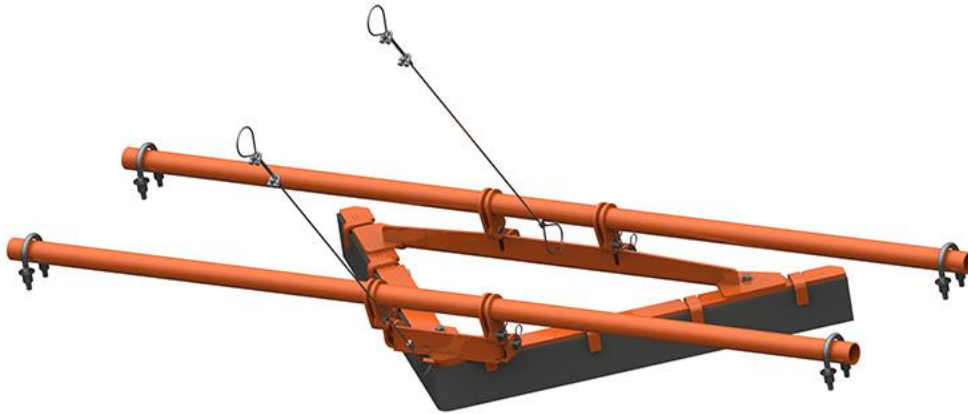




# VPlow Modular



## Operating Instructions Part 2

Version: 0  
Language: ENG  
M3939E UK 2022-05 VPlow Mod.

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# 1 General

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## NOTE

Before starting to work on the VPlow Modular or the conveyor, part 1 and 2 of these operating instructions must be read and understood completely!

## 1.1 About these operating instructions

These operating instructions apply solely for cleaners and are intended for those persons who install cleaners, commission them, and monitor their usage.

The operating instructions must be kept for the lifetime of the cleaners and must be made available in an orderly condition to all persons entrusted with work with and on the cleaners.

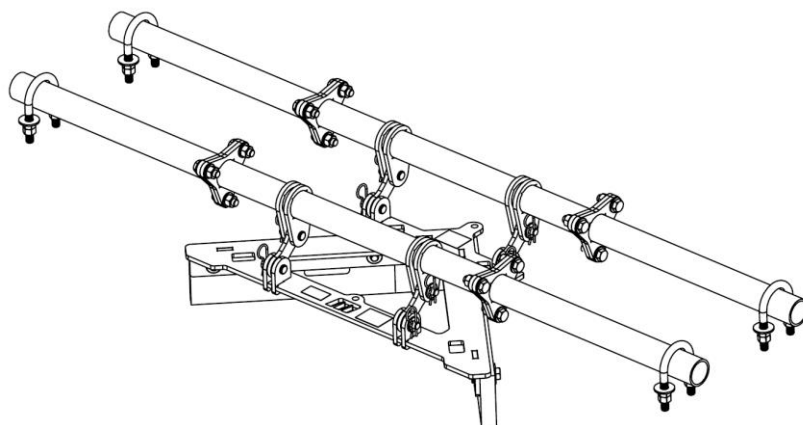
## 1.2 Accompanying Documents

Part 1 of the operating instructions, which is provided separately, is an integral part of these operating instructions.

