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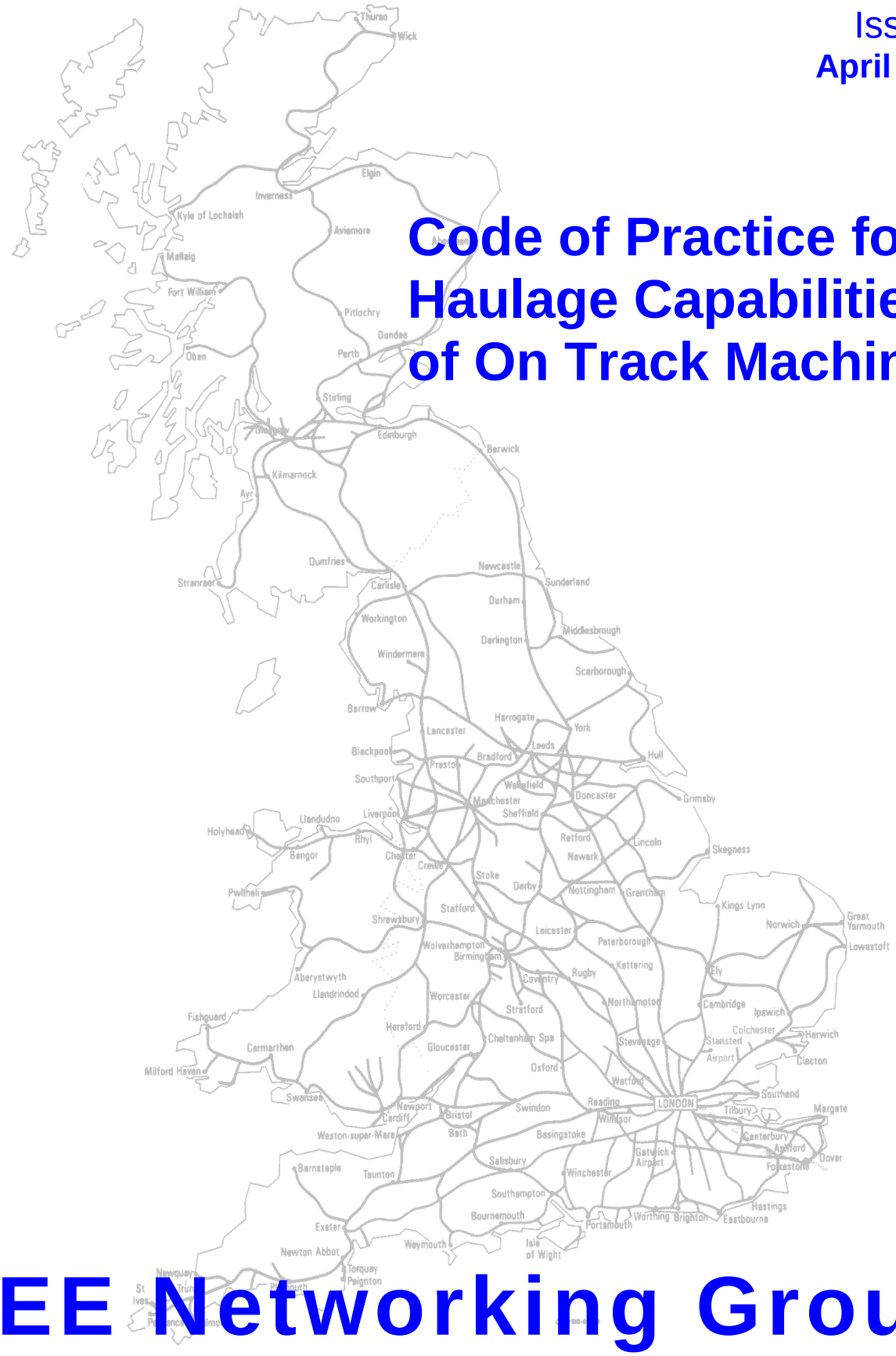
COP0037

Issue 2

April 2019

Code of Practice for Haulage Capabilities of On Track Machines



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Document revision history

Issue	Date	Reason for change
1	Jul 2018	First issue
2	Apr 2019	New clause added to clarify towing capability is reduced by gradients. Appendix A updated and RA values added.

