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

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 applying 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 variable 2" to 9".

1.3 The Unit in overall design and construction will be such that it will maintain traffic flow in adjacent lanes while striping in the center of the road to not obstruct traffic during the striping operation.

1.4 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.

1.5 The striping equipment will be modular and removable from the Toro Workman.

1.6 The striping equipment shall be completely self-contained and self-powered.

2. CHASSIS. Toro Workman HDX Auto

2.1 The four-wheeled chassis will have a certified GVW rating of 3,295 lbs.

2.2 ENGINE: 28 hp (14.9 kW) Kohler® LH775 Twin-cylinder, liquid-cooled electronic fuel ` injection DISPLACEMENT 747cc

2.3 FUEL: Gasoline

2.4 COOLING: Liquid cooled with radiator & electric fan with temperature switch.

2.5 TRANSMISSION:

Variable speed transmission with forward high-low range and reverse featuring:
Toro SpeedContr'l™ MAXIMUM SPEED
Forward low range 11 mph (17.7 km/h),
Forward high range 20 mph (32.2 km/h),
Reverse 13 mph (20.9 km/h)

2.6 BASE MACHINE WEIGHT (INCLUDES BED)

HDX auto 2wd: 1,905 lbs (866 kg)

2.7 TOTAL PAYLOAD CAPACITY (INCLUDING TWO, 200LB PASSENGERS)
HDX Auto 2WD: 3,295 lbs (1498 kg)

2.8 LENGTH: 127.6” (324 cm) without bed; 130” (330 cm) with bed

2.9 WIDTH: 64.7” (164.3 cm)

2.10 HEIGHT: 75.8” (192.5 cm) to top of ROPS

2.11 CLEARANCE CIRCLE 2WD Inside
32” (81 cm); Outside = 194” (493 cm)

2.12 GROUND CLEARANCE
7” (18 cm) with no load

2.13 DIFFERENTIAL LOCK
Electronic switch to engage rear differential lock

2.14 FRONT SUSPENSION
Independent suspension with dual A-frame control arms, dual coil springs and dual shock absorbers with anti-sway bar. Provides 5.75” (14.6 cm) travel.

2.15 REAR SUSPENSION
DeDion rear axle (weight carrying axle) suspension independent of transaxle with dual leaf springs and dual shock absorbers. Provides 3” (7.6 cm) travel.

2.16 BRAKES: 4-wheel hydraulic disc brake system.

2.17 CERTIFICATIONS:
Certified to meet SAE J2258. Certified to meet ISO/DIS 21299 for ROPS.
Engine meets all applicable emission standards per the manufacturer.
Certified to meet the CE Machinery Directive.

2.18 WARRANTY Two-year limited warranty. See Operator’s Manual for further details.

2.19 TOW HITCH
600 lbs (272 kg) tongue weight 3,500 lbs (1587 kg) trailer weight Trailers over 1,500 lbs (680 kg) require trailer brakes

2.20 Consists of turn signal lights for both corners in the front and rear of vehicle and brighter beam headlights.

3. <u>COMPRESSOR.</u>

3.1 The compressor shall be a two-cylinder, single stage, cast iron, air-cooled type having a minimum displacement of 13.2 CFM at 1050 rpm at 100 pounds pressure.

3.2 The compressor shall be equipped with a pneumatic automatic un-loader device and a one gallon A.S.M.E. 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.

3.5 The compressor shall be equipped with remote oil drain plumbing for convenient oil change.

4. POWER UNIT/ENGINE/HYDRAULIC PUMP.

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 gear type oil pump. The ignition system on the engine shall be electronic.

4.3 The engine will be equipped with a separate 6-gallon EPA CARB compliant 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.

4.6 The engine will be equipped with a separate 12VDC automotive battery with a minimum 500 CCA.

4.7 The power unit will include a belt and pulley driven hydraulic system.

4.7.1 A dedicated pressure-compensating piston pump shall supply hydraulic oil to the airless paint pump and to raise and lower outriggers. The pump shall be manufactured in the USA, Parker PD-18 or equal.

4.7.2 The pump shall have a minimum capacity of 12 gallons per minute at 2,000 PSI.

4.7.3 The pressure-compensating piston pump shall draw minimal horsepower until there is a demand for paint at the guns.

4.7.4 The pump shall direct coupled to an overhung load adapter to prevent side loading and excessive wear on the pump, attachment of a sheave directly to the hydraulic pump is not be permitted.

4.7.5 The pump will be equipped with an automatic electronic actuated valve to unload hydraulic pressure buildup when the engine is being started. Manual hydraulic bypass valves not permitted.