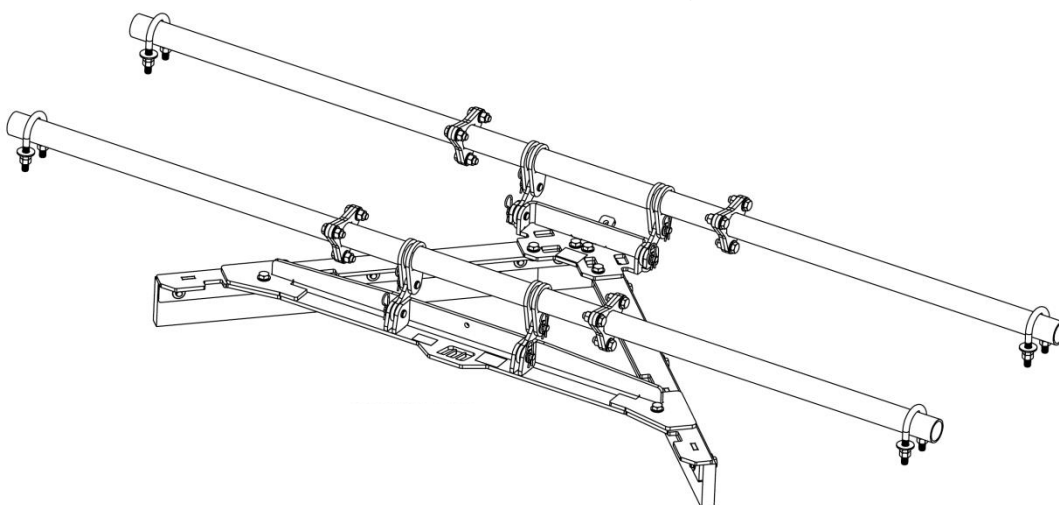
### 1.3 Product sizes and design

The VPlow Modular comes in slightly different designs depending on the belt width (BW)

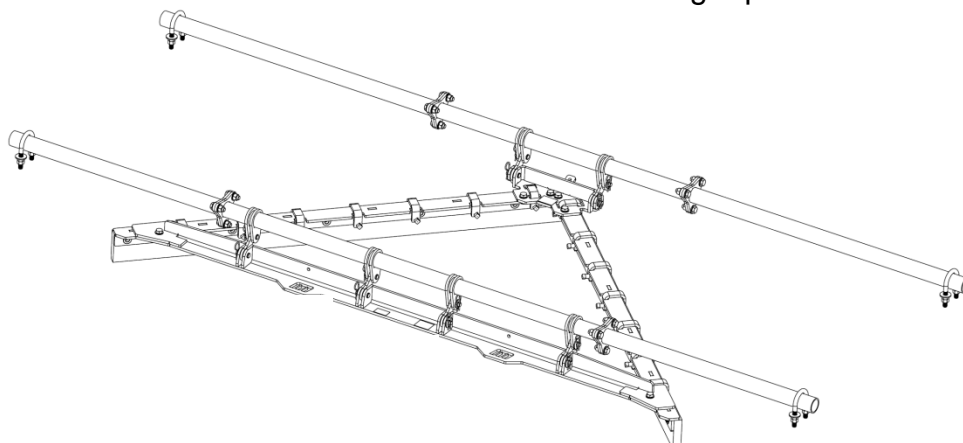
For **BW 18" ... 24"**: 1-Piece frame with four hanger pivot arms



For **BW 30" ... 72"**: 4-Piece frame with four hanger pivot arms



For **BW 78" ... 120"**: 4-Piece frame with six hanger pivot arms



## 1.4 Part number

**CPVHAS xx x xx C T U**  
 1            2 3 4 5 6 7

1. Part Number Prefix
2. The first XX indicates belt width.  
 XX = indicates inches (18–96 inches)  
 A8 = 108 inches  
 C0 = 120 inches
3. The next X indicates blade type:  
  
 O = Orange Urethane Blade  
  
 G = Green Urethane Blade
4. The next XX indicates front hanger arm:  
 01 = 2.56 inch  
 02 = 6.89 inch  
 03 = 7.87 inch  
 04 = 11.81 inch
5. The next X indicates hanger pipes:  
 C = Compact 3 piece
6. The next X indicates material:  
 T = Painted Mild Steel
7. The next X indicates assembly options:  
  
 U = Unassembled

## 1.5 Technical Data

The VPlow Modular is suitable for the following operating parameters:

	Operating parameter
Belt widths:	500 – 3.000 mm
Pulley diameter:	All common sizes
Belt speed:	Max. 4,6 m/s
Temperature range:	-40 - 150 °C depending on PU type
Reversing operation:	Not suitable for reversing operation

## 2 Installation

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### NOTE

For a general description of cleaner installation, refer to part 1 of these operating instructions!

### 2.1 Determining the VPlow Modular installation position



### NOTE

Place the VPlow Modular on the return side of the belt before the tail pulley with the “V” pointing away from the tail pulley.

Locate a suitable position for the VPlow Modular at the tail end of the conveyor. The discharge end of the VPlow Modular must be clear of the structure to allow material to exit off the blade.

The conveyor belt must be flat in the area where the VPlow Modular is to be installed to ensure the wear rate of the blade is even.

Install return idlers as required to ensure the belt is flat in the VPlow Modular location.

Adjust the position as needed to allow for the best installation position for the Hanger Bars.

