



K-Line™ G-Set™ Irrigation

Solid Set Irrigation for pasture

Installation and user manual





G-Set is an irrigation 'system', and to achieve the desired outcome, must be approached and treated as such, and not an accumulation of components.

G-Set is a solid set fixed system that minimises "labour" for the day to day operation of irrigation.

It is suitable for all land areas, and is not restricted by the shape, terrain, size or topography.

Due to this flexibility, there are numerous configurations of valves, pressure regulation and sprinkler selection to accommodate the various design requirements.

These installation instructions apply to all of these options.

RXP has developed two "control" options to operate the system.

The first is a wireless radio mesh system (IPC) of control which allows the operator to communicate with the units remotely from any point from which a single unit is visible. With this system we do not require direct line of sight to all of the units.

The second is an individual, battery operated control (C1013). These units need to be synchronised and programmed prior to installation and any future adjustment must be done individually or on a group basis.

This installation manual is a guide to the best practice of installing G-Set. Failure to follow these instructions can lead to instability and poor performance.

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G-Set unit installation

G-Set install tools

- A** 30mm hole saw – for the tapping saddle installation
- B** ½"/13mm long socket 3/8" drive – for the tapping saddle nuts
- C** 150mm socket bit 3/8" drive extension – for the long socket
- D** 5/16 socket adaptor bit – for type17 tek screws
- E** 3/8" drill adaptor
- F** Drill

Optional

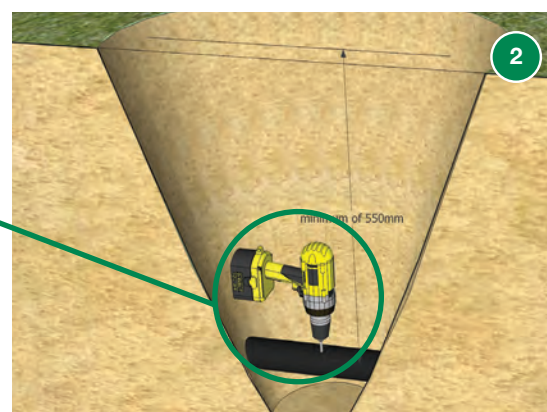
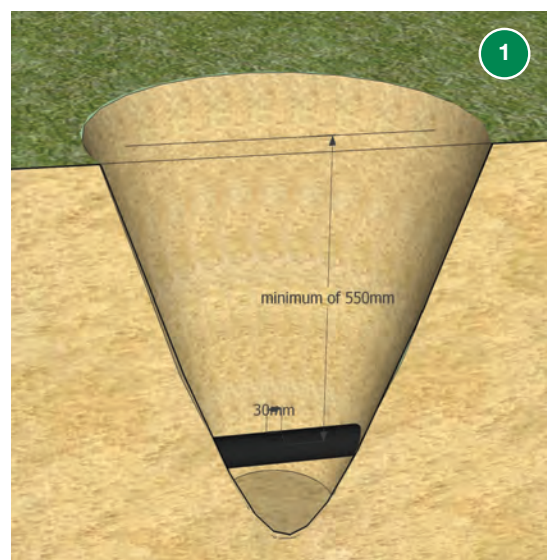
- G** Ratchet wrench – for tapping saddle nuts



Pipe Exposure and Saddle Install

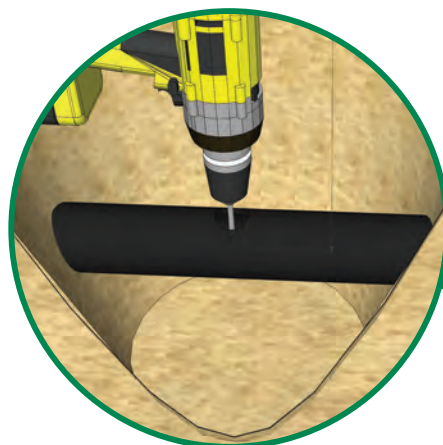
The system comprises of a main-line telescoping through the property, feeding 63mm MDPE ring-mains. This ring-main will have the G-Set pods either directly attached to it, using tapping saddles, at predetermined locations to suit the paddock layout and terrain (30m to 40m spacing) or the tapping saddle attached to 63mm pipe and a 50mm feeder line to the G-Set in the side entry.

The ring-main of 63mm MDPE pipe needs to be installed below ground to a depth of greater than 550mm (or less if side entry) particularly at the points where the G-Set pod is to be located/installed. This pipe can be trenched or mole ploughed. A combination of a GPS and survey and visual assessment will be required to ensure correct placement of the G-Set to achieve the desired coverage (DU).



- 1** At the desired location, dig down and expose sufficient pipe to allow for the fitting of the 63mm tapping saddle.

- 2** Drill a 30mm hole perpendicular to the lay of the land. If side entry G-Set is to be used, it should be placed in the best direction for the 50mm MDPE feed pipe. It is important to ensure this so that there is no undue force on the tapping saddle that can result in it being difficult to achieve a good long-term seal.

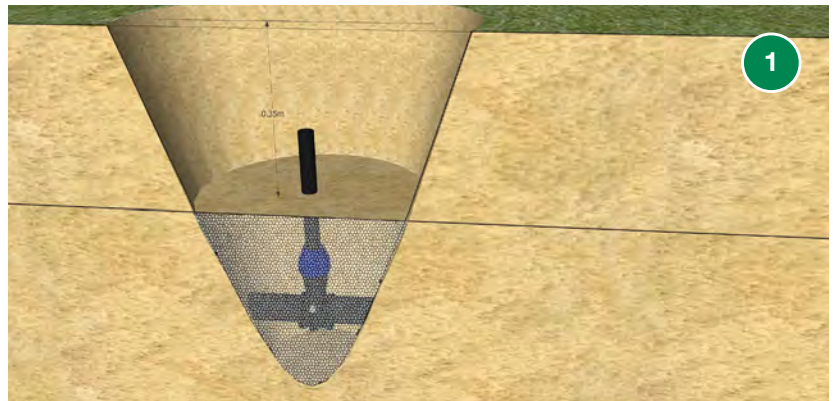


It is desirable to dig the hole required for the G-Set no bigger than necessary to allow the installation and compaction of soil around the pod. The larger the hole, the harder and more time consuming it is to get good compaction and secure placement.

