SPECIFICATIONS FOR A SELF-CONTAINED, SELF-PROPELLED FOUR WHEELED CHASSIS MOUNTED, DOUBLE-LINE AIRLESS HIGHWAY MARKING MACHINE

Part Number: WV50C-AL

1. **GENERAL.**

1.1 The specifications are intended to describe and define the minimum requirements of a self-contained, self-propelled road marking machine ("The Unit").

1.2 The Unit shall be capable of efficiently and speedily apply all single-color, double line patterns at speeds up to 10 mph. The equipment shall be capable of applying lines of varied widths from 2" to 12" and the spaces between the lines vary 2" to 9".

1.3 The Unit in overall design and construction will be such that it will facilitate the maintaining of traffic flow in adjacent lanes while striping in the center of the road not obstruct oncoming traffic during the striping operation. The Unit shall further be capable of normal over the road speeds up to a minimum of 20 mph by means of its own power source.

2. **CHASSIS.**

2.1 The four-wheeled chassis will have a certified GVW rating of 3,840 pounds.

2.2 Dimensions

- 2.2.1 Overall Length: 136. 0 in (345 cm) (less striping equipment)
- 2.2.2 Overall Width: 53.0 in (135 cm)
- 2.2.3 Overall Height: 51.0 in (130 cm) without canopy, 74.0 in (188 cm) with ROPS
- 2.2.4 Wheel Base: 88.2 in (224 cm)
- 2.2.5 Front Wheel Track: 42.0 in (107 cm)
- 2.2.6 Rear Wheel Track: 44.0 in (112 cm)
- 2.2.7 Ground Clearance at Differential: 5.0 in (13 cm)
- 2.2.8 Outside Clearance Circle: 20.2 ft (6.2 m)
- 2.2.8 Weight: 1440 lb (650 kg), 1540 lb (less striping equipment)
- 2.2.10 Cargo Deck Length: 72 in (183 cm)
- 2.2.11 Cargo Deck Width: 47.4 in (120 cm)

2.3 Body & Chassis

- 2.3.1 Frame: Unitized welded-steel channel, with e-coat finish
- 2.32 Front Body & Finish: Polyethylene
- 2.3.3 Rear Body & Finish: Steel with rubber fender flares
- 2.3.4 Storage: Hinged Front Cowl
- 2.3.5 Standard Color: Yellow

2.4 Steering /Suspension/Brakes

2.4.1 Front Suspension: Double A-arm independent with spring over shocks
2.4.2 Rear Suspension: Multiple leaf springs
2.4.3 Service Brake: Four-wheel 7.9 (20 cm) hydraulic drum, self adjusting
2.4.4 Parking Brake: Mechanical Hand Brake
2.4.5 Front Tires: USA Trail 20.5 x 8 - 10 (Load Range C)
2.4.6 Rear Tires: USA Trail 20.5 x 8 - 10 (Load Range C)

2.5 Chassis Engine

2.5.1 Power Source: 4-cycle, 40.3 ci (660 cc) EFI, 3-cylinder
2.5.2 Valve Train: 12 valve, dual OHV/OHC, chain drive
2.5.3 Horsepower: 26.0 hp (19.4 kW) at 3600 rpm (governed)
2.5.4 Electrical System: 12-volt starter, 60 amp alternator
2.5.5 Battery: One 12-volt maintenance-free
2.5.6 Air Cleaner: Dry Cartridge with evacuator valve
2.5.7 Lubrication: Pressurized Oil System
2.5.8 Oil Filter: Spin-on
2.5.9 Cooling System: Liquid-cooled
2.5.10 Fuel Capacity: 7.0 gallon (26.5 L) tank

2.6 Transmission/Rear Differential

2.6.1 Transmission: Manual, synchronized 5 speed
2.6.2 Gear Selection: (5) forward –neutral-reverse
2.6.3 Rear Axle: Differential with hypoid gears
2.6.4 Rear Axle Ratio: 11.16:1
2.6.5 Vehicle Load Capacity: 2400 lb (1090 kg)
2.6.6 Towing Capacity: 2400 lb (1090 kg)
2.6.7 Speed: 20 mph +/- 0.5 mph (32 kph +/- 0.8 kph)

2.7 Seating Capacity: 2 with seat belts

2.8 Lighting

2.8.1 Head lights mounted in vibration proof bucket, adjustable.
2.8.2 Tail lights, stop, turn and brake lights
2.8.3 Running lights, two each amber lights mounted on front near headlights
2.8.4 Amber strobe light, mounted on ROPS structure

2.9 Electrical & Instrumentation

2.9.1 12VDC outlet
2.9.2 Back up alarm
2.9.3 Battery level gauge
2.9.4 Fuel gauge located in dash
2.9.5 Engine hour meter
2.9.6 Horn, steering wheel mounted automotive style button
2.9.7 Low chassis engine fluid indicator
2.9.10 Low oil pressure gauge
2.9.11 Parking brake indicator light
2.9.12 Speed-o-meter, dash mounted
2.9.13 Chassis engine tachometer
2.9.14 Engine temperature gauge
2.9.15 Chassis engine volt meter

2.10 ROPS

2.10.1 Operators control station equipped with an ROPS structure
2.10.2 Structure to be powder coated black

2.11 Mirrors

2.11.1 Two each rear view side mirrors
2.11.2 One passenger side, one driver's side
2.11.3 Adjustable
2.11.4 Automotive glass mounted in vibration proof grommet

3. **COMPRESSOR.**

3.1 The compressor shall be a two cylinder, single stage, cast iron, air-cooled type having a minimum displacement of 13.1 CFM at 1050 rpm at 100 pounds pressure.

