	VEHICLE MAINTENANCE MINIMUM REQUIREMENTS	<b>VMMR B92</b>
	Docklands Light Railway Ltd. Castor Lane, Poplar London, E14 0BL	

**VEHICLE MAINTENANCE MINIMUM REQUIREMENTS – B92**



**LEAD DOCUMENT / STAR CHART**

**DOCUMENT APPLIES TO B90 / B92 / B2000 VEHICLES ONLY**

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	Signature	Job Title
Review undertaken by:		Rolling Stock Engineer
Approval for use by:	 10/2/17	Rolling Stock Engineering Manager

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Original document issue information

**APPROVAL AND AUTHORISATION**

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Approval for use by:		Fleet Manager Docklands Light Railway Ltd.

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## 1. Purpose

This document exists to support the requirements of rolling stock assets as set out in the Franchise Agreement.

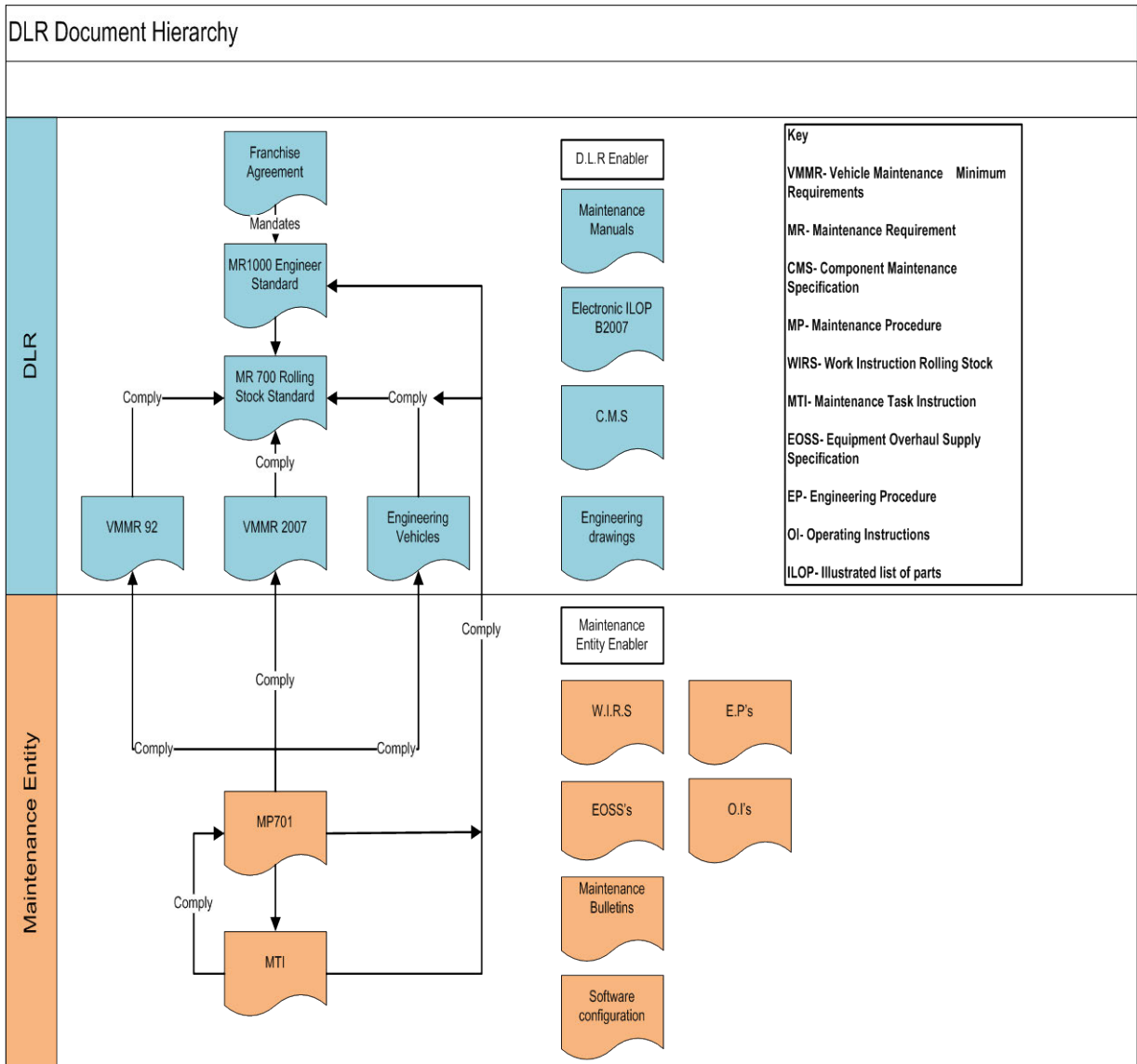
- 1.1. DLRL Vehicle Maintenance Minimum Requirements (VMMR) outline the requirements for a Maintenance Plan. They set out what maintenance needs to be performed but not how the maintenance is to be performed, unless an established good practice has already been established. The intervals at which maintenance must be completed are not specified either, except that some maximum limits are given and there is a requirement that the interval should be set so as to ensure continued compliance to the essential requirements. Further, as explained in MR-700, VMMR's are neither exhaustive nor prescriptive: suppliers meeting these documents are not guaranteed to deliver system safety or performance; suppliers may apply to vary them.
- 1.2. DLRL VMMR's focus on **output measures** (not input ones), however some **essential requirements** are specified, such as:
  - critical limits / backstop on how often certain activities must be carried out e.g. bogies to be overhauled within x thousand miles, but not precisely when; and not how to group different maintenance activities together efficiently
  - critical processes of how to carry out particular activities e.g. where experience has derived a best practice approach, which DLRL passes on as part of its knowledge management role, in order to mitigate known DLRL reputational risks.
- 1.3. DLRL VMMR's provide a baseline:
  - against which DLRL audits of work done can be carried out to assess franchise compliance;
  - such that related documents can be assessed for compliance (e.g. suppliers' maintenance recommendations); and
  - which can be enhanced over time e.g. best practice emerges from investigations.

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## 2. Application

This VMMR applies to DLR's Franchisee through the Maintenance Standard for Rolling Stock, MR700. **MR700** sets out management requirements on the franchisee, and mandates **Vehicle Maintenance Minimum Requirements (VMMR)** which set out the requirements for the Maintenance Plan, specifying what minimum requirements are to be maintained and giving limits on by when critical activities must be performed.

Each VMMR section may call up **Maintenance Specifications (MS)** which are discrete self-contained documents for use by overhaul contractors, consistent with best practice (i.e. for traction motors, bogies, couplers, compressors and wheelsets). VMMR may also call up **Project Specifications (PS)** which set out specifications to which the rolling stock is modified/ refurbished / upgraded.



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### 3. Scope

This Vehicle Maintenance Minimum Requirements document applies to DLR's B90 / B92 / B2000 light rail vehicles only for the purpose of this document it will reference B92 as all vehicle types are comparable. It specifies what the minimum requirements are to be maintained (mandating MS and referencing BT Manuals as required) and gives limits on by when critical activities must be performed (e.g. gearbox overhaul must be carried out prior to a certain number of vehicle km's run, brake pads must be renewed such that minimum limits are not exceeded in service).