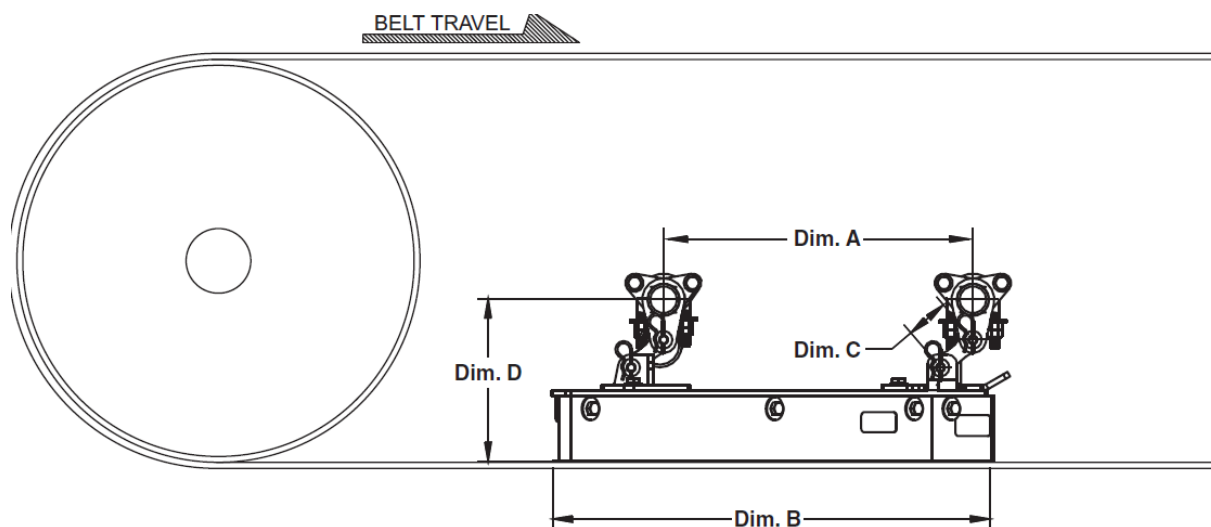
Hanger bars may be bolted on top, below, or through the stringer channels.

The VPlow Modular should not be placed on top of return idlers. The idlers may change the belt line and cause a portion of the blade to not contact the belt.

Allow a minimum of 300 mm from the centre of the return idlers to the front of the VPlow Modular blade.

Also allow a minimum of 305 mm from the face of the tail pulley to the back edge of the V-Plow Modular blade.

## 2.2 Dimensions



Assembly Part Number	Dim. A	Dim. B
CPVHAS18XXXXXX	6.99 (178)	11.00 (279)
CPVHAS24XXXXXX	9.99 (254)	14.00 (356)
CPVHAS30XXXXXX	12.52 (318)	16.72 (425)
CPVHAS36XXXXXX	12.52 (318)	19.64 (499)
CPVHAS42XXXXXX	18.52 (470)	22.78 (579)
CPVHAS48XXXXXX	18.52 (470)	25.64 (651)
CPVHAS54XXXXXX	18.52 (470)	28.64 (727)
CPVHAS60XXXXXX	26.52 (674)	31.64 (804)
CPVHAS66XXXXXX	26.52 (674)	34.64 (880)
CPVHAS72XXXXXX	26.52 (674)	37.64 (956)
CPVHAS78XXXXXX	35.52 (902)	40.64 (1032)
CPVHAS84XXXXXX	35.52 (902)	43.64 (1108)
CPVHAS96XXXXXX	35.52 (902)	49.64 (1261)
CPVHASA8XXXXXX	50.52 (1283)	55.64 (1413)
CPVHASCOXXXXXX	50.52 (1283)	61.64 (1566)

