

USER MANUAL

ORIGINAL MANUFACTURE'S INSTRUCTIONS

EQUIPMENT NAME: CARTMOB UNIVERSAL

EQUIPMENT DESIGNATION: Universal Helicopter Towbar

APPROVED FOR USE ON AIRCRAFTS:

AIRBUS H120, AIRBUS H125, AIRBUS H130, AIRBUS H135, AIRBUS H145, ROBINSON R44, ROBINSON R66, LEONARDO AW09, LEONARDO AW119, MD500, MD600, MD900, MD920, BELL 206JR, BELL 206LR, BELL 505, BELL 407

APPLICABLE TO EQUIPMENT PART NUMBERS:

AM-CRT-K01

AM-CRT-K02

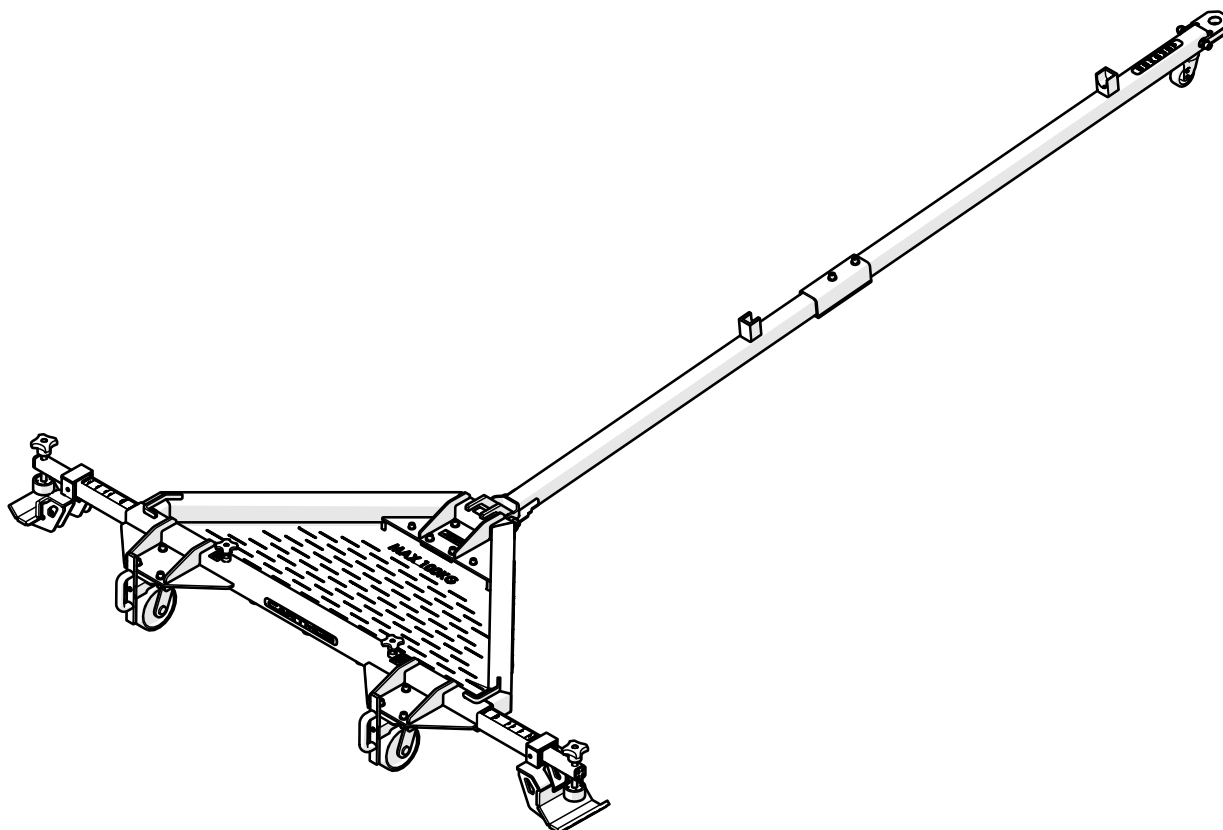
AM-CRT-K03

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INTRODUCTION

The equipment you are receiving was developed under the most advanced engineering concept. Congratulations on your operational choice!

This manual contains instructions and approved operating procedures for using CARTMOB UNIVERSAL, the universal tow bar for fixed ski helicopters.

This User Manual is a mandatory read by anyone wishing to operate the equipment, assuring quality and safety in the operation.

In addition to this User Manual, your equipment is accompanied by the following documents: Flight Manual Supplement (FMS), Maintenance Manual (MM), Illustrated Parts Catalog (IPC), and Assembly Manual. For more information on these documents, refer to chapter 8.

