

*A.V.W. EQUIPMENT*

***WRAP AROUND  
KAADY CONTOUR  
COMBO***

***Model -WACB2***



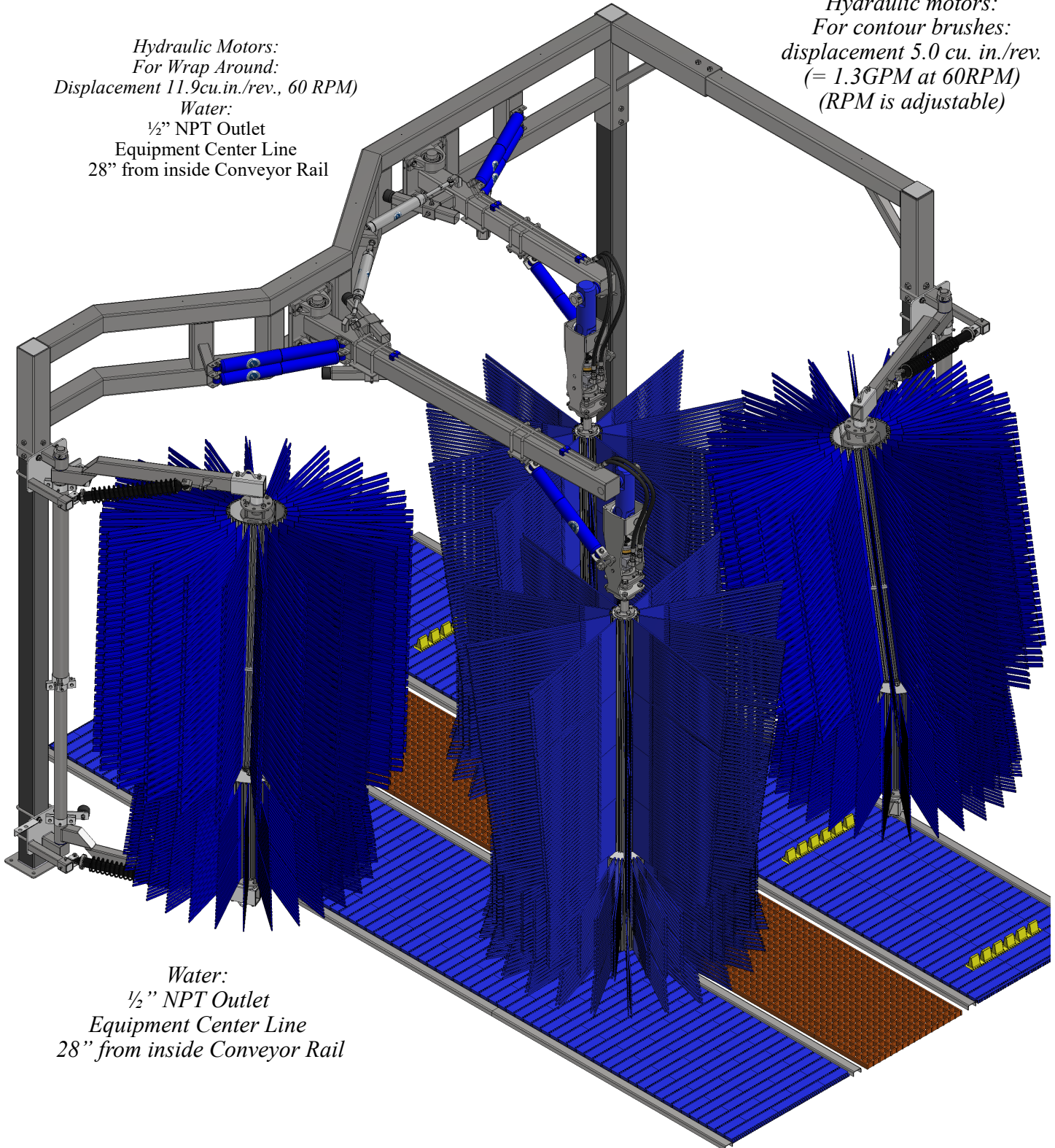
# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

The AVW WRAP AROUND operate on gravity.

No complicated controls because of the design it can self adjust to most Conveyor speed requirements. Simple design and low maintenance. The AVW-Kaady Attached Contour Brush is constructed of heavy grade Stainless Steel. Designed to thoroughly clean the sides of vehicles through the use contouring adjustment. Van High brush height is ideal for vans and sport utility vehicles because it cleans the sides with smooth even pressure.

Hydraulic Motors:  
For Wrap Around:  
Displacement 11.9cu.in./rev., 60 RPM)  
Water:  
½" NPT Outlet  
Equipment Center Line  
28" from inside Conveyor Rail

