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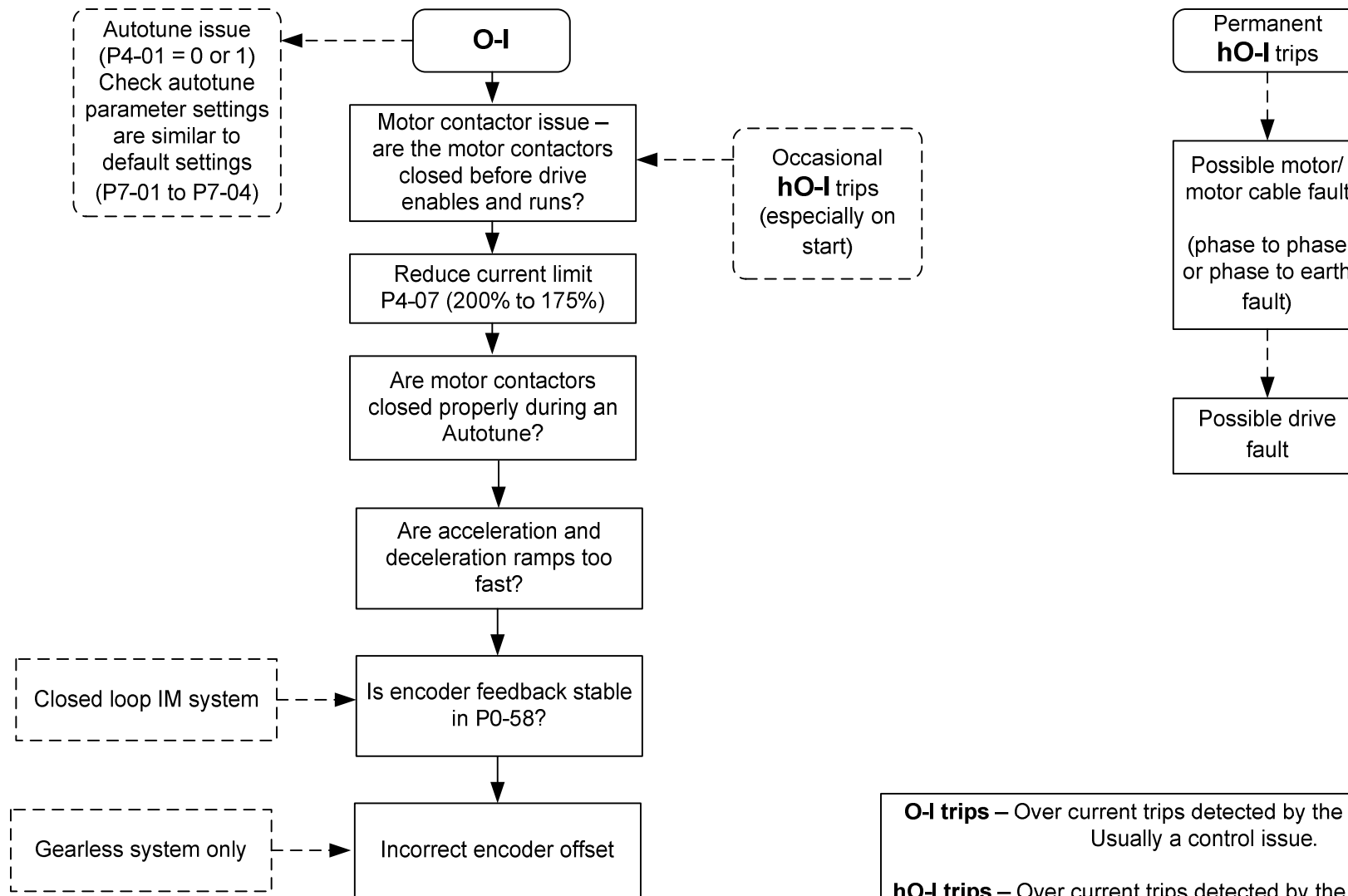
Document number	MCW-Elevator-005
Revision	0.6
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Product	Optidrive Elevator

