



What is Mate-Before-Lock?

Mate-before-lock describes the action of mating together a connector pair with jackscrews or similar locking features, but the locking sequence is not started until after the connectors are fully mated.

What are the advantages of Mate-Before-Lock?

There are several advantages to using a connector that is designed to be Mate-Before-Lock.

- The mating action is much easier, as the locking mechanisms or jackscrews do not interfere with the plug-together part of the sequence.
- This is especially helpful on smaller connectors, where the mating force of the contact pins is reasonably low and easy to mate together.
- The mated connectors will retain together by the contact force, whilst the user then readies the screwdriver or otherwise engages the lock.

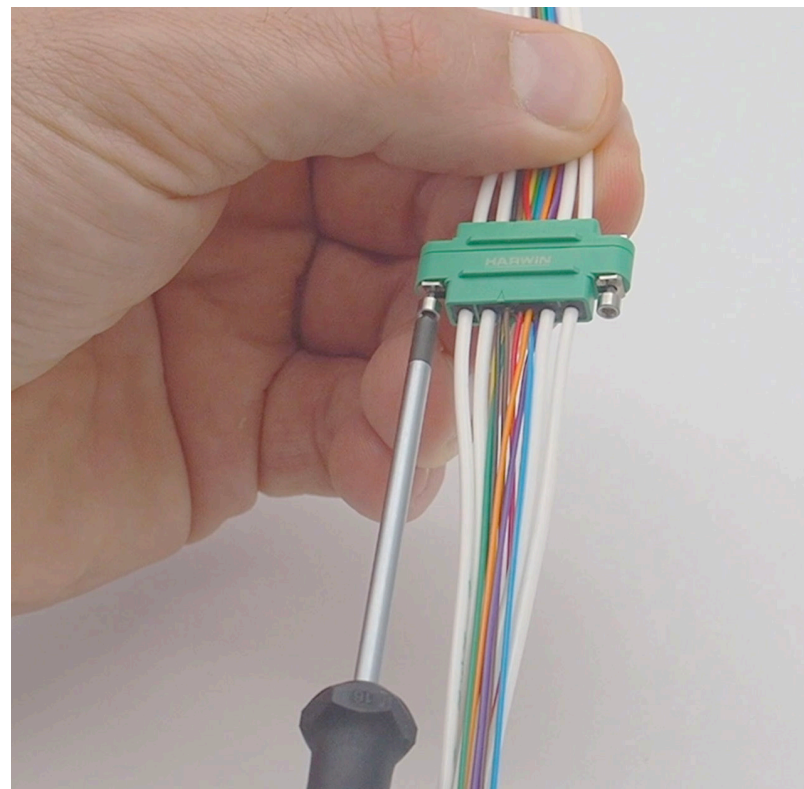
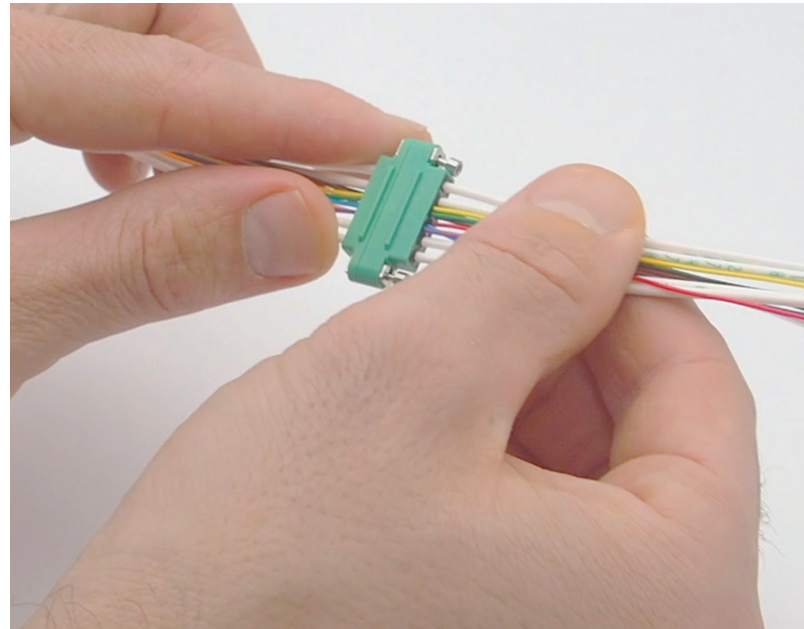
Are there any disadvantages to Mate-Before-Lock?