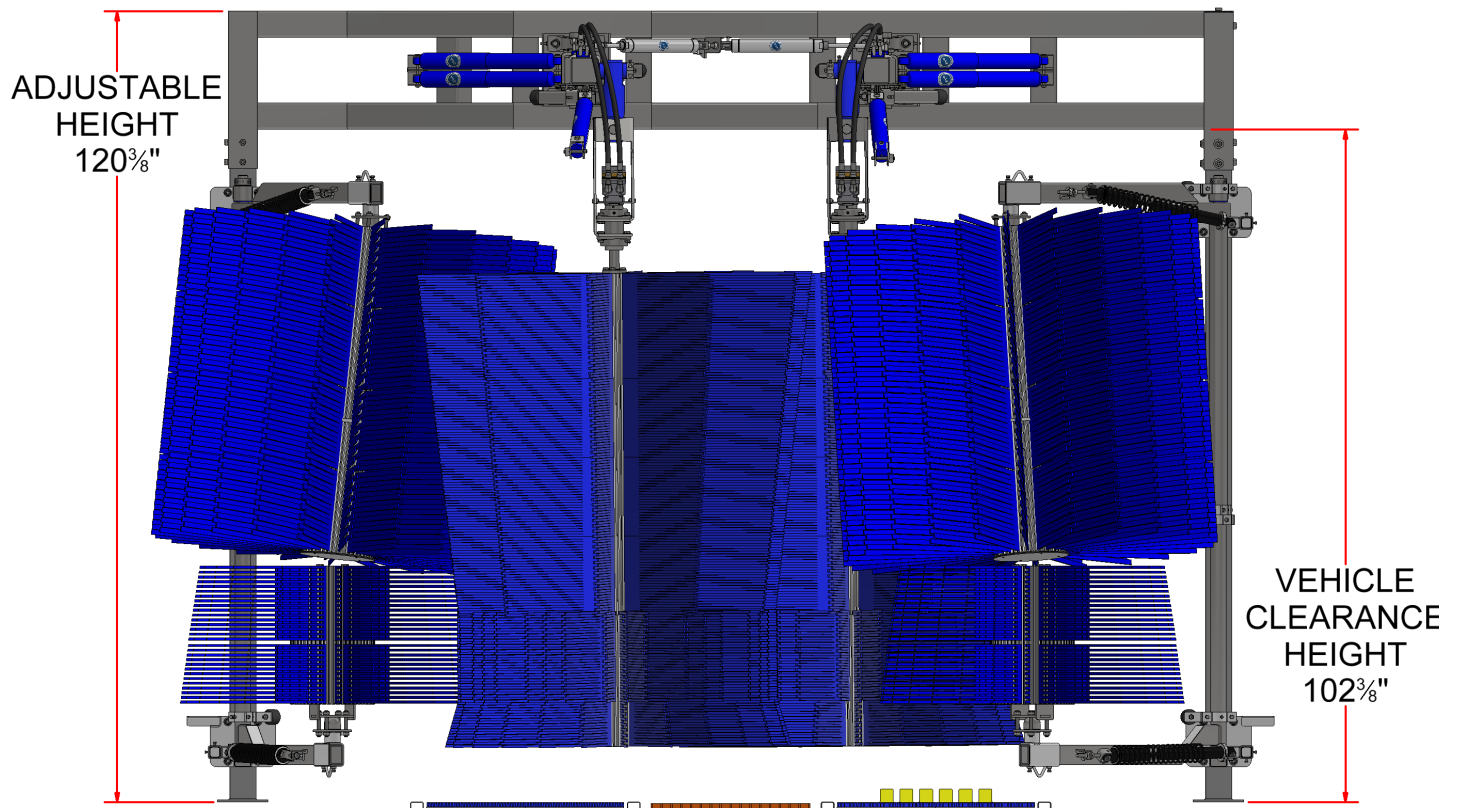
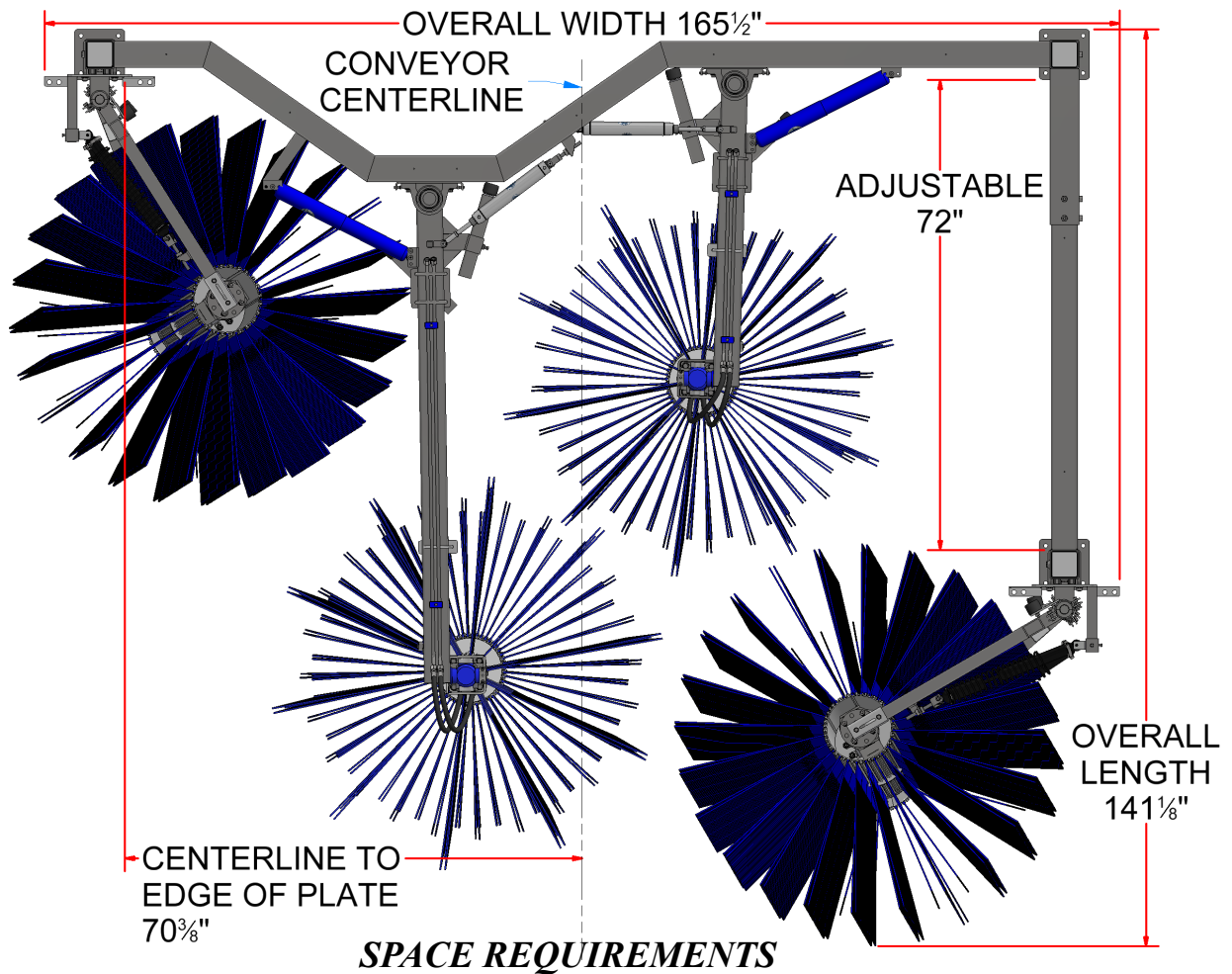
Hydraulic motors:  
For contour brushes:  
displacement 5.0 cu. in./rev.  
(= 1.3GPM at 60RPM)  
(RPM is adjustable)