Title	Optidrive Elevator – Troubleshooting Guide
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Summary	This document gives information on troubleshooting Optidrive Elevator when various trips etc. are seen during commissioning
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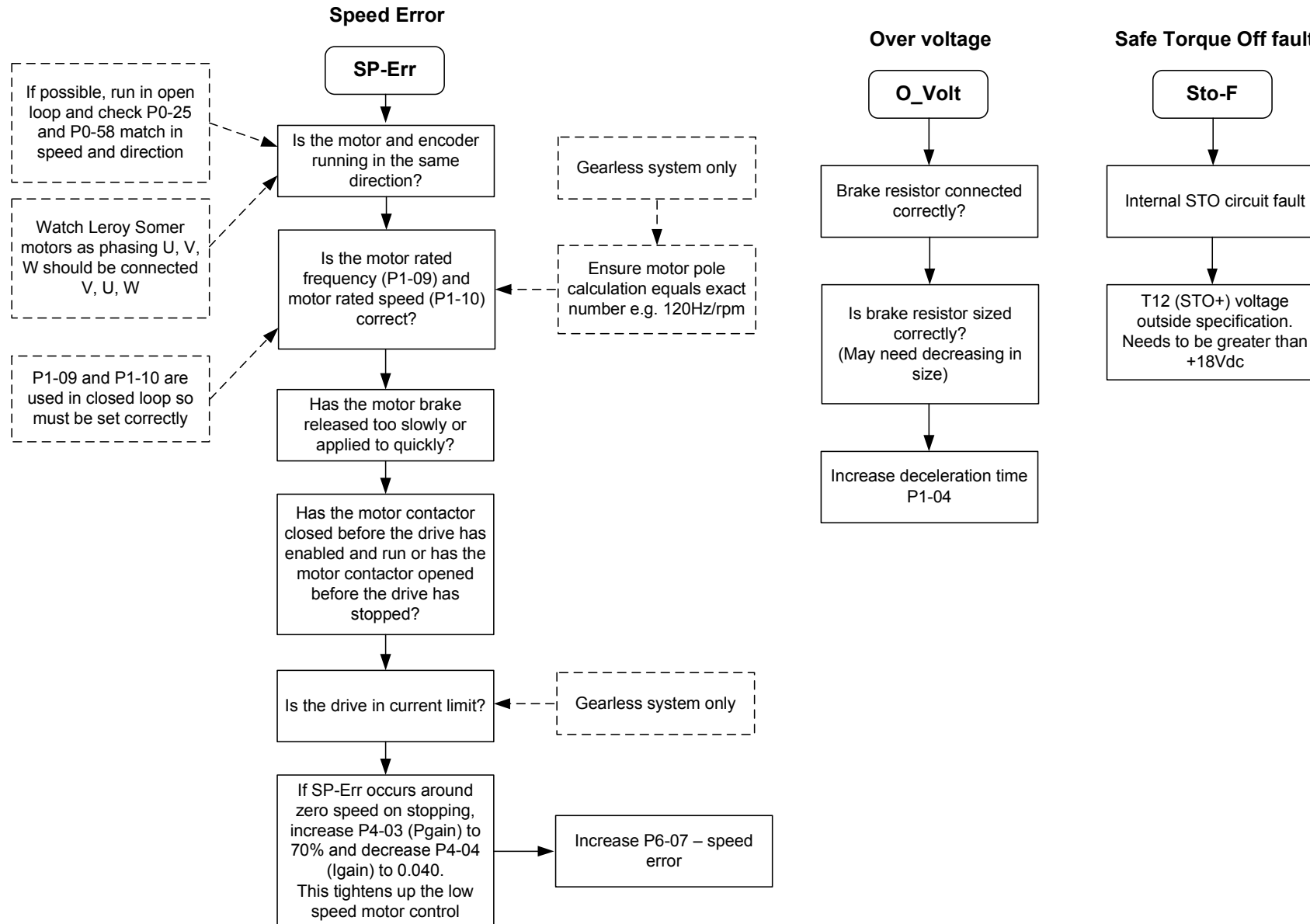
NOTE: Please read this document in conjunction with the **Optidrive Elevator User Guide**.