Background

A sub-group of the M&EE Networking Group have looked at haulage capabilities of on track machines. The M&EE Networking Group recommend this COP as good practice for the industry.

M&EE COP are produced for the benefit of any industry partner who wishes to follow the good practice on any railway infrastructure. Where an infrastructure manager has mandated their own comparable requirements, the more onerous requirements should be followed as a minimum for work on their managed infrastructure.

The M&EE Networking Group makes no warranties, express or implied, that compliance with this document is sufficient on its own to ensure safe systems of work or operation. Users are reminded of their own duties under health and safety legislation.

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Sub-group Contacts

Neil Halliday (Chair) neil.halliday@rssb.co.uk
David Geering dgeering@harsco.com
Gareth Houghton gareth.houghton@colasrail.co.uk
Mick James mick.james@plasser.co.uk
Steve King Steven.king@amey.co.uk
Iain Mackay Iain.mackay@networkrail.co.uk
Malcolm Miles Malcolm.Miles2@networkrail.co.uk
Paul Milner paul.milner@volkerrail.co.uk
Jim Nutty Peter1910pan@outlook.com
Richard Smith richard.smith@plasser.co.uk
Jordan Skey jordanskey@tfl.gov.uk
Alex Thorp Alex.Thorp@networkrail.co.uk
Kevin Townsend kevin.townsend@matisa.co.uk
Nick Wilkinson nick.wilkinson@babcockinternational.com
Calum Oates calum.oates@swietelsky.co.uk
Mark Windsor Mark.Windsor@balfourbeatty.com

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Sign off

The M&EE Networking Group agreed and signed off this Code of Practice on17 April 2019 and published on 1 June 2019

Amey	J Ockenden	Professional Head of Plant
Babcock	N Wilkinson	M&EE Professional Head
Balfour Beatty Rail	J Nabarro	Engineering Standards & Compliance Manager
Certus Group	R Sharp	Director of Safety
COLAS RAIL	N Powell	Plant Engineering
OSL Rail	A Crago	Safety, Assurance & Plant Director
Harsco Rail Ltd	D Geering	Engineering Director
London Underground	J Skey	Principal Plant Engineer
Network Rail	M Miles	Professional Head of Plant
Plasser UK	M James	Senior Approvals Engineer
Rail Plant Association	D Matthews	Management Committee
RSSB	N Halliday	Professional Head of Plant
VolkerRail	J Pendle	Engineering Director

Purpose

This Code of Practice details the haulage capabilities of on track machines (OTM), it should be followed by any route or operator control when considering haulage by OTM, especially for rescue purposes.

Scope

This Code of Practice concerns all OTMs currently in use on GB rail infrastructure. It excludes planned double-heading, multiple and tandem working.

Definitions

General haulage	Planned moves of other vehicles
Emergency recovery	Use for unplanned clearing of the line to the nearest accessible point where the machine can be stabled.

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1 Introduction

1.1 Responsibility

1.1.1 Any person tasked with organising a towing move involving OTM should refer to the information within this COP.

1.1.2 Any queries regarding the information contained within this COP should be directed to the Professional Head of Engineering of the railway undertaking responsible for the OTM in question.

1.1.3 The Professional Head of Engineering or nominated deputy of the railway undertaking responsible for the OTM in question is the final authority on all matters relating to the information contained within this COP.

1.2 Clarification

1.2.1 Any towing outside of the parameters detailed above should be authorised in writing in advance by the Professional Head of Engineering or a nominated deputy of the railway undertaking responsible for the OTM in question.

1.2.2 An emergency situation is clearing a failed or otherwise unmovable vehicle from running lines; it is not hauling a vehicle between locations.

1.3 Towing an OTM with non-operational brakes

1.3.1 Except as shown in 1.3.5 and 1.3.6, any OTM with non-operational brakes must have a vehicle/vehicles towed to the rear with an operable service brake, in order to prevent a runaway in the event of vehicle separation. The rear vehicle/vehicles will need sufficient brake force to stop themselves and the failed machine in the event of train parting.

1.3.2 If the vehicle(s) to the rear are non-powered and thus unable to generate their own brake force, these vehicles must be through piped to the train brake of the hauling vehicle.

