



City of Columbus RFQ0009691 SPRAYLINER TRUCK

COST SUBMITTAL by
MRL EQUIPMENT COMPANY
11 December 2018

MRL EQUIPMENT COMPANY MODEL 4-8000-G THERMOPLASTIC STRIPING APPARATUS

**MODEL 4-8000-G APPARATUS installed on a
2020 PETERBILT Model 520 with dual steering \$ 613,110.00**
Per RFQ 009691 and changes sent to MRL 4 Dec 18 (items in cover letter)

- Per meeting on the 7th of November with the City of Columbus the Secondary Propulsion System has been removed and is now listed as Optional Equipment, the price does not include this option.

This Pricing is valid for 180 days from receipt of this Submittal.

Note: The above Cost Submittal does not include the Secondary Propulsion System.

Optional Equipment:

Secondary Propulsion System (Hydrostatic Drive System) add to above pricing. \$ 68,000.00

December 4, 2018

Mr. David Kautz
Mark Rite Lines Equipment Co., Inc.
5379 Southgate Drive
Billings, MT 59101

Re: **RFQ009691 RFP for Sprayliner Truck**

Dear Mr. Kautz:

Your firm has been selected as one of the finalists in the subject RFP to present cost proposals for the next step in the RFP process. At this stage the City is requesting cost submittal on the vehicle type identified in the RFP specifications section 3.5 and the following:

- Peterbilt Cab and Chassis/ **Not Autocar**
- GL 1000 laserline carriage laser pointer system
- Pointer system manual to be mounted to the front of the truck
- Pointer system in cab guidance system with monitor
- Material lift mounted to the truck bed with step or platform to load thermo plastic material into the melter pots. (ECO A 6,500 or Bishmon 6,500 lifts or equal).
- L-10 Moyno pump speed control mounted in the timing box
- Arrow Board and Flashers (Sound off Signal) beacon and strobe lights L.E.D. (or equal)
- (2) centerline material guns (spray) and (1) edgeline material gun (spray) **No Crossover line needed.**
- (6) total bead guns / (3) for normal operations and additional (3) with detachable bead tanks mounted on the rear of the truck (Removable) for wet reflective bead application when desirable.
- Bearings/Bushings mounted on the top of the material Kettles/Pots for the agitators. **Not to be mounted in the bottom of the material holding Kettles/Pots.**
- M.R.L. to carry all replacement parts with next day shipping

As part of your cost proposal, include how long your firm is able to hold the listed price and if any discounts would be applicable for multiple orders. Please be certain that any discount offers are clearly spelled out and easily understood.



JOE LOMBARDI
Director

THE CITY OF
COLUMBUS
ANDREW J. GINTHER, MAYOR

DEPARTMENT OF FINANCE
AND MANAGEMENT

Submit your cost proposal package to Roblyn Slaughter no later than 5:00pm Wednesday December 12th, electronically to rslaughter@columbus.gov.

Should you have questions, please contact Roblyn Slaughter at 614-645-7651 or rslaughter@columbus.gov prior to submitting your cost structures.

We look forward to hearing from you.

Sincerely,



Roblyn Slaughter, CPPB

Procurement Administrative Officer





Page 1 of 3

City of Columbus RFQ009691 SPRAYLINER TRUCK

COST SUBMITTAL by
MRL EQUIPMENT COMPANY
11 December 2018

Index for Equipment Clarifications included in the invitation for Cost Submittal Letter.

1. Peterbilt Cab and Chassis/ **Not Autocar**
 2. GL 1000 Laserline carriage laser pointer system
 3. Pointer system manual to be mounted to the front of the truck
 4. Pointer system in cab guidance system with monitor (VIDEO GUIDANCE SYSTEM)
 5. Material lift mounted to the truck bed with step or platform to load thermo plastic material into the melter pots. (ECO A 6,500 or Bishmon 6,500 lifts or equal).
 6. L-10 Moyno pump speed control mounted in the timing boxes
 7. Arrow Board and Flashers (Sound off Signal)
 8. Beacon and strobe lights L.E.D. (or equal) (Sound off Signal)
 9. (2) centerline material guns (spray)
 10. (1) edgeline material gun (spray)
 11. **No Crossover line needed.**
 12. Four (4) total bead guns / (2) for normal operations and additional (2) for double drop
 13. Detachable bead tanks mounted on the rear of the truck (Removable) for wet reflective bead application when desirable.
 14. Bearings/Bushings mounted on the top of the material Kettles/Pots for the agitators.
Not to be mounted in the bottom of the material holding Kettles/Pots.
- **Secondary Propulsion System has been removed and is now listed as Optional Equipment, the price does not include this option.**

Items #1 through #14 are identified on the following two (2) pages, labeled Cost Submittal Equipment Clarification.

1. CAB & CHASSIS (Dual Steering and Controls)

2020 Peterbilt Model 520 Cab & Chassis with highway insulation kit, 236" WB. 79,430 GVW. 20,000 lb. capacity front axle and suspension (19,430 tire limited). 46,000 lb. capacity rear axles with 46,000 lb. capacity Peterbilt Air Trac air ride suspension with a 13,200 lb rated steer pusher axle installed. Paccar MX-11 430 HP turbo diesel engine with compression brake, 270 amp alternator and vertical LH exhaust. Allison 4500 RDS-P 6 speed electronic automatic transmission, 4:78 rear end ratio. Air brakes with anti-lock feature and air dryer. Aluminum wheels, one 100-gallon fuel tank, AM/FM/CD stereo radio, air conditioning, air ride seats, heated and motorized mirrors, LED taillights. DOT inspection performed on chassis prior to shipment. Cab and equipment painted City of Columbus Yellow #4015 beds and gun carts painted black.

2. Two (2) Laserline GL-1000 Laser Guidance lasers installed, one per carriage with quick connect military type electrical connections to facilitate the removal and storage of the lasers.
3. Center mounted foldable steel guide assembly with hydraulic lift mounted to front bumper.
4. Two camera color video guidance system. System includes a 10.4" LCD flat screen color monitor with suction mount and padded storage bracket, a video crosshair generator with controller, two (2) color cameras with 18mm lenses mounted inside MRL weather resistant, self-leveling housings attached to electrically actuated (extended) mounting brackets and a two position image selector switch.
5. Two (2) 6,000 LB. rated capacity Penta material lifts installed on the material deck to facilitate the loading of material in the melters.

Note: ECOA and Bishmon do not manufacture the lifts in the required widths or lengths to allow safe handling of two pallets of material (each lift) MRL has been utilizing the Penta 6,000 lb rated capacity material lifts in ALL previous builds.

6. Two (2) Moyno IL-10 hydraulically driven material pumps. Dual speed capability on both pumps. Knife gate valves at pump inlets operated by electric actuator. A 2" dia. inlet with a 2" cap will be plumbed into the system below the striper deck to enable thermoplastic to be pumped into the stripers kettles from another source by utilizing the existing Moyno pumps. Digital readout pump RPM indicators installed.

7. Four by eight foot (4'x8') 25 light LED WANCO multifunction arrow board mounted to the rear canopy. Controller and actuator switch mounted at the rear console area.

Note: currently Sound Off Signal does not manufacture Arrow Boards, MRL has been utilizing Wanco LED Arrow Boards for over 13 years and are very well supported by WANCO.

8. One (1) 48" LED Sound Off Signal amber warning strobe beacon mounted on the chassis cab roof.

Four (4) Sound Off Signal LED amber strobes mounted, two on the front of the cab and two mounted at the rear of the unit

Four (4) Sound Off Signal LED amber strobes mounted, two on the E/L side and two on the C/L side under the material deck to alert "cross traffic".

Four (4) Sound Off Signal LED amber strobes mounted, two on the E/L side and two on the C/L side mounted to the front and rear of the carriages in addition to the standard turn/hazard signals.

Four (4) Whelen M6 LED amber strobes (#71034), approximately 4" x 6", two on front of the cab and two mounted at the rear of the unit.

9. CENTERLINE GUN CARRIAGE (auto reverse-up carriage feature).

Centerline gun carriage to include:

- Two (2) MRL "Convertible" thermoplastic guns with ½" spray nozzles.

10. EDGE LINE GUN CARRIAGE (auto reverse-up carriage feature).

Edgeline gun carriage to include:

- One (1) oil-jacketed MRL "Convertible" thermoplastic gun with ½" spray nozzle.

11. No cross-over installed (also known as a Dedicated White only gun)

12. C/L Gun Carriage

Four (4) MRL bead guns with adjustable fan attachments.

E/L Gun Carriage

Two (2) MRL bead guns with adjustable fan attachments.

13. Two (2) removable, approximately 240 LB SST bead tanks, each installed with a hitch receiver type mount at the rear of the unit with quick couplings to allow for easy removal/installation for double drop/wet reflective media applications.

Note: see attached photos for reference of rear mounted removable bead/element tanks.