Fundamentally, VMMR's specify what is to be done, with some key limits on when. They do not generally set out how maintenance is to be performed or grouped together logically into exam block cards or whether regimes should be balanced or cumulative; nor yet the level of granularity of maintenance by individual component (e.g. franchisees may find that condition monitoring and life item approaches elicit best performance and most efficient life cycle costs).

#### VMMR 92

- Within the VMMR are a number of sections. Each section represents a system, assembly or sub assembly of the vehicle, example Section 1 Shoe gear, Section 12 Couplers.
- The Sections are represented in the VMMR 92 via a star chart, specifying key limits at which a maintenance activity is mandatory.
- Other Maintenance activities within the star chart are indicated by "**As Required**" giving the franchisee the scope to undertake the maintenance activities at the best optional interval, documented evidence of the periodicity chosen will be required to demonstrate the decision / justification.

#### Each VMMR:

- Lists MS in a star chart, specifying the limits when each overhaul is to be undertaken;
- In the absence of a MS, identifies the best documentation available – typically an extract from the OEM maintenance manual, applied at the periodicity specified therein;
- Specifies requirements of where data is to go in the asset management system (i.e. electronic records), even where work is undertaken according to a MS, since overhaul providers may be supply chain partners who may not have access to the asset management system, whereas the Franchisee who delivers the VMMR does. See also Section 10 Records below.


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#### 4. Definitions and Abbreviations

All periodicities are in km. A tolerance exists on each exam of 900km (an average of 3 days duty service), the tolerance is not cumulative and is applied to an exam but does not change the original drop dead position of the next exam, i.e. if the 900km tolerance is used on a an exam past the 13,500 km point the next exam is due in 13,500km minus the 900km overrun.

Please see **MR1000** and **MR700** for definitions and abbreviations.




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## 5. Star Chart

This Star Chart indicates maintenance requirements:


Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
<b>Section 01</b>	<b>Shoegear</b>											
<b>01.01</b>	<b>Carbon Shoes and Mounting</b>											
01.01.01	Gauge Collector Shoes	As Required										
01.01.02	Examine Collector Shoes	As Required										
01.01.03	Renew Collector Shoes (NEW)						*	*	*	*	*	*
01.01.04	Examine Shoe Backplate / Mounting Bushes	As Required										
01.01.05	Renew Shoe Backplate / Mounting Bushes						*	*	*	*	*	*
<b>01.02</b>	<b>Wishbone Arms Plank Type Shoegear</b>											
01.02.01	Clean Wishbone Arms / Plank Type Shoegear	As Required										
01.02.02	Examine Wishbone Arms / Plank Type Shoegear	As Required										
<b>01.03</b>	<b>Shoegear Air Cylinder</b>											
01.03.01	Check Condition of Air Cylinders			*	*	*	*					
01.03.02	Renew Air Cylinders							*		*		*

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
01.03.03	Cylinder Leak Test	As Required										
<b>01.04</b>	<b>Electrical Equipment</b>											
01.04.01	Clean Shoe Equipment	As Required										
01.04.02	Examine Shoe Shunts Cables	*	*	*	*	*						
01.04.03	Examine Bell Insulator	As Required										
01.04.04	Examine Flash Guards	As Required										
01.04.05	Examine Fuse Box	As Required										
01.04.06	Renew Shoe Shunt Cable						*	*	*	*	*	*
<b>01.05</b>	<b>Post-Exam Tests</b>											
01.05.01	Output Pressure Test of the Manostat Valves	As required					*	*	*	*	*	*
<b>Section 02</b>	<b>Batteries</b>											
<b>02.01</b>	<b>Battery (including Cells and Cables)</b>											
02.01.01	Check Battery Cells	As Required										
02.01.02	Check Battery Terminals			*	*	*	*	*	*	*	*	*
02.01.03	Examine Battery Cables	As Required										
02.01.04	Battery Stand Up Test				*	*	*	*	*	*	*	*

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
02.01.05	Renew Battery Cells						*	*	*	*	*	*
<b>02.02</b>	<b>Battery Box</b>											
02.02.01	Examine/Clean Battery Tray Runners and Latches	As Required										
02.02.02	Battery Tray Guide Runners (Please note - this was not an original 864,000Km requirement)									*		*
02.02.03	Battery Box	As Required										
02.02.04	Examine Battery Case for Corrosion (Please note - this was not an original 864,000Km requirement)									*		*
02.02.05	Paint Interior of Battery Box (Please note - this was not an original 864,000Km requirement)									*		*
<b>02.03</b>	<b>K606 Auxiliary Contactor / Case</b>											
02.03.01	Examine K606 Contactor Case					*						
02.03.02	Renew K606 Contactor							*		*		*
<b>02.04</b>	<b>Renew K612 Relay</b>											
02.04.01	Renew K612 Relay							*		*		*
<b>Section 03</b>	<b>Earth Return Units</b>											
03.01	<b>600A Unit</b>											

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
03.01.01	Examine Brush and Brush Springs			*	*	*	*	*	*	*	*	*
03.01.02	Examine Earth Return Braid	As Required										
03.01.03	Renew Earth Return Braid			*	*	*	*	*	*	*	*	*
03.01.04	Renew Earth Return Unit						*	*	*	*	*	*
03.01.05	Renew Mounting Plates							*		*		*
03.01.06	Examine Renew Fixings				*	*						
<b>03.02</b>	<b>300A Unit</b>											
03.02.01	Examine Brush and Brush Springs	As Required										
03.02.02	Examine Earth Return Braid	As Required										
03.02.03	Renew Earth Return Braid			*	*	*	*	*	*	*	*	*
03.02.04	Renew Earth Return Unit						*	*	*	*	*	*
03.02.05	Renew Mounting Plates							*		*		*
03.02.06	Renew Fixings				*	*						
<b>03.03</b>	<b>Security of Units</b>											
03.03.01	Check Security of fixings	*	*	*								
<b>Section 04</b>	<b>SCD and SCD Locker</b>											

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<b>04.01</b>	<b>Short Circuit Device (SCD)</b>											
04.01.01	Clean / Examine S.C.D	As Required										
04.01.02	Renew Short Circuit Device					*	*	*	*	*	*	*
<b>04.02</b>	<b>SCD Locker</b>											
04.02.01	Clean Locker	As Required										
04.02.02	Examine Locker Door	As Required										
<b>Section 05</b>	<b>General Sides, Ends &amp; Underframe Inspection</b>											
<b>05.01</b>	<b>Equipment Cases, Brackets, Fixings</b>											
05.01.01	Examine Underframe Equipment Cases	As Required										
05.01.02	Examine Underframe Mounting Brackets	As Required										
05.01.03	Examine Underframe Fixings	As Required										
05.01.04	Examine Levelling Rod Arms	As Required										
<b>05.02</b>	<b>Side Skirts</b>											
05.02.01	Examine Side Skirts	As Required										
05.02.02	Examine Skirt Brackets	As Required										
05.02.03	Examine Skirt Locks	As Required										

