QUICK START GUIDE – TGB 30 / TGB 40 Gearbox Controller

This Quick Start Guide provides a **basic** overview to get the system up and running and to operate the different driving modes.

It is intended for quick installation and initial use only, and does not cover all available features and configurations.

Advanced functionality – particularly when using the BUU (Big User Unit) – such as detailed setup, programmable modes, diagnostics and system customization, is not described in full in this guide.

For complete information, refer to the full user manual.

DRIVE PROGRAM OVERVIEW

OR – Original

Behaves like original gearbox controller.

UD – Manual (original shifting pattern, H1-H2-H3-M3)

Manual shifting with protection.

SS – Manual (special pattern, H1-H2-M2-M3)

Manual shifting with alternative gear pattern.

UDP – Automatic (original shifting pattern, H1-H2-H3-M3)

Automatic shifting with adjustable behavior (via the poti).

SSP – Automatic (special pattern, H1-H2-M2-M3)

Automatic shifting with adjustable behavior (via the poti).

EMG – Emergency

Manual emergency mode for recovery driving.

Free special / Free original – Custom modes

User-programmable automatic modes (BUU only).

SSX – Extended manual mode (BUU only)

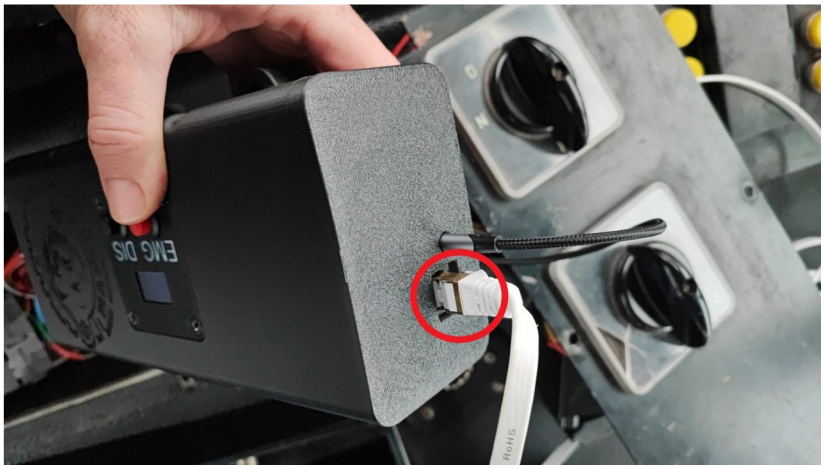
Installation

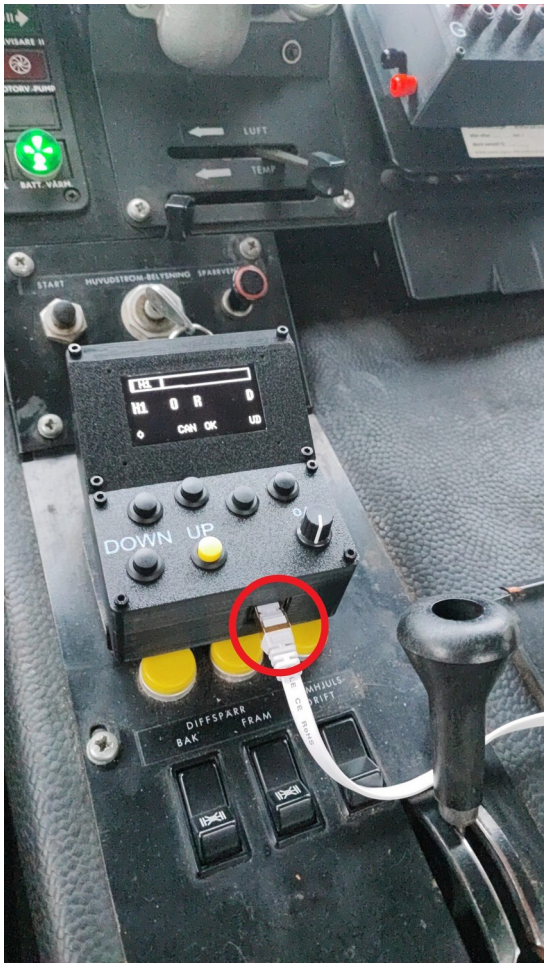
1. Mount controller (like the original). The controller can be mounted on the original plate, see picture below

