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Template Ref: UK I & F\T\002 (May-2016)

REV
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UK INDUSTRY & FACILITIES
Inspection or Testing Document
Electric Traction Lifts



Doc Owner: TQR
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Lift Surveyors

Synopsis of procedure

What: This is the procedure for carrying out the Thorough Examination of Electric Passenger or Passenger/Goods/Service Lifts. The scope and extent of a Thorough Examination of a lift will depend on an assessment of the risks associated with the probability and consequences of deterioration or failure of the parts, components or systems under consideration. The Competent Person undertaking the Lift Thorough Examination will also need to consider its type and configuration, the environment in which it is operated and in some cases records of maintenance, repairs, and inspections.

Who: All BV employees and Non-Exclusives

Why: As a Method for carrying out Thorough Examinations.



Minimum PPE for this task



Complete a Take 2 Risk Assessment

Additional Task Requirements



Cardinal Safety Rules apply at all times



Use your Personal Safety Device



Calibrated equipment in date

Applicable Risk Assessments

The following Generic Risk Assessments must be considered before starting this task:

- RA38 Thorough Examination of Passenger / Goods / Service Lift
- RA03 Working at Height
- RA05 Hazardous substances
- RA06 Working with hand tools
- RA07 Working with ladders and step ladders
- RA01 Field Operations
- RA10 Confined space

Applicable Legislation

- Health and Safety at Work Act 1974
- Lifting Operations and Lifting Equipment Regulations 1998
- Provision and Use of Work Equipment Regulations 1998
- Lift directive for new installations (2014/33/EU)



Environmental Aspects

- Ensure that the BV Environmental Procedures are followed where appropriate
- Make yourself familiar with the Client's Waste Management systems for any waste that is generated during the inspection i.e. oily rags



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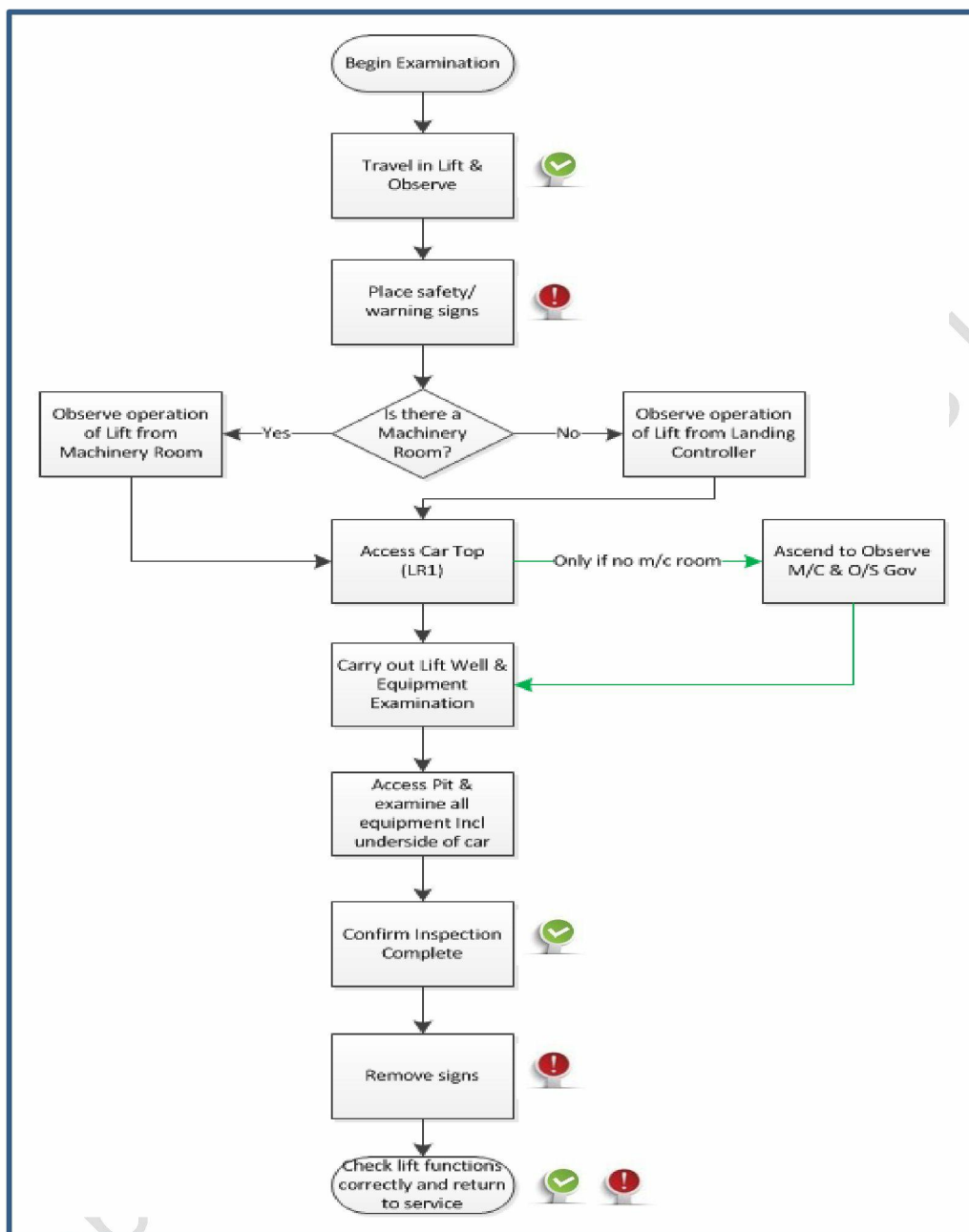


