INTEGRATED MANAGEMENT SYSTEM

TRANSNET
CODE OF PRACTICE 29

Code of practice for the safe operation of machinery, plant and equipment and instructions regarding the examination, testing and logging procedures for machinery, plant and equipment.

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PREFACE TO THIS NEW ISSUE

Transnet regards the proper use of its plant and equipment and the maintenance thereof in a proper and sound manner, as extremely important.

General Machinery Regulation of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) requires that an employer (**Transnet**) shall ensure that every person authorised to operate machinery is fully aware of the dangers attached thereto, and is conversant with the precautionary measures to be taken or observed to obviate such dangers.

This Code of Practice was compiled to assist and advise the line managers / supervisors and employees on the safe and proper use and maintenance of the relevant machinery, plant and equipment (mainly in use for lifting purposes), based on the principles of best engineering practices.

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AMENDMENT INFORMATION

DATE	SCOPE	ISSUE(Am)	BRIEF DESCRIPTION OF AMENDMENT
1997-01-05	Complete Code of Practice	1(0)	Initial release of Issue 96/1 of Code of Practice No. 29
2020-11-01	Reviewed Code of Practice	2(0)	Complete review and update of Code of Practice No. 29

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PART 1: POLICY

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1.1 PURPOSE

1.1.1 The purpose of this policy, is to lay down the basis for safe operation of machinery, plant and equipment, as well as the philosophy for the examination, testing and logging related to machinery, plant and equipment and thereby managing the liability exposure of Transnet.

1.2 INTRODUCTION

1.2.1 Transnet requires that all fixed assets of which the Company is the Owner or User be kept in a good and safe condition, reducing Transnet's risk related to the above mentioned assets as well as optimising its life expectancy. It is therefore necessary that all machinery, plant and equipment periodically be examined to ensure the safe and proper use and maintenance thereof.

1.2.2 Examinations must be scheduled, as it is necessary that these periodic examinations be recorded to ensure that all machinery, plant and equipment is covered, and reports be submitted to the *Supervisor* for remedial action. He/she must acknowledge by signature.

1.2.3 Care must be taken to ensure that the documentation and records required by this Code of Practice, leaves a proper audit trail for later reference.

1.2.4 It was endeavoured to compile this code as detailed and yet as generic as possible, so that it can be used by all business divisions/units of Transnet.

1.3 POLICY

1.3.1 No piece of machinery, plant or equipment, covered by this Code of Practice, may be used unless it complies with the certification requirements of this Code of Practice and the *User* of the machinery, plant or equipment is in possession of a valid certificate in terms of this Code of Practice.

1.3.2 This code shall be supplementary to the Occupational Health and Safety Act (Act 85 of 1993) and without prejudice to the above mentioned act, provide more specific guidelines to promote safety in circumstances applicable to Transnet.

1.3.3 All machinery plant or equipment owned and/or operated by Transnet must at all times be kept in a serviceable and safe state. This means that regular maintenance and inspections must be done according to the instructions of this Code of Practice.

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1.3.4 In the case of machinery, plant or equipment not being used or in the case where it is desirable that equipment not be maintained or inspected and tested, such machinery, plant or equipment must be mothballed or scrapped and may not be used until the appropriate instructions of this Code of Practice have been complied with.

1.3.5 In the case of maintenance done by a private contractor to machinery, plant or equipment owned and/or operated by Transnet, the regular inspections must either be done by a *Competent Person/ Lifting Machinery Inspector* employed by Transnet or by a *Lifting Machinery Entity* registered with the Department of Labour.

1.3.6 Regular inspections of the condition of and audits of the associated documentation of machinery, plant or equipment owned and/or operated by Transnet, will be done.

1.3.7 Proper records of all incidents, modifications, maintenance and inspections will be kept of all machinery, plant or equipment owned and/or operated by Transnet.

1.3.8 A central database will be established and maintained by the *General Manager* - Engineering/Infrastructure/Technical, of all machinery, plant or equipment owned and/or operated by Transnet.

1.3.9 All *Competent Persons/Lifting Machinery Inspectors* and *Technical Auditors* appointed in terms of this Code of Practice will be independent of the operating as well as maintenance legs of any particular business unit of Transnet. Should this prove to be impossible, impracticable or uneconomic, *Competent Persons/Lifting Machinery Inspectors* may be placed within the maintenance legs of a business unit, but must have a *separate reporting line* for the inspection function. Further, the *Competent Person/Lifting Machinery Inspector* may not be responsible for examining any equipment where he/she was directly involved with maintenance.

1.3.10 The *User* will ensure through the necessary controls and appropriate management techniques, that all machinery, plant or equipment owned and/or operated by Transnet and under his/her control, are operated safely and responsibly.

1.3.11 When this Code of Practice, or parts thereof, is accepted and implemented by the different business divisions/units, the responsibility rests on the relevant business divisions/units to supply the Code of Practice or parts thereof to employees and to ensure that the Code of Practice or parts thereof are understood, applied and adhered to.

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1.3.12 Exemptions from the requirements of any instruction will not necessarily need to be granted only by the *General Manager Engineering/Infrastructure/Technical*, but copies of the exempted authorisations and details of the particular situation, obtained from a *Professional Engineer*, acceptable to the *General Manager Engineering/Infrastructure/Technical*, must be sent to both the *General Manager Engineering/Infrastructure/Technical* and the *Group Risk Manager*, Transnet.

1.3.13 All exceptional repairs (including welding) or modifications must be authorised by a *Professional Engineer*. In the case of *OEM* approved repairs or modifications, the authorisation must be supplied by a *Professional Engineer* employed or contracted by the *OEM*.

1.3.14 The *General Manager Engineering/Infrastructure/Technical*, is responsible for the *maintenance* of this Code of Practice and *The Group Risk Manager* is responsible for the *administration* of this Code of Practice in terms of its implementation in Transnet.

1.3.15 All proposed updates or improvements must be sent to the *Group Risk Manager Transnet*, who shall refer the matter to the *General Manager Engineering/Infrastructure/Technical*. An individual exemption authorisation (Form A8) or an amendment to the Code of Practice will then be issued, if deemed necessary. It must be noted that the particular Business Unit may not work according to their proposed update or improvement until they are in possession of the above mentioned individual exemption authorisation or an amendment to the Code of Practice giving them the permission to do so.

1.4 LEGAL APPOINTMENTS

1.4.1 Appointment of the GCE in terms of OSH Act 16.1.

1.4.2 Appointments of Divisional CE's in terms of 16.2

1.4.3 Appointments of General Manager Engineering/Infrastructure/Technical in terms of 16.2 delegation

1.4.4 Appointments of Chief Engineer or Senior Engineering Manager or Port Engineer in terms of GMR2.1 at National Port Authority and Port Terminals

1.4.5 Appointments of Senior Engineering Manager or Engineering Manager or Port Engineer in terms of GMR2.7 at National Port Authority and Port Terminals

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PART 2: ADMINISTRATIVE INSTRUCTIONS

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2.1 PURPOSE

2.1.1 The purpose of the Administrative Instructions is to confirm and regulate all administrative matters regarding the periodical as well as extraordinary (after commissioning repairs, modification, overloads etc.) inspection and testing of equipment within Transnet.

2.1.2 It also serves to ensure uniformity of action regarding lifting equipment throughout Transnet.

2.1.2.1 Finally, it serves as a supplement to the Occupational Health and Safety Act, Act 85 of 1993 and the relevant SANS as updated from time to time, as well as highlighting and simplifying of pertinent sections and regulations of the OHS Act.

2.1.2.2 An additional purpose is to bring this Code of Practice in line with ISO 9000 guidelines.

2.2 DEFINITIONS/ DESCRIPTIONS (GRAPHICAL AND WRITTEN)

2.2.1 USER (Act 85 of 1993)

"*User*", in relation to plant or machinery, means the person who uses plant or machinery for his/her own benefit or who has the right of control over the use of plant or machinery, but does not include a lessor of, or any person employed in connection with that plant or machinery.

Note: In a Transnet context the user could be any of the following:

- The GCE of Transnet;
- The CE of a particular business unit;
- The particular regional or corridor manager;
- The manager of the particular workshop or depot;
- The operations manager;
- The supervisor.

2.2.2 OPERATOR

For the purpose of this instruction, the "*Operator*" shall be the person physically operating the plant, equipment or machinery.
An "*Operator*" must be, certified to operate the equipment, physically able to do so and of sound mind. These requirements will be included in the 2 yearly re-testing program.

2.2.3 SUPERVISOR

For the purpose of this instruction, the *Supervisor* shall be the supervisor responsible for the maintenance or examination of the equipment.

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2.2.4 OPERATIONS MANAGER

For the purpose of this instruction, the *Operations Manager* shall be the person with the authority to control the day to day operations of any particular piece of plant, machinery or equipment.

Note: The Operations Manager can include or be:

2.2.4.1 Depot Engineer
2.2.4.2 Depot Manager
2.2.4.3 Engineering Manager
2.2.4.4 Technical Manager
2.2.4.5 Maintenance Manager
2.2.4.6 Technical Support Manager

2.2.5 COMPETENT PERSON (DMR 18 [1] definitions)

Means a person who:

2.2.5.1 has in respect of work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2008 (Act No. 67 of 2008), those qualifications and that training must be regarded as the required qualifications and training: and

2.2.5.2 is familiar with the Act and with the applicable regulations made under the Act.

2.2.6 LIFTING MACHINERY ENTITY (DMR 18 [1] definitions)

Means a legal entity approved and registered by the Chief Inspector in terms of Regulation 19.

2.2.7 LIFTING MACHINERY INSPECTOR (DMR 18 [1] definitions)

Means a person who is employed by a Lifting Machinery Entity and who is registered by the Engineering Council of South Africa in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000).

2.2.8 TECHNICAL AUDITOR

The *Technical Auditor* shall be a *competent person* appointed with the authority, who's responsibility and duty is to determine the safety and condition of all machinery, plant and equipment, audit the related documentation and records as well as the ability of all the personnel involved with operating, maintaining, examining and managing it.

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2.2.9 BLOCK AND TACKLE (DMR 18 [1] definitions)

Means a lifting device consisting of one or more pulley blocks, reeved with fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally, but does not include chain blocks, lever hoists or steel-wire pullers.

2.2.10 HAND-POWERED LIFTING DEVICE (DMR 18 [1] definitions)

Means a lifting device consisting of one or more sheave components reeved with chains, steel rope or fibre ropes, used solely for the raising and lowering of a load or for moving it horizontally and includes chain blocks, lever hoists, hand chain hoists, steel-wire rope pullers and winches, but does not include hand-powered hydraulic lifting devices.

2.2.11 JIB-CRANE

This is any crane of which the load is supported by a projecting horizontal or inclined member, known as a jib.

Note: This definition also includes truck mounted cranes e.g. Hiab.

2.2.12 LIFTING MACHINE (DMR 18 [1] definitions)

Means a power-driven machine that is designed and constructed for the purpose of raising or lowering a load or moving it in suspension, but does not include an elevator, escalator, or hand-powered lifting device.

2.2.13 LIFTING TACKLE (DMR 18 [1] definitions)

Means chain slings, wire rope slings, woven webbing slings, master links, hooks, shackles and swivels, eye bolts, lifting or spreader beams, tongs, ladles, coil lifters, plate lifting clamps and drum lifting clamps used to attach a load to a lifting machine.

2.2.14 LIFT TRUCK (DMR 18 [1] definitions)

Means a mobile lifting machine, but does not include:

2.2.14.1 a vehicle designed solely for the purpose of lifting or towing another vehicle;

2.2.14.2 a mobile earth-moving machine; or

2.2.14.3 a vehicle designed solely for the removal of a waste bin.

2.2.15 CERTIFICATED ENGINEER (GMR [1] definitions)

Means any person to whom a certificate of competency referred to in regulation E1 (1) of the Regulations, published under Government Notice R.929 of 28 June 1963, has been granted and includes any person who is the holder of a certificate of competency in mechanical or electromechanical engineering issued before 1 January 1966 under the Mines and Works Act, 1956 (Act 27 of 1956);

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Note: For the purpose of this Code of Practice only certificates of competency as mechanical engineers will be recognised.

2.2.16 GRADUATE ENGINEER (GMR [1] definitions)

Means any person who has obtained a degree in mechanical or electromechanical engineering at a South African university, or a degree recognized by the Department of National Education as equivalent to any such degree.

Note: A Graduate Engineer is only considered such by this Code of Practice within the scope of his or her particular discipline.

2.2.17 PROFESSIONAL ENGINEER (Act 114 of 1990)

Means any person that has been registered with the Engineering Council of South Africa as a *Professional Engineer* in terms of the Engineering Profession of South Africa Act (Act 114 of 1990)

Note: A Professional Engineer is only considered such by this Code of Practice within the scope of his or her particular discipline.

2.2.18 NON-FIXED LOAD LIFTING ATTACHMENTS (SANS 687)

Means any lifting attachment that can be fitted directly or indirectly to the hook or any other coupling device of a lifting machine by the user without affecting the integrity of the machine.

2.2.19 REACHSTACKER (TELESCOPIC CONTAINER HANDLER)

A reach stacker is a lift truck with the following characteristics:

2.2.19.1 It is generally driven by some kind of internal combustion engine;

2.2.19.2 It is fitted with rubber tyres on two axles with steering located on the rear axle.

2.2.19.3 It has an extendible lifting boom usually attached and hinged above the rear wheels or rear half of the chassis and which is supported by one or more hydraulic cylinders mounted on the front half of the chassis;

2.2.19.4 It carries most of the load, when laden, on its front wheels;

2.2.19.5 It is generally fitted with a container spreader;

2.2.19.6 It has the ability to stack several containers high in the second or third rows; and

2.2.19.7 It is generally able to lift, rotate horizontally, tilt, side shift and move around with a load without the use of outriggers, though outriggers may be fitted.

2.2.20 REPORTABLE INCIDENT (Act 85 of 1993 [24])

Each incident occurring at work or arising out of or in connection with the activities of persons at work or in connection with the use of plant or machinery in which, or in consequence of which:

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2.2.20.1 any person dies, becomes unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed or is usually employed;

2.2.20.2 a major incident occurred; or

2.2.20.3 the health or safety of any person was endangered and where:

2.2.20.3.1 a dangerous substance was spilled;

2.2.20.3.2 the uncontrolled release of any substance under pressure took place;

2.2.20.3.3 machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or

2.2.20.3.4 machinery ran out of control,

2.2.21 INCIDENTS WHERE INVESTIGATION IS MANDATORY

Any incident during which one of the following occurred:

2.2.21.1 any of the criteria for a *Reportable Incident* was met;

2.2.21.2 a person was injured or could potentially have been injured;

2.2.21.3 equipment, plant or machinery was damaged;

2.2.21.4 a load was damaged during handling or operation of the equipment, plant or machinery and which could possibly result in a claim;

2.2.21.5 any unlawful action in connection with equipment, plant or machinery;

2.2.21.6 Transnet suffered a loss or disadvantage due to the improper operation, maintenance or control of equipment, plant or machinery; or

2.2.21.7 If in the opinion of *General Manager Engineering/Infrastructure/Technical,* the Group Risk Manager or the *Supervisor*, such an investigation is necessary.

2.2.21.8 If a *Competent Person or Lifting Machinery Inspector* finds that a piece of equipment, plant or machinery was used without certification.

2.2.21.9 If a *Competent Person or Lifting Machinery Inspector* finds that a piece of equipment, plant or machinery was used without indicated repairs being completed.

2.2.22 OEM

The Original Equipment Manufacturer.

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2.3 REFERENCES

2.3.1 Occupational Health and Safety Act (Act 85 of 1993) and its Regulations

2.3.2 The Engineering Profession of South Africa Act and its Regulations (Act 114 of 1990)

2.3.3 The National Road Traffic Act and its Regulations (Act 93 of 1996)

2.3.4 User and Maintenance Manuals of Original Equipment Manufacturers (*OEM*'s)

2.3.5 Relevant SANS Standards and Codes of Practice

2.4 DUTIES

2.4.1 GENERAL DUTIES OF *EMPLOYERS* AND *USERS* OF MACHINERY. (Act 85 of 1993 [8])

Every employer shall provide and maintain, as far as it is reasonably practicable, a working environment that is safe and without risk to the health of his employees.
Without derogating from the generality of an employer's duties the matters to which these duties refer include in particular:

2.4.1.1 The provision and maintenance of systems of work, plant and machinery that, as far as is reasonably practicable, are safe and without risks to health;

2.4.1.2 Taking such steps as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard to the safety or health of employees before resorting to personal protective equipment;

2.4.1.3 Making arrangements for ensuring, as far as reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances;

2.4.1.4 *Establishing*, as far as reasonably practicable, what *hazards to the health or safety* of persons are attached to any work which is performed, any article or substance which is produced, processed, used ,handled, stored or transported and any plant or machinery which is used in his business, and he shall , as far as reasonably practicable, *further* establish what precautionary measures should be taken with respect to such work article, substance, plant or machinery in order to protect the health and safety of persons, and he shall provide necessary means to apply such precautionary measures;

2.4.1.5 Providing such information, instructions, training, and supervision as may be necessary to ensure, as far as reasonably practicable, the health and safety at work of his employees;

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2.4.1.6 As far as reasonably practicable, not permitting any employee to do any work or produce process, use, handle, store or transport any article or substance or to operate any plant or machinery, unless the precautionary measures contemplated in paragraphs (b) and (d), or any other precautionary measures which may have been prescribed, have been taken;

2.4.1.7 Taking all necessary measures to ensure that all the requirements of this Act are complied with by every person in his employment or on premises under his control where plant or machinery is used;

2.4.1.8 Enforcing such measures as may be necessary in the interest of health and safety;

2.4.1.9 Ensuring that work is performed and that plant or machinery is used under the general supervision of a person trained to understand the hazards associated with it and who have the authority to ensure that precautionary measures taken by the employer are implemented; and

2.4.1.10 Causing all employees to be informed regarding the scope of their authority as contemplated in section 37(1) (b) of Act 85 of 1993.

2.4.2 DUTIES OF THE SUPERVISOR

2.4.2.1 The *Supervisor* must first and foremost act as the *person responsible for maintenance and safety of equipment plant or machinery* under his/her jurisdiction and thus act as representative of the *User* in this regard.

Note: The only way in which the *Supervisor* can remove this responsibility from himself/herself is if the *User* understands and still disregards his/her written warnings or instructions regarding the safety of the relevant equipment plant or machinery.

2.4.2.2 The *Supervisor* must further at all times be *aware* of the condition of the equipment maintained by his/her staff and *ensure that the equipment is kept in a good and safe condition*. He/she must withdraw from service any equipment which will prejudice safe working or endanger staff under his jurisdiction or members of the public.

2.4.2.3 The *Supervisor* must ensure that *all the machinery, plant and equipment under his/her jurisdiction is examined* in terms of extant instructions and that the findings of these examinations are *recorded on the logsheet* pertaining to the plant concerned. (See clause 10.1 - Administrative Instructions)

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2.4.2.4 The *Supervisor* must *scrutinise, date and initial all log-sheets* under his/her jurisdiction immediately after the *Operations Manager* has examined and signed the logsheets. Where the *Competent Person or Lifting Machinery Inspector's* report on the logsheet requires that *remedial or other action must be taken,* the *Supervisor* must take the action required as soon as possible *in conjunction with the particular Operations Manager.*

The *Supervisor* must endorse the log-sheets with particulars of the action taken. Such endorsements must be made directly below the last remarks made by the *Competent Person or Lifting Machinery Inspector.*

2.4.2.5 The *Supervisor* must *arrange for the* testing of lifting tackle components, such as chains, hooks, shackles, etc., the *periodic de-carbonising of air compressors* and *the cleaning of air receivers.*

2.4.2.6 When equipment is due for routine attention the *Supervisor* must not wait until it is logged by the *Competent Person or Lifting Machinery Inspector*, but must take the necessary action without delay in conjunction with the particular *Operations Manager*.

2.4.2.7 Any plant or equipment covered by a logsheet, when *loaned* to another business division, business unit or station, must be accompanied by the log-sheet or logsheets and it is the duty of the owner to arrange for the logsheets to be forwarded to the new *Supervisor.* The borrower must have the equipment examined and scrutinise the log-sheet or log-sheets prior to placing the equipment in service. The new *Supervisor* must arrange for the necessary examination and testing during the period the plant or equipment is on loan.

2.4.2.8 The *Supervisor* must arrange that, when plant or equipment covered by a logsheet or logsheets, is transferred to another business division, business unit or station, the logsheet or logsheets accompanies the plant or equipment concerned. The *Supervisor* who receives such transferred plant must have the equipment examined and scrutinise the logsheet or logsheets prior to placing the plant or equipment in service. Where applicable, the *Supervisor* must arrange to re-stamp slings, etc., with the station and depot code mark and identification number applicable to the new centre.

2.4.2.9 *Supervisors* must *retain a record of local identification numbers* with particulars of lifting tackle components and assemblies under their jurisdiction.

2.4.2.10 The *Supervisor* must arrange to *file all logsheets, defect reports, modification and repair authorisations*, pertaining to plant and equipment under his/her jurisdiction in such a manner that they are readily available for inspection. Such documentation should be kept in the proximity of the equipment they cover, so that the logsheets can be referred to, should circumstances warrant it.

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Note: In the case of a depot or terminal where several pieces of equipment are being used throughout the terminal a centralised point should be established where all records are kept and made available.

2.4.2.11 When the *Competent Person or Lifting Machinery Inspector* reports that some of the equipment is not available for examination, the *Supervisor* must take immediate action in conjunction with the particular *Operations Manager* to try and find the missing equipment.

If it cannot be found within a period of one month he/she must advise the *Operations Manager* in writing that the equipment must not be used and when found, that it must be reported to the *Supervisor* who will then have it be examined. A notice to the effect that the item of equipment is missing and is considered unsafe must also be displayed on a conspicuous notice board. The equipment must be withdrawn from service with the necessary endorsement on the applicable logsheet. The Equipment must then be reported stolen and a copy of the Police report and the reference No. must be placed on the equipment file. A copy of the above documents must also be sent to the Group Risk Manager as well as the census authority.

Should an item of equipment, plant or machinery that previously was considered untraceable be found, the fact must immediately be reported to the SAPS, *Operations Manager*, Risk Manager as well as the Census authority. An investigation must then be made of the circumstances regarding the temporary loss of the item of equipment, plant or machinery. The report *with details of the action taken* must be filed in the equipment file and copies sent to the Risk Manager, Census authority and if necessary the SAPS.

Where lifting equipment bearing a code mark foreign to the centre or depot is found and where no arrangements have been made regarding the loan of such equipment, the lifting equipment must be returned to the department and/or centre to whom it belongs, i.e. as indicated by the code mark stamped or stencilled on the lifting equipment.

2.4.3 DUTIES OF THE *COMPETENT PERSON and LIFTING MACHINERY INSPECTOR*

2.4.3.1 The *Competent Person or Lifting Machinery Inspector* must thoroughly examine all machinery, plant and equipment situated within his/her defined area of examination, for defects, deficiencies or wear that affect, or could affect, the safe operation of the machinery, plant and equipment. He/she must also ensure that the provisions of regulations promulgated to ensure the safe operation of machinery, plant and equipment are met.

Note: Where steel structures form part of machinery or plant, the *Competent Person or Lifting Machinery Inspector* must also thoroughly examine the structure for damage, cracks, corrosion or other defects which could affect the safe operation of the machinery or plant concerned.

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Note: The appointed Examiner, under the supervision of the LMI will be responsible for undertaking the *Monthly Inspections* on the following components condition and fitness for safe operation of the following lifting equipment components:

- All wire ropes, sheaves and hoist drums
- General structural condition and state of corrosion for high stress areas such as the boom and the A-Frame.
- All walkways and stairs and handrails
- The Lift used to carry people
- All safety mechanism such as emergency stops, brakes, hoist brakes, stoppers, collision buffers.
- Limit switches (trolley, hoist, boom hoist)
- Fire suppression system where applicable.
- Check critical greasing points condition and where they are missing
- Safety guard barriers
- Service hoists
- Grabs

2.4.3.2 The findings of each examination must be entered on the logsheet (or logbook) applicable to the item examined. The date of the examination and the *Competent Person or Lifting Machinery Inspector* signature must be endorsed on the logsheet.