- On a very high pin count, or a very high mating force connector, mate-before lock is not recommended. The action of screwing or "jacking" the connectors together is a better method, as it uses the steady force of the screwing mechanism to draw the two connector halves together, to a fully mated condition.

How can I tell if a jackscrew is Mate-Before-Lock?

You need to look at the connector half that contains the rotating screw, sometimes known as the "floating" jackscrew. If the jackscrew can move forwards or backwards, then it is a good chance that it will be a Mate-Before-Lock screw fixing.

If the jackscrew is fixed and cannot move along its axis, then these screws are not Mate-Before-Lock and connections have to be jacked together.



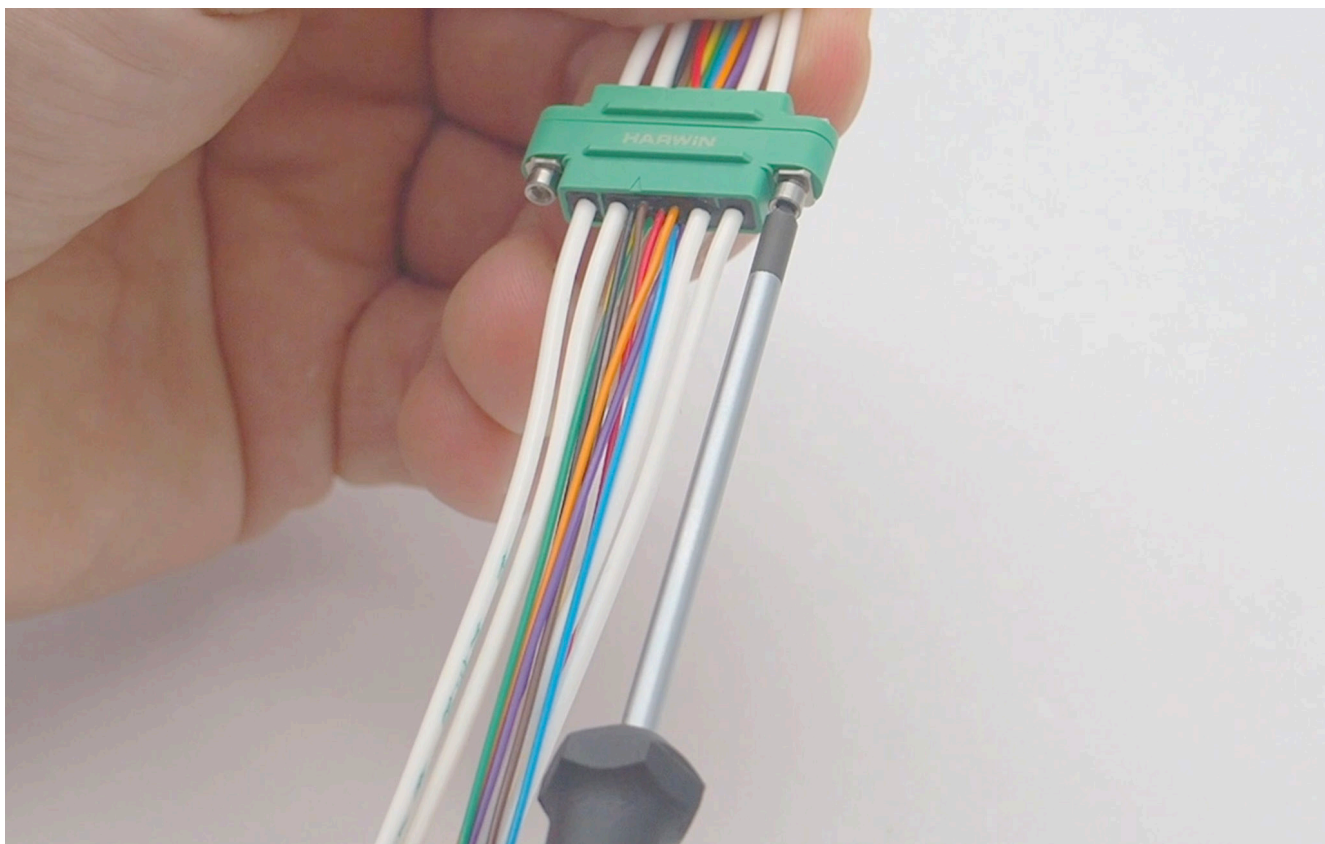
How do I use Mate-Before-Lock?