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Method Statement

The Examination is to follow this general overview:



[RA38](#)
[Thorough](#)
[Examination](#)
[of Passenger](#)
[/ Goods /](#)
[Service Lift](#)

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Key Points

Begin Examination



Can the examination be conducted safely? If yes, begin the examination. If no, **STOP WORK** and issue a 'Not Available Report' ([PS1017](#)).



Important ! If any defect is found during the examination that would render any further examination of the lift dangerous **STOP WORK** and issue a [PS1016](#) 'Preliminary Report' and a 'Not Available Report' ([PS1017](#)). A copy of the report is then to be sent to the relevant Enforcing Authority. In Section C of the report the client should be made aware that the examination was incomplete and should be re-examined following the repair and before putting back into service. The next examination date should be set to the same date the examination took place. For example, if the examination took place on the 09-09-2016 the next examination date should be set to the same, 09-09-2016.



- Set up 'Caution - Lift Under Examination – Please Do Not Use' signs on landings, in car and machine room.



- Take into account any additional control features i.e. Fire fighting, Fire recall, Vandal resistant.
- Any area of the equipment that is not accessible may preclude a Thorough Examination from being completed.

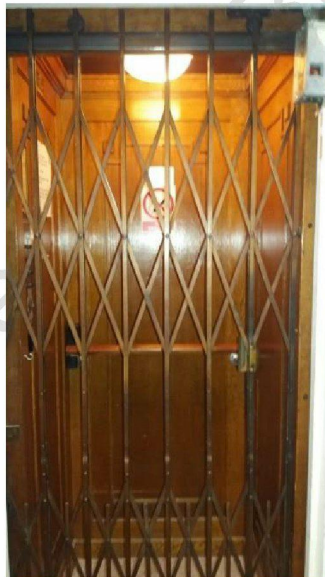
Travel in Lift and Observe

Is it a Goods or Passenger lift?



- If the lift is '**goods only**' send and call the lift from each landing and check the correct function of buttons and any call acceptance/indicator lights. Refer to [TGN 023 - MISC - 2000 Trapping of Goods](#).
- If the lift is for **passenger** use, travel in lift to all floors entering calls on car panel. Ensure all call buttons register and note any inoperative call acceptance/indicator lights. Check the ride quality.

Is the lift an older installation or with manual doors or gates?



- Check if a 'Floating Floor Switch' is fitted and refer to [TGN 014 - MISC - 1998 Lift Car 'Floating Floor' Switches](#)



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- Check manual doors or gates for correct function and security in the car and on the landings. The fixed side should not be loose as there is a risk that the door/gate could become detached and opened during travel. Gate panels and spines should all be fitted and in good condition, if not, there is risk of exposure to the liftway during travel. Spigots should be fitted and in good condition. Door handles should be fitted and secure and any vision panels should not be missing or damaged.
- **Think!** A missing vision panel would expose the liftway during travel.

General checks:



- Check the car interior floor area available. Does it seem excessive for the safe working load marked? There could be risk of overloading, if so. Refer to [TGN 013 - TRAC - 2000 Traction Lifts with Excessive Car Floor Area](#).
- Listen for unusual sounds. There should be no rubbing, banging or scraping noises etc. What could this indicate? Something loose? Lack of guide lubrication? If so investigate further.
- Look for any strange behaviour. There should be **NO** erratic travel. This could be constant releveling indicating a control fault. Is there erratic drive present? Inconsistent/incorrect speeds or stopping/starting could also indicate a control fault.
- Take note of any damage to car interior and aesthetics. For example; Car interior handrails, mirrors, flooring and ceiling should be secure and not damaged.
Think! Worn or damaged decorative floor covering may cause a tripping hazard!
- Car door equipment should be secure and not damaged with **NO** excessive running clearances. Please refer to [TGN 037 - MISC - 2007 Sliding Door Clearances](#).
- If there are there **NO** car doors then refer to [TGN 002 - MISC - 1996 Passenger Lifts without Car Doors or Car Gates](#).
- Exterior landing door equipment should be secure and not damaged with no excessive running clearances. Refer to [TGN 037 - MISC - 2007 Sliding Door Clearances](#). If the landing doors are hinged, then they should self close.