Water:  
½" NPT Outlet  
Equipment Center Line  
28" from inside Conveyor Rail

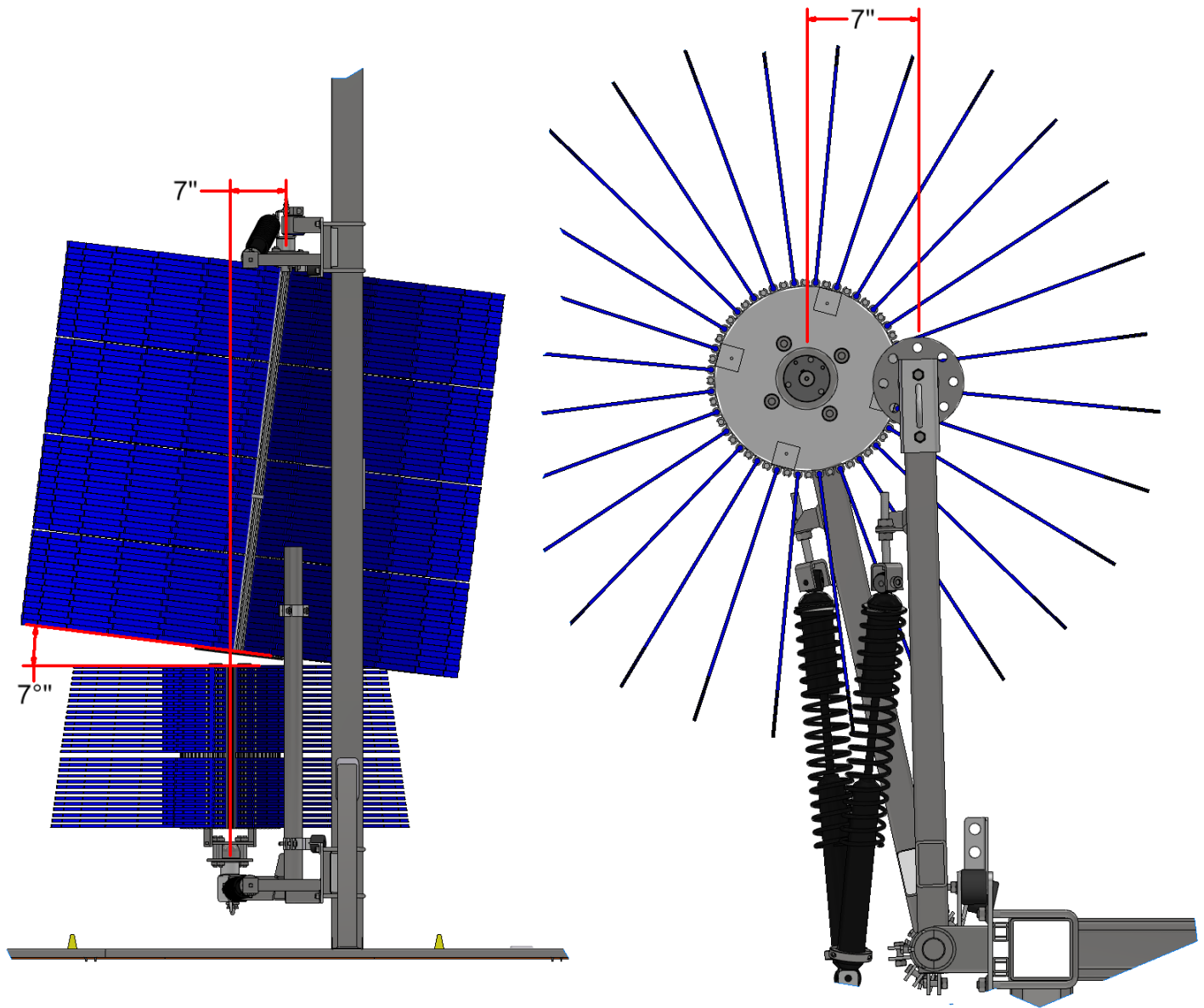


# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2



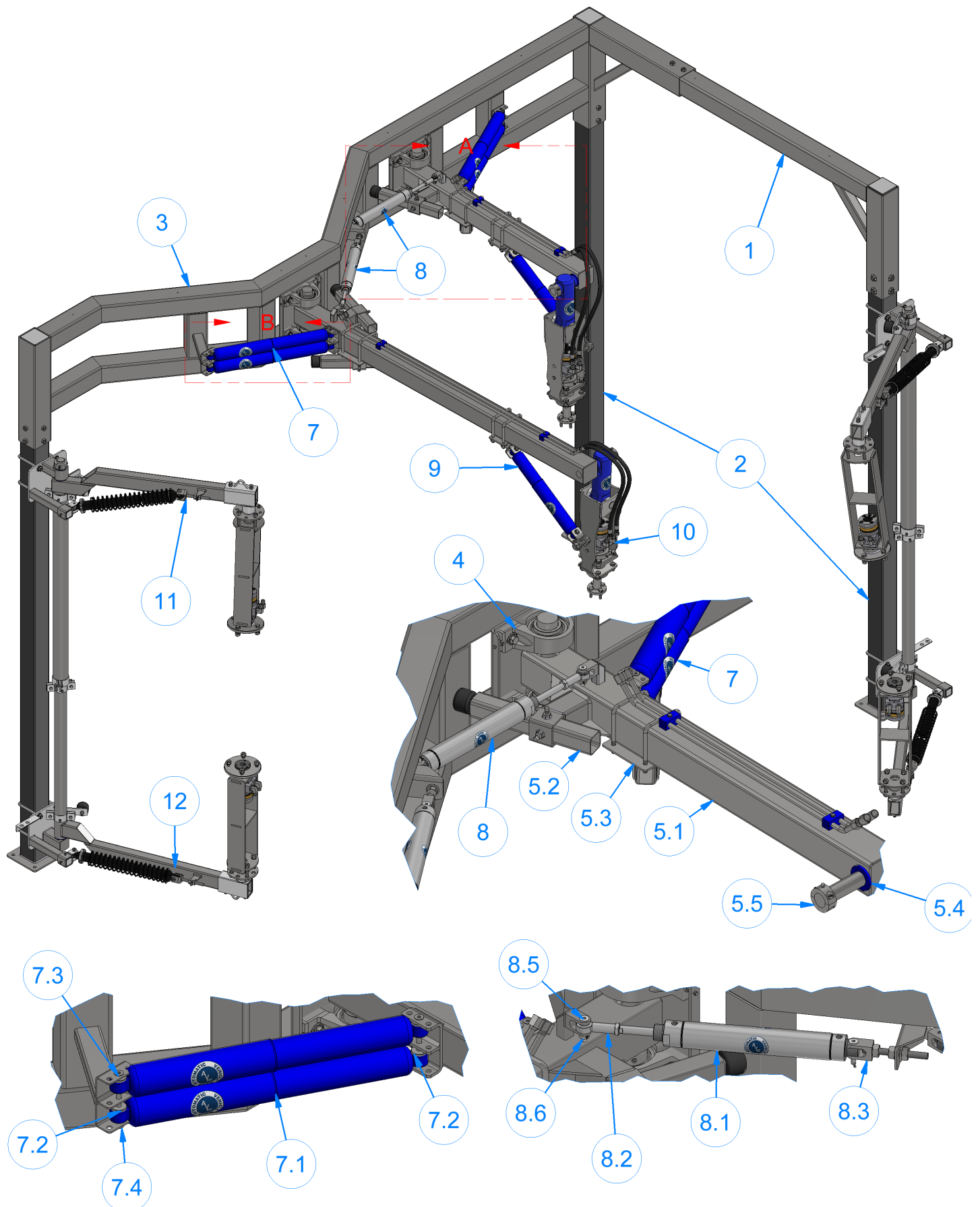


# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

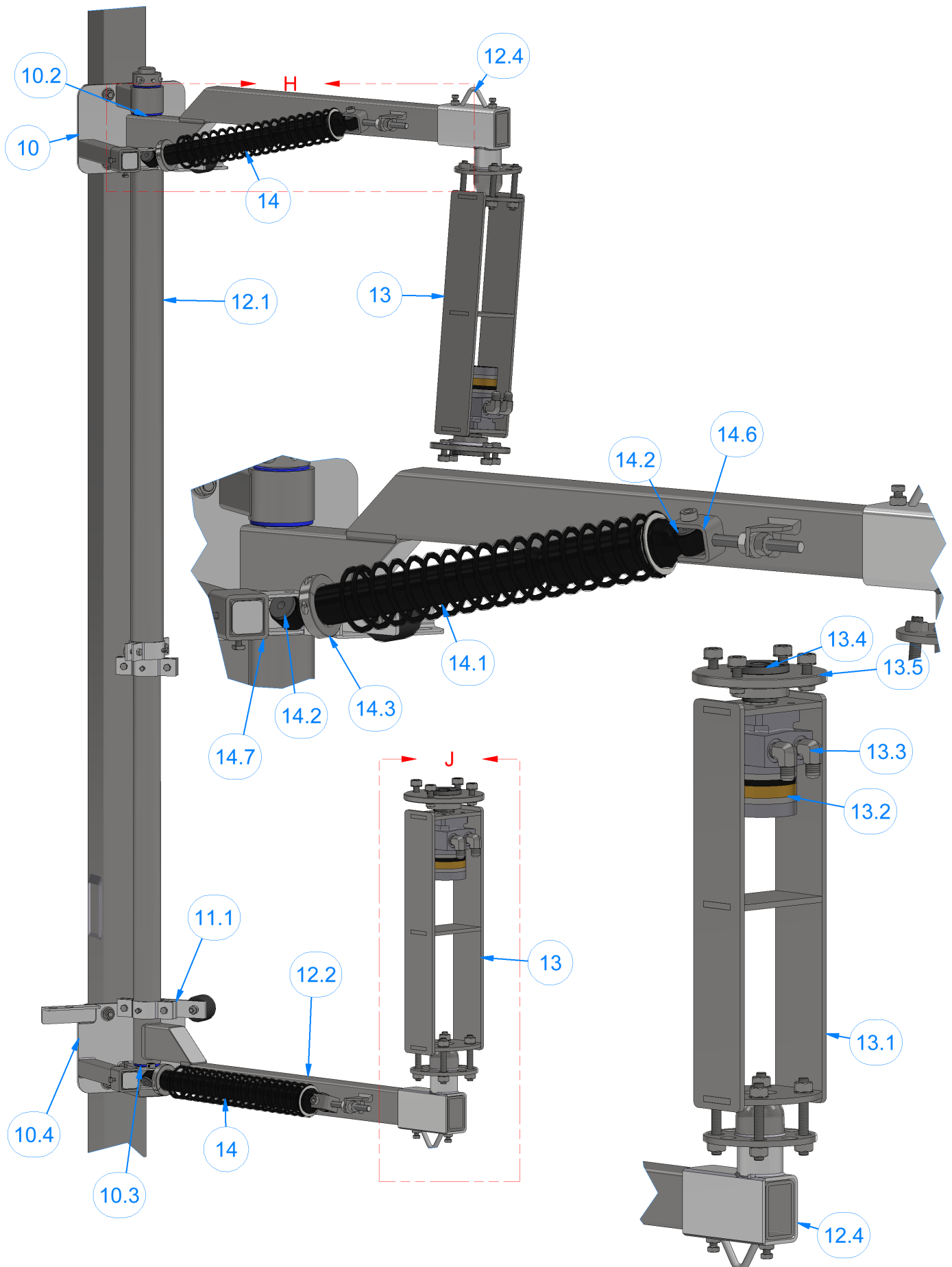




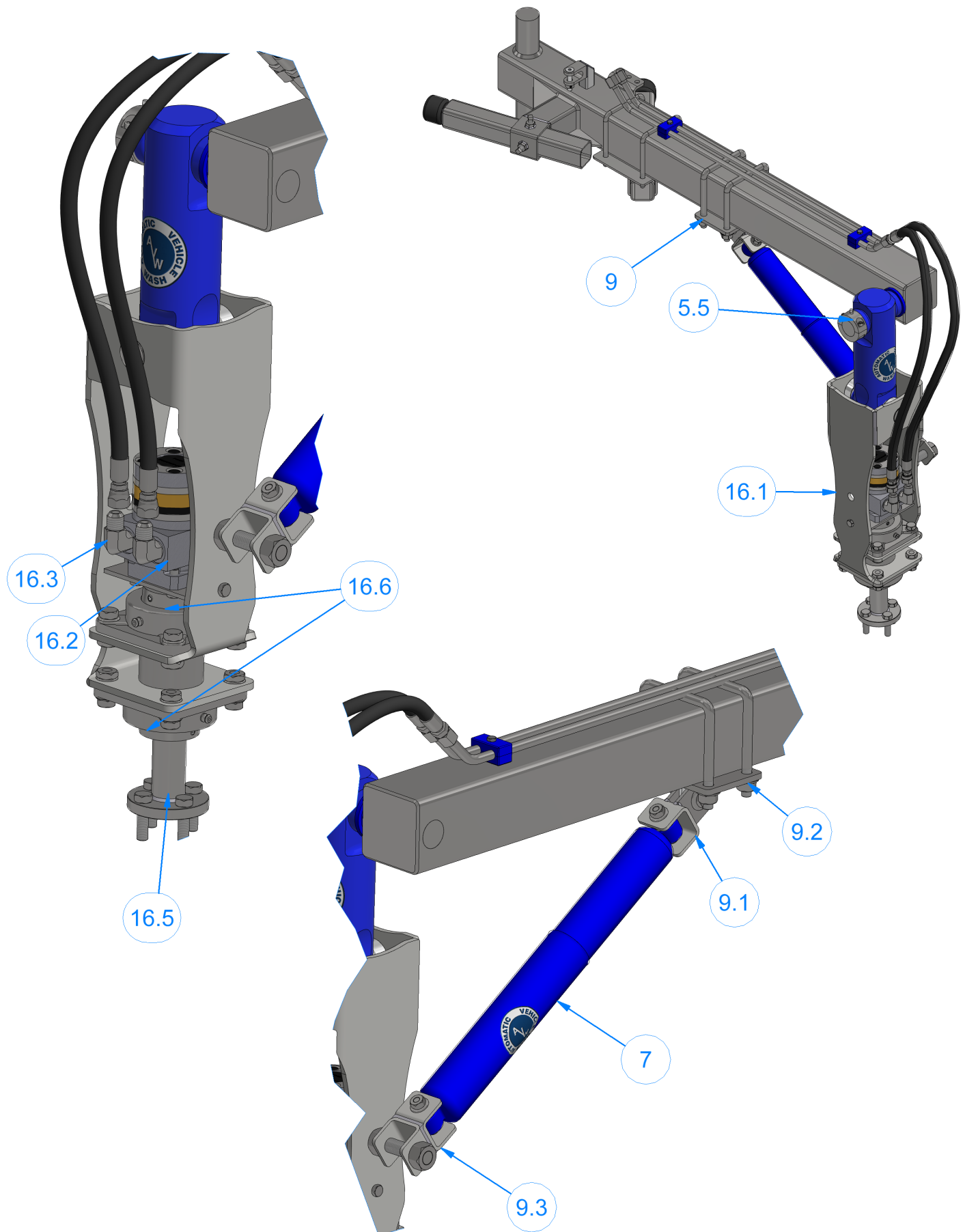
# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2



# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2



# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2





# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

ITEM	Description	DRIVER PART No.	QTY.	PASSENGER PART No.	QTY.
1	<b>FASTENING BAR</b>	WA1CB1AA			1
2	<b>LEGS</b>	WC3A			3
3	<b>Z-CROSSBAR</b>	WA1C-1566			1
-	Square Head Screw ½ ”-13x1½”lg. (for sleeves)	SQHS1213150			8