1.3.3 Machines that have suffered a complete or partial failure of the braking system should never be towed by a single machine (or locomotive) as an un-braked ‘swinger’, even if a person is available to ride upon the failed machine with access to the handbrake. Handbrakes are not designed to halt a runaway machine in the

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event that the UIC screw coupling failed. Such movements are also not permitted by the Rule Book GE/RT8000.

1.3.4 Any haulage involving an OTM with a brake defect should be authorised in writing by the Professional Head of Engineering or nominated deputy of the railway undertaking concerned.

1.3.5 Where a machine's drivers brake controller, or other component, is defective, but the brakes are functional controlled by the train brake pipe, then the machine is permitted to be the last vehicle in a consist (providing the train brake pipe is continuous).

1.3.6 Where the brake pipe and distributors are not functional, and the last vehicle does have a functional braking system, then a competent person with control of braking will need to ride in the last vehicle with radio communication to the driver of the leading unit. The consist should not run at more than 20mph.

2 Haulage capabilities

2.1 Table of haulage capabilities

2.1.1 Included as Appendix A of this COP.

2.1.2 Emergency use is for the unplanned clearing of the line. Note even when use is in an emergency:

- the use is to the nearest accessible stabling point only
- where the route involves climbing a gradient account should be taken of the required adhesion of the machine (especially where not fitted with wheel-slip protection or sanding)
- account should be taken of any load still on the machine or any other coupled machine/vehicle (when calculating haulage capability). If the state of the load is unknown it should be assumed that all consumables are full.

2.1.3 Where in the table it shows "Twin" the yellow pipe (main reservoir pipe) can be relied upon to supply 7 to 10 Bar reservoir pressure. On other machines where a yellow pipe is fitted it is not capable of supplying the main reservoir pipe (but is able to make use of the air supplied by the towing loco/machine).

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2.1.4 The column showing towing capability is for gradients in excess of 1 in 100. Steeper gradients will reduce the capability of the machine. In most cases the machine has insufficient power to haul on gradients steeper than 1 in 50

2.2 Update of table of haulage capabilities

2.2.1 When new machines are obtained, or modifications are made to an OTM which affect the haulage capability, then the Professional Head of Engineering of the railway undertaking responsible for the OTM should email:
neil.halliday@rssb.co.uk
with detail sufficient to update the table in Appendix A

2.2.2 This COP will be updated to reflect changes to Appendix A as often as necessary.

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Appendix A Table of OTM haulage capabilities

Vehicle Nos	Owner	Manufr Class	Machine Type	Cplg Type	Brake Force	Brake Pipes	Goods / Pass	Drive System	Max Speed	Tare Weight	RA tare	RA full	Haulage	Towing Capability
DR72211 DR72213	Balfour Beatty Rail	Plasser & Theurer DTS62N	Dynamic track stabiliser	UIC screw	51 tonnes	Single	Goods / Passenger	Hydro-dynamic	60 mph				General haulage	110 tonnes
DR73109 DR73110	Swietelsky Babcock Rail	Plasser & Theurer 09 RT	Tamper	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	110 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73111 DR73113 DR73114 DR73115 DR73116 DR73117 DR73118	Network Rail	Plasser & Theurer 09-3X	Tamper	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	127 tonnes	7	7	Emergency recovery only	None, in emergency to nearest stabling point only
DR73120	Network Rail	Plasser & Theurer 09-3X	Tamper	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	129.5 tonnes	7	7	Emergency recovery only	None, in emergency to nearest stabling point only
DR73121 DR73122	Network Rail	Plasser & Theurer 09-2X	Tamper	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	132 tonnes	7	7	Emergency recovery only	None, in emergency to nearest stabling point only
DR73803 DR73804	Swietelsky Babcock Rail	Plasser & Theurer 08 RT	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	86 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73805	Colas Rail	Plasser & Theurer 08-16U-RT	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	86 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73806	Colas Rail	Plasser & Theurer 08-32U-RT	Tamper	UIC screw.	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	90 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph

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Vehicle Nos	Owner	Manufr Class	Machine Type	Cplg Type	Brake Force	Brake Pipes	Goods / Pass	Drive System	Max Speed	Tare Weight	RA tare	RA full	Haulage	Towing Capability
DR73904	Swietelsky Babcock Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes			Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73905 DR73906 DR73907 DR73908	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	93.6 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73909 DR73910	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	98.7 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73911 DR73912 DR73913	Colas Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	61 tonnes	3	3	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73914	Swietelsky Babcock Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73915 DR73916	Swietelsky Babcock Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	63 tonnes	3	3	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73917 DR73918	Balfour Beatty Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes			Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73919	Colas Rail	Plasser & Theurer Compact 08 with Trailer	Tamper	UIC screw	Goods: 58 t Pass: 66 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	78 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73920 DR73921 DR73922	Colas Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	61 tonnes	3	3	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph

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Vehicle Nos	Owner	Manufr Class	Machine Type	Cplg Type	Brake Force	Brake Pipes	Goods / Pass	Drive System	Max Speed	Tare Weight	RA tare	RA full	Haulage	Towing Capability
DR73923	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73924 DR73925	Colas Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	64 tonnes	4	4	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73926 DR73927 DR73928	Balfour Beatty Rail	Plasser & Theurer 08 Compact	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	63 tonnes			Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73929 DR73930	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	101.2 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73931	Colas Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	64 tonnes	3	3	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73932	Swietelsky Babcock Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73933 DR73934	Swietelsky Babcock Rail	Plasser & Theurer Compact 08	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	63 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73935 DR73936	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	101.2 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73937 DR73938 DR73939	Balfour Beatty Rail	Plasser & Theurer 08 Compact	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	63 tonnes			Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph

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DR73940 DR73941	Swietelsky Babcock Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	99 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73942	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	102.5 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73943 DR73944 DR73945	Balfour Beatty Rail	Plasser & Theurer 08 Compact	Tamper	UIC screw	Goods: 48 t Pass: 54 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	63 tonnes			Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73946	Volker Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	100 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph
DR73947 DR73948	Colas Rail	Plasser & Theurer Unimat 08	Tamper	UIC screw	Goods: 64 t Pass: 80 t	Single	Goods / Passenger	Hydro-dynamic	60 mph	105.9 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph Insufficient power to haul on gradients steeper than 1 in 50
DR74002	Swietelsky	Plasser & Theurer 09-4x4/4S Dynamic	Tamper & DTS	UIC Screw	Goods: 115 t Pass: 138 t	Single	Goods/ Passenger	Hydrostatic	60 mph	167 tonnes	6	6	Emergency recovery only	Non stated, not to be used as shunting vehicle
DR75008 DR75009 DR75010 DR75011	Colas Rail	Plasser & Theurer 09-4x4/4S Dynamic	Tamper & DTS	UIC Screw	Goods: 115 t Pass: 138 t	Single	Goods / Passenger	Hydrostatic	60 mph	171 tonnes	7	7	Emergency recovery only	Slow speed rescue to "clear the line" only
DR75012 DR75013 DR75014 DR75015	Swietelsky Babcock Rail	Plasser & Theurer 09-4x4/4S Dynamic	Tamper & DTS	UIC Screw	Goods: 115 t Pass: 138 t	Single	Goods / Passenger	Hydrostatic	60mph				Emergency recovery only	
DR75301 DR75302 DR75303	Volker Rail	Matisa B45	Tamper	UIC screw	Goods 32t Pass 45t	Single	Goods / Passenger	Hydrostatic	60 mph	56 tonnes	3	3	Emergency recovery only	Up to 100 tonnes (emergency only) Max 25mph

