



Macropaver 12-EX

Overview and Training Guide



Macropaver

Model 12-EX





Overview

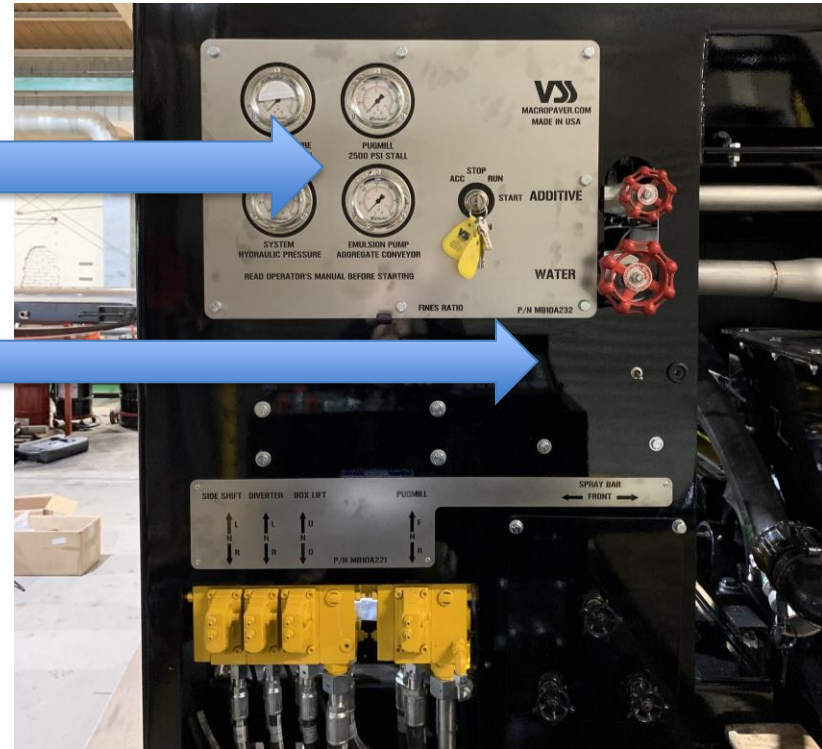
Macropaver 12-EX

- No Hydraulic Pressure Gauges
- No Clutch/ Gearbox Assembly
- No Manual Emulsion Pump Speed Control
- Fixed Gate

No Hydraulic Pressure Gauges

Macropaver 12-EX

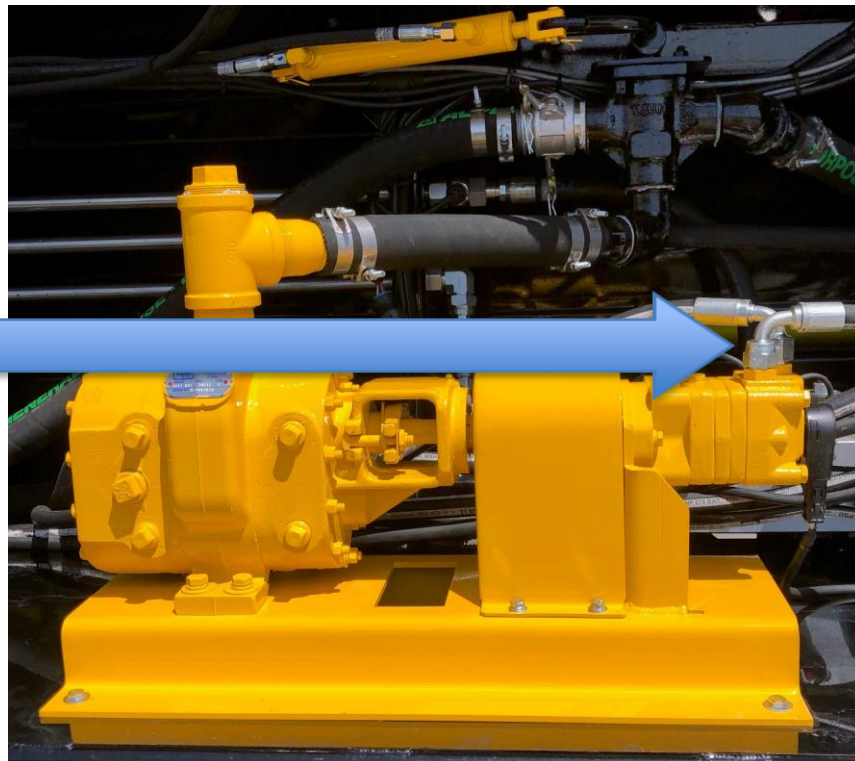
- Removed Hydraulic Pressure Gauges – Replaced with Sensors and are read through EZ-OP Screen
- Removed Emulsion Pump Speed Control – Replaced by controls on the EZ-OP Screen



