



WT-1200 Weighfeeder Commissioning & Operating Manual.

**Open Construction Inlet Chute.
Open Construction Horse Shoe Style Inlet.
Semi Enclosed With Inlet Chute.
Semi Enclosed With Horseshoe Style Inlet.
Enclosed (Dust Tight).**

Combination 1200 Weighfeeder/Vibratory Feeder.

System Description.

Your weighfeeder has been crated for protection during transit. The weighfeeder electronics is normally packed separately in secure cardboard packaging. Upon delivery, please inspect all packaging for signs of damage. Report any damage to both the transport company and Web-Tech.

The basic components are:

Assembled weighfeeder c/w gearmotor, load cell(s) and belt speed sensor.
Masterweigh/Optimus electronics.
Calibration chain/weights.

Optional:

Variable Speed Controller.
Remote Instruments.
Spare Parts.

If in any doubt regarding any aspect of the delivery, contact:

Web-Tech Australia Pty Ltd
Ph: 61 7 3841 2844
Fax: 61 7 3841 0005
Email: webtech@bigpond.com

UNPACKING

1. Carefully open the crate.
2. The weighfeeder is held in place by bolts in the mounting feet.
3. Remove the bolts and lift the weighfeeder clear of the crate using web slings – **NOT CHAINS**.
4. Ensure no parts have come loose during transit.
5. Carefully transport the weighfeeder to point of installation.
6. Open the cardboard box containing the electronics. Remove the electronics and check box for any remaining items.
7. Check electronics enclosure for any obvious damage.
Proceed to Mechanical and Electrical installation sections.

**PLEASE READ ALL SECTIONS OF THE MANUAL BEFORE PLACING THE
WEIGHFEEDER INTO SERVICE.**

1200 Series Weighfeeder.

Family Description.

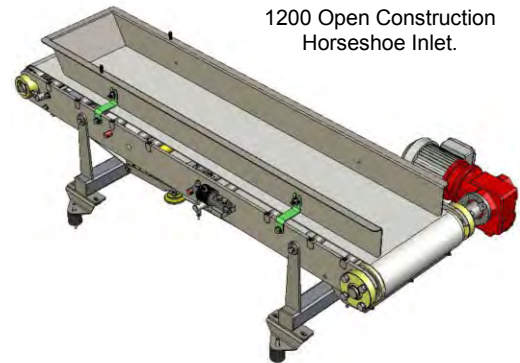
The Web-Tech model 1200 weighfeeders consist of a range of light to medium duty weighfeeders capable of handling various products. The model number extension eg. "300" denotes the belt width. Therefore a 1200-300 is a model 1200 with a belt width of 300mm. Web-Tech has selected a belt width based on the operating parameters supplied to us. Standard belt widths are 300mm, 450mm, 600mm, 750mm, 900mm and 1000mm.

The model WT1200 is available in either "open construction, semi enclosed construction & enclosed construction". Apart from the enclosure, the mechanical aspects are the same for both types. For open construction and semi enclosed models, the weighfeeder may be supplied with an inlet chute with flange connection, or, with a "horseshoe" type inlet which consists of side and rear skirts. Enclosed construction models are supplied with internal inlet chutes. The inlet chute flange may be bolted directly to the outlet of a bin, however it is not designed to support any loads. This may happen for example if the bin is supported by a structure that can deflect when fully loaded. If this is the case a flexible connection should be used. **Severe belt damage** can occur if the inlet chute is forced into contact with the belt because of inlet chute external loading.

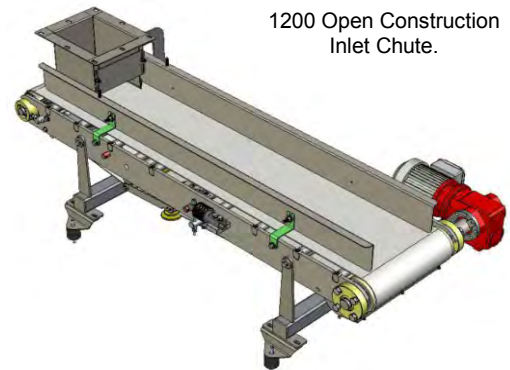
The weighfeeder dimensional layout and capacity have been determined by information supplied to Web-Tech at the product enquiry stage. Some 1200 weighfeeders may change in overall dimensions and/or supply of ancillaries to suit the operational requirements. Should your weighfeeder vary from the standard design, an addendum will have been inserted in this manual to reflect the changes.

If there are any questions regarding any aspect of the weighfeeder design or installation, please do not hesitate in contacting Web-Tech for clarification **before** placing the weighfeeder into operation. The weighfeeder is generally programmed and calibrated in our factory prior to dispatch, however the weighfeeder will need to have the calibration re-checked after installation. The calibration sheets are located at the rear of this manual.

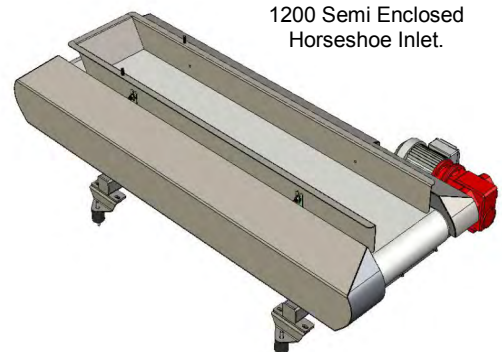
**PLEASE READ ALL SECTIONS OF THE
MANUAL BEFORE PLACING THE**



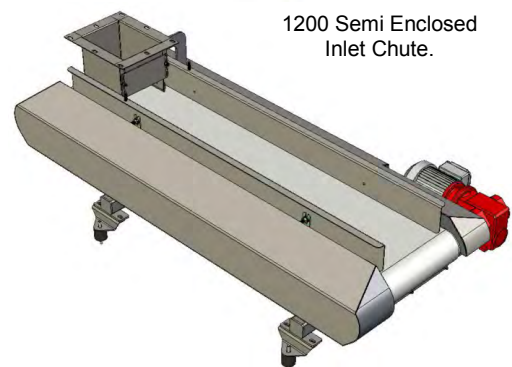
1200 Open Construction
Horseshoe Inlet.



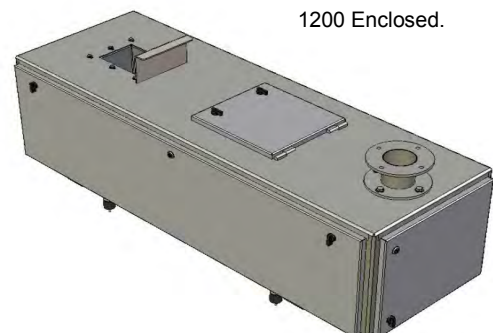
1200 Open Construction
Inlet Chute.



1200 Semi Enclosed
Horseshoe Inlet.



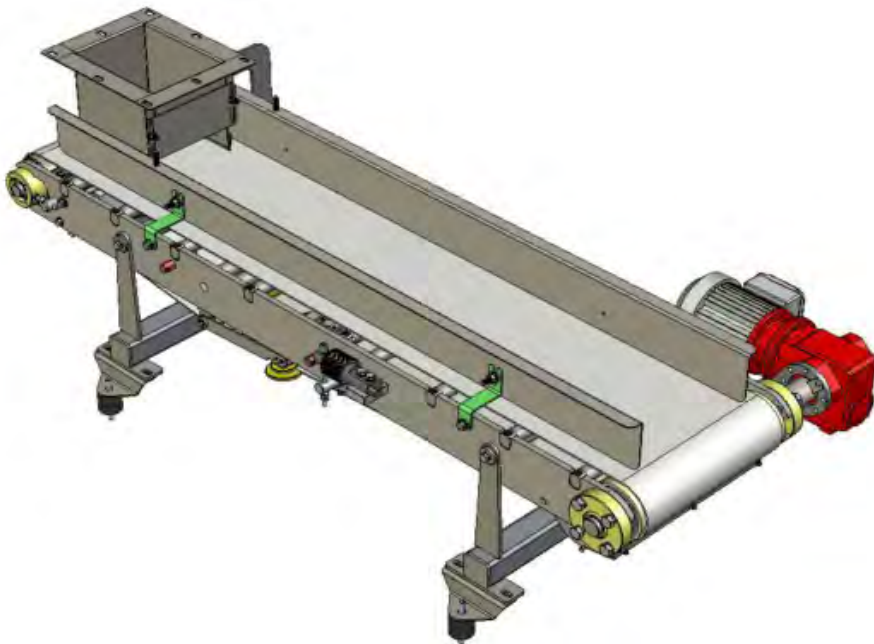
1200 Semi Enclosed
Inlet Chute.



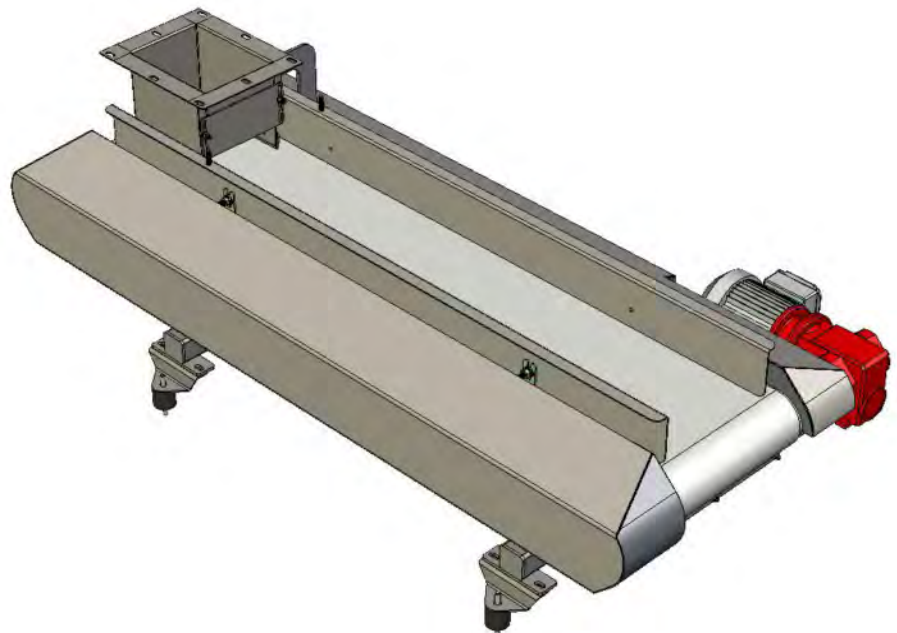
1200 Enclosed.

1200 Series Weighfeeder.

1200 Open Construction & Semi Enclosed With Inlet Chute.



1200 Open Construction With Inlet Chute.



1200 Open Construction Semi Enclosed With Inlet Chute.

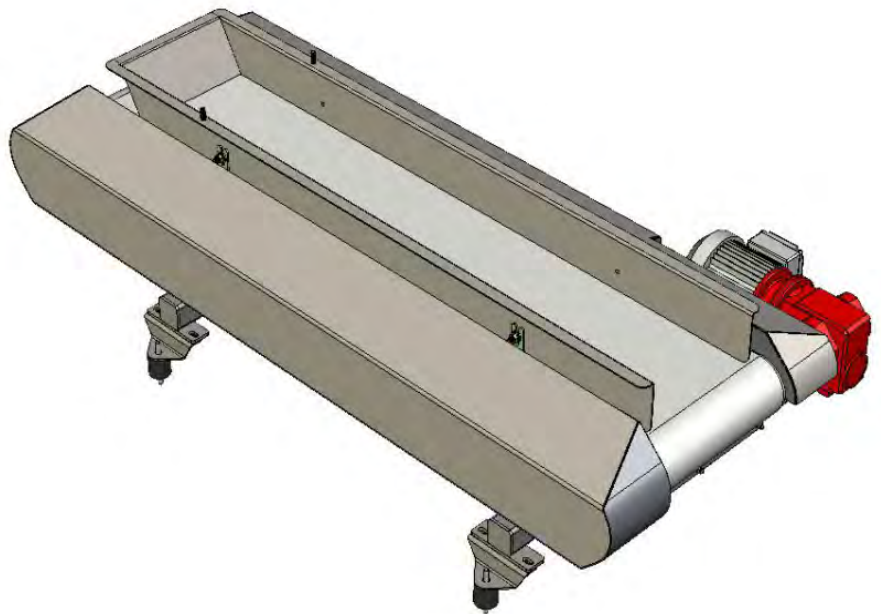
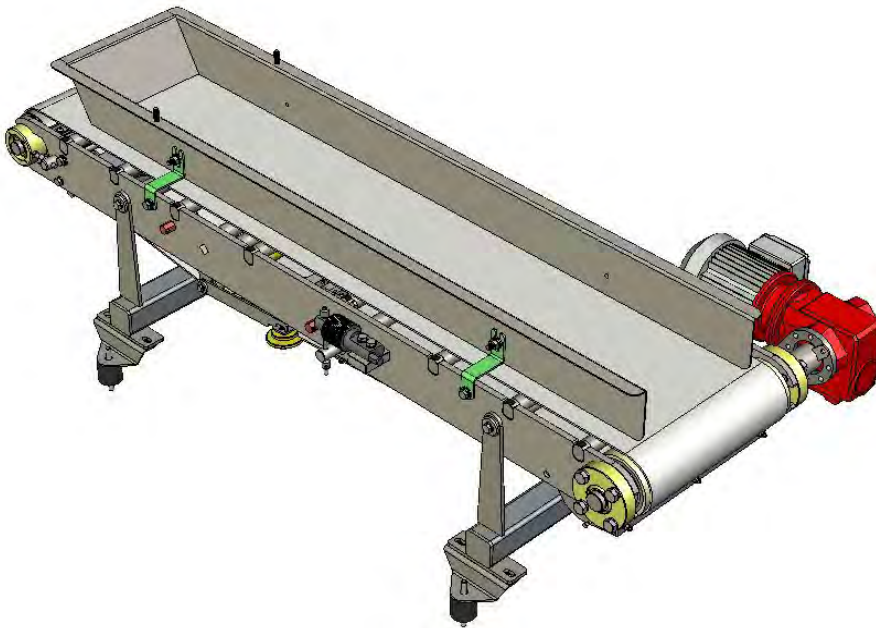
The Model 1200 series of open construction weighfeeders can be fitted with inlet chute and shear gate arrangement. Making the feeder suitable for use with a silo/hopper.

The inlet chute dimensions are as shown in the accompanying drawing. Generally the inlet chute width is half the belt width. The shear gate settings are:-

- Min 5mm.
- Max 120mm.

1200 Series Weighfeeder.

1200 Open Construction/Semi Enclosed Horseshoe Style Inlet.



The model 1200 Open Construction & Semi Enclosed Horseshoe Style Inlet, has been designed with the "Fresh Food, Snack Food, Tobacco & Chemical Industries" in mind. Many of these industries do not, or can not use pre-feed hoppers to present feed to the weighfeeder. The horseshoe style inlet allows the user to use conveyors, augers and vibratory feeders to supply product to the feeder.

Depending on a number of factors such as bulk density and lump size. The 1200 Horseshoe Inlet will be manufactured with or without a product impact plate, position prior to the weigh area.

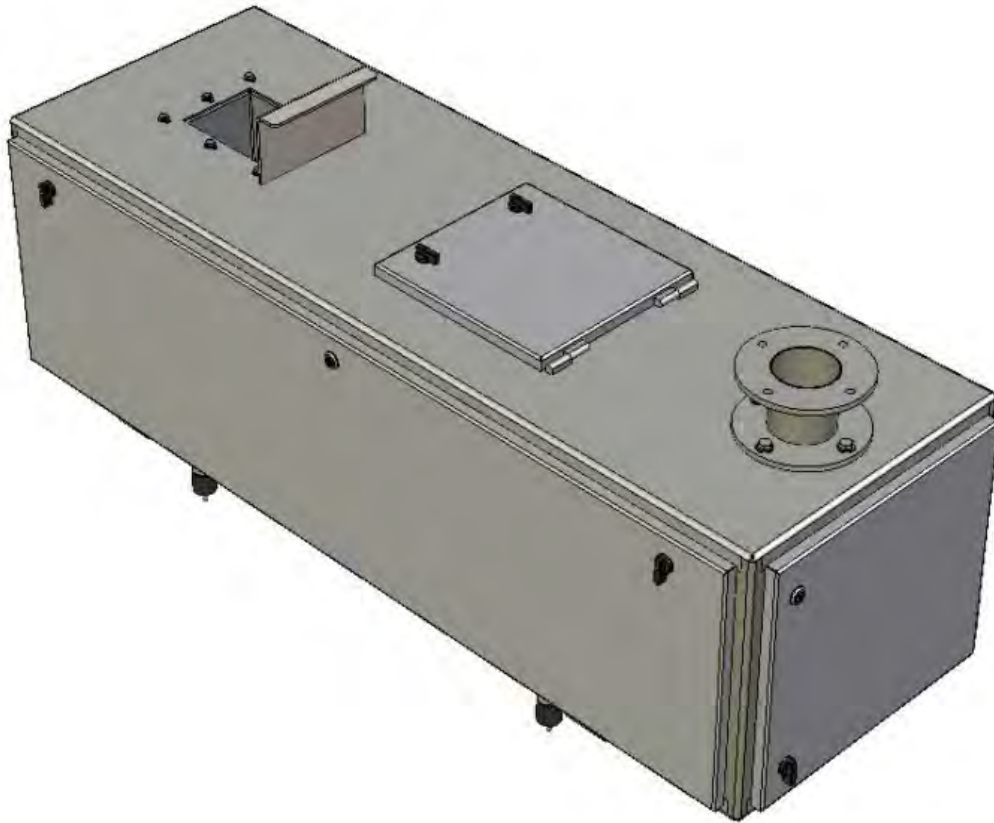
The 1200 Horseshoe Inlet Style weighfeeder

can be used to control mass rate and totalise, or just display mass rate and totalise.

Without a shear gate, mass rate control is not as accurate as a weighfeeder using an inlet chute fitted with a shear gate owing to varying product bed depth variations caused by the inadequacy of the pre-feeding devices.

If mass rate control is the primary function of the feeder. Careful attention must be paid to the mass rate control strategy..

1200 Series Weighfeeder.
1200 Enclosed Construction (Dust Tight).



The series of fully enclosed 1200 weighfeeders have been designed for use with dusty or toxic products. The general feeder design is similar to the Model 1200, with a shear gate.

1200 Weighfeeder Feeder.

Installation Open Construction/Semi Enclosed With Inlet Chute.

OPEN CONSTRUCTION / SEMI ENCLOSED WITH INLET CHUTE MODEL.

