



INTERNATIONAL AWARDS FOR POWERED ACCESS ENTRY FORM

1 OF 4

MARCH 29, 2012

**SHERATON ROMA HOTEL
ROME, ITALY**

AWARD SUBMISSIONS

Entries should comprise a written submission (in English, if possible) of no more than 1200 words explaining why the nominated company, individual or product should win the award.

Companies can submit entries for more than one award.

The submission should give concise details demonstrating that the award criteria have been met (see www.iapa-summit.info). To back up your entry statement, the jury will accept supporting documentary evidence, but please try to keep this material relevant and brief.

All entries and supporting materials should be submitted in electronic format by e-mail. Please try to keep e-mailed materials to a reasonable size. No other format will be accepted.

SEND SUBMISSIONS TO:

Maria Hadlow,
Editor, *Access International*
e-mail: maria.hadlow@khl.com
Tel: +44 (0)1892 786 214

**DEADLINE: FRIDAY
23 DECEMBER, 2011**

CREATED AND ORGANISED JOINTLY
BY ACCESS INTERNATIONAL AND
THE INTERNATIONAL POWERED
ACCESS FEDERATION (IPAF)



access
INTERNATIONAL

YOUR DETAILS

Company name: **MANITOU**

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BP 10249
44158 ANCENIS Cedex

Country: **FRANCE**

Contact name: **François DESBRIERE**

Job title: **Product Line Manager**

Tel: **+33607188074**

e-mail: **f.desbriere@manitou.com**

WHICH AWARD ARE YOU ENTERING?

(Please place an X in the boxes below)

- IPAF Safety Champion
- Access Rental Company of the Year
- Contribution to Safe Working at Height
- Product of the Year - Vehicle/trailer mounted
- Product of the Year - Self-propelled (booms, scissors, atrium lifts)
- Product of the Year - Mast Climbing Work Platforms/Hoists
- Product of the Year - Low-level Access
- Award for Outstanding After Sales Service
- Access Project of the Year
- IPAF/Access International Lifetime Achievement Award

IPAF AWARD CATEGORIES:

- Best New IPAF Training Centre
- IPAF Training Instructor of the Year

www.iapa-summit.info



INTERNATIONAL AWARDS FOR POWERED ACCESS ENTRY FORM

2 OF 4

We have made some slight alterations to the award categories this year in order to better reflect the industry and make it even easier for you to enter. Have a good look at the list and decide which categories you want to enter. Also please encourage any of your customers, suppliers or colleagues you think should win one of the 2012 IAPAs.

Awards are for work carried out in 2011.

1. Please explain in a very short, 'summary' statement why you should win this award.

2. For the four 'Product of the Year' awards, please explain what is new about the machine and why this is significant. Please provide the context for the new product (How does it fit into your existing range of products? What applications is it for? What problems does it solve?)

3. For the other award categories (safety, rental company, after sales service, training), please give details of what you did in 2011 and why you did it (what programmes? what initiatives?). Please describe the results of these activities, and how you measured these results.

4. Is there any other important information that you want to provide in support of your award entry?

Award category Product of the Year - Self-propelled: booms lift

Company name: MANITOU

SUMMARY STATEMENT (no more than 150 words)

See attach file



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AWARD STATEMENT (no more than 1200 words)

See attach file



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4 OF 4

MARCH 29, 2012

SHERATON ROMA HOTEL
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Award category Product of the Year - Self-propelled: booms lift

Company name: MANITOU

LIST OF ANY SUPPORTING MATERIAL

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1xLeaflet /1xPPT Presentation / 1xVideo

CREATED AND ORGANISED JOINTLY
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ACCESS FEDERATION (IPAF)



access
INTERNATIONAL

Summary statement:

The new 28m working height Manitou telescopic boom 280 TJ that is launched on the market in 2012 is an addition of the best in class technologies applied on other Manitou access platforms with some key innovations. From existing range of articulated booms, Manitou decided to keep the same traction system that has proven reliability and a high level of rough terrain performances. The same idea applies to the electronic diagnostic that has been improved to even lower downtimes.

The 280 TJ is also fitted with patented features such as the linear speed of the basket (0,4m/s as defined in EN280) whatever the position of the basket within the working area and the engine hydraulic accelerator. These features are key for operator comfort and safety but also to lower diesel consumption. The combination of a small engine (45HP) with its patented speed adjustment reduces drastically diesel consumption and noise level around the platform.

Finally, the large basket with high capacity will give to operators the ideal machine to work with efficiency and comfort, in an environmental friendly atmosphere.

Award Statement:

Recently Manitou has introduced a new range of telescopic boom lifts including a 26m and 28m respectively named 260TJ and 280TJ.

