



We are pleased to quote the TIME Manufacturing CTA104-I CATEGORY A. This aerial device will meet or exceed the criteria for design, manufacture, testing, inspection, installation, maintenance, use, training and operation of vehicle-mounted aerial device set forth by ANSI A92.2-Current Revision.

STANDARD EQUIPMENT & FEATURES FOR THE CTA104-I CATEGORY A:

Ground to the bottom of Bucket/Platform, 99' [30.18 m]

Working Height, 104' [31.7 m]

Maximum Side Reach, 50'-7" [15.41 m] at a working height of 37'-5" [11.41 m]

Elevated Side Reach, 48'-11" [14.92 m] at a working height of 53'-10" [16.40 m]

Maximum combined capacity at the Bucket/Platform with Material Handling Jib is 2,200 LBS [998 Kg].

Aerial is operational thru its full range of movement at maximum combined capacity.

Bucket/Platform rotation 180° in all working boom positions.

Automatic electronic over hydraulic bucket/platform leveling with provisions to manually operate leveling.

Turret rotation is continuous with hydraulically released brake, includes manual rotation

Rotation by single planetary gear boxes with eccentric rings for backlash adjustment.

Automatic boom tie latches for both upper boom.

All cylinders and pivoting pins have maintenance free non-lube type bearings.

All metal parts are painted with high quality paint prior to assembly.

Two (2) XL Body Harnesses with lanyards

PLATFORM:

Fiberglass bucket end mounted 60"X40"X42" [1.54X1.02X1.07 m] with two external and one internal step, maximum capacity of 800 LBS [363 Kg], includes padded vinyl cover.

UPPER BOOM:

Articulation range 163° relative to lower boom

Articulation of upper boom is by two synchronized double acting cylinders with integral holding valves in both sides of the cylinder

Extension 10'-6" [3.2 m]

The interior of the insulated section is sealed to prevent the intrusion of environmental elements that would compromise the insulated integrity of the section.

The insulated section is vented to allow for the sealed chamber to "breathe".

The chamber vent dries the entering air by means of a desiccant material contained in an easily viewable, accessible and refillable container with the booms stowed.

All hoses spanning the insulated boom have vacuum prevention vents which are closely located and easily removable for testing

If equipped the gradient control device, it is located where as the bucket/platform will not extend past the device in all boom positions.

If equipped the Electrical Monitoring Circuit, it will consist of individual pick up points NOT tied to a common point.

Each pick up point will be isolated from each other. This feature provides isolation of individual components to identify potential leakage path utilizing the current leakage monitor.

If equipped the current leakage monitor, it is located below turret rotation and in close proximity to the lower control station and mounted in a weatherproof enclosure.

LOWER BOOM:

Articulation range 85° relative to horizontal.

Articulation of lower boom is by a double acting cylinder with integral holding valves in both sides of the cylinder.

Extension 16'-5" [5.03 m].

Remove chassis protection gap.

TURRET:

Continuous rotation

Rotation by one (1)-CTA104-I or two (2)-CTA130-I hydraulic motor with holding valves driving planetary gear box assembly/s

Backlash adjustment for pinion gear by eccentric ring/s

Hydraulic released brake on gear box/s

Manual rotation provided by motor shaft extension in the event of hydraulic power failure

The mounting surfaces for the ring gear is machine to the ring gear manufacturers flatness and smoothness specification

Ring gear has a minimum moment rating of 360,000 FT-LB [488,095N-m] on inner race

Ring gear has a pitch diameter greater than 33" [83.82cm]

7/8" [2.23cm] diameter SAE Grade 8 bolts are used to attach to the pedestal and turret

All structural material 100KPSI strength steel

OUTRIGGER STRUCTURE/PEDESTAL/SUB FRAME:

All structural material 100KPSI strength steel

Fully integrated outrigger box, pedestal and turret

Sub frame structure is bolted to chassis using SAE Grade 8 hardware

Chassis frame is not taken into consideration for the RBM applied by the aerial

OUTRIGGERS:

Telescopic out and down outriggers with multiple configurations

Fully deployed width of 17'-5" [5.34m] x lateral spread of 21'-6" [6.55m]

Short jacked curbside or street side width of 12'-5" [3.79m] x lateral spread of 21'-6" [6.55m]

Outrigger jack extension 36-7/8" [94 cm]

Controls are electric over hydraulic

Control switches are located at the rear of the chassis and have unobstructed view of the movement of the outrigger beam and jack

Level indicators are mounted to the pedestal and easily visible to ground personnel

Motion alarm "ON" when outriggers are not in correct position

Control switches are automatically "OFF" when aerial is out of stowed position

Beam control switch is "OFF" when outrigger jack is sufficiently in contact with ground

Auxiliary outrigger pads are made of synthetic material with jack foot retention and are 24 in² [61cm²] with radius corners and slots for handling, storage in close proximity to outriggers

Override feature, to be used only in event of control system failure; active only the aerial is stowed.

HYDRAULIC SYSTEM:

Hydraulic system operational range between the ambient temperature 10° F [-12° C] to 120° F [49° C] without the aid of auxiliary heaters or cooling fan

Standard Hydraulic oil is Mobil DTE 12M

All cylinders used in the support of the aerial have integral holding valves

Closed center system with a single pressure compensated flow controlled pump with a variable displacement range from 0 GPM to maximum flow of 25 or 30 GPM [95/114 LPM] at a constant pressure of 3,000 PSI [207 bar].

To provide a safe work environment by reducing the noise pollution from the chassis engine, the RPM is only slightly elevated to a constant speed for all aerial operations

NPT threaded unions are NOT used were a potential external leak could cause an environmental issue.

O-ring sealing for all hoses ends, hydraulic adapters and manifolds connections where ever possible.

All hoses are sized such that the fluid velocities during the all aerial operations are within standard acceptable ranges.

Hydraulic reservoir

The oil volume is a three times the nominal flow required to operate the aerial this allows the return oil to slow down, entrained air to escape and contaminants settle.

The fill is thru the top mounted return filter assembly which contains a pre-filtration magnet assembly, diffuser and dirt indicator.

Has full length level and temperature gauge which are effective thru all aerial positions

Has two full height and width internal baffles with large removable lid and rubber vibration mounts

Two (2) 1/4 turn ball valves, 2 1/2" suction; 3/4" drain

Replaceable spin on reservoir breather which strips moisture vapor from intake air and releases the moisture back to the atmosphere on the outflow cycle

Full length down tubes with anti-siphon on all case and system relief hoses attached

High pressure filter

Nominal flow of 60 GPM [227 LPM]

Element 10 micron absolute and zinc free

Non-bypassing with a high collapse filter element. Electronic dirt indicator with LED indicator visible from ground station.

Aerial control valve

Electronic over hydraulic with provisions for manual operation.

AERIAL ELECTRICAL CONTROL SYSTEM:

Operational to -30° F [-34° C] and storable to -40° F [-40° C]

No special calibration tooling is required for adjustments

Wiring and cable assemblies:

All wiring between junction boxes are in solid heavy duty flexible plastic conduit with weather resistance enclosure connectors

All electronics and wiring harness terminations are installed in weather resistant enclosures

All connectors not in enclosures are weatherproof

All wire conductors are color coded or numbered stamped

No splices in wire conductors or cable assemblies between end terminations

The data communication between the bucket/platform control station and lower controls is by a wireless digital data link

Lower Control Station

Hands free operator's display with on board system diagnostics and fault messaging

Six (6) single axis joysticks to operate all aerial boom proportional movements (5) and proportional winch line.

