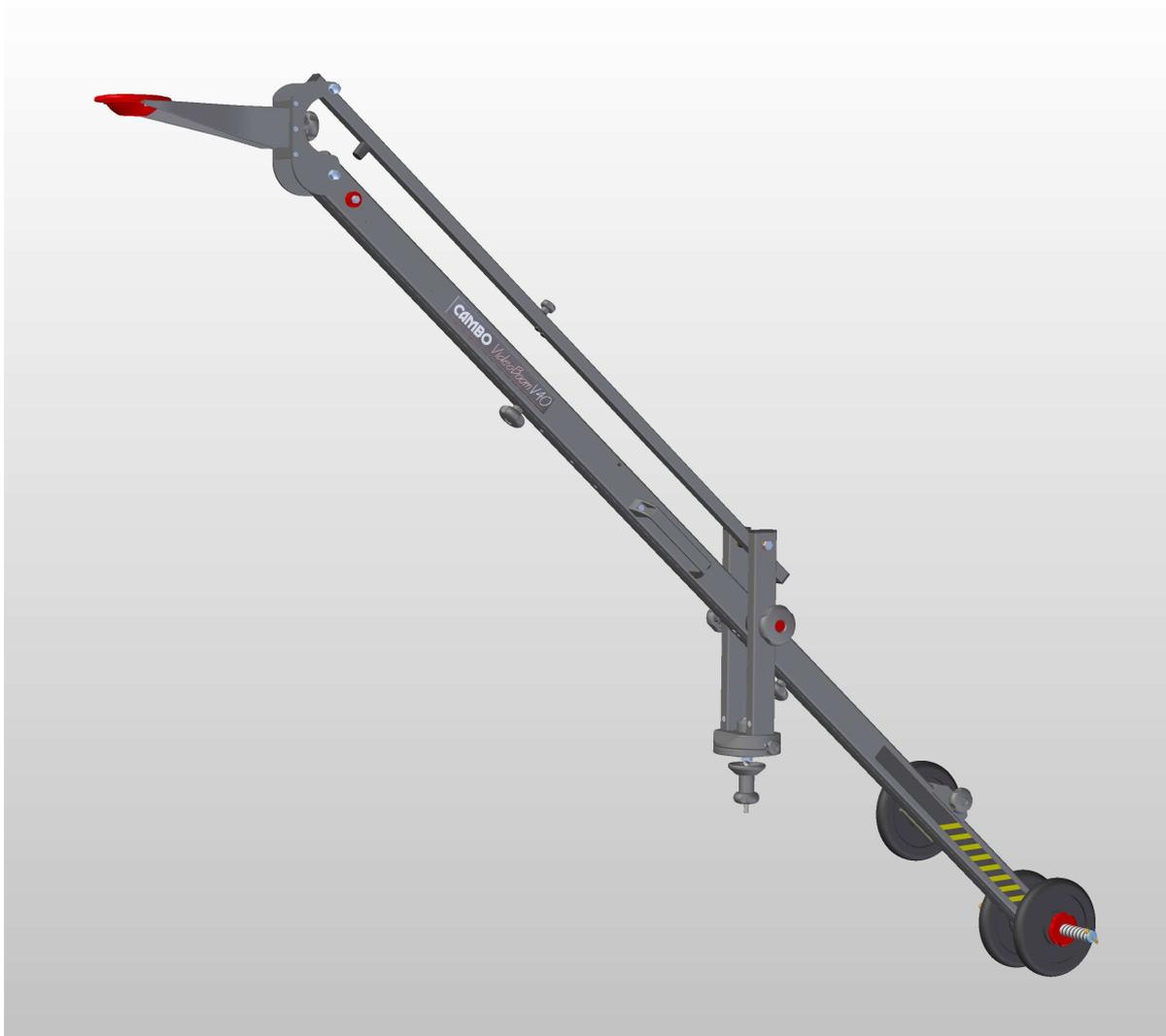


MAIN OPERATING INSTRUCTIONS

CAMBO V40 Videoboom



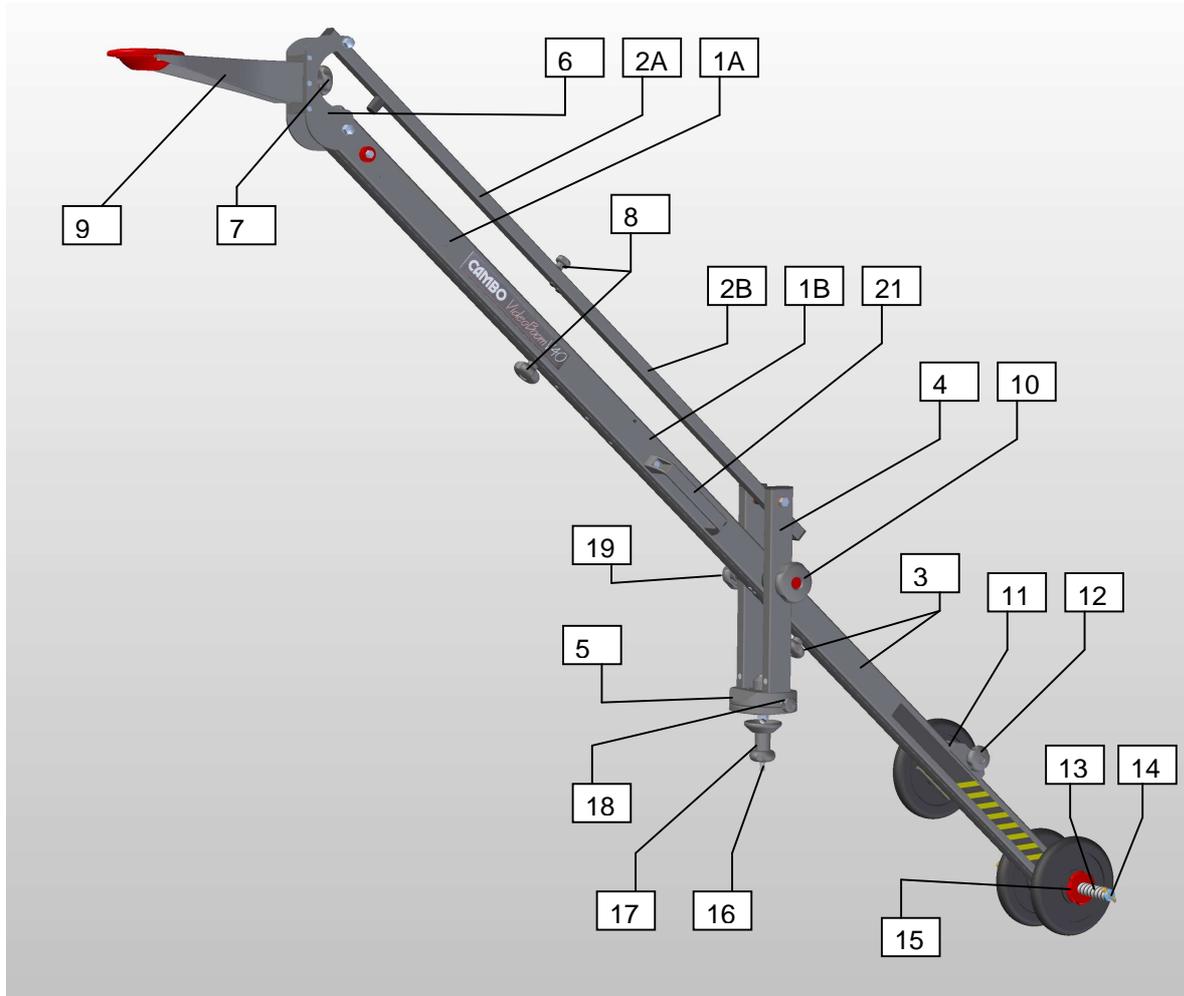
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1. INTRODUCTION

You have bought a Video Boom out of the new Cambo range. We expect that you will achieve very good results and performance using this equipment. These instructions give short information about the main functions of the new Cambo Video Boom V40. The instructions show also the use of accessories like extensions, extra weight systems and cable stabilisation.

2. LIST OF FUNCTIONS



- | | |
|-------------------------------------|--------------------------------------|
| 1A. Main Beam Front | 10. Locking Knob Boom Movement |
| 1B. Main Beam Centre | 11. Adjustable Weight System |
| 2A. Cross Beam Front | 12. Knob Adjustable Weight System |
| 2B. Cross Beam Rear | 13. Fixed Weight Axis |
| 3. Tail, mount block, locking knobs | 14. Safety Pen |
| 4. Mast | |
| 5. Rotation Platform | 15. Locking Nut Weights (also on 11) |
| 6. Header Arm | 16. Fastening Thread Video Boom |
| 7. Locking Knob | 17. Fastening Knob Video Boom |
| 8. Locking Knobs Main & Cross Beam | 18. Locking Knob Boom Rotation |
| 9. Bowl Arm | 19. Friction Control Knob |

3. INSTRUCTIONS

3.1 ASSEMBLY & SETTING UP V40

The video boom V40 is pre-assembled and supplied in a box. Take the front end of the boom (1A, 2A and 6) and slide the Beams over the Spline bars of the Main Beam Centre (1B) and the Cross Beam Rear (2B), locking them with the locking knobs (8).