3.2 The compressor shall be equipped with a pneumatic automatic head un-loader device and an air receiver.

3.3 The compressor shall be conveniently mounted on the unit for easy daily maintenance and access. The pulley and external belts of the compressor and engine shall be covered with a metal belt guard.

3.4 The compressor shall be manufactured in the USA, Quincy Model Q3 or equal, no aluminum compressors permitted.

4. **POWER UNIT/ENGINE.**

4.1 The power unit shall include a 20 gross horsepower industrial/commercial grade, two-cylinder gasoline engine. The engine shall be equipped with a 12-volt electric starter system and a 20 amp charging system. Honda GX-630 or equal.

4.2 The power unit shall be equipped with an oil level dipstick and a gearator oil pump. The ignition system on the engine shall be electronic.

4.3 The engine will be equipped with a separate 10 gallon fuel tank complete with fuel cap.

4.4 The engine will be equipped with a rubber engine oil drain hose approximately 12" long for convenient draining of engine oil.

4.5 The engine will be equipped with a low pressure oil shutdown system.

5. **MATERIAL CONTAINER.**

5.1 The Unit shall be equipped with a 50 US gallon plastic paint tank with removable inspection cover.

5.2 The tank shall be secured to the unit with a minimum of three vertical structural steel tubes with a 1/4" x 3" rolled steel ring approximately 180 degrees.

5.3 The tank will be further secured with two each 1" nylon ratchet style clamps.

5.4 The tank will be mounted on the passenger side of the unit opposite the bead tank for even weight distribution.

5.5 The tank will be easily accessible from the curb side for filling and maintenance.

5.6 The entire lid shall be removable; one additional 4" inspection cover shall be located within the main lid assembly.

5.7 The tank shall be equipped with a stainless steel stinger fabricated from 1" schedule 40 pipe to draw paint directly from the paint tank.

5.8 A stinger bath/holder will be provided and made from PVC pipe. The holder shall be water tight and removable for cleaning.

5.9 The unit shall be equipped with a separate cleaning hose to permit paint from the pump and filter to be returned to the paint tank when cleaning.

5.10 A standard 55 gallon paint drum may be used in place of the 50 gallon plastic tank.

6. **AIRLESS PAINT PUMP.**

6.1 The unit shall be equipped with one (1) high capacity, high pressure, piston type, hydraulically driven airless paint pump. The airless paint pump shall have a minimum capacity of 3.1 GPM at discharge pressure of 2,000 psi.

6.2 The pump shall be capable of spraying waterborne (latex), alkyd (conventional solvent based) and chlorinated rubber paints. The pump shall be capable of spraying paints with standard solids content, as well as low VOC, high solids paint.

6.3 The pumps piston and sleeve shall be chrome plated for maximum corrosion and abrasion resistance.

6.4 The pump packing shall be ultra high molecular weight polyethylene and impregnated leather. The pump throat packing shall be spring loaded to compensate for normal wear.

6.5 Paint pressure shall be fully adjustable from the operator's instrument panel located directly behind the driver's station. The paint pump pressure shall be adjustable from 350 to 2,000 PSI. Paint pump pressure adjustment requiring the operator exit the operators seat shall be prohibited.

6.6 A stainless steel check valve shall be installed between the paint pump outlet and the high pressure paint filter.

7. **PAINT FILTRATION.**

7.1 At the low pressure the inlet port of the high pressure paint pump, material shall pass through a "Y" type strainer with a minimum 20 mesh stainless steel screen with 1/8" openings. The strainer shall be equipped with removable reusable screen.

7.2 The "Y" strainer will be located on the passenger side of the unit outboard of the platform for easy servicing. It shall be possible to drain the strainer by placing a standard 5 gallon pail on the pavement without slopping paint on the platform or equipment.

7.2 At the high-pressure outlet port of the high pressure paint pump, there shall be one (1) high capacity, high-pressure canister type paint filter. The filter shall have pressure rating of not less than 5,000 PSI.

7.3 The high-pressure filter shall have a reusable steel screen with maximum 40 mesh perforations.

7.4 The paint filter shall be positioned as close to the paint pump as possible to facilitate quick and easy cleaning.

8. **BEAD DISPENSING EQUIPMENT.**

8.1 The Unit shall be equipped with a 250-pound capacity, carbon steel pressure bead tank.

8.2 The bead tank lid shall have a minimum diameter of 10" and shall be held in place by four (4) over-the-center clamp and screw assemblies with forged steel wing head bolts.

8.3 The bead tank shall be equipped with a moisture trap, air pressure regulator, gauge, pop off valve and air bleed jet. A full steel skirt shall be provided around the bottom of the tank for flush mounting to the platform.

8.4 Pressure bead hoses with a minimum diameter of 3/4" ID shall be provided to convey the beads from the bead to each individual pressure bead gun.

8.5 The bead tank shall be equipped with a master shut off valve under the tank.

8.6 A cam lock style quick disconnect shall be provided at each bead gun to facilitate ease in maintenance and moving carriage from side to side.

9. **GUN CARRIAGES.**

9.1 The spray gun carriage shall be mounted on the front of the Unit and positioned such that the spray control operator will have the striping guns in view while sitting in the operators driving seat.