No Clutch/ Gearbox Assembly

Macropaver 12-EX

- Removed Pump Clutch and Gearbox Assembly – Replaced with individual hydraulic motors and speed sensors.





Calibration

Macropaver 12-EX

- Uses the same walk through, step by step EZ-OP system as in previous Macropavers.
- Operators will only notice there are less steps that previously required.



Calibration

Macropaver 12-EX

1. Load the Macropaver with aggregate - load aggregate from the HYDRAULIC TANK side of the machine ONLY.
2. Weigh the Macropaver and record this weight as the Heavy Weight for Trial #1. Set the desired number of head shaft revolutions in the EZ-OP "AGGREGATE" calibration screen.
3. Drive the Macropaver to a location where the aggregate can be unloaded onto the ground.
4. The aggregate counter will reset automatically to read 0.0 counts for each trial during the EZ-OP calibration process.
5. Turn the pugmill on to full speed in the forward direction.
6. Press the Main Start Trigger on the Joystick Control Handle. Watch the aggregate coming out of the pugmill. It will be necessary to move the Macropaver forward to keep aggregate from build-ing up at the back of the machine and plugging the pugmill.
7. The aggregate flow will shut-off when the desired number of Aggregate Conveyor Head Shaft revolutions has been reached. Record this number in the space marked "Head Shaft Revolutions". Stop the pugmill AFTER it has emptied of aggregate.
8. Weigh the Macropaver and record this number as Light Weight under Trial #1.
- 9. Repeat points 1-8 two more times and record data in trials 2 and 3.**



Aggregate Calibration

Macropaver 12-EX

1. Load the Macropaver with aggregate - load aggregate from the HYDRAULIC TANK side of the machine ONLY.
2. Weigh the Macropaver and record this weight as the Heavy Weight for Trial #1. Set the desired number of head shaft revolutions in the EZ-OP "AGGREGATE" calibration screen.
3. Drive the Macropaver to a location where the aggregate can be unloaded onto the ground.
4. The aggregate counter will reset automatically to read 0.0 counts for each trial during the EZ-OP calibration process.
5. Turn the pugmill on to full speed in the forward direction.
6. Press the Main Start Trigger on the Joystick Control Handle. Watch the aggregate coming out of the pugmill. It will be necessary to move the Macropaver forward to keep aggregate from build-ing up at the back of the machine and plugging the pugmill.
7. The aggregate flow will shut-off when the desired number of Aggregate Conveyor Head Shaft revolutions has been reached. Record this number in the space marked "Head Shaft Revolutions". Stop the pugmill AFTER it has emptied of aggregate.
8. Weigh the Macropaver and record this number as Light Weight under Trial #1.
- 9. Repeat points 1-8 two more times and record data in trials 2 and 3.**



Aggregate Calibration

Macropaver 12-EX

Aggregate Calibration Times are 1/3 of the time from Macropaver 12-E with new fixed gate!

