



OVER SPEED WARNING

RSPC1 V2
Installation Instructions



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P/N: 300-141 Issue 2

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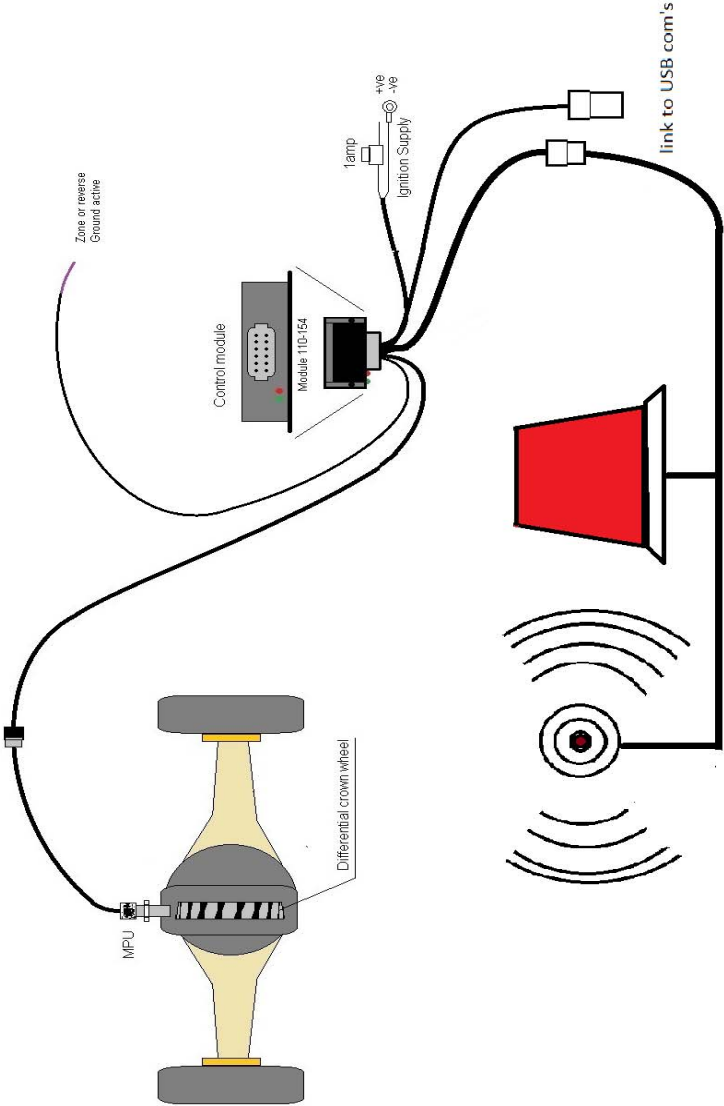
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PRECAUTIONS WHEN INSTALLING THIS PRODUCT

Always pay attention to “Safety” before starting any work – This is important.
Never attempt any work if there is danger to you or to other persons.
Wherever work requiring safety precautions are described in these instructions then the following symbol will be shown.

Other unmarked work, should always be performed after studying and using your common sense to prevent accidents.

Maintenance Location

When carrying out inspection and maintenance, use a level, dry, dust free area.
If work is carried out inside a building make sure there is ample ventilation.

Precautions for Maintenance and Inspection

To be prepared in event of fire, have a fire extinguisher nearby and make sure that you know how to use it

Before carrying out inspection, lower forks to ground and stop machine.

Where carry out maintenance or inspection and the forks have to be raised, insert a stand under the inner mast to prevent the forks and mast from dropping.

Do not run machine unless it is necessary

Place directional lever, speed lever and work equipment control levers in neutral.

Use Suitable Tools

Always use tools that are suited for inspection and maintenance. It is extremely dangerous to use broken tools or tools designed for another purpose.

Precaution when carrying out maintenance and inspection

Wear suitable clothes for the job.

Use suitable safety and protective equipment (hard hat, safety boots, safety glasses, and gloves) for the job.

How The System Works

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The iTEch Speed Warning is designed to improve site safety by warning the operator that they have reached the maximum permitted travel speed for the fork truck in that location.