14. Melter agitator shafts will have a double bearing (topside of the melter) alignment, no bushings/bearings will be located at the bottom of the melter.



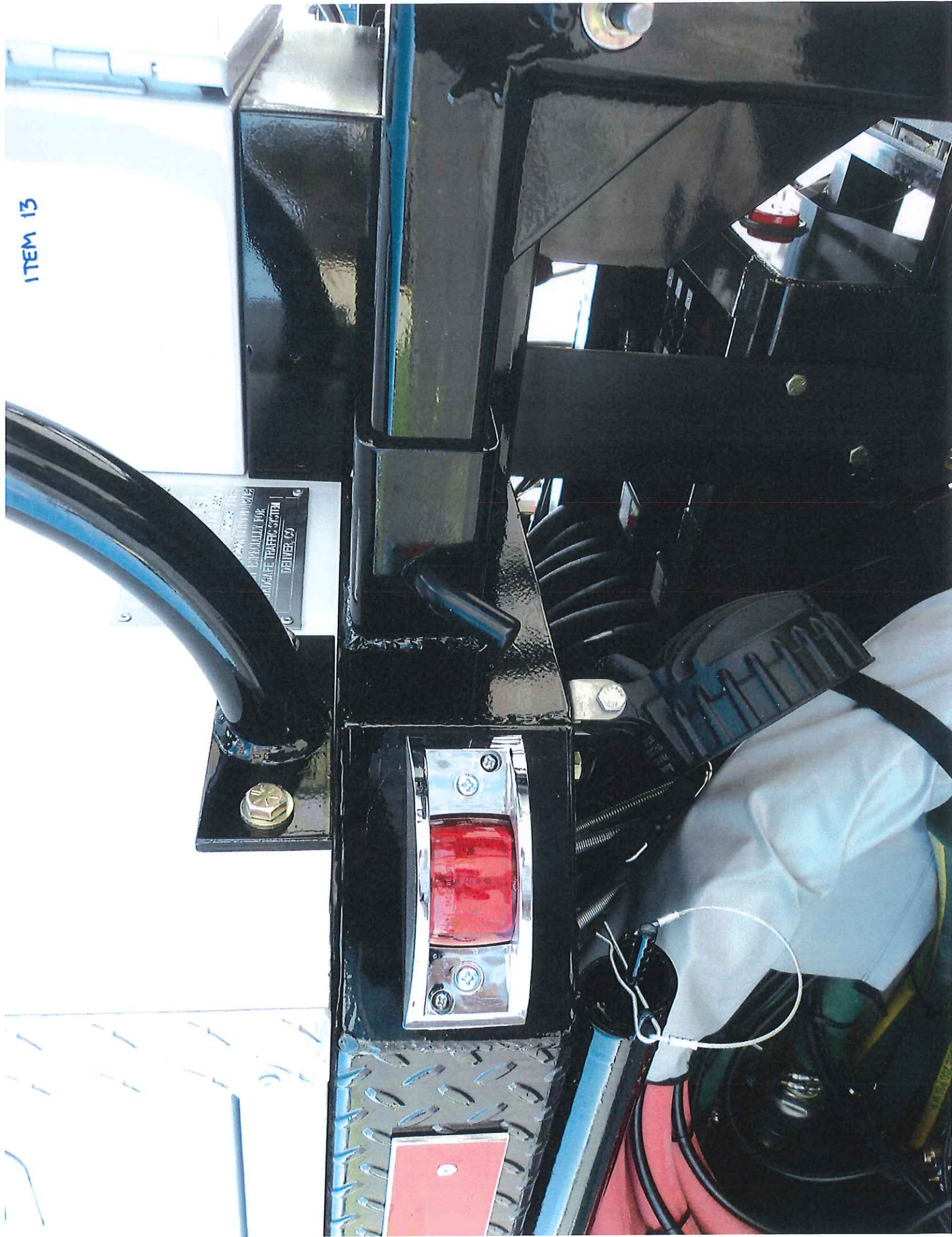
Clarification for Item #13

Detachable Bead Tanks



ITEM 13

ITEM 13





Page 1 of 5

MRL MDEL 4-8000-G THERMOPLASTIC STRIPING APPARATUS ADDITIONAL SPECIFICATIONS



Additional Specifications

Page 2 of 5

The following equipment, parts and systems will be assembled by the Seller to provide to the Buyer an item of equipment capable of applying reflectorized thermoplastic marking materials. The two-speed pump control on the left side and right side material pumps shall be capable of maintaining two even width and thickness lines simultaneously while in either double solid application or solid and skip application. The material pump hydraulic system will enable the pumps to maintain a low RPM for screed or ribbon application.

EQUIPMENT PARTS AND SYSTEMS

POWER EQUIPMENT

- ✎ BOSS 250 IT4 cfm utility mount air compressor powered by a John Deere diesel with 160 amp alternator. Additional air end oil- heat exchanger installed.
- ✎ One (1) hydraulically driven hydraulic oil cooler installed on the compressor enclosure.
- ✎ Some of the unit's hydraulic equipment powered by a power take-off feature on the chassis Allison transmission.

FABRICATED PARTS

- ✎ Steel platform with railings, built-in rear access steps, side access ladders, arrow board rack, 85" x 32" rear deck with expanded steel insert with inset step, rear railings with tail lights installed with inset step and four (4) built-in popping pans. Material storage area a minimum of 96" X 96" made of 3/16ths steel.
- ✎ Two (2) thermoplastic pre melting kettles with foldable feed step assemblies and railings.
- ✎ Two (2) removable Bi-fold 55" tall steel side railings at the material storage areas.
- ✎ Heavy duty, hydraulically extendable, diamond machined tube gun carriage assemblies, 4' Extension on both sides from the edge of the bed.
- ✎ Hydraulically raised and lowered heavy duty scissors style gun carts. Dual pneumatic wheel assembly on both gun carts.
- ✎ Mounted hydraulic steering orbitals with steering wheels to control the lateral movement of the gun carriages.
- ✎ Two (2) jacketed material filter/manifold assemblies with internal screens and full flow SST outlet valves mounted on the gun carts, one (1) per side.
- ✎ Four (4) bead manifolds with exhaust mufflers mounted on the gun carts. Two (2) per side.
- ✎ Hinged rear operator's control console mounted between the rear operators stations.
- ✎ Two (2) lockable tool boxes mounted on the rear of the deck area with two (2) high back bucket seats with armrests and seat belts mounted on top of the tool boxes.
- ✎ Aluminum tread plate to cover some surfaces.
- ✎ Two (2) weather-resistant, stainless steel boxes to protect the Epic switch boxes.
- ✎ Hydraulic reservoir with sight gauge and magnetic particle separator mounted on top of the compressor housing.
- ✎ Steel step assemblies with hand rails mounted to bed to access material re-circ valve handles.



Additional Specifications

Page 3 of 5

- ✎ Heat transfer oil expansion tank with heat shield, sight glass and overflow outlet with hose.
- ✎ Install two (2) sliding ratcheting mechanisms under the material storage deck, include two (2) heavy duty straps and ratchet bar.
- ✎ Steel and aluminum canopy installed over the rear operators' stations.

MARKING MATERIAL SYSTEM

- ✎ Two (2) propane fired 4,000 pound capacity air-jacketed, vertical design thermoplastic pre-melting kettles (8,000 lb. total capacity) with hydraulically driven agitators and thermostatically controlled automatic ignition systems. Kettle burner compartments lined with stainless steel. "Free-floating" SST burner deflector plates. Kettles interconnected and separated with insulated flexible joints and knife gate valve. Each kettle to have 3" diameter "cleanout" outlets. Two (2) 3" diameter ports installed in the lids, one (1) per lid.
 - SST deflector plates can be removed/installed without the use of tools.
- ✎ Two (2) 75 gallon capacity D.O.T. approved propane tanks mounted under the striper bed.
- ✎ Low RPM pump control to enable ribbon or screed extrusion applications.
- ✎ An oil-jacketed material line installed between the left and right-side material plumbing mounted under the striper deck.
- ✎ Thermoplastic material re-circulation with 1" I.D. re-circ lines on both material pumps.
- ✎ 1 1/2" I.D. oil-jacketed lines from the material pump outlet to filter/manifold assemblies.
- ✎ Two (2) oil-jacketed material filter/manifold assemblies mounted on the carts. 1 per side.
- ✎ 1 1/4" I.D. oil-jacketed lines from the filter/manifolds to the guns.
- ✎ An air system to blow down the pumps, manifolds, material lines and guns for clean out.

MARKING MATERIAL HEAT TRANSFER OIL SYSTEM

- ✎ Diesel fired heat transfer oil heating device with a diesel burner assembly and thermostatically controlled automatic electronic ignition system.
- ✎ ANSUL fire suppression system installed with automatic activation switches:

Dry chemical fire suppression system installed above the heat transfer oil furnace with automatic firing sensors. Two (2) remote firing stations.