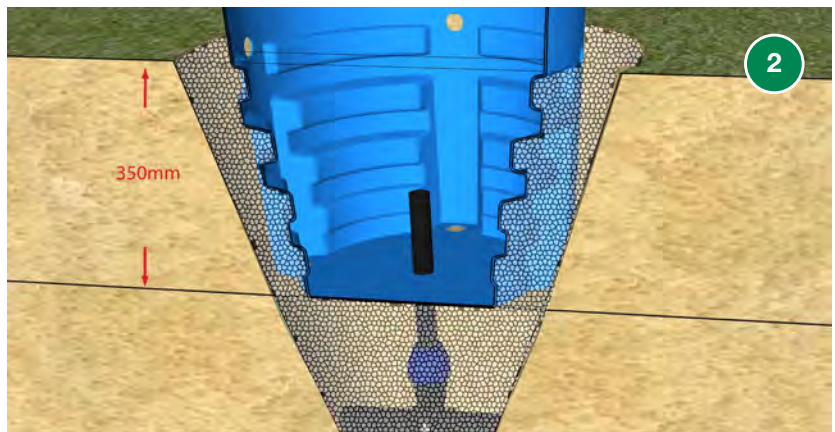
G-Set unit standard installation

Standard Installation

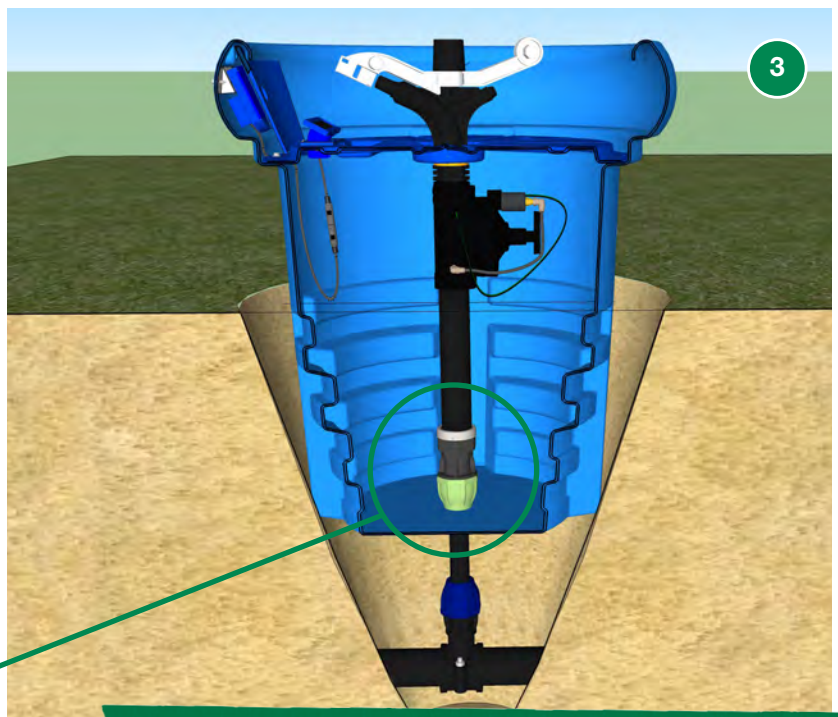
- 1 Fit the tapping saddle, complete with male coupler and 32mm x 600mm riser tube, securely to the pipe. Fill and firmly **compact** the soil in the hole to a height of 350mm from finished ground level.



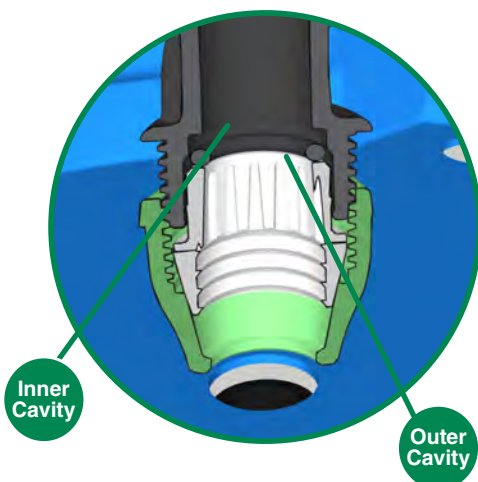
- 2 Lower the G-Set pod over the riser tube, back fill and firmly compact ensuring the rim of the pod is parallel with the lay of the land. This will result in the optimum sprinkler coverage.



- 3 The unit is now ready for the valve/sprinkler assembly to be fitted. This is simply a matter of sliding this pre-assembled unit onto the riser tube, ensuring the bottom fitting's sealing o-ring is in the relaxed cavity, down to the required height (top sprinkler flush with the top of the pod). Hold the green nut and rotate the assembly until the bottom fitting is tight.



Attention needs to be given to ensure the 32mm riser tube is not too long and going to foul the finger filter in the valve. The riser tube will need to be shortened if the 63mm pipe is mole ploughed to the minimum depth.



G-Set unit side entry installation

Side Entry Installation

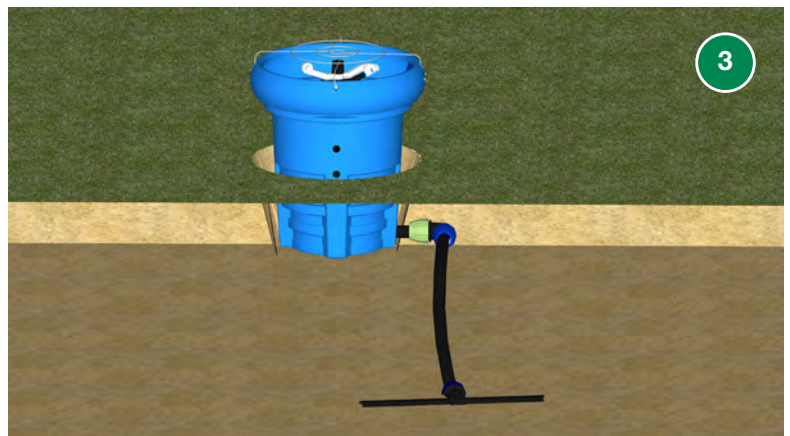
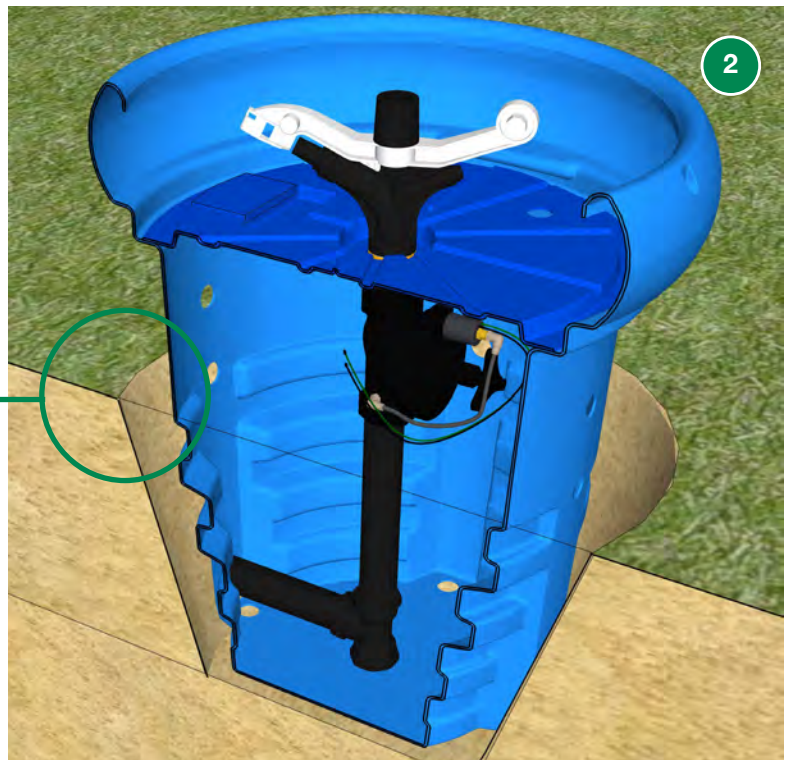
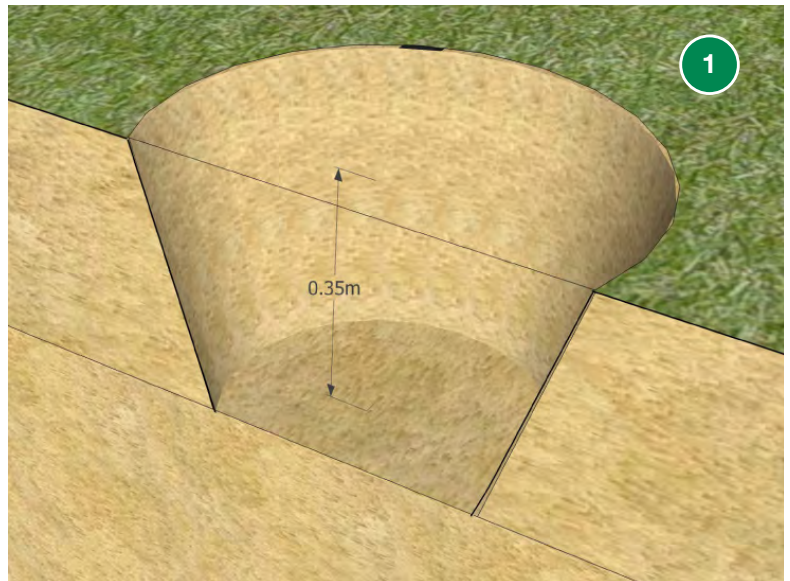
- 1 Having fitted the tapping saddle and connector (50mm) onto the 63mm Ring Main, dig a hole 350mm deep and compact the hole suitable to install the G-Set tightly into the hole.



- 2 Lower the G-Set pod into the hole, firmly compacting the backfill material as you go. Connect the 50mm feed pipe from the Ring Main then continue to compact and backfill to the soil surface. The bottom, side G-Set holes, should be at ground level.

Ground level

- 3 The assembly should now be ready to install the control system.



Completing the G-Set install

(Please Note: Control Systems need to be installed before this.)