When mounting the controller on the original plate it is recommended to:

- Tighten the mounting screws until the **rubber boots are compressed**
- Ensure that the **screw engages past the locking ring of the nut**

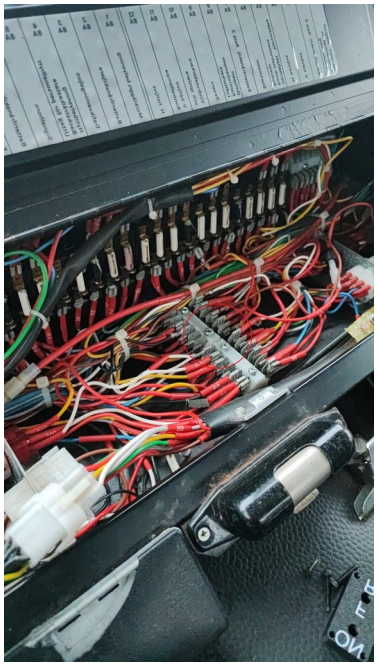
2. Connect SUU or BUU



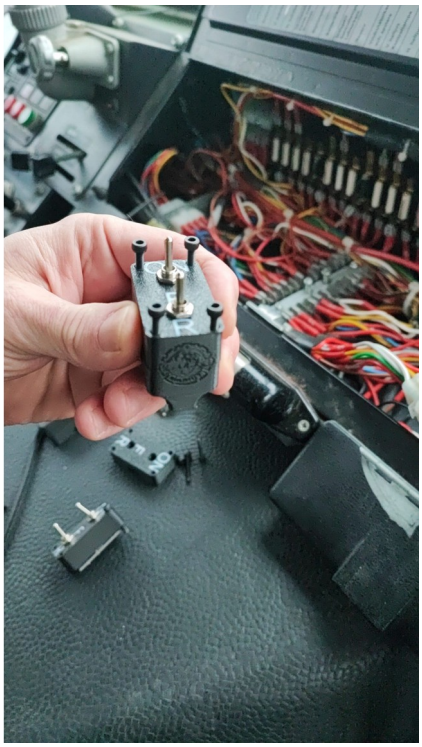


3. Mount and connect emergency unit

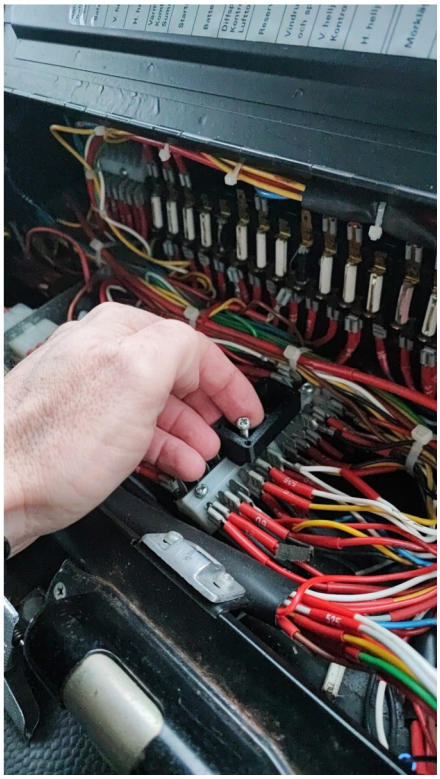
3.1 Unscrew the screws in the fuse compartment.



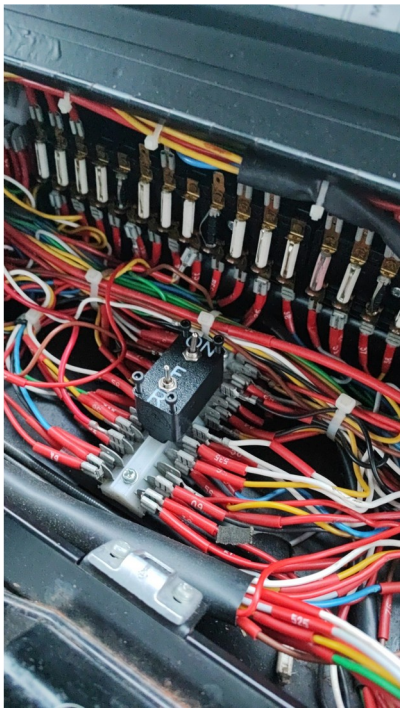
3.2 Unscrew the screws on the emergency unit (according to picture below) and separate the lower part of the emergency unit.