9.2 The spray gun carriage shall be hinged with a pneumatic cylinder to deploy from the transport position to the striping position.

9.3 Controls for operating the pneumatic lift cylinder shall be in the skipline controller.

9.4 The gun carriage will be equipped with a transport locking pin to secure the carriage for transport. The pin will be easily removable; units without transport safety lock will not be permitted.

9.5 The carriage shall be equipped with dual swivel wheel assemblies mounted on a self leveling bogie assembly insuring constant contact of both wheels with pavement surface. Independent swivel wheels shall not be permitted.

9.6 The hinged carriage shall be connected to a structural tube frame bolted to the front of the chassis and also to the main frame of the chassis for a dual hinged pivot insuring no vibration in the gun carriage when striping. Single pivot carriages will not be permitted.

9.7 The spray gun will be located on a telescoping 2" square tube permitting the operator to adjust the position of the spray guns to insure visibility.

9.8 The spray gun carriage can be easily moved to either side of the unit for both centerline and edge line striping operations.

9.9 The gun carriage will be equipped with a telescoping pointer assembly complete with rubber drag strap.

9.10 The pointer shall be adjustable in length and removable for transport.

10. **AIRLESS SPRAY GUNS.**

10.1 The Unit shall be equipped with two (2) KC-700 high pressure pneumatic actuated striping guns, (no exceptions).

10.2 The airless paint gun fluid chamber shall be constructed of stainless steel. The striping gun needle, needle ball and seat shall be constructed of stainless steel and tungsten carbide.

10.3 The airless paint guns shall be equipped with a dual port fluid inlet, single port inlet guns not permitted.

10.4 The airless spray guns shall be low profile for easy visibility not exceeding 5" OAL less tip assembly

10.3 The striping guns shall be equipped with reversible tips and shall be interchangeable without the use of tools for various spray patterns and flow rates.

11. **PRESSURE BEAD GUNS**

11.1 The unit shall be equipped with two (2) KC-600 pressure bead guns, (no exceptions)

11.2 The bead guns shall be of bronze construction with stainless internal parts and diaphragm actuated.

11.3 The guns will feature a deflector to direct beads into the wet paint line.

11.4 The bead guns will feature adjustable nozzles to vary application rates of beads.

11.5 The bead guns shall be capable of being operated independently of or simultaneously with the associated striping guns.

12. **ELECTRONIC SKIPLINE CONTROLLER.**

12.1 The Unit shall include a Mark 40D Skipline controller system, (no exceptions). The controller system shall be solid state, microprocessor controlled and programmable.

12.2 The controller system shall consist of an operator's control panel located at operator's position that includes all the necessary components and controls for programming, pattern selection, and gun control.

12.3 The control unit shall include one (1) two-line 32 character LCD display with adjustable contrast, one (1) five-position push button programming panel, and nine (9) heavy duty military specification (MIL-S83731) toggle type switches with silicon rubber seals to prevent entry of contaminants.

12.4 Toggle switch contacts shall be silver-to-silver and all metal parts shall be corrosion resistant to ensure long service life and shall provide the following functions: master

power, bead on-off, carriage lift/aux 1, auxiliary skip pattern/aux 2, gun control for each striping gun (skip-off-solid) and reset-hold (master gun on-off).

12.5 Programming the controller shall be possible through easy, operator-friendly procedures. All programming information shall be retained regardless of whether power is maintained.

12.5.1 Paint/skip cycle - 0 - 999.9 feet. Two preset cycles shall be programmable and selected by the cycle auxiliary cycle switch. A quick edit feature shall allow simple adjustment to the skip cycle while painting is in process.

12.5.2 Begin paint/skip. The controller shall be programmable to start with either the paint or skip portion of the cycle.

12.5.3 Calibration. Calibration of the unit shall be programmable and simply achieved by driving a known distance and adjusting the displayed distance value.

12.5.4 Bead delay (if purchased). Delay between the paint and bead gun on and off shall be programmable to assure full coverage by means of a mounting distance factor. Striping vehicle speeds shall not affect full bead coverage. Bead delay shall be factory preset and operator adjustable.

12.5.5 Solenoid timing calibration. Solenoid timing delay shall be programmable to adjust for the reaction time of different solenoids and control hose lengths. Solenoid shall be factory preset and operator adjustable.

12.5.6 Pattern change preset. The controller shall be programmable for three (3) different pattern change modes: immediate, smart and trigger.

12.6 The Hold-Run-Reset control shall allow the operator to conveniently move through intersections and to permit retracing of old patterns.

12.7 The Advance-Retard switch shall allow the operator to adjust the point at which the paint/skip cycle will begin.

12.8 The Posi-Cycle feature shall automatically adjust the cycle length after activating the Advance-Retard switch three times.

12.9 The controller shall be dust, water, and shock resistant. The operating range of the controller shall be from 30-125° F. Power shall be provided by the vehicle's 12-volt supply. All cables shall be plug-in types and a weatherproof cover shall be included.

12.10 In the ready mode, the controller shall display the skip line cycle, vehicle speed, painting In process indicator, and pulsed signal input indicator simultaneously. All footage display whether cycle or skip length, odometer readings, footage counter readings, or calibration readings are displayed to the nearest 1/10 of a foot. The controller shall be capable of metric display.