Emergency Stop pushbutton

Emergency Override switch with protective cover

Emergency Hydraulic Pump switch

Turret centered indicator

Start/Stop pushbutton

Platform Control Override switch

Fast/Slow switch

Panel light switch

Weather resistant enclosure with lockable lid

Mounted below rotation in close proximity to the body access ladder/stairs for unobstructed and quick access in case of an emergency

Bucket/platform control station

Hands free operator's display with on board system diagnostics and fault messaging

Three (3) axis proportional joystick; upper boom raise/lower and extend/retract; turret rotation with safety interlock switch

Three (3) single axis proportional joysticks with detent; lower boom raise/lower and extend/retract; jib winch line

Platform rotation switch with detent

Emergency Stop pushbutton

Start/Stop pushbutton

Fast/Slow switch

Battery Select switch

Platform leveling select, automatic or manual

Platform leveling direction switch, used when in manual position

Mounted on right side of the bucket(outside)/platform(inside)

Bucket control station will have nonconductive brush guard and cover

Platform control station will have weather resistant and lockable cover

Outrigger Control Station

Control switches are located at the rear of the chassis and have unobstructed view of the movement of the outrigger beams and jacks

Motion alarm "ON" when outriggers are not in correct position

Control switches are automatically "OFF" when aerial is out of stowed position

Beam control switch is "OFF" when outrigger jack is sufficiently in contact with ground

Override switch, to be used only in event of control system failure; aerial is required to be stowed for this switch to be activated.

Emergency Stop pushbutton

Control panels are to be easily removable for maintenance

Boom angle sensors measure the angle of the booms thru the entire range of motion and are shown on the Operator's displays in both control stations

Rotary encoder measures 360° of turret rotation with a turret center switch

LED indicator in both control stations will flash when the turret is approaching the stowing position.

The LED will be "ON" in both control stations when the turret is in the stowing zone.

Digital inputs: three (3) limit switches; eight (8) proximity switches with LED power and signal indicators

All digital input signals are positive voltage to the control system which prevents the possibility of a grounded wire or damaged sensor being misinterpreted as a valid input signal

The data network is CAN protocol

Safety interlocks

Aerial control system is only "ON" when the Master switch is in the "ON" position and the chassis parking brake is engaged

The PTO will automatically engage only after the Master switch is "ON" and the transmission is in neutral.

Conversely the PTO will automatically disengage when the transmission is out of neutral

Outrigger motion alarm will sound until outriggers are positioned in any of the three configurations; not short jacked; short jacked right side or short jacked left side.

The display in both control stations will inform the operator as to which outrigger configuration is being interpreted.

The aerial controls are nonoperational until the outriggers are properly positioned

The outrigger controls are automatically nonoperational when the aerial is out of the stowed position

In the event of a "light" outrigger warning the control system will warn the operator by sounding the alarms, show the warning on all displays and stop the jib load line in the up or lift direction. The down or lower direction is still available to release the load. No other

boom control function will be prevented or interrupted.

During the stowing of the upper and lower boom the movement speed will automatically reduce and shut off after the boom is in the stowed position.

The Operator displays will automatically inform the operator if a movement requested is not allowed and provide guidance as to which movement or aerial position is required before the originally requested movement is permitted.

Operational Envelope

The upper boom raise movement automatically decreases in speed as it reaches the maximum position

The upper boom lower movement automatically increases in speed as it leaves the maximum position

The lower boom movement is automatically in low speed when above 75°

All proportional movements include a ramp up feature which provides the operator a smooth start to the boom movement and consistent acceleration to maximum speed.

Hi/Low speed is dynamic and can be used during a aerial movement, does not change the chassis RPM

Maintenance Personnel Support

The onboard Control System diagnostics feature utilizes the LCD displays and provides information as to the status of the following:

- Can Bus communication between components

- Digital inputs and outputs

- Proportional inputs and outputs

- Rotary encoder angle

- Chassis input and platform battery voltages

EMERGENCY RECOVERY SYSTEMS:

The Lower Control Station has an emergency override switch which is to be used in the event of an emergency or communication interruption with the platform.

The momentary switch is guarded to prevent accidental actuation.

When activated the all alarms will sound in the turret and control station/s.

The display/s will show the emergency override system is activated.

All envelope control limits and communication protocols are bypassed.

Lower Control station joysticks are given priority control and to be automatically in slow or low speed to allow the safe recovery of the aerial.

A manually operated pump mounted below rotation in close proximity to the lower control station provides a hydraulic pilot pressure signal to open the holding valve/s and selectively allow the upper boom to lower or the lower boom to retract. The motion will stop upon the release of hydraulic pressure.