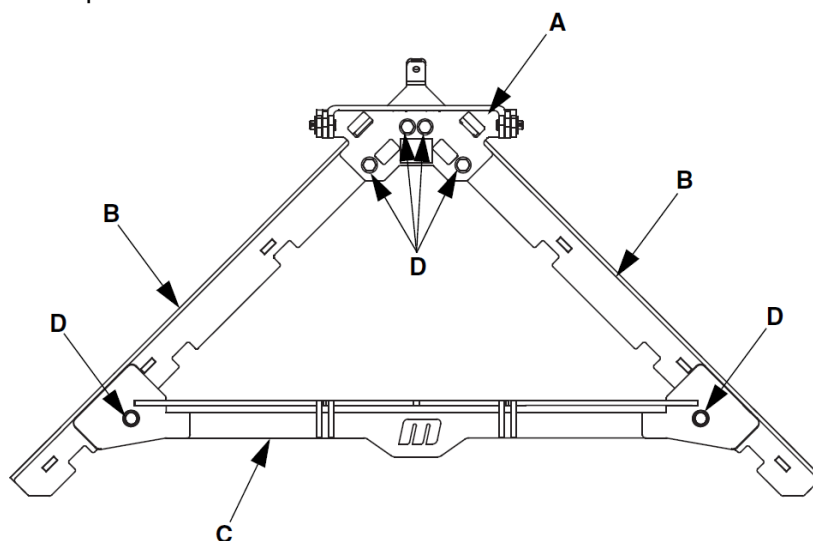
Assembly Part Number	Dim. C	Dim. D	
		Min.	Max.
CPVHASXXX01XXX	2.56 (65)	8.46 (215)	10.04 (255)
CPVHASXXX02XXX	6.89 (175)	12.79 (325)	14.37 (365)
CPVHASXXX03XXX	7.87 (200)	13.77 (350)	15.35 (390)
CPVHASXXX04XXX	11.81 (300)	17.71 (450)	19.29 (490)

**Figure 1 – Locating VPlow Modular on Conveyor Belt**

In inches – (millimetres in brackets)

## 2.3 Assembling the VPlow Modular

For four-piece-frame

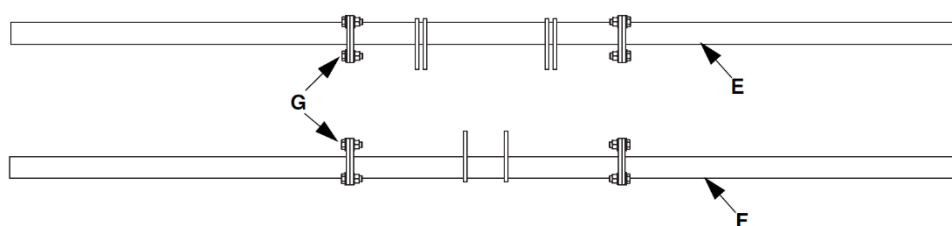


- |     |                  |     |                      |
|-----|------------------|-----|----------------------|
| A - | Front Base Frame | B - | Side Base Frame      |
| C - | Rear Base Frame  | D - | Cap Screw and Washer |

**Figure 2 Base Frame**

1. Fasten front frame weldment (A), side frame weldments (B), and rear frame weldment (C) together using cap screws and washers (D).

## 2.4 Assembling the Hanger Bars



- |     |                           |     |                   |
|-----|---------------------------|-----|-------------------|
| E - | Rear Hanger Bars          | F - | Front Hanger Bars |
| G - | Cap Screws, Washers, Nuts |     |                   |

**Figure 3**

1. Assemble front and rear hanger bars (E and F) using cap screw, washers, and nuts (G).



## 2.5 Installing the Hanger Bars



### NOTE

The ears on the rear Hanger Bars may be orientated in any position within the 90° swing from vertically down to horizontal to the front of the VPlow Modular frame.

The centre of the front Hanger Bar must be parallel to the centre of the rear Hanger Bars.

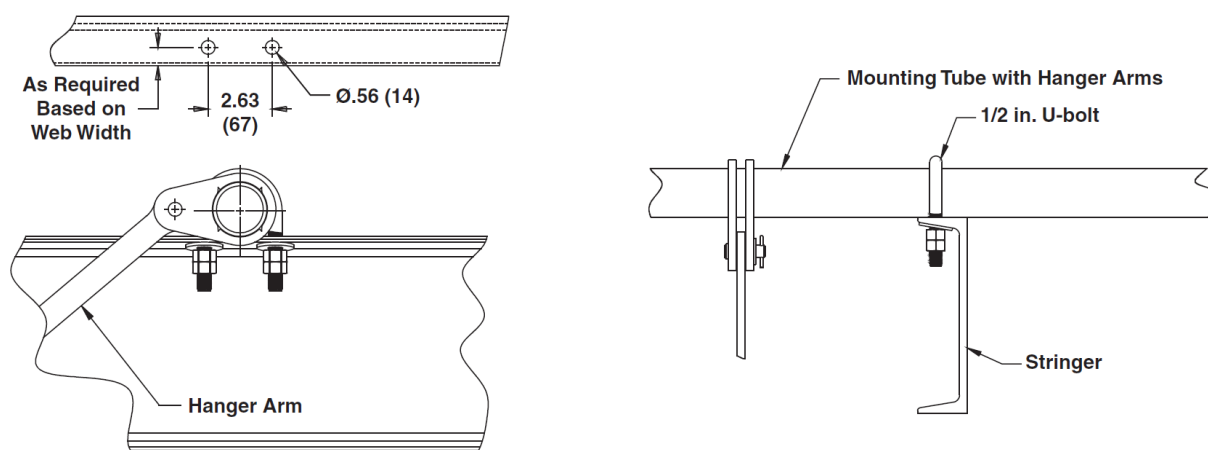
Bar centres are to be parallel to the conveyor belt.

