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tele-MECH® Systems

Standard Patents - AU2006907329 / AU2007901071

Dual Sliding Gate Mechanism
(for automatic sliding gates)

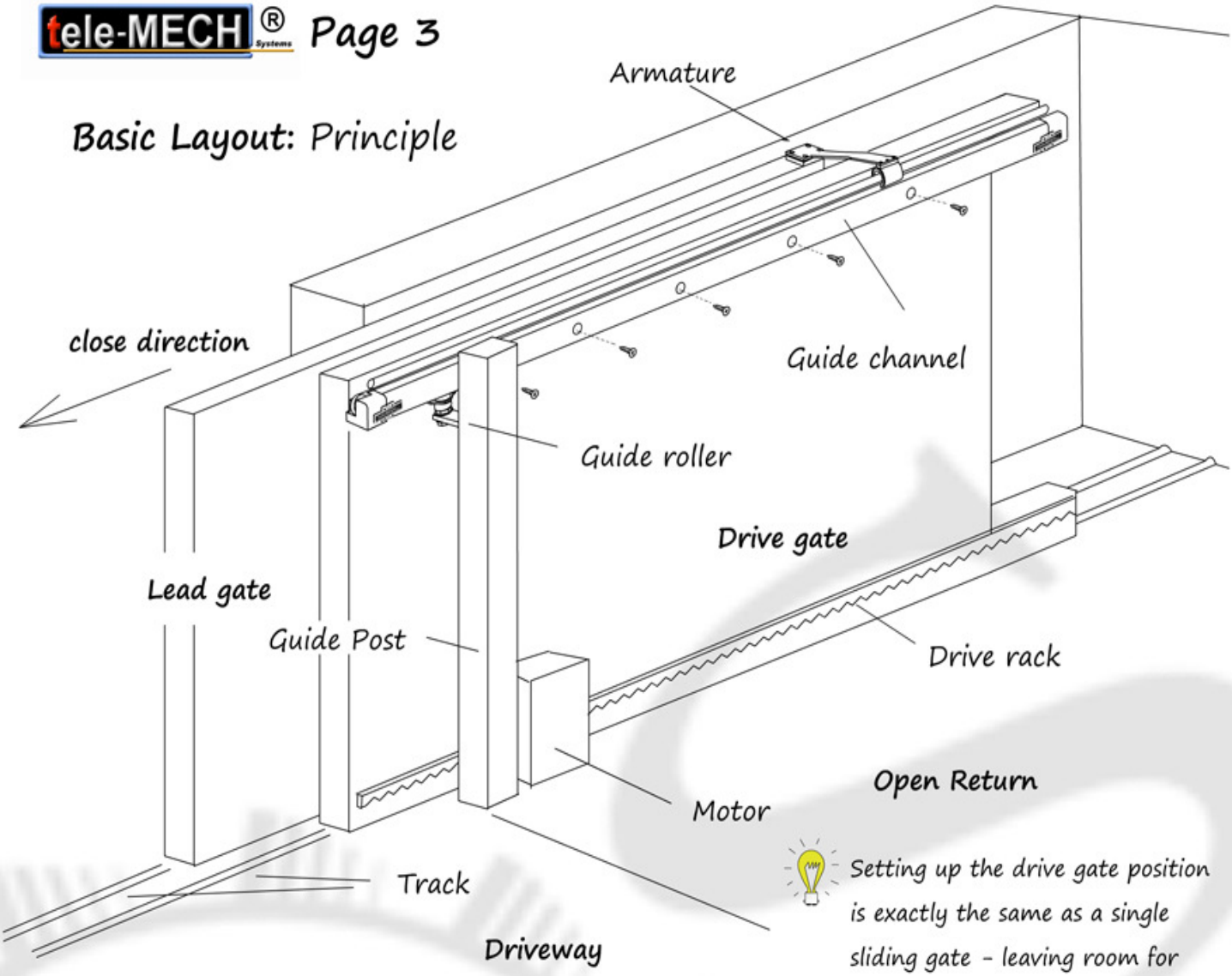
Assembly & Installation Instruction V5.3

standard 4/50-A alloy guide channel & armature kit for the automation of telescopic sliding gates

Table Of Contents:

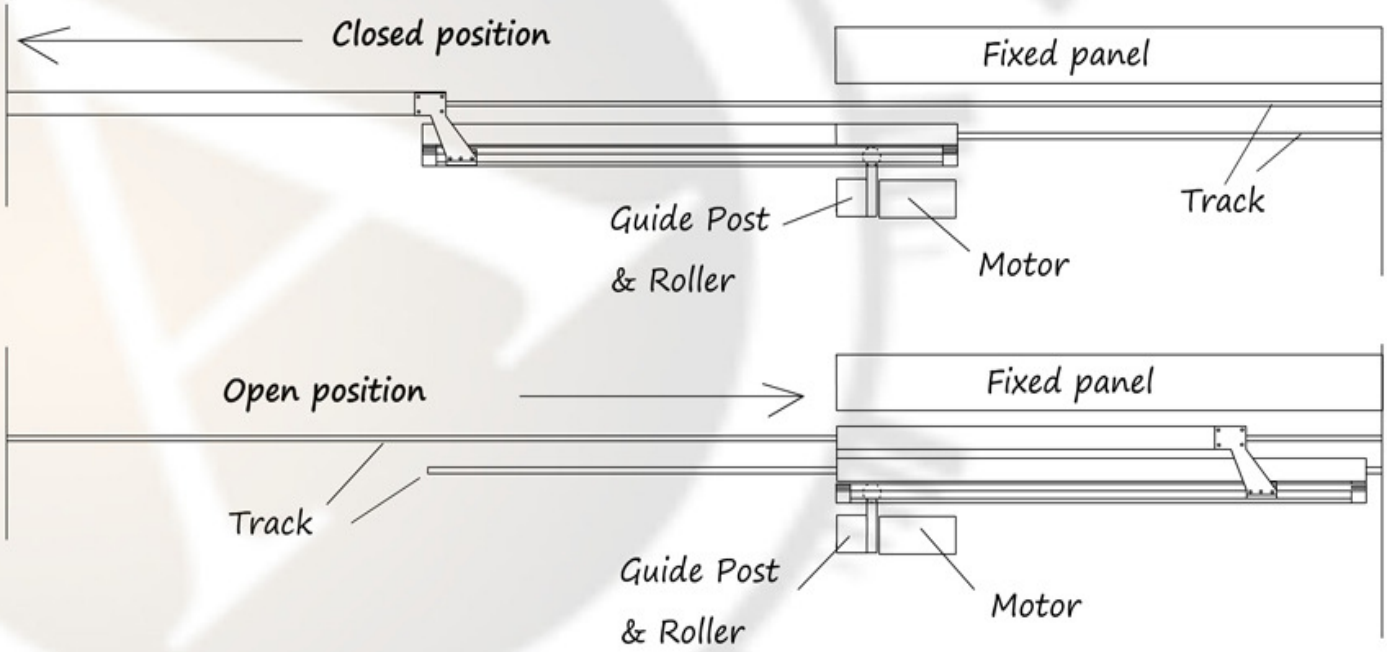
Recommended for domestic use with individual gate panels between 40kg to 200kg with rack & pinion motor capable of soft start ramp and slow down to stop. Gates travel twice as fast as standard single sliding gates, photoelectric safety beams or other obstacle detection devises should be a standard consideration when choosing this type of gate for your project.

Basic Layout: Principle



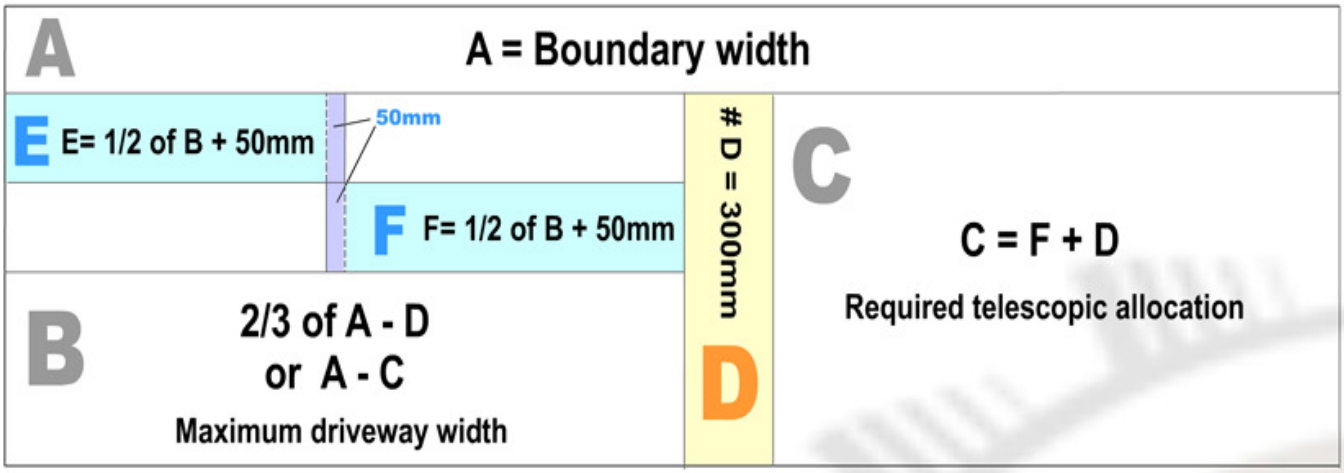
Setting up the drive gate position is exactly the same as a single sliding gate - leaving room for the motor, drive rack and the guide post for your preferred automation equipment

Plan:



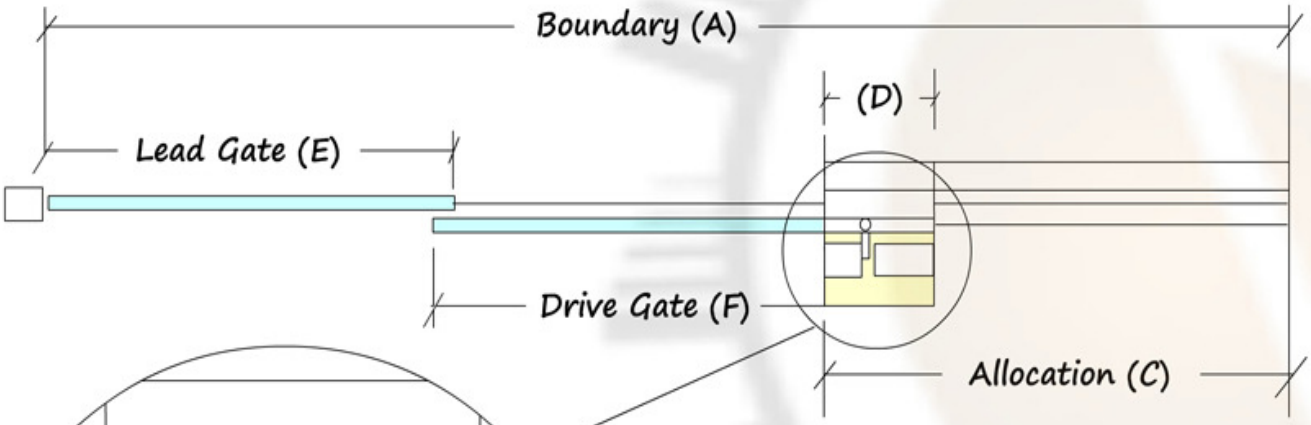
Area Division Table

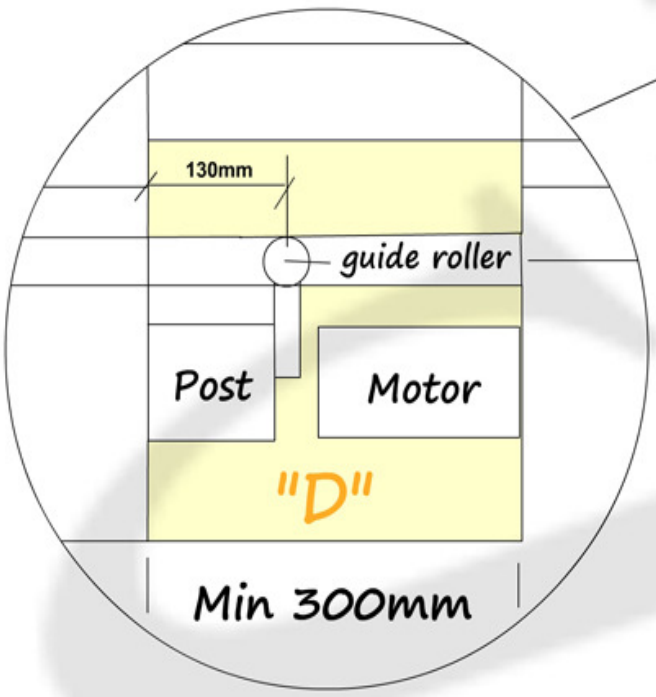
With 50mm gate over lap



Simple calculation: divide the driveway opening by 2 and add 350mm and you will get the required stacking allocation space. (C)

300 + 50mm overlap = 350mm





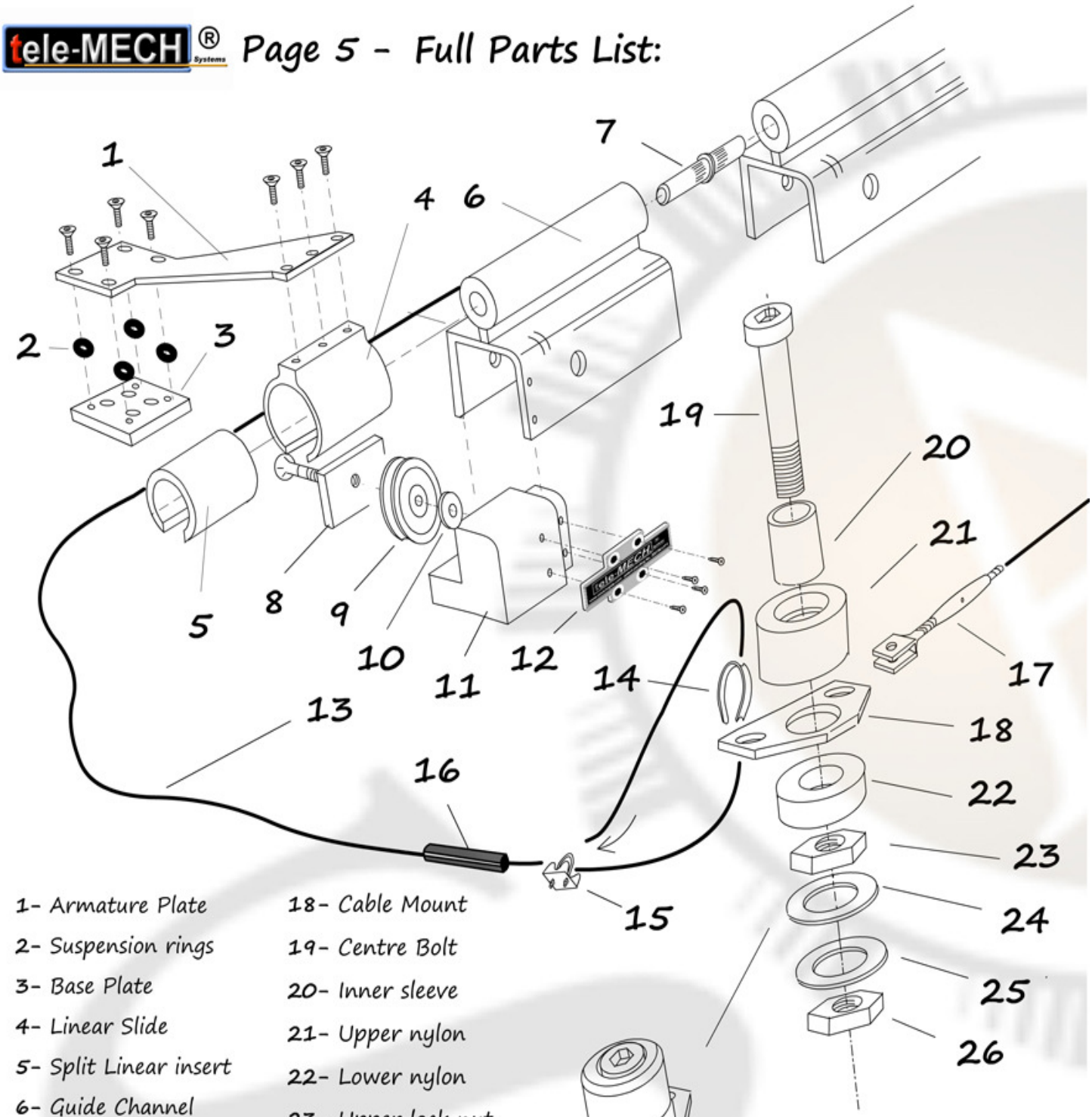
Both the lead gate (E) and the drive gate (F) should be exactly the same length **"across the driveway"** as they both move the same distance on a 1 to 1 basis,

* For example - if the drive gate stops short of the opening by 100mm then the lead gate will stop short by 200mm Total loss of opening - 300mm You must re-divide from the short fall to achieve a parallel opened position - back to 100mm

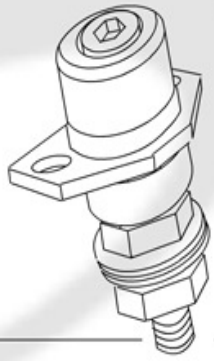
Area "D" can also be dependant on the dimensions of the chosen automation product.

300mm is the recommended tail for the tele-Mech guide channel only.

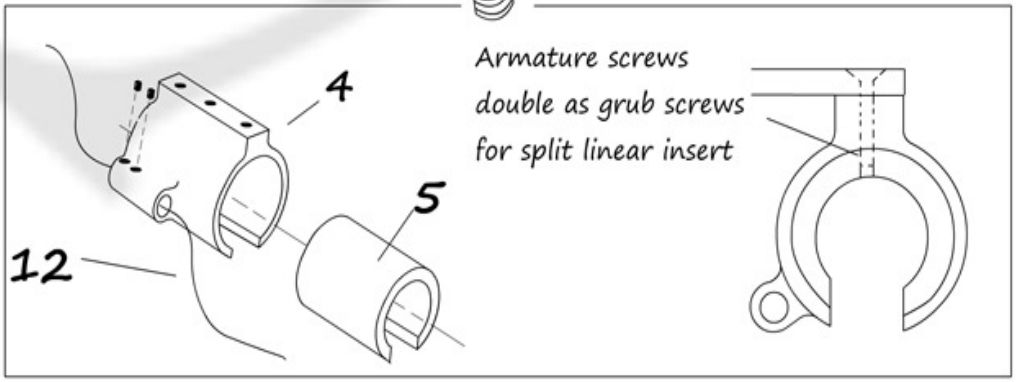
tele-MECH® Page 5 - Full Parts List:



1- Armature Plate
2- Suspension rings
3- Base Plate
4- Linear Slide
5- Split Linear insert
6- Guide Channel
7- Channel pin
8- Axil plate
9- Bearing Pulley
10- Pulley spacer
11- End Pulley Block
12- Drilling Template
13- Drive Cable
14- M3 Thimble
15- Cable clamp
16- Heat Shrink
17- Bottle screw
18- Cable Mount
19- Centre Bolt
20- Inner sleeve
21- Upper nylon
22- Lower nylon
23- Upper lock nut
24- Upper washer
25- Lower washer
26- Lower lock nut



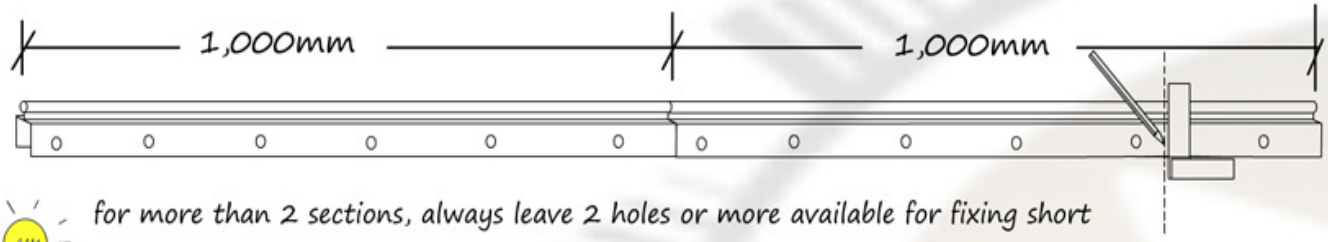
Assembled guide roller
parts 18 - 26



Channel Prep: 1

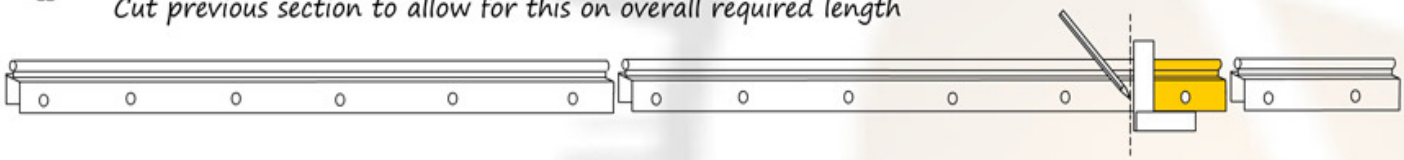
Preparing 4/50-A Guide channel

Place channel sections end to end and note mounting hole positions and length required before cutting - Mark & cut to desired length according to division table, minus the pulley blocks which are 40mm on each end.

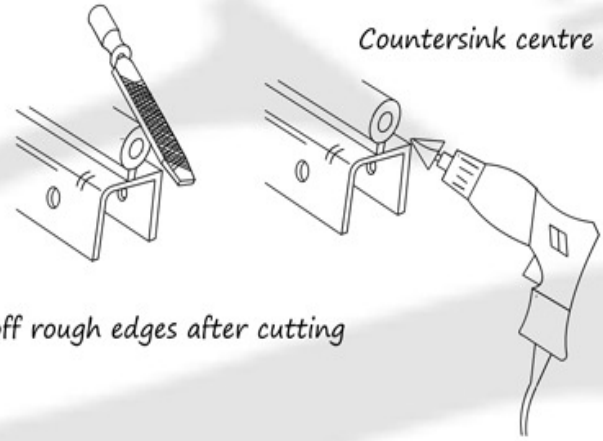


for more than 2 sections, always leave 2 holes or more available for fixing short lengths of guide channel to gate.

Cut previous section to allow for this on overall required length

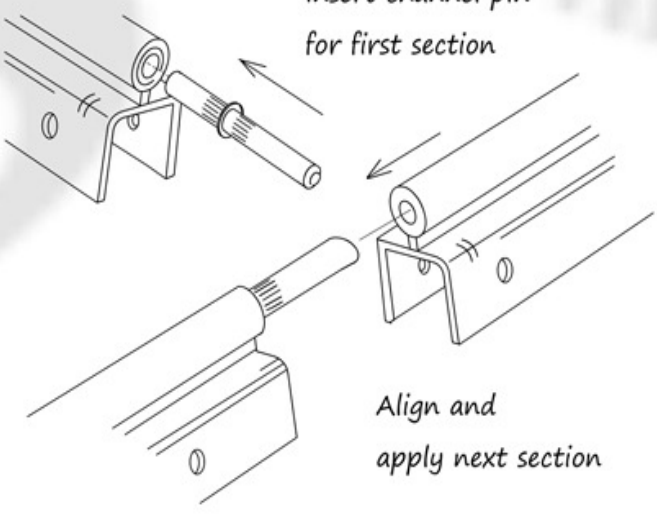


Connecting sections:



File off rough edges after cutting

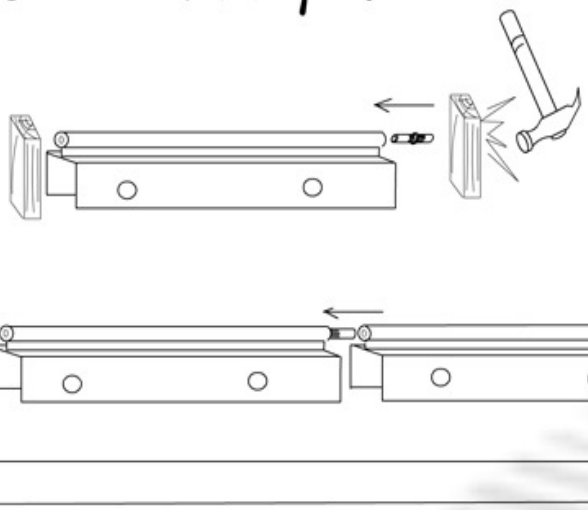
After cutting channel remove all rough edges, clean centre hole and countersink to 13 mm or more before inserting channel pin



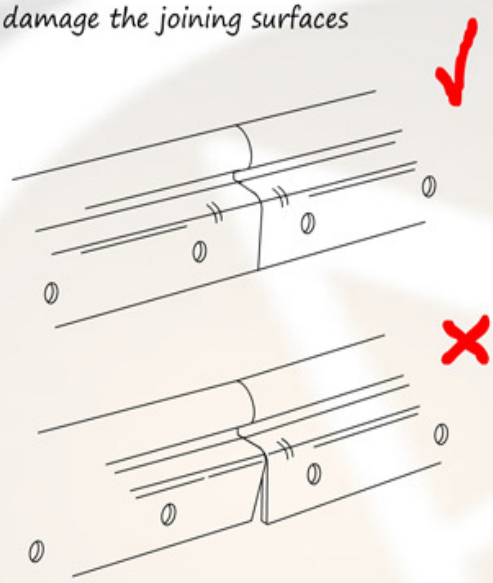
If powder coating these sections, do not connect until after the powder coating process.

* Only for mill finished items and not advised with anodised version

Channel Prep: 2



Place on flat surface so the channel walls are in perfect alignment and use a soft hammer or section of wood as not to damage the joining surfaces

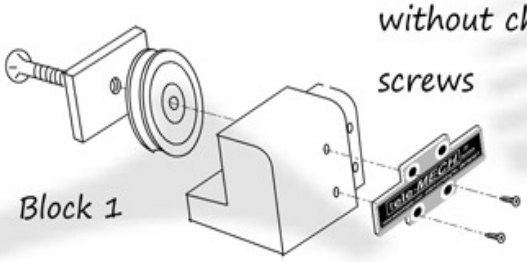


The channel pins have been designed as a permanent join and to prevent twisting, once inserted, they are difficult to remove or adjust if incorrectly aligned

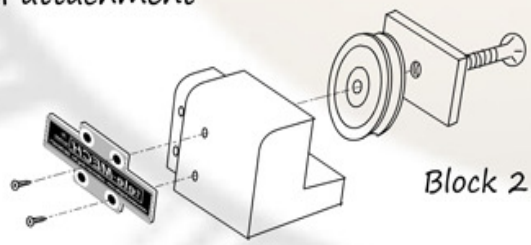
- Pay special attention to this step!

Installing Pulley Blocks:

Assemble pulley blocks without channel attachment screws

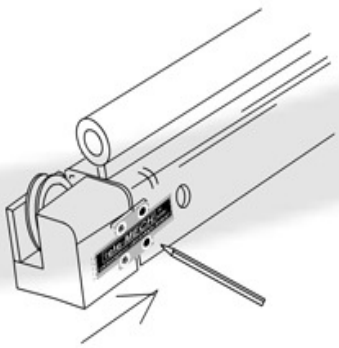


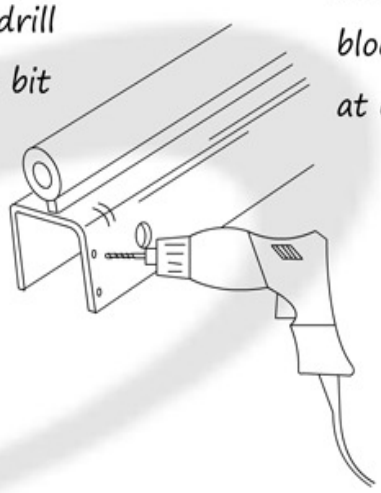
Block 1



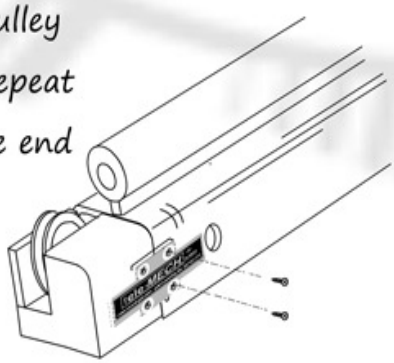
Block 2

Mark and drill with 5mm bit





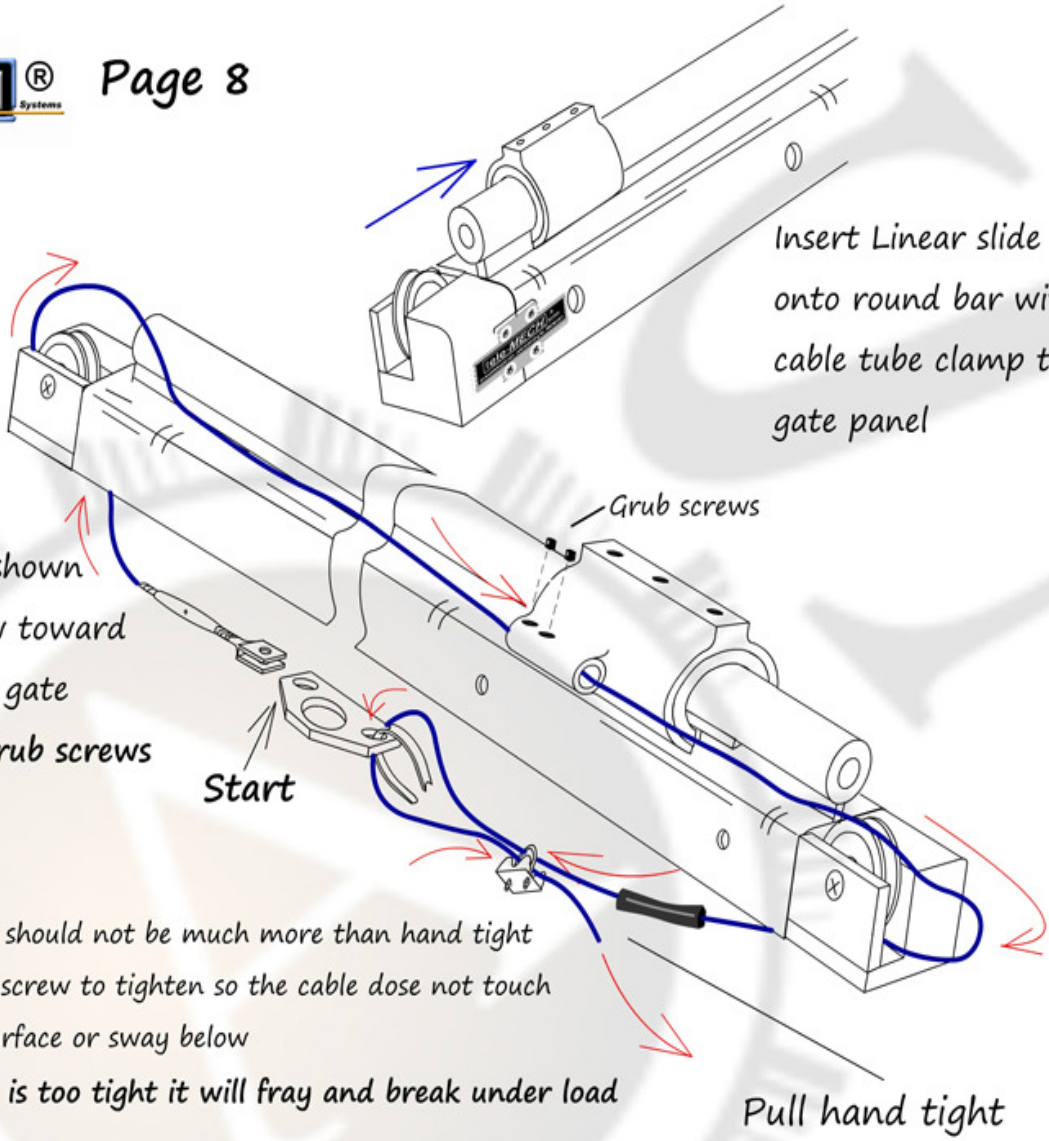
Attach pulley block - repeat at oposite end



Block 1

Block 2

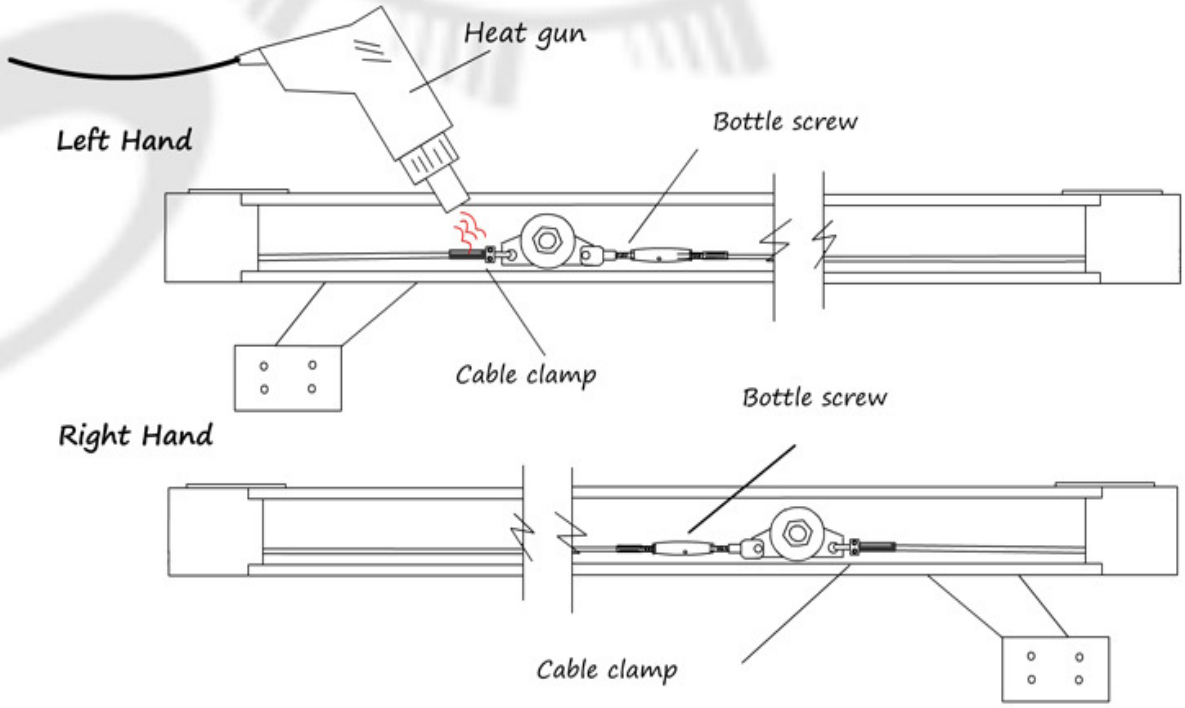
Rigging:



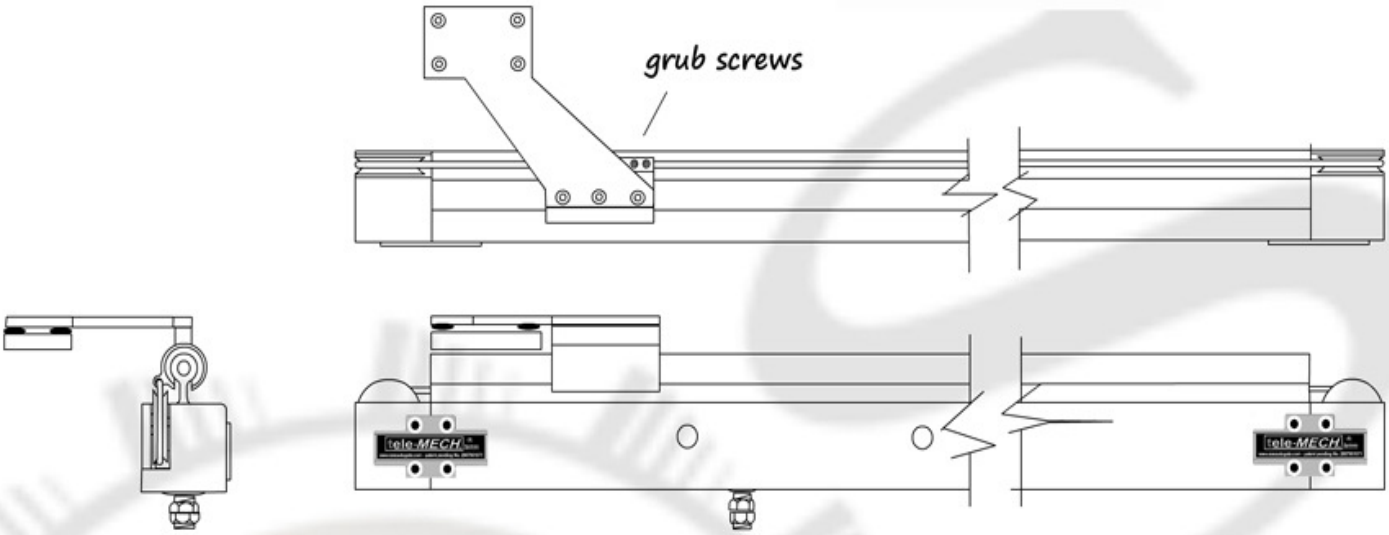
Cable tension should not be much more than hand tight use the bottle screw to tighten so the cable dose not touch the channel surface or sway below