Mount the boom tail (3) to the backside of the Main Beam (1B), sliding the mount block into the main beam and fastening it with the locking knob.

The boom should be mounted on a heavy-duty video tripod. Your distributor can supply you with the right type of tripod.

Set up the tripod and remove the 100-mm bowl. Check and adjust the leveling of the boom by using a circular spirit level.

Remove the Fastening Knob (17) from the mounting thread (16) of the video boom and be sure that locking knobs 10, 12 and 18 are tight. Place the video boom on top of the tripod with the thread (16) going through the bowl cup. The edge underneath the rotating platform (5) positions the boom on the 100-mm bowl cup. Take the fastening knob (17) and put it back on the mounting thread. Make sure that the rotation platform is positioned correctly and lock the knob by hand. Check the levelling of the boom using the level at the centre of the rotation platform.

The Bowl arm (9) is mounted on the video boom by using the Knob (7) with the thread outside the Header arm (6). Slide the bowl arm over the edge on the Header arm while turning the knob (7) clockwise, locking the bowl arm. The 100-mm bowl from the video tripod is placed on the bowl arm and secured by its own knob or handle.

3.2 WEIGHT SYSTEM

The boom is used with standard 'fitness' weights that are available in sport shops. The fixed double weight axis (14) takes most of the necessary weight. For fine adjustment some weight should be attached to the Adjustable Weight system (11). When even more counterweight is necessary, a second weight carrier is available (V47). This carrier should be mounted with the weights on the other side of the boom tail.

A set of 4x10kg (or 2x20kg), 4x 5kg and 2x 3kg will take almost all camera setups. Use the weight table (chapter 6) to check the maximum camera weight for a certain set up and estimate the counter weight you need.

Applying the weights:

Place the weight system (11) close to the mast (4). Be sure that the locking knobs 10, 12 and 18 are tight. Remove the safety pen (14) and the Locking Nut (15) from the weight axis (14) and first slide the heaviest weight that is necessary on the axis. Slide on all necessary weights and replace the locking Nut and the safety pen. The Nut ensures position, stability and silence of the weight system. Using two V47 weight carriers divide the load into two parts to get the most stable situation. The load on both the adjustable and the fixed double weight system should be dealt with the same way.

If you have purchased extensions for the V40 first see the instructions in chapter 7. The cable stabilisation is described in chapter 8.

3.3 MOUNTING THE VIDEO CAMERA

Be sure that the locking knobs 10, 12 and 18 are tight. For certain camera heads it is necessary to use a spacer ring (Cambo available) to make the connection possible. Please contact your distributor. After placing the camera, unlock the centre lock 10, bring the boom in horizontal position and shift the weight system, unlocking 12, till the boom is counter balanced. If necessary use more or less weight.

4. USING THE VIDEO BOOM V40

The boom has a low friction rotation platform, which enables you to make very fluid pan movements. The closer to the mast (4) you hold the boom, the smoother are the movements. The further away from the mast you hold the boom, the better you control speed and position. So depending on what you are shooting the boom is controllable in more than one way. The boom ergonomics are developed for a user to stand at the left side of the boom holding the left hand at the boom handle and the right hand near the weight systems, depending on what features are being used. The most used knobs are easily reachable from this position and the control over the boom is very good.

Vertical movements can start from an end-stop but using it as a movement stop is not recommended.

The boom has a progressive friction control (22) at the right side of the boom. This feature is used to get a personal adjustment for the friction of the vertical boom movement. The centre lock (10) is only used for fixing the boom, assembling it, and when weight and camera changes are applied.

Combined pan and vertical movements are easy to do because they do not affect each other. When only vertical or pan movement is required, use the locking knob 10 or 18 to eliminate the other movement.

The V40 is extendable by the 1meter extensions (V55). For more V40 accessories we refer to your dealer and the www.cambo.com site.

