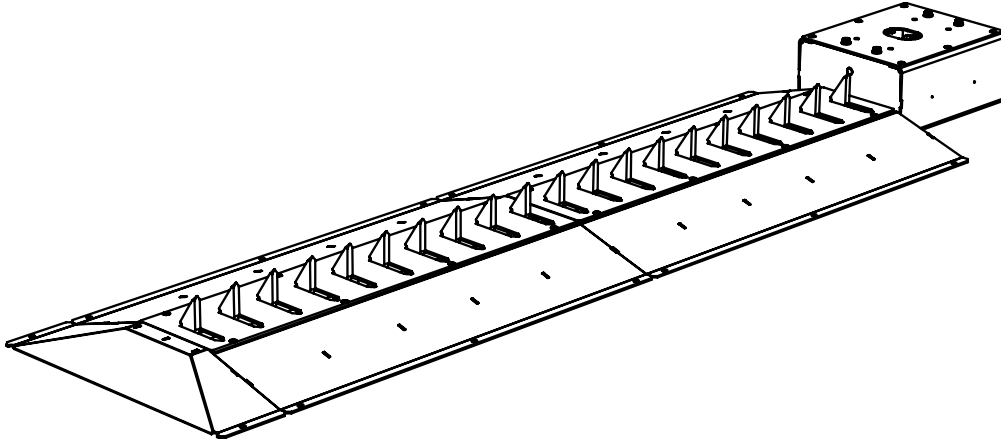


Installer Instructions



SPEARS

Automated Road Spikes With True Battery Back-up.
Surface Mount Model.



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For any assistance with this product that is not covered in this manual please contact us on: +27 21 404 0800 or via our online support facility at www.niceforyou.com/za

Be Safe!

WARNING!! These are the general safety obligations for the installers and users of ET Nice (Pty) Ltd automation equipment. These instructions must be issued to the responsible end user during the handover and instruction meeting.

1. Only suitably qualified persons, may install, repair or service the product. Unless expressly indicated in the user instructions, no user serviceable components can be found inside any ET Nice (Pty) Ltd automation product.
2. It is important for personal safety to study and follow all the instructions carefully. Incorrect installation or misuse may cause serious personal harm.
3. Keep the instructions in a safe place for future reference.
4. This product was designed and manufactured, strictly for the use indicated in the accompanying documentation. Any other use not expressly indicated in the documentation, may damage the product and/or be a source of danger. ET Nice (Pty) Ltd cannot accept responsibility for improper use or incorrect installation of this product.
5. ET Nice (Pty) Ltd cannot accept responsibility if the principles of good workmanship are disregarded by the installer.
6. ET Nice (Pty) Ltd cannot accept responsibility regarding safety and correct operation of the automation, if other manufacturers' equipment is added to this product.
7. Do not make any modifications or alterations to this product. Do not substitute any component of this product with any other component not expressly designed into this product.
8. Anything other than expressly provided for in the accompanying instructions is not permitted.

Prior to installation:

1. All unnecessary ropes, chains and fasteners must be removed and all unnecessary latches or locks must be disabled from locking.
2. The barrier or door must be balanced correctly where it, neither opens nor closes from any position under its own load. When operated by hand the barrier or door should be free of hindrance and easily moved (In the case of a garage door if the balancing springs need to be adjusted the adjustment should only be carried out by a qualified and experienced person).
3. The construction of the barrier or door must be sound and automatable. It is the responsibility of the installer to ensure that the mechanical components of the barrier or door system are sufficient to withstand the necessary forces in cases of overload.
4. It is the responsibility of the installer to ensure the barrier or door is sufficiently trapped within its range of travel by means of mechanical ends of travel stoppers.
5. Ensure all fixed mounting points, such as the wall above the door in a garage door system or the posts in a swing barrier system, are sound and strong enough to allow proper fixing of the operator.
6. It is the responsibility of the installer to ensure the installed position selected for this product, falls within the limitations of the products ingress protection rating.
7. Ensure the area of installation is not subject to explosive hazards. There should be no volatile gasses or fumes as these can present a serious safety hazard.
8. All ET Nice (Pty) Ltd garage door operators are supplied with a sealed 15A safety plug on lead for use in an electrical code of practice approved plug point. Do not extend, modify or replace the plug lead unless duly qualified as an electrician. Before installing the unit, ensure the mains supply is switched off.
9. ET Nice (Pty) Ltd barrier operators are supplied with a terminal connection for the electrical supply beneath the screwed down cover of the operator. In the case of a model requiring 220Vac supply at the operator, an all pole negatively biased switch, with a contact opening of greater than 3mm must be installed within 1.5m of the operator. This switch must be clear of all workings of the system and must be in a position secure from public access. This switch and its connections must be inspected and passed by a certified electrician prior to using it.
10. It is the responsibility of the installer to ascertain that the designated persons (including children) intended to use the system, do not suffer reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the system by a person responsible for their safety.
11. The drive may not be installed on a door incorporating a wicket door, unless the drive is disabled by the release of the wicket door. (Wicket door :- A pedestrian door within the main barrier or door)

During installation:

1. Ensure the working area is clear of obstructions and obstacles.
2. Install the safety warning sticker within clear view of where the barrier or door will be operated from. Typically this would be adjacent to any fixed trigger switches or on the barrier or door itself.
3. The emergency manual release must be installed where it is no higher than 1.8m from the floor level. This would apply to the cord in a garage installation or the lockable lever in a barrier installation.
4. Any additional fixed door control switches such as wall consoles or keypads, if installed, must be at a height of at least 1.5m, within clear sight of the barrier or door and away from any moving components of the system.

Continued overleaf.....

- It is highly recommended that a set of safety infra-red beams be used in conjunction with this product. The safety beams must be installed in such a way that the product is prevented from running when anything is in the path of the door or barrier.
- Over and above the recommendation to use safety infra-red beams with this product it is mandatory to install and use a safety beam set when using the automatic closing feature. It is recommended that a warning light be fitted to any automation system.
- The barrier or door warning labels must be installed in a prominent place and/or adjacent to any fixed controls that trigger the system. These must be in clear line of sight of the barrier or door opening.
- The emergency manual release instruction label must be installed on or adjacent to the emergency manual release mechanism.

After installation - It is the responsibility of the installer to ensure the users:

- Is proficient in the use of the manual emergency release mechanism.
- Is issued with the documentation accompanying this product.
- Understands that the barrier or door may not be operated out of clear sight.
- Ensures that children are kept clear of the barrier or door area at all times, and that children do not play with the remote transmitters or any fixed trigger switches linked to the system.
- Is instructed not to attempt to repair or adjust the automation system and to be aware of the danger of continuing to use the automation system in an unsafe condition before a service provider attends to it.
- Is proficient in testing the unit's safety obstruction sensing system.
- Is aware of what to check for with regards to wear and tear that may need to be attended to from time to time by the service provider.
- Is aware that a fatigued battery may not be disposed of in the general refuse and must be handed in at a battery merchant for safe disposal. Before removing the battery from the system the household mains must be disconnected. In the case of the motor unit being removed and scrapped, the battery must be removed first.

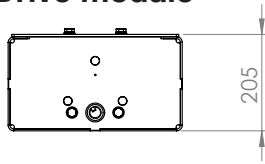
Technical specifications.

Technical Data	Spears Surface Mount Automated Road Spikes		
Primary power supply.	29v DC from traffic barrier PSU		
Peak power consumption.	240W		
Electrical class.	⚡ Class 1.		
Motor voltage.	24v DC.		
Motor current.	Current limited to 10A.		
Built in battery charger.	Multiple stage auto-calibrating (Peak - 500mA)		
Number of operations, within 24hrs of power failure, on battery reserve from a fully charged and healthy battery.*	Number of spike modules	Battery shared with barrier	Battery dedicated to spikes.
	2	1500	4000
	3	1400	3000
	4	1200	2000
	5	1000	1700
	6	800	1300
Maximum operations per day.	7200		
Duty cycle with mains present. Raise/lower speed setting dependent.	98%		
Operating speed (Maximum)	Full range of movement in 1,2 second.		
Operating temperature range.	-10 to 50° C (14F to 122F)		
Anti-crushing safety sensing.	Yes – Electronic load profiling.		
Auxiliary supply output.	12v DC @ 400mA.		
Maximum number of 1,2m spike modules combined	6		
Maximum component weight	69kg		
Maximum load bearing capacity	4000kg per axle		
Housing and frame material and finishing	Hot dipped galvanised, mild steel		
Spike material and finishing	Zinc electroplated, Hi-vizibility orange epoxy coated, mild steel		
Physical dimensions.	See next page.		

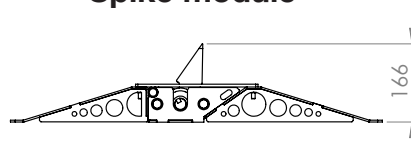
* The standard kit shares 1 x 24v 5Ah battery with the traffic barrier. Higher battery capacity is available and the Spears charger can be enabled in programming, to accommodate a dedicated battery for the Spears.

Dimensions.