Both units use the same transmission as ATJ range which made its reputation in rough terrain; an engine drives a hydrostatic pump and motor which drives a shaft to the front and rear heavy duty axles (with oil immersed brakes and differential lock) making the machine a real rough terrain solution. In addition, it is fitted with an oscillating axle making it very efficient in muddy and sandy environment. Like any other Manitou telescopic handler, these units can also operate with 2 wheel steer, 4 wheel steer or crab steer to improve maneuverability in congested areas.

The elevating structure is equipped with a pivot mechanism to reduce the overall length of the unit for a better transportability, it also improve the lifting speed. This design also allows the operator to work close to buildings and get a very good horizontal reach. The 280TJ will be equipped with a telescopic jib to be able to reach uncommon working areas and work negatively.

Both units will be fitted in standard with a large basket and the maximum safe working load will be respectively 400kg and 350kg including 3 persons for the 260TJ and 280TJ. Indeed, the 280TJ will have a dual capacity (350kg, 3 persons and 240kg, 2 persons) while the 260TJ will have a single 400kg SWL on the overall working area. With such extra capacity, more material can be taken into the basket for more productivity.

Actually, this type of machine already exist on the market place but we have decided to enter this Product of the Year competition because when designing this machine, Manitou teams were willing to add innovative technologies to make a machine that care of the environment, care of the safety and comfort of operators and finally care of job site managers and technicians by improving the diagnostic then the downtime.

Environment friendly:

The power of the engine is regulated by an electronic system through a hydraulic accelerator (MANITOU patent). The revolution of the engine will vary depending on the need of hydraulic flow to activate each arm. The power consumption is then optimized allowing us to use a smaller engine (45HP only) while offering the same performance as other range of Manitou self propelled rough terrain boom lift.

This will of course lead to a reduction of diesel consumption and noise, protecting the environment.

Safety and Comfort:

With the above system combined with an electronic algorithm which calculates the position of the boom (length and angle), we can make the linear speed of the basket constant whatever its position in space. To summarize, whatever the boom is retracted or extended, the linear speed of the basket will always be at roughly 0,4m/s (maximum set by EN280). The operator will always feel safe without any jerky or fast movements of the boom.

To simplify the use of the machine, we also set up a system which combines automatically lifting and extension of the boom to make horizontal or vertical movements (X/Y feature) without the need of a boom length sensor (MANITOU patent).

Diagnostic:

We took also the opportunity on this range of machine to improve the diagnostic to make the life of technicians easier and reduce the downtime of the machine.

When a fault is detected on any movement of the machine, the technician will enter into the diagnostic menu of the onboard screen and start trying to make the faulty movement. The computer will then automatically display the reason of the fault and indicate the location of the faulty component making the troubleshooting simple and fast.

List of any supporting material:

-1xLeaflet of 280TJ: 700478EN_A_1211_280TJ

-1xppt Product presentation

-1xVideo



 **MANITOU**

260TJ - 280TJ



Telescopic Boom 260 TJ - 280 TJ

**Experience and Innovation at the
service of the operator**

- Accessibility
- Rough Terrain Ability
- Performance
- Simplicity





260 - 280 TJ (Telescopic Jib)

260 TJ

(with Jib only)

Working height: 26.00m

Outreach : 19.45m



280 TJ

(with telescopic jib)

Working height: 28.00m

Outreach : 21.45m





TECHNICAL CHARACTERISTICS

	260TJ	280TJ
Working height:	26 m	27,78 m
platform height:	24 m	25,78 m
Outreach:	19,45 m	21,45 m
SWL	400 kg (Plein abaque)	350 kg / 240 kg (Double abaque)
Occupancy	3	3/2
Basket dimensions	2,30 x 0,90 m	
Overall width	2,42 m	
Overall length	10,81 m	11,25 m
Overall length (folded for transport)	7,90 m	8,05 m
Height	2,32 m	2,57 m
Height (folded for transport)	2,85 m	2,85 m
Engine	Kubota V2403 - 45 cv Euro III A (35,8 kW - 45 CV)	
Gradeability	36,50%	36,50%
Wheels	20" SOLIDEAL	
Weight	16400 kg	16600 kg