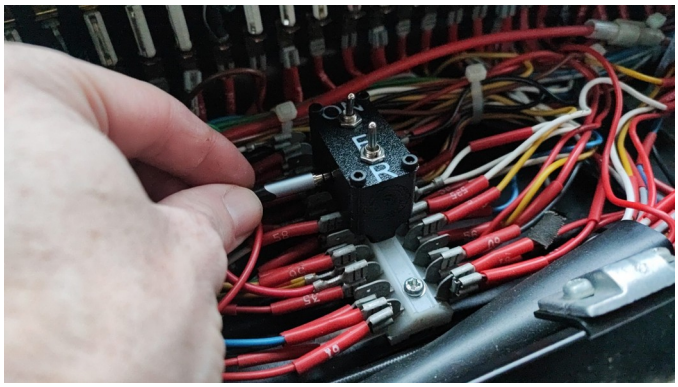
3.3 Mount the lower part of the emergency unit with the screws that was removed previously (see 3.1).



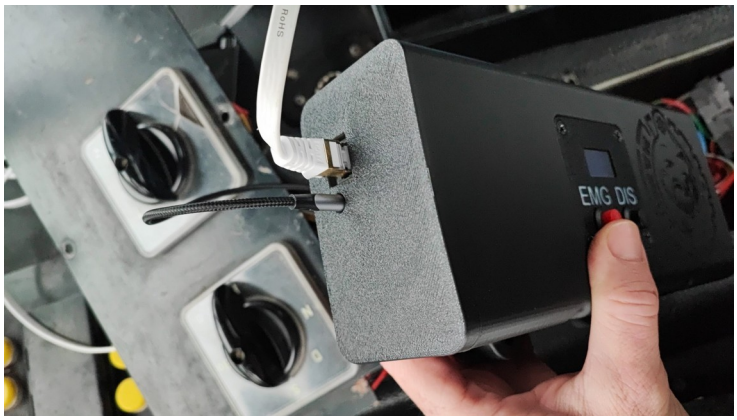
3.4 Mount the screws that was previously removed (see 3.2).



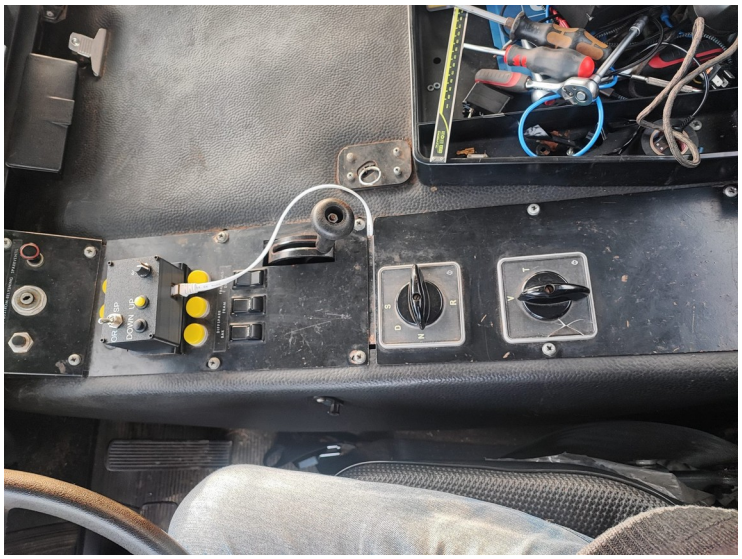
3.5 Connect the emergency unit.