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05.02.04	Secondary Security of Vehicle Skirts Check (Cable Ties)	As Required										
<b>05.03</b>	<b>Piping, Cables, Cleats</b>											
05.03.01	Examine Cables and Cleats	As Required										
05.03.02	Examine Underframe Piping	As Required										
<b>05.04</b>	<b>Earth Bonds</b>											
05.04.01	Check Earth Bonds	As Required										
<b>Section 06</b>	<b>Traction Equipment (1)</b>											
<b>06.01</b>	<b>Motor, Brake and Line Contactors</b>											
06.01.01	Test Magnet Valve Operation	As Required										
06.01.02	Examine Mainline Contacts	As Required										
06.01.03	Examine Arc Chutes	As Required										
06.01.04	Examine Flexible Braids	As Required										
06.01.05	Renew Type BKA22 Contactors						*	*	*	*	*	*
06.01.06	Test Contact Resistance	As Required										
06.01.07	Renew Solenoid Valves and Quick Dump Valves						*	*	*	*	*	*
<b>06.02</b>	<b>Compressor Contactors</b>											

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06.02.01	Test Compressor Contactor Operation	As Required										
06.02.02	Examine Arc Chutes	As Required										
06.02.03	Test Contact Resistance (of Compressor Aux Contacts)	As Required										
06.02.04	Renew Compressor Contactor						*	*	*	*	*	*
06.02.05	Renew Equipment Governor						*	*	*	*	*	*
<b>06.03</b>	<b>Blower Motors and Heating Contactors</b>											
06.03.01	Replace Blower Motors and Heating Contactors							*		*		*
<b>06.04</b>	<b>Line, Feed and Armature Overload Relays</b>											
06.04.01	Renew Line, Feed and Armature Overload Relays							*		*		*
<b>06.05</b>	<b>Other</b>											
06.05.01	Clean Equipment Cases and Bays	As Required										
06.05.02	Renew Equipment Case Rubber Seals & Gaskets (Main case A&B and battery case)									*		
06.05.03	Examine Field Control Unit Modules	As Required										
06.05.04	Post Exam Testing	As Required										
<b>Section 07</b>	<b>Tachometers</b>											


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<b>07.01</b>	<b>Tachometer &amp; Mountings</b>											
07.01.01	Examine Tachometer	As Required										
07.01.02	Examine Tachometer Cable	As Required										
<b>07.02</b>	<b>Litton Connector</b>											
07.02.01	Check Litton Connector	As Required										
<b>07.03</b>	<b>Tachometer Renewal and Testing Procedure</b>											
07.03.01	Removal of Existing Tachometer	As Required										
07.03.02	Mechanical Fitting of the Hasler Pulse Generator						*	*	*	*	*	*
07.03.03	Mounting the Anti Rotational Stay						*	*	*	*	*	*
07.03.04	Securing the Cable						*	*	*	*	*	*
07.03.05	Testing the Vehicle Wiring						*	*	*	*	*	*
<b>Section 8</b>	<b>Convertor</b>											
<b>08.01</b>	<b>Fan</b>											
08.01.01	Renew Convertor Fan						*	*	*	*	*	*
08.01.02	Clean Convertor Case (Interior)	As Required										
<b>08.02</b>	<b>Overhaul</b>											




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08.02.01	Overhaul Convertor									*		*
08.02.02	Renew Convertor Case Seals									*		*
<b>Section 9</b>	<b>Articulation Joint (Roof)</b>											
<b>09.01</b>	<b>Centre Bearing</b>											
09.01.01	Examine Centre Bearing					*						
09.01.02	Renew Centre Bearing						*	*	*	*	*	*
<b>09.02</b>	<b>Roof Linkage</b>											
09.02.01	Examine Security and Condition of Roof Linkage	As Required										
09.02.02	Renew Roof Springs							*		*		*
09.02.03	Lubricate Roof Linkage	As Required										
09.02.04	Centralise Porch	As Required										
09.02.05	Renew Roof Dampers						*	*	*	*	*	*
<b>09.03</b>	<b>Sliding Pad and Cables</b>											
09.03.01	Examine Roof Cable and Sheathing (+ RSM 505)			*	*	*	*	*	*	*	*	*
09.03.02	Renew Sliding Pad						*	*	*	*	*	*
<b>09.04</b>	<b>Aerial</b>											

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09.04.01	Examine Aerial	As Required										
09.04.02	Examine Cable Conduit	As Required										
<b>Section 10</b>	<b>Coach Level and Height Adjustment</b>											
<b>10.01</b>	<b>Motor Bogies</b>											
10.01.01	Check Motor Bogies Coach Heights				*	*	*	*	*	*	*	*
10.01.02	Adjust Coach Level and Height	As Required										
10.01.03	Check / Reset Gaps of Height Stops				*	*	*	*	*	*	*	*
<b>10.02</b>	<b>Arctic Bogie</b>											
10.02.01	Check Trailer Bogies Coach Heights				*	*	*	*	*	*	*	*
10.02.02	Adjust Coach Level and Height	As Required										
10.02.03	Reset Gaps of Height Stops				*	*	*	*	*	*	*	*
<b>10.03</b>	<b>Motor and Arctic Levelling Valves</b>											
10.03.01	Renew Levelling Valve						*	*	*	*	*	*
10.03.02	Renew Levelling Valve Flexible Piping Trailer Bogie						*	*	*	*	*	*
<b>Section 11</b>	<b>Brake Equipment</b>											
<b>11.01</b>	<b>Brake Tests</b>											

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11.01.01	Brake Force Test						*	*	*	*	*	*
11.01.02	Static Brake Test					*	*	*	*	*	*	*
<b>11.02</b>	<b>Brake Pads</b>											
11.02.01	Examine/Renew Brake Pads	*	*	*	*	*	*	*	*	*	*	*
11.02.02	Test Pad to Disc Clearance	*	*	*	*	*	*	*	*	*	*	*
<b>11.03</b>	<b>Brake Isolating Cocks</b>											
11.03.01	Examine Brake Cylinder Isolating Cocks	*	*	*	*	*	*	*	*	*	*	*
<b>11.04</b>	<b>Callipers, Linkages</b>											
11.04.01	Examine Brake Callipers	*	*	*	*	*	*	*	*	*	*	*
<b>11.05</b>	<b>Brake Discs</b>											
11.05.01	Examine Condition of Brake Discs	*	*	*	*	*	*	*	*	*	*	*
11.05.02	Test Security of Brake Discs		*	*	*	*	*	*	*	*	*	*
<b>11.06</b>	<b>Spring Applied Brakes</b>											
11.06.01	Test Spring Applied Brakes	*	*	*	*	*	*	*	*	*	*	*
<b>Section 12</b>	<b>Couplers</b>											
<b>12.01</b>	<b>Electrical Head</b>											

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
12.01.01	Examine Electrical Head Cover (Lid)			*	*	*	*					
12.01.02	Examine Electrical Box (Casing)			*	*	*	*					
12.01.03	Examine Electrical Head (Seals)	*	*	*	*	*	*					
12.01.04	Examine Electrical Contact Pins			*	*	*	*					
12.01.05	Examine Contact Block				*	*	*					
12.01.06	Test Coupler Head Locking			*	*	*	*					
12.01.07	Test Coupler Limit Switch			*	*	*	*					
12.01.08	Heavy Overhaul of Electrical Head (see DLR –ENG-SPC-MS-754)							*		*		*
<b>12.02</b>	<b>Mechanical Head</b>											
12.02.01	Examine Mechanical Head for Damage, Wear			*	*	*	*					
12.02.02	Check Movement of Mechanical Head	*	*	*	*	*	*					
12.02.03	Check Coupler Lock Backlash Gauge			*	*	*	*					
12.02.04	Coupler Height			*	*	*	*					
12.02.05	Lubricate Mechanical Coupler			*	*	*	*					
12.02.06	Heavy Overhaul of Mechanical Head (see DLR –ENG-SPC-MS-754 )							*		*		*
<b>12.03</b>	<b>Coupler Electrical Harness</b>											