To access the most up to date versions of this manual, scan the QR-Code that follows:



www.aeromob-industry.com/support-am-crt

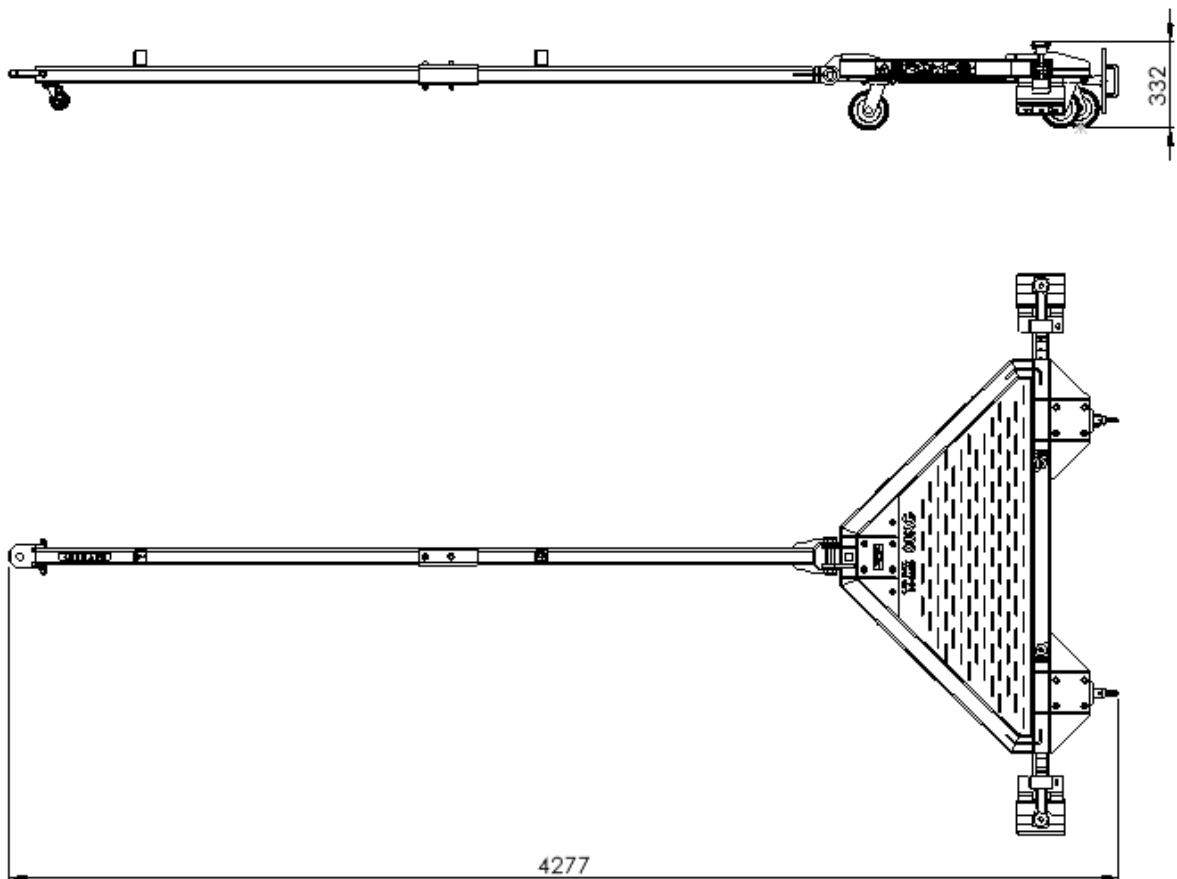
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1 GENERAL INFORMATION

TECHNICAL DETAILS

- Equipment designation : Universal Helicopter Towbar
- Main material : Carbon Steel
- Weight : 139 kg – 306.4 lbs
- Maximum towing speed : 10 km/h – 6.2 mph
- Minimum tow hitch clearance : 30 cm – 12"
- Maximum tow hitch clearance : 60 cm – 23"
- Maximum towing capacity : 4 000 kg – 8 800 lb
- Maximum ground slope : 5% – 2.86°
- Towing eye pin diameter : 1"



CARTMOB UNIVERSAL DIMENSIONS
Figure 1

APPROVED USE

The Cartmob Universal is a universal tow bar for helicopter towing. The intended towing operations are as follows:

- From the hangar to the take-off point.
- From the take-off point to the hangar.

You can connect the Cartmob Universal towing eye to a trailer for easy towing operations. You can adjust the length of the Telescopic Arms to tow multiple aircraft models. You can also use the Cartmob Universal steel frame as a support for ground handling wheels during taxing.

Use of the Cartmob Universal for any other function is prohibited.

The Cartmob Universal is approved by the manufacturer for towing operations of the aircraft that follow:

- Airbus H120
- Airbus H125
- Airbus H130
- Airbus H135
- Airbus H145
- Robinson R44
- Robinson R66
- Leonardo AW09
- Leonardo AW119
- BELL 206JR
- BELL 206LR
- MD500
- MD600
- MD900
- MD920
- BELL 505
- BELL 407.

The Cartmob Universal is designed to tow any fixed skid helicopter model. However, to ensure operational safety and efficiency, contact the manufacturer before towing any aircraft that is not listed above.