3.6 Remove the panels and lead the cable under the panels from the emergency unit to the controller. And then connect it to the controller



3.7 Mount the panels that was previously removed (see 3.6)



4. Installation is now complete. Turn on the ignition.

SUU Quick Start

Overview

OR – original mode

UD mode

DOWN must be pressed while Switch is switched to SP

UDP mode

UD must be selected

Speed below 50Hz (recommended to stand still)

UP + DOWN must be pressed for 2.5s

Then the POTI must be turned FULL LEFT, FULL RIGHT and FULL LEFT (UP+DOWN can be hold pressed while calibration)

CALIBRATION MUST BE DONE WITHIN 6 seconds OTHERWISE ITS ABORTED

SS Mode

UP must be pressed while SWITCH is switched to SP

SSP mode

SP must be selected

Speed below 50Hz (recommended to stand still)

UP + DOWN must be pressed for 2.5s

Then the POTI must be turned FULL LEFT, FULL RIGHT and FULL LEFT (UP+DOWN can be hold pressed while calibration)

CALIBRATION MUST BE DONE WITHIN 6 SECONDS OTHERWISE ITS ABORTED

Emergency mode (EMG)

UP and DOWN must be pressed while Switch is switched to SP

GEARSELECTOR OVERRIDE IN EMG (In case of a malfunctioning gear selector)

Press UP and DOWN simultaneous

Now D or R or Forward and Backward must be selected with the UP and DOWN button (explained below) until restart.

Forward

Hold DOWN pressed for 3s

Then press UP while holding DOWN pushed

Reverse

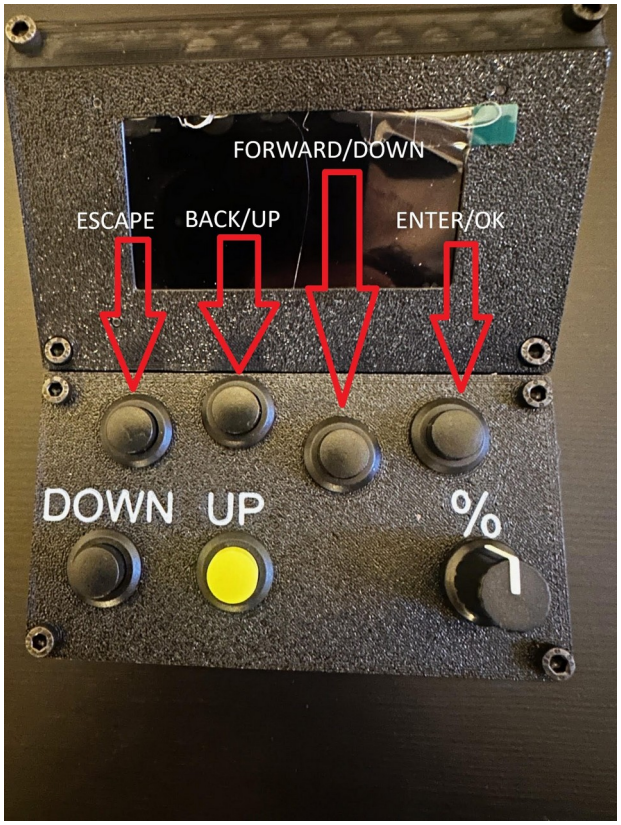
Hold UP pressed for 3s

Then press DOWN while holding UP pushed

Automatic recalling the last Mode

Just switch to SP without pressing any button.

BUU Quick Start



- Use FORWARD/BACKWARD to navigate
- Go to PROG
- Press ENTER
- Select the desired program (see driving programs overview on page 1 in this quick start guide)
- Press ENTER to confirm

The **UP** and **DOWN** buttons are primarily used for manual gear shifting.