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		12.03.01	Damage and Wear Electrical Harness	As Required								
12.03.02	Check Electrical Harness Height	As Required										
<b>12.04</b>	<b>Coupler Pneumatic Pipes &amp; Pneumatic Connector</b>											
12.04.01	Pneumatic Pipe Damage and Wear	As Required										
12.04.02	Pneumatic Pipe Height	As Required										
12.04.03	Renew Pneumatic Pipes						*	*	*	*	*	*
<b>12.05</b>	<b>Pneumatic Connector</b>											
12.05.01	Inspect Pneumatic Connector	As Required										
12.05.02	Overhaul Pneumatic connector (see DLR –ENG-SPC-MS-754)							*		*		*
<b>12.06</b>	<b>Self-Centring Device</b>											
12.06.01	Self-Centring Device Test	As Required										
12.06.02	Self-Centring Device Overhaul (see DLR –ENG-SPC-MS-754)						*	*	*	*	*	*
<b>12.07</b>	<b>Muff Coupling</b>											
12.07.01	Muff Coupling Damage and Wear	As Required										
12.07.02	Muff Coupling Torque Settings	As Required										
<b>12.08</b>	<b>Earth Leads</b>											

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12.08.01	Damage and Security	As Required										
12.08.02	Renew Earth Leads	As Required										
<b>12.09</b>	<b>Deformation Tube</b>											
12.09.01	Damage, Wear and Security	As Required										
12.09.02	Electrical Harness Bracket	As Required										
<b>12.10</b>	<b>Uncoupling Cylinder</b>											
12.10.01	Uncoupling Cylinder Overhaul (see DLR –ENG-SPC-MS-754)							*		*		*
<b>Section 13</b>	<b>Compressor, Air Delivery and Pressure Vessels</b>											
<b>13.01</b>	<b>Compressor</b>											
13.01.01	Top Up and Record Oil added to Compressor	*	*	*	*	*	See DLR-ENG-SPC-MS-758					
13.01.02	Compressor Cover Securing Clips	As Required										
13.01.03	Renew Air Filter			*	*	*	See DLR-ENG-SPC-MS-758					
13.01.04	Examine Safety Valve	As Required										
13.01.05	Renew Safety Valve	As Required										


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13.01.06	Examine Compressor Motor Drain Pin	As Required										
13.01.07	Renew Compressor Sump Oil Drain and Filter				*	*	See DLR-ENG-SPC-MS-758					
13.01.08	Renew Cylinder Head Valves					*	See DLR-ENG-SPC-MS-758					
13.01.09	Examine Compressor Mounting Clearances				*	*	See DLR-ENG-SPC-MS-758					
13.01.10	Examine Compressor Motor Brushes			*	*	*	See DLR-ENG-SPC-MS-758					
13.01.11	Motor Bearings Check and Grease	As Required										
13.01.12	Renew Compressor Mounts and Flexible Delivery Hose						See DLR-ENG-SPC-MS-758					
13.01.13	Renew Compressor Governor						See DLR-ENG-SPC-MS-758					
13.01.14	Compressor silencer check - security	*	*	*	*	*						
13.01.15	Replace compressor fail unit						On I exam					
<b>13.02</b>	<b>Air Dryer</b>											
13.02.01	Examine/Clean Automatic Drain Valves	As Required										


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13.02.02	Renew Automatic Drain Valves				*	*	*	*	*	*	*	*
13.02.03	Examine/Renew Air Dryer Inlet and Outlet Filters				*	*	*	*	*	*	*	*
13.02.04	Examine Humidity Indicator	As Required										
13.02.05	Examine Air Dryer Body (for Winter Operation)	As Required										
13.02.06	Renew Desiccant Canisters					*	*	*	*	*	*	*
13.02.07	Renew Air Dryer						*	*	*	*	*	*
<b>13.03</b>	<b>Main Reservoir</b>											
13.03.01	Examine Main Reservoir ADV						*	*	*	*	*	*
13.03.02	Renew Main Reservoir ADV							*		*		*
13.03.03	Renew Main Reservoir Safety Valve							*		*		*
<b>13.04</b>	<b>Compressor Air Test</b>											
13.04.01	Compressor Stand Up Test				*	*	*	*	*	*	*	*
<b>13.05</b>	<b>Pressure Vessels</b>											
13.05.01	Examine & Test Pressure Vessels (5% of the Fleet Annually)				*	*	*	*	*	*	*	*
13.05.02	Clean/Paint visually Inspect Pressure Vessels									*		
<b>Section 14</b>	<b>Flange Lubricators</b>											



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<b>14.01</b>	<b>Flange Lube Applicator</b>											
14.01.01	Examine and Adjust Mountings / Fixings	As Required										
14.01.02	Check Lubricator Stick Level	As Required										
14.01.03	Renew Applicator Spring					*	*	*	*	*	*	*
14.01.04	Gauge Applicator to Wheel	As Required										
<b>Section 15</b>	<b>General Underframe and Inspections / Renewal of Components</b>											
<b>15.01</b>	<b>Earth Bonds &amp; Wheel Shunts</b>											
15.01.01	Examine Condition of Earth Bonds	As Required										
15.01.02	Examine Condition of Wheel-to- tyre Shunts	*	*	*	*	*	*	*	*	*	*	*
15.01.03	Measure Internal Wheel Shunt Resistance (Internal only)				*	*	*	*	*	*	*	*
<b>15.02</b>	<b>Cables, Cleats, Connections &amp; Flexible Piping</b>											
15.02.01	Examine Cables & Cable Cleats	As Required										
15.02.02	Examine Air Connectors	As Required										
15.02.03	Examine Hoses, Flow Cut off Valve and Flexible Piping	As Required										
15.02.04	Renew All Flexible Piping						*	*	*	*	*	*
<b>15.03</b>	<b>Fixings</b>											

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15.03.01	Examine Condition and Security of Fixings	As Required										
<b>15.04</b>	<b>Seals and Padlocks</b>											
15.04.01	Examine Coupler Isolating Cocks	As Required										
15.04.02	Check Operation of Coupler Isolating Cocks					*	*	*	*	*	*	*
15.04.03	Examine Isolating Cocks (more info)	As Required										
15.04.04	Check Operation of Isolating Cocks					*	*	*	*	*	*	*
<b>Section 16</b>	<b>Traction Equipment (2)</b>											
<b>16.01</b>	<b>Traction Motors</b>											
16.01.01	Examine Traction Motors		*	*	*	*						
16.01.02	Examine Brush Box and Springs		*	*	*	*						
16.01.03	Examine Commutator Cover Seals		*	*	*	*						
16.01.04	Renew Traction Motor Brushes				*	*						
16.01.05	Clean PTFE Sleeve				*	*						
16.01.06	Grease Traction Motor Bearings				*	*						
16.01.07	Renew Traction Motor (see DLR-ENG-SPC-MS-753 MS Traction Motors)						*	*	*	*	*	*
<b>16.02</b>	<b>Blower Motors</b>											