Note: Where no defects, deficiencies, etc., are apparent the Competent Person or Lifting Machinery Inspector must endorse the logsheet, "In good order". The use of ditto or similar inscription marks on logsheets is not permitted.

2.4.3.3 The *Competent Person or Lifting Machinery Inspector* and the *Supervisor* must ensure that *logsheets are kept in a good order* and arrange for replacement or repair of any torn or damaged logsheets. If logsheets are replaced the torn or full logsheets must be filed in the equipment file.

2.4.3.4 The *Competent Person or Lifting Machinery Inspector* must have in his/her possession a complete list showing clearly each item of machinery, plant and equipment examined by him/her. This list must be updated after every inspection regarding new, withdrawn or transferred equipment.

2.4.3.5 *Competent Persons or Lifting Machinery Inspector's* must ensure that machinery, plant or equipment which they consider unsafe for use, after examination, is not used. In all instances where unsafe machinery, plant or equipment is found during the examination the *Competent Person or Lifting Machinery Inspector* must endorse the logsheet *"UNSAFE - NOT TO BE USED"* and must advise the *Operator* that the machinery, plant or equipment must not be used until repairs are affected.

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2.4.3.6 The *Competent Person or Lifting Machinery Inspector* must directly after this examination inform both the *Operations Manager* and the *Supervisor* about his/her remarks on the logsheet and retain their signatures as acknowledgement. The *Operations Manager* in conjunction with the particular *Supervisor* must then ensure that the machinery, plant or equipment is repaired or disposed of as scrap.

Where equipment is not available for examination, the *Competent Person or Lifting Machinery Inspector* must endorse the relevant logsheet accordingly, stating the reasons, and advise the *Supervisor* that he/she has not examined the said equipment. The *Supervisor* must then immediately inform the *Operations Manager* in his/her capacity as *User* of the unavailability of the equipment. The responsibility then rests with the *Operations Manager* in his/her capacity as *User* to take the necessary action to ensure the safety of the relevant equipment.

2.4.4 DUTIES OF THE OPERATIONS MANAGER (and includes, Depot/Port Engineer, Depot/Port Manager, Engineering Manager, Technical Manager, Maintenance Manager)

2.4.4.1 The *Operations Manager* is firstly responsible for ensuring that his/her staff complies with the minimum standard *(knowledge, ability and certification)* before allowing them to operate any piece or item of plant, machinery or equipment covered by this code of practice.

2.4.4.2 The *Operations Manager* must further at all times be aware of the condition of the equipment used by his/her staff and *ensure that the equipment is kept in a good, safe, clean and neat condition*. He/she must withdraw from service any equipment which will prejudice safe working or endanger staff under his/her control or members of the public.

2.4.4.3 The *Operations Manager* must also ensure that any piece or item of plant, machinery or equipment being used by staff under his/her control complies with the requirements of The *Occupational Health and Safety Act*.

2.4.4.4 The *Operations Manager* must ensure that any piece or item of plant, machinery or equipment being used by staff under his/her control is regularly inspected and tested according the guidelines of this code of practice.

2.4.4.5 The *Operations Manager* must co-ordinate with the *Supervisor* and make the equipment available for inspection and testing as required by this code of practice.

2.4.4.6 The *Operations Manager* must ensure that no equipment, which is not numbered, or not covered by a certificate, or is not in accordance with extant instructions, be used.

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2.4.4.7 The *Operations Manager* must *scrutinise, date and initial all logsheets* of equipment under his/her control immediately after the *Competent Person or Lifting Machinery Inspector* has examined the equipment and endorsed the log-sheets. Where the *Competent Person or Lifting Machinery Inspector's* report on the logsheet requires that remedial or other appropriate action must be taken, the *Operations Manager* must arrange with the *Supervisor* for the necessary remedial action to be taken and ensure that the equipment is not used until such a time that the abovementioned remedial action has been taken.

2.4.4.8 The *Operations Manager* must inform the *Supervisor* of any transfer scrapping or delivery of equipment whether new, hired, borrowed or transferred. He/she is also responsible to inform the census authority of the above changes.

2.4.4.9 Should any piece or item of plant, machinery or equipment being used by staff under his/her control be lost or untraceable the *Operations Manager* must firstly investigate the circumstances of the loss. Should the item still not be traceable he/she must then immediately report the situation to *The Risk Manager, S.A Police Services* as well as the census authority. The *SAPS case No. must be included* in the correspondence to the Risk Manager and Census authority. *All documentation*, whether original or copies, must also be *filed in the equipment file*.

2.4.4.10 Should an item of equipment, plant or machinery that previously was considered untraceable be found, the fact must immediately be reported to the SAPS, *Supervisor*, Risk Manager as well as the Census authority. An investigation must then be made of the circumstances regarding the temporary loss of the item of equipment, plant or machinery. The report with details of the action taken must be filed in the equipment file and copies sent to the Risk Manager, Census authority and if necessary the SAPS.

2.4.5 DUTIES OF THE *OPERATOR*

The *Operator* of equipment must ensure that:

2.4.5.1 he/she is certified to operate the particular piece of equipment (in the case of a lift truck with a lifting capacity of 750 kg or more or in the case of a jib crane with a lifting capacity of 5000kg or more), the *Operator* must be in possession of a valid certificate of training, issued by a Training Provider accredited by the Transport SETA approved for the purpose by the Chief Inspector. (DMR 18 [11]).

2.4.5.2 the equipment or plant that he/she operates is in a safe condition before use, by doing a *general visual inspection* and, if applicable, complete the daily logbook and/or check- sheet for that piece of equipment.

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2.4.5.3 he/she reports any defect or dangerous situation in connection with the equipment immediately to the *Supervisor*;

2.4.5.4 he/she operates the equipment safely and within it's designed limits;

2.4.5.5 he/she ensures that the equipment is in a safe condition when he/she leaves or stores it.

2.4.6 DUTIES OF THE TECHNICAL AUDITOR

2.4.6.1 The *Technical Auditor* is the enforcer of this Code of Practice, and as such must always be on the lookout for possible transgressions of this Code of Practice.

2.4.6.2 The *Technical Auditor* must do regular spot checks on the condition of machinery plant and equipment in his/her area of responsibility and the related documentation.

2.4.6.3 The *Technical Auditor* must do a systematic inspection on the condition of all the machinery plant and equipment in his/her area of responsibility and the related documentation at least once a year.

2.4.6.4 The *Technical Auditor* must give a full report of an 'inspection' to the person responsible for the equipment and forward a copy of the report to the Group Risk Manager, Transnet. The report must contain among other items at least the following:

2.4.6.4.1 Equipment status report.

2.4.6.4.2 Report on the quality and status of documentation.

2.4.6.4.3 Report on the standard and quality of examination.

2.4.6.4.4 Report on the standard and quality of maintenance.

2.4.6.4.5 Report on the standard of operating.

2.4.6.4.6 Report on the environment in which the particular piece of machinery, plant or equipment is used.

2.5 DATABASE OF LIFTING EQUIPMENT

2.5.1 In order to properly manage the equipment falling under the scope of this code of practice, a database will be created and maintained by *CODE OF PRACTICE owner*.

2.5.2 The following information will be required for every piece of equipment (Form A-2):

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2.5.2.1 Asset no.
2.5.2.2 Description.
2.5.2.3 Category e.g. Overhead Electric crane, sling etc.
2.5.2.4 Manufacturer
2.5.2.5 Serial No
2.5.2.6 Year of manufacture
2.5.2.7 Capacity
2.5.2.8 Centre
2.5.2.9 Owner
2.5.2.10 Date of last logsheet entry
2.5.2.11 Date of last performance test.

2.5.3 A yearly census of the equipment will be done by *Supervisors* and *Users* at the beginning of each financial year. The census requires that all involved parties resubmit the information required by clause 5.2 on form to the database maintainer.

2.6 AUTHORITY AND RESPONSIBILITY

2.6.1 GENERAL DELEGATION OF AUTHORITY AND RESPONSIBILITY

2.6.1.1 *The Managing Director of Transnet* has delegated the authority to ensure the safe operation of the various types of equipment covered by this code of practice to the relevant executive directors who in their turn delegated the authority to the CEO.'s of the business units under their control. These CEO.'s has delegated the authority down their company structure in regulated and documented ways to the individual *Users* and *Operators* of the equipment.

2.6.1.2 The delegation of authority and the connected responsibility must be done in writing by any line manager *but can only be done to the extent that he/she has received authority to delegate from his/her Superiors*. A copy of the letter of delegation must be forwarded to the Group Risk Manager for record keeping.

2.6.2 RECORD OF DELEGATED AUTHORITY AND RESPONSIBILITY

2.6.2.1 The *Group Risk Manager* is responsible to create and update a record of the structure of all delegated responsibilities and authorities related to this Code of Practice.

2.6.2.2 At the beginning of each financial year the *Group Risk Manager* is responsible for sending to each person, that it has record of, a detailed statement of his/her responsibility and authority. This has to be connected to an audit of all responsibilities to ensure that all the areas of exposure of Transnet has been adequately covered.

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2.6.3 DELEGATED AUTHORITY AND RESPONSIBILITY OF *OPERATIONS MANAGERS (and includes, Depot/Port Engineers, Depot/Port Managers, Engineering Managers, Technical Managers, Maintenance Managers)*

2.6.3.1 The *Operations Manager* is responsible for ensuring the safe use of machinery, plant and equipment under his/her control.

2.6.3.2 The *Operations Manager* is responsible for ensuring that only machinery, plant and equipment under his/her control which are properly certified and for which the proper documentation has been issued are used.

2.6.3.3 The *Operations Manager* is responsible for ensuring that the *Operators* operating the machinery, plant and equipment under his/her control are qualified, capable and duly certified to do so.

2.6.3.4 The *Operations Manager* has the responsibility and authority to suspend the certification of any *Operator* that he/she deems not capable of competently operating a particular piece of machinery, plant or equipment under his/her control. The Operator's card must be endorsed *"Suspended pending re-certification by the Accredited Training Provider ".*

2.6.3.5 The *Operations Manager* has the responsibility and authority to have any particular piece of machinery, plant or equipment under his/her control repaired and made safe to operate.

2.6.3.6 The *Operations Manager* has the responsibility to report any defects on a particular piece of machinery, plant or equipment which becomes apparent either to him/her or the operator before or during operation as soon as possible to the *Supervisor*.

2.6.3.7 The *Operations Manager* has the responsibility and authority to withdraw any particular piece of machinery, plant or equipment under his/her control from service

2.6.3.8 The *Operations Manager* is responsible for ensuring that the *Supervisor,* as well as the Census authority is informed of any scrapping, transfer or procurement of new machinery, plant and equipment under his/her control.

2.6.3.9 The *Operations Manager* is responsible for ensuring that all *Reportable Incidents* in connection with any particular piece of machinery, plant and equipment under his/her control is duly reported as required in Clause 7.1 of the Administrative Instructions of this Code of Practice.

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2.6.3.10 The *Operations Manager* is responsible for ensuring that all *Incidents with Mandatory Investigations* in connection with any particular piece of machinery, plant and equipment under his/her control are duly reported and investigated as required in Clause 7.4 of the Administrative Instructions of this Code of Practice.

2.6.3.11 The *Operations Manager* has the responsibility and authority to institute disciplinary action against *Operators* that he/she deemed to have acted negligently or irresponsibly in connection with any particular piece of machinery, plant or equipment.

2.6.3.12 The *Operations Manager* has the responsibility and authority to recommend in writing to the controlling officer of any other person that he/she deemed to have acted negligently or irresponsibly in connection with any particular piece of machinery, plant or equipment that disciplinary action must be instituted against the particular person. A copy of such written recommendation must be filed on the equipment file. Details of any action or inaction of the particular controlling officer must also be filed in the equipment file.

2.6.4 DELEGATED AUTHORITY AND RESPONSIBILITY OF *SUPERVISORS*

2.6.4.1 The *Supervisor* is responsible for ensuring that machinery, plant and equipment which he/she is responsible for and are in service, are safe to use

2.6.4.2 The *Supervisor* is responsible for ensuring that only machinery, plant and equipment under his/her jurisdiction which are safe to use are issued with proper certification and documentation.

2.6.4.3 The *Supervisor* has the responsibility to recommend in writing to the *Operations Manager,* to suspend the certification of any *Operator* that he/she deems not capable of competently operating a particular piece of machinery, plant or equipment. The recommendation and details of the action or inaction of the *Operations Manager* must be filed in the equipment file of the particular piece of equipment, plant or machinery.

2.6.4.4 The *Supervisor* has the responsibility and authority to have any particular piece of machinery, plant or equipment under his/her jurisdiction repaired and made safe to operate.

2.6.4.5 The *Supervisor* has the responsibility and authority to withdraw the certification of any particular piece of machinery, plant or equipment that he/she deemed to be unsafe or likely to sustain major consequential damage due to its condition.

2.6.4.6 The *Supervisor* has the authority to use his/her discretion in allowing the *Operations Manager* limited use of a particular piece of machinery, plant or equipment, mentioned in clause 6.4 (e), should the situation require it.

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2.6.4.7 The *Supervisor* however has the authority to issue a *stop certificate* for any particular piece of machinery, plant or equipment, mentioned in clauses 6.4 (e) and 6.4 (f), that he/she deemed to be unsafe or likely to sustain major consequential damage due to its condition even if the situation is critical.

2.6.4.8 The *Supervisor* has the authority to serve any person, performing actions in connection with any particular piece of machinery, plant or equipment that he/she deemed to be unsafe with a *warning notice*. A copy of such notice has to be forwarded to the person's controlling officer who then has to investigate whether disciplinary action can be taken against such person. Another copy of such notice must be filed in the equipment file.

2.6.4.9 The *Supervisor* has the responsibility and authority to declare any incident that he/she deemed to have been dangerous, potentially dangerous or unnecessarily damaging to equipment, as "*an incident where investigation is mandatory*"

2.6.4.10 The *Supervisor* is responsible for ensuring that all *Guarantee defects* in connection with any particular piece of machinery, plant and equipment under his/her jurisdiction is duly reported as required in Clause 7.2 of the Administrative Instructions of this Code of Practice.

2.6.4.11 The *Supervisor* is responsible for ensuring that all *Recurring defects* in connection with any particular piece of machinery, plant and equipment under his/her jurisdiction is duly reported and dealt with as required in Clause 7.3 of the Administrative Instructions of this Code of Practice.

2.6.4.12 The *Supervisor* has the responsibility and authority to institute disciplinary action against *Competent Persons or Lifting Machinery Inspectors* that he/she deemed to have acted negligently or irresponsibly in connection with any particular piece of machinery, plant or equipment.

2.6.5 DELEGATED AUTHORITY AND RESPONSIBILITY OF *COMPETENT PERSONS and LIFTING MACHINERY INSPECTORS*

2.6.5.1 The *Competent Person or Lifting Machinery Inspector* is responsible for ensuring that all machinery, plant and equipment, which he/she examines and certifies, are safe to use and properly maintained.

2.6.5.2 The *Competent Person or Lifting Machinery Inspector* has the responsibility to report all defects that he/she may find during his/her examination of any particular piece of machinery, plant or equipment and note it down on the relevant logsheet.

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2.6.5.3 The *Competent Person or Lifting Machinery Inspector* is responsible for issuing machinery, plant and equipment, which he/she examined and found to comply with the requirements, with proper certification and documentation.

2.6.5.4 The *Competent Person or Lifting Machinery Inspector* has the responsibility to report any *Operator* that he/she deems not capable of competently operating a particular piece of machinery, plant or equipment to the *Supervisor* for appropriate action by him/her.

2.6.5.5 The *Competent Person or Lifting Machinery Inspector* has the responsibility and authority to withdraw the certification of any particular piece of machinery, plant or equipment that he/she deemed to be unsafe or likely to sustain major consequential damage due to its condition. In such a case a stop certificate (Form A10) must be issued by him/her.

2.6.5.6 The *Competent Person or Lifting Machinery Inspector* has the responsibility to report any person, performing actions in connection with any particular piece of machinery, plant or equipment that he/she deemed to be unsafe to the *Supervisor* for appropriate action by him/her.

2.6.5.7 The *Competent Person or Lifting Machinery Inspector* has the responsibility to report any incident that he/she deemed to have been dangerous, potentially dangerous or unnecessarily damaging to equipment, to the *Supervisor* for appropriate action by him/her.

2.6.5.8 The *Competent Person or Lifting Machinery Inspector* has the authority to enter any premises where any particular piece of machinery, plant or equipment that he/she is responsible for examining is operated, situated or stored.

2.6.6 DELEGATED AUTHORITY AND RESPONSIBILITY OF *TECHNICAL AUDITORS*

2.6.6.1 The *Technical Auditor* has the authority to enter any premises where any particular piece of machinery, plant or equipment that is owned by Transnet is operated, situated or stored.

2.6.6.2 The *Technical Auditor* has the authority to request any information data or logsheet of any particular piece of machinery, plant or equipment that is owned by Transnet

2.6.6.3 The *Technical Auditor* has the responsibility and authority to withdraw the certification of any particular piece of machinery, plant or equipment that he/she deemed to be unsafe or likely to sustain major consequential damage due to its condition.

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2.6.6.4 The *Technical Auditor* has the responsibility to investigate the competency of either or both the *Supervisor* and the *Competent Person or Lifting Machinery Inspector* in the instance that he/she had to enact clause 2.6.6.3 without a request from either of the previously mentioned parties.

2.6.6.5 The *Technical Auditor* has the responsibility and authority to declare any incident that he/she deemed to have been dangerous, potentially dangerous or unnecessarily damaging to equipment, as "*an incident where investigation is mandatory*"

2.6.7 DELEGATED AUTHORITY AND RESPONSIBILITY OF *OPERATORS*

2.6.7.1 The *Operator* has the responsibility to operate any particular piece of machinery, plant or equipment safely, and only if certified to do so.

2.6.7.2 The *Operator* has the responsibility not to operate any particular piece of machinery, plant or equipment if it is not safe to be operated.

2.6.7.3 The *Operator* has the responsibility to report any defects on a particular piece of machinery, plant or equipment which becomes apparent before or during operation as soon as possible to the *Operations Manager*.

2.6.7.4 The *Operator* has the authority and responsibility to refuse to operate any particular piece of machinery, plant or equipment should it be:

2.6.7.4.1 Unsafe to operate due to the condition of the equipment;

2.6.7.4.2 Over the rated limits of the particular piece of machinery, plant or equipment.

2.6.7.4.3 Unsafe to operate due to environmental conditions;

2.6.7.4.4 Illegal to operate that particular piece of machinery, plant or equipment

2.7 FEEDBACK / REPORTING

2.7.1 *REPORTABLE INCIDENTS*

2.7.1.1 All *Reportable Incidents* must immediately be reported to the Department of Labour on the form prescribed by the OHS Act. This form would also be available at local Risk Management officers.

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2.7.1.2 Copies of these reports should also be sent to the local Risk Management officer, the Executive Manager whose staff maintains the particular piece of machinery, plant or equipment as well as to the Executive Manager whose staff operates the particular piece of machinery, plant or equipment.

2.7.2 GUARANTEE DEFECTS

2.7.2.1 All defects on a particular piece of machinery, plant or equipment still under guarantee have to be logged on the logsheet with details about the action taken.

2.7.2.2 A report on the defect has to be sent to the Executive Manager whose staff maintains the particular piece of machinery, plant or equipment. (Form A-3)

2.7.2.3 A copy of each guarantee defect report must be filed in the equipment file.

2.7.3 RECURRING DEFECTS

2.7.3.1 All similar or identical defects which occur more than three times within a reasonable time on the same particular piece of machinery, plant or equipment being maintained or used by Transnet must be investigated by a competent third party independent from both the maintenance and operational staff.

2.7.3.2 Copies of the report on the defect investigation has to be sent to:

2.7.3.3 the Executive Manager whose staff maintains the particular piece of machinery, plant or equipment;

2.7.3.4 the Executive manager whose staff operates the particular piece of machinery, plant or equipment;

2.7.3.5 The Risk Manager of the particular Business Unit; and

2.7.3.6 Group Risk Manager, Transnet.

2.7.3.7 The Managers of the maintenance and operational sections must decide in which sphere the cause of the defect falls. Should this be impossible the services of an independent third party must be used. Appropriate action (disciplinary or preventative etc.) must then be decided upon and implemented.

2.7.3.8 Transnet Risk Management will monitor trends for equipment Transnet wide, and if the occurrence of a particular defect on a particular piece of equipment has too high a risk attached to it, the local Risk Manager is responsible to take appropriate measures to prevent or reduce the risk of it reoccurring.

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2.7.3.9 A copy of recurring defect report and details of the action taken must be filed in the equipment file.

2.7.4 INCIDENTS WITH MANDATORY INVESTIGATIONS

2.7.4.1 All the investigations for the above type of incidents must be performed by a competent third party independent from both the maintenance and operational staff

2.7.4.2 Copies of the report on the investigation has to be sent to:

2.7.4.2.1 the Manager whose staff maintains the equipment;

2.7.4.2.2 the manager whose staff operates the equipment; and

2.7.4.2.3 Transnet Risk Management.

2.7.4.3 The Managers of the maintenance and operational sections must decide in which sphere the cause of the incident falls. Appropriate action (corrective or preventative measures etc.) must then be decided upon and implemented.

2.8 EQUIPMENT UPDATES / INSTRUCTIONS / SERVICE BULLETINS

2.8.1 Should a manufacturer of a particular piece of machinery, plant or equipment issue an equipment update, instruction or - service bulletin, copies will be forwarded to all the *Users*, owners and maintenance staff for that particular series or type of equipment. The database of equipment will be used to determine to whom copies should be sent.

2.8.2 The *User* and *Supervisors* must then ensure that the equipment update, instruction or - service bulletin is then acted upon

2.8.3 A copy of the equipment update, instruction or - service bulletin as well as details of the actions taken in regards of it must be placed on the equipment file.

2.8.4 Should the particular piece of equipment not be at the centre, the *Supervisor* will then be responsible to ensure that the bulletin reaches the relevant persons and that it is filed appropriately.

2.9 SAFETY DEVICES / OPERATIONS

2.9.1 REQUIREMENTS

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2.9.1.1 All power driven lifting machines with a capacity of more than 5 ton must have a device in one form or another to prevent the *Operator* from lifting a load higher than the rated capacity of the machine. (DMR 18 [9.b])

2.9.1.2 These safety devices must be mounted such that they do not have to be re-calibrated after regular maintenance both to the machine as well as to the device.

2.9.2 INSPECTIONS

2.9.2.1 The safety devices must specifically be examined during the regular examinations of the machinery and all examinations must be individually noted and signed off on the equipment logsheet.

2.9.3 CALIBRATION

2.9.3.1 The devices must be calibrated yearly or more often if necessary and a program for these calibrations must be filed in the equipment file. All calibrations must be individually noted and signed off on the equipment logsheet.

2.10 ROUTINE

2.10.1 GENERAL EXAMINATION PROCEDURES OF MACHINERY, PLANT AND EQUIPMENT

2.10.1.1 Logsheets, numbers 9, 10 and 66, must be used by *Competent Persons or Lifting Machinery Inspectors* to record the results of periodic examinations with a view to report and attend to all defects, wear or malfunction, which may affect the safe operation of the equipment or the safety of the *Operator* or other persons.

2.10.1.2 *Supervisors* must arrange the following for all new machinery, plant and equipment under their jurisdiction before the item concerned is placed in service:

2.10.1.3 The issue of initial logsheets, except where the equipment has been manufactured by a Transnet workshop and logsheets and certification has been issued by them;

2.10.1.4 Open an equipment file for it;

2.10.1.5 Ensure that logsheets, valid load test and material certificates, contracts and other relevant certificates, documentation and information from the manufacturing centre are filed in the equipment file as required by clause No. 16.1

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2.10.1.6 Complete and send a census form (Form A-2) to the census authority according to the instructions in clause 5 of these instructions.