Over Current Trips

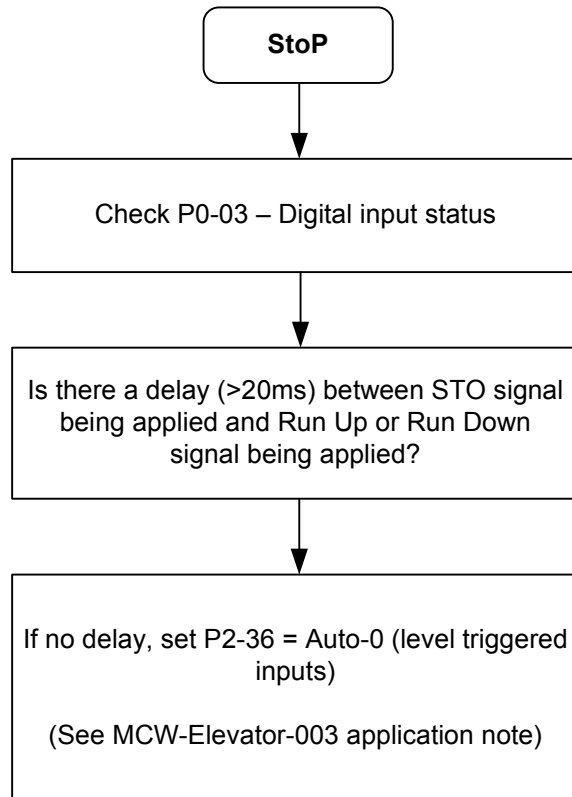


O-I trips – Over current trips detected by the drives software.
Usually a control issue.

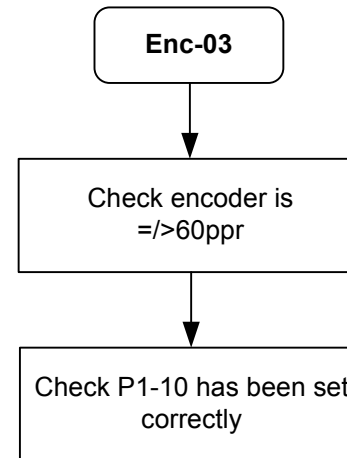
hO-I trips – Over current trips detected by the drives hardware.
Usually a motor or drive fault.



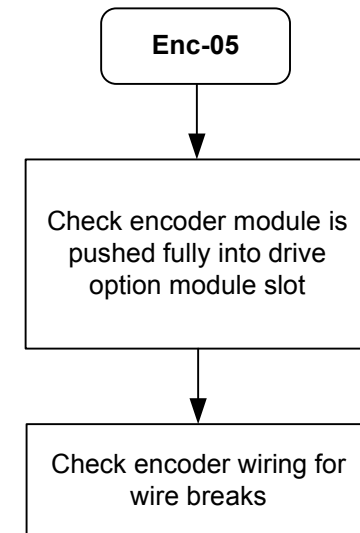
StoP on display when Run Up or Run Down signals given



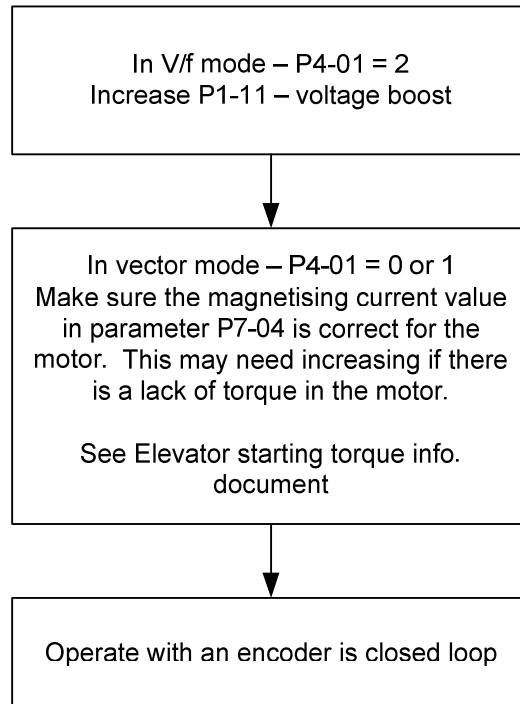
Incorrect encoder PPR count set in parameters