5. SPECIFICATIONS V40

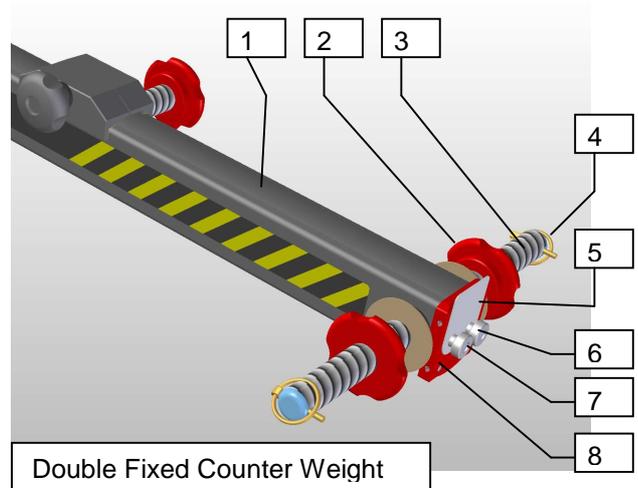
- **Boom dimensions:**
(assembled): 2510x545x345(weight axis)mm (lxhwx)
- **Weight:**
11,3kg (without counterweights)
- **Boom vertical range:**
Neutral Position: 37 cm above tripod

Extension:	0 cm	100 cm	150 cm	200 cm	250 cm	300 cm	350 cm	400 cm	500 cm
Total range: [cm]	212	386	473	559	646	732	819	905	1078
Up / Down [cm]	106	193	236	279	222	366	409	452	539

6. COUNTER BALANCING

6.1 WEIGHT SYSTEM PARTS & V40 Tail

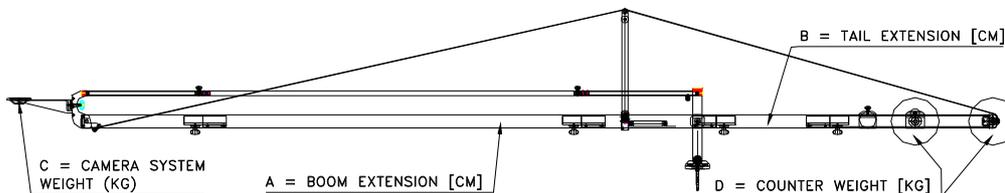
1. Tail Beam V40
2. Weight Nut
3. Weight Axis
4. Safety Pen
5. Cable protection flap
6. Cable Peg
7. Peg bolt
8. Tail End block



The double fixed weight system, now standard with the V40, works the same as the V47 a-symmetrical weight carrier. The weight nut fixes the weights, preventing them to get loose or make noise. The safety pen secures a loose weight nut situation. The weight loading should be divided over both sides of the weight system to get the most stable V40 situation. The Tail End Block (8) is now standard prepared for the cables of the stabilisation system with two Pegs (6) and a cable protection flap (5).

6.2 WEIGHT TABLE V40

The max. weight on the double fixed weight system depends on the type of weights that are used. The large 10 and 20 kg weights take relatively less space in order to get more weight on the system. The V47 takes 20 to 25 kg depending on the type of the weights.



A = Boom Extension [cm]	B = Tail Extension [cm]	C = Max. weight Camera system [kg]	D = Total Counter weight [kg]+ V47 [kg]	Total weight on Tripod [kg]	Remarks:
0	0	30	42	90	No VCS
60	0	30	46	95	No VCS
100	0	20	58	98	VCS100-0 or no VCS
200	60	21	53	99	VCS-200-60
300	60	14	56	98	VCS-300-60
400	60	11	64	105	VCS-400-60
500	60	7	68	108	VCS-500-60

These weight indications are based on tests and calculations. Not all-possible weight influences have been integrated in this scheme. The Weight indications give an idea what is possible with this specific set-up. The maximum camera weight is depending on what configuration is used. The maximum total weight on the V40 should not exceed the **100kg**.