2 LIMITATIONS

GENERAL LIMITATIONS

The maximum towing capacity of the equipment is 4 000 kg – 8 800 lb.

The vehicle's hitch must be between 30 cm (12 in) and 60 cm (23 in) off the ground.

CARTMOB has a standard coupling hole that accepts the tractor's locking pin with a diameter of 1". If you need a different size hitch hole, please contact our team.

The frame basket is not to be stood upon. It is intended to carry and support GSE and other equipment during operation.

Though the CARTMOB features a stopping device against slidding, the equipment should not be left or stored over a slopped surface.

TOWING SPEED

The maximum towing speed (loaded or unloaded) is 10 km/h (6.2 mph).

OPERATION

Operate the equipment only on paved surfaces, firm grass, or firm soil. Do not operate on uneven ground. Severe vibration can damage the aircraft or injure nearby personnel.

This equipment is not intended to be used under snow, or submitted to snow load. The equipment is intended for use on airport ramps and covered maintenance hangars, and should not be stored exposed to the environment, or in such a place that snow may accumulate on top of it.

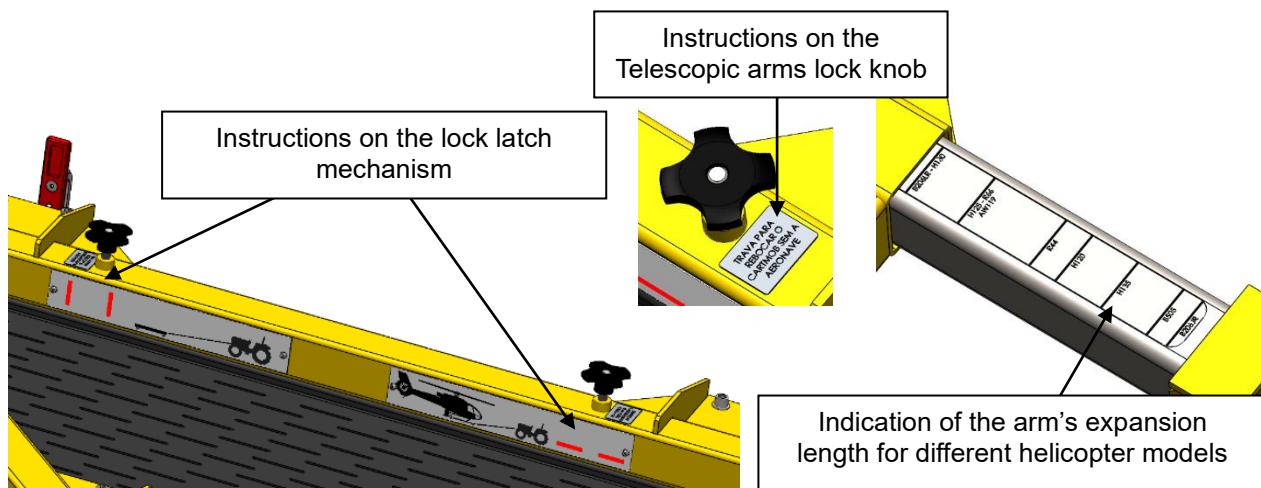
The maximum permitted slope is 5%.

Operate the equipment only when it is complete and serviceable. Do not use the equipment if any part or identification plate is missing. Use only components supplied by the manufacturer for this equipment, and do not install components that are not part of this equipment.

If you need a replacement part, contact AEROMOB.

3 **SAFETY MEASURES**

- ✓ Before use, ensure the CARTMOB is in good working condition.
- ✓ Read this Instruction Manual before operating the equipment.
- ✓ The tractor should always be facing the helicopter during ground handling operations. This ensures the driver has visibility of the rotor blades.
- ✓ Make sure the towing operation is always conducted under proper lighting, to ensure visibility of the equipment and the personnel.
- ✓ Make sure that tractor used with the CARTMOB for the towing operations complies with applicable safety and regulatory requirements.
- ✓ Check if the screws have shown sign of loosening. If any screw is found to have lost torque, contact AEROMOB immediately, as this could endanger the operation and the personnel.
- ✓ Do not tow the aircraft with people or luggage aboard. Do not open or unlock the aircraft doors while the CARTMOB is installed.
- ✓ Do not unlock the CARTMOB knobs or locks while it is connected to the aircraft.
- ✓ Do not allow this equipment to be operated or handled by children.
- ✓ Ensure the swivel locks are engaged before towing the unladen equipment. To move the equipment on a long, winding, or high-vibration path, lock the black knobs. This locks the telescopic arms movement during towing.
- ✓ Do not use the equipment if you are unsure of any operational procedure. Contact our support team and clear up any doubts before operating the equipment.
- ✓ Before operation, check that the instruction signs are present and in good condition. The signs are shown in the image that follows:



INFORMATION SIGNS
Figure 2

4 OPERATION

The Cartmob Universal has latch and knob mechanisms. Each side of the equipment features the mechanisms that follow:

- Two red knobs to fasten the helicopter skid to the claw arm.
- Two red latches to lock the castors.
- Two black knobs to lock the telescopic arms. The use of these knobs is optional, recommended only when moving the unladen Cartmob Universal across long distances or irregular paths. This helps reduce excessive vibrations.