The front hanger arms should be less than 20° off vertical with the VPlow Modular base frame.

The front Hanger Bars should be at an angle that mirrors the rear Hanger Bars.

The Hanger Bars might be longer than required. Field-modify the length as needed.

If the stringers are too high or too low to accommodate the hanger bars in the proper position (Figures 1, 4 and 5), adapter plates can be mounted to the stringer, see chapter 2.6.



**Figure 4 Installing the Hanger Bars**

1. Locate the Hanger Bars according to Chapter 2.1 and 2.2.
2. Mark the location of the hanger bars on the stringers according to Figure 4.
3. Drill or cut two 9/16-in. (14-mm) holes for the mounting screws for each adapter flange.
4. Remove burrs and sharp edges.
5. Install each hanger bar onto the stringer with two U-bolts, flat washers, and hex nuts.

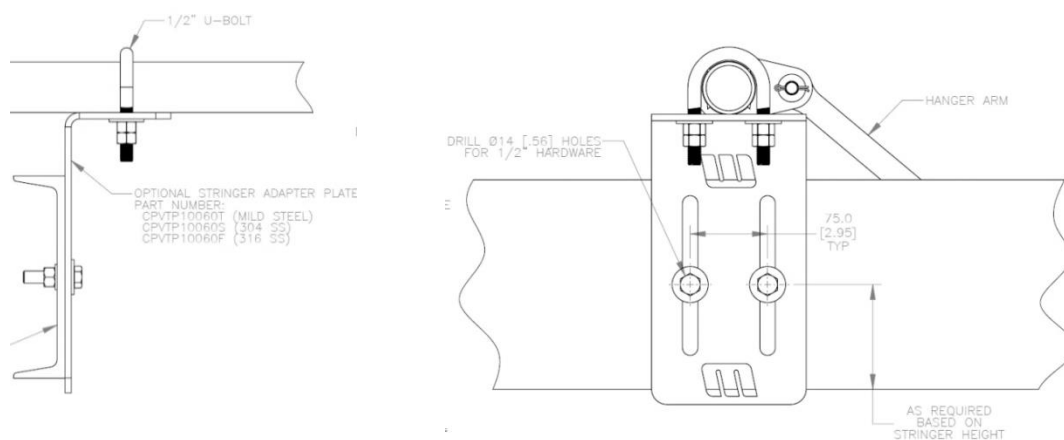
## 2.6 Optional Installation Positions



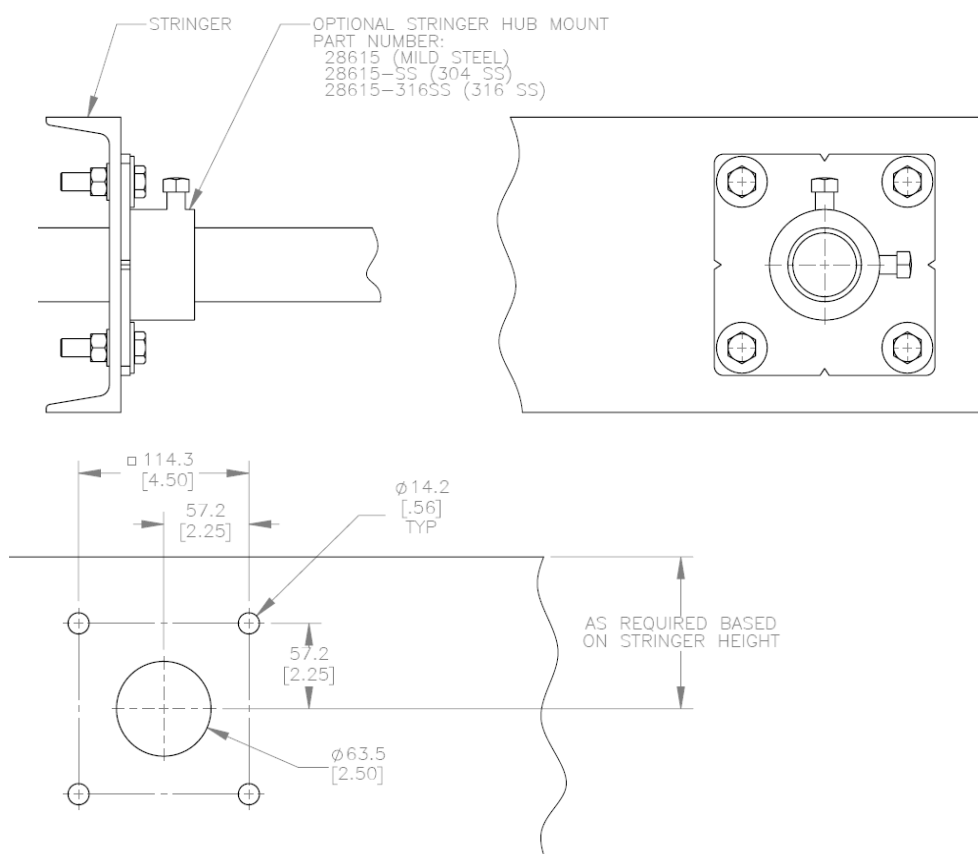