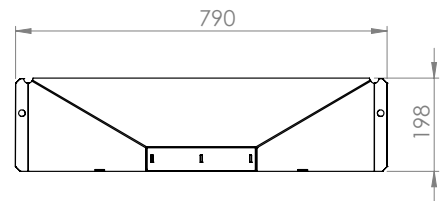
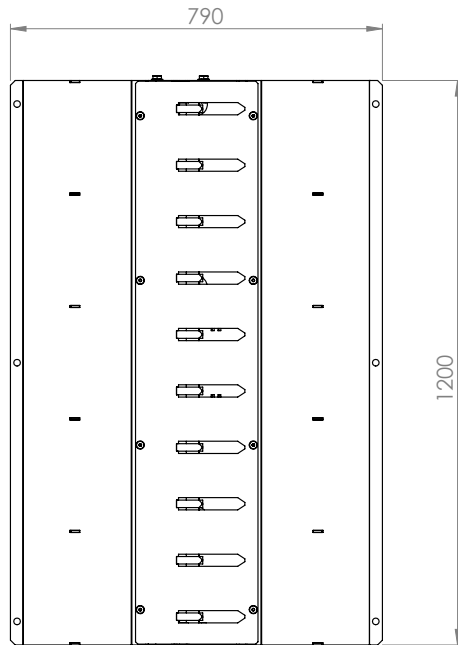
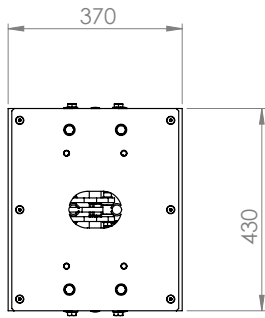
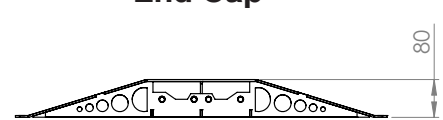
Drive module



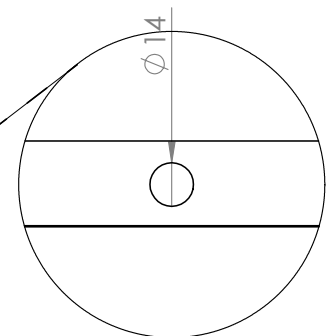
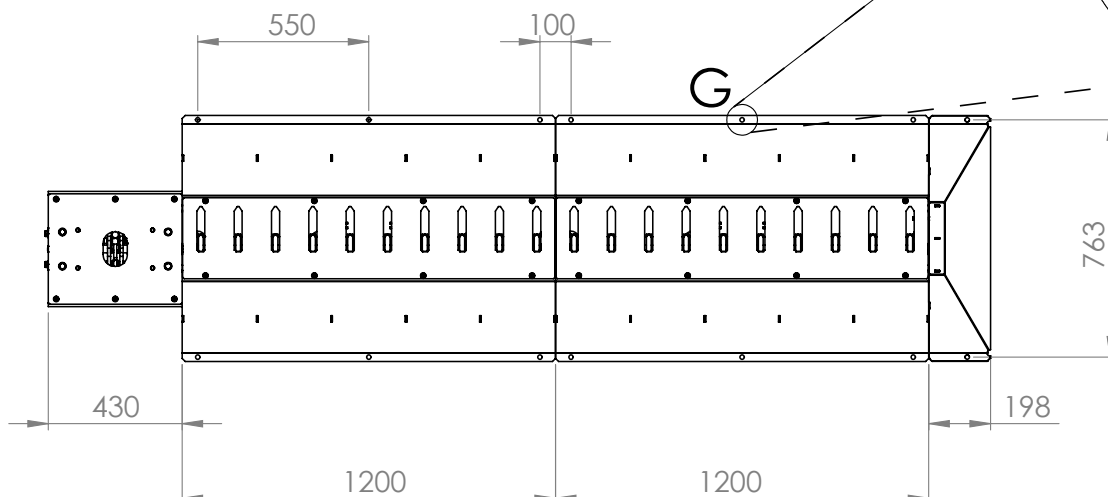
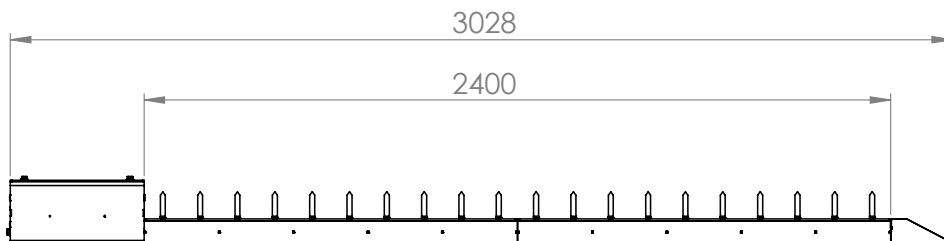
Spike module



End Cap



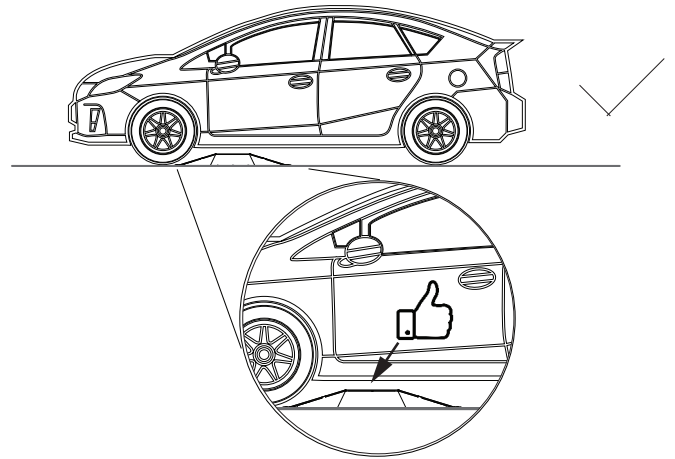
Example of assembly order.



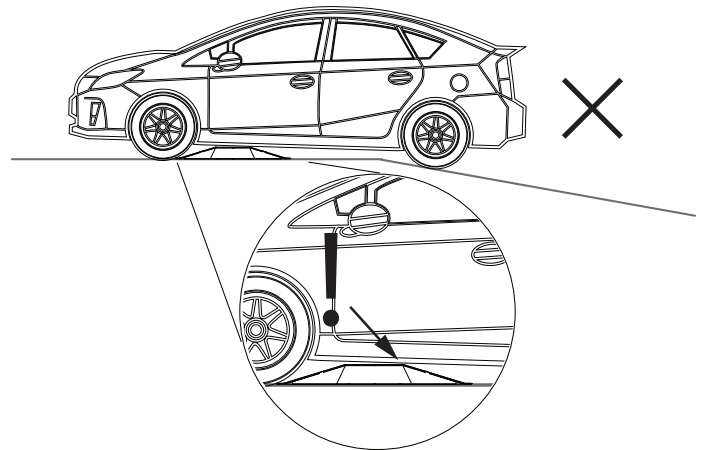
DETAIL G

Special precautions and considerations when installing surface mount spikes.

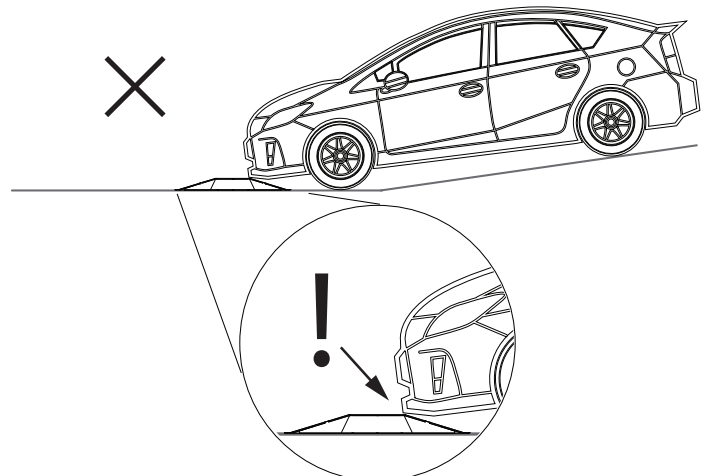
- Check to ensure there will be enough clearance between the top of the spike module cabinet's highest point and the undercarriage of all types of motor vehicles that will be using the roadway. A level roadway the full length of motor vehicles is recommended as shown here.



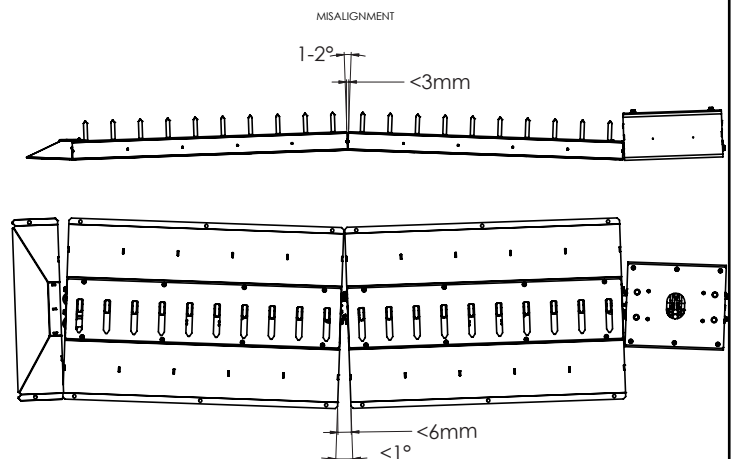
- Here is an example of how a non-level roadway can cause problems with the undercarriage of motor vehicles.



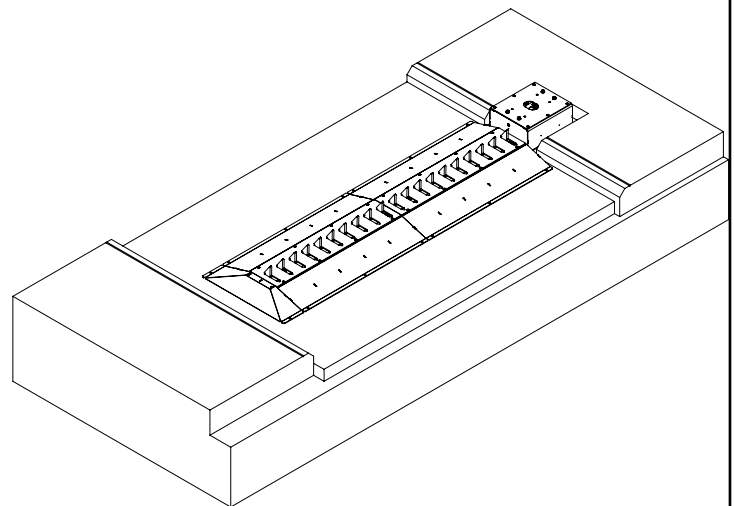
- Here is another example of how a non-level roadway can cause problems with the undercarriage of motor vehicles..



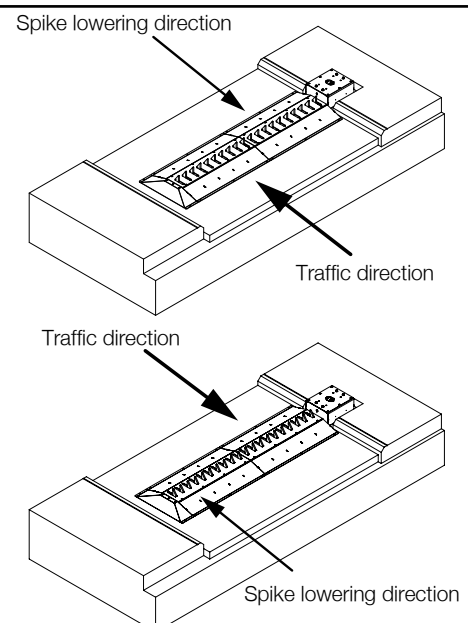
- There is a limited tolerance for misalignment between the modules. The tolerance limits are shown adjacent here.
- Ensure the mounting surface of the plinth is level and true. You may need to install feathering spaces to compensate for uneven surfaces. this can be done with fender washers but short flat bar plates may also be necessary in some cases.



