



# MANITOU ART 17T(H) Mobile Elevated Working Platform

## OVERVIEW

The ART 17TH offers substantial operational benefits over other similar type machines:

- Class-leading 3 person, 400 kg capacity basket
- Full 360 degree continuous rotation
- 8.95 metre horizontal reach
- 14m Platform height
- AOL capability

The machines are suitable for all aspects of working at height, on and off track including:

- OHL installation and Inspections
- Signalling works
- Structure Inspection and maintenance
- Demolition works
- Tunnel and cutting work



# MANITOU ART 17T(H) Technical Specification

## Specification (standard track gauge)

Working height	16.25m
Platform floor height	14.25m
Max. outreach	8.95m
Up and over clearance	7.00m
Jib movement	+70°/-70°
Basket rotation	+90°/-90°
Turret rotation	360°
Capacity	400kg / 3 pers
Basket size	2.30 x 0.93m
Lifting time	40s
Engine Kubota type V2403-M, 3 cylinder	46hp
Working speed on rail	1.0km/h
Maximum travel speed rail	12km/h
Gradeability on rough	40%
Max. cant in work mode	180mm
Max. cant in travel mode	200mm
Hydraulic tank capacity	120L
Diesel tank capacity	52L
Total weight	12,400kg

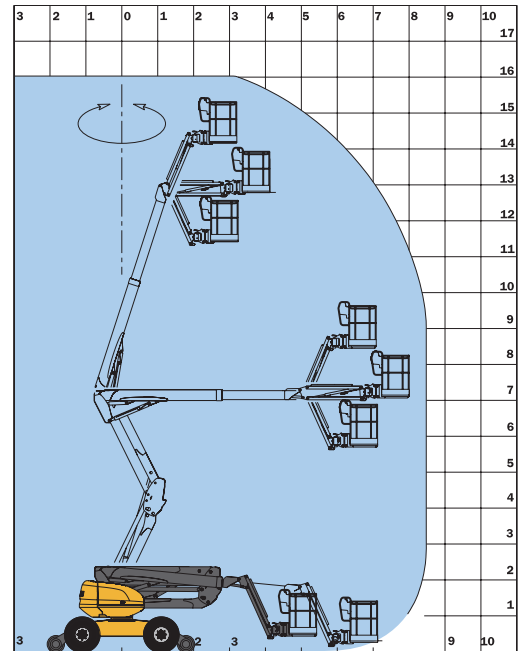
1. Width (overall width with basket) 2.30m
2. Length 6.93m
3. Height 2.37m
4. Length (Travel / transport) 4.94m
5. Height (Travel / transport) 2.70m
6. Inside turning radius 1.32m
7. Outside turning radius 3.68m
8. Outside turning radius with basket 6.39m
9. Ground clearance 42.5cm
10. Wheelbase 2.20m

- 4 wheel braking (On road and rail)
- 4 wheel drive (On road and rail)
- 4 wheel parking brake (On road and rail)
- Sole dealership worldwide
- Able to travel under live wire
- Able to on/off tracking in 150mm cant
- Full stability on 180mm cant in work mode and 200mm cant in travel mode
- Adjacent Line Open (ALO) work

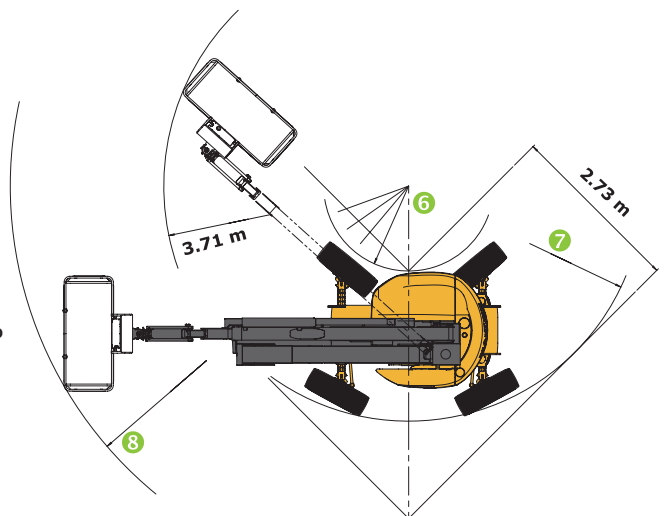
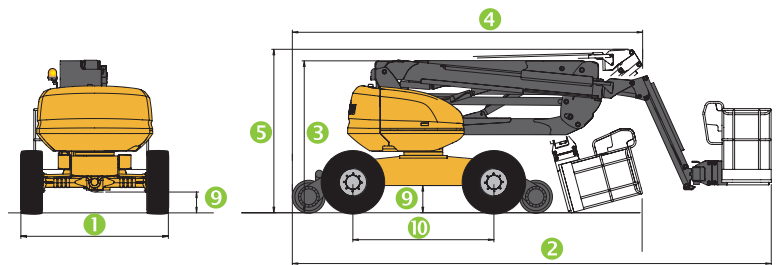
## Standard equipment