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DR75401 DR75402 DR75404 DR75405	Volker Rail	Matisa B41	Tamper	UIC screw	Goods 39t Pass 54t	Single	Goods / Passenger	Hydrostatic	60 mph	92 tonnes	6	6	Emergency recovery only	Up to 100 tonnes (emergency only) Max 25mph
DR75406 DR75407	Colas Rail	Matisa B41	Tamper	UIC screw	Goods: 39 t Pass: 54 t	Single	Goods / Passenger	Hydrostatic	60 mph	92 tonnes	6	6	Emergency recovery only	Up to 100 tonnes (emergency only)
DR75408 DR75409 DR75410 DR75411	Balfour Beatty Rail	Matisa B41	Tamper	UIC screw		Single	Goods / Passenger	Hydrostatic	60 mph	92 tonnes			Emergency recovery only	Up to 100 tonnes *in an emergency only*
DR75501 DR75502	Balfour Beatty Rail	Matisa B66	Tamper	UIC screw		Single	Goods / Passenger	Hydrostatic	60 mph	103 tonnes			Emergency recovery only	Up to 100 tonnes *in an emergency only*
DR75503 DR75504	VolkerRail	Matisa B66	Tamper	UIC Screw		Single	Goods/ Passenger	Hydrostatic	60mph	103 tonnes			Emergency Recovery only	Up to 100 tonnes (emergency only) Max 25mph
DR76901 DR76905 DR76906 DR76910 DR76911 DR76913 DR76914 DR76917 DR76922 DR76923	Network Rail	Windhoff	Multi-purpose vehicle	UIC screw			Goods / Passenger							100 tonnes
DR77001 DR77002	Swietelsky Babcock Rail	Plasser & Theurer AFM200RT	Track finishing machine	UIC screw	Tare Goods: 108 t Tare Pass: 118 t Laden Goods: 114t Laden Pass: 124t	Twin	Goods / Passenger	Hydrostatic	60 mph	170 tonnes	6	6	Emergency recovery only	Slow speed rescue to "clear the line" only at max speed 25 mph, 20 t limit (hopper capacity)

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DR77010	Network Rail	Plasser & Theurer	USP6000	UIC screw		Twin	Goods / Passenger	Hydro-dynamic	60 mph	178 tonnes	7	7	Emergency recovery only	None, in emergency to nearest stabling point
DR77322	Balfour Beatty Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	45 mph	44 tonnes			N/A	None
DR77327	Colas Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	45 mph	44 tonnes	1	4	N/A	None
DR77801 DR77802	Volker Rail	Matisa R24	Ballast regulator	UIC screw	Goods 30t Pass 43t	Single	Goods/ Passenger	Hydrostatic	60 mph	48 tonnes	3	3	Emergency recovery only	Up to 100 tonnes (emergency only) Max 25mph
DR77901	Colas Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw	Tare Goods: 62 t Pass: 71 t Laden Goods: 66t Pass: 76t	Single	Goods / Passenger	Hydro-dynamic	60 mph	75 tonnes	1	4	N/A	None
DR77903 DR77904	Network Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	75 tonnes	6	6	Emergency recovery only	None, in emergency to nearest stabling point only
DR77905	Network Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	75 tonnes	2	6	Emergency recovery only	None, in emergency to nearest stabling point only
DR77906 DR77907	Network Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	85 tonnes	2	6	Emergency recovery only	None, in emergency to nearest stabling point only
DR77908 Formerly DR77902	Swietelsky Babcock Rail	Plasser & Theurer USP5000	Ballast regulator	UIC screw		Single	Goods / Passenger	Hydro-dynamic	60 mph	75 tonnes	2	6	Emergency recovery only	None, in emergency to nearest stabling point only (10t hopper capacity
DR77909	Network Rail	Plasser & Theurer	USP5000	UIC screw		Twin	Goods / Passenger	Hydro-dynamic	60 mph	91 tonnes	7	7	Emergency recovery only	None, in emergency to nearest stabling point

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DR79261 / DR79271 DR79262 / DR79272 DR79263 / DR79273	Network Rail	Harsco Rail RGHC20 UK	Rail grinder	UIC screw		Single	Passenger only	Hydrostatic	60 mph	100 tonnes	RA1	RA1	General haulage	May haul up to 120 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50 121-200 tonnes may be hauled in low gear (max. speed 15 mph) for maximum 10 miles and maximum gradient 1:50
DR79265 / DR79264 / DR79274	Network Rail	Harsco Rail RGHC20 UK	Rail grinder	UIC screw		Single	Passenger only	Hydrostatic	60 mph	150 tonnes	RA1	RA1	General haulage	May haul up to 180 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50 121-200 tonnes may be hauled in low gear (max. speed 15 mph) for maximum 10 miles and maximum gradient 1:50
DR79266 / DR79276	Harsco Rail	Harsco Rail RGHC20 EU	Rail grinder	UIC screw		Twin	Goods / Passenger	Hydrostatic	60 mph	102 tonnes	RA2	RA2	General haulage	May haul up to 120 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50 121-200 tonnes may be hauled in low gear (max. speed 15 mph) for maximum 10 miles and maximum gradient 1:50