- ✎ Heat transfer oil expansion tank with heat shield and overflow hose mounted on the deck.
- ✎ Heat transfer oil expansion tank with heat shield and overflow hose. Two hydraulically driven heat transfer oil circulation pumps. One for the left and right side pump, lines and guns. Transfer oil temperature gauges installed at various points in oil circulation system.



Additional Specifications

Page 4 of 5

GLASS BEAD SYSTEM - Double Drop Bead System.

- One (1) A.S.M.E. certified 36" diameter, 2,100 lb capacity bead tank mounted between the material pumps on the operator's deck. Bead tank will have 9" lid and 2" suction inlet. Three (3) sight glasses installed in this bead tank.
- Venturi vacuum bead loading system installed. Venturi exhausted through muffler below bed. One (1) 15' bead suction hose included. Butterfly valve installed at bead tank bead load supply port.

AIR SYSTEM

- Blow air system plumbed to the gun carts. System has on, off and auto functions.
- A high efficiency air cooler with hydraulically driven fan installed on compressed air system to cool the compressed air.
- Self-expelling moisture traps on the main airline and the bead tank supply.
- Two (2) Laman dryer/extractors installed on the air supply lines to the bead tanks.
- Coalescing dryer tank on compressed air system to condense moisture.
- Oiler installed on the main airlines to the gun carriage solenoids.
- Quick coupler to the air system at the rear of the unit to facilitate the use of air tools.
- Air pressure regulators installed in the control console to control bead tank pressure and spray gun atomizing pressures.
- "Blow down" compressed air system to purge residual thermoplastic from the pumps, manifolds, re-circulation lines, material lines and guns.

ELECTRONICS

Adjustable electronic **Epic** serial communication timing system. Serial communication system consists of two switchboxes located at the rear operator's stations and a "slave" box mounted in the main electrical junction box. Each switchbox has individual control of skip cycles, footage counters, digital speedometers, bead lead/lag controls etc. The single LCD display in each switchbox serves the skip cycle, footage counter and digital speedometer display functions. Switchboxes will be fully interchangeable and enable simultaneous application of different skip cycles. Metric conversion capability and profile with rock hop application capability. Digital speedometer and printer in chassis cab. **Moyno material pump RPM controls located in the timing boxes.**



Additional Specifications

Page 5 of 5

ELECTRONICS..continued

- Three (3) station David Clark aviation type intercom system with (3) ultralight headsets.
- Two (2) dual oval LED amber strobe lights, one per side mounted on each side of the rear of the unit on the canopy uprights.
- 12-volt electric actuator (mounted in the low position) to raise and lower the arrowboard.
- Ten (10) mounted 12 volt LED lights for night use. Two lights mounted on each gun cart, one mounted to illuminate the control console and two mounted on extendable posts between the air compressor and the material storage area, one to illuminate the furnace area (switch located in the console) and two (one per corner) mounted under the rear deck corners to illuminate the rear of the unit to facilitate observation of bead application to the line during night work.
- Three (3) linear actuators installed to raise and lower the spray guns.
- Two (2) weather resistant boxes, one per gun cart, installed on gun carriages to house the gun actuating and atomized air solenoids.
- Digital display RPM counters installed on each material pump. Digital displays mounted in the control console.
- Kettle material temperature gauges with digital readout installed near kettle feed doors.
- Digital "read-only" gauges installed in the cab to facilitate the monitoring of the melter and furnace temperatures.
- A low light, high resolution backup camera with cab mounted monitor installed.

ADDITIONAL EQUIPMENT

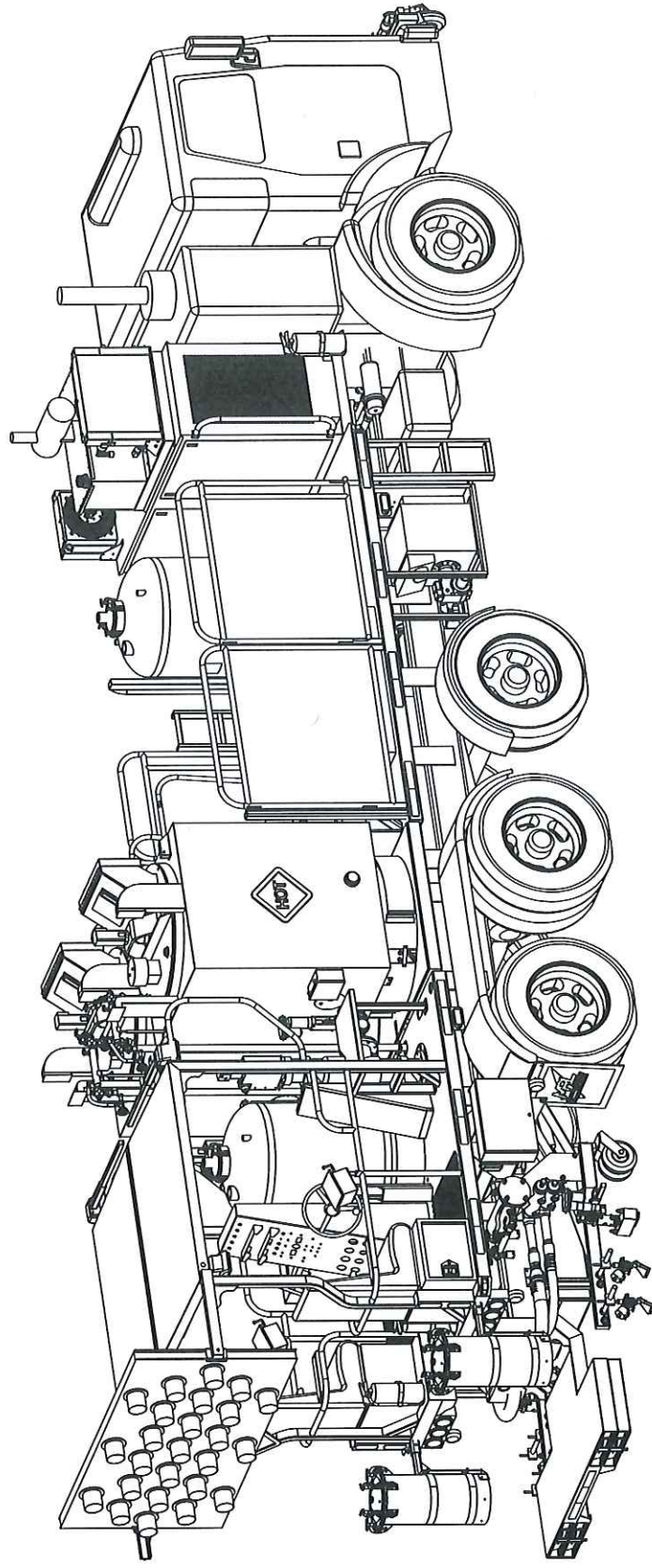
- Two (2) 5 – drawer mini tool boxes installed at /near the operators seat boxes (black).
- Hand cleaner dispenser with two containers of hand cleaner.
- One (1) 5gallon water cooler installed at the rear area of the striping unit.
- One (1) 2.5 gallon water cooler installed at the compressor area for the bag loading team members.
- Four (4) mounted fire extinguishers.
- First Aid kit.
- Warning triangles.
- Four (4) "HOT/3257" placards installed, one on the C/L side of the melter and one on the E/L side of the melter, one on the front of the unit and one on the rear of the unit.
- Insulated covers for the material filter/manifolds.
- Conspicuity tape mounted on aluminum panels installed around the striper perimeter.
- Weather resistant vinyl cover for rear operators control console.
- Aluminum fenders with mudflaps installed over the rear wheels and tires with quick release feature.