ACCESSIBILITY

- Boom architecture

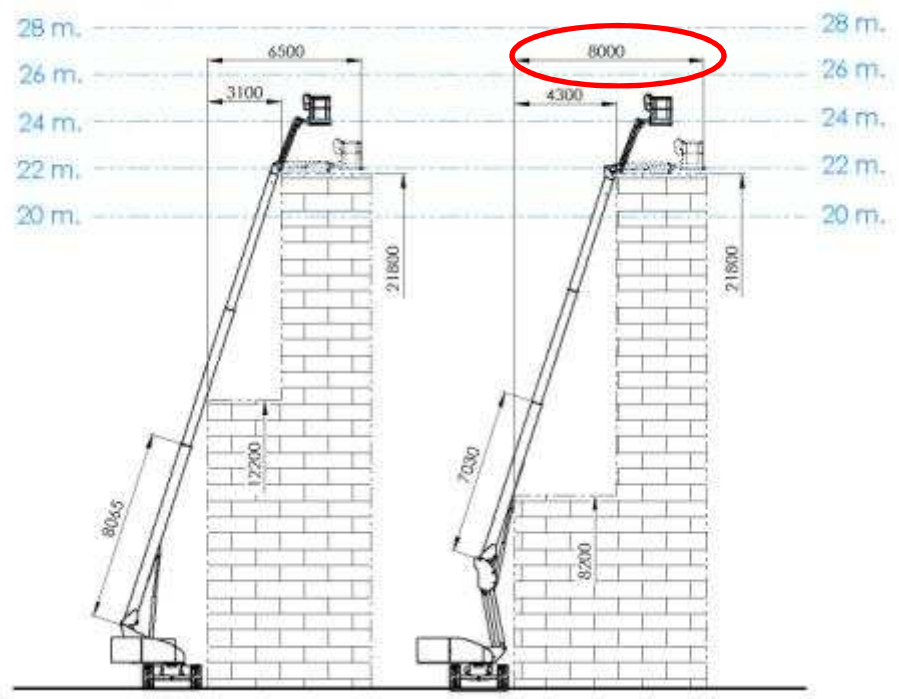
- ✓ Allow to have more reach working close to a building
- ✓ Quicker elevation time
- ✓ More compact machine
- ✓ The load center of the machine being closer to front, less counterweight is needed (700kg less than HA28TJ+ et S85)



- ❖ BEST WORKING ZONE
- ❖ MORE PRODUCTIVITY



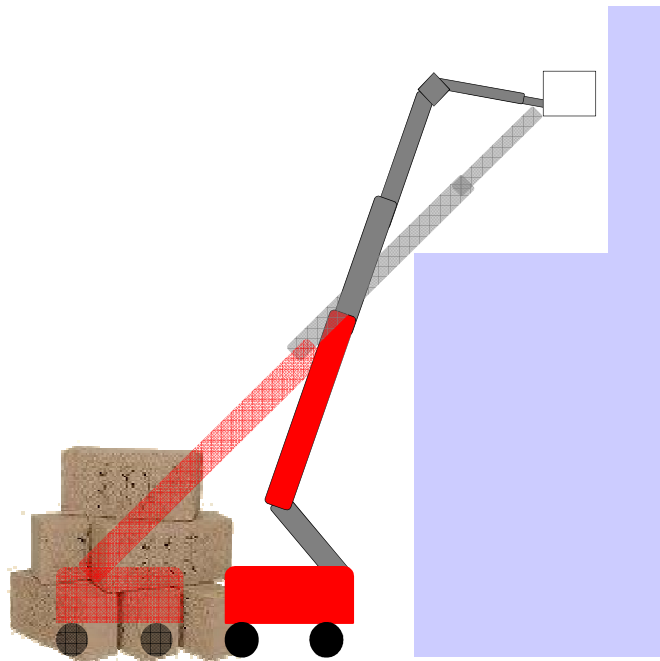
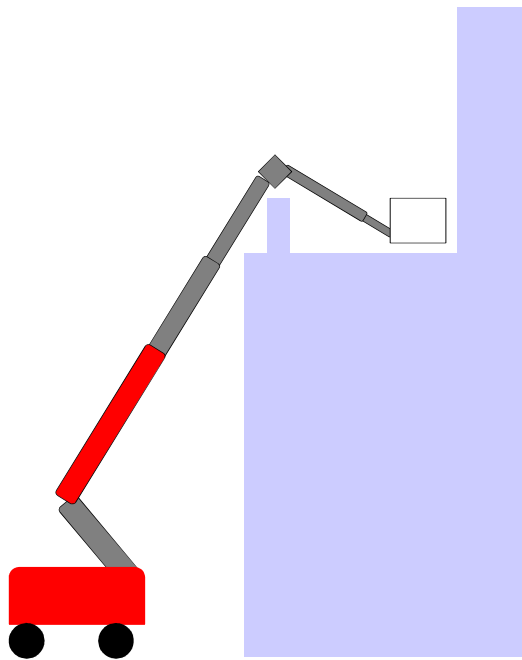
- ❖ BETTER ROUGH TERRAIN ABILITY
- ❖ EASY TO TRANSPORT





ACCESSIBILITY

- Telescopic Jib for 280TJ



- ❖ POSSIBILITY TO WORK IN NEGATIVE
- ❖ POSSIBILITY TO ACCESS PLACES NOT REACH WITH NORMAL TELESCOPIC BOOMS

- ❖ WORK CLOSER TO A BUILDING IN CONGESTED BUILDING SITES



COMPACTNESS

- A much smaller overall length than competition



- ❖ EASY TO TRANSPORT
- ❖ EASY TO MANOEUVRE

- Remote truck loading folding



- ❖ TRUCK LOADING SAFER
- ❖ LESS LOADING TIME



COMPACTNESS

- 4 wheel Drive (the only one)