7. EXTENSIONS V53-V57

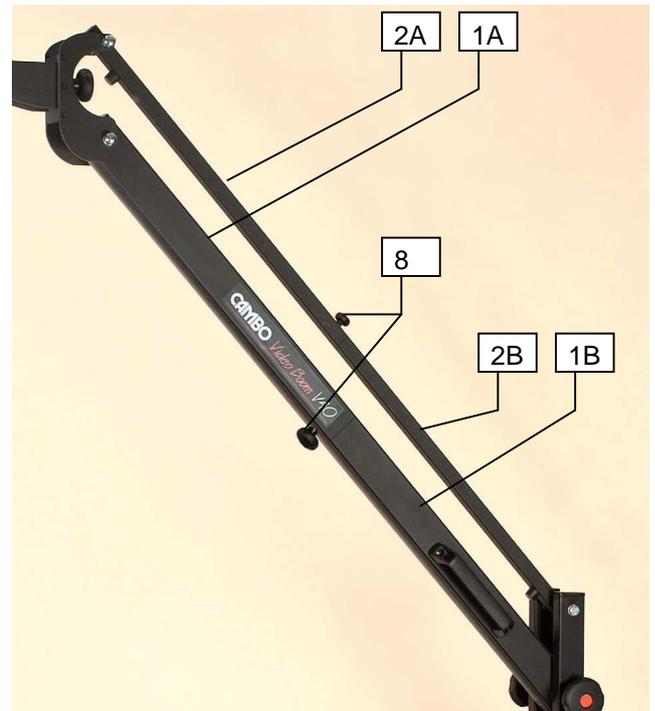
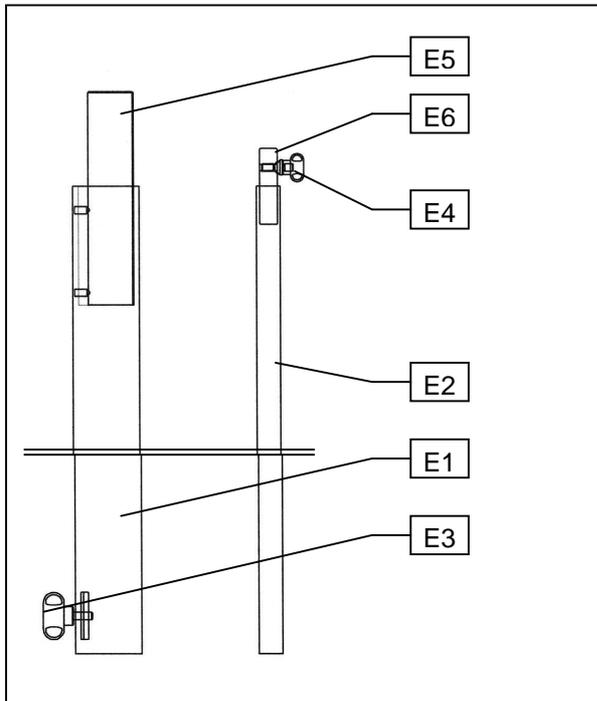
V40 Extensions	60cm	V54 (tail)
	100cm	V55
	200cm	V57

These are a high quality extensions for the V40 Video Boom. The ability to extend gives your V40 a wider vertical range or a longer tail section. These instructions give short information about the main functions and the way to assemble the V54-V57 Extension on the V40 Combo Video Boom.

V53-V57 EXTENSION PARTS & V40

- E1. Main Beam Extension
- E2 Cross Beam Extension
- E3 Main Beam Locking Knob
- E4 Cross Beam Locking Knob
- E5 Main Beam Spline Bar
- E6 Cross Beam Spline Bar

- 1A. Main Beam Front
- 1B. Main Beam Centre
- 2A. Cross Beam Front
- 2B. Cross Beam Rear
- 6. Header Arm
- 8. Locking Knobs Main & Cross Beam



ASSEMBLY & SETTING UP BOOM EXTENSION

The V54-V57 Extension is pre assembled and supplied in a box. Lay the V40 flat on the ground (protection against damaging is recommended). Unlock the two locking knobs (8) of the V40 Main and Cross Beam and take the front end from the boom (1A, 2A and 6). Slide Extensions (E1, E2) into the Main Beam Centre and Cross Beam Rear and fix them with the locking knobs (8, E3). Do the same with the front end of the boom and lock them (8,E4).

The Video Boom extension is installed. Mind that the counter weight that is necessary for the same camera will increase. The vertical range of the boom increases with 2x87cm per 100cm extension. The extensions are also mountable while the boom is on the tripod. When more than 2 meter



extension is used a VCSS-2 extension support should be used (see picture). The support is mounted according to the supplied instructions.

ASSEMBLY & SETTING UP TAIL EXTENSION

The V54 Extension is also useable as a Tail extension to reduce the necessary counter weight. The extension is mountable when the V40 boom is already on the tripod. The Top end of the V40 should rest on the ground or on a table. Remove the counter weights and unlock the knob that holds the tail. Remove the Tail and slide in the main beam extension. The (square) cross beam of the V40 extension is not used now. Lock the Tail extension using the knob and slide in and lock the Tail Beam the same way.

The Tail extension is installed. Mind that the counter weight that is necessary for the same camera will decrease.

SPECIFICATIONS EXTENSIONS:

Extension	Outside Dimensions (lxbxh) [mm]:	Vertical range V40 [mm]:	1)	Total Weight [kg]:
V54 600mm	700x(105+25)x50mm	2123 + 2x520 = 3163	2)	2,2
V55 1000mm	1100x(105+25)x50mm	2123 + 2x866 = 3855	2)	3,2
V57 2000mm	2100x(105+25)x50mm	2123 + 2x1732 = 3464	2)	5,6

1) Extension used as a boom extension, not as a tail extension.