The Cartmob Universal Towbar has brackets to accommodate the lever of Aeromob's Helimob family of ground handling wheels. After lifting the aircraft with the Helimob, the lever can be housed in the brackets during movement. This makes levering and unlevering the Helimob even more practical and efficient.

WARNING:

REMOVE ALL GROUND HANDLING EQUIPMENT BEFORE FLIGHT.

WARNING:

DO NOT STAND ON THE CARTMOB UNIVERSAL'S FRAME BASKET.

CAUTION:

DO NOT TOW THE HELICOPTER IF THE GROSS WEIGHT IS MORE THAN 8800 POUNDS (4000 KG).

INSTALLATION

NOTE:

Additional steps may be required before aircraft ground handling. Refer to the aircraft maintenance manual before operation.

1. Attach the Cartmob Universal to the tractor.
2. Install the ground handling wheels on the helicopter skid tubes.

NOTE:

The AEROMOB Ground Handling Wheels are recommended for ground operations, as they help maintain a forward CG to avoid aircraft tipback.

3. Put a person at the tail skid to keep the helicopter in a level position when you lift the helicopter.



CARTMOB UNIVERSAL INSTALLATION
Figure 3

CAUTION:

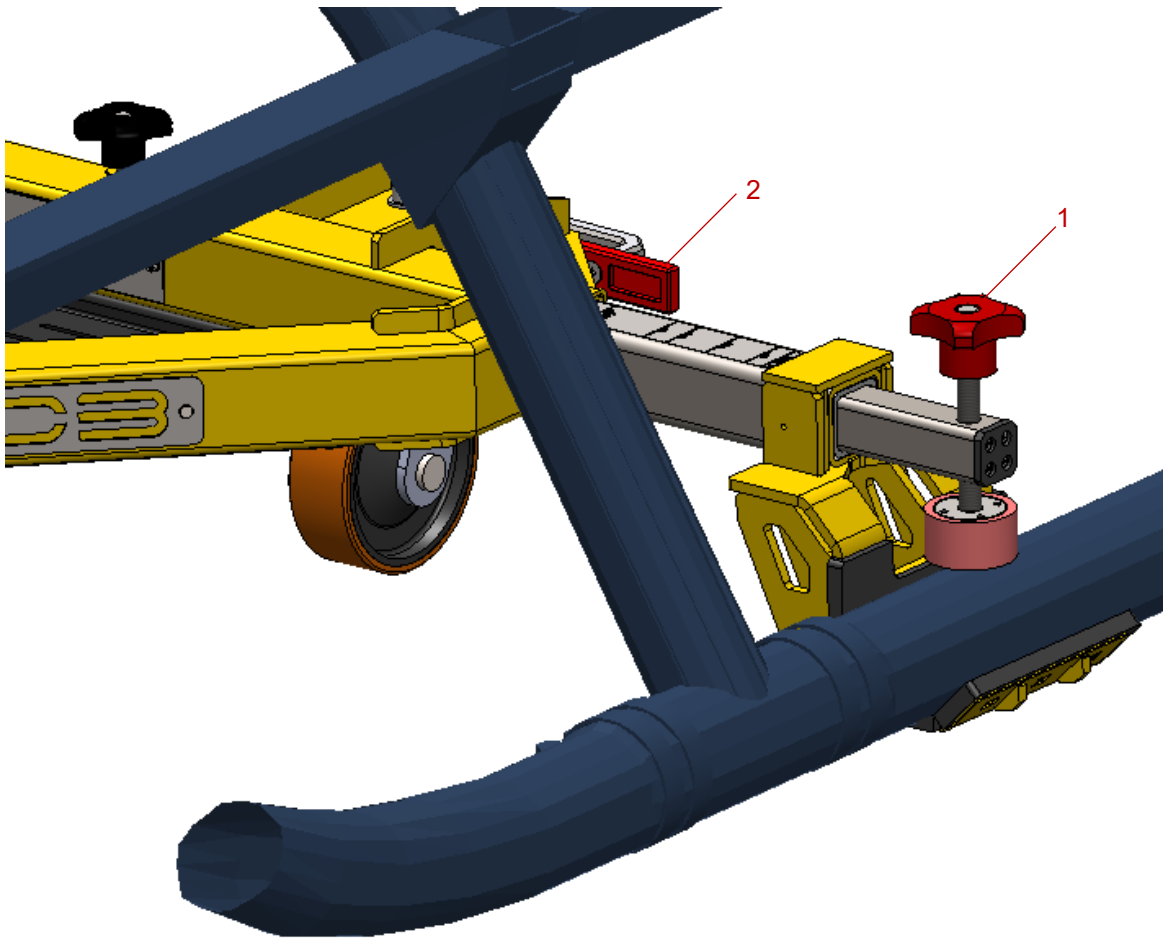
DO NOT PUSH ON THE TAIL ROTOR TO MOVE OR LEVEL THE HELICOPTER. THIS CAN CAUSE DAMAGE TO THE TAIL ROTOR.