- Large basket with 3 access points
- Fully proportional controls
- 4 simultaneous movements
- Foam filled tyres
- Differential lock
- Limited slip front axle
- Diagnostic calibrator
- Hourmeter
- Low fuel indicator
- Horn
- Flashing beacon
- Audible/visual tilt & overload alarms
- Slope override
- Lifting eyes
- Electric emergency recovery pump
- I tool tray
- Full vandal protection
- Lockable control panel covers
- Continuous rotation

Full 400kg on all working radius's for standard and 1600mm gauges



## 360° ROTATION WITH 400KG BASKET





# On-Track Plant

## Engineering Conformance Certificate

This Certificate is issued in accordance with RIS-1530-PLT Issue 6

**NAME OF VEHICLE ACCEPTANCE BODY**

SNC-Lavalin Rail & Transit Verification Limited

**ACCREDITATION CODE**

21

**Vehicle Class / Description**

912/Manitou/RR AP ART 17T(H) MEWP/9A

**Vehicle Owner**

Krause and Hall Ltd

**Issue Date**

08 June 2023

**Expiry Date**

22 December 2024

**Vehicle Number(s)**

99709 912383-5

**First Of Class**

NS/0254/17

**Authorised by:**

David Wass

SNC-Lavalin Rail & Transit Verification Limited

**OFFICIAL STAMP**



**SNC • LAVALIN**



**Reason for issue and Scope of Work**

New build machine, assessed for compliance with RIS-1530-PLT Issue 6, December 2015.

Serial No. 43125.

Originally assessed for compliance with RIS-1530-PLT Issue 6.

On this certificate: Change of owner only. No engineering change.

Expiry date conforms to the requirements of RIS-1530-PLT.

**Deviations associated with this certificate**

Tracker Number 29075, Derogation against Clause 5.3.1 c) - Use on 50 metre curve during calculations.

**Applicant Copy**

SN0283605

**Certificate Number:** 21/0248/23



# On-Track Plant

## Previous Certificate Number

NS/0267/17

## Maintenance Plan Details

P301 ROAD-RAIL MEWP ART 17 T-ART 17 T(H) User Manual. Issue No: V6.5. Date: 07/12/2017.  
547408 EN Manitou Instructions Manual. Issue 1. Date: 15/05/2012.

## Limitations of Use

Limitations of Use taken from certificate: NS/0267/17.

1. This machine is not permitted outside a possession.
2. When in travelling mode, the machine exceeds Plant Gauge. For gauge see Vehicle Data (Limitations of Use 28) section in this ECC
3. Maximum basket payload (see Vehicle Data (Limitations of Use 28) section of this ECC) shall not be exceeded.
4. Maximum number of people in basket (see Vehicle Data (Limitations of Use 28) section of this ECC) shall not be exceeded.
5. Machine shall not be used in wind speeds exceeding 45km/h (28mph) (12.5m/s).
6. For on/off tracking, a site specific plan shall be used taking account of the applicable module of Network Rail Infrastructure Plant Manual NR/L2/RMVP/0200.
7. When travelling in reverse, ground staff shall control movements.
8. The machine will not activate train operated points.
9. The machine shall not be used for any other lifting duties.
10. The machine shall not on/off track, travel or work on live conductor-rail lines.
11. The machine may on/off track, travel or work on isolated conductor-rail lines.
12. The machine shall not work under live OLE.
13. The machine is permitted to on/off track and travel under live OLE when used in conjunction with a safe system of work.
14. The machine shall not on/off track or travel under live OLE in areas where the OLE wire height is less than 4.165m.
15. When on/off tracking or travelling under live OLE:
  - The basket and instrumented pantograph MUST be in the locked and stowed position below 1.4m, using the OLE keyswitch on Base Control; when in the On/locked position the OLE key MUST be removed.
  - There shall be no access onto the RRV except the basket.
  - The earth bonds on the RRV shall have been examined for security and presence, prior to the start of work.
  - The height of the basket floor shall be confirmed as below 1.4m ARL.
16. When working, the counterweight, articulated boom and basket can be out of gauge. See Vehicle Data (Limitations of Use 28) section of this ECC.
17. This machine may be used with adjacent lines open to traffic, only if a safe system of work to be adopted has taken account of gauge exceedance.