12.11 All programming and accumulated information, footage and odometer readings, and calibration settings shall be retained indefinitely upon power down (whether accidental or intentional) or removal of the controller from the vehicle. All information shall be stored in non-volatile RAM chips and do <u>not</u> require batteries to retain programmed information.

12.12 The controller shall perform a complete self-test upon power up and alert the operator of short circuits.

12.13 The controller shall be equipped with a low speed speed-o-meter displayed in the right corner of the LDC display.

12.14 Digital footage counters will totalize the total number of feet or meters sprayed by each spray gun. The counters shall be re-settable to zero.

13. **CONTROL SOLENOIDS**

13.1 The unit will be equipped with KC-C5 electro-pneumatic control valves (no exceptions).
13.2 The control valves will control operation of paint guns, pressure bead guns and pneumatic carriage lift.
13.3 The control valves will be installed on a common bolt together manifold base complete with o-ring seals.
13.4 The solenoids shall be two position 4 way valves.
13.5 The valve shall have an operating pressure of 20-150 psi.
13.6 The valve shall have a three pin wire connector, waterproof with grommet.
13.7 The solenoid will have an LED light to indicate when operating.
13.8 The solenoid will have a manual test fire button to manually fire the solenoid.
13.9 The solenoid base and valve assembly shall be non corrosive aluminum.
13.10 Each paint and bead gun to be equipped with a separate air solenoid.

14. **PLUMBING AND HOSE LINES.**

14.1 All plumbing lines from the material container to the strainer at the pump inlet shall be flexible nylon lined hose with stainless steel barbed fittings with a minimum ID of 1".
14.2 All high-pressure fluid hoses shall have a nylon core with a bonded urethane cover. The hoses shall be static free, equipped with conductive tube. The hose shall be a minimum 3/8" I.D. with a minimum working pressure of 3,000 psi and equipped with stainless steel NPS ends.
14.3 All control lines to the striping guns and electro-air valves shall be not less than 1/4" ID nylon, high temperature tubing rated at 125 psi.
14.4 All control lines shall use reusable push to lock fittings.
14.5 All hydraulic hoses shall be rated at a minimum of 2,000 psi working pressure.
14.6 All hydraulic crimp fittings shall be JIC type. NPT fittings shall not be permitted.
14.7 All plumbing lines and valves shall be constructed of 304 stainless steel.

15. **CONTROL PANEL.**

15.1 The Unit shall be equipped with a metal control panel located within reach of the operator.
15.2 The control panel shall be located directly behind the operator for easy access
15.3 The control panel shall be equipped with the following; main air pressure gauge, pressure bead tank air regulator, pressure gauge for bead tank, three way valve for bead tank (on/off/drain), pressure control valve for airless paint pump, hydraulic pressure gauge for airless paint pump, 30 amp circuit breaker, master power switch. Controls located at or on individual components shall not be acceptable.
15.4 Air regulators shall be non-corrosive, self-evacuating and equipped with solvent resistant Buna N diaphragms and locking device.
15.5 Each air regulator shall have an associated 0-100 psi liquid filled pressure gauge.
15.6 Each air regulator shall have an associated brass three-way valve.

15.7 Air moisture separators shall be provided to filter all air prior to passing through the electro-air valves. A separate air filter shall be provided to filter all air to the glass bead tank.
15.8 Regulators, gauges and three way valves shall be of panel mount type.
15.9 The remote hydraulic pressure-compensating valve shall be located in the control box with associated hydraulic pressure gauge.
15.10 All gauges, regulators, switches will be labeled with a reverse laser etched acrylic panel impervious to UV rays and resistant to solvent and paints. Front etched individual labels or stickers are not permitted.

16. **PAINTING.**
16.1 The striping equipment shall be prime coated and finished painted Federal Highway Yellow unless otherwise specified.
16.2 The chassis shall remain the factory finish of yellow and powder coated black.

17. **APPROVAL DRAWINGS**
17.1 Manufacture to supply detailed approval drawings for customer approval prior to beginning construction.
17.2 Drawings to be in CAD format and include the following drawings;

17.2.1 General layout, side views, top view & end view with basic dimensions.
17.2.2 Gun carriage drawing
17.2.3 Paint system drawing
17.2.4 Bead system drawing
17.2.5 Hydraulic system drawing
17.2.6 Electrical system drawing
17.2.7 Skipline control drawing
17.2.8 Pneumatic system drawing
17.2.9 Safety decals

17.3 Drawings to be submitted within 48 hours after receipt of purchase order for customer review and approval.

18. **WARRANTY.**
18.1 The manufacturer will guarantee all parts against defective material and workmanship for a period of one year after date of delivery and acceptance subject to the terms and conditions in the attached Manufacturer's Warranty.

19. **PARTS, SERVICE AND MANUALS.**
19.1 The Unit shall include one complete set of operating instructions and a repair parts list.
19.2 The Unit's manufacturer shall maintain a complete inventory of all replacement parts.