- In most cases you will want to chase away a space in the curb adjacent to the roadway, so that the traffic barrier cabinet is not in the way. This will prevent the roadway from being narrowed by the installation of the system.
- Use the dimensions given on the technical specifications pages to determine the size of the area you will need to chase into the curb.



- In the case of a uni-directional traffic flow, the design of the spike modules is that they provide greater protection and strength if the spike lower opposite to the traffic direction. See examples of maximum protection orientations adjacent.

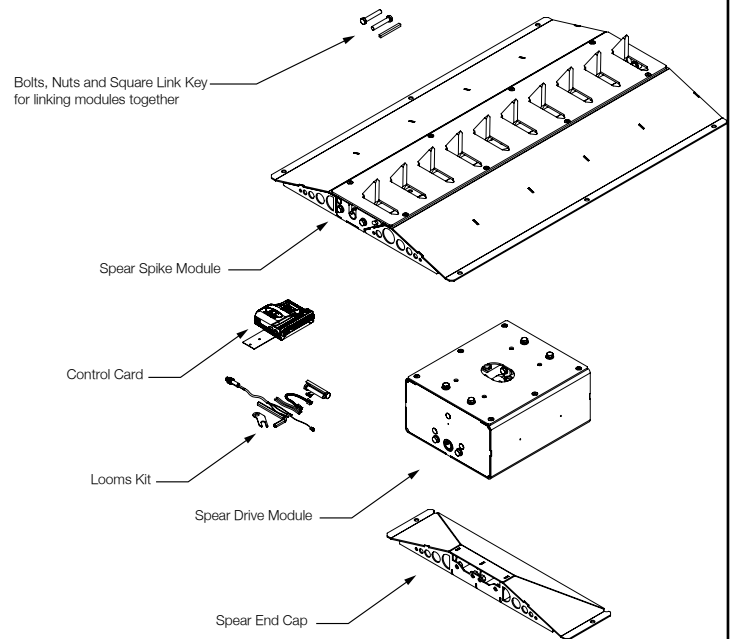


Assembly and mounting method.

Step 1: Unpack

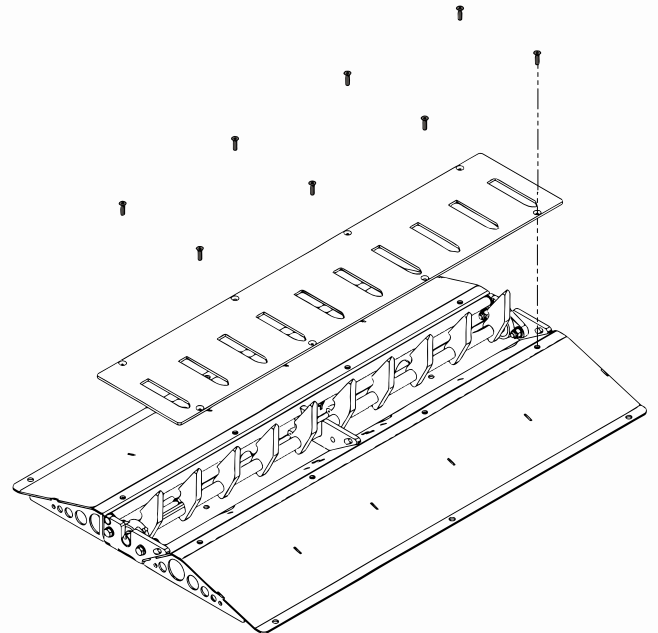
- Dependent on the kit ordered, the following distinct items would be required:

1 x Spear Drive Module,
x Spear Spike Modules.
1 x Spear End Cap.
1 x Control Card.
1 x Proximity Sensor.
1 x Battery Loom.
1 x PSU Loom.
x Bolts, Nuts and Square Link Key kit



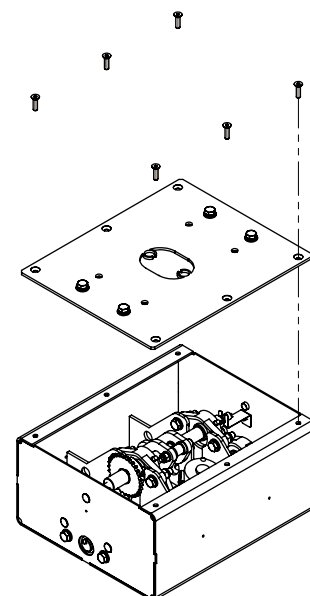
Step 2: Opening 1.2m Module

- Unwrap the 1.2m Module from the packaging and using a 5mm Allen Key or driver, unscrew the eight fasteners from the cover plate.
- Remove the cover plate. Note that the cover plate is assembled to the unit in the reverse orientation to prevent the spikes from moving in transport.
- Please check the 2x M12x70 bolts and 1x Square link key are tied to the shaft at one end.



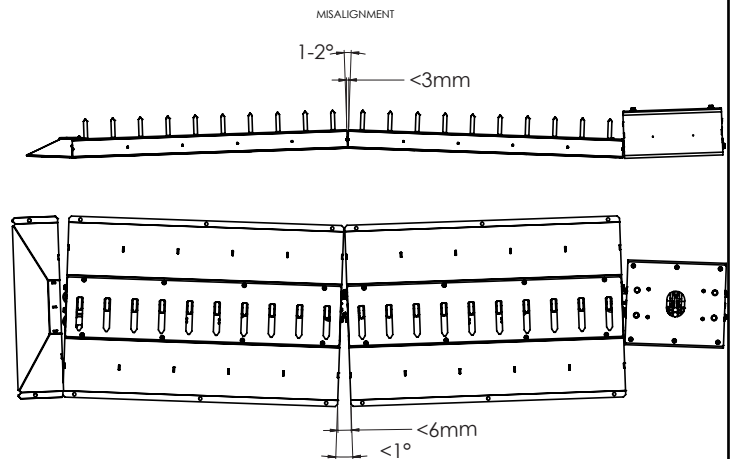
Step 3: Opening Drive Unit

- Unwrap the Drive Unit from the packaging and using a 5mm Allen Key or driver, unscrew the six fasteners from the cover plate.
- Remove the cover plate.
- Remove the two packages stowed inside the housing. The control card and mounting bracket are packaged together and found above the fastener and loom package.



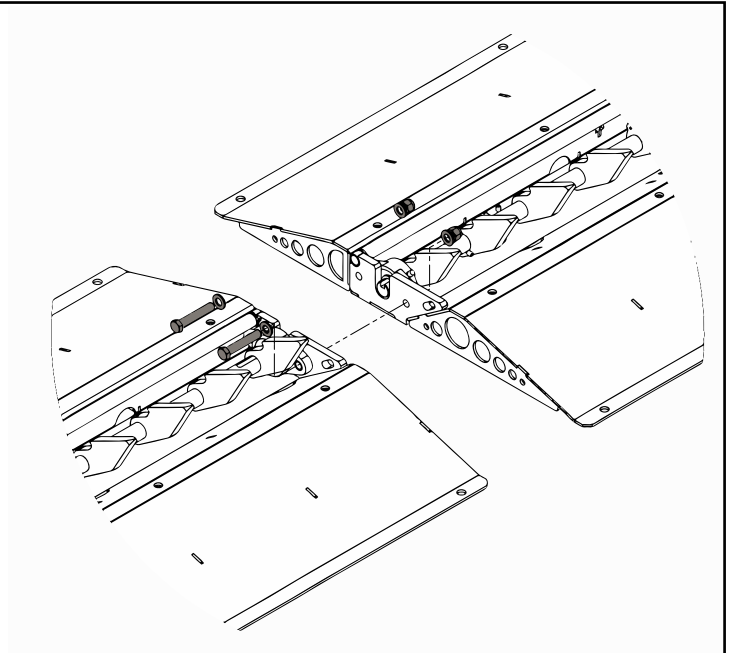
Step 4: Double check the mounting area

- After unpacking the Drive Unit and 1.2m Modules, set the components into their rough positions to confirm the mounting surface is level and reasonably flat for the correct alignment of the shafts to be successful.
- If satisfied the alignment is within the tolerances shown adjacent, drill and install your mounting fasteners. If using chemical fasteners, allow enough time for curing before continuing.



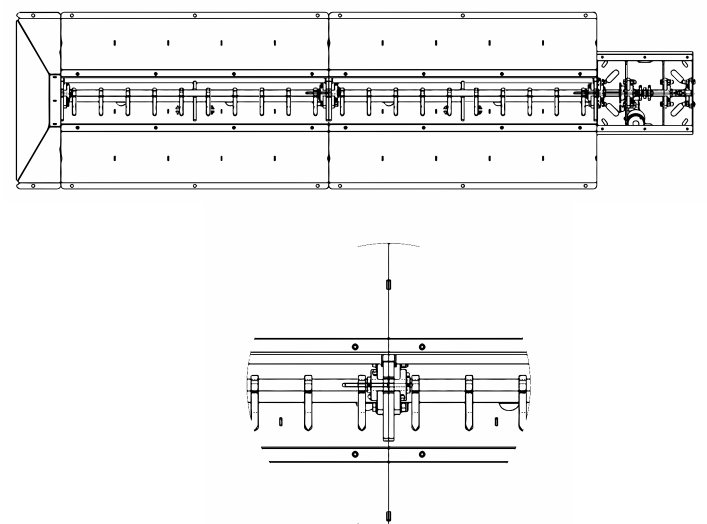
Step 5: Linking the shafts together

- From each of the adjacent sides of each assembly, remove the 2x M12x50mm hex bolts and Nyloc nuts, using a 19mm socket and spanner.
- Keep the washers and Nyloc nuts aside for re-assembly.
- The supporting bearings have bushes inside the mounting holes, these are to remain installed.