**MRL MDEL 4-8000-G
THERMOPLASTIC STRIPING
APPARATUS FOR THE CITY OF
COLUMBUS OHIO**

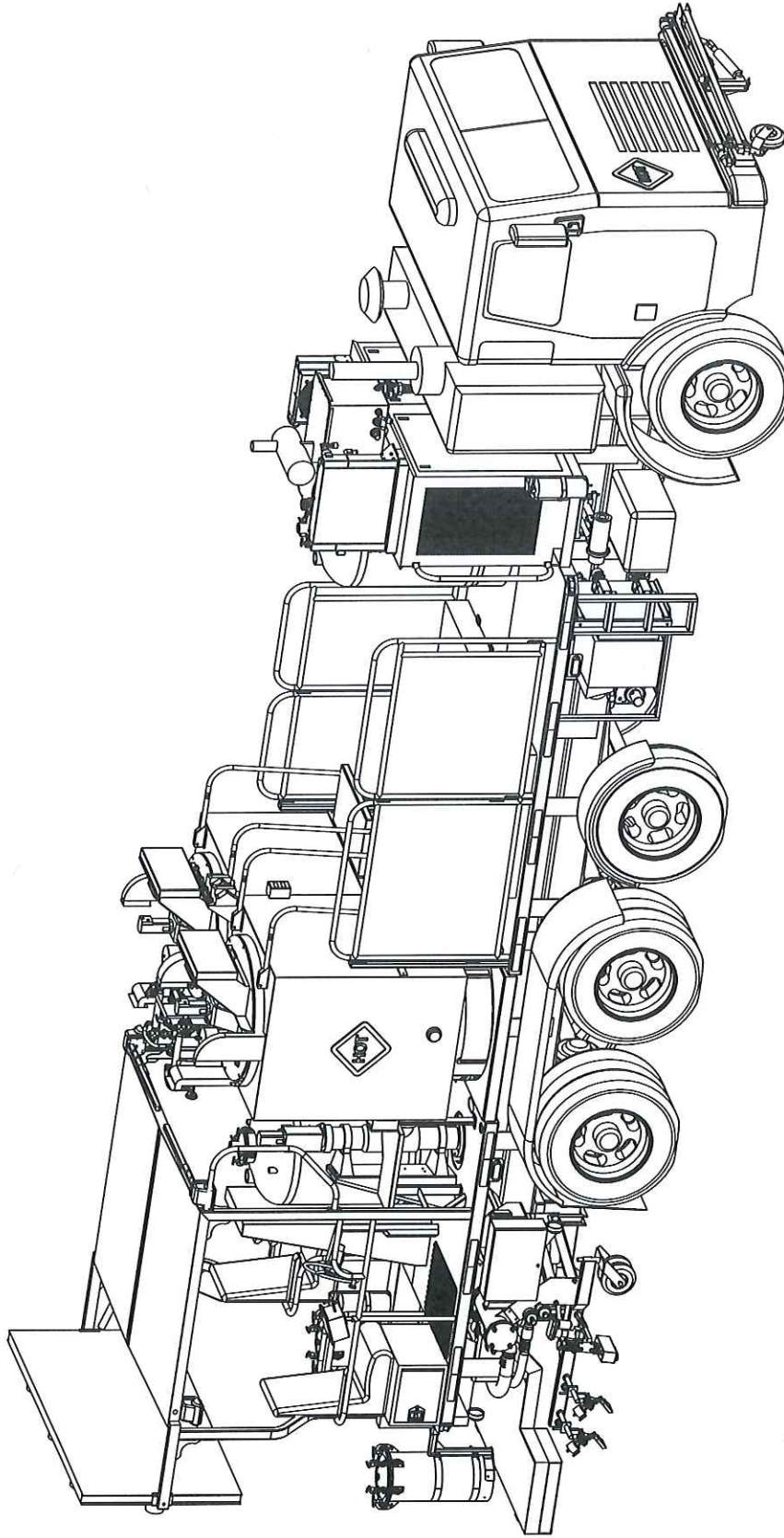
**DRAFT
DRAWINGS**

4 3 2 1



REV		ECN #	ZONE	DESCRIPTION	BY	APVD	DATE	MRL EQUIPMENT CO. INC. 5379 SouthGate Drive, Billings, MT 59101 406-869-9900			
								TITLE			
								PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE:		XX ± .02		XXX ± .010		FRACTIONS ± 1/16		ANGLES ± 1°		DO NOT SCALE DRAWING	
HEAT TREAT		FINISH		DRAWN		DATE		SHEET NO.		REV	
				TDM		11/1/18		B		A	
				COLUMBUS		19-91-18		4-8000-ADG		4-8000-ADG	
								SCALE		SHEET	
								1:32		8 OF 8	

4 3 2 1

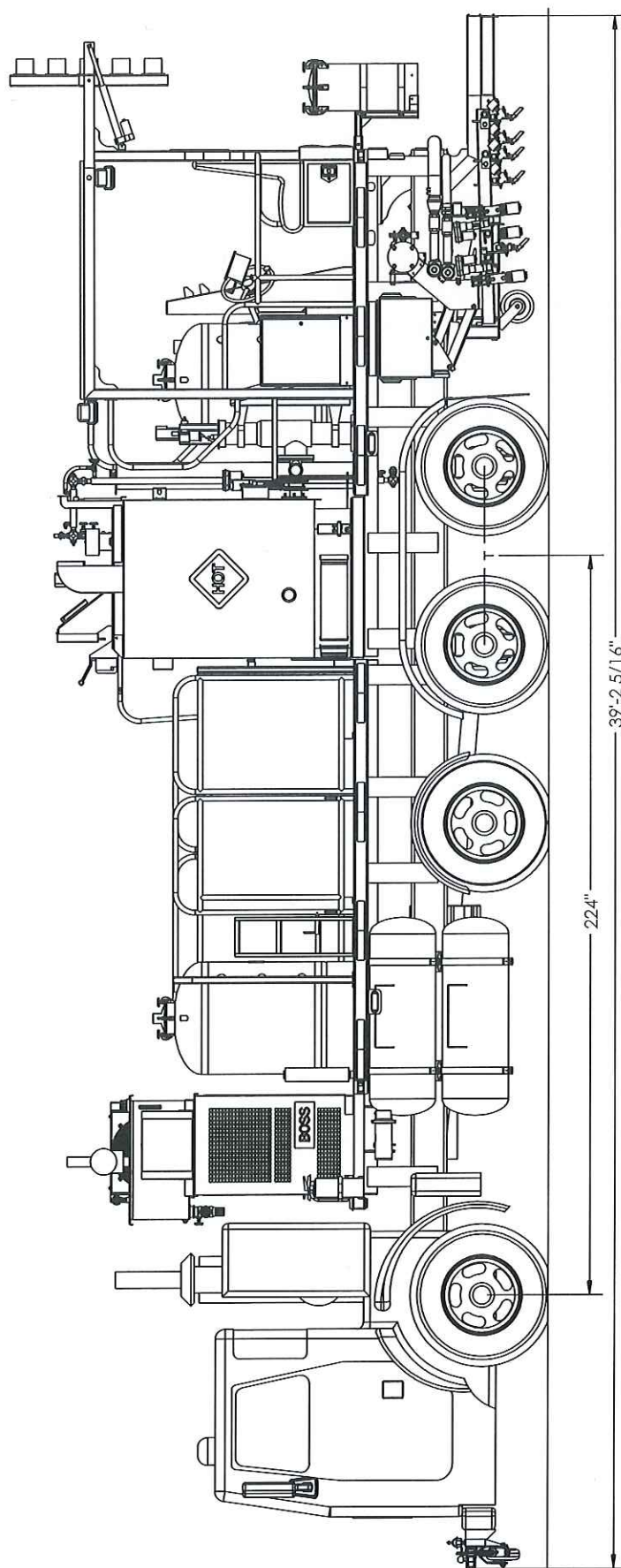


										MRL EQUIPMENT CO. INC. 5379 SouthGate Drive, Billings, MT 59101 406-869-9900																																																																															
										UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE:										PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.																																																																					
										XX ± .02										TITLE																																																																					
										FRACTIONS ± .010										DRAWN										DATE										REV																																																	
										XXX ± .010										TDM										11/11/18										B										A																																							
										ANGLES ± 1°										Customer RIGHT										SCALE										PARTS										SHEET																																							
										DO NOT SCALE DRAWING										FINISH										-										-										-										-																													