The following is a summary of works required for the mechanical installation of an “open & semi enclosed” construction model WT1200 weighfeeder which is supplied with an inlet chute.

For high vibration areas (client to advise at quotation time) the weighfeeder will be supplied with isolation blocks (loose supply). Locate these blocks and bolt them to the weighfeeder support feet.

Cover the weighfeeder if any metal cutting is to be performed around the weigh feeder, hot slag will melt the belt. If any welding is to be carried out in close proximity to the feeder, remove the load cell from the weighfeeder, stray electrical currents will damage the weighfeeder.

(Never Weld Anything To The Weigh Feeder)

Locate the weighfeeder on the support structure ensuring correct alignment. The structure must be sufficiently rigid to eliminate any deflection due to the weight of the weighfeeder and the product it's transporting.

Level the weighfeeder by placing a spirit level across and along the weighfeeder belt/structure. Any vertical alignment should be compensated for by using shim material under the support structure or weighfeeder isolation blocks/ mounting feet.

DO NOT “PULL UP” ANY GAPS BY USING THE MOUNTING BOLTS AS THIS MAY TWIST THE WEIGHFEEDER FRAME.

The weighfeeder should be level in both directions to $\pm 0.5^\circ$. This is an important requirement and a suitable spirit level or other device must be used in order to comply with this requirement.

If the weighfeeder is to be bolted directly to an overhead bin, a flexible gasket should be used between the bin and weighfeeder flanges. The thickness of the gasket should be sufficient to take-up and variation in gap that may exist between the two flanges. (If in doubt ring Web-Tech for advise)

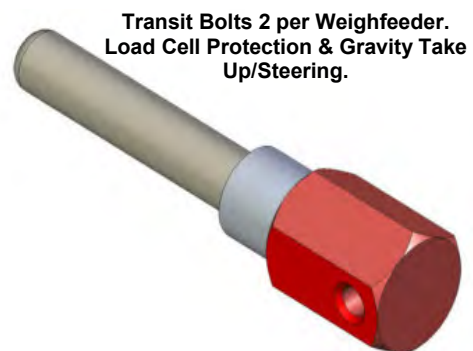
Carefully tighten the flange bolts so that the gasket is compressed and the gap is completely closed.

DO NOT OVER TIGHTEN THE CONNECTION BOLTS SO THAT THE FLANGE IS BENT.

If a flexible connection is to be used, ensure that any excess in the flexible material does not create a ledge, or restrict the flow of material from the outlet of the bin.

REMOVING TRANSIT BOLTS.

The weighfeeder has been fitted with 2 transit bolts to protect the load cell and combination gravity assisted belt tensioner and steering mechanism during shipping. These two bolts must be removed prior to running the belt. Damage to the weighfeeder will occur if not removed. Locate and remove the gravity take-up transit bolt. The transit bolt head will have been painted red for easy identification. Note the transit bolts will be hidden by the guards fitted to the semi enclosed model. Remove a guard to access the transit bolts. The guard to be removed will depend on the handedness of the weighfeeder.



Transit Bolts 2 per Weighfeeder.
Load Cell Protection & Gravity Take
Up/Steering.

1200 Weighfeeder Feeder.

Installation Open Construction/Semi Enclosed With Inlet Chute.

To gain access to the transit bolts, the guards must be removed. The guards are fitted to the weighfeeder by means of 4 Allen Head screws. As shown below.

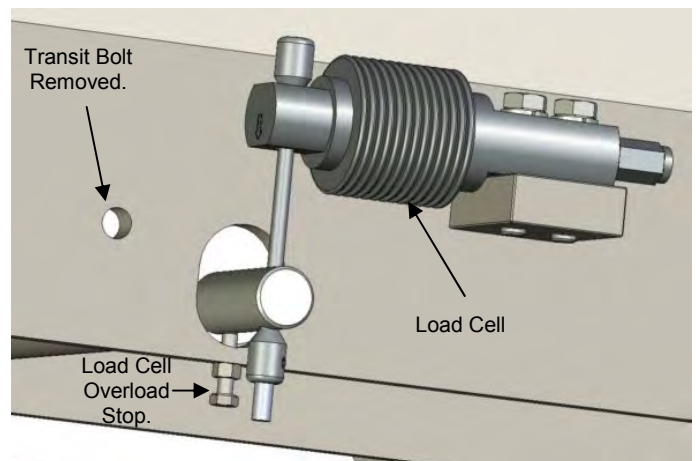
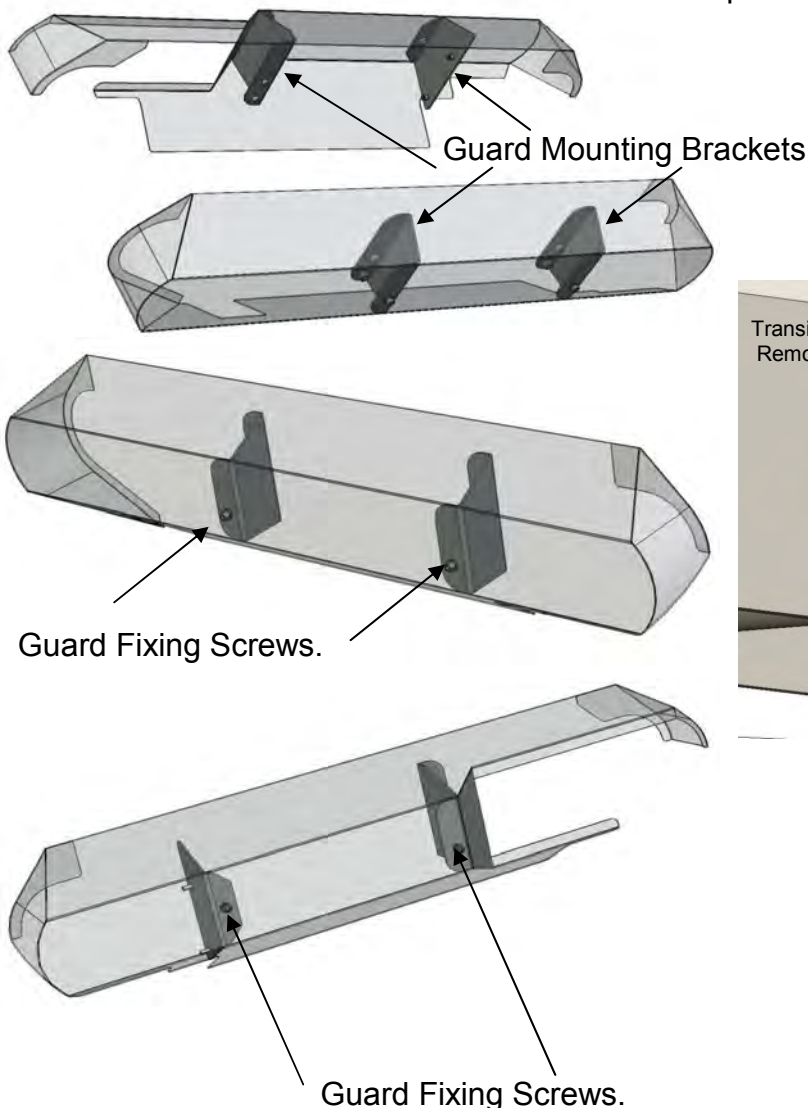
The load cell overload stop has been factory set and should not be interfered with. If the stop is accidentally adjusted, then use the setting procedure detailed elsewhere to re-set.

Before placing into operation, the alignment of the weigh bar should be checked.

DO NOT ADJUST: RING FACTORY FOR ADVISE

Referring to drawing "WT1200-031", locate the weigh bar position. Place a straight edge along each edge of the carry bars and check the height of the weigh bar. The weigh bar should with respect to the approach and retreat bars to a tolerance of $+0.25\text{mm}/-0.00\text{mm}$. If the weigh bar requires adjustment, remove the plastic plug in the end of the weigh bar and adjust the grub screw. When finished replace the plastic plugs. The mechanical installation is now complete; proceed to the electrical installation section.

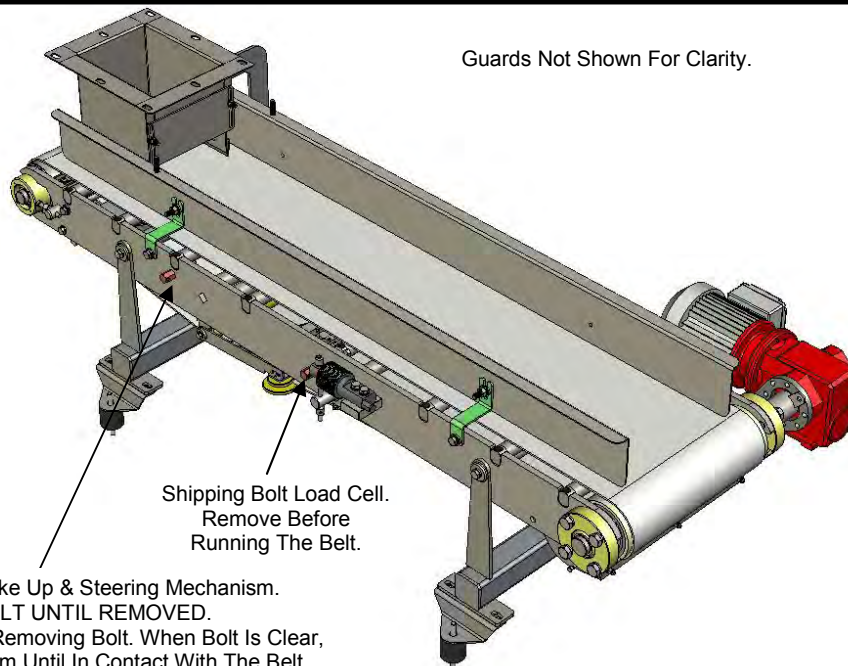
Semi Enclosed Covers, Left & Right.



1200 Weighfeeder Feeder.

Installation Open Construction/Semi Enclosed With Inlet Chute.

Guards Not Shown For Clarity.



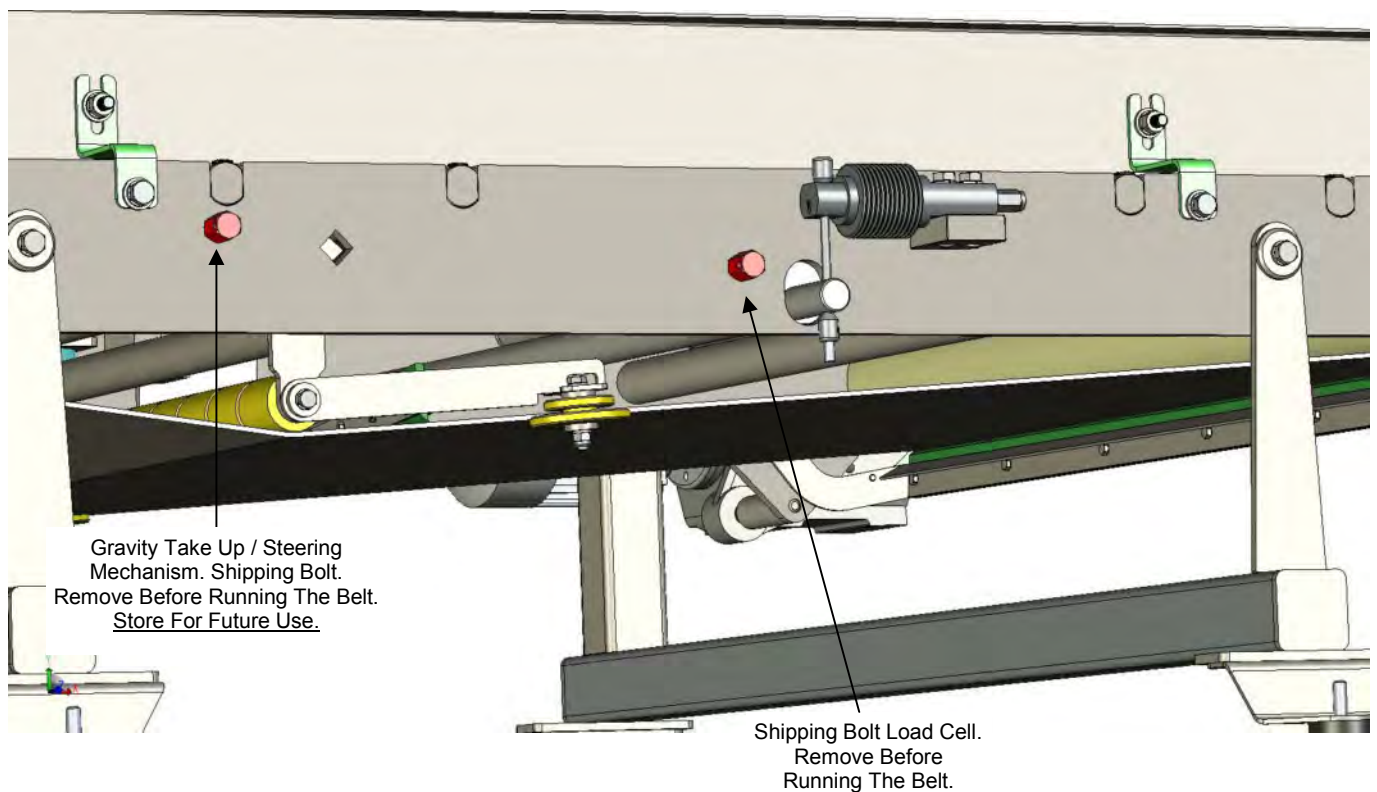
Shipping Bolt Load Cell.
Remove Before
Running The Belt.

Shipping Bolt. Gravity Take Up & Steering Mechanism.
DO NOT RUN BELT UNTIL REMOVED.

Hold The Mechanism Whilst Removing Bolt. When Bolt Is Clear,
Gently Lower The Mechanism Until In Contact With The Belt.

Shipping Bolts Have Been Inserted To The Weigh Feeder To Prevent Damage During Transport.

Leaving The Shipping Bolts In Place During Operation Will Damage The Weigh Feeder.



Gravity Take Up / Steering
Mechanism. Shipping Bolt.
Remove Before Running The Belt.
Store For Future Use.

Shipping Bolt Load Cell.
Remove Before
Running The Belt.

1200 Weighfeeder Feeder.

Installation Open Construction/Semi Enclosed Horseshoe Style Inlet.

OPEN CONSTRUCTION WITH “HORSESHOE STYLE” INLET MODEL.

The following is a summary of works required for the mechanical installation of an “open/semi enclosed” construction model WT1200 weighfeeder which is supplied with a “horseshoe style” inlet.

For high vibration areas (client to advise at quotation time) the weighfeeder will be supplied with isolation blocks (loose supply). Locate these blocks and bolt them to the weighfeeder support feet.

Cover the weighfeeder if any metal cutting is to be performed around the weigh feeder, hot slag will melt the belt. If any welding is to be carried out in close proximity to the feeder, remove the load cell from the weighfeeder, stray electrical currents will damage the weighfeeder.

(Never Weld Anything To The Weigh Feeder)

Locate the weighfeeder on the support structure ensuring correct alignment. The structure must be sufficiently rigid to eliminate any deflection due to the weight of the weighfeeder and the product it's transporting.

Level the weighfeeder by placing a spirit level across and along the weighfeeder belt/structure. Any vertical alignment should be compensated for by using shim material under the support structure or weighfeeder isolation blocks/ mounting feet.

The weighfeeder should be level in both directions to $\pm 0.5^\circ$. This is an important requirement and a suitable spirit level or other device must be used in order to comply with this requirement.

The use of the “horseshoe” style inlet allows for a conveyor, metering tube or a pre-feeder such as a vibratory feeder to be used. If the specification calls for a conveyor, metering tube, or vibratory feeder. Ensure that non contact the belt.

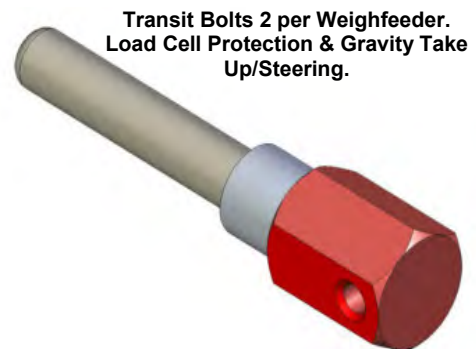
If the bottom of the chute/metering tube is fitted with skirts, ensure that excessive load is not placed on the belt. The skirts should just be in contact with the belt.

If the weighfeeder is to be supplied with a pre-feeding device such as a vibratory feeder or conveyor, ensure that material is not deposited forward of the product impact zone as shown. (refer to the drawing for location of the product

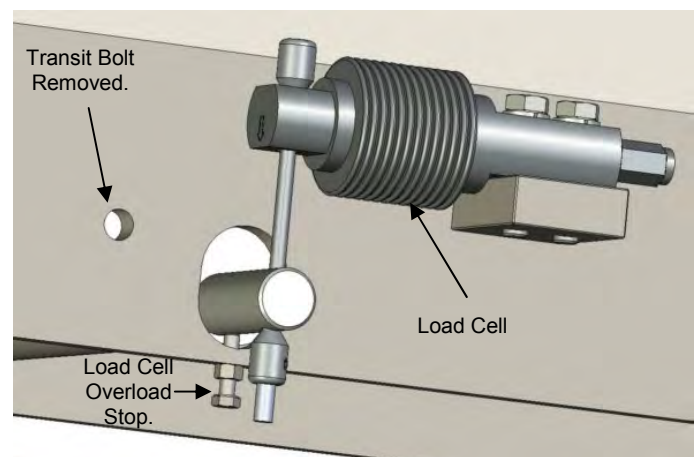
impact zone limits).

Locate and remove the compound gravity take-up and belt steering mechanism transit bolts. The transit bolt head will have been painted red for easy identification. Refer to drawing “WT1200-021” or location. Carefully lower the gravity take-up roll down onto the return belt.

Refer to drawing “WT1200-031”. This drawing will show that the load cell is fitted with an overload bolt. On belt widths up to 750mm, one load cell is used. On wider belt widths, two load cells are used (one per side). These bolts have been factory set and should not be altered. One each of these bolts there is a red transit nut. During transit, these nuts should be tightened upwards against the bottom of the load cell. Before operation these nuts should be lowered to the bottom of the overload bolts as shown on the drawing.



Transit Bolts 2 per Weighfeeder.
Load Cell Protection & Gravity Take
Up/Steering.