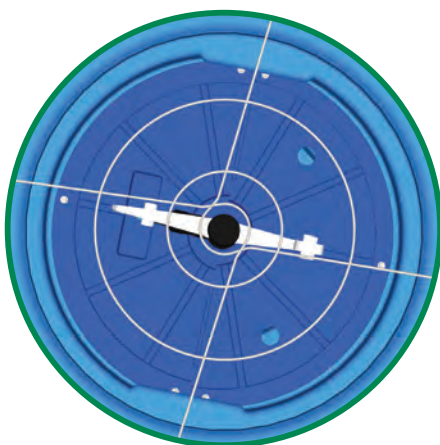
- 1 Locate the first half of the cover/support into the pod and screw into place with the dish/indent facing north or best orientation to capture maximum sunshine hours.



- 2 Locate the second half of the cover/sprinkler support and screw into place ensuring the base of the sprinkler is firmly held around the orange slip ring on the sprinkler. Three tek screws are supplied to attach each cover half.



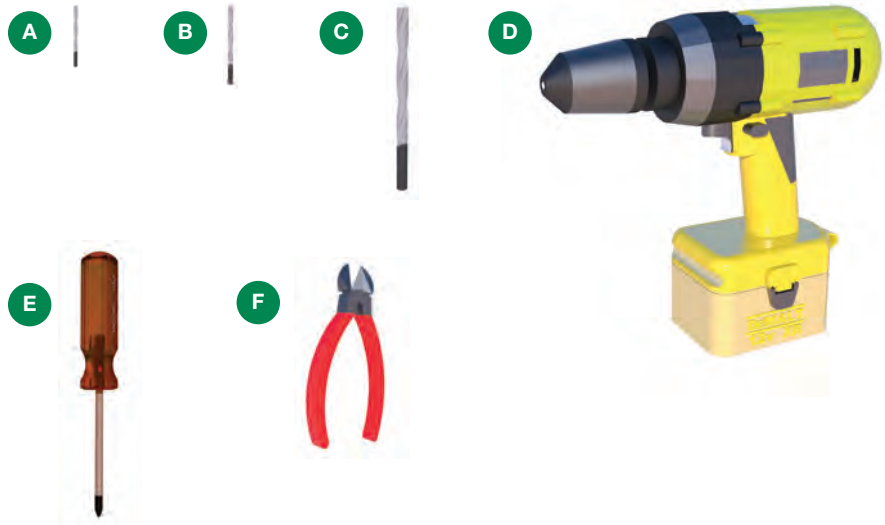
- 3 Install the stock guard and the unit is ready for commissioning



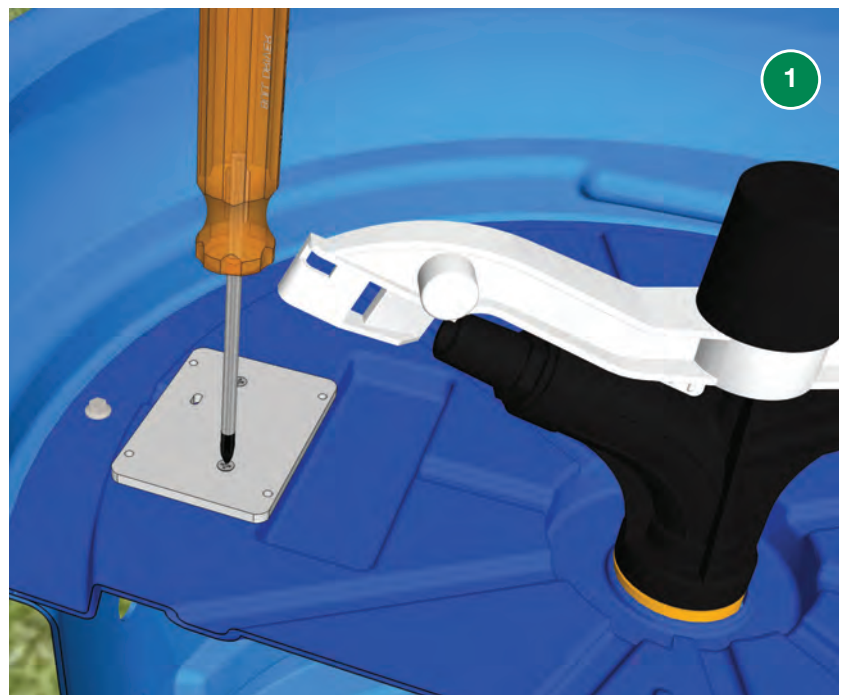
NOTE: Use a drill with a clutch to avoid the stripping of the PE on the tek screw hole.

Wireless controller (IPC) install tools

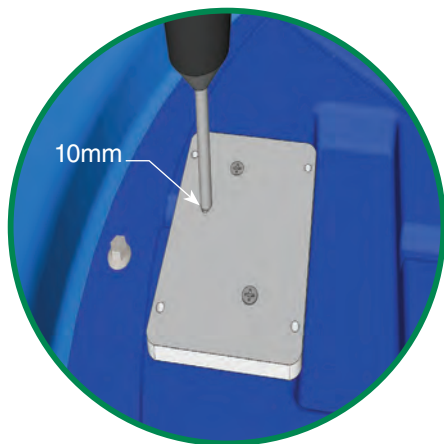
- A** 3mm drill bit – for the IPC plate mounting holes
- B** 4mm drill bit – for the zip clip mount holes
- C** 10mm drill bit – to drill the aerial tube holes
- D** Drill
- E** Phillips head screwdriver – to screw the IPC down
- F** Side cutters – to cut the zip clip ends



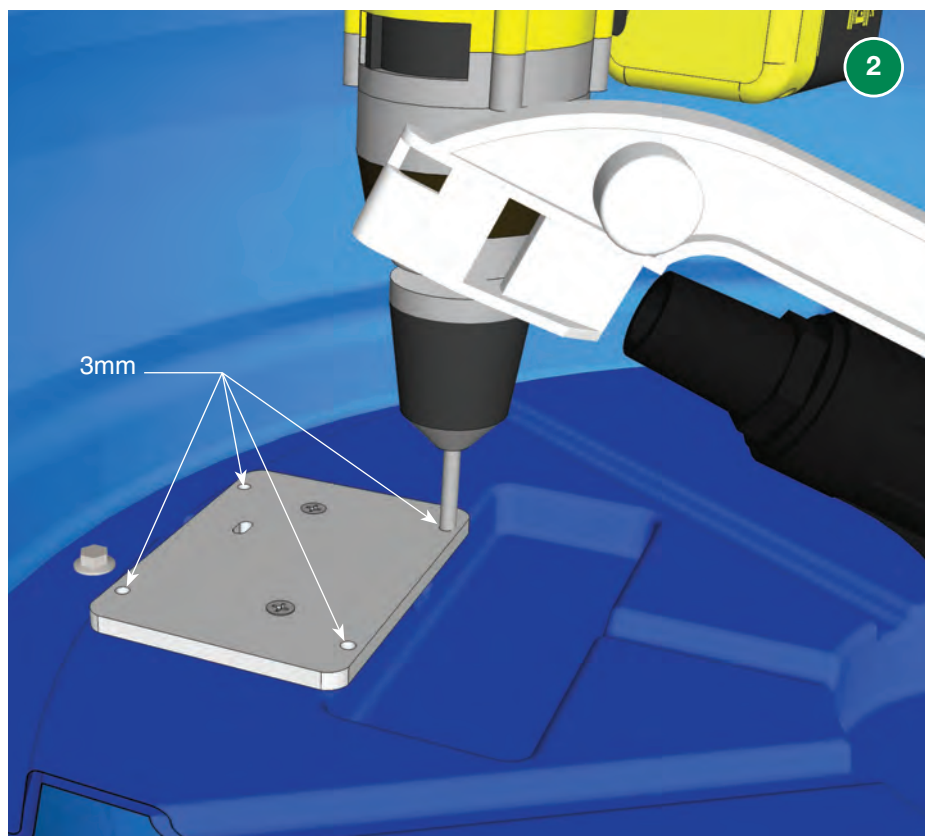
- 1** Place the IPC mounting block behind the tray on the support lids. Fix this in place with the two supplied self tapping screws in the recessed holes.