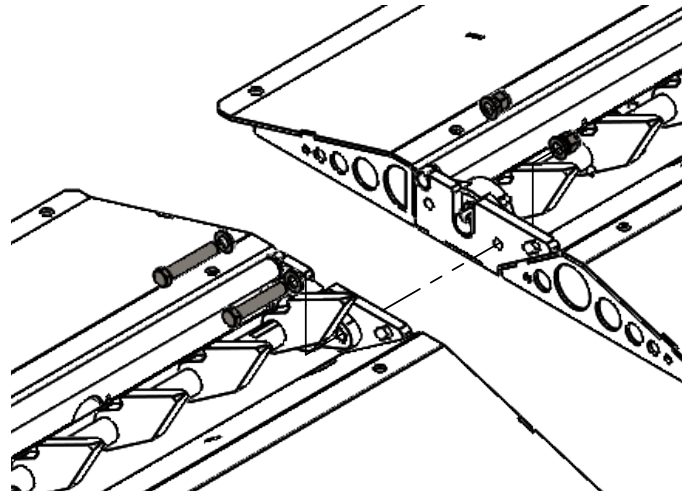
Step 6: Linking the shafts together

- From the fastener pack, assemble a Square Link Key into the slot in the shaft that has the longer slot. Insert the full length of the key into the slot. If the full length does not fit, then check the slot on the opposite shaft.



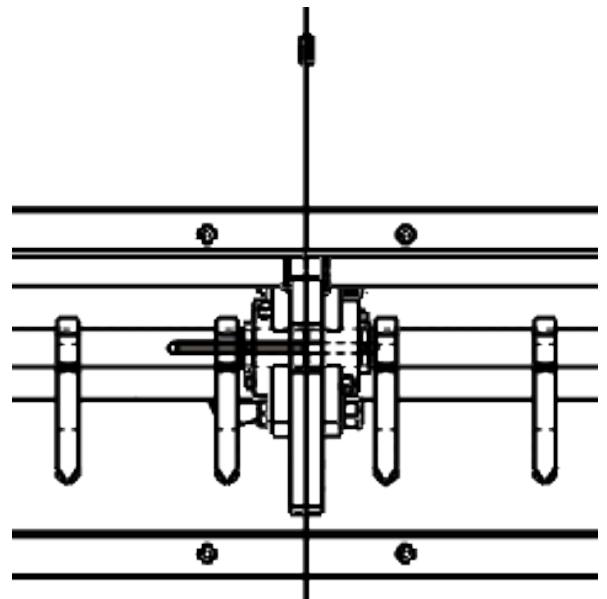
Step 7: Linking the shafts together

- Insert the two M12x70mm hex bolts through the bearing of the module closest to the Drive Unit, assemble with an M12 washer under each head.
- Bring the two units together. The M12x70 hex bolts protruding the 1.2m Modules should align with the holes in the Drive Unit or adjacent module. Feed the bolts through the bushings and bearing on the mating assembly. Place an M12 washer and Nyloc finger tight to hold the assembly together.



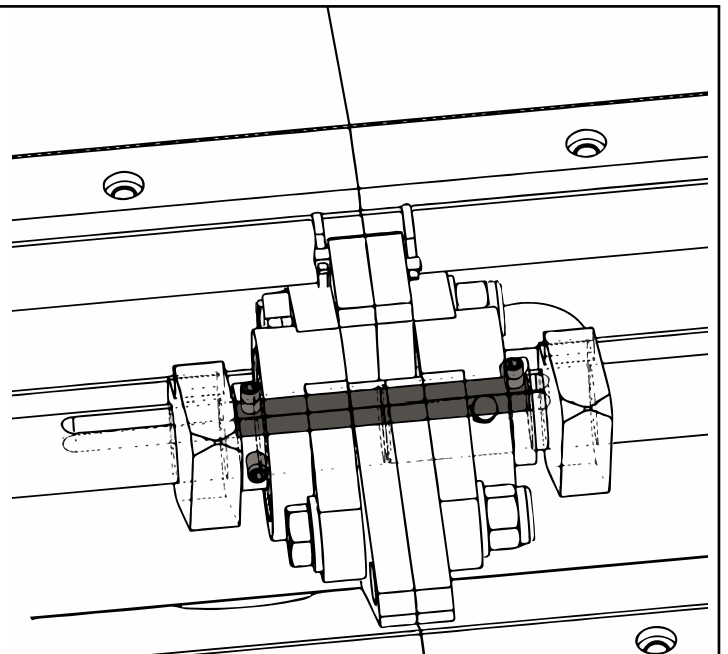
Step 8: Linking the shafts together

- Rotate the mating shafts to align the slots.
- Slide the Square key out to begin the alignment of the shafts.



Step 9: Linking the shafts together

- Carefully insert the square key into the adjacent shaft. Do not use force to push the key across as this may damage and cause the key to jam in the slot. If the alignment of the shafts is fair, slight assistance by manipulating the connecting shafts will find the key slide across until located under each of the bearings.
- Once achieved, lock one end of the key into the slot using the grub screw found on the bearing unit that is directly above the slot.

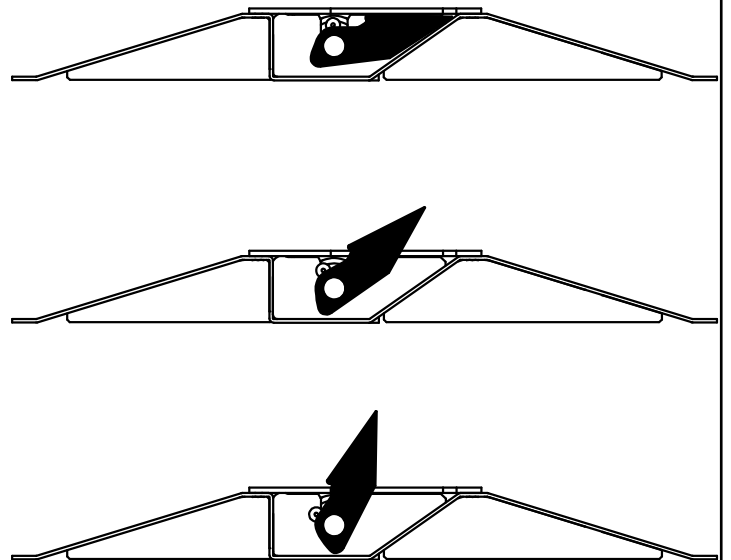


Step 10: Tightening up the modules to one another.

- Push the two adjoining modules together and tighten the two bolts to secure. Check the shafts rotate together freely without binding while tightening. If binding occurs, check the mounting surface is flush and level for both.

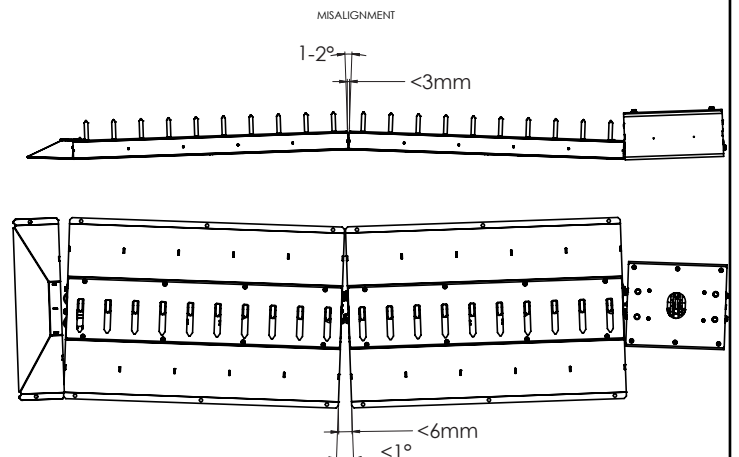
Step 11: Double check the range movement of the spikes.

- The spikes should lie close to the frame of the module when lowered and almost hook against the cover plates when raised.
- The drive mechanism should have the central cam operate from one side to the other of the slotted plate for full movement.



Step 12: Double check final, fastened alignment of all modules to each other.

- The assembled units should mate together with almost no gaps. Check the top to bottom alignment of the mating faces is flush and not pinching any debris or other from the road surface. Check the front-to-back alignment along the mating faces that there is no angle between the two modules being connected.

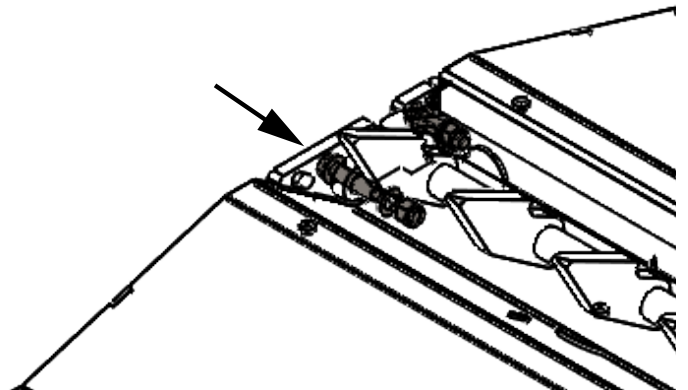


Step 13: Final fastening and tightening down.

- If after final alignment of the mated assemblies there are large gaps and voids beneath the modules or drive units, it is strongly recommended to have these filled. This is especially important under the fixing points. When the system is tightened down, any gaps below the fixing points will pull the assembly out of true and alignment of the shafts may be lost causing binding and potential damage or poor function.

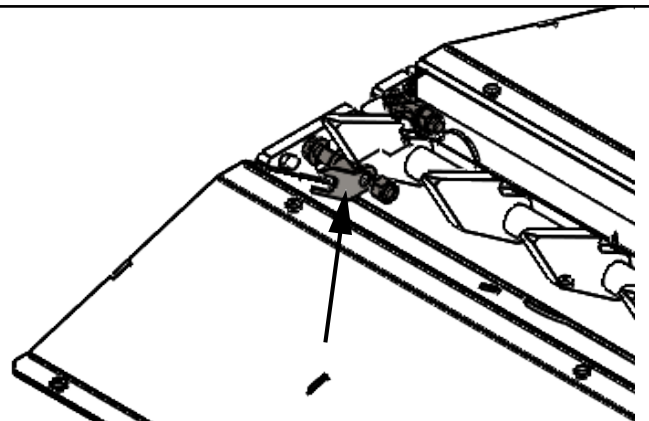
Step 14: Limit Sensor location

- On the end of the module assembly furthest from the drive unit, identify the bolt through the bearing which is opposite to the conduit. Remove the nut and washer.