*** If the cable is too tight it will fray and break under load**

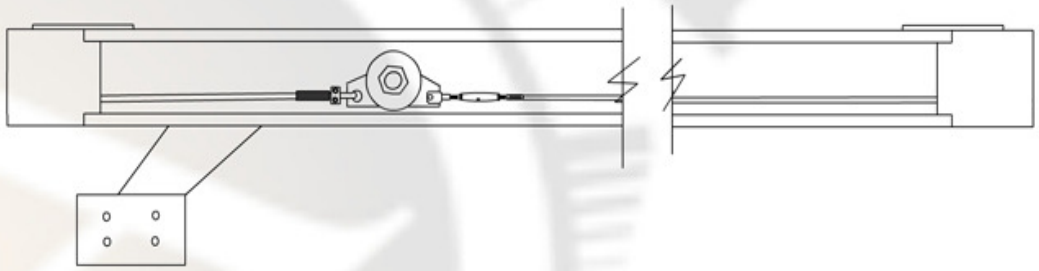
Cut off excess cable approx. 30 to 40mm from cable clamp, move heatshrink over free end and activate with heat gun

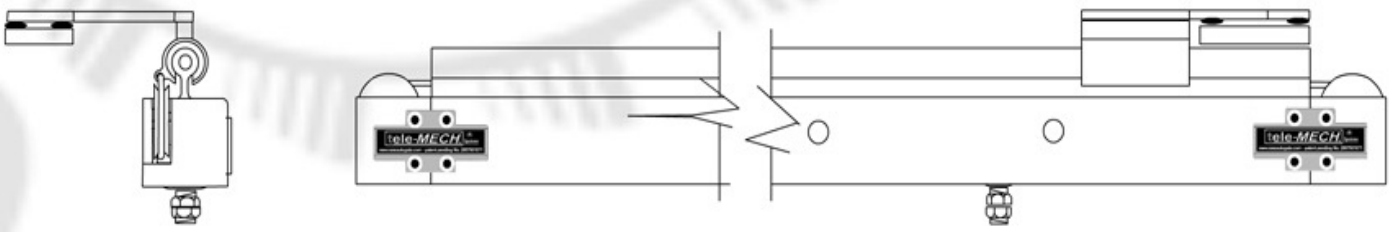


Assembled:

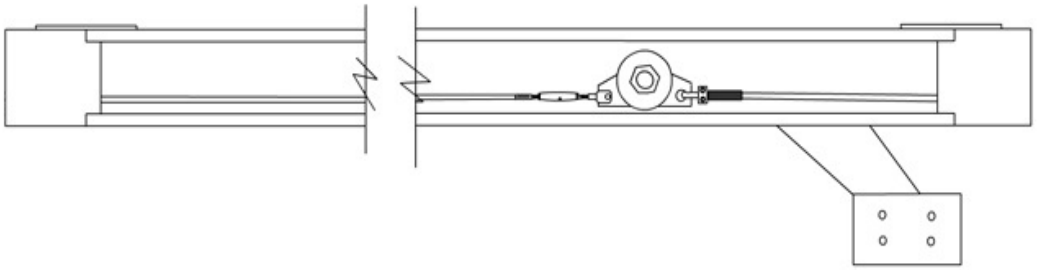


Left Hand



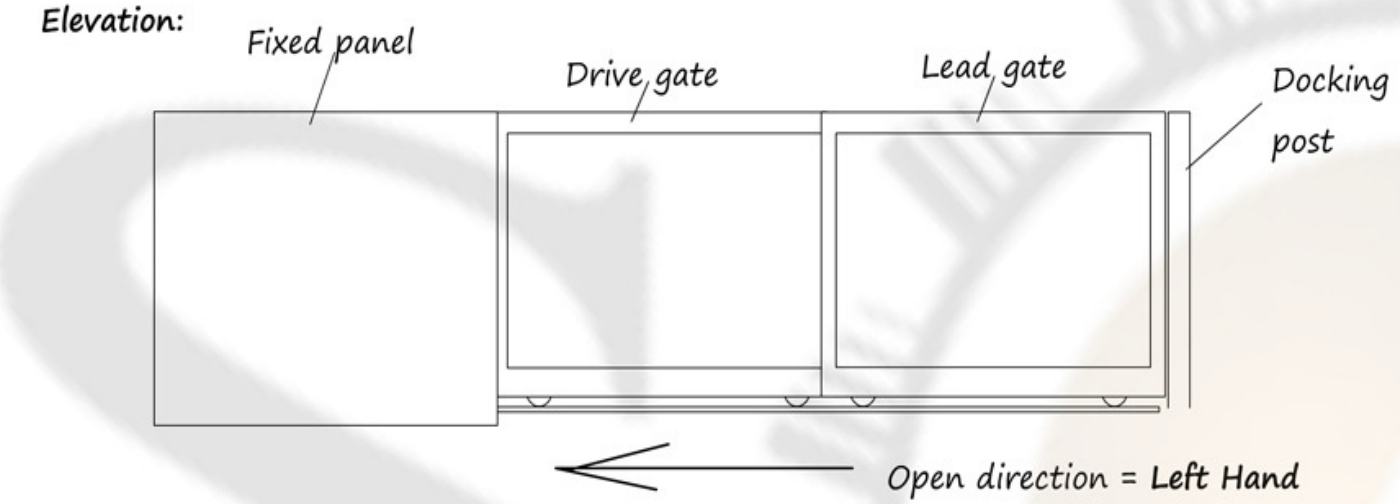


Right Hand

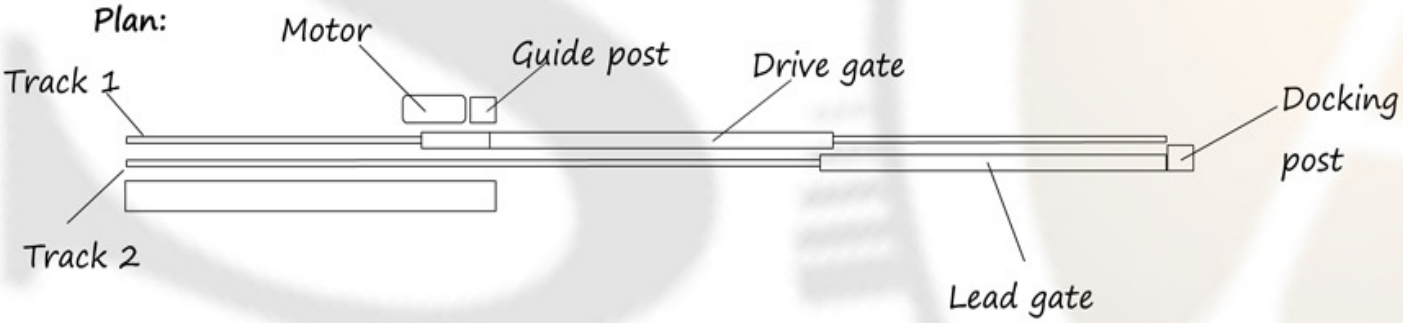


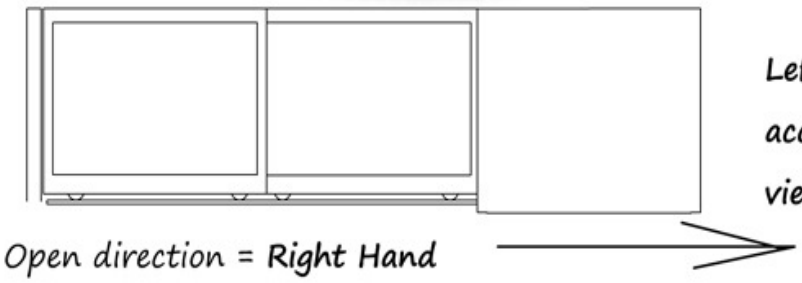
Site preparation:(standard layout)

Elevation:



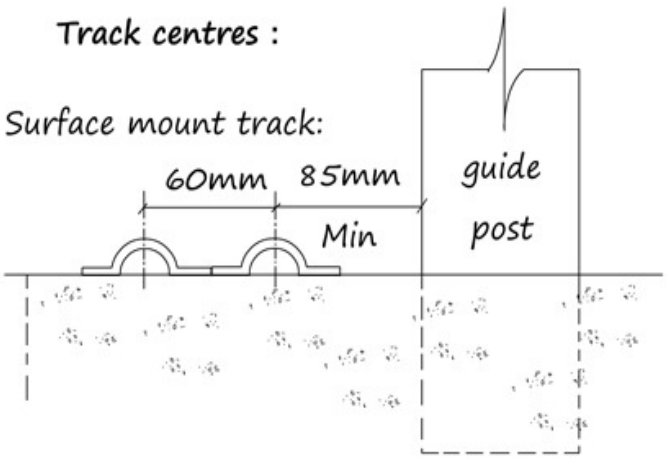
Plan:

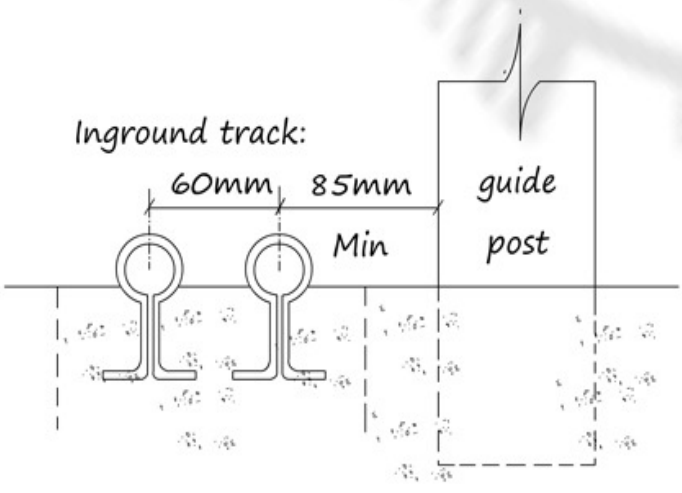




Left or right hand armature kits according to direction of movement ... viewed from front of property