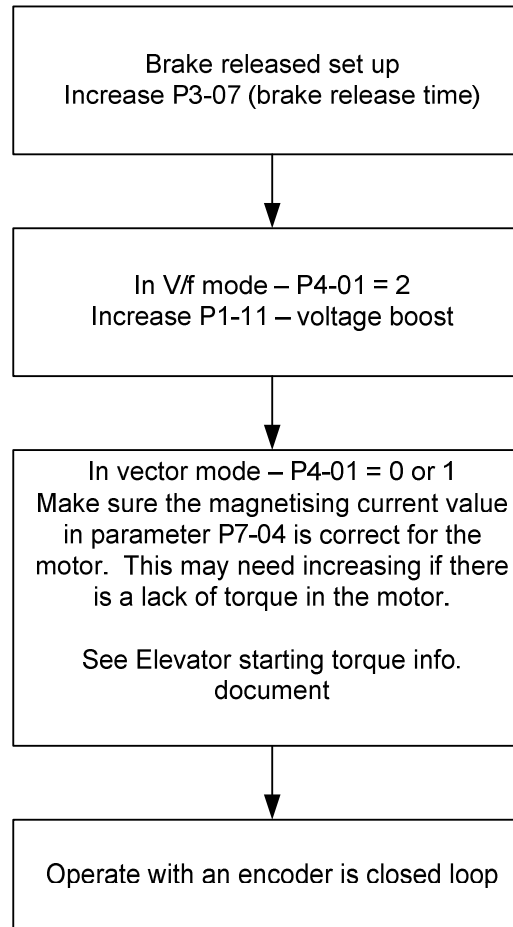
Encoder channel fault



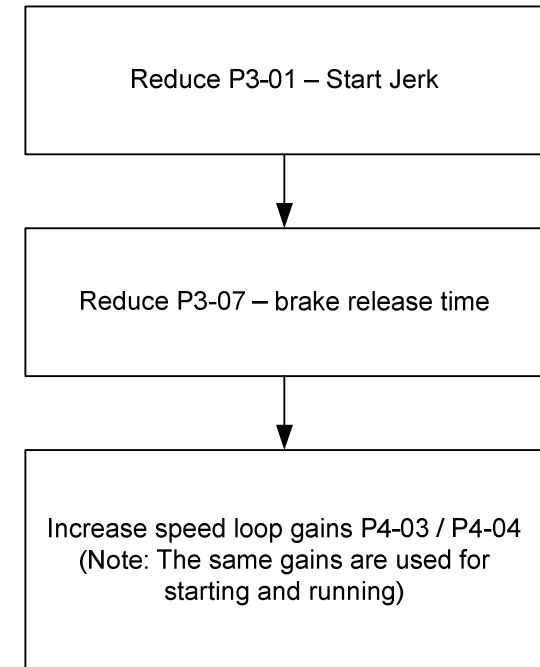
Motor stalls during take-off



Rollback during take-off



Start - Jerk



Steady state vibration/resonance

Run drive in V/f mode (P4-01 = 2) to see if vibration still present.
If still present, could be mechanical issue

Check drive not in current limit (Check output current <150% P1-08)

Reduce speed loop gains
P4-03 & P4-04

Motor Rated Speed P1-10

If it is required to display RPM but without slip compensation being enabled, P1-10 can be set to the sync speed of the motor e.g. 1500rpm for a 4 pole motor

By pressing the Navigate button on the drives display, the display will cycle as below :

- Frequency – Hz
- Current – Amps
- Power – kW
- Motor speed - RPM

Care should be taken when setting speed parameters as all parameters that were displayed in Hz will now be displayed in RPM

For example: P1-01 – Maximum speed will show 1500rpm

Arriving at floor too fast

Decrease flare jerk
P3-04 (deceleration rate)

Jerk felt when motor stops

Reduce stop jerk
P3-05 (S-ramp levelling duration)

Motor Speed does not increase to requested speed (remains at a low speed)

If the motor speed doesn't increase when being requested to go 'at speed', the drive may be in current limit (output current higher than motor rated current and 'dots' on display flash)

P0-03 gives the status of the Digital Inputs. This can be checked to see what speed is being selected

P0-04 gives the pre-ramp speed reference so this is the speed the drive should try to achieve

The issue may be caused by the magnetising current being too high causing the motor to saturate and go into current limit (with P4-01 = 0 and autotune carried out with incorrect setting of power factor)

Re-autotune the drive to the motor

If the power factor of the motor is known, set P4-01 = 0 and set P4-02 = 1 and autotune

If the power factor of the motor is NOT known, set P4-01 = 1 and set P4-02 = 1 and autotune