**Applicant Copy**

**Certificate Number: 21/0248/23**

**SN0283605**

Page 2 of 4

## On-Track Plant

18. The machine is fitted with a High Performance Movement Limiting Device. The machine may be used in ALO configurations where a High Performance MLD is required.
19. The slew limiting system is not capable of limiting movement over both sides simultaneously. The vehicle is not permitted to work with both sides adjacent to open lines (island working).
20. The machine shall not work with any adjacent lines open to traffic where the distance between the centre line on which the vehicle is working and the centre line of any open line is less than 3600mm. This is to account for tailswing gauge exceedance (see Vehicle Data (Limitations of Use 28) section of this ECC).
21. The machine shall not work ALO on London Underground Infrastructure.
22. The vehicle encroaches into the area reserved for infrastructure equipment in the lower sector. A site survey shall be undertaken to assess potential damage to infrastructure equipment prior to use.
23. For access/egress, the machine may only operate with the access adjacent to a cess or a line closed to all train movements or the document safe system of work must take account of adequate safe clearances to adjacent lines.
24. The vehicle is permitted to tow or propel, through couplings fitted on both ends of the machine, Rail Products UK technically matched equipment (Rail Products UK ATR 450, alutrailer).
25. The maximum number of trailers and maximum towed load given in the Vehicle Data (Limitations of Use 28) section of this ECC shall not be exceeded.
26. When towing or propelling, the trailer shall be fitted with an automatic trailer breakaway warning and marker lights, using the pin plugs connected to the machine and trailer.
27. The machine shall be used as defined in the following table:

Maximum travelling speed	7.5 mph 12 kph	Maximum over side working speed	1 mph 1.6 kph
Maximum towing speed	2.5 mph 4 kph	Maximum speed over S&C and raised check and guard rails	2.5 mph 4 kph
Maximum speed during recovery	3 mph 5 kph	Maximum gradient	1:25
Maximum travelling mode cant	200 mm	Maximum working mode cant	180 mm
Minimum curve radius	80 m	Maximum working mode track twist	1/150 40mm
Maximum on/off-tracking cant	150mm	Maximum on/off-tracking gradient	1:25

28. Vehicle Data:

Gross Vehicle Weight	12,200 kg	Gauge	W6a
Maximum no. of people in basket	3	Maximum Basket Load	400kg
Maximum towed load	520.9 kg	Maximum no. Trailers	1
Tailswing gauge exceedance	252 mm	Maximum basket radius	8.65m



# On-Track Plant

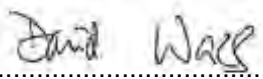
## Supplementary Information

Supplementary Information taken from certificate NS/0267/17:

1. The machine is a rail-conversion of a road based 4-wheel drive, 4-wheel steer mobile elevating work platform (MEWP).
2. The machine is fitted with foam filled tyres.
3. Serial No. 43125.
4. The machine is fitted with a High Performance Movement Limiting Device. The MLD was approved by Network Rail as High Performance in letter MLD/L054. 'Approval of MLD033', dated 24th July 2014.
5. Datalogger software version 1,1.
6. The machine is fitted with the "Load Visualisation Indicator" functionality within the data logger.

Authorised by:

David Wass

  
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Applicant Copy

Certificate Number: 21/0248/23

SN0283605

Page 4 of 4



# On-Track Plant Engineering Conformance Certificate

In accordance with RIS-1530-PLT – Issue 6

Certificate no.: 71/1281/23

Report no.: TRUK/B 23/150, (Issue 1, 01/12/2023). The report is an integral part of this Certificate.

<b>Name of Plant Assessment Body</b>	TÜV Rheinland UK Limited	<b>Organisation Code :</b>	71 (a UKAS accredited certification body No. 8400)
	5 Mallard Way Pride Park Derby DE24 8GX United Kingdom		

<b>Vehicle Class / Description</b>	912/Manitou/RR AP ART17TH/9A
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<b>Vehicle Asset Manager</b>	Krause & Hall Ltd
<b>Issue Date</b>	01-12-2023
<b>Expiry Date (if any)</b>	01-12-2030

<b>Vehicle Number(s)</b>	99709 912382-7
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<b>First in Class:</b>	Yes
<b>Certificate No. of First in Class:</b>	99709 912382-7 on certificate 71/1281/23, against RIS-1530-PLT Issue 6.

**Authorised by:**

**Official Stamp of TRUK, CAB Rail**



ESig: NDC/TUV/23/742

<b>Certifier / Signatory Name</b>	Neil Charles Senior Engineer
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## Reason for Issue and Scope of Work

Reason for Issue:  
Certification of upgraded Manitou ART17TH MEWP.

Manufacturer Serial No. 43124.	Fleet No. 102
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Assessed for compliance with RIS-1530-PLT, Issue 6.  
Assessed for compliance with RIS-1530-PLT, Issue 7, Section 5.9.1.  
Expiry date conforms to the requirements of RIS-1530-PLT.