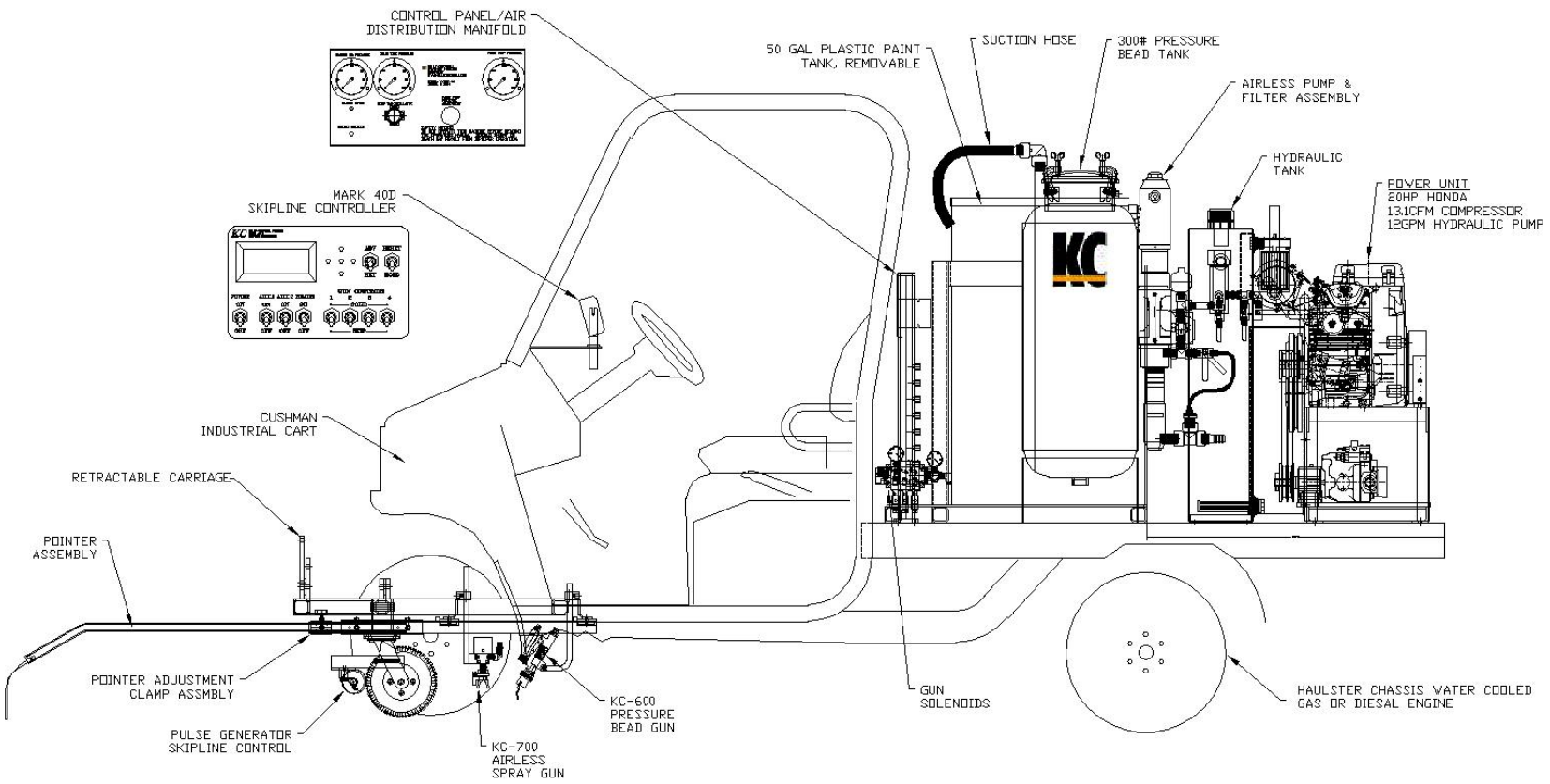
20. **TECHNICAL SERVICE.**
20.1 Services of a factory technician shall be supplied to the customer at the Kelly-Creswell factory in Springfield Ohio, for a period of one (1) day to instruct customer personnel in the operation and maintenance of the Unit. Optional onsite training by a direct factory technician is available at an additional cost.

Optional Equipment

Gun Carriage	AC-3010	1. Permanent edgeline carriage with paint and bead gun, WV50C-AL 2. There shall be one additional KC-700 paint gun and one KC-600 pressure bead gun installed on the edge line gun carriage complete with hoses, gun hangers and necessary equipment for operation. 3. The edge line carriage will be equipped with a separate pneumatic cylinder to raise and lower the carriage. 4. A single wheel carriage will be provided complete with removable pointer assembly.
	AC-3015	1. 36” Airport Delivery (Centerline Carriage) WV50C-AL 2. Requires optional 8.6 GPM high pressure airless paint pump (AC-XXXXX) 3. The centerline gun carriage will be replaced with a larger carriage arm for installation 4. of four each paint guns for application of 36” wide lines 5. The carriage assembly will be of the same construction featuring double swivel wheels mounted on bogy assembly to insure both wheels make contact with pavement at all times 6. A separate air pressure regulator shall be installed to put down pressure on the carriage to insure the spray guns remain at the same relative height above the pavement. 7. Two additional KC-700 airless paint guns shall be provided for application of 36” lines 8. Additional pneumatic solenoids to be provided to actuate each spray individually. 9. Additional pressure bead guns are NOT included.
High Capacity Airless Paint Pump	AC-3020	Unit equipped with 8.6 GPM high pressure airless paint pump in lieu of standard. Includes upgraded hydraulic system .
Material Containers	AC-3025	1. 50 gallon stainless steel paint vat in lieu of plastic tank, WV50C-AL. 2. The tank shall be 22” diameter with 10 degree sloped bottom with 1” NPT outlet. 3. The tank will feature a full removable lid with 4” inspection cover. 4. The tank shall be fabricated from 11 ga. stainless steel, minimum grade 304.
	AC-3030	1. Dual (2) 25 gallon stainless steel paint vats in lieu of plastic tank, WV50C-AL. 2. The tanks shall be rectangular with a minimum 10” diameter lid assembly held in place with four over center clamps. 3. The tanks will feature a 10 degree sloped bottom, with 1” NPT outlet and valves for quick color change.
Agitators, Hydraulic, For Optional 50 Gallon SS Vat	AC-3050	1. Hydraulic driven paint vat agitator for optional 50 gallon stainless steel vat, WV50C-AL. 2. Agitator to be equipped with stainless steel shaft and two stainless paddles. 3. Includes additional pressure compensated hydraulic pump, needle valve to vary speed of agitator. 4. The paddle mount shall be a two piece design for ease or removal after paint build up on shaft.
Agitators, Pneumatic, For Optional 50 Gallon SS Vat	AC-3055	1. Pneumatic drive paint vat agitator for optional 50 gallon stainless steel vat, WV50C-AL. 2. Includes bolt on fabricated assembly for air motor drive including 3/4" diameter stainless steel shaft two each stainless steel paddles to a standard paint drum lid. 3. Air motor equipped with quick coupler, needle valve control and lubricator. 4. The pneumatic drive is to be operated prior to striping and turned off during striping operations.