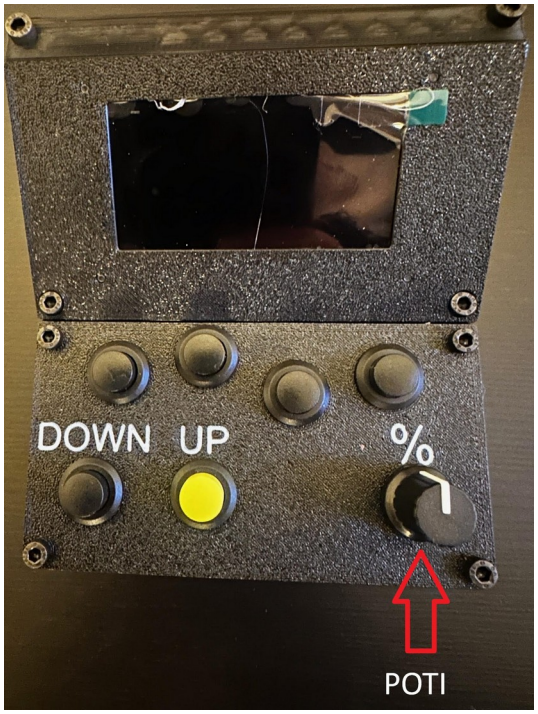
- **UP** → shift up
- **DOWN** → shift down

IMPORTANT - BEFORE FIRST USE OF UDP AND SSP - Potentiometer Calibration – required for adjustable automatic modes (UDP and SSP)

- Vehicle at low speed / standstill
- Hold UP + DOWN ~2.5 seconds
- Turn potentiometer: MAX → MIN → MAX
- Calibration is stored automatically

Using the Potentiometer (POTI)

The potentiometer (POTI) is used to adjust the shift behavior in automatic driving modes.



- Turning the POTI changes when the gearbox shifts
- **Lower value** → earlier upshifts
- **Higher value** → later upshifts

This allows you to adapt the vehicle to:

- driving style
- terrain
- load conditions

Important

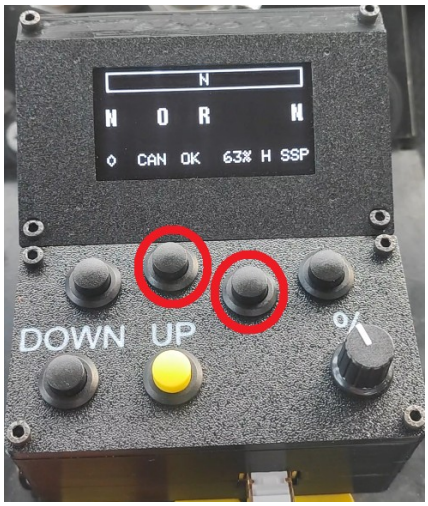
- The POTI only affects **automatic modes** (UDP, SSP, etc.)
- No effect in manual modes (UD, SS)

HOLD Function

HOLD modifies engine brake behavior by preventing automatic downshifts and allowing manual control.

Use:

1. Activate HOLD by holding FORWARD + BACKWARD ~1.5 s (from main screen, see below)



2. When engine brake (EB) engages (TB – “Terrängbroms” - on + no throttle):

- UP / DOWN are used to control downshifts manually
  Keeps the vehicle stable during braking (e.g. in curves)

Important

- It only has effect when engine brake (EB) is active
- Not available in OR, SSX, EMG or DIAG

Forward / Reverse in EMG (Normal operation)

- In EMG mode, forward and reverse are primarily selected using the gear selector:
  - D or S = forward
  - R = reverse
  - Shifting is done manually using **UP / DOWN**

GEARSELECTOR OVERRIDE IN EMG (in case of a malfunctioning gear selector)

Gearselector override (NOTE, in EMG-mode):

- Press UP + DOWN simultaneously – forced neutral
- Forward: Hold **DOWN ~3 seconds, release, and then press UP**
- Reverse: Hold **DOWN ~3 seconds, release, and then press DOWN again**
- Gear selector is ignored
- Active until restart

Neutral Reset

Some fault conditions or safety states require the gearbox controller to see a valid Neutral (N) condition before normal operation can continue.