- Observe the car door operation. Check for damage, security and running clearances. The door(s) should not close too quickly. Refer to [TGN 037 - MISC - 2007 Sliding Door Clearances](#).
- Test the door protection device by obstructing door close travel sequence. Does the car door protective device function correctly? If not, this could cause injury to passengers and should be noted in the relevant section of the report.
- Check the function of the door open button and door close button if fitted
- Check that the lift levels correctly and within tolerance. Refer to [TGN 011 - MISC - 1998 Floor Levelling of Lifts](#).
- Do the alarm and emergency two way communication system operate correctly even with power off? Test for correct function and clear audible connection. Refer to [TGN 039 - MISC - 2008 Alarms & Communication Systems](#).
- Does the car interior have an emergency stop switch fitted? Check for correct function by activating whilst lift stationary, **NOT** during travel. Refer to [TGN 036 - MISC - 2007 Stop Switches In Lift Cars](#).
- Lighting should be adequate. Test emergency light if fitted.



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- Is the SWL marked? A weight should be marked as a minimum. Record this as it will be needed on the inspection report.

Machine Room and Pulley Room Equipment or location of associated equipment if Machine Room Less. Observe Lift operation from Machine Room or location of drive if Machine Room Less.



- Access should be prevented to unauthorised Personnel. Check the motor room door or Maintenance Access Panel (MAP) can be locked from the outside and if a motor room it can be unlocked from the inside.
- Check and ensure the correct signage is in place. Danger/Electric Shock/Emergency Release Procedure notices etc.
- General operational motor room/MRL lift components should be verified for correct function, wear and security.



- Hand winding equipment should present and correct for its purpose with a function test of any switches carried out. There may be a brake release tool required and this should also be available for emergency use. If fitted, the floor level indicator/sounder should operate correctly with power off.



- If there is a trap door fitted, check for condition and security. Refer to [TGN 031 - MISC - 2002 Trap Doors in Machine Room Floors.](#)
- Ensure there is a rubber mat available for use in front of the Controller. Refer to [TGN 020 - MISC - 2000 Rubber Mats at Control Panels.](#)
- If a communication system is fitted, check correct function



- Internally inspect the mains isolator. Look for any signs of overheating. Visually inspect only. Refer to [TGN 019 - MISC -2000 Bill Switchgear Ltd - Electrical Isolators.](#)



- Lighting should be adequate. Check correct function of emergency lighting if fitted.
- Carry out a functional test on any socket outlets fitted. Refer to [TGN 025 - MISC - 2001 Testing of Socket Outlets on Lifts, Escalators & Moving Walkways](#)

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- Carry out a visual inspection of the controller equipment. Look for signs of overheating and damaged/loose components.
- Listen for unusual sounds from the drive gear. If so, investigate further visually. Take care around moving parts.
- Look for any strange behaviours. This could be constant releveling or brake operation indicating a control fault. Is there erratic drive present? Inconsistent/incorrect speeds or stopping/starting could also indicate a control fault.



- Take note of any damage or loose components/fixings i.e. loose/missing inspection covers and guarding. Beware of any moving parts if these are missing.
- When inspecting gear or drive area always isolate electrically.

- Check the condition of the brake(s) i.e. worn linings.
Refer to:

- 1) [TGN 007 - TRAC - 1994 Inspection of Lift Brake Assemblies.](#)
- 2) [TGN 008 - TRAC - 1994 Brake Linings on Schindler W163 Lift Machines.pdf](#)
- 3) [TGN 005 - TRAC - 1994 Dupar Lift Brakes.](#)
- 4) [TGN 006 - TRAC - 1994 Otis Elevator – Integral Brake Release Lever.](#)
- 5) [TGN 010 - TRAC - 2001 Express Gearless Machine Brake Coil Terminations.](#)
- 6) [TGN 018 - TRAC - 2007 Schindler BS11 Motorized Brake](#)
- 7) [TGN 020 - TRAC - 2007 Evans Lift Machine Brake Failure](#)
- 8) [TGN 022 - TRAC - 2008 Sassi Brake Type 3040](#)
- 9) [TGN 023 - TRAC - 2008 Kone Bonded Brake Linings](#)



- Visually inspect gearless drive, gearboxes, worm or reduction gear for wear/damage. Refer to [Technical Library - Section 1 – Traction Lifts – TGN001, TGN002, TGN003, TGN004, TGN011, TGN014 and TGN016.](#)



- Check any sheave grooves, pulleys and sprockets for wear. Ropes sitting too low in the drive sheave could indicate a worn sheave. Poor alignment of chains over sprockets could also indicate wear.