Agitator, Drum Mounted, Pneumatic.	AC-2150-2	1. Agitator, pneumatic drive for 55 gallon drum lid, one complete assembly. 2. Includes bolt on fabricated assembly that bolts to a standard 55 gallon drum lid for air motor drive including 3/4" diameter stainless steel shaft two each stainless steel paddles. 3. Air motor equipped with quick coupler, needle valve control and lubricator. 4. The pneumatic drive is to be operated prior to striping and turned off during striping operations. 5. Agitator not designed to operate in plastic tank.
Agitator, Drum Mounted, Hydraulic	AC-3040	1. Agitator, hydraulic drive for 55 gallon drum lid, one complete assembly, WV50C-AL & 2000-AL. 2. Includes bolt on fabricated assembly that bolts to a standard 55 gallon drum lid for hydraulic motor drive including 3/4" diameter stainless steel shaft two each stainless steel paddles. 3. Hydraulic motor equipped with quick coupler and needle valve control. 4. Includes additional pressure compensated hydraulic pump, needle valve to vary speed of agitator. 5. Agitator not designed to operate in plastic tank.
Agitator, Pneumatic Drive For Dual 25 Gallon Paint Tanks.	AC-2045-1	1. Requires AC-3030 dual 25 gallon paint vats. 2. Pneumatic drive agitator, 10” lid. 3. Each material container to be equipped with a pneumatic drive agitator with stainless steel shaft and two each plastic paddles. 4. The pneumatic drive motor will feature a gear drive reduction with direct coupled air motor. 5. Each air motor will be equipped with a oil lubricator and needle valve to control speed. 6. The pneumatic drive is to be operated prior to striping and turned off during striping operations.
Paint & Bead Guns	AC-3060	Additional KC-700 airless paint gun includes spray gun, gun hanger, gun post, fluid hose, KC-C5 actuation solenoid and airless paint hose, WV-50C-AL.
	AC-3065	Additional KC-700 airless paint gun and KC-600 pressure bead gun including guns hangers, guns posts, hoses, KC-C5 actuation solenoid, paint and bead hoses, WV50C-AL.
	AC-2130	Timed beads, separate solenoid supplied to control pressure bead gun. This insures the entire painted line is covered with beads.
Hand Paint and Bead Guns	AC-2145	Hand airless paint gun with 50’ ¼ static grounded airless spray hose. Spray gun equipped with HDPT-517 airless tip.
	AC-1040	Hand bead gun with 25’ bead hose.
	AC-1040-1	Combination hand airless spray gun and pressure bead gun with retractable hose reel with 50’ of paint and bead hose. Bracket supplied to mount in unused seat pocket on rear of unit.
Intercom	AC-2000	Intercom system, model 78C with two each voice activated head sets. Driver’s headset shall be a single ear and rear striper operators shall be a dual ear.
	AC-2000-1	Intercom system, model 78C with two each voice activated head sets. Driver’s headset shall be a single ear and rear striper operators shall be a dual ear. Includes communication capability with other two way radios
Paint Loading	AC-2060-1	Loading pump, 1” NPT air operated diaphragm pump, aluminum construction with two each 1” x 10’ loading hoses with quick disconnect fittings. A stinger shall be provided to draw paint from a standard drum. Pump mounted to unit, location determined by customer. Recommended for oil based paints only.
	AC-2060-2	Loading pump, 1” NPT air operated diaphragm pump, stainless construction with two each 1” x 10’ loading hoses with stainless quick disconnect fittings. A stinger shall be provided to draw paint from a standard drum. Pump mounted to unit, location determined by customer. Recommended for latex/waterborne paints only.
	AC-2061	Two wheeled cart for loading pump (cart only).