Selecting Neutral allows the controller to:

- reset certain fault states
- re-evaluate selector inputs
- return to a safe baseline condition

In practice, Neutral acts as a system reset point

How to perform a Neutral Reset

1. Move selector to N (Neutral)
2. Wait a few seconds
3. Return to desired drive position (D / S / R)

When to use it

- After warnings or fault messages (e.g. F5, selector conflicts)
- If the system does not respond as expected
- After abnormal behavior or interrupted operation

Example:
F5 (speed sensor issue) requires selecting Neutral to reset

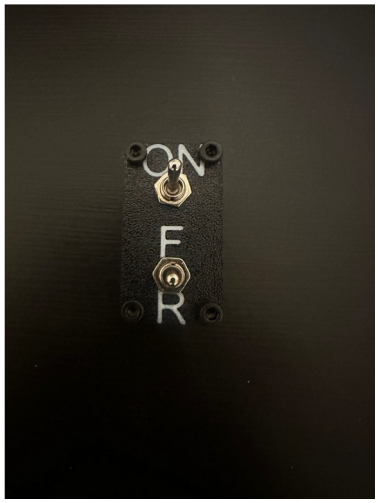
GPS information (BUU)

GPS information is available on dedicated BUU GPS page

Use:

- Navigate to the **GPS MAIN PAGE/COMPASS PAGE** using normal menu navigation
- Hold **FORWARD + BACKWARD ~2 seconds** for additional GPS information

Hard-Wired Emergency Mode (Relay-Based) – Available Without SUU or BUU



Activation:

- Activate the EMG switch by switching it to “ON” (external emergency unit / fuse box unit) alternatively on

Operation

In this mode, the system bypasses normal control logic and uses fixed gears:

- D (on the gear selector) = H3 (forward)
- S (on the gear selector)= H2 (forward)
- F (on the emergency selector) = H2 (forward)
- R = Reverse

Important

- Fixed gear only (no shifting)
- Reduced functionality
- Intended for emergency use only

In addition to the external emergency unit, emergency mode can also be activated directly on the controller.

- Press the EMG button on top of the controller
- This activates the same hard-wired emergency mode
- The controller is bypassed and shifting is handled by the relay circuit

Shifting is replaced by fixed gear states via the selector:

- D → Forward (H3)
- S → Low gear (H2)
- R → Reverse
- N → Neutral

The gearbox stays in the selected gear. No upshift or downshift occurs

Controller OLED Display

The controller has a built-in OLED display, primarily used for service and diagnostic information.

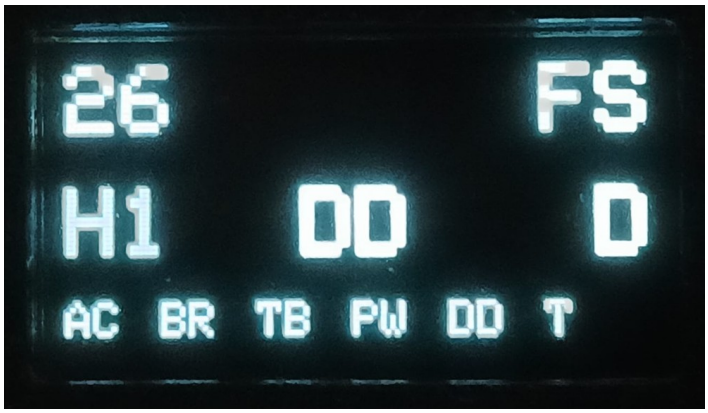
How to turn the display ON/OFF

- Press the display button (DIS) → display ON
- Press again → display OFF

What the display shows

The display provides quick local information such as:

- Active program / mode (e.g. UD, OR, EMG, FS)
- Current gear (N, H1–H3, M1–M3, etc.)
- Speed signal (Hz)
- Transfer state (Road / Terrain / DD)
- Selector position (D / N / R / S)
- Active inputs (e.g. AC, BR, TB, PW, DD, T)
- Warnings and fault codes (F1–F6)



Active inputs meaning:

- AC = Accelerator (gas pedal)
- BR = Brake switch
- TB = Terrain brake / Engine brake switch
- PW = Winch switch
- DD = Drive disconnect switch
- T = Terrain on selector active

The display always shows the highest-priority page.

Priority order (highest → lowest)

1. EMERGENCY SHIFTING
2. F5 (fault)
3. F1
4. F2
5. F3
6. F4
7. F6
8. CAL (poti calibration)
9. Normal information page

Display protection

To prevent screen wear, the controller includes a protection function:

- If the display is requested ON for 10 consecutive power cycles, it will automatically be locked OFF

To reset:

- Turn the display OFF
- Then turn it ON again

This does not affect gearbox operation