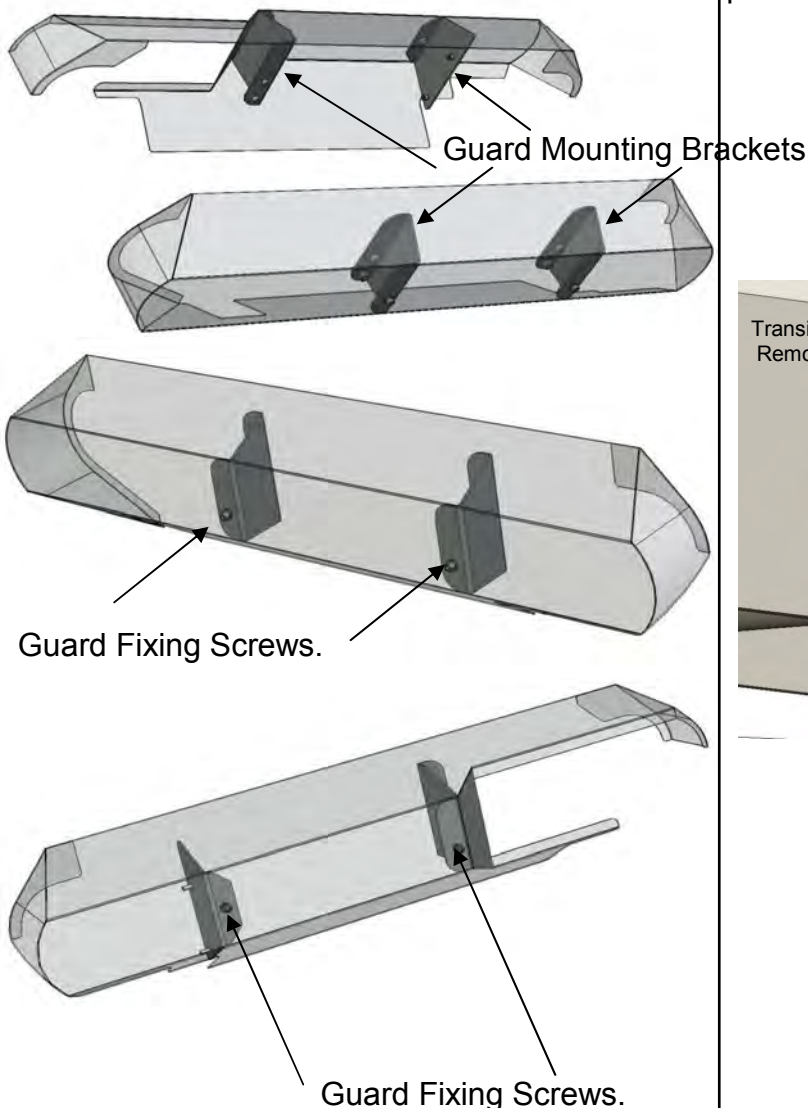


1200 Weighfeeder Feeder.

Installation Open Construction/Semi Enclosed Horseshoe Style Inlet.

To gain access to the transit bolts, the guards must be removed. The guards are fitted to the weighfeeder by means of 4 Allen Head screws. As shown below.

Semi Enclosed Covers, Left & Right.

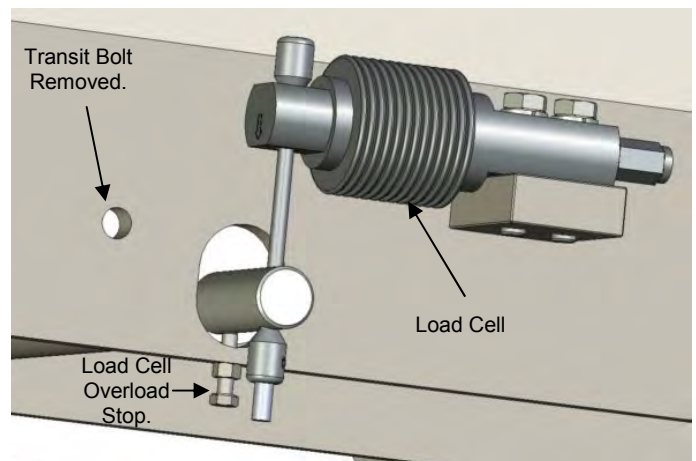


The load cell overload stop has been factory set and should not be interfered with. If the stop is accidentally adjusted, then use the setting procedure detailed elsewhere to re-set.

Before placing into operation, the alignment of the weigh bar should be checked.

DO NOT ADJUST: RING FACTORY FOR ADVISE

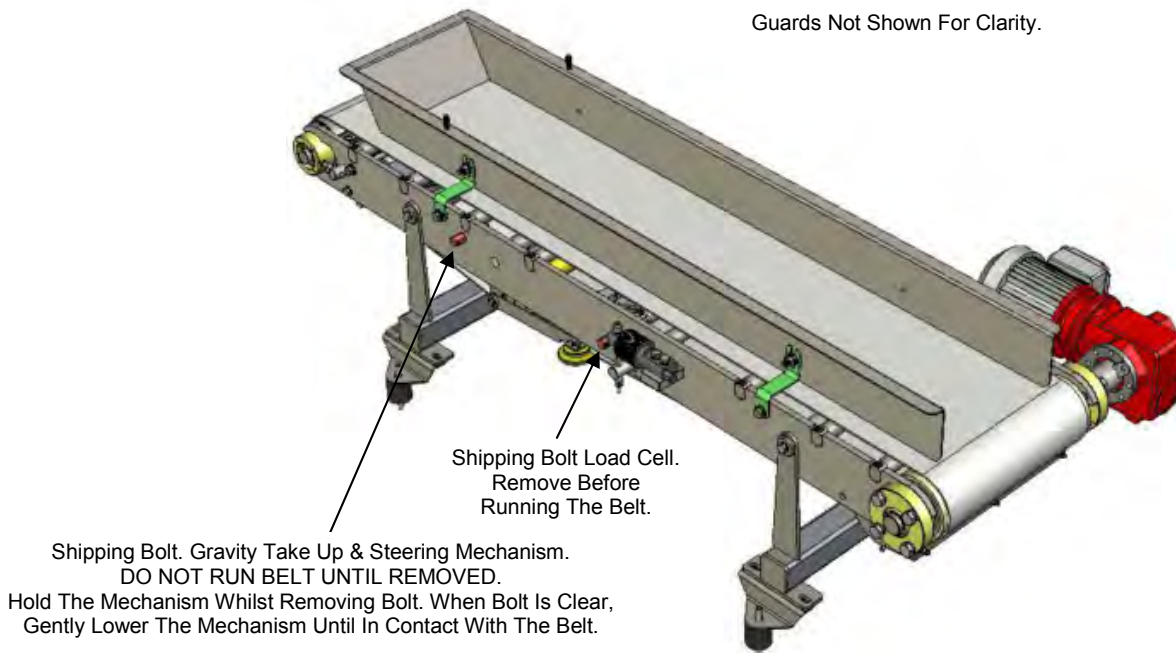
Referring to drawing "WT1200-031", locate the weigh bar position. Place a straight edge along each edge of the carry bars and check the height of the weigh bar. The weigh bar should with respect to the approach and retreat bars to a tolerance of $+0.25\text{mm}/-0.00\text{mm}$. If the weigh bar requires adjustment, remove the plastic plug in the end of the weigh bar and adjust the grub screw. When finished replace the plastic plugs. The mechanical installation is now complete; proceed to the electrical installation section.



1200 Weighfeeder Feeder.

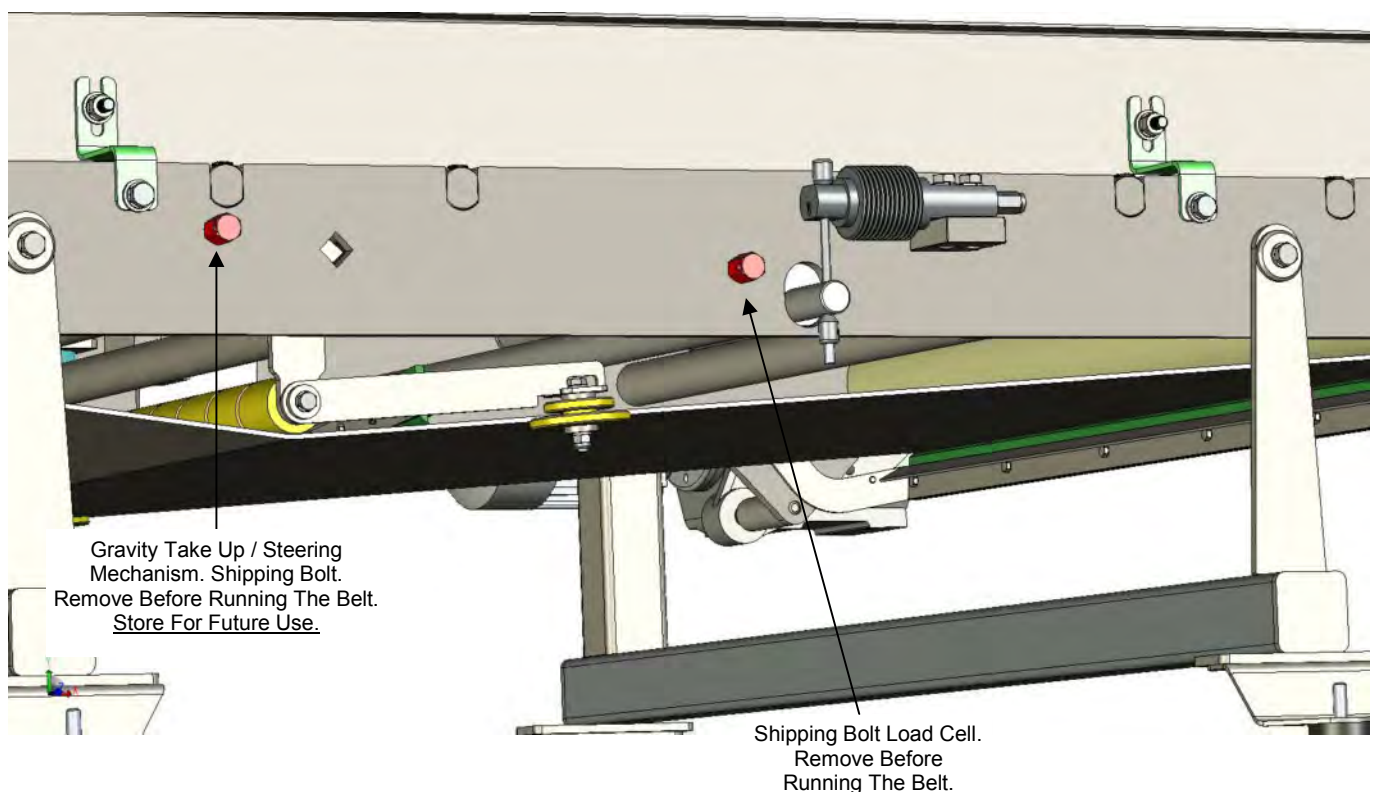
Installation Open Construction/Semi Enclosed Horseshoe Style Inlet.

Guards Not Shown For Clarity.



Shipping Bolts Have Been Inserted To The Weigh Feeder To Prevent Damage During Transport.

Leaving The Shipping Bolts In Place During Operation Will Damage The Weigh Feeder.



1200 Weighfeeder Feeder.

Installation Enclosed Construction.

ENCLOSED CONSTRUCTION MODEL .

The following is a summary of works required for the mechanical installation of an “enclosed” construction model WT1200 weighfeeder which is supplied with an internal inlet chute.

For high vibration areas the weighfeeder will be supplied with isolation blocks (loose supply).

Locate these blocks and bolt them to the weighfeeder support feet.

Cover the weighfeeder if any metal cutting is to be performed around the weigh feeder, hot slag will melt the belt. If any welding is to be carried out in close proximity to the feeder, remove the load cell from the weighfeeder, stray electrical currents will damage the weighfeeder.

(Never Weld Anything To The Weigh Feeder)

Remove the side doors from the weighfeeder prior to proceeding. The doors are fitted with pintle hinges allowing the doors to be slid off. Locate the weighfeeder on the support structure ensuring correct alignment. The structure must be sufficiently rigid to eliminate any deflection due to the weight of the weighfeeder and the product it's transporting.

Level the weighfeeder by placing a spirit level across and along the weighfeeder belt/structure. Any vertical alignment should be compensated for by using shim material under the support structure or weighfeeder isolation blocks/ mounting feet.

DO NOT “PULL UP” ANY GAPS BY USING THE MOUNTING BOLTS AS THIS MAY TWIST THE WEIGHFEEDER FRAME.

The weighfeeder should be level in both directions to $\pm 1^{\circ}$.

If the weighfeeder is to be bolted directly to an overhead bin, a flexible gasket should be used between the bin and weighfeeder flanges. The thickness of the gasket should be sufficient to take-up and variation in gap that may exist between the two flanges.

Carefully tighten the flange bolts so that the gasket is compressed and the gap is completely closed.

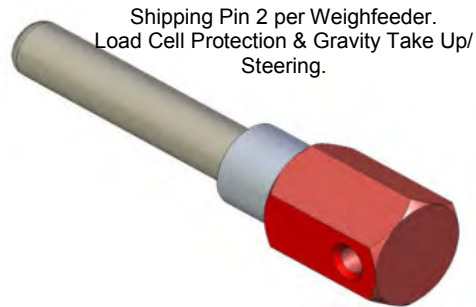
DO NOT OVER TIGHTEN THE CONNECTION BOLTS SO THAT THE FLANGE IS BENT.

If a flexible connection is to be used, ensure that

any excess in the flexible material does not create a ledge, or restrict the flow of material from the outlet of the bin.

Connect the outlet of the weighfeeder using the same method i.e. use a flexible gasket.

Locate and remove the gravity take-up transit bolt. The transit bolt head will have been painted red for easy identification. Refer to drawing



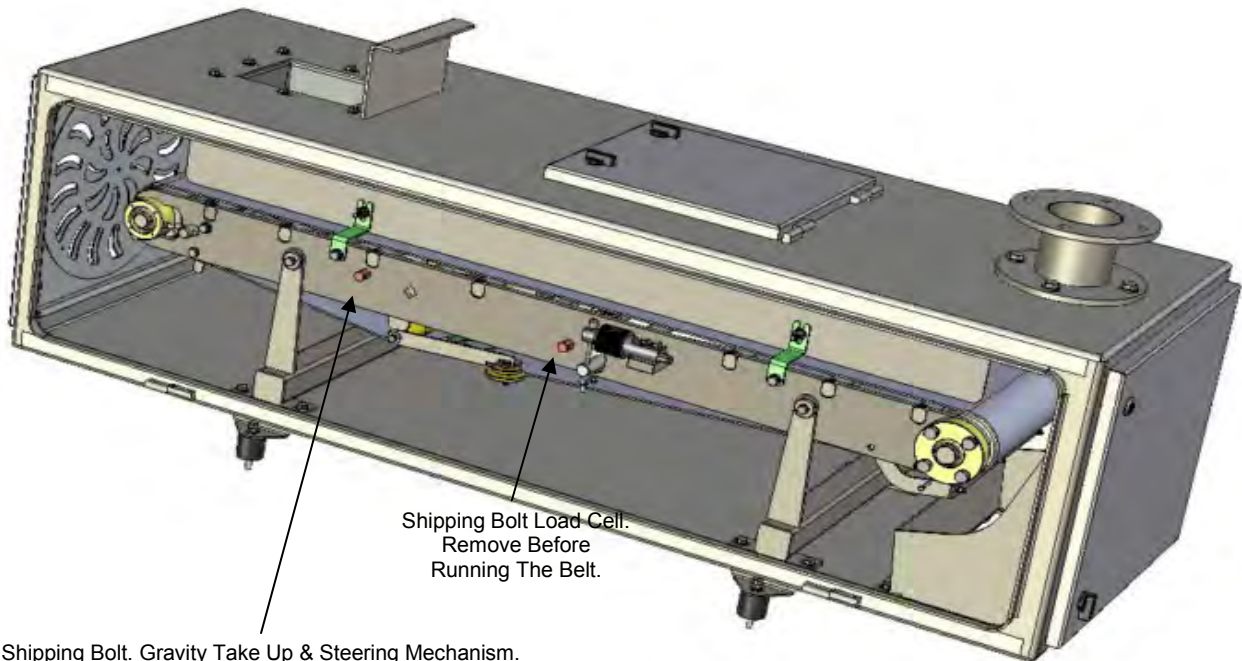
“WT1200-021” or location. Carefully lower the gravity take-up roll down onto the return belt. Refer to drawing “WT1200-031”. This drawing will show that the load cell is fitted with an overload bolt. On belt widths up to 750mm, one load cell is used. On wider belt widths, two load cells are used (one per side). These bolts have been factory set and should not be altered. One each of these bolts there is a red transit nut. During transit, these nuts should be tightened upwards against the bottom of the load cell. Before operation these nuts should be lowered to the bottom of the overload bolts as shown on the drawing.

MAKE SURE THAT THE OVERLOAD BOLTS ARE NOT MOVED WHEN ADJUSTING THE TRANSIT NUTS.

Before placing into operation, the alignment of the weigh bar should be checked. Referring to drawing “WT1200-031”, locate the weigh bar position. Place a straight edge along each edge of the carry bars and check the height of the weigh bar. The weigh bar should with respect to the approach and retreat bars to a tolerance of $+0.25\text{mm}/-0.00\text{mm}$. If the weigh bar requires adjustment, remove the plastic plug in the end of the weigh bar and adjust the grub screw. When finished replace the plastic plugs. The mechanical installation is now complete; proceed to the electrical installation section.

1200 Weighfeeder Feeder.

Shipping Bolts.