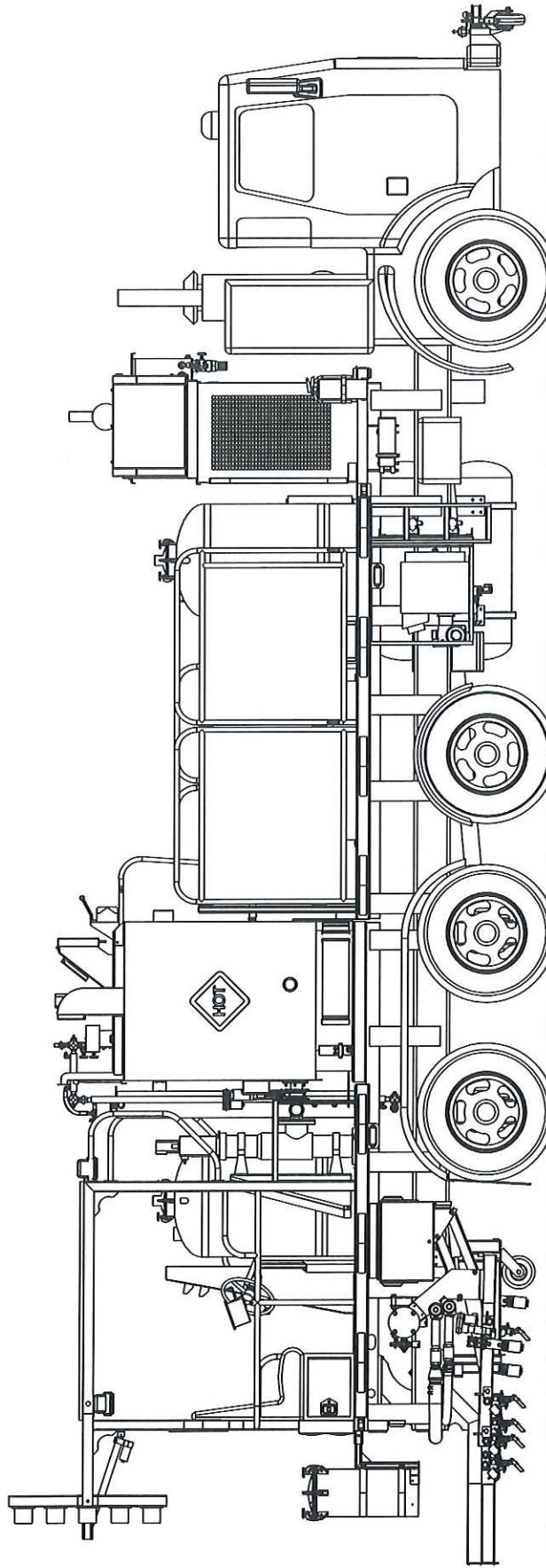


4	5	2	1
---	---	---	---

4 3 2 1

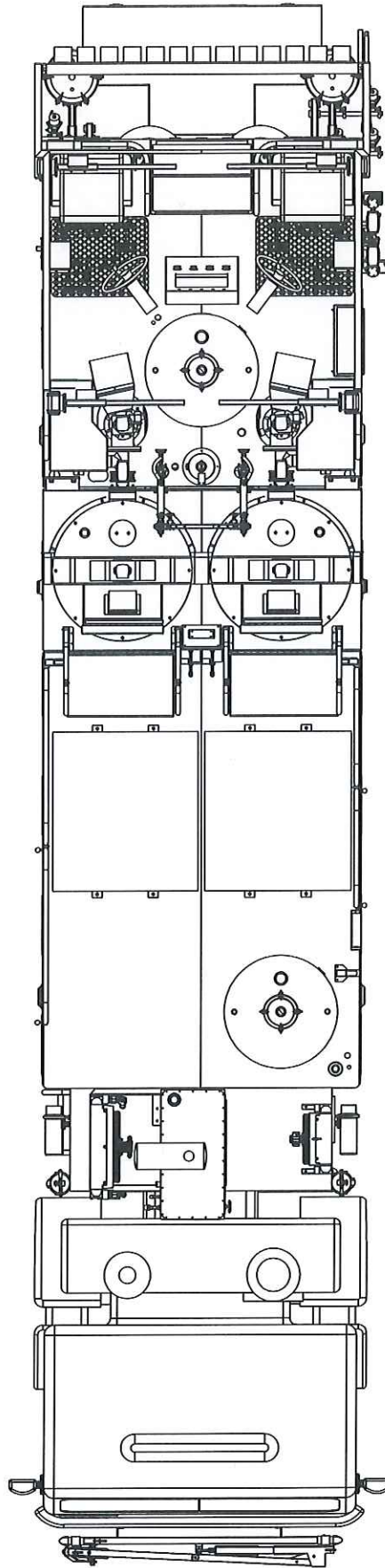


MRL EQUIPMENT CO. INC. 5379 South Gate Drive, Billings, MT 59101 406-869-9900									
TITLE									
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE: XX ± .02 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° DO NOT SCALE DRAWING									
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.									
HEAT TREAT		-		DRAWN		DATE		SHEET NO.	
						11/14/18		B	
						TDM		4-8000-ADG CITY OF	
						Customer MCHFT		PARTIAL COLUMBUS 16-31-18	
FINISH		-				SCALE		1:32	
								4-8000-ADG	
								1 OF 8	



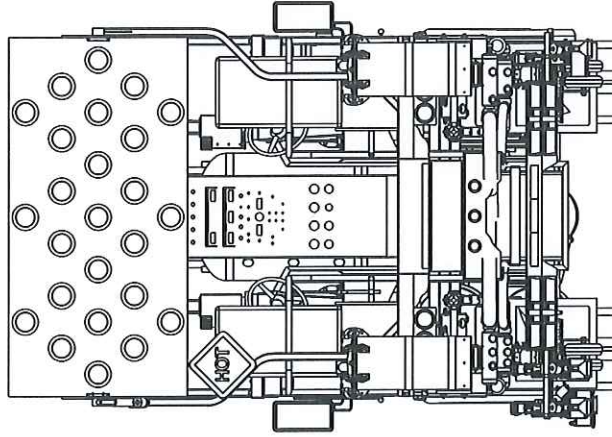
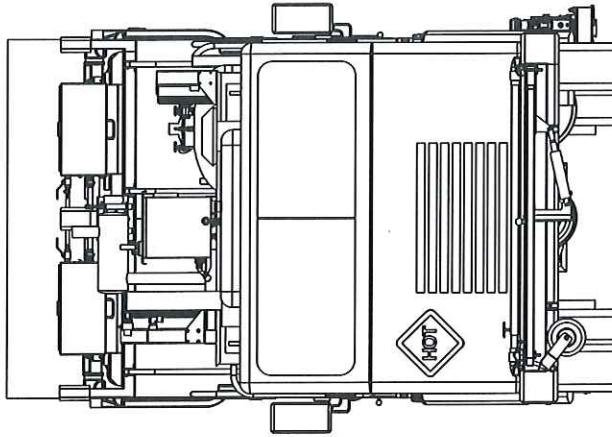
MRL EQUIPMENT CO. INC. 5379 SouthGate Drive, Billings, MT 59101 406-869-9900				TITLE			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE: XX ± .02 XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° DO NOT SCALE DRAWING				PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.			
				DATE	SCALE	REV	REV
				11/1/18	B	4-8000-ADG CITY OF	A
						COLUMBUS 19-91-18	SHEET
					1:32	4-8000-ADG	2 OF 8
REV	ECN #	ZONE	DESCRIPTION	BY	APVD	DATE	
-	-	-	-	-	-	-	-

NOTE: CANOPY ROOF
HIDDEN FOR CLARITY



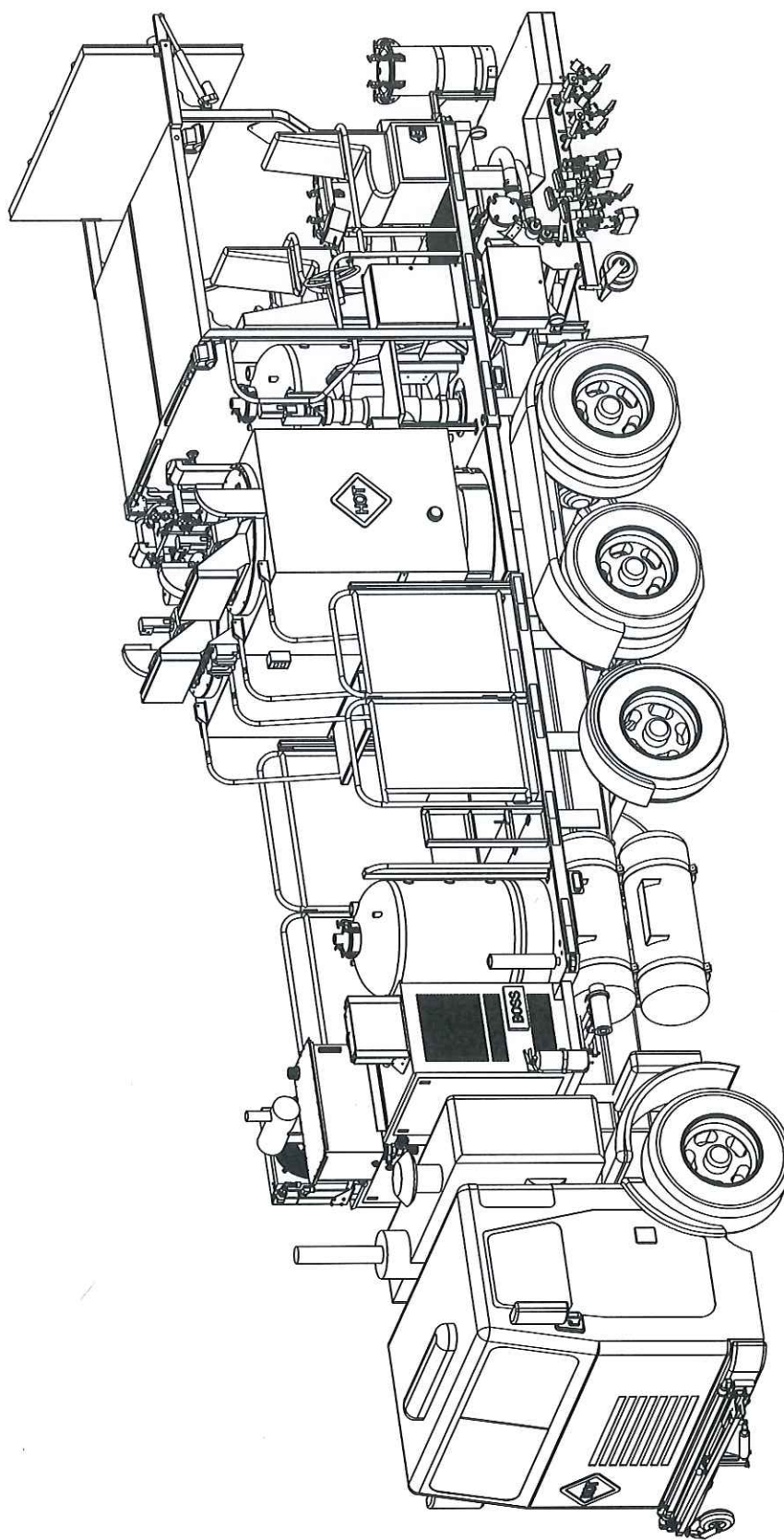
MRL EQUIPMENT CO. INC. 5379 SouthGate Drive, Billings, MT 59101 406-869-9900				TITLE			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE: XX ± .02 XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° DO NOT SCALE DRAWING				PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.			
REV		ECON #		ZONE		DESCRIPTION	
-		-		-		-	
BY		APVD		DATE		DATE	
-		-		-		-	
HEAT TREAT		DRAWN		TDM		DATE	
FRESH		-		-		11/1/18	
SHEET		SCALE		1:32		REV	
4-8000-ADG		4-8000-ADG		4-8000-ADG CITY OF		A	
3 OF 8		3 OF 8		3 OF 8		3 OF 8	