Emergency turret rotation is provided by a shaft extension on the motor/s. The holding valves have a means to circulate the oil to reduce the torque required to manually rotate the motor/s.

The hydraulic control valve mounted on the turret is to only be used as an emergency recovery station.

A remote switch to electrically energize the safety solenoid is provided in close proximity to the hydraulic control valve; an alarm will sound when this safety override is activated.

All work sections have manual control handles.

TRAINING AND DOCUMENTATION:

Aerial operator and maintenance training at customer's facility consists of one (1) day for operators and two (2) days for maintenance personnel.

Two (2) hard copies of the Operators and Maintenance manuals in English.

DOT:

LED back up, turn and marker lights.

Mud flaps, anti-sail type mounted behind the rear tires.

Triangle reflector and flare kit, fire extinguisher.

DOT inspection.

OPTIONS (INCLUDED):

Tail shelf with ground to platform access and spring loaded bucket support.

Bucket/Platform Tool Circuit; Dual outlet at platform, open center, nominal settings of 6 GPM [22.7 L/M] at 2,000 PSI [138 bar] flow and pressure settings are adjustable, with flat face quick disconnects and dust covers. Aerial is operational when Tool Circuit is in the "ON" position.

Material handling jib with an unrestricted working capacity of 1,500 LBS [680 kg]. Hydraulic jib articulation of 80 degrees and 24" [0.61 m] of telescopic fiberglass. Rotation manual, 5 positions relative to the platform. Proportional speed control for load line. Load line is ½" [0.01 m] x 120' [36.6 m] with a maximum working load of 2,080 [943 kg].

Two (2) strobe lights with brush guards mounted on boom rest.

Emergency Power 12VDC pump with activation switches in both control stations. The EP DC motor is protected with in rush current control board and fuse.

Auto latches lower boom IPOS.

Rear view camera.

Rear recover hooks.

Hydraulic intensifier:

Double acting cylinder with control valve, providing quick cycle times.

10K PSI [690 bar] at output port.

Displacement 36 in³ [590 cm³].

Aerial is operational with intensifier "ON".

Reduces combined and platform capacity by 125 LBS.

ANSI CATEGORY A components:

Current Leakage system:

VON Meter BCM 448

The current leakage monitor is located in close proximity to the lower control station and mounted in a weatherproof enclosure.

Current Monitoring Circuit, consist of individual pick up points NOT tied to a common point.

This feature provides isolation of individual components to identify potential leakage path utilizing the current leakage monitor.

ANSI CATEGORY A-500 kV dielectric lab certification.

TRANSMISSION BOND ON TEST.

Vacuum prevention vent test kit.

Chassis grounding studs (3).

Liner, aluminum for 60"X40"X42" [1.54X1.02X1.07 m].

FLATBED/BODY:

230" Long x 96" wide flatbed with .188 Aluminum Tread-Brite floor with 3" Aluminum cross members on 16 inch centers installed over long sills. 6" structural channel (8.2 Lbs./ft.) perimeter channel on each side.

Stake pockets installed on 24" centers with 1/4" x 2" Rub Rail on each side.

Four (4) D - Ring tie downs mounted in floor of bed area.

CHASSIS:

Manufacturer: International

Model: HV507, 2020

Drive configuration: 6 X 6

Engine: Cummins L9 370HP with Jacobs compression brake, control switch in cab.

Transmission: Allison 3000 RDS

Transfer case: Meritor MTC-4213

Front drive axle: Fabco FSD 20A

Rear tandem axles: Meritor MT-40

Rear suspension: Hendrickson HMX-400-54

Front tires: Michelin XZY-3 425/65/R22.5 with aluminum wheels

Rear tires: Michelin GX Multi D 11R22.5 with aluminum wheels

Alternator: 160 Amp

Fuel capacity: 70 gallon [265L]

DEF capacity: 9.5 gallon [36L]

Driver's seat: air ride

Mirrors: heated and power adjust

Windows and door locks: powered