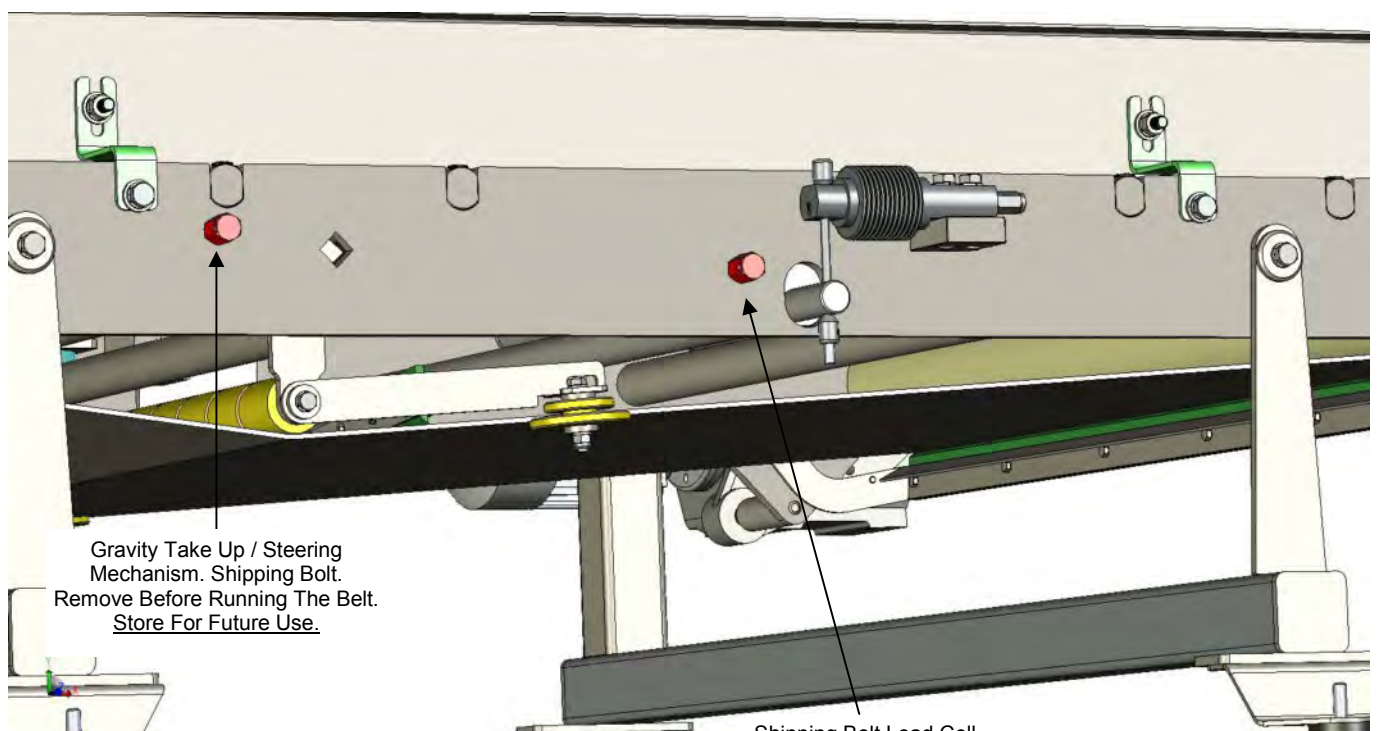
Shipping Bolt Load Cell.
Remove Before
Running The Belt.

Shipping Bolt. Gravity Take Up & Steering Mechanism.
DO NOT RUN BELT UNTIL REMOVED.

Hold The Mechanism Whilst Removing Bolt. When Bolt Is Clear,
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Gravity Take Up / Steering
Mechanism. Shipping Bolt.
Remove Before Running The Belt.
Store For Future Use.

Shipping Bolt Load Cell.
Remove Before
Running The Belt.

1200 Weighfeeder Feeder.

Mechanical Adjustments.

The 1200 Series of weighfeeders have 8 adjustments that may require attention over the operating life of the feeder.

1. Load Cell Overload Protection.
2. Belt Pre-Tensioning.
3. Weigh Bar Height.
4. Belt Carry bars.
5. Belt Scraper Carry Side Blade.
6. Belt Scraper Non Carry Side (Steering).
7. Belt Scraper Non Carry Side (Gravity)
8. Tail Pulley Scraper.

1200 Weighfeeder Feeder.

Mechanical Adjustments Load Cell Overload Protection.

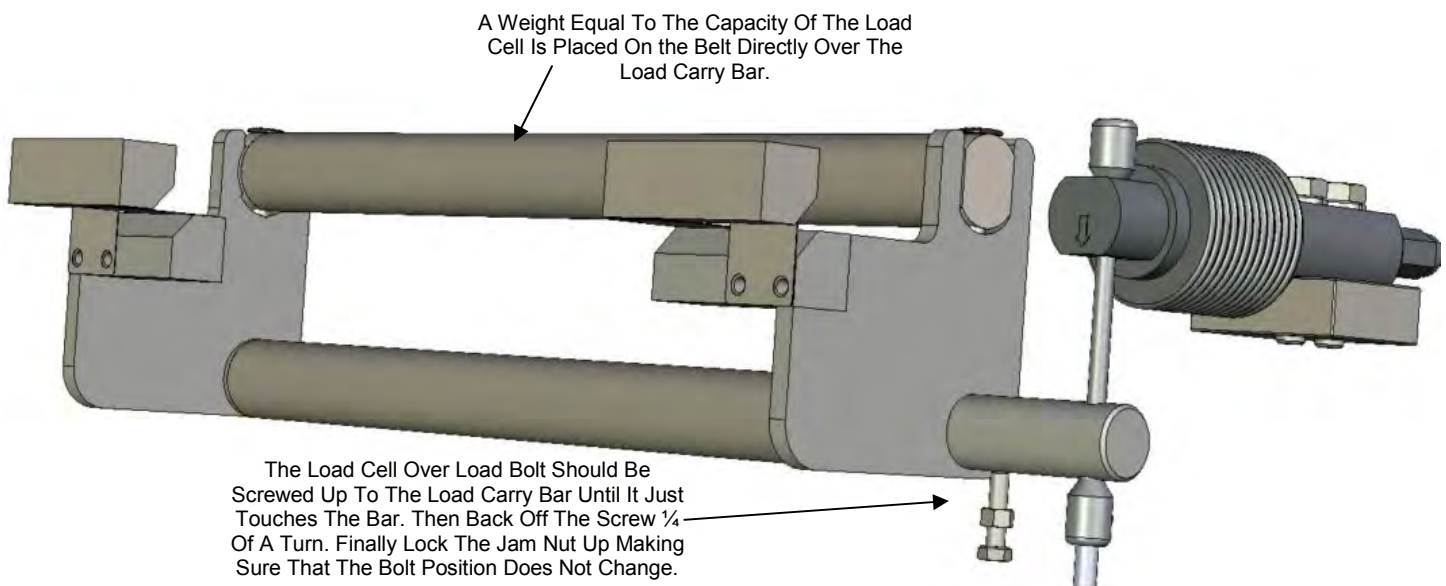
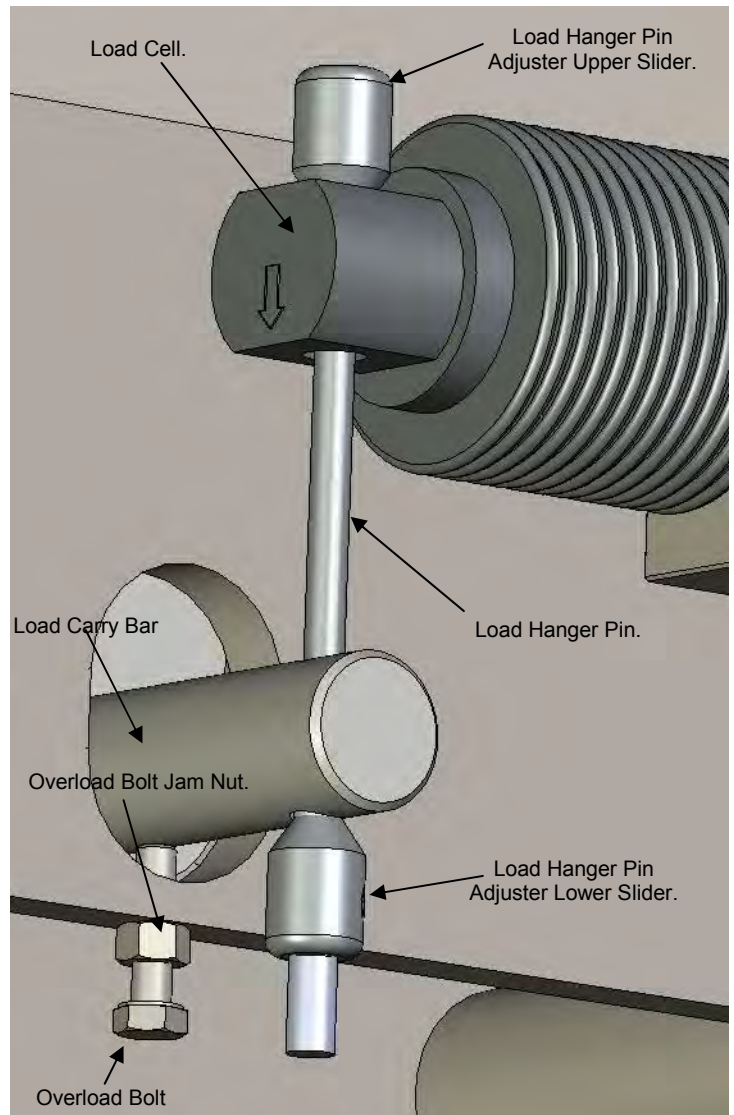
Load Cell Overload Protection.

The 1200 series weighfeeders usually use load cells in the range of 5kg - 15kg. Their capacity is a function of the duty. In an effort to prevent accidental load cell overloads, Web-Tech have provided a mechanism which will arrest the load cell travel after a set point has been exceeded. The overload mechanism comprise, a 6mm bolt and lock nut.

To set the lock Nut follow the following procedure.

It is assumed that the height of the carry bars, load carry bar and the load hanger pin are correctly set.

Place a weight equal to the capacity of the load cell is placed on the belt directly over the load carry bar. Release the jam nut and adjust the load cell over load bolt until it just contacts the load carry bar, then back off the bolt a $\frac{1}{4}$ of a turn and lock the jam nut up against the bottom of the stringer. The over load stop mechanism has now been set up and the weight should be removed from the belt. Check that a clear gap can be seen between the top of the overload bolt and the load carry bar prior to proceeding.

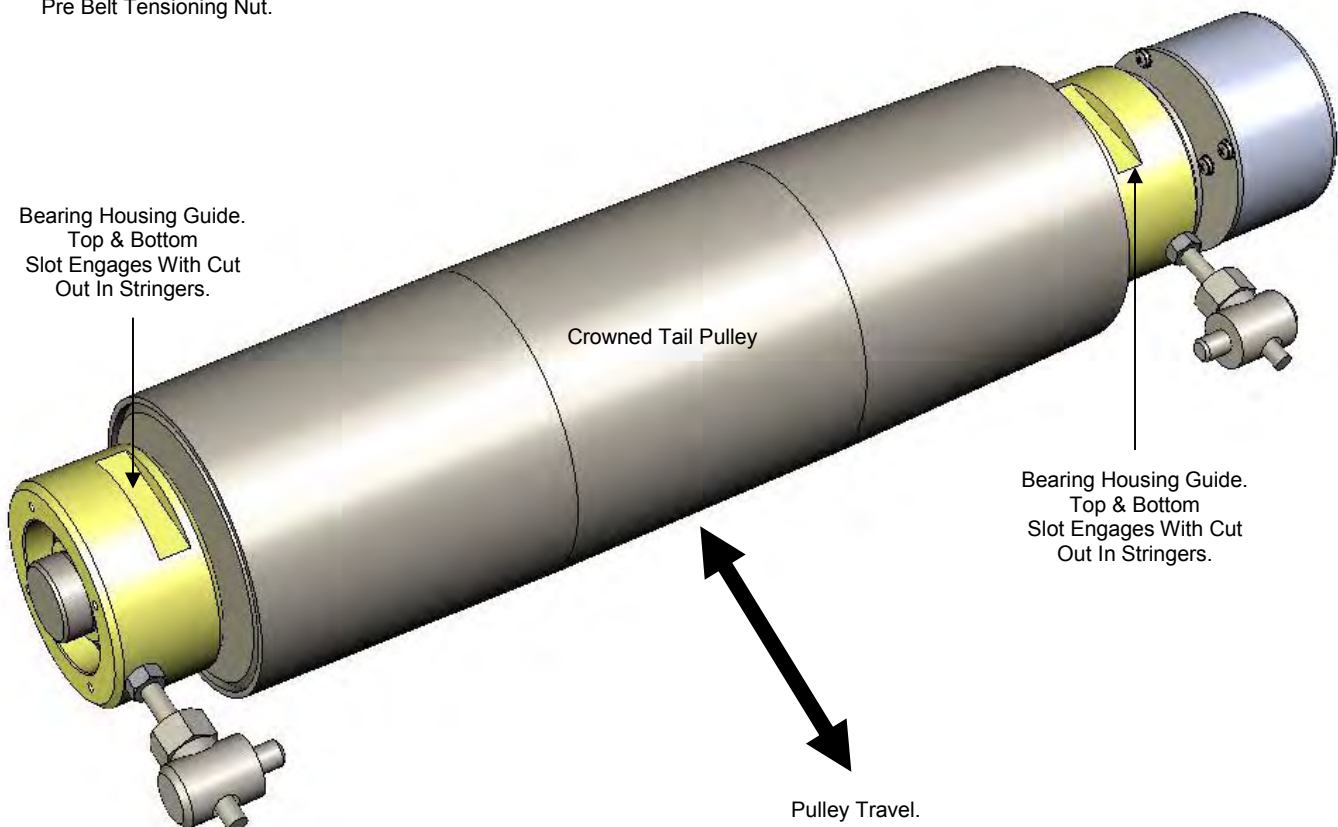
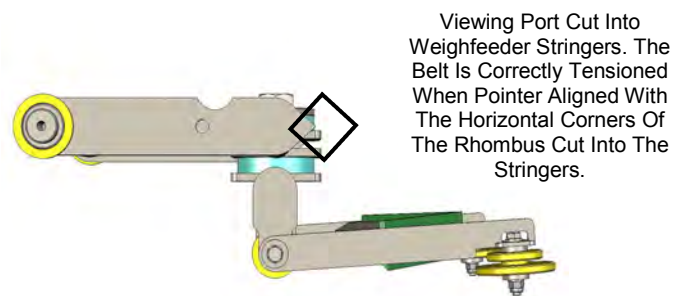
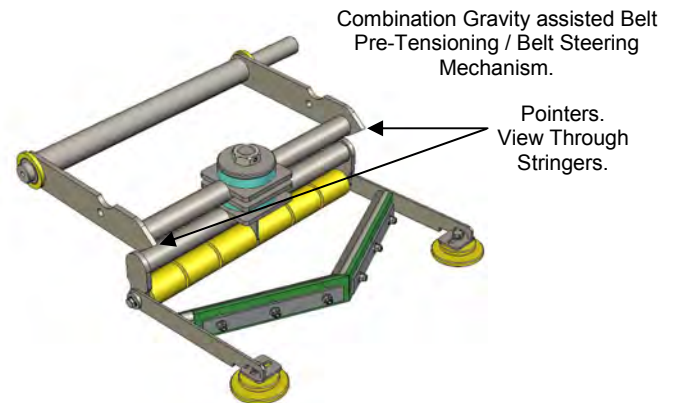
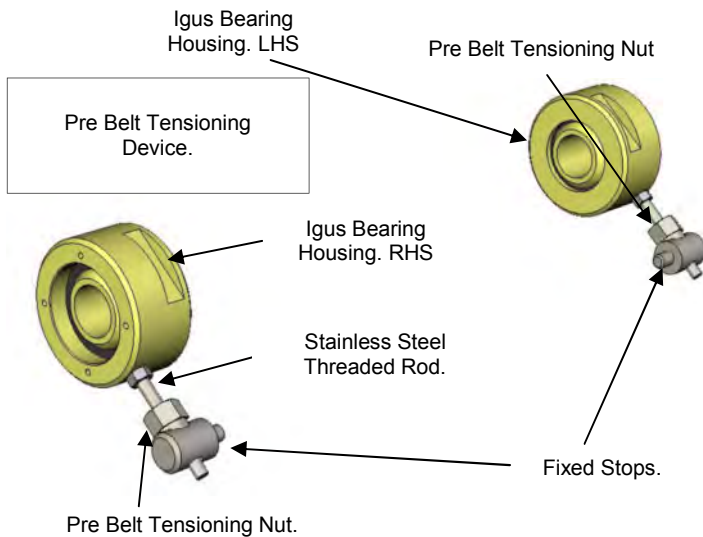


1200 Weighfeeder Feeder.

Mechanical Adjustments Belt Pre-Tensioning.

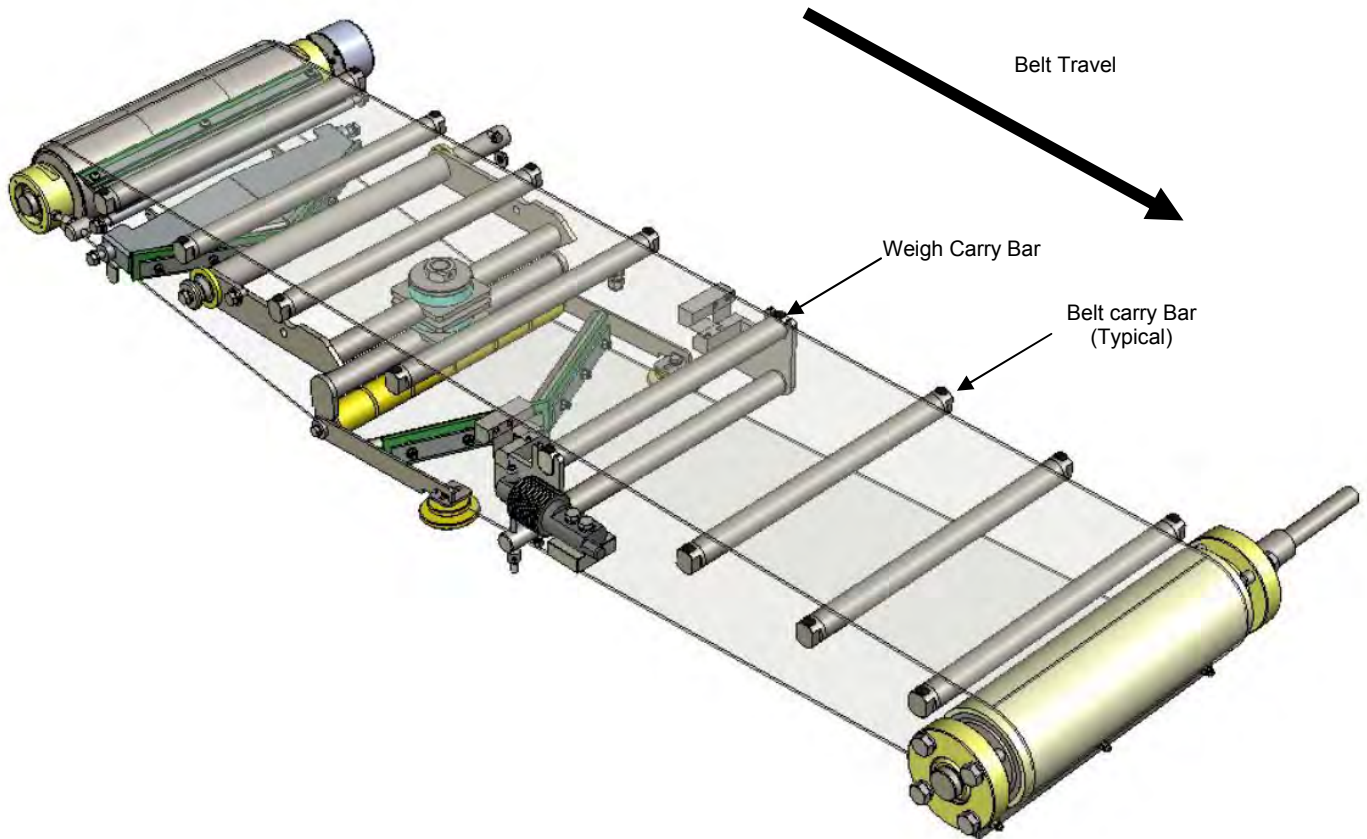
It is important that weighfeeders are not subjected to varying belt tension during operation. The 1200 series of weighfeeders are fitted with a gravity assisted belt tensioning device. The device was not designed to take up the large amount of slack belt that is required to make belt fitting easy. Therefore the 1200 series of weighfeeders have been fitted with a pre-belt tensioning device. The device consists of two bearing housings attached to two threaded stainless steel rods. The rods engage with two fixed stops. A threaded nut acts against the stop when rotated to push the bearing housing out

and pre-tension the belt. Both bearing housings should be adjusted by an equable amount. Use a six inch rule to confirm. The 1200 series of weighfeeders have been fitted with an indicator which provides the user with an accurate method of adjusting the bearing housings extensions.