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- The over-speed governor should be observed during movement of the lift for any abnormalities. Fixings should be secure and the switch should function correctly. Calibration seals should not be broken and be in place.
- Check for suspension rope slip by visually observing and if needed verifying by marking across ropes and traction sheave with chalk, running through a cycle of terminal floors and then comparing variations in measurements
- Oil leakage – are there any leaks from the gearbox? These should be eliminated and reported as such in the appropriate section of the Thorough Examination Report. Have they contaminated the brake linings as this could cause incorrect levelling and start/stopping of the lift?



- Check for Vibration – can you hear or feel any vibrations? This could indicate gearbox problems.
- Check for Heat – can you feel excessive heat? This could indicate lack of oil or over use.
- Check the oil condition – has the oil got water in it which could be indicated by a white colour? Is it clean? Brass filings could be a sign of wear on crown wheel or worm teeth.
- Check and internally examine the worm & crown wheel as far as practicable with an inspection mirror/device. Check there are no teeth missing, worn or pitted teeth. A SAFed Supplementary Test may be required if serious concerns are raised. Refer to [TGN 035 - MISC - 2007 SAFed Guidelines on supplementary tests for in service lifts.](#)



- Check any suspension rope anchorages. Tightness and security of fixings and locknuts should be in place and secure with equal spring tensions if fitted. Refer to [TGN 038 - MISC - 2008 Dry Rope Socket Terminations](#) and [TGN 026 - TRAC - 2008 Suspension Rope Anchorages Using Rope Grips.](#)



- If the installation is a VVDC Drive then the carbon brushes and commutator should be checked visually. If brushes are unevenly worn, sparking, noisy or there is any build-up of carbon dust, then this could indicate poor maintenance and this should be reported on appropriately in the relevant section of the Report of Thorough Examination.

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Access the car top



Beware If the lift is of a **Partial Enclosure type**. Refer and adhere to any site specific requirements.

Scenic lifts are generally inspected 'out of hours' as there is risk of falling equipment to below and sometimes the lift maintenance company are required to be in attendance to remove any covers. A Safety Harness must be worn whilst on the car top. This is also subject to your own Risk Assessment and an exclusion zone being in place before commencing the examination.

Beware of any obstructions or equipment that may cause a tripping hazard. Oil can sometimes accumulate on the car top, so pay particular attention to this so as to avoid slipping.



Refer to LR1 SAFed Document and follow car top control checks.

Also refer to



- (1) [TGN 006 - MISC - 1996 Diamond 'H' Type Toggle Switches](#), [TGN 016 - MISC - 1998 Car Top Control Stations Manufactured by Dover](#)
- (2) [TGN 007 - MISC - 1997 Safe Working Procedures when carrying out Examinations from the Lift](#)
- (3) [TGN 019 - TRAC - 2007 Examination Procedure – Thyssen 'Galaxy' MRL](#).
- (4) [TGN 027 - TRAC - 2009 U.K Lift Company – Machine Room Less Lifts](#).
- (5) [TGN 030 - TRAC - 2009 Schindler Euro Lift models with Temporary Safety Device \(TSD\)](#).
- (6) [TGN 029 - TRAC - 2009 Kone 'Fure' Device and Landing Door Opening Detectors](#).
- (7) [TGN 032 - TRAC - 2009 Schindler Eurolift – Liftwell Access via Car Ceiling](#).
- (8) [TGN 031 - TRAC - 2009 Kone – 'Maxispace' Lifts](#)

- Check function of any extra emergency stop switches. They should be secure and within 1 metre of the landing if fitted. If not, comment appropriately in the relevant section of the report.
- Beware of any sudden movement of any door operating equipment when accessing the car top.
Think! You could become entangled. Wait and observe before accessing car top and ensure it is safe to do so.
- Ensure there is adequate lighting turned on in the lift-way and on the car top. **Think!** Inadequate lighting could put you at risk.
- Beware if there is an excessive void between car top edge and lift-way wall. **Think!** There is risk of falling if this clearance is excessive and there are no car top handrails. Exercise care and caution.
- If car top handrails or barriers are fitted they should be secure and any electrical interlocks fitted functioning correctly.
- General operational car top lift components should be verified for correct function, wear and security.

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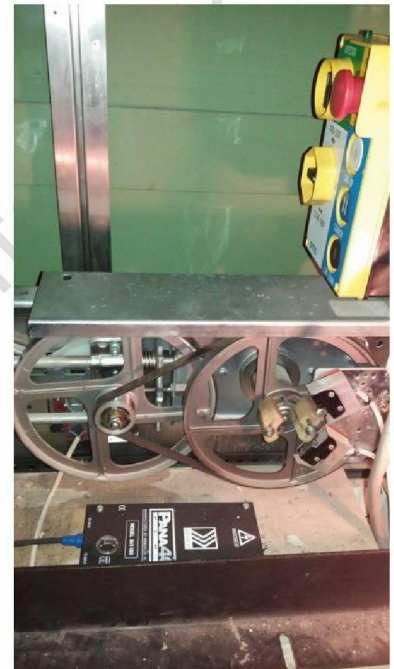


- Test any car top socket outlets for correct function. Refer to [TGN 025 - MISC - 2001 Testing of Socket Outlets on Lifts, Escalators & Moving Walkways](#).
- If a car top communication system is fitted then correct function should be verified. Test function by entering a call and await a response.