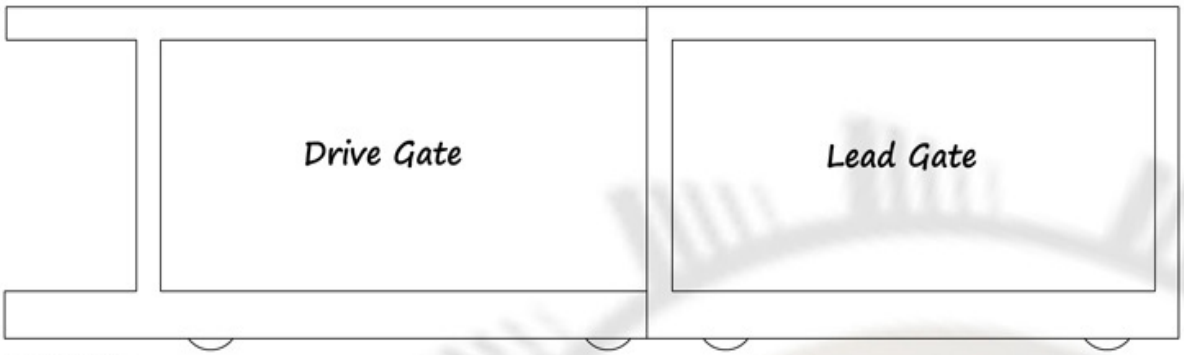
Track centres :





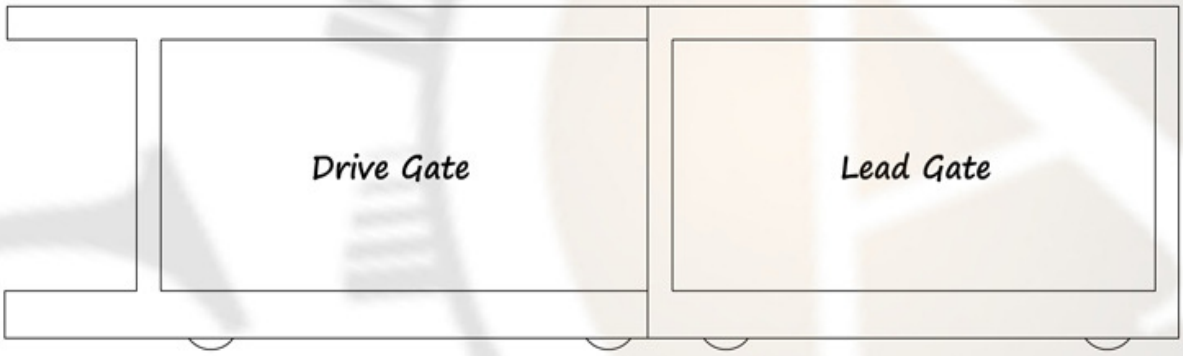
Frame Recommendations :

Steel frames:



75x50mm top rail, 50x50mm vertical styles 100x50mm bottom rail

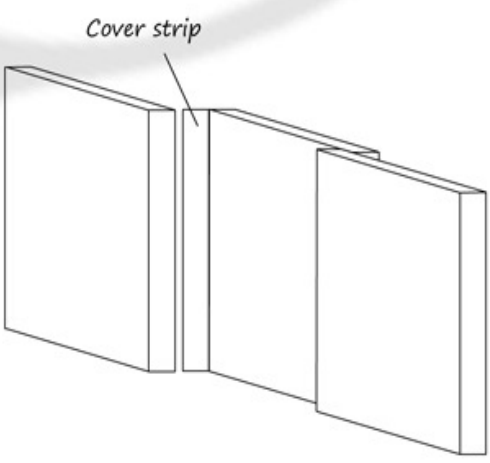
Aluminium frames: min. 3mm recommended to increase weight.

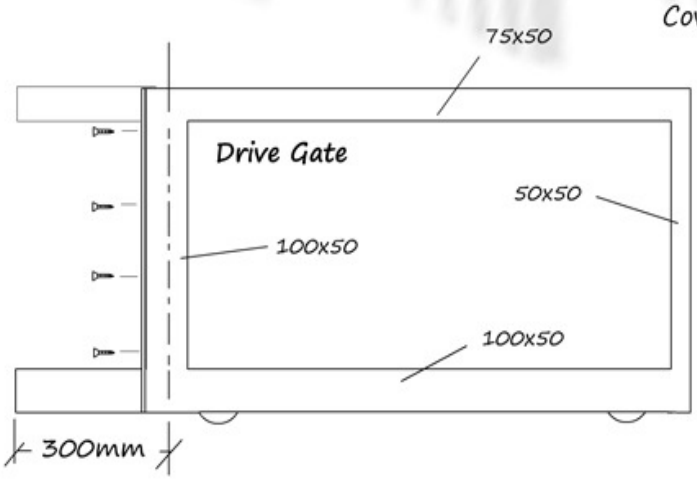


80x50mm top rail, 50x50mm vertical styles 100x50mm bottom rail

Closing cover strip:

A cover strip between the fixed panel and the drive gate may be added to the frames to fill the space left by the lead gate when closed. Make the back style of the drive gate 50mm longer then fix the appropriate sized plate to cover.

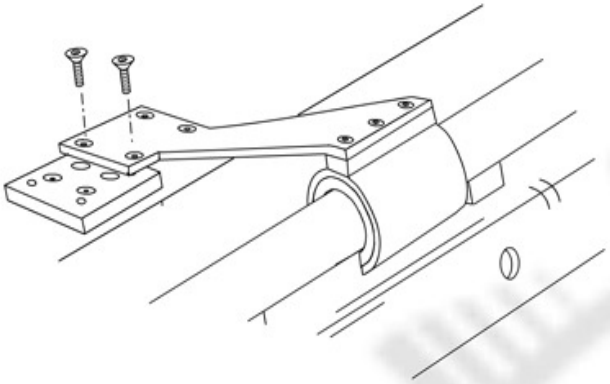


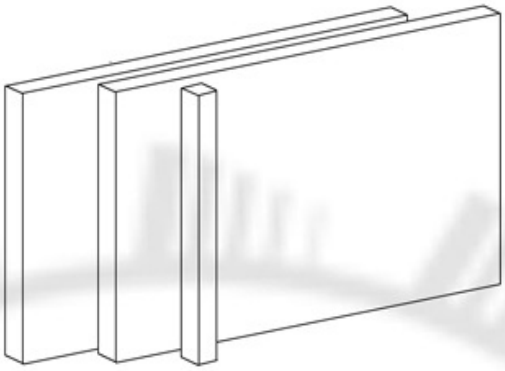


Cover strip shape

Installation: Guide channel

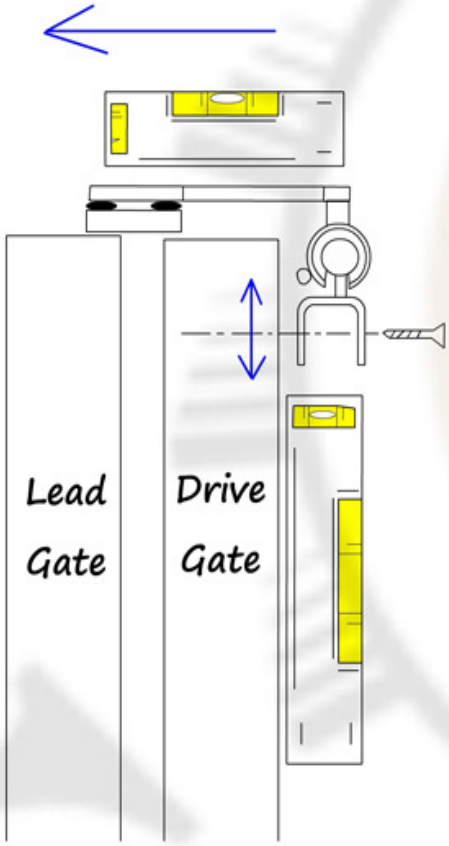
Attach Armature
and base plate to one side



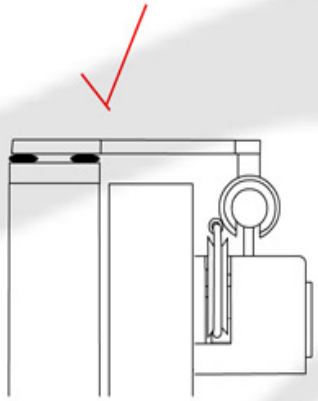


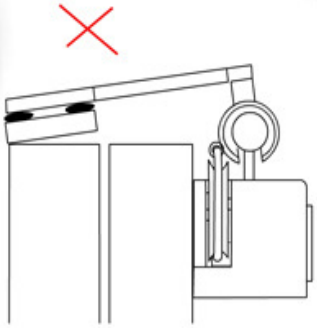
Place gates on tracks
in plumb position

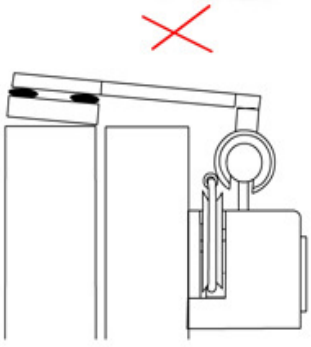
Attach guide channel to drive gate using the armature plate to set the level along entire length..
Slide armature back & forth keeping both gates level to check smooth movement



Attach one end of the guide channel using the armature plate as a guide, then slide to opposite end and attach the other (linear slide and armature will slide freely on cable if the grub screws are not tightened.)