1200 Weighfeeder Feeder.

Mechanical Adjustments Weigh Bar & Belt Carry Bar Heights.



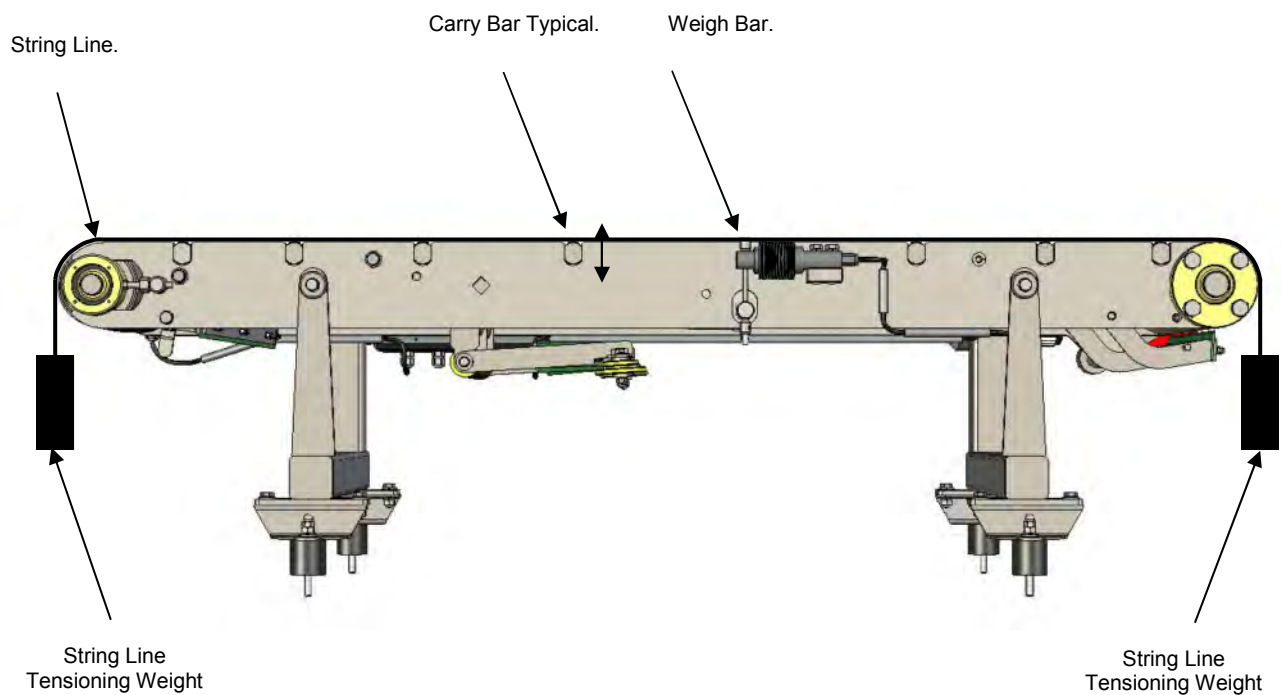
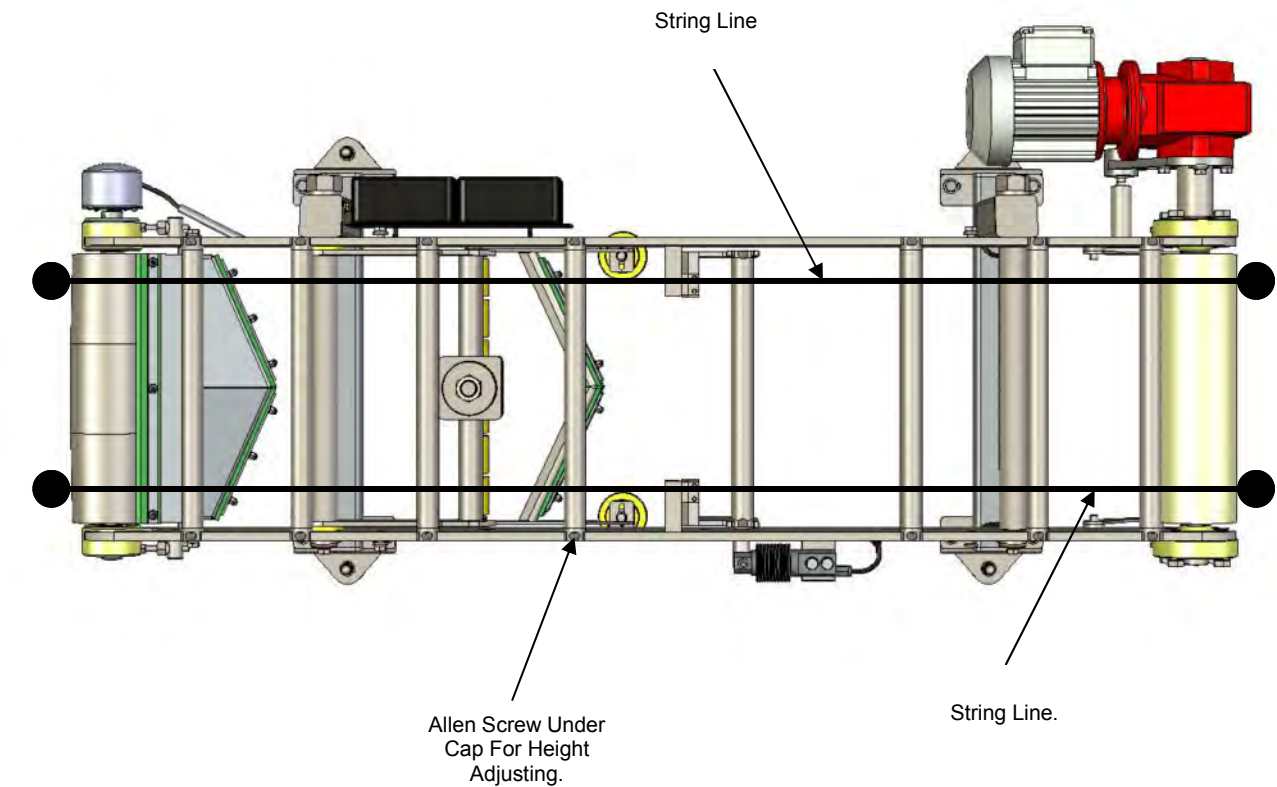
Vertical Alignment.

It is important that the belt path on the carry side of the weighfeeder be flat. Each bar must be within 0.1mm vertically with all other carry bars. The weigh bar must also be adjusted to the same precision if the weigh feeder is to return the accuracies specified. During transportation the weigh bar and carry bars may have settled. During commissioning, the commissioning technician will have checked the vertical alignment of the bars using a nylon string line with a breaking capacity of 120kg. If any bars were found to meet our height specification they would have been adjusted. Adjustment is achieved by means of two grub screws located at either end of the bar. The grub screws are located under a plastic seal. The seals are removed by prizing off the cap using a screw driver or a similar tool. The 6mm Allen screw will have been set in position using a thread locking liquid "Loctite" or equivalent. The base of the screw will have been smeared with the compound so as to provide greater locking. It is therefore important that a correctly sized Allen

Key be used if the grub screw is to be broken out.

1200 Weighfeeder Feeder.

Mechanical Adjustments Weigh Bar & Belt Carry Bar Heights.



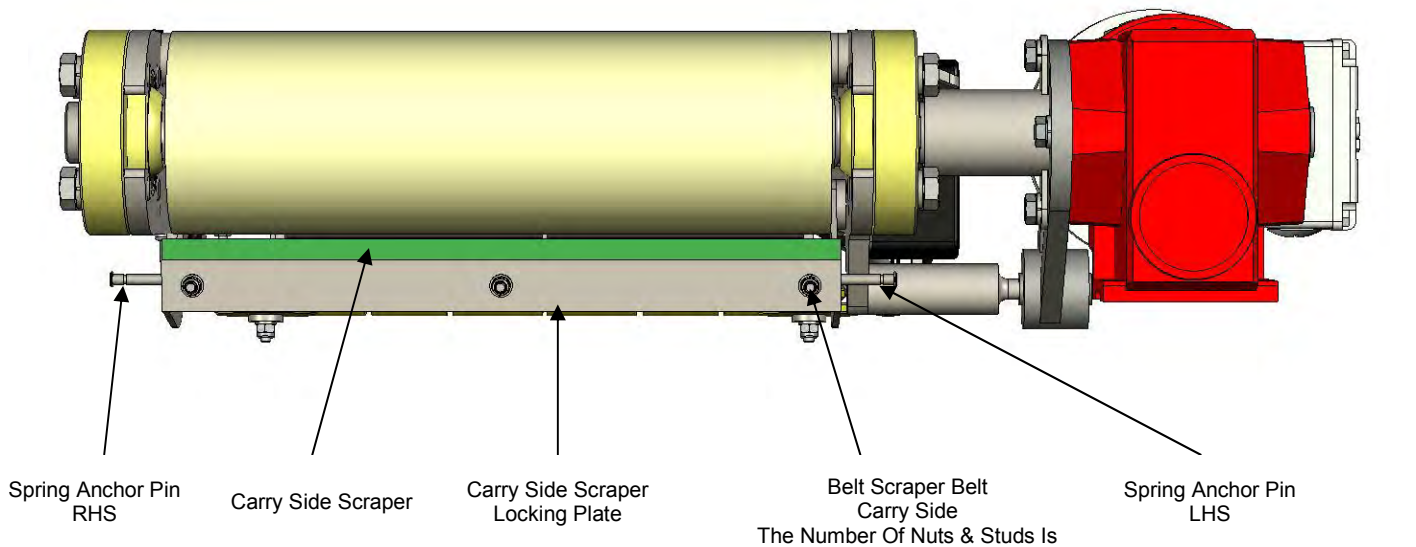
1200 Weighfeeder Feeder.

Mechanical Adjustments Belt Scraper Carry Side Blade.

The 1200 weighfeeder is fitted with a carry side belt scraper. The scraper prevents the conveyed product from building up on the carry side and either dropping off along the return belt path or piling up against the rear of the inlet chute.

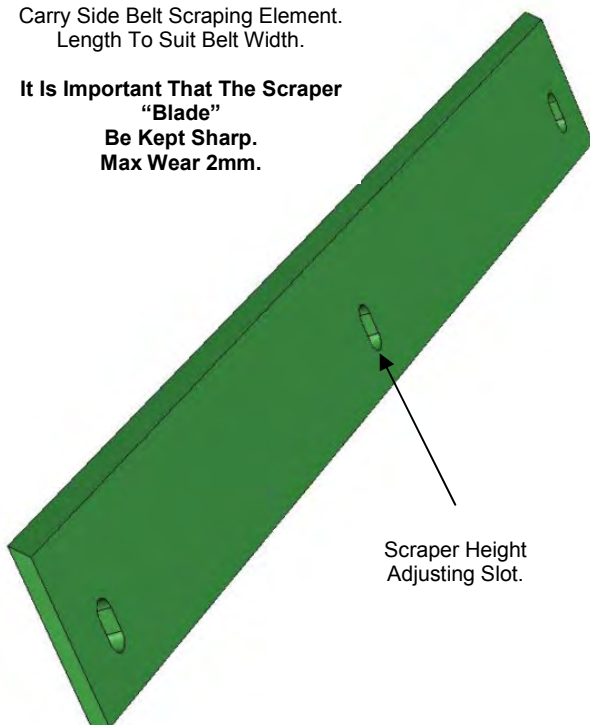
The scraper is manufactured from a pre lubricated material, that is machined to form a scraper blade. It is important that the profile of the blade be maintained so that it's cleaning properties are maintained.

The blade is held in place by means of a backing plate and bolted clamping strip. Slots in the blade provide a means of adjustment along with the tension provided by two tensioning springs, fitted either side of the assembly.

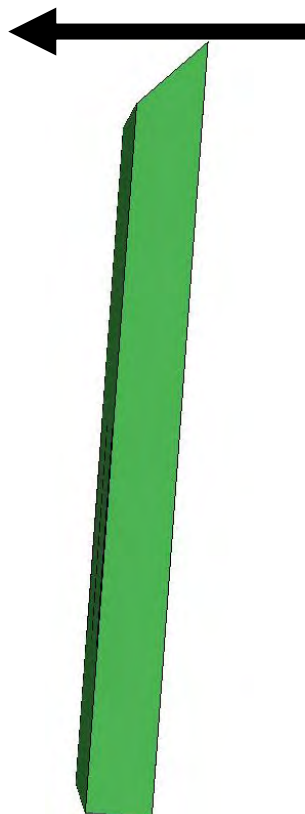


Carry Side Belt Scraping Element.
Length To Suit Belt Width.

**It Is Important That The Scraper
"Blade"
Be Kept Sharp.
Max Wear 2mm.**

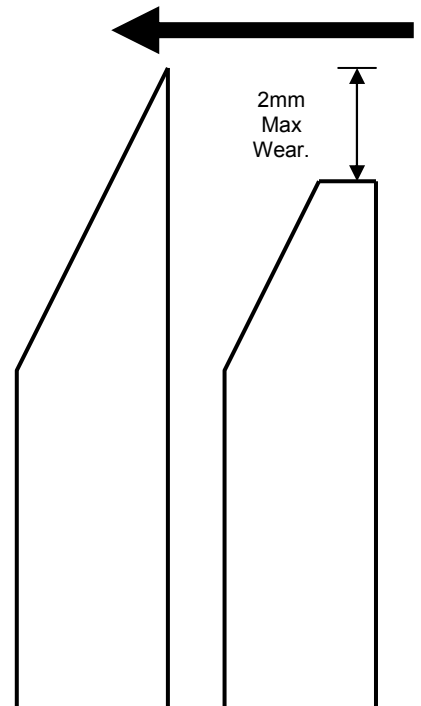


Direction
Of
Belt Travel.



