

Manufacturer:
Thomson Rail

Issue : 1
Valid From : 19/04/2017

Thomson Rail Steel Manipulator

Product Description

A hydraulically operated manipulator attachment which can handle a variety of steel sections by the use of interchangeable jaws on a scissor mechanism.

It is designed to improve the safety, efficiency and productivity of the installation of OLE masts.

Product Image



Scope of Acceptance

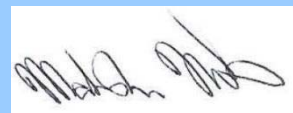
The Thomson Rail Steel Manipulator is granted Full Product Acceptance in accordance with the terms and conditions identified on this certificate and associated reference documentation.

Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.

Reviewed by:

Authorised by:

Steve Rennolds
Product Acceptance Specialist



Malcolm Miles
Professional Head of Plant

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Specific Conditions

The following Conditions are specific to the approved product/s contained within this Certificate. These conditions must be adhered to in addition to the Network Rail General Conditions contained within the "General Terms and Conditions" section. Failure to adhere to these conditions may result in the withdrawal or suspension of Acceptance of some, or all of the items contained within the accepted configuration.

Manufacturer

See General Terms and Conditions

User Conditions

1)	The Manipulator must only be used in conjunction with a fully compatible host machine.
2)	All operation and product maintenance activities must be managed and performed in accordance with a task applicable safe system of work compliant to GE/RT8000 Rule Book instructions and NR/PLANT/0200/MANUAL (the Infrastructure Plant Manual).
3)	The Manipulator is not authorised for use under OLE.
4)	This machine is only to be used, operated, maintained and driven by persons deemed competent in accordance with all relevant Network Rail standards, Competency Framework, Principal Contractor Competency Management Systems, OEM Instructions and all applicable national regulations.
5)	The Machine Operator and Crane Operator must be fully conversant and competent with the Manipulator User Instructions as supplied by the OEM.
6)	The Manipulator must only be operated in conjunction with an approved lift plan and reviewed by a competent lift planner in accordance with the NR/PLANT/0200/MANUAL (the Infrastructure Plant Manual).
7)	The Manipulator is not authorised to work Any Line Open (ALO).
8)	The hydraulic service on the host machine must be adjusted to ensure the safe maximum pressure rating of the Manipulator is not exceeded (Max pressure for grab circuit 210 Bar, Max pressure for rotating circuit 160 Bar).
9)	The Manipulator is restricted to the handling and installation of I-Beams and box section steelwork from 200 to 650mm in size. These sizes must never be exceeded.
10)	The maximum safe working load is 3,750 Kg and must never be exceeded.
11)	Hydraulic quick release couplings fitted to the host vehicle should only be of the type which prevent fluid discharge to the environment on connection and release.
12)	Before connecting or disconnecting the Manipulator from the host machine the system pressure must be fully released to mitigate the potential for injury by switching off the host vehicle engine and fully releasing the pressure left standing in the system.
13)	Suitable and approved PPE must be worn at all times.
14)	Should any type of defect occur prior to or during operation it must be removed immediately from service , placed in quarantine and a report raised.
15)	To reduce expedient wear to the green gripping pads ensure that the masts are always lifted with the solid face of the mast flush with the pads.
16)	Not to be used in live 3rd or 4th rail areas.
17)	Possession working only - this product is only to be used in a possession in compliance with GE/RT8000 Rule Book.
18)	Host Machine RCI must be functional and in operation when handling rail of any type or condition.
19)	Staff not involved with the equipment operation must remain out of the agreed exclusion zone.
20)	Duplex communications must be used at all times.
21)	This system must not be used in Working mode to undertake activities which could lead to hazards not closed out by Safety Assessment (aligned with relevant CSM elements). Where hazards are transferred, then the hazard owner(s) must ensure these hazard(s) are tolerable and ALARP.
22)	Inform Network Rail Technology Introduction Group in writing of a change to the product configuration (or to the actual product or its application).
23)	Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Technology Introduction Group.