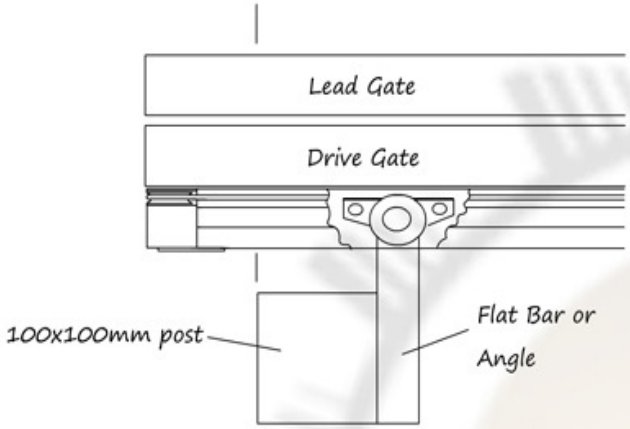


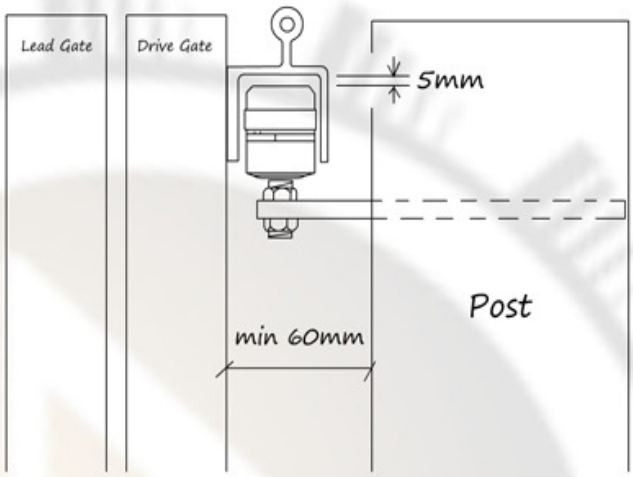




Guide Roller Installation:

Fabricating and installing a bracket for the guide roller is exactly the same as a standard, single sliding gate - dependant on the final position of the guide post being sure to leave enough room for the guide channel and the automation drive rack

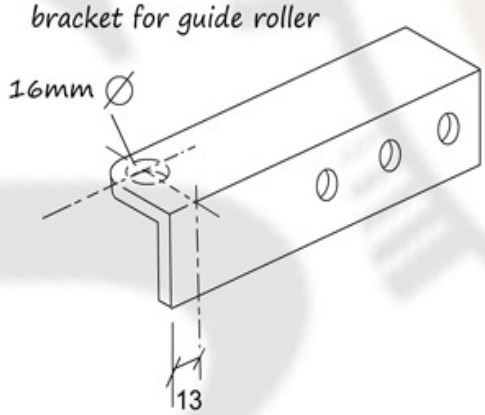


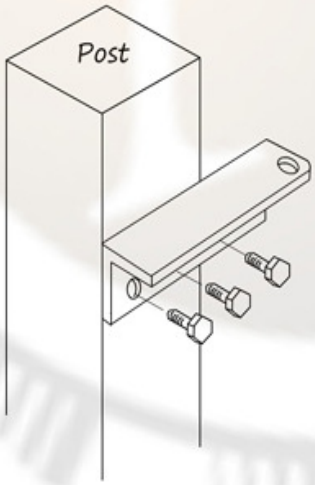


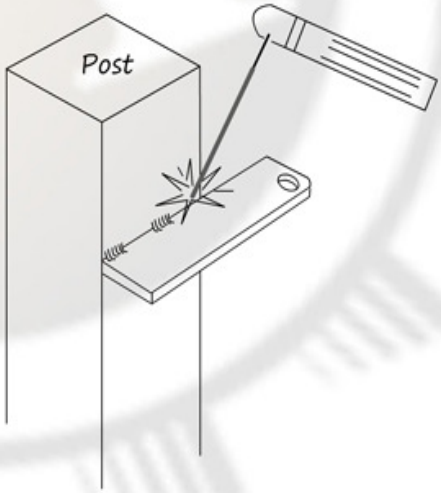
Best method - fabricate out of angle and bolt to post - "tech screws" not recommended

Or welded flat bar

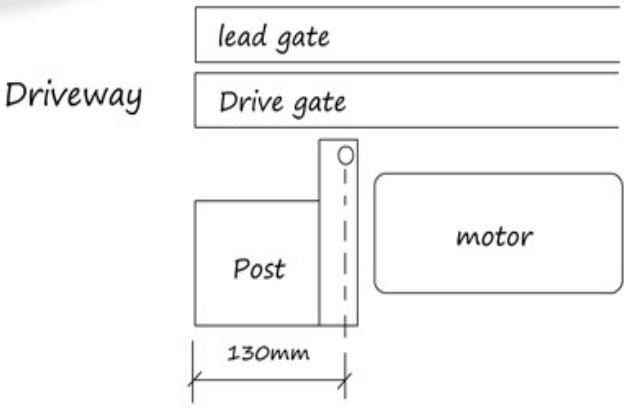
50x50mm EA mounting bracket for guide roller



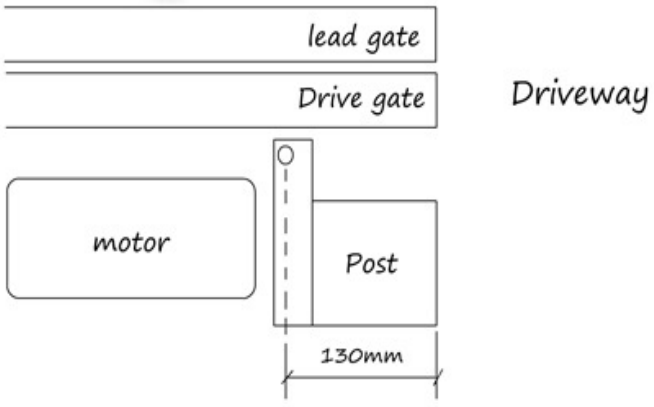




Left Hand

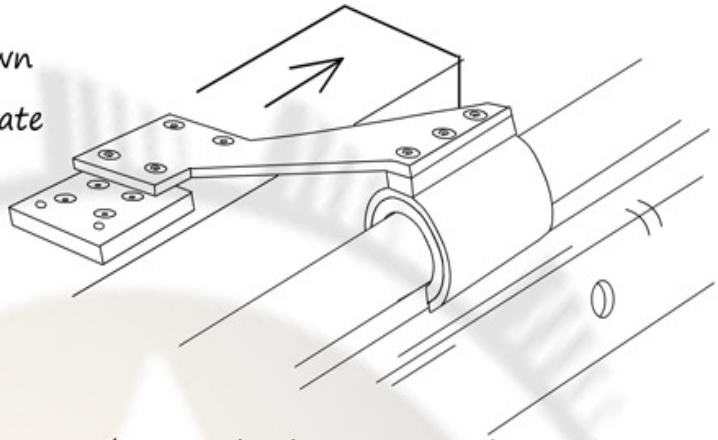


Right Hand



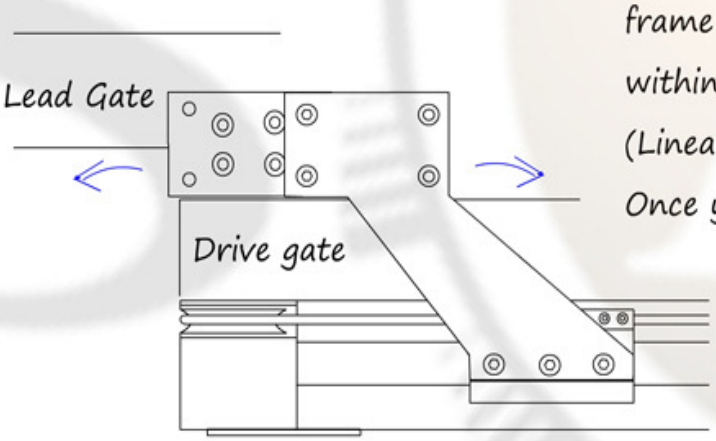
Attaching Lead Gate - Setting armature:

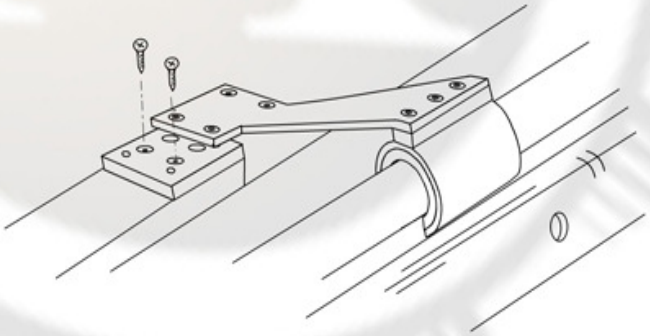
With base plate still in offset position as shown slide armature toward the end of the lead gate



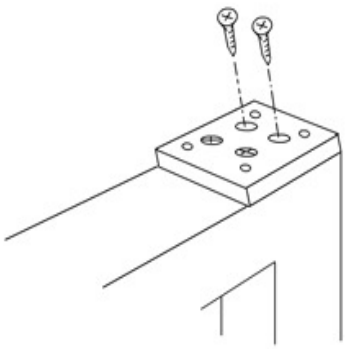
Gate frame and/or base plate may or may not be completely square to the guide channel and linear slide so this method is best to ensure freedom of movement.