2.10.1.7 The last date of certification or testing shown on a completely filled logsheet and the date of manufacture, if known, must be endorsed prominently on the new logsheet. Where equipment is subject to periodic testing, the expiry date for the valid test certificate must be endorsed in red on the bottom right hand corner of the relevant logsheet.

2.10.1.8 Where the last date of test is unknown, or if any doubt exist when the last test was carried out, the new logsheet must be endorsed: "To be tested". The particular piece of machinery, plant or equipment must be withdrawn from service and only placed back in service when it has successfully been tested.

2.10.1.9 In the event of a logsheet for a particular piece of machinery, plant or equipment being lost (See also Clause 2.16.1.4 of these instructions):

2.10.1.9.1 Every effort must be made to trace the missing logsheet and/or establish how the logsheet was lost.

2.10.1.9.2 The *Supervisor* must advise all concerned that the logsheet has been lost, including:

- The *Competent Person or Lifting Machinery Inspector* of the particular piece of machinery, plant or equipment;
- The Operations Manager;
- The Risk Manager of the Business Unit;
- The Group Risk Manager; and
- The census authority

2.10.1.9.3 Details as to how the logsheet was lost, or presumed lost, must be recorded in one or more affidavits by the *Supervisor* and/or relevant parties.

2.10.1.9.4 The *Competent Person or Lifting Machinery Inspector* must issue a new logsheet endorsed with the following: "Duplicate logsheet original lost - See letter ..... of ..... "

2.10.1.9.5 The affidavit/s must be filed in the equipment file.

2.10.1.10 When it is necessary due to new specifications to alter existing information appearing in the heading of a logsheet, the existing information must be crossed out in such a manner that it remains legible and the new information must be inserted. Letters, reports or other documentation explaining the changes must be filed in the equipment file.

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2.10.1.11 The identification number appearing on the logsheet may not be altered under any circumstances. Where the identification number is changed a new logsheet must be issued and the existing logsheet including letters, reports or other documentation explaining the changes must be filed by the *Supervisor* in the equipment file.

2.10.1.12 Under no circumstances may correction fluid be used to obliterate any information or entries on a logsheet.

2.10.2 DAILY / SHIFT TASKS

2.10.2.1 The *Operator* of the piece of equipment must ensure that the equipment is safe to operate before he/she starts to operate it. For this purpose, the *Operator* must perform a daily task. The *Operator* must complete the relevant daily task form (Form A7 - Logsheet No. 385), should there be no form for that particular piece of equipment a visual as well as a functional check of the piece of equipment must be made by the *Operator* before he/she starts to operate it.

2.10.2.2 In the case of multiple users during a shift, the *User* must assign one person to do the above mentioned shift task.

2.11 AUTHORITY FOR EXEMPTIONS / REPAIR / MANUFACTURE.

2.11.1 EXEMPTIONS FROM AND EXTENSIONS TO EXAMINATION AND/OR TESTING PERIODS

2.11.1.1 If exceptional circumstances exist and all other alternatives have been considered, and the only solution is the exemption or extension in respect of the examination and/or testing of equipment for a maximum of *one regular inspection*, the *Supervisor* can make this decision provided that the maximum safety is ensured at all times. *Should an immediate second or permanent exemption be necessary, the exemption may only be granted by a Professional Engineer. The annual inspection and load test of lifting machinery may not exceed 12 months as per DMR 18 (5).*

2.11.1.2 In each case where an exemption or extension in respect of the examination and/or testing has been granted, the relevant logsheets must be endorsed accordingly with the amended periods for examination and/or testing, and will only be valid while conditions exist that led to the application as described in Clause 11.1 (a).

2.11.1.3 If the exemption or extension in respect of the examination and/or testing are withdrawn because of changed circumstances, the prescribed examination and test periods must be restored.

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2.11.1.4 If *Competent Persons or Lifting Machinery Inspectors* and other authorised officers consider it necessary in the interest of safety, they shall at all times have the right to cancel an exemption or extension in respect of the examination and/or testing periods. The person concerned must endorse the relevant logsheet accordingly.

2.11.1.5 If *Competent Persons or Lifting Machinery Inspectors* and other authorised officers consider it necessary in the interest of safety, they shall at all times have the right to require the immediate examination and/or testing of any particular piece of equipment even if it has a valid exemption certificate. The person concerned must endorse the relevant logsheet accordingly including the reasons for the particular action.

2.11.2 WELDING ON LIFTING TACKLE AND LIFTING EQUIPMENT

2.11.2.1 No electric arc or oxyacetylene welding or flame cutting is permitted on lifting tackle components and lifting appliances without prior written authority from a *Professional Engineer*. All requests to undertake such welding or cutting must indicate the proposed method of welding or cutting and other relevant information. (Where possible drawings must be provided).

2.11.2.2 After completion of the welding or cutting an examination and performance test must be done by a *Lifting Machinery Inspector* and the logsheet must be endorsed as such.

2.11.2.3 The written authorisation for the welding or cutting as well as inspection reports, X-ray photos etc. must be filed in the equipment file and a copy of the authorisation must be attached to the logsheet.

2.11.3 MODIFICATION TO EXISTING LIFTING EQUIPMENT

2.11.3.1 Proposed modifications to load bearing parts of existing lifting appliances (e.g. cranes, chain blocks, straddle-carriers, etc.) must be referred to a *Professional Engineer* for approval before the modification work is commenced and the drawings for existing lifting equipment must be amended whenever modifications to such equipment are effected.

2.11.3.2 After completion of the modification an examination and performance test must be done by a *Lifting Machinery Inspector* and the logsheet must be endorsed as such.

2.11.3.3 The written authorisation for the modification, new drawings as well as inspection reports, X-ray photos etc. must be filed in the equipment file and a copy of the authorisation must be attached to the logsheet.

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2.11.4 COMBINING LIFTING APPLIANCES OF DIFFERENT CAPACITIES

2.11.4.1 The practice of combining lifting equipment of different capacities (i.e. a 3 ton chain block on a 500 kilogram runway) must be avoided at all costs. Where combinations of unequal capacity in use for a relatively short period, e.g. while chain blocks are removed for testing, the *Supervisor* must ensure that the capacity of the equipment which can safely accept the lesser load is not exceeded during the period the lifting equipment safe working loads are at variance.

2.11.4.2 In cases where the safe working load is typed on the hook, the existing safe working load markings must be peened out and the de-rated safe working load typed onto the hook.

Note : The safe working load of the hook may never be upgraded again.

2.11.4.3 Maker's capacity markings, cast or forged in relief on the hook must be ground off, in such a manner that the main body of the hook is neither damaged nor reduced in cross-section.

2.11.4.4 The relevant logsheets must be endorsed accordingly, the reduced safe working load must be indicated and all documentation detailing the reasons for the change must be filed in the equipment file.

2.11.5 LIFTING EQUIPMENT WORKING IN TANDEM

2.11.5.1 When it is necessary to use lifting equipment of equal capacity in tandem, the load to be lifted must *not exceed 90%* of double the safe working load of both items of such equipment used in this combination.

2.11.5.2 When it is necessary to use lifting equipment of unequal *capacity* in tandem, the load to be lifted *must not exceed 90% of double the safe working load* of the item of equipment with the *smaller load capacity* used in this combination.

2.11.5.3 Two cranes working in tandem and employing a compensating device, the design of which has been approved by a *Professional Engineer*, may lift a single load provided that the *load does not exceed ninety per cent of double the safe working capacity of the smaller capacity crane* used in the combination.

2.11.5.4 *Both the cranes used for a tandem operation must be of the positive power lowering type.* Cranes with "free-barreling" features may only be used if this feature can be positively excluded. Cranes which, due to the electrical wiring, require the controller to be passed through the "free-barreling" position of the controller before entering the power lowering condition, may under no circumstances be used for tandem working.

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2.11.5.5 The Engineer or Manager, whose staff maintains the cranes, (with the concurrence of a *Professional Engineer* in the instance that he/she does not have a suitable qualification and/or suitable experience) must agree in writing that the selected cranes are suitable for this method of working and is satisfied that the selected cranes are in good safe working order.

2.11.5.6 All lifts undertaken using the compensating device must be personally supervised by the *Supervisor* or any other responsible person appointed by the *Supervisor* and the lifting of loads must be avoided while strong winds prevail.

2.11.5.7 It must not be presumed that because it was previously agreed upon to work in tandem, future tandem working may be undertaken without requesting and receiving authorisation for it. Each case will be considered and decided on its merits.

2.11.5.8 The written authorisation for the lift as well as any relevant inspection reports must be filed in the equipment file and a copy of the authorisation must be attached to the Logsheet.

2.11.6 AUTHORISATION TO OVERLOAD CRANES

2.11.6.1 Cranes may not be loaded in excess of their safe working load, but should circumstances arise where an exception is necessary, full particulars must be referred to the relevant Manager or Engineer who may authorise*, with the concurrence of a Professional Engineer in the instance that he/she does not have the necessary qualification and enough suitable experience*, an overload in writing of up to twenty five per cent above the safe working load on cranes which are maintained by staff under their control.

2.11.6.2 Overloads, which are above the safe working load plus twenty-five per cent of the safe working load, will not be permissible under any circumstances.

2.11.6.3 On receipt of an application, the Manager must arrange for an examination of the crane and ensure that all aspects of the crane are in good working order.

2.11.6.4 In all cases of overloads, the Manager must keep a permanent record indicating:

2.11.6.4.1 By whom the overload was authorised.

2.11.6.4.2 Crane number.

2.11.6.4.3 Full details of the load lifted (including mass).

2.11.6.4.4 Date load was lifted.

2.11.6.4.5 Details of *Professional Engineer's* concurrence

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2.11.6.5 Every possible alternative must be examined before seeking authority to overload a crane. For instance, the division of the load, or the assistance of other cranes may overcome the difficulty.

2.11.6.6 When an overload has been authorised, *it must not be presumed that future similar overloads may be lifted without prior authority.* Each case will be considered and decided on its merits.

2.11.6.7 The operation of lifting an overload must be supervised by an *Artisan (Millwright work)*, or other *Competent Person or Lifting Machinery Inspector* and must be avoided while strong winds prevail.

2.11.6.8 After completion of the overload, an examination of the crane must be done and the *Competent Person or Lifting Machinery Inspector* must be satisfied that all aspects of the crane are still in good working order.

2.11.6.9 The written authorisation for the overload and written reports of the lift as well as inspection reports before and after the lift must be filed in the equipment file and a copy of the authorisation must be attached to the logsheet.

2.12 STORAGE OF EQUIPMENT (MOTHBALL)

2.12.1 STORAGE OF SURPLUS OR REDUNDANT SLINGS, LIFTING TACKLE AND/OR EQUIPMENT

2.12.1.1 Where slings, lifting tackle and/or equipment become redundant or surplus because of changed conditions or methods and the condition of the slings, lifting tackle and/or equipment is such that scrapping cannot be justified, the *Supervisor* can store the above mentioned equipment until required, or until disposal is arranged.

2.12.1.2 The slings, lifting tackle and/or equipment must be placed in storage in an area which can be securely locked to prevent the entry of unauthorised persons and which is so constructed that material stored therein cannot be removed without consent of the *Supervisor*. This place of storage should not be such that other staff are required to regularly enter the area to obtain other materials stored therein.

2.12.1.3 The *Supervisor* must accept full responsibility for slings, lifting tackle and/or equipment held in storage under his/her jurisdiction and must take reasonable care that deterioration will not easily occur.

2.12.1.4 The relevant logsheets must be endorsed, "PLACED IN STORAGE", and while the equipment remains in storage, the examination and testing may be suspended.

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2.12.1.5 Where it is necessary to withdraw an item from storage for further use, the item concerned must be thoroughly examined, and if applicable, tested irrespective of the last date of examination and/or testing and the relevant logsheet endorsed accordingly.

2.13 PROHIBITIONS

2.13.1 LIFTING EQUIPMENT OF RAIL CONSTRUCTION

2.13.1.1 Under no circumstances must rails be used for future lifting equipment or lifting appliances and all existing lifting appliances or equipment of rail construction may not be used in future. *Competent Persons* and *Supervisors* must cancel all logsheets and/or logbooks for lifting appliances or equipment of rail construction.

Note: Where self-supporting jib cranes, constructed in accordance with drawing CME 2531/15-000 have been reinforced in accordance with letter NHH.B. 1365 of 26 August 1975, this equipment may be retained in service.

2.13.1.2 In all cases where it is essential that rails be used, e.g. the track on overhead crane structures these must not be taken into account in the way of load bearing, for design purposes.

2.13.2 LIFTING EQUIPMENT: BOILER TUBES AND SIMILAR STEEL TUBING

2.13.2.1 Second-hand boiler tubes and similar steel tubing must not be used in the manufacture of lifting equipment or scaffolding, nor for lifting purposes.

2.14 DERATING LIFTING EQUIPMENT

2.14.1 When it is necessary to de-rate lifting equipment (i.e. reduce the safe working load) the *Supervisor* and the *Operations Manager* must concur that the lifting equipment be de-rated.

2.14.2 The *Supervisor* must advise the head of the business division or the business unit concerned, in writing, that the lifting equipment has been de-rated and the reasons therefore.

2.14.3 All load/radius indicators, load diagrams or charts, etc., fitted to or provided with the lifting equipment, must be changed to the de-rated safe working load.

2.14.4 The existing safe working load stenciled on the lifting equipment must be obliterated and the new de-rated safe working load must be stenciled on in place thereof.

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2.14.5 The existing safe working load stamped on the lifting equipment components e.g. hook/s etc., must be obliterated and the new de-rated safe working load stamped on in place thereof and any other existing load marks which are contrary to the de-rated safe working load must be obliterated.

2.14.6 All logsheets/logbooks appertaining to the lifting equipment, including those for components e.g. hooks, etc., must be endorsed to show that the safe working load has been de-rated and the reasons therefore.

2.15 STENCILING OF LIFTING EQUIPMENT

2.15.1 Every crane must be stencilled with the following particulars:

2.15.1.1 Number.

2.15.1.2 Safe working load (in kilograms below 1 000 kilograms and in tons and decimals thereof for 1 000 kilograms and over) and where applicable:

2.15.1.3 The maximum radius at which the safe working load can be lifted.

2.15.2 When stencilling the safe working load on cranes, the abbreviation SWL must be used.

2.15.3 This stencilling must be maintained in a legible condition. Where necessary, i.e. in locomotive sheds, the stencilling must be cleaned of dirt, soot, etc., at regular intervals.

2.15.4 A notice bearing the wording: "This crane may only be operated by staff who have been certified competent and are in possession of a valid certificate issued by an Accredited Training Provider (DMR 18 [2] definitions)" must be displayed in a prominent place in crane cabs.

2.15.5 This information must be stencilled, under competent supervision, in a prominent position on the crane, as follows:

TYPE OF CRANE	POSITION IN WHICH INFORMATION MUST BE STENCILLED
Overhead electric and hand operated overhead travelling cranes, "Goliath" type cranes, etc.	On both sides of the overhead cross girder of the crane.
Hand, petrol or diesel powered travelling jib cranes (including break down cranes). Monorail jib cranes, Morgan and scotch derricks, self-supporting and wall mounted swing jibs. Truck mounted jib cranes, etc.	On both sides of the crane jib.
Portal and wharf cranes, "Titan" type cranes. Container handling cranes, etc.	On both sides of the portal structure facing the direction of travel.

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Runways, of the single longitudinal girder type, etc.	At suitable intervals on both sides of the longitudinal girder.
Gantries (consisting of two uprights and a fixed cross member).	On both sides of the cross member or prominently on both sides of one of the uprights.

Note: A suitable board, securely attached to the appliance, may be used instead of stencilling in some applications.

2.16 RECORDS

2.16.1 EQUIPMENT FILE

2.16.1.1 Each piece or set of equipment subject to this Code of Practice shall have a file.

2.16.1.2 This file will be the responsibility of the *User*.

2.16.1.3 The file shall contain the following for the particular piece of equipment if applicable:

2.16.1.3.1 A copy of the initial contract for the procurement.

2.16.1.3.2 The initial Load test certificates.

2.16.1.3.3 All defect reports during the warranty period.

2.16.1.3.4 All job cards for maintenance work done.

2.16.1.3.5 All accident reports related to the equipment.

2.16.1.3.6 All service bulletins and equipment updates.

2.16.1.3.7 All authorisations for repairs including drawings.

2.16.1.3.8 All authorisations for modifications including drawings.

2.16.1.3.9 All authorisations for welding including drawings.

2.16.1.3.10 All authorisations for special lifts e.g. overloads etc.

2.16.1.3.11 All authorisations for exemptions of this Code of Practice.

2.16.1.3.12 All logsheets older than one year.

2.16.1.4 Should there not be such a file for that piece of equipment or if it got lost or destroyed, the first items in the new equipment file should be affidavits by both the *Supervisor* and the *User,* as well as other relevant parties, explaining the reasons for the creation of a new file. Copies of these affidavits must also be sent to the Group Risk Manager, Transnet with all the details of the equipment.

2.16.1.5 This equipment file must be kept by the *User* for at least five years after the equipment has been scrapped.

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2.16.1.6 If equipment is transferred from one *User* to another, the equipment file must be transferred with the equipment to the new *User*.

2.16.2 LOGSHEETS

2.16.2.1 All load tests, inspections, maintenance work etc. must be noted and signed off on the logsheet by a *Competent Person or Lifting Machinery Inspector* or the *Artisan*. The *User* must sign the logsheet to confirm that the work is done.

2.16.2.2 The logsheet must serve as permanent record of all incidents related to the particular piece of equipment. All incidents related to it must be individually noted on the logsheet.

2.16.2.3 The correct logsheet must be used for the correct type of equipment.

2.17 PROCUREMENT

All procurement of equipment, plant and machinery for Transnet which falls under the jurisdiction of this Code of Practice must be done according to the following requirements:

2.17.1 The instructions of the Transnet Tender Rules must be followed as far as the particular business unit is bound by them.

2.17.2 The equipment must be procured and supplied according to specifications approved by a *Professional Engineer* acting within the scope of his/her discipline.

Note: If specifications do not exist for the particular equipment required, it must be drawn up.

2.17.3 The specifications mentioned above must as a minimum in general contain the following requirements and information:

2.17.3.1 Description of the general requirements.

2.17.3.2 Operating Conditions.

2.17.3.3 Performance requirements including requirements for:

2.17.3.3.1 Capacity.

2.17.3.3.2 Expected economic life.

2.17.3.3.3 Safety standards.

2.17.3.4 Quality Standards required (Generally along ISO 9001 lines)

2.17.3.5 Legal requirements.

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2.17.3.6 Ergonomically requirements

2.17.3.7 Documentation requirements including:

2.17.3.7.1 Material certificates.

2.17.3.7.2 Load test certificates.

2.17.3.7.3 Operations and maintenance manuals.

2.17.3.7.4 Spares lists.

2.17.3.8 Training requirements.

2.17.3.9 Warranty requirements.

2.17.3.10 Service and back up requirements.

2.17.3.11 Requirements for delivery and commissioning.

2.17.4 The technical recommendation for the equipment must be approved by a *Professional Engineer*.

2.17.5 It is advisable not to buy any equipment from a supplier who is not willing to supply his/her equipment with adequate and proper certification, documentation, training, warranty and after sales service.

2.18 HIRED EQUIPMENT

2.18.1 All machinery, plant and equipment which would fall under the jurisdiction of this Code of Practice must be supplied with the necessary certification.

2.18.2 The above mentioned machinery, plant and equipment must be treated as Transnet property and the necessary documentation must be issued for it.

2.18.3 All the stipulations such as regular examinations and the required performance tests as required by this Code of Practice must be complied with as the ***User*** is still responsible for the safety of the equipment.

Note: The responsibility for regular inspections may contractually rest with the lessor. However, if the period of inspection is more than that prescribed by this Code of Practice, parallel inspections according to the requirements of this Code of Practice must be carried out.

2.19 RENTING OUT OF TRANSNET EQUIPMENT

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2.19.1 All machinery, plant and equipment which would fall under the jurisdiction of this Code of Practice and is rented out to any private concern must be supplied to the *lessee* with the necessary certification.

2.19.2 These above mentioned machinery, plant and equipment stays the property of Transnet and it must be ensured that the equipment is maintained in a proper and safe condition.

2.19.3 Thus regular inspections must be done on the equipment according to the stipulations of this Code of Practice.

Note: It must be ensured that the lessee is contractually bound to the stipulations of this Code of Practice. Should this not be possible or practical, the business unit that is renting out the machinery, plant and equipment must carry the responsibility and cost for ensuring that the relevant examinations and performance testing is done.

2.20 AMENDMENTS

2.20.1 This Code of Practice will be amended from time to time as it will need to change in order to stay relevant and practical.

2.20.2 The reasons for amendments can be placed the following categories:

2.20.2.1 Statutory environment changes.
2.20.2.2 Changes in the company structure
2.20.2.3 Practicality changes.
2.20.2.4 Changes in technology.

2.20.3 Any *User* of this Code of Practice may propose changes to it, be it business units or employees of the Transnet group. Proposed amendments must be sent to the Group Risk Manager, Transnet on Form A-1.

2.20.4 Each proposal will be considered on its own merits as well as on the impact it will have on the company.

2.20.5 Changes in legislation that directly affects this Code of Practice will force a mandatory amendment to it.

2.20.6 Each amendment will be approved by Transnet's CEO, or someone delegated by him/her in writing, before issue.

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2.20.7 Amendments will only be sent to registered holders of copies of this Code of Practice.

2.20.8 Each amendment will be entered by the holder into the amendment register in the front of the Code of Practice.

2.20.9 Each amendment will come with instructions about the removal and destroying and replacement of certain pages. These instructions must be followed as failure to do so will out date the particular copy of the Code of Practice.

2.20.10 When the amount of amendments become impractical, a complete new issue of this Code of Practice will be issued.

2.21 DISTRIBUTION

2.21.1 In order to ensure that all holders of this Code of Practice receives amendments, a distribution list for this Code of Practice will be held by the issuer - The Group Risk Manager, Transnet.

2.21.2 Each distributed copy will have a unique number.

2.21.3 Each holder of a copy of this Code of Practice will be personally responsible to inform the Group Risk Manager, on the provided tear off forms, of:

2.21.3.1 A change of address;

2.21.3.2 A change of owner ship of the code

2.21.3.3 Receipt of amendments.

2.21.4 Any requests for copies of this Code of Practice must be addressed to *The Group Risk Manager Transnet*.

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PART 3: EQUIPMENT INSTRUCTIONS

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3.1 PURPOSE

3.1.1 The purpose of this section of this Code of Practice is to determine firstly, the general inspection procedure for plant and machinery, with emphasis on lifting equipment within Transnet.

3.1.2 Secondly its purpose is to determine the inspection, testing as well as design, manufacturing and/or procurement criteria procedures for particular groups of equipment.

3.1.3 Thirdly its purpose is to do all of the above aimed at specified equipment which are in some cases unique to Transnet.

3.2 REFERENCES

3.2.1 Occupational Health and Safety Act and Regulations - Act 85 of 1993

3.2.2 Original Equipment Manufacturers (OEM) operating, maintenance and inspection and testing instructions and manuals.

3.2.3 High mast lighting instructions P027

3.2.4 Relevant South African National Standards as updated from time to time

3.2.5 Relevant ISO Standards

3.3 GENERIC TEST AND EXAMINATION PROCEDURE

3.3.1 The testing of the equipment must be undertaken by a Competent Artisan, delegated by the Technical Manager to undertake these duties. He/she must be conversant with the maintenance of the equipment he is required to test.

3.3.2 The mass piece used for testing purposes must be within 1% of the actual mass prescribed for the test.

3.3.3 The test piece must be lifted evenly without jerking or swaying to the height stipulated, maintained for at least one (1) minute under normal as well as under E-stop conditions and thereafter lowered in the same manner.

3.3.4 Immediately after the test, the Competent Person conducting the test, must thoroughly examine the appliance for signs of damage or defects which may become apparent as a result of the test. These defects, if any, must be endorsed on the applicable logsheet for the attention of the Supervisor and the log sheet cancelled.