Scope of Work

Certification of upgraded Manitou ART17TH MEWP.

## Deviations associated with this Certificate (if none state "NONE")

Tracker Number 29075, Derogation against Clause 5.3.1 c) - Use on 50 metre curve during calculations.

**Previous Certificate No.**  
(if none state "NONE"): 21/0247/23

## Maintenance Instruction Details

**Maintenance Instruction Title:** ART17 T (TH) Mobile Elevated Work Platform Upgrade Operation & Maintenance Manual

**Maintenance Instruction Number:** NPS 1010

**Issue No.:** 1

**Date:** 15/09/2023

**Limitations of Use (these words are mandatory where applicable)**

1. The machine shall only operate inside a possession.
2. When travelling, the machine is within W6a gauge as defined in RIS-1530-PLT.
3. When working, the MEWP basket, its elevating booms and pantograph can be out of W6a gauge depending on the slew and height settings in use.  
The maximum gauge exceedance occurs when the boom is positioned at right angle to the track, from 92mm on level track increasing to 320mm on 20mm cant.
4. The machine shall not on/off track, travel or work on live conductor rail lines.
5. For on/off tracking, a site-specific plan shall be used taking account of the applicable module of Network Rail Infrastructure Plant Manual NR/L2/RMVP/0200.
6. The machine shall not be on/off tracked on:
  - Cant greater than 150mm.
  - Gradients greater than 1:25.
7. The machine is permitted to on/off track and travel under live OLE when used in conjunction with a safe system of work determined and approved by taking guidance from the requirements of GE/RT8000-HB16 and provided the boom is in the stowed position for travel (the basket floor less than 1.4m above rail level), the OLE Keyswitch locked and the OLE key switch removed.
  - Minimum OLE wire height is 4.165m.
  - Except for the MEWP basket, access on to any part of the machine that is more than 1.4m above rail level is prohibited when it is under live OLE.
8. The machine shall only be permitted to work Any Line Open (ALO) with the slew limiting device mechanical pins secured by padlock, before work commences.  
The system shall be set and its functionality and reliability proven correct prior to use.
9. The slew limiting system can only limit the slew over one side of the vehicle at any time.  
The machine is not permitted to work with both side of the machine adjacent to open line.  
ALO working shall only be in accordance with the approved safe system of work for the possession that takes account of all gauge exceedance.
10. The machine will not activate train operated points.
11. The machine must not be travelled on track with:
  - Cants greater than 200mm.
  - Gradients greater than 1:25.
  - Curves less than 80m.
12. The machine must not be worked on track with:
  - Cants greater than 180mm.
  - Gradients greater than 1:25.
  - Curves less than 80m.
13. Reverse movements of the machine must be carried out with the operator utilising the CCTV.
14. Machine side steps, not to be used in travelling or working mode (maintenance and recovery only).
15. For access/egress, the machine shall only operate with the basket adjacent to a cess or a line closed to all train movements, or the safe system of work takes account of adequate clearance to adjacent lines.
16. The machine shall not work under live OLE.
17. When in use the machine shall have a current certificate of approval, test and/or thorough examination.
18. The machine shall only be used in accordance with the manufacturer's safety and operating instructions, and the safe system of work for the possession.  
Maximum basket payload shall not exceed 400kg (three personnel and tools). Refer to manufacturer's working envelope diagrams for additional payload requirements.
19. Machine is permitted to tow or propel 1-off approved 2-wheeled trailer with compatible coupling system.  
Maximum permitted weight of trailers and load is 520 kg.

**Supplementary Information - (Optional – minimum requirements where applicable)**

1. The machine is a mobile elevated work platform (MEWP) for use on road and rail, fitted with a measuring pantograph.
2. Manufacturer Serial No. 43125                      Fleet No. 102.
3. The machine operates on rail in high mode only.
4. The machine has no load carrying area, except the MEWP basket.
5. The machine is fitted with a data logger.
6. Gross vehicle weight: 12,800kg.
7. Maximum permitted working and travelling speeds:
  - Maximum speed: 7.5mph (Travelling);
  - Maximum speed: 1mph (Working);
  - Maximum speed: 2.5mph (Towing / propelling);
  - Maximum speed: 2.5mph (Switches & Crossings);
  - Maximum speed: 2.5mph (Raised checkrails).
8. The machine is approved to carry 3 persons and tools in the MEWP basket.
9. The machine is fitted with a Network Rail approved electronic slew system that has been approved by Network Rail technical services. The system must be configured and functioning correctly to be considered as 'reliable'.  
The slew limiting system is NOT capable of limiting movement over both sides simultaneously. The vehicle is NOT permitted to work with both sides adjacent to open lines. This MUST be accounted for in the safe system of work.