Other Options	AC-3070	Laser guidance system, projects green dot on pavement surface for guidance. Includes laser gun with mounting hardware and manual positioning adjustment.
	AC-3080	Amber strobe, 12VDC mounted on pole.
	AC-3090	Directional arrow-board with brackets to tank mount or mount to rear of frame, 24" X 48" with electronic tilt feature. Requires power from chassis.
	AC-3100	Vacuum bead loading system including vacuum pump, bead loading hose and combination bead barrel & bag splitter.
	AC-3110	Optional transport trailer to move unit to jobsite, includes 5000 lb GVW two axle trailer with fold down ramp, DOT approved lighting and ball type hitch.
	AC-3120	Night lighting package, 12VDC requires power from chassis.
Chassis Options	AC-3130	Diesel engine in lieu of gasoline.
	AC-3140	Automatic transmission in lieu of manual
	AC-3140	Windshield, front windshield and electric wiper.
Training	On Site Training	Factory direct technician for a period of one working day to instruct your personnel in the operation and maintenance of the unit.
Spare Parts	WV50C-AL Minor	Common replacement parts for 2000-AL
	WV50C-AL Major	Replacement parts inventory recommended for export sales.
Crating	Domestic Crating	Unit ship complete, drive on, drive off. Specialized carrier required, we do not recommend common motor freight carrier.
	Export Crating	Complete enclosed wooden crate with heavy-duty 4" treated wood sub-frame for moving the unit up with a standard forklift in either direction. The approximate dimensions of a standard WV50C-AL are 156" Long X 72" wide X 86" tall. Estimated shipping weight 3,500 lbs.

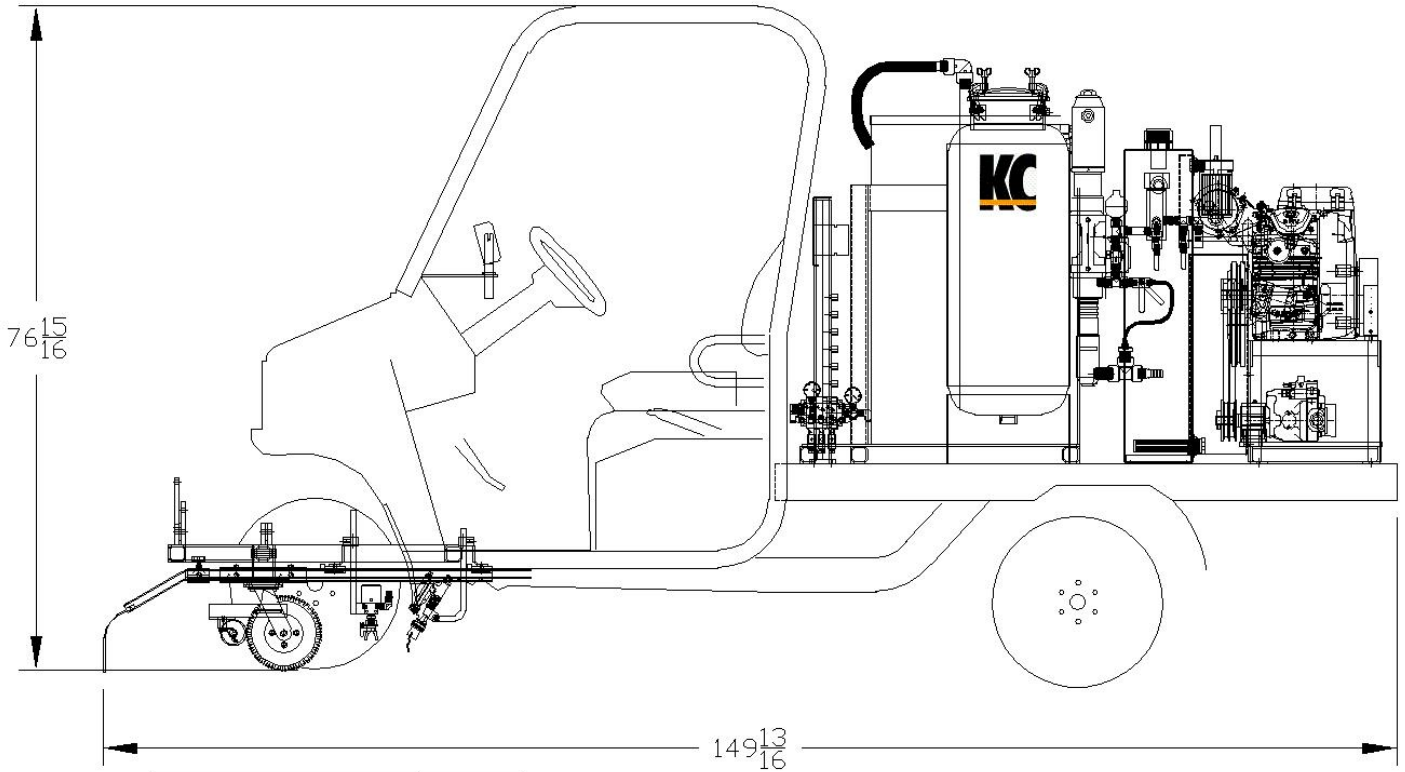


INTERMEDIATE & TRUCK MOUNTED MACHINE TIPS (KC-700)				
TIP NUMBER	MINOR	MAJOR	ORIFICE SIZE (IN.)	MIL THICKNESS
XHD-437	4"	8"	.037"	15
XHD-439	4"	8"	.039	15
XHD-443	4"	8"	.043"	15
XHD-447	4"	8"	.047"	15
XHD-449	4"	8"	.049"	15
XHD-451	4"	8"	.051"	15
XHD-455	4"	8"	.055"	15
XHD-461	4"	8"	.061"	15
XHD-651	6"	12"	.051"	15
XHD-739	7"	14"	.039"	15
XHD-751	7"	14"	.051"	15
XHD-001	TIP GUARD			