-	Hex Head Cap Screw 3/8”-16x2”lg. (fully threaded, for pillow block adj.)	HHCS3816200F			8
4	<b>PILLOW BLOCK 2”</b>	WA1WB			4
-	Screw Fastener Set ½ ” (for pillow block):	-			8
-	Hex Head Cap Screw ½”-13x2¼”lg.	HHCS1213225			8
-	Flat Washer ½”I.D.x1¼”O.D.	FW12125			16
-	Split Lock Washer ½”	SLW1/2			8
-	Hex Nut ½”-13	HN1213			8
5/6	<b>ARM ASSEMBLY:</b>	WA1D	1	WA1E	1
5.1/6.1	Driver Arm 48”lg./Pass. Arm 76” LG	WA1DA	1	WA1EA	1
5.2	Rubber Stop Arm Assembly:	WA1DB	2	WA1DB	2
-	Stop Arm	WA1DBA	2	WA1DBA	2
-	Rubber Bumper	WA1DBB	2	WA1DBB	2
-	Screw Fastener Set 3/8” (for bumper):	-	2	-	2
-	Hex Head Cap Screw 3/8”-16x1¼”lg.	HHCS3816125	2	HHCS3816125	2
-	Flat Washer 3/8”I.D.x7/8”O.D.	FW38087	2	FW38087	2
-	Hex Nut 3/8”-16	HN3816	2	HN3816	2
5.3	Adjustable Lower Rubber Stop ARM (OPTIONAL)	WA3DB-2639	1	WA3DB-2639	1
-	Square head screw 3/8”-16x ¾ ”lg. (for stop adj.)	SQHS3816075	4	SQHS3816075	4