### NOTE

In this chapter optional installation methods and options are shown. Additional components are required which are not contained in the scope of supply. Please contact Martin Engineering for details.

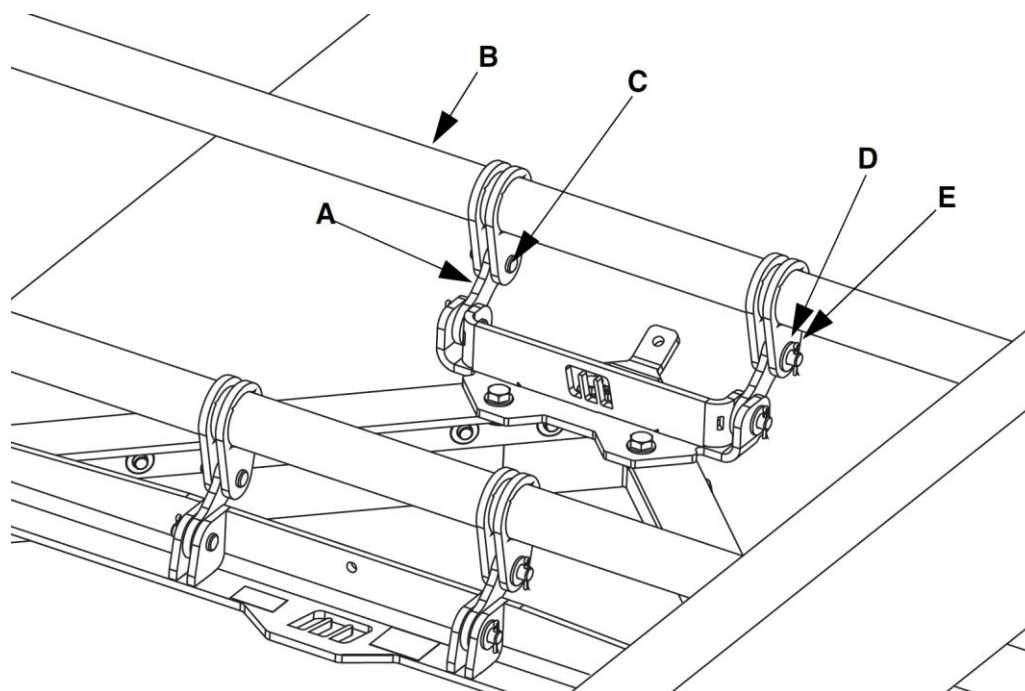
### Adapter Plate (optional)



### Stringer Hub Mount (optional)



## 2.7 Installing the VPlow Modular



- |     |                           |     |                      |
|-----|---------------------------|-----|----------------------|
| A - | Hanger Pivot Arm (4 used) | B - | Hanger Bar (2 used)  |
| C - | Clevis Pin (4 used)       | D - | Flat Washer (4 used) |
| E - | Cotter Pin (4 used)       |     |                      |

**Figure 5 Installing the VPlow Modular**

1. Attach each hanger pivot arm (A) to the front hanger bar and VPlow Modular with a clevis pin (C), flat washer (D), and cotter pin (E).
2. Centre VPlow Modular on belt.
3. Tighten all nuts on U-bolts that attach hanger bars to adapter plates or stringers.
4. Make sure VPlow Modular base frame does not contact the belt.