4.7.6 The hydraulic pump system will be equipped with a remote pressure adjusting valve located at the rear control panel to control hydraulic pump pressure from 300-2,000 psi.

4.7.8 Manual hydraulic pressure adjustment requiring the operator to leave the operator station is not permitted.

4.7.9 The hydraulic system shall be equipped with an oil cooler mounted directly in front of engine flywheel.

4.7.10 The oil cooler will have a minimum of 107 square inches of cooling surface and equipped with a protective sheet metal housing.

4.7.11 The hydraulic system will be equipped with a 16 gallon hydraulic reservoir of all steel construction.

4.7.12 The reservoir shall be equipped with a vented breather cap, replaceable internal sump strainer with bypass, one each 1" hydraulic return filters with replaceable filter cartridges.

4.7.13 The hydraulic tank will be unobstructed on all sides to quickly and evenly dissipate heat.

4.7.14 The tank will be equipped with internal baffles and a sight level gauge.

4.7.15 The tank will be mounted so that the inlet to the hydraulic pump(s) is flooded at all times.

5. MATERIAL CONTAINER.

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

5.2 The tank shall be secured to the unit in a three-sided fabricated steel tray.

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 with two threaded bungs for inserting stinger suction tube and drain/cleaner hose.

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.

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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 paints.

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 pump 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.

6.6 Paint pump pressure adjustment shall be via a knurled knob in the instrument panel, on hydraulic pump adjustments requiring wrench adjustment not permitted.

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

6.8 A nitrogen charged accumulator shall be installed just after the check valve to prevent any pulsations when pump changing directions.

6.9 The accumulator shall be of all stainless steel construction with a Viton badder and A.S.M.E certified.

7. PAINT FILTRATION.

7.1 At the low pressure the inlet port of the high-pressure paint pump, material shall pass through a 1” NPT stainless steel "Y" type strainer with a stainless steel screen with 1/8” openings. The strainer shall be equipped with removable reusable screens and replaceable gasket on the plug.

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 filters. The filters 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.

7.5 Individual stainless steel ball valves at the outlet of the filter for each spray gun and drain hose.

7.6 Each valve will feature a safety handle locking device.

8. BEAD DISPENSING EQUIPMENT.

8.1 The Unit shall be equipped with a 250-pound capacity, carbon steel pressure bead tank. Plastic bead tanks not permitted.

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, safety 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.

9. CENTERLINE GUN CARRIAGE.

9.1 The centerline gun carriage will be installed on the driver side of the striping equipment platform equipped with a hydraulic cylinder to move from the transport position to the striping position.

9.2 A spring return toggle switch will be provided in a remote-control box to moving the carriage(s).

9.3 In the transport position, the operators station will be accessible for ingress/egress.

9.4 The carriage will be fabricated from heavy-duty 3" X ¼" wall DOM tubing with pivot points equipped with replaceable 1.5" pillow block bearing and heavy-duty two piece aluminum bearing assembly.

9.5 The lower carriage will feature a two movable two piece design with gas charged shock absorber to maintain spray guns at a constant position above the road surface.

9.6 The gun carriage will be equipped with one (1) 3" X 5" pneumatic swivel wheel with spring loaded center shaft to prevent vibration.

9.7 Adjustable paint and bead gun mounting bars shall be provided to position the paint and bead guns.

9.8 A telescoping pointer with drag strip will be provided.

9.9 Controls for the hydraulic actuated carriage shall include an electronic coil actuated three position four way with pilot operated check valve to insure no carriage movement with no hydraulic oil pressure.

9.10 The hydraulic control valve will be equipped with an adjustable flow control valve to limit the travel speed of the carriage.

See "Optional Equipment" for Edgeline Carriage.

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" overall height 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.

10.4 Each spray gun shall be equipped with one HD-439 striping tip for standard 4-6 lines.

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 40 D 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.

13. <u>CONTROL SOLENOIDS.</u>

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 and pressure bead guns.

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.

13.11 The solenoid valves to be installed on the gun carriage for easy access to paint and bead guns.

13.12 All wiring from the solenoids will be two wire 18 gauge incased in a protective vinyl sheath.

13.13 All wiring to be labeled on each end with permanent tag.

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 paint fluid hoses shall have a nylon core with a bonded urethane cover. The hoses shall be certified static grounded, 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 pressure 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 paint 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, pressure adjusting 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 regulator 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 Air regulator to be panel mounted and equipped with push to lock fittings.

15.7 Air moisture separator and oiler shall be provided to filter and lubricate all air prior to passing through the electro-air valves. A moisture filter shall be provided to filter all air to the glass bead tank.