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16.02.01	Examine Blower Motor		*	*	*	*						
16.02.02	Examine Commutator Seals		*	*	*	*	*					
16.02.03	Clean PTFE Sleeves				*	*	*					
16.02.04	Lubricate Bearings				*	*	*					
16.02.05	Clean Blower Motor Air Intake Panels						*	*	*	*	*	*
16.02.06	Renew Blower Motor							*		*		*
16.02.07	Renew Blower Pressure Switches							*		*		*
<b>16.03</b>	<b>Inertia Air Filter Units</b>											
16.03.01	Renew Inertia Air Filter Units			*	*	*	*	*	*	*	*	*
<b>Section 17</b>	<b>Wheelsets</b>											
<b>17.01</b>	Wheelset Overhaul ( See DLR-ENG-SPC-MS-752)	As required										
<b>Section 18</b>	<b>Brake and Auxiliary Air Systems</b>											
<b>18.01</b>	<b>Combined Air Filter / Air Regulator Units</b>											
18.01.01	Clean/Examine All Combined Air Filter / Air Regulator Units			*	*	*	*	*	*	*	*	*
<b>18.02</b>	<b>Main Reservoir Pressure Switches</b>											
18.02.01	Check/Recalibrate Low Main Reservoir Pressure Switches			*	*	*						

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18.02.02	Renew Main Reservoir Pressure Switches						*	*	*	*	*	*
<b>18.03</b>	<b>CLAU2 Brake Units</b>											
18.03.01	Renew CLAU2 Motor Bogie and Trailer Bogie Brake Units						*	*	*	*	*	*
18.03.02	Renew CLAU2 Emergency Brake Unit						*	*	*	*	*	*
<b>18.04</b>	<b>Strainer Check Valves</b>											
18.04.01	Renew Strainer Check Valves (D2, H1 and G1)						*	*	*	*	*	*
<b>18.05</b>	<b>Wheel Slide Dump Valves</b>											
18.05.01	Renew Wheel Slide Dump Valves						*	*	*	*	*	*
<b>18.06</b>	<b>Brake Cylinder Pressure Switches</b>											
18.06.01	Renew Brake Cylinder Pressure Switches						*	*	*	*	*	*
<b>18.07</b>	<b>Replace AFCOV, Check Valves &amp; Articulation Pneumatic Pipes</b>											
18.07.01	Renew Air Flow Cut Off Valve (AFCOV) D19							*		*		*
18.07.02	Renew A and B Safety Check Valves D20.							*		*		*
18.07.03	Renew Articulation Pneumatic Hoses, B11, D11 & D24							*		*		*
<b>18.08</b>	<b>Parking Brake Strainer E2, Regulator E5 &amp; Check Valve E6</b>											
18.08.01	Renew Parking Brake Strainer E2, Regulator E5 & Check Valve E6							*		*		*

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<b>18.09</b>	<b>Uncoupled Magnet Valve with Solenoid Valve</b>											
18.09.01	Renew Uncoupled Magnet Valve with Solenoid Valve							*		*		*
<b>Section 19</b>	<b>Motor Bogie</b>											
<b>19.01</b>	Motor Bogie Overhaul (See DLR-ENG-SPC-MS-755 )											
19.01.01	Motor bogie frame shot blast, MPI, weld repair & repaint to ITLR-T35435-001 Issue 3 15/06/2015									*		
<b>Section 20</b>	<b>Articulation Bogie</b>											
<b>20.01</b>	Articulation Bogie Overhaul (See DLR-ENG-SPC-MS-756 )											
<b>Section 21</b>	<b>Door System</b>											
<b>21.01</b>	<b>Door Functions</b>											
21.01.01	Test Door Control Panel	*	*	*	*	*	*	*	*	*	*	*
21.01.02	Selective Door Opening Examine / Test	*	*	*	*	*	*	*	*	*	*	*
<b>21.02</b>	<b>Door Pushbuttons</b>											
21.02.01	Test Door Push Button Interior / Exterior	*	*	*	*	*	*	*	*	*	*	*
21.02.02	Clean Exterior Door Push Button Contacts				*	*	*		*		*	
21.02.03	B90 & B92 Vehicles Renew Door Push Buttons internal and external S309										*	

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21.02.04	B2000 Renew Door Push Buttons internal and external S309									*		
21.02.05	Renew Internal Door Push Buttons S308									*		*
<b>21.03</b>	<b>Crew Access &amp; Passenger Emergency Release Valves</b>											
21.03.01	Renew PERV Shuttle Valves (B2000 vehicles only)									*		
21.03.02	Test Passenger Emergency Release Valve (PERV)	As Required										
21.03.03	Test Crew Valve Access Operation	As Required										
21.03.04	Renew Crew Valve / Nylon Bush (I2 B2000)								*	*		
<b>21.04</b>	<b>Door Air Pressure</b>											
21.04.01	Door Air Pressure Examine/Test			*	*	*	*	*	*	*	*	*
21.04.02	Renew Door EP Valves						*	*	*	*	*	*
21.04.03	Renew or Overhaul (seal kit) Door Actuator depending on km.						*	*	*	*	*	*
21.04.04	Door Actuator Fixed and Moving Contact Block						*	*	*	*	*	*
<b>21.05</b>	<b>Door Locks</b>											
21.05.01	Examine Out of Service Door Lock			*	*	*	*	*	*	*	*	*
21.05.02	Renew Door Out of Service Micro Switch							*		*		*
<b>21.06</b>	<b>Door Electrics</b>											

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21.06.01	Examine Door Electrical Cable Looms & Air Pipes			*	*	*	*	*	*	*	*	*
21.06.02	Test K642 Relay				*	*	*					
21.06.03	Renew K642/643 Relay							*		*		*
<b>21.07</b>	<b>Door Leaves and Mechanism</b>											
21.07.01	Test Door Interlock			*	*	*	*	*	*	*	*	*
21.07.02	Examine Door Leaf Seals			*	*	*	*	*	*	*	*	*
21.07.03	Examine Door Mechanism (General)			*	*	*	*	*	*	*	*	*
21.07.04	Examine Drive Belt				*	*	*	*	*	*	*	*
21.07.05	Renew Drive Belt and Pulleys						*	*	*	*	*	*
21.07.06	Renew bi-part Door Maglock									*		
<b>21.08</b>	<b>Door Guides</b>											
21.08.01	Clean Door Guides	As Required										
<b>21.09</b>	<b>Door Operating Panel</b>											
21.09.01	3 Position Key Switch (S202)									*		
21.09.02	Renew 'Close This Door' Pushbutton (S305)									*		
21.09.03	Renew 'Close Other doors' Pushbutton (S306)									*		


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21.09.04	Renew 'Release Doors' Pushbutton (S307)									*		
21.09.05	Renew 'Microphone' Pushbutton (S329)									*		
<b>Section 22</b>	<b>Electronic Racks</b>											
<b>22.01</b>	<b>ECU</b>											
22.01.01	Examine ECU Cupboard & Equipment	As Required										
22.01.02	Renew ECU Relay/ Control Modules							*		*		*
22.01.03	Examine Ventilation Fan				*	*	*					
22.01.04	Renew Ventilation Fan							*		*		*
22.01.05	Accelerometer Calibration Test				*	*	*	*	*	*	*	*
22.01.06	Renew Input Buffer Cards							*		*		*
22.01.07	Clean ECU Cupboard				*	*	*	*	*	*	*	*
<b>22.02</b>	<b>VOBC</b>											
22.02.01	Examine VOBC Cupboard & Equipment	*	*	*	*	*	*	*	*	*	*	*
22.02.02	Renew VOBC Relays K7, RK**, F7							*	*	*	*	*
22.02.03	Examine Ventilation Fan				*	*	*					
22.02.04	Renew Ventilation Fan							*		*		*