✓ Front wheel steer: « rabbit » speed



✓ 4 wheel steer: two « turtle » speeds

Arms longitudinal: average speed

Reduction of speed when the arm is laterally positioned



❖ BEST MANOEUVRABILITY IN CONGESTED AREA

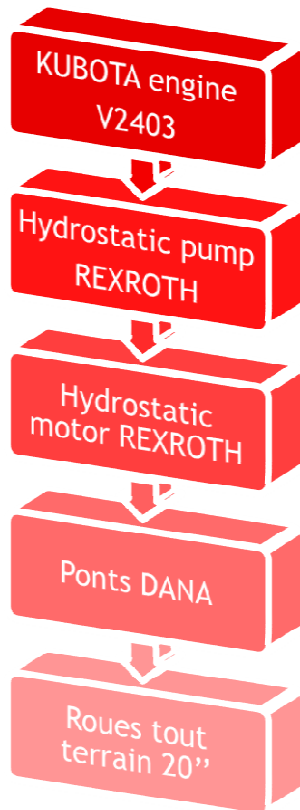


✓ Crab steer: allow to come close to building site

ROUGH TERRAIN ABILITY

We take what's made the success of ATJ

=> Transmission identical to ATJs, same known components



- ✓ Same engine as 200ATJ
- ✓ Management of engine REVS depending on hydraulic demand



- ❖ LESS CONSUMPTION
- ❖ LESS NOISE
- ❖ OPTIMIZATION OF ENGINE POWER

- ✓ Variable piston pump (56cc) :
+25% compare to 200ATJ

- ✓ Fixed capacity motor (125cc) :
+15% compare to 200ATJ

- ✓ 2 axles
- ✓ Limited slip on front axle
- ✓ Differential lock on back axle
- ✓ Ground clearance = TBA
- ✓ Oscillating axle



- ❖ IDENTICAL PERFORMANCE AS ATJs

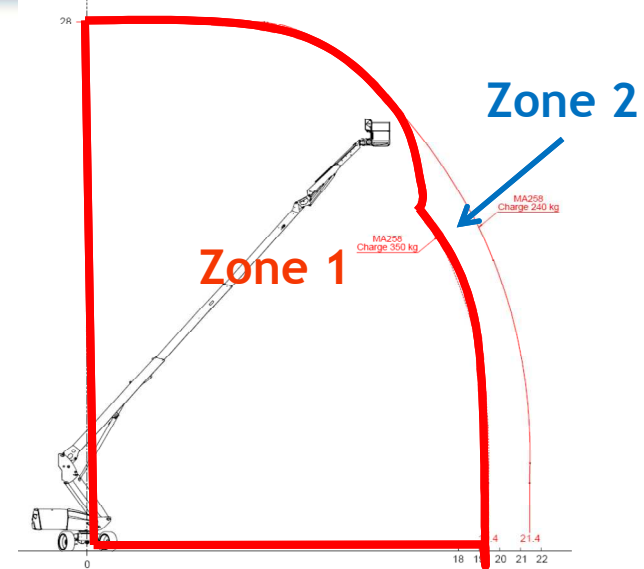
- ✓ Rough terrain wheels

PERFORMANCE - CAPACITY

Double load chart (280TJ)

- ✓ Double SWL 350kg / 240kg including 3 persons
- ✓ No need to choose manually the load capacity before using the machine

- ❖ BETTER PRODUCTIVITY
- ❖ TRANSPARENCE AND SECURITY FOR USERS



- 1 ● LED is orange:
 - Load inside the basket is >240kg
 - Zone 2 is a No Go zone
- 1 ☀ LED is flashing orange:
 - The operator is in zone 2
- 2 ● LED is red:
 - Load is over the max. SWL
 - >240kg if operator is in zone 2
 - >350kg if operator is in zone 1



PERFORMANCE - CAPACITY

High Capacity (260TJ)

- ✓ High capacity overall the load chart
- ✓ Identical decals as ATJ

LARGE BASKET (2.30mx0.90m)

- ✓ Identical basket as 160ATJ+ (2 lateral entries and 1 frontal entry)



- ❖ MORE STORING SPACE
- ❖ MORE PRODUCTIVITY AND CONFORT

PERFORMANCE - MOVEMENTS

An electronic management of the engine rpm allow to optimize the pressure and flow needed for single or simultaneous movements

✓ Faster single movements

✓ 4 simultaneous movements:

Boom up/down

Boom in/out

Turret rotation

Jib up/down

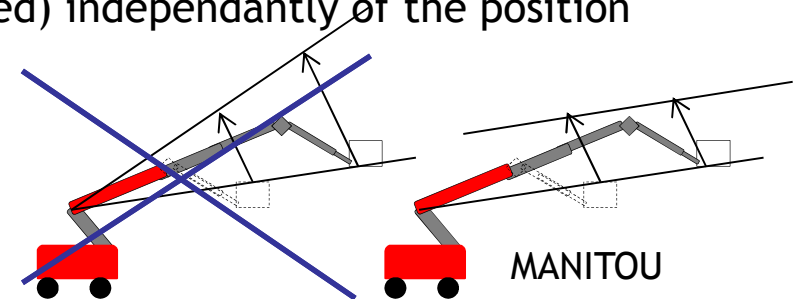
✓ Allow a basket speed (and then operator speed) independantly of the position of it (**MANITOU patent**)

Boom fully in raising speed: 40s

Boom fully out raising speed: 70s

Turret rotation (1/4) with boom fully in: 30s

Turret rotation (1/4) with boom fully out: 50s



❖ SMOOTHNESS OF MOVEMENTS, COMFORT AND SECURITY FOR OPERATORS



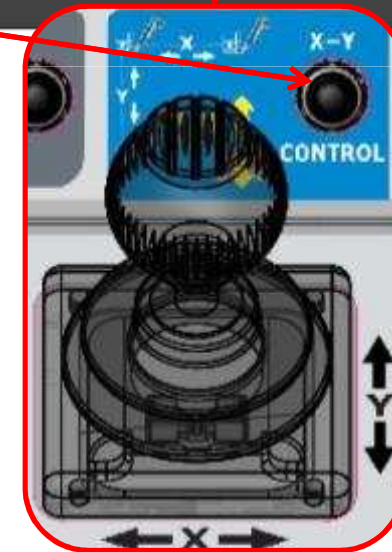
PERFORMANCE - MOVEMENTS

XY MOVEMENTS

✓ The electronic management of the movements allow to combine boom up/down and boom out/in to have horizontal and vertical movements in space by pushing « X-Y CONTROL » push button

✓ Ideal for jobs along vertical or horizontal wall / face of building

✓ 2 angle sensors along the boom but the management of the boom length is done with magnetic contacts along the boom
(MANITOU Patent)

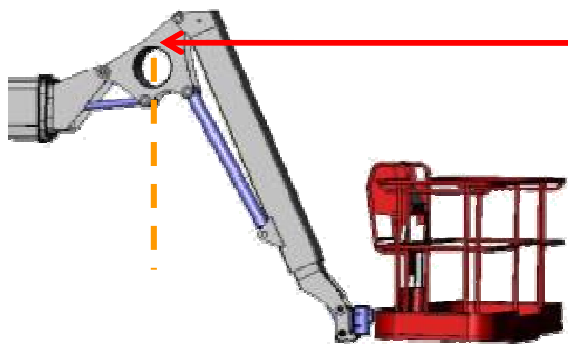


❖ INCREASE OF PRODUCTIVITY

PERFORMANCE - MOVEMENTS

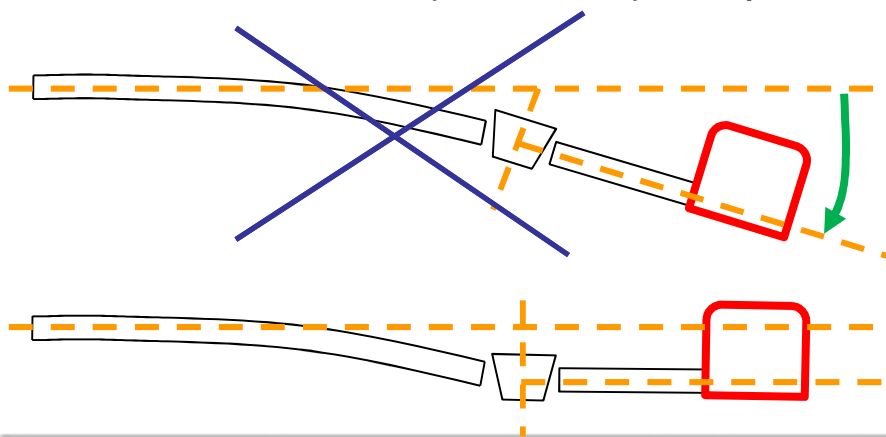
Electronic compensation

✓ The jib is electronically compensated



- The connection part should always keep its perpendicularity with the ground
- An electronic system correct possible defaults
- In case of a drift, a RESET of compensation is necessary (see next slide procedure)
- The compensation is not operational during machine driving

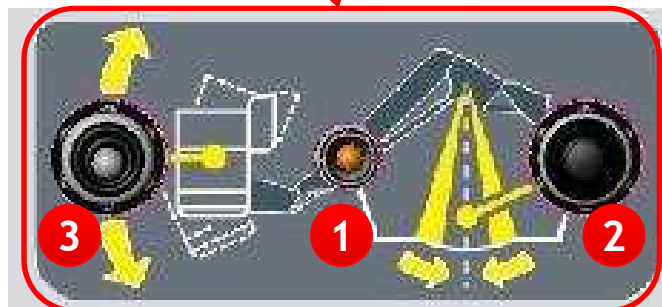
✓ The basket is hydraulically compensated