TOLERANCES UNLESS OTHERWISE SPECIFIED:
Angular ±2°
Fractional ±1/16"
.X= ±.1
.XX=±.01
.XXX=±.005
.XXXX=±.0015

Kelly-Creswell
1221 Groop Rd.
Springfield, OH 45504
937-325-9970
KC Since 1937

TITLE:	WV-50C-AL
DESCRIPTION:	GENERAL LAYOUT
DRAWN BY	CDW
DATE	11-9-10
DWG NO./PART NO.	WV50 CUSHMAN MANUAL PRINTS
APPROVED BY	
DATE APPROVED	
SCALE:	N/A
SIZE:	A
PAGE #:	1-3
REV:	A



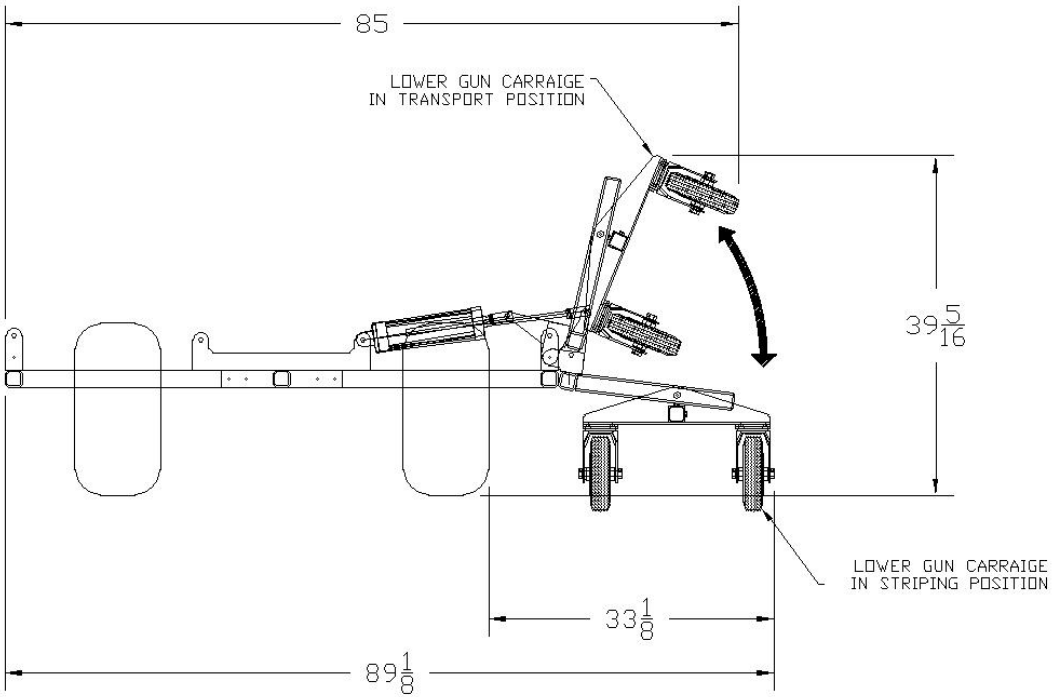
LENGTH (INCHES)	149"
HEIGHT (INCHES)	76.9"
WIDTH (INCHES)	
TRANSPORT POSITION	85"
STRIPING POSITION	89"
EST. SHIPPING WEIGHT	2500 LBS

TOLERANCES UNLESS OTHERWISE SPECIFIED:
Angular ±2°
Fractional ±1/16"
.X= ±.1
.XX=±.01
.XXX=±.005
.XXXX=±.0015

Kelly-Creswell
1221 Groop Rd.
Springfield, OH 45504
937-325-9979
KC Since 1937

DRAWN BY	CDW
DATE	11-9-10
APPROVED BY	
DATE APPROVED	
TITLE:	WV-50C-AL
DESCRIPTION:	BASIC DIMENSIONS
DWG NO./PART NO.	WV CUSHMAN MANUAL PRINTS
SCALE:	N/A
SIZE:	A
PAGE #:	2-3
REV:	A

KELLY-CRESWELL
WV-50C-AL
Rev C



TOLERANCES UNLESS OTHERWISE SPECIFIED: Angular ±2° Fractional ±1/16" .X= ±.1 .XX=±.01 .XXX=±.005 .XXXX=±.0015	CONFIDENTIAL THIS DOCUMENT, INCLUDING ALL INFORMATION HEREIN, IS THE EXCLUSIVE AND CONFIDENTIAL PROPERTY OF ERNEST INDUSTRIES. THEREFORE THIS DOCUMENT IS NOT TO BE COPIED, REPRODUCED, OR DELIVERED TO OTHERS WITHOUT THE EXPRESS WRITTEN PERMISSION OF ERNEST INDUSTRIES.	Kelly-Creswell 1221 Groop Rd. Springfield, OH 45504 937-325-3979 KC Since 1937		TITLE: WV-50C-AL			
				DESCRIPTION: BASIC DIMENSIONS			
		DRAWN BY CDW	DATE 11-9-10	DWG NO./PART NO. WV50 CUSHMAN MANUAL PRINTS			
		APPROVED BY	DATE APPROVED	SCALE: N/A	SIZE: A	PAGE #: 3-3	REV: A

KELLY-CRESWELL
WV-50C-AL
Rev C