- The car door lock switch should be checked for correct function and security which also includes any auxiliary switches, which should also be proved separately.

- Check function of car door operating equipment and header equipment. All linkages and fixings should be secure and serviceable. If drive belts are fitted they should not be worn or damaged. All covers should be in place securely. Refer to [TGN 037 - MISC - 2007 Sliding Door Clearances](#). **Caution!** When opening the car door manually or under power, ensure that the landing door pick up lock rollers on the landing door below the car have not caught on the car door equipment which would expose the liftway. This would pose a risk to persons entering and falling.



- Car door panel interconnecting wire ropes should be secure and not worn or damaged. **Caution!** Take care when checking for broken wires.
- Check for wear on car door rollers. These should run smoothly and all upthrust 'kicking' rollers fitted and adjusted correctly. Rollers tyres can become perished and difficult to see if contaminated with oil or grease. Clean off if necessary.
- Car door shoes should be fitted, serviceable and be secure. Refer to [TGN 027 - MIS - 2001 Lift Door Guiding Systems](#).

- Check any suspension rope anchorages. Tightness and security of fixings and locknuts in place/secure, equal spring tensions. Refer to [TGN 038 - MISC - 2008 Dry Rope Socket Terminations](#) and [TGN 026 - TRAC - 2008 Suspension Rope Anchorages Using Rope Grips](#).
- If a diverter sheave is fitted is it should be checked for wear and condition of grooves. **Caution! Beware** during movement of car if this is unguarded.



- Ensure car guide shoes are secure and any liners are not missing or worn giving excessive movement. If guide rollers are fitted these should be checked for wear, security and centralisation with no uneven wear on the tyres present. Wear could be perished tyres, uneven wear or flat spots.



- Car exterior walls and inaccessible components should be visually inspected from the car top with care and any possible abnormalities noted. **Important!** Sufficient lighting should be made available to ensure this is safely carried out. You are at risk if inadequate lighting is present.
- Car top structure including sling, crown bar and cab ties should be checked for security and any

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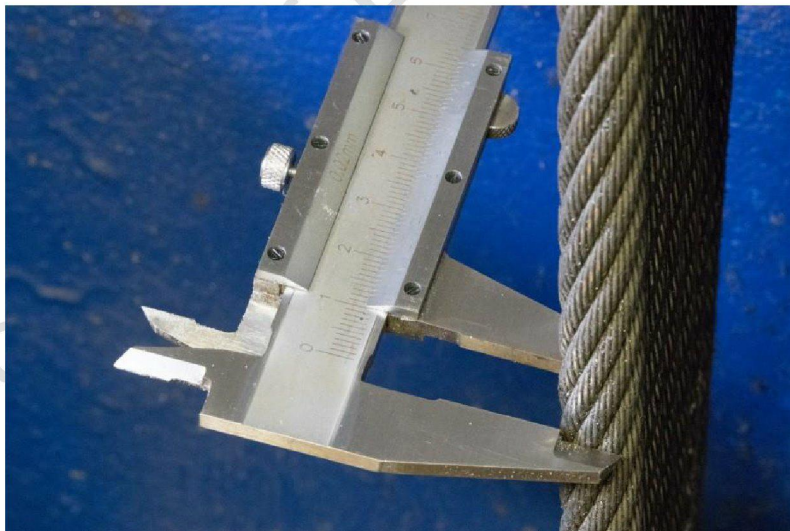
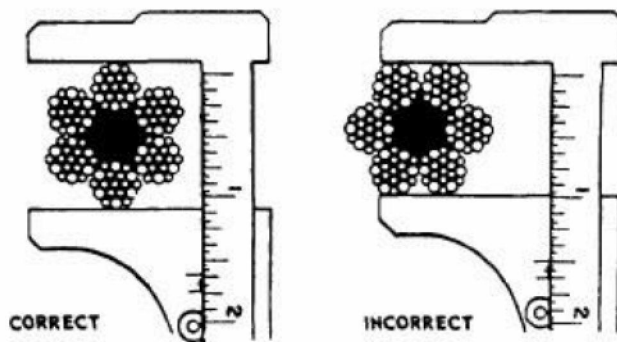
isolation rubbers checked for fatigue. **Think!** Isolation rubbers may become perished and crack.

- Beware when dismantling from car top on to a landing. Open landing doors slightly at first and slowly thereafter. Refer to [TGN 010 - MISC - 1998 Dismounting from Otis Lift Car Tops Following Examinations](#).
- Ensure that your footwear is clean, when dismantling as oil/grease or dirt could be transferred to the landing floor threshold area.
- Ensure that the landing door is fully closed. Physically check that the door cannot be manually pulled open. There could be risk of persons entering the lift way if the door is not correctly closed.