4. Extend the ground handling wheels to lift the helicopter off the ground.
5. Align the Cartmob Universal claw arms with the first straight and clear section of the skid.
6. With the skid suspended, extend the telescopic arm until the claw is under the skid.
7. Repeat the procedure on the other side.
8. Twist the red knobs [1] to firmly attach the claw arms to the skid.

NOTE:

The operator on the tail skid can push up on the tail skid to press the helicopter skid against the claw arm. This configuration allows the red knob to be fastened more effectively.

9. Twist the red latches [2] to the horizontal position to lock the castors.



LOCKING MECHANISMS
Figure 4

TOWING

1. Make sure that the departure area is clear of auxiliary support equipment.
2. If you are using wheels from the Helimob family of ground drive wheels, attach the lever to the towbar brackets.
3. Slowly tow or push the aircraft to the specified area.

CAUTION:

IF THE HANDLING WHEELS INSTALLED ON THE SKID ARE NOT AEROMOB OR DO NOT FAVOR FRONT CG, PUT A PERSON AT TAIL SKID TO ENSURE SAFETY IN CASE OF TIPBACK.

REMOVAL

1. Twist the red latches [2] to the vertical position to free the castors.
2. Twist the red knobs [1] to free the claw arms from the skid.

NOTE:

The operator on the rail skid can push down on the tail skid to lift the helicopter skid from the claw arm. This configuration allows the red knob to be loosened more easily.

3. Retract the Cartmob Universal telescopic arms.

WARNING:

KEEP YOUR FEET CLEAR OF THE LANDING-GEAR SKID TUBES WHEN YOU LOWER THE HELICOPTER. FAILURE TO DO SO MAY RESULT IN INJURY TO PERSONNEL.

4. Slowly retract the ground handling wheels to lower the helicopter.
5. Remove the ground handling wheels from the skid tubes.

5 STORAGE

Between operations, keep the Cartmob Universal under the aircraft with the telescopic arms retracted. Protect the equipment from weather and sun. Store it in a hangar when possible.

Do not store the Cartmob Universal over a slopped surface. The Cartmob Universal features a stopping device on the towbar. Make sure it touches the ground when detached from the tractor. This device prevents the equipment from sliding when detached from the tractor.

Make sure the equipment does not obstruct the movement of people or aircraft.

6 ASSEMBLY

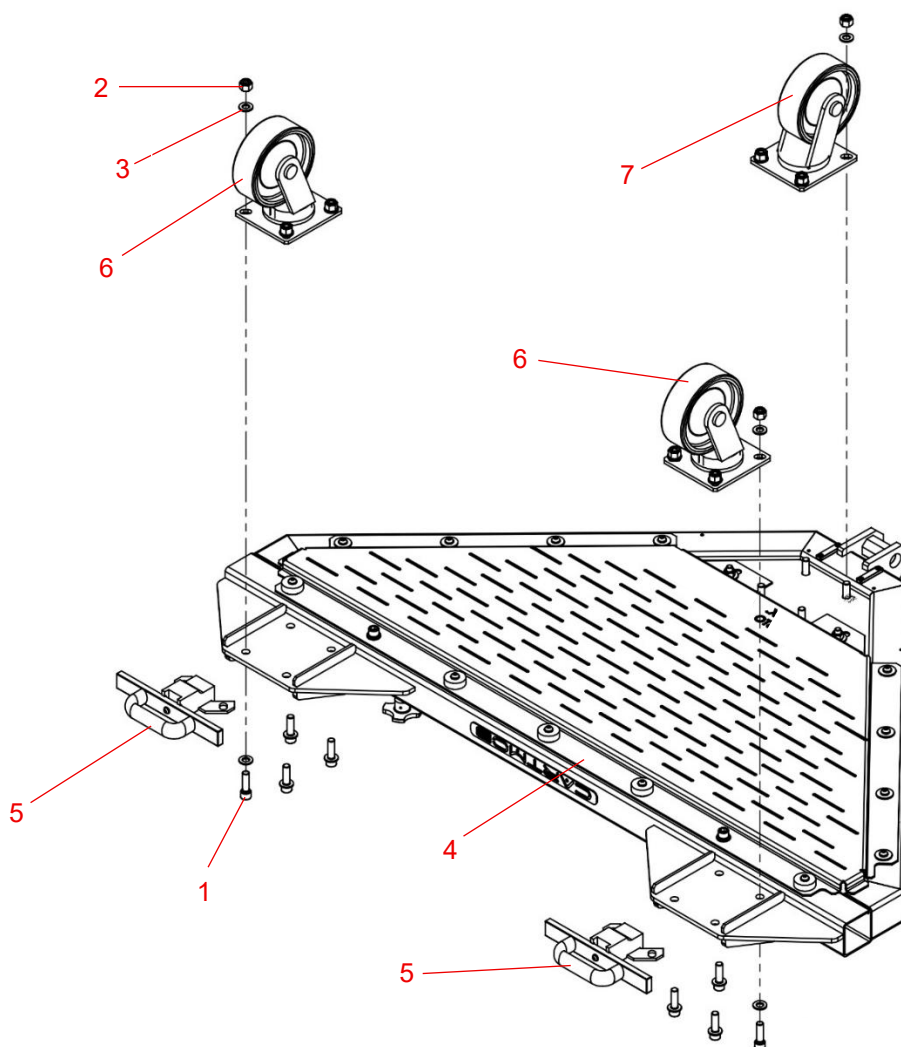
To ensure the safe transportation of the equipment, it is packed in boxes and sent disassembled. To assemble the equipment, use the ASSEMBLY MANUAL (AMS) or follow the instructions that follow.