## 2.8 Installing the Restraining Cable



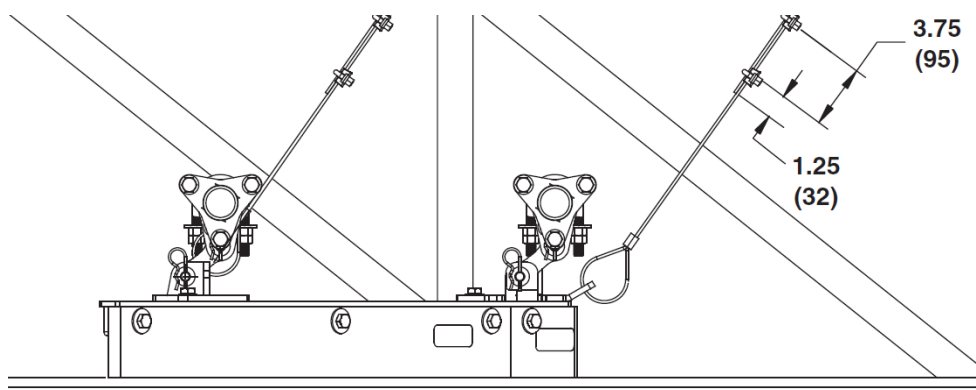
### NOTE

#### Restraining cables

- prevent the VPlow Modular from being carried into the pulley if the mount brackets should fail.
- prevent the VPlow Modular base from touching the conveyor belt if the blade is worn.

Failure to install restraining cable could severely damage the VPlow Modular, pulley, and belt.

Do not install restraining cable on stringers that are between the VPlow Modular and tail pulley.

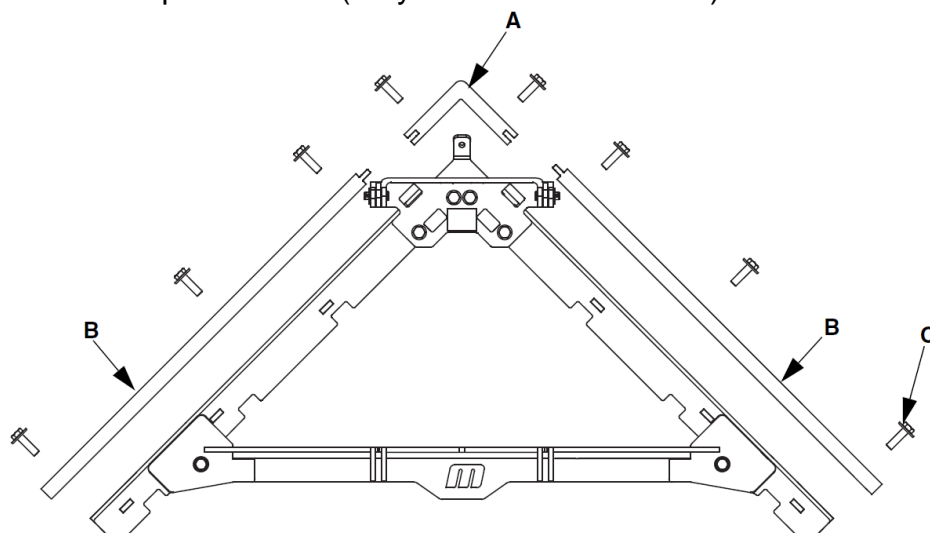


**Figure 6 Restraining cable Installation**

1. Measure and secure the restraining cable so, if the VPlow Modular blade is worn, that the VPlow Modular base frame does not get in contact with the belt.
2. Make sure VPlow Modular is located according to chart in Figure 1.
3. Attach a restraining cable from VPlow Modular to the conveyor stringers far enough from the tail pulley to prevent VPlow Modular from contacting tail pulley in case of equipment failure.
4. When the blade is installed later-on: Leave no more than 2 in. (51 mm) of slack in cable.

## 2.9 Installing the Blade

For Three-piece-Blade (Polyurethane – PU Blade)



1. Attach nose blade (A) and side blades (B) to VPlow Modular using cap screws and washers (C).

**Figure 7 PU Blade Assembly**

## 2.10 Placing labels

### 2.10.1 Safety label

The safety label below must be attached to the conveyor system in the immediate vicinity of the Plow!



### 2.10.2 Other labels

A Sticker showing the address of the Martin Engineering branch and the designation of the product must be attached to the conveyor system in the immediate vicinity of the Plow!

