

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#### **Related Documents:**

990000410 – MANUAL, MAGNEOVER LITE

990000376 – MANUAL, HOST TCP INTERFACE UTILITY

990000562 – MANUAL, NCHOST TCP INTERFACE UTILITY

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#### **More Information**

MagneMotion website: [www.magnemotion.com](http://www.magnemotion.com)

MagneMotion Proprietary Information



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Questions & Comments: <http://www.magnemotion.com/about-magnemotion/contact.cfm>

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