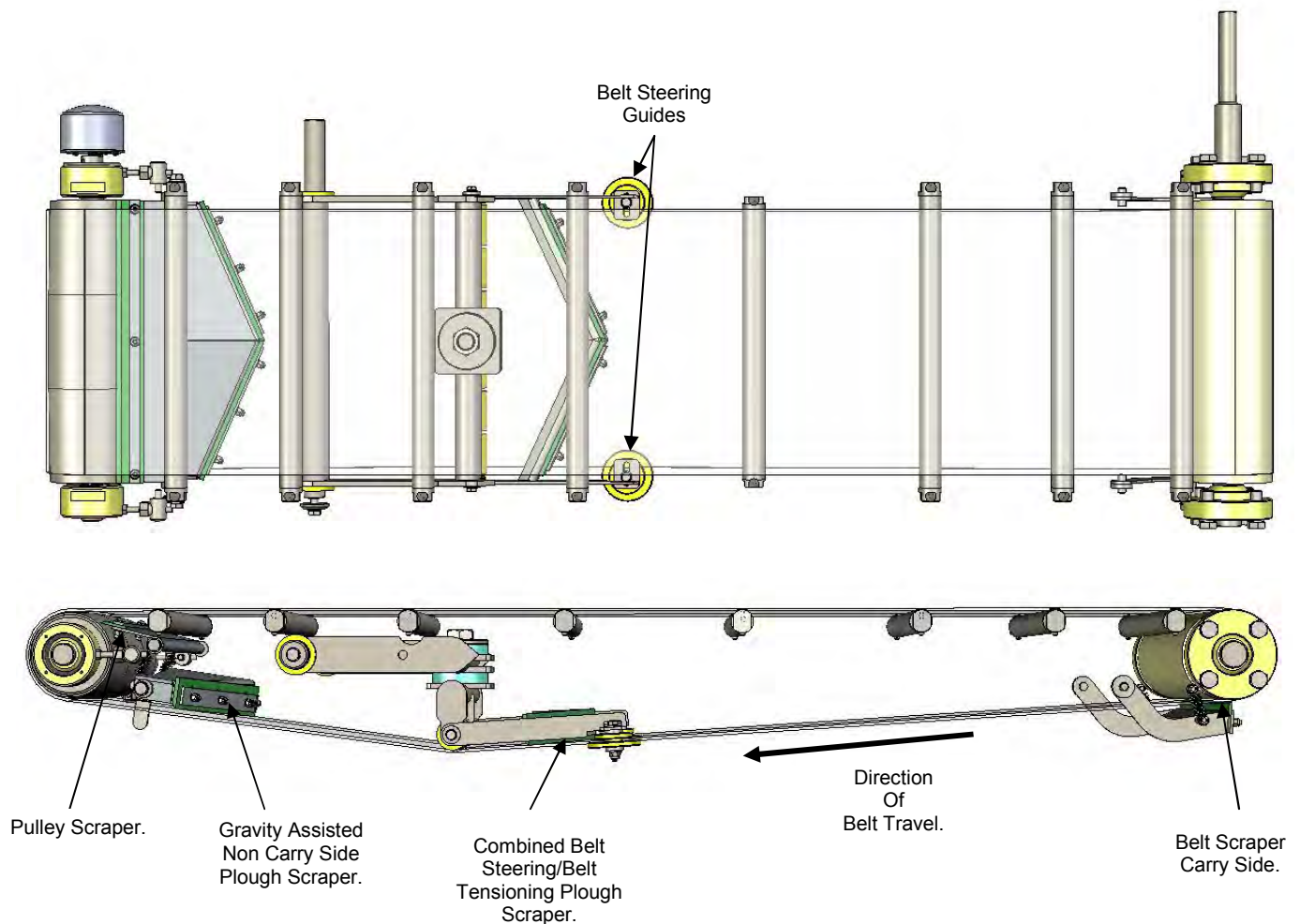
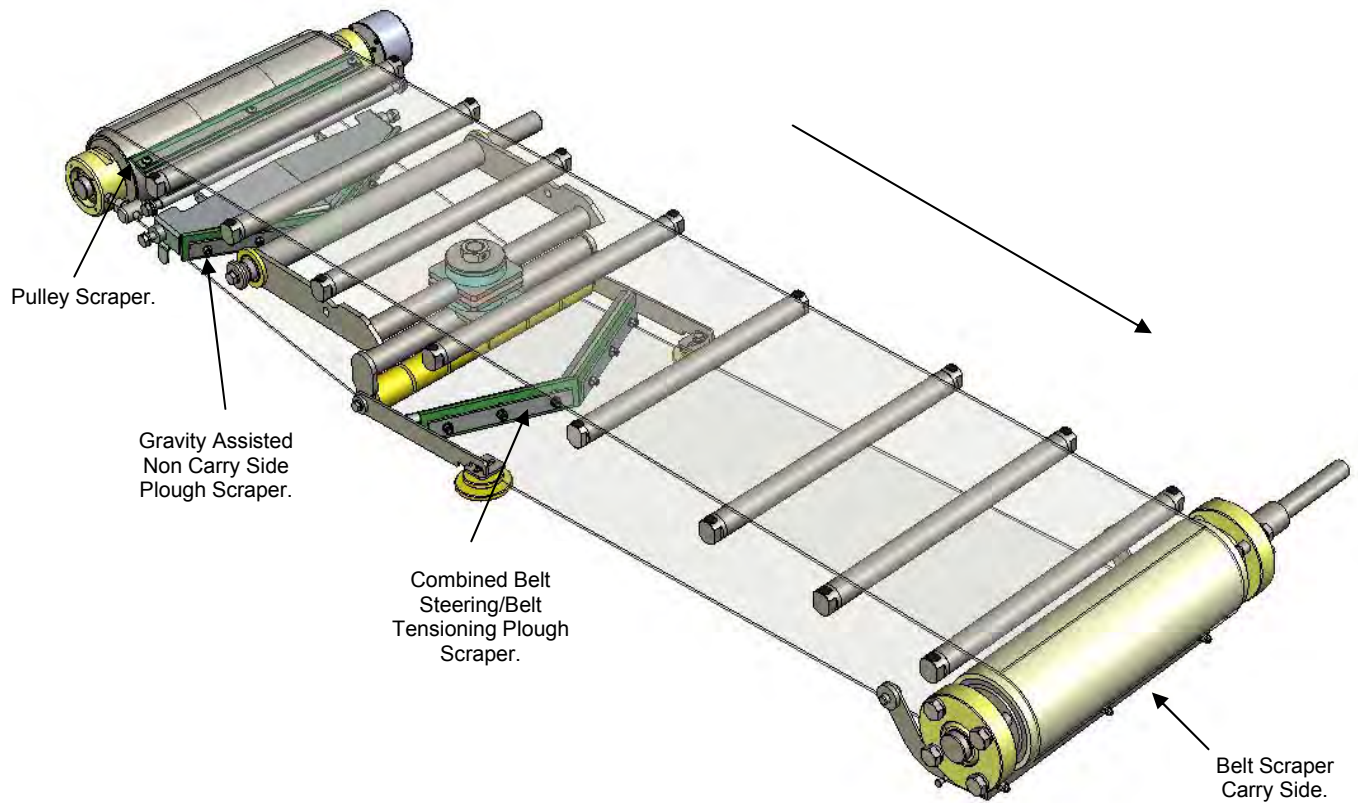
Direction
Of
Belt Travel.

2mm
Max
Wear.



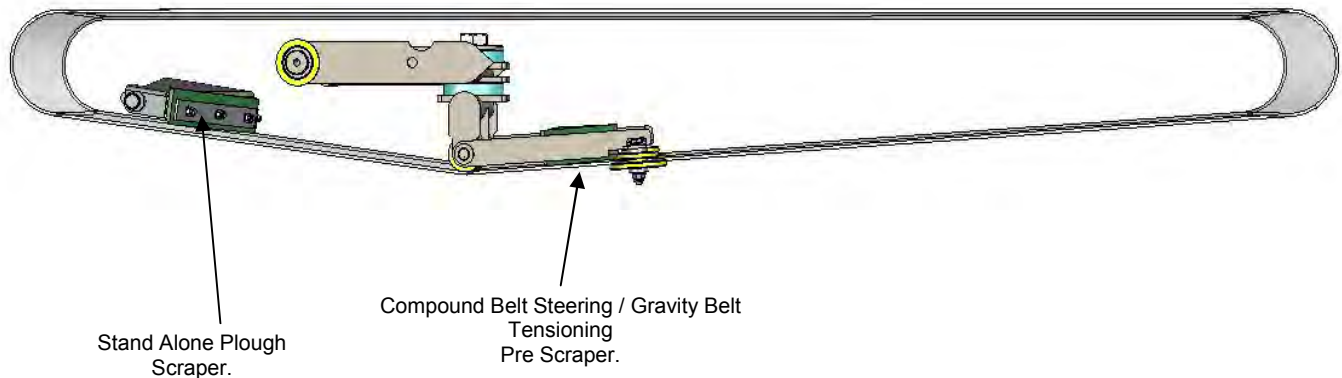
1200 Weighfeeder Feeder.

Mechanical Adjustments Belt Path.



1200 Weighfeeder Feeder.

Mechanical Adjustments Plough Belt Scraper Steering & Gravity .



The 1200 series belt length is only 2915mm. Reliable belt tracking on short centred belts is quite difficult. Web-Tech achieves belt centring by taking care during manufacturing, that the entire weighfeeder is built "square". The tail pulley is crowned, the belt tensioned by a gravity assisted mechanism that is fitted with an active belt steering mechanism.

Crowned pulleys have the greatest effect on belt tracking, however they introduce a lateral tension line along the belt which will affect the performance of the weighing mechanism. Web-Tech crown only the tail pulley in an effort to minimise the belt creasing. It is therefore important that this pulley be kept clean. The profile of the crowned pulley changes when contaminated negating the effect of crowning.

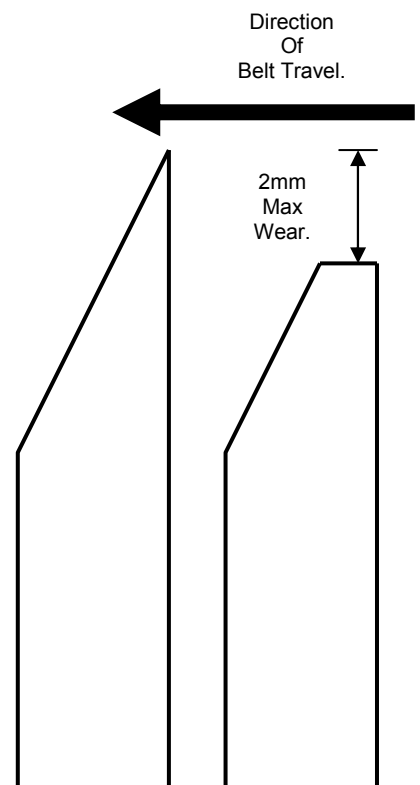
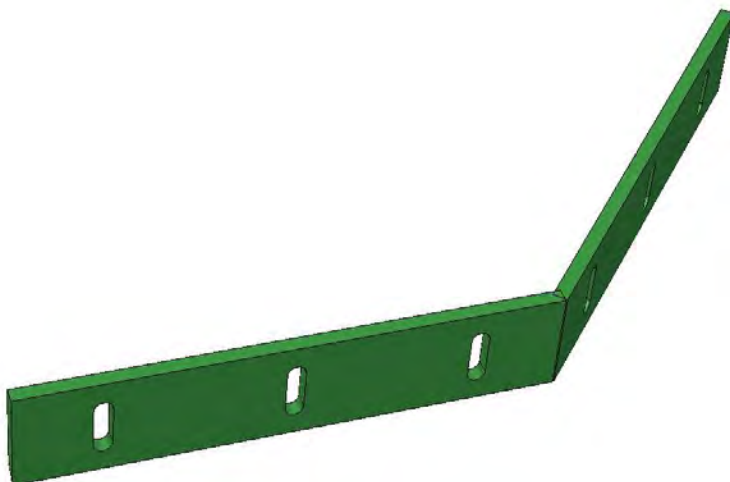
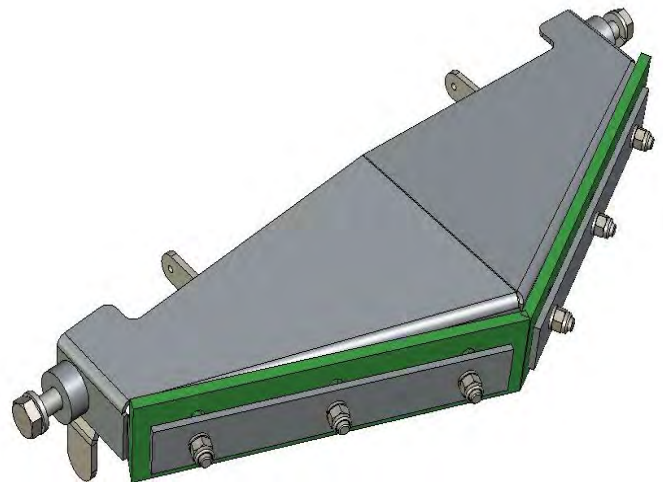
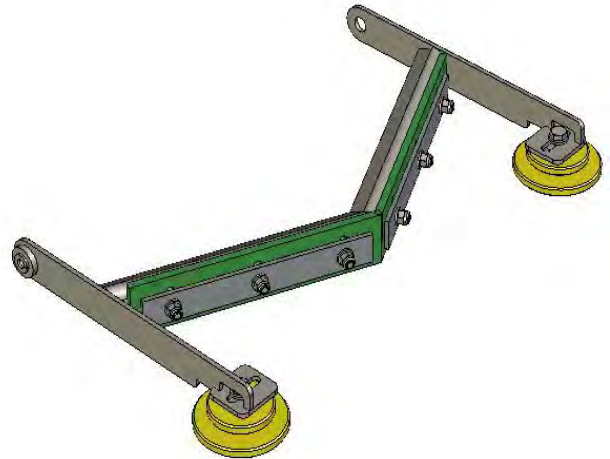
Three scrapers are used to keep the pulley surface clean. There two plough style scrapers fitted to the non carry side of the belt, one is fitted to the compound steering device and the other is a stand alone unit fitted to the rear of the weighfeeder just before the belt wraps around the tail pulley.

1200 Weighfeeder Feeder.

Mechanical Adjustments Plough Belt Scraper Steering & Gravity .

The plough scraper fitted to the compound belt steering / gravity belt tensioning device acts as a pre scraper to the stand alone plough scraper as well as keeping the belt tensioning weight transfer rolls clean. The plough is formed by two blades machined from a pre lubricated material and held in place by means of a backing plate and clamp strip. Each blade can be adjusted by means of machined slots. When adjusting these blades care must be taken to ensure that the belts path is not distorted by adjusting the blade to deep into the belt. The profile of the scraper blade is important to providing an effective scraping mechanism. If the scraper blade does not meet the approximate dimensions as shown, it must be either machined or replaced.

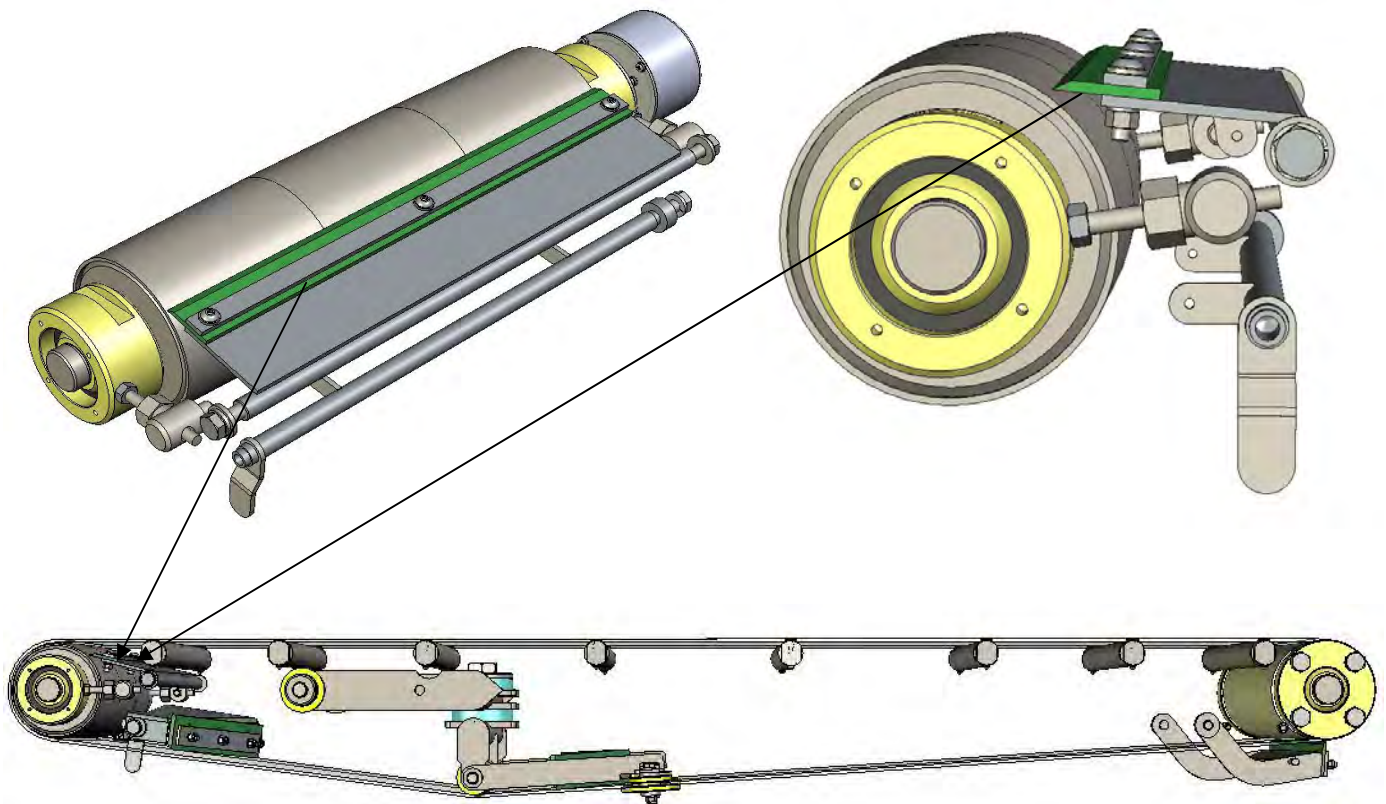
The stand alone plough scraper is formed by two machined blades fitted to a pressed steel / stainless steel frame. As well as providing an attachment point for the scraper blades, the frame acts as a cover, protecting the belt from material removed from the pulley by the pulley scraper that is located directly above it. As with all the scraper blades used on the 1200 series weighfeeders it is important that the profile of the blade be maintained by either machining or replacing.



1200 Weighfeeder Feeder.

Mechanical Adjustments Tail Pulley Scraper.

The tail pulley scraper



Model 1200 Weighfeeder.

Electronic Integrator Installation.

Electrical connection diagrams for the weighfeeder electronics, load cell and belt speed sensor junction boxes are located in the drawing section of this manual. Electrical connection diagrams for the gearmotor and variable speed drive (if applicable) are located in the appropriate manufacturer's manuals.

Electrical installation comprises the following work:-

1. Install and connect weighfeeder electronics to mains supply.
2. Install and connect supply to weighfeeder motor (or via VSD if supplied).
3. Install and connect cable between load cell junction box and electronics.
4. Install and connect cable between belt speed sensor junction box and electronics.
5. Install and connect cable between weighfeeder electronics and variable speed drive (if supplied).
6. Install cable between weighfeeder electronics and PLC (if required).

Install earth strap to weighfeeder structure (refer G.A. drawing for location). The weighfeeder structure should be earthed to eliminate static build-up from the structure.

WEIGHFEEDER ELECTRONICS.

The weighfeeder may be supplied with either of the following electronics models:-

"Masterweigh 1"
"Masterweigh 5"
"Optimus"

The appropriate electrical connection drawing or the electronics supplied is located in the drawings section of the manual.

The electronics enclosure is an IP66 reinforced fibre polyester enclosure, or optionally an IP66 stainless steel enclosure.

The enclosure should be located so that:-

Is not in direct sunlight (install sunshield if located outdoors).

Is not subject to direct washdown.

Is not installed in close proximity to high power

cables, variable speed drives or vibratory feeder controllers. Not more than 100 metres from the weighfeeder. The closer the electronics can be located to the weighfeeder reduces the chances of electrical interference on the cables. It also makes it easier when carrying out calibrations and fault finding.

Cables.

All cables between the load cell/belt speed sensor junction boxes and the electronics should be proper screened instrumentation quality. As the signal levels from these devices are very low, any cable runs between the weighfeeder and electronics should be carried out so that these cables are not installed close to power cables. Any cable runs should not interfere with the "access" side of the weighfeeder which may interfere with belt removal.

Suggested cable type for each application is as follows:-

Load Cell.

4 core overall screened, Belden type 8723 or equivalent.

Belt Speed Sensor.

3 core overall screened, Belden type 8723 or equivalent.

*2 Pairs individually Shielded, 22 AWG (7/0.25)
Tinned Copper, Polypropylene Insulated,
common 24 AWG (7/0.20) Tinned Copper Drain
Wire, PVC Jacket.*

VSD/Motor.

To suit the motor power installed. As the model WT1200 weighfeeder is supplied with a variety of motor/VSD combinations, it is beyond the scope of this manual to give installation/connection here. Please refer to the manufacturer's manuals in other sections of the manual.

Ensure that all cable entries into the electronics enclosure and junction boxes use the correct size waterproof glands.