NOTE:

Tread lock glue must be applied to all screws during all assembly procedures. Otherwise, the screws may loosen during repeated towing operation.

CASTORS AND LOCKS

1. Put the Cartmob Universal frame structure against a suitable surface, bottom face up.
2. Tighten the screws [1] with the nuts [2] and washers [3] to assemble the front castor [7] to the frame structure [4].
3. Insert the screws [1] with the nuts [2] and washers [3] to assemble the aft castors [6] and the locking latch assembly [5] to the frame structure [4]. Do not tighten the screws yet.



CASTER WHEELS AND LOCK ASSEMBLY

Figure 5

4. Before tightening the screws [1], make sure the lock pin is aligned with the Castor slot. The clearance between the red latch and the bearing should be about 1 mm. This ensures the Castor locking mechanism works correctly.

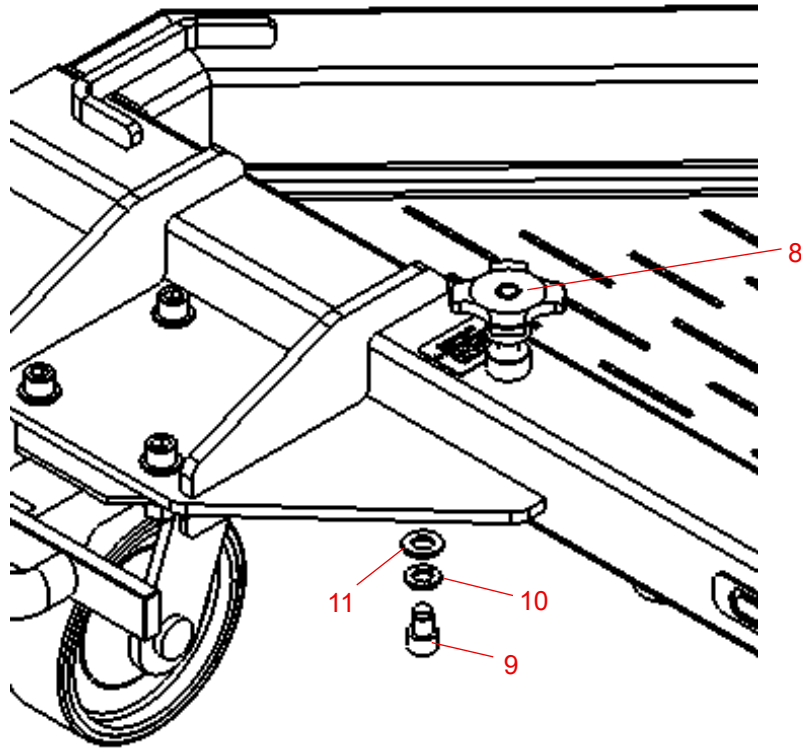


SWIVEL CASTER WHEEL LOCK MECHANISM
Figure 6

5. Tighten the screws [1].

TELESCOPIC ARMS

1. Twist the red latches to the horizontal position, to avoid collision if the Cartmob Universal is put against a flat surface.
2. Put the Cartmob Universal Frame Structure against a suitable surface, bottom face down.
3. Install the telescopic arm on the frame structure slot, with the white reflexive tape forward, and red reflexive tape facing backwards.
4. Tighten the screws [9] with the washers [10], [11] to lock the telescopic arm on the extension slot.
5. Twist the black knob [8] to lock the telescopic arm when towing the Cartmob Universal across longer distances, to avoid excessive vibrations.
6. Repeat this procedure on the other side.