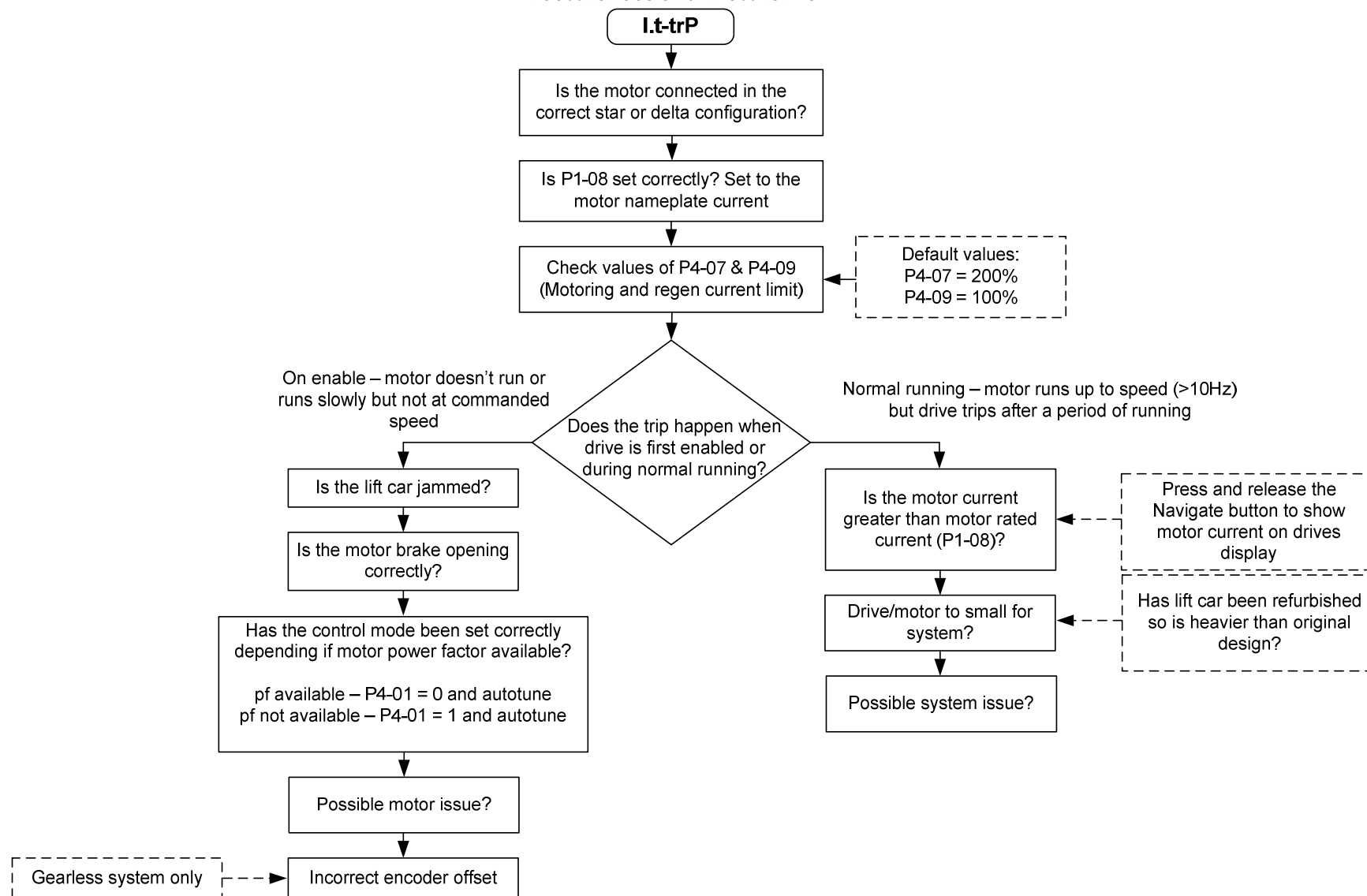
Check motor brake is off and motor not jammed etc.

P0-03 = 00000 with nothing connected to digital inputs.
Each digit represents a digital input:
00000 – DI 1 (terminal 2) 1 = Run Up
00000 – DI 2 (terminal 3) 1 = Run Down
00000 – DI 3 (terminal 4) 0 = Levelling speed / 1 = High speed
00000 – DI 4 (terminal 6) 0 = Terminal 4 selection / Inspection speed
00000 – DI 5 (terminal 10) 0 = Terminal 4 selection / Intermediate speed