The connection method is simple:

- Plug the two connectors together by hand. You will be able to fully mate the two connectors together.
- Using the applicable hex or flat blade screwdriver (depending on the style of the screw head), fully screw down one of the jackscrews or locking screws. Or if it is a side latch, snap the side latch into place.
- Repeat on the other side – engage the screw or latch.
- For screws, once you feel they are fully engaged, you can either hand-tighten them, or use a torque screwdriver to tighten to the manufacturer's recommended torque. This can normally be found on component specification datasheets or instruction sheets.
- The connectors are now fully mated and secured.

To disengage or un-mate the connectors:

- If the connection method is latches, generally it's good practice to disengage both of these at the same time. These latch styles often include a small ejection method built in, which will also force the two connectors apart. If you don't do these at the same time, there's a slight chance of damage as you are causing an angle on one connector.
- For the screw type, use the applicable screwdriver to fully unscrew one of the jackscrews or locking screws. Repeat on the other side.
- The connectors can now be pulled apart.



Does Harwin have any Mate-Before-Lock connectors?

The range of Gecko-SL and Gecko-MT connectors from Harwin are all Mate-Before-Lock designs. This includes both Standard and Reverse Fix:

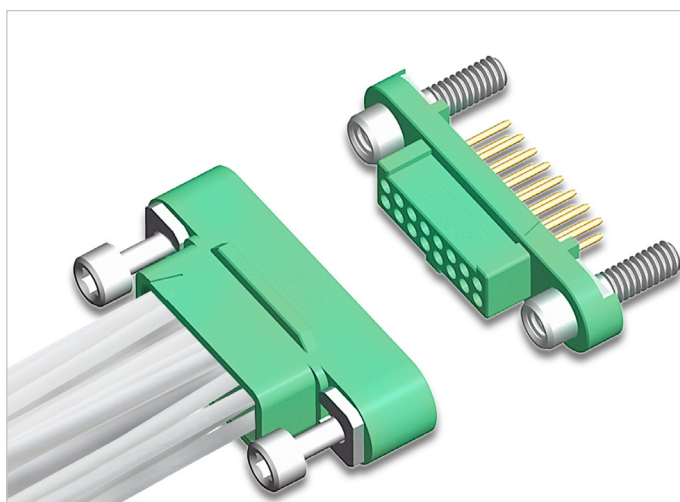
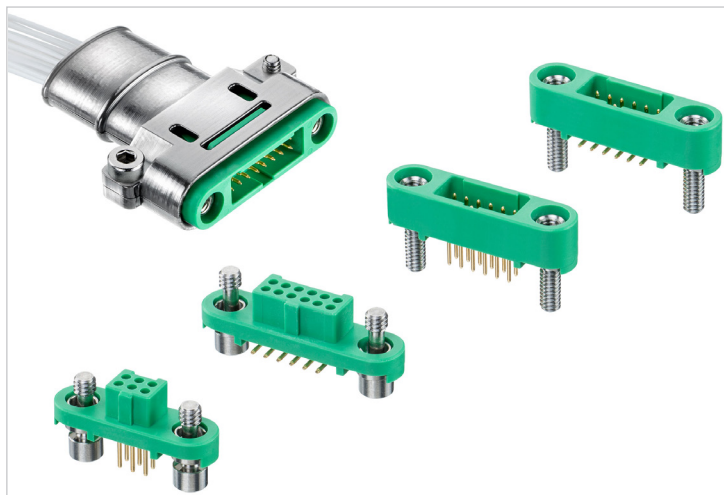
- Standard Screw-Lok – floating jackscrews are fitted to female connectors;
- Reverse Fix Screw-Lok – floating jackscrews are fitted to male connectors. Can also be referred to as Reverse Gender.

Datamate Reverse Fixings are also Mate-Before-Lok. This fixing style can be used on both J-Tek and Mix-Tek connectors.

Standard Datamate fixings, and M300 series with screw fixings are not Mate-Before-Lock, and require connectors to be jacked together.

For further assistance with any of the points covered in this article, or for any further questions relating to these products, please contact a member of the Technical team via:

www.harwin.com/contact.



If you need more help choosing the right connector for your product, our Experts are waiting to advise you.