TELESCOPIC ARM ASSEMBLY
Figure 7

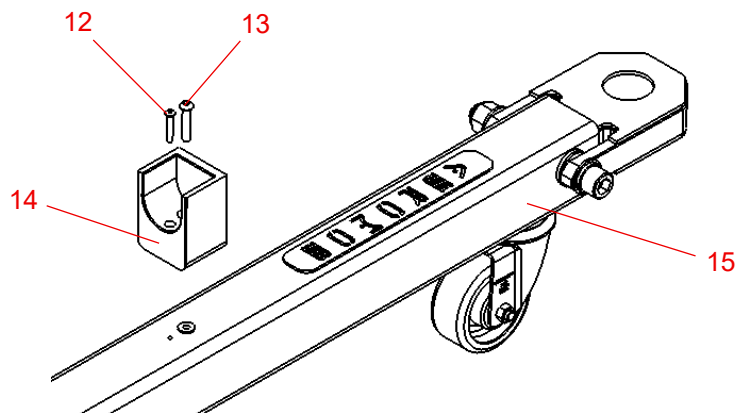
TOWBAR

1. Position the Cartmob Universal against the ground.

NOTE:

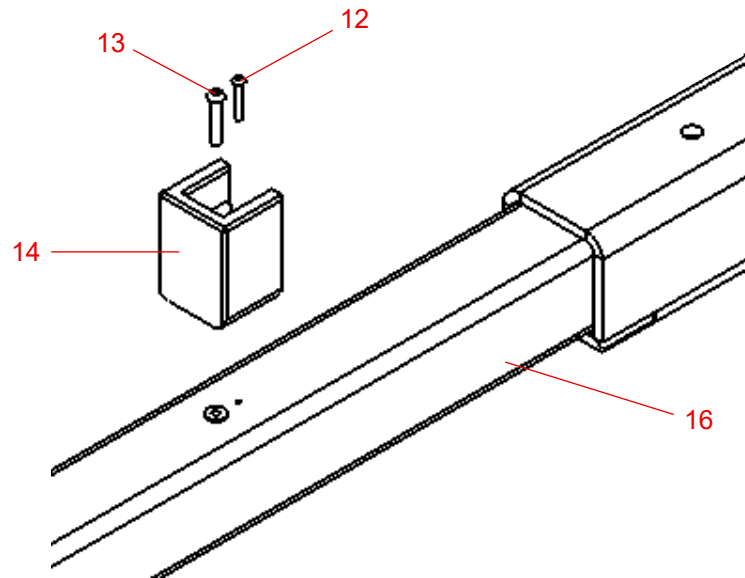
The brackets are an optional accessory, and are not included in the standard version of the Cartmob Universal.