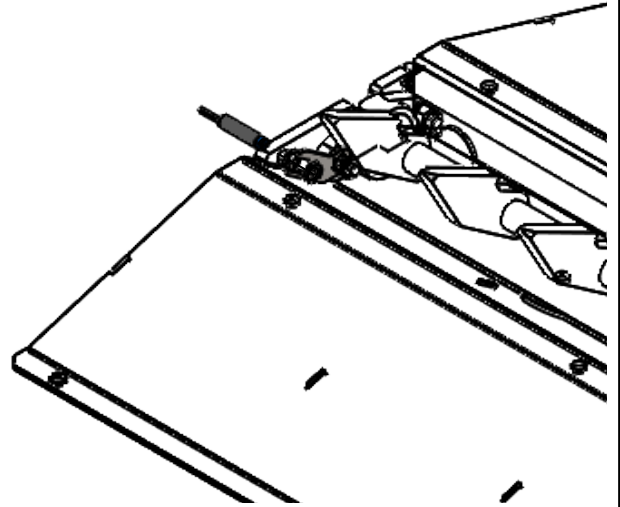
Step 15: Installing the Limit Sensor bracket

- Place the mounting bracket as indicated, in place of the washer. Replace the nut.



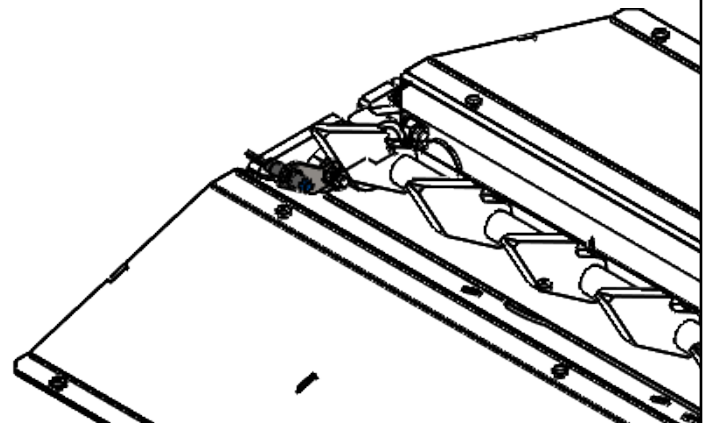
Step 16: Positioning the Limit Sensor in the bracket

- Insert the sensor through from the outer end of the module, through the slot and up to the tooth of the first spike. Leave about a 5mm gap to start.



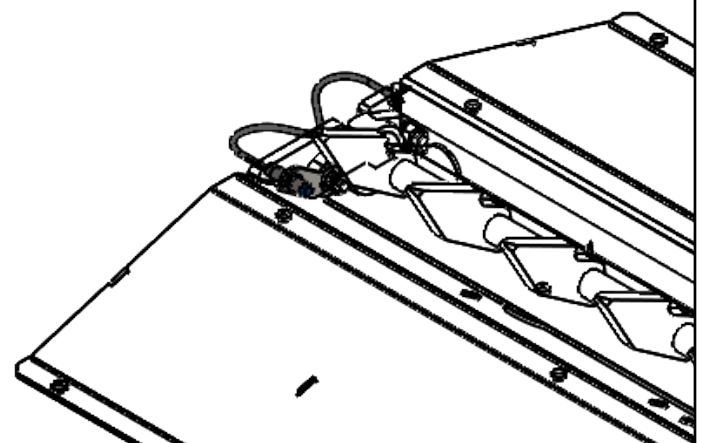
Step 17: Fastening the Limit Sensor in place.

- Place the supplied locking nuts from the fastener pack onto the sensor, and either side of the mounting bracket. Tighten the sensor in place using the nuts and spring washer.



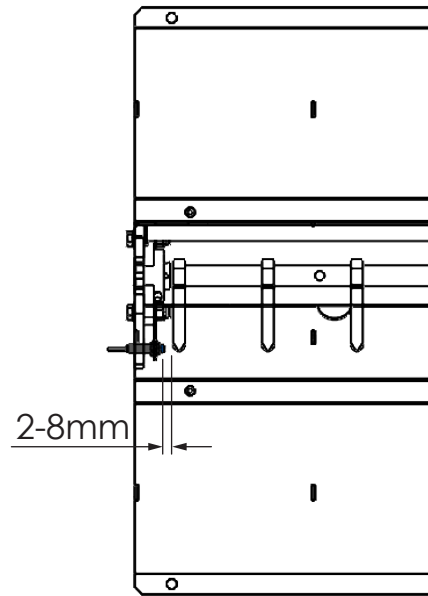
Step 18: Feeding the Limit Sensor cable through.

- Run the lead from the sensor around to the opposite side of the module and through the conduit into the Drive Module, pull through as much slack as possible, leaving a loose loop on the Limit Sensor the end, that is clear of all moving parts.



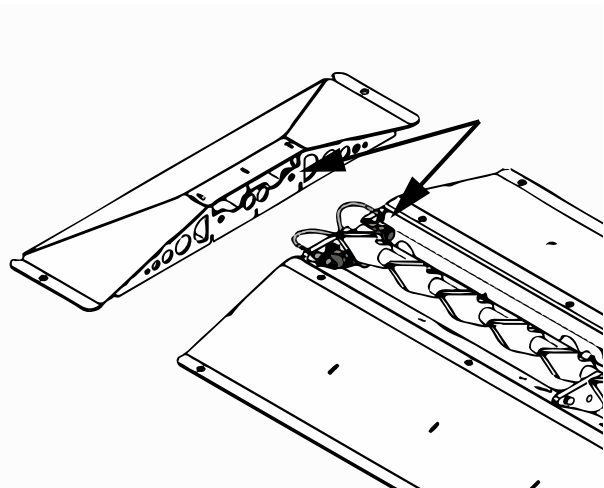
Step 19: Setting the sensing distance.

- Double check the space between the surface of the last spike and the Limit Sensor, is between 2mm and 8mm before continuing. Double check the spike does not strike the sensor when it raises and lowers.



Step 20: Installing the end cap.

- On the opposite side to the limit sensor bracket, remove the nut and bolt from the pillow-block bearing.
- Reverse the bolt direction and re-insert it through the pillow-block bearing and module frame.
- Taking care not to pinch the limit sensor cabling, align and mate up the end cap adjacent to the frame of the spike module.
- Use the bolt to tighten the end cap onto the spike module in the threaded hole provided.
- The bolt and threaded hole are indicated here adjacent.



Electrical and electronic installation and setup.

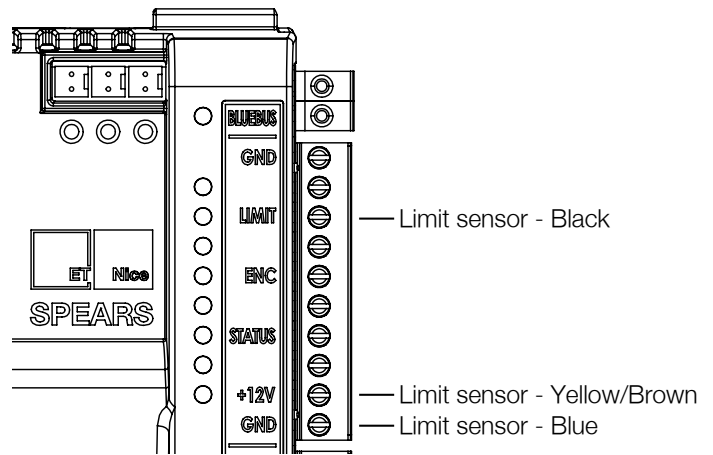
As a motorised operator vibrates when in use, it is strongly recommended that only multiple strand flexible cables be used.

Before closing the unit, always remember to double check that all connections are securely made, that there are no stray strands flaring out that can short circuit against other adjacent connections or bared wires and that no cables will be pulled loose when the cover is replaced on the unit.

Double check the battery connections as loose connections can cause arcing and corrosion of the battery terminals.

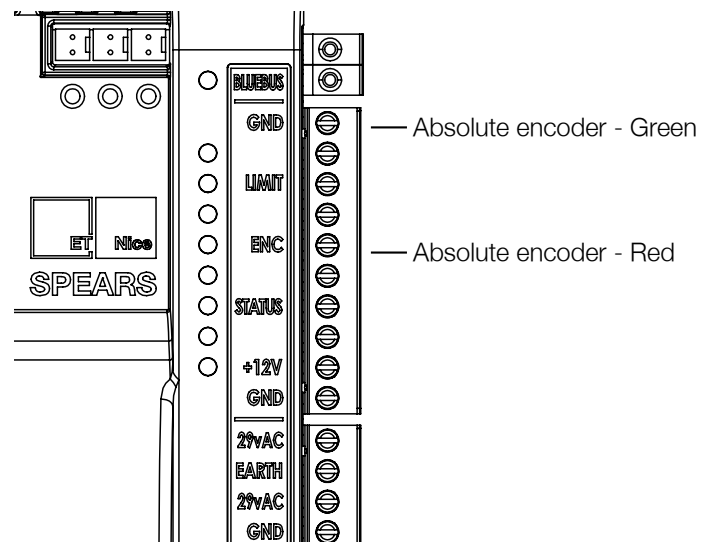
Step 21: Connecting the Limit Sensor to the Spears controller

- Locate the two pins at the top right of the controller, marked LIMIT. Plug the limit sensor into the controller here.



Step 22: Connecting the absolute encoder to the Spears controller

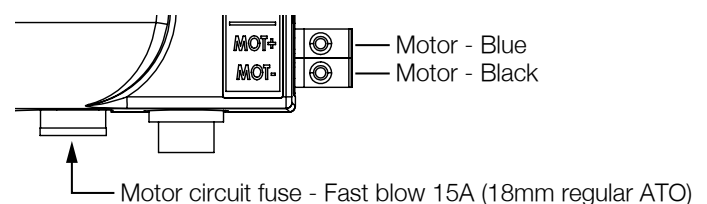
- Install the Red wire of the absolute encoder loom into the encoder ENC terminal.
- Install the Green wire of the absolute encoder loom into either of the ground GND terminals.



Step 23: Connecting the Motor to the Spears controller.