- ❖ ELECTRONIC COMPENSATION AVOID THE JIB TO FOLLOW FLEXION OF THE BOOM
- ❖ SAFETY FEELING

PERFORMANCE - MOVEMENTS

RESET of electronic compensation



If a drift of compensation happens (or after a truck loading folding)

- 1** ☀ LED flick orange and a beep inform the operator
 - Levelling of basket is not possible
 - A RESET of Jib compensation is necessary
- 2** An action on RESET button is necessary until LED 1 stop flicking
- 3** The levelling of basket is now possible

SIMPLICITY

Top and ground control box easy to use*

- ✓ Identical components as ATJs « HYDEQUIP »
- ✓ Same logic and symbols as ATJ



 ❖ QUICK UNDERSTANDING, QUICK OPERATION

* Note that the control panels are identical to 26A TJ+ and 280 TJ, some functions are not available on 260TJ+
certaines fonctions ne seront pas disponibles sur 260TJ+ (ie: telescope of jib out...)

SIMPLICITY

« REVERSE DRIVING »



- ✓ When the turret is more than 90° with the chassi, LED 1 light up Red
- ✓ The acceleration ramp increase to inform the operator that the boom is in the « normal » direction indicated by the joystick

 ❖ SAFETY FOR OPERATOR

SIMPLICITY

EMERGENCY PROCEDURE



- ✓ Use of electric pump and action on the valve bank directly
- ✓ Most of our competitors use the buttons of ground control box (what to do if it is faulty???)





SIMPLICITY

MAINTENANCE

- ✓ Swing out engine for a better accessibility to components
- ✓ Hydraulic components easy accessible
- ✓ Same suppliers as ATJ
 - KUBOTA Engine
 - REXROTH pump
 - DANA axles
 - HYDEQUIP
 - DANFOSS valve blocks...



« CAN-BUS » TROUBLE SHOOTING

- ✓ HYDEQUIP
- ✓ Improvement of the trouble shooting to guide the technicians through default origins