- 2 Drill 3mm holes into all of the holes through the bracket into the polyethylene lid.

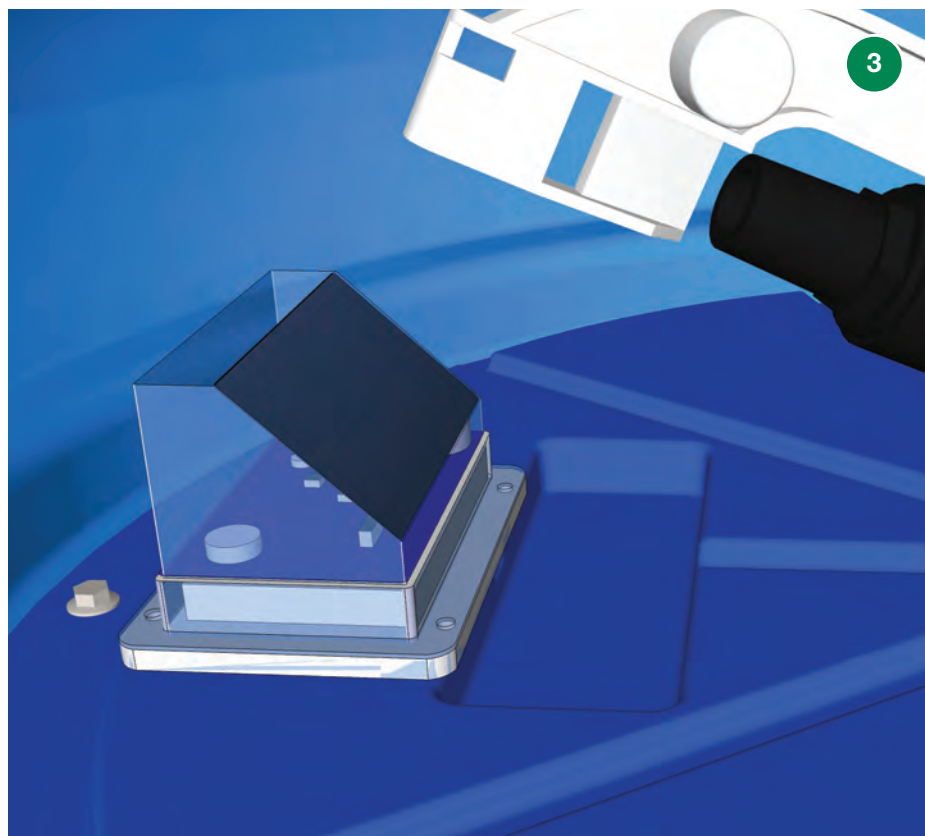


Use a 10mm drill to fully drill the oblong hole.

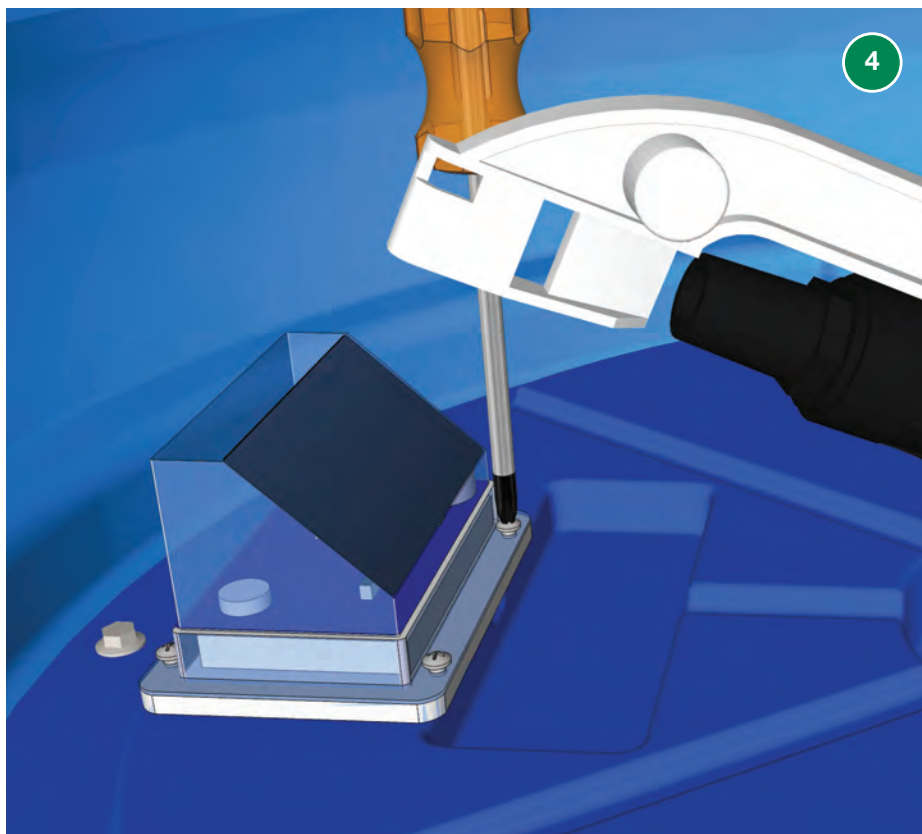


- 3 Sit the IPC on the mounting bracket with the wires and aerial fed down into the valve area of the G-Set.

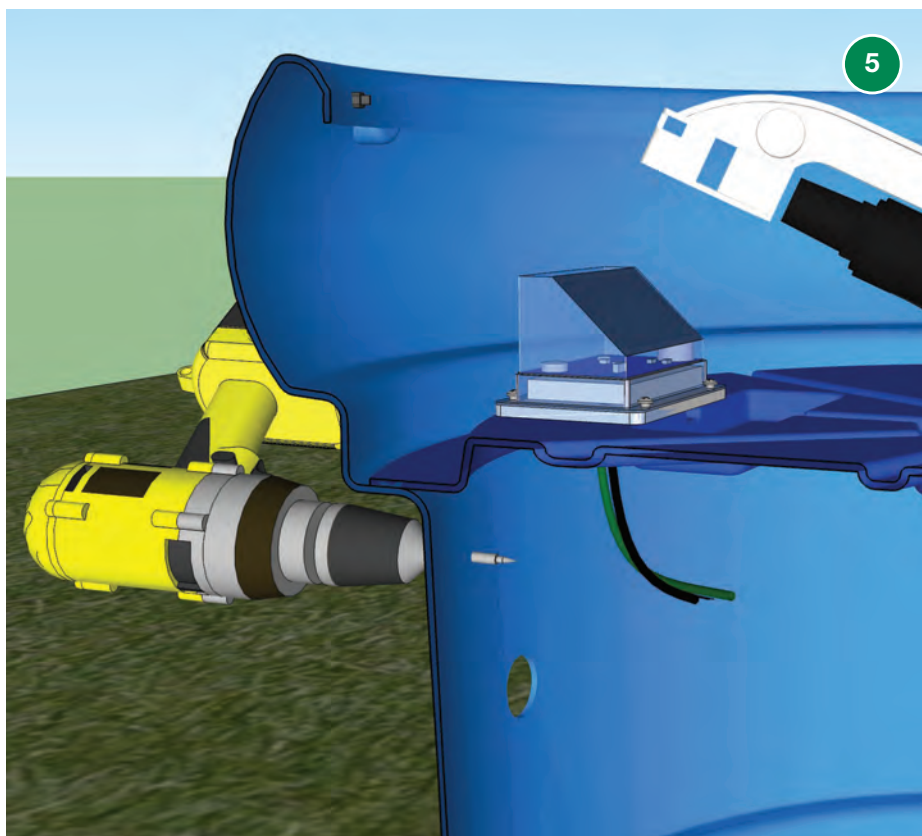
Screw in the IPC mounting screws attaching the IPC to the lid and bracket.