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DR79267 / DR79277	Network Rail	Harsco Rail RGHC20 EU	Rail grinder	UIC screw		Twin	Goods / Passenger	Hydrostatic	60 mph	102 tonnes	RA2	RA2	General haulage	May haul up to 120 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50 121-200 tonnes may be hauled in low gear (max. speed 15 mph) for maximum 10 miles and maximum gradient 1:50
DR79501 DR79502 DR79503 DR79504 DR79505 DR79506 DR79507	Network Rail	Loram C44	Rail grinder	UIC screw		Twin	Goods / Passenger	Hydrostatic	60 mph	320 tonnes (32 stones) 560 tonnes (64 stones)	6	6	N/A	No additional vehicles are permitted to be added to the trainset
DR80200* DR80201 DR80202* DR80203* DR80204* DR80205 DR80206 DR80207* DR80208 DR80209 DR80210 DR80211 DR80213 DR80217	Network Rail *Harsco Rail	Harsco Rail Stoneblower	Stoneblower	UIC screw		Single	Goods / Passenger	Hydrostatic	60 mph	96 tonnes	RA5	RA6	General haulage	May haul up to 120 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50

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DR80301 DR80302 DR80303	Network Rail	Harsco Rail Stoneblower	Stoneblower	UIC screw		Single	Goods / Passenger	Hydrostatic	60 mph	96 tonnes	RA5	RA7	General haulage	May haul up to 120 tonnes on any gradient, use of low gear required (max. speed 15 mph) on gradients steeper than 1:50
DR97011 DR97012 DR97013 DR97014	Network Rail	Windhoff	Multi-purpose vehicle	UIC screw			Goods / Passenger							
DR97501 / DR97601 / DR97801 DR97502 / DR97602 / DR97802 DR97503 / DR97603 / DR97803 DR97504 / DR97604 / DR97804 DR97505 / DR97605 / DR97805 DR97506 / DR97606 / DR97806 DR97507 / DR97607 / DR97807 DR97508 / DR97608 / DR97808	Network Rail	Robel MMT	Mobile maintenance train	UIC screw	Goods: 49 t Pass: 61 t	Single	Goods / Passenger	Hydrostatic	60 mph	204.9 tonnes	5	5	Emergency recovery only	None, in emergency to nearest stabling point only

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Vehicle Nos	Owner	Manufr Class	Machine Type	Cplg Type	Brake Force	Brake Pipes	Goods / Pass	Drive System	Max Speed	Tare Weight	RA tare	RA full	Haulage	Towing Capability
DR97509 DR97510 DR97511 DR97512	TfL Crossrail	Robel CRET	Multi-purpose vehicle	UIC screw			Goods / Passenger							
DR98001 DR98007	Network Rail	Windhoff	Multi-purpose vehicle	UIC screw			Goods / Passenger							150 tonnes
DR98215 DR98216 DR98217 DR98218 DR98219 DR98220	Balfour Beatty Rail	Plasser & Theurer Mk. 5 GP TRAMM	Track renewal and maintenance machine	UIC screw		Single	Goods / Passenger	Hydro-dynamic	40 mph	50 tonnes			General haulage	Up to 45 tonnes on any gradient; 45 – 100 tonnes on gradients up to 1:100; 100 – 130 tonnes on gradients up to 1:150
DR98901 / DR98951 DR98902 / DR98952 DR98903 / DR98953 DR98904 / DR98954 DR98905 / DR98955 DR98906 / DR98956 DR98907 / DR98957 DR98908 / DR98958 DR98909 / DR98959 DR98910 / DR98960 DR98911 /	Network Rail	Windhoff MPV	Multi-purpose vehicle	UIC screw										

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DR98961														
DR98912 / DR98962														
DR98913 / DR98963														
DR98914 / DR98964														
DR98915 / DR98965														
DR98916 / DR98966														
DR98917 / DR98967														
DR98918 / DR98968														
DR98919 / DR98969														
DR98920 / DR98970														
DR98921 / DR98971														
DR98922 / DR98972														
DR98923 / DR98973														
DR98924 / DR98974														
DR98925 / DR98975														
DR98926 / DR98976														
DR98927 /														

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DR98977 DR98928 / DR98978 DR98929 / DR98979 DR98930 / DR98980 DR98931 / DR98981 DR98932 / DR98982														