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22.02.05	Download VOBC	*	*	*	*	*	*	*	*	*	*	*
22.02.06	Clean VOBC Cupboard				*	*	*	*	*	*	*	*
<b>22.03</b>	<b>CCTV</b>											
22.03.01	Test CCTV	As Required										
<b>Section 23</b>	<b>Heating and Ventilation System</b>											
<b>23.01</b>	<b>Heaters</b>											
23.01.01	Clean Vacuum Heaters	As Required										
23.01.02	Examine Heater Connections and Cables	As Required										
23.01.03	Clean Heater Covers	As Required										
23.01.04	Renew Heater Fans					*		*		*		
23.01.05	Renew Pressure Sensors					*		*		*		
23.01.06	Examine Heater Safety Signage	As Required										
23.01.07	Test Operation of Heaters	As Required										
<b>23.02</b>	<b>Thermostats</b>											
23.02.01	Test Aspiration Fan	As Required										
23.02.02	Vacuum Aspirations Fan Housing	As Required										

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23.02.03	Renew Aspiration Fan				*	*	*	*	*	*	*	*
<b>23.03</b>	<b>Contactor Box</b>											
23.03.01	Inspect Contactor Box	As Required										
23.03.02	Replace Fuses						*	*	*	*	*	*
23.03.03	Replace contactor box Seals	As Required										
<b>Section 24</b>	<b>Bogie Inspection / Tyre Turning</b>											
<b>24.01</b>	<b>Wheelsets</b>											
24.01.01	Examine Flange Heights and Thickness (see DLR-ENG-SPC-MS-752)	*	*	*	*	*	*	*	*	*	*	*
24.01.02	Check Wheel Tread (see DLR-ENG-SPC-MS-752)	*	*	*	*	*	*	*	*	*	*	*
24.01.03	Wheel Rollover (see DLR-ENG-SPC-MS-752)	*	*	*	*	*	*	*	*	*	*	*
24.01.04	Wheel Diameter Difference across Axles	As Required										
24.01.05	Inspection of tyres for renewal							*		*		*
24.01.06	Tyre turning (see DLR-ENG-SPC-MS-752) please note the maximum is 126,000Km between tyre turning				*	*	*	*	*	*	*	*
<b>24.02</b>	<b>Axles</b>											
24.02.01	Examine Axle Bearings	As Required										

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
24.02.02	Lubricate Axle Bearings	As Required										
24.02.03	Renew Axle Bearings										*	
<b>24.03</b>	<b>Dampers</b>											
24.03.01	Examine Vertical and Horizontal Dampers	*	*	*	*	*	*	*	*	*	*	*
<b>24.04</b>	<b>Primary Suspension</b>											
24.04.01	Examine Primary Suspension	*	*	*	*	*	*	*	*	*	*	*
24.04.02	Examine Primary Suspension Torque Indicators	*	*	*	*	*	*	*	*	*	*	*
<b>24.05</b>	<b>Gearboxes and Final Drive</b>											
24.05.01	Examine Gearbox and Final Drive	As Required										
24.05.02	Examine Final Drive Coupling	As Required										
24.05.03	Gearbox Inspection using Ultraviolet Light	*	*	*	*							
24.05.04	Ultrasonic Testing of the Gearbox					*	*	*	*	*	*	*
24.05.05	Gearbox oil sampling			*	*	*	*	*	*	*	*	*
<b>Section 25</b>	<b>General Internal Inspection</b>											
<b>25.01</b>	<b>Floor, Furniture &amp; Interior Panels</b>											
25.01.01	Examine Floor Tiles and Trimmings	As Required										

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
		25.01.02	Examine Seat Frames, Squabs and Backs	As Required								
25.01.03	Examine Panels and Mouldings	As Required										
25.01.04	Examine Handrails	As Required										
25.01.05	Examine Draft Screens	As Required										
25.01.06	Examine EDP's			*	*	*	*	*	*	*	*	*
25.01.07	Examine EDP's Joystick			*	*	*	*	*	*	*	*	*
<b>25.02</b>	<b>Interior Lights</b>											
25.02.01	Examine Lighting Covers	As Required										
25.02.02	Lighting Tubes and Lamps				*	*	*	*	*	*	*	*
<b>25.03</b>	<b>Articulation Cabinets</b>											
25.03.01	Examine / Clean Articulation Cabinets	As Required										
25.03.02	Articulation Cabinet Locks	As Required										
<b>25.04</b>	<b>Glass &amp; Seals</b>											
25.04.01	Examine Windows and Seals	As Required										
25.04.02	Examine Hopper Windows	As Required										
<b>25.05</b>	<b>Fire Extinguishers</b>											

	<b>VEHICLE MAINTENANCE MINIMUM REQUIREMENTS</b>	<b>VMMR B92</b>
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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
25.05.01	Examine Fire Extinguishers	As Required										
<b>25.06</b>	<b>Interior / Exterior Vehicle Signage</b>											
25.06.01	Examine / Replace Signage	As Required										
<b>25.07</b>	<b>Emergency Equipment</b>											
25.07.01	Examine Emergency Equipment	As Required										
<b>Section 26</b>	<b>Electrical Systems - General</b>											
<b>26.01</b>	<b>A End Relay Rack / Contactors</b>											
26.01.01	<b>Renew A End Relays / Examine Contactors (FAP A)</b>											
	K206 & K213 on Relay Card Type C							*		*		*
	K220 on Relay Cards Type B						*	*	*	*	*	*
	K218, K236, K201, K208, K207, K239 & K214 on Relay Cards Type B							*		*		*
	K216, K217, K205, K202 & K234 on Relay Cards Type B							*		*		*
	K204 & K203 on Relay Cards Type B						*	*	*	*	*	*
	K241 A End Rack under FAP						*	*	*	*	*	*
	K613 A End Rack under FAP									*		
	K608 Door open delay relay A End Rack under FAP							*		*		*

	<b>VEHICLE MAINTENANCE MINIMUM REQUIREMENTS</b>	<b>VMMR B92</b>
	Docklands Light Railway Ltd. Castor Lane, Poplar London, E14 0BL	

Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
26.01.02	Examine Contactors A End Rack under FAB K601, K602, K603, K605, K607, K609 , K610 & K616							*				*
26.01.03	Renew Contactors A End Rack under FAB K601, K602, K603, K605, K607, K609 , K610 & K616									*		
<b>26.02</b>	<b>B End Relay Rack 1</b>											
26.02.01	<b>Renew B End Relay Rack 1 / Examine Contactors (FAP B)</b>											
	K206 & K213 on Relay Card Type C							*		*		*
	K220 on Relay Card Type B						*	*	*	*	*	*
	K218, K236, K201, K208, K207, K239 & K214 on Relay Cards Type B							*		*		*
	K216, K217, K205, K202 & K234 on Relay Cards Type B							*		*		*
	K204 & K203 on Relay Cards Type B						*	*	*	*	*	*
	K241 B End Rack under FAP						*	*	*	*	*	*
	K613 B End Rack under FAP									*		
	K608 B End Rack under FAP							*		*		*
26.02.02	Examine Contactors B End Rack under FAP K600, K601, K602, K603, K605, K607, K609 & K610							*				*
26.02.03	Renew Contactors B End Rack under FAP K600, K601, K602, K603, K605,									*		