Note: Damage or defects which are apparent before the test, must at the discretion of the Supervisor, be repaired prior to the test being undertaken.

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3.3.5 The Competent Person conducting the test must endorse on the relevant logsheet the following detail:

3.3.5.1 Mass of test load used, in kilograms
3.3.5.2 Date of test
3.3.5.3 Whether test was satisfactory or not
3.3.5.4 Result of the post-test examination
3.3.5.5 His/her name and signature
3.3.5.6 Any comments he/she might have
3.3.5.7 The standard to which the equipment was tested

3.3.6 The Supervisor in charge of the Competent Person undertaking the test, must countersign the entry on the relevant logsheet, to certify that the test was properly conducted.

3.4 GENERIC EQUIPMENT INSTRUCTIONS

3.4.1 HOISTS, CHAIN- AND ROPE PULLEY BLOCKS AND ASSOCIATED EQUIPMENT

The following general list of SANS standards are to be used, in conjunction with the OEM standards as revised from time to time.

SANS 500	Inspection, examination and testing of manual chain blocks and chain lever hoists in use.
SANS 1592	Short link steel chains for chain blocks.
SANS 1594	Manual chain blocks.
SANS 1636	Manual chain lever hoists.
SANS 1637	Re-conditioned manual chain lever hoists.
SANS 1638	Pneumatic chain hoists.
SANS 1639	Re-conditioned pneumatic chain hoists.
SANS 1640	Re-conditioned manual chain hoists.
SANS10295-1	Permanently suspended access equipment.
SANS 10295-2	Temporary suspended access equipment.

Note: This list is not complete and is only to be considered for general purposes.

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3.4.2 Chain blocks, pull lifts, hand, electric, or pneumatic powered hoists, equipped with link or roller load chains, must be tested annually to 1,25 times their maximum safe working load. The entire length of load chain, except for one half turn around the sprocket, gypsy or load sheave, must be run out and carefully examined. The test load must then be lifted to a height of 50% of the length of chain so run out. This will ensure that the entire length of chain and the hook is subjected to the test load. The entire length of chain, including that around the sprocket, gypsy or load sheave, must be thoroughly examined.

3.4.3 Where appliances are permanently fixed and operate in one location only, the test load i.e. 1,25 times maxi¬mum safe working load must be placed flat on the ground under the appliance and then lifted from this position, through 50% of the normal working height of the appliance. The full length of chain must be carefully examined for defects, damage or wear on completion of the test.

3.4.4 If an electric or pneumatic powered hoist is not capable of lifting 1,25 times its safe working load, it must be tested to 1,1 times its safe working load. The chain must be removed and tested with the hook to 1,25 times the safe working load of the powered hoist. The entire length of the chain and hook must be thoroughly examined on the completion of the test.

3.4.5 Hand, electric, or pneumatic powered hoists equipped with steel wire hoist ropes must for purposes of examination and testing be regarded as overhead cranes. The hooks (and cross heads where applicable) fitted on such hoists must be removed and tested at the prescribed intervals.

3.4.6 It is not necessary that chain blocks, pull lifts, suspended scaffold hoist (of the manually operated drum type), hauling blocks and single or multiple sheave blocks purchased from private industry, be tested prior to being placed in service if a manufac¬turer's test certificate is provided. Such test certificates will remain valid for one year from the date the equipment concerned was placed in service.

Note: Where the above mentioned equipment is operated under cover of a manufacturer's test certificate, the test certificate number and date the equipment was placed in service must be reflected on the applicable log sheet.

Electric or pneumatic powered hoists equipped with link or roller load chains must be tested before being placed in service irrespective of whether a manufacturer's test certificate is provided.

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3.4.7 Chain blocks, electric or pneumatic hoists, pull lifts, rope pulley blocks and suspended scaffold hoists must have a factor of safety of not less than 5. Hauling and pulling blocks must have a factor of safety of not less than 4. Steel wire rope and natural or man-made fibre ropes shall have a factor of safety as prescribed in clause 6.26 of Part 3 of this Instruction.

3.4.8 Rope pulley blocks, chain blocks, electric and pneumatic hoists, pull lifts, pulling and hauling blocks, suspended scaffold hoists etc., must be examined at least once every month in a systematic manner, by the Competent Person or Lifting Machinery Inspector and the result of this examination be recorded on the applicable logsheet. The annual inspections and tests must be done by the Lifting Machinery Inspector.

3.4.9 Rope pulley blocks, chain blocks, electric and pneumatic hoists, pull lifts, suspended scaffold hoists, pulling and hauling blocks, etc. must have stamped on them the following particulars

3.4.9.1 Number

3.4.9.2 Safe working load in kilograms below 1 000 kg and in tons and decimals thereof, for 1 000 kg and over.

Note: The markings are to appear in addition to the existing capacity markings of the manufacturer.

3.4.10 The marking of the above mentioned particulars on rope pulley block sheaves of light construction may be carried out using an electric stylus marking device instead of stamping with figure or letter types, if so desired.

3.4.11 Sheave blocks for rope pulley blocks must be individually numbered by means of a suffix a or b following the unit number. Sheave blocks for rope pulley blocks must as far as possible not be interchanged. Where it is necessary to replace one sheave block in the unit this sheave block must be correctly numbered with the applicable unit number and suffix.

3.4.12 Suspended scaffold hoists of the manually operated drum type i.e. where the hoisting wire is manually wound around a drum to effect lifting action, must be tested annually to 1,25 times their maximum safe working load over a lifting height of not less than 5 meters. The full length of steel wire rope must be carefully examined for defects, damage or wear.

3.4.13 Hauling and pulling blocks, and suspended scaffold hoists, of the type where pairs of friction jaws progressively grip and pull against a steel wire rope, must be tested annually to 1,25 times their maximum safe working load, after being stripped, examined and repaired if necessary. The full length of steel wire rope must be examined for defects, damage or wear.

Note: Hauling and pulling blocks are included as it is possible that they could be used for lifting a load at any time.

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3.4.14 Single or multiple sheave blocks that are used in conjunction with hauling blocks, snatch blocks, and similar sheave blocks must be tested annually by suspending them from a fixed point and applying the under mentioned test loads for a period of at least one minute.

3.4.14.1 Single sheave blocks: Test load to be 2.5 times the maximum safe work¬ing load of the sheave block concerned.

3.4.14.2 All other multiple sheave blocks: Test load to be 2 times the maximum safe working load of the sheave block concerned.

Note: There is no objection to single or multiple sheave blocks being tested in a chain testing machine

3.4.15 Fibre or steel wire rope must be removed from rope pulley block assemblies and the single or multiple sheave blocks must be tested (including the bracket) annually to the test loads specified in clause 4.1.14 of part 3 of this Instruction. The fibre or steel wire rope must be carefully examined for defects, damage or wear before being replaced on the assembly.

3.4.16 If the hooks and/or chains on chain blocks, pull lifts, hand, electric, and pneumatic hoists fitted with load chains, and hauling blocks, are found to be damaged or defective they must be scrapped and replaced by a new hook or chain. Repairs to these components are not permitted.

3.4.17 Where shackles, rings, chains, etc., are used to suspend chain blocks, pull lifts, hoists, pulley blocks, etc., they must receive regular attention as prescribed.

3.4.18 The prescribed testing of rope pulley blocks, chain blocks, electric and pneumatic hoists, pull lifts and hauling blocks and suspended scaffold hoists, must be done by the Lifting Machinery Inspector provided that suitable facilities are available and that the prescribed procedures are rigidly adhered to.

3.4.19 BINS

3.4.19.1 Bins for handling sand, swarf and other materials must be examined at least once every three months by the Competent Person and the result of this examination be recorded on the applicable logsheet.

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3.4.19.2 Only bins of a design which has been approved by a Graduate Engineer and which have successfully passed a proof loading of twice the intended safe working load, before being placed in service, may be used for the handling of materials in areas where staff are working. Also, that during design, due cognisance is taken of the type of material to be handled, the methods of handling to be employed as well as the magnitude of the loads involved.

3.4.19.3 The safe working load, in kilograms, must be stencilled prominently on all bins for handling sand, swarf and other materials.

3.4.19.4 Bins must be tested to twice the safe working load before being placed in service and after heavy repairs. The results of these tests must be endorsed on the applicable logsheet.

3.4.20 BULK CARGO BUCKETS AND SCOOPS

3.4.20.1 Bulk cargo buckets and scoops must be examined at least once every three months by the Competent Person and the result of this examination be recorded on the applicable logsheet.

3.4.20.2 The safe working load, in kilograms, must be stenciled prominently on all bulk cargo buckets and scoops.

3.4.21 GRABS OWNED BY TRANSNET

3.4.21.1 Mechanical or hydraulic grabs must be examined at least once every three months by the Competent Person, or where such grabs are used for loading or off-loading ships, on completion of the loading or off-loading of the ship concerned, by the Competent Person.

3.4.21.2 The results of the examination in terms of clause 4.4.1 must be recorded on the applicable logsheets No. 9 and 66.

3.4.21.3 The operating chains (where fitted) on grabs must be tested at least once every year and the result of this tests be recorded on the logsheet No. 66 applicable to the operating chain concerned.

3.4.22 LADLES

3.4.22.1 Foundry ladles fitted with tilting mechanism and the lifting beam assembly of all ladles must be examined at least once every month by the Competent Person and the result of this examinations be recorded on the applicable logsheets No. 9 and 66 respectively.

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3.4.22.2 The lifting beam assemblies fitted on ladles, including components such as hooks, rings, links, etc. must be regularly tested at the periods as prescribed.

3.4.22.3 The safe working load, in kilograms, must be stencilled on all lifting beam assemblies fitted to ladles.

3.4.23 CAGES USED FOR LIFTING PEOPLE

3.4.23.1 Cages, platforms and similar type bulk cargo buckets and scoops for the raising or lowering of persons must be designed for that purpose only, have a factor of safety of not less than ten and be approved by a Professional Engineer.

3.4.23.2 The elevating mechanism and controls must be examined at least once every month by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 9.

3.4.23.3 The lifting appliance concerned must be tested to full capacity (Safe Working Load) prior to being placed in service and after every heavy repair and the safe working load that may be lifted must be clearly stencilled on the appliance.

3.4.24 LIFTING AND WORK PLATFORMS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 583	Non-integrated work platforms for occasional use on lift trucks.
SANS 10295-1	Permanently suspended access equipment.
SANS 10295-2	Temporary suspended access equipment.
SANS 16368	Mobile elevating work platforms; design calculations, safety requirements and test methods
SANS 18893	Mobile elevating work platforms; safety principles, inspection, maintenance and operation.

3.4.24.1 Lifting and work platforms (hydraulic, mechanical and mobile) must be examined at least once every month by the Competent Person and the results of this examinations be recorded on the applicable logsheets. The annual inspections and tests must be carried out by the Lifting Machinery Inspector.

3.4.24.2 Lifting and work platforms must be tested to 100% of its safe working load prior to being placed in service and after every heavy repair and the safe working load that may be lifted must be clearly stencilled on the appliance.

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Note: The Operator must examine and test the unit functionally after it has been assembled, before use, and also before use at the commencement of each shift.

3.4.24.3 Permanently installed work platforms with an adjustable height for maintenance to the outside of rolling stock in workshop areas, must be examined systematically at least once every three months by the Competent Person and the result of this examinations be recorded on the applicable logsheets.

3.4.25 SKY CLIMBERS

3.4.25.1 Powered scaffold hoists "Sky climbers" are used either single or in multiples to raise or lower boatswain chairs, work cages or platforms (with or without extensions) and must be examined at least once every three months by the Competent Person and the result of this examinations be recorded on the applicable logsheets.

3.4.25.2 The safety device and the optional automatic safety device must be stripped and tested functionally by a Competent Person, with experience of the maintenance of this equipment, at least once every two years.

Note: The functional test for the safety device requires that the steel wire rope be pulled through the unit sharply, to test the locking ability of the safety device.

3.4.25.3 The functional test for the optional automatic safety device requires that the independent safety rope be slackened to test the locking ability of the optional automatic safety device. This optional automatic safety device is provided as a safety measure should the steel wire rope break or slacken whilst the unit is in service.

3.4.25.4 The complete assembly must be thoroughly examined and tested functionally by the Operator prior to use.

3.4.26 The powered scaffold hoists must be individually numbered and the safety devices and optional automatic safety devices, because they are easily detachable, must also be individually numbered.

3.4.27 SHEAR LEGS, TRIPODS AND DERRICK POLES

3.4.27.1 Shear legs, tripods and derrick poles must be examined at least once per month by the Competent Person and the result of this examinations be recorded on the applicable logsheets.

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3.4.27.2 The safe working load, in kilograms, must be clearly stencilled in a prominent position on all shear legs, tripods and derrick poles.

3.4.27.3 The shackle and bolt at the head of the shear leg or tripod (and where provided on derrick poles) is subject to test procedures as prescribed.

3.4.28 WINCHES

3.4.28.1 Winches used for the lifting of loads must be systematically examined at least once every month by the Competent Person. The annual inspections and tests must be carried out by the Lifting Machinery Inspector.

3.4.28.2 Winches which are not used for the purpose of lifting loads must be systematically examined at least once every six months by the Competent Person.

3.4.28.3 The result of these examinations must be recorded on the applicable logsheets.

3.4.29 ELECTROMAGNETS

SANS 687	Inspection and testing of non-fixed load lifting attachments.

3.4.29.1 Electromagnets used in conjunction with cranes for lifting purposes must have the under mentioned information stamped in a prominent place on all such electromagnets.

3.4.29.2 Positive identification number.

3.4.29.3 Rated load (capacity) of the magnet in kilograms.

3.4.29.4 Mass of magnet in kilograms.

Note: Manufacturer's name plates, indicating the serial number, type, capacity, etc., of the magnet must not be removed from such electromagnets.

3.4.29.5 Electromagnets used in conjunction with cranes for lifting purposes, must be examined at least once per month by the Competent Person and tested annually by the Lifting Machinery Inspector.

3.4.29.6 At least once every six months such electromagnets must be subjected to an insulation test to earth and a continuity test of the coils. At the same time the terminal box and plug connections must be cleaned and checked.

3.4.29.7 The result of this examinations and tests must be recorded on the applicable logsheet No. 9.

3.4.29.8 Where supporting chain slings or bridles are provided on magnets, these attachments must be covered by a logsheet No. 66 and must be regularly examined and tested in terms of extant instructions.

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3.4.30 MOTOR VEHICLE LIFTS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 71	Inspection and testing of vehicle hoists.
SANS 478	Vehicle lifts.

Note: This list is not complete and is only to be considered for general purposes.

3.4.30.1 Motor vehicle lifts must be systematically examined at least once every month by the Competent Person and be inspected and tested annually by the Lifting Machinery Inspector to 100% its safe working load (capacity) before being placed in service and after every heavy repair.

3.4.30.2 The result of this examinations and tests must be recorded on the applicable logsheet No. 9.

3.4.31 Manufacturers name plates, indicating the capacity of motor vehicle lifts must be retained and where not provided, the safe working load (capacity) must be stencilled in a prominent position.

3.4.32 LIFTING BELTS

3.4.32.1 All lifting belts, e.g. belts for traction armatures, manufactured to drawing CME 3164/15 000, must be examined at least once every month by the Competent Person and be tested at least once per annum to 1,5 times the safe working load.

3.4.32.2 The result of this examinations and tests must be recorded on the applicable logsheet No. 9.

Note: The SABS is in the process of drawing up a Standard / Code of Practice for the inspection and testing of textile lifting belts. When it is accepted please refer to that code of Practice / Standard.

3.4.33 BOATSWAINS CHAIRS

3.4.33.1 Boatswains chairs must be examined at least once every month by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 9.

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3.4.33.2 Boatswain's chairs shall be so constructed as to prevent any occupant from falling there from and must be securely attached to prevent unintended detachment from the lifting medium.

Note: In the case of boatswain's chairs of open construction, e.g. the marine type, the chair shall be fitted with a lifeline which shall be securely fastened around the occupant's waist to prevent the occupant from injury, should he fall from the chair.

3.4.34 TRACK LAYING GANTRIES

3.4.34.1 Track laying gantries and rail loaders must be exam¬ined at least once every month by the Competent Person and be tested to 100% of its safe working load before being placed in service, after every heavy repair and thereafter at yearly intervals. This test must be carried out by a Lifting Machinery Inspector.

3.4.34.2 The result of this examinations and test must be recorded on the applicable logsheets.

3.4.34.3 The safe working load must be stencilled in a prominent position on all gantries and loaders.

3.4.34.4 Lifting components used in conjunction with track laying gantries, and rail loaders i.e. scissors grips, etc., must be examined, tested and logged in accordance with extant instructions applicable to this type of equipment.

3.4.35 LIFTING BAGS AND ANCILLARY EQUIPMENT

3.4.35.1 Lifting bags and ancillary equipment, including regu¬lators, control units, hoses, etc. must be examined at least once every three months by the Competent Person.

Note: During this examination, and after use, the Competent Person must inflate the lifting bags and check the bags for damage or leaks and check that the pressure regulators, relief valves, gauges, etc., are working correctly according to the manufacturer's specification to ensure that the equipment is always in good working order for future use.

3.4.35.2 The result of this examinations must be recorded on the applicable logsheets.

3.4.35.3 A separate logsheet must be provided for each individual numbered item of the unit e.g. pressure regulators, control units, lifting bags, etc., because of the possible inter change of items between units.

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3.4.35.4 In addition to this examination the equipment must be visually examined before use by the Operator and leaking lifting bags and/or faulty regulators or control units must not be used for lifting purposes.

3.4.35.5 Manufacturer's labels indicating the maximum lifting capacity and pressure must be retained on the lifting bags. Should the manufacturers labels be defaced or removed the maximum lifting capacity and pressure must be painted on the lifting bag.

3.4.36 JACKS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 1035	Rail-bound rolling stock lifting jacks.
SANS 1126	Mechanical jacks.
SANS 1144	Hydraulic trolley jacks.

Note: This list is not complete and is only to be considered for general purposes.

3.4.36.1 All manually operated jacks, with a lifting capacity in excess of two ton and a lifting height in excess of five hundred millimetres, must be systematically examined at least once every three months by the Competent Person.

3.4.36.2 Type A track jacks are exempted from the provisions of this clause, provided they are not used at any time to lift loads under which staff will be required to work.

Note: The lifting height of a jack is defined as the difference in height from the fully lowered position to the fully raised position.

3.4.36.3 All power operated jacks, excluding those which form part of a machine designed for a purpose other than that of a jack, must be systematically examined at least once every month by the Competent Person.

3.4.36.4 Jacks are to be inspected and tested annually by the Lifting Machinery Inspector. The result of this examinations must be recorded on the applicable logsheets.

3.4.36.5 All jacks must have the following particulars stamped on them.

3.4.36.6 Number

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3.4.36.7 Safe working load, in kilograms, below 1 000 kg and in tons and decimals thereof from 1 000 kg and over.

Note: The above mentioned markings are to appear in addition to the existing markings of the manufacturer.

3.4.37 TRESTLE

SANS 1854	Design and manufacturing of trestles.

3.4.37.1 For purposes of this instruction the term trestle shall be deemed to mean any device, whether adjustable or otherwise, used to support loads, e.g. motor vehi¬cles or rail wagons undergoing repairs, etc. and on or under which staff may be required to work.

3.4.37.2 Trestles must be properly designed by competent staff and the design must be approved by a Professional Engineer. A registered and approved drawing must be prepared for each design.

3.4.37.3 Trestles must have the design safe working load in kilograms and the identification number clearly stenciled on the trestle in a prominent place.

3.4.37.4 Trestles must be examined before use by the person using the trestle and at least once every six months by the Competent Person. The results of the examination undertaken by the Competent Person must be recorded on a logsheet (Transnet No.9) (Form A4).

3.4.37.5 All such entries to include date, Competent Persons signa¬ture and identification number of trestle, in addition to the condition report.

3.4.37.6 Defective, deformed or damaged trestles must be withdrawn from service for scrapping or repair. Steps must be taken to ensure that such damaged or defective trestles are not inadvertently used.

Note: A large number of drawings for various types of trestles are available. Requests for drawings must include full details of the type of trestle required, the mass to be placed on the trestle and the purpose for which the trestle will be used.

3.4.37.7 Trestles bought need not comply with 4.19.2 but must be supplied with a test certificate or else it must be thoroughly examined and a performance test of 2 x SWL must be done by a Competent Person. The SWL must be clearly stencilled in a prominent place on the new trestle before placing it in service.

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3.4.38 LADDERS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 550-1	Wooden ladders; general.
SANS 550-2	Single and extension ladders.
SANS 550-3	Trestle and extension trestle ladders.
SANS 550-4	Step ladders, platform ladders and shelf ladders.
SANS 1304	Light ladders.
SANS 50131-6	Telescopic ladders.
SANS 50131-7	Mobile ladders with platform.

Note: This list is not complete and is only to be considered for general purposes.

3.4.38.1 All ladders, including telescopic, extension, free standing or self-supporting ladders, must be examined at least once every six months by the Competent Person and also before use by the person using the ladder.

3.4.38.2 The result of this examination of each ladder must be recorded on a Transnet Logsheet No.9

3.4.38.3 Fixed vertical ladders are to be constructed according to a design approved by a Professional Engineer.

3.5 CRANES

3.5.1 GENERAL

3.5.1.1 All types of cranes must be examined, tested and operated in terms of the act and the instructions contained herein. The following general list of SANS standards are to be used, in conjunction with the OEM standards as revised from time to time.

SANS 19	Inspection, testing and examination of mobile cranes.
SANS 61-1	Cranes: part 1; Limiting and indicating devices, general.
SANS 578-2	Cranes: part 2; Limiting and indicating devices, mobile cranes
SANS 1599-1	Cranes: part 1; Cantilever/slewing jib cranes.
SANS 1599-2	Cranes: part 2; Power-driven mobile cranes.
SANS 1824	Beam trolleys (crawls)
SANS 4309	Cranes: wire ropes care and maintenance, inspection and discard
SANS 4310	Cranes: Test code and procedures.
SANS 10302	Tail lifts, mobile lifts and ramps associated with vehicles.
SANS 10375	Inspection, testing and examination of overhead cranes
SANS 14518	Cranes: Requirements for test loads
SANS 15442	Cranes: Safety requirements for loader cranes.
SANS 60204-32	Safety of machinery: Electrical – all hoisting machinery.

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Note: This list is not complete and is only to be considered for general purposes.

Note: Davits used for purposes other than lifting or launching lifeboats on quays, vessels etc., are subject to the provisions of this section.

3.5.1.2 All cranes must be examined for defects and wear at least once every month in a systematic manner, by the Competent Person or Lifting Machinery Inspector. Multi column gantries and crane rails on which overhead cranes operate must be examined for defects etc., at least once every six months, by the Competent Person or Lifting Machinery Inspector and the result of this examination is to be endorsed on the relevant logsheets.

3.5.1.3 Mobile cranes must be staged on a level surface whilst any work is being carried out on the crane. The vehicle's hand brake must be applied and sufficient wedges or blocks placed in front of the wheels to prevent inadvertent movement of the crane if the hand brake should fail.

3.5.1.4 Supervisors must satisfy themselves that all cranes under their control are examined and certified to be in a satisfactory working condition before placing them in service.

3.5.1.5 Before cranes are placed in service, after every overhaul, and when re-erected on a new site they must be tested to an overload of twenty-five per cent above the safe working load and thereafter, a yearly performance test to the safe working load of the crane, over the complete lifting range, by the Lifting Machinery Inspector.

3.5.1.6 Cranes may only be operated by staff who are certified competent in accordance with DMR 18 (11).

3.5.2 BREAKDOWN CRANES

3.5.2.1 Breakdown cranes must be examined after returning from a breakdown. The results of this examination must be endorsed on the relevant log sheets.

3.5.3 GANTRIES AND RUNWAYS OF THE SINGLE GIRDER TYPE AND SIMILAR LIFTING STRUCTURES

3.5.3.1 For the purpose of this instruction a gantry is defined as a lifting structure consisting of two uprights and a single fixed cross member and does not include gantries with multiple uprights on which overhead cranes travel. Such multiple upright gantries are considered as an integral part of the overhead crane.