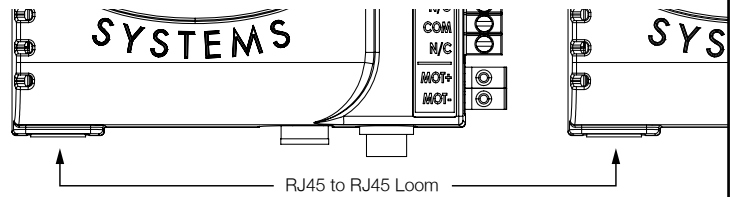
(NB! The order of the wiring may need to be swapped depending on the orientation of your spike modules, and whether the Drive module has been installed on the left or the right of the spike modules. This can be confirmed and changed during the Runtime setup routine to suit your installation)

- Install the Black and Blue electric motor wires into the two terminals marked MOT+ and MOT-



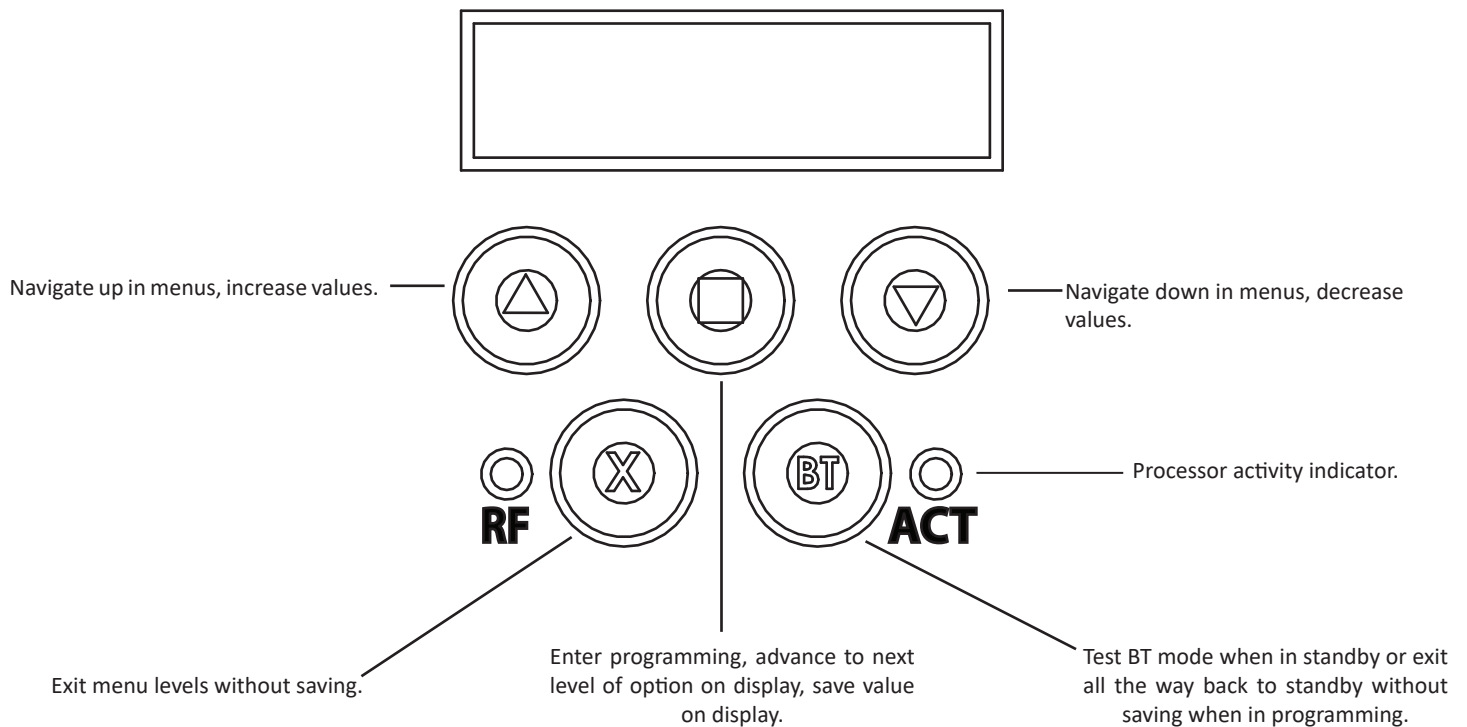
Step 24: Connecting the Spear controller (Slave) to the Barrier controller (Master).

- Plug either end of the RJ45 to RJ45 loom, into the T4 Bus port of each controller.



Using the controller dashboard.














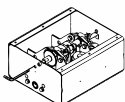
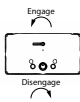






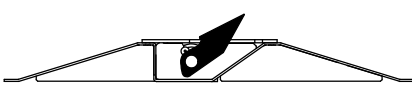



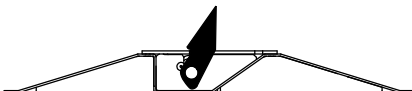







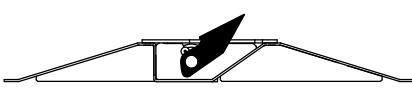



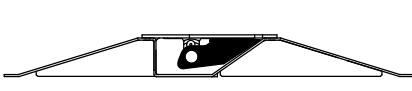







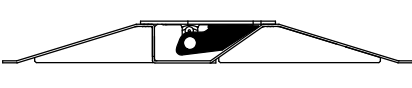



The control unit is equipped with a LCD display and interactive keys for simplified programming and diagnostics. All setup, of the various features, requires that the control card dashboard be used. Below are the functions of each key on the dashboard.




















Programming and setup.

Programming menu quick reference guide:
















1. Runtime setup. - Page 17.
2. Collision force sensing. Safety level setup. - Page 18.
3. Enable/disable Spikes on the barrier controller. - Page 19.
4. Selecting one of the three spikes operating modes on the barrier controller - Page 20.



















Setting up the limits and load profile. (Mandatory)				Runtime Setup	
From Standby status		- "Selected mode" - - Standby	The setting is carried out on the Spears controller.		
Action		Response			
		Description	Display	Buzzer	Spikes
To enter the program menu. Press and hold the  button until buzzer beeps.		Display and buzzer confirms.	Programming menu ▲ or ▼ for options	 x2	
Scroll ▲ or ▼ to select the runtime setup option.		Display scrolls through options.	Runtime setup ▲ Limits NOT set ▼		
Press and release the  button to select runtime setup.		Display prompts - Press  button to Set or Exit.	-Set Limits- Press  Or Exit	 x1	
Press and release the  button to select limit setup.		Display prompts - Engage clutch then Set or Exit	Engage Clutch Press  Or Exit	 x1	 
Press and release the  button after checking clutch is engaged.		Display prompts - Hold ▲ to raise spikes. Press  button to Set or Exit.	Hold ▲ Full raise Press  Or Exit	 x1	
Press and hold ▲ to raise the spikes to the fully raised position.		Display confirms the spikes are rising.	Raising Spikes		
Visually check the spikes are indeed rising. If they are lowering, pause the process by releasing the ▲ button. Swap the blue and black motor wiring to correct the motor running direction. After swapping the wiring around, continue with the raising limit setup that you paused.					
When the spikes reach the fully raised position, release the ▲ button. You can fine tune this position using the ▲ or ▼ button.		Display prompts - Hold ▲ to raise spikes. Press  button to Set or Exit.	Hold ▲ Full raise Press  Or Exit		
Press and release the  button to set the raised limit.		Display prompts - Hold ▼ to lower spikes. Press  button to Set or Exit.	Hold ▼ Full Lower Press  Or Exit	 x1	
Press and hold ▼ to lower the spikes to the fully lowered position.		Display confirms the spikes are lowering.	Lowering Spikes		
When the spikes reach the fully lowered position, release the ▼ button. You can fine tune this position using the ▲ or ▼ button.		Display prompts - Hold ▼ to raise spikes. Press  button to Set or Exit.	Hold ▼ Full Lower Press  Or Exit		
Press and release the  button to set the lowered limit.		Display warns you that the profiling routine is about to run.	- PROFILING - Raising Spikes	 x1	
At the fully raised position.		The spikes stop and immediately lower again.	- PROFILING - Lowering Spikes	 On/off...	
At the fully lowered position.		The spikes stop and the display confirms the limit setup is done.	Setup Done	 x1	
Scroll Up or Down to next program option.		 	OR	EXIT back to standby status	
					"Selected" mode - Standby

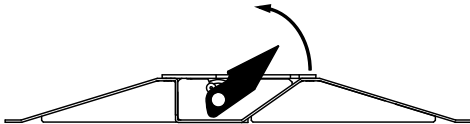

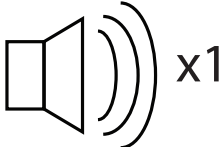
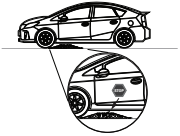




Overload Setting		Selecting a safety level.			
From Standby status		- “Selected” mode - - Standby	This adjusts the force level, over and above the nominal operating resistance, needed to trigger the safety overload routines. Level 1 being the most sensitive and 8 being the least sensitive. The factory default is level 3.		
Action		Response			
		Description	Display	Buzzer	Barrier
To enter the program menu. Press and hold the  button until buzzer beeps.		Display and buzzer confirms.	Programming menu ▲ or ▼ for options	 x2	
Scroll ▲ or ▼ to select the overload setup option.		Display scrolls through options.	Overload Setting ▲  = change ▼		
With “Overload Setting” on the display, press and release  .		Display shows current option status.	Overload Setting ▲  ▼	 x1	
Scroll ▲ or ▼ to the required setting.		Display changes respectively.	Overload Setting ▲  ▼		
With required force level displayed, press and release  .		Display briefly shows the new setting is saved.	Overload Setting Saved = 2	 x2	
After display confirms new setting.		Display returns to programming menu options list.	Overload Setting ▲  = change ▼		
Scroll Up or Down to next program option.		OR	EXIT back to standby status	“Selected” mode - Standby	
					

