• Paving By The Numbers
  - How to take off from a joint
  - How to adjust the Screed once paving
Who’s part of the Team

- Grade (Mills or Base)
- Plant
- Oil truck
- Trucks
- Windrow Elevator
- Paver
- Compactors

Thursday, April 19, 2012
What is The Team

- Morning Communication
- Respect each other
- Does Not look for the Negative but how to fix it
- Builds Customers impressions on our Work
- Everyone has a clear understanding
Paving by the Numbers

STEP 1

- Heat the screed
  - Diesel fired Electric element
- Prevents asphalt sticking
STEP 1

Diesel Fired Burners

- Fuel pump switch on right screed control box
- Place fuel pump switch in timer mode (down)
Paving by the Numbers

STEP 1

• Push burner switch (up) to ignition position and hold for 10 seconds
Paving by the Numbers

STEP 1

- Open fuel valve for selected burner
Paving by the Numbers

STEP 1

- Check burner for proof of flame
- Switch to FAN position
- Repeat same steps for lighting the other three burners
Paving by the Numbers

STEP 1

Electric Element
• Place generator switch in the on position
• Circuit breakers in the on position.
Electric Screed Control box

- Right side of walkway
- Automatic once started
Paving by the Numbers

STEP 1

• Depress push pad 1 to turn the system on
• Wait for self test to complete and temperature will default to low
• Depress push pad 2 until desired temperature is illuminated

Thursday, April 19, 2012
Paving by the Numbers

STEP 1

- When lamps 1 are illuminated, screed is heating.
- When any of lamps 2 are illuminated, screed is ready to pave.
Electric Screed Element
Paving by the Numbers

STEP 2

- Center both tow point hydraulic cylinders
- Equal travel in both directions
Paving by the Numbers

STEP 3

- Set paving width to specification of the job
- Use scales on extensions
- Equal extension on both sides

Rear Mounted Extensions

Front Mounted Extensions
Paving by the Numbers

STEP 4

- Set main screed crown to specifications of the job
- Be sure scale is calibrated
STEP 5

- Extension height match front of main screed
- Rear mounted extensions 1/4” above zero
- Front mounted extensions 1/4” below zero
STEP 6

- Set extension slope to specifications of the job.

Rear Mounted Extensions

Front Mounted Extensions
STEP 7

- Lower the screed onto the starting reference
- Select starter boards of proper thickness
- Support main screed and extension screed
- Board length 3’ to 4’
Paving by the Numbers

STEP 7

- Make sure the screed lift switch is in the lower or “float” position on both consoles
Paving by the Numbers

STEP 7

• Move The Machine Forward To Remove The Slack From The Tow Point

Thursday, April 19, 2012
Paving by the Numbers  

STEP 8

- Null screed by turning depth crank until no resistance is felt
- Null other depth crank
STEP 8

- Turn depth crank in direction of increase until tension is felt
- Lock crank
- Set other depth crank the same way
Paving by the Numbers

STEP 8

- Front mounted extendable screeds
- Raise strike off to 12mm (1/2 inch) above the reference blocks after screed is nulled

1/2” Above Reference
Paving by the Numbers

STEP 9

- Lower end gates to contact grade
- Slack in chains
Paving by the Numbers

STEP 9

- Raise guide tubes to create float space
- 7.6 cm (3") gap between ski and guide tube

7.6 cm (3")
Paving by the Numbers

STEP 10

- Auger height affects mat texture
- Auger height 5 cm (2”) above mat is right for most mixes
- Fine tune according to mix
Paving by the Numbers  

STEP 11

- Raise paddle arm to 45 degree angle
- Position paddle arm on mounting hardware 46 cm (18”) outboard of the last auger segment
STEP 11

• Sonic feeder sensors
• Perpendicular to the material flow.
• 46 cm (18”) to 76 cm (30”) away from the material
Paving by the Numbers

STEP 12

- Adjust mix height dials to 10 o'clock position
Paving by the Numbers

STEP 12

- Adjust ratio control dials to 10 o'clock position
Paving by the Numbers

STEP 13

- Manually fill auger chamber to 1/2 level
- Use manual override switches
- Convey material out until material just touches auger shaft
STEP 13

- Manually auger material across screed face
- Alternately use conveyor then auger to establish 1/2 level
- Do not overfill
STEP 13

• Using shovel, hand fill area between last auger and end gate
• Do not fill in area in front of screed extension

Thursday, April 19, 2012
STEP 13

• Place all feeder controls in Auto position (up)
STEP 14

- Speed control dial at zero
- PAVE mode, high idle, brakes released, and propel lever full forward.
- Turn speed dial up until desired paving speed is reached
As paving begins

- Operator checks center area of auger chamber.
- Adjust ratio controls if necessary to maintain material level at 1/2 auger.
As paving begins

- Screed persons check material level at outboard end of augers
- Adjust mix height controls if needed to maintain material level at 1/2 auger
STEP 14

- Front Mounted Extensions
- Adjust Strike Off until there is 15 to 20 cm (6” to 8”) of material in front of the main screed
Paving by the Numbers

STEP 14

As paving stabilizes
- Check auger speed
- Keep auger speed in 20 to 40 RPM range
- Avoid ON / OFF operation
Joint Compaction -- Team Effort

- Start with good paving and minimal hand work
- Mat depth must allow for rate of compaction
- Rule of thumb: 1/4” of compaction for each 1” mat depth
Joint Should Require Minimal Handwork

- Excessive raking and shoveling lead to bumps/dips
- What do you see wrong with this take-off?
Cold Screed Dives

- Mat low on left side of joint
- Looks better on right side
What We’re Trying to Avoid

• Came off too high - wrong starter boards?
• Poor hand work?
• Using compactor to try knocking down high joint
• Fractured rock
• Large bump
STEP 14

Screed personnel
- Check for transition marks
- Mat should be uniform
Take off too high

- Main screed climbed and extensions dug in.
  - Head of Material
  - Tow arms not level
  - Tow Point not centered
  - Starter boards
Take off too low

- Screed dropped
- Main Screed left marks.
  - Head of Material
  - Starter boards
  - Tow points not centered.
  - Did not pull out slack
Paving by the Numbers

- Keep speed constant
- Speed changes cause bumps or dips
- Adjust feeder system if speed must be changed.
# What We’re Trying to Avoid

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Any Questions?
Paving by the Numbers

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