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3.5.3.2 Gantries in the service of Transnet must at all-time be in a safe condition and clearly marked with the safe working load. (In kilograms below 1 000 kilograms and in tons and decimals thereof for 1 000 kilograms and over).

3.5.3.3 Before a gantry is used, the Artisan must do an inspection for defects and the result of this inspection must be endorsed in the relevant logbook.

3.5.4 HAND OPERATED PORTABLE JIB CRANES

3.5.4.1 Hand operated portable jib cranes having link or roller type load chains must be tested annually to 1.5 times their maximum safe working load.

3.5.4.2 Hand operated portable jib cranes equipped with steel wire hoist ropes must be treated the same as cranes. Where hooks are permanently fixed to the telescopic jibs, i.e. by welding or riveting, and which for some reason cannot be modified so that the hook can be detached, the hook together with the first section of the telescopic jib or beam to which it is attached must be sent to a Transnet workshop for testing by a Competent Person.

3.5.5 SELF SUPPORTING OR WALL MOUNTED SWING JIBS

3.5.5.1 Where swing jibs are used in a position where they may interfere with the operation of an overhead electric travelling crane, they must be painted a bright yellow colour to render them as conspicuous as possible. The painted jibs must be kept clean and re painted when necessary.

3.5.6 TRUCK MOUNTED JIB CRANES. (HYDRAULIC OR MECHANICALLY OPERATED [THE "HIAB" TYPE])

3.5.6.1 Truck mounted jib cranes must be tested to the safe working load applicable to the crane.

3.5.6.2 Gantry type appliances mounted over truck platforms must not be considered as truck mounted cranes and the instruction relevant to gantries, chain blocks or hoists are applicable.

Note: Before using a truck mounted jib crane, a daily task must be done and the relevant logsheet 385 must be completed.

3.5.7 CRANES AND DERRICKS MOUNTED ON FLOATING CRAFT

3.5.7.1 Cranes and derricks mounted on barges, lighters, pontoons or other floating craft and used for grab dredging or lifting purposes are subject to the requirements as for cranes.

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3.5.8 CRANES LIFTING PERSONS

3.5.8.1 Cranes or similar lifting machines may only be used to raise or lower persons provided that the crane or lifting machine is operated by an Operator with proper certification.

3.5.8.2 In the case of a mobile crane the following is required:

3.5.8.2.1 the crane must be properly secured on its outriggers

3.5.8.2.2 the persons who are being hoisted must be effectively anchored to the cage, platform, etc.

3.5.8.2.3 The cage, platform, etc. must be fitted with an additional unstressed sling over the hook.

3.5.9 MOBILE HARBOUR CRANES

3.5.9.1 The competent person appointed in terms of GMR 2.1 bears the overall responsibility for ensuring compliance to the Inspection and Testing legal requirements. The lifting equipment structural Load test to be performed at 110% of the Safe working load (SWL). The Annual pre-load testing inspections by the LME will include the following areas:

3.5.9.1.1 General structural condition and state of corrosion for high stress areas such as the boom and the A-Frame.

3.5.9.1.2 Long Travel gantry drives

3.5.9.1.3 Spreader condition and damages

3.5.9.1.4 Safety systems:

- Limit switches
- Emergency stops
- Hoist drum three safety layers' windings at maximum hoist extension.
- Anti-collision sensors
- Emergency and helicopter lights
- Overload protection
- Fire suppression system

3.5.9.1.5 Container Hoist drive system

3.5.9.1.6 Boom hoist drive system

3.5.9.1.7 Check oil levels for gearboxes and potential leaks

3.5.9.1.8 Check Electrical connecting boxes for water tightness

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3.5.9.1.9 Check Hydraulic connections for leaks

3.5.9.1.10 Wire ropes

3.5.10 SHIP TO SHORE CRANES

3.5.10.1 The competent person appointed in terms of GMR 2.1 bears the overall responsibility for ensuring compliance to the Inspection and Testing legal requirements. The lifting equipment structural Load test to be performed at 110% of the Safe working load (SWL). The Annual pre-load testing inspections by the LME will include the following areas:

3.5.10.1.1 General structural condition and state of corrosion for high stress areas such as the boom and the A-Frame.

3.5.10.1.2 Long Travel gantry drives

3.5.10.1.3 Head Block

3.5.10.1.4 Spreader

3.5.10.1.5 Safety systems:

- Limit switches
- Emergency stops
- Storm anchors
- Wire ropes, sheaves and hoist drums
- Anti-collision sensors
- Emergency lights
- Fire suppression system.
- Overload protection system

3.5.10.1.6 Container Hoist drive system

3.5.10.1.7 Boom hoist drive system

3.5.10.1.8 Trolley drive system

3.5.10.1.9 General structural condition

3.5.10.1.10 Wire ropes

3.6 STEEL WIRE AND FIBRE ROPES USED ON LIFTING EQUIPMENT

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

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SANS 94-1	Textile slings: Part 1; Flat woven slings made of man-made fibers, general use.
SANS 94-2	Textile slings: Part 2; Round slings made of man-made fibres, general use.
SANS 911	Natural fibre ropes.
SANS 943	Man-made fibre ropes.
SANS 2408	Steel wire ropes for general purposes; minimum requirements.
SANS 4309	Cranes: Wire ropes; care and maintenance, inspection and discard.
SANS 10369	Non-destructive examination and testing of steel wire ropes. DMR 18 (10).

Note: This list is not complete and is only to be considered for general purposes

3.6.1 Steel wire and fibre rope slings, crane ropes and other ropes used for the purposes of lifting, lowering or suspending loads must be examined at least once every month by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 10.

3.6.2 Steel wire or fibre ropes which form an integral part of any appliance must be examined at the prescribed periods for the appliance concerned, except that ropes fitted on cranes used in applications where the steel wire rope is subject to severe heat e.g. handling molten metal must be examined at least once every two weeks.

3.6.3 When damage in a steel wire rope is suspected, white spirits must be used to thoroughly clean specific sections of the steel wire rope to enable further inspections. Under no circumstances must paraffin be used for this purpose.

3.6.4 A metal label must be securely attached to all coils or drums of steel wire rope supplied to Transnet indicating the rope classification, number and size of rope and the coil or reference number. Supervisors must ensure that this information is inserted on the relevant logsheets when the rope is used for lifting purposes.

3.6.5 For logsheet No. 10 to be a valid certificate, the applicable line, i.e. in the case of new logsheets the first line, columns 1 and 2 must bear the date of manufacture of the sling or rope and the endorsement "New sling/rope issued, manufactured from Grade ..... steel wire rope to Specification …" (or in the case of fibre ropes or slings (both natural and man-made fibre) "New sling/rope issued, manufactured from ..... fibre rope purchased to Specification..... "), followed by the signature of the person who prepared the sling or rope, and the signature of his Technical Supervisor in control of the shop in which the sling or rope was manufactured or prepared, which are to be reflected in columns 3 and 4 respectively.

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3.6.6 When slings or ropes used for lifting purposes, are prepared or manufactured, the manufacturing depot must issue the required certificate. In the case of the replacement of existing slings or ropes, the relevant logsheet must be certified and in the case of new slings or ropes a new logsheet must be provided and certified.

3.6.7 Steel wire rope slings made from new steel wire rope in a Transnet workshop, must have the steel wire rope manufacturer's name, certificate or coil number and date of manufacture for the new rope inserted on the logsheet.

3.6.8 Slings manufactured by workshops outside Transnet shall be supplied with a load test certificate as well as the information required by 6.7

3.6.9 A permanent record, in book form, is to be maintained by each manufacturing workshop of all slings made and the Technical Superintendent of the shop concerned shall regularly peruse, date and initial this record, to ensure that it is properly maintained.

3.6.10 In regard to separable lifting tackle assemblies such as four legged steel wire rope slings, lifting beams with steel wire rope components, etc., an identifica¬tion number for the complete unit may be used and this number, together with a suffix (a, b, c or d, etc.) may be used to identify each individual component concerned. One logsheet must be used for all the steel wire or fibre rope components of each assembly. (Iron or steel components are certified on a logsheet No. 66). Full information in respect of each component constituting the assembly, must be reflected against its specific suffix, on the logsheet concerned.

3.6.11 The safe working load for the assembly must be clearly stamped on the ring or other end unit. Instances where it is necessary to interchange steel wire ropes or components on essential lifting tackle assemblies (i.e. container handling spreaders) the Supervisor may decide to allocate an individual number to each detachable steel wire rope or component and an individual number for the beam or spreader.

3.6.12 In these cases a separate logsheet No. 10 must be provided for each steel wire rope or for each set of steel wire ropes concerned, with a suitable logsheet for the lifting beam or spreader.

3.6.13 Natural and man-made fibre rope used in various applications should, as far as possible be of the types and sizes specified in the under mentioned specifications.

3.6.14 Natural fibre rope

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Manila (Grade 2)	Specification or sisal SANS 911 Table 2
Cotton	Specification SANS 911 Table 5

3.6.15 Man-made fibre rope

Polyamide (Nylon)	Specification SANS 943 Table 1 + 2
Polyester	Specification SANS 943 Table 3 + 3A
Polyethylene	Specification SANS 943 Table 4
Polypropylene	Specification SANS 943 Table 5 + 6

3.6.16 (Manila grade 2 ropes are identified by a black thread in the centre of each of two strands of the rope and sisal ropes are identified by a red thread in the centre of one strand. Fibre ropes not being so identified should not be used for lifting purposes as they could be a lower quality rope. Cotton rope is not recommended for lifting purposes as it is very much weaker, size for size, than both manila and sisal rope.

3.6.17 Fibre ropes and fibre rope slings used for handling loads must be spliced only by competent, qualified persons. It is preferable that such ropes or slings be manufactured or spliced in a Transnet workshop.

3.6.18 The relevant identification details for the coil of fibre rope from which a fibre rope sling was made, must be recorded in the right hand top corner of the logsheet.

3.6.19 Fibre rope, especially man made fibre rope, is susceptible to damage by various acids and other chemicals and deteriorates when continually exposed to direct sun light and to the weather. Care must thus be taken when storing fibre rope and/or fibre slings, so that the possibility of undue damage or deterioration is eliminated.

3.6.20 All steel wire rope and fibre rope slings, except flat woven fibre lifting slings and stringers on fruit skids, must be fitted with a standard black washer in one of the soft eyes or on the main rope, stamped with the following particulars:

3.6.20.1 Depot or station code mark

3.6.20.2 Departmental code mark

3.6.20.3 Number of sling

3.6.20.4 Safe working load (in kilograms)

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3.6.21 If preferred by manufacturers, the particulars in accordance with clause 6.16 can be engraved on the aluminium alloy ferrule used for splicing steel wire ropes by using a round stylus tip.

3.6.22 If, however, manufacturers prefer stamping, it can be done to the following specifications:

3.6.22.1 Ferrule code No. 8 to 16 : 3 mm high x 0,5 mm deep
3.6.22.2 Ferrule code No. 17 to 24 : 4 mm high x 0,8 mm deep
3.6.22.3 Ferrule code No. 25 to 40 : 5 mm high x 1,0 mm deep
3.6.22.4 Stamping on ferrules smaller than code No. 8 is not permissible.

3.6.23 Stringers of fruit skids must be fitted with a copper ferrule in place of the standard black washer. The particulars required in clause 6.16 must be stamped on the copper ferrule.

3.6.24 Flat woven fibre lifting slings must be clearly marked with the particulars required in terms of clause 6.16. Such marking must be printed in clear capital letters, using a black marking pen on a specially provided label or on the body of the sling.

3.6.25 The above mentioned identification or other particulars of all ropes or slings must also be recorded on the applicable logsheet in the spaces provided.

3.6.26 Where steel wire rope is inseparably attached to a metal other than wrought iron, forging or casting by means of hand or machine splicing the steel wire rope may, if necessary, be subjected to the same test load as is applied to the metal forging or casting.

3.6.27 Where fibre ropes are inseparably attached to a metal forging or casting by means of splicing, the fibre rope must be cut off prior to the test load being applied to the metal forging or casting, unless the test can be conducted without damaging or overloading the fibre rope.

3.6.28 After the test has been completed a new rope must be spliced, or the existing rope (after examination) must be re-spliced, to the metal component.

3.6.29 Detachable interconnecting shackles must be used to connect steel wire or fibre rope slings to cumbersome lifting beams or spreaders, where it is impractical because of size or mass, to test or manufacture such assemblies as a unit.

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3.6.30 A safety factor of six at least shall be used in the design calculations for all steel wire rope slings, except for double-part spliced endless sling legs and double-part endless grommet sling legs made from steel-wire rope, in which case the factor of safety shall be at least eight. A safety factor of ten at least shall be used in the design calculations for all natural-fibre ropes and seven for man-made fibre ropes or woven webbing. [DMR 18 (10)].

3.6.31 The safe working loads of two, three or four legged slings must be reduced as the angle between the legs increases. An included angle of 120 degrees for any two legs is the maximum permitted angle, and when legs are so spaced, the safe working load is one half that at 0 degrees, i.e. the load capacity of one leg of the sling. The load reduction factors to be employed as the angle between the legs increases are as follows:

Included angle between legs	0°	30°	60°	90°	120°
Load reduction factor	1.0	0.96	0.86	0.7	0.5

EXAMPLE:

- A one leg sling:
  Angle 0° safe working load 1 000 kg

- A two legged sling:
  Included angle between legs:
  0° safe working load 2 000 kg
  30° safe working load 1 920 kg
  60° safe working load 1 720 kg
  90° safe working load 1 400 kg
  120° safe working load 1 000 kg

3.6.32 Under no circumstances may one leg of a two legged sling assembly be used to lift a load in excess of half the indicated safe working load of the assembly.

3.6.33 For the purpose of calculating safe working loads, three and four leg slings are to be treated as two leg slings. The ring or other top end unit on a three or four leg sling must therefore be stamped with the safe working load applicable to a two leg sling.

3.6.34 The provisions of clause 6.29 do not apply where multiple steel wire rope slings are attached to lifting beams, spreaders, etc., which are designed to flex under uneven load distribution.

3.6.35 Steel wire rope slings must not be used in applications where the sling is subject to severe heat, e.g. handling molten metal.

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3.6.36 Steel wire or fibre rope slings must not be used at Bosch tanks or chemical baths where the rope and splicing ferrule may be subjected to the corrosive effect of the chemicals used.

3.6.37 It is preferable that steel wire rope slings are not provided with a permanent covering of any kind, e.g. rubber hose, foam plastics, etc., however where it is essential that such protection for loads be provided, the length of the covering must be less than half of the length between splicing ferrules or splices and such covering must be free to move over the full distance between splicing ferrules or splices.

3.7 STEEL WIRE OR FIBRE ROPES ON OTHER APPLIANCES

3.7.1 Once a steel wire rope fitted to a coaling appliance has been found to be defective and replacement of the steel wire rope has been recommended on the logsheet, the Competent Person must examine the steel wire rope concerned at least once every two weeks until the steel wire rope is replaced. The results of these examinations must be recorded on the relevant logsheet.

3.7.2 Whilst it is not usually considered necessary to examine steel wire or fibre ropes which are not used for lifting purposes, there are some applications where the failure of a steel wire or fibre rope used for haulage, etc., could have serious consequences. In these instances, there is no objection to the steel wire or fibre ropes used in these applications being treated in the same manner as those used for lifting purposes.

3.7.3 Wherever practicable, the steel wire or fibres ropes fitted to appliances shall be of sufficient length to provide at least three full turns on the drum at all times.

3.7.4 Steel wire ropes fitted to appliances used for lifting purposes, must be free of joints and must be of a construction and diameter which is suited to the diameter of the drums and sheaves over which they are to operate.

3.7.5 Steel wire ropes fitted to appliances used for lifting purposes, other than those mentioned specifically in this instruction, must have a factor of safety of at least six.

3.7.6 Steel wire ropes fitted to appliances other than those used for lifting purposes must have a factor of safety of at least four. Fibre ropes either natural or man-made fitted to appliances other than those used for lifting purposes must have a factor of safety of at least eight.

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3.7.7 Cranes used in applications where the rope is subject to severe heat, e.g. when handling molten metal in foundries, must be fitted with a steel wire rope having an Independent Wire Rope Core (I.W.R.C.).

3.7.8 Steel wire ropes on cranes used in applications where the rope is subjected to severe heat must be examined at least once every two weeks.

3.7.9 Steel wire ropes on wharf cranes used for "grabbing", i.e. using grabs to load or unload bulk commodities, must be examined at least once every two weeks by the Competent Person during the period they are used for grabbing purposes. The results of these examinations must be recorded on the relevant logsheet.

3.7.10 Once a steel wire rope fitted to a wharf crane has been found to be defective and replacement of the steel wire rope has been recommended by the Competent Person (or the Supervisor) on the logsheet, the Competent Person must examine the steel wire rope concerned at least once every two weeks until the steel wire rope is replaced. The results of these examinations must be endorsed on the relevant logsheet.

3.7.11 The safety factor for steel wire rope used on cranes, varies considerably, dependent upon the type of crane, the purpose for which it is used, and the intensity of use.

3.7.12 As a general rule it can be accepted that the safety factor for running steel wire ropes on cranes must equal or exceed the figures quoted below:

3.7.12.1 Mobile road type cranes: Not less than 5,0

3.7.12.2 Wharf and container handling cranes: Not less than 8,0

3.7.12.3 All cranes not listed above: Not less than 6,0

3.7.12.4 The safety factor for standing ropes on cranes should not be less than 5,0

3.7.13 Steel wire ropes fitted on cranes must be free of joints and must be of sufficient length to provide at least three full turns on the drum when lowered to the lowest working position. Steel wire ropes fitted on cranes must be of a construction and diameter which is suited to the diameter of the drums and sheaves over which they are to operate.

3.7.14 The rope used to support the conveyance or balance mass piece on a goods hoist must be such that the breaking load of the rope is at least six times the maximum working load for the hoists. When the load is equally shared by two or more ropes the factor of safety may be calculated with respect to the sum of their breaking loads.

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3.7.15 Steel wire ropes fitted on goods hoists must be free of joints and must be of sufficient length to provide at least three full turns on the drum at all times.

3.7.16 Synchro lift hoist wires must meet the requirements of specification No. 43 219 (Specification for steel wire rope for synchro lift).

3.7.17 Steel wire rope must be discarded and not used again for the purpose of lifting loads if:

3.7.18 In any length of rope equivalent to ten diameters of the steel wire rope concerned, the total number of VISIBLE BROKEN WIRES exceeds 5% of the total number of wires:

OR

3.7.19 The steel wire rope shows signs of damage or kinking which could reduce the load carrying capacity of the steel wire rope:

OR

3.7.20 The steel wire rope shows signs of severe external and/or internal corrosion.

OR

3.7.21 The core of the steel wire rope is broken and/or protrudes through the lays of the steel wire rope:

OR

3.7.22 It shows signs of excessive chafing, wear or undue uneven wear, e.g. flats on the area of the strands:

OR

3.7.23 The steel wire rope shows signs of other defects which reduce the load carrying capacity of the steel wire rope.

3.7.24 In order to determine the condition of the core and to establish if the internal corrosion is present, it is necessary for the Competent Person to periodically open the lays of the steel wire rope at suitable distances along the length of the rope.

3.7.25 Flat woven man-made fibre lifting slings are made of nylon, polyester, or polypropylene filament yarn and must be purchased in accordance with SANS 94-1 and SANS 943.

3.7.26 Flat woven man-made fibre lifting slings must be examined throughout their length for surface chafe, cross or longitudinal cuts in the webbing, cuts or other damage to the selvedge and any deficiency in the stitching or damage to the eyes. Where metal end fittings are provided these must be examined for defects.

3.7.27 The effective length of a flat woven man-made fibre lifting sling must be measured as shown in drawing MTV 517 Sheet 26.

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3.7.28 Flat woven man-made fibre lifting slings are to be used in the configurations as shown in drawing MTV 517 Sheet 27.

3.8 LIFTING TACKLE COMPONENTS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 189	Short link streel chains.
SANS 687	Inspection and testing of non-fixed load lifting attachments.
SANS 1595	Forged steel hooks.
SANS 1596	Drop forged eyebolts and eyenuts for lifting purposes.
SANS 2415	Forged shackles.
SANS 2972	Lifting tackle inspection.
SANS 3077	Short link chains for lifting purposes; Grade T DMR 18 (10) (c)

Note: This list is not complete and is only to be considered for general purposes.

3.8.1 Materials specified and used by Transnet for use in the manufacture of lifting tackle components fall within two basic metallurgical categories, namely:

3.8.1.1 Higher tensile steel (Grades 400 and 500)

3.8.1.2 Alloy steel (high-tensile steel, grades 700 and 800)

Note: The tensile strength of the materials used to manufacture a component increases progressively from wrought iron through to alloy steel. Therefore, a hook manufactured from mild steel will be, dimensionally, considerably larger than a hook of the same capacity manufactured from alloy steel.

It is therefore most important that Supervisors insist that staff under their control look at the safe working load stamped on a lifting tackle component prior to using it to lift a mass. A lifting tackle component must not be subjected to loading above the safe working load stamped on the component.

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It is a very dangerous practice to use the physical size of a lifting tackle component as a measure of the components' load carrying ability e.g. the person concerned who may in the past have used alloy steel components and uses the comparative size of these components as a guide could in practice end up using a wrought iron component with half the load carrying capacity.

3.8.2 Lifting tackle and lifting tackle components for manufacture, must be designed and approved by a Professional Engineer prior to commencement of manufacture and prints of these approved designs must be forwarded to the General Manager (Infrastructure) for record purposes.

3.8.3 HIGHER TENSILE STEEL (GRADES 400 AND 500)

3.8.3.1 Transnet purchases lifting tackle components, manufactured from higher tensile steel, to the under mentioned specifications:

3.8.3.1.1 Chain: Specification SANS 189: Short link steel chain (Grade 400) for lifting purposes.

Note: Grade 500 steel chain is purchased to the above specification except that the material must have a minimum breaking strength of 500 MPa.

3.8.3.1.2 Hooks : Specification SANS 1595 Higher tensile steel hooks.

3.8.3.1.3 Shackles: Specification SANS 2415 Higher tensile steel shackles.

3.8.3.2 Lifting tackle consisting of higher tensile steel chain or components must be designed to have a safety factor of four.

3.8.4 ALLOY STEEL (HIGH TENSILE STEEL, GRADES 700 AND 800 also Herqalloy & Roqtuff)

3.8.4.1 At present no recognised standards organisation specification is available for alloy steel lifting tackle components.

3.8.4.2 Lifting tackle consisting of alloy steel chain or components must be designed to have a safety factor of four, at least.

3.8.4.3 Due to its' hardness alloy steel chain and lifting tackle components are more susceptible to fracture from the "notch effect" and lifting tackle components or chain manufactured from this grade of steel must be protected from "nicking" or "notching".

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3.8.5 Lifting tackle components are defined as, lifting beams, spreaders, chains, rings, links, hooks, shackles, some eyebolts, plate or girder grips, armature lifting caps, and similar.

3.8.6 All lifting tackle components must be examined at least once every month by the Competent Person.

3.8.7 All lifting tackle components must be tested to the prove load at the periods as specified in these instructions.

3.8.8 It is not necessary that lifting tackle components purchased from private industry be tested prior to being placed in service if a manufacturer's test certificate is provided. Such test certificates will remain valid until the testing is again required in terms of extant instructions, calculated from the actual date placed in service, i.e. where extant instructions require that a component be tested annually, the test certificate will remain valid for one year after the date the component was placed in service, thereafter the component must be sent to a Transnet workshop for testing.

3.8.9 Where a lifting tackle component is operated under cover of a manufacturer's test certificate the test certificate number and date and the date the component was placed in service must be reflected on the applicable logsheet.

3.8.10 Where, because of size or capacity, it is impractical to test lifting tackle components, such as lifting beams, spreaders, etc., these components must be carefully examined, by the Competent Person, at the periods prescribed for testing after approval for this has been obtained in writing from a Professional Engineer.