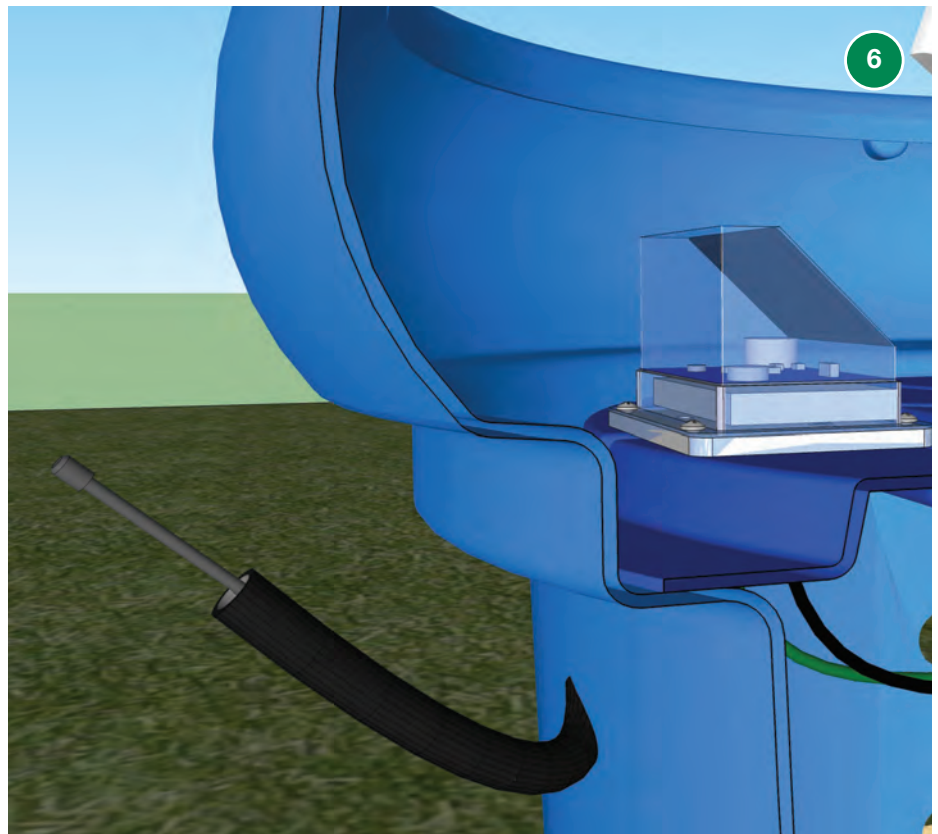
- 4 Screw in the IPC mounting screws attaching the IPC to the lid and bracket.



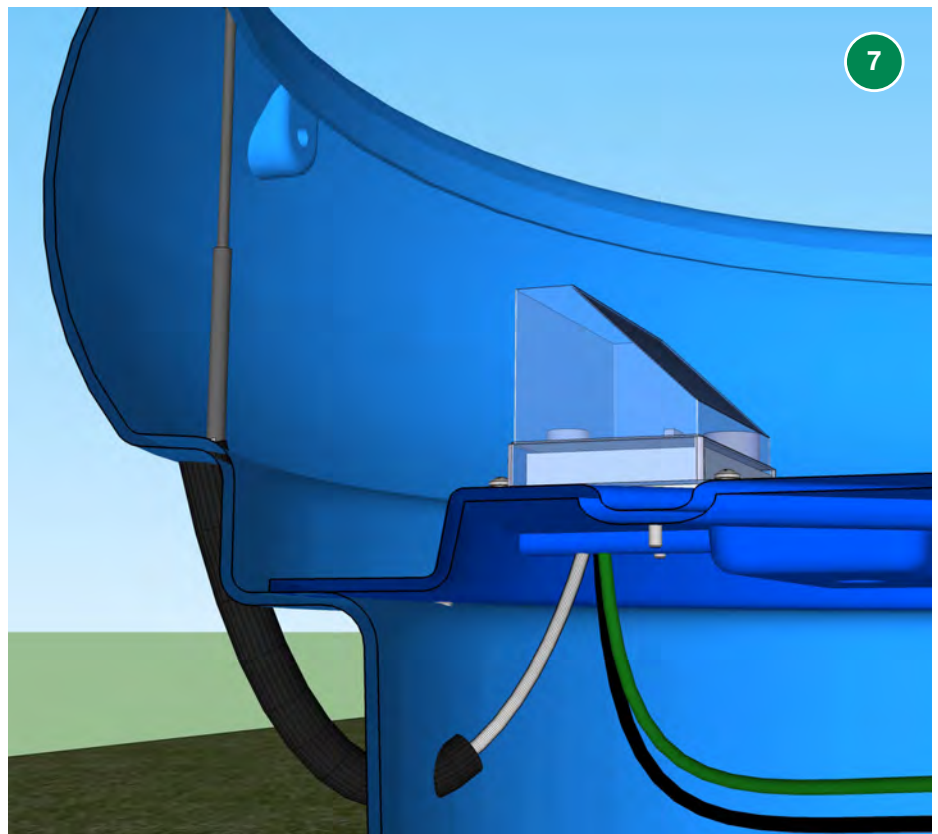
- 5 Drill 2 x 10mm holes into the G-Set, immediately behind the IPC for placement of the 10mm aerial tubing through which the aerial will be threaded.



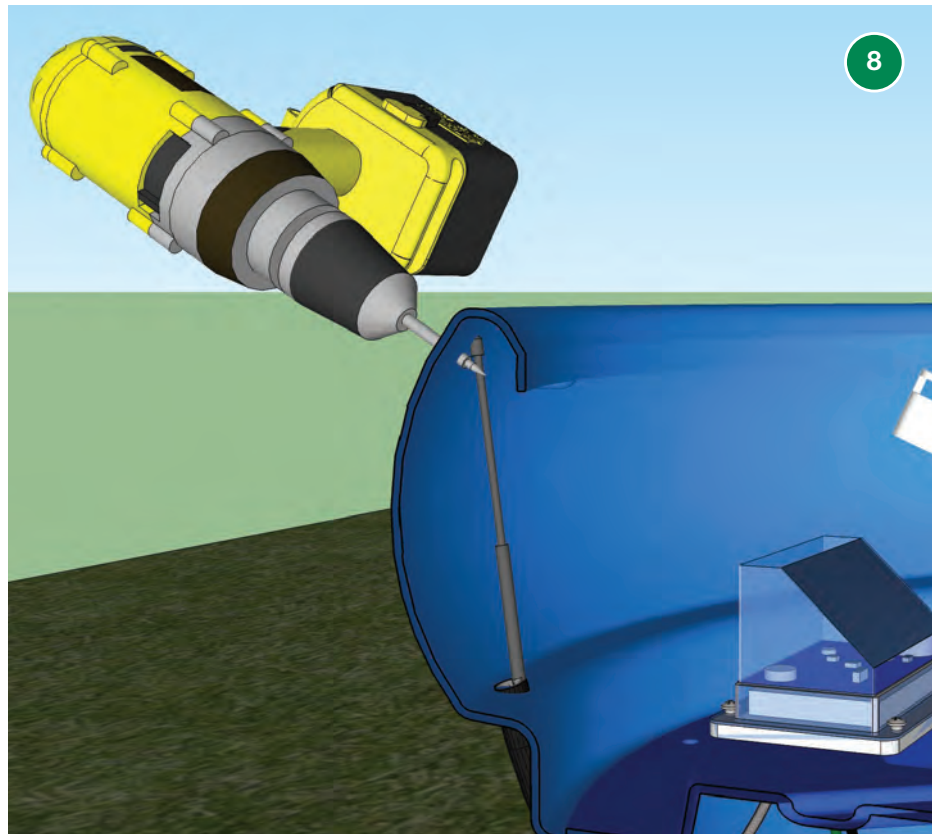
- 6 Thread the aerial through the lower hole to the outside and thread the tubing onto the aerial.