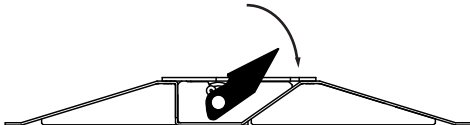

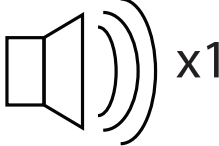
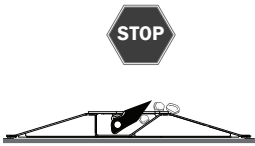
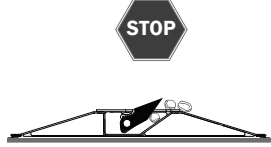
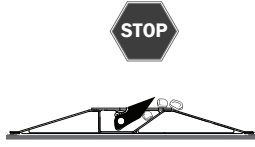
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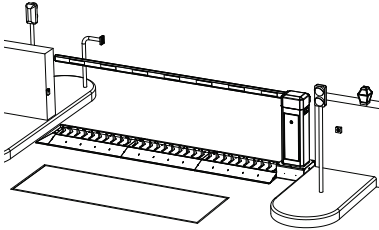
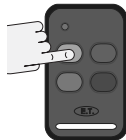
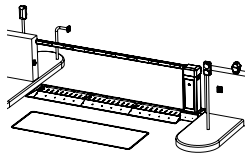
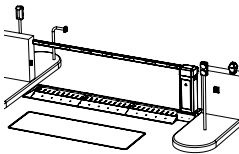
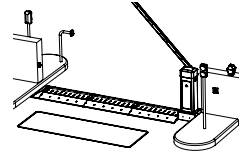
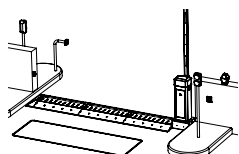
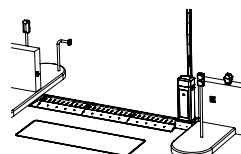
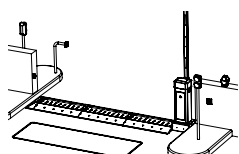
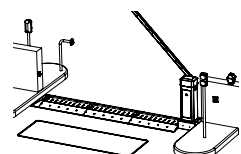
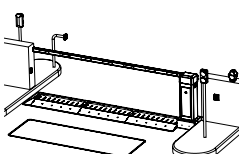
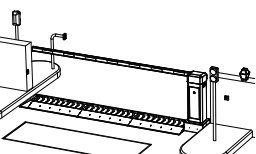
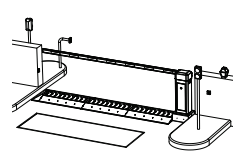
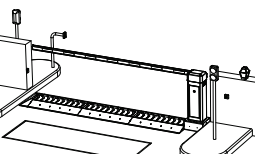
- Enable disable spikes mode.
- Selectecting a mode of operation for the spikes.

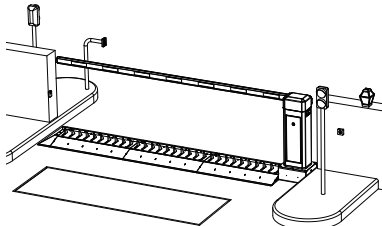
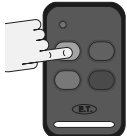
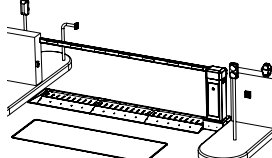
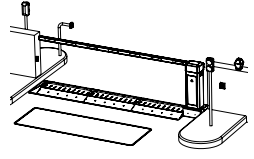
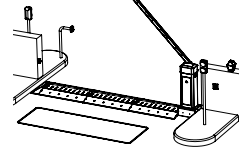
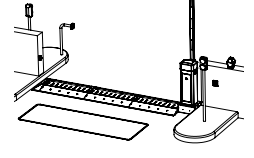
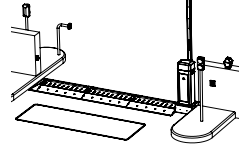
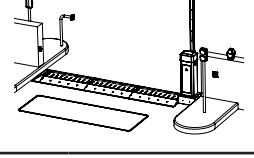
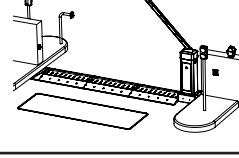
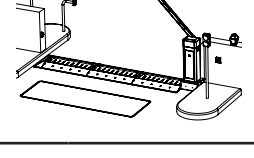
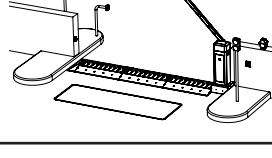
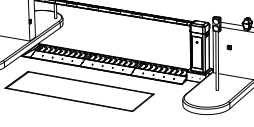
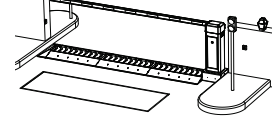
Enable/disable spike mode.				Spike Enable	
From Standby status		- “Selected” mode - - Standby	To use the Spears Automated Road Spikes in conjunction with an ET Nice Traffic Barrier controller, this option must be enabled.		
Action		Response			
		Description	Display	Buzzer	Barrier
To enter the program menu. Press and hold the  button until buzzer beeps.		Display and buzzer confirms.	Programming menu ▲ or ▼ for options	 x2	
Scroll ▲ or ▼ to select the advanced menu option.		Display scrolls through options.	Advanced Menu		
With “Advanced menu” on the display, press and release  .		Display shows first option.	Advanced Menu Barrier Speed	 x1	
Scroll ▲ or ▼ to the Spikes_ Enable setting.		Display changes respectively.	Advanced Menu Spikes_ Enable		
With Spikes_ Enable setting displayed, press and release  .		Display shows the current setting.	Spike Setup Disabled	 x1	
Scroll ▲ or ▼ to toggle between Enabled or Disabled.		Display changes with each button press.	Spikes Setup Enabled		
With Enabled displayed, press and release  .		Display confirms selection is saved.	Saved	 x2	
After timeout.		Display reverts to the advanced menu options list.	Advanced Menu Spikes_ Enable		
Scroll Up or Down to next program option.			OR	EXIT back to standby status	
					“Selected” mode - Standby

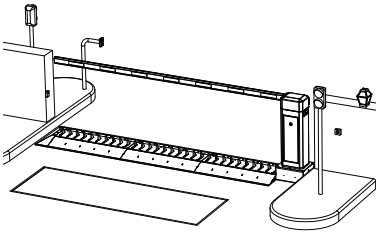

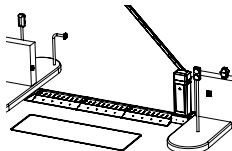
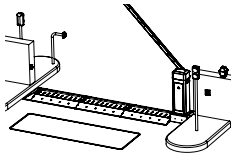
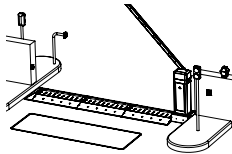
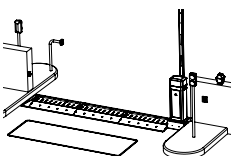
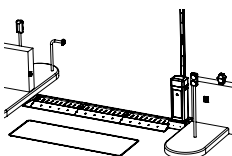
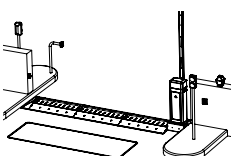
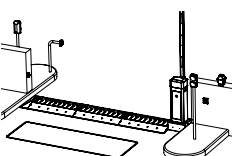
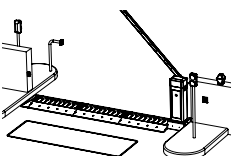
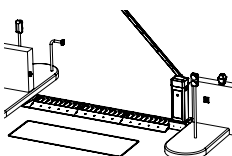
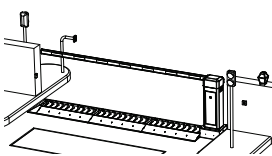
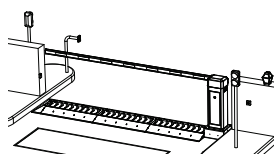
Spike_OP_Mode		Selecting a spike operating mode.			
From Standby status		- “Selected” mode - - Standby	The factory default for this option is Medium - Standard		
Action		Response			
		Description	Display	Buzzer	Barrier
To enter the program menu. Press and hold the  button until buzzer beeps.		Display and buzzer confirms.	Programming menu ▲ or ▼ for options	 x2	
Scroll ▲ or ▼ to select the advanced menu option.	 	Display scrolls through options.	Advanced Menu		
With “Advanced menu” on the display, press and release  .		Display shows first option.	Advanced Menu Barrier Speed	 x1	
Scroll ▲ or ▼ to the Spikes_Op_Mode setting.	 	Display changes respectively.	Advanced Menu Spike_Op_Mode		
With Spikes_Op_Mode setting displayed, press and release  .		Display shows the current setting.	Advanced Menu Medium-Standard	 x1	
Scroll ▲ or ▼ to select the most suitable operating mode.		Display changes with each button press.	Advanced Menu Slow-Safe		
			Advanced Menu Medium-Standard		
			Advanced Menu Quick-Secure		
With Enabled displayed, press and release  .		Display confirms selection is saved.	Saved	 x2	
After timeout.		Display reverts to the advanced menu options list.	Advanced Menu Spikes_Enable		
Scroll Up or Down to next program option.		 	OR	EXIT back to standby status	
		“Selected” mode - Standby			

Collision sensing and safety overload routines		Basic operating features.		
In the case of the spikes colliding with an obstruction, the collision sensing will automatically detect the collision and the system will run a safety overload routine.				
Safety overload routine while rising.				
				
Action		Response		
Spikes collide with an obstruction while rising.		Spikes stop and buzzer beeps once .		
Once spikes have stopped.		Spikes lower.	No buzzer tones.	
In fully closed position .		Spikes stop and wait for next trigger.	No buzzer tones.	

Collision sensing and safety overload routines		Basic operating features.		
In the case of the spikes colliding with an obstruction, the collision sensing will automatically detect the collision and the system will run a safety overload routine.				
Safety overload routine while lowering.				
				
Action		Response		
Spikes collide with an obstruction while lowering.		Spikes stop and buzzer beeps once .		
Once spikes have stopped.		The system waits for the for next trigger to move away from the obstruction.	No buzzer tones.	

Basic operating features		Operating modes. Slow - Safe Mode.		
The Spears Automated Road Spikes are designed to work in conjunction with the ET Nice Barrier control card. There are three modes of operation. These modes are based on the amount of time it takes to process an access transaction and on the time it takes to secure the access point again.				
Barrier closed and spikes raised.				
Action		Response		
Barrier is triggered		The spikes lower.	No buzzer tones.	
When spike reach the full lowered position.		Barrier begins opening.	No buzzer tones.	
When barrier reaches its full open position.		Traffic light changes to green.	No buzzer tones.	
Barrier is triggered to close.		Traffic light begins flashing Red. Barrier closes.	No buzzer tones.	
When barrier reaches its fully closed position.		Traffic light changes to Red and spikes rise.	No buzzer tones.	
When spikes reach the fully raised position.		The system is back in the standby mode and waits for the next trigger.	No buzzer tones.	