Lift Well and Equipment Examination



- Inspect suspension ropes/chains/belts during car top travel from top to bottom. Refer to
 - (1) [Technical Information and Rejection Criteria, Section 6. SAFed Guidelines on Supplementary Tests for in-service lifts.](#)
 - (2) [TGN 017 - TRAC - 2005 Otis Gen 2 – Flat Coated Steel Belts.](#)
 - (3) [TGN 021 - TRAC - 2008 Schindler – Flat Coated Steel Suspension Belts.](#)
 - (4) [TGN 033 - TRAC - 2010 Plastic Coated Suspension Ropes \(SDR ropes\).](#)
 - (5) [TGN 028 - TRAC - 2009 Crossed Suspension Ropes.](#)



A SAFed Supplementary Test may be required if serious concerns are raised or sections of inaccessible means of suspension cannot be inspected. Please refer to [TGN 035 - MISC - 2007 SAFed Guidelines on supplementary tests for in service lifts](#).



- If Compensating ropes/chains are fitted, their terminations should be secure.
- Trailing flexes should be visually checked. They should not be damaged or exposing any wires.



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- Check the landing door locks and associated equipment for correct function and security. The emergency release device must operate correctly and with ease. Remove covers for internal lock examination at least every 12 months and indicate this on the report of examination. Wiring should be secure and correct clearances obtained.

Refer to:

- (1) [TGN 003 - MISC - 1996 Dewhurst VL Series Door Locks.](#)
- (2) [TGN 004 - MISC - 1996 Wadsworth Type EM72 Locks.](#)
- (3) [TGN 005 - MISC - 1996 Wadsworth Retractable Lock Beak Assemblies.](#)
- (4) [TGN 008 - MISC - 1997 Evans ZM516 Locks.](#) (5) [TGN 015 - MISC - 1998 Evans Lifts Ltd - Lock & Switch Interiors.](#)
- (5) [TGN 034 - MISC - 2002 Lock Beaks – Usage Prohibited.](#)



A SAFed Supplementary Test may be required if the lowest floor landing lock cannot be safely inspected ie long distance from bottom landing to next landing. Please refer to [TGN 035 - MISC - 2007 SAFed Guidelines on supplementary tests for in service lifts.](#)

- The over-speed governor (if fitted in lift way) should be observed during movement of the lift for any abnormalities. Fixings should be secure and the switch should function correctly. Calibration seals should not be broken and be in place.
- Ensure all landing door self-closing mechanisms and interconnecting wire ropes are functioning correctly and in good condition. **Caution! Take care** when inspecting the wire rope for broken wires. The landing doors should self-close from the fully open position.



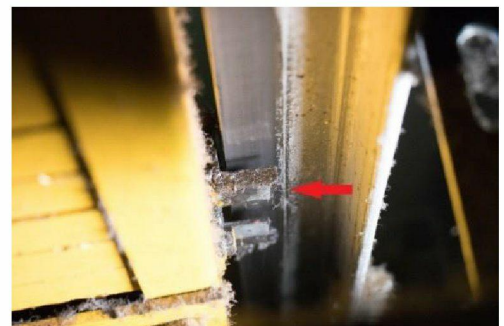
- Inspect for wear and ensure full security of all landing door panels and shoes.

Refer to

- (1) [TGN 037 - MISC - 2007 Sliding Door Clearances.](#)
- (2) [TGN 027 - MIS - 2001 Lift Door Guiding Systems.](#)
- (3) [TGN 040 - MISC - 2011 Schindler Telescopic Doors.](#)
- (4) [TGN 012 - MISC - 1998 Kone Marryatt Scott - V E Landing Door – Running Clearances.](#)



- Check landing door header equipment. Rollers should be secure, not be worn and run smoothly. Upthrust 'kicking' rollers should be secure and adjusted correctly to eliminate the possibility of doors becoming dislodged.
- Check car and counterweight guides. The brackets and fixings should be secure, with none missing. The guides should be sufficiently lubricated if guide shoes are fitted.



Important! Beware of moving counterweight when on car top control at all times.

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- Ensure counterweight guide shoes are secure and any liners are not missing or worn giving excessive movement. If guide rollers are fitted these should be checked for wear, security and centralisation with no uneven wear on the tyres present.
- Inspect counterweight. Filler weights should be secure and suspension rope terminations secure with spring tension equal?
Refer to
 - (1) [TGN 038 - MISC - 2008 Dry Rope Socket Terminations](#)
 - (2) [TGN 026 - TRAC - 2008 Suspension Rope Anchorages Using Rope Grips.](#)
 - (3) [TGN 024 - TRAC - 2008 Schindler Smart MRL Lifts – Counterweight Upper Yoke Failure](#)



- Carry out over travel clearance measurements and record measurements. Refer to [TGN 025 - TRAC - 2008 Operating Clearances of Machine Room-less Lifts](#)