UNITS		Trial #1	Trial #2	Trial #3		
Heavy Weight	lbs (Kg)	62160	57590.9	53132		
Light Weight	lbs (Kg)	57590.9	53132	48618		
Aggregate Unloaded	lbs (Kg)	4569.1	4458.9	4514		
Head Shaft Revolutions	Rev counts	50.1	50.1	50.1	SUM	Average
Agg. Weight / Rev	lbs/Rev (Kg/Rev)	91.20	89.00	90.10	270.30	90.10



Emulsion Calibration

Macropaver 12-EX

Emulsion Calibration Changes:

- Macropaver 12-E uses a gear box/ clutch assembly to tie the emulsion pump and conveyor together. The emulsion is calibrated from the head shaft pulley on the conveyor. There is a 15:1 ration on the gear box/ conveyor assembly. Old emulsion amounts for calibration that operators are used to is about 15 lbs/ revolution or count.
- Macropaver 12-EX has independent hydraulic motors that are linked at a set point for % of emulsion to aggregate. The 12-EX counts from revolutions of the EMULSION PUMP – not the head shaft. That means that new emulsion calibration amounts will be in the 1 lbs/ revolution range.
- Still keeps the same step by step walk through procedures for the EZ-OP

Emulsion Calibration

Macropaver 12-EX

1. Unload any aggregate left in aggregate hopper from the aggregate calibration.
2. Make sure the Macropaver emulsion tank is full with emulsion.
3. Weigh the Macropaver and record this weight as the Heavy Weight for Trial #1. Set the desired number of pump revolutions in the EZ-OP "EMULSION" calibration screen.
4. Disconnect the emulsion line from the pugmill inlet hopper and connect it to a line returning to an emulsion storage tank.
5. *Start the emulsion pump by pressing the I/O button. Set it to approx. 500 RPM by using the up & down arrows on screen.*
6. The emulsion counter will reset automatically to read 0.0 counts for each trial during the EZ-OP calibration process.
7. Press the Main Start Trigger on the Joystick Control Handle. This will start the emulsion pumping from the Macropaver into the emulsion storage tank. (NOTE: Pugmill does not have to be ON for main start to operate during emulsion calibration.)
8. The emulsion flow will shut off when the desired number of emulsion pump revolutions has been reached. Record this number as emulsion pump revolutions under Trial #1.
9. Weigh the Macropaver and record this number as Light Weight under Trial #1.
10. Repeat this procedure for trials 2 and 3.



Emulsion Calibration

Macropaver 12-EX

	UNITS	Trial #1	Trial #2	Trial #3		
Heavy Weight	lbs (Kg)	45640	45129	44621		
Light Weight	lbs (Kg)	45129	44621	44119		
Emulsion Pumped	lbs (Kg)	511	508	502		
Pump Revolutions	Rev counts	501	503	502	SUM	Average
Emulsion / Rev	lbs/Rev (Kg/Rev)	1.02	1.01	1.00	3.03	1.01



Emulsion/ Aggregate Graph

Macropaver 12-EX

	UNITS	Speed Setting		
Agg. Speed Setting	RPM	37	43	51
Ave. Emulsion / Min	lbs/Min (Kg/Min)	505.00	505.00	505.00
Ave Agg. / Min	lbs/Min (Kg/Min)	3333.7	3874.3	4595.1
Emulsion to Agg.		0.151	0.13	0.11
% Emulsion to Agg Ratio	%	15.10	13.00	11.00

Operation

Macropaver 12-EX

- Macropaver 12-EX is using all of the calculations to control the aggregate conveyor and emulsion pump speeds to match the desire mix design.
- Operator does not have to worry about aggregate conveyor speed or emulsion pump speed while operating
- Agg/ Emulsion calibrations are CRITICAL on 12-EX – cannot fudge the numbers!
- The % of emulsion that you enter on the MIX DESIGN screen is what is going into the box!
- If you want more production while operating – simply turn up the emulsion pump speed via the EZ-OP screen and the conveyor will follow to keep the emulsion % according to the mix design.
- Operator cannot go in and juts speed up the belt during operation – it is linked together via the software – just like if it was coupled via the pump clutch gear box.



Operation

Macropaver 12-EX

- Fines Calibration follows the same process at previous generation Macropavers
- Water and Additive flow rate are calculated based on mix design as % of aggregate
- Additive flow rate is set at pre determined specific gravity of 1.335 (approximately 11.15 lbs./gal. for Aluminum Sulfate)
- Water and Additive controls are the same
- Automatic Sequencing delays are controlled the same as 12-E



ANY
QUESTIONS
?

KASI

INFRARED

BY VSS MACROPAVER

Thank You

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