4 3 2 1



REV	ECN #	ZONE	DESCRIPTION	BY	APVD	DATE
-	-	-	-	-	-	-
MRL EQUIPMENT CO. INC. 5379 SouthGate Drive, Billings, MT 59101 406-869-9900						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE: .XX ± .02 .XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° DO NOT SCALE DRAWING						
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED						
TITLE		4-8000-ADG				
SHEET NO.		B				
DATE		11/1/18				
DRAWN		TDM				
CHECKED		TDM				
SCALE		1:32				
PART NO.		4-8000-ADG CITY OF COLUMBUS 10-01-18				
REV		A				
SHEET		4 OF 8				

4 3 2 1



MRL EQUIPMENT CO. INC.										5379 SouthGate Drive, Billings, MT 59101 406-869-9900															
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES & TOLERANCES ARE: .XX ± .02 XXX ± .010 FRACTIONS ± 1/16 ANGLES ± 1° DO NOT SCALE DRAWING										TITLE															
										PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MRL EQUIPMENT CO. INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF MRL EQUIPMENT CO. INC. IS PROHIBITED.															
REV		ECN #		ZONE		DESCRIPTION		BY		APVD		DATE		DRAWN		TDM		DATE		SHEET SIZE		DOC NO.		REV	
-		-		-		-		-		-		-		-		-		11/1/18		B		4-8000-ADG		CITY OF COLUMBUS 10-31-18	
																		Calculated RIGHT		SCALE		PART		A	
																		1:32		4-8000-ADG		5 OF 8			



Additional Specifications

PETERBILT CAB & CHASSIS SPECIFICATIONS

PETERBILT

Montana Peterbilt M500
1110 3RD Ave North

MRL EQUIPMENT COMPANY-STOCK
5379 SOUTHGATE DRIVE

Billings, Montana United States 59101
Phone: (406) 252-5667
Fax: (406) 252-9949
Email: DWeimer@MontanaPB.com

BILLINGS, Montana United States 59101
Phone: (406) 869-9900
Fax:
Contact Email:
Prepared for: Default Contact

Vehicle Summary

	Unit		Chassis	
Model:		Model 520	Fr Axle Load (lbs):	19840
Type:		Full Truck	Rr Axle Load (lbs)	46000
Description:		107446	G.C.W. (lbs):	79340
	Application		Road Conditions:	
Intended Serv.:		City Delivery	Class A (Highway)	100
Commodity:		Other Commodity	Class B (Hwy/Mtn)	0
	Body		Class C (Off-Hwy)	0
Type:		Platform w/Devices	Class D (Off-Road)	0
Length (ft):		12	Maximum Grade:	6
Height (ft):		8.0	Wheelbase (in):	220
Max Laden Weight (lbs):		2000	Overhang (in):	96
	Trailer		Fr Axle to BOC (in):	0.1
No. of Trailer Axles:		0	Cab to Axle (in):	219.9
Type:		0	Cab to EOF (in):	315.9
Length (ft):		0.0	Overall Comb. Length (in):	390
Height (ft):		0		
Kingpin Inset (in):		0	Special Req.	
Corner Radius (in):		0	United States Registry	
	Restrictions			
Length (ft):		40		
Width (in):		102		
Height (ft):		13.5		

Approved by: _____

Date: _____

Note: All sales are F.O.B. designated plant of manufacture.

	<p>Ask your dealer for a quote today, or visit our website @ www.paccarfinancial.com.</p> <p>PACCAR Financial offers innovative finance, lease and insurance programs customized to meet your needs.</p>
--	---

Unpublished options may require review/approval.

Dimensional and performance data for unpublished options may vary from that displayed in PROSPECTOR.

Printed: 11/29/2018 3:45:36 PM
Effective Date: Jan 1, 2019
Prepared by: Dan Weimer

Complete

Model Number: Model 520
Quote/DTPO/CO: C3908443
Version Number: 38.00

PETERBILT

Montana Peterbilt M500
1110 3RD Ave North

MRL EQUIPMENT COMPANY-STOCK
5379 SOUTHGATE DRIVE

Billings, Montana United States 59101
Phone: (406) 252-5667
Fax: (406) 252-9949
Email: DWeimer@MontanaPB.com

BILLINGS, Montana United States 59101
Phone: (406) 869-9900
Fax:
Contact Email:
Prepared for: Default Contact

	Description	Weight
Base Model		
	Model 520 Peterbilt's Model 520 is built to withstand the harsh demands of the refuse industry. The rugged, aluminum cab delivers best-in-class durability for increased uptime and lap seam construction on a zinc-coated steel sub-frame for corrosion resistance. Bulkhead-style doors provide years of watertight performance. This low-cab forward vehicle adds a new dimension of productivity and versatility. An industry-leading, 65-degree cab tilt enhances maintenance and serviceability. Body installation is cost effective and efficient and the center console provides convenient access to body control integration points.	16,475
	Other Commodity	0
	City Delivery Truck or tractor which hauls freight, typically operating within a 100-mile radius, on public streets and highways and other paved surfaces. Typically includes package and freight delivery.	0
	Platform w/Devices	0
	United States Registry	0
Configuration		
	Not Applicable Secondary Manufacturer	0
Frame & Equipment		
	10-3/4in Steel Rails 343-450in 10.75x3.5x.375 Dimension, 2,136,000 RBM; Yield Strength: 120,000 psi. Section Modulus: 17.8 cubic inches. Weight: 1.74 lbs/inch pair	319
	Full Steel Inner Liner	755
	Frame Components Bolted IPO Huck Fastened	0
	EOF Square with Steel Xmbr	64
	Omit Rear Mudflaps and Hangers	0
Front Axle & Equipment		
	Dana Spicer D2000F 20,000 lb, 3.5 in. Drop Factory front axle alignment to improve handling & reduce tire wear. Zerk fittings on tie rod ends, king pins, & draglink ball joints for ease of maintenance & help extend service life of components. Cognis EMGARD® FE 75W-90 synthetic axle lube provides over 1% fuel economy improvement. Reduces wear & extends maintenance intervals, resulting in increased uptime. Provides improved fluid flow to protect components in extreme cold conditions & withstand the stress from high temperatures, extending component life.	0
	Taper Leaf Springs, Shocks 20,000 lb Standard with Heavy Resistance Shocks.	0
	Power Steering Sheppard SD110 Dual	0

For use with 22,000 lb. axle ratings. Glidekote splines on steering shaft extend service life of components.

PHP10 Aluminum PreSet PLUS Hubs Air Disc	-55
Use with Front Axle	
Dana Spicer 5in Drop IPO 3.5in, Front Axle	0
5" drop (127MM) provides lower chassis suspension and profile.	
Dana Spicer Wide Track IPO Std, Front Axle	15
71in KPI IPO 69in for E1202, E1322, E1462, D2000F front axles. For improved turning radius.	
Air Disc Front Brakes	0
Complies with reduced stopping distance regulations.	