- ▬ ❖ SIMPLIFICATION OF TECHNICIAN LIFE
- ▬ ❖ REDUCTION OF TROUBLE SHOOTING AND DOWN TIME



SIMPLICITY

DIAGNOSTIC



Enter the menu diagnostic



Select the function to test



Test the function and valid

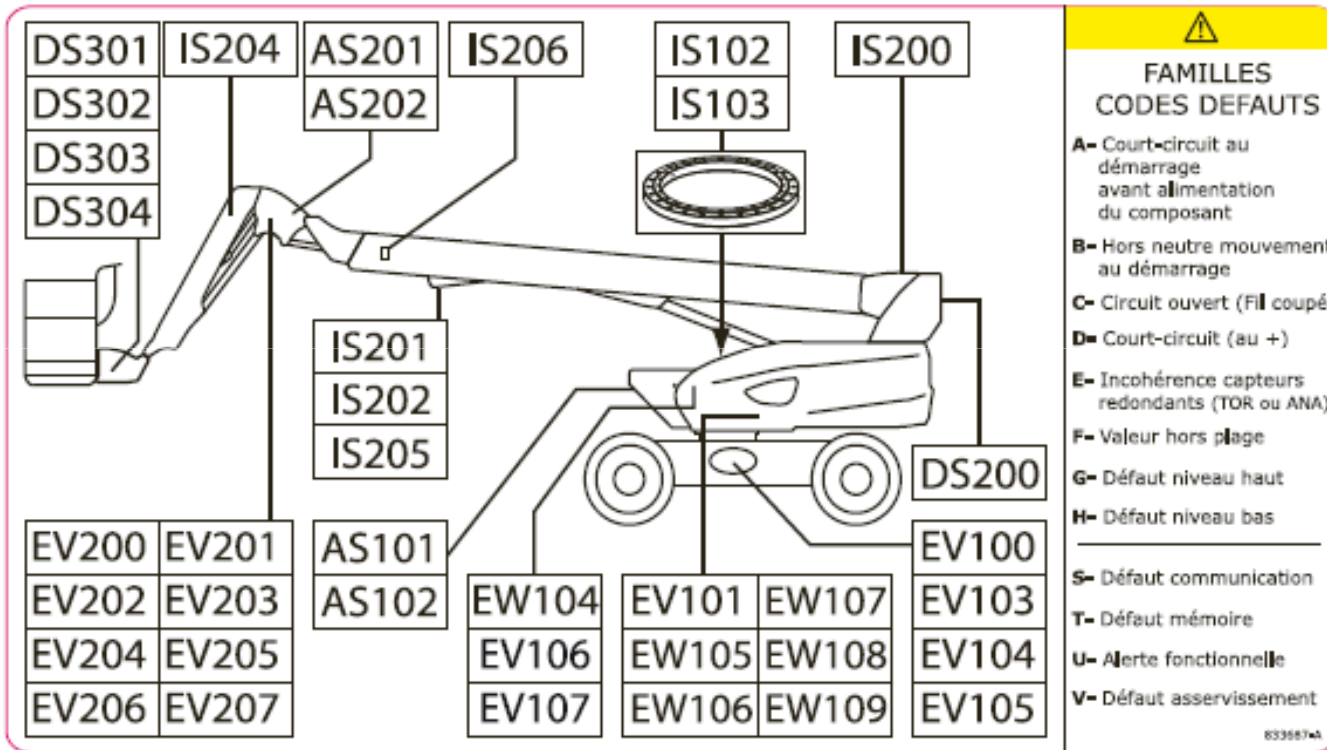


Display of faults



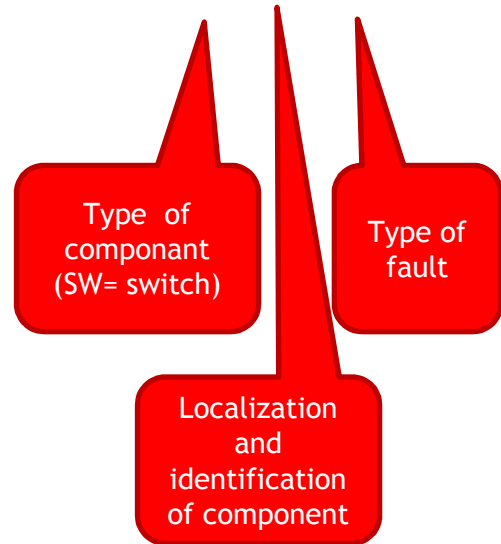
SIMPLICITY

FAULT CODES WITH LOCALISATION OF COMPONENTS



Fault codes are build as follows:

SW 301 A



SIMPLICITY

IN HOUSE OPTIONS

✓ Possibility with user code to add/remove options such as:

- Beep all movements
- automatic re-alignment of wheels
- rental horameter
- levelling of basket ON/OFF
- Usage repaort of the machine (rental usage)
- ...



Self-propelled telescopic boom

- Working height: 28 m
- Max. outreach: 21.45 m
- S.W.L.:
350 kg (3 pers.) or 240 kg (2 pers.)
- Diesel engine 45 HP
- Continuous rotation
- Oscillating axle
- Simultaneous movements
- 4 wheel drive
- 4 wheel steer
- Crab steer
- X Y movements
(horizontal, vertical)



280 TJ

Working height27.75 m
Platform floor height25.75 m
Max. outreach21.45 m
Up and over clearance+70°/-70°
Basket rotation+90°/-90°
Turret rotationcontinuous

Capacity350 kg (3 pers.) or 240 kg (2 pers.)
Maximum allowed wind speed45 kph
Basket size2.30 x 0.90 m

① Width (overall width with basket)2.43 m
② Length11.35 m
③ Length (Travel/transport)8.04 m
④ Height2.75 m
⑤ Height (Travel/transport)2.72 m

⑥ Inside turning radius2.00 m
⑦ Outside turning radius4.33 m
⑧ Outside turning radius with basket9.75 m
⑨ Ground clearance43 cm
⑩ Wheelbase2.80 m
Working speed0.80 kph
Maximum travel speed4.70 kph