5.4	PLASTIC SPACER	WA11	2	WA11	2
5.5	2-PIECE COLLAR 1½”	WA2J-2P	2	WA2J-2P	2
7	<b>SHOCK ABSORBER ASSEMBLY:</b>	WA1FA			2
7.1	Shock Absorber	WA1FAA			2
7.2	UHMW bushing 3/8”I.D.	WA1FA1			4
7.3	PIN 3/8”x6”lg.	WA1FB			4
7.4	COLLAR 3/8”	WA1FC			4
8	<b>RETRACT KIT:</b>	WA1GA			2
8.1	AIR CYLINDER 2” x 10”	AC2x10			2
8.2	Ball Joint Rod End	BJI-2-20			2
8.3	Rear Mount	WA2GA			2
-	-Clevis	WA2GA1			2
-	-Threaded Rod 1/2”-13x5” LG	WA2GA2			2
-	-Hex Nut 1/2”-13	HN213			6
8.4	Rear Pin 3/8” x 1/2” LG	WA1GB			2
-	Cotter Pin	CP3-8			2
8.5	Front Pin 1/2” x 2” LG	WA1GC			2
8.6	Collar 1/2”	WA1GD			2
-	Jam Nut 1/2”	JN1220			2
9	<b>WRAP STABILIZER ASSEMBLY</b>	WA2F-0318			2
7	Shock Absorber Assembly	WA2FA			2
9.1	Rear Stabilizer Mount	WA2FC			2
9.2	Stabilizer Bracket Kit	WA2DAE			2
9.3	Front Stabilizer Mount	WA2FB-0416			2



# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

ITEM	Description	DRIVER SIDE		PASSENGER SIDE	
		PART NO.	Qty	PART NO.	Qty
10/10A	<b>ARM MOUNT ASSEMBLY UPPER/LOWER</b>	CB2AB-U/CB2AB-L	1	CB2BB-U-CB2BB-L	1
10.1	<b>Square U-Bolt Fastener set 1/2"</b>	RB2ABB	4	RB2ABB	2
-	Square U-Bolt 1/2"x17"lg	UB-SQ050x1700	4	UB-050x1700	2
-	Split lock washer 1/2"	SLW1/2	8	SLW1/2	4
-	Hex Nut 1/2"-13	HN1213	8	HN1213	4
10.2	<b>BUSHING</b> for Upper Arm	CB1ADCC	2	CB1ADCC	2
10.3	<b>BUSHING</b> for Lower Arm	CB1ADCD	2	CB1ADCD	2
10.4	<b>ARM MOUNT PLATE UPPER/LOWER</b>	CB1ABA-U/CB1ABA-L	1	CB1BBA-U/CB1BBA-L	1
11	<b>BUMPER ASSEMBLY</b>	CB1AC			2
11.1	2-Piece <b>BUMPER MOUNT</b> (w/Plate welded)	CB1ACA			2
-	Hex Head cap screw 3/8"-16x1-1/2"lg	HHCS3816150			2
-	Split Lock Washer 3/8"	SLW 3/8			2
-	Hex Nut 3/8"-16	HN3816			2
11.2	<b>RUBBER STOP (BUMPER)</b>	WA1DBB			2
-	Screw fastener set 3/8" (for bumper):	-			2
-	Hex head cap screw 3/8"-16x1 1/4"lg.	HHCS3816125			2
-	Flat washer 3/8"x7/8"O.D.	FW38087			2
-	Hex nut 3/8"-16	HN3816			2
12	<b>ARM ASSEMBLY</b>	CB2AD	1	CB2BD	1
-	(Arms w/Removable sleeves)	-	-	-	-
12.1	<b>UPPER ARM</b> w/Distance adjuster	CB2ADA	1	CB2BDA	1
12.2	<b>LOWER ARM</b> w/Distance adjuster	CB2ADB	1	CB2BDB	1
12.3	<b>BUSHING</b> for Lower Arm	CB1ADCD	1	CB1ADCD	1
12.4	<b>REMOVABLE SLEEVE</b>	CB2ADAS	2	CB2ADAS	2
13	<b>BRUSH DRIVE LOWER ASSEM. /UPPER ASSEM.</b>	RB1AE			2
13.1	<b>MOTOR MOUNT</b> ( 8" lg )	RB1AEA			2
-	Hex head cap screw 1/2" -13x3"lg.	HHCS1213300			8
-	Flat washer 1/2" I.D.x1 1/4"O.D.	FW12125			8
-	Split lock washer 1/2"	SLW12			8
-	Hex nut 1/2"-13	HN1213			8
13.2	<b>HYDRAULIC MOTOR</b> , displacement 5.0 [cu.in./rev.]	TB1ADBM			2
13.3	- Fitting 90°elbow 1/2" NPTM x 1/2" JIC	SAE070202-8-8			4
-	- Hex head cap screw 3/8"-16x 3/4" lg.	HHCS3816075			8
13.4	<b>SPLIT TAPER BUSHING 1"</b>	STB-P1X100			2
-	(set w/two socket set screws 1/4"-20x 1/2"lg., carbon steel)	SSS1420050C			4
13.5	<b>BRUSH CONNECTING DISK</b>	RB2AEB-P1-1-0106			2
-	Hex head cap screw 1/2" -13x1 1/4" lg.	HHCS1213125			8
-	Split lock washer 1/2"	SLW12			8
-	Hex nut 1/2"-13	HN1213			8
14	<b>SHOCK ABSORBER ASSEMBLY:</b>	RB1AF			2
14.1	<b>SPRING SHOCK ABSORBER</b>	RB1AFA			2
14.2	UHMW bushing 3/8" I.D.	RB1AFA1			4
14.3	Spring adjuster assembly (aluminum 2-piece collar):	RB2AFB			2
-	- Aluminum adjuster (2-piece collar)	RB2AFB1			2
-	- Hex head cap screw 1/4"-20 x 1 1/4"lg.	HHCS1420125			4
-	- Hex nut 1/4"-20	HN1420			4
-	Plastic Spacer	RB1AFC			2
14.4	<b>PIN</b> Ø3/8"x3"lg.	TB1AEA			4
14.5	<b>COLLAR 3/8"</b>	WA1FC			4
14.6	<b>FRONT MOUNT:</b>	RB1AG			2
-	- Clevis	WA2GA1			2
-	- Threaded rod 1/2" -13x5"lg.	WA2GA2			2
-	- Hex nut 1/2"-13	HN1213			6
-	- Pin 3/8"x1 1/2"lg.	WA1GB			2
-	- Collar 3/8"	WA1FC			2
-	- Shock mount	RB1AGA			2
14.7	<b>REAR MOUNT</b>	RB1ABAM			2
14.8	w/PIN				2
15	<b>LOWER BRUSH 21" / UPPER 51" ASSEMBLY:</b>	CB1AM-21/CB1AM-51			2/2
15.1	Brush Cloth	CB1AMA-21/CB1AMA-51			2/2
15.2	Aluminum Extrusion	CB1AMC-21/CB1AMC-51			2/2
15.3	Two-piece Collar 1 1/2"x12 core	CB1AMB-21/CB1AMB-51			2/2
15.4	Screw fastener Set 3/8", for collar	-			8



# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

ITEM	Description	PART NUMBER	QTY.
16	<b>WRAP AROUND SHAFT ASSEMBLY:</b>	WA5K	2
16.1	Motor Mount	WA5KA	2
-	Motor Retaining Screw:	-	4
-	Hex Head Cap Screw 3/8"-16x 3/4"lg.	HHCS3816075	4
-	Nylon Lock Nut 3/8"-16	NLN3816	4
16.2	Hydraulic Motor, displacement 11.9 [cu.in./rev.], Parker TB0195FP100AAAB	TB0195-WA1KM	2
16.3	Fitting 90° Elbow 1/2" NPTM x 1/2" JIC	SAE070202-8-8	4
16.4	Torque Plate	WA1K1	2
-	Hex Head Cap Screw 3/8"-16x 3/4"lg. (motor's fastener)	HHCS3816075	8
16.5	Brush Shaft 1 1/2"x10 1/2"lg.	WA5KB	2
16.6	4-bolt Bearing 1 1/2" UCF208-24E	WA1KCB	4
-	Screw Fastener Set (for bearing):	-	16
-	Hex Head Cap Screw 1/2"-13x1 3/4"lg.	HHCS1213175	16
-	Flat Washer 1/2" I.D.x1" O.D.	FW12100	16
-	Split Lock Washer 1/2"	SLW1/2	16
-	Hex Nut 1/2"-13	HN1213	16
17	<b>BRUSH ASSEMBLY</b> (design:5" core, 72" LG)	WA1M-5/10x72	2
-	<b>HYDRAULIC &amp; WATER INSTALLATION:</b>	WA1L	-
-	Side Water Manifold Assembly (on exit legs):	WA1LA	2
-	Water Manifold (tubing 1" O.D. x 36"lg., w/4 water outlets 11" apart)	WA1LAA	2
-	Hollow Hex Plug 1/2" NPTM	SAE140109P-8	2
-	Barb 1/2"x 1/2" NPTM	BRB1/2x1/2	2
-	Nozzle 1/4" NPTM	NZ1/4	10
-	Water Hose 1/2" I.D. (braid reinforced polyurethane tubin	-	-
-	Pipe Clamp 3/4", for water hose and side water manifolds (w/screw fasteners 1/4")	PPP3/4	10
-	<b>Hydraulic Tube Assemblies:</b>	-	-
-	Hydraulic Tubes 1/2" O.D.xW.035" stainless steel TP304/TP304L ASTM A269	-	-
-	Tube Support Sleeves 1/2" JIC	SAE070115-8	-
-	Nuts 1/2" J	SAE070110-8	-
-	<b>Hydraulic Hose Assembly:</b>	WA1LB	8
-	Hydraulic Hose 3/8" I.D.x34"lg., thermoplastic, "Aeroquip" FC372-06	SAE100R7-06x34	8
-	Crimp Fitting SAE 37° JIC swivel (female)	FC5810-0806	4
-	"Aeroquip" (or Catching Fluidpower-"Parker")	(10655-8-6)	(4)
-	Crimp Fitting SAE 37° JIC male flare	-	-
-	"Aeroquip" (or Catching Fluidpower-"Parker")	FC5807-0806	12
-	Damping Clamp 1/2", for hydraulic tubes (w/screw fasteners 1/4")	(10355-8-6)	(12)
-		DMP1/2	8