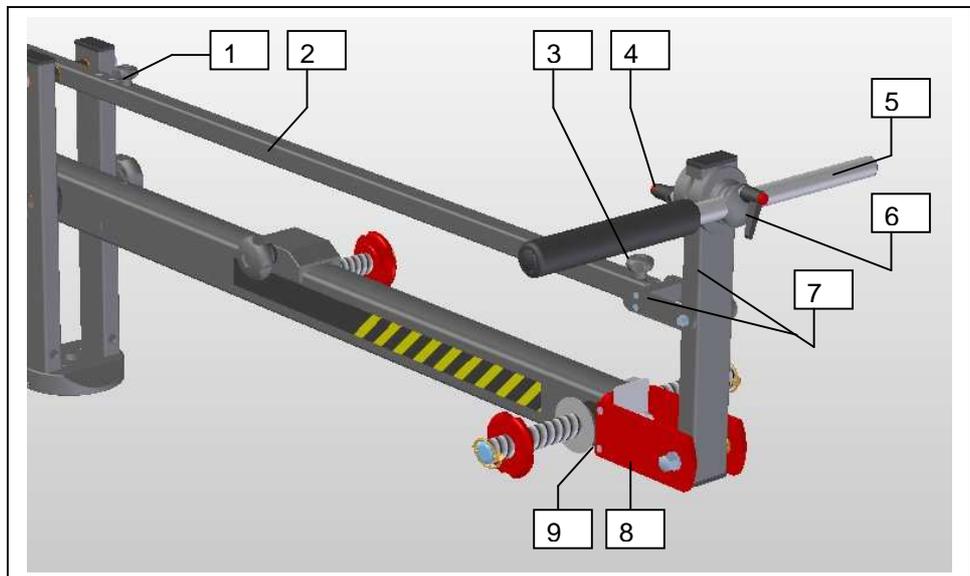
2) Vertical range of V40 is also depending on height of tripod, position of tripod (altitude).

8. V46 CONTROL FRAME DELUXE

MOUNTING THE V-46 CONTROL FRAME DELUXE.

V46 PARTS:

1. Locking Knob
2. Cross Beam
3. Locking Knob
4. Locking Handle vertical adjustment
5. Control Bar
6. Locking Handle horizontal adjustment
7. Column Control Frame
8. Side Plates
9. Bolts Side Plates



INSTRUCTIONS:

Take the Control Frame and mount the two Side Plates (8) to the Tail End Block of the V40 using the four supplied bolts and key. Attach one side of the Cross Beam (2) to the Column of the Control Frame (7) and the other side to the V40 cross beam with locking knobs 3 and 1. If using a 60 cm extension on the V40 Tail, use a 60 cm extension on the cross beam too. Slide the Control Bar into the Clamp that contains the Locking handles for the horizontal and vertical adjustments. The Control Frame is now ready for use.

The V-46 Control frame deluxe makes it possible to have a better control of the Videoboom including joystick units, zoom handles etc.

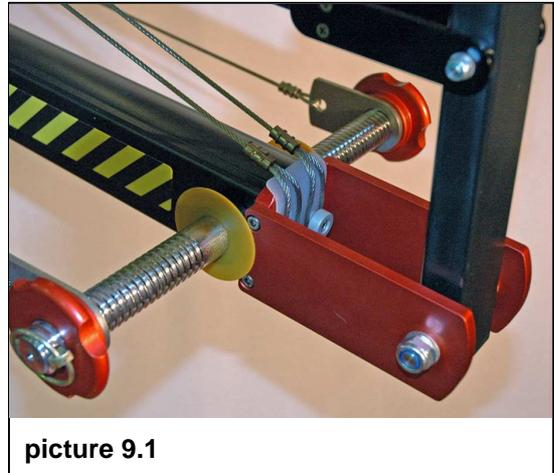
9. CABLE STABILISATION

EXAMPLE: V40 WITH 2M BOOM-EXTENSION AND 60CM TAIL-EXTENSION.

INSTRUCTIONS:

The double fixed counterweight system and the cable stabilisation make extending the V40 possible. The cable stabilisation system uses two top cables, two side cables, one or two masts and pre-mounted pegs on the standard V40. The attachment of the cable system is described from the backside of the V40 to the front end. The V40 should be assembled completely with extensions on a tripod without the weights on the counter weight system.