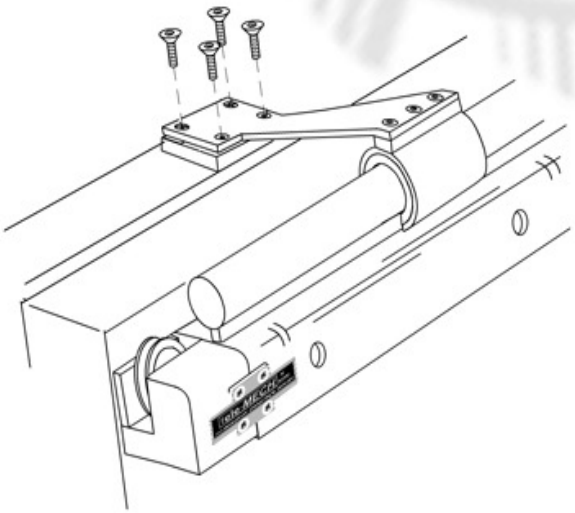
Align the base plate to the very end of the lead gate frame and move the armature plate back & forth within the linear inserts tolerance to find centre. (Linear insert has a tolerance of approx. 0.5mm) Once you feel you have centre position - attach





Remove armature plate and install the other two fastners





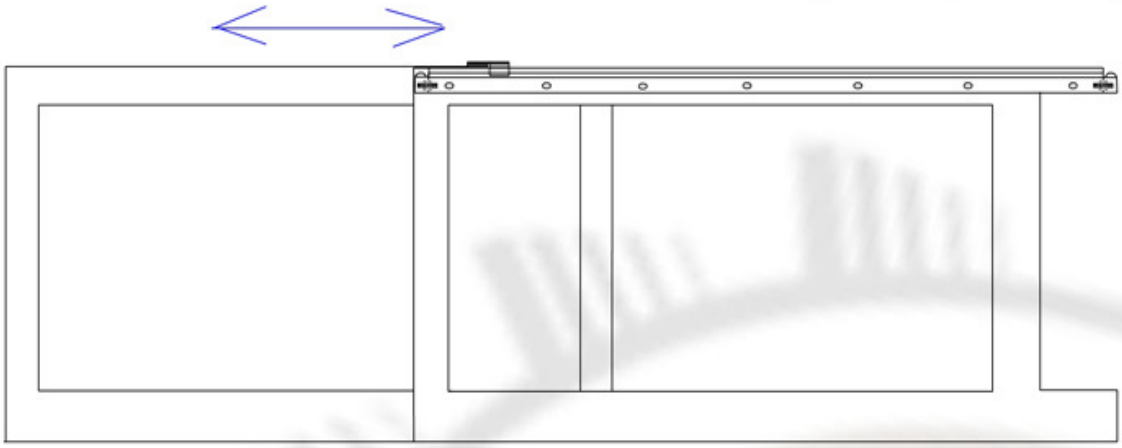
Screw armature plate down on to base plate (**BY HAND**) you may need to adjust this tension to allow for track levels

Less pressure - more tolerance

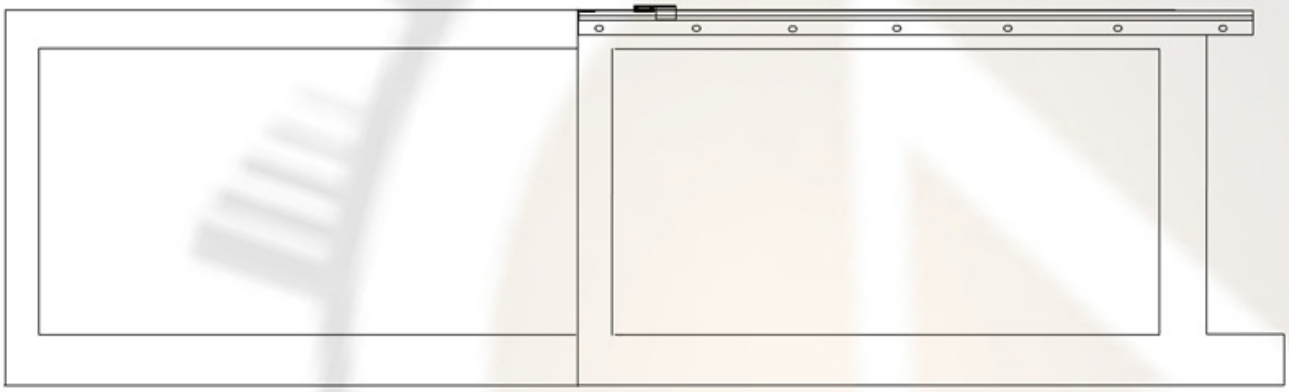
More pressure - less tolerance

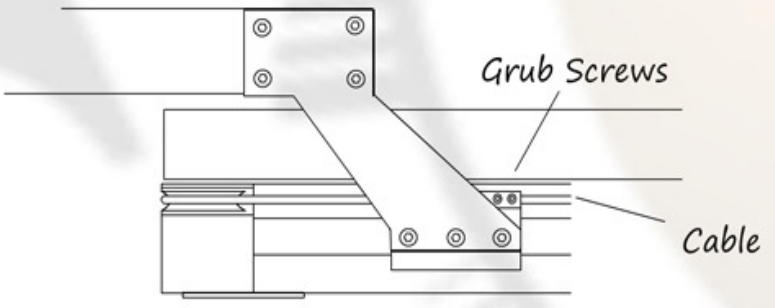
Testing & Cable fixing:

Move lead gate back & forth without fixing to cable, panel should move freely and smooth - if not - adjust the tension on armature plate suspension rings.



Close gates fully and tighten cable grub screws lightly





Test again by pushing from the front of the lead gate and back
Also try pulling the drive gate and back.
Gates should move together, smoothly, without binding

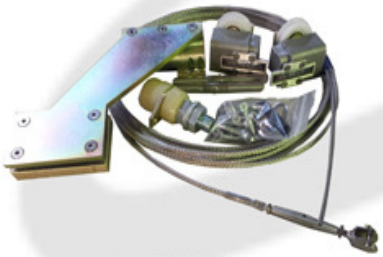
Installation is now complete and ready for automation equipment
Tighten grub screws tightly once automation limits have been set.

Standard Kits:

All Armature kits are left or right hand

dependant - LH = Left Hand- RH = Right Hand

4/50A LH armature kit



4/50A RH armature kit

Guide channel - the same for both directions - standard 1M length in anodized aluminium

* Mill finish lengths available upon request for powder coating purposes

to match gate colour if required

3 standard kits available: 2M - 3M & 4M

2M - 4/50A - for gates up to 3.3M

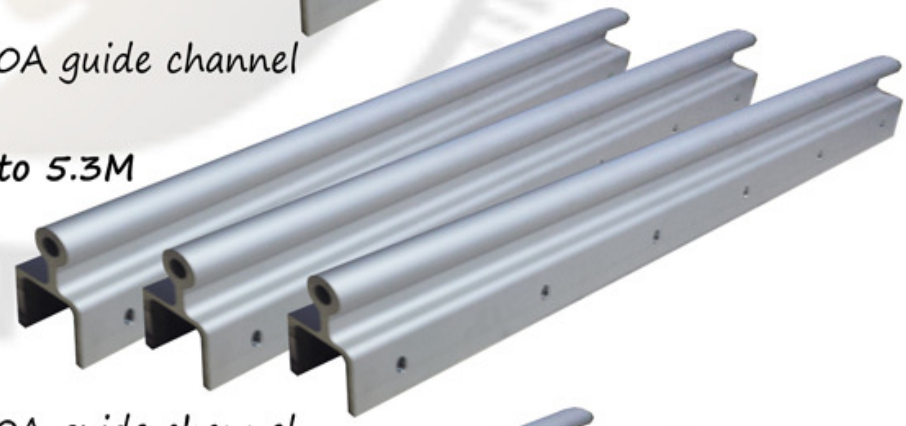
2M - 4/50A armature kit

LH or RH + 2 x 4/50A guide channel

3M - 4/50A - for gates up to 5.3M

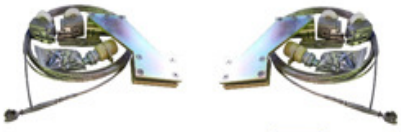
3M - 4/50A armature kit

LH RH + 3 x 4/50A guide channel



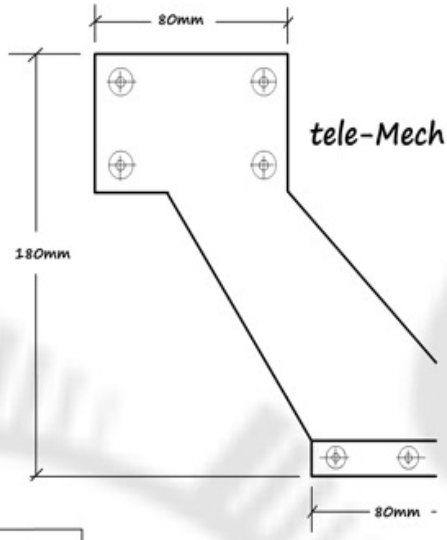
4M - 4/50A - for gates up to 7.3M

4M - 4/50A armature kit



LH RH + 4 x 4/50A guide channel

Armature plate for external timber cladding and 75x75mm SHS gate frames



tele-Mech 4/50 WC

Track Centres with 4/50WC armature:
with 50x75mm fames