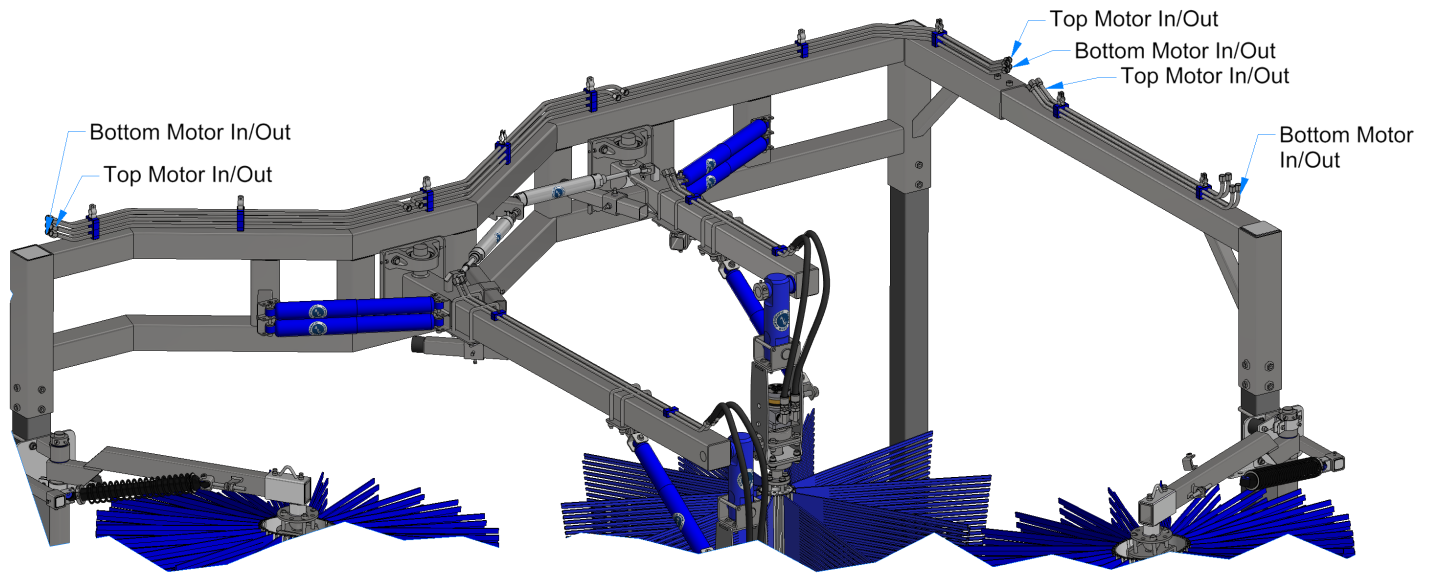




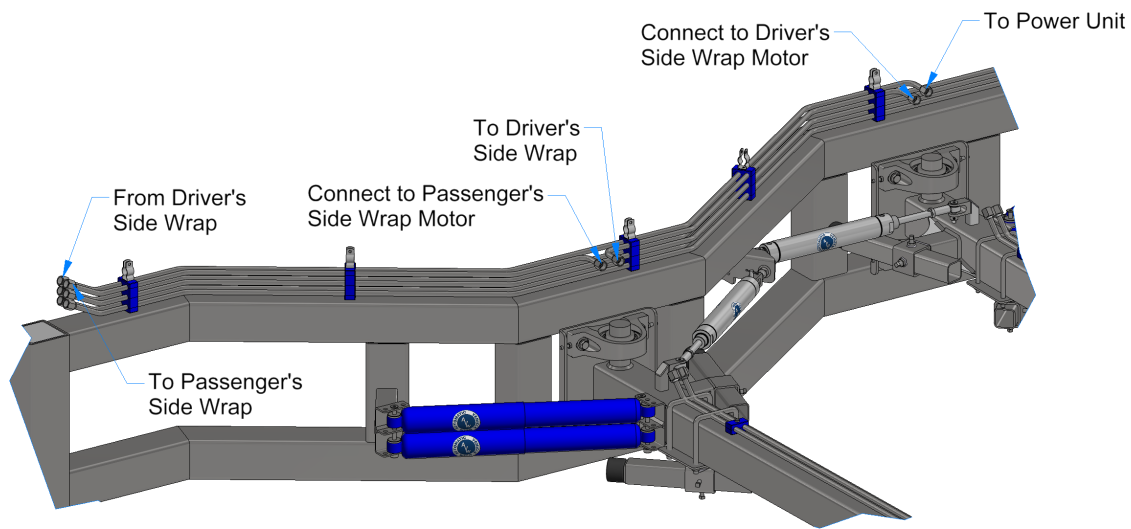
# WRAP AROUND KAADY CONTOUR COMBO, Model WACB2

Patent # 5898966

## *WRAP CONTOUR COMBO PIPE DIAGRAM*



### DETAIL Passenger's Side Contour Connection Detail



### DETAIL Wrap Connection Detail





Figure 2

In order to get a higher application pressure at either driver side or passenger side of the machine, move the bottom bearings towards the its center, or away from the center to achieve lower application pressure.

note: Application pressure is the pressure of the brush applied onto the car.

## **Fine tuning adjustment for getting better performance of AVW Wraps**

- The RPM of the wrap hydraulic motor should be set at approximately 60 RPM to allow brush to flare out fully.
- Set hydraulic relief pressure so that brush can start to stall, when contacting the front end of the widest vehicle and then increase  $\frac{1}{2}$  turn. The brush should never be able to stall on a front end of vehicle.
- Use a lot of soap and lubrication on the cloth.
- Do not use excessively worn cloth.
- Replace shock absorbers approximately every 6 months.
- Travel on back of car should not exceed  $\frac{3}{4}$  of back end of vehicle.
- Keep initial adjustments light as wraps will tend to loosen up as they break in and cloth absorbs more soap and water.
- Start adjusting with bearings straight up and down, usually no more than  $\frac{1}{4}$ " of bearing travel will be required
  - Set wraps for average conveyor speed, if conveyor speed increases or decreases more than 25 cars per hour up or down (50 cars per hour range) additional adjustment may be required.

## **Flex coupler fails or twists**

### **Possible Causes & Troubleshooting:**

- Torque settings on hydraulics is set too high.
- Flex coupler should be replaced approx. every 200,000 cars.



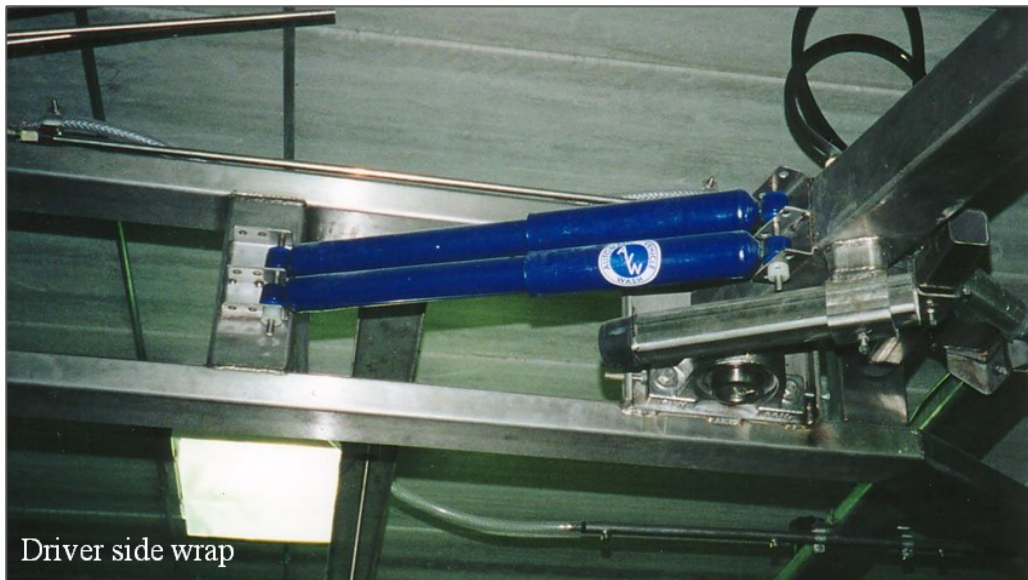


Figure 2

## **Brush climb up on back ends of the car**

### **Possible Causes & Troubleshooting:**

- The car is rolling ahead because of uneven floor and stopping with wrap on rear of car.
- Torque (Pressure) is set too high and brush will not stall as it climbs.
- Brush speed may be too fast. set at 60 RPM
- Brush may be set to travel more than 3/4 of backend of car / more swing after break- in period.
- Keep pivot point low as possible try not to mount over tire brushes or where high clearance is needed off the floor.
- Car may be stopping or rolling because of a treadle on floor or pocket in floor
- If the friction is too high-apply more soap or lubrication.
- The faster the brush RPM, the more travel on the back of the vehicle-adjust RPM.

Figure 3



## **Mirror is damaged or broken**

### **Possible Causes & Troubleshooting:**

- Lower portion of the brush is set to high coming into contact with mirror- stay below 33" from the top of the lower fuller section of the brush.
- Arm is restricted not to swing out far enough to clear the vehicle-adjust the bumper so that brush can clear the vehicle.
- Too much tilt on the bearing causing excessive side pressure –adjust the tilt on the bearing to reduce the pressure.
- Weak shocks absorbers-replace shock absorbers.
- Brush speed incorrect-set the speed.