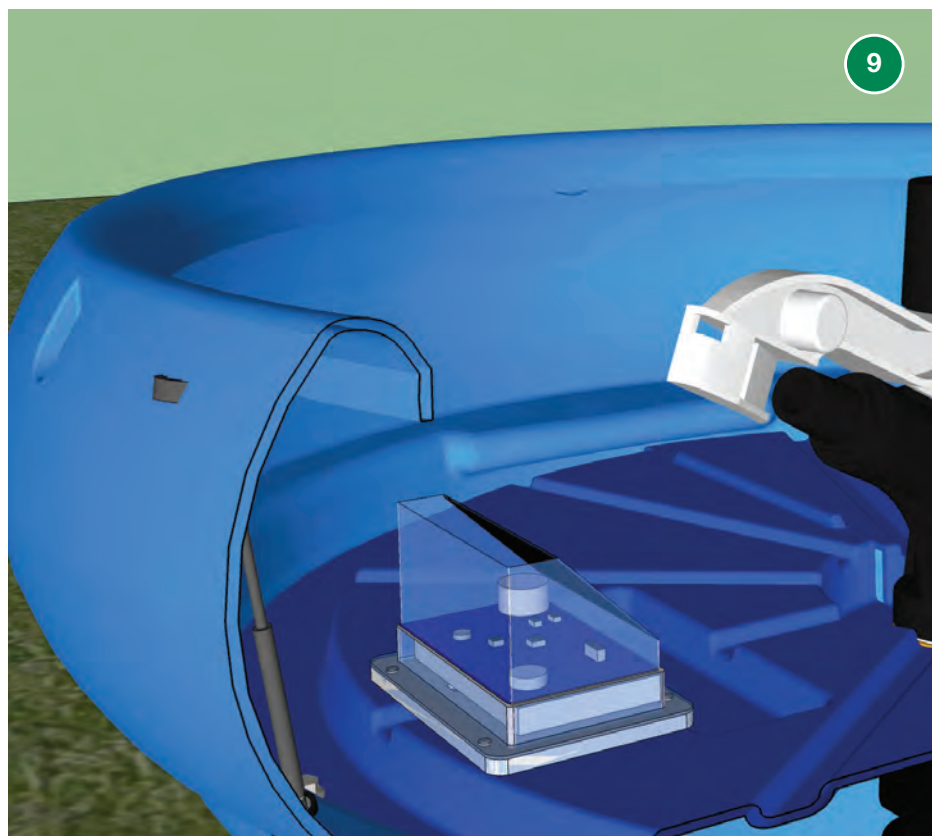
- 7 Thread the aerial and top of tubing into top hole.



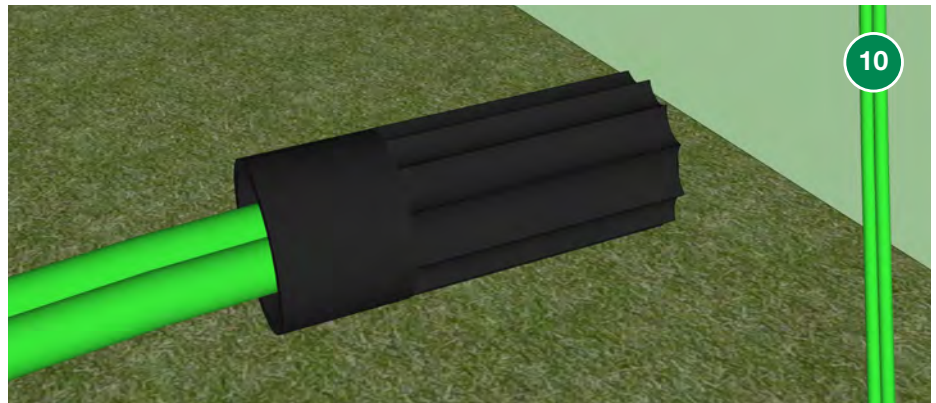
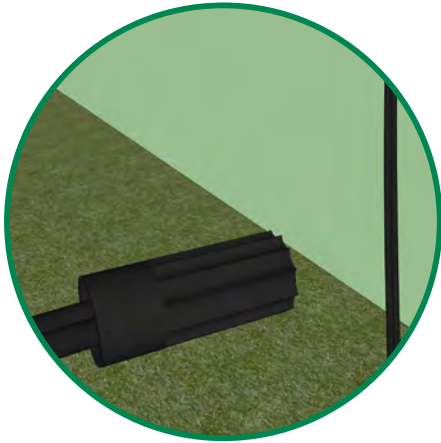
- 8 Drill 2 x 4mm holes for the zip clip to affix the aerial to the inner rim of the G-Set.



- 9 Ensure that the aerial is captured by the zip clip then tighten the zip and remove any excess length of the zip clip.

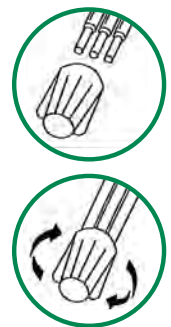


- 10** Connection of the solenoid wires is simply connecting green IPC wire to green solenoid wire and the black IPC to the black solenoid wire. This is achieved by the use of the wire nuts included.

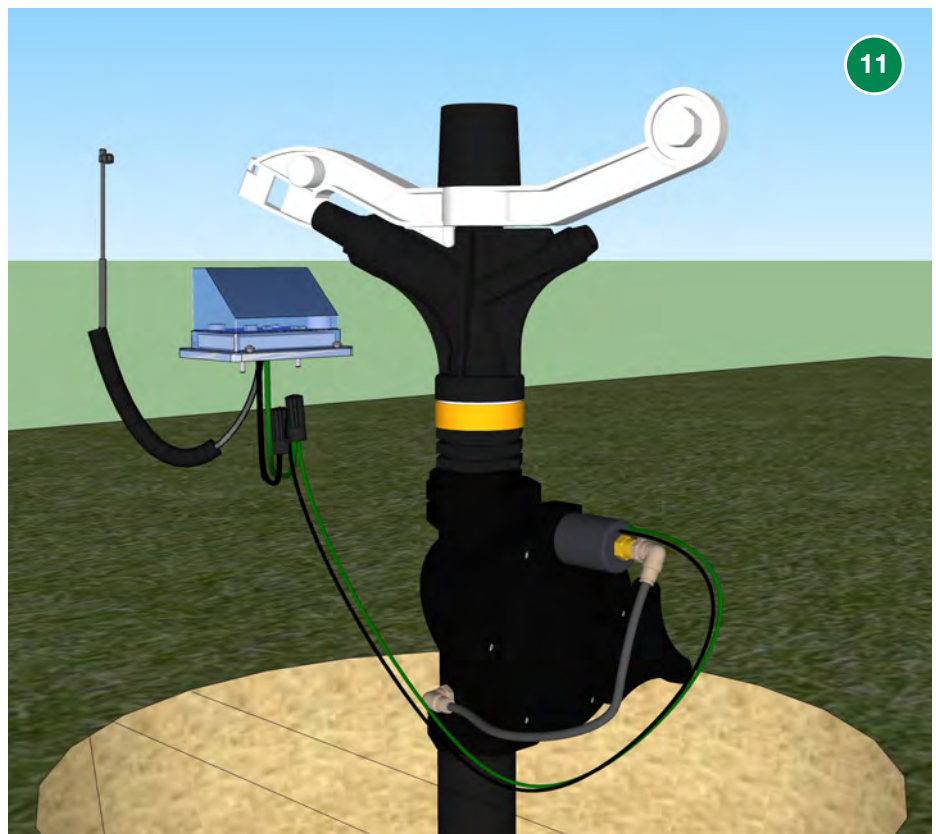


Installing the Connectors

1. Strip wires ½"
 2. Align frayed strands or conductors
 3. Do not pre-twist. Place stripped wires together with ends even, lead stranded wire slightly
 4. Twist connector onto wires pushing firmly until hand-tight. **DO NOT** over torque
 5. Swipe excess sealant in and around conductors.
- Do not reuse**

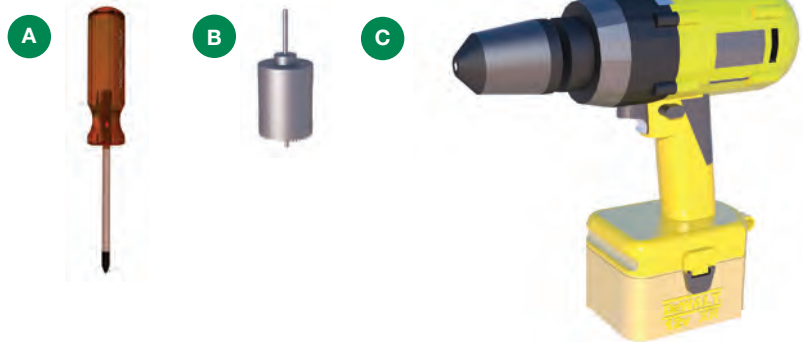


- 11** This is how the IPC should be mounted.