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Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
SM15-01 Steel Manipulator	Thomson Rail Steel Manipulator Complete	0094/012168
SM15-01-37	Thomson Rail Steel Manipulator Base Pad	0094/012169
SM15-01-38	Thomson Rail Steel Manipulator Toe Pad	0094/012170
SM15-01-41	Thomson Rail Steel Manipulator Rocker Pad	0094/012171
SM15-01-114	Thomson Rail Steel Manipulator Slider Bush	0094/012172
SM15-01-197	Thomson Rail Steel Manipulator Sequencing Valve	0094/012173
EC70-46-101	Thomson Rail Steel Manipulator Energy Chain Female End	0094/012174
EC70-46-102	Thomson Rail Steel Manipulator Energy Chain Male End	0094/012175
EC70-46-103	Thomson Rail Steel Manipulator Energy Chain Link	0094/012176
RP453	Thomson Rail Steel Manipulator Grab Cylinder Seal Kit	0094/012177
RP455	Thomson Rail Steel Manipulator Tilt Cylinder Seal Kit	0094/012178
RP451	Thomson Rail Steel Manipulator Leg Cylinder Seal Kit	0094/012179

Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
Certificate of Conformity	SM15-01 Steel Manipulator conformity to 2006/42/EC	1	Oct 2015	T1

Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
ABC RA v1	Mast Installation Risk Assessment	1	15-09-2015	T1
SM15-01-Inst-01	SM15-01 Steel Manipulator user and maintenance instructions	1	Oct 2015	T1
BoM	BoM ISSUE 2 MISSING HOSES	Iss 2	24/05/2016	T2
CCE07102015	Management system as per BS EN ISO 9001 : 2008. In accordance with TOV UK Ltd procedures, it is hereby certified that Thomson Engineering Design Limited	Exp: 22/05/2018	24/05/2016	T2
Supplier Number: 094034	Community Certificate RISQS	--	24/05/2016	T2
SM15-01 Steel Manipulator	CSM System Definition for SM15-01 STEEL MANIPULATOR	May 2016	24/05/2016	T2
PA05/06553 Thomson Steel Manipulator – Intellectual Property	IP statement	3 May 2016	24/05/2016	T2
SM15-01-01 - Sheet1	GENERAL ARRANGEMENT	Rev 3	24/05/2016	T2

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
SM15-01-Inst-02	Operators' Instructions, Maintenance Instructions & Parts Book Original Document in English Language	Issue 2 May 2016	24/05/2016	T2
WEAR PARTS	SM15-01 STEEL MANIPULATOR WEAR PARTS	--	24/05/2016	T2
-----	Copy of Mast Installation System Risk Assessment	25 May 2016	26/05/2016	T2
SM15-01-AH-TXM-ANALYSIS-01-LOAD CASE 1-1	FEA for tilt adaptor	25 May 2016	25/05/2016	T2
SM15-01-AH-TXM-ANALYSIS-01-TILTED CANTILEVER-1	FEA for Tilt adaptor	25 May 2016	25/06/2016	T2
Email	Shift Number Confirmation	n/a	07/04/2017	1
-----	Trial Report	n/a	17/03/2017	1

Certificate History

Issue	Date	Issue History
T1	27-11-2015	Trial Certificate issued
T2	26-05-2016	Trial Cert reissued to enable additional time for data collection
1	19-04-2017	Full certificate issued

Contact Details

Manufacturer

Dave Thomson
david@thomsondesignuk.com

Applicant

Peter Ellis
Principal Engineer (Programme Delivery)
Peter.Ellis2@networkrail.co.uk

Lead Reviewing Engineer

(T1) Phil Jarvis– Senior Engineer
Plant and T&RS – Network Rail
phil.jarvis@networkrail.co.uk

(T2) Chris Browne
(Acting) Principal Engineer
Plant and T&RS
Chris.browne@networkrail.co.uk

(1) John watt
Engineer Plant STE
<mailto:john.watt@networkrail.co.uk>

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General Terms & Conditions

1) General

- 1) This certificate can only be amended by Network Rail Product Acceptance, the Professional Head or nominated delegate. Any alterations made by a other persons will invalidate the entire certificate.
- 2) Failure to abide by the requirements in this Certificate of Acceptance may invalidate the certificate, thereby restricting the right to operate the product and / or limiting the future supply and deployment of the product on the infrastructure.
- 3) Upon the review date this certificate and the product it relates to is invalid and not accepted for use. Manufacturers are to make an application for a review prior to the review date.