Test function of Up and Down Test limits. Beware there should be sufficient clearance when Personnel are on the car top with safe access and egress in place



- Test function of Terminal floor Limit and Final Limit.
Refer to
 - (1) [TGN 024 - MISC - 2004 Wadsworth – Final Limit Switches.](#)
 - (2) [TGN 030 - MISC - 2002 Final \(Ultimate\) Limit Switches.](#)
 - (3) [TGN 032 - MISC - 2002 Hammond & Champness Final \(Ultimate\) Limit Switches.](#)



- Inspect any overhead Diverter pulleys. Fixings should be secure and grooves checked for wear
Refer to [TGN 009 - TRAC - 1994 Lift Diverter Pulley Supports.](#)

- Check lift-way fascia panels. They should be secure and none missing.
- If a safety gear is fitted on the car top, the linkages should be checked for freedom of movement and the function of the switch verified. Refer to [TGN 018 - MISC - 2000 Torpedo Rope Release Device – Dewhurst Type LCT.](#)



- Any access door/hatch switches, i.e. for overspeed governor reset procedures, should be checked for correct function and be secure.

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Access Pit & Examine all Equipment

Refer to LR1 SAFed Document



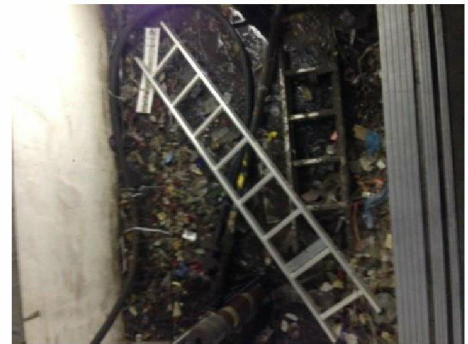
Caution! A landing safety barrier should be in place before opening of landing doors to access the pit. The company issued landing door stop tool should always be used to hold open the landing doors when entering the pit. Screwdrivers and other devices should not be used as there is risk of displacement and the doors closing unexpectedly causing entrapment.



- Verify Emergency pit stop switch before entering the pit. It should function correctly and be secure. Refer to [TGN 022 - MISC - 2000 Klockner Moeller Stop Switches](#).
- General operational lift pit components should be verified for correct function, wear and security.



- Pit access ladder and any hand holds should be secure and safe to use. **Caution!** Ensure pit ladder is correctly stowed when finished with.



- Over running devices and limit switches should be checked including measurement of over travel clearances. Top final limit must activate before counterweight buffers. Car must rest on fully compressed buffer without the counterweight frame coming out of its guides. Counterweight must buffer before car top highest point strikes lowest point in top of lift-way. Carry out over travel clearance measurements and record measurements.

Refer to

- (1) [TGN 025 - TRAC - 2008 Operating Clearances of Machine Roomless Lifts](#)
- (2) [TGN 024 - MISC - 2004 Wadsworth – Final Limit Switches](#).
- (3) [TGN 030 - MISC - 2002 Final \(Ultimate\) Limit Switches](#).



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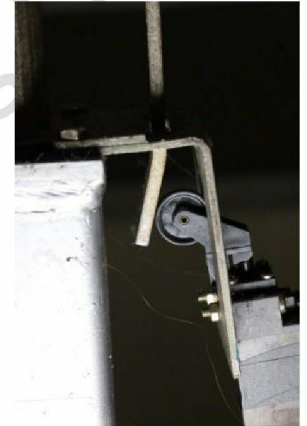


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- Operate any other limit switches which should function correctly.
- Check Governor return pulley and switch (if fitted). There should be sufficient clearance to enable correct operation of the switch and to allow the rope to be correctly tensioned. **Remember**, if there is insufficient clearance then the safety gear may not operate.



- Condition of buffer and return switches (if fitted). There must be no oil leaks and fixings must be in place, good condition and secure. Refer to [TGN 001 - MISC -1994 Seized or Depressed Oil Buffers](#).
- If a safety gear is fitted underneath the car, the linkages should be checked for freedom of movement and the function of the switch verified. Refer to (1) [TGN 018 - MISC - 2000 Torpedo Rope Release Device – Dewhurst Type LCT](#). (2) [TGN 021 - MISC - 2000 Safety Gear Mechanisms by Barron & Shepherd](#).
- The security and fixings of the car apron should be checked.



- If any under car pulleys/diverters are fitted these should be checked for security and groove wear. Any rope retaining devices should be secure.
- All under car equipment should be checked for security and correct function. The trailing flexes should be fully secure at their termination.
- A counterweight screen or guard should be in place and checked for security and effective guarding. **Caution!** If working in the pit and a second person is moving the lift car by car top control then **Beware** of the descending counterweight or car and its associated components. **Good, clear communication should be kept at all times.**
- Test function of any socket outlets fitted. Refer to [TGN 025 - MISC - 2001 Testing of Socket Outlets on Lifts, Escalators & Moving Walkways](#).
- Any compensating rope sheaves should be checked for wear and security and switches function tested. Compensating chains should be correctly adjusted and **NOT** fouling the pit floor or counterweight screen.
- Ensure that your footwear is clean, when exiting the pit as oil/grease or dirt could be transferred to the landing floor threshold area. Again ensure the landing door is correctly closed.