Battery controller (C1013) install tools

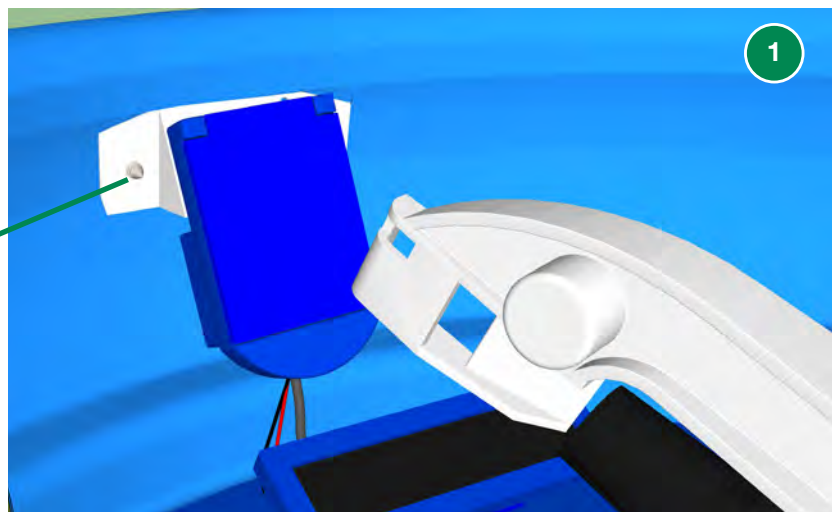
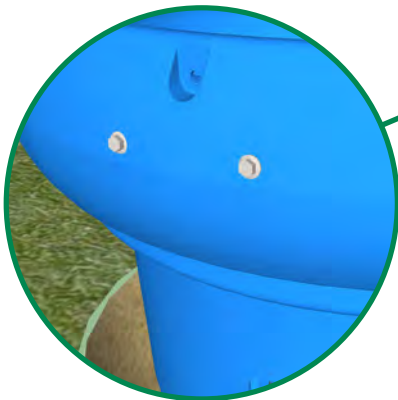
- A** Phillips head screwdriver
- B** 32mm hole saw – for the attachment of the socket to the lid of the G-Set
- C** Drill



Programming of the controller should be completed before mounting

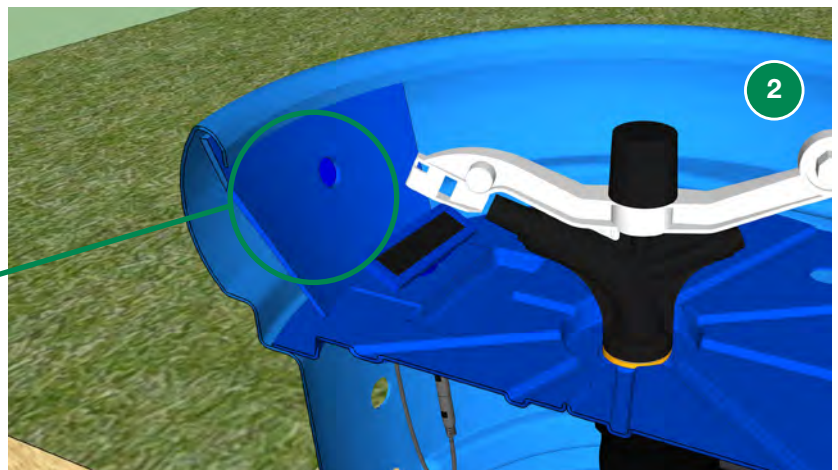


- 1** Connect the controller to the bracket.
Connect the bracket with two tek screws.

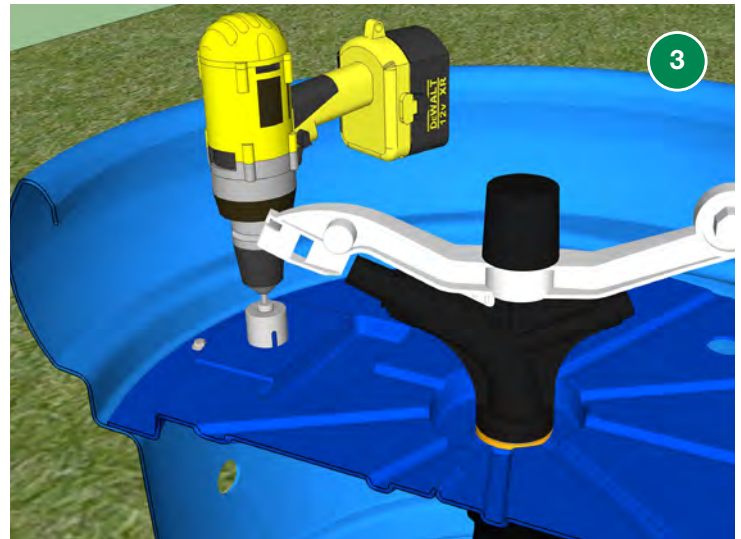
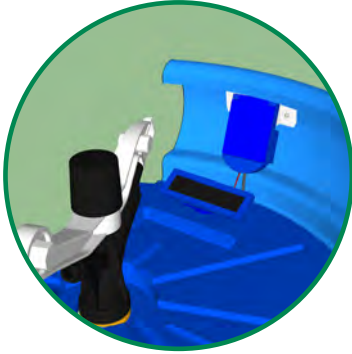


- 2** The cover should be placed before the mounting of the tek screws holding the lid to the G-Set.

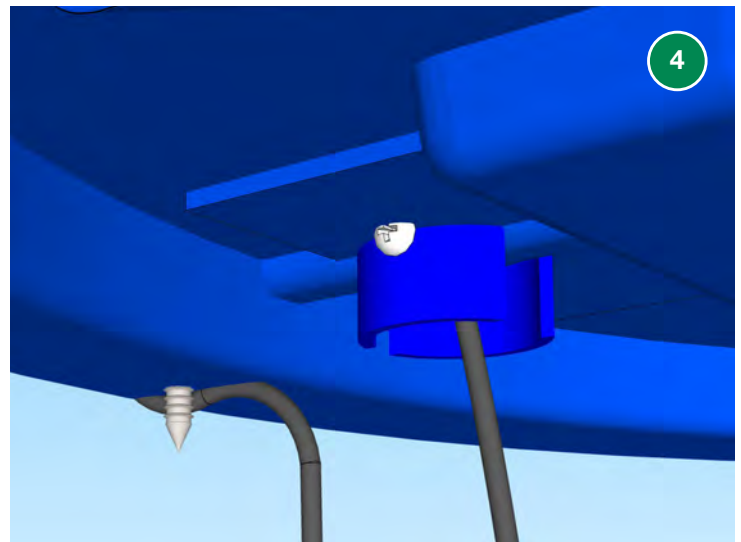
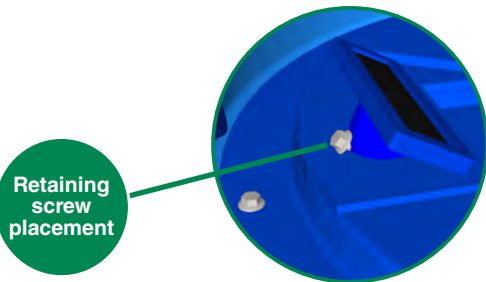
Cover



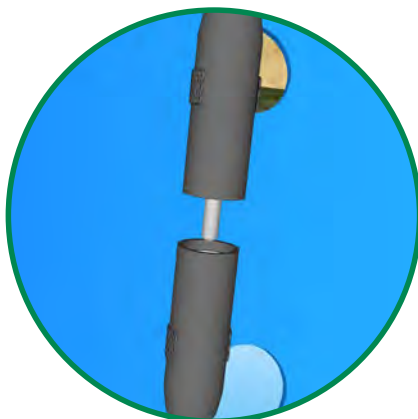
- 3** Drill a 32mm hole to mount the solar panel ensuring that it faces the best solar collection direction generally this will be North. The best outcome is generally to the West of North or East of North.



