

SPECIFICATIONS FOR THE SELF-PROPELLED BITUMINOUS PAVER

(Crawler-Type)

GENERAL: Shall be a self-propelled, Rubber-track mounted, high capacity paver/finisher capable of placing bituminous base, binder and surface course mixes, cement or lime stabilized sub-base and graded aggregate materials.

DIMENSIONS: The basic paver shall be a minimum of 32,450 lbs. tractor weight standard paving width to be 10 feet.

(Paver must be in the size class of a Cat 1055D or Blaw-Knox PF-5510)

- A. Approximate height of machines (less muffler) 7' 9"
- B. Approximate length of machine (including screed) 19' 6"
- C. Approximate width (shipping) 10' 0"
- D. Approximate wheelbase 117"

POWER UNIT: The paver must be powered by a water cooled, turbo-charged, water-aftercooled, EPA certified, diesel engine and meet or exceed the following:

- A. Minimum 6 cylinders and not less than 359 cubic inch displacement
- B. Minimum 188 hp @ 2100 rpm
- C. Minimum 130 amp alternator
- D. Minimum 54 gallon fuel tank
- E. Minimum 54 gallon hydraulic reservoir
- F. Minimum 12 volt electrical system
- G. Minimum Dual-Stage air cleaner, fuel filter, and water separator
- H. Engine shut-down System

Hydraulic system: The Hydraulic reservoir shall be common to the propulsion system, material handling, and auxiliary systems. The Hydraulic oil shall be filtered by a 10 micron intake filter with individual filters for separate pumps. A hydraulic oil cooler shall be provided.

The hydraulic system shall incorporate a **screed lock** system that will automatically lock the screed in position whenever the paver is stopped and return to normal 2 seconds after paving resumes.

The hydraulic system shall incorporate a **screed assist** function that can partially support the screed when using soft mixes and shall be fully adjustable. Both functions shall be controlled from either operator's platform. The paver shall come equipped with auxiliary plumbing and controls for optional truck hitch.

TRACTION DRIVE: The paver shall have an independent, hydrostatic direct drive system with electric/hydraulic controlled 2-speed planetaries and 2-speed motors. Speed selection shall be infinitely variable in each of the four speed ranges. Full reverse shall be in any of the speed ranges. Both planetary drive units shall be equipped with an internal, switch activated parking brake.

Paving Range	0 - 220 fpm
Travel Range	0 - 10.0 mph

SUSPENSION: The paver shall be equipped with a minimum 18” wide, continuous, flexible, high-speed rubber track with positive, non-slip cog/socket drive. The rubber belt shall be constructed of five internal layers of flexible steel cables. Unitized, bolt-on track frames, each with a minimum of 3 sets of dual direction oscillating (front/back, side/side), rubber tired bogie wheels, replaceable drive hub and automatic/hydraulic track tension cylinder. Bogie oscillation is a full 4” for each of the sets.

BRAKES: The primary braking system must be accomplished through the dynamics of the hydrostatic traction drive system. Hydraulic secondary parking brakes, an internal element of the planetary final drive units, can be switch actuated from either operator’s console. These spring applied secondary parking brakes are automatically actuated when the main power switch is in the “off” position, electric power is otherwise interrupted, the machine controls are placed in the neutral position, or there is a drop in the general-purpose system pressure. A manual override for the parking brake must be provided.

HOPPER: The paver hopper shall be a minimum of 215 cubic feet in capacity. The hopper wings shall be hydraulically folding and self cleaning. Truck entry width should be a minimum of 120”.

MATERIAL FEED SYSTEM: The conveyor system shall have a separate, infinitely variable speed, hydrostatic planetary drive for right and left side feed systems providing optimum auger/conveyor operation throughout the machine’s entire capability range. Right and left side systems shall function independently and operation be controlled either manually with electrical switches, or automatically by non-contacting sensing elements.

The conveyors must consist of solid bars riveted to special, heat-treated steel offset link, heavy bushed roller chain riding on forged steel sprockets. The conveyor tunnel must be equipped with replaceable floor plates and rear wrap plates, a minimum of .375” thick. Floor plates and wrap plates must be constructed of abrasion resistant QT Steel with a Brinell hardness range of 360 to 440 throughout the entire plate.

The paver shall have 16” diameter augers consisting of bolt-on replaceable; cast high alloy steel hemi-screw sections. Flight thickness shall be minimum ¾”. The augers shall be hydraulically adjustable in height from 4 ½” to 11” above grade by simply actuating an electrical switch. Easy slide auger tunnels shall be built-in, hydraulically powered and be able to accommodate extended paving widths up to 15’. A material confinement curtain, made of ¼” link chain, will be attached the width of the paver, below the auger tunnels and center of the paver, to prevent material from flowing forward, under the paver.

The paver shall have unitized construction of the rear feed section (center chain case, right and left side planetary drives, rear conveyor shafts and auger assemblies) which permits removal of these major components as a single unit, cutting service access time in half. Auger/conveyor bearings shall be greasable type.

The paver shall have an electric/hydraulic control arrangement that automatically controls both the “on-off” action and the infinitely variable speed of the dual feed systems. Ultrasonic sensors positioned at the outer end of each auger, monitor the volume of material in front of the screed and

actuate the feeder drives as necessary to maintain a consistent flow of material to the screed. The feeder sensor sensitivity shall be adjustable.