		Operating modes. Medium - Standard Mode.		Basic operating features	
The Spears Automated Road Spikes are designed to work in conjunction with the ET Nice Barrier control card. There are three modes of operation. These modes are based on the amount of time it takes to process an access transaction and on the time it takes to secure the access point again.					
Barrier closed and spikes raised.					
Action		Response			
Barrier is triggered		The spikes lower.	No buzzer tones.		
When spike reach the full lowered position.		Barrier begins opening.	No buzzer tones.		
When barrier reaches its full open position.		Traffic light changes to green.	No buzzer tones.		
Barrier is triggered to close.		Traffic light begins flashing Red. Barrier closes.	No buzzer tones.		
When barrier reaches the beginning of its ramp down stage		Traffic light changes to Red and spikes rise.	No buzzer tones.		
Barrier in closed position and spikes raised.		The system is back in the standby mode and waits for the next trigger.	No buzzer tones.		

Basic operating features		Operating modes. Fast - Secure Mode.		
The Spears Automated Road Spikes are designed to work in conjunction with the ET Nice Barrier control card. There are three modes of operation. These modes are based on the amount of time it takes to process an access transaction and on the time it takes to secure the access point again.				
Barrier closed and spikes raised.				
Action		Response		
Barrier is triggered		The spikes lower and barrier begins opening	No buzzer tones.	
When spike reach the full lowered position.		Barrier continues to open.	No buzzer tones.	
When barrier reaches its full open position.		Traffic light changes to green.	No buzzer tones.	
Barrier is triggered to close.		Traffic light changes to red. Spikes begin rising and barrier begins closing.	No buzzer tones.	
When spikes reach the fully raised position.		Barrier continues closing.	No buzzer tones.	
When barrier reaches fully closed position.		The system is back in the standby mode and waits for the next trigger.	No buzzer tones.	

Troubleshooting guide and display definitions.

Displayed on screen.	Definition.	Solution.
AC mon disabled	AC power monitoring disabled by the installer.	Only use when installing a separate charger system.
Aux voltage high	Auxiliary 12v output is too high.	Hardware error or external connection supplying higher voltage.
Aux voltage low	Auxiliary 12v output is too low.	Hardware error or external connection drawing too much current
Bat monitor run	Barrier ran a cycle on battery power in order to cycle the battery and to perform health monitoring.	Continue to use barrier as per normal.
BAT voltage high	The battery voltage is out of specification - too high.	Most likely due to a charger fault external connection supplying higher voltage.
Battery short	There is a short on the battery output.	Faulty battery or battery wiring.
Brown out Reset	Processor reset due to low supply voltage.	Check power supplies for low power failings.
Charg supply low	The supply voltage is too low for the charger to operate correctly.	Charger requires a minimum of 30V primary supply.
Charger disabled	Charger disabled by the installer.	Change if necessary.
Close Run Ovload	A current overload occurred during the full speed portion of travel while the barrier was closing.	Remove physical obstruction.
Close Slo Ovload	A current overload occurred during the crawl portion of travel while the barrier was closing.	Remove physical obstruction.
Close Stall(enc)	The barrier stalled (encoder counting no longer detected) while closing.	Remove physical binding.
Collision Timer	More than 4 collisions detected in a row, 10s timer prevents subsequent triggers.	Remove physical obstruction.
Err:Encoder,Not connected	There was an error detecting the motor encoder.	Check encoder wiring.
Err: Encoder, Check Wiring		Encoder wiring orientation not correct for direction of movement
Err: Encoder, Range too low		Movement range on the shaft is less than allowed 46 degrees – check if spikes are set at fully raised & fully lowered position. (check for mechanical obstruction)
ERROR: BAT voltage too high	BAT voltage high error. (when trying to run barrier)	The BAT voltage is too high and may cause damage to the motor drive circuitry.
Err:Limit Switch, Not Found		Check limit switch wiring & positioning for lowered status
Err: Check Motor, Wires or Fuse		Check that motor wires are connected & that fuse is in place & not blown.
ERROR: No high current source	Only low current power supply available.	No PSU or battery attached. Check wiring.
ERROR: PSU voltage too high	PSU voltage high error. (when trying to run barrier)	The PSU voltage is too high and may cause damage to the motor drive circuitry. Check 220Vac supply.
Error: Raising Timeout		Check motor wiring, fuse or if manual release is engaged.
Error: Profiling , Force too high		Check for obstructions or faulty mechanics.
Error: Lowering Timeout		Check motor wiring, fuse or if manual release is engaged.
Err:Limit Active, on fully raised		Check spikes & limit switch at fully raised position (switch should not be active & fully raised)
Factory Reset	A factory reset was performed.	Reconfigure control card programming and setup.
Find Limit	The barrier is searching for the limit.	Allow barrier to continue all the way closed.
Finding closed limit	Barrier is running slowly to the closed limit.	Allow barrier to continue all the way closed.
Flash mem error Reprogram board	Flash memory corrupt, reprogram the board.	Bring control card in for repair.
Barrier re-profile required	The barrier run-time setup needs to be re-done.	This is required when changing parameters that affect how the barrier runs and hence the overload sensing.
Ill opcode Reset	Processor reset due to a software error.	If persistent, bring control card in for repair.

Displayed on screen.	Definition.	Solution.
Learn Abort	Indicates that Learning barrier length failed.	Restart runtime setup.
Learn Aborted	Runtime setup aborted for some reason.	Restart runtime setup.
Learn Error Beam	Runtime setup failed because the beams were interrupted.	Restart runtime setup.
Learn Error Button Exit	Runtime setup failed because exit button was pressed.	Restart runtime setup.
Learn Error Limit Range	Runtime setup failed because the limit is out of range.	Limit moved or considerable rack jumping. Refasten limit actuator.
Learn Error Manual Released	Runtime setup failed because manual release lever was actuated.	Re-engage manual override.
Learn Remote Err:Decode error	Invalid remote detected.	You can only use ET Blue or ET BLU MIX transmitters.
Limit faulty	The limit sensor is faulty.	Shown when no limit is found within the expected limit window.
Limit Range Err	Closed limit not detected within an acceptable range.	Limit moved. Refasten limit actuator.
Master clr Reset	Processor reset due to a hardware reset.	If persistent, bring control card in for repair.
Motor Unwind	Motor backing off slightly after overload to prevent gear system jamming up.	Remove physical obstruction.
No hi cur source	No current source present to run the motors.	Ensure either a battery or the PSU is connected.
None	No log item recorded yet.	A log will automatically build as the system is used.
Open Run Ovload	A current overload occurred during the full speed portion of travel while the barrier was opening.	Remove physical obstruction.
Open Slo Ovload	A current overload occurred during the crawl portion of travel while the barrier was opening.	Remove physical obstruction.
Open Stall(enc)	The barrier stalled (encoder counting no longer detected) while opening.	Remove physical obstruction.
Over temperature	The board experienced an over temperature situation.	This will clear when temperature returns to normal.
Overload	Barrier has overloaded.	There could be an obstruction in the path of the barrier, try increasing "Overload Setting"
Power error braking	Device is about to shut down due to low power, motor is slowing down.	Low AC, PSU and Bat voltages.
Power error resetting	Device is about to shut down due to low power, processor is waiting to reset.	Low AC, PSU and Bat voltages.
Power on Reset	Processor reset due to being powered up.	Wait for display to show "Standby" before continuing.
Program Run-time	Barrier run time has not been programmed before trying to run barrier.	Page 18.
PSU voltage high	The PSU supply voltage is out of specification - too high.	Check mains input is < 255Vac.
QC test passed	Quality Control test was passed.	Continue to use system as per normal.
Ramp Open Stall	The barrier stalled while ramping up in the open direction.	Remove physical obstruction.
Restore settings	Backed up settings were restored.	Page 30.
Run-time NOT set	Please perform a runtime setup before attempting to run the barrier.	Page 18.
Searching Limit	Barrier is closing looking for the closed limit.	Allow barrier to continue all the way closed.
Software Reset	Processor reset due to a software command.	Continue scrolling through log.
Standby	Motor in standby, everything operating normally.	Continue to use the system as normal.
TRAP Reset	Processor reset due to a software error.	If persistent, bring control card in for repair.
WARNING: Bat Health: Poor	Warning if the battery health is poor and the barrier is running off battery.	Consider replacing the battery.
Watchdog Reset	Processor reset due to a software error.	If persistent, bring control card in for repair.

WARRANTY:

1. All goods manufactured by ET Nice (Pty) Ltd carry a 12 month factory warranty from date of invoice.
2. All goods are warranted to be free of faulty components and manufacturing defects.
3. Faulty goods will be repaired or replaced at the sole discretion of ET Nice (Pty) Ltd free of charge. Within the warranty period.
4. This warranty is subject to the goods being returned to the premises of ET Nice (Pty) Ltd.
5. The carriage of goods is for the customer's account.
6. This warranty is only valid if the correct installation and application of goods, as laid out in the applicable documentation accompanying said goods, is adhered to.
7. All warranty claims must be accompanied by the original invoice.
8. All claims made by the end user must be directed to their respective service provider/installer.

The following conditions will disqualify this product from the warranty as laid out above. These conditions are non- negotiable.

1. Any unauthorized non-manufacturer modifications to the product or components thereof.
2. Any modification to the installation methods described in the installation instructions.
3. Any application or use of the product other than the intended use and application described in the product documentation.

The following items are not included in the warranty or they carry a special warranty condition of their own.

1. The battery (Limited 6 month warranty)
2. The motor brushes.
3. Damage resultant of wind and other climatic influences such as lightning strikes.
4. Damage due to high voltage surges on the household mains or short circuiting of the barriers to the electric fencing.
5. Damage due to infestation i.e. Ants nesting...
6. Water damage. It is the responsibility of the installer to ensure the product is installed in a location that is protected from water ingress. The ingress protection rating is specified in the accompanying documentation. Housings that require that cable entries are made by the installer do not carry an ex-factory ingress protection rating as it is the responsibility of the installer to seal the cable entry points after installation of the cabling.