Heat engine
 KUBOTA V2403M45 HP

Gradeability on rough terrain40%
Max. slope accepted4°

Hydraulic tank94 l
Diesel tank78 l

Tyres385/45-28
 4 wheel drive/4 wheel steer/crab steer

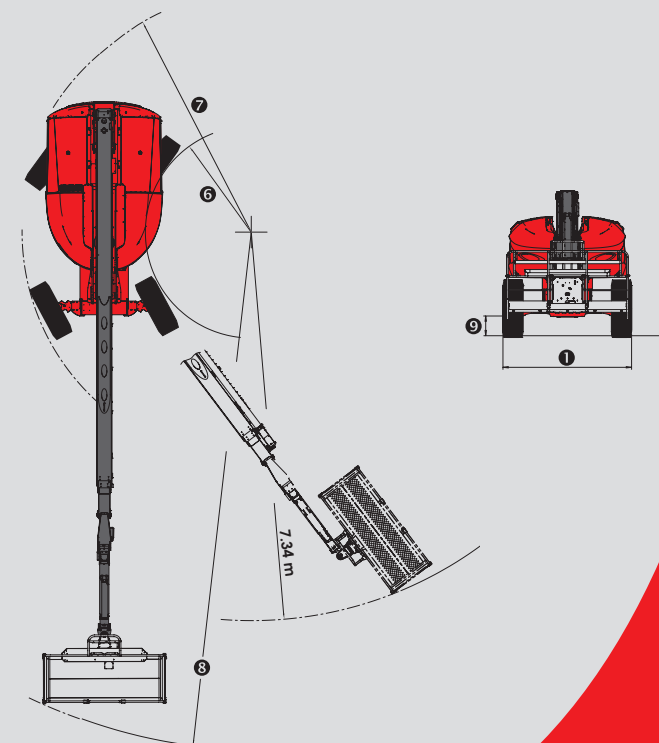
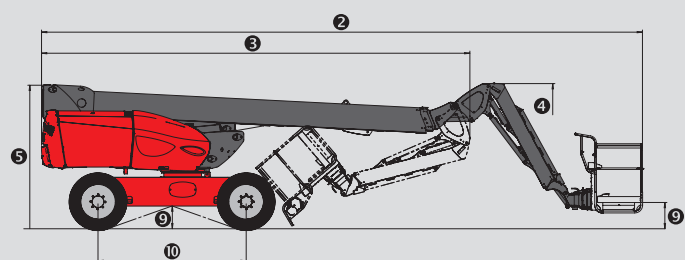
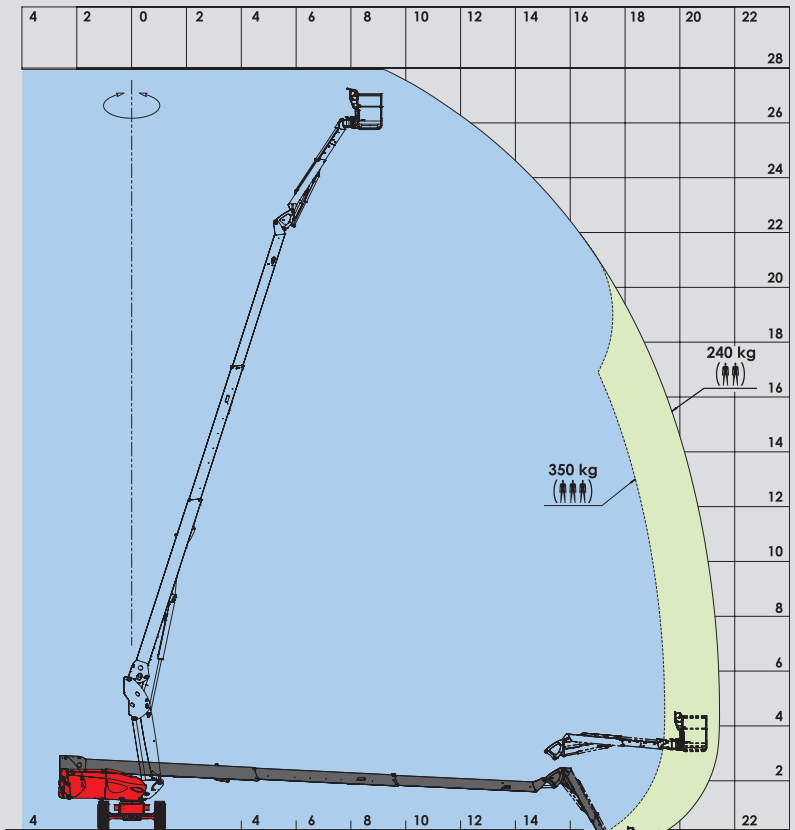
Weight16500 kg

Standard equipment

- Oscillating axle
- Continuous rotation
- Large basket
- Proportional controls
- 4 simultaneous movements
- Foam filled tyres
- Differential lock
- Limited-slip front axle
- Diagnostic-calibrator
- Hourmeter
- Low-fuel indicator
- Horn
- Flashing beacon
- Audible and visual tilt and overload alarms
- Slope over ride
- Lifting eyes
- Electric emergency pump
- Prefitted for 230 V
- Dead man's pedal
- 1 tool tray
- Protective cover (lockable)

Options

- On-board generator (5.5 kVA)
- 230 V outlet with residual current device
- Prefitted for compressed air
- Working headlight
- Special paint
- Biodegradable oil
- All movement alarm
- Beep on travel
- Catalytic purifier
- Refinery kit
- Safety harness
- 2 additional tool trays



This brochure describes versions and configuration options for Manitou products which may be fitted with different equipment. The equipment described in this brochure may be standard, optional or not available depending on version. Manitou reserves the right to change the specifications shown and described at any time and without prior warning. The manufacturer is not liable for the specifications given. For more information, contact your Manitou dealer. Non-contractual document. Product descriptions may differ from actual products. List of specifications is not comprehensive. The logos and visual identity of the company are the property of Manitou and may not be used without authorisation. All rights reserved. The photos and diagrams contained in this brochure are provided for information only.

MANITOU BF SA - Limited company with board of directors - Share capital: 39,547,824 euros - 857 802 508 RCS Nantes

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