15.8 The remote hydraulic pressure adjusting valve shall be located in the control panel with associated hydraulic pressure gauge. Hydraulic pressure adjustment located on the hydraulic pump and requiring tools to adjust are not permitted.

15.9 All gauges, regulators, switches will be labeled with a laser etched reverse paint 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 red 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.

18.2 Two year limited warranty on Toro HD chassis, with Toro nationwide service.

19. PARTS, SERVICE AND MANUALS.

19.1 The Unit shall include one complete set of operating instructions and a repair parts list, including detailed assembly drawings.

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 plant 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 direct factory technician.

OPTIONAL EQUIPMENT

1. EDGELINE CARRIAGE WITH ONE PAINT AND BEAD GUN

1.1 One edgeline carriage assembly with identical specifications to the centerline with equipment mirrored.

1.2 The edgeline carriage will be equipped with one each KC-700 paint gun and one KC-600 pressure bead gun installed complete with hoses, gun hangers and necessary equipment for operation.

1.3 The edge line carriage will be equipped with a separate hydraulic cylinder, toggle switch and control valve to raise and lower carriage.

2. DIAPHRAGM LOADING PUMP (AC-2060-2).

2.1 The Unit shall be equipped with a diaphragm operated loading pump with a minimum capacity of 10 gallons per minute.

2.2 The diaphragm pump shall have SS wetted construction with a minimum 1" NPT inlet and outlet ports.

2.3 The loading pump shall be equipped with two 1" x 10' quick disconnect loading hoses.

2.4 The suction hose shall be equipped with a 1" X 40" stinger assembly for drawing paint from a standard 55 gallon paint drum.

2.5 The discharge hose shall be equipped with a 1" X 18" stinger for loading the material container.

2.6 Each hose shall be equipped with cam lock style quick disconnect for removal of both the suction and discharge hoses.

2.7 The diaphragm pump shall be firmly mounted to a two wheeled cart with pneumatic tires.

3. HIGH CAPACITY HIGH PRESSURE PAINT PUMP

3.1 One each 8.6 GPM high pressure airless paint pump will be provided in lieu of the 3.1 GPM unit standard on the machine.

4 36" AIRPORT DELIVERY

4.1 Requires optional 8.6 GPM high pressure airless paint pump

4.2 The centerline gun carriage will be replaced with a larger carriage arm for installation Of up to four each paint guns for application of 36" wide lines

4.3 The carriage assembly will be of the same construction featuring double swivel wheels mounted on bogy assembly to insure both make contact with pavement at all times

4.4 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 pavment.

4.5 Two additional KC-700 airless paint guns shall be provided for application of 36" lines

4.6 Additional pneumatic solenoids to be provided to actuate each spray individually.

5. HAND BEAD GUN.

5.1 One each Kelly-Creswell model 5-5-267 hand pressure bead wand with for application of reflective beads.

5.2 25’ hose assembly shall be provided.
5.3 A hose wrap shall be provided to secure the hose when not in use.

6. HAND PAINT GUN.
6.1 The Unit shall be equipped with an airless hand paint gun complete with 50' of 1/4" I.D. airless paint hose with a minimum working pressure of 3000 psi.
6.2 The hand paint gun shall be equipped with a reversible tip and guard assembly for General stencil work.
6.3 A hose wrap shall be provided on the pressure bead tank to secure the hose when not in use.

7. LASER POINTER.
7.1 The unit to be equipped with a green dot laser pointer assembly.
7.2 The pointer shall be manually adjustable and positioned on top of the ROPS structure.
7.3 Controls for the pointer shall be located within easy reach of the operator.
7.4 The pointer shall be easily removable for storage off the main unit.

8. HOSE REELS
8.1 Hand paint gun hose reel with 50’ hose with hand gun and 18” extension
8.2 Combination hand paint and bead gun hose reel with 50’ of paint and bead hose, hand paint gun and bead wand assembled as one unit.

9. TRAILER FOR TRANSPORT.

10. STAINLESS STEEL PAINT TANK IN LIEU OF PLASTIC.

11 CHASSIS OPTIONS
11.1 All wheel drive.
11.2 Windshield.
11.3

12. RECOMMEND SPARE PARTS KIT.
12.1 List of common replacement parts required during normal operation including: hydraulic filters, paint and bead gun repair kits, paint hoses, bead hose, control hose, replacement solenoid, carriage wheel.

13. OTHER OPTIONS:
Directional arrow board
Wireless intercom head sets
Pole gun for remote lines and stop bars
Trigger switch for Mark 40D
Two paint color system.
Combination bead funnel/bag breaker/filter screen