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	K607, K609 & K610											
<b>26.03</b>	<b>B End Relay Rack 2 (FAP B)</b>											
26.03.01	<b>Renew Relay B End Relay Rack 2 FAP B</b>											
	K228,K242,K302 on Relay Card Type B							*		*		*
	K611A,K611B, K614 A,K614B Type E relay cards						*	*	*	*	*	*
	K225 on relay control K213							*		*		*
<b>26.04</b>	<b>Articulation Relay Rack</b>											
26.04.01	<b>Renew Articulation Relay Rack</b>											
	K235, K223 & K221 on Relay Card Type B							*		*		*
	K219 on Relay Card Type B						*	*	*	*	*	*
	K211, K212, K226, K227, K230, K231 on Relay Cards Type A							*		*		*
	K229 & K240 on Relay Card Type B						*	*	*	*	*	*
	K224 on Relay Card Type B							*		*		*
	K222 on Relay Card Type D							*		*		*
	K3201							*		*		*
<b>26.05</b>	<b>Cupboard under Emergency Driving Position A &amp; B End</b>											


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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
26.05.01	Renew Shunt light flashing Relay K301									*		
<b>26.06</b>	<b>Vehicle Health Monitor</b>											
26.06.01	Examine Condition and Security of Connectors	As Required										
26.06.02	Examine / Lubricate Rack	As Required										
26.06.03	Examine CPU Indication	As Required										
26.06.04	Clean Equipment Cupboard	As Required										
26.06.05	Examine / Renew Cupboard Lock	As Required										
26.06.06	Test VHM Settings					*	*	*	*	*	*	*
<b>26.07</b>	<b>Incident Recorder</b>											
26.07.01	Examine Condition and Security of Connectors	As Required										
26.07.02	Examine / Lubricate Rack	As Required										
26.07.03	Clean Equipment Cupboard	As Required										
26.07.04	Examine/ renew Cupboard Lock	As Required										
26.07.05	Test IR Settings	As Required										
<b>Section 28</b>	<b>Front End Doors</b>											
<b>28.01</b>	<b>End Doors</b>											



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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
28.01.01	Examine Leading Door	As Required										
28.01.02	Check/Adjust Leading Door Closing Force	As Required										
28.01.03	Lubricate/Check Lock	As Required										
28.01.04	Test Door Lock and Handle	As Required										
28.01.05	Examine Latch	As Required										
28.01.06	Renew Front End door Maglocks									*		
<b>28.02</b>	<b>Leading Door Test</b>											
28.02.01	Leading Door Inhibit Test	*	*	*	*	*	*	*	*	*	*	*
<b>Section 29</b>	<b>Articulation Joint (Internal)</b>											
<b>29.01</b>	<b>Turntable &amp; Floor Plates</b>											
29.01.01	Lift Floor Plates	As Required										
29.01.02	Examine Rollers and Ball Units				*	*	*		*		*	
29.01.03	Renew Rollers and Ball Units							*		*		*
29.01.04	Renew Swivel Plate Rubber joints	As Required										
<b>29.02</b>	<b>Underframe</b>											
29.02.01	Examine Slew Ring Fixings				*	*	*	*	*	*	*	*

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
29.02.02	Examine Pivots and Bushes Fixings				*	*	*	*	*	*	*	*
29.02.03	Examine Underframe						*	*	*	*	*	*
<b>29.03</b>	<b>Articulation Looms</b>											
29.03.01	Examine High Voltage Cables & Cable Running Pads				*	*	*	*	*	*	*	*
29.03.02.	Renew PTFE Wear Strips						*	*	*	*	*	*
<b>Section 30</b>	<b>Testing</b>											
<b>30.01</b>	<b>Tests</b>											
30.01.01	Test EDP	*	*	*	*	*	*	*	*	*	*	*
30.01.02	Test Door Protection		*	*	*	*	*	*	*	*	*	*
30.01.03	EDP with Emergency Shunt Selected, Door Inhibit Released, Test		*	*	*	*	*	*	*	*	*	*
30.01.04	Articulation Control Panel Test	*	*	*	*	*	*	*	*	*	*	*
30.01.05	Lighting Test	*	*	*	*	*	*	*	*	*	*	*
30.01.06	General Checks	*	*	*	*	*	*	*	*	*	*	*
30.01.07	System Tests when Lowered from Jacks	As Required										
30.01.08	Final Check of Skirts	As Required										
30.01.09	ATO and EP107 Testing							*		*		*

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Periodicity (km)		13,500	27,000	54,000	108,000	216,000	432,000	864,000	1,296,000	1,728,000	2,160,000	2,592,000
		30.01.10	Deep Clean	As Required								

	<b>VEHICLE MAINTENANCE MINIMUM REQUIREMENTS</b>	<b>VMMR B92</b>
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## 6. Reference Documents

### 6.1 Reference Drawings

Drawing Number	Drawing Title	Section / Job No.
	B92 Electrical Schematics	
	B92 Air Schematics	

### 6.2 Reference Documents

Reference Number	Document Title	Section / Job No.
Volumes 1 – 6	Bombardier Maintenance Manuals	
Work Instructions:		
WIRS 004	Coupler Replacement	
WIRS 007	Door Operational Test	
WIRS 008	Replacing BN Rack Relays	
WIRS 009	Accelerometer Testing	
WIRS 013	Traction Rod Removal	
WIRS 015	VOBC Data Dumping	
WIRS 016	I Exam Contactor Replacement	
WIRS 017	Flange Lube Gauging	
WIRS 025	Instruction for Torque Wrench Usage	
WIRS 026	Self-Centering Device Testing	
WIRS 030	VHM / IR Maintenance	
WIRS 031	Skirt Sticker Application	
WIRS 033	Car Height Measurement	
WIRS 036	Rewire of Artic Bogie Antenna to remove Litton Plug	
WIRS 038	Setting Car Heights	
WIRS 040	Fitting Secondary Suspension Packing Spacers without Jacks	
WIRS 049	Compensating Valve Check	

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Reference Number	Document Title	Section / Job No.
WIRS 050	Bochum 54 Wheel / Tyre Assembly	
WIRS 051	Bochum 84 Wheel / Tyre Assembly	
WIRS 062	Add Fluorescent Dye to Gearbox	
WIRS 068	Fitting Hasler Pulse Generator	
WIRS 069	B2007 Front Door Check	
WIRS 082	Setting Height of Modified Adjustable Middle Antennae	
MTI 713	Train Preparedness	

## 7. Change Logs

All changes, major or minor, are to be captured via the change log.