3.8.11 This approval must be filed in the equipment file and a copy must be attached to the logsheet.

3.8.12 All the detachable components used in conjunction with, and attached to, the component mentioned above, must however be removed and, if practical, subjected to the prescribed testing procedures.

Note: The Supervisor must in all cases concur that it is impracticable to test the lifting tackle components in question.

3.8.13 In all cases where the examination of lifting tackle components results in defects, damage or other unsatisfactory features, being logged by the Competent Person, the Supervisor must arrange for the component to be repaired or replaced.

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3.8.14 The results of the above mentioned examinations and test must be endorsed on the relevant logsheet No. 66 or logsheet No. 9 in the case of lifting beams or spreaders fitted with mechanical, hydraulic or electrical operating equipment.

3.8.15 Where an inseparable lifting tackle assembly is made up of components of a similar category of material, i.e. wrought iron or steel etc., only the end unit must be typed with the identification particulars.

3.8.16 Components of dissimilar categories of material, e.g. wrought iron, mild steel etc., must not if possible, be inseparably joined together.

3.8.17 Detachable interconnecting shackles must be used in all composite assemblies where it is necessary to:

3.8.17.1 Connect wrought iron components to steel components or to steel wire or fibre rope.

3.8.17.2 Connect components manufactured from different categories of steel, e.g. mild steel to alloy steel.

3.8.17.3 Connect steel wire or fibre rope slings or other lifting tackle components to cumbersome beams or spreaders, where it is impractical, because of size, etc., to manufacture or test such an assembly as a unit.

3.8.18 Hooks, shackles, etc., fitted to cranes and hoists must also be marked by typing with the information required. Usually in these cases the crane or hoist number is used as the identification number. Where two or more hooks, shackles, etc. are fitted on a single crane a suffix (a, b, c or d, etc.) can be included in the identification number.

3.8.19 When lifting tackle components are tested or repaired the existing code marks and identification numbers must be examined and, if necessary, be re-stamped to provide a clear and legible marking.

3.8.20 When chains and other lifting tackle components are used for handling molten metal, the safe working load typed on the component must be de-rated by 25% and the new safe working load thus obtained must not be exceeded.

3.8.21 Workshops must type the applicable safe working load on the component and must not type the de-rated safe working load on components destined for use in handling molten metal.

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3.8.22 Chains or lifting tackle components must not be used, without prior authority from the head of the business division or business unit concern, in applications where the temperature of the said chains or lifting tackle components can exceed 400 C.

3.8.23 Requests for the above mentioned authority to use chains or lifting tackle components subject to severe heat conditions must include all details of the application involved, the mass to be lifted and details of chains or lifting tackle components it is proposed to use.

3.9 PERIODS AT WHICH LIFTING TACKLE MUST BE TESTED AND THOROUGHLY EXAMINED:

DESCRIPTION	*TEST AND THOROUGHLY EXAMINE AT LEAST ONCE EVERY*
Steel chain slings (including those forming part of a lifting tackle assembly or lifting beam). Wharf crane hook and chain assemblies. Foundry ladle lifting beam assemblies or steel chain fitted on cranes, chains on grabs, (other than those used for loading, or off loading ships), twist locks, all crane hooks and cross-heads.	12 months
Lifting beams, spreaders, plate and girder clamps and lifting tackle components (i.e. shackles, rings, links, turnbuckles, eyebolts, armature lifting caps, etc.) up to and including 10 000 kilogram capacity	12 months
Lifting beams, spreaders, and lifting tackle components (i.e. shackles, rings, links, turn buckles, eyebolts, etc.) over 10 000 kilogram but under 25 000 kilogram capacity	36 months
Lifting beams, spreaders, and lifting tackle components (i.e. shackles, rings, links, turn buckles eyebolts, etc.) of 25 000 kilogram capacity and over	60 months
Chains on grabs used for loading or off loading ships. On completion of loading or offloading of the ship concerned and tested	12 months

3.10 TEST LOADS TO BE APPLIED WHEN TESTING LIFTING TACKLE DESCRIPTION TEST LOAD TO BE APPLIED

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DESCRIPTION	*TEST LOAD TO BE APPLIED*
Steel chain slings	SWL + 10%
Steel wharf crane hook and chain assemblies, steel chain fitted on cranes, steel chains on grabs.	SWL + 10%
Steel, foundry ladle lifting beam assemblies, lifting beams and spreaders, plate and girder clamps, turnbuckles.	SWL + 10%
Steel lifting tackle components (i.e. hooks, cross heads, shackles, rings, links, eyebolts, armature lifting caps, etc.)	SWL + 10%
Up to and including 50 000 kilogram capacity	SWL + 10%
Over 50 000 kilogram capacity but under 100 000 kilogram capacity	SWL + 10%
100 000 kilogram capacity and over	

3.10.1 All lifting tackle components must be typed with the under mentioned particulars using steel letter or numeral types:

3.10.1.1 Depot or station code mark

3.10.1.2 Departmental code mark

3.10.1.3 Number of component or assembly

3.10.1.4 Safe working load (in kilograms)

3.10.2 In addition, the grade of the material from which the component has been manufactured must be typed on the component. This figure being enclosed in a suitable size circle viz.:

3.10.2.1 Higher tensile..... S

3.10.2.2 Alloy steel..... T

Note: Each component in a separable composite assembly must be marked with the above mentioned information. Only the main component (end unit) of an inseparable composite assembly (i.e. where components are not readily detachable) must be marked. The individual components must not be marked.

3.10.3 The typing of identification or other details in areas other than those specified is not permitted.

Note: The use of punch marks (by using a blunt punch) to determine the throat opening of hooks is permitted.

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3.10.4 The above mentioned details must be typed only in the areas depicted in the drawings MTV 517 Sheets 28 to 40.

3.10.5 The maximum allowable wear on lifting equipment is as follows:

3.10.5.1 HOOKS:

3.10.5.1.1 [Tackle hooks] Maximum wear is 10% of original cross section. Maximum throat opening is +5% of original opening (SANS 2972). (Or as recommended by the OEM).

3.10.5.1.2 [Crane hooks] Maximum throat opening is 10% of original opening. Wear on single or twin hooks may not be greater than 5% of the height (SANS 10375 Annex E).

3.10.5.2 SHACKLES:

3.10.5.2.1 Maximum wear is 10% of original or catalogue cross section at any point of the shackle (SANS 2972).

3.10.5.3 RINGS, LINKS AND EYEBOLTS:

3.10.5.3.1 Maximum wear is 10% of original cross section at any point of the ring, link or eyebolt (SANS 2972).

3.10.6 CHAINS:

3.10.6.1 Maximum wear is 10% of original cross section at any point. Maximum permissible stretch of chain link is +3% above the standard length measured over the outside of the link (SANS 2972).

3.10.7 HOOKS:

3.10.7.1 The threads on the shank and nut of all hooks, eyebolts, etc. fitted to cranes or lifting tackle, having a capacity of 25 000 kilograms and over, must be examined at least once every three years, and after testing, by the Artisan responsible for the maintenance of the crane or lifting tackle. The threads must be properly cleaned and examined and the wear established by screwing the nut on the shank thread and checking the free play. On hooks under 25 000 kilograms' capacity the threads must be examined whenever the hooks are tested.

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3.10.7.2 In the case of hooks of 25 000 kilograms and over the results of the above mentioned examination must be recorded on the relevant logsheet No. 66.

3.10.7.3 Gin blocks fitted to cranes must be so designed as to permit the hook and cross-head to be removed for testing.

Note: Existing gin blocks which do not meet this requirement may be retained in service provided the Supervisor concerned is satisfied that it is possible to test the complete gin block as a unit.

3.10.7.4 All hooks, which will be used for lifting purposes, manufactured in Transnet workshops must be tested by the magnetic crack detection method immediately after manufacture. This test will be in addition to the normal overload test. (SANS 3059 Non-destructive testing – penetrant test and magnetic particle testing).

3.10.8 WHARF CRANE HOOK AND CHAIN ASSEMBLIES

3.10.8.1 Wharf crane hook and chain assemblies manufactured from steel must be partially stripped as per 8.14.1.

3.10.8.2 The pins may be examined in position, however if there is doubt as to their condition, the pins must be removed for further examination. All components must be thoroughly examined before the thrust races and nuts are replaced.

3.10.8.3 Before replacing the nuts on eyebolts and hooks of hook and chain assemblies during final assembly, the Artisan must check the "free play" of the threads by screwing the nuts onto the threads.

3.10.9 SHACKLES

3.10.9.1 The pins on shackles must be secured in such a manner that they cannot be accidentally dislodged during lifting operations. Where shackles form part of an inseparable lifting tackle assembly, or where the shackles are so positioned that it cannot be seen by the user, the pins of the shackles must be secured as depicted on drawings MTV 517 Sheets 33 & 34. Screwed pin shackles may be used where it is necessary to detach shackles during lifting operations.

3.10.9.2 It is acceptable that shackle pins are integral parts of the shackle and, as such, must be subjected to testing and certification in conjunction with the shackle. When shackles are sent for testing, etc., the shackle pins must accompany the shackle.

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3.10.9.3 Where practicable shackle pins must be stamped with the identification number for the shackle plus the appropriate suffix on the end of the pin. This information must also be endorsed on the logsheet concerned. (It is accepted that smaller size shackle pins do not allow for such marking).

3.10.9.4 Only shackles covered by proof loading test certificates (provided by the supplier), must be used for lifting purposes.

Note: A type of shackle, known as commercial shackle, is marketed by a number of suppliers. These shackles are not recommended for applications involving the lifting of loads. This type of shackle is not provided with a proof loading test certificate from the manufacturer.

3.10.10 CHAINS

3.10.10.1 All steering chains are to be tested at least once per year.

3.10.10.2 Chains in lifting tackle assemblies, or used for lifting purposes, must not be used if chain links have been bolted or wired together to effect a repair. The repair of chain links by means of welding may only be undertaken in a Transnet workshop.

3.10.11 TWIST LOCKS (USED FOR HANDLING CONTAINERS)

3.10.11.1 Care must be exercised when testing twist locks to ensure that they are tested for the designed safe working load and are not subjected to loads in excess of the permissible test load. Twist-locks must be tested to 1.5 x SWL.

3.10.11.2 Under no circumstances may twist locks be repaired (including repairs by welding or heating). Defective, damaged or worn twist locks must be discarded and replaced by new twist locks.

3.10.11.3 During the regular periodic examinations, the Competent Person must report on any twist lock which is bent, deformed or otherwise damaged or where the wear on the twist lock lips is in excess of that allowed in extant instructions.

3.10.12 EYE BOLTS

SANS 1596	Drop forged eyebolts and eyenuts for lifting purposes.

3.10.12.1 Only eye bolts which are used for general slinging work are subject to periodic examination and testing. Eye bolts which are permanently fitted to electric motors, gearboxes, etc., and are used solely for the purpose of lifting the electric motor, gearbox, etc., at infrequent intervals, are exempted from examination and/or testing.

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3.10.13 PLATE AND GIRDER LIFTING CLAMPS

SANS 687	Inspection and testing of non-fixed load lifting attachments.

3.10.13.1 Plate and girder lifting clamps must be provided with a locking device which prevents the gripping pawl from disengaging under vibration or when the load on the pawl is suddenly released.

3.10.13.2 The moving parts, such as toggles, cams or pawls, of plate and girder lifting clamps must be examined for wear and damage by a Competent Person prior to being tested.

3.10.14 CONNECTING LINKS (See drawing MTV 517 Sheet 32)

3.10.14.1 Connecting links may be used only in combination with other lifting tackle assemblies or components which are subjected to regular testing.

3.10.14.2 Connecting links are considered as a part of the lifting tackle assembly or component with which it is used e.g. where a connecting link is used to join a length of chain to a hook to make a chain sling, this assembly will be considered as an inseparable assembly.

3.10.14.3 The logsheet No. 66 for the lifting tackle assembly or component fitted with a connecting link, must be clearly endorsed that a connecting link is provided.

3.10.14.4 Where lifting tackle assemblies or components are provided with a connecting link, the connecting link must be examined and tested at the same time as the assembly or component concerned.

3.10.14.5 Connecting link load pins (or in some instances the spring catch which locks the load pin) must be examined at the same time as the connecting link. If the load pin still fits tight into the connecting link and the spring catch is not damaged it can be used again.

3.10.14.6 Where a connecting link is used as a separate component, for breakdown work (derailments), it must be marked in accordance with drawing MTV 517, Sheet 32. The relevant information must be recorded on a separate logsheet.

3.10.15 SHORTENING CLUTCH (See drawing MTV 517 Sheet 30)

3.10.15.1 Shortening clutches may be used only in combination with other lifting tackle assemblies or components which are subjected to regular testing.

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3.10.15.2 Shortening clutches are considered as an inseparable part of the lifting tackle assembly with which they are used.

3.10.15.3 The logsheet No. 66 for a lifting tackle assembly fitted with a shortening clutch must be clearly endorsed that a shortening clutch is provided.

3.10.15.4 Where lifting tackle assemblies are provided with a shortening clutch, the shortening clutch must be examined and tested at the same time as the assembly concerned.

3.10.15.5 Where the bolt or pin which secures the shortening clutch to the lifting tackle assembly is worn or damaged it must be replaced by a correct size bolt or pin provided by the manufacturer of the shortening clutch. Under no circumstances must mild steel bolts or pins be used to replace such worn or damaged bolts or pins in shortening clutches.

3.10.16 REEVABLE EGG LINK (See drawing MTV 517 Sheet 38)

3.10.16.1 Where the bolt or pin which secures the reeveable egg link to the lifting tackle assembly is worn or damaged it must be replaced by a correct size bolt or pin provided by the manufacturer of the reeveable egg link. Under no circumstances must mild steel bolts or pins be used to replace such worn or damaged bolts or pins in reeveable egg links.

3.10.16.2 It is accepted that pins or bolts used to secure reeveable egg links to the lifting tackle assembly are integral parts of the reeveable egg link, and as such, must be subjected to testing and certification in conjunction with the reeveable egg link. When reeveable egg links are sent for testing, etc., the pins or bolts must accompany the reeveable egg link.

3.10.17 LIFTING BEAMS AND SPREADERS

SANS 687	Inspection and testing of non-fixed load lifting attachments.

3.10.17.1 Lifting beams or spreaders must be designed to have a safety factor of four, at least.

3.10.17.2 The results of the examinations and tests done by the Lifting Machinery Inspector on lifting beams and spreaders must be endorsed on a logsheet No. 66, except where lifting beams and spreaders are fitted with mechanical, hydraulic or electrical operating equipment (e.g. container handling spreaders, telescopic spreaders etc.), in which case a logsheet No. 9 must be used for the lifting beam or spreader and a logsheet No. 66 for all detachable lifting tackle components, e.g. rings, twist locks, etc.

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3.10.17.3 When lifting beams or spreaders fitted with mechanical, hydraulic or electrical operating equipment are examined or tested the operating equipment must also be examined and defects or deficiencies must be recorded on the relevant logsheet No. 9.

3.10.18 TURNBUCKLES (RIGGING SCREWS OR BOTTLE SCREWS) USED FOR LIFTING PURPOSES

3.10.18.1 After turnbuckles have been tested, in accordance with extant instructions, the threaded sections must be carefully examined for wear or damage.

3.11 MACHINERY, PLANT AND EQUIPMENT

3.11.1 WIRE GRIPPING DEVICES ("COME ALONG" CLAMPS)

SANS 813	Clamps for wire ropes. (Crosby type)

3.11.1.1 These wire gripping devices are used for tensioning overhead wires and are not used for lifting purposes and therefore are not normally subject to testing.

3.11.1.2 However, where this type of device, if defective, could cause injury where it is used by Electrical Department staff, the device must be examined at least once every three months by a Competent Person and the result of this examination be endorsed on a logsheet No. 9.

3.11.1.3 The above mentioned wire gripping devices must be individually provided with an identification number.

3.11.1.4 When these clamps are used a Crosby type clamp must be used as a safety device but not as the primary form of gripping.

3.11.2 GRAVING DOCKS

3.11.2.1 All stairways providing access into and out of graving docks must be provided with suitable handrails on both sides.

3.11.2.2 All fixed ladders in graving docks, for use in times of emergency, must be provided with a notice at the bottom of the ladder that is clearly marked "Emergency Exit".

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3.11.2.3 A danger zone, clearly indicated in three languages, must be demarcated around all graving docks.

3.11.2.4 Where private contractors make use of suspended platforms in conjunction with wharf cranes to raise or lower persons, work may only be allowed to commence if they conform to the following requirements.

3.11.2.4.1 The platform must be examined at least once every month by a Competent Person and the result of this examination be recorded in a book kept for this purpose.

3.11.2.4.2 The platform be stenciled with the safe working load in a conspicuous position.

3.11.2.4.3 An effective safety device must be used to prevent the platform from falling in case of accidental dislodging of the crane hook from the shackle.

3.11.2.4.4 Persons working on these platforms must wear a safety belt of which the rope must be secured to the platform. Should this prove to be impractical, some other effective means must be used to ensure the safety of the people working on the platform.

3.11.2.4.5 The contractor must provide the local Risk Management Officer with a safe working procedure for the platform. This procedure must include staff on the dock's edge controlling the platform with ropes.

3.11.3 PRESSURE AND VACUUM GAUGES

SANS 1062	Pressure and vacuum gauges.
General Procedure 01	Pressure gauges.

3.11.3.1 The procedures applicable to the testing, maintenance and handling of pressure and vacuum gauges are detailed in instructions, Gen. Procedure 01.

3.11.4 GRAIN ELEVATOR SHIPPING SPOUTS

3.11.4.1 Power driven shipping spouts at grain elevators must be examined at least once every month by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 9.

3.11.4.2 Luffing, slewing or telescopic moving steel wire ropes must be logged on a logsheet No. 10.

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3.11.4.3 Staff who are required to operate power driven shipping spouts at grain elevators must be trained and certified competent to operate such spouts, in accordance with the instructions issued in this regard.

3.11.5 SHOT BLAST EQUIPMENT AND SHOT PEENING MACHINES

3.11.5.1 All shot blast chambers, shot blast machines and shot peening machines must be inspected at least once every six months by the local Risk Manager and the Supervisor in charge of the maintenance of the equipment.

3.11.5.2 A joint report compiled by the local Risk Manager and the Supervisor must be submitted to the local Operations Manager detailing the results of the above mentioned inspection.

3.11.6 PILING PLANTS, INCLUDING THOSE MOUNTED ON FLOATING CRAFT

3.11.6.1 Piling plants must be systematically examined at least once every month by the Competent Person and the result of this examinations be recorded on the relevant logsheet No. 9.

3.11.7 HIGHMAST LIGHTING INSTALLATIONS

3.11.7.1 High mast lighting installations which are provided with a luminaire mounting unit which can be lowered, to facilitate the replacement of lamps, etc., and subsequently raised, must be examined and/or tested in accordance with instruction P.027 in this regard, issued by the General Manager, Engineering, Spoornet, Johannesburg.

3.11.7.2 Where detachable hoisting winches or separate man carrying maintenance cages are provided, individual logsheets No. 9 must be provided for this equipment. Hooks, links, shackles, etc., used in conjunction with this equipment must be examined and tested in accordance with extant instructions and the result of this examinations and tests be recorded on the relevant logsheets No. 66.

Note: Where the above mentioned equipment, or part of the equipment are not in use for long periods, it can be stored provided the procedures as set out in clause 9.5 are observed.

3.11.7.3 Hinged, medium high mast lighting installations (up to 18 meters), both hydraulically and winch operated types, are not considered to be in the same category as high mast lighting installations for the purpose of examination and certification. It is therefore not necessary that these masts be subjected to regular examination. The prerogative remains however with the Supervisor who can, if he so desires, arrange for regular examination of the masts in question.

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3.11.8 HORIZONTAL SLIDING DOORS

3.11.8.1 All sliding doors fitted to buildings must be provided with a "keep" or other suitable device to prevent the door from becoming accidentally derailed or from collapsing should a derailment occur.

3.11.9 LIFTS AND ESCALATORS

3.11.9.1 Supervisors must regularly peruse the lift logbooks and escalator record books held for lifts and escalators under their control to ensure that such lifts and escalators are being examined at the correct intervals and must ensure that lifts are properly maintained. The inspection, maintenance and repairs is regulated by the Lift, Escalator and Passenger Conveyor Regulations as recorded in Act 85 of 1993.

3.11.10 GOODS AND MATERIAL HOISTS

3.11.10.1 Goods and material hoists must be examined at least once per month by the Competent Person and the result of this examination be recorded on the relevant logsheet No. 9.

3.11.11 LIFTING BASKETS

3.11.11.1 Cane lifting baskets must be examined at least once per month by the Competent Person and the result of this examination be recorded on the relevant logsheet No. 9.

3.11.11.2 Lifting baskets with their lifting bridles and tipping ropes must be thoroughly examined for broken canes or ropes, chafing, deterioration or any defects which could reduce the safe working load of the basket.

3.11.11.3 Lifting baskets may under no circumstances be subjected to severe heat or be exposed to chemicals which can detrimentally affect the canes or the ropes.

3.11.11.4 All lifting baskets must have their identification particulars and the safe working load, in kilograms, prominently stencilled on a board which is securely attached to the basket.

3.11.12 HOISTING NETS

3.11.12.1 Hoisting nets of wire or rope must be examined at least once per month by the Competent Person and the result of these examinations be recorded on the relevant logsheet No. 10.

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3.11.12.2 Hoisting nets may under no circumstances be subjected to severe heat or be exposed to chemicals which can detrimentally affect the wires or the ropes.

3.11.12.3 The identification particulars and the safe working load, in kilograms, of all hoisting nets must be stamped on a standard black washer or a copper ferrule which must be fitted to one of the eyes or one of the legs.

3.11.13 AIR COMPRESSORS (INCLUDING INTER OR AFTER COOLERS AND AIR RECEIVERS)

3.11.13.1 The examination and logging procedure as well as the instructions regarding the maintenance and safe operation of air compressors and air receivers are covered in Instruction No. 5334 (THE SAFETY, OPERATION, CARE AND MAINTENANCE OF AIR COMPRESSORS).

3.11.14 MAN SAFETY BLOCK

3.11.14.1 This type of safety block is marketed under the trade name, "Sala Safety Block, Type SB57".

3.11.14.2 Safety blocks, including the rope and swivel hook, must be examined and checked for correct operation (by giving the rope a jerk) at least once every month by the Competent Person.

3.11.14.3 Safety blocks must be subjected to a thorough examina¬tion and functional test at least once every year, or after the block has been subjected to a load from a fall, or if any damage is suspected. The block must be completely stripped, all components examined, repaired if necessary and reassembled, in accordance with the manufacturer's instructions, prior to being subjected to the required functional test.

3.11.14.4 The results of the above mentioned examinations and tests must be recorded on the applicable logsheet No. 9.

3.11.14.5 Safety blocks, including the rope and swivel hook, must be examined and checked for correct operation (by giving the rope a jerk) prior to use by the operator.

3.11.15 POWER AND HAND OPERATED TRAVERSERS AND TURN TABLES FOR TURNING LOCOMOTIVES

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3.11.15.1 Turn tables, traversers, both power and hand operated, must be examined at least once every month by the Competent Person and the results of this examinations be recorded on the relevant logsheet No. 9.

3.11.16 GRINDING MACHINES AND DISC CUTTERS

SANS 10079	The use care and protection of grinding wheels

3.11.16.1 All disc cutters, pedestal and bench grinders must be examined at least once per month by the Competent Person and the result of this examinations be recorded on the relevant logsheet No. 9.

Note: A notice/symbolic sign must be affixed in a conspicuous position on all fixed general purpose grinding machines, i.e. single and double wheel floor, pedestal or bench grinding ma-chines prohibiting a person from using the grinding machine unless he/she is wearing the proper eye protection.

Note: This notice/symbolic sign must also be fitted to grinding machines provided with perspex protective eye shields. Perspex protective eye shields are not considered as adequate eye protection.

3.11.16.2 The Supervisor concerned shall be responsible for ensuring that suitable adequate eye protection is provided for operators of single purpose grinding machines, general purpose grinding machines and for persons who are required to use disc cutters, as part of their duties.