2. Tighten the screws [12], [13] to connect the bracket [14] to the secondary bar [15].



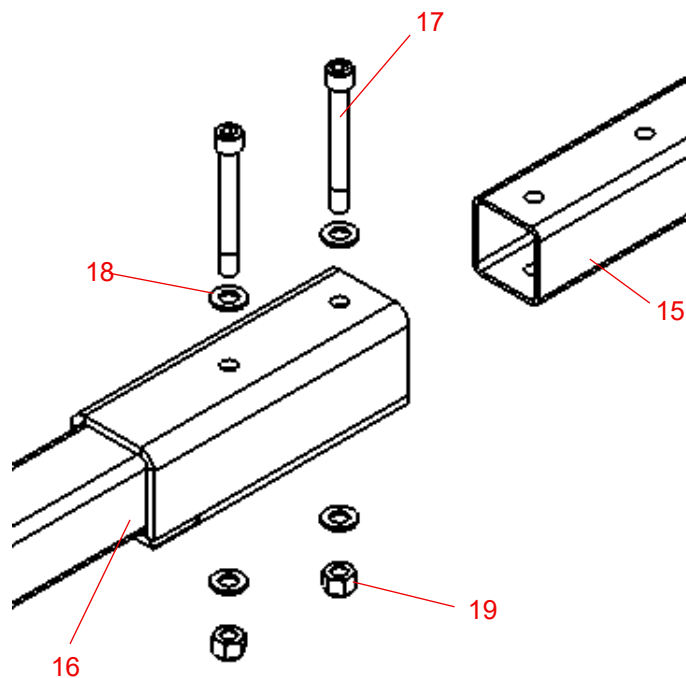
BRACKET ASSEMBLY (2)
Figure 8

3. Tighten the screws [12], [13] to connect the bracket [14] to the primary bar [16].



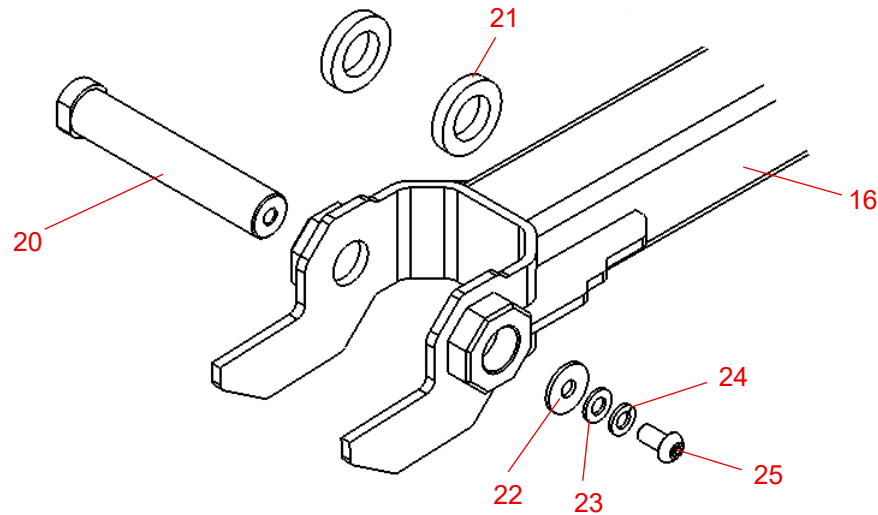
BRACKET ASSEMBLY (1)
Figure 9

4. Apply grease to the end of the secondary bar [15]. Install it into the socket on the primary bar [16].
5. Tighten the screws [17] with the washers [18] and the nuts [19] to connect the secondary bar [15] to the primary bar [16].



TOWBAR ASSEMBLY
Figure 10

6. Make sure the towbar is aligned with the ground. If it is angled, the connection will not be correct.
7. Apply grease on the pin [20].
8. Insert the pin [20] to connect the towbar bearing to the frame structure bearing. Push the pin [20] using your hand. Do not apply excessive force or use percussion tools to insert the pin. Slowly twist and move the towbar to until the pin is fully inserted with your hand.
9. Tighten the screw [25] with the spacers [21] and the washers [22], [23], [24] to connect the primary bar to the frame structure.



TOWBAR CONNECTION TO THE FRAME STRUCTURE
Figure 11

7 EQUIPMENT DOCUMENTATION

FLIGHT MANUAL SUPPLEMENT (FMS)

The equipment Flight Manual Supplement (FMS) sent printed with the equipment and is available for digital consultation. It is advised that this equipment FMS be inserted into the flight manual (POH), in the SUPPLEMENTS section, for quick access of basic information relating to this equipment.

To access the updated version of the Flight Manual Supplement (FMS), go to: www.aeromob-industry.com/support-am-crt or scan the QR CODE available in this Manual.

USER MANUAL

This document is the User Manual. It is mandatory to read this manual before operating the Cartmob Universal.

To access the updated version of the User Manual, go to: www.aeromob-industry.com/support-am-crt or scan the QR CODE available in this Manual.

ASSEMBLY MANUAL

The Assembly Manual contains information on the assembly of the Cartmob Universal. The same instructions are also contained in this Manual.

To access the updated version of the Assembly Manual, go to: www.aeromob-industry.com/support-am-crt or scan the QR CODE available in this Manual.

MAINTENANCE PROCEDURES

The overhaul plan and any necessary maintenance procedures must be carried out in accordance with the Maintenance Manual.

To access the updated version of the Maintenance Manual, go to: www.aeromob-industry.com/support-am-crt or scan the QR CODE available in this Manual.

SPARE PARTS

The Illustrated Parts Catalog – IPC is the official reference document for ordering spare parts.

To access the updated version of the Illustrated Parts Catalog, go to: www.aeromob-industry.com/support-am-crt or scan the QR CODE available in this Manual.

8 WARRANTY

Limited Warranty

This AEROMOB Equipment is warranted to the original purchaser (only) for one full year from the date of invoice issuance to be free from factory defects in material and workmanship. During this 12-month period, AEROMOB will repair or replace, at our discretion, the defective component determined by AEROMOB to be defective. This warranty does not apply to damage or defects caused during shipping, or resulting from misuse, improper application, or attempted repair by non-authorized service staff. The buyer must retain the original shipping box for the entire warranty period. Equipment returned in packaging other than the original box will not be eligible for warranty coverage. Shipping and return shipping costs associated with warranty will be borne by the purchaser. Contact AEROMOB via the link: www.aeromob-industry.com/support-am-crt or by scanning the QR CODE available in this Manual.

Limitation of Liability

AEROMOB shall not be liable for indirect, consequential, or special damages, including but not limited to lost profits, production loss, or commercial damages, regardless of the legal basis of the claim. In no event shall AEROMOB's liability exceed the purchase price of the product subject to the claim. AEROMOB has no control over installation, application, modification, or use of this product and therefore assumes no liability for resulting injury or damage. By the first act of installation, setup, or use, the user accepts full responsibility. Failure to operate this product in a safe and responsible manner may result in injury or damage to the user, third parties, property, or the product. This product is not a toy and must not be used by children without adult supervision. Users must read the entire manual and warranty/liability terms before first use, application, or installation. If the purchaser or user does not agree to these terms, the product must be returned unused to the original place of purchase.

Return Policy

Products may be returned within 7 days of delivery for a full refund, provided they are unused, in new condition, and include all original packaging and accessories. Shipping costs related to delivery or return are non-refundable. A return authorization must be obtained from AEROMOB before any product is returned.

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