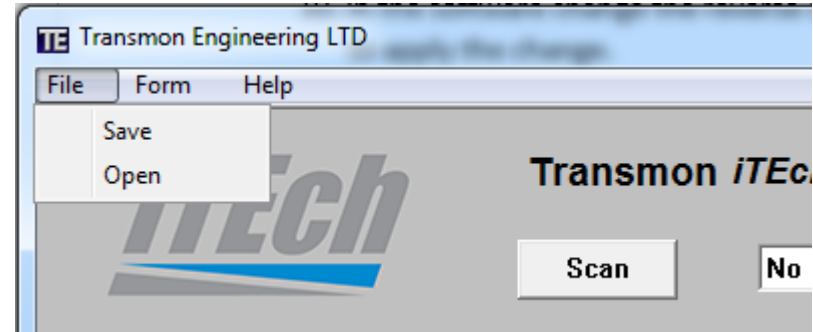
The system is designed to allow the truck operator to use the full engine power for hydraulic functions when the vehicle is stationary, and by informing the driver's they are over speed.

The unit obtains its road speed signal from the sensor fitted in the transmission or drive axle. When the truck reaches the set speed, the controller will alarm to warn the driver.

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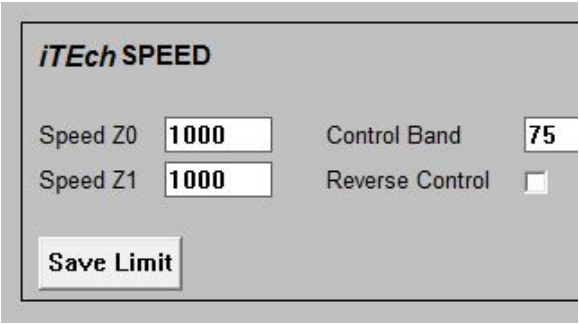
Cloning Vehicles

When you are satisfied that all the settings are suitable, you can save these by clicking on FILE and SAVE – choose an appropriate name for the device data and click SAVE again.



By saving the settings as above, it is possible to 'clone' a number of similar vehicles by clicking FILE and OPEN – locate the file, click on it and choose Open.

- 5. If a second speed is required for Zone applications or if the truck is required to have a slower reverse speed then it will be necessary to ground the violet wire when the truck enters a Zone or is put in reverse.
- 6. In the software select **'Z0'** and input **1000Hz** then click **Save Data**.



- 7. At this point ground the violet wire drive the truck at the required Zoned speed and click save limit.
- 8. Observe a lower limit is now in Z0 than Z1.

Tools Required

- | | |
|---|---|
| <ul style="list-style-type: none">❑ Power drill❑ 4.2 mm drill bit❑ M10 x 1 sec. cut tap❑ 9 mm drill bit❑ M5 tap❑ Horse shoe magnet❑ Magnetic Probe❑ Multi meter❑ Crimp tool | <ul style="list-style-type: none">❑ Wire Cutters❑ Pozi-drive screwdriver❑ Small Flat blade screw driver❑ 8mm spanner❑ Contact Tachometer or sat nav for speed setting (optional)❑ Windows-based laptop with RSPC1-Motor software |
|---|---|

