SOUTHERN IL SCALE INC

OURS IS THE RIGHT WEIGH!

White paper on axleWEIGHr Scale Use

Background

The axleWEIGHr was introduced to the US market in late 2012. In June of 2013 we finished testing and shipped the first scale to a farmer in GA (which is still in use today). Then and today, we often get asked how the axleWEIGHr works. The secret is in the patented, outboard, in-tension, self-aligning, and self-checking deck which affords us consistent weights from this scale. The proven Rinstrum R400 series indicator with special firmware for dynamic weighment processing and information management software provide a reliable dynamic scale system.

Patented Design

We have multiple patented ideas on this scale. For example: Having the loadcells outboard and in-tension, the rotational and self-dampening checking, the ability to be free floating or have flexures, self-aligning deck and load cells, Rinstrum's patented processing of axle data, easy to remove deck, all M12 connectors, plus others are the heart of how and why the axleWEIGHr works so well.

The Rinstrum indicator looks at the digital signature of the axle, finds the centre or middle of the weighment and takes a sample of weights and averages to give an axle weight. Adding each of the axles up, we get the gross weight for that vehicle. Combined with the patented idea of comparing the signature of the axles at the beginning and the end, weights can be rejected or accepted very effectively, quickly, and accurately.

Maintenance

Design for easy maintenance for scale operators the deck and loadcells are readily maintained.

- The use of click in M12 connectors allow for easy disconnection of cabling: unhook the home run cable, unhook the ground straps in the corners. From there you can pick the deck up out of the foundation.
- It would take maximum of around 15 minutes to clean, inspect the scale.
- Once done, simply set the scale back into the foundation, hook up the ground straps, re-connect the home run cable, and you are ready to weigh.

Return on Investment

Another frequently asked question is on the ROI of an axleWEIGHr. With an average cost of approximately $25,000 for installing the scale with the software database for record keeping, let's look at some scenarios to see how it plays out.

Scenario 01: A Farm

If a farmer farms 2000 acres with 50% bean acreage and 50% corn acreage (200,000 bushels of storage), has 50 bushel per acre beans and 150 bushel per acre corn, his bins will be full.

- When he gets ready to report this to FSA or Crop Insurance, he will have many options. He can use bin measurement which is +/- 5% on average (or +/- 10,000 bushel), or use yield monitor off the combine which is +/- 3% on average (or +/- 6,000 bushel), or use a grain cart which on average is +/- 2% (or +/- 4,000 bushel) or a truck scale which is on average +/- .2% (or 400 bushel).
- If for the example ¾ of this grain was corn at $3.62@bu, and ¼ soybeans at $8.35@bu, (Cash bids as of 12/27/2018 in Southern IL) your variation on 200,000 bushels of grain is +/- $48,025 for bin measurement, +/- $28,815 for combine monitor, +/- $19,210 for grain cart, or +/- $1,921 for a scale that will weigh to .2% on average.
- Plus, what you report could be off, or you could have paid the landowner the wrong number of bushels for their farm.
- If you report your yield low to FSA, or crop insurance, the yield per acre basis could be low if you ever had a claim.
- Most users that keep records against what they weigh in and haul back out to the elevator and sell, report less than .2% variance.is achievable for the axleWEIGHr.

Scenario 02: Commercial Trucking

The axleWEIGHr can be used to protect against overloads in commercial trucking. Overloads can be per axle while the gross weight is within the limits. Depending in your volume, you could easily create an ROI for this scale. Let's say that you are trying to maximize your loads per truck, and by doing so 10% of the trucks go out with either an overloaded axle or overloaded on the gross. For this example, we will use a trucking company doing 20 trucks per day, 5 days a week. That is 5200 trucks per year leaving the yard.

- If 10% was overloaded that is 520 trucks per year.
- Let's say that 10% of those get a ticket, that is 52 overweight tickets per year. If you add the fine, time lost, cost to reduce the load before leaving scale house, and maybe a DOT violation before you get gone and loss of on duty time on your log book, you could easily see a cost of $1000 per truck.
- At $1000 per truck, your cost is $52,000 per year. Or if you only have 12 overweight tickets per year, your ROI is 2 years, maybe less.
- It is worth mentioning the risk of being in a wreck with an overloaded truck. By using our Check weighing program for individual axle weights, you can reduce your commercial risk of overweight fines greatly.

Safety Compliance

Another use of the axleWEIGHr is for safety compliance. For example:

- Overweight trucks or unevenly loaded trucks that might cause rollover problems when they raise the bed to dump the loads.
- With end dump trailers costing in excess of $50,000 new, eliminating one roll over every two years will pay for the scale.
- In cold areas, trucks coming into the yard can be weighed to see if they have frozen material left in their truck bed or did not empty fully the last time they dumped the truck.
- Concrete trucks coming back in can be weighed to see if they have partial loads in the truck.

The axleWEIGHr in motion axle scale provides a fit for purpose scale over the investment in a full truck scale for users wanting reliable axle weights on trucks entering and leaving sites.

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