Rear Axle & Equipment

Dana Spicer D46-172 46,000 lb	0
Watson-Chalin SL1190SSR (1) 13,500 lb Pusher	945
Includes (1) air tank. Self-Steering Pusher	
48in Pusher Axle Spacing	0
From Centerline of Forward Drive Axle	
PHP10 Iron PreSet PLUS Hubs, Cast Drums	0
With 13.5K or 20K Self-Steering Pusher Axles	
PHP10 Iron PreSet PLUS Hubs	0
Long Stroke Parking Brakes, Drive Axle(s)	0
Diff Lock Rear-Rear Or Single Drive Axle	24
(Air Rocker Switch occupies the space of one gauge)	
Rear Brake Camshaft Reinforcement	9
Gusseted Cam Brackets, Drive Axle(s)	2
SBM Valve	0
Full trucks require a spring brake modulation (SBM) system for emergency braking application. This system requires an SBM valve and a relay valve with spring brakes on the rear axles. The SBM valve allows the foot valve to operate the rear axle spring brakes if a failure exists in the rear air system.	
Anti-Lock Braking System (ABS) 4S4M	0
ABS-6. Includes air braking system.	
Synthetic Axle Lubricant All Axles	0
Peterbilt heavy duty models include Fuel Efficient Cognis EMGARD FE75W-90 which provides customers performance advantages over current synthetic lubricants with reduced gear wear and extended maintenance intervals, resulting in increased uptime. In addition, the lubricant provides improved fluid flow to protect gears in extreme cold conditions and withstand the stress from high temperatures, extending component life.	
Lift Axle Regulator Mtd on Crossmember, Switch	0
and Gauge in Dash.	
Bendix Air Cam Rear Drum Brakes 16.5x7	0
Includes Automatic Slack Adjusters & Outboard Mounted Brake Drums.	
Ratio 4.78 Rear Axle	0
Peterbilt Air Trac 46,000 lbs, 54in Axle Spacing	0
Light Weight	
Dash Mtd Dump Switch With Indicator Light	2
For suspension	

Engine & Equipment

PACCAR MX-11 430@1600 GV@2200 1650@900	670
(2017 Emissions)	
N20690 N162 64....Maximum Accelerator Pedal Ve	
N20700 N006 64....Max Cruise Speed (N006)	
N20710 N052 650...Idle Target (N052)	
N20740 N015 NO....Enable MX Retarder in Neutra	
N20750 N019 0.....Delay in Engine Brake Activa	
N20760 N014 2.....Auto Retard Vehicle Speed Of	

N20770 N013 4....Downhill Speed Limiter Vehic
 N20780 N001 16....Minimum Speed to Turn Cruise
 N20790 N003 19....Minimum Cruise Control Speed
 N20800 N002 19....Min Speed to Automatically T
 N20830 N039 OFF...Allow Multi-Torque Only When
 N20840 N187 5....Timer Setting Non-PTO Mode w
 N20850 N188 5....Timer Setting Non-PTO Mode w
 N20860 N185 40....Low Ambient Temperature Over
 N20870 N184 80....High Ambient Temperature Ove
 N20900 N186 5....Timer Setting When in PTO Mo
 N20910 N190 YES...Reset EIST Timer Based on En
 N20930 N071 ON....FIC Enable/Disable (N071)
 N20940 N072 1900..Maximum Fast Idle Control En
 N20990 N078 ON....PTO Mode Disabled w/ Clutch
 N21000 N101 ON....PTO Mode Disabled w/ Service
 N21010 N079 ON....PTO Mode Enable Only w/ Park
 N21020 N080 1....PTO Vehicle Speed Limit (N08
 N21030 N089 ON....PTO Mode Enable Only w/ Tran
 N21100 N087 780...RPM Set Point (N087)
 N21110 N086 2000..Maximum Engine Speed During
 N21160 N110 1....Enable Set Point w/ Set/Acce
 N21170 N191 NO....Override EIST Timer Based on
 N21190 N193 0....Expiration Distance (N193)
 N21230 N197 YES...Enable Accelerator Pedal Res
 N21240 N198 YES...Enable Service Brake Reset (
 N21250 N199 YES...Enable Clutch Pedal Reset (N
 N21260 N200 YES...Allow EIST Timer Overrides i
 N21280 N163 0....Maximum Cycle Distance (N163
 N21300 N169 0....Expiration Distance (N169)
 N21310 N170 65....Standard Maximum Speed Limit
 N21320 N106 650...Minimum Engine Speed During
 N21640 N179 YES...Enable Park Brake Reset (N17
 N21650 N173 0....Reserve Speed Offset (N173)
 N21670 N164 252...Reserve Speed Function Reset
 N21900 N073 0....Cab Accel Pedal Type in PTO
 N21910 N182 30....Coolant Temperature Override
 N21920 N219 3....Offset mode (N219)
 N21930 N224 0....Maximum Vehicle Speed Bonus
 N21940 N227 -2....Maximum Vehicle Speed Penalt
 N21950 N246 4....Minimum Vehicle Speed for DS
 N21960 N247 1....Lowest Gear that DSA will be
 N21970 N248 6....Highest Gear that DSA will b
 N21980 N076 2000..Max Accelerator Controlled E
 N21990 N307 OFF...Cab Accelerator Active in Re

Engine Idle Shutdown Timer Enabled	0
Enable EIST Ambient Temp Override	0
Eff EIST NA Expiration Miles	0
Effective VSL Setting NA	0
Typical Operating Speed 65 MPH	0
MX Retarder State Cruise Control On (Manual Mode Engine Parameter)	0
Powertrain Optimized for Fuel Economy Best analysis for vehicles which operate at or near cruise speed 90 plus percent of time.	0
Powertrain Optimization Declined By Dealer / Customer	0
Enable MX Retarder Auto Retard (Engine Parameter)	0
Engine Monitoring Protection - Derate (PACCAR MX) A warning is provided in the A-Panel display when DPF regeneration is required. Continued operation without regeneration will initiate automate derating of the engine's power and can result in damage to the engine.	0
CARB Engine Idling Compliance	0

PACCAR PX-7, PX-9 and MX, Cummins ISL, ISM and ISX diesel engines will include the required factory installed serialized sticker on the drivers door to identify them as meeting the NOx idling standard.

270 Amp Alternator, Standard Brush	10
12 Volt system with circuit protection for reliable easy maintenance & service. Weather pack silicone sealed electrical chassis connectors enhance value, durability, reliability. Wires numbered every 4" or less.	
PACCAR Premium Starter-MX Engines Only	0
2 PACCAR Premium 12V Starting Batteries 2000 CCA	-62
Threaded stud type terminal. Stranded copper battery cables are double aught (00) or larger to reduce resistance.	
Kissling Battery Disconnect Switch	3
300 AMP; Mounted on battery box	
2-Speed Fan Clutch For Frequent Start/Stops	0
Wabco 25.9 CFM Air Compressor, MX only	7
Compression Brake, MX	0
PACCAR Fuel/Water Separator Standard Service Interval	0
No Fluid Heat Option for Fuel Filter	0
No Electric Heat Option for Fuel Filter	0
Engine Protection Shutdown	0
Includes oil pressure, oil temperature, coolant temperature, and intake manifold temperature.	
High Efficiency Cooling System	0
Cooling module is a combination of steel and aluminum components, with aluminum connections to maximize performance and cooling capability. Silicone radiator & heater hoses enhance value, durability, & reliability. Constant tension band clamps reduce leaks. ClimaTech extended life coolant extends maintenance intervals which reduces maintenance costs. Anti-freeze effective to -30 degrees F helps protect the engine. Low coolant level sensor warns of low coolant condition to prevent engine damage. Radiator Size by Model: 587: 1330 sq in, 579/367 FEPTO 1325 sq in, 567/365/367: 1440 sq in, 384/386: 1301 sq in, 365 FEPTO: 1184 sq in, 389/367 HH: 1669 sq in, 348: 1000 sq in, 320: 1242 sq in.	
Bugscreen-Removable Type Grill Mtd	0
Additional clips at bottom of bugscreen.	
Stainless Steel Grille	0
Heavy Duty Air Cleaner	0
Molded rubber air intake connections with lined stainless steel clamps seal to prevent contaminants in air intake.	
Exhaust Vertical LH	0
DPF/SCR LH Back of Cab Vertical (2017).	
Curved Tip Standpipe(s)	1
36in Ht, 5in Dia Chrome, Clear Coat Standpipe(s)	4

Transmission & Equipment

Allison 4500 RDS-P Transmission, Gen 5	390
Rugged Duty Series. Includes Rear Transmission Support except on MX engines, TranSynd Transmission Fluid, and Water Oil Heat Exchange. Also includes features that monitor the transmission fluid, filter and clutch condition. Will display percent life remaining for the transmission fluid, filter and clutches on the shift selector. This information may be displayed using the Mode and Up and Down buttons. A wrench icon will also be included to indicate when the transmission fluid, filter or clutches need servicing. (Suited for vehicles operating on/off highway and/or requiring PTO operation) Forward Ratios: 1st-4.70, 2nd-2.21, 3rd-1.53, 4th-1.00, 5th-0.76, 6th-0.67 / Reverse Ratios: DR-(5.55)	
1810 HD Driveline, 1 Midship Bearing	15
4.5in x .180 wall tubing	
(1) Dash Mounted Single Acting Air PTO Control	0

Standard with PTO engaged indicator light on Class 8 units. Occupies the space of one gauge. Specing PTO switch does not ensure the PTO will fit.