Cable Terminations.

Load Cell junction box.

Refer to drawing "LCJB" in the drawing section of the manual.

Speed sensor junction box.

Refer to drawing "SSJBOX" in the drawing section of the manual.

Model 1200 Weighfeeder.

Pre Start Up Checks.

START UP.

Prior to turning on the equipment, or starting the weighfeeder, ensure the following has been done:-

Double check all electrical connections are correct.

All mechanical installation has been completed and no tools have been left on the belt or in the inlet chute.

The rotation of the motor has been checked and wired correctly.

Start Up Steps.

When starting up the system for the first time, use the following steps.

Turn on the electronics, and ensure it displays the Mass Rate, Mass Total screen (MRMT).

Start the weighfeeder. If using variable speed drive, start it in local and ramp the frequency up to 50Hz.

Ensure the belt is tracking centrally. If the belt is not tracking centrally, turn the weighfeeder off and check that the belt sitting correctly in the guides on the tracking system. Belt tracking **will** have been done at the factory prior to shipment. If the belt is not tracking at this point in the installation procedure, check that the feet of the weighfeeder are vertical aligned and the feeder is square in all directions. (+/- 0.5°) Do not start adjusting any part of the feeder until all relevant checks have been done. Ring the factory if in doubt.

The load cell output can be directly read from the electronics. Refer to the electronics manual for the appropriate menu for reading the load cell voltage.

Refer to the calibration sheets at the rear of the manual and compare the factory programmed voltage (mV) to the existing value. It should be within $\pm 0.5\text{mV}$. This is important, ring the factory if in doubt.

The belt speed sensor output can be read directly from the electronics. Refer to the electronics manual for the appropriate menu for reading the belt speed sensor frequency output. Run the

weighfeeder, refer to the calibration sheets at the rear of the manual and compare the factory programmed frequency (Hz) to the existing value. It should be within $\pm 1\text{Hz}$. If all readings appear correct, proceed to the Calibration section of the manual.

Model 1200 Weighfeeder.

Electronic Integrator Commissioning. Getting Started.

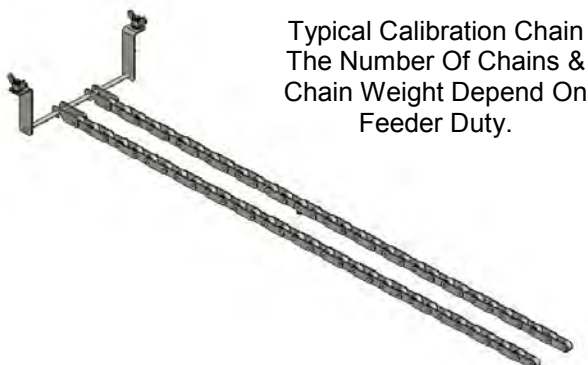
The weighfeeder has been programmed and calibrated at the factory. However, due to changes that may have occurred during transit and installation, the weighfeeder calibration should be checked. The calibrations once initiated are automatic and only require the pressing of acceptance key's). The two basic calibration steps are the "Zero" calibration and the "Span" calibration.

Zero Calibration.

The zero calibration is established by running the weighfeeder empty of a programmed number of belt revolutions and calculating the average load cell output during this period. The weighfeeder electronics will automatically calculate the zero value when the test has been initiated and completed. Refer to the electronics manual supplied with your WT1200 (Masterweigh 1/Masterweigh 5 or Optimus) for the section called "Load Zero Calibration" for the procedure. The weighfeeder must be able to be run empty during this test, and the number of belt revolutions programmed for its duration can be found on the calibration sheets at the end of this manual.

Span Calibration.

The span calibration is generally carried out on a model WT1200 weighfeeder with the use of calibration "chains". The calibration chain consists of one or more strands of roller chain attached to a restraining bracket. The size of the chain and number of strands has been calculated by us to simulate approximately 75% of the maximum capacity. The calibration chain is placed on the belt and attached to the inlet chute (or rear wall for horseshoe inlet). The weighfeeder is run and the test is carried out over the same number of belt revolutions as the zero test. The result is compared to a value (Target Weight) calculated by us at the time of factory commissioning. The procedure for carrying out the test can be found in the "Fixed Weight Calibrate" menu of the electronics manual. The "Target Weight" can be found on the calibration sheets in this manual.



Typical Calibration Chain
The Number Of Chains &
Chain Weight Depend On
Feeder Duty.

Material Test.

We strongly suggest that a material test be carried out where possible. A material test involves weighing product on an accurate static scale prior to, or after it has passed over the weighfeeder. When carrying out a material test, the following should be considered:

The amount of material required for the test's) must be proportional to the weighfeeder capacity. A rule of thumb quantity would be a minimum of 3 minutes of running time at maximum capacity e.g. if the capacity is 10 tph, the amount of material would be $10\,000\text{ kg}/60 \times 3 = 500\text{ kg}$. A smaller amount could be used, however it must be understood that the accuracy achievable may be diminished due to the resolution used.

It must be guaranteed that all of the material used in the test is collected, or have passed over the weighfeeder.

The material feed over the weighfeeder must be continuous, consistent & representative.

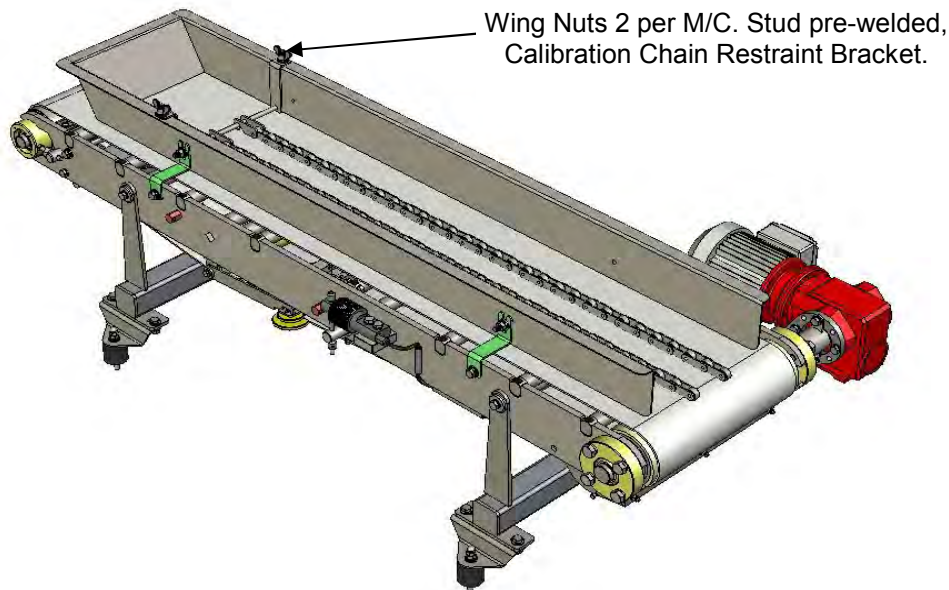
When the test's) have been carried out any correction to the calibration can be carried out in the "Empirical Calibration" menu of the electronics (refer to the electronics manual section).

Any changes to the calibration should be recorded on the calibration sheets for future reference.

Model 1200 Weighfeeder.

Electronic Integrator Commissioning. Getting Started.

1200 Weighfeeder With Calibration Chain Fitted



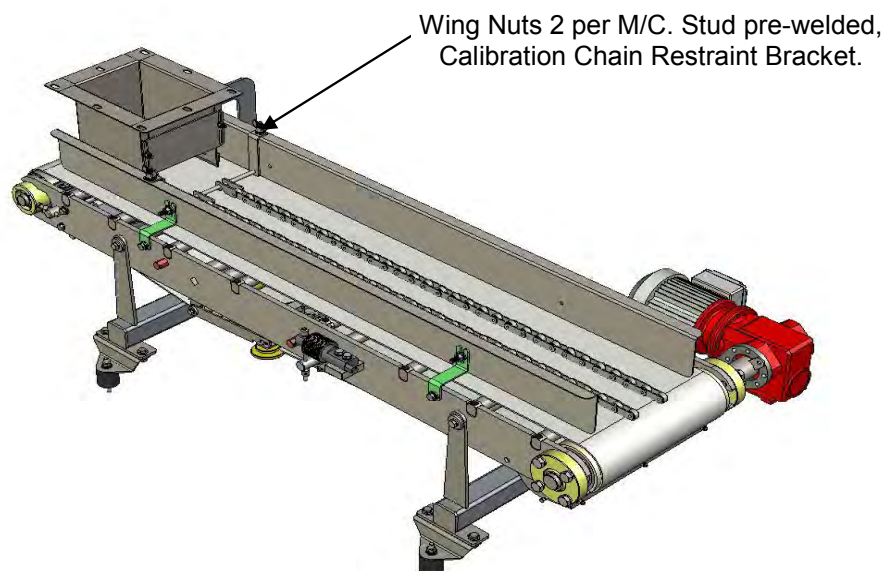
Calibration Chain Positioning.

Web-Tech supply a calibration chain with each feeder. The calibration chains are fitted as shown in these two pictures. Each weighfeeder will have a calibration chain designed and manufactured specifically for the weighfeeder and it's proposed duty. The number and Weight of the assembly is dependant on application.

The enclosed model weighfeeder is not show. Use the Open Construction With Inlet Chute as a reference.

I normal operation of the weighfeeder all components associated with the calibration chain must be removed from the feeder and stored in a suitable place. The chain must be kept clean

1200 Weighfeeder With Calibration Chain Fitted



Model 1200 Weighfeeder.

Electric Motor.

The motor supplied with the weighfeeder depends on the application. The 1200 series of weighfeeders are generally used to control the mass rate of powders and food stuffs at a maximum of:-

- 300mm Belt 16m³
- 450mm Belt 24m³
- 600mm Belt 32m³
- 750mm Belt 40m³
- 900mm Belt 48m³

Based on max sheargate opening 100mm, sheargate width equal to half of belt width and maximum belt speed of 0.3m/S.

The torque required to extract the feed from the 1200 series inlet chute is generally quite low. The most important factor when designing a weighfeeder is the belt speed. The belt speed is directly proportional to the shear gate height and inlet chute width.

When dealing with lumpy product Web-Tech set the inlet chute to 2.5 x max lump size. When dealing with powders. The shear gate height is usually set to suite the belt width, belt speed and the products angle of repose.

Web-Tech attempt design a weighfeeder so that the maximum rate is achievable at VSD outputs in the range of 50Hz to 60Hz and the minimum VSD output of no less than 10Hz.

Very low belt speeds and large bed depths can cause the product to “briquete” at the discharge point.

Model 1200 Weighfeeder.

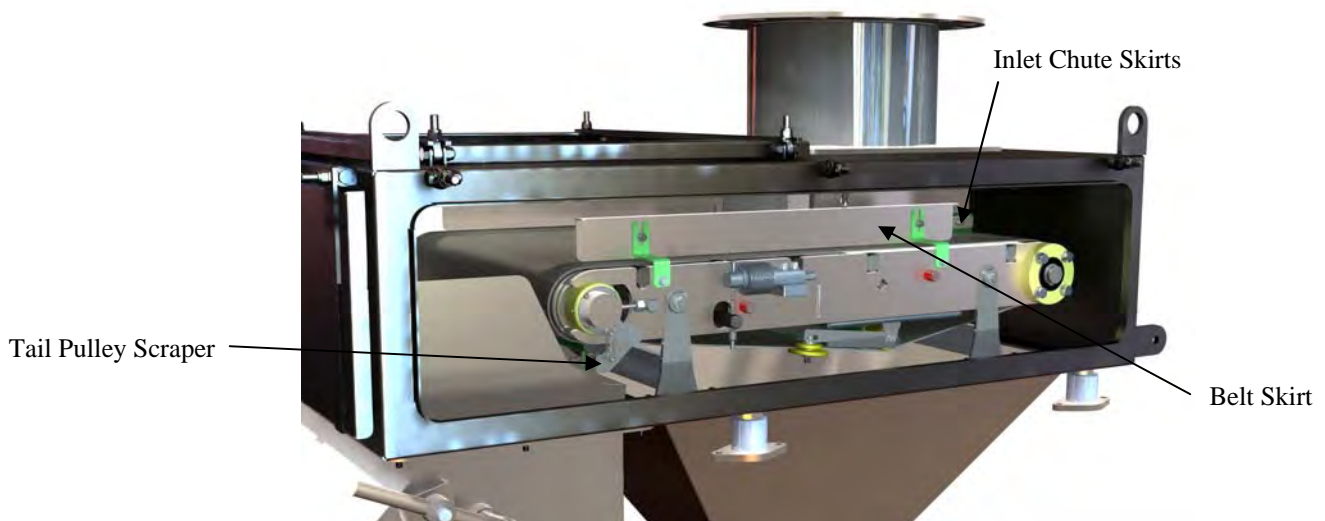
Belt Replacement Procedure.

The 735 & 1200 series of weighfeeders are of a cantilevered design. That is, supports on the opposite side to the motor can be removed, without the system collapsing or being damaged. (If the correct procedures are adhered to). This feature allows for easy belt changing. (Note: belt removal may require two people.)

After familiarising yourself with the layout of the feeder and the relevant terminology, follow the following procedures.

Removing the Belt

1. Set Masterweigh or Optimus into the manual mode.
2. Close off the material feed and run the belt until it is completely empty.
3. **NOW SWITCH OFF THE POWER AND TAG OUT.**
4. Remove the door from the access side, and remove the door support pillars (if fitted). The support pillars are bolted to the top and bottom enclosure panels.
5. Remove the belt skirts and slide the inlet chute skirts up.
6. Remove the tail pulley carry side belt scraper.

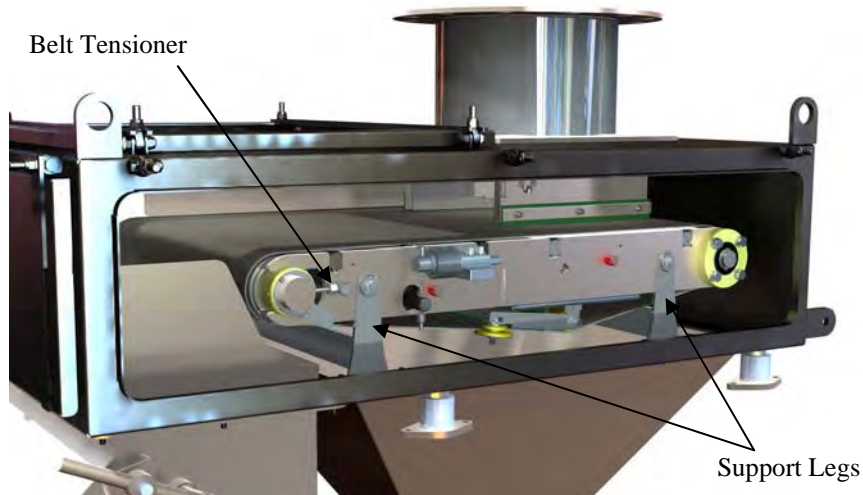


7. Lift the belt steering mechanism and lock it into its transit position by passing the transit pin through the hole in the stringer and into the hole in the steering mechanism arm. (See the shipping bolt section of the installation manual for more detail.)

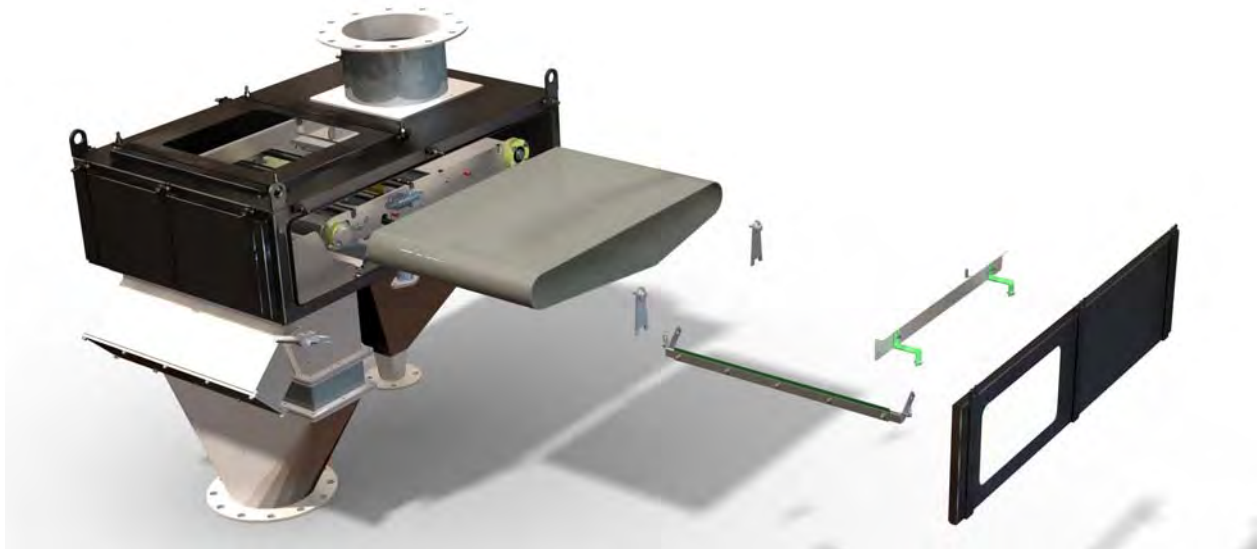
Model 1200 Weighfeeder.

Belt Replacement Procedure.

8. Slacken the Belt Tensioning Device right back to the minimum extension point. This will move the Tail Pulley towards the inlet.
9. At this point the support legs can be removed. The feeder may drop slightly to one side when the legs are removed.



10. Pull off the belt now, making sure that the bottom of the belt does not foul on the belt steering mechanism.



Model 1200 Weighfeeder.

Belt Replacement Procedure.