POWER FLOW GATES: The paver shall have two individually operated, electric/hydraulic controlled, adjustable flow gates, located in the conveyor tunnel entry at the rear of the hopper, for metering material delivery to the screed **or equal**.

VENTILATION CONTROL SYSTEM: The paver shall have a mounted collector system that gathers heat and fumes from the paver/finisher's auger area and disperse them away from the paving crew; provides a cleaner, cooler, more environmentally friendly work area for the machine's operator and screedman.

CONTROLS: The paver shall have dual control stations (right and left side) each equipped with an operator's seat, steering and direction/speed control and a tilting operator's console.

The operator's console shall include electrical switch control of main power, starter, throttle, horn, shifting of traction drive planetaries and motors, right and left side feed system function, extension and tunnels, screed lift, auger lift, folding hopper, flow gates, screed vibrator function, and parking brake. Console should also provide electrical control of optional truck hitch, screed lock, and four (4) auxiliary switches for operating additional options.

Both operator's consoles shall be equipped with analog gauges for engine oil pressure, water temperature, voltmeter, hydraulic oil temperature, and tachometer/fpm gauge which displays engine rpm and ground speed in either imperial or metric calibrations. Consoles shall have a series of lamps to inform the operator of engine status: wait to start, stop engine, maintenance, and water in fuel.

Screed vibrator frequency/amplitude, feed system speed, flow gate override, powered screed functions and mat depth shall be controlled from both sides of the screed. The screed control console shall also include an emergency shutdown switch and a horn button.

SCREED: The paver shall be equipped with a basic 10' vibratory screed. Paving widths range from 8' to 27' (30' custom), using wedge pin or bolt-on connected screed extensions, with a depth range of ¼" to approximately 12". The main screed shall have a bolt-on replaceable screed plate with a screeding surface a minimum of 26" wide x ½" thick. Spring loaded MatStop® edger plates and guides are included.

The paver shall be equipped with two (one right-hand and one left-hand 1' bolt-on or wedge-lock screed extensions at the time of delivery.

Two bolt-on auger extensions (one right-hand and one left-hand) shall be supplied with the bid.

Hydraulic telescoping extensions with replaceable screed cut-off plates mount on the face of a basic screed to permit increasing paving width up to a maximum of 3' on either or both sides of the screed while continuing to pave. Extensions shall be operated from the screed.

The main screed shall have a center crown adjustment range of 3" positive to ¾" negative. An indicator to show crown setting shall be installed within easy view of the screed operator. Cut-off plates shall be included to reduce paving width to 8' in 3" increments. A simple hydraulic vibrator

drive shall be included to provide frequency and amplitude control from 0 to 3100 rpm.

The entire screed shall be raised and lowered hydraulically and shall have safety type platforms attached for the operator. Platforms shall be made from expanded metal and be a minimum of 18" wide.

The main screed and the screed extensions shall be electrically heated by a hydraulically powered generator, minimum 6Kw, able to be actuated from the operator's console by a switch. The screed heating system must be able to heat the screed to a minimum of 185 degrees F. above ambient in less than 30 Minutes, and be capable of various temperature settings.

HYDRAULIC CONDUIT & ELECTRICAL WIRING: The paver shall consist of all tractor mounted hydraulic plumbing and electrical wiring componentry to accommodate the installation of an [Automatic Grade and Slope System (AGS)]. The bids shall reflect grade/slope controls consisting of two contact sensors for grade control, two screed mounted control boxes, one slope control mounted on screed, mounting hardware and electrical control cables. All electrical circuits shall be protected by circuit breakers to be located in one central location.

WASHDOWN SYSTEM: Paver shall contain a pressurized, diesel fuel washdown system with 35' hose and spray valve/nozzle, mounted on a self-storing, spring retracting hose reel.

OPERATOR'S UMBRELLA: The paver shall have a 54" square umbrella with mounting hardware.

Back-Up Alarm: The Bid shall include a back-up alarm meeting state specifications.

Light Beacon: The Bid shall include a mast mounted strobe warning light with double flash , mounted so as not to impair the operator's vision.

Outboard Leveler: The Bid shall include a 30' outboard leveler to consist of a 30' multi-pad aluminum beam that runs along the outside of the paver and the screed. Uses a combination of beams and shoes that pivot on pins to provide the optimum reference for the grade control. A string line runs along the top of the main beam from front to rear. The whole unit is to be positioned mid-way along the paver and the grade sensor mounts on the tow arm and contacts the midpoint of the string.

Spare Parts: The Bid shall include an up-time kit as advertised in Brochure's. A list of parts included in the up-time kit shall be supplied.

Parts Books: The Bid shall include (two parts books), (two operators manuals), (two service manuals), and (two troubleshooting guides).

Items advertised as standard equipment in manufacturer's current literature, but not included in the above specifications, must be furnished as standard equipment.

ALL VARIATIONS AND ESPECIALLY THOSE THAT ARE LESS THAN THE MINIMUM CALLED FOR SHALL BE LISTED ON A SEPARATE SHEET OF PAPER. THE EXCEPTION SHALL BE EXPLAINED AS TO HOW IT DIFFERS AND WHETHER IT IS BETTER OR LESS THAN THE BID SPECIFICATION CALLS FOR.