The instruction describe the mounting of one Mast. Depending on the length of the boom there are one or two Mast necessary for the Cable stabilisation. (see Scheme)



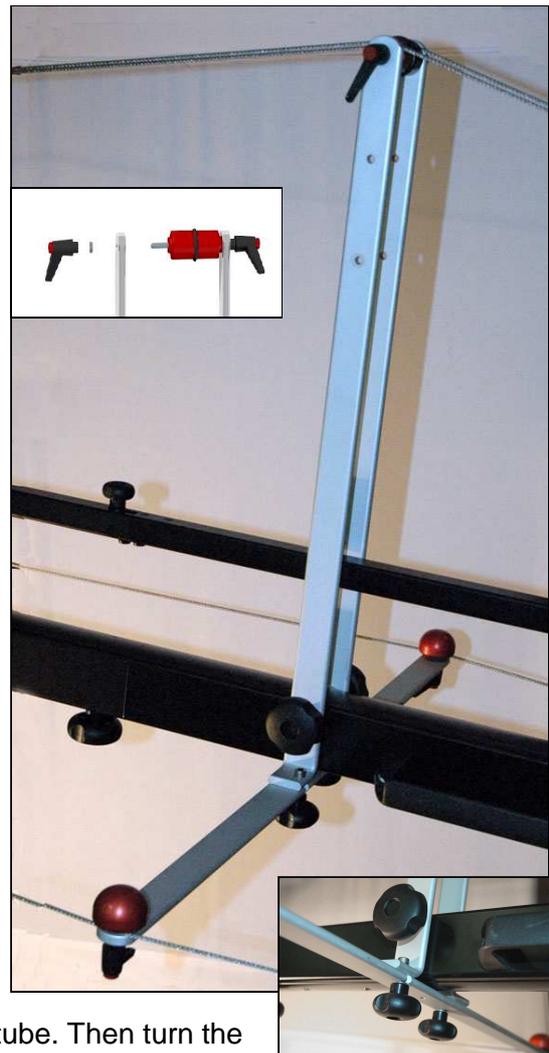
1. Unroll the cables laying them besides the Videoboom. Be sure the turnbuckles are in the outside position but still good in the thread. **DO NOT ATTACH THE CABLES YET!**

2. The Mast consists of two brackets, a cross arm and attachment knobs / handles. First mount the two brackets on the V40 using the large Knobs with and without shaft. The Mast has to be positioned just before the V40 handle (see beside



picture). Mount Mast brackets and the Knob with shaft and rings according to the drawing below (rings at left and right side the same) and lock the package with the remaining large Knob. Connect the top of the Mast Brackets together using a small handle with ring (see picture insert)

3. Put the Mast assembly straight up and take the cross arm. Place it (red Ball clamps up) with the screw head in the middle in the hole of the V40 Main Tube, keeping it under an angle with the Main tube. Then turn the cross arm in between the clamp knobs (see pictures) and fix both cross



arm knobs. This way the two brackets and the cross arm are a stable Mast with two side wings. The red anodised plug (on top) and balls have a clamping function for the cables. They have to be loosened a few turns to let the cables in when they are being positioned. The ball clamps on the side wings also have a visual (safety) function. The side wings and cables are not clearly visible standing aside of the boom.

4. Both the top and the side cables have to be attached to the Pegs at the Front section of the V40. First attach the top cables using the long cable-side, then the side cables.

5. The Top cables go over the red clamp-plug on top of the mast (picture page before). When using a second Mast check if the Plug is at the right height position (third hole, see scheme last page).



When the turnbuckle is as loose as possible the cable can be hooked around the two pegs at the back of the V40 Tail. (picture 9.1). Tighten the turnbuckles till both cables have the right tension. This tension is controllable lifting the V40 by pulling down the Boom Tail. Inspect the straightness of the Main Beam. If it bends over the cable should be tensioned till the boom is straight. Fix the cable with the handles at the mast top. Be sure the cable go through the groove in the Stud.

Now the weights and the camera with or without Pan Tilt Unit should be applied till the V40 is counter balanced. The main weight load should be on the Double fixed weight system. Be sure the total weight does not exceed the maximum weight load of the tripod. We recommend at least 5kg on the V47 sliding weight system to do the final correction.

6. The side cables have to be applied after the counter balancing because they are attached to the weight axis of the V40 tail (picture 9.1). Attach the side cables to the front section and lead them over the clamp balls of the mast side wings. The attachment plates at the end of the cable have to be placed against the counter weights on the V40 weight axis. Then replace the red weight nut and the safety clip to secure the cable and weight system (picture 9.1). Tighten the side cables to the right tension checking it by making left-right movements with the Videoboom.

7. The electronic cabling should be applied now. Do the last counter weight correction with the sliding weight and check the friction control and locking knobs of the V40 to get the right boom control.