### VMMR B92 Issue 2 Change Log


Section	Page	Reason for Change	Date	Author of Change
2	5	Document Hierarchy chart updated following review ILOP & software configuration folders added.	12/04/13	J. Glover
04.02.02	6	Scd Locker door seal examine and renew if damaged added	14/05/13	J. Glover
22.02.02	8	K7 relay added, renewal Km periodicity changed from 864,000to 432,000	05/06/13	J. Glover
24.05.04	14	Ultrasonic testing of the gear box added at 216,000Km Interval	26/07/13	J. Glover
24.05.05	14	Gearbox oil sampling/ mag plug inspection added at 54'0000Km	24/06/13	J. Glover
24.01.05	6	Inspection of tyres for renewal at 864,000Km interval	28/06/13	J. Glover
12.01.08	8	Document number change MR 754 CMS Couplers now DLR-ENG-SPC-CMS-754	09/07/13	J. Glover
12.02.06	13	Document number change MR 754 CMS Couplers now DLR-ENG-SPC-CMS-754	09/07/13	J. Glover
12.05.02	17	Document number change MR 754 CMS Couplers now DLR-ENG-SPC-CMS-754	09/07/13	J. Glover
12.06.02	19	Document number change MR 754 CMS Couplers now DLR-ENG-SPC-CMS-754	09/07/13	J. Glover

**VEHICLE MAINTENANCE MINIMUM  
REQUIREMENTS**

 Docklands Light Railway Ltd.  
 Castor Lane, Poplar  
 London, E14 0BL

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Section	Page	Reason for Change	Date	Author of Change
12.10.01	21	Document number change MR 754 CMS Couplers now DLR-ENG-SPC-CMS-754	09/07/13	J. Glover
17	n/a	Document number change MR 752 CMS Wheelsets now DLR-ENG-SPC-MS-752	09/07/13	J. Glover
16	n/a	Document number change MR 753 CMS Traction Motors now DLR-ENG-SPC-CMS-753	09/07/13	J. Glover
19	n/a	Document number change MR 755 CMS Motor Bogie now DLR-ENG-SPC-CMS-755	09/07/13	J. Glover
20	n/a	Document number change MR 756 CMS Motor Bogie now DLR-ENG-SPC-CMS-756	09/07/13	J. Glover
25.04.01	12	Examine window rubbers change on condition added	09/07/13	J. Glover
25.01.02	2	Examine seat squab for fire retardant seat mesh visible through seat squab	10/07/13	J. Glover
21.07.06	21	Renew Bi –part- door Maglocks at 1,728,000Km interval	15/07/13	J. Glover
28.01.06	6	Renew front end door Maglocks at 1,728,000Km interval	15/07/13	J. Glover
29.01.04	7	Additional task Renew Swivel Plate (turn table floor plate) Rubber joints at 1,728,000 Km	24/07/13	J. Glover
21.03.01	10	Inserted Renew PERV shuttle valve on B2000 vehicles only, numbering dropped down one example 23.01.01 is now 23.01.02 in the 21.03 section	24/07/13	J. Glover
13.05.02	26	Additional task Clean/Paint Visually Inspect Pressure Vessels	24/07/13	J. Glover
26.01.02	8	Additional relay added K616 Compressor sync contactor	24/07/13	J. Glover
26.01.03	8	Additional task added to renew contactor relays K601,602,603,605,607,609,610,616 1,728,000 Km interval	24/07/13	J. Glover
26.02.03	10	Additional task added to renew contactor relays K600,601,602,603,605,607,609,610 at 1,728,000 km interval	24/07/13	J. Glover
01.04.04	6	Examine shoe back plate /mounting bushes changed from the 13,500 interval to as required.	25/07/13	J. Glover
24.05.03	11	Gearbox Inspection using Ultraviolet Light changed from as required to 216,000Km Interval.	25/07/13	J. Glover

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Section	Page	Reason for Change	Date	Author of Change
24.01.06	6	Wheel tyre turning added at 108,000Km interval with a maximum of 126,000Km to the profile as stipulated in DLR-ENG-SPC-MS -752	25/07/13	J. Glover
24.05.03	12	Gearbox Inspection using Ultraviolet light changed from 216,000Km to 13,500Km	25/07/13	J. Glover

### VMMR B92 Issue 3 Change Log

Section	Page	Reason for Change	Date	Author of Change
13.01	4	DLR-ENG-SPC-CMS-758 B90/92/200 VRS2 compressor component maintenance specification added under reference documents	02/09/13	J. Glover
13.01.01	4	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.03	6	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.07	9	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.08	10	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.09	11	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.10	12	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.12	14	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
13.01.13	15	Heavy Maintenance see DLR-ENG-SPC-CMS-758 added	02/09/13	J. Glover
21.02.04	9	Renew Internal DOOR PUSH Buttons S308 & S309 added	09/09/13	J. Glover
06.05.02	14	Renew case seals changed from 864,000Km Interval to be completed once in the life time of the vehicle at 1,728.000Km	11/09/13	J. Glover
07.01.03	5	Renew Tacho generator removed as it was already stipulated under tacho meter 07.01	25/09/13	J. Glover
21.02.03	10	S309 door push button renew at 216,000Km on B90 & B92 Vehicles. All push buttons were changed in 2012 prior to the Olympics.	30/09/13	J. Glover

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Section	Page	Reason for Change	Date	Author of Change
21.02.04	10	S309 door push button renew at 1,728,000 km on B2000 vehicles. All push buttons were changed in 2012 prior to the Olympics.	30/09/13	J. Glover
06.05.02	15	Main case equipment case seal and gasket part numbers added	30/09/13	J. Glover
17	NA	Number Change all documents with the reference CMS have been changed to MS, <b>Example</b> DLR – ENG-SPC-CMS-752 Changed to DLR-ENG-SPC-MS-752.	16/10/13	J. Glover

#### VMMR B92 Issue 4 Change Log

Section	Page	Reason for Change	Date	Author of Change
02.02.02		Corrects the periodicity	30/03/16	S.E. Taylor
02.02.05		Corrects statement in line with 02.02.04	30/03/16	S.E. Taylor
02.03.01		Deleted 'at an appropriate interval' star chart updated	30/03/16	S.E. Taylor
06.02.05		Corrected description	30/03/16	S.E. Taylor
06.04		Corrected spelling mistakes	30/03/16	S.E. Taylor
07.03		Corrects Tacho periodicity	30/03/16	S.E. Taylor
07.03.05		Corrects requirement for testing	30/03/16	S.E. Taylor
11.01.01		Corrects brake force test periodicity and reason for test	30/03/16	S.E. Taylor
11.01.02		Corrects brake force test periodicity and reason for test	30/03/16	S.E. Taylor
11.05.02		Corrects exam periodicity	30/03/16	S.E. Taylor
13.04.01		Corrects km periodicity	30/03/16	S.E. Taylor
16.04		Corrects description and item	30/03/16	S.E. Taylor
19.01		Amended as per Variation CV2015-0026	08/09/16	S.E. Taylor
19.01.01		Amended as per Variation CV2015-0026	08/09/16	S.E. Taylor
23.03.03		Constrains periodicity within life of components	30/03/16	S.E. Taylor
25.01.07		Deletes an impossible task, joy sticks replaced when worn.	30/03/16	S.E. Taylor
26.02.02		Corrects description error	30/03/16	S.E. Taylor
26.02.03		Corrects description error	30/03/16	S.E. Taylor



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Section	Page	Reason for Change	Date	Author of Change
26.03.01		Corrects description error	30/03/16	S.E. Taylor
29.01.04		Replaced on condition	30/03/16	S.E. Taylor
30.01.08		Exam sequence corrected to I not H	30/03/16	S.E. Taylor