2) Manufacturer

The Manufacturer shall:

- 1) Ensure that all products supplied comply with the standards defined in the Acceptance Requirements or otherwise documented as part of the assessment, including meeting the reliability requirements included in the Acceptance Requirements and in any deed of warranty for the relevant certificate number.
- 2) Notify Network Rail Product Acceptance:
 - a. Within 48 hours, of any deficiencies affecting the quality, functionality or safety integrity of the product (including corrective action undertaken or proposed).
 - b. Of any intended change to the accepted product; changes include:
 - i. a change to the product configuration (to the actual product or its application);
 - ii. a variation to or addition of manufacturing locations or processes;
 - iii. a change in the name or ownership of the manufacturing company;
 - iv. any changes to the ability or intention to support with technical services, spares or repairs.
- 3) The Manufacturer shall provide Network Rail Product Acceptance or National Supply Chain (NSC) at least 12 (twelve) months notice of its intention to discontinue supply or to provide such notice as is reasonable if such discontinuance is outside its control and will offer the opportunity of a Last Time Buy to Network Rail together with date for last order placement and supply of the parts affected. The introduction of proposed alternative products shall be communicated to Network Rail Product Acceptance.
- 4) Provide further copies of operating and maintenance manuals to purchasers / users of the product as necessary (including certificates of conformance, calibration etc).
- 5) Provide further copies of training manuals and an appropriate level of training to purchasers or users of the product as necessary.
- 6) Where applicable, specialist technical support, repairs and servicing of the product shall be carried out by the Original Equipment Manufacturer (OEM) or authorised agent only.
- 7) Network Rail may request information from the manufacturer to prove product compliance with clauses 1 and 2 above and reserve the right to suspend and/or withdraw any application where information is not forthcoming within a reasonable timeframe.
- 8) In accordance with Network Rail's Quality Assurance Policy Statement 2011, where the specification and/or Product Acceptance Certificates specify quality assurance classifications (QA1 to QA5) for the products, the manufacturer shall comply with the specified level of quality assurance for each product and allow Network Rail access to carry out its quality assurance checks.
- 9) The manufacturer shall give Network Rail's representatives access at all reasonable times to its premises and allow them to inspect its quality systems and production methods and, if requested, to inspect, examine and test the products both during and after their manufacture and the materials being used in their manufacture.

3) Conditions of Use

Specifiers, installers, operators, maintainers, etc. using the product shall:

- 1) Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Product Acceptance.
- 2) Check that the application of use complies with the relevant certificate's scope of acceptance.
- 3) Report any defect if it is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway in writing to Network Rail Product Acceptance.
- 4) Inform Network Rail Product Acceptance in writing of a change to the product configuration (or to the actual product or its application).
- 5) Operate, maintain and service the product in accordance with Network Rail standards and Operation and Maintenance manuals as appropriate.
- 6) Be appropriately trained and authorised for the installation, maintenance and use of the product.
- 7) Only send products for repair or reconditioning to the Original Equipment Manufacturer (OEM) or authorised agent.
- 8) Users are to be aware that Product Acceptance is not a substitute for design approval.

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4) Compliance

Railways and Other Guided Systems (ROGS) Regulations

- 1) Where the product is to be used in areas where Network Rail is not the Infrastructure Manager (e.g. leased stations), the sponsor shall additionally obtain formal consent from the Infrastructure Manager for the locality where the equipment is to be installed. This may include a requirement for additional safety verification. The decision of that Infrastructure Manager is binding, and cannot be overridden by Network Rail except by the escalation processes established in the ROGS regulations
- 2) As required in Railway Group Standard GE/RT8270, at each use of this product the project or group responsible for installation and commissioning shall be required to demonstrate compatibility with:

- a. All rail vehicle types that have access rights over the area affected by the change
- b. Infrastructure managed by others
- c. Neighbours.

Railway Interoperability Regulations

- 3) For interoperable constituents of systems the project or group responsible for installation and commissioning shall be required to demonstrate compliance with the relevant Technical Specifications for Interoperability (TSI) where appropriate.
- 4) An authorisation from the national safety authority (i.e. the Railway Safety Directorate of the Office of Rail Regulation) is required before the equipment is to be used in revenue earning service.

5) Supply Chain Arrangements

- 1) Certificates of acceptance do not imply any particular quantity of supply nor any exclusivity of supply.
- 2) Products may be purchased by Network Rail or its agents, suppliers or contractors.
- 3) Manufacturers should note that it is not necessary to enter into any exclusive supply arrangements with resellers or other suppliers.