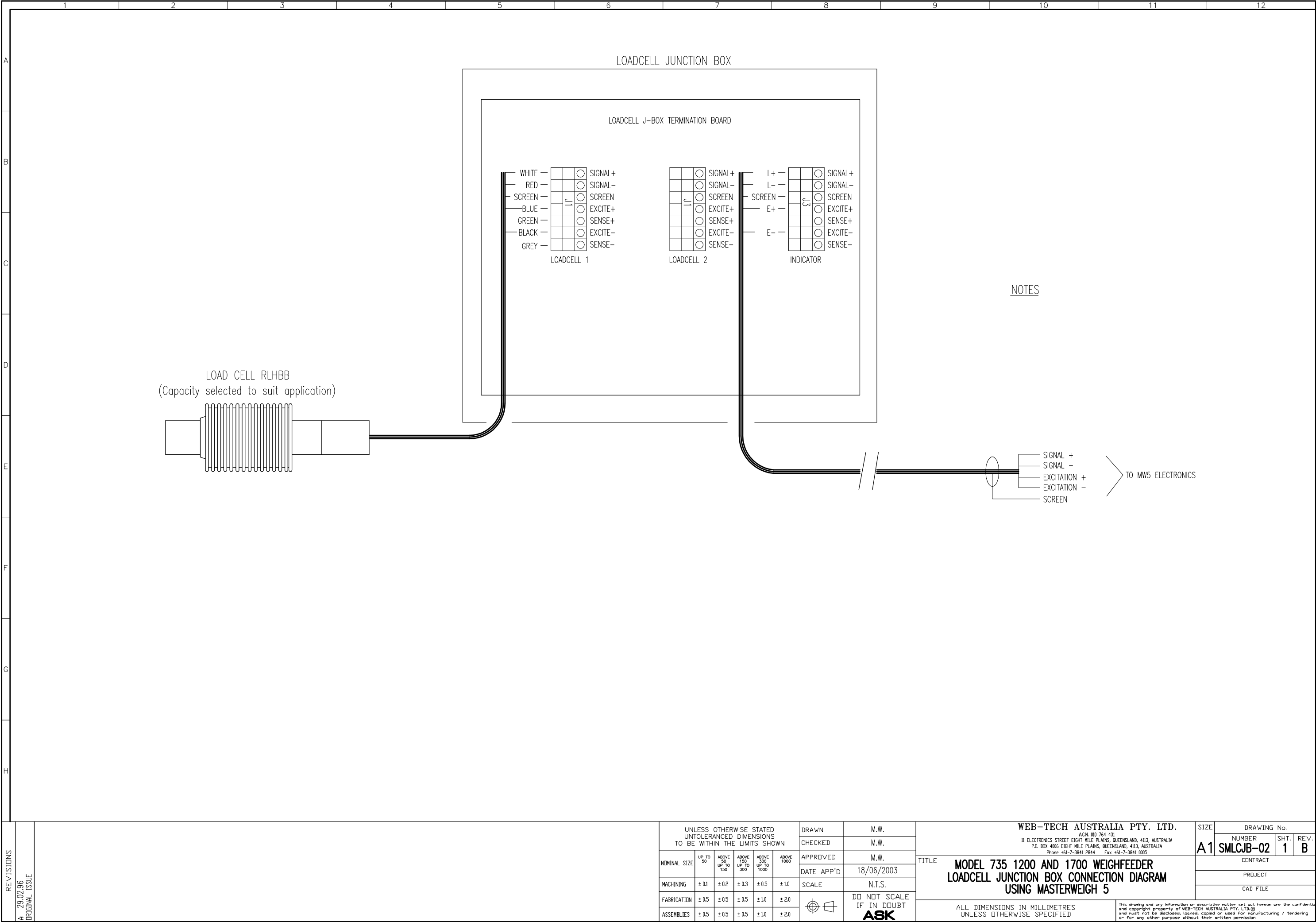
Belt Replacement

1. **CHECK THE NEW BELT FOR BELT TRAVEL ARROWS AND CORRECTLY ORIENTATE.**
2. Offer the belt up to the pulleys. This may require two people. Make sure the pulleys are clean and free of material.
3. Simultaneously rotate and push the belt until it is centred over the pulleys. Make sure that the bottom of the belt does not foul the belt steering mechanism.
4. Replace the legs using the removal procedure in reverse. If the leg will not fit in, owing to sag, you may need to gently lift the side rail until the legs just fit into place.
5. Release the belt steering mechanism by removing the shipping pins. Gently lower the mechanism onto the belt.
6. Re-tension the belt by alternately winding the tensioning nut on each side. **DO NOT WIND EACH SIDE MORE THAN 5mm AT A TIME.** Winding one side out too far may cause the tensioning device to jam. Correct belt tension is achieved by adjusting each tensioning nut so that the arrow formed by the floating arm on the gravity steering is centered horizontally across the diamond shaped viewing port in the side rails.
7. Replace the belt scrapers and the side skirts.
8. Set the height of the skirts and the inlet chute skirts to approximately 1mm off the belt. A good way to do this is to place a steel rule between the belt and the skirts. The skirts should also be slightly higher at the discharge end to prevent material from jamming. Ensure the skirts do not touch the belt as this will cause damage.



Belt Tracking

1. Ensure that the gravity steering mechanism is square with the belt, the belt is centred on the pulleys.
2. Ensure that the two outer belt guide rollers are evenly spaced and just touching the edge of the belt.
3. Set Masterweigh/Optimus PID output to manual and ramp up the P.I.D., 4/20mA output to 100%.
4. Observe the belt running at 100% output. If the belt steering mechanism is working to track the belt (this is evident by noting if either of the two guide rollers of the belt steering mechanism are constantly in contact with the belt), then apply some tension to the belt via the tensioning nuts. Make small adjustments and allow time (at least 10 revolutions) before making any further adjustments. Tension the side that the belt is closest to (i.e. if the belt is too far to the right, tension the right side). The belt will move away from the side with the most tension.
5. It is essential that the belt tracking be checked when the feeder is transporting material. It is normal that for some applications, the belt will track slightly different when empty to when carrying material.



LOAD CELL RLHBB

(Capacity selected to suit application)

LOADCELL JUNCTION BOX

LOADCELL J-BOX TERMINATION BOARD

LOADCELL 1

LOADCELL 2

INDICATOR

WHITE

RED

SCREEN

BLUE

GREEN

BLACK

GREY

SIGNAL+

SIGNAL-

SCREEN

EXCITE+

SENSE+

EXCITE-

SENSE-

1

SIGNAL+

SIGNAL-

SCREEN

EXCITE+

SENSE+

EXCITE-

SENSE-

2

L+

L-

SCREEN

E+

E-

3

SIGNAL+

SIGNAL-

SCREEN

EXCITE+

SENSE+

EXCITE-

SENSE-

NOTES

SIGNAL +

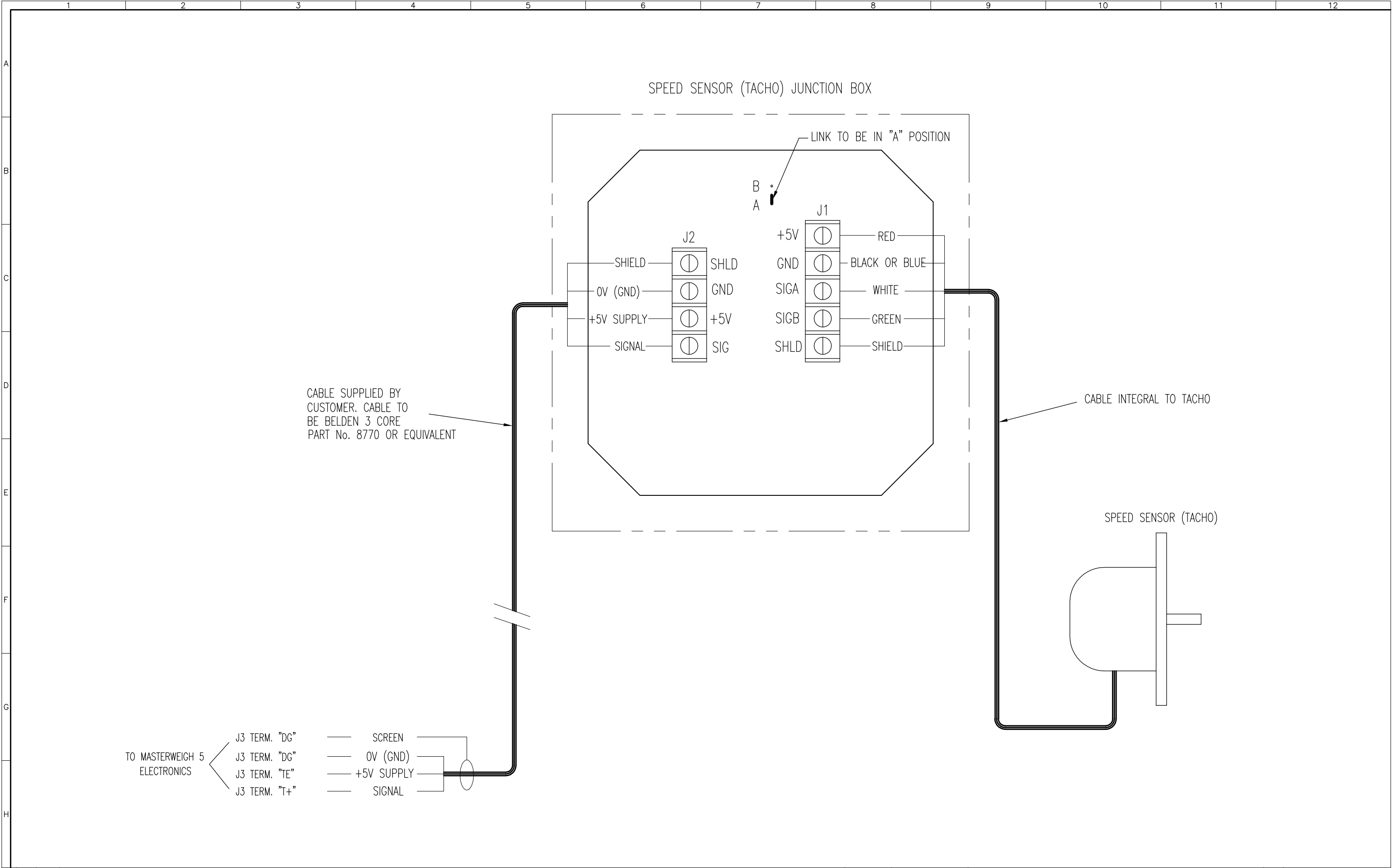
SIGNAL -



EXCITATION +

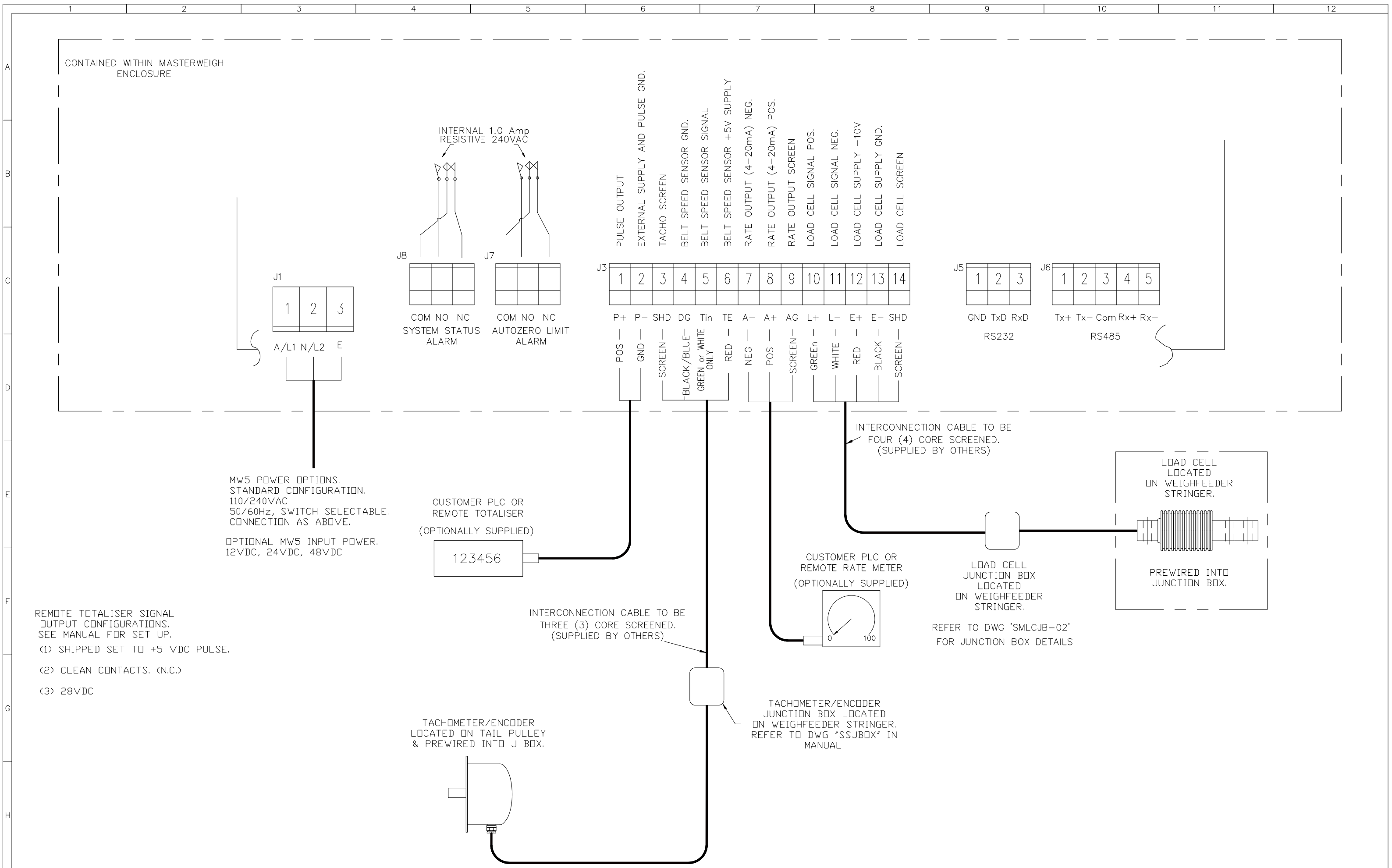
EXCITATION -



SCREEN

TO MW5 ELECTRONICS



REVISIONS	A: 12/10/98 ORIGINAL ISSUE B: 15/12/98 LINK ADDED. J1/J2 ADDED.	DRAWN	L.HARTLEY	 <div>WEB-TECH AUSTRALIA PTY. LTD. A.C.N. 010 764 431 11 ELECTRONICS STREET EIGHT MILE PLAINS, QUEENSLAND, 4113, AUSTRALIA P.O. BOX 4006 EIGHT MILE PLAINS, QUEENSLAND, 4113, AUSTRALIA Phone +61-7-3841 2844 Fax +61-7-3841 0005</div>	SIZE	DRAWING No.		REV. B		
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		APPROVED	L.HARTLEY			CUSTOMER				
		DATE APP'D	12/10/98			PROJECT				
		SCALE	N.T.S			CAD FILE JB010005				
			DO NOT SCALE IF IN DOUBT ASK	TITLE "CUP" TYPE TACHO JUNCTION BOX WIRING (WITHOUT MULTIPLICATION), & CONNECTIONS TO MASTERWEIGH 5 INTEGRATOR			ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED			This drawing and any information or descriptive matter set out hereon are the confidential and copyright property of WEB-TECH AUSTRALIA PTY. LTD. © and must not be disclosed, loaned, copied or used for manufacturing / tendering or for any other purpose without their written permission.



REVISIONS 21/04/97	UNLESS OTHERWISE STATED UNTOLERANCED DIMENSIONS TO BE WITHIN THE LIMITS SHOWN						DRAWN	T.BERNARDI	 <div>WEB-TECH AUSTRALIA PTY. LTD. A.C.N. 010 764 431 11 ELECTRONICS STREET EIGHT MILE PLAINS, QUEENSLAND, 4113, AUSTRALIA P.O. BOX 4006 EIGHT MILE PLAINS, QUEENSLAND, 4113, AUSTRALIA Phone +61-7-3841 2844 Fax +61-7-3841 0005</div>	SIZE	DRAWING No.	
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							DATE APP'D		CUSTOMER			
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	FABRICATION	± 0.5	± 0.5	± 0.5	± 1.0	± 2.0			CAD FILE WT04409C			
	ASSEMBLIES	± 0.5	± 0.5	± 0.5	± 1.0	± 2.0			TITLE ELECTRICAL CONNECTION DIAGRAM FOR WEB-TECH WEIGHFEEDERS WT735 & WT1200 INCORP MASTERWEIGH 5 INTEGRATOR			
								DO NOT SCALE IF IN DOUBT ASK		ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE SPECIFIED		
										This drawing and any information or descriptive matter set out hereon are the confidential and copyright property of WEB-TECH AUSTRALIA PTY. LTD. © and must not be disclosed, loaned, copied or used for manufacturing / tendering or for any other purpose without their written permission.		

WEB-TECH AUSTRALIA PTY LTD

Customer : _____ Conveyor Designation : _____

Material : _____ Model : _____ Date : _____

Load Cell Type : _____ Tacho : _____ Data By : _____

MW S/No : _____ Software Version : _____ Contract No : _____

Order No. _____

MENU	FUNCTION	MASTERWEIGH 1 SETTINGS
1	Parameter Setup	Capacity : _____ Increments Size: _____ Zero Reference : _____ mV Precision Reference : _____ mV Pulse Width: _____ ms
2	Pulses per Belt Revolution	Programmed Pulses per Belt Revolution : _____ No. of Belt Revs : _____
3	Zero Calibration	Zero Calibration : _____ mV AutoZero Tracking : _____ mV
4	Fixed Weight Calibrate	Span : _____ Target Weight : #REF! kgs
5	Emperical Span	Emperical Span : _____
6	Null Level	Null Level : _____
7	Auto Zero Tracking	Auto Zero Level : _____ Auto Zero Period : _____ Delay Time : _____ sec
8	Loadcell Input	Dynamic (No Load) : _____ mV Dynamic (with weights) : _____ mV
9	Tacho Frequency	Tacho Frequency : _____ Hz @ _____ Hz on VF Drive (if appl.)
10	High Alarm Setpoint	High Alarm Level : _____ Alarm Delay : _____ sec
11	Low Alarm Setpoint	Low Alarm Level : _____ Alarm Delay : _____ sec
12	Parameter Print	NOT USED
13	Auto/Manual Control of PID	Auto / Manual
14	PID Parameters	Current Setpoint : _____ Proportional Term : _____ Integral Term : _____ Integral Lower Limit : _____ Integral Upper Limit : _____ Differential Term : _____ O/P Offset Term : _____ Feed Forw. Term: _____
15	Remote Setpoint Mode	_____
16	Remote Setpoint	_____
17	Filter Constants	Display Time Constant : _____ secs Rate O/P Time Constant : _____ secs Cascade Time Constant : _____ secs PID I/P Time Constant : _____ secs PID O/P Time Constant : _____ secs
18	Displayed Units	_____
19	Belt Speed Indication	Indicated Belt Speed : _____ m/sec @ _____ Hz on VF Drive (if appl.) Current Belt Length : _____ metres