Remember: The following icons illustrate and highlight key points



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Dimensions and Information

| Item | Dimension | Tolerance (+/-) |
|--|---|-----------------|
| Door closing force | 150 N | |
| Door closing speed | 10 J | |
| Rope Rejection Criteria | Refer to SAFed Guidelines on Supplementary Tests Section 6 | |
| Suspension Rope quantity | Minimum of 2 each independent and at least 8 mm diameter | |
| Max speed of operation on car top control | 0.63 m/s | |
| Rope reduction | 6% of rope diameter max | |
| Allowable gap on a lattice type car gate | 65mm max | |
| Car door face to lift way wall | 150 mm max or mechanical car door lock required | |
| Car door surface to landing door surface | 120 mm max | |
| Chain elongation | 3% | |
| Floor levelling. VF, two speed ac machines | +/- 10 mm or +/- 20 mm during loading or unloading | |
| Floor levelling. Single speed ac machines | +/- 25 mm to +/- 40 mm | |
| Car sill to landing sill | 35 mm max | |
| Drive sheave to rope ratio | 40:1 | |
| OSG sheave to rope ratio | 30:1 | |
| OSG rope diameter | Min 6 mm | |
| Scenic lift enclosures | Min 3.5 m at the front Min 2.5 m to the side and rear at 0.5 m reach | |
| Door to architrave clearances | 6mm to 10 mm Max | |
| Door parting clearances (subject to risk assessment of site) | Side opening 30 mm max Centre opening 45 mm max | |

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| Suspension ropes and / or chains | | | |
|----------------------------------|---|---------------------------|---|
| Broken wires |  | Rouge |  |
| Surface wear |  | Rusting |  |
| Valley breaks |  | Deformation |  |
| Crushing |  | Malformation |  |
| Protruding wires on belts |  | Protruding wires on belts |  |

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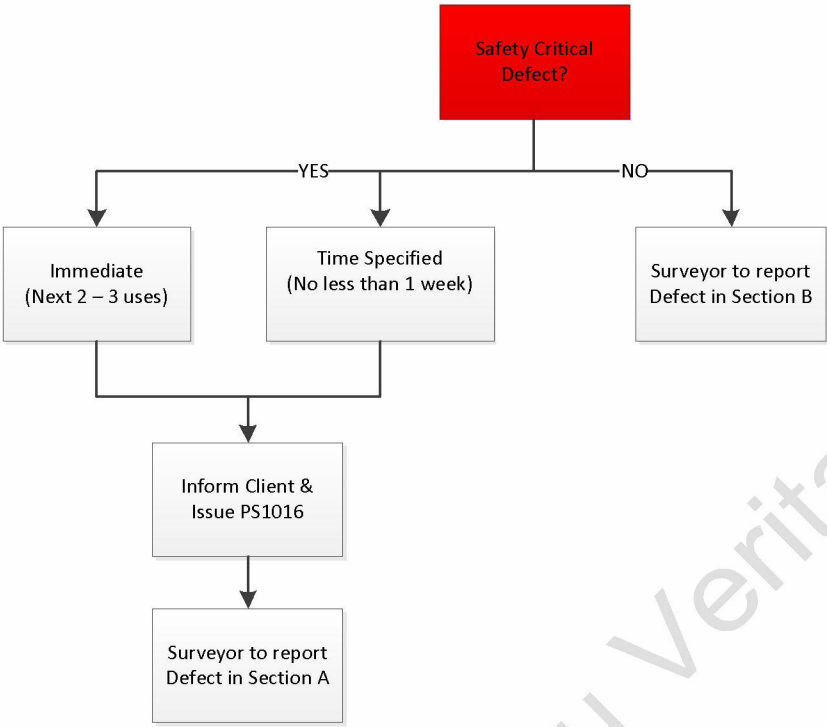
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Decision Process for determining defects:



Follow procedure [GEN005](#) to issue the defect report to the Client and record against the asset.

Typical **A Defects** are:

- A car buffer of energy dissipation type on a passenger lift is found to be fully compressed.
- A vision panel is missing on the landing door/gate.
- A main or auxiliary landing door switch is defective.
- A car door switch is defective.
- An emergency stop switch in the car is inoperative.



If you are not sure **STOP** and ask for assistance/guidance.
Contact your Technical Manager, RSE or Area Manager

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Revision History

| Revision | Date | Comments |
|----------|----------|---|
| 0 | Feb 2017 | LIF001 reviewed and updated to new format |
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