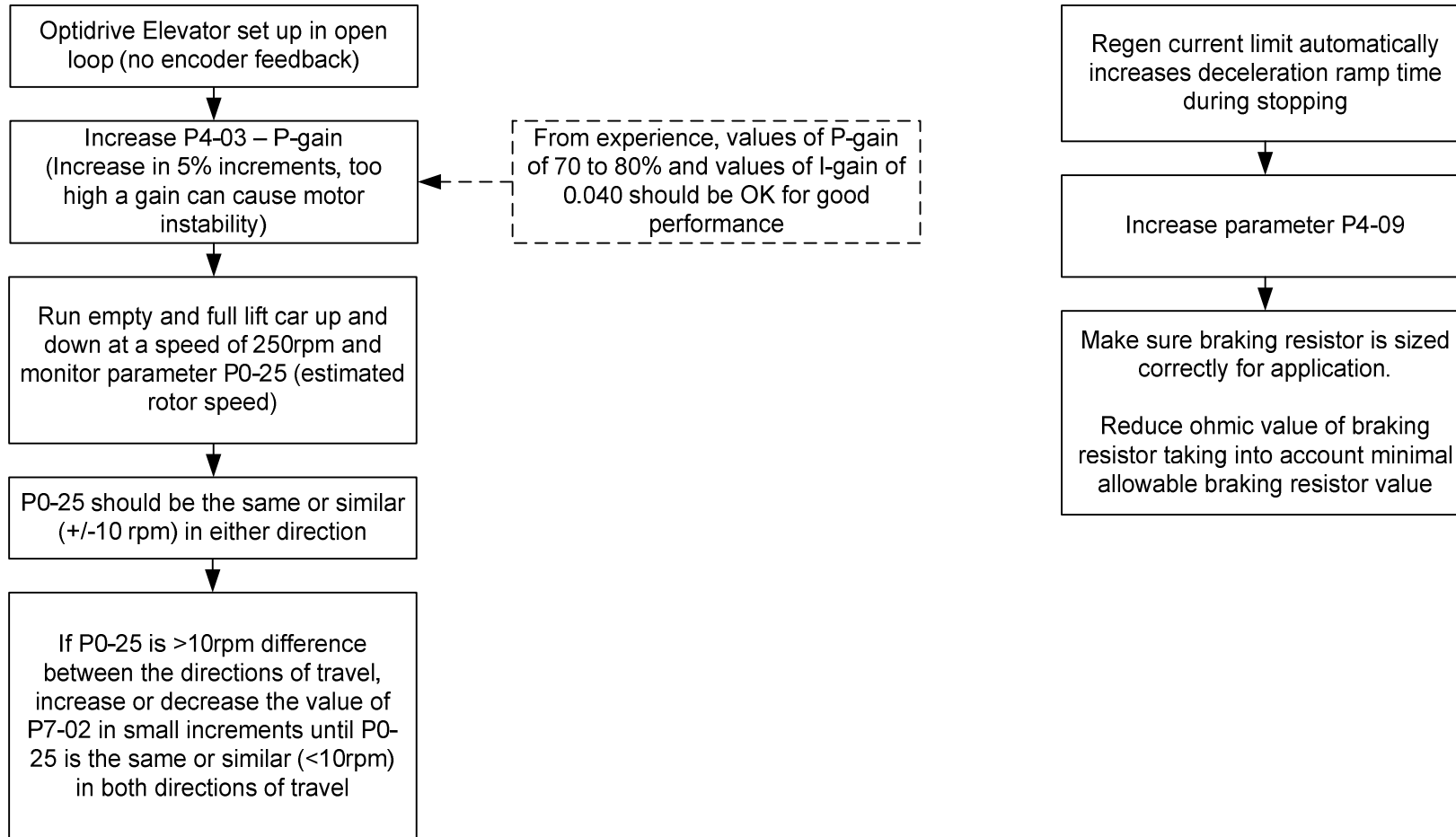
Parameters affected

P1-01 – Maximum speed
P1-02 – Minimum speed
P2-01 – Levelling speed
P2-02 – Run speed
P2-03 – Intermediate speed
P2-04 – Inspection speed
P2-05 – Rescue mode speed
P3-09 – Brake apply speed

Current x Time Trip
150% for 60s and 175% for 2s



Elevator car stops correctly at floor in one direction but misses floor in other direction



Motor brake connection

The motor brake must not be connected to the output of the drive.

The motor brake must have its own supply which can be controlled either by the drive or by the lift controller

The drives on-board relay, which can be set to control the brake must control a power relay/contacter which supplies the brake.

Autotune trips

If the drive trips on an Autotune failure – AtF-0X, check:

- Connections between drive and motor
- Motor connections
- Resistance between motor phases
- The drive and motor power ratings are similar
- Motor contactors between drive and motor are firmly closed during autotune

Increasing starting torque on an old motor (without motor power factor)