# 3 Scope of delivery and spare parts

Remark: Drawings show options which are partly not available in Europe

<b>ITEM</b>	<b>QTY</b>	<b>DESCRIPTION</b>	<b>PART NUMBER</b>
		HEAVY DUTY V-LOW ASHM	CPHMS22222222

<b>ASSEMBLY PART NUMBER</b>	<b>DM "A"</b>	<b>DM "B"</b>	<b>DM "C"</b>	<b>DM "D"</b>	<b>APPROX. HEIGHT</b>
CPHMS13222222	528 (20.77)	2722 (11.00)	178 (7.05)	1372 (54.09)	29
CPHMS22222222	688 (27.09)	352 (14.00)	242 (9.53)	1524 (60.00)	33

<b>FRAME MATERIAL CHART</b>	
<b>ASSEMBLY</b>	<b>FRAME MATERIAL</b>
CPHMS13222222	MILD STEEL (PAINTED)
CPHMS22222222	304 STAINLESS STEEL
CPHMS32222222	316 STAINLESS STEEL

<b>BLADE CHART</b>		
<b>ASSEMBLY</b>	<b>BLADE SIZE</b>	<b>RUBBER</b>
CPHMS13222222	BLADE 9' 0"	EPDM/ELBR
CPHMS13222222	EPDM/ELBR	---
CPHMS22222222	EPDM/ELBR	---
CPHMS32222222	EPDM/ELBR	---

<b>URETHANE BLADE COLOR CHART</b>			
<b>ASSEMBLY</b>	<b>NOTE #1</b>	<b>BLADE #1</b>	<b>COLOR</b>
CPHMS13222222	CPHMS10	CPHMS20	ORANGE
CPHMS22222222	CPHMS10	CPHMS20	ORANGE
CPHMS32222222	CPHMS10	CPHMS20	GREEN

<b>HOUSER ARM CHART</b>					
<b>ASSEMBLY</b>	<b>HOUSER ARM</b>	<b>DM "E"</b>	<b>DM "F"</b>	<b>DM "G"</b>	<b>DM "H"</b>
CPHMS13222222	CPHMS10	105 (4.13)	312 (12.40)	155 (6.10)	---
CPHMS22222222	CPHMS10	120 (4.72)	350 (13.78)	165 (6.50)	---
CPHMS32222222	CPHMS10	120 (4.72)	350 (13.78)	165 (6.50)	---
CPHMS42222222	CPHMS10	120 (4.72)	350 (13.78)	165 (6.50)	---

**INSTALLATION NOTES:**

- 1) REFER TO OPERATING MANUAL FOR PROPER ASSEMBLY AND REFER TO THE MANUAL FOR REPLACEMENT
- 2) CALCULATED DIMENSIONS FOR MAXIMUM PROTECTION
- 3) MINIMUM CLEARANCE IS REQUIRED FOR PROPER FIELD OPERATION
- 4) THE LAMINATED CASSETT PART TO BE MOUNTED TO THE CONCRETE STRUCTURE

**NOTES:**

- 1) ALL DIMENSIONS ARE GIVEN IN MILLIMETERS (INCHES)
- 2) ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED ARE TO BE TAKEN FROM THE BACK OF THE CPMA
- 3) FOR BELT WEIGHTS, USE THE FOLLOWING CONVERSION FACTORS:
  - 1 LB = 453.592 G
  - 1 TON = 2204.62 LB
- 4) THE RUBBER BLADE IS TO BE BLADE #1
- 5) CHANGE URTHANE BLADE (A) AS BLADE #1
- 6) CHANGE URTHANE BLADE (B) AS BLADE #1
- 7) CHANGE URTHANE BLADE (C) AS BLADE #1
- 8) GREEN URTHANE BLADE (A) AS BLADE #1
- 9) GREEN URTHANE BLADE (B) AS BLADE #1
- 10) GREEN URTHANE BLADE (C) AS BLADE #1
- 11) USE CONCRETE FOR FIELD OR MOUNTING SURFACE
- 12) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 13) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 14) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 15) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 16) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 17) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 18) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 19) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE
- 20) THE HOUSER ARM IS TO BE MOUNTED TO THE CONCRETE STRUCTURE

<b>REVISION</b>	
NO.	DATE

<b>TITLE</b>	<b>SCALE</b>
HEAVY DUTY V-LOW ASHM	50:1 (2x)

SHEET 1 OF 3









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