ALLISON 5TH GEN RDS, PKG 223	0
Allison FuelSense 2.0 Not Desired	0
Omit Allison Neutral At Stop	0
Console Mounted Push Button Shifter	0
Allison transmissions	
Allison 6-Speed Configuration, Wide Ratio Gears	0
Allison 4500 Transmission Only	

Air & Trailer Equipment

Bendix AD-IS EP Air Dryer with Heater	0
And Coalescing Filter; Extended Purge	
Pull Cords All Air Tanks	1
Nylon Chassis Hose	0
Steel Painted Air Tanks	0
All air tanks are steel with painted finish except when Code 4543330 Polish Aluminum Air Tanks is also selected (then exposed air tanks outside the frame rails will be polished aluminum). Peterbilt will determine the optimal size and location of required air tanks. Narratives requesting a specific air tank size or location will not be accepted for factory installation. See ECAT to determine number or location of air tanks installed.	
Dual Brake Pedals	0
Only Available with 6501100 or 6501110.	

Tires & Wheels

FF: BR 20PLY 385/65R22.5 R244	6
RR: MN 14ply 11R22.5 X Line Energy Z	32
Code-rear Tire Qty 08	0
FF: Alcoa 823627 22.5X12.25 Clean Buff Finish	-82
Aluminum	
RR: Alcoa 883677 22.5X8.25 Clean Buff Finish	-200
Aluminum	
Code-rear Rim Qty 08	0
FF: Polish Wheels, Outer Surface, Sgl/Tdm Steer	0
Polish outer surface of outer wheel. Without chrome wheel nuts.	
RR: Polished Wheels, Outer Surface, Tandem Drive	0
Polish outer surface of outer wheels (4). Without chrome wheel nuts.	
PR: Polished Wheels, Outer Surface	0
All pusher axles. Polish outer surface of outer wheel.	
PR:(2) MN 14ply 275/80R22.5 X Line Energy Z	226
(1) self-steering pusher axle.	
PR: (2) Alcoa 883677 22.5X8.25 Clean Buff Finish	90
Aluminum, (1) self-steering pusher axles.	

Fuel Tanks

26in Aluminum 100 Gallon Fuel Tank LH BOC	18
Paddle handle filler cap with threadless filler neck. Top draw fuel plumbing reduces chance of introducing air into the fuel system during low fuel level conditions due to the central placement of fuel pickup tube. Wire braid fuel lines increase durability & reduce potential for leaks.	
Location LH BOC 100 Gallon	0
Fuel Cooler	0
Required with single fuel tank.	
Locate BOC Fuel Tanks Forward As Far As Possible	0
May Result in Filler Neck Under Sleeper.	
DEF Tank Mounted LH BOC	0
Models 220 and 520 mounted LH cab fender	
Less Than Standard DEF To Fuel Ratio 2:1	0
Greater than minimum 1:1	
DEF Tank 520	0

Battery Box & Bumper	
Aluminum Space Saver Battery Box RH BOC	-11
Steel Bumper Channel Painted	0
Includes two front tow eyes with pins.	
Screen Over Air Intake Opening In Bumper	2
Cab & Equipment	
53in LCF ProBilt Cab Dual Seated Drive	81
Dual Steer w/auto trans. Includes steel frames w/alum and fiberglass panels, all alum doors, dual door stops, door locks, tinted safety glass thru-out, cab and door mounted entry grab handles, 65 degree hydraulic tilt, sssl grille, dual rear cab fenders, service module BOC (cab tilt pump, oil fill and dipstick, coolant fill and check, fluid fill and dipstick for auto trans), door mounted armrests, full insulation, rubber floor mats, engine tunnel mounted control console, removable instrument panel w/speedometer message center, two engine oil pressure gauges, cigar lighter and ashtray, inside sunvisor, 17in black steering wheels LH and RH w/horn buttons, power windows, 18in step height, extended metal step w/ add'l grab handle, Front and side Directionals, Remote radio control and HVAC head for applicable drive station, Multi-function turn stalk, Pantograph wiper operation for expanded coverage area, Stylized single rectangular headlight.	
4.5 Inch Rubber Flares on Cab	0
and Wheel Well Fenders	
Peterbilt Driver Seat	0
Peterbilt Passenger Seat	0
Air Ride Driver	43
High Back Driver	0
Vinyl Driver	0
Air Ride Passenger	43
Low Back Passenger	0
Vinyl Passenger	0
Gray Interior Color	0
Includes ABS gray headliner & rear cab panel, gray vinyl engine tunnel cover. For LH, RH, and dual steer dual seated power windows are standard on both doors. For dual steer RH stand-up the LH window is power and the RH window is a manual sliding window.	
Fixed Steering Column	0
Steering Wheels for Dual Steer	0
16 inch LH and RH drive station.	
Rear Window Back of Cab Dark Tint	0
18.5in X 54in	
Two Piece Flat Windshield	0
Combo Fresh Air Heater/Air Conditioner	0
With radiator mounted condenser, dedicated side window defrosters, Bi-Level Heater/Defroster Controls, 54,500 BTU/HR, and silicone heater hoses.	
Outside Sunvisor - Stainless Steel	4
Not available with 2.1M high roof sleeper.	
Chromed LH/RH Tri-plane Mirrors, Heated,	-5
Mounted to Doors. Chrome mirror shell / black arms. Features: Heated on All Three Surfaces, Upper/Lower Mirrors are Convex and Middle is a Flat Pane Motorized Mirror. Right Click on Option and Select Picture to See a Picture of the Mirror.	
(1) Air Horn 24.5in Chrome - Round w/Horn Shield	0
ConcertClass w/CD, Bluetooth Phone and Audio	10
Includes AM/FM, WB, USB and MP3.	
Midlevel Speaker Package For Cab	6
(4) Speakers	

SmartLINQ Remote Diagnostics

0

SmartLINQ is Peterbilt's proprietary remote diagnostics service which monitors the engine and aftertreatment for diagnostic codes providing real-time code analysis maximizing vehicle uptime and strengthening the fleets partnership with their dealer. SmartLINQ provides fault coverage for over 800 codes, a customizable email notification for 116 codes plus a web portal to manage your entire fleet included at no additional charge. SmartLINQ is compatible with any telematics system and doesn't require a specific fleet management system. For those whose customers utilize PeopleNet, the pre-wire with remote diagnostics will provide a more integrated solution utilizing the existing SmartLINQ modem. For those whose customers utilize other fleet services products, the existing pre-wire option for the other fleet service devices will continue to be available.. SmartLINQ is standard with MX-13 engines and available on the models 587,579,567,389,367 and 365.

Rain Gutters Over Driver and Passenger Doors

8

Peterbilt Pantograph Windshield Wipers

0

With intermittent feature.

Backup Alarm (107dB)

3

Engine Oil Temperature Gauge

0

Located in Driver Information Display

Main Transmission Oil Temperature Gauge

0

Located in Driver Information Display

Air Restriction Indicator

0

Mounted on Exhaust Stanchion

Up To (4) Additional Electric Switches

1

Without wiring

Suspension Pressure Gauge

0

Located in Driver Information Display

Headlights Single Rectangular LED

0

(5) LED Clearance With (2) LED Marker Lights

0

Includes (5) lights mounted on roof of cab and (1) cab side marker light mounted in front of each cab door.

Paint**Standard Paint Color Selection**

0

(1) Color Axalta Two Stage - Cab/Hood

0

Base Coat/Clear Coat

N85020 A - L0006EY WHITE

N85500 CAB ROOF L0006EY WHITE

N85200 FRAME L0001EA BLACK

N85700 BUMPER L0001EA BLACK

Options Not Subject To Discount**Peterbilt Class 8 Standard Coverage**

0

1 year/100,000 Miles (160,000 km)

PACCAR MX Standard Coverage

0

2 yrs/250,000 mi (400,000 km)/6,250 hrs

Vehicle Layout

0

Option is not subject to discount. Fleets will be split prior to build so that the charge is applied to only one unit. Quotes will not reflect this.

N94000 DAN WEIMER

N94010 DWEIMER@MONTANAPB.COM

Miscellaneous**2017 EPA Emissions Engine**

0

Warranty Only

Total Weight

19869

Prices and Specifications Subject to Change Without Notice.

Unpublished options may require review/approval.

Dimensional and performance data for unpublished options may vary from that displayed in PROSPECTOR.

Printed:	11/29/2018 3:45:36 PM	Complete	Model Number:	Model 520
Effective Date:	Jan 1, 2019		Quote/DTPO/CO:	C3908443
Prepared by:	Dan Weimer		Version Number:	38.00