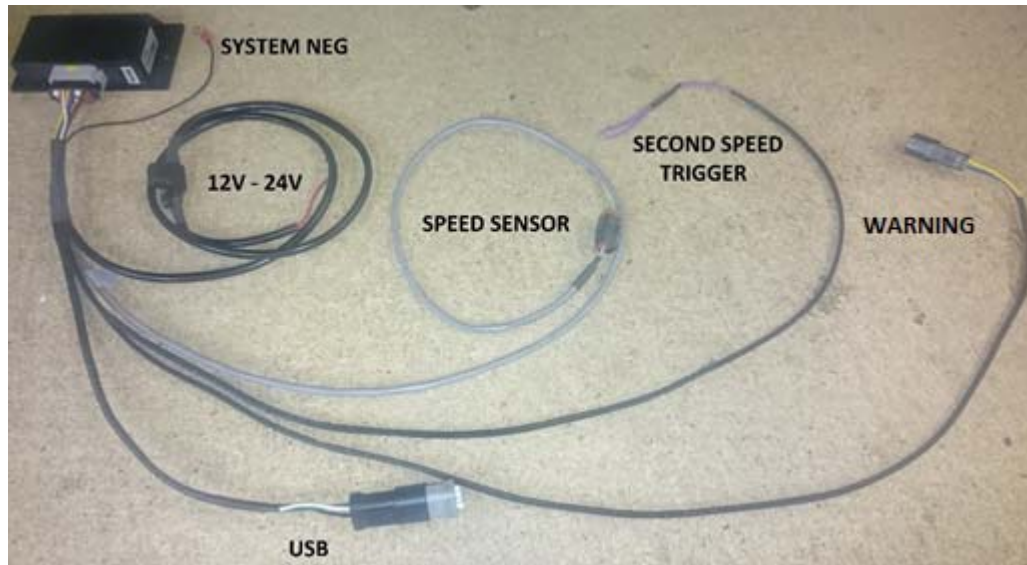
Kit Contents

Before commencing work, please ensure that you have all the required components, by checking those present against the included bill of materials.
If you are unsure, please contact Transmon Engineering’s Technical department.

Please read these instructions thoroughly before commencing work.

The Control Unit can be mounted to any flat surface on the truck, away from direct exhaust heat and away from direct access by the truck operator. It is also necessary to consider the length of the wiring harness supplied to make sure that the wires will reach to where they need to go. Refer to the schematic diagram for more information.

1. Choose a location on the truck for mounting the Control Unit and drill the mounting holes using the Control Unit as a template. Drill the holes to 4.2mm and tap to M5.
2. Mount the unit and secure the black earth wire configuration of the module will be carried out later via the USB connection.

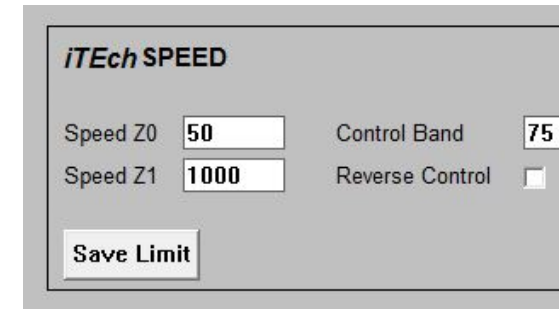


Before setting up the system, it will be necessary to raise and support the front of the truck to allow the truck to be 'run' safely.

Take all necessary safety precautions when working on a raised truck. Check that the truck is supported properly and safely. Be aware of the hazard caused by rotating wheels.

Setting Up The Control Unit (110-154)

1. Open the software and check the reverse control to de-restrict the throttle. Turn off and on to apply the change.
2. **Set the speed** - in the software select '**Z1**' and input **1000Hz** then click **Save Data**.

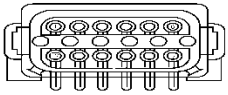


3. Drive the truck at the speed required then click '**Save Limit**'.
4. With the speed now saved set the control band to the 110% of the highest speed being used



1. Plug the main 12 way Deutsch plug of the harness into the module.
2. Select a 12v or 24v key switched supply and with the key off connect the fused wire to the supply.
3. Connect the MPU grey screen lead 2 pin Deutsch connector to the main harness.
4. Connect the blue & yellow with 2 way Deutsch to the warning
5. With all connections made turn on the IGN. To test. The warning may activate this can be reversed if required within the software.