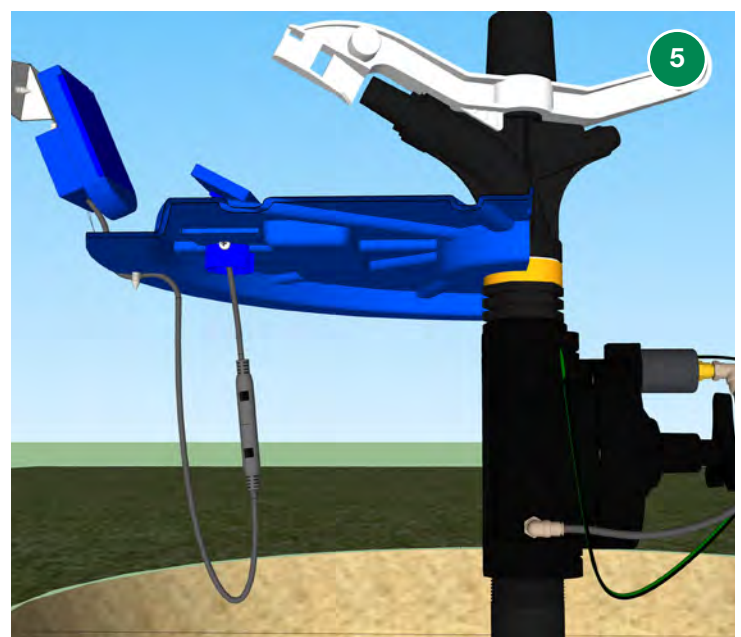
- 4** Screw two screws into the inserted base of the solar panel. Screw a retaining tek screw into the back from the top. Insert to left to fix rotation.
- Double check at this point that the solar panel will be facing the direction that captures maximum sunshine hours.



- 5** The solar cable is then fed down through the base to connect on to the controller. Plug the cable from the solar panel to the cable from the controller as shown.



Solar panel connector

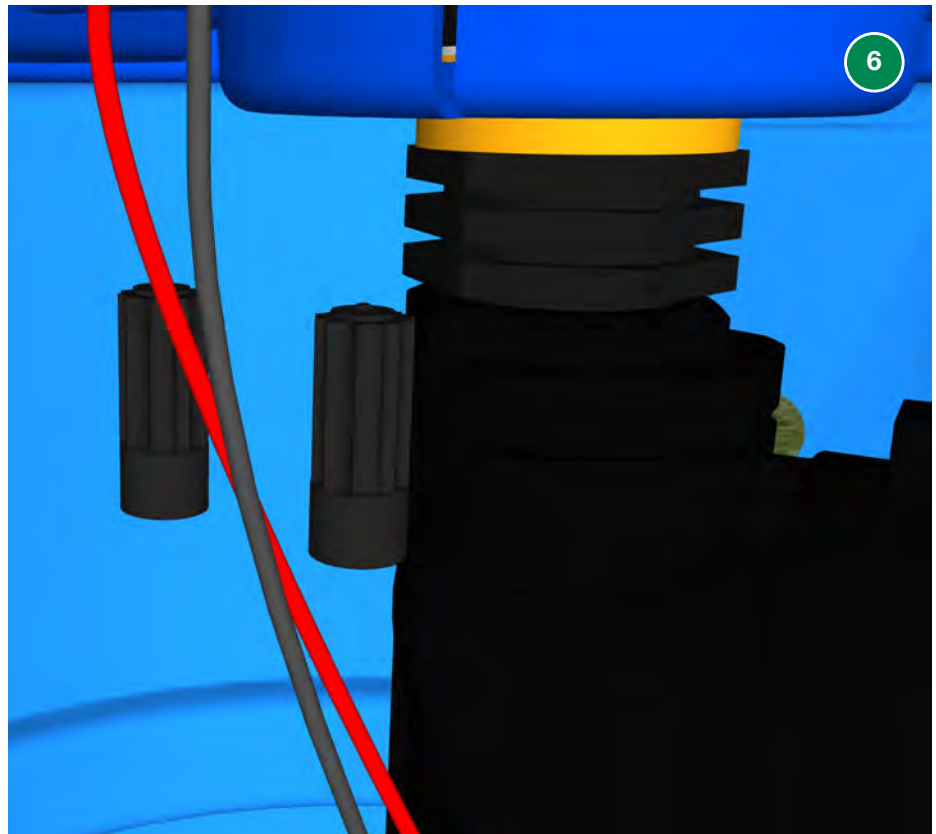
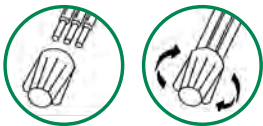


- 6** Taking the included wire nuts, you are then able to connect the solenoid (latch) coil to the controller.

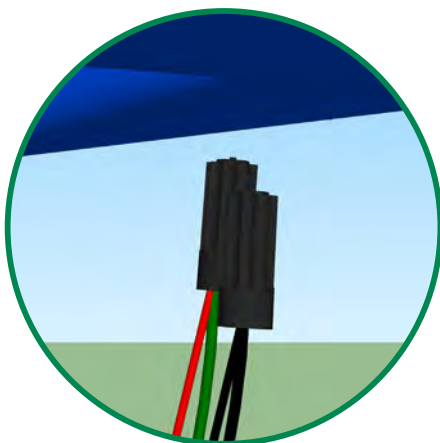
Installing the Connectors

1. Strip wires $\frac{1}{2}$ "
2. Align frayed strands or conductors
3. Do not pre-twist. Place stripped wires together with ends even, lead stranded wire slightly
4. Twist connector onto wires pushing firmly until hand-tight. DO NOT over torque
5. Swipe excess sealant in and around conductors.

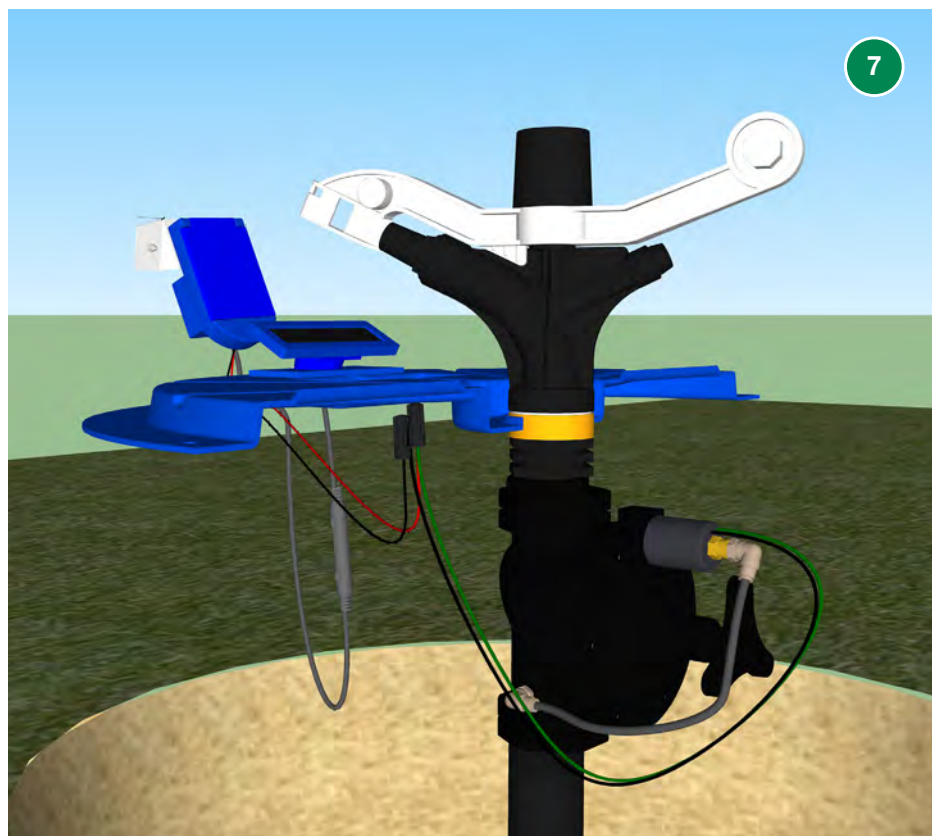
Do not reuse



- 7** Connect black latch wire to black controller wire and the green latch wire to the red controller wire. This is achieved by the use of the wire nuts included.



Red to green wire
Black to black wire



This is how the C1013 controller should be mounted.

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Version 062021