The V40 with cable stabilisation is ready for use.

Attention: The extended system with camera system and counter weight mounted on the right tripod makes it possible to make very

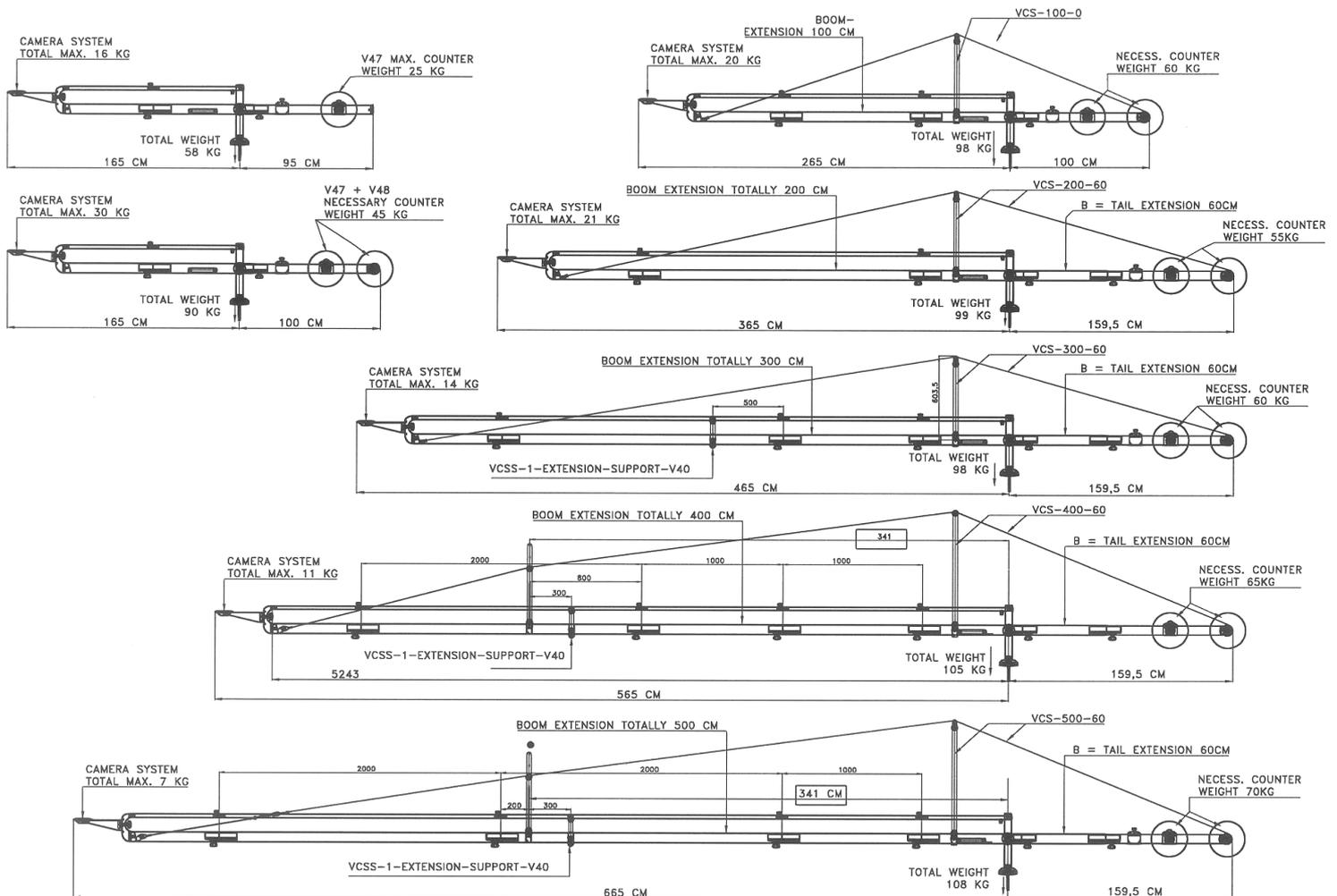


Cable Stabilisation and accessories on V40 overview

smooth movements but the user should be aware of the slowness of the system doing accelerations and stops.

For more information about extended V-40's, cable stabilisation and camera load see attached scheme.

V40 SYSTEM DRAWINGS



For more info on the V40 Video Boom System and accessories see www.cambo.com or ask your local Cambo dealer.

Cambo R&D

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This Manual is prepared by Cambo with care, although no responsibility, financial or otherwise, is accepted for any consequences arising out of the use of this manual or this material. All specifications in this manual are subject to change without notice.

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