Motor Control – connector pin outs



J1

- J1.1 **No CONNECTION** on Truck (ICD3 programmer MCLR pin 1)
- J1.2 **No CONNECTION** on Truck (USB D-, ICD3 programmer CLK Pin 4)
- J1.3 Output to warning (+12/24v on Micro fault)
- J1.4 Output to warning (Ground on Micro fault)
- J1.5 Output - spare
- J1.6 Ground (USB Ground, ICD3 programmer GND Pin 5)
- J1.7 Power in (12 – 24v) positive
- J1.8 **No CONNECTION** on Truck (USB D+, ICD3 programmer DAT Pin 3)
- J1.9 Output - spare
- J1.10 Ground
- J1.11 Zone input (Ground for Zone 1)
- J1.12 Speed input from Truck

Information removed not required

The unit will suffer permanent damage if pins J1.1, J1.2 or J1.8 are connected on the Truck.
 When using programmer on J1 Pins Never exceed 3.3V or permanent damage will occur.
 Power unit from 12v and do not select ICD3 "power to device".
 Unit ***MUST*** be protected by a 1A slow blow fuse.

It may be necessary, during this part of the installation, to work on the drive axle under the raised mast and attachments. It is therefore important that the appropriate safety procedures are followed for such work (see page 3).

Is a Road Speed Sensor already installed?

You can identify whether a road speed sensor is fitted from the truck service manual. The road speed sensor may be installed in the top of the axle differential housing or in the transmission casing.

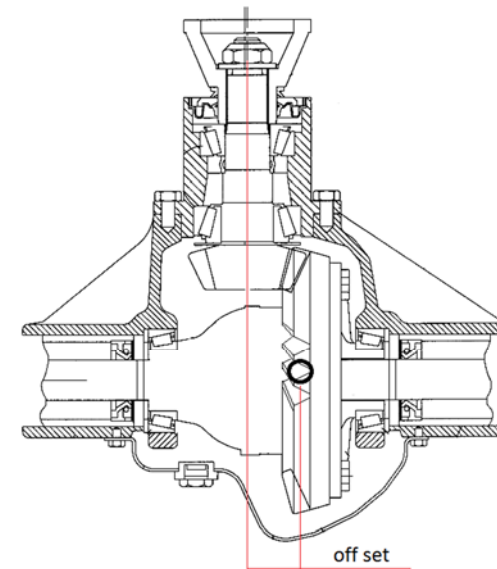
If the sensor is already installed, proceed directly to **Wiring Installation**.

Installing the Road Speed Sensor (MPU)

To work correctly, the MPU tip must be positioned close to the gear teeth of the final drive crown wheel. Before drilling the pilot hole, establish the most likely place to drill by referring to the truck manufacturer's service manual – usually the best position is between the rear of the mast, at full back tilt, and the front bulkhead of the truck.

1. Raise and support the front of the fork truck. Raise the mast and secure the attachments. If required, tilt the mast fully forward to provide access to the top face of the differential housing. Release the park brake.
2. Drill a 4.2mm pilot hole where you believe will provide the best result. Position the horse shoe magnet close to the drill to catch the swarf as it is made.
3. Using a thin probe inserted into the hole and turning one of the raised road wheel, assess whether the hole you have drilled is in the correct place. If it is, you will feel the gear teeth on the crown wheel as they pass beneath the hole.
4. If the hole is not in the correct position, tap the hole to M5 and secure a short screw to seal the hole. Re-drill the hole in a new location.
5. If the hole is in the correct position, enlarge the hole to 9mm, using the magnet to collect swarf as it is generated. The gear teeth should now be clearly visible through the hole.

6. Using the tap, thread the hole to 10 x 1.0mm. Then use the magnetic probe to retrieve any swarf which may have fallen through the hole.
7. Rotate a road wheel until a gear tooth is visible in the centre of the hole and then screw in the MPU until it can be felt to just make contact with the gear tooth. It should be possible to feel the gear teeth brush the MPU if a road wheel is turned at this point. Unscrew the MPU by ½ to ¾ turns and secure the lock nut.
8. Slip the piece of conduit over the MPU wire and onto the MPU. In order to get it to seat on the MPU it may be necessary to cut a short slit in the conduit. Secure the conduit with a cable zip tie.
9. Route the cable under the front bulkhead and into the truck to the point where it can be joined to the wiring harness.



Drill 4.2mm pilot to check the position of the gear teeth. When satisfied then increase the size of the hole to the tapping size for the speed sensor.