3.11.16.3 Unless the nature of the work precludes its use, all grinding machines must be provided with a substantial guard which shall enclose the grinding wheel as far as practicable and which shall be of sufficient strength to withstand the force of a rupturing wheel.

3.11.16.4 Except in the case where the work piece is not applied to the grinding wheel by hand, every grinding machine must be provided with a substantial, adjustable work rest which shall be securely fixed in position and which shall fit the contour of the grinding surface of the wheel. The surface of the rest should be free of grooves and indentations, i.e. a smooth surface.

3.11.16.5 This work rests shall at all times be kept in position and adjusted as close as practicable to be within three millimetres maximum from the grinding surface of the wheel, unless the nature of any specific operation makes this impracticable.

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3.11.16.6 The Supervisor must decide whether dust extraction equipment must be provided or not, depending on the specific application of the grinding machines.

Note: Existing and new dust extraction units must be kept in a good working condition.

3.11.17 STEEL CHIMNEYS

3.11.17.1 Steel plate chimneys, with their guys and anchorage's, where applicable, must be examined at least once every six months by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 9.

3.11.17.2 It is not the intention that small steel plate chimneys, such as are fitted to forges, etc., be included in the scope of this instruction. The Supervisor, in collaboration with the Competent Person must decide in terms of the possible safety hazard involved, as to which of the smaller chimneys must be subject to the provisions of these instructions.

3.11.17.3 Steel wire rope guy wires must be logged on a logsheet No. 10 and the rope anchorages must be kept clear of dirt, rubble, grass, etc., for examination purposes.

3.11.18 SYNCROLIFTS (USED FOR LIFTING VESSELS OUT OF THE WATER)

3.11.18.1 The winches and hoist wires on synchro lifts must be examined at least once per month by the Lifting Machinery Inspector and the result of this examinations be recorded on the applicable logsheets numbers 9 and 10.

3.11.19 TELESCOPIC GANGWAYS (USED AT HARBOURS)

3.11.19.1 Telescopic gangways, used at harbours, must be examined at least once per month by the Competent Person and the result of this examinations be recorded on the applicable logsheet No. 9.

3.11.20 SAFETY BELTS

The following general list of SANS standards are to be used in conjunction with the OEM standards as revised from time to time.

SANS 809	Industrial belts.
SANS 50358	Work positioning and restraint.
SANS 50361	Full body harness.

Note: This list is not complete and is only to be considered for general purposes.

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3.11.20.1 Safety belts must be examined at least once every three months by the Competent Person and the result of this examinations be recorded on the applicable logsheet No.9. They must also be examined before use by the person using them.

3.11.20.2 All safety belts must be individually numbered for easy identification.

3.11.20.3 All safety belts used by Transnet's staff must meet the requirements of latest SANS Specification. The purchase of safety belts which do not meet the requirements of this specification is not permitted. (Safety belts that meets the requirements of a specification by another recognised standards organisation may after approval of the local Risk Management Officer be purchased)

3.11.21 REFRIGERATION PLANTS

SANS 10147	Refrigeration systems including plants associated with air-conditioning systems.

3.11.21.1 Pre-cooling plants at harbours must be maintained and operated in accordance with standing instructions and those issued from time to time.

3.11.21.2 All doors of refrigeration plant cool rooms, including associated air locks, must be capable of being opened easily and quickly from the inside.

3.11.22 VERTICAL SLIDING DOORS: INDUSTRIAL TYPE, INCLUDING FLIP UP OR JACK KNIFE TYPE DOORS, BUT NOT INCLUDING GARAGE TYPE TIP UP DOORS

3.11.22.1 The steel wire ropes, pulleys, balance mass pieces and brackets supporting pulleys or balance mass pieces, incorporated in industrial type vertical sliding doors must be examined at least once every six months by the Competent Person and the result of this examinations be re-corded on the applicable logsheets No. 9 and 10.

3.11.23 TYRE PRESSES ('DUQUESNE' TYPE OR SIMILAR)

3.11.23.1 Automatic tyre presses must be examined at least once every month by the Competent Person. During this examination special attention must be given to the balance mass piece supporting ropes.

3.11.23.2 The result of the above mentioned examination must be recorded on the applicable logsheets No. 9 and 10.

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3.11.23.3 Where balance mass pieces on automatic tyre presses are so positioned that they constitute a danger to persons, the balance mass pieces must be provided with suitable guards.

3.12 GENERAL

3.12.1 Machine tools, including emery grinders, must be switched off when not in use and must not be allowed to run without the attendance of an operator.

3.12.2 Before a person switches on or uses a machine he/she must ensure that they do not place themselves or other persons in danger.

3.12.3 Gates and doors of safety enclosures at hazardous areas must be provided with suitable notices, and where considered necessary by the Supervisor, must be provided with a positive means of locking to prevent unauthorised entry.

3.12.4 A positive means of ensuring that machinery cannot be operated by unauthorised persons or whilst repair work is in progress, must be provided where considered necessary by the *Supervisor*.

3.12.5 *Artisans (Electrical) or Artisans (Millwright work)* who are required to undertake maintenance work on machinery, which has not been electrically isolated by the Electrical Department, must switch off the main isolating switch and lock it in the "off" position with a suitable lock out device that can accommodate three padlocks. The Artisan must retain the key on his person until the work has been completed and he removes his lock.

3.12.6 The interior of all totally enclosed fixed guards, as well as the area they cover on machinery, shall be painted an orange colour (specification SABS 1040 Part II 1978 Paragraph 4.3.2) so that the absence of a guard is easily noticed.

3.12.7 Specifications for new machinery, plant and equipment shall require that all moving parts of such machinery, plant and equipment, be fully and securely guarded or fenced, unless it is not possible to guard such moving parts by virtue of the nature of the operation thereof.

3.12.8 Specifications for machinery, which under operating conditions are noisy, shall specify the maximum acceptable noise level for the operation of such machinery. These levels shall comply with the requirements of Act 85.

3.13 SPECIFIED EQUIPMENT

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3.13.1 FORKLIFTS AND SIDELIFTS

The following general list of SANS standards are to be used, in conjunction with the OEM standards as revised from time to time.

SANS 583	Work platforms for occasional use on lift trucks.
SANS 10388	Inspection, examination and testing of lift trucks.
Transnet Instruction BBB2858	Testing of lift trucks.

Note: This list is not complete and is only to be considered for general purposes.

3.13.1.1 Forklifts and side lifts must be examined at least once per month by the Competent Person or Lifting Machinery Inspector.

3.13.1.2 Forklifts and side-lifts must be tested to 100% of their safe working load through all motions i.e. lifting, tilting, travelling, etc., prior to being placed in service, after every heavy repair and thereafter at yearly intervals. During the above mentioned test the load must be lifted through the full lifting height. This test must be carried out by a Lifting Machinery Inspector.

3.13.1.3 The result of the above mentioned examination and tests must be recorded on the applicable logsheet No. 9.

3.13.1.4 The safe working load in kilograms must be stencilled on both sides of the uprights (mast).

3.13.1.5 Operators of forklifts and side lifts, including technical maintenance staff, must be trained in the use of the forklift or side lift, and in the case of a forklift or side lift with a lifting capacity of more than 750kg, the Operator must be in possession of a valid certificate of training, issued by a Training Provider accredited by the Transport SETA approved for the purpose by the Chief Inspector (DMR 18 [11]).

3.13.1.6 Persons required to drive forklifts and side lifts on a public road, must be in possession of a valid driver's license issued by the appropriate Registering Authority.

3.13.1.7 The wear limit on forks are 10%. When a fork has reached this limit (90% of its original thickness) it must be replaced. The Lifting Machinery Inspector must measure the fork thickness in at least three fixed places, calculate the percentage wear and record both the thickness and the wear on the logsheet with every regular examination.

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3.13.1.8 The wear limit on load chains are 3% measured over 7 links. The Lifting Machinery Inspector must measure the length of seven links in at least two randomly selected places per chain, calculate the percentage wear and record both the average length and the wear on the logsheet with every regular examination.

3.13.2 STRADDLE CARRIERS

3.13.2.1 Straddle carriers must be examined at least once per month by the Competent Person or Lifting Machinery Inspector and the result of this examinations be recorded on the applicable logsheet No. 9.

Note: Where the straddle carrier is subjected to a daily service in accordance with the requirements of Instruction 6017 (Preventive Maintenance Scheme), the required examination should be carried out in conjunction with the daily service and the results recorded on the applicable logsheet No. 9.

3.13.2.2 Straddle carriers must be tested to an overload of 110% the safe working load through all motions, i.e. lifting, travelling, side shift (where applicable) etc., prior to being placed in service and after every heavy repair. During the above mentioned tests the load must be lifted through the full lifting height. This test must be carried out by a Lifting Machinery Inspector at low speeds only.

3.13.2.3 The result of the above mentioned tests must be recorded on the applicable logsheet No. 9 and where applicable, on the Preventive Maintenance History Card for the machine concerned.

3.13.2.4 The safe working load, in kilograms, must be stencilled prominently on both sides of the vehicle.

3.13.2.5 Operators of straddle carriers, including technical maintenance staff, must be trained in the use of the straddle carriers, and in the case of straddle carriers with a lifting capacity of more than 5000g, the Operator must be in possession of a valid certificate of training, issued by a Training Provider accredited by the Transport SETA approved for the purpose by the Chief Inspector (DMR 18 [11]).

3.13.2.6 Persons required to drive straddle carriers on a public road, must also be in possession of a valid driver's license issued by the appropriate Registering Authority.

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3.13.2.7 The wear limit on load chains are 3% measured over 7 links. The Lifting Machinery Inspector must measure the length of seven links in at least two randomly selected places per chain, calculate the percentage wear and record both the average length and the wear on the logsheet with every regular examination.

3.13.3 FRONT END LOADERS AND SWING JIB LOADERS

3.13.3.1 Front end loaders and Swing jib loaders, used for purposes other than earth works, must be examined at least once every month by the Competent Person or Lifting Machinery Inspector and the result of this examinations be recorded on the applicable logsheet No. 9.

3.13.3.2 Operators of front end loaders and swing jib loaders, including technical maintenance staff, must be trained in the use of the that machine, and in the case of front end loaders and swing jib loaders with a lifting capacity of more than 5000g, the Operator must be in possession of a valid certificate of training, issued by a Training Provider accredited by the Transport SETA approved for the purpose by the Chief Inspector (DMR 18 [11]).

3.13.3.3 Persons required to drive front end loaders and swing jib loaders on a public road, must also be in possession of a valid driver's license issued by the appropriate Registering Authority.

3.13.4 LOWLIFT AND PALLET TRUCKS

Note: Manually operated pallet lifters which have a lifting height of 150 mm or less are excluded from the requirements of this clause.

3.13.4.1 Low lift platform trucks and pallet trucks must be examined at least once every three months by the Competent Person or Lifting Machinery Inspector.

3.13.4.2 Low lift trucks and pallet trucks must be tested to full capacity (safe working load) prior to being placed in service and after every heavy repair, by a Lifting Machinery Inspector.

3.13.4.3 The result of the above mentioned examination and tests must be recorded on the applicable logsheet No. 9.

3.13.4.4 The safe working load, in kilograms, must be stencilled on both sides of the vehicle.

3.13.4.5 Low lift and pallet trucks may not be used on a public road.

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Note: In general persons who are required to operate manually powered vehicles of this type and vehicles where the operator walks alongside the vehicle whilst operating the vehicle and the lifting capacity is less than 5000kg do not require a certificate of competency for must however have received formal training in the operation of the particular piece of machinery.

3.13.5 REACH STACKER

3.13.5.1 Reach stackers must be examined at least once per month by the Competent Person or Lifting Machinery Inspector and the results of the examinations recorded on the applicable logsheet No. 9.

3.13.5.2 Reach stackers must be tested to an overload of 10% above the safe working load prior to being placed in service and after every heavy repair. Reach stackers must also be tested to 100% its safe working load annually. The tests must be conducted in accordance with the maker's specifications by a Lifting Machinery Inspector.

3.13.5.3 The safe working load indicated in tons must be displayed in prominent positions on both sides of the reach stacker.

3.13.5.4 Operators of Reach stackers, including technical maintenance staff, must be trained in the use of the machines, and in the case of Reach stackers with a lifting capacity of more than 5000g, the Operator must be in possession of a valid certificate of training, issued by a Training Provider accredited by the Transport SETA approved for the purpose by the Chief Inspector (DMR 18 [11]).

3.13.6 VARIOUS ATTACHMENTS USED FOR LIFTING PURPOSES FITTED TO, OR USED IN CONJUNCTION WITH, MECHANICAL HANDLING VEHICLES, BULLDOZERS OR TRACTORS

3.13.6.1 All attachments used for lifting purposes fitted to or used in conjunction with mechanical handling vehicles, bulldozers or tractors, must be examined at least once per month by the Competent Person or Lifting Machinery Inspector.

3.13.6.2 All components and attachments used on mechanical handling vehicles for lifting purposes which are subject to testing in terms of this instruction, e.g. hooks, twist locks, spreaders, etc., must be removed and tested at the stipulated periods. The results of these tests must be endorsed on the correct and relevant logsheet as required in terms of the section of this instruction, concerned.

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3.13.6.3 Where possible, the safe working load in kilograms, must be stencilled on both sides of an attachment of this type.

3.13.6.4 All attachments used for lifting purposes fitted to, or used in conjunction with mechanical handling vehicles, bulldozers or tractors, must be individually numbered for identification.

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Drawings

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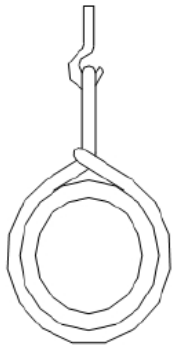
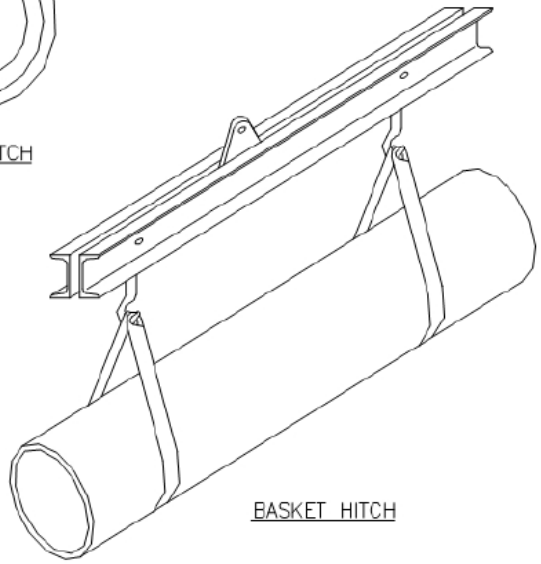


CHOKE HITCH

STRAIGHT PULL



BASKET HITCH

APPLICATION FOR FLAT WOOVEN SLINGS	REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
				C.J.M.			
				RESPONSIBLE PROFESSIONAL			
	DRAWING DESCRIPTION		SCALE:	DATE	NAME	SIGNATURE	PR. NR.
				SIZE	DRAWING NUMBER		SHEET
					MTV 517		27

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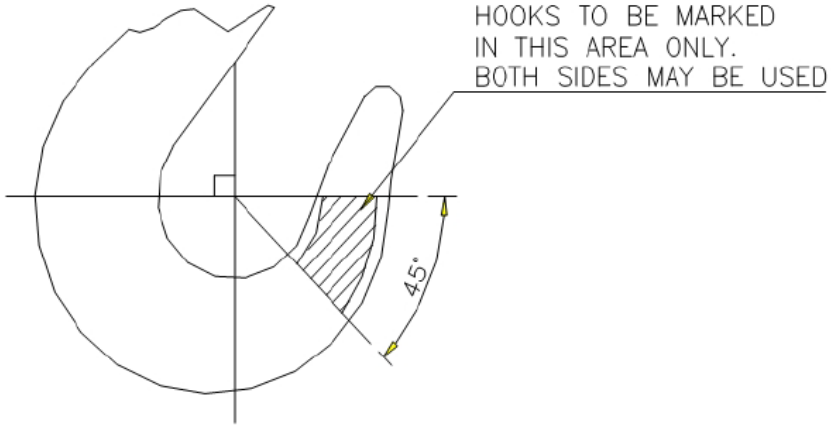

SWL (kg.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 2000 kg.	3.5
OVER 2000 kg. UP TO AND INCLUDING 8000 kg.	5.0
OVER 8000 kg.	6.5

	REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
HOOK				C.J.M.			
				RESPONSIBLE PROFESSIONAL			

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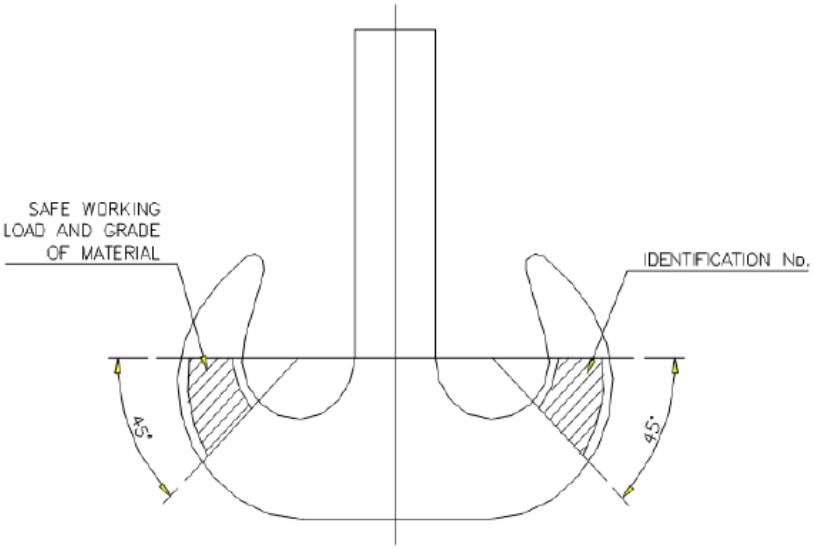

HOOK TO BE MARKED IN HATCHED AREAS ONLY

SWL (kg.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 2000 kg.	3.5
OVER 2000 kg. UP TO AND INCLUDING 8000 kg.	5.0
OVER 8000 kg.	6.5

RAMSHORN HOOK

REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
			C.J.M.			
			RESPONSIBLE PROFESSIONAL			

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TRANSNET freight rail

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SIZE	DRAWING NUMBER	SHEET
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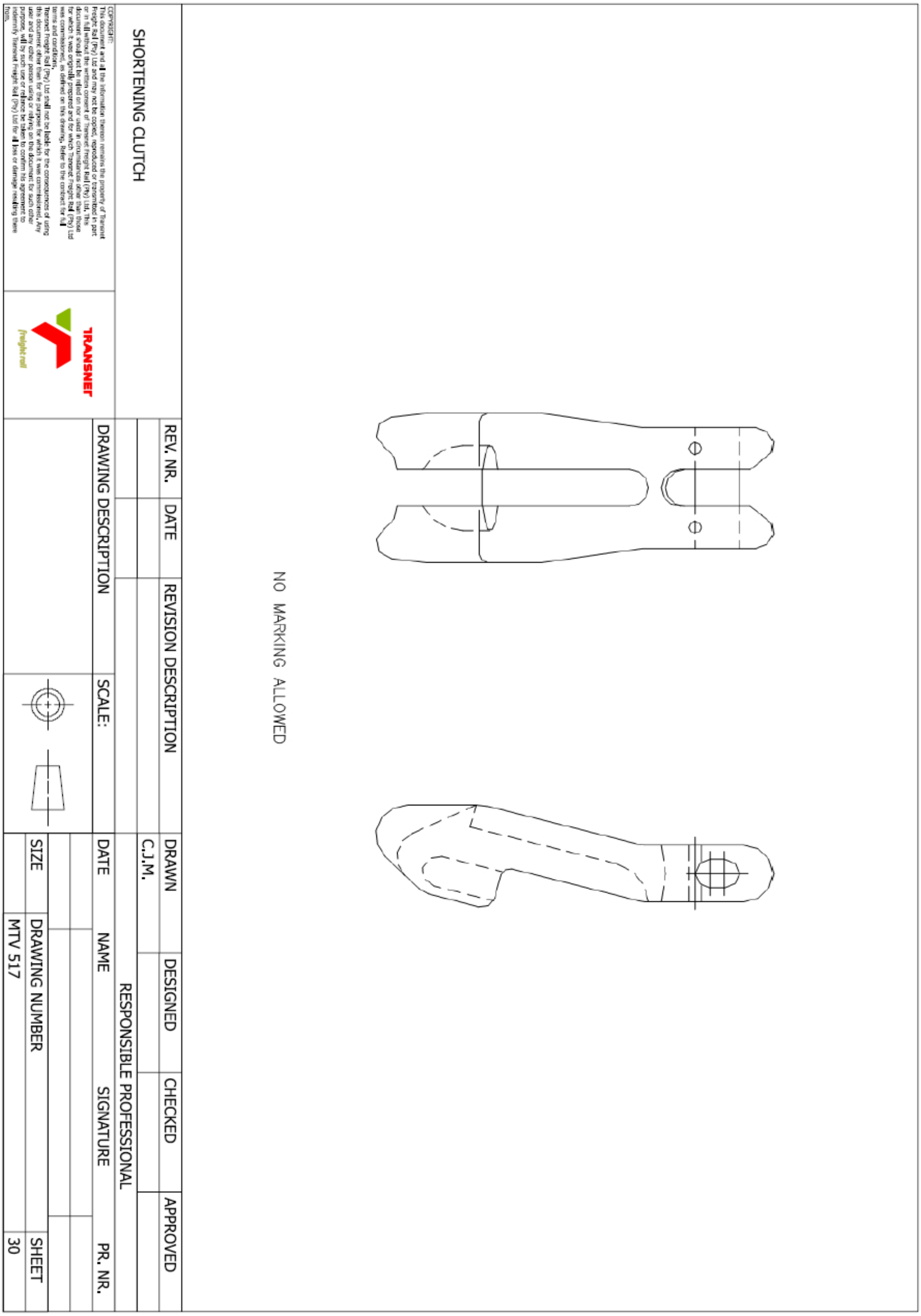
NO MARKING ALLOWED
SHORTENING CLUTCH
TRANSNET
freight rail
REV. NR.
DATE
REVISION DESCRIPTION
DRAWN
C.J.M.
DESIGNED
CHECKED
APPROVED
RESPONSIBLE PROFESSIONAL
DRAWING DESCRIPTION
SCALE:
DATE
NAME
SIGNATURE
PR. NR.
SIZE
DRAWING NUMBER
MTV 517
SHEET
30

CONNECTING LINK TO BE MARKED IN HATCHED AREAS ONLY

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
FROM 8 mm. UP TO AND INCLUDING 16 mm.	3 mm.
OVER 16 mm. UP TO AND INCLUDING 22 mm.	4 mm.
OVER 22 mm. UP TO AND INCLUDING 31 mm.	6 mm.
OVER 31 mm.	8 mm.

DEE SHACKLE

TRANSNET freight rail

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			C.J.M.			

DRAWING DESCRIPTION | SCALE: | RESPONSIBLE PROFESSIONAL

DATE	NAME	SIGNATURE	PR. NR.

SIZE	DRAWING NUMBER	SHEET
	MTV 517	33

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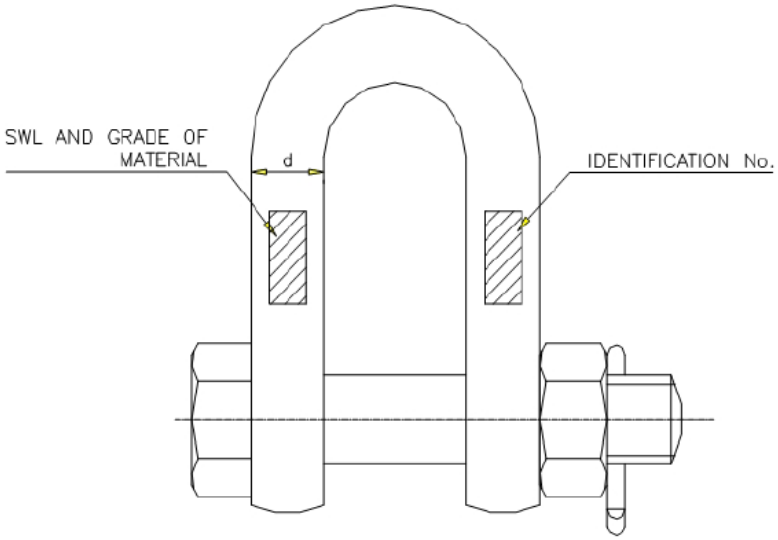

SHACKLE TO BE MARKED IN HATCHED AREAS ONLY

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 12.5 mm.	3.5 mm.
OVER 12.5 mm. UP TO AND INCLUDING 25 mm.	5 mm.
OVER 25 mm.	6.5 mm.

LEGEND:

DEE SHACKLES

REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
			C.J.M			

RESPONSIBLE PROFESSIONAL

DRAWING DESCRIPTION	SCALE:	DATE	NAME	SIGNATURE	PR. NR.

SIZE	DRAWING NUMBER	SHEET
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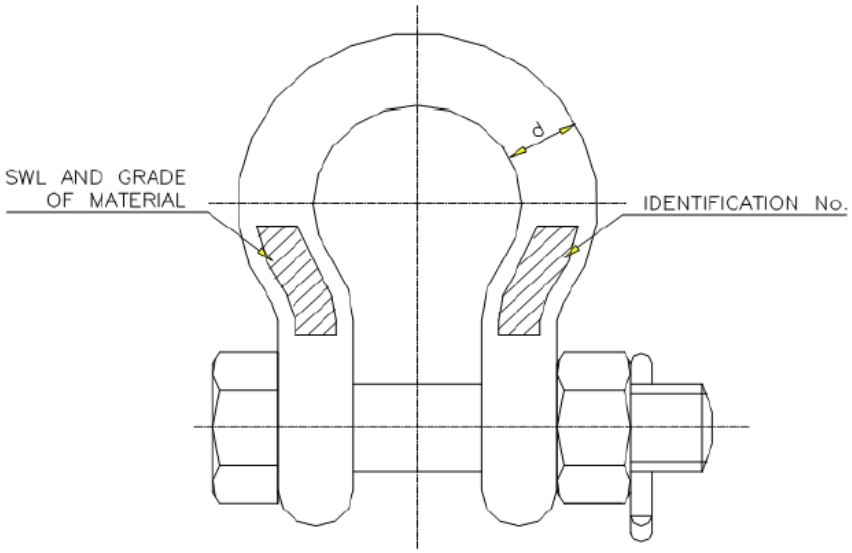

SHACKLE TO BE MARKED IN HATCHED AREAS ONLY

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 12.5 mm.	3.5 mm.
OVER 12.5 mm. UP TO AND INCLUDING 25 mm.	5 mm.
OVER 25 mm.	6.5 mm.

LEGEND:

BOW SHACKLES

REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
			C.J.M			

RESPONSIBLE PROFESSIONAL

DRAWING DESCRIPTION	SCALE:	DATE	NAME	SIGNATURE	PR. NR.

SIZE	DRAWING NUMBER	SHEET
-	MTV 517	34

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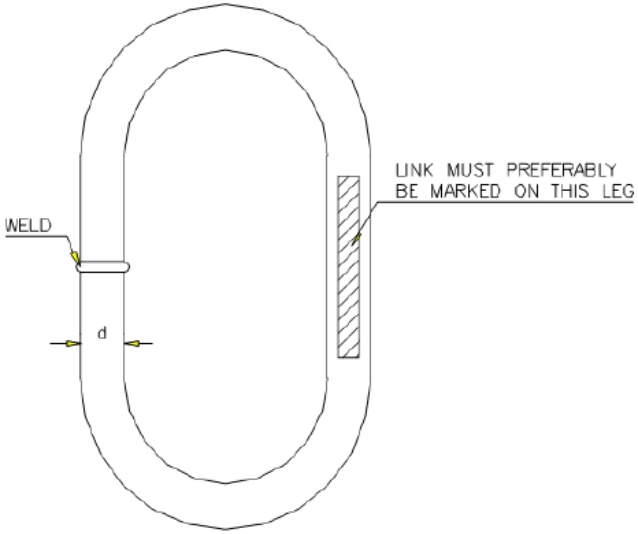

STAMPING MARKS ON OR NEAR WELDING JOINT SHOULD BE AVOIDED

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 12.5 mm.	3.5 mm.
OVER 12.5 mm. UP TO AND INCLUDING 25 mm.	5 mm.
OVER 25 mm.	6.5 mm.

OVAL LINK

REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
			C.J.M.			

RESPONSIBLE PROFESSIONAL

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SIZE	DRAWING NUMBER	SHEET
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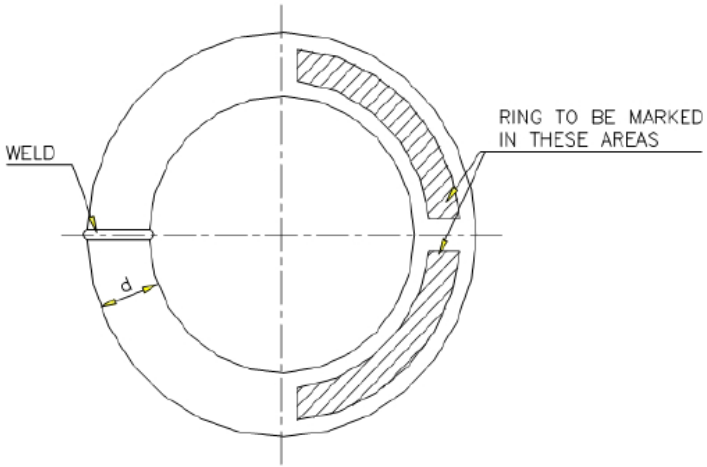

STAMP MARKING OF THE RING SHALL NOT BE ON OR NEAR THE WELD

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 12.5 mm.	3.5 mm.
OVER 12.5 mm. UP TO AND INCLUDING 25 mm.	5 mm.
OVER 25 mm.	6.5 mm.

RING	REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
				C.J.M.			
				RESPONSIBLE PROFESSIONAL			

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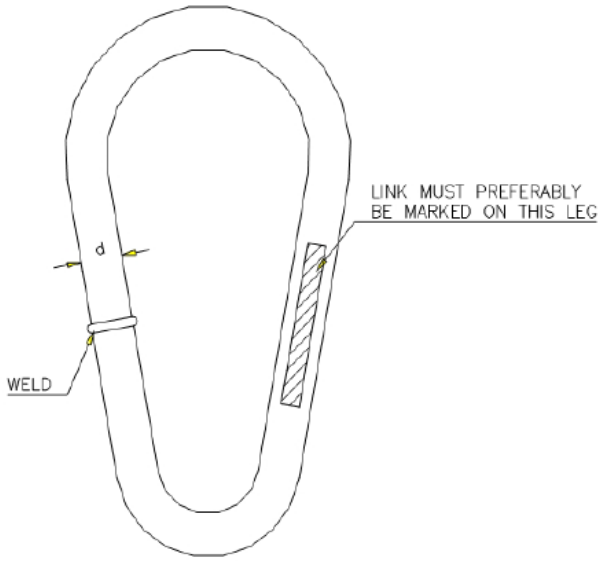

STAMPING MARKS ON OR NEAR WELDING JOINT SHOULD BE AVOIDED

DIAMETER "d" (mm.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 12.5 mm.	3.5 mm.
OVER 12.5 mm. UP TO AND INCLUDING 25 mm.	5 mm.
OVER 25 mm.	6.5 mm.

	REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
EGG LINK				C.J.M.			
				RESPONSIBLE PROFESSIONAL			

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		SIZE	DRAWING NUMBER		SHEET
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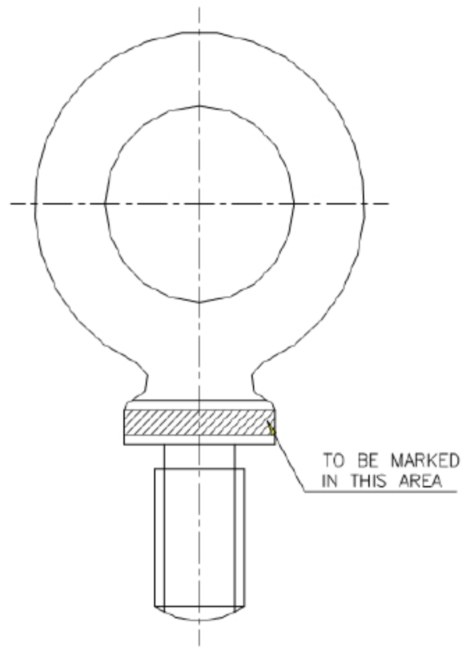

BOLT TO BE MARKED IN HATCHED AREAS ONLY

SWL (kg.)	SIZE OF STAMP MARK (mm.)
UP TO AND INCLUDING 500 kg.	3.5 mm.
OVER 500 kg. UP TO AND INCLUDING 1000 kg.	5 mm.
OVER 1000 kg.	6.5 mm.

EYE BOLT

REV. NR.	DATE	REVISION DESCRIPTION	DRAWN	DESIGNED	CHECKED	APPROVED
			C.J.M.			

RESPONSIBLE PROFESSIONAL

DATE	NAME	SIGNATURE	PR. NR.

DRAWING DESCRIPTION

SCALE:

SIZE	DRAWING NUMBER	SHEET
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TRANSNET freight rail

NO MARKING ALLOWED
CHAIN
REV. NR.
DATE
REVISION DESCRIPTION
DRAWN
DESIGNED
CHECKED
APPROVED
C.J.M.
DRAWING DESCRIPTION
SCALE:
RESPONSIBLE PROFESSIONAL
DATE
NAME
SIGNATURE
PR. NR.
SIZE
DRAWING NUMBER
SHEET
MTV 517
40

Forms

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FORM A-1: Amendment Proposal

Register no: _____

1. Document to be changed: _____

   Title :_____
   Section :_____
   Subject :_____
   Number :_____
   Page :_____

2. Proposal:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

3. Proposed by: _____

4. Date: _____/_____/_____

5. Signature: _____

6. Date acted: _____/_____/_____

7. Signature: _____

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FORM A-2: Equipment Census Form

Register no: _____

1. Asset no._____

2. Brief description:

_____

_____

_____

3. Category e.g. Overhead Electric crane, sling etc

_____

_____

_____

4. Manufacturer :_____
5. Serial No. :_____
6. Year of manufacture :_____
7. Capacity :_____
8. Centre :_____
9. Owner :_____
10. Maintenance dept. address :_____
11. Date of last logsheet entry :_____
12. Date of last performance test :_____

13. Other relevant information:

_____

_____

_____

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14. Rough sketch of equipment

Signature	Name	SAP No.	Telephone No.

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FORM A-3: Defect Report

Register no: _____

TO:

FROM _____

_____

_____

_____

REF: _____

DATE: _____

REPORT ON DEFECT OCCURING ON NEW PLANT/MOTOR VEHICLES OR UNSATISFACTORY DEALER SERVICE (INCLUDING SUPPLY OF SPARE PARTS)

VEHICLE

OR MACHINE NO. _____ SERIAL NO. ENGINE _____ CHASSIS _____

MAKE _____ TYPE _____ MODEL _____

NAME OF SUPPLIER _____

CONTRACT ORDER NO. _____

VEHICLE OR MACHINE HOURS OR KILOMETRES DISTANCE TO DATE OF FAILURE _____

DATE RECEIVED	DATE FAILED	DATE REPORTED TO LOCAL AGENT	DATE WITHDRAWN FROM SERVICE	DATE RETURNED TO SERVICE
Y Y M M D D	Y Y M M D D	Y Y M M D D	Y Y M M D D	Y Y M M D D

DEPOT OR LOCATION OF MACHINE _____

NUMBER OF DAY OUT OF SERVICE _____

DETAILS OF FAILURE OR DEALERS SERVICE _____

_____

LOCAL AGENTS NAME _____

ACTION TAKEN BY LOCAL AGENTS _____

_____

HAS DEFECTIVE PART BEEN REPLACED OR MODIFIED IN ANY WAY _____

_____

IF REPAIRED DEPARTMENTALLY STATE:

WORKS ORDER NO. _____

LABOUR R _____ MATERIAL R _____ INDIRECTS R _____

WHERE CAN DEFECTIVE PARTS BE INSPECTED _____

SUPERVISOR'S SUGGESTIONS _____

_____

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TECHNICAL SUPERVISOR WORKSHOP

==========

Comments _____

_____

GENERAL MANAGER

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FORM A-4: LOGSHEET No. 9

Certificate and logsheet for machinery, plant and equipment

Depot _____ Place _____ Description _____ SWL _____ Logsheet No. 9/ _____

Date of Examination	Examiners remarks on condition	Initialled by		Work performed or reasons why work held in abeyance	Date	Initialled by		
		Competent Person	User			Work done by	Supervisor	User
					Expiry date			

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FORM A-5: LOGSHEET No. 10

Certificate and logsheet for wire and fibre ropes and slings

Logsheet No. **10/** _____

Depot Place Certificate no. and date of new rope

Manufacturers name

Type (Material)	Rope symbol number	Size of sling (diameter)	Length of sling	SWL in Kilograms	No. of legs	Number of sling and suffixes of components

Date of Examination	Competent Persons remarks on condition	Initialled by		Date of Examination	Competent Persons remarks on condition	Initialled by	
		Competent Person	User			Competent Person	User

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FORM A-6: LOGSHEET No. 66

Certificate and logsheet for crane hoist chains, chain slings, hooks, rings, links, shackles, etc.

Logsheet No. **66/**

Depot	Place	Description of unit	Safe working load in kg	Total number of components	Number of unit

Description of components	Quantity	Suffixes of components	Safe Working Load (kg)	Material	Chains - Length x diameter	Other components - Drawing number or specification

FOR USE BY COMPETENT PERSON				FOR USE BY DEPARTMENT CONDUCTING TEST				
Date of examination	Condition of unit and nature of repairs	Competent Person	User	Date	Safe working load(kg)	Test load	Examined by	Supervisor
							Expiry date	

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FORM A-7: LOGSHEET No. 385 (DAILY TASK FOR LIFTING EQUIPMENT)

Mechanical lifting and handling appliance

Logsheet No. **385/** _____

Date: _____

Machine No. _____ Shift commenced: _____

Type of machine _____

Drivers surname and initials _____

I have checked or tested the following:

	Yes	No	N/A	Comments
All lights				
All limit switches				
All warning devices				
Communication system				
Fire extinguishers				
All brakes / Emergency brakes				
All wires / chains				
Hook assembly				
Spreader				
Grab				
All conveyor belts				
Electrical equipment				
Escape rope				
Machine in general				
Daily task				
Lubrication				
Hour / km reading				
Other				

Drivers signature _____

Defects during shift	Defects repaired

Artisan's signature: _____ Date: _____

The machine was / was not in a good condition at the end of my shift Time: _____

Drivers signature: _____ Date: _____

Asst. crane foreman/ supervisor's signature Date: _____

Visitor's signature, grade, purpose of visit (Competent Person/Lifting Machinery Inspector)

_____

_____

_____

Crane foreman/ supervisor's signature: _____ Date: _____

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FORM A-8: INDIVIDUAL EXEMPTION AUTHORISATION

1	**Equipment Details:**	
	1.1 Census register No.	
	1.2 Asset No.	
	1.3 Description	
	1.4 Centre	
2	**Details of operations manager:**	
	2.1 Business unit	
	2.2 Controlling officer	
	2.3 Maintenance supervisor	
3	**Details of exemption request**	
	3.1 Date required	
	3.2 Nature of exemption	
4	**Details of exemption authority**	
	4.1 Granted by:	
	4.2 Concurred by:	
	4.3 Pr. Eng. No:	

Signatures	
Manager	**Professional Engineer**

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FORM A-9: REQUEST FOR INDIVIDUAL EXEMPTION AUTHORISATION

1	**Equipment Details:**	
	1.1 Census register No.	
	1.2 Asset No.	
	1.3 Description	
	1.4 Place	
2	**Details of operations manager:**	
	2.1 Business unit	
	2.2 Controlling officer	
	2.3 Maintenance supervisor	
3	**Details of exemption request**	
	3.1 Date required	
	3.2 Nature of exemption	
	3.3 Reasons exemption is required	
4	**Possible alternatives**	
	4.1 Other equipment at depot.	
	4.2 Other handling alternatives	

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Signatures	
Operations Manager	**Maintenance Supervisor**

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FORM A-10: STOP CERTIFICATE

1	**Equipment Details:**	
	1.1 Census register No.	
	1.2 Asset No.	
	1.3 Description	
	1.4 Place	
2	**Details of operations manager:**	
	2.1 Business unit	
	2.2 Operations Manager	
	2.3 Maintenance supervisor	
3	**Reasons for issuing of stop certificate**	
Signatures		
Operations Manager		**Issuing officer**
REMOVE WRITING ACROSS THE FACE OF THE CERTIFICATE. ADD A COLUMN FOR "LIFTING STOP CERTIFICATE".		

STOP CERTIFICATE

FORM A-11: INCIDENT AND ANALYSIS REPORT

INCIDENT AND ANALYSIS REPORT

UNIQUE INCIDENT NUMBER: X1 HEAD | Y Y M M CONSECUTIVE | CENTRE OR LOCALITY CODE

DEFINITION: AN UNDESIRED EVENT WHICH COULD OR DOES RESULT IN A LOSS TO PROPERTY, HARM TO PEOPLE OR LOSS TO PROCESS

DETAILS OF PERSON INVOLVED OR INJURED

1 TRANSPORT BUSINESS

2 RELATED / OTHER BUSINESS

3 CENTRE

4 SECTION

5 SUBSECTION

6 DATE OF INCIDENT (Y Y Y Y M M D D)

7 TIME OF INCIDENT :

8 TIME REPORTED :

9 LOCATION OF INCIDENT

10 WITNESS OF INCIDENT

11 MAIN INCIDENT CLASSIFICATION

12 DESCRIPTION OF INCIDENT

13 CODE OF INCIDENT DESCRIPTION (WHERE APPLICABLE)

14 COMMODITY CODE (WHERE APPLICABLE)

14.1 PACKING CODE (WHERE APPLICABLE)

15 INITIAL AND SURNAME

16 EMPLOYEE No. and ID No.

17 GENDER OF PERSON MALE FEMALE

18 DATE OF BIRTH (Y Y Y Y M M D D)

19 EXPERIENCE IN MONTHS IN CURRENT POSITION

20 GRADE

21 NATURE OF INJURY (if any)

22 PART OF BODY AFFECTED

23 NAME OF SUPERVISOR

24 LOSS SEVERITY POTENTIAL OF INCIDENT — HIGH | MEDIUM | LOW

25 PROBABLE RECURRENCE OF INCIDENT — HIGH | MEDIUM | LOW

26 NUMBER OF DAYS LOST — ESTIMATED | ACTUAL

27 LEGALLY REPORTABLE (Act 85 of 1993) — YES | NO | POSSIBLE

28 WORKMENS COMPENSATION CLAIM — YES | NO

29 INSURANCE CLAIM (property) — YES | NO

30 INSURANCE CLAIM (motor) — YES | NO

31 INSURANCE CLAIM (3rd party) — YES | NO | POSSIBLE

32 INSURANCE CLAIM (freight) — YES | NO | POSSIBLE

33 MAJOR LOSS ANNOUNCEMENT — YES | NO

COMPLETED BY (print) TEL No. DATE

DETAILED SCAT ANALISYS DONE YES NO BY (NAME) TARGET DATE

DESIGNATED CONTROLLING OFFICER

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FORM A-12: REGISTRATION CERTIFICATE FOR COMPETENT PERSON

Number

Code 29

Registration Certificate

For

COMPETENT PERSONS

of Machinery, Plant and Equipment

Name

Trade Qualification

The Competent Person has the responsibility to report all defects that he/she may find during the examination/testing of any particular piece of machinery, plant and equipment and note it in the relevant logsheet.

Group Risk Manager
Transnet

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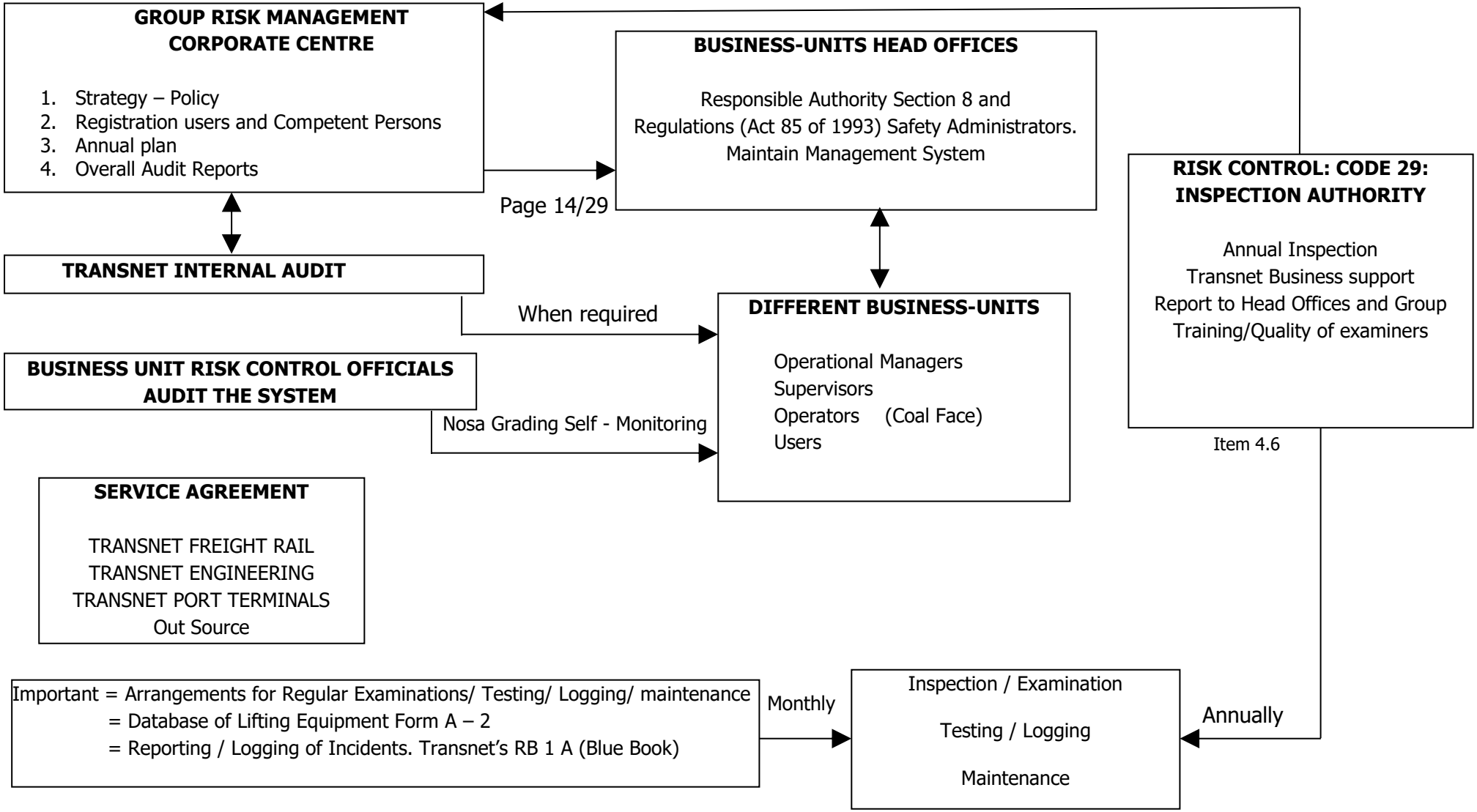
FORM A-13: MANAGEMENT SYSTEM



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FORM A-14: ACKNOWLEDGEMENT OF RECEIPT

Acknowledge Receipt of
Code 29 and commitment
to adhere there-to

Name	SAP No.	Centre	Tel. No.	Cell No.

Code 29 number received: ……

Signature: ……

Date: ……

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